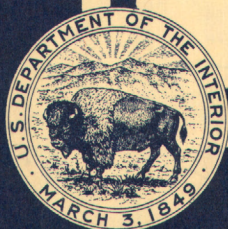
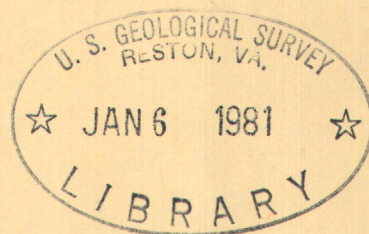


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Water Resources Data for New Jersey

Part 1. Surface Water Records



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the State of New Jersey
and with other agencies

CALENDAR FOR WATER YEAR 1971

OCTOBER 1970

S	M	T	W	T	F	S
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JANUARY 1971

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FEBRUARY 1971

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MAY 1971

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JULY 1971

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AUGUST 1971

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SEPTEMBER 1971

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1971

Water Resources Data for New Jersey

Part 1. Surface Water Records



**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

**Prepared in cooperation with the State of New Jersey
and with other agencies**

Prepared in cooperation with
State Department of Environmental Protection
Water Resources Division
North Jersey District Water Supply Commission
Passaic Valley Water Commission
County of Bergen
City of Philadelphia, Water Department
Corps of Engineers, U.S. Army
Delaware River Basin Commission

Water resources records, 1971 for New Jersey are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for New Jersey
Part 1: Surface Water Records
2. Water Resources Data for New Jersey
Part 2: Water Quality Records

Copies of this report may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
420 Federal Building
P.O. Box 1238
Trenton, New Jersey 08607

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INDEX OF GAGING STATIONS SHOWN ON MAP ON OPPOSITE PAGE

Map No.	Station No.	Station Name	Map No.	Station No.	Station Name
1	3680	Wallkill River near Unionville, N.Y.	70	4067	††Raritan River at Perth Amboy
2	3687.2	†Aux Outlet of Upper Greenwood Lake at Moe	71	4070	*Matawan Creek at Matawan
3	3770	Hackensack River at Rivervale	72	4075	Swimming River near Red Bank
4	3775	Pascack Brook at Westwood	73	4077.05	Shark River near Neptune City
5	3785	Hackensack River at New Milford	74	4077.6	Jumping Brook near Neptune City
6	3786.9	Passaic River near Bernardsville	75	4080	Manasquan River at Squankum
7	3790	Passaic River near Millington	76	4085	Toms River near Toms River
8	3795	Passaic River near Chatham	77	4090	Cedar Creek at Lanoka Harbor
9	3795.3	†Canoe Brook near Summit	78	4090.95	Oyster Creek near Brookville
10	3796.3	Russia Brook tributary at Milton	79	4094	Mullica River near Batsto
11	3800	*†Beaver Brook at outlet of Splitrock Reservoir	80	4095	Batsto River at Batsto
12	3805	Rockaway River above reservoir, at Boonton	81	4100	Oswego River at Harrisville
13	3810	Rockaway River below reservoir, at Boonton	82	4105	Absecon Creek at Absecon
14	3815	Whippany River at Morristown	83	4110	Great Egg Harbor River at Folsom
15	3825	Pegannock River at Macopin intake dam	84	4113	Tuckahoe River at Head of River
16	3830	*Greenwood Lake at Awosting	85	4115	Maurice River at Norma
17	3835	Wanaque River at Awosting	86	4120	*Manantico Creek near Millville
18	3840	Wanaque River at Monks	87	4125	*West Branch Cohamsey River at Seeley
19	3845	Ringwood Creek near Wanaque	88	4130	*Loper Run near Bridgeton
20	3850	*Cupsaw Brook near Wanaque	89	4340	Delaware River at Port Jervis, N.Y.
21	3855	*Erskine Brook near Wanaque	90	4385	Delaware River at Montague
22	3860	West Brook near Wanaque	91	4390	*†Delaware River at Dingmans Ferry, Pa.
23	3865	*Blue Mine Brook near Wanaque	92	4400	Flat Brook near Flatbrookville
24	3870	Wanaque River at Wanaque	93	4402	Delaware River below Tocks Island damsite, near Delaware Water Gap, Pa.
25	3875	Ramapo River near Mahwah	94	4430	*†Delaware River at Portland, Pa.
26	3880	Ramapo River at Pompton Lakes	95	4435	Paulins Kill at Blairstown
27	3885	Pompton River at Pompton Plains	96	4439	Yards Creek near Blairstown
28	3895	Passaic River at Little Falls	97	4445	*†Delaware River at Delaware
29	3898	*Passaic River at Paterson	98	4450	*Pequest River at Huntsville
30	3905	Saddle River at Ridgewood	99	4455	Pequest River at Pequest
31	3910	Hohokus Brook at Hohokus	100	4460	*Beaver Brook near Belvidere
32	3915	Saddle River at Lodi	101	4465	Delaware River at Belvidere
33	3920	*Weasel Brook at Clifton	102	4467	*Delaware River at Easton, Pa.
34	3925	*Second River at Belleville	103	4552	*Pohatcong Creek at New Village
35	3930	*Elizabeth River at Irvington	104	4553.55	Beaver Brook near Weldon
36	3935	Elizabeth River at Elizabeth	105	4554	*Lake Hopatcong at Landing
37	3940	*West Branch Rahway River at Millburn	106	4555	Musconetcong River at outlet of Lake Hopatcong
38	3945	Rahway River near Springfield	107	4560	Musconetcong River near Hackettstown
39	3950	Rahway River at Rahway	108	4570	Musconetcong River near Bloomsbury
40	3955	*Robinsons Branch Rahway River at Goodmans	109	4575	Delaware River at Riegelsville
41	3960	Robinsons Branch Rahway River at Rahway	110	4580	*Delaware River at Milford
42	3965	South Branch Raritan River near High Bridge	111	4585	*Delaware River at Frechtown
43	3968	Spruce Run at Clinton	112	4590	*†Delaware River at Point Pleasant, Pa.
44	3970	South Branch Raritan River at Stanton	113	4605	Delaware & Raritan Canal at Kingston
45	3975	*Walnut Brook near Flemington	114	4610	*†Delaware River at Lumberville, Pa.
46	3980	Neshanic River at Reaville	115	4615	*Delaware River at Stockton
47	3985	North Branch Raritan River near Far Hills	116	4620	*Delaware River at Lambertville
48	3995	Lamington (Black) River near Pottersville	117	4625	*Delaware River at Washington Crossing
49	4000	North Branch Raritan River near Raritan	118	4630	*†Delaware River at Yardley, Pa.
50	4005	Raritan River at Manville	119	4635	Delaware River at Trenton
51	4007.3	Millstone River at Plainsboro	120	4640	Assunpink Creek at Trenton
52	4009.32	*Baldwin Creek at Baldwin Lake near Pennington	121	4640.4	††Delaware River at Marine Terminal, Trenton
53	4009.53	Honey Branch near Pennington	122	4645	Crosswicks Creek at Extonville
54	4010	Stony Brook at Princeton	123	4645.6	*††Delaware River at Florence
55	4013	*Lake Carnegie at Princeton	124	4645.98	††Delaware River at Burlington
56	4015	*Millstone River near Kingston	125	4658.5	South Branch Rancocas Creek at Vincentown
57	4020	Millstone River at Blackwells Mills	126	4660	*Middle Branch Mount Misery Brook in Lebanon State Forest
58	4025.9	Royce Brook tributary at Frankfort	127	4665	McDonalds Branch in Lebanon State Forest
59	4026	Royce Brook tributary near Belle Mead	128	4670	North Branch Rancocas Creek at Pemberton
60	4030.6	Raritan River below Calco Dam at Bound Brook	129	4670.6	††Delaware River at Palmyra
61	4035	Green Brook at Plainfield	130	4670.81	South Branch Pennsauken Creek at Cherry Hill
62	4040	*Green Brook at Bound Brook	131	4671.5	Cooper River at Haddonfield
63	4045	*Lawrence Brook at Patricks Corner	132	4750	Mantua Creek at Pitman
64	4050	Lawrence Brook at Farrington Dam	133	4766	*Still Run near Mickleton
65	4053	*Matchaponix Brook at Spotswood	134	4771.2	Raccoon Creek near Swedesboro
66	4054	Manalapan Brook at Spotswood	135	4775	*Oldmans Creek near Woodstown
67	4055	South River at Old Bridge	136	4821	††Delaware River at Delaware Memorial Bridge, Wilmington, Del.
68	4060	*Deep Run near Browntown	137	4825	Salem River at Woodstown
69	4065	*Tennent Brook near Browntown	138	4830	Alloway Creek at Alloway

* Station discontinued prior to period of this report.
† Discharge records published in State of New Jersey Special Reports only.
‡ Gage-height record only, published in State of New Jersey Special Reports.
†† Tidal gaging station.

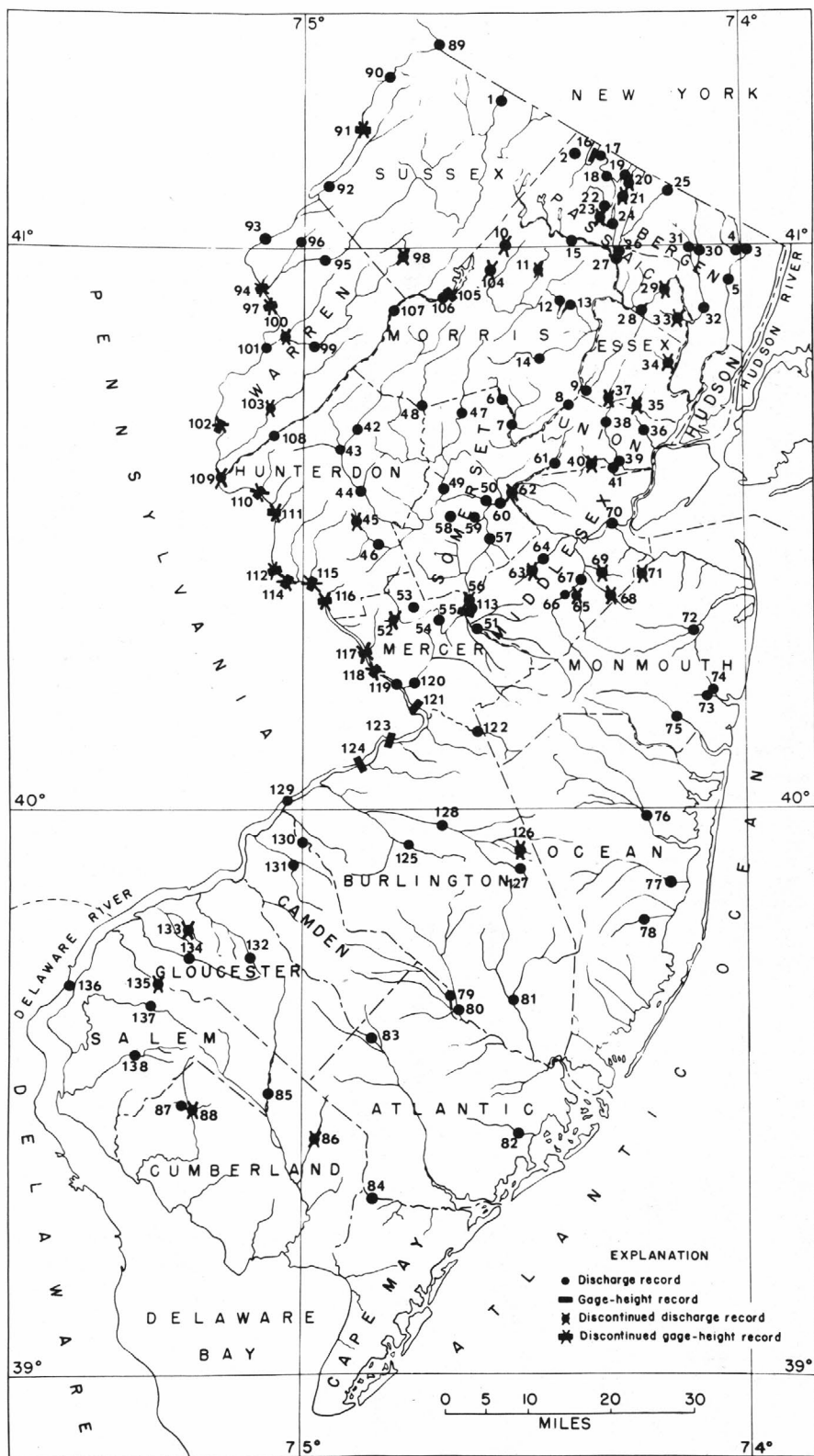


Figure 1.--LOCATION OF GAGING STATIONS

INDEX OF PARTIAL-RECORD STATIONS SHOWN ON MAP ON OPPOSITE PAGE

Map No.	Station No.	Station Name	Map No.	Station No.	Station Name
1	3677.50	(L)Beaver Run nr Hamburg	72	4090.80	(L)South Branch Forked River nr Forked River
2	3678.50	(L)West Branch Papakating Creek at McCoys Corner	73	4091.25	(T)Barneget Bay at Barneget Light
3	3678.90	(L)Clove Brook above Clove Acres Lake at Sussex	74	4091.45	(T)Manahawkin Bay nr Manahawkin
4	3774.75	(C)Musquapsink Brook nr Westwood	75	4092.80	(L)Westecunk Creek at Stafford Forge
5	3774.90	(M)Musquapsink Brook at Westwood	76	4092.90	(T)Tuckerton Cove nr Tuckerton
6	3783.50	(C)Tenakill Brook at Cresskill	77	4095.10	(T)Batsto River at Pleasant Mills
7	3783.85	(C)Tenakill Brook at Closter	78	4101.00	(T)Mullica River nr Port Republic
8	3785.20	(L)Hirshfeld Brook at New Milford	79	4101.50	(L)East Branch Bass River nr New Gretna
9	3785.30	(L)French Brook at New Bridge	80	4102.00	(L)West Branch Bass River nr New Gretna
10	3785.60	(L)Coles Brook at Hackensack	81	4105.00	(T)Absecon Creek at Absecon
11	3785.90	(C)Metzler Brook at Englewood	82	4107.75	(C)Great Egg Harbor River at Berlin
12	3786.15	(C)Wolf Creek at Ridgefield	83	4110.20	(L)Penny Pot Stream nr Folsom
13	3797.00	(L)Rockaway River at Berkshire Valley	84	4113.15	(T)Great Egg Harbor Bay at Beesleys Point
14	3800.50	(L)Hibernia Brook at outlet of Lake Telemark	85	4113.20	(T)Great Egg Harbor Bay at Ocean City
15	3814.00	(L)Whippany River nr Morristown	86	4113.60	(T)Great Channel at Stone Harbor
16	3814.70	(L)Whippany River tributary No. 2 at Greystone Park State Hospital	87	4113.80	(T)Grassy Sound at West Wildwood
17	3814.90	(L)Whippany River tributary at Morris Plains	88	4113.90	(T)Cape May Harbor at Cape May
18	3819.00	(C)Passaic River at Pine Brook	89	4113.95	(T)Cape May Canal at North Cape May
19	3824.50	(L)Macopin River at Macopin Reservoir	90	4114.00	(L)Fishing Creek at Rio Grande
20	3878.80	(C)Pond Brook at Oakland	91	4114.04	(L)Green Creek at Green Creek
21	3899.00	(M)Fleischer Brook at Market Street at East Paterson	92	4114.08	(L)Dias Creek nr Cape May Court House
22	3899.05	(L)Fleischer Brook at East Paterson	93	4114.10	(L)Bidwell Ditch tributary nr Cape May Court House
23	3904.50	(C)Saddle River at Upper Saddle River	94	4114.12	(L)Bidwell Ditch tributary No. 2 nr Cape May Court House
24	3908.10	(M)Hohokus Brook at Allendale	95	4114.18	(L)Goshen Creek at Goshen
25	3911.10	(C)Saddle River at Paramus	96	4114.30	(L)Sluice Creek at Clermont
26	3914.85	(C)Sprout Brook at Rochelle Park	97	4118.00	(L)Maurice River nr Millville
27	3920.00	(M)Weasel Brook at Clifton	98	4121.00	(L)Manumusk River nr Manumusk
28	3922.00	(L)Third River at Nutley	99	4121.50	(T)Maurice River at Bivalve
29	3925.00	(M)Second River at Belleville	100	4125.00	(M)West Branch Cohansey River at Seeley
30	3961.20	(L)South Branch Raritan River at Bartley	101	4130.50	(L)Stow Creek at Jericho
31	3961.80	(L)Drakes Brook at Bartley	102	4398.30	(L)Big Flat Brook at Tuttles Corner
32	3975.00	(M)Walnut Brook nr Flemington	103	4450.00	(C)Pequest River at Huntsville
33	3992.00	(L)Lamington River nr Ironia	104	4454.90	(C)Furnace Brook at Oxford
34	3998.20	(L)Chambers Brook nr North Branch	105	4459.00	(L)Honey Run nr Hope
35	4005.40	(L)Millstone River nr Manalapan	106	4460.00	(C)Beaver Brook nr Belvidere
36	4005.60	(L)Millstone River at Applegarth	107	4552.00	(M)Pohatcong Creek at New Village
37	4005.80	(L)Millstone River at Hightstown	108	4553.60	(L)Beaver Brook nr Woodport
38	4005.93	(L)Rocky Brook at Hightstown	109	4561.00	(L)Hatchery Brook at Hackettstown
39	4005.96	(L)Peddie Brook at Hightstown	110	4636.90	(L)Little Shabakunk Creek at Bakersville
40	4006.00	(L)Millstone River at Locust Corner	111	4637.90	(L)West Branch Shabakunk Creek nr Ewingville
41	4006.40	(L)Millstone River nr Grovers Mills	112	4639.80	(L)Pond Run at Trenton
42	4007.00	(L)Cranbury Brook at Cranbury Station	113	4643.00	(L)Crosswicks Creek nr Cookstown
43	4008.10	(L)Big Bear Brook at Princeton Junction	114	4643.80	(L)North Run at Cookstown
44	4008.50	(C)Woodville Brook at Woodville	115	4644.00	(M)Crosswicks Creek at New Egypt
45	4009.00	(C)Stony Brook at Glenmoore	116	4644.60	(L)Lahaway Creek nr Hornerstown
46	4009.30	(M)Baldwin Creek at Pennington	117	4644.80	(L)Miry Run at Holmes Mills
47	4009.47	(C)Stony Brook at Pennington	118	4645.05	(M)Crosswicks Creek at Groveville
48	4009.50	(M)Hart Brook nr Pennington	119	4645.15	(C)Doctors Creek at Allentown
49	4009.60	(M)Honey Branch nr Mount Rose	120	4645.20	(M)Doctors Creek at Groveville
50	4009.70	(M)Honey Branch nr Rosedale	121	4645.30	(L)Blacks Creek at Mansfield Square
51	4012.00	(M)Duck Pond Run at Clarksville	122	4645.90	(L)Assiscunk Creek nr Burlington
52	4015.20	(C)Beden Brook nr Hopewell	123	4660.00	(M)Middle Branch Mount Misery Brook in Lebanon State Forest
53	4015.90	(L)Rock Brook at Blawenburg	124	4670.10	(C)Parkers Creek nr Mount Laurel
54	4015.95	(M)Rock Brook nr Blawenburg	125	4670.57	(L)Pompeston Creek at Cinnaminson
55	4016.00	(C)Beden Brook nr Rocky Hill	126	4671.30	(C)Cooper River at Kirkwood
56	4017.00	(L)Pike Run nr Rocky Hill	127	4671.40	(L)Cooper River at Lawnside
57	4018.70	(M)Six Mile Run nr Middlebush	128	4671.60	(C)North Branch Cooper River nr Marlton
58	4072.00	(L)Hop Brook at Holmdel	129	4671.80	(C)North Branch Cooper River at Ellisburg
59	4072.50	(L)Willow Brook at Holmdel	130	4671.90	(M)Cooper River at Camden
60	4073.00	(L)Bog Brook at Vanderburg	131	4673.05	(C)Newton Creek at Collingswood
61	4074.00	(L)Yellow Brook at Colts Neck	132	4673.12	(L)Newton Creek at West Collingswood
62	4074.50	(L)Mine Brook at Colts Neck	133	4673.15	(L)South Branch Newton Creek at Glover Avenue, at Haddon Heights
63	4075.20	(L)Pine Brook at Tinton Falls	134	4673.17	(M)South Branch Newton Creek at Haddon Heights
64	4078.30	(C)Manasquan River nr Georgia	135	4673.30	(C)South Branch Big Timber Creek at Blackwood
65	4078.60	(L)Debois Creek at Adelphia	136	4673.50	(L)North Branch Big Timber Creek at Laurel Springs
66	4078.90	(L)Manasquan River tributary No. 7 at West Farms	137	4750.20	(L)Mantua Creek at Sewell
67	4080.15	(C)Mingamahone Brook at Farmingdale	138	4771.18	(L)South Branch Raccoon Creek nr Mullica Hill
68	4080.20	(L)Mingamahone Brook at Squankum	139	4825.10	(L)Nichomus Run nr Woodstown
69	4080.30	(C)Manasquan River at Allenwood	140	4825.20	(L)Salem River at Sharpstown
70	4081.60	(T)Metedeconk River nr Laurelton	141	4827.05	(T)Delaware River at Oakwood Beach
71	4082.00	(T)Barneget Bay at Bay Shore			

- (L) Low-flow partial-record station.
- (M) Crest-stage partial-record station.
- (C) Combined low-flow crest-stage partial-record station.
- (T) Tidal crest-stage partial-record station.

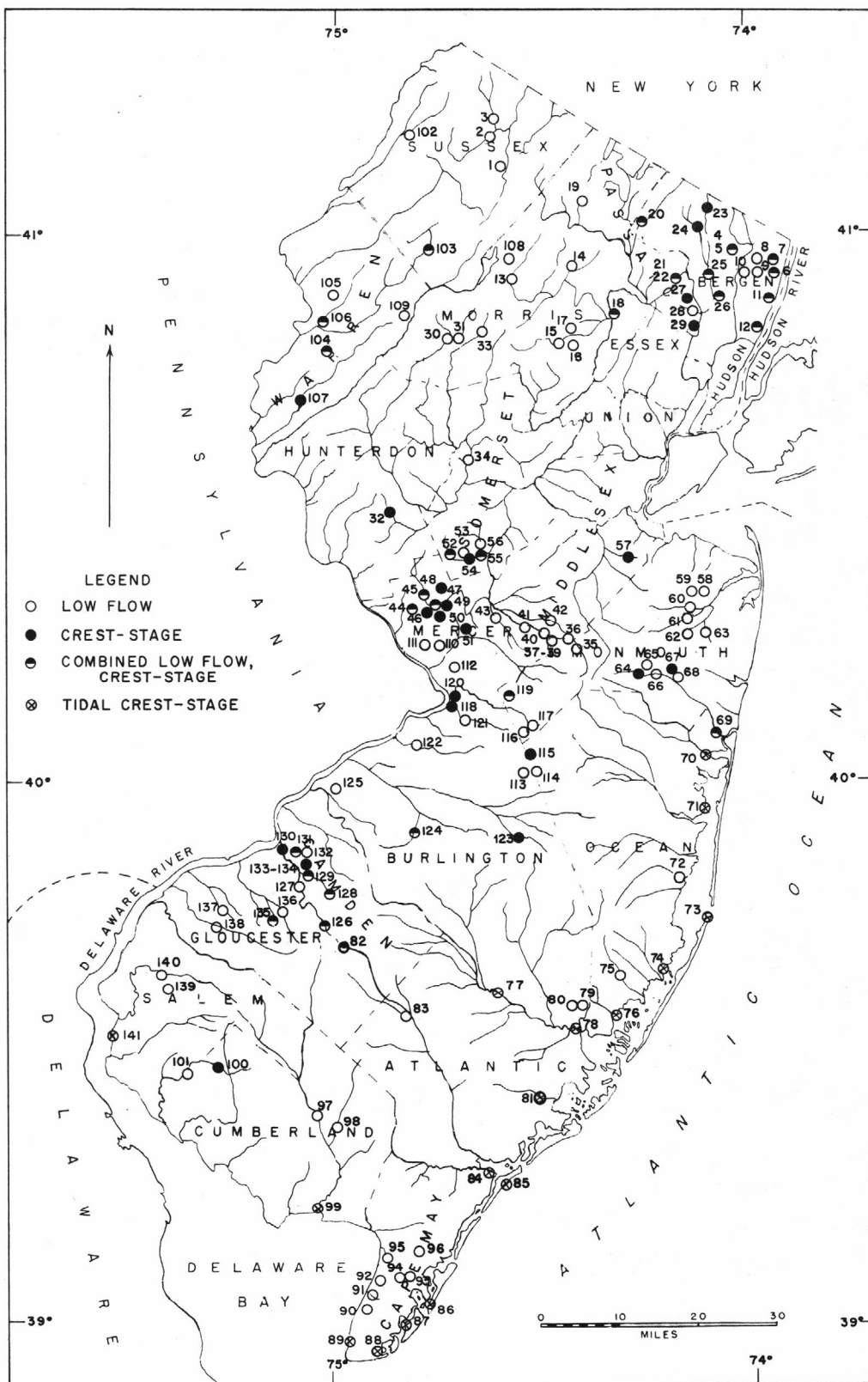


Figure 2.-- LOCATION OF PARTIAL-RECORD STATIONS

VIII

GAGING STATIONS, IN DOWNSTREAM ORDER,
FOR WHICH RECORDS ARE PUBLISHED

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WATER RESOURCES DATA FOR NEW JERSEY, 1971

PART 1. SURFACE-WATER RECORDS

INTRODUCTION

Surface-water records for the 1971 water year for New Jersey, including records of streamflow, diversions, withdrawals, or reservoir storage at gaging stations, partial-record stations, and miscellaneous sites, are given in this report. Records for a few pertinent gaging stations in bordering States also are included. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of J. E. McCall, district chief. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in New Jersey.

Through September 30, 1960, the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Since 1951 there have been 20 volumes in the series; each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records in New Jersey were contained in Part 1B of that series. This part included the North Atlantic Slope Basins from New York to York River, Virginia.

Beginning with the 1961 water year, streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these basic-data reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year to meet local needs. The discharge and reservoir storage records for 1961-65 also are published in a Geological Survey water-supply paper series entitled "Surface Water Supply of the United States 1961-65." The records for New Jersey appear in WSP 1902. There will be a similar series of water-supply papers for water years 1966-70.

There are also 5-year volumes published, since 1929, as Special Reports on Surface Water Supply of New Jersey by the New Jersey Department of Conservation

and Economic Development, Division of Water Policy and Supply, now known as the New Jersey Department of Environmental Protection, Water Resources Division.

This report contains a table of annual maximum crest stages at the tidal crest-stage stations in estuaries, bays, coves, and sounds along the Atlantic Coast and the Delaware Bay. Monthly and annual summaries of tidal stages in Delaware estuary at Trenton, Burlington, Palmyra and Wilmington, Del., the Raritan estuary at Metuchen, and the special tidal studies of the New Jersey Wetlands near Tuckerton and Salem are included in this report. See map p.158.

The U.S. Geological Survey and organizations of the State of New Jersey have had cooperative agreements for the systematic collection of surface-water records since 1921. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

State Department of Environmental Protection,
Water Resources Division, C. M. Pike, director.

North Jersey District Water Supply Commission,
D. Noll, chief engineer.

Passaic Valley Water Commission, W. R. Inhoffer,
general superintendent and chief engineer.

County of Bergen, B. H. Walenczyk, director of
Public Works and E. R. Ranuska, county engineer.

City of Philadelphia, Water Department, C. F. Guarino,
commissioner.

Delaware River Basin Commission, J. F. Wright,
executive director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, in collecting records for nine gaging stations published in this report. Assistance was also furnished by the National Weather Service.

The following organizations aided in collecting records:

Municipalities of Atlantic City, Jersey City, Newark,

and New Brunswick; American Cyanamid Co.; E. I. DuPont de Nemours & Co.; Elizabethtown Water Co.; Hackensack Water Co.; Johns-Manville Products Corp.; Monmouth Consolidated Water Co.; and Morris Canal & Banking Co.

DEFINITION OF TERMS

Definition of terms related to streamflow and other hydrologic data, as used in this report, are defined as follows:

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 325,851 gallons.

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, 1.9835 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

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.

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.

Cubic feet per second per square mile (CFSM) 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.

Cubic foot per second (cfs) 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.

Discharge is the volume of water (or more broadly, total fluids), that passes a given point within a given period of time.

Drainage area of a stream at a specified 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 noted.

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 gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

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

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.

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

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.) 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.

Stage-discharge relation is the relation between gage height and the amount of water flowing in a channel, expressed as volume per unit of time.

WRD is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

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

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from man-made changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

International Hydrological Decade (IHD) River Stations provide a general index of runoff and materials in the water balance (discharge of water, and dissolved and transported solids) of the world. In the United States, IHD Stations provide indices of runoff and of the general distribution of water in the principal river basins of the conterminous United States and Alaska.

DOWNSTREAM ORDER AND STATION NUMBERS

Records are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of gaging stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging 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 numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such

as 01463500, includes the part number "01" and a 6-digit station number. The complete number 01463500 appears just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF SURFACE-WATER DATA

Collection and Computation of Data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that gives a continuous graph of the fluctuations (for digital recorders, a tape punched at 5-, 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks on the measurement of stream discharge. (See also SELECTED REFERENCES.) Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For a stream-gaging station rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage heights to the rating table gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. 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 individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by 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 determining discharge. Information required for determining 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 determining discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. Discharge over spillways is computed from a stage-discharge relation curve defined by discharge measurements. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

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 on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of basic data. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the 1970 water year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey, unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median

of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or the minimum contents), and the minimum gage height if it is significant are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). In the first paragraph headed "Current year:" the data given are for the complete current water year unless otherwise specified. In the second paragraph under "EXTREMES" headed "Period of record:" the data given are for the period of record given in the PERIOD OF RECORD paragraph. Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge or contents, it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water Quality records, is given under "REMARKS"; for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is also given under "REMARKS."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISIONS (WATER YEARS)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge were revised, that fact is brought out by notations 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 revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The daily tables for stream-gaging stations give the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

The daily tables for reservoir stations give the contents corresponding to the water-surface elevation at a given time, usually at 2400 each day. For some reservoirs the elevation at a given time is given in the daily table.

The monthly summary is given below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures. When the summary total exceeds 6 figures (999,999) the figure is expressed in thousands of cubic feet per second to the nearest tenth because of limitations in the computer. That is, one million cubic feet per second is expressed as 1,000.0 M. 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 may be 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 of cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average rainfall on the drainage basin is usually less than 20 inches.

For reservoir stations the monthly summary gives the elevation (or gage height) at the end of the month and the change in contents during the month. If elevation or gage

height is given in the daily table, the monthly summary gives the contents at the end of the month, rather than the elevation or gage height. For some reservoirs a tabulation of monthly evaporation from the water surface also is included.

In the yearly summary below the monthly summary, the figures following MAX are the maximum daily discharges for the calendar and water years; likewise, those following MIN are the minimum daily discharges.

For reservoir stations the yearly summary gives the change in contents for the calendar year and for the water year. For some reservoirs the yearly evaporation also is included.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any canals, ditches, drains, or for any streams for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030 and 1:30 p.m. is 1330.

In a general footnote, introduced by the word "NOTE" certain periods are indicated for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs. Footnotes to reservoir tables may be used to explain the use of new capacity tables or for other special conditions.

Accuracy of Data

The accuracy of discharge data 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 observations of stage, measurements of discharge, and interpretation of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges is within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures 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, consumptive use, regulation, evaporation, or other factors. For such stations, discharge in cubic feet per second per square mile and runoff in inches are not published unless satisfactory adjustments can be made for such effects. 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 unadjusted losses (consumptive use, evaporation, seepage, etc.) are large in comparison with the observed discharge.

Publications

Each volume of the 1960 series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States" contains a listing of the numbers of all water-supply papers in which records of surface-water data were published for the area covered by the individual volumes. Each volume also contains a list of

water-supply papers that give detailed information on major floods for the area. A new series of water-supply papers containing surface-water records for the 5-year period October 1, 1965 to September 30, 1970, also will include lists of annual and special reports published as water-supply papers.

Records through September 1950 for the area covered by this report have been compiled and published in Water-Supply Paper 1302; records for October 1950 to September 1960 have been compiled and published in Water-Supply Paper 1722; records for October 1960 to September 1965 have been compiled and published in Water-Supply Paper 1902. These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the district office.

Other Data Available

Data collected at partial-record stations and at miscellaneous sites are given in three tables at the end of the surface-water records in this report. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites.

More detailed information than that published for most of the gaging stations, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Many gaging-station records in New Jersey through 1967 have been analyzed to give several statistical summaries: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for

selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year. These statistical summaries were published in New Jersey Water Resources Circular No. 23 in 1970.

Records of discharge not published by the Geological Survey were collected in New Jersey at 31 sites during the water years October 1960 to September 1968 by the following agencies: records at 6 sites were collected by New Jersey State Department of Environmental Protection (formerly Department of Conservation and Economic Development); at 4 sites by the North Jersey District Water Supply Commission; at 14 sites by Passaic County; at 2 sites by the National Weather Service (formerly Weather Bureau - ESSA); at 2 sites by the Coast and Geodetic Survey - ESSA; and at 3 sites by the Corps of Engineers.

At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on the water temperature, and on the sediment.

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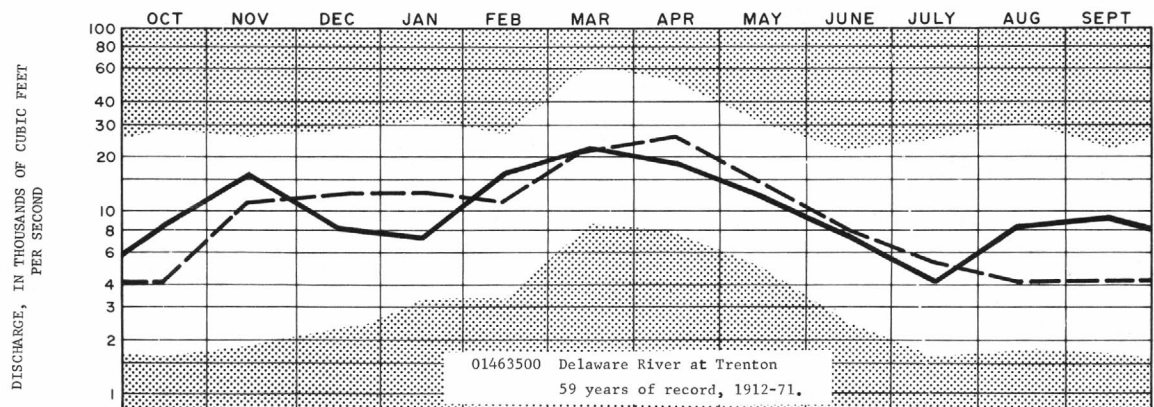
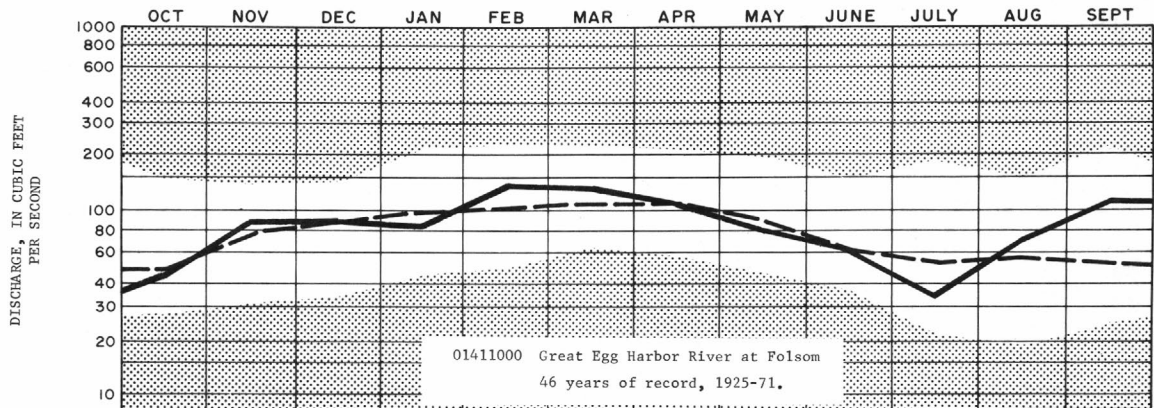
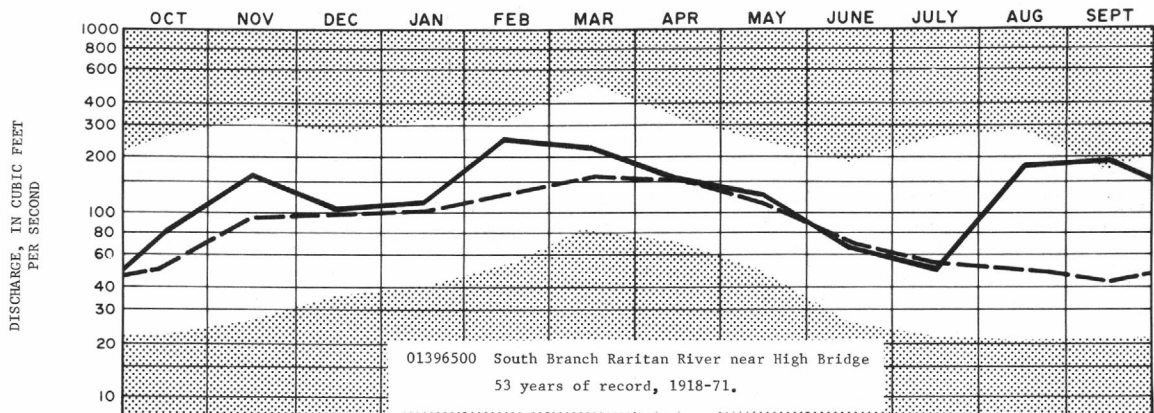
HYDROLOGIC CONDITIONS

Floods of unprecedented magnitude in August 1971 created havoc in south-central, central, and north-eastern New Jersey. Record-breaking floods in September 1971 occurred in the highly urbanized basins of northeastern New Jersey. The August flood resulted from heavy frontal-zone rainfall in the morning and afternoon of August 27, followed by precipitation associated with the passage of tropical storm Doria across New Jersey in the evening of August 27 and early morning hours of August 28. Total storm rainfall amounts during a 32-hour period ranged from about 3 to over 11 inches across New Jersey. Flooding was widespread throughout most of New Jersey and river levels reached stages greater than previously known in many areas of the State. The September flood resulted from heavy intermittent thunderstorm activity on September 11-14, 1971, which averaged about 7 inches in northeastern New Jersey and caused record-breaking peak flows in many streams in that part of the State and moderate flooding in other areas. These two outstanding flood events caused the loss of at least 7 lives and direct property damage estimated at more than 140 million dollars. New peak discharges of record, caused by these floods, were recorded at 28 regular gaging stations (33 percent of the total number situated in New Jersey) and 27 crest-stage partial-record stations. A special report documenting these outstanding floods is listed in Selected References herein.

Mean annual streamflow varied from about normal in the southern Coastal regions to nearly 200 percent of normal in the northeastern metropolitan areas, which were most heavily affected by the August and/or September flooding. Graphical illustrations of streamflow conditions during the year in comparison with long-term records for three index stations are shown on the adjacent pages. The streamflow stations chosen for illustration were South Branch Raritan River near High Bridge and Great Egg Harbor River at Folsom, which reflect runoff conditions in the northern and southern parts of the State, respectively, and Delaware River at Trenton in which there is widespread interest. The variation in streamflow from month to month may be observed and compared with the median, or normal, for a base period of record and with the maximum and minimum monthly discharges that occurred during a particular month, in the period of record, for each station. Whenever the heavy-line graph appears in the shaded areas it denotes that the mean discharges that occurred during the current year were record-high or record-low, for that particular month.

Streamflow for the year averaged 150 cfs, 133 percent of normal at South Branch Raritan River at High Bridge. The average flow during the 1971 water year at Great Egg Harbor River at Folsom was 89.2 cfs, 105 percent of normal. The yearly mean (observed) discharge on the Delaware River at Trenton was 11,780 cfs (95 percent of normal). The natural flow of the Delaware River at Trenton (adjusted for diversion and storage upstream) was about 103 percent of normal for the water year.

The combined storage in the 13 major water-supply reservoirs in New Jersey rose from 58 percent of total usable capacity at the beginning of October to 100 percent of capacity by the end of March. The reservoirs began a seasonal decline during June but recovered to 97 percent of combined capacity by the end of September. The Round Valley pumped storage rose from 47.9 billion gallons to 51.3 billion gallons during the year. Low-flow augmentation and quality-control releases were made from Round Valley Reservoir to small outlet streams during the year.



Unshaded area.--Indicates range between highest and lowest mean recorded for the month prior to 1971 water year.

Dashed line.--Indicates normal (median of the monthly means) for the standard reference period 1931-60.

Solid line.--Indicates observed monthly mean flow for the 1971 water year.

FIGURE 3.--MONTHLY STREAMFLOW AT KEY GAGING STATIONS

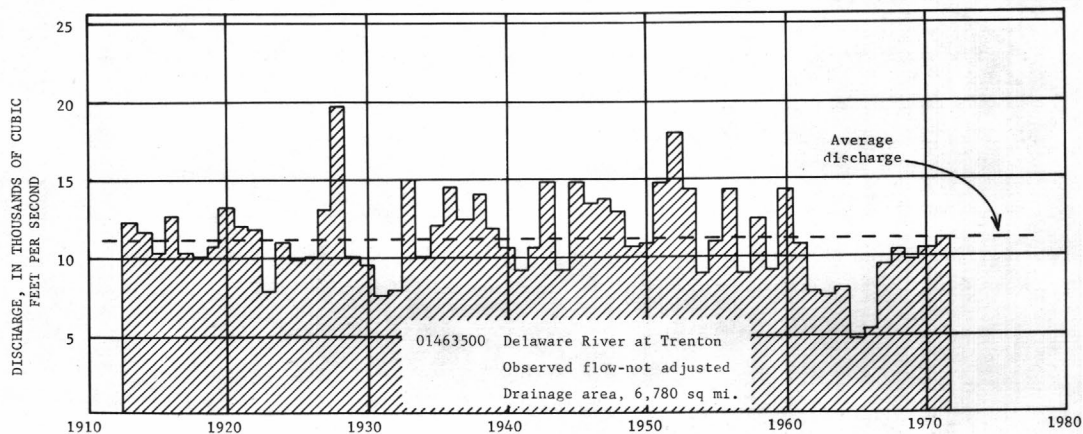
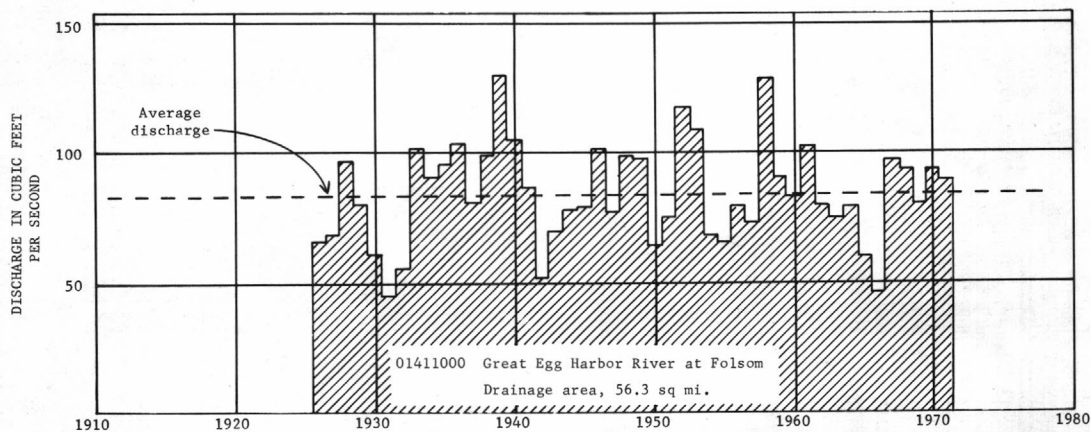
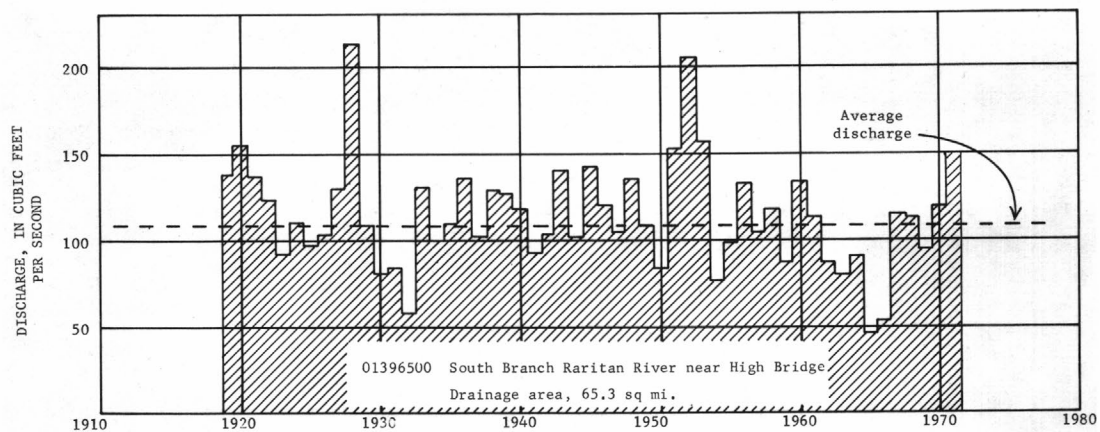


FIGURE 4.--ANNUAL MEAN DISCHARGE AT KEY GAGING STATIONS

HUDSON RIVER BASIN

19

01358000 HUDSON RIVER AT GREEN ISLAND, N.Y.

LOCATION.--Lat 42°45'08", long 73°41'22", Albany County, on right bank at Green Island, just upstream from Troy lock and dam, 0.5 mile downstream from 5th branch Mohawk River.

DRAINAGE AREA.--8,090 sq mi, approximately (including that above site of former auxiliary gage).

PERIOD OF RECORD.--February 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.31 ft below mean sea level. (Corps of Engineers bench mark). From July 1, 1946 to Mar. 12, 1962 auxiliary water-stage recorder on bypass channel at datum 10.59 ft higher.

AVERAGE DISCHARGE.--25 years, 12,600 cfs.

EXTREMES.--Current year: Maximum discharge, 62,500 cfs May 5 (gage height, 20.88 ft); minimum daily, 2,160 cfs July 5; minimum gage height, 14.46 ft June 7.

Period of record: Maximum discharge, 181,000 cfs Dec. 31, 1948 (gage height, 27.05 ft, from high-water mark in gage well); maximum daily, 141,000 cfs Dec. 31, 1948, Jan. 1, 1949; minimum daily, 882 cfs Sept. 2, 1968; minimum gage height 13.92 ft Sept. 2, 1946. Flood of Mar. 19, 1936, reached a stage of 29.48 ft at gage on opposite bank, from information by Corps of Engineers (discharge, 215,000 cfs). Flood of Mar. 28, 1913, prior to construction of Sacandaga Reservoir and Troy lock and dam, reached a stage about 0.2 ft higher upstream from former dam near same site. Downstream from dams, flood in 1913 was about 3.3 ft higher than flood in 1936, from information by Corps of Engineers.

REMARKS.--Records fair. Records include flow over spillway, estimates of flow through lock, and flow through powerplant (leakage estimated prior to Feb. and flow through generators thereafter). Power plant which is located on right bank just downstream from gage was inoperative from Nov. 30, 1960 to Feb. 23, 1971. Records of water quality for the current year are published in Part 2 of the New York report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,470	7,160	12,100	9,680	5,590	29,400	19,200	34,700	12,400	6,340	12,900	11,700
2	7,400	5,270	13,000	9,540	7,560	28,600	22,200	32,600	10,600	8,100	11,000	11,200
3	7,630	6,870	11,900	8,020	7,940	25,900	33,800	39,600	10,100	7,820	11,700	9,880
4	7,250	7,470	12,700	7,620	7,610	22,500	41,200	59,400	10,400	5,270	13,000	6,780
5	6,840	6,940	17,400	9,980	7,420	19,200	37,200	59,700	8,610	2,160	15,000	5,740
6	7,570	6,610	13,400	11,100	7,170	17,900	34,600	50,300	8,450	4,460	13,600	3,900
7	7,930	6,340	14,000	12,500	7,220	17,400	31,400	47,100	7,890	6,240	8,880	5,970
8	7,520	4,880	15,200	12,500	5,860	17,800	32,900	43,700	8,920	6,510	6,630	8,760
9	7,210	3,810	12,600	10,600	7,650	18,100	27,200	48,700	9,430	6,310	7,360	8,520
10	6,710	5,690	17,900	9,080	8,590	17,200	35,500	57,400	8,770	4,050	7,640	8,470
11	4,400	6,570	15,900	8,320	8,290	16,600	38,100	49,800	7,650	2,830	6,250	6,060
12	4,430	6,480	14,200	10,100	8,300	16,400	39,500	50,400	5,080	3,300	7,240	5,850
13	6,260	6,780	11,700	9,940	8,290	14,600	43,800	51,400	4,560	5,140	7,780	6,300
14	6,400	7,480	9,510	10,200	8,850	12,400	59,300	55,000	5,530	6,590	5,160	10,500
15	7,740	8,330	10,400	9,700	9,470	14,400	56,700	44,300	7,660	6,170	3,530	12,200
16	9,040	13,200	10,300	9,470	16,400	31,400	47,700	36,000	7,880	6,670	4,660	12,400
17	10,000	13,700	10,000	7,870	16,800	41,100	37,800	34,900	7,220	4,640	6,770	12,100
18	6,300	11,500	9,860	5,860	15,800	33,200	34,600	31,000	7,230	3,440	6,450	9,120
19	5,400	10,600	9,790	8,940	15,600	27,900	38,900	27,800	4,500	5,160	7,260	6,600
20	6,870	10,200	9,320	8,530	15,500	25,400	44,400	25,200	2,970	9,660	6,930	6,760
21	7,120	12,300	9,560	8,230	15,600	21,300	48,600	22,800	5,570	9,350	4,510	13,500
22	6,650	15,200	10,300	8,400	18,000	18,900	47,100	26,000	6,990	7,550	4,090	15,900
23	11,400	14,000	9,240	8,500	17,600	18,900	38,100	25,400	7,630	6,450	4,790	14,500
24	16,400	14,900	8,820	7,780	18,000	16,600	35,600	22,300	7,230	4,070	6,730	13,300
25	12,900	13,400	8,920	6,170	16,800	13,500	33,500	17,700	7,930	3,780	6,950	9,760
26	11,500	11,700	8,390	8,760	16,000	14,400	33,500	19,200	5,470	5,150	6,070	8,500
27	10,100	11,200	9,830	8,850	17,300	12,700	29,800	20,400	5,550	7,500	6,520	7,980
28	9,010	10,400	7,980	8,820	23,900	12,400	28,600	19,000	5,570	9,110	16,100	8,970
29	9,370	10,400	9,340	8,600	-----	13,700	31,600	14,100	5,440	8,410	21,700	9,220
30	9,130	10,600	9,560	8,340	-----	17,400	35,800	14,000	6,800	10,800	15,600	9,010
31	8,810	-----	9,840	7,060	-----	19,500	-----	12,500	-----	10,200	14,000	-----
TOTAL	253,760	279,980	352,960	279,060	339,110	626,700	1,118,2M	1,092,4M	220,030	193,230	276,800	279,450
MEAN	8,186	9,333	11,390	9,002	12,110	20,220	37,270	35,240	7,334	6,233	8,929	9,315
MAX	16,400	15,200	17,900	12,500	23,900	41,100	59,300	59,700	12,400	10,800	21,700	15,900
MIN	4,400	3,810	7,980	5,860	5,590	12,400	19,200	12,500	2,970	2,160	3,530	3,900
CAL YR 1970	TOTAL 4,353,200		MEAN 11,930		MAX 83,200		MIN 2,030					
WTR YR 1971	TOTAL 5,311,680		MEAN 14,550		MAX 59,700		MIN 2,160					

HUDSON RIVER BASIN

01368000 WALLKILL RIVER NEAR UNIONVILLE, N.Y.

LOCATION.--Lat 41°15'36", long 74°32'56", Sussex County, New Jersey on right bank on downstream side of bridge on the Bassetts Bridge Road, 0.6 mile upstream from small tributary, 2.0 miles south of the New York-New Jersey State line, and 3.0 miles south of Unionville.

DRAINAGE AREA.--140 sq mi.

PERIOD OF RECORD.--September 1937 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 390 ft (from topographic map). Prior to Nov. 16, 1949, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--34 years, 207 cfs (20.08 inches per year).

EXTREMES.--Current year: maximum discharge 1,780 cfs Mar. 1 (gage height, 9.06 ft); minimum, 18 cfs Aug. 25, 26-27 (gage height, 2.94 ft).

Period of record: Maximum discharge, 6,880 cfs Aug. 19, 1955 (gage height, 13.35 ft); minimum daily, 4.2 cfs Aug. 8-10, 1966.

REMARKS.--Records fair except those for the winter periods, which are poor.

REVISIONS.--WRD N.Y. 1966: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	86	191	85	86	1,730	276	149	370	40	46	350
2	32	83	170	86	80	1,470	264	136	266	51	91	207
3	30	81	152	88	72	1,150	329	142	231	55	149	145
4	38	89	168	95	69	908	326	136	255	41	147	120
5	38	183	178	140	75	707	274	125	231	35	125	102
6	31	251	152	250	88	583	244	115	174	32	89	91
7	28	196	131	170	104	562	338	115	147	29	63	99
8	26	151	109	120	118	699	562	138	133	28	50	92
9	25	125	116	110	127	746	569	305	143	27	41	80
10	24	113	118	98	123	637	454	264	125	28	37	75
11	24	168	115	90	114	554	418	194	100	28	33	86
12	25	251	110	92	104	545	384	156	89	28	52	156
13	24	386	110	98	115	581	350	290	88	28	49	307
14	23	629	110	100	450	610	324	607	97	30	35	415
15	52	733	110	95	600	684	290	600	102	35	30	478
16	202	772	105	88	660	822	262	444	145	28	28	502
17	211	666	105	84	560	953	249	420	118	29	26	444
18	158	454	110	78	500	979	231	346	91	33	24	367
19	94	350	140	76	430	883	211	281	75	33	22	307
20	66	348	135	78	470	866	198	235	67	42	24	257
21	55	367	125	82	530	925	187	224	60	38	37	260
22	73	348	120	90	600	875	176	278	62	30	30	283
23	235	302	115	99	720	733	166	244	55	26	25	231
24	341	262	110	100	830	590	154	200	49	24	21	194
25	305	227	105	102	680	487	156	176	47	25	19	162
26	227	205	98	115	650	432	156	249	56	28	18	142
27	164	194	95	130	900	394	156	240	56	27	62	134
28	129	189	92	120	1,400	360	145	189	46	26	514	131
29	107	180	88	100	-----	343	176	160	42	23	819	133
30	96	196	85	88	-----	326	174	143	42	28	925	133
31	91	-----	85	90	-----	302	-----	269	-----	46	707	-----
TOTAL	3,011	8,585	3,753	3,237	11,255	22,436	8,199	7,570	3,562	1,001	4,338	6,483
MEAN	97.1	286	121	104	402	724	273	244	119	32.3	140	216
MAX	341	772	191	250	1,400	1,730	569	607	370	55	925	502
MIN	23	81	85	76	69	302	145	115	42	23	18	75
CFSM	.69	2.04	.86	.75	2.87	5.17	1.95	1.74	.85	.23	1.00	1.54
IN.	.80	2.28	1.00	.86	2.99	5.96	2.18	2.01	.95	.27	1.15	1.72

CAL YR 1970	TOTAL 75,972	MEAN 208	MAX 2,410	MIN 18	CFSM 1.49	IN 20.18
WTR YR 1971	TOTAL 83,430	MEAN 229	MAX 1,730	MIN 18	CFSM 1.63	IN 22.16

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
3-1	1430	9.06	1,780				

HACKENSACK RIVER BASIN

21

01376800 HACKENSACK RIVER AT WEST NYACK, N.Y.

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

DRAINAGE AREA.--29.4 sq mi.

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

GAGE.--Water-stage recorder and stop-log control. Datum of gage is 53.50 ft above mean sea level (levels by Hackensack Water Co.).

EXTREMES.--Current year: Maximum discharge 647 cfs Sept. 14 (gage height, 6.79 ft); minimum 6.6 cfs Oct. 25 (gage height, 2.55 ft).
Period of record: Maximum discharge, 863 cfs Apr. 2, 1970 (gage height 7.51 ft); minimum daily, 2.6 cfs June 12, 1965, Sept. 25, 26, 30, 1966; minimum gage height, 1.70 ft Oct. 22, 1960.

REMARKS.--Records fair. Flow regulated by Lake De Forest (see p. 25). Diversion from gaging station pool for municipal supply for village of Nyack (see p. 26). Discharge given for this station represents the flow of Hackensack River downstream from this diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	25	20	16	17	29	26	28	30	19	22	20
2	75	25	25	15	15	27	27	25	21	19	27	18
3	75	20	22	15	15	28	34	27	47	17	22	17
4	75	20	23	18	15	36	35	26	49	16	23	17
5	74	31	23	29	21	32	36	25	42	16	22	16
6	73	20	23	23	21	33	35	25	32	16	20	16
7	72	19	23	18	18	62	144	23	25	15	21	17
8	71	19	22	17	37	39	97	41	20	16	21	21
9	70	18	23	16	43	30	80	79	25	19	20	21
10	70	22	23	16	23	28	72	65	15	19	20	21
11	69	25	25	16	19	29	66	51	11	20	20	22
12	68	16	30	17	21	28	52	41	11	19	24	262
13	68	46	28	17	60	28	46	70	12	19	20	307
14	67	28	24	17	52	27	47	101	18	20	20	533
15	79	26	14	17	25	26	38	75	17	19	20	315
16	68	17	18	17	23	26	34	78	16	18	20	113
17	45	13	26	17	21	25	34	85	14	19	20	90
18	43	14	20	17	24	25	39	66	13	19	20	76
19	43	15	18	17	26	34	35	52	22	29	21	58
20	42	20	19	17	29	51	26	42	22	23	20	43
21	35	29	17	16	29	31	20	38	20	20	22	44
22	36	20	16	16	27	28	20	37	16	20	22	38
23	18	19	16	17	59	27	19	33	17	19	22	30
24	11	17	16	17	34	23	18	24	16	19	22	27
25	9.7	17	17	17	28	18	22	22	16	21	22	20
26	9.8	18	16	23	26	17	21	29	17	25	22	17
27	12	19	15	20	66	25	25	26	17	18	58	15
28	17	19	15	28	36	23	23	24	16	16	218	15
29	19	18	15	17	-----	26	29	20	16	20	34	15
30	19	21	15	17	-----	26	28	24	16	30	16	17
31	20	-----	15	17	-----	34	-----	29	-----	21	22	-----
TOTAL	1,529.5	636	622	557	830	921	1,228	1,331	629	606	903	2,241
MEAN	49.3	21.2	20.1	18.0	29.6	29.7	40.9	42.9	21.0	19.5	29.1	74.7
MAX	79	46	30	29	66	62	144	101	49	30	218	533
MIN	9.7	13	14	15	15	17	18	20	11	15	16	15
CAL YR 1970	TOTAL 15,912.5		MEAN 43.6		MAX 752		MIN 9.7					
WTR YR 1971	TOTAL 12,033.5		MEAN 33.0		MAX 533		MIN 9.7					

HACKENSACK RIVER BASIN

01377000 Hackensack River at Rivervale, N. J.

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

DRAINAGE AREA.--58.0 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 22.51 ft above mean sea level.

AVERAGE DISCHARGE.--30 years, 88.0 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 878 cfs Sept. 12, 14 (gage height, 4.21 ft); minimum, 7.7 cfs Jan. 16 (gage height, 1.41 ft).

Period of record: Maximum discharge, 1,500 cfs May 29, 1968 (gage height, 6.23 ft); no flow for part of Jan. 16, 1970 due to upstream regulation.

REMARKS.--Records excellent. Flow regulated by Lake De Forest and Lake Tappan (see p. 25). Diversions at Lake De Forest and West Nyack, N.Y., for municipal water supply (see p. 26). Records of water quality for the current year are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	21	14	20	35	26	35	54	54	121	48	17
2	86	26	14	22	47	24	50	37	28	124	56	16
3	86	68	14	21	62	24	62	47	72	119	29	15
4	88	68	20	24	62	44	54	46	115	117	54	15
5	86	64	72	44	72	32	54	38	68	117	26	16
6	84	18	72	26	38	32	61	34	49	117	21	15
7	82	17	66	19	26	76	218	37	37	118	19	16
8	80	17	66	18	72	35	160	90	32	116	18	15
9	80	35	66	18	78	26	111	145	35	115	18	15
10	80	68	68	18	30	22	102	96	17	117	18	14
11	80	70	68	18	25	24	90	70	19	117	19	27
12	78	24	74	18	28	21	68	61	17	119	20	488
13	70	44	72	17	96	20	72	148	18	136	18	126
14	74	44	62	18	68	19	80	168	45	153	18	630
15	92	30	22	17	28	20	50	108	44	149	18	456
16	56	20	22	18	27	49	47	143	48	147	17	279
17	57	16	32	20	26	57	50	124	21	145	17	151
18	57	15	26	20	28	44	50	92	19	142	17	129
19	57	20	19	24	30	84	50	74	17	152	24	102
20	57	20	19	40	32	264	38	68	20	95	91	80
21	57	38	17	64	28	100	27	54	29	78	90	95
22	57	18	16	64	27	66	34	59	33	76	90	86
23	26	17	16	66	66	64	21	43	61	75	89	64
24	16	19	16	64	32	50	26	31	116	74	97	56
25	13	15	15	59	25	40	35	34	116	76	117	45
26	12	15	15	47	24	41	28	78	126	90	126	46
27	14	15	17	28	78	46	43	46	124	71	167	34
28	18	14	21	25	32	38	37	32	124	26	332	55
29	18	14	20	24	-----	46	56	34	122	24	30	53
30	16	16	21	26	-----	49	47	43	121	57	19	51
31	12	-----	21	25	-----	50	-----	66	-----	44	18	-----
TOTAL	1,777	886	1,083	932	1,222	1,533	1,856	2,200	1,747	3,227	1,741	3,207
MEAN	57.3	29.5	34.9	30.1	43.6	49.5	61.9	71.0	58.2	104	56.2	107
MAX	92	70	74	66	96	264	218	168	126	153	332	630
MIN	12	14	14	17	24	19	21	31	17	24	17	14
CAL YR 1970	TOTAL 25,435	MEAN 69.7	MAX 546	MIN 12								
WTR YR 1971	TOTAL 21,411	MEAN 58.7	MAX 630	MIN 12								

HACKENSACK RIVER BASIN

23

01377500 Pascack Brook at Westwood, N. J.

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

DRAINAGE AREA.--29.6 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 28.62 ft above mean sea level.

AVERAGE DISCHARGE.--37 years, 52.4 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 2,440 cfs Sept. 12 (gage height, 7.57 ft); minimum, 25 cfs July 10, 11, 13, 18 (gage height, 1.63 ft).

Period of record: Maximum discharge, 2,440 cfs Sept. 12, 1971 (gage height, 7.57 ft); minimum, 5.6 cfs June 29, 1965.

REMARKS.--Records excellent. Flow regulated by Woodcliff Lake 3.0 miles above station (see p. 25). Water diverted for municipal supply by Spring Valley Water Works and Supply Co., by pumpage from well fields in headwater area of Pascack Brook in vicinity of Spring Valley, N.Y., and by Park Ridge Water Department by pumping from wells above Woodcliff Lake probably reduces flow past this station.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	32	45	45	42	90	44	51	60	39	102	59
2	29	36	44	47	42	76	45	51	54	42	113	50
3	30	31	44	45	42	76	52	52	60	37	94	44
4	32	36	50	55	42	139	47	52	105	32	115	46
5	29	60	44	79	83	105	44	51	72	32	76	55
6	29	37	43	81	79	98	48	51	61	32	63	46
7	29	34	42	61	58	244	173	51	57	36	58	47
8	28	32	40	52	150	165	115	88	51	31	50	50
9	30	33	42	52	232	96	66	115	48	30	45	44
10	32	40	42	52	100	81	55	79	43	28	43	43
11	32	81	42	51	66	81	48	63	42	29	45	47
12	32	54	50	51	72	78	45	57	40	30	48	1,610
13	33	85	48	50	314	72	45	122	45	28	47	841
14	33	76	45	50	399	68	45	134	54	44	43	485
15	60	72	45	52	88	64	42	85	50	33	40	180
16	48	52	44	47	68	64	40	90	48	30	39	123
17	40	45	69	47	58	60	39	72	45	31	38	106
18	37	44	60	45	63	54	39	52	47	28	38	98
19	36	45	52	45	85	92	39	42	43	88	37	81
20	34	54	52	45	92	220	36	51	40	72	40	82
21	37	64	50	45	90	103	36	55	48	43	36	81
22	87	43	50	48	90	76	37	47	42	37	34	70
23	51	43	48	51	214	69	50	42	39	33	34	56
24	38	42	48	50	132	66	50	45	36	33	32	43
25	34	43	48	51	85	68	50	64	36	40	31	41
26	33	44	48	71	72	63	51	69	42	79	31	40
27	33	44	47	51	276	58	51	55	34	83	275	43
28	32	42	47	40	141	52	54	54	37	44	1,770	55
29	31	43	45	45	-----	52	57	51	34	52	344	76
30	32	47	45	47	-----	50	54	55	34	111	100	75
31	32	-----	44	45	-----	47	-----	76	-----	98	73	-----
TOTAL	1,122	1,434	1,463	1,596	3,275	2,727	1,597	2,022	1,447	1,405	3,934	4,717
MEAN	36.2	47.8	47.2	51.5	117	88.0	53.2	65.2	48.2	45.3	127	157
MAX	87	85	60	81	399	244	173	134	105	111	1,770	1,610
MIN	28	31	40	40	42	47	36	42	34	28	31	40

CAL YR 1970 TOTAL 19,044 MEAN 52.2 MAX 702 MIN 20
 WTR YR 1971 TOTAL 26,739 MEAN 73.3 MAX 1,770 MIN 28

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-14	0030	4.44	876	7-19	1615	2.96	321
3-07	1615	3.07	363	8-28	1445	7.11	2,170
3-20	0345	2.93	310	9-12	1730	7.57	2,440

HACKENSACK RIVER BASIN

01378500 Hackensack River at New Milford, N. J.

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

DRAINAGE AREA.--113 sq mi.

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

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

AVERAGE DISCHARGE.--50 years, 107 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 3,240 cfs Sept. 12 (gage height, 5.62 ft); no flow during October to February and June to August.

Period of record: Maximum discharge, 4,040 cfs May 30, 1968 (gage height, 6.60 ft); no flow on many days during most years.

REMARKS.--Records good. Records given herein represent flow over waste weirs only. Flow regulated by Lake De Forest, Lake Tappan, Woodcliff Lake 9.0 miles upstream from station, and Oradell Reservoir 1.0 mile upstream from station (see p. 25). Water diverted at gage, Lake De Forest, and West Nyack, N.Y., for municipal supply (see p. 26). Records of water quality for the current year are published in Part 2 of this report.

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

REVISIONS (WATER YEARS).--WSP 601: Drainage area. WSP 711: 1927-28(M). WRD-NJ 1970: 1969.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	73	19	15	17		0	265
2					0	35	17	16	16		0	502
3					0	19	17	16	19		0	180
4					0	173	17	15	20		0	107
5					0	84	17	16	19		0	13
6					0	84	17	16	17		0	12
7					0	495	334	15	20		0	11
8					0	183	227	16	22		0	13
9					0	80	95	17	16		0	15
10					0	54	66	16	16		0	14
11					0	17	63	15	17		0	14
12					0	20	40	16	16		0	1,580
13					0	20	28	17	19		0	2,420
14					306	19	28	19	17		0	1,360
15					50	17	19	66	16		0	720
16					34	16	19	253	16		0	373
17					26	17	17	100	17		0	156
18					14	19	19	57	19		0	143
19					15	118	19	28	17		0	83
20					15	645	16	17	16		0	33
21					24	141	17	17	17		0	88
22					73	60	16	16	19		0	60
23					377	54	16	16	7.5		0	33
24					101	35	16	17	0		0	13
25					35	22	15	16	0		0	13
26					22	19	15	17	0		0	13
27					514	17	15	17	0		0	13
28					154	17	15	16	0		1,140	13
29					-----	17	16	19	0		534	14
30					-----	17	15	17	0		51	13
31		-----			-----	16	-----	17	-----		12	-----
TOTAL	0	0	0	0	1,760	2,603	1,250	931	395.5	0	1,737	8,287
MEAN	0	0	0	0	62.9	84.0	41.7	30.0	13.2	0	56.0	276
MAX	0	0	0	0	514	645	334	253	22	0	1,140	2,420
MIN	0	0	0	0	0	16	15	15	0	0	0	11

CAL YR 1970 TOTAL 11,369.94 MEAN 31.2 MAX 1,670 MIN 0
WTR YR 1971 TOTAL 16,963.50 MEAN 46.5 MAX 2,420 MIN 0

Reservoirs in Hackensack River basin

01376700 LAKE DE FOREST.--Lat 41°06', long 74°57', Rockland County, N.Y., (formerly published as "De Forest Lake") at dam on Hackensack River, 0.85 mile north of West Nyack, N.Y. Drainage area, 26.6 sq mi. Period of record, February 1956 to current year in reports of Geological Survey. Bristol recording water-level gage. Datum of gage is at mean sea level.

Reservoir is formed by earthfill dam with sheet piling cutoff and concrete spillway; dam completed and storage began in February 1956. Total capacity at crest of dam (elevation, 80.00 ft), 4,068,000,000 gal. Crest of dam topped by two 50-foot Bascule gates 5 ft high. 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 public water supply. Elevation record and capacity table furnished by Hackensack Water Co.

01376950 LAKE TAPPAN.--Lat 41°01'05", long 74°00'05", Bergen County, at dam on Hackensack River, 0.50 mile north of Old Tappan. Drainage area, about 49 sq mi. Period of record, October 1966 to current year in reports of Geological Survey. Water-stage recorder. Datum of gage is at mean sea level.

Reservoir is formed by earthfill dam, completed in 1966. Capacity at spillway level (elevation, 55.00 ft), 3,378,000,000 gal. Flow regulated by four Bascule gates and one sluice gate. Water is released by Hackensack Water Co., for public water supply. Elevation record and capacity table furnished by Hackensack Water Co.

01377450 WOODCLIFF LAKE.--Lat 41°01', long 74°03', Bergen County, at dam on Pascack Brook, 0.75 mile north of Hillsdale. Drainage area, 19.4 sq mi. Period of record, December 1929 to current year in reports of Geological Survey. Monthend contents only prior to September 1953, published in WSP 1302, 1722. Water-stage recorder. Datum of gage is at mean sea level. Gage readings to 0.1 ft above or below spillway level and capacity table furnished by Hackensack Water Co.

Reservoir is formed by earthfill dam, completed about 1905. Capacity at spillway level (elevation, 94.33 ft), 835,000,000 gal. 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.

01378480 ORADELL RESERVOIR.--Lat 40°57', long 74°02', Bergen County, at dam on Hackensack River at Oradell. Drainage area, 113 sq mi. Period of record, December 1922 to current year in reports of Geological Survey. Monthend contents only prior to September 1953, published in WSP 1302, 1722. Water-stage recorder. Datum of gage is at mean sea level.

Reservoir is formed by Hollow concrete dam, completed in 1922. Capacity at spillway level (elevation, 22.66 ft), 2,850,000,000 gal. Flow regulated by seven sluice gates (7 by 9 ft). Water is released for diversion by Hackensack Water Co., 1 mile downstream from dam for municipal supply. Elevation record and capacity table furnished by Hackensack Water Co.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Elevation (feet)	Contents (million gallons)	Change in contents (equivalent in cfs)	Elevation (feet)	Contents (million gallons)	Change in contents (equivalent in cfs)
01376700 Lake De Forest†				01376950 Lake Tappan†		
Sept. 30.....	75.28	2,735	-	37.55	20	-
Oct. 31.....	72.09	1,900	-41.7	40.94	220	+10.0
Nov. 30.....	73.93	2,400	+25.8	44.81	785	+29.1
Dec. 31.....	74.48	2,525	+6.2	45.50	907	+6.1
CAL YR 1970.....	-	-	-13.4	-	-	+3.7
Jan. 31.....	75.33	2,749	+11.2	46.57	1,137	+11.5
Feb. 28.....	80.93	4,360	+89.0	52.39	2,659	+84.1
Mar. 31.....	85.17	5,698	+66.8	55.00	3,485	+41.2
Apr. 30.....	85.09	5,670	-1.4	55.00	3,485	0
May 31.....	85.16	5,694	+1.2	55.02	3,492	+4
June 30.....	84.17	5,377	-16.4	53.33	2,951	-27.9
July 31.....	82.89	4,976	-20.0	48.55	1,612	-66.8
Aug. 31.....	84.30	5,418	+22.1	51.16	2,312	+34.9
Sept. 30.....	85.06	5,659	+12.4	54.94	3,466	+59.5
WTR YR 1971.....	-	-	+12.4	-	-	+14.6
01377450 Woodcliff Lake†				01378480 Oradell Reservoir†		
Sept. 30.....	87.53	488	-	16.78	1,721	-
Oct. 31.....	87.53	488	0	16.22	1,628	-4.6
Nov. 30.....	94.03	819	+17.0	17.17	1,788	+8.2
Dec. 31.....	94.73	856	+1.9	17.20	1,793	+2
CAL YR 1970.....	-	-	-.2	-	-	-5.0
Jan. 31.....	94.63	851	-.2	16.96	1,752	-2.0
Feb. 28.....	95.63	905	+3.0	23.27	2,990	+68.4
Mar. 31.....	95.33	889	-.8	22.82	2,887	-5.1
Apr. 30.....	95.23	883	-.2	21.10	2,523	-18.8
May 31.....	94.63	851	-1.6	22.29	2,771	+12.4
June 30.....	93.23	777	-3.9	17.20	1,793	-50.4
July 31.....	94.73	856	+4.0	19.72	2,245	+22.6
Aug. 31.....	94.73	856	0	22.93	2,912	+33.3
Sept. 30.....	94.23	830	-1.4	18.50	2,017	-46.1
WTR YR 1971.....	-	-	+1.5	-	-	+1.3

† Elevation at 0800 on first day of following month.

HACKENSACK RIVER BASIN

Diversions from Hackensack River basin

01376699 Spring Valley Water Co., diverts water at Lake De Forest for public supply in Rockland County, N.Y. Records furnished by Spring Valley Water Co.

01376810 Village of Nyack, N.Y., diverts water from Hackensack River 100 ft downstream from gaging station on Hackensack River at West Nyack, N.Y., for municipal supply. Records furnished by Board of Water Commissioners of Nyack, N.Y.

01378490 Hackensack Water Co., diverts water for municipal supply from Oradell Reservoir at Haworth pumping station 2.0 miles 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, N.J. Records furnished by Hackensack Water Co.

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, N.J., for municipal supply. Records furnished by Hackensack Water Co.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Month	Spring Valley Water Co.	West Nyack, N.Y.	Hackensack River
October.....	8.31	2.37	111
November.....	6.45	2.12	107
December.....	5.72	2.03	111
CAL YR 1970.....	9.9	2.25	128
January.....	2.70	2.27	114
February.....	3.13	2.43	122
March.....	2.61	2.34	133
April.....	3.25	2.44	140
May.....	4.02	2.46	144
June.....	11.5	3.17	173
July.....	13.6	3.37	172
August.....	10.9	3.17	159
September.....	9.05	3.12	154
WTR YR 1971.....	6.8	2.61	137

Tabulation of diversion by pumpage from sources other than the Hackensack River into Oradell Reservoir. These figures are included in diversions from Hackensack River as noted above.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Month	Sparkill Creek (Hudson River Basin)	Hirshfeld Brook (Hackensack River Basin)	Saddle River (Passaic River Basin)	Wells to Surface Supply
October.....	0.11	1.62	6.76	1.62
November.....	.58	2.66	12.4	1.65
December.....	.98	2.61	16.3	1.62
CAL YR 1970..	.1	.7	5.6	.6
January.....	.86	3.19	15.9	1.44
February.....	.52	2.15	8.31	.82
March.....	0	0	0	0
April.....	0	0	3.78	0
May.....	0	0	11.6	0
June.....	0	0	11.5	0
July.....	0	1.77	6.43	.88
August.....	0	2.54	8.67	1.21
September.....	0	.72	2.94	0
WTR YR 1971..	.2	1.4	8.7	.8

PASSAIC RIVER BASIN

27

01378690 Passaic River near Bernardsville, N. J.

LOCATION.--Lat 40°44'03", long 74°32'26", Somerset County, on right bank on downstream wingwall of bridge on U.S. Route 202, 1.8 miles northeast of Bernardsville, and 3.0 miles upstream from Great Brook.

DRAINAGE AREA.--8.83 sq mi.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 248.07 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 3,850 cfs Aug. 28 (gage height, 8.56 ft), from rating curve extended above 600 cfs on the basis of contracted-opening and flow-over-road measurement of peak flow; minimum, 1.1 cfs Dec. 7 (gage height, 1.10 ft).

Period of record: Maximum discharge, 3,850 cfs Aug. 28, 1971 (gage height, 8.56 ft), from rating curve extended above 600 cfs on the basis of contracted-opening and flow-over-road measurement of peak flow; minimum, 1.1 cfs Dec. 7, 1970 (gage height, 1.10 ft).

REVISIONS.--The maximum discharge for the water year 1970 has been revised to 646 cfs Apr. 2, 1970 (gage height, 4.89 ft), superseding figure published in WRD-NJ 1970.

REMARKS.--Records excellent except those for October through January, which are good. The stage-discharge relationship may be affected at high stages by backwater from Osborne Pond, approximately 0.8 mile downstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	2.8	9.4	8.9	6.6	29	22	13	13	6.0	154	29
2	3.2	2.7	9.4	9.0	6.3	28	22	14	11	7.5	43	27
3	3.2	2.8	9.4	8.5	6.2	29	23	14	12	5.4	9.9	25
4	2.8	3.5	11	17	6.4	34	21	13	12	4.8	8.2	24
5	2.5	15	9.4	40	8.0	29	21	12	9.0	4.8	7.5	23
6	2.5	6.6	9.4	17	14	30	23	13	8.2	4.8	6.0	36
7	2.5	5.0	6.9	12	12	78	132	12	9.0	4.3	5.4	34
8	2.5	4.4	7.9	13	49	34	42	29	8.2	3.8	4.8	25
9	2.3	4.4	8.4	11	42	29	29	20	8.2	3.8	4.8	25
10	2.3	4.9	8.4	11	25	28	28	13	8.2	3.8	4.3	35
11	2.3	12	8.4	11	22	29	26	12	7.5	3.8	4.8	33
12	2.1	36	12	11	16	28	26	11	7.5	4.3	4.8	368
13	1.9	50	10	9.4	95	30	24	53	7.5	3.8	4.3	137
14	1.9	26	9.4	10	48	27	24	24	8.2	4.8	3.8	129
15	8.9	47	10	11	21	26	20	16	11	3.8	3.8	67
16	6.4	20	9.4	8.8	20	25	20	29	11	3.8	3.4	47
17	2.5	14	23	9.2	19	25	18	18	8.2	4.3	3.4	52
18	2.5	12	17	9.8	23	24	18	13	6.7	4.3	3.4	75
19	2.5	17	13	10	23	50	16	12	6.7	9.0	3.8	43
20	2.3	14	15	9.7	29	50	16	12	6.7	8.2	4.8	39
21	2.3	22	12	9.2	31	28	16	29	6.7	4.3	3.8	37
22	42	13	12	10	35	26	16	18	6.7	3.8	3.8	32
23	17	12	11	9.8	49	26	16	13	6.0	3.8	3.4	30
24	11	11	11	9.4	28	25	16	12	6.0	3.4	2.9	28
25	8.9	10	10	9.3	26	25	16	12	6.0	8.2	2.9	25
26	8.9	10	10	13	26	24	14	16	6.0	5.4	3.0	25
27	6.0	10	8.9	12	71	24	14	12	5.4	4.3	111	24
28	3.4	9.4	8.9	8.6	34	23	14	11	5.4	3.4	646	23
29	2.8	9.4	8.4	8.7	-----	23	16	11	5.4	3.8	49	22
30	2.6	12	7.9	9.6	-----	23	13	13	5.4	24	37	21
31	2.8	-----	8.0	8.2	-----	22	-----	26	-----	13	32	-----
TOTAL	168.0	418.9	324.9	355.1	791.5	931	722	526	238.8	176.5	1,183.0	1,540
MEAN	5.42	14.0	10.5	11.5	28.3	30.0	24.1	17.0	7.96	5.69	38.2	51.3
MAX	42	50	23	40	95	78	132	53	13	24	646	368
MIN	1.9	2.7	6.9	8.2	6.2	22	13	11	5.4	3.4	2.9	21
CFSM	.81	1.59	1.19	1.30	3.21	3.40	2.73	1.93	.90	.64	4.33	5.81
IN.	.71	1.76	1.37	1.50	3.33	3.92	3.04	2.22	1.01	.74	4.98	6.49

CAL YR 1970 TOTAL 4,727.6 MEAN 13.0 MAX 268 MIN 1.9 CFSM 1.47 IN 19.92
WTR YR 1971 TOTAL 7,375.7 MEAN 20.2 MAX 646 MIN 1.9 CFSM 2.29 IN 31.07

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	1800	3.30	268	8-28	0630	8.56	3,850
4-07	0815	3.09	235	9-12	0815	5.98	1,290
8-01	1915	4.93	752				

PASSAIC RIVER BASIN

01379000 Passaic River near Millington, N. J.

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

DRAINAGE AREA.--55.4 sq mi.

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.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 215.60 ft above mean sea level (New Jersey Geological Survey bench mark). Nov. 25, 1903, to July 15, 1906, nonrecording gage at bridge 0.8 mile 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.

AVERAGE DISCHARGE.--51 years (1904-5, 1921-71), 84.5 cfs (20.71 inches per year) adjusted for diversion since 1970.

EXTREMES.--Current year: Maximum discharge, 1,670 cfs Aug. 29 (gage height, 9.73 ft); minimum, 3.1 cfs Oct. 10, 11 (gage height, 4.03 ft).

Period of record: Maximum discharge, 2,000 cfs 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 cfs on basis of velocity-area study; maximum gage height, 9.73 ft Aug. 29, 1971; minimum discharge, 0.2 cfs Sept. 12, 13, 1966 (gage height, 3.76 ft).

REMARKS.--Records excellent. Diversion from Osborn Pond by Bernards Water Co., since June 24, 1903, for municipal supply. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1552: 1905(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	18	45	21	26	467	57	39	61	8.0	117	818
2	7.7	17	39	22	20	332	54	37	47	11	329	560
3	6.5	16	36	22	15	233	58	41	45	9.7	339	316
4	9.8	19	38	28	13	199	54	38	37	6.8	247	184
5	16	68	36	107	15	210	50	34	27	6.1	211	105
6	8.1	72	32	175	21	240	50	33	22	5.5	166	91
7	7.4	47	25	188	30	394	301	36	20	5.3	111	187
8	6.2	40	21	161	150	557	566	46	18	4.4	63	168
9	4.0	32	22	115	353	462	481	101	16	3.9	35	105
10	3.3	27	24	80	313	330	339	94	15	4.4	24	76
11	3.3	45	25	66	265	235	219	77	14	5.0	19	66
12	4.0	92	37	64	172	186	148	56	13	5.0	16	587
13	4.0	210	55	56	245	181	110	92	13	3.8	12	1,120
14	4.0	323	58	48	609	177	92	179	13	4.0	9.0	1,160
15	10	366	64	45	583	156	78	154	15	5.0	7.1	1,110
16	26	402	61	40	462	144	69	145	24	4.3	6.5	898
17	14	280	114	32	255	128	63	158	18	3.7	5.3	673
18	13	200	210	26	154	109	58	126	15	4.2	4.3	575
19	16	154	212	22	155	117	52	98	12	4.9	4.4	538
20	18	133	189	18	181	287	48	74	11	21	8.1	482
21	20	146	156	17	230	307	46	71	11	11	7.0	382
22	63	142	114	17	302	249	44	91	14	6.3	6.0	278
23	107	120	91	18	504	187	42	79	12	5.0	5.1	212
24	109	95	82	20	537	142	39	65	11	4.4	4.0	168
25	74	71	73	21	467	113	40	53	9.9	13	3.2	133
26	54	56	60	25	333	98	39	45	9.3	20	3.2	105
27	36	53	47	30	436	87	39	36	8.2	17	101	89
28	28	47	37	31	550	78	38	32	7.5	11	1,370	78
29	25	42	30	29	-----	73	41	29	7.7	8.7	1,660	72
30	22	47	24	28	-----	68	41	30	7.8	36	1,420	66
31	20	-----	20	30	-----	63	-----	48	-----	81	1,130	-----
TOTAL	748.7	3,380	2,077	1,602	7,396	6,609	3,356	2,237	554.4	339.4	7,443.2	11,402
MEAN	24.2	113	67.0	51.7	264	213	112	72.2	18.5	10.9	240	380
MAX	109	402	212	188	609	557	566	179	61	81	1,660	1,160
MIN	3.3	16	20	17	13	63	38	29	7.5	3.7	3.2	66
(†)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3
MEAN#	26.6	115	69.4	54.1	266	215	114	74.6	20.9	13.2	242	382
CFSM#	.48	2.08	1.25	.98	4.80	3.88	2.06	1.35	.38	.24	4.37	6.90
IN.#	.55	2.32	1.44	1.13	5.00	4.47	2.30	1.56	.42	.28	5.04	7.70

CAL YR 1970	TOTAL 25,772.5	MEAN 70.6	MAX 955	MIN 2.2	MEAN# 73.1	CFSM# 1.32	IN.# 17.95
WTR YR 1971	TOTAL 47,144.7	MEAN 129	MAX 1,660	MIN 3.2	MEAN# 131	CFSM# 2.36	IN.# 32.21

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-14	1530	6.82	647	4-08	0530	6.64	584
2-23	1845	6.57	560	8-29	1245	9.73	1,670
2-28	0030	6.62	577	9-14	1745	8.39	1,200
3-08	0230	6.62	577				

† Diversion, in cubic feet per second, from Osborn Pond for municipal supply. Records of diversion furnished by Bernards Water Co.

Adjusted for diversion.

PASSAIC RIVER BASIN

29

01379500 Passaic River near Chatham, N. J.

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

DRAINAGE AREA.--100 sq mi.

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

GAGE.--Water-stage recorder and concrete control since Sept. 19, 1938. Datum of gage is 193.51 ft above mean sea level. Prior to Dec. 31, 1911, nonrecording gage at bridge 150 ft upstream at different datum.

AVERAGE DISCHARGE.--42 years (1903-11, 1937-71), 160 cfs (21.73 inches per year) adjusted for diversion since 1970.

EXTREMES.--Current year: Maximum discharge, 2,540 cfs Aug. 28 (gage height, 8.16 ft); minimum, 9.5 cfs Oct. 12 (gage height, 3.03 ft).
Period of record: Maximum discharge observed, about 3,000 cfs Jan. 9, 1905 (gage height, 8.3 ft, site and datum then in use); minimum, 2.0 cfs on many days in May and June 1903, August and October 1905, September and October 1906, and Sept. 11, 1944.

REMARKS.--Records good. Diversion from Osborn Pond by Bernards Water Co., since June 24, 1903, for municipal supply (records given herein). Records of water quality for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	30	85	37	55	637	89	57	100	22	392	1,660
2	17	28	74	43	45	552	85	56	83	29	495	1,400
3	19	28	68	50	35	462	90	57	71	23	489	1,120
4	22	47	71	76	30	442	87	59	68	18	452	866
5	17	174	71	250	50	396	78	54	57	15	377	624
6	22	135	62	442	64	387	89	52	46	15	294	416
7	17	90	52	462	120	570	558	54	40	15	197	302
8	15	66	44	387	200	665	782	98	37	15	125	265
9	14	56	44	281	550	651	756	178	34	14	78	197
10	12	52	45	165	500	552	665	148	31	13	52	130
11	12	83	46	128	479	457	529	120	27	12	39	105
12	10	221	94	118	406	354	372	96	27	13	33	955
13	11	523	123	120	570	318	225	211	27	13	28	1,410
14	12	570	113	96	679	285	165	372	32	20	23	1,600
15	32	644	123	118	735	246	135	289	40	17	23	1,580
16	37	624	115	90	672	232	118	269	43	14	20	1,500
17	29	552	387	102	594	204	105	318	43	13	18	1,350
18	18	437	462	78	452	178	94	235	34	13	17	1,270
19	16	323	406	73	358	239	87	171	29	19	21	980
20	16	258	340	44	349	500	80	133	25	50	26	800
21	15	323	269	39	387	500	74	123	37	34	21	686
22	190	258	214	40	462	447	70	157	51	21	18	576
23	306	207	165	45	658	358	66	135	30	16	16	457
24	184	174	148	46	714	258	62	107	24	13	15	336
25	120	128	130	48	651	194	59	90	23	47	15	218
26	85	100	111	74	558	160	57	78	23	44	13	157
27	60	89	90	80	630	140	56	68	19	40	426	130
28	48	81	80	74	672	125	56	59	18	27	1,680	113
29	40	74	68	65	-----	113	60	52	18	46	2,020	102
30	37	83	54	62	-----	107	60	51	18	265	2,010	92
31	33	-----	46	60	-----	98	-----	85	-----	310	1,880	-----
TOTAL	1,484	6,458	4,200	3,793	11,675	10,827	5,809	4,032	1,155	1,226	11,313	21,397
MEAN	47.9	215	135	122	417	349	194	130	38.5	39.5	365	713
MAX	306	644	462	462	735	665	782	372	100	310	2,020	1,660
MIN	10	28	44	37	30	98	56	51	18	12	13	92
(†)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3
MEAN#	50.3	217	137	124	419	351	196	132	40.9	41.8	367	715
CFSM#	.50	2.17	1.37	1.24	4.19	3.51	1.96	1.32	.41	.42	3.67	7.15
IN.#	.58	2.43	1.59	1.44	4.37	4.05	2.19	1.53	.46	.48	4.22	7.98

CAL YR 1970 TOTAL 50,199 MEAN 138 MAX 1,400 MIN 10 MEAN# 140 CFSM# 1.40 IN.# 18.99
WTR YR 1971 TOTAL 83,369 MEAN 228 MAX 2,020 MIN 10 MEAN# 230 CFSM# 2.40 IN.# 31.34

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	1615	5.40	830	8-28	0730	8.16	2,540
4-08	1745	5.38	818	9-14	0815	6.72	1,610
8-01	1630	5.36	806	9-18	0030	6.79	1,650

+ Diversion, in cubic feet per second, from Osborn Pond for municipal supply. Records of diversion furnished by Bernards Water Co.

* Adjusted for diversion.

PASSAIC RIVER BASIN

01379630 Russia Brook tributary at Milton, N. J.

LOCATION.--Lat 41°01'09", long 74°32'17", Morris County, on left bank 500 ft upstream from confluence with Russia Brook, 1.4 miles upstream from Lake Swannanoa, and 0.2 mile southwest of Milton.

DRAINAGE AREA.--2.51 sq mi.

PERIOD OF RECORD.--October 1968 to September 1971 (discontinued).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 822 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 144 cfs Aug. 28 (gage height, 4.23 ft); minimum, 0.27 cfs Jan. 21 (gage height, 2.46 ft).

Period of record: Maximum discharge, 144 cfs Aug. 28, 1971 (gage height, 4.23 ft); minimum, 0.04 cfs Sept. 20, 1970 (gage height, 2.26 ft).

REMARKS.--Records excellent. Some regulation by a small sewage treatment plant above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	2.0	3.2	.80	.77	14	4.0	2.0	3.2	2.6	10	7.3
2	.39	2.0	2.9	1.0	.77	12	5.0	2.0	2.4	2.6	13	5.7
3	.40	1.9	2.8	1.5	.81	10	5.0	2.0	8.0	.57	8.8	4.5
4	.43	2.0	3.5	2.5	.68	9.6	3.9	1.9	3.3	.41	8.4	3.2
5	.39	6.0	2.5	6.4	.83	8.0	3.7	1.7	2.4	.73	6.0	3.2
6	.37	2.4	2.2	3.2	1.5	7.7	3.5	1.8	2.5	.65	4.2	3.0
7	.37	2.0	1.8	2.4	1.1	12	8.0	1.7	2.4	.65	3.3	3.0
8	.40	1.9	1.7	2.0	1.7	8.0	7.0	3.3	2.2	.65	2.8	2.4
9	.39	1.7	1.8	1.9	1.8	6.0	9.2	3.0	1.9	.57	2.4	2.2
10	.37	2.3	1.8	2.0	1.2	5.7	9.6	2.2	1.7	.62	1.9	2.0
11	.36	4.2	1.7	2.2	1.0	5.7	8.0	1.8	1.6	.65	2.0	2.5
12	.37	5.0	2.0	2.2	1.1	6.7	7.7	1.7	1.6	.65	2.2	13
13	.37	17	1.7	1.7	11	4.7	8.0	9.2	1.8	.52	1.5	11
14	.36	13	1.6	1.7	8.0	7.0	7.3	5.4	1.6	.62	1.3	8.8
15	8.8	19	1.6	1.8	4.0	10	6.4	3.9	1.0	.65	1.2	8.4
16	5.4	13	1.5	1.6	4.0	12	5.7	5.7	1.7	.54	1.2	6.7
17	1.7	10	2.5	1.8	3.7	11	5.0	4.4	1.9	.59	.97	7.3
18	.93	9.2	2.4	2.0	4.0	9.6	4.5	3.9	.80	.65	.93	5.4
19	.80	10	1.9	.97	4.0	10	4.2	3.5	.83	.80	.83	4.7
20	.70	9.6	2.6	.64	5.7	11	4.7	3.3	1.0	.86	1.5	4.4
21	.73	9.6	2.0	.80	6.4	8.8	3.7	4.0	.97	.65	.97	5.0
22	23	5.7	1.8	1.0	6.7	7.7	3.3	3.7	.97	.54	.86	4.5
23	18	6.0	1.8	1.2	9.2	7.0	3.0	3.0	1.3	.52	.80	4.0
24	11	4.7	1.5	1.5	7.0	6.0	2.8	2.6	.68	.52	.76	3.5
25	8.4	4.0	1.3	1.3	6.7	5.7	2.6	3.2	.59	.59	.73	3.0
26	6.0	3.9	1.2	3.2	7.0	5.0	2.6	3.7	1.1	1.2	.86	2.7
27	3.5	4.0	1.1	1.6	17	4.2	2.5	2.6	.76	1.2	15	2.5
28	3.3	3.7	1.0	1.4	13	5.0	2.5	2.4	.80	.70	47	2.9
29	3.3	3.5	.90	1.2	-----	4.5	2.6	2.2	.83	.80	19	2.8
30	2.9	3.9	.80	1.0	-----	4.4	2.3	2.4	.80	3.3	13	2.5
31	2.9	-----	.80	.90	-----	4.0	-----	5.7	-----	4.7	9.2	-----
TOTAL	106.73	183.2	57.90	55.50	130.66	243.0	148.3	99.9	52.63	31.30	182.61	142.1
MEAN	3.44	6.11	1.87	1.79	4.67	7.84	4.94	3.22	1.75	1.01	5.89	4.74
MAX	23	19	3.5	6.4	17	14	9.6	9.2	8.0	4.7	47	13
MIN	.36	1.7	.80	.64	.68	4.0	2.3	1.7	.59	.41	.73	2.0
CFSM	1.37	2.43	.75	.71	1.86	3.12	1.97	1.28	.70	.40	2.35	1.89
IN.	1.58	2.72	.86	.82	1.94	3.60	2.20	1.48	.78	.46	2.71	2.11

CAL YR 1970 TOTAL 1,112.38 MEAN 3.05 MAX 34 MIN .12 CFSM 1.22 IN 16.49
WTR YR 1971 TOTAL 1,433.83 MEAN 3.93 MAX 47 MIN .36 CFSM 1.57 IN 21.25

PEAK DISCHARGE (BASE, 60 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8-01	1915	3.91	81	8-28	0615	4.23	144

PASSAIC RIVER BASIN

31

01380500 Rockaway River above reservoir, at Boonton, N. J.

LOCATION.--Lat 40°54'06", long 74°24'40", Morris County, on right bank at Morris Avenue in Boonton, 1.8 miles upstream from dam on Boonton Reservoir.

DRAINAGE AREA.--116 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 364.47 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--34 years, 205 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 3,110 cfs Aug. 28 (gage height, 6.28 ft); minimum, 25 cfs July 11, 13, 14 (gage height, 1.81 ft).
Period of record: Maximum discharge, 3,250 cfs June 2, 1952 (gage height, 6.62 ft), from rating curve extended above 2,400 cfs; minimum, 1.5 cfs Mar. 1, 1938 (gage height, 1.26 ft).

REMARKS.--Records excellent. Flow regulated by Splitrock Reservoir 14.5 miles above station (see p. 48). 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 0.8 cfs. Rockaway Valley trunk sewer bypasses the station (see station 01381000). Records of water quality for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record collected in cooperation with Jersey City.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	114	245	130	114	801	240	160	215	59	172	535
2	56	112	220	149	190	738	235	142	178	72	470	365
3	58	108	198	149	288	682	260	146	245	58	470	293
4	68	106	215	170	260	703	235	142	235	52	348	240
5	58	270	194	394	182	654	215	135	194	46	299	225
6	59	166	186	394	149	612	210	142	160	42	230	190
7	66	120	163	282	146	801	598	135	124	39	170	299
8	68	112	149	206	277	934	759	174	114	36	133	271
9	68	108	153	206	370	696	521	230	108	32	114	206
10	73	116	146	194	282	577	465	194	104	31	95	194
11	86	205	142	186	215	542	400	174	93	28	89	198
12	82	405	190	178	186	528	370	153	89	31	104	997
13	80	745	186	163	458	500	348	304	89	27	83	1,660
14	75	836	174	174	1,050	472	326	444	89	58	76	1,410
15	178	801	170	167	612	458	299	321	102	36	65	1,300
16	195	815	163	135	465	458	277	326	119	34	61	906
17	120	626	240	124	388	444	260	332	104	44	58	731
18	110	486	288	124	376	430	245	266	93	42	54	605
19	96	500	250	142	400	451	230	220	83	108	54	521
20	93	458	255	142	451	822	215	198	76	215	59	458
21	89	556	245	110	514	731	202	202	72	85	54	418
22	493	437	225	117	577	584	190	230	68	56	46	376
23	1,050	388	210	124	773	500	178	194	65	44	46	310
24	718	337	210	121	752	444	186	160	65	39	39	304
25	412	304	194	124	619	400	178	149	56	51	36	288
26	282	293	182	167	563	359	170	186	61	83	34	250
27	215	271	167	149	829	337	167	156	59	85	282	288
28	170	255	156	119	948	321	170	135	58	65	2,140	230
29	141	245	149	117	-----	304	186	124	56	61	2,050	225
30	126	255	135	121	-----	288	174	121	54	119	1,150	220
31	116	-----	139	119	-----	260	-----	182	-----	215	724	-----
TOTAL	5,559	10,550	5,939	5,197	12,434	16,831	8,509	6,177	3,228	1,993	9,805	14,513
MEAN	179	352	192	168	444	543	284	199	108	64.3	316	484
MAX	1,050	836	288	394	1,050	934	759	444	245	215	2,140	1,660
MIN	56	106	135	110	114	260	167	121	54	27	34	190

CAL YR 1970 TOTAL 82,009 MEAN 225 MAX 2,490 MIN 22
WTR YR 1971 TOTAL 100,735 MEAN 276 MAX 2,140 MIN 27

PEAK DISCHARGE (BASE, 950 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	0500	3.94	1,110	3-7	2300	3.92	1,070
2-14	0445	4.12	1,210	8-28	1815	6.28	3,110
2-27	2200	3.88	1,050	9-13	0015	4.93	1,780

PASSAIC RIVER BASIN

01381000 Rockaway River below reservoir, at Boonton, N. J.

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

DRAINAGE AREA.--119 sq mi.

PERIOD OF RECORD.--March to December 1903; January, February 1904 (gage heights 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.

GAGE.--Water-stage recorder. Concrete control since Nov. 5, 1936. Datum of gage is 195.68 ft above mean sea level (New Jersey Geological Survey bench mark). Mar. 15, 1903, to Feb. 2, 1904, nonrecording gage at site 1.9 miles 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 above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--65 years (1906-71), 130 cfs (adjusted for sewage effluent since October 1930).

EXTREMES.--Current year: Maximum discharge, 2,380 cfs Aug. 29 (gage height, 6.78 ft); minimum, 6.9 cfs (regulated) Nov. 4 (gage height, 1.49 ft); minimum daily, 7.1 cfs Nov. 3, 4.

Period of record: Maximum daily discharge, 7,560 cfs Oct. 10, 1903; practically no flow for many days in some years.

REMARKS.--Records excellent. Records represent flow in river only. Sewage effluent enters river about 600 ft below station (records given herein). Flow regulated by Boonton Reservoir (see p. 48) 2,000 ft above station, and by Splitrock Reservoir (see p. 48) 16.5 miles above station. Water diverted from Boonton Reservoir for municipal supply of Jersey City (see p. 51).

COOPERATION.--Gage-height records for station and records of sewage effluent furnished by Jersey City, Bureau of Water.

REVISIONS (WATER YEARS).--WSP 1902: 1951-54.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	7.3	140	26	9.1	655	135	68	99	10	12	367
2	9.5	7.3	125	32	9.1	561	130	52	94	10	9.7	267
3	9.5	7.1	105	40	9.1	505	142	48	124	9.7	9.6	187
4	9.5	7.1	114	48	9.3	529	135	54	182	9.8	9.5	134
5	9.7	7.7	97	187	9.3	448	113	39	95	9.8	9.4	112
6	9.7	9.1	98	299	9.6	401	106	25	80	9.8	9.5	85
7	9.4	11	64	208	10	498	207	42	59	9.9	9.5	125
8	9.4	11	47	121	12	816	131	44	47	10	9.5	144
9	9.4	11	43	104	125	583	363	133	26	9.8	9.6	105
10	9.4	11	40	93	179	431	320	126	15	9.8	9.7	74
11	9.3	12	32	76	102	395	297	81	15	9.7	9.7	71
12	9.3	13	63	68	73	381	287	91	14	9.8	9.6	562
13	9.3	15	81	54	179	369	254	111	12	9.7	9.7	1,630
14	9.2	13	67	59	798	359	233	338	13	9.7	9.6	1,050
15	9.3	14	55	59	546	341	204	277	13	9.6	9.6	1,150
16	9.2	12	47	39	361	339	179	259	12	9.6	9.7	688
17	9.0	11	90	20	286	331	149	246	12	9.6	9.6	494
18	9.1	11	151	17	243	317	135	210	12	9.6	9.5	369
19	8.8	12	144	11	259	326	141	136	11	11	9.6	343
20	8.7	12	137	9.9	302	493	130	111	10	9.7	9.7	327
21	8.7	152	132	9.9	355	552	107	118	9.8	9.7	9.6	290
22	9.7	332	121	9.7	387	384	89	109	9.9	9.7	9.6	244
23	9.1	308	107	9.1	486	356	93	119	9.8	9.7	9.7	191
24	9.2	240	108	8.9	535	337	78	91	9.7	9.6	9.7	163
25	9.2	201	90	9.0	415	298	81	77	9.9	9.6	9.7	150
26	9.2	191	85	9.3	367	255	68	78	9.7	9.9	9.6	132
27	8.9	173	67	9.3	473	226	58	62	9.7	9.6	14	114
28	8.9	155	51	9.1	820	212	61	41	9.8	9.6	98	103
29	8.2	152	32	9.1	-----	195	86	28	9.8	9.7	2,080	98
30	7.5	154	27	9.3	-----	181	76	19	10	11	1,250	68
31	7.4	-----	15	9.2	-----	154	-----	37	-----	10	636	-----
TOTAL	282.1	2,272.6	2,575	1,672.8	7,368.5	12,228	4,588	3,270	1,043.1	304.7	4,330.2	9,837
MEAN	9.10	75.8	83.1	54.0	263	394	153	105	34.8	9.83	140	328
MAX	9.7	332	151	299	820	816	363	338	182	11	2,080	1,630
MIN	7.4	7.1	15	8.9	9.1	154	58	19	9.7	9.6	9.4	68
(†)	8.9	10.5	9.8	10.4	12.7	14.6	11.4	10.3	9.6	9.6	12.1	13.3
CAL YR 1970 TOTAL	39,384.0			MEAN 108	MAX 2,340	MIN 7.1	† 10.2					
WTR YR 1971 TOTAL	49,772.0			MEAN 136	MAX 2,080	MIN 7.1	† 11.1					

† Sewage effluent, in cubic feet per second.

01381500 Whippany River at Morristown, N. J.

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

DRAINAGE AREA.--29.4 sq mi.

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

GAGE.--Water-stage recorder. Concrete control since July 1, 1936. Datum of gage is 260.01 ft above mean sea level (New Jersey Geological Survey bench mark). Prior to July 16, 1930, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--50 years, 48.4 cfs (22.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,280 cfs Aug. 28 (gage height, 7.60 ft); minimum, 10 cfs Oct. 3, 5, 6, 9, 10, 12, 13 (gage height, 1.72 ft).

Period of record: Maximum discharge, 2,280 cfs Aug. 28, 1971 (gage height, 7.60 ft); minimum, 2.8 cfs Aug. 27, 1932 (gage height, 0.73 ft).

REMARKS.--Records excellent. Flow occasionally regulated by operation of gates in Pocahontas Dam, 2.5 miles above station. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1552: 1922-23(M), 1924, 1925-27(M), 1928-29, 1930-32(M), 1933-34.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	15	28	29	22	122	56	42	57	26	162	50
2	12	15	26	28	20	107	57	42	42	30	165	45
3	14	15	25	27	19	105	61	45	50	19	47	45
4	14	30	33	55	21	137	53	41	41	18	45	45
5	12	64	25	146	30	114	51	38	36	18	31	38
6	12	25	26	94	45	110	57	40	32	18	24	51
7	12	19	22	50	42	275	311	39	32	18	21	50
8	12	17	25	42	151	198	179	82	33	17	19	37
9	12	17	24	38	151	120	94	70	31	17	18	33
10	12	25	25	37	71	107	82	47	27	16	18	32
11	11	41	25	37	51	107	70	41	28	16	25	50
12	12	114	47	37	51	101	67	38	27	17	24	722
13	12	216	35	33	263	101	65	122	26	16	18	606
14	12	127	31	36	263	89	62	99	27	25	17	341
15	50	153	35	36	80	87	59	52	39	17	16	278
16	26	90	31	30	65	83	59	85	39	16	16	167
17	15	47	77	30	61	74	56	65	27	17	16	133
18	13	39	74	32	68	68	55	48	25	15	15	124
19	12	65	48	35	80	124	52	44	27	76	19	110
20	12	57	52	32	103	231	51	41	24	55	20	92
21	14	83	46	30	105	118	52	68	26	21	16	89
22	144	45	40	31	129	90	50	60	25	18	15	74
23	114	39	38	30	196	83	47	44	22	17	14	70
24	33	32	38	28	129	77	47	39	22	16	13	67
25	21	29	33	31	105	73	47	44	21	33	13	59
26	19	28	32	50	99	71	45	90	26	37	14	56
27	16	28	29	41	245	68	44	47	19	23	308	56
28	16	29	27	32	172	65	45	40	19	18	1,510	56
29	15	28	26	33	-----	65	50	37	20	24	242	56
30	15	35	25	32	-----	61	46	45	21	83	82	51
31	15	-----	25	26	-----	59	-----	89	-----	62	60	-----
TOTAL	721	1,567	1,073	1,248	2,837	3,290	2,070	1,728	891	819	3,023	3,683
MEAN	23.3	52.2	34.6	40.3	101	106	69.0	55.7	29.7	26.4	97.5	123
MAX	144	216	77	146	263	275	311	122	57	83	1,510	722
MIN	11	15	22	26	19	59	44	37	19	15	13	32
CFSM	.79	1.78	1.18	1.37	3.44	3.61	2.35	1.89	1.01	.90	3.32	4.18
IN.	.91	1.98	1.36	1.58	3.59	4.16	2.62	2.19	1.13	1.04	3.83	4.66

CAL YR 1970 TOTAL 16,948 MEAN 46.4 MAX 641 MIN 11 CFSM 1.58 IN 21.44
WTR YR 1971 TOTAL 22,950 MEAN 62.9 MAX 1,510 MIN 11 CFSM 2.14 IN 29.04

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-14	0015	4.05	550	8-28	1230	7.60	2,280
8-01	1930	4.75	830	9-12	2130	5.49	1,130

PASSAIC RIVER BASIN

01382500 Pequannock River at Macopin intake dam, N. J.

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

DRAINAGE AREA.--63.7 sq mi.

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 dam. Datum of gage is 570.00 ft above mean sea level (New Jersey Geological Survey bench mark). Prior to May 22, 1970, at datum 13.55 ft higher.

AVERAGE DISCHARGE.--73 years, 51.1 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 1,220 cfs Aug. 28 (gage height, 14.94 ft), from rating curve extended above 320 cfs on basis of computation of peak flow through culvert; no flow over dam on July 7, 14. Period of record: Maximum discharge recorded, about 6,100 cfs over intake dam Oct. 10, 1903 (gage height, 3.85 ft, datum then in use); no flow over dam during several months of most years.

REMARKS.--Records good. Records given herein represent flow over intake dam only. Flow regulated by Canistear, Oak Ridge, Clinton, Charlotteburg Reservoirs, and Echo Lake (see p. 48). Water diverted above intake dam for municipal supply of city of Newark (see p. 51).

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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	6.2	32	16	8.2	330	6.2	10	13	2.2	24	36
2	1.4	4.5	24	20	10	320	6.2	8.2	13	2.2	44	28
3	1.4	4.5	24	13	4.5	310	6.2	24	95	1.4	28	20
4	1.4	4.5	24	13	2.2	340	4.5	6.2	135	1.4	32	16
5	.90	8.2	20	24	3.2	310	6.2	6.2	120	1.4	20	13
6	.90	4.5	20	20	10	290	6.2	6.2	76	1.4	10	10
7	.90	4.5	16	20	6.2	330	287	6.2	48	.90	6.2	10
8	.90	4.5	13	16	16	310	235	8.2	24	.90	4.5	8.2
9	.90	4.5	10	24	16	300	166	6.2	10	.90	3.2	6.2
10	.90	6.2	10	28	10	290	227	6.2	8.2	.90	2.2	6.2
11	.90	16	10	20	10	270	286	6.2	6.2	1.4	2.2	8.2
12	1.4	32	13	10	8.2	135	217	8.2	4.5	.90	2.2	135
13	1.4	56	13	10	40	16	210	175	4.5	.90	2.2	470
14	1.4	36	10	13	48	20	194	260	4.5	.90	1.4	570
15	16	44	10	10	40	207	135	260	6.2	.90	1.4	640
16	6.2	143	10	16	32	280	107	260	6.2	1.4	1.4	420
17	2.2	232	20	24	20	280	89	250	4.5	1.4	1.4	300
18	1.4	270	16	32	16	280	80	101	4.5	.90	1.4	260
19	2.2	95	16	40	13	290	64	4.5	3.2	3.2	2.2	207
20	2.2	16	20	40	13	300	48	4.5	2.2	2.2	2.2	151
21	2.2	16	16	24	16	300	44	6.2	2.2	1.4	2.2	175
22	84	52	16	16	20	290	36	6.2	2.2	1.4	2.2	151
23	72	95	16	10	36	280	24	6.2	2.2	1.4	2.2	101
24	32	72	16	8.2	40	280	13	89	1.4	1.4	1.8	72
25	40	52	13	8.2	151	270	10	175	1.4	1.4	2.2	48
26	24	40	13	10	280	260	10	56	1.4	4.5	2.2	36
27	13	36	10	13	310	101	8.2	6.2	2.2	4.5	41	32
28	8.2	32	10	24	320	6.2	10	6.2	2.2	3.2	320	32
29	8.2	28	10	13	-----	6.2	8.2	6.2	2.2	3.2	240	32
30	6.2	32	10	8.2	-----	6.2	10	6.2	1.4	13	113	24
31	6.2	-----	13	6.2	-----	4.5	-----	13	-----	10	54	-----
TOTAL	342.30	1,447.1	474	549.8	1,499.5	7,012.1	2,553.9	1,793.4	607.5	73.10	972.9	4,017.8
MEAN	11.0	48.2	15.3	17.7	53.6	226	85.1	57.9	20.3	2.36	31.4	134
MAX	84	270	32	40	320	340	287	260	135	13	320	640
MIN	.90	4.5	10	6.2	2.2	4.5	4.5	4.5	1.4	.90	1.4	6.2

CAL YR 1970 TOTAL 14,755.54 MEAN 40.4 MAX 1,120 MIN .24
 WTR YR 1971 TOTAL 21,343.40 MEAN 58.5 MAX 640 MIN .90

PASSAIC RIVER BASIN

35

01383500 Wanaque River at Awosting, N. J.

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

DRAINAGE AREA.--27.1 sq mi.

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

GAGE.--Water-stage recorder. Concrete control since Oct. 31, 1938. Datum of gage is 601.32 ft above mean sea level (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.

AVERAGE DISCHARGE.--52 years, 51.0 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 1,170 cfs Aug. 28 (gage height, 4.77 ft); minimum, 2.0 cfs (regulated) July 11; minimum daily, 2.2 cfs July 9, 11.

Period of record: Maximum discharge, 1,300 cfs Oct. 16, 1955 (gage height, 5.85 ft), from rating curve extended above 300 cfs on basis of laboratory rating; no flow at times when gates at Greenwood Lake were closed and no water passed over spillway.

REMARKS.--Records good except those above 300 cfs, which are fair. Flow completely regulated by Greenwood Lake (see p. 49).

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

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1552: 1922(M), 1928(M), 1936.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	56	54	40	24	262	52	38	72	4.8	24	191
2	5.1	54	46	41	23	247	52	35	62	8.4	87	135
3	5.1	47	42	38	20	225	56	34	79	6.2	90	101
4	5.1	49	52	41	19	230	57	33	98	4.1	93	81
5	4.8	72	38	61	24	194	56	28	98	3.4	81	66
6	4.8	66	37	73	26	162	58	27	85	2.8	63	55
7	4.8	61	34	75	26	169	106	26	79	3.2	51	44
8	5.4	58	24	72	43	181	114	30	69	2.5	42	38
9	5.6	54	23	66	49	164	108	39	65	2.2	35	34
10	5.4	56	24	61	46	144	140	40	52	2.3	28	28
11	5.4	100	25	57	41	127	157	36	42	2.2	25	24
12	5.4	191	35	54	38	114	155	33	36	3.0	33	91
13	5.4	324	34	49	63	112	146	58	35	3.4	25	191
14	5.4	440	34	51	150	106	140	98	34	3.6	21	253
15	8.0	435	34	50	169	105	118	94	34	4.1	18	244
16	34	395	32	46	160	121	101	100	34	4.3	13	201
17	35	296	49	41	142	138	88	105	32	4.1	9.5	166
18	30	236	50	38	127	133	81	96	27	3.2	8.4	160
19	29	201	46	35	116	133	69	87	23	2.6	7.4	131
20	25	169	47	32	119	157	61	78	20	5.4	7.4	108
21	26	160	48	29	129	153	56	76	17	6.8	7.6	106
22	91	135	52	27	144	140	52	76	17	6.8	7.4	93
23	280	118	52	26	176	127	47	66	13	6.8	7.4	78
24	265	103	55	26	191	114	46	55	12	6.8	6.2	68
25	209	85	51	28	179	101	49	49	8.7	6.8	6.2	54
26	162	73	49	31	164	90	47	62	9.5	6.8	6.2	46
27	127	66	44	34	204	81	45	58	7.1	6.8	30	41
28	100	61	41	31	256	73	40	51	5.4	6.8	741	39
29	82	57	38	30	-----	68	42	46	4.1	6.8	900	38
30	70	58	35	28	-----	63	39	46	3.8	6.8	490	38
31	62	-----	32	26	-----	58	-----	63	-----	8.7	288	-----
TOTAL	1,707.8	4,276	1,257	1,337	2,868	4,292	2,378	1,763	1,173.6	152.5	3,251.7	2,943
MEAN	55.1	143	40.5	43.1	102	138	79.3	56.9	39.1	4.92	105	98.1
MAX	280	440	55	75	256	262	157	105	98	8.7	900	253
MIN	4.8	47	23	26	19	58	39	26	3.8	2.2	6.2	24

CAL YR 1970 TOTAL 22,716.0 MEAN 62.2 MAX 720 MIN 4.8
WTR YR 1971 TOTAL 27,399.6 MEAN 75.1 MAX 900 MIN 2.2

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	1430	3.47	308	8-28	1715	4.77	1,170
11-14	0630	3.80	460	9-14	1715	3.36	268
3-01	0430	3.34	268				

PASSAIC RIVER BASIN

01384000 Wanaque River at Monks, N. J.

LOCATION.--Lat 41°07'14", long 74°17'41", Passaic County, on left bank just upstream from Wanaque Reservoir and 0.3 mile downstream from highway bridge at Monks.

DRAINAGE AREA.--40.4 sq mi.

PERIOD OF RECORD.--October 1934 to current year. Monthly discharge only for October to December 1934, published in WSP 1302.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 303.17 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--37 years, 78.0 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 2,080 cfs Aug. 28 (gage height, 3.13 ft); minimum, 2.9 cfs July 13, 14 (gage height, 0.04 ft).

Period of record: Maximum discharge, 3,640 cfs Aug. 19, 1955 (gage height, 4.15 ft, from high-water mark in gage house), from rating curve extended above 1,000 cfs; no flow for part of day in some years just after the waste gate was closed and water was below intake to ports.

REMARKS.--Records excellent except those for periods below 5 cfs, which are good. Records given herein include flow over spillway, through ports in dam, and down fish ladder in dam. Flow regulated by Greenwood Lake (see p. 49).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	70	75	54	42	398	78	60	107	7.4	46	224
2	6.3	68	68	59	42	350	76	58	92	20	129	160
3	6.3	61	61	73	34	310	85	57	142	14	107	121
4	6.3	61	70	68	32	310	82	55	174	8.1	110	100
5	6.3	109	64	116	36	260	80	49	139	6.0	97	85
6	5.7	92	52	116	42	219	78	48	118	5.3	78	70
7	5.7	81	50	109	39	287	178	46	107	4.7	66	58
8	5.7	75	42	100	59	273	182	60	95	4.7	57	49
9	6.3	70	38	94	75	233	182	76	92	4.2	48	42
10	6.3	78	39	92	66	202	251	68	74	3.7	41	38
11	6.3	198	39	87	59	186	251	62	64	3.3	34	31
12	6.3	325	49	80	50	167	237	57	57	3.3	48	296
13	6.3	540	49	76	149	163	210	121	55	3.3	38	398
14	6.3	582	47	78	305	156	194	182	55	3.7	31	452
15	46	589	46	76	255	163	163	146	58	3.7	28	356
16	73	498	44	72	228	198	139	156	57	3.3	24	278
17	50	380	75	67	194	210	124	153	49	3.7	15	228
18	41	305	81	63	178	194	113	132	44	4.2	13	233
19	38	273	68	60	170	194	100	121	39	5.3	11	186
20	34	237	78	57	186	255	90	107	34	6.7	11	153
21	34	246	73	54	202	224	82	107	30	8.1	11	146
22	224	194	75	52	224	198	80	107	31	8.1	11	127
23	428	170	75	41	296	178	72	95	27	8.1	8.8	107
24	330	146	78	41	287	160	70	80	22	8.1	8.1	95
25	260	122	73	41	264	139	74	76	19	8.8	7.4	78
26	202	106	70	47	242	124	72	110	16	9.6	7.4	70
27	160	95	61	50	410	113	70	87	15	11	85	66
28	125	86	57	59	428	105	64	78	11	8.8	1,120	60
29	103	83	59	54	-----	97	70	70	8.8	15	800	58
30	89	89	54	42	-----	92	64	72	7.4	28	498	55
31	78	-----	57	42	-----	85	-----	113	-----	33	325	-----
TOTAL	2,401.4	6,029	1,867	2,120	4,594	6,243	3,611	2,809	1,839.2	265.2	3,913.7	4,420
MEAN	77.5	201	60.2	68.4	164	201	120	90.6	61.3	8.55	126	147
MAX	428	589	81	116	428	398	251	182	174	33	1,120	452
MIN	5.7	61	38	41	32	85	64	46	7.4	3.3	7.4	31

CAL YR 1970 TOTAL 29,704.5 MEAN 81.4 MAX 966 MIN 5.2
WTR YR 1971 TOTAL 40,112.5 MEAN 110 MAX 1,120 MIN 3.3

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	2115	1.52	484	8-28	0845	3.13	2,080
11-13	2015	1.81	688	9-12	1930	1.79	673
2-27	1830	1.52	484				

PASSAIC RIVER BASIN

37

01384500 Ringwood Creek near Wanaque, N. J.

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

DRAINAGE AREA.--19.1 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 302.67 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--37 years, 31.9 cfs (22.68 inches per year).

EXTREMES.--Current year: Maximum discharge, 500 cfs Aug. 28 (gage height, 2.95 ft, waste gate open); minimum, 1.6 cfs July 13, 21 (gage height, 0.09 ft).

Period of record: Maximum discharge, 1,150 cfs Mar. 30, 1951 (gage height, 3.74 ft, from floodmark), from rating curve extended above 240 cfs on basis of laboratory rating and approximate determination of discharge at gage height 3.18 ft; no flow for part of day in most years just after waste gate was closed and water was below intake to ports.

REMARKS.--Records good except those for the period July 1 to Sept. 30, which are poor. Records given herein include flow over spillway and through ports in dam or through waste gate in dam. 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 District Water Supply Commission.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	25	39	20	11	190	33	26	39	4.8	6.8	71
2	2.8	23	32	20	9.8	170	32	25	32	10	18	60
3	3.0	22	30	19	9.0	143	36	21	63	7.1	10	45
4	3.6	21	32	22	9.0	133	32	20	49	5.5	8.4	40
5	2.8	45	28	51	10	116	30	18	35	5.0	7.7	33
6	2.5	33	25	45	12	100	28	18	30	4.6	6.8	28
7	2.3	27	22	35	15	143	86	16	25	4.2	6.0	23
8	2.2	25	19	33	21	148	86	20	22	3.6	5.0	19
9	2.2	23	18	31	28	106	84	30	22	3.4	4.4	17
10	2.2	24	19	28	23	90	121	22	20	3.0	4.4	17
11	2.2	63	19	27	21	86	109	21	18	3.0	4.0	17
12	2.2	116	22	26	18	80	100	21	15	3.4	6.5	114
13	2.2	210	21	24	80	75	88	56	14	3.2	4.8	240
14	2.2	212	19	25	138	69	78	93	14	3.4	4.0	160
15	53	197	19	24	86	71	65	62	17	3.2	3.2	120
16	60	184	18	22	75	84	58	65	17	3.0	2.5	100
17	24	143	28	23	63	93	51	63	13	2.8	2.8	80
18	16	113	30	21	63	80	46	53	10	2.8	2.7	66
19	11	104	25	18	67	86	41	45	8.8	4.6	2.3	58
20	9.8	100	28	17	80	138	41	41	8.4	5.2	2.3	52
21	9.3	116	26	15	88	106	35	39	8.0	3.2	2.5	45
22	100	84	25	16	93	88	34	38	7.4	2.7	2.3	49
23	179	73	25	16	140	80	30	33	6.8	2.5	2.2	43
24	93	60	26	17	125	69	26	28	6.0	2.3	2.1	36
25	65	53	24	16	106	60	27	26	5.5	2.5	2.1	30
26	54	46	23	20	97	54	25	43	6.3	3.2	2.0	25
27	46	42	22	19	209	49	26	31	6.3	4.8	2.4	22
28	39	39	20	19	212	45	24	26	6.0	3.6	3.67	22
29	34	36	20	20	-----	42	28	24	4.8	3.6	1.97	22
30	28	39	18	15	-----	39	24	24	4.4	7.7	120	23
31	27	-----	18	13	-----	35	-----	48	-----	7.7	91	-----
TOTAL	883.7	2,298	740	717	1,908.8	2,868	1,524	1,096	533.7	129.6	924.8	1,677
MEAN	28.5	76.6	23.9	23.1	68.2	92.5	50.8	35.4	17.8	4.18	29.8	55.9
MAX	179	212	39	51	212	190	121	93	63	10	367	240
MIN	2.2	21	18	13	9.0	35	24	16	4.4	2.3	2.0	17
CFSM	1.49	4.01	1.25	1.21	3.57	4.84	2.66	1.85	.93	.22	1.56	2.93
IN.	1.72	4.48	1.44	1.40	3.72	5.59	2.97	2.13	1.04	.25	1.80	3.27

CAL YR 1970 TOTAL 12,751.3 MEAN 34.9 MAX 376 MIN 1.5 CFSM 1.83 IN 24.83
WTR YR 1971 TOTAL 15,300.6 MEAN 41.9 MAX 367 MIN 2.0 CFSM 2.19 IN 29.80

PEAK DISCHARGE (BASE, 230 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	1830	1.70	242	8-28	0800	2.95	500
11-13	2015	1.87	274	9-13	0030	1.67	254
2-27	1630	1.70	242				

NOTE.--Waste gate open Aug. 19 to Sept. 29. No gage-height record Sept. 13 to 30.

PASSAIC RIVER BASIN

01386000 West Brook near Wanaque, N. J.

LOCATION.--Lat 41°04'16", long 74°18'45", Passaic County, on right bank just upstream from Wanaque Reservoir, 0.3 mile downstream from Burnt Meadow Brook, and 2.5 miles northwest of Wanaque.

DRAINAGE AREA.--11.8 sq mi.

PERIOD OF RECORD.--October 1934 to current year. Monthly discharge only for October to December 1934, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 326.79 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--37 years, 23.2 cfs (26.70 inches per year).

EXTREMES.--Current year: Maximum discharge, 842 cfs Aug. 28 (gage height, 4.45 ft); no flow for part of Aug. 16 when the waste gate was closed and water was below weir.

Period of record: Maximum discharge, 1,900 cfs Mar. 30, 1951 (gage height, 6.6 ft, from floodmark), from rating curve extended above 630 cfs; no flow part of day in most years just after waste gate was closed and water was below intake to ports.

REMARKS.--Records fair. Records given herein include flow over spillway and through ports in dam or through waste gate in dam. Flow slightly regulated by several lakes above station.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	14	24	14	9.3	133	21	12	37	3.8	39	27
2	2.1	14	21	16	8.8	103	20	11	24	5.6	82	22
3	2.2	12	19	14	9.2	75	23	11	93	3.6	36	19
4	2.6	12	21	18	7.4	69	20	11	156	2.9	46	17
5	2.1	38	20	52	9.4	52	18	10	63	2.5	32	14
6	1.7	26	18	44	14	49	18	9.9	40	2.5	17	11
7	1.7	19	15	36	13	130	79	10	32	2.4	11	10
8	1.7	16	12	31	19	104	61	19	26	2.2	7.9	9.0
9	1.8	15	13	24	28	61	63	34	23	2.1	6.1	8.3
10	1.9	18	14	24	22	49	99	26	18	2.0	4.7	7.8
11	1.8	105	14	22	17	47	67	16	15	2.1	4.5	11
12	1.8	220	17	22	16	45	48	14	13	2.1	7.1	242
13	2.0	305	18	18	91	46	40	56	12	2.0	6.0	275
14	2.1	233	16	18	188	44	36	85	12	2.5	4.3	210
15	40	199	15	17	92	52	32	41	14	2.0	3.4	125
16	36	135	14	15	59	77	29	44	16	1.9	2.6	66
17	17	80	30	13	46	67	27	42	11	2.0	2.2	43
18	10	61	34	12	41	47	25	36	9.1	2.1	2.0	44
19	7.4	59	28	11	44	52	23	27	7.7	5.6	2.0	36
20	5.7	55	32	10	57	100	20	24	6.6	4.1	2.2	31
21	5.3	83	31	9.9	69	68	18	23	6.3	2.4	2.1	34
22	158	54	28	9.6	75	55	17	27	5.7	2.1	1.9	28
23	238	45	27	10	132	48	16	20	8.1	2.0	1.9	22
24	77	38	26	11	108	40	16	14	5.1	2.0	1.8	20
25	48	33	23	13	80	34	17	15	4.1	2.2	1.8	16
26	38	30	22	20	70	32	15	33	4.5	5.4	1.8	15
27	31	28	19	18	216	30	14	22	3.5	9.9	87	15
28	24	26	17	14	190	28	13	16	3.4	3.9	472	15
29	19	24	15	11	-----	27	16	14	3.5	7.6	139	16
30	17	26	14	11	-----	25	14	15	3.4	27	55	15
31	16	-----	14	10	-----	23	-----	40	-----	25	35	-----
TOTAL	815.0	2,023	631	568.5	1,731.1	1,812	925	777.9	676.0	145.5	1,117.3	1,424.1
MEAN	26.3	67.4	20.4	18.3	61.8	58.5	30.8	25.1	22.5	4.69	36.0	47.5
MAX	238	305	34	52	216	133	99	85	156	27	472	275
MIN	1.7	12	12	9.6	7.4	23	13	9.9	3.4	1.9	1.8	7.8
CFSM	2.23	5.71	1.73	1.55	5.24	4.96	2.61	2.13	1.91	.40	3.05	4.03
IN.	2.57	6.38	1.99	1.79	5.46	5.71	2.92	2.45	2.13	.46	3.52	4.49

CAL YR 1970 TOTAL 9,236.4 MEAN 25.3 MAX 330 MIN 1.5 CFSM 2.14 IN 29.12
WTR YR 1971 TOTAL 12,646.4 MEAN 34.6 MAX 472 MIN 1.7 CFSM 2.93 IN 39.87

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.H.	DISCHARGE
11-13	2100	2.46	402
8-28	0700	4.45	842
9-12	2330	2.72	443

PASSAIC RIVER BASIN

39

01387000 Wanaque River at Wanaque, N. J.

LOCATION.--Lat 41°02'33", long 74°17'36", Passaic County, 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 sq mi (considered as 94 sq mi Oct. 1, 1928, to Sept. 30, 1934, when flow diverted from Post Brook was included in all 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 mean sea level (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.

AVERAGE DISCHARGE.--54 years (1912-14, 1919-71), 77.3 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 814 cfs Mar. 1 (gage height, 4.26 ft); minimum, 5.8 cfs (regulated) Oct. 13 (gage height, 1.08 ft); minimum daily, 6.3 cfs on some days in October and November.
Period of record: Maximum discharge, 8,470 cfs Mar. 31, 1951 (gage height, 9.12 ft), from rating curve extended above 4,300 cfs; minimum daily, 0.5 cfs Dec. 11, 12, 14-23, 1949, Sept. 11, 12, 1965.

REMARKS.--Records excellent. Flow regulated by Greenwood Lake (see p. 49) 11 miles above station, and since 1928 by Wanaque Reservoir (see p. 49). North Jersey District Water Supply Commission diverts water for municipal supply from Wanaque Reservoir. Water is diverted to Wanaque Reservoir from Post Brook at Wanaque and from Ramapo River at Pompton Lakes (see p. 51). Records of water quality for the current year are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	6.3	7.2	16	18	790	32	17	21	17	18	18
2	6.7	7.5	7.0	16	18	705	20	17	18	17	17	19
3	6.7	8.2	7.2	15	18	592	19	17	24	17	18	18
4	6.7	8.5	6.7	15	18	633	19	18	191	17	17	17
5	6.7	8.2	6.7	15	18	433	19	21	186	17	17	17
6	6.3	7.5	6.7	15	18	319	23	21	128	18	17	17
7	6.3	6.9	6.7	15	18	514	74	19	92	17	17	17
8	6.3	6.7	6.7	15	19	627	126	19	59	18	17	17
9	6.3	6.5	12	15	18	438	145	19	57	18	17	17
10	6.3	6.5	15	15	18	318	307	19	26	18	17	17
11	6.3	6.8	15	16	18	269	357	18	20	19	17	18
12	6.3	6.9	15	18	18	210	341	18	19	18	17	32
13	6.3	8.1	15	18	22	194	289	20	19	17	17	20
14	6.7	7.3	15	18	20	185	285	25	18	18	17	20
15	7.6	7.6	16	19	19	182	152	21	18	18	17	18
16	6.7	6.9	16	18	19	218	103	26	19	18	17	17
17	6.7	6.7	16	18	19	253	78	56	18	17	18	17
18	6.7	6.7	17	18	19	232	108	51	18	17	17	18
19	6.7	6.8	17	18	19	239	71	59	19	18	17	18
20	7.6	7.0	17	18	19	438	41	49	18	17	17	18
21	6.7	6.7	16	18	19	412	37	40	19	18	17	19
22	8.2	6.7	16	18	19	305	46	59	19	17	17	18
23	6.7	6.7	16	18	19	254	28	37	17	17	17	18
24	6.7	6.7	17	18	20	234	32	21	17	17	17	23
25	6.7	6.7	18	18	22	175	31	21	17	17	18	29
26	6.7	6.7	18	18	67	130	25	22	17	18	17	28
27	6.7	6.7	18	18	113	140	21	23	17	18	19	38
28	6.7	6.7	17	18	489	112	19	21	17	17	97	56
29	6.3	6.6	17	18	-----	115	19	19	18	17	18	69
30	6.3	7.0	16	18	-----	115	19	22	17	17	18	84
31	6.3	-----	16	18	-----	92	-----	20	-----	17	17	-----
TOTAL	206.5	211.0	425.9	529	1,141	9,873	2,886	835	1,163	541	615	752
MEAN	6.66	7.03	13.7	17.1	40.8	318	96.2	26.9	38.8	17.5	19.8	25.1
MAX	8.2	8.5	18	19	489	790	357	59	191	19	97	84
MIN	6.3	6.3	6.7	15	18	92	19	17	17	17	17	17

CAL YR 1970 TOTAL 18,631.4 MEAN 51.0 MAX 2,340 MIN 5.8
WTR YR 1971 TOTAL 19,178.4 MEAN 52.5 MAX 790 MIN 6.3

PASSAIC RIVER BASIN

01387450 MAHWAH RIVER NEAR SUFFERN, N.Y.

LOCATION.--Lat 41°08'27", long 74°07'01", Rockland County, on right bank at upstream side of bridge on U.S. Highway 202, 2.5 miles northeast of Suffern, and 4.8 miles upstream from mouth.

DRAINAGE AREA.--12.3 sq mi.

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

GAGE.--Water-stage recorder. Datum of gage is 321.57 ft above mean sea level.

AVERAGE DISCHARGE.--13 years, 21.9 cfs (24.18 inches per year).

EXTREMES.--Current year: Maximum discharge 1,520 cfs Aug. 28 (gage height, 7.56 ft); minimum, 0.05 cfs Oct. 20, 21 (gage height, 0.55 ft), result of temporary pumping from gage pool.

Period of record: Maximum discharge 1,650 cfs May 29, 1968 (gage height 7.78 ft), from rating extended above 850 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.05 cfs Oct. 20, 21, 1970, result of temporary pumping from gage pool.

REMARKS.--Records good except those for the winter periods, which are fair. Occasional regulation from unknown source.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	12	22	15	20	118	24	18	22	4.3	5.7	25
2	2.4	11	20	15	20	93	24	16	15	7.5	12	18
3	2.5	10	19	14	20	77	28	16	61	3.9	9.6	15
4	3.0	10	22	16	20	78	24	16	36	3.3	6.1	13
5	2.7	31	20	42	20	64	21	15	25	3.2	5.9	11
6	2.5	26	19	40	20	58	21	14	20	3.2	3.9	9.4
7	2.4	19	16	30	18	119	79	13	18	3.2	2.9	8.8
8	2.4	16	15	26	24	102	59	28	15	2.9	2.4	8.0
9	2.4	17	14	23	44	74	42	42	14	2.9	2.3	7.8
10	2.4	18	15	21	27	61	46	27	12	2.6	2.4	7.0
11	2.4	52	11	21	22	60	43	21	11	2.6	2.2	7.5
12	2.4	77	16	20	18	55	39	19	9.9	2.6	2.7	375
13	2.5	144	16	19	96	53	36	38	9.4	2.4	2.3	284
14	2.0	156	15	19	155	48	32	53	11	2.7	2.0	264
15	20	124	14	18	77	48	29	34	13	3.0	1.8	159
16	21	98	13	18	57	57	28	40	13	2.4	1.8	94
17	8.3	68	22	18	46	60	27	41	9.6	2.3	1.8	66
18	3.9	51	27	18	45	51	25	31	8.6	2.4	1.7	54
19	2.1	45	22	18	53	50	23	27	7.8	3.3	1.7	42
20	.13	40	24	18	64	117	21	24	7.8	5.7	1.7	36
21	.12	55	24	18	65	81	21	23	6.8	2.9	1.7	40
22	84	39	22	16	68	63	20	22	5.3	2.2	1.5	32
23	126	37	21	15	113	54	18	19	4.9	2.1	1.5	27
24	60	32	22	15	93	45	17	17	4.9	2.1	1.4	23
25	36	28	21	14	76	39	19	16	4.9	2.3	1.3	18
26	25	27	20	19	69	36	18	27	4.7	3.7	1.4	16
27	20	25	19	25	182	35	19	19	4.3	7.8	19	16
28	18	24	18	25	157	31	17	16	4.3	3.0	488	15
29	15	22	16	25	-----	30	21	14	4.1	2.6	183	14
30	13	24	15	23	-----	28	20	13	3.9	14	71	14
31	13	-----	15	20	-----	26	-----	24	-----	11	38	-----
TOTAL	500.05	1,338	575	644	1,689	1,911	861	743	387.2	120.1	880.7	1,719.5
MEAN	16.1	44.6	18.5	20.8	60.3	61.6	28.7	24.0	12.9	3.87	28.4	57.3
MAX	126	156	27	42	182	119	79	53	61	14	488	375
MIN	.12	10	11	14	18	26	17	13	3.9	2.1	1.3	7.0
CFSM	1.31	3.63	1.51	1.69	4.90	5.01	2.33	1.95	1.05	.31	2.31	4.66
IN.	1.51	4.05	1.74	1.95	5.11	5.78	2.60	2.25	1.17	.36	2.66	5.20

CAL YR 1970 TOTAL 8,562.05 MEAN 23.5 MAX 320 MIN .12 CFSM 1.91 IN 25.89
WTR YR 1971 TOTAL 11,368.55 MEAN 31.1 MAX 488 MIN .12 CFSM 2.53 IN 34.37

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-22	2000	4.31	262	3-7	1430	3.79	185
11-13	2230	3.96	209	3-20	0230	3.60	160
2-13	2145	4.52	305	8-28	0930	7.56	1,520
2-27	1030	4.26	254	9-12	1130	6.35	898

01387500 Ramapo River near Mahwah, N. J.

LOCATION.--Lat 41°05'51", long 74°09'48", Bergen County, on left bank 350 ft downstream from State Highway 17, 0.6 mile downstream from Mahwah River, and 1.0 mile west of Mahwah.

DRAINAGE AREA.--118 sq mi.

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.--Water-stage recorder. Datum of gage is 253.10 ft above mean sea level. Prior to Dec. 31, 1906, non-recording 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.

AVERAGE DISCHARGE.--53 years (1902-6, 1922-71), 222 cfs (25.55 inches per year).

EXTREMES.--Current year: Maximum discharge, 6,700 cfs Aug. 28 (gage height, 10.76 ft); minimum, 20 cfs Oct. 14, Aug. 26, 27 (gage height, 2.29 ft).

Period of record: Maximum discharge, about 12,400 cfs Oct. 9, 1903 (gage height, 11.0 ft, from graph based on gage readings, site and datum then in use), from rating curve extended above 1,400 cfs; minimum, 7 cfs Dec. 16, 1930, Sept. 12, 1932; minimum daily, 8 cfs Aug. 25, 1929. Sept. 5, 12, 1932.

REVISION: The maximum discharge for the water year 1968 has been revised to 8,770 cfs May 29, 1968 (gage height, 11.87 ft), superseding figure published in WRD-NJ 1968.

REMARKS.--Records excellent. Diurnal fluctuation occasionally at low flow caused by powerplants above station. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 781: 1904(M). WSP 1031: 1938, 1940. WSP 1552: 1923(M), 1924, 1925-26(M), 1927-28, 1933, 1937. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	151	208	115	105	1,170	225	160	299	49	110	302
2	32	140	190	130	81	958	218	148	216	57	206	227
3	33	136	179	123	79	786	262	145	408	43	128	181
4	32	137	194	137	77	758	255	151	357	36	102	152
5	33	354	181	304	97	626	223	143	240	32	85	130
6	32	374	165	347	120	546	212	133	186	29	65	114
7	27	253	149	264	114	844	559	126	162	27	52	107
8	26	210	123	238	185	958	531	185	146	26	45	108
9	25	202	118	198	253	697	465	297	139	26	40	115
10	23	227	120	185	183	543	652	249	118	25	38	105
11	22	359	118	177	145	499	697	190	102	24	40	108
12	23	665	136	167	140	460	604	165	92	24	41	2,900
13	24	1,000	136	152	493	448	513	334	88	24	37	2,000
14	22	1,230	126	151	1,080	432	437	681	86	30	33	1,510
15	188	1,100	123	151	729	437	367	496	105	25	29	1,090
16	377	1,010	115	139	531	569	322	454	107	24	28	830
17	227	770	167	133	416	668	292	465	89	24	27	650
18	146	610	218	114	382	572	262	377	79	22	26	520
19	126	537	190	105	410	543	238	309	69	51	26	410
20	107	513	206	98	488	867	216	271	63	40	26	410
21	103	617	208	95	572	751	198	249	59	34	25	350
22	443	507	186	103	633	598	185	231	57	28	23	250
23	1,330	448	177	110	831	516	170	198	52	26	23	210
24	758	392	179	108	831	451	160	170	48	24	21	190
25	460	329	167	112	671	390	165	164	47	26	21	170
26	354	262	155	145	591	349	158	246	46	57	21	160
27	287	246	146	172	1,150	319	165	210	41	61	322	150
28	229	231	134	204	1,460	292	158	172	38	37	3,480	140
29	204	218	126	139	-----	277	177	151	36	44	2,450	135
30	186	229	115	115	-----	264	170	143	36	117	878	130
31	158	-----	114	102	-----	244	-----	249	-----	124	457	-----
TOTAL	6,073	13,457	4,869	4,833	12,847	17,832	9,256	7,662	3,611	1,216	8,905	13,854
MEAN	196	449	157	156	459	575	309	247	120	39.2	287	462
MAX	1,330	1,230	218	347	1,460	1,170	697	681	408	124	3,480	2,900
MIN	22	136	114	95	77	244	158	126	36	22	21	105
CFSM	1.66	3.81	1.33	1.32	3.89	4.87	2.62	2.09	1.02	.33	2.43	3.92
IN.	1.91	4.24	1.53	1.52	4.05	5.62	2.92	2.42	1.14	.38	2.81	4.37

CAL YR 1970 TOTAL 83,629 MEAN 229 MAX 2,910 MIN 18 CFSM 1.94 IN 26.36
WTR YR 1971 TOTAL 104,415 MEAN 286 MAX 3,480 MIN 21 CFSM 2.42 IN 32.92

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	0645	7.37	1,520	8-28	1000	10.76	6,700
2-28	0115	7.45	1,580	9-12	Unknown	Unknown	About 4,800

PASSAIC RIVER BASIN

01388000 Ramapo River at Pompton Lakes, N. J.

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

DRAINAGE AREA.--160 sq mi.

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

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 201.08 ft above mean sea level.

AVERAGE DISCHARGE.--50 years, 290 cfs (24.61 inches per year), adjusted for diversion since Dec. 1, 1953.

EXTREMES.--Current year: Maximum discharge, 6,420 cfs Aug. 28 (gage height, 2.99 ft); minimum, 22 cfs Oct. 12, 13 (gage height, 0.08 ft).

Period of record: Maximum discharge, 12,300 cfs Mar. 12, 1936 (gage height, 3.56 ft), from rating curve extended above 2,000 cfs on basis of theoretical weir formula (revised); maximum gage height, 4.40 ft Oct. 16, 1955; practically no flow for several days in October, November 1922, August, September 1923, July 1927, and on Oct. 20, 1933.

REMARKS.--Records excellent. Diversion by North Jersey District Water Supply Commission to Wanaque Reservoir, since December 1953, for municipal supply (see p. 51). Slight regulation by Pompton Lakes (capacity, 300,000,000 gal).

REVISIONS (WATER YEARS).--WSP 1552: 1922(M), 1924-25, 1929-31(M), 1934-35(M), WRD-NJ 1970: CORRECTIONS 1968-69.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	74	96	144	82	1,480	288	207	374	55	155	460
2	38	73	82	148	81	1,200	282	197	298	69	277	341
3	38	80	86	159	89	991	311	188	443	71	223	282
4	41	82	83	171	101	962	317	191	580	57	217	233
5	37	141	72	352	96	803	287	186	377	51	169	201
6	35	234	75	460	78	693	264	176	285	47	131	181
7	35	131	74	362	81	1,040	786	164	238	44	100	174
8	40	81	77	282	110	1,250	775	221	210	39	77	159
9	33	78	90	273	199	930	612	231	186	35	66	160
10	32	100	89	242	106	723	737	174	171	35	60	149
11	28	194	89	225	83	650	824	108	146	34	59	148
12	25	521	85	134	79	603	729	76	134	32	67	2,980
13	27	957	102	96	430	570	638	215	136	32	54	2,820
14	26	1,360	86	82	1,230	555	554	727	138	33	47	2,230
15	145	1,180	79	78	793	534	471	625	134	34	43	1,560
16	243	1,070	77	76	532	633	415	553	154	32	40	1,090
17	118	781	99	83	380	753	381	576	140	32	42	836
18	81	569	137	87	320	693	342	476	122	31	39	675
19	77	476	247	84	349	639	308	390	102	90	41	539
20	76	433	258	84	447	1,100	287	342	90	99	44	452
21	78	564	273	81	540	961	265	319	83	59	37	452
22	237	464	252	84	614	766	244	297	80	47	31	448
23	1,020	377	239	84	964	660	223	260	75	41	34	377
24	820	312	235	83	1,080	578	213	236	72	37	32	315
25	418	249	220	89	878	498	220	230	67	43	31	270
26	261	165	203	92	762	443	212	298	69	108	30	240
27	191	134	187	83	1,410	400	216	291	67	96	376	225
28	122	124	164	94	1,780	376	210	238	60	70	4,270	216
29	84	104	142	95	-----	356	232	206	59	56	3,580	215
30	90	115	146	87	-----	342	225	199	58	130	1,460	203
31	79	-----	139	79	-----	310	-----	277	-----	207	700	-----
TOTAL	4,618	11,223	4,283	4,573	13,694	22,492	11,868	8,874	5,148	1,846	12,532	18,731
MEAN	149	374	138	148	489	726	396	286	172	59.5	404	624
MAX	1,020	1,360	273	460	1,780	1,480	824	727	580	207	4,270	2,980
MIN	25	73	72	76	78	310	210	76	58	31	30	148
(+)	67.4	154	63.5	43.6	97.7	0	0	24.4	0	0	0	0
MEAN*	216	528	202	192	587	726	396	310	172	59.5	404	624
CFSM*	1.35	3.30	1.26	1.20	3.67	4.54	2.48	1.94	1.08	.37	2.52	3.90
IN.#	1.56	3.68	1.45	1.38	3.82	5.22	2.76	2.24	1.20	.43	2.92	4.35
CAL YR 1970	TOTAL 93,604		MEAN 256		MAX 4,020	MIN 22	MEAN* 286	CFSM* 1.79	IN.* 24.33			
WTR YR 1971	TOTAL 119,882		MEAN 328		MAX 4,270	MIN 25	MEAN* 365	CFSM* 2.28	IN.* 31.02			

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G.H.	DISCHARGE
2-27	2400	1.40	1,830
8-28	1745	2.99	6,420
9-12	1145	2.44	4,570

† Diversion, in cubic feet per second, at station to Wanaque Reservoir for municipal supply. Records of diversion furnished by North Jersey District Water Supply Commission.

* Adjusted for diversion.

01388500 Pompton River at Pompton Plains, N. J.

LOCATION.--Lat 40°58'09", long 74°16'56", Passaic County, 800 ft below confluence of Pequannock and Ramapo Rivers, 100 ft upstream from Jackson Avenue Bridge, and 0.7 mile east of Pompton Plains.

DRAINAGE AREA.--355 sq mi.

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

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 160.00 ft above mean sea level. Auxiliary water-stage recorder at Pequannock, 7,400 ft downstream at same datum and used during high stages. 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.

AVERAGE DISCHARGE.--32 years (1903-4, 1940-71), 449 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 8,610 cfs Aug. 28 (gage height, 19.26 ft); minimum, 47 cfs (regulated) Oct. 6 (gage height, 7.10 ft); minimum daily, 50 cfs Oct. 12.

Period of record: Maximum discharge observed 28,340 cfs 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.

REMARKS.--Records excellent. Water diverted from reservoirs on Pequannock and Wanaque Rivers for municipal supply (see p. 51). Water also diverted at station (just above weir) by Passaic Valley Water Commission to Point View Reservoir for low-flow augmentation (see p. 51). Flow regulated by Canistear, Oak Ridge, Clinton, Charlotteburg, and Echo Lake Reservoirs on Pequannock River and by Greenwood Lake and Wanaque Reservoir on Wanaque River (see p. 48). Some diurnal fluctuations at low flow caused by powerplant on Wanaque River. Water-stage recorder graph and record of pumpage furnished by Passaic Valley Water Commission. Records include pumpage to and release from Point View Reservoir. Records of water quality for the current year for Pompton River at Two Bridges (see station 01389000) are published in Part 2 of this report.

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

REVISIONS (WATER YEARS).--WSP 1202: 1945(M). WRD N.J. 1969: longitude.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	130	212	230	134	3,090	465	294	480	97	271	712
2	54	126	183	223	132	2,690	400	271	390	126	525	545
3	62	132	185	233	133	2,310	445	278	664	112	380	455
4	68	137	193	256	149	2,370	440	261	1,060	94	415	375
5	55	242	169	535	167	1,970	390	256	832	89	300	312
6	51	300	161	635	156	1,660	348	246	605	81	225	278
7	54	268	154	515	150	2,320	1,360	231	470	79	178	271
8	57	268	145	405	239	2,740	1,460	308	345	72	146	249
9	51	200	158	395	370	2,130	1,180	355	287	69	127	242
10	51	142	166	370	222	1,690	1,520	266	244	68	112	231
11	54	328	164	340	170	1,520	1,730	194	207	68	110	228
12	50	850	182	241	169	1,270	1,570	148	185	65	121	4,120
13	51	1,540	212	186	820	1,010	1,390	425	190	59	104	4,690
14	53	2,010	166	174	1,880	976	1,250	1,220	194	79	95	3,970
15	266	1,750	161	164	1,200	1,060	976	1,080	201	69	87	3,250
16	284	1,620	158	151	844	1,310	784	1,010	222	61	79	2,140
17	145	1,350	236	154	625	1,480	706	1,060	188	62	80	1,530
18	98	1,110	271	153	540	1,440	645	832	161	64	78	1,250
19	94	928	365	148	560	1,400	580	580	148	207	77	958
20	91	676	395	144	676	2,280	505	515	137	161	88	796
21	93	862	430	142	814	2,130	435	475	128	98	79	808
22	465	706	400	145	916	1,690	415	465	127	83	68	778
23	1,320	670	370	146	1,460	1,470	355	420	120	75	66	658
24	1,010	570	365	143	1,570	1,310	312	360	114	71	64	545
25	530	465	340	150	1,360	1,160	328	505	109	82	61	460
26	324	328	294	180	1,410	1,070	297	495	122	244	61	395
27	251	263	281	163	2,460	880	294	380	104	182	664	360
28	220	246	254	156	3,150	700	284	308	94	121	6,310	355
29	236	218	223	156	-----	590	300	268	92	114	5,470	370
30	148	236	225	151	-----	515	308	261	92	274	2,340	375
31	133	-----	215	140	-----	580	-----	370	-----	355	1,090	-----
TOTAL	6,499	18,671	7,433	7,324	22,476	48,811	21,472	14,137	8,312	3,481	19,871	31,706
MEAN	210	622	240	236	803	1,575	716	456	277	112	641	1,057
MAX	1,320	2,010	430	635	3,150	3,090	1,730	1,220	1,060	355	6,310	4,690
MIN	50	126	145	140	132	515	284	148	92	59	61	228

CAL YR 1970 TOTAL 158,411 MEAN 434 MAX 7,880 MIN 45
WTR YR 1971 TOTAL 210,193 MEAN 576 MAX 6,310 MIN 50

PEAK DISCHARGE (BASE, 2,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-13	2330	11.95	2,300	8-28	1330	19.26	8,610
2-28	1445	13.31	3,240	9-12	2045	16.78	5,980
3-7	2145	12.86	2,930				

PASSAIC RIVER BASIN

01389500 Passaic River at Little Falls, N. J.

LOCATION.--Lat 40°53'05", long 74°13'35", Passaic County, on left bank 0.6 mile downstream from Beatties Dam in Little Falls and 1.0 mile upstream from Peckman River.

DRAINAGE AREA.--762 sq mi.

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. Datum of gage is 120.00 ft above mean sea level (Passaic Valley Water Commission bench mark). Prior to Jan. 8, 1933, nonrecording gage and Jan. 8, 1933, to Sept. 30, 1955, water-stage recorder, at site 3.7 miles downstream at mean sea level datum (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--74 years, 1,139 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 8,010 cfs Aug. 29 (gage height, 8.05 ft); minimum, 48 cfs (regulated) Aug. 19 (gage height, 0.33 ft); minimum daily, 64 cfs Oct. 13.
Period of record: Maximum daily discharge, 28,000 cfs Oct. 10, 1903; no flow July 3-5, 1904, July 16, 23, 1905.

REMARKS.--Records excellent. Diurnal fluctuation at medium and low flow caused by hydroelectric plant at Beatties Dam. Flow regulated by reservoirs in Rockaway, Pequannock, Wanaque, and Pompton River basins (see p. 48). Large diversions for municipal supply from Passaic River above Beatties Dam, and from Rockaway, Pequannock, and Wanaque Rivers (see p. 51). In addition, the Commonwealth Water Co. diverts small amounts from Canoe Brook near Summit (average for 1971 was 6.0 cfs) and from Passaic River (average for 1971 was 17.7 cfs); that company and the city of East Orange also divert water for municipal supply by pumping from wells. Records of water quality for the current year are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	219	531	375	251	4,950	840	580	796	151	1,030	5,840
2	90	192	484	383	236	4,900	756	535	718	206	1,430	4,960
3	83	186	449	405	216	4,530	779	525	802	214	1,270	4,250
4	106	207	456	439	236	4,480	778	510	1,170	187	1,360	3,670
5	106	464	433	1,010	343	4,100	717	500	1,090	147	1,240	3,190
6	76	587	404	1,400	478	3,700	683	478	802	136	1,070	2,810
7	73	444	379	1,340	493	4,150	2,130	443	610	117	913	2,430
8	77	294	312	1,170	988	4,640	2,700	600	483	87	690	2,070
9	73	267	307	1,090	1,370	4,410	2,380	874	418	93	478	1,760
10	70	243	322	897	1,160	4,090	2,660	814	362	108	310	1,460
11	84	464	336	727	1,100	3,810	3,120	670	301	104	246	1,150
12	94	1,200	413	600	1,090	3,440	3,180	550	276	83	261	4,620
13	64	2,170	532	496	2,250	2,920	3,000	826	296	84	235	6,610
14	67	2,970	517	448	3,440	2,650	2,720	1,810	299	159	191	7,410
15	235	2,880	491	413	2,830	2,490	2,250	1,940	311	130	172	7,800
16	459	2,770	484	404	2,760	2,570	1,820	1,910	376	102	148	7,060
17	293	2,450	734	350	2,660	2,610	1,450	1,950	327	95	143	6,100
18	184	2,220	1,020	328	2,410	2,520	1,170	1,720	269	85	137	5,300
19	152	1,990	1,100	291	2,220	2,420	1,020	1,260	236	280	94	4,550
20	124	1,560	1,160	279	2,190	3,290	916	1,000	229	466	170	3,950
21	126	1,650	1,140	282	2,200	3,270	808	862	203	296	158	3,570
22	708	1,430	1,020	283	2,290	3,070	754	868	197	194	145	3,220
23	1,620	1,360	901	303	2,970	2,970	685	820	211	149	120	2,800
24	1,540	1,190	837	309	3,170	2,780	630	712	198	141	85	2,410
25	881	999	752	293	3,140	2,540	630	760	186	159	78	2,020
26	562	800	677	377	3,260	2,230	585	802	197	411	87	1,690
27	399	681	589	404	4,150	1,940	580	695	187	469	1,060	1,400
28	314	609	528	352	4,790	1,470	550	570	158	287	5,790	1,120
29	409	544	440	354	-----	1,240	600	482	161	226	7,770	881
30	236	554	409	343	-----	1,080	605	447	158	615	7,660	738
31	218	-----	379	315	-----	979	-----	625	-----	929	6,760	-----
TOTAL	9,630	33,594	18,536	16,460	54,691	96,239	41,496	27,138	12,027	6,910	41,301	106,839
MEAN	311	1,120	598	531	1,953	3,104	1,383	875	401	223	1,332	3,561
MAX	1,620	2,970	1,160	1,400	4,790	4,950	3,180	1,950	1,170	929	7,770	7,800
MIN	64	186	307	279	216	979	550	443	158	83	78	738

CAL YR 1970 TOTAL 313,652 MEAN 859 MAX 8,930 MIN 61
WTR YR 1971 TOTAL 464,861 MEAN 1,274 MAX 7,800 MIN 64

PEAK DISCHARGE (BASE, 4,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
3-01	1015	6.30	5,100	8-29	1715	8.05	8,010
3-08	0945	6.05	4,700	9-15	1030	8.03	7,970

PASSAIC RIVER BASIN

45

01390500 Saddle River at Ridgewood, N. J.

LOCATION.--Lat 40°59'05", long 74°05'30", Bergen County, on left bank 15 ft upstream from bridge on State Highway 17 in Ridgewood and 2.8 miles upstream from Hohokus Brook.

DRAINAGE AREA.--21.6 sq mi.

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 71.74 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--17 years, 33.1 cfs (20.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,920 cfs Aug. 28 (gage height, 11.24 ft); minimum, 3.5 cfs Oct. 14 (gage height, 2.59 ft).

Period of record: Maximum discharge, 2,920 cfs Aug. 28, 1971 (gage height, 11.24 ft); minimum daily, 0.2 cfs Sept. 17, 18, 1966.

Maximum discharge known, 6,400 cfs July 23, 1945, at site 1.6 miles upstream (drainage area, 19.1 sq mi) by slope-area measurement.

REMARKS.--Records good except those below 10 cfs, which are fair. Diurnal fluctuation at low flow caused by unknown source.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	6.8	14	12	10	64	34	25	26	13	45	12
2	5.2	7.3	14	15	9.6	61	35	24	21	20	44	10
3	5.2	8.5	13	13	10	59	40	32	46	9.8	44	8.4
4	5.5	12	18	18	13	95	34	26	73	7.2	51	6.8
5	4.8	31	15	82	27	69	32	26	26	6.8	27	5.9
6	4.8	12	13	46	45	70	35	24	19	6.8	19	5.9
7	4.4	9.1	12	26	27	211	163	24	18	7.2	16	8.7
8	4.1	7.9	11	26	112	107	70	61	17	5.2	14	6.2
9	3.8	7.3	12	19	110	69	46	50	14	5.6	12	4.3
10	4.1	13	12	16	36	62	41	36	13	5.2	11	4.3
11	4.1	73	12	17	27	65	38	25	11	5.2	13	6.5
12	3.8	39	19	16	23	60	37	23	11	6.2	24	684
13	3.9	267	19	18	229	56	35	69	16	5.2	12	195
14	3.8	88	17	17	156	53	33	53	12	10	8.7	173
15	27	71	16	16	54	52	30	31	16	4.6	8.0	65
16	15	38	16	16	40	50	29	52	17	4.6	7.2	43
17	6.8	24	23	15	36	46	31	45	12	5.2	6.5	34
18	6.3	19	42	14	43	42	30	30	10	4.9	6.2	31
19	6.6	20	26	13	52	89	34	23	10	55	6.2	27
20	6.0	21	25	9.7	67	165	29	21	11	25	8.0	27
21	6.5	66	27	10	60	71	29	24	9.2	8.7	6.2	34
22	94	26	20	11	60	54	27	24	8.7	6.5	5.9	22
23	49	21	19	13	152	50	24	21	7.6	5.9	5.2	19
24	14	20	19	12	76	46	24	19	8.7	5.6	4.9	17
25	9.4	17	17	12	56	43	27	21	8.4	8.7	4.3	15
26	8.5	16	16	21	52	42	32	31	12	114	4.6	13
27	7.6	15	15	24	227	41	30	23	7.6	46	197	13
28	7.0	15	16	16	89	40	31	21	7.6	16	722	12
29	6.8	14	17	12	-----	39	33	20	7.2	17	60	10
30	7.0	17	20	12	-----	38	28	23	7.2	58	26	11
31	7.0	-----	14	11	-----	36	-----	33	-----	54	17	-----
TOTAL	347.0	1,001.9	549	578.7	1,898.6	2,045	1,141	960	483.2	553.1	1,435.9	1,524.0
MEAN	11.2	33.4	17.7	18.7	67.8	66.0	38.0	31.0	16.1	17.8	46.3	50.8
MAX	94	267	42	82	229	211	163	69	73	114	722	684
MIN	3.8	6.8	11	9.7	9.6	36	24	19	7.2	4.6	4.3	4.3
CFSM	.52	1.55	.82	.87	3.14	3.06	1.76	1.44	.75	.82	2.14	2.35
IN.	.60	1.73	.95	1.00	3.27	3.52	1.97	1.65	.83	.95	2.47	2.62

CAL YR 1970 TOTAL 10,419.2 MEAN 28.5 MAX 387 MIN 3.8 CFSM 1.32 IN 17.94
WTR YR 1971 TOTAL 12,517.4 MEAN 34.3 MAX 722 MIN 3.8 CFSM 1.59 IN 21.56

PEAK DISCHARGE (BASE, 380 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	2245	6.36	653	9-12	1215	9.54	1,920
8-28	1030	11.24	2,920				

PASSAIC RIVER BASIN

01391000 Hohokus Brook at Hohokus, N. J.

LOCATION.--Lat 40°59'52", long 74°06'48", Bergen County, on left bank 500 ft upstream from Maple Avenue Bridge in Hohokus, and 3.5 miles upstream from mouth.

DRAINAGE AREA.--16.4 sq mi.

PERIOD OF RECORD.--April 1954 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 120.09 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--17 years, 28.6 cfs (23.68 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,230 cfs Aug. 28 (gage height, 4.70 ft, from floodmarks), from rating curve extended above 800 cfs on basis of computation of peak flow over dam; minimum, 4.9 cfs Oct. 15, 20 (gage height, 1.22 ft).

Period of record: Maximum discharge, 2,350 cfs Aug. 19, 1955 (gage height, 4.71 ft in well, 4.50 ft from outside gage), from rating curve extended above 750 cfs; minimum, 1.9 cfs Aug. 2, 1966.

REMARKS.--Records excellent except those for periods of no gage-height record and those above 50 cfs, which are fair. Some regulation at low and medium flows caused by unknown source.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	15	19	22	15	60	28	25	26	21	40	40
2	11	18	19	21	14	51	29	25	20	25	38	37
3	12	9.5	18	18	13	52	35	32	40	15	54	35
4	13	14	23	28	20	69	30	26	70	13	67	34
5	12	39	20	61	35	58	28	25	32	13	34	29
6	11	20	20	43	48	60	30	25	26	13	25	25
7	10	14	18	29	42	176	189	25	23	11	20	30
8	11	14	15	24	108	91	88	57	21	10	18	25
9	9.4	13	15	23	90	58	51	50	20	10	18	22
10	8.5	13	16	22	60	49	43	36	18	11	14	20
11	9.0	68	17	22	41	51	38	25	17	10	16	19
12	12	50	28	21	35	46	34	23	17	11	21	706
13	9.5	125	25	20	250	48	33	66	33	9.7	13	431
14	7.8	84	23	21	190	46	33	50	35	16	13	322
15	38	77	23	20	65	42	30	32	27	11	14	225
16	25	49	21	19	50	42	28	50	25	10	14	156
17	13	31	37	18	45	38	28	45	21	10	12	119
18	9.5	26	34	17	52	35	30	35	19	9.7	12	93
19	8.9	28	28	16	55	69	33	25	17	62	12	71
20	7.8	37	31	16	65	130	29	22	18	35	15	60
21	11	54	28	16	61	63	27	23	16	16	13	57
22	82	31	25	18	61	46	26	24	16	13	13	52
23	50	26	24	19	125	42	25	21	15	12	12	46
24	24	25	23	18	68	39	24	18	15	12	9.7	42
25	18	22	21	19	53	35	27	21	15	17	9.7	38
26	15	21	22	31	49	34	31	31	18	88	10	35
27	12	21	21	25	212	34	30	25	15	34	304	31
28	11	18	20	20	88	33	30	21	15	19	1,100	33
29	12	20	19	17	-----	33	32	19	13	18	298	33
30	11	24	17	19	-----	30	30	21	14	55	96	30
31	9.5	-----	18	18	-----	30	-----	38	-----	46	57	-----
TOTAL	504.9	1,006.5	688	701	2,010	1,690	1,149	961	677	656.4	2,392.4	2,896
MEAN	16.3	33.6	22.2	22.6	71.8	54.5	38.3	31.0	22.6	21.2	77.2	96.5
MAX	82	125	37	61	250	176	189	66	70	88	1,100	706
MIN	7.8	9.5	15	16	13	30	24	18	13	9.7	9.7	19
CFSM	.99	2.05	1.35	1.38	4.38	3.32	2.34	1.89	1.38	1.29	4.71	5.88
IN.	1.15	2.28	1.56	1.59	4.56	3.83	2.61	2.18	1.54	1.49	5.43	6.57

CAL YR 1970 TOTAL 10,209.7 MEAN 28.0 MAX 384 MIN 5.4 CFSM 1.71 IN 23.16
WTR YR 1971 TOTAL 15,332.2 MEAN 42.0 MAX 1,100 MIN 7.8 CFSM 2.56 IN 34.78

PEAK DISCHARGE (BASE, 450 CFS)

NOTE.--No gage-height record Apr. 16 to June 4, and Aug. 28.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-26	1600	2.67	536	9-12	Unknown	4.68	2,210
8-28	Unknown	4.70	2,230				

01391500 Saddle River at Lodi, N. J.

LOCATION.--Lat 40°53'25", long 74°04'51", Bergen County, on left bank 560 ft upstream from Outwater Lane Bridge in Lodi and 3.2 miles upstream from mouth.

DRAINAGE AREA.--54.6 sq mi.

PERIOD OF RECORD.--September 1923 to current year.

GAGE.--Water-stage recorder. Concrete control since Nov. 2, 1938. Datum of gage is 25.00 ft above mean sea level. Prior to Nov. 2, 1938, at site 560 ft downstream at datum 2.54 ft lower.

AVERAGE DISCHARGE.--48 years, 95.2 cfs (23.68 inches per year), adjusted for diversion since 1966.

EXTREMES.--Current year: Maximum discharge, 3,770 cfs Sept. 12 (gage height, 10.98 ft, from high-water mark in gage house); minimum, 7.6 cfs Jan. 16 (gage height, 1.50 ft, probably result of regulation).
Period of record: Maximum discharge, 3,770 cfs Sept. 12, 1971 (gage height, 10.98 ft, from high-water mark in gage house); minimum, 1.0 cfs May 25, 1938 (gage height, 1.03 ft, site and datum then in use); minimum daily, 6.0 cfs Aug. 4, 1930, Aug. 23, 1934.

REMARKS.--Records excellent. Occasional regulation at low flow by mills above station. Diversion above station by Hackensack Water Co., for municipal supply (records given herein). Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1031: 1940(M). WSP 1552: 1929(M), 1936(M), 1938. WRD N.J. 1969: CORRECTIONS 1967. WRD N.J. 1970: CORRECTIONS 1968-69.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	19	33	25	24	168	87	54	66	41	125	100
2	22	23	32	33	25	145	87	50	44	69	181	89
3	23	19	31	29	26	140	106	58	82	31	84	85
4	25	25	44	48	25	258	93	50	199	27	209	71
5	24	111	34	168	85	186	80	48	74	26	80	52
6	20	37	32	111	110	171	91	48	46	27	50	52
7	21	25	29	61	82	470	475	44	42	26	38	66
8	20	23	26	46	275	322	258	143	37	25	34	50
9	21	22	26	43	200	180	138	138	35	25	24	48
10	16	32	27	40	130	153	118	76	33	25	24	46
11	15	171	27	38	73	158	102	53	31	24	43	53
12	16	150	74	37	64	148	97	43	31	25	43	2,440
13	17	334	48	34	480	138	93	64	258	25	29	1,590
14	16	310	38	34	655	135	89	125	128	50	25	640
15	87	209	38	33	148	128	82	76	60	25	25	338
16	54	120	33	28	106	125	78	128	54	23	24	216
17	21	69	100	28	97	113	78	128	40	23	27	189
18	18	52	85	28	84	102	76	80	36	28	26	165
19	17	58	55	23	104	199	75	66	33	40	28	145
20	17	61	53	22	150	440	74	63	32	100	33	150
21	20	165	54	24	155	199	74	63	33	45	27	168
22	183	74	44	27	168	143	69	66	32	28	26	133
23	174	57	42	28	368	130	53	60	29	28	25	115
24	49	50	45	27	223	120	52	48	32	26	24	108
25	31	43	37	30	145	108	57	42	31	37	23	100
26	26	40	36	72	130	104	60	91	49	165	24	95
27	23	37	33	55	535	102	57	46	29	202	708	97
28	20	35	30	41	278	100	57	41	29	49	2,680	93
29	19	34	29	34	-----	97	68	38	28	69	702	91
30	20	45	29	35	-----	95	60	54	29	230	174	87
31	18	-----	26	32	-----	91	-----	100	-----	177	123	-----
TOTAL	1,075	2,450	1,270	1,314	4,945	5,168	2,984	2,184	1,682	1,741	5,688	7,672
MEAN	34.7	81.7	41.0	42.4	177	167	99.5	70.5	56.1	56.2	183	256
MAX	183	334	100	168	655	470	475	143	258	230	2,680	2,440
MIN	15	19	26	22	24	91	52	38	28	23	23	46
(+)	6.76	12.4	16.3	15.9	8.31	0	3.79	11.6	11.5	6.44	8.66	2.94
MEAN#	41.5	94.1	57.3	58.3	185	167	103	82.1	67.6	62.6	192	259
CFSM#	.81	1.72	1.05	1.07	3.39	3.06	1.89	1.50	1.24	1.15	3.52	4.74
IN.#	.93	1.92	1.21	1.23	3.53	3.53	2.11	1.73	1.38	1.33	4.06	5.29

CAL YR 1970	TOTAL 28,587	MEAN 78.3	MAX 1,190	MIN 15	MEAN# 83.8	CFSM# 1.53	IN.# 20.92
WTR YR 1971	TOTAL 38,173	MEAN 105	MAX 2,680	MIN 15	MEAN# 114	CFSM# 2.09	IN.# 28.25

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-13	2015	3.64	610	6-13	1900	4.63	1,160
2-13	2315	4.90	1,320	8-28	1900	10.16	3,530
2-27	1630	3.86	726	9-12	1930	10.98	3,770
3-07	1845	3.72	650				

+ Diversion, in cubic feet per second, above station by Hackensack Water Co. Records of diversion furnished by Hackensack Water Co.
Adjusted for diversion.

PASSAIC RIVER BASIN

Reservoirs in Passaic River basin

01379990 SPLITROCK RESERVOIR.--Lat 40°57'40", long 74°27'45", Morris County, at dam on Beaver Brook, 2 miles northeast of Hibernia, N.J. Drainage area, 5.50 sq mi. Period of record, September 1925 to September 1931, December 1948 to September 1950, October 1953 to current year in reports of Geological Survey. 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. Water-stage recorder. Datum of gage is at mean sea level.

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 at spillway level (elevation, 835 ft), 3,310,000,000 gal. Flow is regulated by two 30-inch sluice gates. Flow is released for diversion for municipal supply of Jersey City. Elevation record and capacity table furnished by Jersey City, Bureau of Water.

01380900 BOONTON RESERVOIR.--Lat 40°53', long 74°24', Morris County, at dam on Rockaway River at Boonton, N.J. Drainage area, 119 sq mi. Period of record, April 1904 to September 1950, October 1953 to current year in reports of Geological Survey. Monthend contents only 1904-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. Hook gage. Datum of gage is at mean sea level.

Reservoir is formed by a cyclopean masonry dam with earth wings; dam completed and storage began in 1904. Total capacity at elevation 305.25 ft (crest of spillway) 7,620,000,000 gal, 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. Elevation record and data for capacity table furnished by Jersey City, Bureau of Water.

01382100. CANISTEAR RESERVOIR.--Lat 41°06'30", long 74°29'30", Sussex County, at dam on Pacock Brook, 1.8 miles northeast of Stockholm, N.J. Drainage area, 5.6 sq mi. Period of record, October 1923 to September 1950, October 1953 to current year in reports of Geological Survey. Monthend contents 1923-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. Staff gage. Datum of gage is at mean sea level.

Reservoir is formed by earth-embankment type dam; dam completed about 1896. Capacity at spillway level (elevation, 1,086.0 ft), 2,407,000,000 gal. 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. Elevation record and capacity table furnished by city of Newark, Division of Water Supply.

01382200 OAK RIDGE RESERVOIR.--Lat 41°02'30", long 74°30'10", Passaic County, at dam on Pequannock River, 0.9 mile southwest of Oak Ridge, N.J. Drainage area, 27.3 sq mi. Period of record, October 1923 to September 1950, October 1953 to current year in reports of Geological Survey. Monthend contents only 1924-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. Staff gage. Datum of gage is at mean sea level.

Reservoir is formed by earthfill dam with concrete-core wall and ogee overflow section; dam constructed between 1889-92; dam raised 10 ft during 1917-19. Capacity at spillway level (elevation, 846.0 ft), 3,895,000,000 gal. 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 of city of Newark. Outflow is controlled mostly by operation of gates in pipes through dam. Elevation record and capacity table furnished by city of Newark, Division of Water Supply.

01382300 CLINTON RESERVOIR.--Lat 41°04'30", long 74°27'00", Passaic County, at dam on Clinton Brook, 2.0 miles north of Newfoundland, N.J. Drainage area, 10.5 sq mi. Period of record, October 1923 to September 1950, October 1953 to current year in reports of Geological Survey. Monthend contents only 1923-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. Staff gage. Datum of gage is at mean sea level.

Reservoir is formed by earthfill dam constructed between 1889 and 1892. Capacity at spillway level (elevation, 992.0 ft), 3,518,000,000 gal. 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. Elevation record and capacity table furnished by city of Newark, Division of Water Supply.

01382350 CHARLOTTEBURG RESERVOIR.--Lat 41°01'34", long 74°25'30", Passaic County, at dam on Pequannock River, 1.1 miles upstream from Macopin River, and 1.5 miles southeast of Newfoundland, N.J. Drainage area, 56.2 sq mi. Period of record, May 1961 to current year. Water-stage recorder. Datum of gage is at mean sea level.

Reservoir is formed by concrete-masonry dam and earth embankment, with concrete spillway at elevation 738.00 ft. Spillway equipped with Bascule gate 5 ft high. Storage began May 19, 1961. Capacity at elevation 743.00 ft (top of Bascule gate) is 2,964,000,000 gal. 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. Elevation record and capacity table furnished by city of Newark, Division of Water Supply.

01382400 ECHO LAKE.--Lat 41°03'00", long 74°24'30", Passaic County, at Echo Lake Dam on Macopin River, 1.6 miles north of Charlotteburg, N.J., and 1.9 miles upstream from mouth. Drainage area, 4.35 sq mi. Period of record, October 1927 to September 1950, October 1953 to current year in report of Geological Survey. Monthend contents only 1928-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. Staff gage. Datum of gage is at mean sea level.

Lake is formed by earth-embankment type dam completed about 1925. Capacity at spillway level (elevation, 893.0 ft), 1,583,000,000 gal 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. Elevation record and capacity table furnished by city of Newark, Division of Water Supply.

Reservoirs in Passaic River basin--Continued

- 01383000 GREENWOOD LAKE.--Lat 41°09'36", long 74°20'03", Passaic County, in gatehouse near right end of Greenwood Lake Dam on Wanaque River at Awosting. Drainage area, 27.1 sq mi. Period of record, June 1898 to November 1903, June 1907 to current year (gage heights only prior to October 1953). Water-stage recorder. Datum of gage is 608.86 ft above mean sea level (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. Maximum contents during water year 7,890,000,000 gal Aug. 28 (gage height, 11.65); minimum, 6,726,000,000 gal July 29 (gage height, 9.78 ft). Maximum contents during period 1898-1903, 1907 to current year, 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). 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.
- 01386990 WANAQUE RESERVOIR.--Lat 41°02'33", long 74°17'36", Passaic County, at Raymond Dam on Wanaque River at Wanaque. Drainage area, 90.4 sq mi. Period of record, February 1928 to September 1950, October 1953 to current year in reports of Geological Survey. Monthend contents only 1928-1950, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. Water-stage recorder. Datum of gage is at mean sea level (North Jersey District Water Supply Commission datum). 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 at spillway level (elevation, 300.3 ft), 28,010,000,000 gal. Capacity available by gravity at spillway level, 26,230,000,000 gal. Outflow mostly controlled by sluice gates in intake conduits in gate house. Water is diverted from reservoir for municipal supply. Diversion to reservoir from Post Brook and Ramapo River (see p. 51). Elevation record and capacity table furnished by North Jersey District Water Supply Commission.

MONTHEND ELEVATION OR GAGE HEIGHT AND CONTENTS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Elevation (feet)	Contents (million gallons)	Change in contents (equivalent in cfs)	Elevation (feet)	Contents (million gallons)	Change in contents (equivalent in cfs)
01379990 Splitrock Reservoir*			01380900 Boonton Reservoir*			
Sept. 30.....	832.90	2,892	-	283.47	2,702	-
Oct. 31.....	830.70	2,500	-19.5	290.42	4,096	+69.6
Nov. 30.....	832.30	2,784	+14.7	305.63	7,719	+187
Dec. 31.....	833.90	3,088	+15.2	305.35	7,646	-3.7
CAL YR 1970.....	-	-	-1.2	-	-	-3
Jan. 31.....	834.60	3,226	+6	305.17	7,599	-2.3
Feb. 28.....	835.10	3,325	+6	306.29	7,890	+16.1
Mar. 31.....	835.40	3,385	+2.9	305.70	7,737	-7.6
Apr. 30.....	835.50	3,405	+1.1	307.17	8,119	+19.6
May 31.....	835.50	3,405	0	307.27	8,145	+1.2
June 30.....	835.40	3,385	-1.1	304.07	7,313	-42.9
July 31.....	834.40	3,187	-9.9	299.56	6,178	-56.6
Aug. 31.....	835.50	3,405	+10.8	306.24	7,877	+84.8
Sept. 30.....	835.50	3,405	0	307.22	8,132	+13.1
WTR YR 1971.....	-	-	+2.2	-	-	+23.0
0138210Q Canistear Reservoir†			0138220Q Oak Ridge Reservoir†			
Sept. 30.....	1,082.30	2,030	-	831.10	1,969	-
Oct. 31.....	1,082.80	2,080	+2.5	838.10	2,823	+42.5
Nov. 30.....	1,086.00	2,407	+16.9	846.10	3,909	+56.0
Dec. 31.....	1,086.10	2,417	+5	846.10	3,909	0
CAL YR 1970.....	-	-	-.04	-	-	0
Jan. 31.....	1,086.10	2,417	0	846.10	3,909	0
Feb. 28.....	1,086.20	2,427	+6	846.30	3,938	+1.5
Mar. 31.....	1,086.10	2,417	-5	846.10	3,909	-1.4
Apr. 30.....	1,086.10	2,417	0	846.10	3,909	0
May 31.....	1,086.20	2,427	+5	846.10	3,909	0
June 30.....	1,086.00	2,407	-1.0	843.70	3,572	-17.3
July 31.....	1,086.00	2,407	0	837.10	2,695	-43.8
Aug. 31.....	1,086.20	2,427	+1.0	844.80	3,725	+51.4
Sept. 30.....	1,086.10	2,417	-5	846.10	3,909	+9.4
WTR YR 1971.....	-	-	+1.6	-	-	+8.2

* Elevation at 0900.

† Elevation at 0800 on first day of following month.

PASSAIC RIVER BASIN

Reservoirs in Passaic River basin--Continued

MONTHEND ELEVATION OR GAGE HEIGHT AND CONTENTS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Elevation (feet)	Contents (million gallons)	Change in contents (equivalent in cfs)	Elevation (feet)	Contents (million gallons)	Change in contents (equivalent in cfs)
01382300 Clinton Reservoir†			01382350 Charlotteburg Reservoir†			
Sept. 30.....	989.00	3,134	-	735.00	2,110	-
Oct. 31.....	990.20	3,288	+7.7	738.25	2,434	+16.1
Nov. 30.....	992.20	3,544	+13.1	743.00	2,964	+27.4
Dec. 31.....	992.10	3,531	-.6	738.50	2,460	-25.2
CAL YR 1970.....	-	-	-.06	-	-	-1.1
Jan. 31.....	992.10	3,531	0	732.35	1,868	-29.5
Feb. 28.....	992.40	3,569	+2.2	741.50	2,789	+50.9
Mar. 31.....	992.10	3,531	-1.8	740.45	2,670	-5.9
Apr. 30.....	992.00	3,518	-.6	748.00	3,648	+50.4
May 31.....	992.20	3,544	+1.2	742.30	2,883	-38.2
June 30.....	991.50	3,454	-5.7	737.70	2,376	-26.1
July 31.....	988.80	3,108	-17.3	738.60	2,471	+4.8
Aug. 31.....	992.20	3,544	+21.8	742.95	2,958	+24.3
Sept. 30.....	992.10	3,531	-.6	742.95	2,958	0
WTR YR 1971.....	-	-	+1.7	-	-	+3.6
01382400 Echo Lake†			01383000 Greenwood Lake**			
Sept. 30.....	887.30	1,096	-	9.91	6,805	-
Oct. 31.....	888.00	1,153	+2.8	10.25	7,015	+10.5
Nov. 30.....	893.20	1,601	+23.0	10.25	7,015	0
Dec. 31.....	893.10	1,592	-.5	a10.08	6,910	-5.3
CAL YR 1970.....	-	-	-.03	-	-	-.8
Jan. 31.....	893.10	1,592	0	a10.00	6,860	-2.5
Feb. 28.....	893.40	1,621	+1.5	10.68	7,282	+23.2
Mar. 31.....	892.80	1,564	-2.8	10.20	6,984	-14.9
Apr. 30.....	892.00	1,493	-3.7	10.16	6,959	-1.2
May 31.....	893.20	1,601	+5.4	10.35	7,077	+5.9
June 30.....	892.90	1,574	-1.4	9.98	6,848	-11.8
July 31.....	892.90	1,574	0	10.05	6,891	+2.2
Aug. 31.....	893.10	1,592	+9	10.85	7,387	+24.8
Sept. 30.....	893.00	1,583	-.5	10.16	6,959	-22.1
WTR YR 1971.....	-	-	+2.0	-	-	+6
01386990 Wanaque Reservoir†						
Sept. 30.....	282.95	16,580	-			
Oct. 31.....	284.23	17,320	+37.0			
Nov. 30.....	295.74	24,690	+381			
Dec. 31.....	296.17	24,990	+15.0			
CAL YR 1970.....	-	-	-13.6			
Jan. 31.....	295.94	24,830	-8.0			
Feb. 28.....	302.76	29,910	+280			
Mar. 31.....	302.06	29,370	-26.9			
Apr. 30.....	301.65	29,050	-16.6			
May 31.....	302.08	29,380	+16.4			
June 30.....	299.40	27,320	-106			
July 31.....	294.62	23,900	-170			
Aug. 31.....	296.96	25,550	+82.3			
Sept. 30.....	300.38	28,070	+130			
WTR YR 1971.....	-	-	+48.7			

** Gage height at 2400.

† Elevation at 0800 on first day of following month.

a Gage height estimated.

Diversions in Passaic River basin

01380800 Jersey City diverts water from Boonton Reservoir on Rockaway River at Boonton for municipal supply. Records furnished by Jersey City, Bureau of Water.

01382490 City of Newark diverted water from reservoir formed by Macopin intake dam on Pequannock River prior to May 21, 1961, and from Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply. Records furnished by city of Newark, Division of Water Supply.

North Jersey District Water Supply Commission diverts water for municipal supply from Wanaque Reservoir on Wanaque River (01386980). In addition to water from Wanaque Reservoir, the Commission stores water diverted into Wanaque Reservoir from Post Brook near Wanaque (01387020) and Ramapo River by pumping from Pompton Lakes (01387990). Figures of diversion from Wanaque Reservoir given herein show total diversion from Passaic River basin by North Jersey District Water Supply Commission. Records furnished by North Jersey District Water Supply Commission.

01388500 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 furnished by Passaic Valley Water Commission.

01389490 The Passaic Valley Water Commission diverts water from Passaic River above Beattie's Dam at Little Falls for municipal supply. Records furnished by Passaic Valley Water Commission.

 DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Month	North Jersey District Water Supply Commission				Passaic Valley Water Commission
	Jersey City	Newark	From Wanaque Reservoir	From Ramapo River to Wanaque Reservoir	
October.....	93.4	81.7	204	67.4	96.4
November.....	86.7	89.1	193	154	89.1
December.....	97.1	111	172	63.5	81.8
CAL YR 1970.....	96.8	102	175	30.2	83.6
January.....	103	116	170	43.6	83.3
February.....	107	121	188	97.7	83.2
March.....	96.4	118	162	0	76.1
April.....	99.1	93.5	167	0	76.8
May.....	97.1	81.0	175	24.4	77.8
June.....	104	111	180	0	90.6
July.....	105	98.1	186	0	86.2
August.....	105	86.6	186	0	82.0
September.....	104	76.3	196	0	77.6
WTR YR 1971.....	99.7	98.5	181	37.1	83.4

NOTE.--Records for diversion from Post Brook to Wanaque Reservoir not available for this water year.
Estimated diversion of 4.5 cfs for year made on the basis of records for West Brook near Wanaque.

Diversions from and releases to Pompton River by Point View Reservoir

 DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Month	Stored	*Released
October.....	0	0
November.....	0	0
December.....	0	0
CAL YR 1970.....	.02	0
January.....	.11	0
February.....	.13	0
March.....	.12	0
April.....	.12	0
May.....	.12	0
June.....	.12	0
July.....	.11	0
August.....	.12	0
September.....	.13	0
WTR YR 1971.....	.09	0

* Water released into Haycock Brook to maintain minimum flow conditions not included in these figures.

ELIZABETH RIVER BASIN

01393500 Elizabeth River at Elizabeth, N. J.

LOCATION.--Lat 40°40'03", long 74°13'09", Union County, on left bank 85 ft upstream from Westfield Avenue Bridge in Elizabeth and 3.3 miles upstream from mouth.

DRAINAGE AREA.--20.2 sq mi, of which 2.2 sq mi contributes to a storm sewer which bypasses the station.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5.23 ft above mean sea level. Prior to Oct. 1, 1922, nonrecording gage at same site at datum 4.14 ft higher and Oct. 1, 1922, to May 18, 1923, at present datum.

AVERAGE DISCHARGE.--50 years, 24.8 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 4,110 cfs Aug. 28 (gage height, 18.7 ft, from floodmarks), from rating curve extended above 1,100 cfs on basis of contracted-opening measurement of peak flow; minimum, 4.1 cfs Jan. 1 (gage height, 2.56 ft), result of freezeup.
Period of record: Maximum discharge, 4,110 cfs Aug. 28, 1971 (gage height, 18.7 ft, from floodmarks), from rating curve extended above 1,100 cfs on basis of contracted-opening measurement of peak flow; no flow many times.

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. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--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).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	5.4	9.3	7.1	8.1	17	13	9.6	12	78	648	17
2	9.0	6.8	9.3	7.5	8.7	16	16	9.3	14	46	1,780	15
3	7.8	6.5	9.6	8.4	9.0	42	24	11	17	11	124	15
4	8.4	123	16	99	9.3	102	13	10	12	7.5	58	13
5	6.5	37	7.8	124	81	43	11	10	10	6.1	21	11
6	7.8	12	5.8	32	35	26	20	21	7.8	7.5	15	28
7	8.4	7.8	7.1	16	51	138	620	12	9.6	8.7	13	13
8	8.7	5.6	8.1	12	536	32	150	79	11	8.7	10	13
9	8.7	6.8	9.0	10	69	19	57	19	13	8.7	12	15
10	7.5	26	9.3	8.4	21	16	40	12	11	8.1	12	19
11	5.6	120	11	9.9	14	23	30	11	11	6.5	35	21
12	6.3	82	93	12	14	17	24	11	9.6	6.8	20	1,400
13	8.1	203	19	11	152	39	21	250	7.8	7.8	12	194
14	8.4	39	12	19	38	14	20	55	41	29	11	68
15	144	126	12	16	15	17	19	16	28	9.0	8.7	29
16	20	21	26	10	13	18	18	112	14	8.4	9.9	21
17	8.1	14	150	7.5	14	14	17	22	11	8.1	11	81
18	5.4	12	21	8.4	15	13	16	15	11	7.8	11	50
19	6.5	38	12	9.0	12	173	15	14	9.9	38	61	18
20	7.1	55	8.4	9.3	23	40	15	13	8.1	92	24	12
21	9.9	26	8.7	9.3	12	19	14	18	66	12	13	27
22	158	10	10	11	73	16	14	13	18	9.6	9.0	10
23	26	9.9	17	23	95	17	12	9.9	12	9.0	9.6	10
24	9.9	9.6	27	10	27	14	11	11	12	8.1	10	9.0
25	9.3	9.3	12	23	19	13	11	12	11	100	10	7.5
26	7.8	7.5	9.0	57	15	12	12	12	29	109	11	7.4
27	7.8	7.1	7.3	16	139	12	11	12	8.4	37	780	6.5
28	7.8	7.1	7.5	12	25	12	14	11	10	12	1,900	8.0
29	8.1	6.5	7.8	10	-----	11	16	10	10	42	350	8.2
30	7.8	19	7.8	11	-----	11	12	17	11	567	29	8.4
31	6.5	-----	7.5	8.1	-----	12	-----	33	-----	164	21	-----
TOTAL	560.8	1,058.9	577.3	626.9	1,543.1	968	1,286	870.8	456.2	1,473.4	6,039.2	2,155.0
MEAN	18.1	35.3	18.6	20.2	55.1	31.2	42.9	28.1	15.2	47.5	195	71.8
MAX	158	203	150	124	536	173	620	250	66	567	1,900	1,400
MIN	5.4	5.4	5.8	7.1	8.1	11	11	9.3	7.8	6.1	8.7	6.5

CAL YR 1970 TOTAL 10,963.4 MEAN 30.0 MAX 1,100 MIN 5.0
WTR YR 1971 TCIAL 17,615.6 MEAN 48.3 MAX 1,900 MIN 5.4

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-30	1200	11.79	2,390	9-12	1830	15.14	3,230
8-28	Unknown	18.7	4,110				

NOTE.--No gage-height record Mar. 25 to Apr. 28 and Aug. 27-30.

RAHWAY RIVER BASIN

53

01394500 Rahway River near Springfield, N. J.

LOCATION.--Lat 40°41'11", long 74°18'44", Union County, on left bank 50 ft downstream from bridge on U.S. Highway 22, 100 ft downstream from Pope Brook, and 1.5 miles south of Springfield.

DRAINAGE AREA.--25.5 sq mi.

PERIOD OF RECORD.--July 1938 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 66.17 ft above mean sea level.

AVERAGE DISCHARGE.--33 years, 25.2 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 2,560 cfs Aug. 28 (gage height, 8.54 ft); minimum daily, 0.4 cfs Oct. 11.

Period of record: Maximum discharge, 2,560 cfs Aug. 28, 1971 (gage height, 8.54 ft); minimum, 0.1 cfs Sept. 11, 1966.

REMARKS.--Records good except those for the period of no gage-height record and those below 10 cfs, 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.

REVISIONS (WATER YEARS).--WSP 1622: 1945.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.50	5.0	5.1	3.0	26	7.0	5.8	7.0	13	293	9.9
2	1.0	.60	2.9	3.2	1.2	18	7.5	5.0	5.4	14	210	7.3
3	1.8	1.2	5.0	3.6	.80	28	13	6.6	8.0	2.2	60	6.4
4	6.0	61	8.5	34	.80	92	6.2	5.8	5.0	1.8	32	6.8
5	1.0	30	1.1	160	1.0	46	5.8	6.2	4.1	1.6	9.5	6.0
6	.80	2.6	2.6	31	2.5	37	35	10	3.5	1.6	6.2	23
7	.80	1.5	.90	16	16	368	471	5.8	3.5	1.6	4.7	12
8	1.0	1.2	1.0	10	350	68	79	65	3.5	1.6	3.8	5.2
9	1.0	1.5	2.2	8.0	140	31	32	11	3.8	2.0	3.5	12
10	.60	9.7	2.2	7.0	24	23	22	5.8	3.2	1.6	3.5	12
11	.40	60	2.7	7.0	11	26	16	5.0	2.9	1.2	22	23
12	.60	80	53	7.5	16	22	13	4.7	2.6	1.6	6.2	1,180
13	.80	196	30	6.2	375	39	12	138	2.6	1.4	3.2	503
14	.60	59	6.8	8.9	163	17	11	43	16	13	2.9	35
15	49	122	6.2	7.9	27	20	10	12	15	2.4	5.4	32
16	4.1	22	13	4.7	16	19	10	79	6.6	1.6	3.5	19
17	.60	8.6	145	3.9	13	13	9.0	25	3.5	1.6	2.6	49
18	.50	5.7	60	3.7	14	11	8.0	12	3.2	2.4	2.9	27
19	1.0	25	16	3.5	14	140	8.0	9.5	2.6	19	26	12
20	1.0	19	11	3.2	32	120	8.0	8.0	2.6	39	16	10
21	1.2	64	7.6	3.2	26	28	7.0	18	26	2.6	3.2	23
22	124	20	8.6	2.9	88	17	7.5	9.0	9.0	1.8	2.6	9.3
23	14	7.6	8.2	2.9	165	16	6.6	6.6	2.9	1.8	2.2	8.9
24	2.9	5.4	15	2.9	40	13	5.8	6.2	2.6	1.6	2.4	8.5
25	1.7	4.8	12	7.2	24	11	5.8	6.2	2.6	58	2.2	7.6
26	1.2	4.3	7.0	38	16	10	6.6	5.8	10	32	2.4	6.8
27	1.3	2.5	4.6	11	270	9.5	6.2	5.4	2.2	11	639	6.0
28	1.3	2.5	3.9	4.8	46	8.5	8.0	5.4	2.2	2.6	1,620	7.3
29	1.2	2.7	4.5	4.7	-----	8.5	9.0	5.0	2.6	49	145	7.7
30	1.0	7.2	4.2	5.0	-----	8.0	5.8	7.0	2.4	238	22	7.7
31	.60	-----	4.6	4.2	-----	7.5	-----	22	-----	81	13	-----
TOTAL	224.20	828.10	455.30	421.2	1,895.30	1,301.0	851.8	559.8	167.1	603.6	3,170.9	2,133.4
MEAN	7.23	27.6	14.7	13.6	67.7	42.0	28.4	18.1	5.57	19.5	102	71.1
MAX	124	196	145	160	375	368	471	138	26	238	1,620	1,180
MIN	.40	.50	.90	2.9	.80	7.5	5.8	4.7	2.2	1.2	2.2	5.2

CAL YR 1970 TOTAL 8,266.00 MEAN 22.6 MAX 789 MIN .40
WTR YR 1971 TOTAL 12,611.70 MEAN 34.6 MAX 1,620 MIN .40

PEAK DISCHARGE (BASE, 600 CFS)

NOTE.--No gage-height record Nov. 18 to Jan. 6.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	2230	4.17	651	7-30	1415	4.29	687
2-13	1830	4.66	798	8-01	2315	4.87	861
3-07	1000	4.25	675	8-28	0915	8.54	2,560
4-07	0545	4.02	606	9-12	1800	6.60	1,530

RAHWAY RIVER BASIN

01395000 Rahway River at Rahway, N. J.

LOCATION.--Lat 40°37'05", long 74°17'00", Union County, on left bank 100 ft upstream from St. Georges Avenue Bridge in Rahway and 0.9 mile upstream from Robinsons Branch.

DRAINAGE AREA.--40.9 sq mi.

PERIOD OF RECORD.--July 1908 to April 1915 (gage heights and discharge measurements only), October 1921 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8.77 ft above mean sea level. 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.

AVERAGE DISCHARGE.--50 years (1921-71), 43.7 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 4,010 cfs Aug. 28 (gage height, 7.08 ft), from rating curve extended above 2,000 cfs; no flow for parts of several days in October and November.

Period of record: Maximum discharge, 4,010 cfs Aug. 28, 1971 (gage height, 7.08 ft), from rating curve extended above 2,000 cfs; no flow for part of or all of some days in 1964, 1965, 1966, 1970, and 1971.

REMARKS.--Records excellent except those below 3.0 cfs, which are 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., and Springfield station of Elizabethtown Water Co.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1552: 1922-23(M), 1924, 1930-31(M), 1937.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	5.0	7.2	8.6	1.7	49	11	11	19	53	200	20
2	.36	.32	4.5	5.0	2.1	39	13	7.8	9.2	74	592	20
3	.10	5.0	9.2	6.0	2.4	48	23	9.2	13	6.0	105	14
4	2.0	32	14	5.5	4.5	203	13	8.6	8.6	1.5	147	10
5	1.7	141	1.7	270	8.0	82	7.8	7.2	6.0	.43	23	10
6	.44	11	4.1	136	15	70	39	14	4.1	.32	11	28
7	.39	3.0	1.5	33	54	315	631	14	1.7	1.5	9.2	39
8	1.7	2.0	2.0	20	576	258	327	93	5.0	1.5	6.0	10
9	1.7	.64	3.5	16	398	57	67	53	4.1	1.5	2.6	8.6
10	1.7	5.0	3.5	11	72	45	42	8.6	3.7	1.5	4.1	43
11	1.7	59	4.1	9.2	30	43	29	9.2	3.0	1.5	20	22
12	1.7	125	87	11	33	39	22	9.2	3.0	1.5	26	1,120
13	1.7	306	43	10	197	78	22	228	2.3	.23	1.2	1,550
14	.22	243	11	13	510	36	20	139	15	11	.80	327
15	70	203	10	17	56	39	17	30	19	5.0	3.0	76
16	40	76	20	10	32	28	17	141	26	1.2	7.2	42
17	.50	18	236	6.0	24	25	17	65	6.0	2.0	2.6	56
18	.34	15	74	5.5	24	20	14	26	5.5	1.0	2.0	133
19	.24	43	26	5.2	29	93	10	17	6.0	11	40	33
20	40	29	18	4.8	45	286	14	16	3.0	100	82	19
21	7.8	105	12	4.6	45	59	14	32	46	12	6.6	65
22	147	24	14	4.5	103	30	12	26	61	3.5	3.0	25
23	91	12	13	4.4	319	28	12	11	7.8	2.3	.80	17
24	8.6	8.6	24	7.0	93	23	12	7.2	4.1	3.0	.57	15
25	5.0	7.8	19	13	49	19	8.6	9.2	2.6	103	1.0	13
26	2.6	7.2	10	59	45	18	8.6	14	12	18	.37	11
27	2.0	3.7	7.8	37	302	18	12	16	3.5	48	1,210	9.2
28	1.5	4.1	6.0	16	158	13	12	7.2	.40	6.6	3,450	12
29	.42	4.1	7.2	16	-----	14	20	6.6	.80	16	1,420	12
30	.30	12	6.6	14	-----	13	10	12	2.0	480	113	11
31	1.5	-----	7.2	9.2	-----	12	-----	40	-----	331	23	-----
TOTAL	435.01	1,510.46	707.1	787.5	3,227.7	2,100	1,477.0	1,088.0	303.40	1,299.08	7,513.04	3,770.8
MEAN	14.0	50.3	22.8	25.4	115	67.7	49.2	35.1	10.1	41.9	242	126
MAX	147	306	236	270	576	315	631	228	61	480	3,450	1,550
MIN	.10	.32	1.5	4.4	1.7	12	7.8	6.6	.40	.23	.37	8.6

CAL YR 1970 TOTAL 14,068.97 MEAN 38.5 MAX 933 MIN .10
WTR YR 1971 TOTAL 24,219.09 MEAN 66.4 MAX 3,450 MIN .10

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	2330	3.28	669	7-30	1230	3.71	947
2-14	0515	3.41	746	8-28	0545	7.08	4,010
4-07	1445	3.56	844	9-12	1930	5.46	2,290

01396000 Robinsons Branch Rahway River at Rahway, N. J.

LOCATION.--Lat 40°36'20", long 74°17'57", Union County, on right bank of Milton Lake, 2,000 ft upstream from Madison Avenue in Rahway, 3,200 ft downstream from Middlesex Reservoir Dam, and 1.6 miles upstream from mouth.

DRAINAGE AREA.--21.6 sq mi.

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder above Milton Lake Dam. Datum of gage is 19.99 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--32 years, 22.2 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 2,050 cfs Aug. 27 (gage height, 5.73 ft), from rating curve extended above 750 cfs on basis of laboratory rating; minimum daily, 0.4 cfs Oct. 20, Feb. 2.

Period of record: Maximum discharge, 2,590 cfs Aug. 15, 1969 (gage height, 6.02 ft), from rating curve extended above 750 cfs on basis of laboratory rating; no flow many times.

REMARKS.--Records fair. Records given herein include flow over main dam, flow through bypass channel, and leakage through dam. Water diverted for municipal supply by Middlesex Water Co., from Middlesex Reservoir (capacity, 300,000,000 gal) 3,200 ft above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	2.8	8.3	5.2	.80	35	4.9	7.3	17	42	130	6.4
2	.70	3.6	8.3	3.6	.40	22	73	8.3	6.5	32	75	5.2
3	.90	5.2	8.3	3.2	2.4	35	14	12	8.1	2.3	22	4.6
4	3.6	38	12	41	4.0	220	8.4	6.5	5.8	1.8	44	5.2
5	2.0	48	7.1	189	6.0	75	6.5	4.5	3.8	1.7	10	6.4
6	1.4	9.7	7.1	80	10	48	23	11	3.3	1.7	3.0	11
7	1.1	5.2	3.6	25	37	220	445	11	3.3	1.8	2.4	15
8	1.4	6.0	1.4	12	373	114	161	49	3.3	1.7	2.1	7.8
9	1.6	5.3	2.8	8.3	220	32	30	24	3.1	1.7	2.0	7.0
10	1.8	4.3	5.2	6.0	33	20	18	12	15	1.7	1.9	7.0
11	1.6	24	4.3	7.0	13	32	12	9.0	11	1.6	9.5	7.4
12	1.1	41	48	8.3	14	17	12	9.0	1.7	1.6	9.5	432
13	.70	182	25	7.0	178	42	12	152	1.6	1.6	2.2	325
14	.80	107	12	8.3	142	20	11	98	1.6	3.0	1.9	152
15	41	156	8.4	9.7	26	17	6.5	22	1.7	2.0	1.8	16
16	12	38	16	6.0	15	18	7.2	113	2.1	1.7	1.8	10
17	2.8	15	197	3.6	11	14	6.3	54	2.4	1.7	1.7	12
18	.70	8.2	41	2.5	12	7.3	8.4	18	2.1	1.7	1.7	28
19	.60	22	16	2.0	14	81	4.9	12	1.9	5.5	25	12
20	.40	34	12	1.4	35	158	6.5	10	1.9	26	21	9.5
21	.50	41	8.3	.90	35	30	7.3	24	33	2.0	2.4	36
22	112	13	8.3	1.1	114	18	6.5	20	12	1.7	1.9	12
23	38	9.7	9.7	6.0	277	17	4.9	11	2.1	1.6	1.9	9.0
24	8.3	5.2	16	7.1	66	12	5.6	6.5	2.0	1.6	1.6	8.6
25	6.0	4.3	12	6.0	32	8.3	4.6	7.3	1.9	3.0	1.6	7.8
26	7.1	4.3	8.3	38	20	8.4	5.1	7.3	1.8	2.6	1.5	7.4
27	4.3	12	6.0	20	266	8.4	4.7	5.6	1.7	1.9	624	7.4
28	2.5	11	4.3	4.3	81	7.3	5.6	4.8	1.7	1.7	880	7.8
29	2.0	9.7	3.6	1.2	-----	8.4	11	4.1	1.6	6.6	240	7.4
30	2.0	16	3.2	1.0	-----	8.4	7.3	15	1.7	260	42	7.4
31	2.0	-----	2.5	2.2	-----	8.4	-----	49	-----	169	12	-----
TOTAL	261.60	881.5	526.0	516.90	2,037.60	1,361.9	933.2	797.2	156.7	586.5	2,177.4	1,190.3
MEAN	8.44	29.4	17.0	16.7	72.8	43.9	31.1	25.7	5.22	18.9	70.2	39.7
MAX	112	182	197	189	373	220	445	152	33	260	880	432
MIN	.40	2.8	1.4	.90	.40	7.3	4.6	4.1	1.6	1.6	1.5	4.6

CAL YR 1970 TOTAL 7,914.58 MEAN 21.7 MAX 577 MIN .28
WTR YR 1971 TOTAL 11,426.80 MEAN 31.3 MAX 880 MIN .40

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	0145	4.73	590	8-27	1430	5.73	2,050
4-07	1400	4.73	590	9-12	1645	4.92	1,090
7-30	1130	4.83	705				

RARITAN RIVER BASIN

01396500 South Branch Raritan River near High Bridge, N. J.

LOCATION.--Lat 40°40'40", long 74°52'45", Hunterdon County, on left bank 1.0 mile northeast of High Bridge and 4.4 miles upstream from Spruce Run.

DRAINAGE AREA.--65.3 sq mi.

PERIOD OF RECORD.--October 1918 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Concrete control since Sept. 28, 1930. Datum of gage is 282.10 ft above mean sea level (New Jersey Geological Survey bench mark). Prior to Sept. 30, 1921, reference point at same site and datum.

AVERAGE DISCHARGE.--53 years, 114 cfs (23.70 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,140 cfs Aug. 28 (gage height, 10.66 ft); minimum, 26 cfs Oct. 14 (gage height, 5.75 ft).

Period of record: Maximum discharge, 5,160 cfs Mar. 15, 1940 (gage height, 11.78 ft), from rating curve extended above 1,600 cfs; minimum, 6.6 cfs Oct. 11, 1930; minimum daily, 13 cfs Aug. 11, 1966.

REMARKS.--Records excellent. Slight diurnal fluctuation caused by small powerplant above station. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 601: 1924. WSP 781: Drainage area. WSP 1552: 1919(M), 1920(M), 1921, 1923, 1924(M), 1927-28(M), 1934(M), 1941(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	59	122	117	75	300	130	101	143	52	335	171
2	31	58	115	165	68	265	133	98	100	66	668	151
3	32	56	109	203	64	249	164	104	156	48	223	139
4	37	72	127	266	64	295	135	98	117	44	287	127
5	34	284	111	363	90	249	125	92	93	42	152	116
6	31	117	103	234	135	243	126	93	83	42	112	119
7	30	87	90	154	336	545	521	95	80	41	92	207
8	31	76	86	125	596	372	356	125	73	39	81	128
9	31	70	88	124	287	258	270	158	72	39	75	109
10	30	68	91	117	169	242	271	115	68	49	71	125
11	30	126	88	113	119	251	204	99	65	42	69	115
12	30	252	115	110	115	245	184	92	63	41	85	358
13	30	437	113	100	675	266	173	313	63	39	66	801
14	29	313	100	104	771	229	164	296	65	41	60	445
15	84	418	102	105	259	222	151	161	73	42	61	313
16	114	267	99	95	225	222	147	191	105	38	56	227
17	52	198	143	87	196	200	141	182	71	41	52	202
18	42	169	163	86	196	183	136	138	64	43	50	213
19	38	219	127	94	230	227	127	120	59	93	51	191
20	36	188	148	90	284	431	124	111	57	157	91	173
21	37	281	127	92	331	270	121	135	56	58	58	177
22	500	175	112	100	370	232	117	148	58	47	52	151
23	646	158	107	96	482	211	112	115	53	43	49	139
24	182	138	106	94	323	190	108	102	50	40	46	133
25	121	127	100	96	267	174	106	104	49	52	41	120
26	103	122	96	108	261	169	105	124	49	47	41	115
27	88	122	88	97	564	163	103	99	47	59	260	115
28	77	118	87	76	378	158	102	92	46	47	1,630	115
29	70	113	83	97	-----	155	119	87	47	48	471	116
30	64	134	84	95	-----	145	106	95	47	120	257	107
31	62	-----	113	88	-----	136	-----	175	-----	138	202	-----
TOTAL	2,754	5,022	3,342	3,911	7,930	7,497	4,881	4,058	2,172	1,738	5,844	5,718
MEAN	88.8	167	108	126	283	242	163	131	72.4	56.1	189	191
MAX	646	437	163	383	771	545	521	313	156	157	1,630	801
MIN	29	56	83	76	64	136	102	87	46	38	41	107
CFSM	1.36	2.56	1.65	1.93	4.33	3.71	2.50	2.01	1.11	.86	2.89	2.93
IN.	1.57	2.86	1.90	2.23	4.52	4.27	2.78	2.31	1.24	.99	3.33	3.26

CAL YR 1970 TOTAL 44,615 MEAN 122 MAX 1,390 MIN 29 CFSM 1.87 IN 25.42
WTR YR 1971 TOTAL 54,867 MEAN 150 MAX 1,630 MIN 29 CFSM 2.30 IN 31.26

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	2330	8.74	1,160	8-28	1500	10.66	3,140
2-13	2200	9.17	1,500	9-13	2000	8.80	1,200
8-02	0415	8.75	1,160				

RARITAN RIVER BASIN

57

01396800 Spruce Run at Clinton, N. J.

LOCATION.--Lat 40°38'21", long 74°54'58", Hunterdon County, on right bank 1,800 ft downstream from dam at Spruce Run Reservoir 0.2 mile north of Clinton, 0.3 mile upstream from mouth, and 2.2 miles southwest of High Bridge.

DRAINAGE AREA.--41.3 sq mi.

PERIOD OF RECORD.--May 1959 to current year.

GAGE.--Water-stage recorder. Concrete control since Mar. 15, 1964. Datum of gage is 193.30 ft above mean sea level. 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 1.22 ft lower; July 24, 1961, to Mar. 14, 1964, water-stage recorder at site 1,500 ft upstream at datum 1.22 ft lower.

AVERAGE DISCHARGE.--12 years, 48.1 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 1,180 cfs Feb. 13 (gage height, 3.06 ft); minimum, 6.5 cfs (regulated) Jan. 1, 3 (gage height, 1.31 ft); minimum daily, 7.0 cfs Jan. 1-3.
Period of record: Maximum discharge, 6,410 cfs 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.

REMARKS.--Records good. Flow regulated by Spruce Run Reservoir (see p. 76). Records of water quality for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	12	11	7.0	37	145	39	40	126	129	21	61
2	109	13	10	7.0	37	99	63	40	67	128	13	52
3	99	13	9.7	7.0	37	117	83	69	71	112	12	48
4	90	14	9.1	9.7	37	226	72	81	54	96	12	45
5	83	11	11	12	37	150	49	28	48	93	11	41
6	83	9.1	9.7	10	37	129	67	14	31	106	12	47
7	96	9.7	9.1	9.7	39	285	550	29	33	86	12	49
8	99	9.7	9.1	9.7	105	256	317	73	37	77	11	39
9	105	9.7	9.1	9.7	278	180	188	99	28	87	11	36
10	109	9.7	8.0	9.7	175	145	198	69	19	91	11	54
11	109	10	8.5	9.7	113	155	102	49	31	82	11	85
12	105	12	9.1	9.1	69	137	92	43	55	91	11	153
13	99	14	8.5	9.1	314	165	96	187	56	82	10	605
14	99	14	9.1	9.1	570	141	145	199	36	85	8.0	547
15	90	15	9.7	9.7	201	129	75	89	15	73	25	278
16	37	14	9.7	9.7	155	129	77	114	7.5	63	42	187
17	10	14	9.7	9.7	150	113	28	120	9.0	82	60	133
18	28	14	8.5	9.7	141	80	70	63	15	102	68	161
19	72	14	8.5	12	117	117	46	55	26	77	67	131
20	86	14	8.5	17	102	322	47	45	48	46	43	107
21	67	14	8.5	44	165	201	75	57	61	67	33	144
22	15	14	8.5	48	238	86	95	80	58	67	42	166
23	12	12	8.5	37	372	117	67	50	53	67	72	199
24	10	8.5	8.5	37	271	125	54	22	53	59	96	238
25	10	9.1	8.0	49	232	80	46	37	80	42	125	238
26	8.0	8.0	8.5	83	165	49	27	74	97	34	150	238
27	8.0	8.0	8.5	102	145	67	20	36	119	55	78	238
28	8.0	8.0	8.0	83	190	69	16	28	115	64	22	238
29	9.1	8.0	8.0	48	-----	80	61	30	109	54	42	237
30	12	9.1	8.0	37	-----	80	40	44	119	29	79	236
31	12	-----	7.5	37	-----	67	-----	166	-----	12	70	-----
TOTAL	1,865.1	344.6	276.1	801.3	4,529	4,241	2,905	2,130	1,676.5	2,338	1,280.0	5,031
MEAN	60.2	11.5	8.91	25.8	162	137	96.8	68.7	55.9	75.4	41.3	168
MAX	109	15	11	102	570	322	550	199	126	129	150	605
MIN	8.0	8.0	7.5	7.0	37	49	16	14	7.5	12	8.0	36

CAL YR 1970 TOTAL 20,140.6 MEAN 55.2 MAX 1,880 MIN 4.6
WTR YR 1971 TOTAL 27,417.6 MEAN 75.1 MAX 605 MIN 7.0

RARITAN RIVER BASIN

01397000 South Branch Raritan River at Stanton, N. J.

LOCATION.--Lat 40°34'21", long 74°52'10", Hunterdon County, on right bank at downstream side of highway bridge at Stanton railroad station, 0.4 mile upstream from Prescott Brook.

DRAINAGE AREA.--147 sq mi.

PERIOD OF RECORD.--July 1903 to December 1906, July 1919 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 125.01 ft above mean sea level. Prior to Aug. 17, 1925, non-recording gage on downstream side of highway bridge at same site and datum.

AVERAGE DISCHARGE.--55 years, 229 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 6,820 cfs Aug. 28 (gage height, 9.99 ft); minimum, 62 cfs (regulated) Dec. 1 (gage height, 2.21 ft); minimum daily, 74 cfs Oct. 18.

Period of record: Maximum discharge, 18,000 cfs Aug. 19, 1955 (gage height, 15.22 ft), from rating curve extended above 6,400 cfs on basis of computation of flow over Clinton Dam, 6.5 miles upstream, at gage height 10.72 ft, contracted-opening measurement 1.7 miles downstream and slope-area measurement 0.4 mile downstream at gage height 15.22 ft, adjusted to present site; minimum, 9 cfs Nov. 7, 1931; minimum daily, 12 cfs Oct. 18, 1963.

REMARKS.--Records excellent. Flow regulated by Spruce Run Reservoir since September 1963 (see p. 76). Occasional regulation at low flow by ponds above station. Slight diurnal fluctuation caused by small power-plants above station. Water diverted by Hamden Pumping Station into Round Valley Reservoir since February 1966 (see p. 77). Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 561: Drainage area. WSP 1552: 1904, 1922-24(M), 1928-29(M), 1933-35(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	98	142	160	120	570	186	181	365	212	510	327
2	140	94	132	190	115	464	206	177	218	241	1,050	284
3	137	92	121	204	110	458	314	166	259	201	321	258
4	135	98	135	227	110	754	266	184	225	173	423	234
5	126	417	170	737	400	532	187	119	185	167	246	213
6	119	195	153	444	584	550	194	107	151	194	189	213
7	128	137	106	281	457	1,190	1,370	123	149	196	154	322
8	135	121	104	234	1,260	944	956	221	144	178	134	230
9	137	112	101	285	848	621	637	321	139	186	117	193
10	142	88	98	205	427	514	663	190	120	204	128	206
11	142	164	96	158	298	514	432	146	117	190	140	250
12	140	312	190	154	306	477	334	128	160	183	154	787
13	135	686	187	134	1,770	599	319	565	159	184	123	2,180
14	130	626	125	139	1,870	503	349	653	157	195	99	1,660
15	175	782	122	134	630	420	272	310	133	181	105	939
16	236	486	122	169	412	429	250	360	158	160	130	633
17	92	312	340	168	406	364	237	384	126	173	135	503
18	74	253	282	155	375	321	266	257	116	207	151	726
19	114	312	248	220	393	405	196	225	117	205	147	516
20	135	276	247	245	481	1,030	186	199	134	327	175	442
21	123	450	206	280	607	682	203	219	153	180	126	460
22	502	296	162	243	825	410	221	281	164	174	121	453
23	1,110	218	152	214	1,180	414	197	213	149	167	147	436
24	320	184	165	180	791	379	193	163	145	159	168	470
25	192	164	172	146	629	312	211	163	159	178	191	451
26	156	189	165	130	543	261	133	234	181	146	207	440
27	135	186	160	120	948	312	135	172	197	161	549	430
28	119	181	128	150	817	303	119	152	196	178	3,480	426
29	108	175	139	150	-----	268	180	148	189	151	1,130	424
30	106	164	126	140	-----	255	156	173	197	213	513	411
31	100	-----	157	130	-----	229	-----	436	-----	231	392	-----
TOTAL	5,664	7,868	4,953	6,526	17,712	15,484	9,568	7,370	5,062	5,895	11,655	15,517
MEAN	183	262	160	211	633	499	319	238	169	190	376	517
MAX	1,110	782	340	737	1,870	1,190	1,370	653	365	327	3,480	2,180
MIN	74	88	96	120	110	229	119	107	116	146	99	193
CAL YR 1970	TOTAL	80,960	MEAN	222	MAX	3,790	MIN	63				
WTR YR 1971	TOTAL	113,274	MEAN	310	MAX	3,480	MIN	74				

RARITAN RIVER BASIN

59

01398000 Neshanic River at Reaville, N. J.

LOCATION.--Lat 40°28'18", long 74°49'42", Hunterdon County, on left bank 50 ft downstream from highway bridge, 0.6 mile southwest of Reaville, 1.5 miles downstream from Third Neshanic River, and 2.2 miles upstream from Back Brook.

DRAINAGE AREA.--25.7 sq mi.

PERIOD OF RECORD.--June 1930 to current year.

GAGE.--Water-stage recorder. Concrete control since Sept. 26, 1935. Datum of gage is 109.46 ft above mean sea level.

AVERAGE DISCHARGE.--41 years, 33.7 cfs (17.81 inches per year).

EXTREMES.--Current year: Maximum discharge, 15,900 cfs Aug. 28 (gage height, 13.84 ft, from high-water mark in gage house), from rating curve extended above 1,700 cfs on basis of slope-area measurement 0.7 mile downstream at gage height 11.90 ft, adjusted to present site; minimum, 1.0 cfs Oct. 8 (gage height, 2.22 ft).
Period of record: Maximum discharge, 15,900 cfs Aug. 28, 1971 (gage height, 13.84 ft, from high-water mark in gage house), from rating curve extended above 1,700 cfs on basis of slope-area measurement 0.7 mile downstream at gage height 11.90 ft, adjusted to present site; no flow many days in 1965, 1966, and part of July 17, 1968.

REMARKS.--Records excellent. Regulation from unknown sources during summer season.

REVISIONS (WATER YEARS).--WSP 1552: 1933, 1934(M), 1936(M), 1938, 1940(M), 1942(M), 1945-46, 1951, 1952(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	7.6	22	14	7.5	69	17	9.1	15	3.0	169	33
2	1.8	7.7	20	18	5.6	55	18	9.1	9.4	3.8	98	27
3	1.9	7.4	18	15	5.5	64	19	9.9	11	1.7	41	21
4	2.5	29	21	44	6.3	260	15	8.2	8.3	1.4	70	18
5	1.6	151	17	336	24	130	14	7.2	6.8	1.2	36	15
6	1.7	46	16	131	146	140	18	9.2	6.1	1.5	21	13
7	1.8	34	13	69	101	421	508	8.2	5.3	1.2	15	11
8	1.3	26	12	50	465	126	116	21	5.2	.93	11	9.7
9	1.5	22	13	40	131	75	69	16	4.6	6.3	8.9	8.7
10	1.5	20	13	35	22	59	52	12	4.1	5.7	7.1	7.7
11	1.4	38	12	32	16	58	41	9.6	3.8	1.7	6.5	11
12	1.4	144	35	31	49	49	35	8.7	3.7	1.8	6.8	299
13	1.5	233	36	26	668	58	31	90	3.5	1.4	4.8	1,020
14	1.5	131	33	27	87	47	27	57	4.3	1.9	4.3	312
15	7.7	333	28	24	23	49	22	30	5.3	1.4	3.5	135
16	3.8	113	29	17	17	52	21	71	5.2	1.1	3.3	83
17	2.2	71	344	17	12	39	19	46	3.9	1.1	3.1	77
18	2.0	55	97	15	22	33	17	31	3.1	1.1	2.9	106
19	2.1	73	67	13	18	116	15	24	2.7	1.6	6.5	53
20	1.5	61	50	14	33	137	14	20	2.5	9.9	8.5	44
21	1.3	84	41	14	34	67	14	20	2.8	1.8	4.6	49
22	93	50	39	13	230	52	13	18	4.2	1.2	5.1	32
23	131	43	36	14	338	51	11	14	2.7	.99	3.3	28
24	37	33	38	11	89	40	11	12	2.4	.97	2.7	24
25	25	29	32	13	65	33	9.9	11	2.1	5.3	2.5	19
26	19	26	30	26	52	30	9.9	9.7	1.8	2.0	2.5	17
27	15	25	24	21	274	27	9.3	8.7	1.6	2.2	810	17
28	12	22	21	13	102	25	9.6	8.1	1.5	1.6	4,740	16
29	10	20	18	10	-----	24	14	7.3	1.7	1.4	433	15
30	9.3	31	16	14	-----	21	10	12	1.7	66	113	13
31	8.4	-----	16	11	-----	18	-----	25	-----	26	48	-----
TOTAL	404.2	1,965.7	1,207	1,128	3,042.9	2,425	1,199.7	643.0	137.3	159.19	6,691.9	2,534.1
MEAN	13.0	65.5	38.9	36.4	109	78.2	40.0	20.7	4.58	5.14	216	84.5
MAX	131	333	344	336	668	421	508	90	15	66	4,740	1,020
MIN	1.3	7.4	12	10	5.5	18	9.3	7.2	1.5	.93	2.5	7.7
CFSM	.51	2.55	1.51	1.42	4.24	3.04	1.56	.81	.18	.20	8.40	3.29
IN.	.59	2.85	1.75	1.63	4.40	3.51	1.74	.93	.20	.23	9.69	3.67
CAL YR 1970	TOTAL 13,131.40 MEAN 36.0 MAX 1,590 MIN 1.3 CFSM 1.40 IN 19.01											
WTR YR 1971	TOTAL 21,537.99 MEAN 59.0 MAX 4,740 MIN .93 CFSM 2.30 IN 31.18											

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	1545	8.03	2,240	9-13	0830	8.87	3,060
8-28	0800	13.84	15,900				

RARITAN RIVER BASIN

01398500 North Branch Raritan River near Far Hills, N. J.

LOCATION.--Lat 40°42'30", long 74°38'11", Somerset County, on left bank 75 ft upstream from Ravine Lake Dam, 1.6 miles north of Far Hills, and 2.3 miles upstream from Peapack Brook.

DRAINAGE AREA.--26.2 sq mi.

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

GAGE.--Water-stage recorder above masonry dam. Datum of gage is 224.49 ft above mean sea level (New Jersey Geological Survey bench mark). Prior to June 18, 1925, nonrecording gage in stilling box at left end of dam at same datum.

AVERAGE DISCHARGE.--50 years, 45.4 cfs (23.53 inches per year).

EXTREMES.--Current year: Maximum discharge, 6,390 cfs Aug. 28 (gage height, 7.28 ft), from rating curve extended above 2,000 cfs on basis of computation of peak flow over dam; minimum daily, 6.3 cfs Oct. 1, 2, 6-9.

Period of record: Maximum discharge, 6,390 cfs Aug. 28, 1971 (gage height, 7.28 ft), from rating curve extended above 2,000 cfs on basis of computation of peak flow over dam; no flow at times when Ravine Lake was filling.

Stage of 7.6 ft, from floodmark, occurred July 23, 1919 (discharge, about 7,000 cfs).

REMARKS.--Records good except those for the period of no gage-height record, which are fair. Records given herein include diversion varying from 2.0 cfs to 3.0 cfs, by small turbine at dam, Oct. 1-14, Apr. 15 to Sept. 30, to fountain and returned to river 1,000 ft downstream from Ravine Lake Dam. Flow regulated occasionally by operation of waste gate in dam. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1552: 1922-23, 1924-25(M), 1935(M). WSP 1902: 1954.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	10	30	29	22	116	54	39	39	20	123	57
2	6.3	10	29	30	21	102	54	39	34	26	97	46
3	6.7	11	28	27	20	98	63	41	42	15	37	39
4	7.9	12	31	57	22	116	54	37	36	14	35	36
5	7.1	52	30	201	28	90	49	36	33	13	29	33
6	6.3	26	29	72	45	94	54	37	31	13	22	60
7	6.3	18	24	45	41	256	283	37	29	12	17	69
8	6.3	17	22	39	129	143	142	56	27	11	16	36
9	6.3	16	26	41	116	107	107	55	24	11	16	34
10	6.7	15	27	39	49	98	94	40	23	12	15	40
11	15	30	26	37	41	102	75	36	21	11	15	42
12	7.9	86	37	37	45	94	72	35	21	11	16	653
13	12	152	33	34	305	102	69	105	22	12	12	457
14	11	82	29	37	211	82	63	69	23	11	11	506
15	25	147	30	36	79	79	58	44	26	11	11	361
16	24	69	29	29	66	79	60	66	32	11	10	224
17	13	43	54	30	60	72	57	55	25	11	9.8	186
18	8.9	37	54	31	66	66	52	46	22	11	9.3	207
19	8.4	45	41	33	72	125	50	42	20	29	9.3	138
20	7.3	41	47	32	58	196	50	40	20	43	12	114
21	7.3	72	41	32	116	111	50	55	23	19	11	105
22	143	39	37	34	134	94	48	57	20	13	9.3	85
23	111	34	36	33	191	86	47	42	18	12	8.3	78
24	32	31	34	31	120	75	45	33	17	12	7.9	67
25	23	30	32	31	102	72	44	36	16	26	7.5	57
26	17	30	32	45	98	69	44	63	16	22	8.6	62
27	12	30	29	45	251	66	41	40	17	20	217	63
28	11	30	28	28	138	66	43	35	17	17	1,240	61
29	11	30	27	28	-----	63	46	29	17	15	164	60
30	9.4	34	25	31	-----	60	41	31	17	36	141	59
31	10	-----	25	29	-----	54	-----	48	-----	58	63	-----
TOTAL	585.4	1,279	1,002	1,283	2,686	3,033	2,009	1,424	728	558	2,400.0	4,035
MEAN	18.9	42.6	32.3	41.4	95.9	97.8	67.0	45.9	24.3	18.0	77.4	135
MAX	143	152	54	201	305	256	283	105	42	58	1,240	653
MIN	6.3	10	22	27	20	54	41	29	16	11	7.5	33
CFSM	.72	1.63	1.23	1.58	3.66	3.73	2.56	1.75	.93	.69	2.95	5.15
IN.	.83	1.82	1.42	1.82	3.81	4.31	2.85	2.02	1.03	.79	3.41	5.73

CAL YR 1970 TOTAL 14,876.6 MEAN 40.8 MAX 769 MIN 4.6 CFSM 1.56 IN 21.12
WTR YR 1971 TOTAL 21,022.4 MEAN 57.6 MAX 1,240 MIN 6.3 CFSM 2.20 IN 29.85

PEAK DISCHARGE (BASE, 700 CFS)

NOTE.--No gage-height record June 15 to July 15.

DATE	TIME	G.H.	DISCHARGE
8-28	0730	7.28	6,390
9-12	0930	5.07	2,450

01399500 Lamington (Black) River near Pottersville, N. J.

LOCATION.--Lat 40°43'39", long 74°43'50", Morris County, on right bank 1.1 miles upstream from bridge on State Highway 512, 1.2 miles northwest of Pottersville, and 5.5 miles upstream from Cold Brook.

DRAINAGE AREA.--32.8 sq mi.

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.

GAGE.--Water-stage recorder. Concrete control since July 1, 1937. Datum of gage is 284.14 ft above mean sea level (New Jersey Geological Survey bench mark). Prior to July 1, 1922, nonrecording gage on downstream side of highway bridge at Pottersville, 1.1 miles downstream at different datum.

AVERAGE DISCHARGE.--50 years, 53.1 cfs (21.98 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,700 cfs Aug. 28 (gage height, 5.39 ft), from rating curve extended above 380 cfs on basis of slope-area measurement at gage height, 4.71 ft; minimum, 9.3 cfs Oct. 12-14 (gage height, 1.47 ft).
Period of record: Maximum discharge, 2,700 cfs Aug. 28, 1971 (gage height, 5.39 ft), from rating curve extended above 380 cfs on basis of slope-area measurement at gage height 4.71 ft; minimum, 1.3 cfs Oct. 4, 1930.

REMARKS.--Records excellent. Flow regulated occasionally by pond above station.

REVISIONS (WATER YEARS).--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).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	31	44	32	30	172	60	50	58	20	123	156
2	12	28	43	32	27	142	61	49	52	23	132	114
3	12	26	41	31	26	123	66	48	66	20	83	85
4	12	36	44	53	30	121	62	46	55	19	88	67
5	11	70	41	104	40	101	61	44	50	18	81	54
6	11	41	39	73	56	112	63	45	45	17	67	47
7	10	38	40	62	118	208	183	43	39	16	53	43
8	10	41	45	52	207	168	147	60	34	15	42	51
9	9.9	40	33	50	162	138	138	63	30	14	34	81
10	9.8	38	33	49	56	134	124	59	28	14	28	93
11	9.8	49	33	48	80	123	106	56	27	13	25	86
12	9.9	64	42	47	106	112	94	50	25	14	23	225
13	9.7	108	41	50	305	114	85	108	24	13	20	271
14	9.8	99	41	44	238	103	77	96	25	14	18	285
15	26	146	41	46	142	98	70	83	30	13	17	276
16	24	118	41	43	90	95	66	98	33	13	17	244
17	19	98	49	41	80	89	63	85	33	14	16	205
18	19	86	52	40	86	83	60	70	32	13	15	182
19	21	94	52	42	92	106	57	62	28	29	15	149
20	23	84	60	40	109	137	56	53	24	31	16	129
21	24	88	58	40	124	115	54	59	23	23	15	118
22	130	72	53	43	148	113	52	56	23	22	14	106
23	148	68	48	42	199	102	50	52	22	26	13	98
24	88	62	46	40	155	91	49	49	20	26	13	90
25	94	56	44	54	141	82	48	49	19	31	13	83
26	85	51	43	60	132	78	48	59	18	23	13	78
27	70	49	47	53	221	74	47	48	17	22	122	74
28	56	46	45	36	189	71	48	45	17	19	523	72
29	47	44	43	37	-----	69	50	41	17	19	233	69
30	39	49	41	39	-----	66	50	41	17	35	247	66
31	34	-----	41	36	-----	62	-----	64	-----	43	208	-----
TOTAL	1,096.9	1,920	1,364	1,459	3,389	3,402	2,195	1,831	931	632	2,327	3,697
MEAN	35.4	64.0	44.0	47.1	121	110	73.2	59.1	31.0	20.4	75.1	123
MAX	148	146	60	104	305	208	183	108	66	43	523	285
MIN	9.7	26	33	31	26	62	47	41	17	13	13	43
CFSM	1.08	1.95	1.34	1.44	3.69	3.35	2.23	1.80	.95	.62	2.29	3.75
IN.	1.24	2.18	1.55	1.65	3.84	3.86	2.49	2.08	1.06	.72	2.64	4.19

CAL YR 1970 TOTAL 19,566.5 MEAN 53.6 MAX 545 MIN 9.7 CFSM 1.63 IN 22.19
WTR YR 1971 TOTAL 24,243.9 MEAN 66.4 MAX 523 MIN 9.7 CFSM 2.02 IN 27.50

PEAK DISCHARGE (BASE, 380 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	1600	3.96	988	8-28	0500	5.39	2,700
8-01	1830	3.26	496	9-12	0715	3.40	580

RARITAN RIVER BASIN

01400000 North Branch Raritan River near Raritan, N. J.

LOCATION.--Lat 40°34'10", long 74°40'45", Somerset County, on right bank 400 ft upstream from U.S. Highway 202, 1.4 miles upstream from confluence with South Branch, and 2 miles west of Raritan.

DRAINAGE AREA.--190 sq mi.

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."

GAGE.--Water-stage recorder. Concrete control since Sept. 1, 1936. Datum of gage is 50.43 ft above mean sea level. Prior to Oct. 17, 1936, nonrecording gage at site 30 ft downstream at same datum.

AVERAGE DISCHARGE.--48 years, 286 cfs (20.44 inches per year).

EXTREMES.--Current year: Maximum discharge, 24,900 cfs Aug. 28 (gage height, 15.47 ft, from high-water mark in gage house), from rating curve extended above 15,000 cfs; minimum, 34 cfs Oct. 8-10 (gage height, 2.52 ft). Period of record: Maximum discharge, 24,900 cfs Aug. 28, 1971 (gage height, 15.47 ft, from high-water mark in gage house), from rating curve extended above 15,000 cfs; minimum observed, about 3 cfs Nov. 28, 1930 (gage height, 1.72 ft), result of freezeup; minimum daily, 7.5 cfs Sept. 26, 27, 1964.

REMARKS.--Records good. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1552: 1924-26, 1928-35.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	95	190	142	106	686	260	195	299	82	707	405
2	40	88	175	170	114	585	260	190	195	130	1,110	350
3	40	85	165	155	134	548	299	200	230	85	293	280
4	44	114	195	224	146	951	260	185	200	70	248	200
5	42	696	170	1,870	260	696	242	170	170	62	206	180
6	46	230	160	770	381	759	267	180	150	60	165	160
7	42	165	130	413	333	2,130	3,490	185	142	60	134	250
8	36	142	118	325	2,200	1,030	1,080	280	130	57	114	200
9	36	134	146	341	1,490	686	717	312	118	55	95	150
10	36	130	142	273	605	595	605	224	110	55	82	180
11	42	200	138	260	397	585	494	195	102	50	76	250
12	44	357	306	248	381	521	437	185	102	55	79	900
13	40	1,120	312	218	2,650	675	405	749	102	50	70	3,000
14	42	843	260	224	1,820	521	373	585	106	60	62	2,850
15	102	1,470	242	260	575	485	333	325	122	52	57	2,170
16	146	675	218	165	461	494	319	512	160	48	55	1,060
17	73	437	1,010	146	389	413	299	429	122	46	52	833
18	55	349	539	165	397	373	286	299	110	50	50	1,420
19	55	453	349	175	461	686	267	254	95	52	50	700
20	57	381	319	180	625	1,430	254	230	92	206	70	578
21	60	615	286	185	655	655	248	267	95	85	57	541
22	843	349	267	180	1,090	530	242	286	106	65	55	444
23	1,380	306	248	175	1,700	477	224	286	85	60	50	405
24	333	254	248	165	780	421	218	190	82	62	44	395
25	242	224	224	165	625	381	212	185	79	146	42	313
26	206	212	212	224	548	357	206	254	76	95	42	305
27	170	200	190	242	1,700	341	206	195	76	73	1,760	296
28	142	190	165	142	907	319	200	180	82	62	10,900	289
29	122	180	155	155	-----	319	218	160	82	55	3,000	282
30	110	230	134	175	-----	299	206	175	82	267	675	260
31	102	-----	142	150	-----	280	-----	405	-----	293	485	-----
TOTAL	4,768	10,924	7,555	8,682	21,930	19,228	13,127	8,405	3,702	2,648	20,885	19,646
MEAN	154	364	244	280	783	620	438	271	123	85.4	674	655
MAX	1,380	1,470	1,010	1,870	2,650	2,130	3,490	749	299	293	10,900	3,000
MIN	36	85	118	142	106	280	200	160	76	46	42	150
CFSM	.81	1.92	1.28	1.47	4.12	3.26	2.31	1.43	.65	.45	3.55	3.45
IN.	.93	2.14	1.48	1.70	4.29	3.76	2.57	1.65	.72	.52	4.09	3.85

CAL YR 1970 TOTAL 99,418 MEAN 272 MAX 5,280 MIN 32 CFSM 1.43 IN 19.46
WTR YR 1971 TOTAL 141,500 MEAN 388 MAX 10,900 MIN 36 CFSM 2.04 IN 27.70

PEAK DISCHARGE (BASE, 5,000 CFS)

NOTE.--No gage-height record Aug. 28 to Sept. 13.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	2045	8.43	5,630	8-28	Unknown	15.47	24,900
4-07	1100	8.30	5,460	9-13	Unknown	8.88	6,230

01400500 Raritan River at Manville, N. J.

LOCATION.--Lat 40°33'18", long 74°35'02", Somerset County, on left bank at downstream side of highway bridge at Manville, 1.4 miles upstream from Millstone River.

DRAINAGE AREA.--490 sq mi.

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.

GAGE.--Water-stage recorder. Datum of gage is 20.61 ft above mean sea level. Prior to Aug. 15, 1923, non-recording gage on downstream side of highway bridge at same site and datum. Since Oct. 1, 1952, water-stage recorder at station at Bound Brook, above Calco Dam, used as auxiliary gage when stage is above 5.0 ft.

AVERAGE DISCHARGE.--53 years (1903-6, 1921-71), 722 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 26,000 cfs Aug. 28 (gage height, 23.8 ft from floodmark, backwater from Millstone River); minimum, 123 cfs Oct. 19.

Period of record: Maximum discharge, 36,100 cfs Sept. 22, 1938 (gage height, 20.42 ft, from high-water mark in recorder shelter), from rating curve extended above 14,000 cfs on basis of slope-area measurement at gage heights 14.9 and 20.42 ft; maximum gage height, 23.8 ft Aug. 28, 1971, from floodmark (backwater from Millstone River); minimum daily discharge, 17 cfs, Sept. 19, 1964 (does not include water diverted to Johns-Manville plant).

REMARKS.--Records good. Records given herein represent flow at gage only. Slight diurnal fluctuation at low flow. Flow regulated by Spruce Run Reservoir (see p. 76). Diversion to Round Valley Reservoir (see p. 77). Water diverted 1,500 ft upstream from station and returned to river 0.6 mile downstream from station by Johns-Manville Corporation (see p. 77). Records of water quality for the current year for Raritan River near Manville, station 01400510, are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1552: 1904, 1906, 1922, 1923(M), 1924-25, 1926-29(M), 1930, 1932-33(M), 1942-54.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	300	494	335	260	1,730	522	387	951	300	1,050	1,010
2	184	280	444	375	220	1,390	501	404	543	355	3,720	853
3	215	265	420	460	210	1,300	614	415	508	295	1,070	722
4	210	340	444	590	240	2,860	582	393	536	245	893	639
5	188	1,890	438	3,780	440	2,030	508	360	420	220	703	567
6	184	906	426	2,600	1,050	1,910	508	335	365	202	495	511
7	179	582	371	1,210	1,040	4,640	6,230	345	330	255	397	676
8	184	480	320	864	5,020	3,390	3,990	462	305	240	340	543
9	184	420	350	816	4,680	1,810	1,880	790	285	225	289	475
10	188	393	345	749	1,410	1,500	1,470	558	260	255	250	492
11	192	487	325	663	830	1,400	1,160	432	235	255	259	645
12	197	888	598	589	879	1,300	951	387	245	215	268	7,500
13	188	2,800	798	515	4,000	1,510	854	1,230	300	225	261	10,700
14	184	2,920	662	482	7,100	1,330	806	1,870	280	260	205	9,140
15	270	3,670	574	531	1,740	1,190	726	924	295	230	186	6,550
16	432	2,290	529	360	1,140	1,210	630	1,090	325	206	190	2,750
17	250	1,300	2,950	355	1,010	1,030	622	1,170	285	197	196	2,000
18	150	1,010	1,780	355	915	915	590	798	240	215	207	2,820
19	142	1,110	1,110	340	1,160	1,050	558	646	225	245	217	1,800
20	184	1,020	942	320	1,310	3,500	487	558	225	501	280	1,520
21	197	1,580	814	340	1,620	1,860	480	566	235	280	252	1,400
22	1,270	1,060	734	380	2,290	1,340	487	694	285	230	201	1,230
23	4,010	879	662	400	4,960	1,160	474	582	260	215	191	1,080
24	1,320	710	670	400	2,340	987	432	474	240	210	209	1,100
25	782	614	606	399	1,670	870	468	444	230	325	227	966
26	614	550	582	480	1,420	766	415	543	250	275	250	920
27	496	558	501	600	3,640	742	382	536	265	192	3,050	899
28	419	529	430	400	2,630	718	355	468	285	225	18,600	875
29	368	494	350	370	-----	686	398	444	265	235	10,500	859
30	337	582	315	370	-----	630	426	468	260	969	2,540	813
31	318	-----	290	380	-----	582	-----	862	-----	830	1,280	-----
TOTAL	14,220	30,607	20,274	20,808	55,224	47,336	28,506	19,635	9,733	9,127	48,776	62,055
MEAN	459	1,030	654	671	1,972	1,527	950	633	324	294	1,573	2,069
MAX	4,010	3,670	2,950	3,780	7,100	4,640	6,230	1,870	951	969	18,600	10,700
MIN	142	265	250	320	210	582	355	335	225	192	186	475

CAL YR 1970 TOTAL 247,522 MEAN 678 MAX 14,200 MIN 116
WTR YR 1971 TOTAL 366,601 MEAN 1,004 MAX 18,600 MIN 142

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-14	0315	14.13	11,200	9-12	2230	15.06	12,800
8-28	About 1700	23.8	26,000				

RARITAN RIVER BASIN

01400730 Millstone River at Plainsboro, N. J.

LOCATION.--Lat 40°19'27", long 74°36'51", Middlesex County, on left bank 30 ft upstream from Penn Central Railroad bridge, 100 ft downstream from Cranbury Brook, 0.2 mile upstream from Big Bear Brook, and 0.9 mile southwest of Plainsboro.

DRAINAGE AREA.--65.8 sq mi.

PERIOD OF RECORD.--May 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 53.41 ft above mean sea level.

AVERAGE DISCHARGE.--7 years, 81.7 cfs (16.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,780 cfs Aug. 28 (gage height, 8.73 ft); minimum, 5.4 cfs July 25.

Period of record: Maximum discharge, 3,780 cfs Aug. 28, 1971 (gage height, 8.73 ft); minimum daily, 1.9 cfs Aug. 10-13, 1966.

REMARKS.--Records fair. Occasional diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	19	31	47	27	225	55	61	53	12	192	158
2	14	18	31	45	23	130	53	57	60	13	220	113
3	15	18	31	50	20	100	52	59	52	12	130	90
4	16	24	30	150	18	102	51	58	36	17	126	65
5	16	57	29	540	45	166	50	54	30	18	97	58
6	15	78	28	400	85	178	58	49	30	29	91	56
7	13	56	25	255	110	160	111	55	32	27	96	65
8	13	47	24	150	250	160	524	59	37	8.4	56	67
9	14	31	23	120	600	158	329	69	28	6.6	43	59
10	14	26	23	94	470	121	176	79	16	25	36	58
11	14	24	24	76	200	98	123	72	16	15	37	60
12	15	26	29	68	125	91	91	56	18	10	59	245
13	16	41	48	68	89	89	76	59	18	10	59	1,110
14	15	59	51	74	160	85	71	63	20	12	51	1,020
15	16	92	48	78	400	74	67	60	22	17	41	536
16	15	157	44	64	121	63	66	67	24	23	25	275
17	14	162	72	56	87	62	62	116	26	13	23	183
18	13	128	70	38	74	62	59	123	25	7.4	25	141
19	12	128	105	28	68	110	56	104	22	7.4	23	103
20	12	80	115	25	66	320	54	82	18	14	28	93
21	12	48	100	24	72	150	46	74	17	22	32	92
22	33	55	76	25	84	98	46	65	18	15	29	99
23	39	61	71	26	144	86	46	55	18	9.6	27	130
24	29	66	77	29	250	94	49	59	16	6.9	23	117
25	27	60	90	32	185	95	52	56	14	6.1	20	100
26	24	53	93	46	111	90	51	48	16	8.9	16	100
27	21	47	83	63	117	84	46	51	15	18	370	100
28	18	41	76	55	218	78	48	53	16	7.2	3,060	81
29	18	36	58	50	-----	72	63	53	13	5.9	1,960	66
30	16	33	56	40	-----	66	66	48	15	24	757	65
31	18	-----	52	35	-----	60	-----	48	-----	90	316	-----
TOTAL	543	1,771	1,713	2,851	4,219	3,526	2,697	2,012	741	510.4	8,068	5,505
MEAN	17.5	59.0	55.3	92.0	151	114	89.9	64.9	24.7	16.5	260	184
MAX	39	162	115	540	600	320	524	123	60	90	3,060	1,110
MIN	12	18	23	24	18	60	46	48	13	5.9	16	56
CFSM	.27	.90	.84	1.40	2.29	1.73	1.37	.99	.38	.25	3.95	2.80
IN.	.31	1.00	.97	1.61	2.39	1.99	1.52	1.14	.42	.29	4.56	3.11
CAL YR 1970	TOTAL 25,644.4	MEAN 70.3	MAX 845	MIN 8.9	CFSM 1.07	IN 14.50						
WTR YR 1971	TOTAL 34,156.4	MEAN 93.6	MAX 3,060	MIN 5.9	CFSM 1.42	IN 19.31						

RARITAN RIVER BASIN

65

01400953 Honey Branch near Pennington, N. J.

LOCATION.--Lat 40°21'27", long 74°45'58", Mercer County, on right bank 50 ft upstream from Wargo Road Bridge, 2.2 miles upstream from mouth, and 2.5 miles northeast of Pennington.

DRAINAGE AREA.--0.70 sq mi.

PERIOD OF RECORD.--April 1967 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 92.57 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 535 cfs Aug. 28 (gage height, 4.79 ft), from rating curve extended above 80 cfs on basis of contracted-opening and flow-over-road measurement of peak flow; no flow many days during the summer months.

Period of record: Maximum discharge, 535 cfs Aug. 28, 1971 (gage height, 4.79 ft), from rating curve extended above 80 cfs on basis of contracted-opening and flow-over-road measurement of peak flow; no flow for many days during most years

REVISIONS.--Figures of maximum discharge for the water years 1967 and 1969 have been revised to 210 cfs Aug. 27, 1967 (gage height, 3.25 ft) and 198 cfs Sept. 3, 1969 (gage height, 3.19 ft) superseding figures published in WRD N.J., 1967 and 1969.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.28	.16	.08	1.2	.33	.20	.12	0	15	1.0
2	0	0	.15	.11	.06	1.0	.37	.21	.08	0	4.0	.60
3	0	0	.14	.10	.05	1.4	.57	.29	.13	0	1.0	.30
4	0	.01	.22	.60	.08	8.0	.37	.21	.11	0	.50	.25
5	0	3.5	.10	18	.94	3.5	.27	.15	0	0	.35	.16
6	0	.27	.09	3.8	.79	2.5	.68	.27	0	0	.20	.51
7	0	.11	.02	1.1	12	11	33	.36	0	0	.15	.30
8	0	.07	.05	.44	3.5	2.0	5.3	.95	0	0	.10	.18
9	0	.04	.05	.33	1.5	.50	2.3	.75	0	0	.08	.52
10	0	.03	.07	.28	.70	.28	1.4	.49	0	0	.06	3.0
11	0	.16	.06	.33	.40	.38	.94	.30	0	0	.30	20
12	0	.70	.88	.52	.72	.30	.79	.24	0	0	.10	88
13	0	6.0	.75	.37	16	.95	.68	3.6	0	0	.08	45
14	0	1.0	.37	.35	.88	.50	.57	2.7	0	0	.05	18
15	0	5.0	.20	.37	.28	1.0	.41	.81	0	0	.02	7.1
16	0	2.0	.33	.20	.22	.60	.41	4.2	0	0	.01	2.9
17	0	.80	13	.14	.11	.20	.04	1.7	0	0	0	1.5
18	0	.50	1.7	.11	.16	.70	0	.75	0	0	0	.95
19	0	1.4	.94	.08	.25	3.5	0	.54	0	0	0	.52
20	0	2.4	.64	.06	.68	2.0	0	.42	0	0	.01	.38
21	0	2.2	.41	.08	.94	1.7	.02	.47	0	0	.01	3.7
22	.15	.75	.52	.08	2.2	1.2	.15	.69	0	0	0	1.2
23	2.1	.57	.68	0	6.5	1.8	.12	.38	0	0	0	.80
24	.13	.33	1.1	.02	1.3	1.1	.14	.24	0	0	0	.36
25	.05	.25	.72	.02	.94	.75	.11	.23	0	0	0	.21
26	.03	.25	.52	1.5	.75	.72	.10	.20	0	0	0	.18
27	.02	.25	.31	.70	8.6	.64	.11	.15	0	0	51	.17
28	.01	.20	.24	.50	2.2	.57	.11	.12	0	0	126	.16
29	0	.20	.12	.52	-----	.57	.29	.06	0	0	15	.14
30	0	.68	.07	.25	-----	.50	.25	.08	0	12	3.0	.14
31	0	-----	.04	.18	-----	.41	-----	.11	-----	2.0	1.5	-----
TOTAL	2.49	29.67	24.77	31.30	62.83	51.47	49.83	21.87	.44	14.0	218.52	198.23
MEAN	.080	.99	.80	1.01	2.24	1.66	1.66	.71	.015	.45	7.05	6.61
MAX	2.1	6.0	13	18	16	11	33	4.2	.13	12	126	88
MIN	0	0	.02	0	.05	.20	0	.06	0	0	0	.14
CFSM	.11	1.41	1.14	1.44	3.20	2.37	2.37	1.01	.02	.64	10.1	9.44
IN.	.13	1.58	1.32	1.66	3.34	2.74	2.65	1.16	.02	.74	11.61	10.53

CAL YR 1970 TOTAL 230.01 MEAN .63 MAX 15 MIN 0 CFSM .90 IN 12.22
WTR YR 1971 TOTAL 705.42 MEAN 1.93 MAX 126 MIN 0 CFSM 2.76 IN 37.49

PEAK DISCHARGE (BASE, 50 CFS)

NOTE.--No gage-height record Aug. 28.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-07	Unknown	2.56	77	8-28	0530	4.79	535
2-13	1400	2.50	65	9-13	Unknown	About 3.05	About 175
4-07	1600	2.45	55				

RARITAN RIVER BASIN

01401000 Stony Brook at Princeton, N. J.

LOCATION.--Lat 40°19'59", long 74°40'56", Mercer County, on right bank 12 ft downstream from bridge on U.S. Highway 206, 1.6 miles southwest of Princeton, and 4.0 miles upstream from Lake Carnegie.

DRAINAGE AREA.--44.5 sq mi.

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 62.23 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--18 years, 56.7 cfs (17.30 inches per year).

EXTREMES.--Current year: Maximum discharge, 8,960 cfs Aug. 28 (gage height, 14.26 ft), from rating curve extended above 4,000 cfs on basis of velocity-area study; minimum, 0.4 cfs July 29 (gage height, 1.22 ft).

Period of record: Maximum discharge, 8,960 cfs Aug. 28, 1971 (gage height, 14.26 ft), from rating curve extended above 4,000 cfs on basis of velocity-area study; no flow many days in August and September 1966.

REMARKS.--Records excellent. Since July 1959 some regulation by several small reservoirs (combined capacity, 49,800,000 gal). Records of water quality for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	5.2	40	23	12	132	27	21	21	1.7	29	31
2	1.3	5.0	32	22	9.7	103	27	19	14	4.7	79	24
3	1.2	5.0	28	22	9.3	115	30	22	12	1.6	23	21
4	1.9	46	30	54	7.8	542	27	21	12	1.3	15	16
5	1.3	345	26	662	57	234	23	16	9.7	1.2	12	13
6	1.0	70	23	280	141	243	31	19	8.6	1.4	9.3	11
7	.85	35	17	132	120	602	982	27	8.6	1.1	7.2	13
8	.90	25	17	69	1,160	243	379	49	8.6	.90	5.2	13
9	1.7	19	18	58	482	126	178	81	7.2	1.5	3.8	9.7
10	1.9	19	19	51	113	98	115	42	6.2	2.3	2.9	8.9
11	1.4	32	18	47	54	103	81	29	5.2	1.5	24	58
12	1.1	128	41	47	57	88	67	23	4.9	1.8	15	1,170
13	1.0	438	74	41	542	84	58	161	4.5	1.4	7.8	1,260
14	.90	275	47	43	343	74	51	248	4.0	1.9	5.7	834
15	7.7	478	38	43	98	70	41	74	3.8	1.3	4.0	230
16	3.5	171	34	27	60	86	37	248	4.9	.90	3.2	115
17	3.7	93	614	27	46	62	33	189	4.2	1.0	2.3	77
18	2.1	67	175	23	47	49	30	84	3.8	.80	2.1	65
19	1.6	108	105	21	72	161	26	55	3.4	1.3	1.9	54
20	1.4	98	79	18	126	379	24	42	2.9	1.4	2.8	46
21	1.4	209	58	19	182	126	24	40	2.6	1.0	3.6	129
22	110	88	58	20	295	86	22	39	2.6	.80	4.9	72
23	290	67	58	22	530	90	21	29	2.2	.60	3.8	47
24	47	50	84	22	178	77	16	23	1.9	.70	2.9	40
25	22	40	69	21	118	57	16	21	1.8	1.7	2.2	30
26	16	35	57	40	93	50	16	21	1.7	1.7	1.7	27
27	12	33	42	52	510	45	16	16	1.5	1.2	3,410	26
28	8.8	31	34	23	225	41	15	14	1.6	.60	2,550	25
29	7.4	28	29	17	-----	40	29	13	1.5	.70	175	22
30	6.5	46	25	15	-----	37	27	14	1.4	65	69	20
31	6.0	-----	24	13	-----	31	-----	22	-----	120	43	-----
TOTAL	564.95	3,089.2	2,013	1,974	5,687.8	4,274	2,469	1,722	168.3	225.00	6,521.3	4,507.6
MEAN	18.2	103	64.9	63.7	203	138	82.3	55.5	5.61	7.26	210	150
MAX	290	478	614	662	1,160	602	982	248	21	120	3,410	1,260
MIN	.85	5.0	17	13	7.8	31	15	13	1.4	.60	1.7	8.9
CFSM	.41	2.31	1.46	1.43	4.56	3.10	1.85	1.25	.13	.16	4.72	3.37
IN.	.47	2.58	1.68	1.65	4.75	3.57	2.06	1.44	.14	.19	5.45	3.77

CAL YR 1970 TOTAL 21,509.69 MEAN 58.9 MAX 1,690 MIN .50 CFSM 1.32 IN 17.98
WTR YR 1971 TOTAL 33,216.15 MEAN 91.0 MAX 3,410 MIN .60 CFSM 2.04 IN 27.77

PEAK DISCHARGE (BASE, 1,800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	0645	7.39	2,230	9-13	1315	8.96	3,180
8-28	1145	14.26	8,960				

RARITAN RIVER BASIN

67

01402000 Millstone River at Blackwells Mills, N. J.

LOCATION.--Lat 40°28'30", long 74°34'34", Somerset County, on left bank 30 ft downstream from highway bridge at Blackwells Mills and 0.3 mile downstream from Six Mile Run.

DRAINAGE AREA.--258 sq mi.

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" 1903-4.

GAGE.--Water-stage recorder. Concrete control since Nov. 18, 1933. Datum of gage is 26.97 ft above mean sea level. June 27, 1903, to Dec. 31, 1904, nonrecording gage at bridge 2.0 miles downstream at Millstone at different datum. Aug. 4, 1921, to Aug. 16, 1928, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--50 years (1921-71), 358 cfs (18.84 inches per year).

EXTREMES.--Current year: Maximum discharge, 22,200 cfs Aug. 28 (gage height, 18.68 ft, from high-water mark), from rating curve extended above 9,000 cfs; minimum, 24 cfs Aug. 26, 27 (gage height, 1.30 ft).
Period of record: Maximum discharge, 22,200 cfs Aug. 28, 1971 (gage height, 18.68 ft, from high-water mark), from rating curve extended above 9,000 cfs; minimum, about 5 cfs Sept. 16, 1923.

REMARKS.--Records excellent. Inflow to and losses from Delaware and Raritan Canal above station. Flow slightly regulated by Lake Carnegie (capacity, 310,000,000 gal) and by several smaller reservoirs (capacity, 49,800,000 gal). Records of water quality for the current year for Millstone River near Manville, station 01402900, are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1552: 1924-25(M), 1926.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	68	193	154	127	935	189	168	175	40	651	463
2	44	66	175	151	105	657	193	158	144	59	978	301
3	44	66	161	144	89	570	203	168	144	50	354	267
4	50	130	165	200	81	1,750	189	165	130	44	575	242
5	46	1,340	144	1,430	260	1,500	172	147	108	40	357	188
6	42	470	137	1,740	570	1,120	172	137	95	42	239	159
7	42	275	121	862	446	1,730	1,670	172	86	50	192	161
8	42	207	111	550	2,550	1,810	2,770	233	86	50	147	164
9	44	175	114	394	2,900	823	2,000	331	79	42	110	139
10	46	151	114	310	1,970	597	873	246	70	50	92	159
11	48	182	111	275	637	537	557	219	63	59	248	292
12	48	265	196	260	428	470	434	127	61	55	291	2,290
13	48	1,160	300	242	1,140	446	363	347	68	46	176	4,380
14	50	1,400	265	233	2,270	405	305	784	68	51	136	4,100
15	77	1,570	228	237	742	384	270	368	68	51	110	2,750
16	86	1,210	196	200	422	358	251	683	74	48	89	1,250
17	57	590	1,690	172	331	310	233	935	70	50	76	637
18	50	422	1,290	154	290	275	207	524	63	42	69	512
19	50	428	720	134	337	363	196	368	59	34	66	395
20	46	400	500	121	422	1,440	186	290	53	47	75	360
21	48	717	380	121	663	703	182	265	51	44	72	537
22	285	434	321	118	812	500	165	260	50	45	68	456
23	867	342	300	130	2,110	458	161	203	46	43	65	371
24	285	285	347	151	1,520	405	151	175	44	39	59	309
25	165	233	337	144	829	384	147	179	42	44	39	203
26	127	203	316	251	570	300	147	147	38	46	28	181
27	105	186	270	295	1,710	270	137	134	35	52	1,900	160
28	92	175	228	193	1,680	265	130	127	37	48	17,400	152
29	81	165	200	161	-----	242	168	121	37	47	10,400	148
30	74	196	172	161	-----	219	193	121	37	497	3,090	143
31	70	-----	151	161	-----	196	-----	172	-----	626	1,140	-----
TOTAL	3,203	13,511	9,953	9,849	26,011	20,422	13,014	8,474	2,181	2,481	39,292	21,869
MEAN	103	450	321	318	929	659	434	273	72.7	80.0	1,267	729
MAX	867	1,570	1,690	1,740	2,900	1,810	2,770	935	175	626	17,400	4,380
MIN	42	66	111	118	81	196	130	121	35	34	28	139
CFSM	.40	1.74	1.24	1.23	3.60	2.55	1.68	1.06	.28	.31	4.91	2.83
IN.	.46	1.95	1.44	1.42	3.75	2.94	1.88	1.22	.31	.36	5.67	3.15
CAL YR 1970	TOTAL 118,639		MEAN 325		MAX 6,630		MIN 38		CFSM 1.26		IN 17.11	
WTR YR 1971	TOTAL 170,260		MEAN 466		MAX 17,400		MIN 28		CFSM 1.81		IN 24.55	

PEAK DISCHARGE (BASE, 3,000 CFS)

NOTE.--No gage height record Aug. 28, 29.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-09	0600	8.38	3,130	9-13	1645	10.62	4,860
8-28	Unknown	18.68	22,200				

RARITAN RIVER BASIN

01402590 Royce Brook tributary at Frankfort, N. J.

LOCATION.--Lat 40°30'21", long 74°40'24", Somerset County, on left bank 20 ft upstream from bridge on Beckman Lane, 0.6 mile east of Frankfort, and 1.6 miles upstream from mouth.

DRAINAGE AREA.--0.29 sq mi.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder and steel control. Datum of gage is 100.05 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 164 cfs Aug. 28 (gage height, 3.25 ft), from rating curve extended above 30 cfs; no flow many days during June and July.

Period of record: Maximum discharge, 164 cfs Aug. 28, 1971 (gage height, 3.25 ft), from rating curve extended above 30 cfs; no flow at times during summer and autumn months during most years.

REMARKS.--Records excellent except those for January and February, which are good.

COOPERATION.--Gage-height record furnished by the Department of Agricultural Engineering, Rutgers, the State University.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.12	.25	.10	.10	.67	.09	.05	.13	.01	.70	.08
2	.02	.14	.21	.11	.08	.52	.10	.06	.08		1.5	.07
3	.03	.14	.19	.12	.07	1.1	.13	.07	.09	0	.54	.07
4	.02	2.0	.23	.70	.13	3.7	.10	.05	.06	0	.41	.05
5	.02	2.4	.16	8.5	.67	1.7	.09	.03	.03	0	.34	.04
6	.02	.47	.15	2.0	.62	1.3	.28	.07	.03	0	.14	.07
7	.01	.33	.11	.40	1.6	4.6	12	.06	.03	0	.09	.09
8	.01	.27	.11	.35	5.9	.80	1.1	.48	.02	0	.07	.06
9	.01	.22	.12	.30	1.5	.41	.42	.31	.01	0	.05	.04
10	.01	.28	.13	.26	.60	.37	.29	.18	.01	0	.04	.04
11	.01	.49	.11	.36	.30	.43	.22	.11	.01	0	.04	.57
12	.01	.95	1.3	.40	.57	.39	.18	.08	.01	0	.03	24
13	.01	4.3	.72	.36	5.5	.67	.16	2.3	.01	0	.02	5.9
14	.01	1.5	.40	.30	1.5	.47	.13	.98	.02	0	.02	1.7
15	.05	4.0	.28	.25	.86	.49	.10	.28	.04	0	.02	.97
16	.03	.83	3.2	.20	.35	.50	.09	1.8	.03	0	.02	.34
17	.02	.45	3.5	.15	.23	.30	.09	.58	.02	0	.02	.24
18	.02	.36	.69	.11	.30	.23	.08	.25	.01	0	.01	.21
19	.01	.73	.46	.10	.43	1.8	.08	.16	.01	0	.02	.17
20	.01	.99	.36	.08	.87	1.4	.09	.13	0	0	.02	.15
21	.02	1.1	.29	.08	.68	.47	.09	.17	.03	0	.02	.61
22	5.0	.44	.30	.22	3.0	.33	.06	.15	.02	0	.02	.22
23	2.2	.36	.34	.24	4.1	.36	.05	.09	.01	0	.01	.15
24	.53	.27	.49	.18	.76	.25	.05	.07	.01	0	0	.12
25	.34	.22	.38	.13	.56	.20	.05	.06	.01	.01	0	.08
26	.29	.21	.33	1.0	.47	.19	.06	.05	0	0	0	.08
27	.23	.21	.27	.52	5.0	.16	.05	.05	0	0	12	.08
28	.19	.20	.23	.15	1.1	.15	.06	.04	0	0	21	.08
29	.15	.21	.18	.13	-----	.14	.09	.03	0	.01	.40	.09
30	.14	.41	.14	.11	-----	.12	.06	.15	0	2.2	.18	.08
31	.14	-----	.12	.13	-----	.10	-----	.31	-----	1.1	.11	-----
TOTAL	9.59	24.60	15.75	18.04	37.85	24.32	16.44	9.20	.73	3.34	37.84	36.45
MEAN	.31	.82	.51	.58	1.35	.78	.55	.30	.024	.11	1.22	1.22
MAX	5.0	4.3	3.5	8.5	5.9	4.6	12	2.3	.13	2.2	21	24
MIN	.01	.12	.11	.08	.07	.10	.05	.03	0	0	0	.04
CFSM	1.07	2.83	1.76	2.00	4.66	2.69	1.90	1.03	.08	.38	4.21	4.21
IN.	1.23	3.16	2.02	2.31	4.86	3.12	2.11	1.18	.09	.43	4.85	4.68

CAL YR 1970 TOTAL 160.39 MEAN .44 MAX 14 MIN 0 CFSM 1.52 IN 20.57
WTR YR 1971 TOTAL 234.15 MEAN .64 MAX 24 MIN 0 CFSM 2.21 IN 30.04

PEAK DISCHARGE (BASE, 45 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8-28	0355	3.25	164	9-12	0400	2.65	94

RARITAN RIVER BASIN

69

01402600 Royce Brook tributary near Belle Mead, N. J.

LOCATION.--Lat 40°29'56", long 74°39'05", Somerset County, on right bank 25 ft upstream from bridge on State Highway 514, 1,200 ft upstream from mouth, and 2.0 miles north of Belle Mead.

DRAINAGE AREA.--1.20 sq mi.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 67.66 ft above mean sea level.

AVERAGE DISCHARGE.--5 years, 2.36 cfs (26.72 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,450 cfs Aug. 28 (gage height, 7.01 ft, from high-water mark), from rating curve extended above 140 cfs on basis of slope-area measurement of peak flow; no flow many days during summer months.

Period of record: Maximum discharge, 1,450 cfs Aug. 28, 1971 (gage height, 7.01 ft from high-water mark), from rating curve extended above 140 cfs on basis of slope-area measurement of peak flow; no flow on some days in most years.

REMARKS.--Records good.

COOPERATION.--Gage-height record furnished by the Department of Agricultural Engineering, Rutgers, the State University.

REVISIONS (WATER YEARS).--WRD N.J. 1969: 1967, 1968.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.60	1.1	.35	.35	2.3	.35	.11	.28	.03	34	8.6
2	.09	.80	.90	.43	.15	1.8	.43	.15	.15	.06	6.4	6.6
3	.15	.90	.90	.43	.09	5.2	.51	.20	.15	.01	2.0	6.1
4	.11	10	.80	5.2	.03	16	.35	.11	.09	0	1.8	5.7
5	.11	12	.80	28	8.8	5.9	.28	.11	.06	0	1.6	5.2
6	.11	2.0	.70	5.0	6.4	4.3	.90	.20	.06	0	.70	5.0
7	.11	1.6	.60	2.0	14	21	53	.15	.06	0	.51	5.9
8	.11	1.1	.43	1.4	41	2.9	3.8	1.1	.03	0	.35	5.0
9	.06	1.0	.43	1.1	7.6	1.8	2.0	.80	.03	0	.28	4.5
10	.06	1.1	.43	1.0	1.7	1.7	1.4	.51	.01	0	.20	4.1
11	.03	1.7	.43	.90	1.1	1.8	1.0	.35	.01	0	.51	12
12	.01	3.4	5.0	1.0	.90	1.6	.90	.28	.03	0	.20	121
13	.01	24	2.8	1.3	26	2.3	.80	5.9	.03	0	.11	49
14	0	6.4	1.8	1.2	2.9	1.7	.60	3.3	.09	0	.09	22
15	.20	21	1.7	.90	1.6	1.8	.51	1.1	.15	0	.06	15
16	.28	3.4	4.1	.80	1.1	2.0	.51	6.2	.11	0	.03	9.7
17	.35	2.0	26	.60	.70	1.6	.43	2.3	.06	0	.03	8.1
18	.35	1.7	2.4	.51	1.0	.90	.43	1.1	.06	0	.03	7.4
19	.35	2.3	1.6	.43	1.4	9.1	.35	.80	.03	0	.01	6.8
20	.20	5.2	1.2	.35	2.2	5.4	.35	.70	0	0	.03	6.4
21	.28	4.5	1.4	.20	2.0	2.2	.35	.80	.28	0	0	11
22	25	1.8	1.1	.20	16	1.7	.20	.70	.11	0	0	7.1
23	10	1.7	1.1	.90	19	1.6	.20	.43	.06	0	0	6.3
24	2.2	1.2	1.7	.90	2.6	1.1	.15	.35	.06	0	0	5.7
25	1.4	.90	1.4	.51	2.0	.70	.15	.28	.06	.09	0	5.2
26	1.1	.90	1.2	4.1	1.7	.51	.15	.20	.03	0	0	5.0
27	1.0	.90	.90	1.6	22	.51	.11	.15	.01	0	51	4.9
28	1.0	.90	.70	1.0	3.4	.43	.15	.11	.01	0	160	4.8
29	.80	.80	.60	.60	-----	.43	.28	.11	0	.15	17	4.8
30	.70	1.6	.43	.43	-----	.43	.15	.43	0	22	13	4.7
31	.70	-----	.35	.51	-----	.35	-----	.70	-----	4.1	11	-----
TOTAL	46.93	117.40	65.00	63.85	187.72	101.06	70.79	29.73	2.11	26.44	300.94	373.6
MEAN	1.51	3.91	2.10	2.06	6.70	3.26	2.36	.96	.070	.85	9.71	12.5
MAX	25	24	26	28	41	21	53	6.2	.28	22	160	121
MIN	0	.60	.35	.20	.03	.35	.11	.11	0	0	0	4.1
CFSM	1.26	3.26	1.75	1.72	5.58	2.72	1.97	.80	.06	.71	8.09	10.4
IN.	1.45	3.64	2.02	1.98	5.82	3.13	2.19	.92	.07	.82	9.33	11.58

CAL YR 1970 TOTAL 669.76 MEAN 1.84 MAX 62 MIN 0 CFSM 1.53 IN 20.76
WTR YR 1971 TOTAL 1,385.57 MEAN 3.80 MAX 160 MIN 0 CFSM 3.17 IN 42.95

PEAK DISCHARGE (BASE, 100 CFS)

NOTE.--No gage-height record Aug. 27, 28, and Sept. 12.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	0035	3.50	134	8-28	Unknown	7.01	1,450
4-07	0455	3.12	100	9-12	0400	4.85	350
8-01	1750	3.80	161				

RARITAN RIVER BASIN

01403060 Raritan River below Calco Dam, at Bound Brook, N. J.

LOCATION.--Lat 40°33'05", long 74°32'54", Somerset County, on right bank 1,000 ft downstream from Calco Dam and Cuckold Brook, 1.2 miles downstream from Millstone River, and 1.2 miles southwest of Bound Brook.

DRAINAGE AREA.--785 sq mi (includes 11 sq mi which drain 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, sta 01403000.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Sept. 12, 1903 to Mar. 31, 1909, nonrecording gages at highway bridge, 1.2 miles downstream at different datum. October 1944 to Sept. 30, 1966, water-stage recorder and concrete control at site 1,120 ft upstream at datum 18.06 ft higher.

AVERAGE DISCHARGE.--32 years (1903-8, 1944-71), 1,177 cfs (adjusted for diversion by Elizabethtown Water Co., since 1944 and to Round Valley Reservoir since 1966).

EXTREMES.--Current year: Maximum discharge, 46,100 cfs Aug. 28 (elevation, 37.47 ft, from floodmark); minimum, 85 cfs Oct. 19 (elevation, 16.39 ft); minimum daily, 107 cfs Oct. 19.

Period of record: Maximum discharge, 46,100 cfs Aug. 28, 1971 (elevation, 37.47 ft, from floodmark); minimum daily, 37 cfs Sept. 6, 1964.

REMARKS.--Records excellent. Water diverted 1.0 mile above station by Elizabethtown Water Co., for municipal supply (see p. 77). Flow regulated by Spruce Run Reservoir (see p. 76). Diversion to Round Valley Reservoir (see p. 77). Slight diurnal fluctuation at low flow. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1552: 1903-7, 1946(M), 1949, 1952(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	276	664	466	355	2,860	706	484	1,010	212	1,550	1,550
2	134	255	604	514	284	2,160	694	502	586	307	5,660	1,110
3	173	234	556	502	271	1,940	796	538	544	238	1,530	875
4	184	316	574	670	284	5,090	772	484	568	180	1,360	750
5	152	3,270	550	5,850	706	3,820	670	420	425	155	1,040	645
6	143	1,470	538	4,790	1,560	3,240	670	385	355	129	693	552
7	134	850	442	2,190	1,480	7,600	10,100	436	302	155	518	686
8	134	676	355	1,400	8,540	6,130	8,540	628	271	149	405	547
9	134	556	405	1,190	9,100	2,850	4,280	1,090	242	132	297	433
10	146	502	400	1,040	3,530	2,240	2,580	760	208	164	237	459
11	149	634	370	920	1,470	2,040	1,870	574	170	194	311	716
12	152	1,090	790	832	1,280	1,850	1,490	415	177	158	523	12,200
13	149	4,100	1,130	748	5,770	2,080	1,270	1,550	255	143	327	19,200
14	158	4,930	913	706	11,700	1,830	1,140	2,900	234	177	239	16,400
15	255	5,830	790	754	2,750	1,620	1,010	1,310	250	161	190	11,300
16	490	3,970	712	544	1,600	1,630	871	1,800	289	132	159	4,120
17	250	2,050	5,160	514	1,320	1,350	832	2,270	242	126	145	2,530
18	143	1,510	3,460	490	1,160	1,170	784	1,320	173	146	145	3,270
19	107	1,610	1,910	442	1,480	1,450	748	962	146	180	147	2,060
20	158	1,480	1,520	415	1,690	5,700	664	790	143	484	211	1,650
21	170	2,490	1,230	436	2,360	2,800	640	760	155	227	207	1,820
22	1,670	1,610	1,050	484	3,300	1,940	634	878	204	177	156	1,590
23	5,510	1,250	934	526	8,560	1,700	604	730	173	143	135	1,310
24	1,660	976	990	550	4,260	1,460	544	562	152	143	123	1,260
25	885	826	934	520	2,660	1,280	562	502	132	272	113	1,000
26	676	748	878	736	2,080	1,080	514	544	143	252	114	943
27	544	742	760	892	6,130	1,010	466	508	158	150	4,660	885
28	430	688	646	598	4,820	998	425	415	180	156	34,100	846
29	370	646	544	514	-----	934	502	385	167	187	25,900	827
30	316	766	466	544	-----	838	568	430	152	1,590	7,080	782
31	289	-----	442	532	-----	772	-----	850	-----	1,810	2,750	-----
TOTAL	16,008	46,351	30,717	31,309	90,500	73,462	45,946	26,182	8,206	8,829	91,015	92,316
MEAN	516	1,545	991	1,010	3,232	2,370	1,532	845	274	285	2,936	3,077
MAX	5,510	5,830	5,160	5,850	11,700	7,600	10,100	2,900	1,010	1,810	34,100	19,200
MIN	107	234	355	415	271	772	425	385	132	126	113	433

CAL YR 1970 TOTAL 383,322 MEAN 1,050 MAX 23,700 MIN 102
WTR YR 1971 TOTAL 560,841 MEAN 1,537 MAX 34,100 MIN 107

PEAK DISCHARGE (BASE, 12,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-14	0500	26.66	16,700	8-28	2030	37.47	46,100
4-07	1915	26.17	15,200	9-13	0030	28.22	21,400

NOTE.--No gage-height record during peak of Aug. 28.

01403500 Green Brook at Plainfield, N. J.

LOCATION.--Lat 40°36'53", long 74°25'55", Union County, on left bank 20 ft downstream from Sycamore Avenue Bridge in Plainfield and 1.0 mile upstream from Stony Brook.

DRAINAGE AREA.--9.75 sq mi.

PERIOD OF RECORD.--May 1938 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 70.37 ft above mean sea level.

AVERAGE DISCHARGE.--33 years, 11.8 cfs.

EXTREMES.--Current year: Maximum discharge, 2,410 cfs Aug. 28 (gage height, 5.46 ft); no flow for part of Oct. 10-15, 18.

Period of record: Maximum discharge, 2,890 cfs July 23, 1938 (gage height, 5.82 ft), from rating curve extended above 750 cfs on basis of contracted-opening measurement of peak flow (an unknown additional amount probably bypassed gage). No flow for part or all of day at times in most years.

REMARKS.--Records excellent below 200 cfs and good above except those for January and February, and those for periods of no gage-height record, which are fair. Water diverted from Baltusrol well field by Commonwealth Water Co., and from wells in vicinity of Mountainside and Scotch Plains by Plainfield-Union Water Co., for municipal supply and from private and industrial wells in Plainfield and vicinity. Diurnal fluctuation at low flow caused by pumping from wells near brook in Plainfield. During extreme high stages there probably is some overflow above gage from Green Brook basin to adjacent Stony Brook and Cedar Brook basins.

REVISIONS (WATER YEARS).--WSP 921: 1938-40. WRD N.J. 1969: 1966-68, 1968(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	.46	1.8	1.8	2.0	21	5.1	3.5	5.1	15	143	7.2
2	.34	1.1	1.8	2.1	1.7	17	5.7	3.9	3.7	7.0	41	5.7
3	1.4	.70	1.8	2.4	1.6	22	6.4	3.9	4.5	4.0	14	4.7
4	1.9	18	3.0	1.8	2.5	43	4.2	3.9	2.8	1.5	8.5	3.9
5	.46	12	1.5	60	10	25	3.9	3.5	2.4	.65	5.1	3.0
6	.28	3.0	1.2	27	30	24	16	5.4	2.1	.55	3.2	7.6
7	.28	1.4	1.4	24	17	115	157	3.5	2.1	.65	2.3	3.5
8	.24	.90	1.2	8.0	120	41	56	25	1.9	.52	1.8	2.6
9	.28	.90	1.8	6.0	45	23	34	9.0	1.8	.80	1.6	2.8
10	.16	3.2	1.6	5.1	10	17	21	5.4	1.6	.60	1.5	3.5
11	.13	6.0	1.5	5.1	5.4	18	16	4.2	1.5	.50	1.9	6.4
12	.05	25	21	4.7	20	15	14	3.9	1.4	.70	1.4	290
13	.20	68	7.6	3.7	101	22	12	56	1.4	.50	1.1	108
14	.16	20	4.7	5.1	54	14	11	27	5.4	7.0	.90	36
15	14	46	4.7	4.4	21	14	9.5	11	5.1	1.5	.90	19
16	1.6	10	10	2.6	14	14	9.5	43	2.8	.80	.90	12
17	.24	5.4	78	2.5	12	11	9.0	16	1.5	.55	.80	28
18	.13	3.9	18	2.0	13	9.3	8.5	10	1.2	1.5	.70	36
19	.24	6.8	10	1.8	15	53	8.0	8.0	1.0	6.0	6.0	16
20	.20	12	7.2	1.6	21	46	7.2	6.8	.90	19	3.2	12
21	.90	12	5.4	1.5	20	20	7.2	13	10	5.0	.80	19
22	54	5.7	4.7	1.5	54	14	6.4	8.0	3.5	.80	.54	9.0
23	10	4.4	5.4	2.1	80	12	5.2	5.7	1.5	.62	.54	7.2
24	2.3	3.5	6.4	1.8	30	11	4.5	5.1	.85	.46	.40	6.4
25	2.3	2.6	3.9	1.5	20	9.5	3.7	4.4	1.5	15	.34	5.1
26	1.8	1.9	3.0	12	16	8.5	3.1	4.2	6.0	1.2	.34	4.4
27	1.1	1.9	2.6	5.0	99	7.6	2.8	3.9	1.5	1.1	296	4.2
28	.90	1.8	2.8	3.0	35	6.8	2.6	3.5	.85	.90	539	4.2
29	.70	2.1	2.8	2.3	-----	6.8	4.3	2.3	.95	26	37	3.7
30	.54	3.2	2.1	3.8	-----	6.0	4.4	5.1	.78	123	16	3.5
31	.46	-----	1.8	3.0	-----	5.4	-----	15	-----	29	10	-----
TOTAL	97.75	283.86	220.7	209.2	870.2	671.9	458.2	323.1	77.63	272.40	1,140.76	674.6
MEAN	3.15	9.46	7.12	6.75	31.1	21.7	15.3	10.4	2.59	8.79	36.8	22.5
MAX	54	68	78	60	120	115	157	56	10	123	539	290
MIN	.05	.46	1.2	1.5	1.6	5.4	2.6	2.3	.78	.46	.34	2.6

CAL YR 1970 TOTAL 3,333.45 MEAN 9.13 MAX 374 MIN 0
WTR YR 1971 TOTAL 5,300.30 MEAN 14.5 MAX 539 MIN .05

PEAK DISCHARGE (BASE, 380 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8-28	Unknown	5.46	2,410	9-12	1645	3.08	576

NOTE.--No gage-height record June 17 to July 20, Aug. 27, 28.

RARITAN RIVER BASIN

01405000 Lawrence Brook at Farrington Dam, N. J.

LOCATION.--Lat 40°27'00", long 74°27'05", Middlesex County, on left bank 300 ft upstream from Farrington Dam, 0.7 mile southwest of Milltown, and 5.4 miles upstream from mouth.

DRAINAGE AREA.--34.4 sq mi.

PERIOD OF RECORD.--May 1927 to current year.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 25.73 ft above mean sea level.

AVERAGE DISCHARGE.--44 years, 37.3 cfs (14.72 inches per year), adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 2,920 cfs Aug. 28 (gage height, 26.34 ft), from rating curve extended above 1,100 cfs on basis of weir formula; minimum daily, 0.20 cfs May 12.
Period of record: Maximum discharge, 2,920 cfs Aug. 28, 1971 (gage height, 26.34 ft), from rating curve extended above 1,100 cfs on basis of weir formula; no flow at times when gates in dam were closed and there was no flow over spillway.

REMARKS.--Records good. Records given herein include flow over dam and through blowoff gate. Blowoff gate was open Oct. 1 to Nov. 11, July 21 to Aug. 6 and Aug. 30 to Sept. 30. Flow regulated by Farrington Reservoir (capacity, 655,250,000 gal).

COOPERATION.--Water-stage recorder inspected and records of openings of blowoff gates furnished by employees of city of New Brunswick.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1432: 1959(P).

DISCHARGE, IN CUBIC FEET PER SECCND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	12	21	17	19	59	21	24	31	5.7	30	36
2	23	12	19	18	18	47	21	24	21	7.2	28	30
3	23	12	18	17	16	47	27	27	19	6.7	30	28
4	23	12	18	40	16	176	24	24	18	6.5	111	22
5	23	12	17	160	39	99	21	21	17	6.0	51	20
6	23	12	17	100	47	73	27	24	16	5.5	30	19
7	23	12	14	62	47	127	353	27	16	5.0	18	19
8	23	13	14	47	364	92	194	39	12	4.6	16	18
9	23	14	14	35	242	51	73	51	11	4.2	12	16
10	23	16	14	31	73	43	51	27	10	4.7	11	15
11	23	19	14	31	43	43	43	4.0	9.2	4.5	19	15
12	23	22	27	31	35	39	39	.20	9.2	4.5	31	91
13	23	85	35	31	85	39	31	9.2	10	4.5	19	318
14	23	85	27	35	120	35	31	59	11	4.5	16	155
15	18	135	21	35	51	31	27	43	12	4.2	11	71
16	12	79	21	31	39	31	24	106	14	4.0	9.7	43
17	12	43	176	24	31	31	24	106	12	3.7	8.7	31
18	12	31	92	21	27	24	24	55	10	3.5	7.5	29
19	12	35	51	19	35	39	24	39	9.2	2.8	5.2	22
20	12	35	35	18	43	106	21	27	8.2	13	6.2	22
21	12	55	27	18	55	59	21	31	7.8	24	7.5	36
22	12	39	27	18	73	43	19	35	7.8	24	7.8	36
23	12	31	27	21	222	43	19	27	7.5	24	7.5	29
24	12	24	31	24	99	39	19	21	7.2	24	7.0	23
25	12	21	27	24	59	35	18	19	7.0	24	6.5	20
26	12	19	27	35	47	31	19	18	6.5	24	5.2	18
27	12	19	21	39	176	27	19	18	6.2	24	880	16
28	12	19	19	31	106	27	19	17	5.7	24	1,720	15
29	12	18	18	24	-----	24	27	16	5.7	24	252	15
30	12	21	18	21	-----	24	24	19	5.5	24	85	13
31	12	-----	17	21	-----	21	-----	39	-----	25	51	-----
TOTAL	532	962	924	1,079	2,227	1,605	1,304	996.40	342.7	370.3	3,499.8	1,243
MEAN	17.2	32.1	29.8	34.8	79.5	51.8	43.5	32.1	11.4	11.9	113	41.4
MAX	23	135	176	160	364	176	353	106	31	25	1,720	318
MIN	12	12	14	17	16	21	18	.20	5.5	2.8	5.2	13
(†)	+1.9	+8.4	-.2	+1	+6	-.4	0	+1	-.9	-.2	+1.1	-1.6
MEAN*	19.1	40.5	29.6	34.9	80.1	51.4	43.5	32.2	10.5	11.7	114	39.8
CFSM*	.56	1.18	.86	1.01	2.33	1.49	1.26	.94	.31	.34	3.31	1.16
IN.*	.64	1.31	.99	1.17	2.42	1.72	1.41	1.08	.34	.39	3.82	1.29

CAL YR 1970 TOTAL 12,815.00 MEAN 35.1 MAX 507 MIN 4.0 MEAN* 35.1 CFSM* 1.02 IN.* 13.77
WTR YR 1971 TOTAL 15,085.20 MEAN 41.3 MAX 1,720 MIN .20 MEAN* 42.0 CFSM* 1.22 IN.* 16.58

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	0800	25.25	480	8-28	0900	26.34	2,920
4-07	1800	25.28	522	9-13	1300	25.24	478

† Change in contents, in cubic feet per second, in Farrington Reservoir.

* Adjusted for change in contents.

RARITAN RIVER BASIN

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01405400 Manalapan Brook at Spotswood, N. J.

LOCATION.--Lat 40°23'22", long 74°23'27", Middlesex County, on right bank of Devoe Lake Dam in Spotswood, 0.1 mile upstream from Cedar Brook, and 0.6 mile upstream from confluence with Matchaponix Brook.

DRAINAGE AREA.--40.7 sq mi.

PERIOD OF RECORD.--January 1957 to current year.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is at mean sea level (levels by Duhermal Water System). January 1957 to September 1966 at datum 17.72 ft higher.

AVERAGE DISCHARGE.--14 years, 61.2 cfs (20.42 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,420 cfs Aug. 28 (elevation, 19.76 ft, waste gates open); minimum daily, 11 cfs July 24.

Period of record: Maximum discharge, 1,650 cfs May 30, 1968 (elevation, 19.90 ft, waste gates open); no flow for part or all of day in some years when waste gates were closed and water was below spillway.

REMARKS.--Records good except those for the periods when waste gates were open, which are fair. Records given herein include flow over dam and through waste gates. Waste gates open Oct. 1 to Nov. 13, Feb. 8-13, Apr. 7-12, Aug. 28 to Sept. 2 and Sept. 12-16. Some regulation by Lake Manalapan, Helmetta Pond, and Devoe Lake. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1722: 1957-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	17	36	34	28	128	41	53	50	20	83	64
2	18	17	34	32	23	75	41	47	41	22	44	40
3	18	17	30	35	20	65	44	46	37	30	37	43
4	18	17	33	39	23	116	46	43	39	27	43	39
5	18	20	29	97	33	151	42	40	35	21	43	35
6	18	16	29	168	61	115	47	42	30	19	44	34
7	18	16	28	151	80	105	184	48	29	18	33	36
8	18	16	26	72	208	138	388	55	27	16	26	36
9	18	16	27	52	441	112	283	61	24	18	22	38
10	18	16	27	44	300	71	113	58	24	22	21	31
11	18	16	28	41	97	61	73	49	23	21	28	47
12	18	30	38	40	47	63	56	43	23	20	39	233
13	18	66	48	38	25	59	60	44	23	19	29	791
14	18	100	50	39	49	55	54	45	30	23	25	653
15	18	122	41	39	64	52	51	40	28	20	22	342
16	18	130	37	36	56	51	47	70	30	17	20	231
17	18	70	91	32	44	47	47	119	28	17	18	117
18	18	50	143	29	41	43	44	113	26	16	17	77
19	18	45	127	26	41	46	43	65	23	19	24	65
20	18	50	71	24	44	84	42	49	22	22	27	61
21	18	68	52	23	53	110	43	46	21	20	26	86
22	18	75	46	24	66	73	41	49	22	18	22	87
23	18	67	51	28	129	66	40	47	21	15	19	71
24	18	51	67	32	161	72	39	41	20	11	17	56
25	18	35	81	34	108	67	38	37	19	14	16	47
26	18	33	65	43	69	57	41	36	19	16	14	43
27	18	31	51	58	105	51	39	34	18	17	141	44
28	18	33	42	46	166	49	40	32	18	16	977	43
29	18	31	36	33	-----	47	54	30	17	14	1,030	41
30	18	34	34	30	-----	46	61	33	19	52	438	40
31	17	-----	30	31	-----	43	-----	47	-----	103	136	-----
TOTAL	557	1,305	1,528	1,450	2,582	2,318	2,182	1,562	786	703	3,481	3,571
MEAN	18.0	43.5	49.3	46.8	92.2	74.8	72.7	50.4	26.2	22.7	112	119
MAX	18	130	143	168	441	151	388	119	50	103	1,030	791
MIN	17	16	26	23	20	43	38	30	17	11	14	31
CFSM	.44	1.07	1.21	1.15	2.27	1.84	1.79	1.24	.64	.56	2.75	2.92
IN.	.51	1.19	1.40	1.33	2.36	2.12	1.99	1.43	.72	.64	3.18	3.26

CAL YR 1970 TOTAL 21,919.27 MEAN 60.1 MAX 436 MIN .27 CFSM 1.48 IN 20.03
WTR YR 1971 TOTAL 22,025.00 MEAN 60.3 MAX 1,030 MIN 11 CFSM 1.48 IN 20.13

RARITAN RIVER BASIN

01405500 South River at Old Bridge, N. J.

LOCATION.--Lat 40°24'22", long 74°22'08", Middlesex County, on right abutment of Duhernal Dam, 0.6 mile south of Old Bridge, 2.3 miles upstream from Deep Run, and 9.1 miles upstream from mouth.

DRAINAGE AREA.--94.6 sq mi.

PERIOD OF RECORD.--August 1939 to current year.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is at mean sea level.

AVERAGE DISCHARGE.--32 years, 131 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 4,210 cfs Aug. 28 (elevation, 11.73 ft); minimum, 8.5 cfs July 9, 18, 19, 24, 25 (elevation, 9.37 ft); minimum daily, 9.9 cfs July 18, 19, 24.
Period of record: Maximum discharge, 4,250 cfs Sept. 15, 1944 (elevation, 11.71 ft, waste gates open); maximum gage height, 11.73 ft Aug. 28, 1971; no flow Sept. 15, 1967 when waste gates were closed and water was below spillway.

REMARKS.--Records good. The flow past this station is affected by pumpage from well fields for industrial use by Duhernal Water System and Peter J. Schweitzer Co. Some regulation by Duhernal Lake (capacity, 138,000,000 gal), Lake Manalapan, Devoe Lake, and several small ponds in headwater tributaries.

COOPERATION.--Water-stage recorder inspected by Duhernal Water System.

REVISIONS (WATER YEARS).--WSP 1902: 1957.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	28	70	62	48	228	81	106	95	18	181	150
2	24	28	62	60	40	151	77	88	73	28	119	107
3	24	26	57	62	36	130	84	81	64	39	88	87
4	23	39	57	70	35	294	92	75	66	33	79	77
5	23	209	54	275	54	323	81	70	59	25	95	70
6	22	200	50	466	200	228	88	70	48	19	102	64
7	20	88	48	285	173	247	514	95	44	16	62	62
8	20	62	44	151	551	323	1,230	106	41	13	45	113
9	20	47	42	116	1,180	200	530	159	36	11	37	118
10	20	36	42	92	450	144	256	124	33	22	30	72
11	22	38	44	81	237	137	190	98	30	19	37	81
12	22	47	60	79	119	137	151	77	29	17	68	891
13	23	144	102	77	144	124	124	75	30	17	54	2,370
14	20	247	98	77	285	116	116	79	44	18	39	1,630
15	30	266	75	79	173	102	106	72	57	20	33	931
16	26	275	64	73	116	98	98	159	48	15	30	601
17	22	159	237	62	95	95	95	351	44	12	25	270
18	19	95	434	59	81	81	88	237	37	9.9	22	189
19	19	84	256	52	84	88	84	137	32	9.9	30	243
20	19	95	151	45	92	247	79	98	30	16	54	180
21	20	190	112	44	119	209	77	84	26	18	45	255
22	37	166	95	44	137	137	75	102	25	15	36	270
23	60	102	119	54	332	166	72	92	24	12	28	180
24	52	81	181	68	342	200	70	73	22	9.9	23	144
25	42	68	190	68	209	159	68	64	20	11	19	118
26	37	62	137	92	144	130	70	60	18	22	17	104
27	33	60	102	166	275	112	72	57	17	23	370	101
28	30	60	79	92	361	106	70	54	17	20	3,740	101
29	29	59	70	81	-----	102	102	50	19	14	2,140	98
30	28	64	62	64	-----	95	130	54	18	81	777	93
31	28	-----	57	54	-----	88	-----	84	-----	304	283	-----
TOTAL	838	3,125	3,251	3,150	6,112	4,997	4,970	3,131	1,146	907.7	8,708	9,770
MEAN	27.0	104	105	102	218	161	166	101	38.2	29.3	281	326
MAX	60	275	434	466	1,180	323	1,230	351	95	304	3,740	2,370
MIN	19	26	42	44	35	81	68	50	17	9.9	17	62

CAL YR 1970 TOTAL 44,857.0 MEAN 123 MAX 1,250 MIN 12
WTR YR 1971 TOTAL 50,105.7 MEAN 137 MAX 3,740 MIN 9.9

PEAK DISCHARGE (BASE, 700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-09	0100	10.77	1,380	8-28	1500	11.73	4,210
4-08	0500	10.76	1,350	9-13	0200	11.22	2,490

RARITAN RIVER BASIN

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01406680 Raritan River at Old Raritan Arsenal, Metuchen, N. J.

LOCATION.--Lat 40°29'46", long 74°19'35", Middlesex County, on pier at the old Raritan Arsenal, 1.6 miles upstream from Garden State Parkway Bridge, and 3.6 miles upstream from mouth of Raritan River.

DRAINAGE AREA.--1,100 sq mi.

PERIOD OF RECORD.--January 1966 to current year. Prior to October 1970 published as Raritan River at Perth Amboy (see station 01406700).

GAGE.--Water-stage recorder. Datum of gage is 10.00 ft below mean sea level. Gage-height record converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations during year are as follows:

		TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971											
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	4.98	6.26	5.67	5.72	7.95	5.91	4.94	4.92	4.69	4.14	4.68	4.91
<u>high tide</u>	Date	15	15	12	1	5	27	24	24	15	8	28	6,7
Minimum	Elevation	-2.82	-2.45	-4.18	-6.22	-5.17	-5.32	-3.82	-2.66	-2.28	-2.68	-2.97	-3.21
<u>low tide</u>	Date	16	23	6	27	9	4	23	26	22	9	10	5
Mean high tide		3.54	3.71	3.41	3.04	4.05	2.97	3.29	3.46	3.49	3.26	3.38	3.65
Mean water level		1.10	1.30	.88	.36	1.07	.46	.84	1.00	1.02	.82	.91	1.16
Mean low tide		-1.44	-1.27	-1.81	-1.71	-2.15	-2.20	-1.79	-1.63	-1.58	-1.75	-1.71	-1.43

Maximum elevation known, about 9.5 ft above mean sea level Nov. 7, 1953, estimated on basis of records at Sandy Hook since 1932 by USC & GS. Minimum elevation known, about 6.0 ft below mean sea level Jan. 31, 1966, estimated on basis of records at Sandy Hook since 1932 by USC & GS.

RARITAN RIVER BASIN

Reservoirs in Raritan River basin

01396790 SPRUCE RUN RESERVOIR.--Lat 40°38'30", long 74°55'19", Hunterdon County, at dam on Spruce Run, 0.5 mile north of Clinton, and 0.6 mile upstream from mouth. Drainage area, 41.3 sq mi. Period of record, November 1963 to current year. Nonrecording gage read daily. Datum of gage is at mean sea level. Extremes for current year: Maximum contents observed, 11,200,000,000 gal Sept. 14 (elevation, 273.36 ft); minimum observed, 6,900,000,000 gal Oct. 21 (elevation, 261.97 ft). Extremes for period of record: Maximum contents observed, 11,400,000,000 gal Aug. 3, 1966 (elevation, 273.92 ft).

Reservoir is formed by earthfill dam with concrete spillway; dam completed in October 1963 with crest of spillway 273.00 ft. Usable capacity, 11,000,000,000 gal. Dead storage 300,000 gal. Outflow mostly regulated by gates. Water is released to maintain minimum flow on the South Branch Raritan River. Records given herein represent usable capacity. Elevation record and capacity table furnished by New Jersey Department of Environmental Protection. Reservoir is used for recreation.

01397050 ROUND VALLEY RESERVOIR.--Lat 40°36'39", long 74°50'42", Hunterdon County, at main dam on Prescott Brook, 1.8 miles south of Lebanon, 3.2 miles upstream from mouth, and 4.5 miles west of Whitehouse. Drainage area, 5.7 sq mi. Period of record, March 1966 to current year. Nonrecording gage read daily. Datum of gage is at mean sea level. Extremes for current year: Maximum contents observed, 51,600,000,000 gal June 4 (elevation, 380.60 ft); minimum observed, 47,600,000,000 gal Oct. 13 (elevation, 374.99 ft). Reservoir is formed by earthfill dam at main dam on Prescott Brook, and two dams on South Branch Rockaway River at Lebanon. Dam completed in March 1966. Capacity at spillway level (elevation, 385.00 ft); 55,000,000,000 gal. Reservoir is used primarily for storage and is filled by pumping from South Branch Raritan River at Hamden Pumping Station (see p. 77). Outflow is controlled by operation of gate in pipe in dam. Elevation record furnished by New Jersey Department of Environmental Protection.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Elevation (feet)	Contents (million gallons)	Change in contents (equivalent in cfs)	Elevation (feet)	Contents (million gallons)	Change in contents (equivalent in cfs)
	01396790 Spruce Run Reservoir†			01397050 Round Valley Reservoir†		
Sept. 30.....	264.64	7,800	-	375.31	47,800	-
Oct. 31.....	264.50	7,800	0	375.09	47,700	-5.0
Nov. 30.....	263.86	7,600	-10.3	375.75	48,200	+25.8
Dec. 31.....	270.73	10,000	+120	376.50	48,700	+24.9
CAL YR 1970.....	-	-	+11.0	-	-	+18.2
Jan. 31.....	272.61	10,800	+39.9	377.05	49,100	+20.0
Feb. 28.....	272.98	11,000	+11.0	377.98	49,800	+38.7
Mar. 31.....	272.96	11,000	0	379.08	50,600	+39.9
Apr. 30.....	272.96	11,000	0	379.98	51,200	+30.9
May 31.....	273.07	11,000	0	380.59	51,600	+20.0
June 30.....	271.67	10,400	-30.9	380.38	51,500	-5.2
July 31.....	269.31	9,400	-50.0	379.46	50,900	-29.9
Aug. 31.....	273.00	11,000	+79.8	379.89	51,100	+10.0
Sept. 30.....	270.55	9,900	-56.8	380.24	51,300	+10.3
WTR YR 1971.....	-	-	+8.9	-	-	+14.8

† Elevation at 0800 hours on first day of following month.

RARITAN RIVER BASIN

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Diversions in Raritan River basin

01396920 Water is diverted 4.0 miles upstream from the gaging station on South Branch Raritan River at Stanton (see sta 01397000), at the Hamden Pumping Station, for storage in Round Valley Reservoir. Records furnished by New Jersey Department of Environmental Protection.

01400490 Johns-Manville Products Corporation diverts water 1,500 ft upstream from the gaging station on Raritan River at Manville (see sta 01400500) for cooling purposes and returns the water to the river 0.6 mile below the station. Records furnished by the Johns-Manville Products Corporation.

01400509 Elizabethtown Water Company diverts water from the Raritan and Millstone Rivers just upstream from the mouth of the Millstone River. Records given herein represent the total diversion from both rivers. Records furnished by the Elizabethtown Water Company.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Month	Hamden Pumping Station	Johns-Manville Products Corporation	Elizabethtown Water Company
October.....	.55	0	106
November.....	13.5	0	79.1
December.....	25.1	0	90.0
CAL YR 1970.....	6.9	4.2	104
January.....	15.0	0	92.2
February.....	16.7	6.4	92.1
March.....	32.2	6.0	93.8
April.....	23.3	6.1	105
May.....	12.6	5.3	102
June.....	0	6.4	126
July.....	0	8.8	127
August.....	0	9.2	100
September.....	0	7.7	86.9
WTR YR 1971.....	11.6	4.6	100

NAVESINK RIVER BASIN

01407500 Swimming River near Red Bank, N. J.

LOCATION.--Lat 40°19'10", long 74°06'55", Monmouth County, on left bank 50 ft upstream from dam at Swimming River Reservoir, 3.3 miles southwest of Red Bank, and 4.8 miles upstream from mouth.

DRAINAGE AREA.--48.5 sq mi.

PERIOD OF RECORD.--August 1922 to current year.

GAGE.--Water-stage recorder above dam. Datum of gage is 30.00 ft above mean sea level. 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.

AVERAGE DISCHARGE.--49 years, 76.4 cfs (21.39 inches per year) adjusted for storage and diversion.

EXTREMES.--Current year: Maximum discharge, 2,490 cfs Feb. 8 (gage height, 6.49 ft), no flow some days in October, November, June, July, and August.

Period of record: Maximum discharge, 8,910 cfs Oct. 27, 1943 (gage height, 8.96 ft, site and datum then in use), from rating curve extended above 600 cfs on basis of weir formula; no flow on some days in many years.

A flood in July 1919 reached a stage of 7.84 ft (site and datum then in use), from floodmark (discharge, about 11,800 cfs).

REMARKS.--Records good. Records given herein represent flow over spillway and through blowoff gates (which varies from 0 to 17 cfs during the year). Diversion above station for municipal supply. Flow occasionally regulated by Swimming River Reservoir.

COOPERATION.--Water-stage recorder inspected and record of diversion furnished by Monmouth Consolidated Water Co.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 891: 1939.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	20	29	24	70	38	63	52	0	0	48
2		0	19	32	22	63	39	54	38	.04	1.7	41
3		0	18	28	20	69	57	56	43	.03	3.5	36
4		0	17	42	19	250	58	43	32	0	3.9	29
5		.07	12	268	46	108	46	30	22	0	8.6	22
6		.42	11	142	113	91	85	39	18	0	9.8	21
7		.97	9.0	65	83	159	589	63	16	0	8.5	39
8		1.3	7.9	44	1,120	120	213	79	13	0	6.5	72
9		1.4	7.9	40	295	67	106	97	10	0	4.7	42
10		1.9	8.1	38	81	62	82	74	7.9	0	2.9	28
11		3.8	8.1	36	55	78	72	58	5.7	0	2.0	120
12		8.5	14	34	48	72	70	49	4.6	0	3.3	1,330
13		73	33	32	123	71	68	43	3.6	0	2.6	959
14		94	27	34	170	64	63	47	9.1	0	1.7	364
15		147	21	36	68	59	49	38	12	0	1.1	272
16		82	18	31	50	50	48	178	15	0	.65	125
17		42	368	28	42	44	56	159	15	0	.27	109
18		31	127	26	41	42	57	77	12	0	.13	187
19		35	64	24	40	58	53	53	9.8	0	.01	149
20		38	44	22	43	137	53	45	7.5	0	.13	102
21		90	37	20	56	75	52	47	5.6	0	.11	153
22		46	55	20	70	58	43	51	4.6	0	.01	111
23		28	77	21	195	83	32	39	3.3	0	0	88
24		19	89	23	103	75	28	26	2.5	0	0	81
25		16	58	24	70	57	30	25	1.5	0	0	71
26		16	49	53	59	52	37	21	.77	0	0	68
27		16	32	63	175	51	43	19	.24	0	736	74
28		16	25	37	115	50	47	18	.06	0	1,160	72
29		16	23	31	-----	48	99	17	.01	0	200	66
30		19	22	28	-----	46	80	29	0	0	78	64
31		-----	20	27	-----	41	-----	70	-----	0	54	-----
TOTAL	0	842.36	1,341.0	1,378	3,346	2,370	2,393	1,707	364.78	.07	2,290.11	4,943
MEAN	0	28.1	43.3	44.5	120	76.5	79.8	55.1	12.2	.002	73.9	165
MAX	0	147	368	268	1,120	250	589	178	52	.04	1,160	1,330
MIN	0	0	7.9	20	19	41	28	17	0	0	0	21
(+)	21.9	39.7	24.6	23.1	27.0	23.5	26.2	25.6	25.1	29.5	38.1	27.0
MEAN#	21.9	67.8	67.9	67.6	147	100	106	80.7	37.3	29.5	112	192
CFSM#	.45	1.40	1.40	1.40	3.03	2.06	2.19	1.66	.77	.61	2.31	3.96
IN.#	.52	1.56	1.61	1.61	3.15	2.38	2.44	1.92	.86	.70	2.67	4.41
CAL YR 1970	TOTAL	20,011.40	MFAN	54.8	MAX	675	MIN	0	MEAN#	80.2	CFSM#	1.65
WTR YR 1971	TOTAL	20,975.32	MEAN	57.5	MAX	1,330	MIN	0	MEAN#	85.1	CFSM#	1.75
											IN.#	22.46
											IN.#	23.83

+ Diversion and change in contents in Swimming River Reservoir, in cubic feet per second.

Adjusted for diversion and change in contents.

SHARK RIVER BASIN

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01407705 Shark River near Neptune City, N. J.

LOCATION.--Lat. 40°11'56", long 74°04'14", Monmouth County, on left bank 100 ft upstream from bridge on Remsen Mill Road, 0.3 mile downstream from Robins Swamp Brook, and 1.7 miles west of Neptune City.

DRAINAGE AREA.--9.96 sq mi.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 7.05 ft above mean sea level.

AVERAGE DISCHARGE.--5 years, 12.2 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 352 cfs Sept. 12 (gage height, 6.02 ft); minimum, 0.13 cfs Aug. 25 (gage height, 1.03 ft).

Period of record: Maximum discharge, 580 cfs Dec. 26, 1969 (gage height, 7.94 ft); minimum, 0.13 cfs Aug. 25, 1971.

REMARKS.--Records good. Diversion above station by Monmouth Consolidated Water Co., for municipal supply and by farmers for irrigation.

COOPERATION.--Water-stage recorder inspected by Monmouth Consolidated Water Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.7	5.6	8.0	5.6	8.8	7.4	6.0	5.6	10	3.0	2.9
2	3.7	3.3	5.1	8.0	6.1	5.5	5.3	7.4	6.2	26	2.9	2.7
3	3.7	3.7	4.8	7.4	5.8	14	7.0	7.7	7.3	3.9	2.5	2.4
4	3.3	65	4.4	13	4.7	89	5.7	7.0	5.4	3.4	3.1	2.3
5	3.1	40	4.7	62	18	29	5.6	6.4	5.6	2.3	6.2	2.2
6	2.7	9.0	5.2	24	6.1	19	19	7.4	5.1	2.4	2.6	2.8
7	2.6	5.1	4.1	8.0	18	27	135	6.6	4.4	2.5	2.7	2.5
8	2.6	5.5	3.7	3.1	155	23	41	11	3.7	3.6	3.3	2.6
9	2.6	4.5	4.1	3.3	37	17	27	13	3.1	3.8	4.1	2.5
10	2.6	3.7	4.5	4.5	12	14	19	9.6	3.1	2.6	2.9	2.8
11	2.6	4.1	4.5	4.1	6.3	12	14	8.5	4.3	2.5	9.5	64
12	2.6	4.5	11	4.4	5.8	10	9.6	7.3	4.5	2.5	3.2	340
13	2.6	50	9.3	4.4	23	11	7.5	6.9	12	2.8	2.3	90
14	2.8	15	7.9	6.3	24	12	6.5	7.6	17	2.8	3.2	26
15	3.7	59	6.8	6.2	10	12	5.3	6.6	4.1	2.5	2.7	15
16	3.4	14	7.1	4.3	6.6	12	8.7	58	3.2	2.7	2.5	7.4
17	5.7	7.2	81	7.2	6.6	13	9.0	28	3.9	2.5	2.4	3.7
18	7.1	5.6	17	5.9	5.9	12	8.4	14	2.9	2.5	2.5	2.8
19	4.6	7.2	8.6	5.2	6.3	16	8.0	7.8	3.1	7.2	3.0	4.5
20	2.9	8.6	6.1	5.7	7.0	28	8.0	5.8	3.0	3.2	2.6	5.1
21	3.6	16	5.5	5.4	8.4	20	5.5	7.4	2.9	2.2	3.1	14
22	4.9	15	16	5.2	8.9	14	6.4	8.7	3.4	2.5	2.7	6.0
23	3.8	9.2	17	7.6	29	18	6.4	7.3	3.4	2.6	2.6	8.6
24	2.7	4.8	19	5.0	16	18	6.4	5.4	3.6	2.8	2.4	7.4
25	3.1	5.5	14	5.2	9.0	14	6.4	6.3	2.7	3.1	2.2	10
26	3.1	5.5	8.6	13	5.2	14	6.4	6.7	2.5	4.4	2.5	9.2
27	3.1	5.5	8.6	5.8	30	11	9.3	4.7	2.6	2.9	65	8.0
28	3.1	5.3	7.4	4.9	19	10	8.9	5.8	2.7	2.6	116	8.0
29	3.1	5.1	7.4	5.6	-----	8.3	11	5.9	2.5	2.7	12	5.1
30	3.1	7.1	6.8	4.5	-----	6.7	6.0	9.1	2.5	11	2.5	2.5
31	3.7	-----	6.8	4.4	-----	6.7	-----	14	-----	3.9	3.1	-----
TOTAL	105.5	397.7	322.6	261.6	495.3	525.0	429.7	313.9	136.3	132.4	281.3	663.0
MEAN	3.40	13.3	10.4	8.44	17.7	16.9	14.3	10.1	4.54	4.27	9.07	22.1
MAX	7.1	65	81	62	155	89	135	58	17	26	116	340
MIN	2.6	3.3	3.7	3.1	4.7	5.5	5.3	4.7	2.5	2.2	2.2	2.2

CAL YR 1970 TOTAL 4,512.3 MEAN 12.4 MAX 155 MIN 2.5
WTR YR 1971 TOTAL 4,064.3 MEAN 11.1 MAX 340 MIN 2.2

SHARK RIVER BASIN

01407760 Jumping Brook near Neptune City, N. J.

LOCATION.--Lat 40°12'13", long 74°03'58", Monmouth County, on left bank 50 ft downstream from dam on Jumping Brook Reservoir, 0.85 mile upstream from mouth, and 1.4 miles west of Neptune City.

DRAINAGE AREA.--6.43 sq mi.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 13.76 ft above mean sea level.

AVERAGE DISCHARGE.--5 years, 8.95 cfs.

EXTREMES.--Current year: Maximum discharge, 1,830 cfs Sept. 12 (gage height, 6.34 ft) extended above 150 cfs; no flow June 7.

Period of record: Maximum discharge, 1,830 cfs Sept. 12, 1971 (gage height, 6.34 ft) extended above 150 cfs; no flow June 7, 1971.

REMARKS.--Records fair. Diversion above station by Monmouth Consolidated Water Co., and by farmers for irrigation.

COOPERATION.--Water-stage recorder inspected by Monmouth Consolidated Water Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.1	3.8	3.3	2.4	8.0	5.3	4.3	3.8	10	3.6	2.1
2	2.1	3.5	4.0	2.7	2.1	6.3	5.8	4.5	2.7	25	2.4	2.2
3	2.2	3.8	3.5	2.9	2.4	12	6.1	3.6	4.3	5.6	1.9	2.1
4	2.6	52	3.5	8.0	1.8	56	5.3	3.3	1.9	3.5	4.8	1.5
5	2.2	29	3.1	34	16	19	5.0	3.3	2.1	3.5	9.7	1.6
6	2.2	6.3	3.1	15	6.3	12	12	4.0	2.4	3.6	3.1	1.9
7	2.2	4.0	3.3	6.3	8.0	18	63	3.8	1.6	2.2	2.1	1.5
8	1.8	3.3	2.7	3.8	48	14	20	7.6	2.2	2.2	1.5	1.5
9	1.5	2.9	2.9	3.1	25	9.7	12	6.6	1.7	2.6	1.4	1.8
10	1.5	3.8	2.9	2.9	9.3	7.3	9.3	5.3	1.7	2.7	1.6	1.3
11	1.8	5.8	2.9	3.3	5.8	8.3	7.6	5.0	1.6	2.7	14	188
12	2.2	6.9	9.7	2.9	5.0	7.6	6.9	4.5	1.8	3.1	7.3	381
13	1.9	20	9.0	2.9	17	7.6	7.3	4.3	7.6	2.2	2.2	38
14	1.9	11	5.0	5.8	18	7.3	5.0	6.1	10	2.1	2.2	19
15	4.5	26	3.8	4.8	8.3	6.9	3.6	5.8	3.1	1.9	1.9	13
16	4.3	10	4.5	3.3	5.3	6.6	3.6	44	2.6	2.1	1.6	7.3
17	2.2	6.1	42	2.6	5.3	6.1	3.1	23	2.1	2.1	1.3	6.1
18	2.2	4.5	12	1.5	6.3	6.1	3.3	11	1.3	2.2	1.3	4.8
19	1.4	5.3	6.9	2.1	5.3	11	1.9	6.6	1.8	6.6	2.1	4.5
20	1.6	8.3	5.3	1.9	5.8	16	6.3	6.1	1.9	7.3	2.2	4.5
21	1.8	13	4.3	2.2	8.0	10	6.6	6.9	2.4	3.1	2.1	11
22	9.7	5.8	12	2.2	8.3	7.6	3.5	4.5	1.8	2.1	1.9	6.3
23	4.3	4.5	12	3.6	21	12	2.9	3.8	1.8	1.9	1.8	4.0
24	2.9	3.8	14	3.1	13	10	3.6	2.7	1.6	2.1	1.3	3.5
25	2.6	3.6	8.0	4.0	8.6	7.6	2.9	3.1	1.6	2.4	1.8	2.7
26	2.4	3.6	5.8	10	7.3	6.6	2.6	3.8	2.1	5.0	1.4	3.3
27	2.2	3.6	4.8	6.1	22	6.3	2.9	3.1	1.9	4.0	69	3.5
28	2.2	3.5	3.8	2.7	13	5.8	4.5	2.7	1.3	2.2	247	3.1
29	2.6	3.5	2.9	1.5	-----	5.8	11	2.9	1.5	1.9	16	3.1
30	2.1	5.0	3.5	2.4	-----	6.1	5.6	7.3	1.6	12	5.6	2.7
31	2.1	-----	2.1	2.9	-----	5.6	-----	8.0	-----	8.6	3.5	-----
TOTAL	79.8	264.5	207.1	153.8	304.6	329.2	238.5	211.5	75.8	138.5	419.6	726.9
MEAN	2.57	8.82	6.68	4.96	10.9	10.6	7.95	6.82	2.53	4.47	13.5	24.2
MAX	9.7	52	42	34	48	56	63	44	10	25	247	381
MIN	1.4	2.1	2.1	1.5	1.8	5.6	1.9	2.7	1.3	1.9	1.3	1.3

CAL YR 1970 TOTAL 3,297.3 MEAN 9.03 MAX 138 MIN 1.3
WTR YR 1971 TOTAL 3,149.8 MEAN 8.63 MAX 381 MIN 1.3

01408000 Manasquan River at Squankum, N. J.

LOCATION.--Lat 40°09'47", long 74°09'21", Monmouth County, on right bank 20 ft downstream from bridge on State Highway 547 (Squankum Park Road) in Squankum and 0.4 mile downstream from Marshbog Brook.

DRAINAGE AREA.--43.4 sq mi.

PERIOD OF RECORD.--July 1931 to current year. Monthly discharge only for July 1931, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 18.82 ft above mean sea level. Prior to Aug. 13, 1940, water-stage recorder at site 80 ft upstream at same datum.

AVERAGE DISCHARGE.--40 years, 71.7 cfs (22.43 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,330 cfs Aug. 28 (gage height, 8.42 ft); minimum, 22 cfs Oct. 12, 13, July 16-18 (gage height, 2.47 ft).

Period of record: Maximum discharge, 2,940 cfs Sept. 21, 1938 (gage height, 12.45 ft, from floodmark, site then in use), from rating curve extended above 900 cfs on basis of contracted-opening measurement of peak flow; minimum, 12.9 cfs Sept. 10, 1932.

REMARKS.--Records excellent except those for the period of no gage-height record and those above 260 cfs, which are fair. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1552: 1932-33(M), 1934, 1935(M), 1936, 1944, 1945(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	27	44	50	40	98	59	60	57	32	80	65
2	27	28	42	49	37	85	60	56	50	96	37	57
3	27	32	41	48	37	90	72	54	57	40	31	53
4	29	88	41	57	38	308	62	53	50	32	35	50
5	25	278	38	339	107	153	57	50	44	30	60	46
6	26	60	37	185	107	122	83	56	41	30	50	44
7	25	50	35	96	67	196	698	62	40	28	34	42
8	24	38	35	74	674	153	323	75	40	27	29	45
9	24	34	36	65	320	107	145	79	37	26	27	42
10	24	35	37	60	111	92	113	62	36	27	29	40
11	24	37	36	59	79	96	96	57	34	26	35	195
12	23	56	52	60	72	87	88	54	34	30	52	820
13	24	143	62	56	113	83	83	54	33	26	38	965
14	25	102	46	59	174	77	79	56	49	26	32	376
15	25	163	42	62	81	75	74	49	42	24	29	239
16	25	90	41	53	69	74	72	210	42	24	30	140
17	24	63	408	46	63	69	69	180	36	24	28	111
18	23	53	140	44	63	65	65	92	32	24	28	113
19	23	65	88	44	65	77	63	72	30	31	30	98
20	24	59	70	41	65	161	63	63	30	41	86	88
21	25	129	59	41	88	94	63	62	30	28	40	138
22	45	65	85	45	83	79	62	65	30	26	33	102
23	38	56	109	53	182	100	60	56	30	26	29	85
24	30	49	131	54	109	98	57	50	29	25	27	79
25	28	46	85	50	87	79	56	52	28	28	26	70
26	26	44	72	98	77	74	56	54	27	28	25	67
27	27	41	62	77	215	70	56	49	27	29	150	69
28	27	41	56	50	133	65	56	48	29	26	1,210	67
29	27	40	53	44	-----	65	90	45	30	25	342	63
30	27	48	50	46	-----	63	68	50	29	80	114	62
31	27	-----	48	44	-----	60	-----	69	-----	210	82	-----
TOTAL	826	2,060	2,181	2,149	3,356	3,115	3,048	2,094	1,103	1,175	2,878	4,431
MEAN	26.6	68.7	70.4	69.3	120	100	102	67.5	36.8	37.9	92.8	148
MAX	45	278	408	339	674	308	698	210	57	210	1,210	965
MIN	23	27	35	41	37	60	56	45	27	24	25	40
CFSM	.61	1.58	1.62	1.60	2.77	2.30	2.35	1.56	.85	.87	2.14	3.41
IN.	.71	1.77	1.87	1.84	2.88	2.67	2.61	1.79	.95	1.01	2.47	3.80

CAL YR 1970 TOTAL 28,293 MEAN 77.5 MAX 710 MIN 23 CFSM 1.79 IN 24.25
WTR YR 1971 TOTAL 28,416 MEAN 77.9 MAX 1,210 MIN 23 CFSM 1.79 IN 24.36

PEAK DISCHARGE (BASE, 600 CFS)

NOTE.--No gage-height record July 29 to Aug. 28.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-17	1800	5.68	616	8-28	1800	8.42	1,330
2-08	1800	7.71	1,150	9-13	0845	8.00	1,180
4-07	1700	6.82	886				

01409000 Cedar Creek at Lanoka Harbor, N. J.

LOCATION.--Lat 39°52'05", long 74°10'06", Ocean County, on right bank 20 ft upstream from bridge on U.S. Highway 9, at village of Lanoka Harbor.

DRAINAGE AREA.--56.0 sq mi.

PERIOD OF RECORD.--July 1932 to September 1958, October 1970 to September 1971 (discontinued).

GAGE.--Water-stage recorder and concrete control. Datum of gage is at mean sea level. Prior to Oct. 14, 1933, water-stage recorder at site 70 ft downstream at same datum.

AVERAGE DISCHARGE.--27 years (1932-58, 1970-71), 107 cfs.

EXTREMES.--Current year: Maximum discharge, 314 cfs Feb. 9 (elevation, 3.20 ft); minimum, 18 cfs Aug. 26 (elevation, 2.16 ft).

Period of record: Maximum discharge, 1,050 cfs Oct. 28, 1943 (elevation, 4.50 ft), from rating curve extended above 300 cfs; maximum elevation, 6.45 ft Feb. 16, 1936 (backwater from ice and tide); minimum discharge, 12 cfs Sept. 4, Oct. 4, 1957.

REMARKS.--Record good except those for periods of no gage-height record, which are poor. The station was discontinued in 1958 but operated by Princeton University for the period of Dec. 4, 1970 to Sept. 13, 1971 as a part of a special study. Flow regulated by cranberry bogs.

COOPERATION.--Gage-height record furnished by Princeton University.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	90	76	80	78	165	91	104	88	67	72	182
2	44	100	74	83	72	153	88	94	88	65	75	120
3	46	110	72	80	67	146	88	91	88	75	70	98
4	47	105	70	101	62	202	88	91	88	72	65	91
5	49	120	65	131	72	178	88	91	85	67	70	85
6	52	105	58	142	85	178	85	88	80	67	70	80
7	49	95	47	127	98	174	85	88	85	62	65	75
8	48	90	34	98	191	165	88	94	85	60	62	75
9	48	85	27	209	296	153	88	104	88	58	55	65
10	48	82	24	85	216	165	88	104	88	55	55	70
11	52	90	19	32	80	232	107	98	80	58	62	101
12	55	150	39	25	119	148	138	91	75	55	75	153
13	60	190	85	45	62	104	127	88	80	51	65	180
14	70	185	80	70	58	80	117	88	98	51	65	190
15	55	210	75	88	98	114	107	88	107	51	58	160
16	65	210	72	85	114	80	104	88	104	49	58	130
17	62	170	104	88	104	88	98	206	91	49	55	110
18	58	140	117	85	107	101	98	225	83	43	51	100
19	56	135	131	83	120	104	94	206	80	49	53	100
20	70	140	131	78	114	117	88	104	75	51	70	95
21	90	160	120	70	104	120	91	127	75	51	72	90
22	110	140	114	70	114	120	134	138	72	55	75	85
23	105	130	120	75	157	124	120	120	62	53	72	80
24	90	120	127	78	161	120	182	110	70	51	58	76
25	75	115	138	142	170	120	98	104	62	51	51	72
26	70	110	131	110	170	117	88	104	62	55	34	74
27	65	105	186	60	195	114	88	98	62	58	60	65
28	62	100	131	34	182	117	88	88	62	51	186	60
29	85	100	55	70	-----	120	94	88	62	51	229	55
30	98	105	75	80	-----	110	117	88	62	55	235	50
31	85	-----	78	83	-----	98	-----	88	-----	65	222	-----
TOTAL	2,013	3,787	2,675	2,687	3,466	4,127	3,055	3,384	2,387	1,751	2,565	2,967
MEAN	64.9	126	86.3	86.7	124	133	102	109	79.6	56.5	82.7	98.9
MAX	110	210	186	209	296	232	182	225	107	75	235	190
MIN	44	82	19	25	58	80	85	88	62	43	34	50
CFSM	1.16	2.25	1.54	1.55	2.21	2.38	1.82	1.95	1.42	1.01	1.48	1.77
IN.	1.34	2.52	1.78	1.78	2.30	2.74	2.03	2.25	1.59	1.16	1.70	1.97

CAL YR 1970 TOTAL - MEAN - MAX - MIN - CFSM - IN -
WTR YR 1971 TOTAL 34,864 MEAN 95.5 MAX 296 MIN 19 CFSM 1.71 IN 23.16

NOTE.--No gage-height record Oct. 1 to Dec. 3.

OYSTER CREEK BASIN

01409095 Oyster Creek near Brookville, N. J.

LOCATION.--Lat 39°47'54", long 74°15'02", Ocean County, on left bank 100 ft upstream from bridge on State Highway 532, 1.5 miles downstream from reservoir at Wells Mill, and 3.2 miles northeast of Brookville.

DRAINAGE AREA.--7.43 sq mi.

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 24.74 ft above mean sea level.

AVERAGE DISCHARGE.--6 years, 26.3 cfs (48.07 inches per year).

EXTREMES.--Current year: Maximum discharge, 102 cfs Feb. 8 (gage height, 5.02 ft); minimum, 18 cfs Aug. 9 (gage height, 3.71 ft).

Period of record: Maximum discharge, 232 cfs Dec. 26, 1969 (gage height, 6.18 ft); minimum, 12 cfs Aug. 6, 7, 1965 (gage height, 3.46 ft).

REMARKS.--Records good except those below 30 cfs, which are fair. Flow probably contains considerable ground-water inflow from other surface drainage basins. Some minor regulation possible from small reservoir and cranberry bog upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	20	23	25	26	33	24	21	32	20	21	23
2	21	22	22	24	26	29	26	20	28	34	20	21
3	21	23	21	24	26	32	25	22	30	30	20	20
4	21	29	21	26	26	56	24	22	28	25	20	20
5	25	43	20	45	27	48	23	21	26	21	26	20
6	25	30	21	50	28	37	31	22	25	20	23	20
7	22	26	20	34	28	35	62	24	28	20	20	20
8	21	24	20	28	83	35	46	28	26	19	20	20
9	21	21	20	26	56	33	35	29	23	19	19	20
10	22	21	20	25	37	31	32	27	23	19	19	20
11	28	21	20	25	32	32	30	24	22	20	25	33
12	28	28	24	24	32	31	28	23	22	20	37	40
13	24	38	27	23	32	31	27	23	23	20	31	58
14	21	33	24	27	34	31	27	23	29	20	23	60
15	23	40	21	28	32	30	24	22	27	19	20	44
16	34	38	22	26	32	29	24	39	24	19	20	36
17	33	28	50	25	32	28	29	53	23	19	19	31
18	25	21	44	24	28	27	27	36	21	19	19	31
19	20	21	32	24	23	29	23	31	21	20	21	31
20	20	27	28	24	26	33	21	28	21	23	30	28
21	21	37	26	24	30	31	20	27	20	20	25	27
22	33	31	33	24	32	29	20	28	20	20	21	25
23	32	27	38	25	57	33	19	25	20	20	20	24
24	27	24	39	26	43	32	19	24	20	20	19	23
25	27	22	34	26	32	31	19	23	20	20	19	23
26	24	22	30	31	27	28	20	23	20	20	19	23
27	21	22	28	33	39	28	20	23	21	19	39	23
28	20	21	26	33	40	28	20	23	20	20	78	24
29	20	21	24	33	-----	28	23	23	19	20	52	23
30	20	25	23	27	-----	26	22	30	19	22	33	23
31	20	-----	23	26	-----	25	-----	34	-----	21	26	-----
TOTAL	741	806	824	865	966	989	790	821	701	648	804	834
MEAN	23.9	26.9	26.6	27.9	34.5	31.9	26.3	26.5	23.4	20.9	25.9	27.8
MAX	34	43	50	50	83	56	62	53	32	34	78	60
MIN	20	20	20	23	23	25	19	20	19	19	19	20
CFSM	3.22	3.62	3.58	3.76	4.64	4.29	3.54	3.57	3.15	2.81	3.49	3.74
IN.	3.71	4.04	4.13	4.33	4.84	4.95	3.96	4.11	3.51	3.24	4.03	4.18

CAL YR 1970 TOTAL 11,121 MEAN 30.5 MAX 178 MIN 20 CFSM 4.11 IN 55.68
WTR YR 1971 TOTAL 9,789 MEAN 26.8 MAX 83 MIN 19 CFSM 3.61 IN 49.01

PEAK DISCHARGE (BASE, 75 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	1200	5.02	102	9-13	2145	4.76	76
8-28	1600	4.94	94				

MULLICA RIVER BASIN

85

01409400 Mullica River near Batsto, N. J.

LOCATION.--Lat 39°40'28", long 74°39'55", Atlantic County, on right bank 2.4 miles upstream from Sleeper Branch and 2.5 miles north of Batsto.

DRAINAGE AREA.--46.1 sq mi.

PERIOD OF RECORD.--September 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 14 ft (from topographic map).

AVERAGE DISCHARGE.--14 years, 104 cfs (30.64 inches per year).

EXTREMES.--Current year: Maximum discharge, 435 cfs Aug. 28 (gage height, 3.76 ft); minimum, 23 cfs many days in October (gage height, 0.57 ft).

Period of record: Maximum discharge, 1,190 cfs Aug. 27, 1958 (gage height, 5.37 ft); minimum, 7.0 cfs Sept. 6-8, 1966 (gage height, 0.28 ft).

REMARKS.--Records excellent except those for the period of no gage-height record, which are good. Flow regulated occasionally by ponds and cranberry bogs 4 to 6 miles upstream from station.

REVISIONS (WATER YEARS).--WRD N.J. 1969: 1958(M), 1960(M), 1967-68(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	41	91	109	75	303	120	87	133	44	44	229
2	28	39	88	105	73	253	113	86	150	43	37	168
3	27	39	85	103	66	215	103	90	107	42	33	148
4	30	43	83	104	64	232	99	103	93	39	32	126
5	28	53	80	127	74	307	96	97	90	37	38	107
6	25	51	76	163	83	255	98	88	86	36	37	79
7	24	48	72	146	84	210	211	83	83	36	35	66
8	24	48	69	157	196	262	291	90	78	34	32	66
9	23	47	70	193	262	270	294	94	76	33	31	66
10	23	46	72	177	312	217	265	87	72	32	29	64
11	23	49	70	161	277	183	240	88	69	32	29	80
12	24	86	75	148	213	172	218	89	65	34	33	123
13	29	105	82	136	253	164	201	90	63	33	31	266
14	32	117	82	133	285	157	175	95	95	33	30	372
15	26	171	70	133	220	150	123	91	97	32	31	312
16	24	194	55	117	160	144	112	125	87	31	28	263
17	24	181	108	93	118	137	110	220	81	28	28	269
18	24	170	131	87	141	130	110	285	73	28	27	226
19	23	173	145	82	202	129	112	234	66	30	27	191
20	24	173	173	78	141	147	101	201	62	38	31	162
21	25	177	156	76	107	144	96	196	61	37	31	144
22	47	147	156	80	128	137	93	179	60	33	28	111
23	63	136	171	81	309	152	90	154	54	32	27	87
24	58	130	177	80	317	161	88	116	52	31	25	106
25	57	123	172	81	279	154	85	96	51	30	24	120
26	57	114	164	90	254	147	84	106	50	30	24	75
27	53	107	151	89	228	143	83	108	49	32	108	79
28	53	100	144	86	210	138	82	111	47	30	313	82
29	49	94	136	78	-----	135	88	79	46	28	286	91
30	45	94	124	79	-----	124	88	84	44	35	214	99
31	42	-----	113	80	-----	121	-----	106	-----	43	314	-----
TOTAL	1,063	3,096	3,441	3,452	5,131	5,593	4,069	3,758	2,240	1,056	2,037	4,377
MEAN	34.3	103	111	111	183	180	136	121	74.7	34.1	65.7	146
MAX	63	194	177	193	317	307	294	285	150	44	314	372
MIN	23	39	55	76	64	121	82	79	44	28	24	64
CFSM	.74	2.23	2.41	2.41	3.97	3.90	2.95	2.62	1.62	.74	1.43	3.17
IN.	.86	2.50	2.78	2.79	4.14	4.51	3.28	3.03	1.81	.85	1.64	3.53

CAL YR 1970 TOTAL 41,351 MEAN 115 MAX 980 MIN 23 CFSM 2.49 IN 33.77
WTR YR 1971 TOTAL 39,313 MEAN 108 MAX 372 MIN 23 CFSM 2.34 IN 31.72

NOTE.--No gage-height record Aug. 28 to 30.

MULLICA RIVER BASIN

01409500 Batsto River at Batsto, N. J.

LOCATION.--Lat 39°38'33", long 74°39'00", Burlington County, on right bank 30 ft downstream from highway bridge at Batsto and 1.0 mile upstream from mouth.

DRAINAGE AREA.--70.5 sq mi.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for April to September 1939, published in WSP 1302.

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 mean sea level.

AVERAGE DISCHARGE.--44 years, 125 cfs (24.08 inches per year).

EXTREMES.--Current year: Maximum daily discharge, 780 cfs Aug. 29; minimum daily, 40 cfs Aug. 25, 26.
Period of record: Maximum daily discharge, 1,310 cfs Aug. 24, 1933; maximum gage height, 8.7 ft Aug. 20, 1939, from floodmark; minimum daily discharge, 5.7 cfs Oct. 4, 1959.

REMARKS.--Records excellent except those for the periods of no gage-height record, which are fair. Flow occasionally regulated by sluice gates prior to December 1954 and by an automatic Bascule gate since July 1959 at Batsto Lake 300 ft upstream (capacity, about 60,000,000 gal).

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1432: 1930, 1933, 1936, 1938.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	57	88	106	81	253	102	94	104	60	68	354
2	52	58	88	92	78	219	102	92	102	61	58	241
3	51	60	81	88	74	200	106	90	102	63	55	170
4	54	68	83	88	71	234	106	88	98	60	54	135
5	52	71	81	116	74	226	104	87	94	58	64	120
6	51	78	81	151	85	250	129	88	88	55	60	106
7	51	78	76	193	100	241	182	98	85	57	57	96
8	51	69	72	182	155	217	325	114	83	55	54	88
9	49	63	74	162	267	210	394	108	81	54	52	79
10	49	63	74	140	380	193	303	100	78	55	50	78
11	51	64	72	125	330	179	238	92	76	54	48	88
12	48	90	79	120	243	162	200	92	74	54	55	116
13	48	116	87	112	186	153	170	100	76	54	52	274
14	49	106	79	110	166	144	148	110	94	54	50	540
15	51	148	79	108	168	137	131	116	104	52	52	575
16	52	133	78	106	159	131	123	135	90	51	48	433
17	49	162	142	100	144	135	116	191	85	52	46	320
18	49	135	129	94	131	133	110	373	79	51	45	238
19	46	129	146	88	127	150	106	310	76	51	44	193
20	48	127	135	85	125	148	102	224	72	58	52	168
21	49	125	123	81	127	142	100	179	69	60	50	142
22	64	129	120	81	148	153	94	153	69	55	47	125
23	78	127	125	85	193	165	94	135	69	52	44	116
24	76	118	140	87	274	160	94	116	68	54	42	108
25	69	112	142	88	301	158	90	110	66	52	40	100
26	69	104	140	94	243	146	90	102	64	49	40	94
27	74	98	125	96	229	142	90	100	64	54	150	90
28	61	96	110	92	234	140	90	96	61	52	600	90
29	60	92	104	88	-----	131	94	94	61	49	780	87
30	60	90	102	85	-----	112	94	94	61	57	660	97
31	57	-----	96	85	-----	104	-----	100	-----	60	500	-----
TOTAL	1,722	2,966	3,151	3,328	4,893	5,268	4,227	3,981	2,393	1,703	4,017	5,451
MEAN	55.5	98.9	102	107	175	170	141	128	79.8	54.9	130	182
MAX	78	162	146	193	380	253	394	373	104	63	780	575
MIN	46	57	72	81	71	104	90	87	61	49	40	78
CFSM	.79	1.40	1.45	1.52	2.48	2.41	2.00	1.82	1.13	.78	1.84	2.58
IN.	.91	1.57	1.66	1.76	2.58	2.78	2.23	2.10	1.26	.90	2.12	2.88

CAL YR 1970 TOTAL 43,954 MEAN 120 MAX 942 MIN 46 CFSM 1.70 IN 23.19
WTR YR 1971 TOTAL 43,100 MEAN 118 MAX 780 MIN 40 CFSM 1.67 IN 22.74

MULLICA RIVER BASIN

87

01409510 Batsto River at Pleasant Mills, N. J.

LOCATION.--Lat 39°37'55", long 74°38'40", Burlington County, on right bank, 0.5 mile upstream from mouth, 1.0 mile southeast of Pleasant Mills.

DRAINAGE AREA.--73.6 sq mi.

PERIOD OF RECORD.--July 1958 to current year. Annual maximum only July 1958 to September 1965, published in WRD N.J. 1965; October 1965 to September 1966, published in WRD N.J. 1966.

GAGE.--Water-stage recorder. Datum of gage is 1.4 ft above mean sea level. Gage-height record converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations during year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.65	3.97	4.03	3.70	3.60	3.73	3.80	-	-	-	-	-
high tide	Date	26	15	17	1	23	28	6	-	-	-	-	-
Minimum	Elevation	-.40	.23	.09	.17	0	.50	.09	-	-	-	-	-
low tide	Date	18	6	7	21,23	4	18	25	-	-	-	-	-
Mean high tide		2.64	2.74	2.47	2.27	2.40	2.44	2.49	-	-	-	-	-
Mean water level		1.5	1.8	1.6	1.4	1.7	1.7	1.6	-	-	-	-	-
Mean low tide		.36	.78	.67	.60	.92	.90	.72	-	-	-	-	-

Maximum elevation for period of record, 7.2 ft Mar. 7, 1962; minimum elevation for water years 1967-71, 0.40 ft below mean sea level Oct. 18, 1970.

REMARKS.--Gage-height record unreliable from Apr. 29 to Sept. 30.

MULLICA RIVER BASIN

01410000 Oswego River at Harrisville, N. J.

LOCATION.--Lat 39°39'47", long 74°31'26", Burlington County, on right bank 50 ft downstream from highway bridge at Harrisville and 0.5 mile upstream from confluence with West Branch Wading River.

DRAINAGE AREA.--64.0 sq mi.

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.

GAGE.--Water-stage recorder. Concrete control since June 23, 1939. Datum of gage is 4.62 ft above mean sea level.

AVERAGE DISCHARGE.--41 years, 85.9 cfs (18.23 inches per year).

EXTREMES.--Current year: Maximum discharge, 600 cfs Aug. 29 (gage height, 5.42 ft); minimum, 28 cfs Oct. 1, 2 (gage height, 2.84 ft).

Period of record: Maximum discharge, 1,390 cfs Aug. 20, 1939 (gage height, 9.54 ft, from floodmark in recorder shelter), from rating curve extended above 640 cfs; practically no flow for several hours on Oct. 26, 1932 and June 10, 1970, while pond above station was filling.

REMARKS.--Records excellent. Flow regulated occasionally by Harrisville Pond 200 ft above station (capacity, about 30,000,000 gal) and by ponds and cranberry bogs 5 to 10 miles upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	61	71	61	57	171	62	65	76	40	51	113
2	32	70	50	60	58	139	61	64	62	54	44	74
3	34	78	54	58	76	148	66	65	66	50	40	59
4	35	77	52	61	68	201	63	63	66	44	40	53
5	34	87	49	111	67	205	60	62	62	38	51	45
6	38	81	47	134	75	180	76	99	67	37	46	46
7	36	70	43	119	77	162	215	75	73	36	45	46
8	35	64	43	100	218	145	265	95	64	33	50	47
9	35	62	47	90	239	126	254	102	73	32	37	46
10	35	59	47	85	226	111	214	76	73	35	30	42
11	37	63	46	80	189	104	168	64	60	35	32	81
12	40	102	51	76	146	99	141	56	52	38	40	136
13	39	136	56	72	120	94	115	56	53	35	36	219
14	50	133	54	77	113	89	84	60	61	34	34	284
15	39	154	51	83	101	78	76	74	54	33	33	305
16	47	154	53	82	90	73	72	139	56	33	33	244
17	46	126	132	72	87	73	69	223	50	32	32	166
18	43	95	137	66	83	68	68	232	48	32	32	130
19	41	97	115	61	81	71	68	211	46	38	32	118
20	55	99	98	59	79	88	63	148	44	47	35	107
21	56	118	89	56	88	83	57	119	43	41	35	94
22	80	109	97	56	101	80	57	110	43	37	34	77
23	77	97	115	60	184	93	54	86	42	36	33	68
24	68	89	139	58	209	89	54	74	42	35	31	66
25	55	83	137	60	209	80	53	66	41	34	35	62
26	52	79	114	67	160	75	55	63	43	34	40	50
27	49	77	95	67	185	71	56	58	42	51	185	56
28	45	74	85	78	195	71	57	55	35	42	449	58
29	53	71	77	57	-----	69	68	46	36	37	575	57
30	71	76	66	58	-----	67	67	58	37	49	435	55
31	62	-----	60	57	-----	64	-----	79	-----	54	247	-----
TOTAL	1,451	2,745	2,370	2,281	3,581	3,267	2,838	2,843	1,610	1,206	2,872	3,004
MEAN	46.8	91.5	76.5	73.6	128	105	94.6	91.7	53.7	38.9	92.6	100
MAX	80	154	139	134	239	205	265	232	76	54	575	305
MIN	32	59	43	56	57	64	53	46	35	32	30	42
CFSM	.73	1.43	1.20	1.15	2.00	1.64	1.48	1.43	.84	.61	1.45	1.56
IN.	.84	1.60	1.38	1.33	2.08	1.90	1.65	1.65	.94	.70	1.67	1.75

CAL YR 1970 TOTAL 36,853 MEAN 101 MAX 829 MIN 27 CFSM 1.58 IN 21.42
WTR YR 1971 TOTAL 30,068 MEAN 82.4 MAX 575 MIN 30 CFSM 1.29 IN 17.48

ABSECON CREEK BASIN

89

01410500 Absecon Creek at Absecon, N. J.

LOCATION.--Lat 39°25'45", long 74°31'16", Atlantic County, on right bank 30 ft downstream from Doughty Pond Dam of Atlantic City Water Department, 1.0 mile west of Absecon, and 3.4 miles upstream from mouth.

DRAINAGE AREA.--16.6 sq mi.

PERIOD OF RECORD.--December 1923 to April 1929 and June 1933 to December 1938 (monthly discharge only, published in WSP 1302; figures of daily discharge published in previous water-supply papers included diversions above station), May 1946 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is at mean sea level. Prior to May 1946, water-stage recorder and wooden control at same site at datum 0.16 ft lower.

AVERAGE DISCHARGE.--34 years (1924-28, 1933-38, 1946-71), 27.3 cfs (adjusted for diversion).

EXTREMES.--Current year: Maximum daily discharge, 81 cfs Feb. 8; minimum daily, 7.2 cfs July 18, 25.
Period of record: Maximum daily discharge, 295 cfs Sept. 6, 1935; no flow for several days in many years.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Records given herein represent flow at gage only. Diversion from Doughty Pond for municipal supply of Atlantic City. Flow regulated by Doughty Pond (capacity, 245,000,000 gal), and by Kuehnle Reservoir (capacity, 250,000,000 gal), 1.5 miles above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	15	18	28	23	32	22	26	23	11	25	21
2	9.8	15	19	24	23	32	28	25	21	14	17	20
3	10	15	19	24	23	64	25	29	20	10	15	18
4	15	36	24	24	23	47	23	25	21	9.5	30	16
5	9.8	66	11	41	24	35	29	22	16	9.0	70	15
6	9.8	36	19	46	30	35	76	23	17	12	54	14
7	9.8	24	16	25	32	32	62	24	18	10	32	13
8	10	19	9.8	21	81	31	50	26	16	8.4	21	13
9	11	18	12	26	62	24	35	30	15	8.2	18	12
10	11	18	17	32	40	29	34	25	14	9.0	15	12
11	12	17	16	32	32	25	28	25	15	11	34	30
12	12	35	22	22	29	28	24	25	16	9.5	64	45
13	12	38	22	24	28	29	26	23	18	8.5	38	60
14	12	26	19	24	30	28	31	25	16	8.2	25	35
15	12	41	17	24	24	30	22	21	18	8.0	20	25
16	35	44	18	24	24	30	25	41	18	7.6	17	20
17	24	26	46	22	24	24	23	44	16	7.4	15	25
18	14	23	35	22	23	22	29	30	15	7.2	15	21
19	13	26	25	22	23	22	23	25	15	8.0	16	19
20	14	24	23	21	23	31	25	24	14	13	17	16
21	14	32	19	20	22	24	28	24	13	11	15	14
22	40	25	24	18	23	31	28	26	11	9.0	17	13
23	43	26	30	19	30	32	23	23	10	8.0	20	12
24	30	20	34	16	38	25	23	19	12	7.6	16	11
25	23	15	23	19	32	24	24	21	14	7.2	12	10
26	21	16	28	22	44	24	23	21	14	8.0	16	13
27	18	18	15	23	48	25	23	19	13	10	56	12
28	15	19	18	20	36	25	24	17	12	8.0	74	11
29	14	19	21	20	-----	28	32	16	12	7.5	41	10
30	14	21	31	19	-----	26	29	23	11	45	28	9.8
31	15	-----	38	22	-----	19	-----	25	-----	35	22	-----
TOTAL	513.0	773	668.8	746	894	923	897	772	464	345.8	875	565.8
MEAN	16.5	25.8	22.2	24.1	31.9	29.8	29.9	24.9	15.5	11.2	28.2	18.9
MAX	43	66	46	46	81	64	76	44	23	4.5	74	60
MIN	9.8	15	9.8	16	22	19	22	16	10	7.2	12	9.8
(†)	.91	2.03	2.11	2.63	.01	.01	.06	.48	1.57	3.22	3.11	1.94

CAL YR 1970 TOTAL 9,155.6 MEAN 25.1 MAX 165 MIN 6.8 † 4.84
WTR YR 1971 TOTAL 8,457.4 MEAN 23.2 MAX 81 MIN 7.2 † 1.6†

† Diversion, in cubic feet per second, above station from Doughty Pond for municipal supply of Atlantic City.

NOTE.--No gage-height record July 1 to Aug. 5 and Sept. 4-30.

GREAT EGG HARBOR RIVER BASIN

01411000 Great Egg Harbor River at Folsom, N. J.

LOCATION.--Lat 39°35'42", long 74°51'06", Atlantic County, on left bank 25 ft upstream from bridge on State Highway 54, 1.0 mile south of Folsom, and 2.0 miles upstream from Pennypot Stream.

DRAINAGE AREA.--56.3 sq mi.

PERIOD OF RECORD.--September 1925 to current year. Prior to October 1947, published as Great Egg River at Folsom.

GAGE.--Water-stage recorder. Concrete control since Nov. 26, 1934. Datum of gage is 53.32 ft above mean sea level. 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.

AVERAGE DISCHARGE.--46 years, 84.3 cfs (20.33 inches per year).

EXTREMES.--Current year: Maximum discharge, 412 cfs Aug. 30 (gage height, 5.86 ft); minimum daily, 29 cfs Oct. 9, 10, 14-16, 18-20.

Period of record: Maximum discharge, 1,440 cfs Sept. 3, 1940 (gage height, 9.09 ft); minimum, 15 cfs Sept. 6, 1957, Aug. 28-30, 1966; minimum gage height, 3.42 ft Aug. 28-30, 1966.

REMARKS.--Records excellent. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1432: 1928(M), 1933.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	48	76	75	65	199	92	88	99	37	51	233
2	31	47	75	74	64	185	89	86	103	40	48	164
3	30	47	73	71	56	166	91	83	99	41	44	128
4	33	50	71	71	55	169	93	81	90	38	41	101
5	33	60	69	91	59	182	92	77	82	36	46	81
6	31	62	66	125	70	190	93	74	75	34	53	69
7	30	62	64	153	77	192	125	76	71	33	48	64
8	30	57	63	157	110	187	181	81	67	33	43	60
9	29	55	61	137	160	175	214	87	65	31	39	57
10	29	52	61	121	206	158	211	89	64	31	36	54
11	30	54	61	108	203	143	184	86	60	31	34	56
12	30	74	63	96	192	130	155	81	57	34	39	86
13	30	88	70	89	163	122	134	77	56	35	36	125
14	29	96	72	86	161	115	118	82	56	34	34	184
15	29	118	70	86	168	110	108	89	63	31	32	286
16	29	136	68	86	172	107	101	100	64	30	42	284
17	30	158	90	81	157	104	97	143	64	30	52	215
18	29	161	108	75	138	100	94	189	60	30	52	174
19	29	147	124	70	123	98	91	187	56	32	52	143
20	29	132	133	65	114	106	89	162	52	46	50	124
21	30	126	125	63	111	120	87	137	49	41	46	111
22	58	121	116	63	114	129	85	116	48	37	43	98
23	91	116	112	66	150	134	83	108	48	35	40	87
24	95	108	118	68	193	134	81	100	47	33	36	80
25	98	100	123	69	204	133	80	91	45	33	33	74
26	90	90	123	73	190	127	78	88	44	32	30	70
27	80	84	115	78	185	117	78	92	43	35	56	70
28	66	80	105	74	196	108	78	92	40	33	113	71
29	58	76	93	73	-----	101	81	86	38	31	216	69
30	54	76	84	69	-----	97	86	82	38	36	392	67
31	51	-----	78	68	-----	94	-----	87	-----	46	343	-----
TOTAL	1,372	2,681	2,730	2,681	3,856	4,232	3,269	3,097	1,843	1,079	2,220	3,485
MEAN	44.3	89.4	88.1	86.5	138	137	109	99.9	61.4	34.8	71.6	116
MAX	98	161	133	157	206	199	214	189	103	46	392	286
MIN	29	47	61	63	55	94	78	74	38	30	30	54
CFSM	.79	1.59	1.56	1.54	2.45	2.43	1.94	1.77	1.09	.62	1.27	2.06
IN.	.91	1.77	1.80	1.77	2.55	2.80	2.16	2.05	1.22	.71	1.47	2.30

CAL YR 1970 TOTAL 33,860 MEAN 92.8 MAX 517 MIN 26 CFSM 1.65 IN 22.37
WTR YR 1971 TOTAL 32,545 MEAN 89.2 MAX 392 MIN 29 CFSM 1.58 IN 21.50

TUCKAHOE RIVER BASIN

91

01411300 Tuckahoe River at Head of River, N. J.

LOCATION.--Lat 39°18'25", long 74°49'15", Cape May County, on right bank at highway bridge on State Route 49, 0.2 mile upstream from McNeals Branch, 0.4 mile southeast of Head of River, and 3.7 miles west of Tuckahoe.

DRAINAGE AREA.--30.8 sq mi.

PERIOD OF RECORD.--December 1969 to current year.

GAGE.--Water-stage recorder and wooden control. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum discharge 315 cfs Aug. 28 (elevation, 5.83 ft); minimum, 10 cfs July 29 (elevation, 3.88 ft):

Period of record: Maximum discharge, 315 cfs Aug. 28, 1971 (elevation, 5.83 ft); minimum, 10 cfs Sept. 24, 26, 27, 1970, July 29, 1971; minimum elevation, 3.86 ft Sept. 24, 26, 27, 1970.

REMARKS.--Records excellent. Occasional regulation by ponds above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	17	25	28	28	90	38	37	48	15	17	65
2	12	17	23	26	26	69	38	36	38	16	15	54
3	12	18	23	26	25	65	41	38	36	18	14	45
4	13	27	22	29	26	107	41	37	34	16	21	39
5	12	31	21	56	30	117	38	34	31	15	59	36
6	12	26	21	69	39	103	49	33	31	14	63	33
7	12	23	20	59	65	85	108	33	31	14	45	31
8	11	20	20	41	93	69	124	36	28	16	26	29
9	12	19	20	48	107	63	100	38	30	14	20	28
10	14	18	21	39	69	59	69	36	29	12	16	26
11	12	21	20	38	64	57	59	35	26	13	22	34
12	11	39	23	37	60	54	54	33	24	14	56	49
13	11	46	27	36	57	52	49	31	23	14	56	71
14	11	36	24	37	61	51	46	33	23	12	34	110
15	11	49	23	37	60	51	44	31	23	12	23	85
16	17	52	23	33	58	49	42	51	23	11	20	63
17	16	41	51	34	57	46	41	67	22	11	18	56
18	14	31	51	31	53	45	39	62	21	11	17	63
19	12	31	39	27	46	45	38	54	20	13	17	60
20	12	31	33	26	45	51	37	46	18	17	25	53
21	14	35	29	25	45	51	36	42	17	17	25	46
22	49	34	35	27	55	48	35	44	18	15	21	41
23	60	29	45	30	128	55	35	39	17	14	21	38
24	51	26	45	29	138	56	34	37	17	13	22	37
25	31	25	38	31	108	53	33	35	17	12	18	34
26	25	24	35	35	77	49	33	34	17	12	16	33
27	23	24	31	26	95	46	33	31	17	12	131	35
28	21	23	29	30	108	45	34	30	16	11	295	34
29	19	23	27	35	-----	42	37	30	15	11	295	31
30	18	26	26	33	-----	42	37	36	15	15	189	30
31	17	-----	25	31	-----	39	-----	48	-----	17	107	-----
TOTAL	577	862	895	1,089	1,823	1,854	1,442	1,207	725	427	1,724	1,389
MEAN	18.6	28.7	28.9	35.1	65.1	59.8	48.1	38.9	24.2	13.8	55.6	46.3
MAX	60	52	51	69	138	117	124	67	48	18	295	110
MIN	11	17	20	25	25	39	33	30	15	11	14	26
CFSM	.60	.93	.94	1.14	2.11	1.94	1.56	1.26	.79	.45	1.81	1.50
IN.	.70	1.04	1.08	1.32	2.20	2.24	1.74	1.46	.88	.52	2.08	1.68
CAL YR 1970	TOTAL 15,710	MEAN 43.0	MAX 291	MIN 10	CFSM 1.40	IN 18.97						
WTR YR 1971	TOTAL 14,014	MEAN 38.4	MAX 295	MIN 11	CFSM 1.25	IN 16.93						

MAURICE RIVER BASIN

01411500 Maurice River at Norma, N. J.

LOCATION.--Lat 39°29'42", long 75°04'38", Salem County, on right bank just upstream from Almond Road Bridge at Norma, 0.8 mile downstream from Blackwater Branch.

DRAINAGE AREA. -113 sq mi.

PERIOD OF RECORD.--July 1932 to current year. Monthly discharge only for December 1933, published in WSP 1302.

GAGE.--Water-stage recorder. Concrete control since Dec. 27, 1937. Datum of gage is 46.94 ft above mean sea level.

AVERAGE DISCHARGE.--39 years, 164 cfs (19.71 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,550 cfs Aug. 29 (gage height, 5.13 ft); minimum, 28 cfs Aug. 25 (gage height, 2.28 ft).

Period of record: Maximum discharge, 7,360 cfs Sept. 2, 1940 (gage height, 8.72 ft), from rating curve extended above 3,000 cfs; minimum daily, 23 cfs Sept. 8, 1964, July 2, Sept. 7, 11-13, 1966.

REMARKS.--Records excellent. Occasional regulation by ponds above station. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1382: 1933.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	89	125	133	120	337	205	168	173	66	85	492
2	43	86	125	130	104	298	182	165	169	100	104	367
3	45	83	121	126	53	290	181	162	178	75	82	287
4	49	85	118	129	78	312	181	161	177	71	85	185
5	50	70	113	178	102	306	178	156	159	71	109	169
6	49	83	111	206	125	308	180	153	148	72	97	135
7	48	92	108	258	179	316	254	147	131	68	88	131
8	46	87	106	249	205	317	324	165	133	69	88	127
9	46	89	102	225	271	300	302	175	130	62	74	124
10	46	86	100	208	331	285	296	174	120	64	71	121
11	45	93	98	191	307	270	268	168	126	48	73	139
12	46	130	104	178	284	256	263	159	110	70	79	168
13	46	160	113	167	284	243	261	159	102	50	68	239
14	46	223	111	161	301	233	248	168	107	53	61	408
15	46	212	107	161	293	224	233	165	107	60	62	433
16	51	225	107	155	280	217	208	207	105	56	62	426
17	49	225	161	149	262	211	196	279	115	58	65	371
18	46	222	166	143	249	204	180	243	98	59	51	348
19	45	216	173	136	234	203	169	258	89	58	48	339
20	43	202	175	129	220	224	169	233	88	104	59	328
21	43	199	169	124	211	228	167	219	91	79	92	316
22	118	183	174	121	216	229	164	216	107	77	52	298
23	231	173	182	124	286	243	160	203	95	70	78	258
24	223	163	186	123	303	246	154	194	87	68	37	223
25	173	153	184	127	320	239	153	181	85	65	32	198
26	155	144	179	135	307	229	153	184	82	65	38	135
27	129	138	171	139	330	219	153	176	87	97	130	201
28	117	122	152	133	320	211	153	168	82	53	519	171
29	106	104	148	128	-----	189	166	162	132	49	1,250	133
30	98	122	142	128	-----	158	169	156	57	73	1,310	147
31	93	-----	135	125	-----	185	-----	166	-----	78	794	-----
TOTAL	2,411	4,259	4,266	4,819	6,575	7,730	6,070	5,690	3,470	2,108	5,843	7,417
MEAN	77.8	142	138	155	235	249	202	184	116	68.0	188	247
MAX	231	225	186	258	331	337	324	279	178	104	1,310	492
MIN	40	70	98	121	53	158	153	147	57	48	32	121
CFSM	.69	1.26	1.22	1.37	2.08	2.20	1.79	1.63	1.03	.60	1.66	2.19
IN.	.79	1.40	1.40	1.59	2.16	2.54	2.00	1.87	1.14	.69	1.92	2.44
CAL YR 1970	TOTAL 58,225		MEAN 160		MAX 598	MIN 30	CFSM 1.42	IN 19.17				
WTR YR 1971	TOTAL 60,658		MEAN 166		MAX 1,310	MIN 32	CFSM 1.47	IN 19.97				

PEAK DISCHARGE (BASE, 380 CFS)

DATE	TIME	G.H.	DISCHARGE
8-29	2000	5.13	1,550
9-15	1400	3.61	438

LOCATION.--Lat 41°22'14", long 74°41'52", Pike County, Pa., on right bank 250 ft downstream from bridge on U.S. Highways 6 and 209 at Port Jervis, 1.2 miles upstream from Neversink River, and 6.5 miles downstream from Mongaup River.

PERIOD OF RECORD.--October 1904 to current year.

GAGE.--Water-stage recorder. Datum of gage is 415.35 ft above mean sea level. Prior to June 20, 1914, nonrecording gage at highway bridge 250 ft upstream at same datum operated by U.S. Weather Bureau. June 20, 1914 to Aug. 13, 1928, nonrecording gages at highway bridge 250 ft upstream at present datum.

EXTREMES.--Current year: Maximum discharge: 23,900 cfs Apr. 14 (gage height, 7.42 ft), maximum gage height 14.44 ft Feb. 16 (ice jam), minimum, 808 cfs Aug. 15 (gage height, 1.78 ft), minimum daily, 1,040 cfs June 13.

Period of record: Maximum discharge, 233,000 cfs Aug. 19, 1955 (gage height, 23.91 ft, from floodmarks in gage house), from rating curve extended above 89,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 175 cfs Sept. 23, 1908 (gage height, 0.6 ft).

Maximum discharge previously known, 205,000 cfs Oct. 10, 1903 (gage height, 23.1 ft, reported by U.S. Weather Bureau), from rating curve extended above 70,000 cfs by velocity-area studies; maximum stage known, 25.5 ft Mar. 8, 1904 (ice jam).

REMARKS.--Records good. Flow regulated by Lake Wallenpaupack and by Toronto, Cliff Lake, and Swinging Bridge Reservoirs (see p. 129) and smaller reservoirs. Large diurnal fluctuations at medium and low flows caused by powerplants on tributary streams. Subsequent to September 1954, entire flow from 371 sq mi of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 sq mi of drainage area controlled by Cannonsville Reservoir (see p.129). Part of flow from these reservoirs diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Records of water-quality records for the current year are published in Part 2 of the New York report.

REVISIONS (WATER YEARS).--WSP 756: Drainage area. WSP 1013: 1905-36. Correction, the total discharge for calendar year 1969 is 1,541,440 cfs and the mean discharge for calendar year 1969 is 4,223 cfs; the previously published figures were in error.

DAY	OCT	NOV	DEC	JAN	FFB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,130	2,170	3,210	1,800	2,200	14,900	5,620	5,940	2,770	2,550	2,350	2,310
2	2,240	2,460	2,960	1,600	3,200	13,100	6,760	5,310	2,460	2,150	2,250	1,970
3	2,460	1,910	2,730	2,100	3,300	10,200	11,500	5,900	2,480	1,900	3,160	1,820
4	2,630	1,720	2,750	3,000	3,000	9,330	14,500	6,010	2,630	1,990	9,200	1,780
5	2,610	2,170	3,440	3,530	2,700	7,180	14,800	5,590	2,230	1,990	7,900	1,590
6	2,650	2,350	3,120	4,070	2,000	6,340	12,900	5,520	1,550	2,070	4,410	2,040
7	2,630	2,100	3,010	5,470	1,290	6,910	11,600	4,760	1,720	1,770	3,080	2,220
8	2,800	1,850	2,420	6,060	1,850	7,890	12,200	4,570	2,110	1,840	2,570	2,280
9	2,490	1,980	2,730	3,920	2,800	6,950	10,800	4,820	1,840	2,290	1,840	2,190
10	2,490	2,080	2,880	3,070	3,500	5,020	13,300	5,450	1,400	2,380	2,290	2,310
11	2,330	2,210	3,040	3,530	3,200	4,980	14,600	5,350	1,370	1,980	2,030	2,260
12	2,750	2,650	3,090	3,560	2,100	4,660	13,900	4,540	1,160	2,050	1,670	2,130
13	3,010	3,710	2,460	3,740	2,500	4,540	15,400	5,900	1,040	2,070	1,670	2,070
14	2,650	5,190	2,440	3,830	5,000	4,380	20,300	15,200	1,480	1,960	1,620	2,650
15	2,800	5,400	2,650	3,000	9,000	6,990	18,600	12,100	1,840	2,130	1,450	2,360
16	5,120	7,790	2,510	2,800	11,000	15,200	14,200	9,650	2,070	2,170	1,940	2,430
17	4,590	6,870	2,330	2,600	8,500	19,000	11,800	8,980	2,270	2,400	2,090	2,500
18	2,960	5,540	2,280	2,500	7,000	13,500	10,100	7,810	2,170	2,310	2,110	2,140
19	2,630	4,890	2,260	3,200	6,400	11,200	9,240	6,760	2,090	2,480	2,170	1,590
20	2,170	4,660	2,300	3,300	6,000	9,830	9,150	5,620	1,900	2,050	2,270	1,260
21	1,830	6,750	2,700	3,400	6,130	8,380	9,200	5,380	1,990	1,810	2,480	2,420
22	2,650	7,710	2,960	3,400	7,070	8,050	8,980	5,250	1,900	1,990	2,380	2,210
23	9,680	6,270	2,000	2,700	7,510	6,610	8,550	4,510	1,880	2,150	2,290	2,140
24	17,700	5,780	2,000	2,170	9,190	6,340	7,450	4,020	1,920	2,130	2,090	2,160
25	8,510	4,990	2,000	2,630	8,690	5,970	6,640	3,900	2,050	2,380	1,990	2,200
26	6,060	3,920	1,950	3,410	7,270	5,250	6,270	3,700	2,480	2,420	1,980	2,000
27	5,020	3,560	1,800	3,400	8,240	4,630	6,040	3,450	2,070	2,700	2,550	1,790
28	4,010	3,090	1,700	3,300	13,100	4,260	5,550	3,080	2,250	2,170	6,010	1,910
29	3,150	2,880	2,100	3,400	-----	4,730	6,190	2,770	2,050	2,270	6,610	1,660
30	2,780	3,120	1,900	2,510	-----	5,590	7,140	2,330	1,990	2,930	4,170	2,130
31	2,560	-----	2,000	1,910	-----	5,520	-----					

DELAWARE RIVER BASIN

01437500 NEVERSINK RIVER AT GODEFFROY, N.Y.

LOCATION.--Lat 41°26'28", long 74°36'07", Orange County, on right bank just upstream from highway bridge, 0.5 mile downstream from Basher Kill, 0.8 mile southeast of Godeffroy, 1.7 miles south of Cuddebackville, and 8.5 miles upstream from mouth.

DRAINAGE AREA.--302 sq mi.

PERIOD OF RECORD.--August to October 1903, August 1909 to April 1914 (gage heights and discharge measurements, also twice-daily figures of discharge for January 1911 to December 1912, which do not represent mean daily discharges because of diurnal fluctuation) and July 1937 to current year. August to October 1903, published as Navesink River at Godeffroy, N. Y.

GAGE.--Water-stage recorder. Datum of gage is 459.66 ft above mean sea level (levels by Corps of Engineers). Prior to Apr. 30, 1914, nonrecording gages at same site (Aug. to Oct. 1903 at datum 0.98 ft higher).

EXTREMES.--Current year: Maximum discharge, 1,980 cfs Oct. 23 (gage height, 5.35 ft); minimum daily, 42 cfs Aug. 26.

Period of record: Maximum discharge, 33,000 cfs Aug. 19, 1955 (gage height, 12.49 ft), from rating curve extended above 11,000 cfs on basis of slope-area measurement of peak flow; practically no flow several times in July 1911.

REMARKS.--Records fair. Subsequent to June, 1953, entire flow from 91.8 sq mi of drainage area controlled by Neversink Reservoir (see p. 130). Part of flow diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill), impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Prior to 1949, diurnal fluctuations at low and medium flow caused by powerplant at Cuddebackville.

COOPERATION.--Four discharge measurements supplied by the Board of Water Supply, City of New York.

REVISIONS (WATER YEARS).--WSP 821: Drainage area. WSP 1502: 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	227	350	190	190	1,500	675	387	405	102	187	269
2	77	219	320	190	190	1,390	841	350	330	113	158	235
3	77	199	300	190	190	1,190	1,510	350	305	110	239	219
4	84	195	350	200	190	1,000	1,600	327	282	97	378	191
5	94	251	361	220	200	900	1,490	310	255	89	282	172
6	80	235	310	361	210	780	1,240	283	231	84	195	154
7	77	211	270	340	220	800	1,230	262	219	80	154	147
8	75	199	240	320	230	840	1,210	283	231	71	131	151
9	73	187	240	300	230	780	1,100	465	243	71	116	151
10	69	187	269	273	220	724	1,290	438	227	66	100	134
11	66	320	260	251	200	683	1,170	381	203	66	89	125
12	64	752	250	243	186	628	1,150	339	195	66	84	161
13	69	980	240	230	243	620	1,160	548	187	62	77	310
14	69	1,050	230	227	500	599	1,190	1,080	199	66	73	417
15	187	1,310	210	223	700	699	990	680	203	62	69	361
16	251	1,460	200	220	620	1,230	832	593	219	58	64	291
17	175	1,080	200	220	590	1,540	733	586	199	60	60	296
18	150	850	220	210	560	1,210	651	517	175	64	57	287
19	137	810	230	210	606	1,130	599	498	165	66	53	251
20	131	770	250	210	620	1,060	541	459	151	75	53	235
21	128	980	240	200	675	952	506	504	147	69	57	383
22	330	780	230	200	707	841	506	640	144	60	64	400
23	1,460	664	220	200	787	769	452	530	137	57	58	320
24	947	565	210	200	895	691	419	441	128	53	49	291
25	608	498	200	200	805	620	400	389	128	62	46	247
26	498	459	200	200	733	562	375	383	140	66	42	227
27	383	423	190	200	1,210	541	362	356	134	66	80	219
28	325	389	190	200	1,650	534	333	325	122	58	850	223
29	291	367	190	200	-----	548	457	300	110	69	689	227
30	264	372	190	190	-----	613	438	782	105	211	417	207
31	243	-----	190	190	-----	651	-----	405	-----	183	320	-----
TOTAL	7,562	16,989	7,550	7,008	14,357	26,625	25,445	13,691	5,919	2,482	5,291	7,301
MEAN	244	566	244	226	513	859	848	442	197	80.1	171	243
MAX	1,460	1,460	361	361	1,650	1,540	1,600	1,080	405	211	850	417
MIN	64	187	190	190	186	534	333	262	105	53	42	125
CAL YR 1970	TOTAL 133,131		MEAN 365		MAX 3,760		MIN 62					
WTR YR 1971	TOTAL 140,220		MEAN 384		MAX 1,650		MIN 42					

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LOCATION.--Lat 41°18'30", long 74°47'50", Sussex County, on right bank 0.4 mile upstream from toll bridge at Montague, 0.8 mile downstream from Saw Kill, and at mile 246.3 upstream from Atlantic Ocean.

PERIOD OF RECORD.--March 1936 to September 1939 (gage heights only, published as "at Milford, Pa."), October 1939 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 369.93 ft above mean sea level. Prior to Feb. 9, 1940, non-recording gage on upstream side of left span of subsequently dismantled bridge at present site at datum 70 ft lower.

EXTREMES.--Current year: Maximum discharge, 24,600 cfs Apr. 14 (gage height, 11.53 ft); maximum gage height, 12.57 ft Feb. 15 (backwater from ice); minimum discharge, 962 cfs Aug. 15; minimum daily, 1,310 cfs June 13. Period of record: Maximum discharge, 250,000 cfs Aug. 19, 1955 (gage height, 35.15 ft), from rating curve extended above 90,000 cfs on basis of flood-routing study; minimum, 382 cfs Aug. 24, 1954 (gage height, 3.83 ft); minimum daily, 412 cfs Aug. 23, 1954. Maximum stage known during period 1903-71, 35.5 ft Oct. 10, 1903 (present datum), from floodmark. Gage height of 28.45 ft (present datum) was observed Mar. 18, 1936 (discharge, 164,500 cfs, from present rating curve extended above 90,000 cfs).

REMARKS.--Records excellent except those for winter periods, which are good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, and Neversink Reservoirs (see p. 129) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs (see p. 135). Records of water quality for the current year are published in Part 2 of this report.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,090	2,560	3,890	2,200	2,200	16,200	6,880	6,890	3,660	2,520	2,660	2,880
2	2,160	2,790	3,670	2,100	3,300	16,100	8,020	6,140	3,250	2,380	2,490	2,460
3	2,370	2,320	3,340	2,400	3,500	12,600	13,500	6,580	3,080	1,930	3,230	2,190
4	2,500	2,120	3,340	3,200	3,400	11,600	16,800	6,820	3,250	2,110	9,340	2,120
5	2,500	2,750	4,000	3,800	3,100	9,210	16,800	6,360	2,880	2,070	8,560	1,750
6	2,500	2,800	3,770	4,300	2,700	8,020	15,100	6,280	1,970	2,120	5,100	2,240
7	2,500	2,520	3,610	5,120	1,700	8,700	13,700	5,490	2,140	1,880	3,650	2,550
8	2,690	2,280	3,000	6,520	2,100	9,640	14,200	5,270	2,640	1,870	3,070	2,550
9	2,450	2,230	3,240	5,100	2,900	8,820	13,200	5,740	2,250	2,360	1,970	2,590
10	2,500	2,370	3,360	3,500	3,700	6,570	14,800	6,420	1,800	2,430	2,540	2,540
11	2,320	2,610	3,430	3,500	3,300	6,390	16,600	6,300	1,710	2,040	2,440	2,460
12	2,430	3,530	3,700	4,100	3,000	6,010	15,500	5,390	1,430	2,230	1,900	2,370
13	2,980	5,110	3,120	3,800	2,500	5,860	16,900	6,600	1,310	2,120	1,810	2,530
14	2,610	6,900	2,880	4,400	5,500	5,650	21,300	16,800	1,720	2,070	1,860	3,260
15	2,800	6,690	3,180	3,300	10,000	8,050	20,200	13,900	2,140	2,160	1,400	3,140
16	4,920	9,350	3,010	3,300	12,500	16,400	15,800	11,100	2,290	2,290	1,990	2,830
17	4,610	8,620	3,010	2,700	9,500	21,500	13,300	10,500	2,450	2,410	2,440	3,120
18	3,140	6,930	2,780	2,600	8,000	16,200	11,500	9,290	2,240	2,430	2,220	2,740
19	2,670	6,230	2,830	3,400	7,200	13,600	10,400	8,020	2,200	2,520	2,400	2,080
20	2,410	5,930	2,800	3,500	6,800	12,100	10,200	6,960	1,980	2,270	2,420	1,460
21	1,980	7,670	2,990	3,600	7,200	10,500	10,200	6,400	2,160	1,920	2,640	3,050
22	2,650	9,060	3,620	3,700	7,600	9,910	10,000	6,810	2,000	1,950	2,650	2,870
23	10,000	7,470	2,800	3,100	8,600	8,300	9,640	5,550	1,970	2,270	2,410	2,690
24	17,600	6,700	2,700	2,500	10,000	7,930	8,490	4,810	1,950	2,160	2,470	2,620
25	9,420	5,920	2,980	2,600	9,800	7,380	7,650	4,700	2,000	2,470	2,170	2,620
26	6,630	4,890	2,650	3,600	8,800	6,520	7,100	4,560	2,640	2,560	2,120	2,460
27	5,680	4,320	2,700	3,500	9,200	5,940	6,880	4,170	2,180	2,820	2,610	2,010
28	4,360	3,890	2,670	3,500	15,000	5,350	6,400	3,780	2,250	2,290	6,820	2,420
29	3,690	3,600	2,900	3,600	-----	5,660	6,940	3,430	2,200	2,320	8,270	2,020
30	3,160	3,790	2,800	3,200	-----	6,770	8,150	2,860	2,050	3,060	5,070	2,280
31	2,920	-----	2,600	2,200	-----	6,79						

DELAWARE RIVER BASIN

01440000 Flat Brook near Flatbrookville, N. J.

LOCATION.--Lat 41°06'24", long 74°57'09", Sussex County, on right bank 1 mile upstream from Flatbrookville, 1.5 miles upstream from mouth.

DRAINAGE AREA.--65.1 sq mi.

PERIOD OF RECORD.--July 1923 to current year.

GAGE.--Water-stage recorder. Concrete control since Aug. 19, 1929. Datum of gage is 347.73 ft above mean sea level. Prior to Jan. 6, 1962, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--48 years, 105 cfs (21.90 inches per year).

EXTREMES.--Current year: Maximum discharge, 791 cfs Feb. 28 (gage height, 4.02 ft); minimum, 9.8 cfs Oct. 12-15 (gage height, 1.80 ft).

Period of record: Maximum discharge, 9,560 cfs Aug. 19, 1955 (gage height, 12.58 ft, from high-water mark in gage house), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; minimum, 3.6 cfs Sept. 25, 26, 1964, Sept. 11, 1966.

REMARKS.--Records excellent. Flow occasionally regulated by ponds above station. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 781: Drainage area. WSP 1432: 1924-25(M), 1928(M), 1929, 1930(M), 1932, 1933(M), 1936, 1938(M), 1939-40, 1949(M), 1952-53(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	53	102	51	67	615	196	87	250	36	32	57
2	13	50	93	50	60	555	200	80	166	37	53	47
3	12	48	87	60	59	425	304	80	166	34	179	41
4	12	48	97	66	58	367	262	76	160	30	105	37
5	13	151	93	132	65	308	214	71	132	29	76	33
6	12	154	85	160	75	270	189	69	114	27	54	30
7	12	102	78	122	95	371	258	67	102	26	41	28
8	12	82	66	112	112	435	313	91	93	26	34	27
9	11	72	74	102	124	299	246	169	95	24	29	28
10	11	67	71	93	107	246	238	124	82	24	26	25
11	11	100	71	89	89	234	203	100	72	23	25	24
12	11	151	74	87	85	222	179	89	69	24	26	54
13	10	353	72	74	132	238	169	200	72	22	25	97
14	10	525	69	74	640	250	154	400	71	25	23	166
15	22	435	67	74	535	358	140	222	89	23	21	210
16	48	415	66	66	353	520	132	203	102	22	20	127
17	30	270	69	66	242	635	127	207	76	22	18	135
18	22	203	72	91	200	460	117	157	64	23	16	117
19	19	230	69	80	189	400	107	137	59	24	16	95
20	16	222	74	73	175	550	102	119	54	27	16	80
21	17	254	74	69	210	450	100	179	51	24	17	127
22	88	200	69	67	258	358	95	210	48	21	19	114
23	630	169	67	66	344	331	91	154	45	20	17	85
24	335	151	69	64	400	290	87	127	44	19	15	74
25	163	132	67	64	308	254	89	122	41	21	14	66
26	115	122	66	72	270	226	89	200	50	20	13	60
27	89	117	59	82	525	207	87	151	42	21	41	57
28	76	109	55	76	705	203	87	124	39	20	455	56
29	67	105	53	78	-----	207	107	109	38	19	322	56
30	60	112	51	76	-----	218	97	105	36	32	122	51
31	54	-----	50	71	-----	207	-----	266	-----	32	74	-----
TOTAL	2,015	5,202	2,229	2,509	6,482	10,709	4,779	4,495	2,522	777	1,944	2,204
MEAN	65.0	173	71.9	80.9	232	345	159	145	84.1	25.1	62.7	73.5
MAX	630	525	102	160	705	635	313	400	250	37	455	210
MIN	10	48	50	50	58	203	87	67	36	19	13	24
CFSM	1.00	2.66	1.10	1.24	3.56	5.30	2.44	2.23	1.29	.39	.96	1.13
IN.	1.15	2.97	1.27	1.43	3.70	6.12	2.73	2.57	1.44	.44	1.11	1.26

CAL YR 1970 TOTAL 37,273.8 MEAN 102 MAX 1,980 MIN 9.8 CFS 1.57 IN 21.30
 WTR YR 1971 TOTAL 45,867.0 MEAN 126 MAX 705 MIN 10 CFS 1.94 IN 26.21

PEAK DISCHARGE (BASE, 650 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	1445	3.88	720	3-17	0530	3.84	700
2-14	1215	3.93	745	8-28	2015	3.95	755
2-28	0245	4.02	791				

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REMARKS.--Records excellent except those for January, February, August and September, which are good. Diurnal fluctuation at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, and Neversink Reservoirs (see p. 129) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs (see p. 135). Records of water quality for the current year are published in Part 2 of this report (see stations 01440090 and 01442750).

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,400	3,210	4,440	3,100	2,300	22,800	8,270	8,570	5,740	2,700	3,000	3,090
2	2,180	3,300	4,270	2,600	2,400	20,700	8,880	7,110	4,970	3,000	3,100	2,580
3	2,620	3,130	3,850	2,800	2,500	16,200	13,600	6,750	4,300	2,800	3,480	2,210
4	2,450	2,660	3,790	3,300	2,760	14,800	18,500	7,900	4,380	2,400	6,500	2,100
5	2,900	3,270	4,230	4,800	3,300	13,100	18,700	7,300	4,060	2,300	9,750	1,720
6	2,920	3,850	4,540	5,100	3,100	10,400	17,700	7,020	3,130	2,200	6,530	1,800
7	2,700	3,340	4,100	5,400	2,800	10,800	15,800	6,610	2,780	2,100	4,520	2,180
8	2,720	2,980	3,460	6,300	2,570	12,100	15,800	5,830	3,450	1,900	3,470	2,370
9	2,820	2,640	3,400	5,600	3,020	11,800	15,100	6,380	4,140	2,000	2,580	2,470
10	2,620	2,710	3,510	4,220	3,400	9,470	15,200	7,010	3,500	2,500	2,580	2,340
11	2,500	2,960	3,790	3,900	3,500	8,370	18,500	7,220	2,600	2,600	2,620	2,400
12	2,550	3,770	4,180	4,840	3,300	8,350	16,700	6,410	2,300	2,300	2,160	2,300
13	3,420	6,330	3,790	4,220	3,560	7,840	17,600	6,370	2,100	2,200	1,860	2,700
14	3,050	9,900	3,070	4,600	6,940	7,660	21,700	16,000	2,200	2,100	1,900	3,000
15	3,220	9,830	3,440	4,000	10,600	9,070	24,000	16,500	2,590	1,910	1,580	2,900
16	4,230	12,000	3,430	3,600	13,900	16,400	17,800	12,800	3,030	2,030	1,800	2,800
17	5,280	11,800	3,230	2,720	12,700	27,500	14,700	11,800	3,160	2,090	2,500	3,100
18	4,140	9,500	3,060	2,720	10,500	21,700	12,700	10,700	3,070	2,370	2,350	2,800
19	3,100	8,260	3,200	3,220	9,500	17,100	11,700	9,400	2,930	2,230	2,550	2,400
20	2,880	7,770	2,990	3,700	3,600	15,700	11,100	8,250	2,710	2,420	2,520	1,900
21	2,320	8,250	3,180	3,300	9,500	13,700	11,400	7,460	2,450	1,950	2,720	1,700
22	2,720	11,100	3,830	3,850	10,500	12,600	11,200	8,250	2,560	1,830	2,680	3,100
23	10,500	9,510	3,370	3,400	12,300	11,200	10,500	7,110	2,450	2,090	2,600	2,800
24	23,100	8,400	3,240	2,960	14,000	10,200	9,520	6,150	2,480	2,030	2,720	2,700
25	14,500	7,460	3,080	2,550	12,000	9,320	8,550	5,870	2,770	2,130	2,220	2,700
26	9,360	6,280	2,790	3,340	11,000	8,570	7,770	6,360	2,940	2,310	2,160	2,500
27	7,770	5,100	2,880	3,800	15,300	7,570	7,470	5,460	2,680	2,530	2,450	2,300
28	5,770	4,840	2,910	3,900	25,500	6,770	7,200	5,060	2,400	2,350	5,420	2,600
29	4,940	4,210	2,790	3,900	-----	6,800	7,010	4,670	2,800	2,050	9,590	2,700
30	3,900	4,190	3,010	3,500	-----	8,130	9,120	3,770	2,400	2,600	6,270	2,900
31	3,530	-----	2,640									

DELAWARE RIVER BASIN

01443500 Paulins Kill at Blairstown, N. J.

LOCATION.--Lat 40°58'44", long 74°57'15", Warren County, on right bank 1,200 ft upstream from bridge on State Highway 94 in Blairstown, 1,400 ft upstream from Blairs Creek, and 10 miles upstream from mouth.

DRAINAGE AREA.--126 sq mi.

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

GAGE.--Water-stage recorder and concrete control (Aug. 1, 1931, to Aug. 3, 1941, concrete control at site 280 ft downstream). Datum of gage is 335.86 ft above mean sea level. Prior to May 24, 1922, nonrecording gage and May 24, 1922, to July 31, 1931, water-stage recorder, at site of former highway bridge 1,300 ft downstream at different datum. Aug. 1, 1931, to July 28, 1939, water-stage recorder at site 100 ft downstream at present datum.

AVERAGE DISCHARGE.--50 years, 184 cfs (19.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,510 cfs Feb. 28 (gage height, 4.77 ft); minimum, 22 cfs Aug. 26 (gage height, 1.48 ft).

Period of record: Maximum discharge, 8,750 cfs Aug. 19, 1955 (gage height, 11.12 ft, from high-water mark in gage house); minimum, about 2.8 cfs Nov. 1, 1922; minimum daily, 5 cfs Aug. 13, 14, 1930.

REMARKS.--Records good except those above 800 cfs, which are fair. Diurnal fluctuation caused by powerplant above station and flow regulated slightly by Swartswood Lake.

REVISIONS (WATER YEARS).--WSP 971: 1942. WSP 1382: 1952-53(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	102	210	110	113	1,370	256	150	343	71	63	179
2	31	104	195	110	117	1,240	256	146	268	94	104	146
3	31	99	158	120	99	1,060	310	142	292	74	127	120
4	33	96	173	133	68	960	286	135	280	63	139	104
5	34	123	170	221	45	760	256	131	240	56	114	91
6	31	113	154	275	33	664	245	127	205	52	85	88
7	30	104	143	235	65	900	375	127	187	50	68	85
8	30	99	127	203	123	1,030	576	161	170	45	56	74
9	30	93	127	194	147	802	453	245	170	43	50	74
10	30	96	127	181	143	608	403	205	157	43	43	68
11	30	117	127	173	123	560	369	174	139	39	41	66
12	30	158	140	166	120	528	330	157	127	41	41	170
13	31	396	136	154	166	560	298	356	127	37	39	286
14	30	470	130	154	495	560	280	608	131	43	36	424
15	102	500	130	151	429	672	250	410	146	47	33	592
16	133	450	127	136	357	802	235	369	170	41	31	396
17	110	370	136	127	311	842	225	356	139	41	28	369
18	99	340	143	127	281	648	210	298	135	47	28	310
19	88	350	143	120	281	584	200	256	120	45	27	262
20	75	340	151	117	311	900	187	230	107	50	27	225
21	65	400	158	110	379	854	179	250	101	45	27	250
22	96	320	154	110	495	640	174	268	101	39	27	245
23	323	260	147	113	615	544	161	230	88	36	26	205
24	230	250	147	110	686	475	157	200	80	36	25	187
25	185	230	143	113	585	424	157	191	74	37	23	166
26	158	220	140	127	545	389	153	268	88	39	23	150
27	143	215	130	133	1,010	356	153	235	80	41	88	146
28	133	210	123	127	1,420	336	150	205	74	36	552	146
29	123	205	113	140	-----	323	161	183	68	34	576	142
30	113	230	110	140	-----	298	157	170	66	41	362	135
31	107	-----	107	123	-----	280	-----	330	-----	43	235	-----
TOTAL	2,717	7,080	4,419	4,553	9,562	20,969	7,602	7,313	4,473	1,449	3,144	5,901
MEAN	87.6	236	143	147	342	676	253	236	149	46.7	101	197
MAX	323	500	210	275	1,420	1,370	576	608	343	94	576	592
MIN	30	93	107	110	33	280	150	127	66	34	23	66
CFSM	.70	1.87	1.13	1.17	2.71	5.37	2.01	1.87	1.18	.37	.80	1.56
IN.	.80	2.09	1.30	1.34	2.82	6.19	2.24	2.16	1.32	.43	.93	1.74

CAL YR 1970 TOTAL 61,998 MEAN 170 MAX 2,550 MIN 25 CFSM 1.35 IN 18.30
 WTR YR 1971 TOTAL 79,182 MEAN 217 MAX 1,420 MIN 23 CFSM 1.72 IN 23.38

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-28	0145	4.77	1,510	3-08	0230	3.70	1,100

DELAWARE RIVER BASIN

99

01443900 Yards Creek near Blairstown, N. J.

LOCATION.--Lat 40°58'51", long 75°02'25", Warren County, on left bank 100 ft upstream of bridge on Hainesburg-Mount Vernon Road, 2.2 miles northeast of Hainesburg, 2.4 miles upstream from mouth, and 4.2 miles west of Blairstown.

DRAINAGE AREA.--7.16 sq mi.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder with concrete control. Altitude of gage is 618 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 8.56 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 54 cfs Mar. 11 (gage height, 2.73 ft); maximum gage height, 3.66 ft Feb. 6 (backwater from ice); no flow Sept. 12.

Period of record: Maximum discharge, 140 cfs Jan. 14, 1968 (gage height, 3.14 ft) from rating curve extended above 30 cfs on basis of theoretical weir formula; maximum gage height, 3.66 ft Feb. 6, 1971, backwater from ice; no flow Sept. 12, 1971.

REMARKS.--Records good. Complete regulation by the Central Jersey Power and Light Co., at Yards Creek Reservoir above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	17	21	1.8	2.2	36	9.8	4.2	11	3.4	2.2	9.8
2	1.2	19	20	1.6	2.0	35	11	3.8	11	2.1	2.5	.88
3	1.5	20	21	1.5	2.0	34	11	3.8	18	1.2	3.1	.88
4	1.3	20	22	4.4	1.8	32	9.4	3.6	22	.88	5.2	.92
5	1.1	22	21	7.4	1.6	30	9.0	1.8	22	.80	4.6	.88
6	.92	14	20	4.8	1.5	34	9.8	1.8	19	.88	4.8	.88
7	.84	4.2	9.8	3.4	1.4	46	16	1.8	19	.88	4.8	.84
8	.80	3.7	2.0	5.0	40	43	11	3.4	19	.70	4.0	.84
9	.88	4.2	2.1	3.1	11	42	7.4	2.4	17	.70	4.2	.80
10	.88	4.8	2.1	2.7	5.5	43	6.8	2.1	16	1.5	4.6	.77
11	.84	6.4	2.1	3.2	2.3	49	6.1	2.1	12	1.7	4.8	.92
12	.77	20	2.4	5.8	1.8	50	5.8	2.0	6.8	1.4	3.4	1.4
13	.84	40	2.0	6.8	13	49	6.1	13	6.4	1.3	.84	11
14	.84	37	2.0	6.8	11	46	6.1	17	6.1	1.6	.88	21
15	7.8	38	2.1	6.1	5.8	37	6.1	14	7.4	1.5	.77	17
16	1.9	42	2.0	3.6	6.8	23	6.1	15	6.1	1.6	.88	22
17	1.3	47	2.9	2.5	8.7	21	6.1	14	5.2	1.7	1.5	22
18	1.3	38	2.7	1.9	19	21	5.5	14	3.1	1.4	1.5	21
19	1.1	24	2.3	1.9	33	24	5.2	13	3.0	1.5	1.5	12
20	1.1	24	2.7	1.8	32	26	4.8	13	2.5	1.5	.77	1.9
21	1.4	22	2.3	1.9	33	22	3.0	16	1.5	.96	.84	3.2
22	9.5	22	2.4	2.1	34	20	3.0	12	1.4	1.2	.77	9.0
23	32	21	2.2	1.7	39	21	3.0	11	1.4	1.2	.67	27
24	24	21	2.2	1.6	36	21	2.3	11	1.4	1.3	.73	33
25	17	17	2.0	1.5	35	21	2.3	16	1.4	1.3	.84	32
26	17	10	1.8	4.0	36	21	2.1	16	1.4	1.1	1.2	28
27	19	13	1.8	4.5	45	16	2.1	13	1.2	1.3	5.2	26
28	22	21	1.6	5.0	37	9.8	3.6	12	1.1	1.2	11	11
29	22	20	1.8	4.0	-----	9.4	9.4	9.8	1.1	1.4	7.1	11
30	21	20	1.8	3.0	-----	9.8	8.7	9.8	1.2	1.4	18	11
31	19	-----	1.3	2.5	-----	9.8	-----	18	-----	2.2	19	-----
TOTAL	232.31	632.3	185.4	107.9	497.4	901.8	198.6	290.4	245.7	42.80	122.19	338.91
MEAN	7.49	21.1	5.98	3.48	17.8	29.1	6.62	9.37	8.19	1.38	3.94	11.3
MAX	32	47	22	7.4	45	50	16	18	22	3.4	19	33
MIN	.77	3.7	1.3	1.5	1.4	9.4	2.1	1.8	1.1	.70	.67	.77

CAL YR 1970 TOTAL 3,094.46 MEAN 8.48 MAX 98 MIN .02
WTR YR 1971 TOTAL 3,795.71 MEAN 10.4 MAX 50 MIN .67

DELAWARE RIVER BASIN

01445500 Pequest River at Pequest, N. J.

LOCATION.--Lat 40°49'43", long 74°58'45", Warren County, on right bank at Pequest, 100 ft upstream from Lehigh and Hudson River Railway Bridge, and 300 ft downstream from Furnace Brook.

DRAINAGE AREA.--108 sq mi.

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

GAGE.--Water-stage recorder. Concrete control since Sept. 29, 1929. Datum of gage is 398.78 ft above mean sea level. Prior to June 22, 1926, nonrecording gage at site 10 ft upstream at same datum.

AVERAGE DISCHARGE.--50 years, 146 cfs (18.36 inches per year).

EXTREMES.--Current year: Maximum discharge, 902 cfs Feb. 27 (gage height, 3.66 ft); minimum, 29 cfs Oct. 11-15 (gage height, 1.19 ft).

Period of record: Maximum discharge, 1,810 cfs Mar. 14, 1936 (gage height, 4.97 ft), from rating curve extended above 1,200 cfs; minimum, 12 cfs Aug. 17-22, Dec. 10, 1965.

REMARKS.--Records excellent. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1902: 1940(M), 1945(M), 1955(M), 1957(M), 1959(M), 1945, 1957.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	93	164	85	84	718	219	141	195	55	64	139
2	37	87	156	95	82	655	216	136	175	60	172	109
3	37	85	146	122	76	691	252	136	370	57	195	93
4	40	85	156	134	76	560	239	134	266	52	159	85
5	37	189	151	320	82	515	226	127	213	49	118	78
6	35	149	141	288	99	520	213	124	178	46	87	89
7	34	122	127	210	103	709	392	122	159	45	69	105
8	32	107	113	159	124	691	505	170	149	42	58	89
9	32	97	116	173	180	550	410	195	139	45	54	85
10	32	93	120	172	146	480	347	170	129	47	50	84
11	30	139	118	164	127	465	304	146	118	41	49	84
12	29	183	134	156	131	440	277	131	113	41	52	223
13	30	304	134	141	320	425	256	266	111	38	46	445
14	30	347	129	141	659	401	242	343	111	43	43	510
15	118	410	131	141	370	392	226	266	120	40	41	383
16	183	379	129	111	352	397	213	256	134	38	38	280
17	118	308	149	93	273	383	207	242	120	42	38	245
18	84	266	175	113	263	361	198	207	107	43	37	223
19	68	280	161	105	300	388	189	180	99	40	37	201
20	61	263	186	99	365	650	183	164	93	49	37	178
21	58	312	175	93	455	530	178	189	87	40	36	189
22	164	259	151	99	505	455	170	201	85	36	36	170
23	637	232	146	103	623	406	164	180	80	34	34	154
24	370	207	146	101	560	365	159	159	73	34	34	144
25	249	166	139	107	505	329	154	146	71	36	32	131
26	186	175	134	127	505	308	151	170	68	35	32	122
27	154	170	124	101	808	288	149	172	66	37	105	118
28	129	167	113	93	781	273	146	156	61	35	655	116
29	113	161	107	118	-----	263	151	141	60	31	445	118
30	103	172	97	111	-----	245	146	134	60	41	300	111
31	99	-----	93	101	-----	232	-----	198	-----	47	201	-----
TOTAL	3,369	6,027	4,261	4,181	8,954	13,995	6,882	5,502	3,810	1,319	3,358	5,101
MEAN	109	201	137	135	320	451	229	177	127	42.5	108	170
MAX	637	410	186	320	808	718	505	343	370	60	655	510
MIN	29	85	93	85	76	232	146	122	60	31	32	78
CFSM	1.01	1.86	1.27	1.25	2.96	4.18	2.12	1.64	1.18	.39	1.00	1.57
IN.	1.16	2.08	1.47	1.44	3.08	4.82	2.37	1.90	1.31	.45	1.16	1.76

CAL YR 1970 TOTAL 54,161 MEAN 148 MAX 1,450 MIN 27 CFSM 1.37 IN 18.66
WTR YR 1971 TOTAL 66,759 MEAN 183 MAX 808 MIN 29 CFSM 1.69 IN 22.99

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-23	1215	3.33	754	3-20	0315	3.29	736
2-14	0415	3.51	834	4-07	2230	3.04	623
2-23	1930	3.08	641	8-28	1415	3.59	870
2-27	1300	3.66	902	9-13	2345	3.03	618
3-07	2000	3.58	866				

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LOCATION.--Lat 40°49'36", long 75°05'02", Warren County, on left bank at Belvidere, 800 ft downstream from Pequest River, and at mile 197.7 upstream from Atlantic Ocean.

PERIOD OF RECORD.--October 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 226.43 ft above mean sea level. Prior to Jan. 1, 1929, non-recording gage at site 200 ft upstream at same datum.

EXTREMES.--Current year: Maximum discharge, 32,500 cfs Mar. 17 (gage height, 10.21 ft); minimum, 1,410 cfs Aug. 16 (gage height, 2.96 ft).

Period of record: Maximum discharge, 273,000 cfs Aug. 19, 1955 (gage height, 30.21 ft, from high-water mark in gage house), from rating curve extended above 110,000 cfs on basis of flood-routing study; minimum, 609 cfs Sept. 28, 29, 1943 (gage height, 2.11 ft).

Flood of Oct. 10, 1903, reached a stage of 28.6 ft, from floodmark (discharge, 220,000 cfs, from rating curve extended above 170,000 cfs).

REMARKS.--Records excellent. Diurnal fluctuation at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, and Neversink Reservoirs (see p. 129) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs (see p. 135).

REVISIONS (WATER YEARS).--WSP 781: 1933(M). WSP 951: 1940-41, Drainage area. WSP 1432: 1923, 1924(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,620	4,500	6,030	3,250	2,460	27,200	10,000	9,280	8,390	2,980	3,790	4,280
2	2,400	4,200	5,820	2,940	2,510	26,300	10,400	7,940	7,060	3,540	3,810	3,480
3	2,520	3,970	5,390	2,990	3,640	21,500	15,100	7,500	6,590	3,000	4,330	3,000
4	2,640	3,540	5,320	3,640	3,750	19,400	20,600	8,380	6,240	2,710	6,540	2,760
5	2,870	4,430	5,470	5,760	3,800	16,300	21,200	7,950	5,730	2,730	11,200	2,560
6	2,950	5,250	5,880	6,480	3,740	14,000	20,500	7,500	4,750	2,670	7,820	2,320
7	2,830	4,730	5,350	6,120	3,360	14,900	19,200	7,270	3,990	2,690	5,310	2,810
8	2,850	4,210	4,750	6,390	2,650	16,500	19,100	6,700	4,190	2,400	3,970	2,970
9	3,000	3,750	4,420	6,530	2,950	15,600	18,200	7,420	4,190	2,490	3,270	3,080
10	2,770	3,780	4,650	5,390	3,440	12,800	17,700	7,830	3,680	2,860	2,620	2,950
11	2,700	4,380	4,900	4,810	3,890	11,100	20,800	8,100	3,140	2,860	2,920	3,000
12	2,580	6,430	5,390	5,200	3,820	10,900	19,200	7,410	2,970	2,540	2,670	3,330
13	3,060	12,000	5,060	4,910	4,470	10,600	19,600	7,890	2,710	2,560	2,240	4,390
14	3,120	15,400	4,300	4,940	8,600	10,500	22,500	16,300	2,700	2,650	2,130	6,270
15	3,760	15,400	4,470	4,950	11,100	11,600	26,100	19,900	3,400	2,520	2,110	7,810
16	4,460	16,800	4,560	3,970	16,300	18,800	20,800	15,400	4,230	2,640	1,750	5,910
17	5,850	15,800	4,490	3,290	15,300	30,200	17,400	14,300	4,110	2,710	2,330	5,700
18	4,850	12,800	4,530	3,020	13,100	26,100	15,100	12,900	3,970	2,950	2,470	5,930
19	3,490	11,100	4,460	3,090	11,300	21,200	13,400	11,100	3,670	2,880	2,450	4,720
20	3,150	10,300	4,450	3,960	10,900	20,900	12,400	9,800	3,410	3,100	2,530	3,840
21	2,700	11,100	4,620	4,000	11,000	18,400	12,400	8,940	3,160	2,620	2,640	4,160
22	4,440	13,400	5,070	4,300	12,400	16,100	12,300	9,710	3,210	2,330	2,770	5,430
23	14,800	11,900	4,490	4,470	14,800	14,700	11,800	8,600	3,000	2,430	2,690	4,830
24	24,800	10,800	4,150	3,480	16,600	13,200	10,900	7,370	2,910	2,610	2,610	4,430
25	18,200	9,440	4,340	3,100	17,100	12,100	5,770	6,860	2,900	2,630	2,410	4,160
26	11,400	8,220	4,040	3,520	15,600	11,000	9,030	7,930	3,190	2,900	2,270	3,990
27	9,900	6,800	3,460	4,130	17,500	10,100	8,700	6,890	3,270	3,050	2,790	3,800
28	7,000	6,580	3,410	3,920	23,400	8,970	8,310	6,330	3,000	3,110	7,080	3,600
29	6,000	5,950	3,100	4,100	-----	8,840	8,000	5,750	3,120	2,630	11,900	3,500
30	5,300	5,930	3,360	4,320	-----	9,860	9,570	5,120	2,880	2,970	8,480	3,400
31	4,500	-----	3,090	3,540	-----	10,200	-----	7,100	-----	3,940	6,000	-----
TOTAL	173,910	252,890	142,860	134,510	259,480	489,870	460,080	281,470	119,760	86,700	127,900	122,410
MEAN	5,610	8,430	4,608	4,339	9,267	15,800	15,340	9,080	3,992	2,797	4,126	4,080
MAX	24,800	16,800	6,030	6,530	23,400	30,200	26,100	19,900	8,390	3,940	11,900	7,810
MIN	2,400	3,540	3,090	2,940	2,460	8,840	8,000	5,120	2,700	2,330	1,750	2,320
CAL YR 1970	TOTAL 2,645,220		MEAN 7,247		MAX 64,000		MIN 2,140					
WTR YR 1971	TOTAL 2,651,840		MEAN 7,265		MAX 30,200		MIN 1,750					

DELAWARE RIVER BASIN

01446700 Delaware River at Easton, Pa.

LOCATION.--Lat 40°42'43", long 75°11'48", Northampton County, on right bank 200 ft upstream from city of Easton pumping station, 1.2 miles upstream from Bushkill Creek in Easton.

DRAINAGE AREA.--4,636 sq mi.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 157.84 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 31,000 cfs Mar. 17 (gage height, 13.10 ft); minimum, 1,640 cfs Aug. 16 (gage height, 3.87 ft).

Period of record: Maximum discharge, 76,500 cfs Apr. 3, 1970 (gage height, 22.08 ft, from floodmark); minimum, 1,640 cfs Aug. 16, 1971 (gage height, 3.87 ft).

REMARKS.--Records good. Diurnal fluctuation at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack (see p. 129) and by Cannonsville, Pepacton, Swinging Bridge, Toronto, Cliff Lake, and Neversink Reservoirs about 100 miles upstream (see New York Annual Report) and smaller reservoirs. Diversion from Cannonsville, Pepacton, and Neversink Reservoirs (see New York Annual Report). Records of chemical analyses and water temperatures for water year 1971 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,020	4,830	6,480	3,690	2,980	27,200	10,200	9,500	9,020	3,020	4,520	5,160
2	2,700	4,340	6,310	3,120	3,020	26,400	10,500	8,270	7,700	3,750	4,450	4,230
3	2,720	4,430	5,880	3,250	3,620	21,900	14,200	7,800	7,320	3,330	4,880	3,670
4	2,940	3,970	5,760	3,840	3,990	19,700	19,900	8,500	6,790	2,820	6,510	3,270
5	3,040	4,770	5,810	6,060	4,170	16,500	20,700	8,250	6,310	2,880	11,600	3,080
6	3,140	5,780	6,310	7,180	4,010	14,100	20,000	7,830	5,420	2,800	8,810	2,630
7	3,120	5,280	5,780	6,710	3,730	14,800	19,100	7,640	4,470	2,820	6,060	3,160
8	3,080	4,740	5,280	6,630	2,980	16,700	18,900	7,130	4,250	2,570	4,630	3,480
9	3,270	4,250	4,720	7,070	3,200	15,900	18,200	7,720	4,140	2,550	3,990	3,540
10	3,040	4,120	5,060	6,160	3,730	13,300	17,400	8,020	3,900	3,000	2,840	3,560
11	3,040	4,720	5,210	5,300	4,120	11,500	20,300	8,300	3,560	3,080	3,310	3,520
12	2,820	6,760	5,640	5,490	4,140	11,300	19,100	7,800	3,200	2,680	3,220	3,860
13	3,000	13,000	5,520	5,470	5,910	11,000	19,300	8,160	3,100	2,720	2,630	5,350
14	3,460	17,100	4,830	5,250	10,500	10,800	21,700	15,300	3,000	2,780	2,410	7,400
15	4,010	16,600	4,740	5,470	11,000	11,400	25,000	19,900	4,000	2,700	2,420	8,840
16	4,740	17,600	4,930	4,390	15,900	17,300	20,400	15,400	4,800	2,740	1,870	6,970
17	6,260	16,600	4,950	3,730	15,700	28,700	17,100	14,300	4,700	2,880	2,480	6,610
18	5,420	13,400	5,000	3,140	13,300	26,300	14,800	13,000	4,340	3,080	2,980	6,920
19	3,950	11,800	4,810	3,140	11,800	21,200	13,200	11,400	3,990	3,120	2,700	5,690
20	3,390	10,900	4,900	4,030	11,300	21,300	12,400	10,000	3,690	3,330	2,900	4,650
21	3,040	11,500	5,020	4,210	11,500	18,800	12,400	9,500	3,390	2,960	2,920	4,580
22	4,410	13,300	5,350	4,610	12,800	16,300	12,200	10,300	3,430	2,550	3,120	6,210
23	14,600	12,400	5,090	4,930	15,200	15,000	11,800	9,400	3,220	2,530	3,100	5,540
24	24,400	11,000	4,560	3,970	17,100	13,300	11,100	8,200	3,100	2,800	2,880	5,110
25	18,900	9,880	4,740	3,410	17,400	12,300	9,940	7,500	3,040	2,840	2,940	4,790
26	12,200	8,750	4,540	3,670	15,900	11,300	9,190	8,600	3,200	3,140	2,610	4,610
27	9,970	7,510	3,810	4,500	17,800	10,300	8,870	8,000	3,620	3,290	3,140	4,300
28	7,990	7,130	3,750	4,450	23,200	9,360	8,530	6,890	3,180	3,540	7,510	3,840
29	6,940	6,510	3,500	4,630	-----	9,100	8,250	6,250	3,290	2,960	12,400	4,230
30	5,830	6,440	3,640	4,720	-----	9,910	9,500	5,680	3,160	3,140	9,770	3,730
31	5,250	-----	3,350	4,010	-----	10,400	-----	7,220	-----	4,230	6,940	-----
TOTAL	183,690	269,380	155,270	146,230	270,000	493,370	454,180	291,760	130,330	92,690	142,540	142,530
MEAN	5,925	8,979	5,009	4,717	9,643	15,920	15,140	9,412	4,344	2,990	4,598	4,751
MAX	24,400	17,600	6,480	7,180	23,200	28,700	25,000	19,900	9,020	4,230	12,400	8,840
MIN	2,700	3,970	3,350	3,120	2,980	9,100	8,250	5,680	3,000	2,530	1,870	2,630
CFSM	-	-	-	-	-	-	-	-	-	-	-	-
IN.	-	-	-	-	-	-	-	-	-	-	-	-
CAL YR 1970	TOTAL 2,778,150	MEAN 7,611	MAX 66,000	MIN 2,300	CFSM -	IN. -						
WTR YR 1971	TOTAL 2,771,970	MEAN 7,594	MAX 28,700	MIN 1,870	CFSM -	IN. -						

01453000 Lehigh River at Bethlehem, Pa.

LOCATION.--Lat 40°36'55", long 75°22'45", Lehigh County, on left bank 120 ft upstream from New Street Bridge at Bethlehem, and 1,800 ft upstream from Monocacy Creek.

DRAINAGE AREA.--1,279 sq mi, includes that of Monocacy Creek. At site used prior to Oct. 1, 1928, 1,229 sq mi.

PERIOD OF RECORD.--September 1902 to February 1905, April 1909 to current year. Monthly discharge only for some periods, published in WSP 1302. Published as "at South Bethlehem" prior to Oct. 1, 1913.

GAGE.--Water-stage recorder. Datum of gage is 210.94 ft above mean sea level. Prior to October 1928, nonrecording gage at New Street Bridge 120 ft downstream at same datum. Oct. 1, 1928 to Sept. 30, 1962, water-stage recorder at site 4,250 ft downstream at datum 2.49 ft lower.

AVERAGE DISCHARGE.--64 years (1902-4, 1909-71), 2,235 cfs (23.73 inches per year), adjusted for diversion 1902-4, 1909-42 and, for recirculated water, October 1, 1959 to Sept. 30, 1962.

EXTREMES.--Current year: Maximum discharge, 23,400 cfs Feb. 14 (gage height, 11.22 ft); minimum, 392 cfs Oct. 13 (gage height, 1.75 ft).

Period of record: Maximum discharge, 92,000 cfs May 23, 1942 (gage height, about 25.9 ft, from floodmark, present site and datum), from rating curve extended above 48,000 cfs; minimum, 125 cfs June 28, 1965 (gage height, 0.94 ft).

Flood of Feb. 28, 1902, reached a stage of 24.9 ft from floodmark, present site and datum (discharge, about 88,000 cfs).

REMARKS.--Records fair. Flow regulated by Wild Creek Reservoir since January 1941, Penn Forest Reservoir since October 1958, Francis E. Walter Reservoir since February 1961, and Beltzville Lake since February 1971, (see p. 130). Records of chemical analyses and water temperatures for the water year 1971 are published in Part 2 of the Pennsylvania Annual Report.

REVISIONS (WATER YEARS).--WSP 261: 1903-5. WSP 321: 1910-11. WSP 1051: Drainage area. WSP 1141: 1929-34(M). WSP 1302: 1914(M), 1916(M), 1918, 1921, 1927-28. WSP 1432: 1903, 1919(M), 1920-21, 1929, 1933.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	640	2,700	2,700	1,490	1,100	9,280	2,690	1,850	4,350	1,040	2,800	1,980
2	614	2,500	2,360	1,430	1,050	8,530	2,720	1,710	3,390	1,070	4,080	1,650
3	601	2,200	2,200	1,530	1,000	7,530	3,740	1,910	3,970	1,060	5,070	1,450
4	555	1,800	2,330	1,600	1,010	6,450	4,470	1,970	2,920	992	8,930	1,350
5	568	3,210	2,290	3,500	1,100	5,980	4,170	1,900	2,300	1,000	6,300	1,220
6	542	2,640	2,110	3,700	1,320	5,200	3,980	1,770	2,300	968	4,810	1,240
7	510	2,320	1,970	3,400	1,580	5,600	4,330	1,770	5,230	876	3,360	1,210
8	484	2,120	1,820	3,000	1,780	6,300	4,170	1,930	3,140	792	2,480	1,090
9	484	2,050	1,860	2,700	3,000	5,400	3,640	2,030	2,440	737	2,070	1,120
10	484	1,970	1,900	2,500	1,960	4,850	3,270	1,860	2,040	685	1,600	1,270
11	458	2,240	1,870	2,400	1,530	4,000	3,340	1,760	1,800	685	1,340	1,340
12	438	9,760	2,030	2,300	1,580	3,740	3,300	1,670	1,540	692	1,520	1,850
13	425	17,700	2,180	2,200	7,020	4,190	3,410	2,800	1,420	718	1,350	3,410
14	438	15,000	2,030	2,100	15,100	4,270	3,090	5,570	2,500	692	1,190	5,830
15	1,630	11,000	2,040	2,200	7,330	4,570	3,060	5,010	3,160	646	1,430	4,870
16	2,740	9,000	1,940	2,000	5,110	7,450	2,900	4,120	3,230	698	1,020	3,660
17	1,640	8,000	2,180	1,800	6,000	8,180	2,360	4,020	3,060	646	984	2,940
18	1,340	7,000	2,830	1,700	5,090	7,700	2,200	3,140	2,120	1,000	939	2,700
19	1,190	5,500	2,670	1,600	4,870	6,250	2,110	2,870	1,810	862	918	2,560
20	976	5,000	2,800	1,500	4,810	7,000	2,010	2,560	1,620	953	904	2,290
21	820	5,500	2,900	1,450	5,290	6,300	1,910	2,450	1,420	799	932	2,580
22	4,550	5,000	2,800	1,400	6,480	5,600	1,640	2,560	1,390	672	925	3,480
23	12,300	4,700	2,700	1,360	9,030	5,800	1,590	2,290	1,280	627	855	3,430
24	7,450	4,300	2,600	1,330	9,030	4,670	1,570	2,140	1,150	601	778	2,580
25	4,830	4,500	2,500	1,300	7,880	4,290	1,510	2,010	1,120	737	757	2,210
26	3,900	4,500	2,320	1,200	6,280	3,640	1,500	2,750	1,080	568	757	1,960
27	3,000	4,500	2,070	1,150	7,650	3,360	1,440	2,210	1,030	640	1,820	1,930
28	2,500	3,500	1,840	1,100	9,080	3,140	1,420	1,980	1,020	799	7,000	1,780
29	2,100	2,800	1,680	1,070	-----	3,040	1,720	1,820	1,010	718	5,830	1,850
30	1,600	3,200	1,570	1,050	-----	2,950	1,910	1,810	1,020	1,080	3,410	1,840
31	2,400	-----	1,370	1,200	-----	2,820	-----	4,750	-----	1,570	2,510	-----
TOTAL	62,407	156,210	68,460	58,260	134,060	168,080	81,170	78,990	65,860	25,623	78,669	68,670
MEAN	2,013	5,207	2,208	1,879	4,788	5,422	2,706	2,548	2,195	827	2,538	2,289
MAX	12,300	17,700	2,900	3,700	15,100	9,280	4,470	5,570	5,230	1,570	8,930	5,830
MIN	425	1,800	1,370	1,050	1,000	2,820	1,420	1,670	1,010	568	757	1,090
CFSM	1.57	4.07	1.73	1.47	3.74	4.24	2.12	1.99	1.72	.65	1.98	1.79
IN.	1.82	4.54	1.99	1.69	3.90	4.89	2.36	2.30	1.92	.75	2.29	2.00

CAL YR 1970 TOTAL 884,542 MEAN 2,423 MAX 22,400 MIN 425 CFSM 1.89 IN 25.73
WTR YR 1971 TOTAL 1,046,459 MEAN 2,867 MAX 17,700 MIN 425 CFSM 2.24 IN 30.44

DELAWARE RIVER BASIN

01455355 Beaver Brook near Weldon, N. J.

LOCATION.--Lat 40°58'50", long 74°34'08", Morris County, on right bank, 1.3 miles upstream from Lake Shawnee, 1.3 miles southeast of Weldon, and 2.1 miles northeast of Tierneys Corner.

DRAINAGE AREA.--1.74 sq mi.

PERIOD OF RECORD.--October 1968 to September 1971 (discontinued).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 1,015 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 256 cfs Aug. 28 (gage height, 4.46 ft); minimum daily discharge, 0.03 cfs Oct. 9-14.
Period of record: Maximum discharge, 256 cfs Aug. 28, 1971 (gage height, 4.46 ft); minimum, 0.01 cfs Aug. 22, 1970 (gage height, 2.17 ft).

REMARKS.--Records excellent except those below 1.0 cfs, which are fair.

REVISIONS (WATER YEARS).--WRD N.J. 1970: 1969(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	2.2	3.5	1.5	1.2	19	2.7	1.8	4.8	.39	9.7	5.4
2	.06	2.1	3.0	1.6	1.0	16	3.1	1.8	2.2	1.7	29	4.2
3	.06	1.9	2.7	1.8	.71	11	4.8	2.0	8.2	.79	12	3.5
4	.12	2.1	3.5	2.5	.42	8.2	3.4	1.8	4.0	.37	11	3.1
5	.10	6.1	3.4	7.2	.79	8.5	2.7	1.6	2.3	.21	7.2	2.4
6	.09	4.8	3.0	8.9	1.3	7.5	2.5	1.6	1.8	.14	4.4	3.2
7	.07	2.7	2.3	5.8	1.4	16	6.1	1.5	1.6	.10	3.0	4.4
8	.04	2.2	2.0	4.4	2.1	14	10	2.8	1.3	.07	2.2	2.8
9	.03	2.0	2.2	3.8	2.5	7.5	8.9	4.8	1.1	.05	1.8	2.4
10	.03	2.2	2.4	3.2	2.5	6.1	14	2.7	.96	.05	1.4	2.3
11	.03	4.4	2.3	2.7	2.1	6.1	9.2	2.0	.79	.04	1.6	2.4
12	.03	8.9	2.8	2.5	1.8	6.8	6.1	1.7	.71	.05	2.3	20
13	.03	21	2.7	2.2	8.2	7.5	5.4	9.7	1.0	.04	1.4	21
14	.03	22	2.3	2.1	22	8.9	5.0	14	1.2	.09	1.1	19
15	3.8	24	2.2	2.1	13	14	4.5	4.8	1.5	.06	.87	16
16	11	18	2.1	1.8	8.5	16	4.0	6.8	2.0	.04	.71	9.7
17	4.4	12	2.8	1.2	5.8	11	3.8	6.1	1.2	.05	.58	8.2
18	2.5	8.2	4.6	1.1	5.0	7.5	3.5	3.8	.87	.05	.50	6.5
19	1.7	10	4.0	.75	5.2	7.2	3.3	3.2	.62	.50	.47	5.2
20	1.0	9.2	4.4	.58	6.8	15	3.6	2.8	.47	.83	.87	4.6
21	1.0	11	3.7	.58	10	10	2.8	3.7	.42	.42	.71	5.4
22	36	7.2	2.7	1.0	11	8.9	2.3	4.6	.39	.14	.53	4.6
23	35	5.6	2.7	1.2	14	7.2	2.1	3.0	.31	.08	.37	3.5
24	16	4.6	2.5	1.2	13	5.4	2.0	2.2	.45	.05	.25	3.1
25	9.7	3.8	2.4	1.7	8.9	4.6	2.0	2.2	.87	.12	.21	2.5
26	6.8	3.7	2.3	1.9	7.8	4.4	2.0	3.5	1.7	.45	.17	2.3
27	4.8	3.7	2.2	2.0	23	4.0	2.1	2.4	.96	.66	13	2.2
28	4.0	3.5	2.2	4.6	21	3.8	2.0	2.0	.34	.37	99	2.2
29	3.2	3.4	1.9	4.8	-----	3.7	2.4	1.7	.37	.26	26	2.3
30	2.8	4.0	1.5	1.4	-----	3.4	2.2	1.7	.29	2.2	14	2.1
31	2.4	-----	1.2	1.2	-----	3.0	-----	5.2	-----	5.2	7.8	-----
TOTAL	146.89	216.5	83.5	79.31	201.02	272.2	128.5	109.5	44.72	15.57	254.14	176.5
MEAN	4.74	7.22	2.69	2.56	7.18	8.78	4.28	3.53	1.49	.50	8.20	5.88
MAX	36	24	4.6	8.9	23	19	14	14	8.2	5.2	99	21
MIN	.03	1.9	1.2	.58	.42	3.0	2.0	1.5	.29	.04	.17	2.1
CFSM	2.72	4.15	1.55	1.47	4.13	5.05	2.46	2.03	.86	.29	4.71	3.38
IN.	3.14	4.63	1.79	1.70	4.30	5.82	2.75	2.34	.96	.33	5.43	3.77

CAL YR 1970 TOTAL 1,282.91 MEAN 3.51 MAX 45 MIN .02 CFSM 2.02 IN 27.43
WTR YR 1971 TOTAL 1,728.35 MEAN 4.74 MAX 99 MIN .03 CFSM 2.72 IN 36.95

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	1830	3.80	64	8-28	0845	4.46	256
8-02	0145	3.66	44				

DELAWARE RIVER BASIN

105

01455500 Musconetcong River at outlet of Lake Hopatcong, N. J.

LOCATION.--Lat 40°55'00", long 74°39'55", Morris County, on left bank at highway bridge 300 ft downstream from Lake Hopatcong Dam in Landing.

DRAINAGE AREA.--25.6 sq mi.

PERIOD OF RECORD.--July 1928 to current year.

GAGE.--Water-stage recorder and concrete control. Prior to Aug. 24, 1967, concrete control at site 40 ft downstream. Datum of gage is 904.99 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--43 years, 41.4 cfs (unadjusted).

EXTREMES --Current year: Maximum discharge, 292 cfs Aug. 29 (gage height, 3.65 ft); minimum daily, 0.36 cfs Oct. 1, Jan. 10.

Period of record: Maximum discharge, 795 cfs Aug. 20, 1955 (gage height, 3.85 ft), from rating curve extended above 300 cfs; maximum gage height, 3.96 ft Aug. 5, 1969; no flow many days in some years.

REMARKS.--Records good except those below 9.0 cfs, which are fair. Flow regulated by Lake Hopatcong (see p. 131).

COOPERATION.--Water-stage recorder inspected by employees of Morris Canal and Banking Company.

REVISIONS (WATER YEARS).--WSP 781: 1928(M), Drainage area. WSP 1051: 1944-45.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	7.3	67	34	19	22	8.7	24	46	9.4	19	194
2	47	15	8.3	34	19	23	7.7	24	43	9.4	65	148
3	189	13	8.3	34	19	23	7.5	25	52	9.7	76	164
4	206	12	8.3	34	19	23	7.3	23	55	9.2	151	156
5	220	11	8.3	34	19	23	6.6	20	51	9.2	151	156
6	216	3.9	8.3	44	18	23	5.9	22	44	8.9	72	138
7	213	3.9	12	47	16	23	5.5	22	40	9.2	34	64
8	209	2.7	24	19	16	24	5.5	30	36	9.2	32	76
9	206	5.8	23	.37	17	24	5.4	34	35	8.9	29	53
10	206	7.3	15	.36	16	24	5.2	34	29	8.9	26	1.3
11	238	7.1	15	21	15	24	5.2	31	26	8.9	24	2.2
12	250	6.6	15	34	14	24	5.4	28	25	8.9	29	24
13	242	6.6	15	34	17	24	7.5	48	24	8.9	24	73
14	212	7.6	15	34	20	23	11	68	23	8.4	21	121
15	230	21	15	34	19	23	12	66	22	8.0	19	130
16	230	46	15	34	18	23	14	74	23	8.0	15	126
17	223	51	18	34	17	22	16	75	21	8.2	12	119
18	216	120	22	34	18	16	19	70	18	8.0	10	112
19	213	202	22	34	19	22	20	66	16	8.0	10	103
20	141	189	22	33	19	23	21	60	15	8.0	9.8	93
21	69	183	25	27	19	23	23	61	13	8.0	8.8	90
22	69	174	24	18	19	23	23	62	13	8.0	7.8	88
23	98	180	24	18	20	11	20	55	12	8.4	6.8	84
24	131	177	25	18	20	8.1	21	47	11	8.4	7.7	78
25	154	195	25	19	20	8.3	21	42	10	8.4	7.5	69
26	213	216	25	19	21	8.1	21	46	11	8.4	7.5	63
27	213	209	25	19	22	8.1	23	43	10	8.4	31	61
28	209	206	29	19	22	7.8	23	41	10	8.2	201	58
29	195	206	28	19	-----	8.9	25	39	9.4	8.2	277	57
30	79	195	43	19	-----	9.4	25	38	9.4	8.2	262	57
31	22	-----	34	19	-----	9.2	-----	44	-----	8.0	228	-----
TOTAL	5,359.36	2,679.8	663.5	820.73	517	580.9	421.4	1,362	752.8	265.9	1,873.9	2,758.5
MEAN	173	89.3	21.4	26.5	18.5	18.7	14.0	43.9	25.1	8.58	60.4	92.0
MAX	250	216	67	47	22	24	25	75	55	9.7	277	194
MIN	.36	2.7	8.3	.36	14	7.8	5.2	20	9.4	8.0	6.8	1.3
CAL YR 1970	TOTAL 18,630.33	MEAN 51.0	MAX 266	MIN .28								
WTR YR 1971	TOTAL 18,055.79	MEAN 49.5	MAX 277	MIN .36								

DELAWARE RIVER BASIN

01456000 Musconetcong River near Hackettstown, N. J.

LOCATION.--Lat 40°53'10", long 74°48'00", Warren County, on right bank 75 ft upstream from Saxton Falls Dam, 0.5 mile upstream from Delaware, Lackawanna and Western Railroad bridge, and 3.0 miles northeast of Hackettstown.

DRAINAGE AREA.--70.0 sq mi.

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

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 630.93 ft above mean sea level (New Jersey Geological Survey bench mark). Prior to Aug. 21, 1923, nonrecording gage and Aug. 21, 1923, to July 19, 1938, water-stage recorder at site 2,000 ft downstream at datum 26.97 ft lower.

AVERAGE DISCHARGE.--50 years, 116 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 1,080 cfs Aug. 28 (gage height, 2.93 ft); minimum, 14 cfs July 6, 15, 16.

Period of record: Maximum discharge, 2,170 cfs Aug. 19, 1955 (gage height, 3.97 ft), from rating curve extended above 600 cfs; no flow part of Sept. 6, 1951, Feb. 4, 5, 1957, when water was below spillway, waste gate was closed, and no flow through swimming pool.

REMARKS.--Records excellent above 25 cfs and fair below. Records given herein represent flow over dam and through swimming pool. Flow regulated by Lake Hopatcong (see p. 131) and other smaller lakes.

COOPERATION.--Water-stage recorder operated by employees of Morris Canal and Banking Co.

REVISIONS (WATER YEARS).--WSP 1051: 1944-45.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	89	280	93	55	340	89	86	140	31	63	454
2	28	73	133	102	54	307	88	86	110	35	285	359
3	62	68	93	93	51	280	107	89	140	33	203	291
4	219	66	92	103	50	292	99	82	144	31	188	297
5	250	116	86	184	56	266	90	76	126	31	279	285
6	239	106	71	193	65	231	89	76	110	26	218	321
7	239	85	67	168	65	280	166	76	90	31	99	213
8	238	75	69	155	103	310	208	98	78	26	63	141
9	235	68	83	120	115	247	190	132	68	21	51	145
10	233	66	90	99	95	218	226	114	63	21	45	229
11	239	96	82	93	80	209	210	103	54	21	45	240
12	259	153	100	90	74	198	187	94	51	21	54	285
13	263	239	100	97	157	190	169	170	45	19	40	359
14	256	294	89	110	377	185	154	277	45	22	35	379
15	334	326	77	111	273	182	139	222	51	21	31	372
16	418	364	75	103	229	189	122	212	63	19	28	359
17	314	306	91	98	191	182	112	217	51	22	26	346
18	279	274	116	94	165	174	107	192	45	26	26	412
19	266	417	108	89	167	175	101	212	38	24	26	365
20	251	420	114	83	183	281	98	228	35	31	35	321
21	150	433	111	79	209	261	91	278	33	24	31	303
22	277	385	111	68	238	221	88	102	31	22	31	251
23	457	353	112	65	289	200	82	72	28	19	26	223
24	377	339	111	64	284	172	79	65	28	19	22	193
25	337	321	104	64	248	151	79	62	33	21	21	141
26	345	333	98	75	234	141	76	82	35	21	21	87
27	341	321	93	80	321	131	78	102	33	22	76	83
28	312	309	88	69	378	121	78	102	31	21	723	91
29	293	303	85	66	-----	105	86	102	28	19	923	107
30	270	309	84	64	-----	100	87	98	28	33	699	119
31	140	-----	90	61	-----	95	-----	131	-----	48	552	-----
TOTAL	7,956	7,107	3,103	3,033	4,810	6,434	3,575	4,038	1,855	781	4,965	7,771
MEAN	257	237	100	97.8	172	208	119	130	61.8	25.2	160	259
MAX	457	433	280	193	378	340	226	278	144	48	923	454
MIN	28	66	67	61	50	95	76	62	28	19	21	83

CAL YR 1970 TOTAL 48,185 MEAN 132 MAX 893 MIN 23
WTR YR 1971 TOTAL 55,428 MEAN 152 MAX 923 MIN 19

01457000 Musconetcong River near Bloomsbury, N. J.

LOCATION.--Lat 40°40'20", long 75°03'40", Warren County, on right bank just downstream from highway bridge, 1.5 miles upstream from Bloomsbury, and 9.5 miles upstream from mouth.

DRAINAGE AREA.--143 sq mi.

PERIOD OF RECORD.--July 1903 to March 1907, July 1921 to current year.

GAGE.--Water-stage recorder. Concrete control since Sept. 29, 1932. Datum of gage is 274.83 ft above mean sea level. July 1903 to Mar. 31, 1907, nonrecording gage at bridge 15 ft upstream at different datum. July 26 to Sept. 21, 1921, nonrecording gage at bridge at present datum.

AVERAGE DISCHARGE.--53 years (1903-6, 1921-71), 220 cfs, unadjusted.

EXTREMES.--Current year: Maximum discharge, 2,580 cfs Feb. 13 (gage height, 5.78 ft); minimum, 69 cfs Oct. 3 (gage height, 1.27 ft).

Period of record: Maximum discharge, 6,960 cfs Oct. 10, 1903 (gage height, 8.00 ft, site and datum then in use, from graph based on gage readings), from rating curve extended above 1,800 cfs on basis of slope-area measurement at gage height 6.95 ft; minimum, 8.1 cfs Aug. 2, 1955; minimum daily, 27 cfs Sept. 8, 1966.

REMARKS.--Records excellent. Flow regulated by Lake Hopatcong (see p. 131). Diurnal fluctuation caused by small powerplants above station. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 521: Drainage area. WSP 1051: 1944-45. WSP 1382: 1904-6, 1922, 1923-29(M), 1931(M), 1933-34(M), 1936(M), 1940, 1942(M), 1944-45(M), 1951-52(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	168	400	168	150	565	234	198	270	105	410	638
2	81	140	314	183	145	520	234	195	238	110	654	545
3	74	130	204	180	135	495	270	198	270	100	574	455
4	159	140	201	201	130	530	242	195	274	98	475	420
5	270	302	186	415	145	485	226	183	254	93	405	405
6	270	204	174	354	198	445	222	186	230	88	405	480
7	266	171	159	302	174	606	480	186	210	88	286	440
8	262	150	150	310	530	594	475	234	192	86	195	282
9	258	140	162	246	455	495	415	258	177	95	168	254
10	254	138	177	210	242	440	425	234	168	177	153	310
11	254	171	171	201	198	425	400	210	156	95	148	350
12	274	274	198	192	234	410	370	195	153	90	153	475
13	290	450	204	189	1,340	415	346	338	148	86	145	910
14	290	495	186	201	850	385	326	465	148	90	133	790
15	385	578	177	204	515	380	302	375	150	86	125	662
16	515	570	165	189	420	380	282	380	174	86	118	590
17	370	495	210	189	354	366	262	380	153	93	113	560
18	322	425	234	198	358	346	250	334	140	90	108	570
19	302	515	218	207	342	420	238	330	130	140	105	578
20	286	574	218	207	405	626	234	326	123	171	110	500
21	250	610	214	168	425	535	230	420	120	105	113	495
22	495	545	210	168	525	465	222	334	120	90	105	425
23	778	505	210	162	614	420	214	210	115	86	103	380
24	515	475	210	153	533	380	210	189	110	81	98	342
25	435	450	201	153	470	346	207	183	110	100	93	298
26	400	445	195	177	435	326	204	195	110	93	93	238
27	410	445	183	183	622	310	204	195	108	103	290	214
28	375	425	177	174	618	294	204	201	105	86	1,420	210
29	354	410	168	170	-----	278	214	192	105	81	1,240	214
30	334	425	168	160	-----	262	207	192	103	118	955	222
31	258	-----	171	148	-----	250	-----	262	-----	140	754	-----
TOTAL	9,909	10,965	6,215	6,362	11,562	13,194	8,349	7,973	4,864	3,150	10,247	13,252
MEAN	320	366	200	205	413	426	278	257	162	102	331	442
MAX	778	610	400	415	1,340	626	480	465	274	177	1,420	910
MIN	74	130	150	148	130	250	204	183	103	81	93	210

CAL YR 1970 TOTAL 87,482 MEAN 240 MAX 1,460 MIN 62
 WTR YR 1971 TOTAL 106,042 MEAN 291 MAX 1,420 MIN 74

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-13	1800	5.78	2,580	8-28	1430	5.18	1,990
8-02	0115	3.67	1,040	9-13	1845	4.73	1,670

DELAWARE RIVER BASIN

01457500 Delaware River at Riegelsville, N. J.

LOCATION.--Lat 40°35'36", long 75°11'17", Warren County, on left bank 20 ft upstream from suspension bridge at Riegelsville, 600 ft upstream from Musconetcong River, at mile 174.8 upstream from Atlantic Ocean.

DRAINAGE AREA.--6,328 sq mi (includes that of Musconetcong River).

PERIOD OF RECORD.--July 1906 to September 1971 (discontinued). Since September 1931, flow of Musconetcong River included.

GAGE.--Water-stage recorder. Datum of gage is 125.12 ft above mean sea level. Prior to Feb. 27, 1924, nonrecording gage at bridge 20 ft downstream at same datum.

AVERAGE DISCHARGE.--65 years, 10,827 cfs (unadjusted), includes flow of Musconetcong River after Sept. 30, 1931, and excludes flow of Delaware Division Canal.

EXTREMES.--Current year: Maximum discharge, 41,400 cfs Mar. 17 (gage height, 11.83 ft); minimum, 3,100 cfs Aug. 16 (gage height, 2.73 ft); minimum daily, 3,350 cfs Aug. 16.
Period of record: Maximum discharge, 340,000 cfs Aug. 19, 1955 (gage height, 38.85 ft, from floodmark), from rating curve extended above 160,000 cfs on basis of flood-routing study and slope-area measurement of peak flow; minimum, not including flow in canal, 870 cfs Sept. 20, 1908 (gage height, 1.55 ft).
Flood of Oct. 10, 1903, reached a stage of 35.9 ft, from floodmark (discharge, 275,000 cfs, from rating curve extended above 160,000 cfs as explained above).

REMARKS.--Records excellent. Diurnal fluctuation at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lakes Wallenpaupack and Hopatcong and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, Neversink, and Wild Creek Reservoirs (see p. 129) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs (see p. 135) and to Delaware Division Canal (see diversion below). Results of discharge measurements, in cubic feet per second, of Delaware Division Canal at Riegelsville, Pa., are given herewith:

Dec. 10.....0	July 7.....79.3
Mar. 9.....61.0	Aug. 13.....60.8
May 3.....67.2	Oct. 19, 1971.....56.9

Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 641: 1926. WSP 961: Drainage area. WSP 1432: 1918-20, 1936, 1948.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,090	7,810	10,200	5,930	4,400	38,900	14,100	12,300	14,200	4,480	8,000	8,110
2	3,620	7,150	9,620	5,220	3,870	37,400	14,300	10,800	11,800	5,200	10,300	6,690
3	3,570	6,950	8,900	5,450	4,840	32,200	18,500	10,300	12,200	4,950	10,200	5,850
4	3,790	6,160	8,750	6,070	5,330	29,500	25,400	10,900	10,600	4,310	15,500	5,300
5	4,010	8,770	8,790	10,700	5,770	24,600	26,700	10,700	9,530	4,360	17,800	5,020
6	4,160	9,010	9,010	12,200	5,930	21,600	26,100	10,200	8,460	4,260	14,000	4,710
7	4,160	8,060	8,450	11,000	5,830	22,400	25,900	10,000	9,860	4,190	9,550	5,160
8	4,060	7,260	7,790	9,780	6,290	26,000	25,200	9,720	8,180	3,910	7,380	5,070
9	4,210	6,700	7,050	10,300	7,470	24,100	24,300	10,400	7,840	3,770	6,350	5,070
10	4,100	6,370	7,360	9,450	6,450	20,700	22,200	10,500	6,910	4,300	4,850	5,350
11	4,030	7,180	7,450	8,310	6,240	17,800	25,100	10,700	6,140	4,230	4,940	5,310
12	3,860	14,900	8,140	8,230	6,400	17,200	24,400	10,200	5,700	3,890	5,230	6,340
13	3,910	28,400	8,280	8,190	15,300	17,100	24,400	11,500	5,220	3,900	4,400	10,200
14	4,480	32,800	7,390	7,680	29,500	17,100	26,100	20,500	5,800	3,960	4,030	15,100
15	6,220	30,500	7,030	8,050	19,800	17,300	30,500	26,900	6,760	3,850	4,130	14,800
16	7,860	29,800	7,190	6,750	22,500	24,300	25,800	21,400	7,530	3,940	3,350	12,000
17	8,200	27,700	7,870	5,960	23,500	37,400	21,700	19,800	7,490	4,000	3,730	11,000
18	7,200	23,100	8,260	5,200	20,200	37,500	18,900	17,700	7,080	4,420	4,190	10,900
19	5,640	19,300	7,770	5,160	18,800	30,600	17,000	15,600	6,190	4,540	3,860	9,650
20	4,850	17,800	7,970	5,610	17,900	31,900	15,900	13,800	5,840	4,950	4,080	8,210
21	4,430	19,400	8,260	5,970	18,600	28,100	15,600	12,900	5,290	4,300	4,140	7,940
22	9,250	20,300	8,500	6,510	21,400	24,500	15,200	13,400	5,300	3,720	4,310	10,100
23	26,300	19,100	8,470	6,940	26,700	23,200	14,700	12,200	5,060	3,580	4,170	9,440
24	32,200	17,200	7,640	5,990	28,500	20,400	14,000	10,700	4,780	3,860	3,880	8,460
25	26,400	15,900	7,580	5,400	27,200	18,500	12,700	9,900	4,670	4,180	4,020	7,710
26	17,500	14,900	7,290	5,670	24,400	16,900	11,800	11,600	4,680	4,130	3,640	7,400
27	13,900	13,500	6,400	6,430	27,500	15,200	11,200	10,400	5,190	4,300	5,640	6,980
28	11,100	11,800	6,150	5,500	34,100	13,800	10,800	9,400	4,680	4,650	16,800	6,130
29	9,530	10,100	5,880	5,770	-----	13,300	10,700	8,590	4,680	4,080	19,400	6,620
30	8,250	10,600	5,710	6,470	-----	13,900	11,900	8,040	4,680	4,350	14,900	6,120
31	7,830	-----	5,380	5,800	-----	14,400	-----	11,900	-----	5,790	10,400	-----
TOTAL	262,710	458,520	240,530	221,690	444,720	727,800	581,100	392,950	212,340	132,350	237,170	236,740
MEAN	8,475	15,280	7,759	7,151	15,880	23,480	19,370	12,680	7,078	4,269	7,651	7,891
MAX	32,200	32,800	10,200	12,200	34,100	38,900	30,500	26,900	14,200	5,790	19,400	15,100
MIN	3,570	6,160	5,380	5,160	3,870	13,300	10,700	8,040	4,670	3,580	3,350	4,710
(+)	35	15	5	25	45	60	65	70	75	75	60	60

CAL YR 1970 TOTAL 3,953,500 MEAN 10,830 MAX 89,800 MIN 3,250 + 36
WTR YR 1971 TOTAL 4,148,620 MEAN 11,370 MAX 38,900 MIN 3,350 + 49

PEAK DISCHARGE (BASE 48,000 CFS).--No peak above base.

+ Diversion, in cubic feet per second, above station to Delaware Division Canal.

DELAWARE RIVER BASIN

109

01460500 Delaware and Raritan Canal at Kingston, N. J.

LOCATION.--Lat 40°22'24", long 74°37'08", Middlesex County, on right bank at canal lock at Kingston, 250 ft upstream from bridge on State Highway 27 (distance of 160 ft formerly used was measured from old bridge).

PERIOD OF RECORD.--March 1947 to current year.

GAGE.--Two water-stage recorders and concrete control. Datum of gage is 40.00 ft above mean sea level.

REMARKS.--Records excellent. The canal diverts water from Delaware River at Raven Rock (see p. 135) and discharges into Raritan River at New Brunswick. Some water wasted to the Millstone River 500 ft above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	87	98	94	92	112	120	116	100	120	112	53
2	94	87	98	93	92	114	120	116	112	121	114	32
3	95	87	98	94	92	121	121	116	112	120	116	39
4	95	87	98	96	92	132	121	118	111	118	127	47
5	95	93	98	107	94	129	121	118	111	118	127	47
6	94	88	98	110	93	127	118	116	111	118	121	64
7	93	87	97	103	93	131	137	118	112	118	111	46
8	94	82	97	95	150	126	139	118	103	118	111	49
9	94	79	97	95	143	129	129	116	100	118	107	63
10	95	79	97	95	125	123	121	109	109	120	116	51
11	95	78	97	96	114	121	120	84	109	120	118	53
12	95	87	98	96	112	121	120	80	109	120	120	63
13	95	99	100	95	121	125	118	89	109	120	118	63
14	94	103	99	95	130	127	118	96	109	118	118	56
15	95	107	98	96	118	127	118	103	114	118	116	47
16	96	103	98	96	112	127	118	111	116	118	116	53
17	95	97	112	94	112	125	118	111	116	118	118	58
18	94	97	109	93	111	123	116	109	114	118	120	55
19	93	99	104	92	111	127	116	121	114	118	120	52
20	93	99	103	92	116	131	116	121	112	121	120	50
21	93	100	101	93	127	127	114	116	114	121	120	53
22	97	100	101	94	134	127	116	116	116	121	120	56
23	96	100	101	96	134	125	118	114	114	121	118	54
24	90	98	100	92	127	123	116	112	114	120	112	51
25	90	97	98	94	125	121	116	112	116	121	112	53
26	91	97	99	94	121	120	116	111	118	121	58	54
27	91	97	99	94	136	120	118	111	118	121	64	53
28	91	97	98	94	132	120	118	111	118	121	3.5	53
29	89	98	97	92	-----	118	120	111	118	120	69	52
30	88	98	96	92	-----	118	116	111	118	127	60	52
31	88	-----	95	92	-----	118	-----	112	-----	127	55	-----
TOTAL	2,892	2,807	3,079	2,954	3,259	3,835	3,593	3,423	3,367	3,719	3,237.5	1,572
MEAN	93.3	93.6	99.3	95.3	116	124	120	110	112	120	104	52.4
MAX	97	107	112	110	150	132	139	121	118	127	127	64
MIN	88	78	95	92	92	112	114	80	100	118	3.5	32
CAL YR 1970	TOTAL 35,759.00		MEAN 98.0		MAX 141		MIN 0					
WTR YR 1971	TOTAL 37,737.50		MEAN 103		MAX 150		MIN 3.5					

DELAWARE RIVER BASIN

01463500 Delaware River at Trenton, N. J.
(International Hydrologic Decade River Station)

LOCATION.--Lat 40°13'18", long 74°46'42", Mercer County, on left bank 450 ft upstream from Calhoun Street Bridge at Trenton, 0.5 mile upstream from Assunpink Creek, and at mile 134.5 upstream from Atlantic Ocean.

DRAINAGE AREA.--6,780 sq mi.

PERIOD OF RECORD.--October 1912 to current year. Prior to February 1913 monthly discharge only, published in WSP 1302. Gage-height records collected in this vicinity since 1904 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Sept. 30, 1965, at datum 7.77 ft higher. Feb. 24, 1913, to Oct. 2, 1928, nonrecording gage on downstream side of highway bridge at site 500 ft downstream.

AVERAGE DISCHARGE.--59 years, 11,365 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 66,400 cfs Aug. 28 (elevation, 15.38 ft); minimum, 3,010 cfs Aug. 17 (elevation, 8.07 ft). Flow in Delaware and Raritan Canal not included.

Period of record: Maximum discharge, 329,000 cfs Aug. 20, 1955 (gage height, 20.83 ft, datum then in use, from high-water mark in gage house), from rating curve extended above 230,000 cfs; minimum, 1,180 cfs Oct. 31, 1963 (gage height, -0.51 ft, datum then in use). Flow in Trenton power race and Delaware and Raritan Canal not included.

Flood of Oct. 11, 1903, reached an elevation of about 28.5 ft above mean sea level (discharge estimated, 295,000 cfs). Maximum elevation known, 30.6 ft above mean sea level Mar. 8, 1904, from floodmark (ice jam).

REMARKS.--Records excellent. Diurnal fluctuation at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lakes Wallenpaupack and Hopatcong, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, Neversink, and Wild Creek Reservoirs (see p. 129) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs and to Delaware and Raritan Canal (see p. 135). Water diverted just above station by borough of Morrisville, Pa., and city of Trenton for municipal supply (see p. 136). Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 951: Drainage area. WSP 1302: 1913-20. WSP 1382: 1924, 1928.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,300	8,000	10,400	5,690	5,200	38,800	13,800	12,200	14,800	4,500	6,620	9,750
2	3,680	7,570	9,910	5,930	4,100	37,700	13,700	11,200	12,500	4,780	11,500	7,570
3	3,390	7,110	9,210	5,420	4,900	33,400	15,700	10,200	11,800	5,190	9,880	6,460
4	3,460	6,660	8,700	5,650	5,700	32,200	22,800	10,200	11,000	4,580	14,300	5,760
5	3,580	9,350	8,790	13,500	6,000	26,600	25,900	10,800	10,000	4,250	16,700	5,410
6	3,970	9,910	8,810	15,500	6,200	23,300	25,900	10,200	8,990	4,250	15,700	5,020
7	4,070	8,840	8,710	12,300	6,400	25,800	31,700	9,930	9,240	4,130	11,300	5,110
8	3,930	7,890	8,070	10,700	7,000	28,100	28,000	9,740	9,160	4,050	8,570	5,210
9	3,930	7,150	7,330	10,700	8,000	24,900	25,000	10,600	8,170	3,710	6,800	5,050
10	4,080	6,580	7,180	10,200	7,000	21,700	22,200	10,500	7,330	3,920	5,740	5,280
11	3,850	6,960	7,280	8,780	6,600	18,200	23,500	10,700	6,530	4,160	5,040	5,620
12	3,770	14,500	7,880	8,380	6,970	17,100	24,600	10,300	5,870	4,110	5,110	9,350
13	3,670	29,600	9,040	8,610	15,800	16,800	23,500	11,600	5,560	3,740	4,830	20,500
14	4,090	35,000	8,260	7,960	37,400	16,900	24,600	17,300	5,350	3,790	4,230	27,300
15	4,440	34,400	7,330	8,010	21,200	16,700	28,700	26,600	6,500	3,830	3,930	18,700
16	7,750	32,000	7,490	7,710	20,600	21,300	26,600	23,200	7,110	3,670	4,040	14,500
17	7,760	28,200	12,300	6,680	23,100	34,600	21,900	20,600	7,800	3,890	3,250	11,700
18	7,700	24,900	10,600	5,860	20,500	38,000	18,900	18,100	7,410	3,900	3,790	11,700
19	6,490	20,000	8,790	5,400	19,600	30,800	16,800	15,800	6,470	4,500	4,000	10,600
20	5,200	18,100	8,450	5,700	17,600	34,400	15,500	14,100	6,070	4,820	3,930	8,950
21	4,740	19,100	8,420	6,200	19,200	28,800	14,900	12,900	5,630	4,770	4,030	8,170
22	6,110	19,800	8,610	6,600	21,800	24,900	14,700	13,000	5,300	4,030	4,280	9,260
23	24,900	19,700	9,060	7,200	30,100	23,200	14,300	12,800	5,250	3,550	4,250	9,950
24	31,200	18,000	8,270	6,300	29,600	20,600	13,800	11,100	4,920	3,530	4,110	9,070
25	30,000	15,700	7,820	5,800	27,500	18,300	12,600	10,100	4,700	3,970	3,920	8,110
26	19,200	14,800	7,640	5,700	25,300	16,700	11,700	10,500	4,640	4,180	3,870	7,600
27	14,600	13,700	7,090	6,600	28,000	15,200	11,000	11,000	4,920	4,140	7,820	7,210
28	12,200	12,200	6,400	5,800	33,500	14,200	10,800	9,570	4,820	4,330	36,800	6,770
29	9,980	10,500	6,160	6,000	-----	13,100	10,700	8,930	4,580	4,510	22,700	6,650
30	8,990	10,400	5,870	6,600	-----	13,000	10,800	8,320	4,720	4,980	17,800	6,640
31	7,860	-----	6,190	6,000	-----	13,900	-----	9,240	-----	5,420	12,300	-----
TOTAL	262,890	476,620	256,060	237,480	464,870	739,200	574,600	391,330	217,140	131,180	271,140	278,970
MEAN	8,480	15,890	8,260	7,661	16,600	23,850	19,150	12,620	7,238	4,232	8,746	9,299
MAX	31,200	35,000	12,300	15,500	37,400	38,800	31,700	26,600	14,800	5,420	36,800	27,300
MIN	3,390	6,580	5,870	5,400	4,100	13,000	10,700	8,320	4,580	3,530	3,250	5,020

CAL YR 1970 TOTAL 4,073,560 MEAN 11,160 MAX 91,700 MIN 3,020
WTR YR 1971 TOTAL 4,301,480 MEAN 11,780 MAX 38,800 MIN 3,250

PEAK DISCHARGE (BASE, 50,000 CFS)

DATE TIME G.H. DISCHARGE
8-28 0830 15.38 66,400

DELAWARE RIVER BASIN

111

01464000 Assunpink Creek at Trenton, N. J.

LOCATION.--Lat 40°13'27", long 74°44'58", Mercer County, on left bank at Chambers Street Bridge in Trenton, 1.5 miles upstream from mouth.

DRAINAGE AREA.--89.4 sq mi.

PERIOD OF RECORD.--August 1923 to current year.

GAGE.--Water-stage recorder. Concrete control since July 10, 1932. Datum of gage is 24.76 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--48 years, 120 cfs (unadjusted).

EXTREMES.--Current year: Maximum discharge, 3,920 cfs Aug. 28 (gage height, 13.46 ft, from high-water mark in gage house); minimum, 17 cfs July 18 (gage height, 2.37 ft).
Period of record: Maximum discharge, 3,920 cfs Aug. 28, 1971 (gage height, 13.46 ft, from high-water mark in gage house); minimum, 1.0 cfs Aug. 21, Oct. 22, 1931 (gage height, 0.25 ft); minimum daily, 4.0 cfs July 21, Aug. 8, Sept. 2, 1929.

REMARKS.--Records excellent except those for the period of no gage-height record, which are fair. Records include water diverted from outside the basin since February 1954 for municipal supply which returns to Assunpink Creek through Ewing-Lawrence Sewerage Authority treatment plant, 2.4 miles above station (records given herein). In addition there is an average inflow of about 2.0 cfs from industrial use of water that originates outside the basin. Some diversion for irrigation in headwater area during growing season. Records of water quality for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	32	69	64	59	238	86	84	81	45	180	290
2	29	37	66	65	54	174	87	94	69	57	109	200
3	28	38	63	63	48	192	95	93	70	39	94	160
4	31	116	66	157	46	541	85	82	67	34	165	140
5	28	160	58	424	181	360	83	74	59	29	165	120
6	27	96	55	359	189	275	121	110	65	31	111	110
7	27	77	55	230	202	380	886	95	92	30	83	110
8	28	61	53	139	1,000	314	794	167	68	28	58	105
9	27	58	55	109	871	216	447	125	61	26	52	88
10	25	66	55	96	456	169	240	106	55	32	47	80
11	24	74	56	94	199	168	176	91	50	25	131	242
12	27	141	88	96	141	154	152	83	46	29	99	721
13	27	231	81	91	345	144	138	131	43	29	58	1,230
14	28	172	76	92	339	129	126	139	74	28	48	1,340
15	55	352	70	93	181	128	111	101	71	25	39	623
16	36	199	90	77	133	129	105	333	70	24	40	330
17	27	143	425	69	111	116	97	261	56	22	37	225
18	24	105	248	66	106	106	90	186	51	20	37	194
19	27	140	179	62	107	202	89	132	42	33	44	169
20	27	131	125	56	129	306	86	99	37	63	47	159
21	35	163	102	54	165	188	86	104	47	30	37	225
22	299	116	108	57	215	149	83	100	49	26	32	190
23	166	104	137	80	440	165	80	85	41	24	33	170
24	60	86	163	70	311	149	76	77	39	22	32	159
25	46	76	139	77	203	131	71	75	39	26	35	123
26	42	68	119	122	160	116	74	79	35	41	72	114
27	40	66	94	113	473	106	74	69	30	37	1,200	116
28	40	63	86	86	368	100	78	64	34	28	3,340	114
29	38	63	76	67	-----	100	130	58	35	35	3,210	110
30	36	83	70	64	-----	96	95	71	34	386	877	105
31	33	-----	65	62	-----	90	-----	95	-----	296	500	-----
TOTAL	1,417	3,317	3,192	3,354	7,232	5,831	4,941	3,463	1,610	1,600	11,012	8,062
MEAN	45.7	111	103	108	258	188	165	112	53.7	51.6	355	269
MAX	299	352	425	424	1,000	541	886	333	92	386	3,340	1,340
MIN	24	32	53	54	46	90	71	58	30	20	32	80
(†)	8.69	11.3	11.9	13.1	14.3	17.7	15.1	12.5	10.7	9.38	13.4	16.3

CAL YR 1970 TOTAL 43,570 MEAN 119 MAX 1,070 MIN 24 + 12.5
WTR YR 1971 TOTAL 55,031 MEAN 151 MAX 3,340 MIN 20 + 12.1

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	0500	6.91	1,300	8-28	Unknown	13.46	3,920
4-07	1830	6.71	1,220	9-14	0345	8.72	2,000

† Inflow from outside basin, 2.4 miles upstream of station, through Ewing-Lawrence Sewerage Authority treatment plant, in cubic feet per second.

NOTE.--No gage-height record Aug. 28 to Sept. 8.

DELAWARE RIVER BASIN

01464040 Delaware River at Marine Terminal, Trenton, N. J.

LOCATION.--Lat 40°11'21", long 74°45'22", Mercer County, on left bank at downstream end of wharf at Marine Terminal, Trenton, 1.6 miles downstream from toll bridge on U.S. Highway 1, 2.0 miles downstream from Assunpink Creek, and at mile 131.80 upstream from Atlantic Ocean.

DRAINAGE AREA.--6,870 sq mi.

PERIOD OF RECORD.--May 1964 to current year. March 1921 to June 1946 (at municipal pier, 1.5 miles upstream), August 1951 to June 1954, September 1957 to April 1964, in files of Philadelphia District Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 12.90 ft below mean sea level. Gage-height record converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations during year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	6.56	8.08	7.12	6.99	7.57	7.78	6.74	6.86	6.73	6.29	8.45	7.91
high tide	Date	30	15	13	26	23	4	21	25	15	13	28	13
Minimum	Elevation	-4.27	-3.61	-5.22	-4.35	-4.22	-4.17	-3.62	-3.23	-3.39	-3.82	-3.86	-3.57
low tide	Date	17	6	7	8	11	5	25	27	9	20	12	5
Mean high tide		5.52	5.83	5.20	4.85	5.42	5.55	5.64	5.73	5.77	5.41	5.60	5.88
Mean water level		1.72	2.15	1.41	1.45	1.97	1.95	1.87	1.81	1.72	1.37	1.63	1.45
Mean low tide		-2.46	-1.95	-2.76	-2.93	-2.15	-2.18	-2.36	-2.54	-2.74	-3.00	-2.68	-2.39

Maximum elevation known, 17.9 ft above mean sea level Aug. 20, 1955, from high-water mark; minimum elevation, 8.6 ft below mean sea level Dec. 31, 1962, at site 1.4 miles downstream.

DELAWARE RIVER BASIN

113

01464500 Crosswicks Creek at Extonville, N. J.

LOCATION.--Lat 40°08'15", long 74°36'02", Mercer County, on right bank upstream from highway bridge at Extonville, 0.5 mile upstream from Pleasant Run, and 0.7 mile downstream from Mercer-Monmouth County line.

DRAINAGE AREA.--83.6 sq mi.

PERIOD OF RECORD.--August 1940 to October 1951, October 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 24.94 ft above mean sea level.

AVERAGE DISCHARGE.--30 years, (1940-51, 1952-71) 126 cfs (20.47 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,180 cfs Aug. 28 (gage height, 13.93 ft); minimum, 31 cfs July 29 (gage height, 2.39 ft).

Period of record: Maximum discharge, 5,180 cfs Aug. 28, 1971 (gage height, 13.93 ft); minimum, 13.1 cfs Feb. 14, 1942 (result of freezeup); minimum daily, 16 cfs Aug. 30 to Sept. 3, Sept. 12, 1966.

REMARKS.--Records excellent. Flow regulated occasionally by lakes above station. Records of water quality for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	57	90	83	70	253	95	93	101	39	60	195
2	48	55	83	85	66	165	95	85	85	60	45	134
3	48	59	80	80	64	151	111	83	93	67	44	108
4	55	78	78	88	75	341	111	83	80	47	48	93
5	50	157	76	353	143	426	98	76	64	41	83	80
6	47	108	71	548	333	277	103	80	60	39	76	74
7	47	80	64	309	129	311	529	101	116	39	48	74
8	47	74	62	189	922	426	915	101	108	35	40	74
9	47	69	64	140	1,000	238	490	116	76	33	37	67
10	47	67	69	114	486	165	287	98	64	40	40	59
11	47	71	69	108	201	162	174	88	55	37	40	83
12	45	88	78	106	134	157	145	80	52	40	71	570
13	47	171	106	98	154	140	134	78	48	37	50	1,350
14	47	233	93	98	263	132	127	93	111	33	42	1,390
15	48	285	85	114	154	124	114	83	129	31	39	891
16	48	349	80	101	121	121	106	174	85	31	41	580
17	47	165	315	90	108	108	106	444	69	31	39	350
18	44	124	482	83	108	101	108	303	57	32	37	228
19	45	127	268	71	114	108	103	159	52	33	39	243
20	47	129	154	73	119	301	93	114	48	48	90	177
21	48	273	124	74	186	230	88	98	47	42	62	263
22	85	180	127	76	168	143	85	111	55	37	45	384
23	124	127	230	83	388	165	80	93	48	35	41	204
24	83	108	291	90	425	192	80	78	45	33	37	154
25	62	95	233	83	238	151	78	71	42	32	35	134
26	59	90	143	121	165	134	76	74	42	33	35	116
27	57	85	119	134	333	124	85	69	41	41	521	114
28	55	83	106	93	438	114	80	62	39	36	3,930	111
29	54	80	95	98	-----	108	111	60	39	33	2,320	108
30	57	90	93	80	-----	106	106	62	39	55	835	103
31	64	-----	88	74	-----	98	-----	93	-----	111	391	-----
TOTAL	1,699	3,757	4,116	3,937	7,105	5,772	4,913	3,403	1,990	1,281	9,261	8,511
MEAN	54.8	125	133	127	254	186	164	110	66.3	41.3	299	284
MAX	124	349	482	548	1,000	426	915	444	129	111	3,930	1,390
MIN	44	55	62	71	64	98	76	60	39	31	35	59
CFSM	.66	1.50	1.59	1.52	3.04	2.22	1.96	1.32	.79	.49	3.58	3.40
IN.	.76	1.67	1.83	1.75	3.16	2.57	2.19	1.51	.89	.57	4.12	3.79

CAL YR 1970 TOTAL 52,426 MEAN 144 MAX 1,310 MIN 44 CFSM 1.72 IN 23.33
WTR YR 1971 TOTAL 55,745 MEAN 153 MAX 3,930 MIN 31 CFSM 1.83 IN 24.81

PEAK DISCHARGE (BASE, 750 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	2400	8.74	1,340	8-28	1000	13.93	5,180
4-08	0600	7.69	1,030	9-13	2400	9.65	1,780

DELAWARE RIVER BASIN

01464598 Delaware River at Burlington, N. J.

LOCATION.--Lat 40°04'42", long 74°52'28", Burlington County, on left bank at the intake canal of the Public Service Electric and Gas Company, 0.3 mile downstream from Burlington-Bristol Bridge, 1.4 miles downstream from Assiscunk Creek, and at mile 117.40 upstream from Atlantic Ocean.

DRAINAGE AREA.--7,160 sq mi.

PERIOD OF RECORD.--July 1964 to current year. March 1921 to July 1926, January 1931 to November 1939, August 1951 to June 1954, July 1957 to June 1964, in files of Philadelphia District Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 12.90 ft below mean sea level. Prior to May 20, 1971, water-stage recorder at site 0.8 mile upstream at same datum. Gage-height record converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations during year are as follows:

		TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971											
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	6.20	7.62	6.70	6.4	6.87	7.07	6.11	6.60	6.15	5.7	7.25	7.24
high tide	Date	30	15	13	26	23	29	14	25	15	13	28	13
Minimum	Elevation	-3.78	-3.21	-4.18	-3.9	-3.78	-2.44	-4.56	-2.91	-5.14	-3.56	-3.69	-3.24
low tide	Date	17	6	5,7	8	5,11	25	7	27	16	20	12	5
Mean high tide		5.11	5.40	4.77	4.4	5.07	4.81	5.01	5.17	5.10	4.9	4.97	5.28
Mean water level		1.68	2.00	1.33	1.4	1.91	1.8	1.7	1.62	1.45	1.28	1.39	1.43
Mean low tide		-2.02	-1.65	-2.31	-2.4	-1.56	-1.8	-1.9	-2.25	-2.49	-2.61	-2.46	-2.13

Maximum elevation known, 10.8 ft above mean sea level Aug. 20, 1955, from high-water mark at site 1.4 miles upstream; minimum elevation, 9.1 ft below mean sea level Dec. 31, 1962, at present site.

REMARKS.--Records of water quality for the current year at the Burlington-Bristol Bridge are published in Part 2 of this report.

DELAWARE RIVER BASIN

115

01465850 South Branch Rancocas Creek at Vincentown, N. J.

LOCATION.--Lat 39°56'22", long 74°45'50", Burlington County, on left bank 150 ft downstream from highway bridge on Lumberton-Vincentown road, 0.8 mile west of Vincentown, 2.9 miles southeast of Lumberton, and 3.1 miles upstream from Southwest Branch.

DRAINAGE AREA.--53.3 sq mi.

PERIOD OF RECORD.--July 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 13.17 ft above mean sea level. Prior to Oct. 30, 1961, at site 150 ft upstream at same datum.

AVERAGE DISCHARGE.--10 years, 83.6 cfs (21.30 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,050 cfs Aug. 28 (gage height, 7.40 ft); minimum daily, 7.4 cfs many days during July and August.

Period of record: Maximum discharge, 1,050 cfs Aug. 28, 1971 (gage height, 7.40 ft); minimum, 2.8 cfs July 17, 18, Aug. 9, 1966.

REMARKS.--Records excellent except those for the periods of no gage-height record, which are fair. Occasional regulation by lakes and ponds above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	37	66	61	55	140	74	69	62	20	22	236
2	11	36	66	62	47	120	68	63	52	24	20	170
3	12	36	66	59	42	140	87	58	52	30	17	117
4	16	41	62	60	50	230	90	52	50	25	16	81
5	17	55	58	183	60	300	72	47	46	22	23	67
6	22	57	55	238	80	200	68	56	43	19	25	62
7	20	52	50	187	195	250	337	60	52	16	21	54
8	23	50	47	164	120	300	376	59	56	17	17	47
9	28	48	46	141	370	150	248	61	47	16	14	40
10	23	46	43	102	264	130	204	58	43	16	12	40
11	19	47	42	93	239	120	175	52	40	9.0	11	43
12	17	78	46	89	160	115	153	51	39	8.6	13	136
13	17	133	54	80	140	110	126	50	41	7.8	11	255
14	17	131	54	78	180	105	106	54	92	7.4	9.0	351
15	19	179	48	84	120	100	101	52	105	7.4	7.8	297
16	22	186	43	81	92	94	99	173	83	7.4	7.4	257
17	22	147	165	77	86	86	95	301	64	8.2	7.4	206
18	24	99	173	69	90	82	88	232	52	7.8	7.4	174
19	25	90	126	60	94	105	74	184	45	7.8	9.8	218
20	28	106	104	51	105	190	67	145	41	12	23	169
21	48	155	87	46	120	130	59	119	46	12	20	187
22	60	142	108	45	140	110	57	114	45	15	16	156
23	76	116	159	55	280	120	54	99	38	11	13	114
24	70	95	185	49	230	143	50	85	33	9.8	7.8	95
25	53	78	150	60	140	119	62	98	24	10	7.4	71
26	44	69	124	58	130	101	54	71	7.8	11	7.4	69
27	42	62	104	70	300	87	49	67	14	13	135	72
28	41	59	86	94	220	86	48	61	20	13	798	57
29	39	57	79	76	-----	82	55	47	20	13	698	49
30	35	61	73	66	-----	76	69	53	20	18	500	49
31	37	-----	64	69	-----	74	-----	58	-----	23	328	-----
TOTAL	939	2,548	2,633	2,707	4,149	4,195	3,265	2,749	1,372.8	437.2	2,824.4	3,939
MEAN	30.3	84.9	84.9	87.3	148	135	109	88.7	45.8	14.1	91.1	131
MAX	76	186	185	238	370	300	376	301	105	30	798	351
MIN	11	36	42	45	42	74	48	47	7.8	7.4	7.4	40
CFSM	.57	1.59	1.59	1.64	2.78	2.53	2.05	1.66	.86	.26	1.71	2.46
IN.	.66	1.78	1.84	1.89	2.90	2.93	2.28	1.92	.96	.31	1.97	2.75

CAL YR 1970 TOTAL 32,114.4 MEAN 88.0 MAX 610 MIN 7.8 CFSM 1.65 IN 22.41
WTR YR 1971 TOTAL 31,758.4 MEAN 87.0 MAX 798 MIN 7.4 CFSM 1.63 IN 22.17

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	Unknown	6.05	555	8-28	1700	7.40	1,050
4-07	2200	5.77	494	9-14	0300	5.00	362

NOTE.--No gage-height record Jan. 22 to Feb. 9, and Feb. 11 to Mar. 22.

DELAWARE RIVER BASIN

01466500 McDonalds Branch in Lebanon State Forest, N. J.
(Hydrologic benchmark station)

LOCATION.--Lat 39°53'05", long 74°30'20", Burlington County, on right bank in Lebanon State Forest, 25 ft upstream from Butterworth Road Bridge, 3.4 miles upstream from confluence with Cooper Branch, and 7.0 miles southeast of Browns Mills.

DRAINAGE AREA.--2.31 sq mi.

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1962, published as McDonald Branch in Lebanon State Forest.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 117.73 ft above mean sea level (New Jersey Geological Survey bench mark).

AVERAGE DISCHARGE.--18 years, 2.19 cfs (12.87 inches per year).

EXTREMES.--Current year: Maximum discharge, 9.0 cfs Aug. 27 (gage height, 1.72 ft); minimum, 1.0 cfs Aug. 25-27 (gage height, 1.06 ft).

Period of record: Maximum discharge, 35 cfs Aug. 25, 1958 (gage height, 2.33 ft); minimum daily, 0.8 cfs July 6, 19, 1967.

REMARKS.--Records excellent. Gage-height record is collected above concrete control and discharge record, which includes leakage around control, is at site 785 ft downstream. Records of water quality for the current year are published in Part 2 of this report.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.1	1.2	1.5	1.8	2.9	1.9	2.1	2.2	1.6	1.5	2.3
2	1.1	1.2	1.2	1.4	1.8	2.5	1.9	2.0	2.1	1.8	1.4	2.1
3	1.2	1.1	1.2	1.4	1.8	2.4	2.1	2.0	2.0	1.7	1.3	2.0
4	1.2	1.5	1.2	1.6	1.8	3.2	2.0	2.0	2.0	1.6	1.3	1.9
5	1.2	1.4	1.2	2.4	1.7	3.6	1.9	1.9	1.9	1.6	1.4	1.9
6	1.1	1.2	1.2	2.1	1.6	3.1	2.3	2.0	1.9	1.5	1.3	1.8
7	1.1	1.2	1.2	2.7	2.0	3.1	4.9	2.0	2.8	1.5	1.2	1.7
8	1.1	1.2	1.2	2.3	5.6	2.8	5.3	2.1	2.3	1.5	1.2	1.7
9	1.1	1.2	1.2	2.0	3.5	2.7	3.5	2.1	2.0	1.5	1.1	1.7
10	1.1	1.2	1.2	1.9	2.8	2.5	2.9	2.0	1.9	1.5	1.1	1.6
11	1.1	1.2	1.2	1.9	2.2	2.4	2.6	1.9	1.9	1.5	1.1	2.0
12	1.1	1.4	1.3	1.8	1.8	2.4	2.4	1.9	1.8	1.5	1.2	2.9
13	1.1	1.7	1.2	1.8	1.7	2.4	2.4	1.9	1.9	1.5	1.1	5.9
14	1.1	1.5	1.2	1.9	1.6	2.3	2.4	2.1	2.2	1.4	1.1	6.7
15	1.1	2.0	1.2	1.8	1.6	2.3	2.3	2.0	2.1	1.4	1.1	4.4
16	1.1	1.7	1.3	1.7	1.6	2.3	2.2	3.9	1.9	1.4	1.1	3.5
17	1.1	1.6	2.1	1.7	1.6	2.2	2.2	5.4	1.8	1.4	1.1	2.9
18	1.1	1.4	1.8	1.7	1.6	2.1	2.1	3.9	1.7	1.4	1.1	2.6
19	1.1	1.5	1.6	1.7	1.5	2.3	2.1	3.0	1.7	1.6	1.2	2.5
20	1.1	1.6	1.5	1.7	1.7	2.5	2.1	2.6	1.7	1.6	1.3	2.4
21	1.1	1.6	1.4	1.7	2.1	2.3	2.1	2.5	1.7	1.5	1.2	2.4
22	1.5	1.4	1.6	1.7	2.3	2.3	2.1	2.5	1.7	1.3	1.2	2.3
23	1.3	1.4	1.7	1.7	3.5	2.5	2.0	2.4	1.6	1.3	1.1	2.2
24	1.2	1.4	1.7	1.7	4.0	2.4	2.0	2.3	1.6	1.3	1.1	2.2
25	1.2	1.2	1.7	1.7	3.1	2.3	2.0	2.2	1.6	1.2	1.1	2.1
26	1.2	1.2	1.7	1.8	2.5	2.3	1.9	2.2	1.6	1.2	1.0	2.1
27	1.1	1.2	1.7	1.9	3.3	2.2	1.9	2.1	1.6	1.2	5.0	2.1
28	1.1	1.2	1.7	1.9	3.1	2.1	2.0	2.1	1.6	1.2	7.2	2.1
29	1.1	1.3	1.6	1.8	-----	2.1	2.2	2.0	1.6	1.2	5.6	2.0
30	1.1	1.3	1.6	1.9	-----	2.1	2.1	2.1	1.6	1.5	3.5	2.0
31	1.1	-----	1.5	1.8	-----	2.0	-----	2.3	-----	1.6	2.7	-----
TOTAL	35.3	41.1	44.3	56.4	65.2	76.6	71.8	73.5	56.0	45.0	54.9	76.0
MEAN	1.14	1.37	1.43	1.82	2.33	2.47	2.39	2.37	1.87	1.45	1.77	2.53
MAX	1.5	2.0	2.1	2.7	5.6	3.6	5.3	5.4	2.8	1.8	7.2	6.7
MIN	1.1	1.1	1.2	1.4	1.5	2.0	1.9	1.9	1.6	1.2	1.0	1.6
CFSM	.49	.59	.62	.79	1.01	1.07	1.03	1.03	.81	.63	.77	1.10
IN.	.57	.66	.71	.91	1.05	1.23	1.16	1.18	.90	.72	.88	1.22

CAL YR 1970 TOTAL 858.8 MEAN 2.35 MAX 18 MIN 1.1 CFSM 1.02 IN 13.83
WTR YR 1971 TOTAL 696.1 MEAN 1.91 MAX 7.2 MIN 1.0 CFSM .83 IN 11.21

PEAK DISCHARGE (BASE, 7.0 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	Unknown	Unknown	About 7.0	9-13	2245	1.72	9.0
8-27	0945	1.72	9.0				

DELAWARE RIVER BASIN

117

01467000 North Branch Rancocas Creek at Pemberton, N. J.

LOCATION.--Lat 39°58'10", long 74°41'05", Burlington County, on right bank at downstream side of highway bridge at Pemberton, 12 miles upstream from confluence with South Branch.

DRAINAGE AREA.--111 sq mi.

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

GAGE.--Water-stage recorder above concrete dams. Datum of gage is 31.19 ft above mean sea level. Prior to June 9, 1923, nonrecording gage and June 9, 1923, to Aug. 9, 1951, water-stage recorder at site 600 ft downstream at datum 6.54 ft lower.

AVERAGE DISCHARGE.--50 years, 167 cfs (20.43 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,710 cfs Aug. 28 (gage height, 4.18 ft); minimum, 47 cfs July 24-26, 28, 29 (gage height, 1.48 ft).

Period of record: Maximum discharge, 1,730 cfs Aug. 31, 1939 (gage height, 10.77 ft, from high-water mark; recorder shelter, site and datum then in use); minimum daily, 9.0 cfs Sept. 29, 1932.

REMARKS.--Records good except those during November and December, which are fair. Flow regulated occasionally by operation of gate in dam and by ponds above station.

REVISIONS (WATER YEARS).--WSP 1302: 1922-23. WSP 1382: 1933.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	56	108	128	108	330	151	120	165	73	76	402
2	56	56	124	128	99	294	137	133	145	87	71	266
3	52	59	120	124	95	265	137	116	150	87	64	230
4	52	66	116	133	91	336	142	112	125	77	62	200
5	52	91	103	215	116	356	137	128	110	73	79	177
6	49	95	87	259	137	342	156	128	103	70	77	155
7	52	84	73	259	156	336	362	116	151	66	74	141
8	63	63	70	220	396	342	502	116	184	63	59	133
9	56	63	63	194	466	318	438	120	179	63	51	130
10	52	59	63	174	349	271	362	116	142	70	52	121
11	49	63	63	165	271	242	294	112	112	66	64	166
12	52	66	87	156	231	220	276	112	87	63	65	395
13	91	95	99	156	231	210	248	146	99	66	63	713
14	116	150	95	156	271	200	231	169	160	63	58	1,000
15	120	230	70	156	236	194	220	156	194	63	55	856
16	116	250	66	146	189	184	189	220	194	59	52	628
17	116	230	160	137	174	169	169	318	156	63	51	533
18	91	190	210	124	165	156	165	306	120	63	51	447
19	63	130	200	116	174	165	156	210	95	56	62	414
20	59	150	170	112	184	205	142	190	91	58	90	365
21	59	180	142	103	169	231	133	165	91	58	90	304
22	73	190	125	103	184	225	151	180	87	54	82	288
23	99	170	140	116	282	220	160	150	84	51	72	295
24	108	140	200	120	330	225	165	130	80	48	62	327
25	103	116	230	120	300	215	156	120	80	47	57	272
26	91	84	200	133	254	200	142	125	80	48	57	231
27	80	77	170	142	318	189	133	115	80	52	510	234
28	66	77	146	128	356	169	120	110	73	49	1,480	259
29	59	73	142	116	-----	165	133	100	70	48	1,370	261
30	59	80	133	112	-----	156	124	120	70	62	931	299
31	56	-----	128	116	-----	156	-----	150	-----	82	580	-----
TOTAL	2,270	3,433	3,903	4,567	6,332	7,286	6,031	4,609	3,557	1,948	6,567	10,242
MEAN	73.2	114	126	147	226	235	201	149	119	62.8	212	341
MAX	120	250	230	259	466	356	502	318	194	87	1,480	1,000
MIN	49	56	63	103	91	156	120	100	70	47	51	121
CFSM	.66	1.03	1.14	1.32	2.04	2.12	1.81	1.34	1.07	.57	1.91	3.07
IN.	.76	1.15	1.31	1.53	2.12	2.44	2.02	1.54	1.19	.65	2.20	3.43

CAL YR 1970 TOTAL 62,770 MEAN 172 MAX 862 MIN 49 CFSM 1.55 IN 21.04
WTR YR 1971 TOTAL 60,745 MEAN 166 MAX 1,480 MIN 47 CFSM 1.50 IN 20.36

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	2145	2.47	608	9-14	0645	3.02	1,000
8-28	1600	4.18	1,710				

DELAWARE RIVER BASIN

01467060 Delaware River at Palmyra, N. J.

LOCATION.--Lat 40°01'05", long 75°02'16", Philadelphia County, Pa., on right bank opposite Palmyra, 0.5 mile upstream from Tacony-Palmyra Bridge, 3.5 miles downstream from Rancocas Creek, and at mile 107.45 upstream from Atlantic Ocean.

DRAINAGE AREA.--7,850 sq mi.

PERIOD OF RECORD.--December 1962 to current year. Volumes published from December 1962 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 10.00 ft below mean sea level. Water-stage recorder at same datum at Torresdale Intake, 2.5 miles upstream used as auxiliary gage. Gage-height record converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations during year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	5.63	7.01	6.11	5.80	6.51	6.50	5.74	5.57	5.89	5.30	6.47	6.85
high tide	Date	30	13	13	26	23	29	14	17	12	13	28	13
Minimum	Elevation	-3.74	-3.04	-4.32	-4.38	-3.97	-4.38	-3.37	-2.55	-3.00	-3.00	-2.91	-2.73
low tide	Date	17	24	7	28	3	5	10	26	10	20	12	4,5
Mean high tide		4.47	4.71	4.10	3.72	4.27	4.35	4.58	4.67	4.76	4.38	4.58	4.89
Mean water level		1.43	1.67	1.09	.71	1.23	1.22	1.39	1.49	1.58	1.22	1.45	.54
Mean low tide		-1.92	-1.65	-2.27	-2.60	-2.09	-2.17	-2.06	-1.95	-1.99	-2.22	-2.01	-1.73

Maximum high tide known since 1899, 8.9 ft above mean sea level Aug. 24, 1933, from profile furnished by Corps of Engineers, U.S. Army; minimum low tide, 8.6 ft below mean sea level Dec. 31, 1962.

DELAWARE RIVER BASIN

119

01467081 South Branch Pennsauken Creek at Cherry Hill, N. J.

LOCATION.--Lat 39°56'30", long 74°00'05", Camden County, on left bank on downstream wingwall of bridge on Mill Road, 1.1 miles south of Maple Shade.

DRAINAGE AREA.--9.16 sq mi.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8.12 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 781 cfs Aug. 28 (gage height, 11.34 ft); minimum, 2.6 cfs

Oct. 6, 9, 10, 11 (gage height, 1.71 ft).

Period of record: Maximum discharge, 781 cfs Aug. 28, 1971 (gage height, 11.34 ft); minimum, 2.6 cfs

Oct. 6, 9, 10, 11, 1970 (gage height, 1.71 ft).

REMARKS.--Records good. Records of water quality for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.1	9.1	7.6	9.3	22	4.2	6.8	6.4	5.8	50	9.9
2	3.6	4.9	8.2	7.2	8.6	20	4.8	6.4	6.2	19	19	8.8
3	3.8	6.4	8.2	7.4	8.0	32	8.3	6.6	18	5.3	7.5	8.6
4	3.6	30	10	27	7.2	97	4.5	7.0	5.9	4.2	8.6	7.9
5	3.5	22	16	124	43	21	4.3	6.6	4.7	4.2	41	7.5
6	3.4	7.6	17	37	19	15	11	13	5.3	4.2	9.1	6.6
7	3.9	6.1	19	17	41	27	119	8.1	4.7	4.0	6.1	6.6
8	3.6	5.4	18	13	177	16	21	22	4.3	4.5	5.3	6.2
9	3.0	5.4	18	11	59	12	9.1	10	3.9	5.4	5.1	6.6
10	3.1	5.8	18	11	14	11	7.0	7.7	4.0	33	4.8	7.0
11	3.4	15	18	11	8.8	13	5.8	6.8	4.2	6.2	9.4	40
12	3.6	64	29	11	7.9	11	5.0	6.6	5.3	5.1	8.6	211
13	3.5	54	23	9.6	72	9.9	4.7	7.5	13	4.4	5.4	174
14	3.4	18	19	14	46	8.8	4.7	12	21	4.4	4.7	64
15	4.8	91	17	12	15	9.7	4.3	6.6	7.0	4.4	4.4	56
16	3.6	21	23	9.3	10	8.6	4.3	99	5.4	4.5	4.8	20
17	3.5	12	115	8.2	9.4	7.7	4.3	22	5.1	4.5	4.4	14
18	3.6	9.8	21	8.0	9.9	7.2	4.3	8.6	5.0	4.3	4.4	10
19	3.8	17	13	7.6	9.4	23	4.0	6.4	5.0	6.2	17	9.4
20	3.8	16	10	7.2	13	28	4.2	5.4	5.0	4.2	27	9.2
21	6.4	23	9.3	7.2	18	11	4.0	9.4	5.4	3.9	6.2	26
22	90	11	38	8.4	40	8.8	3.9	7.4	5.9	3.6	5.0	13
23	36	10	38	13	99	25	3.8	5.3	5.9	3.9	4.7	10
24	7.4	9.1	37	6.8	23	14	3.8	5.1	6.2	3.6	4.3	8.8
25	5.2	9.3	16	13	18	13	3.5	5.6	7.0	3.6	4.2	8.0
26	5.1	8.0	12	17	21	12	4.5	8.8	8.6	19	4.2	7.6
27	4.3	7.8	9.3	12	82	12	5.4	6.1	7.9	7.4	291	7.2
28	4.2	7.6	8.6	13	29	9.4	6.2	6.1	5.4	4.4	494	7.0
29	4.3	8.4	7.6	7.8	-----	5.8	13	5.9	3.9	6.2	34	6.9
30	4.3	15	7.2	8.6	-----	4.2	6.8	9.1	4.0	54	16	6.8
31	4.1	-----	6.6	8.2	-----	4.0	-----	9.1	-----	76	12	-----
TOTAL	243.2	524.7	619.1	477.1	917.5	519.1	293.7	353.0	199.6	323.4	1,122.2	784.6
MEAN	7.85	17.5	20.0	15.4	32.8	16.7	9.79	11.4	6.65	10.4	36.2	26.2
MAX	90	91	115	124	177	97	119	99	21	76	494	211
MIN	3.0	4.1	6.6	7.2	7.2	4.0	3.5	5.1	3.9	3.6	4.2	6.2
CFSM	.86	1.91	2.18	1.68	3.58	1.82	1.07	1.24	.73	1.14	3.95	2.86
IN.	.99	2.13	2.51	1.94	3.73	2.11	1.19	1.43	.81	1.31	4.56	3.19
CAL YR 1970	TOTAL 5,985.7 MEAN 16.4 MAX 258 MIN 3.0 CFSM 1.79 IN 24.31											
WTR YR 1971	TOTAL 6,377.2 MEAN 17.5 MAX 494 MIN 3.0 CFSM 1.91 IN 25.90											

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-17	0400	5.48	204	8-08	2030	5.96	232
2-08	0030	6.69	285	8-28	0415	11.34	781
5-16	1245	6.08	215	9-12	0630	6.84	297

DELAWARE RIVER BASIN

01467150 Cooper River at Haddonfield, N. J.

LOCATION.--Lat 39°54'11", long 75°01'19", Camden County, on right bank of Wallworth Lake in Pennypacker Park, 200 ft upstream from bridge on State Highway 41 (Kings Highway) in Haddonfield, 0.6 mile upstream from North Branch Cooper River, and 7.7 miles upstream from mouth.

DRAINAGE AREA.--17.4 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 9.29 ft above mean sea level.

AVERAGE DISCHARGE.--8 years, 29.4 cfs (22.95 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,300 cfs Aug. 28 (gage height, 5.46 ft); minimum, 9.7 cfs Jan. 8 (gage height, 1.40 ft) result of freezeup.

Period of record: Maximum discharge, 3,300 cfs Aug. 28, 1971 (gage height, 5.46 ft); minimum, 0.9 cfs June 26, 1964 (gage height, 1.18 ft).

REMARKS.--Records fair. Occasional regulation at low flow from Kirkwood Lake and other small lakes and ponds above station. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD N.J. 1969: 1967(M).

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	18	24	17	14	30	21	24	19	16	57	22
2	14	18	20	17	13	26	22	24	18	31	31	21
3	15	22	18	21	13	37	28	22	33	18	19	21
4	14	46	16	46	16	177	24	22	19	14	22	20
5	14	43	15	186	57	64	22	21	17	12	71	19
6	15	21	15	71	33	35	39	30	17	13	16	18
7	15	22	14	28	57	64	217	26	16	30	12	18
8	14	20	14	22	294	39	74	57	16	17	12	21
9	14	20	15	22	112	28	31	30	16	22	12	18
10	14	22	15	22	28	26	28	20	16	43	12	18
11	13	53	15	22	22	28	25	20	16	17	13	91
12	14	112	25	21	21	26	25	19	16	16	13	390
13	14	88	26	20	128	26	25	20	16	15	11	325
14	14	33	22	25	91	26	25	30	20	14	11	144
15	15	152	20	24	28	26	22	18	17	14	9.9	71
16	14	46	28	21	24	26	22	181	15	15	9.7	33
17	14	26	199	19	22	24	22	66	13	16	9.9	30
18	13	25	46	19	24	24	22	25	14	16	390	28
19	14	30	26	18	24	53	22	18	14	19	37	26
20	14	37	24	17	28	77	22	17	16	19	46	25
21	26	43	22	17	35	31	22	20	17	18	20	71
22	204	26	60	18	71	28	24	19	15	17	17	26
23	94	24	60	24	182	57	22	19	15	20	16	24
24	25	21	57	21	50	31	22	17	15	19	14	24
25	20	19	28	24	30	25	22	18	15	19	13	22
26	19	18	25	28	26	24	22	25	15	43	14	21
27	18	17	22	24	120	24	24	22	16	20	435	21
28	18	16	21	18	46	22	26	20	17	15	1,510	22
29	18	20	19	17	-----	22	30	19	17	16	116	22
30	18	29	18	16	-----	22	25	24	15	74	31	22
31	18	-----	17	15	-----	21	-----	26	-----	105	25	-----
TOTAL	761	1,087	946	880	1,609	1,169	977	919	501	743	3,025.5	1,634
MEAN	24.5	36.2	30.5	28.4	57.5	37.7	32.6	29.6	16.7	24.0	97.6	54.5
MAX	204	152	199	186	294	177	217	181	33	105	1,510	390
MIN	13	16	14	15	13	21	21	17	13	12	9.7	18
CFSM	1.41	2.08	1.75	1.63	3.30	2.17	1.87	1.70	.96	1.38	5.61	3.13
IN.	1.63	2.32	2.02	1.88	3.44	2.50	2.09	1.96	1.07	1.59	6.47	3.49

CAL YR 1970 TOTAL 11,677.0 MEAN 32.0 MAX 415 MIN 13 CFSM 1.84 IN 24.96
WTR YR 1971 TOTAL 14,251.5 MEAN 39.0 MAX 1,510 MIN 9.7 CFSM 2.24 IN 30.47

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE
8-28	0945	5.46	3,300
9-12	0715	2.86	550

01474500 Schuylkill River at Philadelphia, Pa.

LOCATION.--Lat 39°58'00", long 75°11'20", Philadelphia County, on right bank 150 ft upstream from Fairmount Dam, 1,500 ft upstream from Spring Garden Street Bridge, in Philadelphia, and 8.7 miles upstream from mouth.

DRAINAGE AREA.--1,893 sq mi.

PERIOD OF RECORD.--September 1931 to current year. Records for January 1898 to December 1912, published in WSP 35, 48, 65, 82, 97, 125, 166, 202, 241, 261, 281, 301, 381, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5.74 ft above mean sea level. Prior to Nov. 25, 1956, water-stage recorder at site on right bank just upstream from Fairmount Dam at same datum. Nov. 26, 1956 to Oct. 6, 1966, water-stage recorder at site on left bank 40 ft upstream from Fairmount Dam at same datum.

AVERAGE DISCHARGE.--40 years, 2,780 cfs (19.94 inches per year), adjusted for diversion.

EXTREMES.--Current year: Maximum discharge, 70,300 cfs Sept. 13 (gage height, 13.28 ft); minimum, 283 cfs Oct. 10 (gage height, 5.75); minimum daily discharge, 302 cfs Oct. 10.
Period of record: Maximum discharge, 96,200 cfs Aug. 24, 1933 (gage height, 14.7 ft, from floodmark), from rating curve extended above 46,000 cfs; no flow over dam at times; minimum daily, 0.6 cfs Sept. 2, 1966. Maximum stage known, 17.0 ft Oct. 4, 1896 (discharge, 135,000 cfs from rating curve extended above 46,000 cfs). Flood of Mar. 1, 1902, reached a stage of 14.8 ft (discharge, 98,000 cfs).

REMARKS.--Records good except those below 1,000 cfs, which are fair. Some regulation by reservoirs above station. Records of daily discharge do not include diversion above station by city of Philadelphia for municipal water supply. Records of chemical analyses and water temperatures for the water year 1971 are published in Part 2 of the Pennsylvania report.

REVISIONS (WATER YEARS).--WSP 756: Drainage area. WSP 1302: 1936(M). WSP 1432: 1945. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	426	911	2,400	1,510	973	7,180	2,130	1,130	5,350	587	1,440	1,910
2	403	853	1,910	1,480	664	6,130	2,090	1,070	3,150	718	6,730	1,590
3	426	799	1,710	1,440	691	5,530	2,180	1,100	2,650	691	5,950	1,440
4	426	1,230	1,630	1,790	799	9,570	2,270	1,160	3,050	637	10,300	1,260
5	403	3,620	1,710	11,500	1,410	7,050	2,000	1,000	2,360	541	8,540	1,160
6	360	3,200	1,630	9,290	2,500	6,250	2,000	1,100	1,950	472	4,670	1,070
7	380	2,180	1,440	5,410	2,400	8,610	10,800	1,190	1,910	426	3,250	1,000
8	340	1,710	1,300	3,950	12,400	8,870	6,920	1,370	1,950	360	2,500	942
9	340	1,480	1,260	3,400	11,100	6,550	3,510	2,550	1,550	340	1,950	880
10	302	1,300	1,260	3,000	5,170	5,410	2,750	1,870	1,370	403	1,630	942
11	321	1,750	1,260	2,700	2,550	4,720	2,400	1,480	1,160	518	1,410	3,200
12	321	9,990	1,410	2,500	2,000	4,390	2,180	1,230	1,070	564	1,670	8,610
13	321	14,200	2,310	2,360	11,600	4,170	2,000	3,350	1,070	518	1,480	30,000
14	321	13,500	2,130	2,180	34,500	4,230	1,910	7,050	1,300	449	1,160	27,600
15	610	14,000	1,750	2,040	14,900	4,060	1,750	4,560	1,670	403	1,040	8,150
16	1,710	11,900	1,630	1,870	6,010	4,230	1,630	4,940	1,590	426	942	5,050
17	1,790	8,020	7,960	1,630	4,450	4,340	1,550	5,110	1,370	403	880	3,730
18	1,000	6,070	5,170	1,440	3,730	4,010	1,480	5,170	1,160	472	826	3,950
19	745	4,890	3,680	1,330	4,280	4,010	1,440	2,750	973	518	772	3,050
20	637	4,170	3,200	1,230	5,000	9,080	1,370	2,310	911	691	772	2,550
21	664	4,720	3,000	1,160	6,310	6,550	1,330	2,550	880	826	745	3,510
22	4,670	4,940	3,050	1,190	6,370	5,170	1,260	3,000	942	564	691	2,800
23	5,500	3,950	3,250	1,330	14,700	4,890	1,260	2,220	826	426	664	2,270
24	5,110	3,460	3,900	1,370	11,100	4,390	1,230	1,830	799	380	610	2,000
25	3,250	2,950	3,200	1,330	7,570	3,790	1,160	1,710	718	449	564	1,830
26	2,310	2,650	2,700	1,510	6,010	3,300	1,160	1,630	664	853	518	1,670
27	1,790	2,450	2,310	1,870	9,570	3,100	1,130	2,000	587	564	6,310	1,790
28	1,480	2,270	2,000	1,160	9,430	2,850	1,100	1,670	564	610	31,900	1,750
29	1,230	2,090	1,830	911	-----	2,700	1,330	1,410	541	691	8,870	1,630
30	1,070	2,220	1,590	1,230	-----	2,550	1,330	1,510	564	2,850	3,730	1,590
31	1,000	-----	1,480	1,230	-----	2,310	-----	3,300	-----	1,870	2,450	-----
TOTAL	43,656	137,473	75,100	76,341	198,187	159,990	66,650	74,320	44,649	20,220	114,964	128,924
MEAN	1,408	4,582	2,423	2,463	7,078	5,161	2,222	2,397	1,488	652	3,709	4,297
MAX	9,500	14,200	7,960	11,500	34,500	9,570	10,800	7,050	5,350	2,850	31,900	30,000
MIN	302	799	1,260	911	664	2,310	1,100	1,000	541	340	518	880
(%)	271	239	242	249	254	247	248	245	304	314	301	283
MEAN#	1,679	4,821	2,665	2,712	7,332	5,408	2,470	2,642	1,792	966	4,010	4,580
CFSM#	.89	2.55	1.41	1.43	3.87	2.86	1.30	1.39	.95	.51	2.12	2.42
IN.#	1.03	2.84	1.63	1.65	4.03	3.30	1.45	1.60	1.06	.59	2.44	2.70

CAL YR 1970 TOTAL 969,431 MEAN 2,656 MAX 35,000 MIN 156 MEAN# 2,922 CFSM# 1.54 IN.# 20.96
WTF YR 1971 TOTAL 1,140,474 MEAN 3,125 MAX 34,500 MIN 302 MEAN# 3,392 CFSM# 1.79 IN.# 24.32

PEAK DISCHARGE (BASE, 18,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-8	0630	8.85	19,200	8-28	1345	11.26	43,900
2-14	0415	10.77	38,300	9-13	2345	13.28	70,300

Diversion, equivalent in cubic feet per second, for municipal water supply; furnished by city of Philadelphia.

Adjusted for diversion.

DELAWARE RIVER BASIN

01475000 Mantua Creek at Pitman, N. J.

LOCATION.--Lat 39°44'14", long 75°06'53", Gloucester County, on left abutment of Wadsworth Dam, 0.9 mile east of Pitman, and 2.0 miles upstream from Porch Branch.

DRAINAGE AREA.--6.05 sq mi (revised).

PERIOD OF RECORD.--April 1940 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 68.51 ft above mean sea level.

AVERAGE DISCHARGE.--31 years, 11.1 cfs (24.92 inches per year).

EXTREMES.--Current year: Maximum discharge, 470 cfs Aug. 28 (gage height, 2.72 ft); minimum, 3.9 cfs July 28 (gage height, 0.99 ft).

Period of record: Maximum discharge, about 4,200 cfs Sept. 1, 1940 (gage height, 6.64 ft), by computation of peak flow over dam and through break in earth dike; minimum, 2.5 cfs for several days in July 1966 (gage height, 0.93 ft).

REMARKS.--Records good except those for periods of no gage-height record, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	7.7	10	8.0	8.0	11	9.8	10	10	5.5	6.0	10
2	7.0	8.0	9.0	8.2	7.6	11	9.9	9.8	9.4	6.5	5.5	11
3	7.1	8.8	8.4	9.0	6.8	13	12	10	11	5.5	5.5	10
4	7.1	17	8.2	16	7.2	26	10	9.7	9.8	5.5	6.0	9.4
5	7.0	19	8.0	30	13	15	9.4	9.5	8.6	5.1	12	9.4
6	7.0	9.1	8.0	20	12	12	12	11	8.0	5.1	7.5	8.6
7	7.0	8.4	7.9	15	18	15	36	11	8.0	5.1	6.0	11
8	6.8	7.6	7.9	9.0	7.9	13	20	15	7.5	5.1	6.0	11
9	6.5	7.5	7.9	9.0	37	10	12	12	7.0	5.1	5.5	9.4
10	6.6	8.3	8.0	8.8	14	10	9.4	11	7.0	5.1	5.5	8.6
11	6.5	12	8.6	8.6	9.6	11	8.7	9.9	7.0	5.1	5.5	26
12	6.5	21	10	8.4	9.4	9.8	8.8	9.5	7.5	5.5	6.0	100
13	6.4	14	9.5	8.0	27	10	10	13	7.5	5.1	5.5	44
14	6.5	10	8.6	9.3	26	10	10	18	7.5	4.7	5.5	29
15	6.5	28	8.0	9.1	13	9.9	10	14	7.5	4.7	5.5	18
16	6.6	16	12	8.1	10	10	10	34	8.0	4.7	5.5	13
17	6.0	13	26	8.0	9.9	9.4	10	21	7.5	4.7	5.5	14
18	6.4	10	20	8.0	9.6	8.6	9.7	14	7.0	4.7	5.5	16
19	6.2	11	10	8.0	9.4	13	9.9	12	6.5	5.1	8.6	14
20	6.5	11	9.0	8.0	10	19	9.9	11	6.5	5.1	7.5	14
21	8.4	13	9.0	7.8	11	9.9	10	14	6.5	4.7	6.0	13
22	42	9.6	15	8.0	16	10	10	14	6.5	4.7	5.5	13
23	25	9.2	17	9.0	28	15	9.6	9.3	6.5	4.7	5.5	12
24	9.2	8.6	13	8.1	12	12	9.5	8.3	7.0	5.1	5.1	11
25	8.8	8.6	11	8.6	11	11	9.5	8.0	6.5	5.1	5.1	10
26	9.1	8.6	10	9.9	10	10	10	11	7.0	5.1	5.1	10
27	8.1	8.6	9.0	9.1	20	10	9.9	9.1	7.0	4.7	102	11
28	8.0	8.8	8.6	7.3	13	10	11	9.3	6.5	4.3	191	11
29	7.7	9.4	8.2	7.3	-----	12	14	9.2	6.0	4.7	29	10
30	7.8	11	8.0	7.9	-----	11	11	11	6.5	7.0	14	10
31	7.5	-----	8.0	8.0	-----	9.9	-----	13	-----	8.6	10	-----
TOTAL	274.8	342.8	321.8	307.5	457.5	367.5	342.0	381.6	224.8	161.7	504.4	497.4
MEAN	8.86	11.4	10.4	9.92	16.3	11.9	11.4	12.3	7.49	5.22	16.3	16.6
MAX	42	28	26	30	79	26	36	34	11	8.6	191	100
MIN	6.0	7.5	7.9	7.3	6.8	8.6	8.7	8.0	6.0	4.3	5.1	8.6
CFSM	1.46	1.88	1.72	1.64	2.69	1.97	1.88	2.03	1.24	.86	2.69	2.74
IN.	1.69	2.11	1.98	1.89	2.81	2.26	2.10	2.35	1.38	.99	3.10	3.06
CAL YR 1970	TOTAL 4,161.0 MEAN 11.4 MAX 60 MIN 6.0 CFSM 1.88 IN 25.57											
WTR YR 1971	TOTAL 4,183.8 MEAN 11.5 MAX 191 MIN 4.3 CFSM 1.90 IN 25.72											

PEAK DISCHARGE (BASE, 50 CFS)

NOTE.--No gage-height record Dec. 2 to Jan. 11.

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	1900	1.49	68	8-28	0700	2.70	470
2-08	0300	1.80	140	9-12	0600	1.99	197
2-13	2000	1.41	54				

DELAWARE RIVER BASIN

123

01477120 Raccoon Creek near Swedesboro, N. J.

LOCATION.--Lat 39°44'28", long 75°15'33", Gloucester County, on right bank 25 ft downstream from county bridge No. 5-F-3 on Harrisonville-Gibbstown Road, 1.8 miles west of Mullica Hill, and 2.8 miles east of Swedesboro.

DRAINAGE AREA.--29.9 sq mi.

PERIOD OF RECORD.--May 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. July 28, 1969 to Sept. 30, 1969, at datum 5.96 ft higher. Prior to July 28, 1969, at datum 7.96 ft higher.

AVERAGE DISCHARGE.--5 years, 38.8 cfs (17.62 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,060 cfs Aug. 28 (elevation, 15.69 ft); minimum, 6.1 cfs July 23, 24 (elevation, 6.90 ft).

Period of record: Maximum discharge, 3,530 cfs Aug. 10, 1967 (gage height, 9.48 ft, datum then in use); minimum daily, 2.9 cfs July 14, Aug. 27, 28, and Sept. 10, 1966.

REMARKS.--Records fair Oct. 1 to July 19 and good thereafter. Records of water quality for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	13	29	30	34	77	32	45	39	7.8	63	47
2	18	12	27	39	52	52	33	36	54	19	45	39
3	18	13	25	53	28	64	40	36	63	13	17	32
4	20	42	25	73	35	220	31	39	50	10	15	29
5	18	47	24	301	57	80	33	24	40	9.0	49	25
6	14	26	24	60	50	48	41	27	33	8.6	23	22
7	13	22	23	46	148	400	174	30	30	8.5	14	21
8	13	24	25	38	421	100	81	54	28	8.7	11	20
9	14	24	24	37	154	50	52	50	26	12	9.5	19
10	14	25	22	35	45	43	48	42	29	23	8.7	25
11	13	37	22	35	40	43	40	34	28	19	7.6	116
12	13	91	24	35	37	40	42	33	25	14	12	434
13	13	102	22	32	220	40	41	40	24	12	10	326
14	14	44	20	36	90	40	39	80	23	11	9.5	209
15	14	162	19	39	56	39	35	47	31	10	9.0	76
16	13	66	19	34	48	40	34	200	40	9.0	9.0	63
17	13	37	192	30	43	38	31	111	23	8.5	9.0	58
18	13	32	56	30	44	35	28	61	24	10	8.4	66
19	14	32	40	29	44	48	30	52	19	9.2	8.1	58
20	18	34	34	29	46	68	33	40	18	9.0	9.5	53
21	30	43	32	28	50	47	35	49	16	8.4	9.5	46
22	110	32	48	29	78	41	35	58	15	7.8	9.0	46
23	97	30	56	34	192	57	34	47	15	7.3	8.4	44
24	27	27	52	31	68	48	32	41	12	7.3	7.8	43
25	23	27	40	35	54	41	24	40	10	7.6	7.8	38
26	20	27	35	40	48	40	23	55	9.0	8.1	7.8	39
27	18	27	31	36	112	39	23	43	8.0	8.1	304	44
28	15	26	20	58	66	37	29	37	7.5	7.6	1,260	42
29	14	29	28	42	-----	38	45	33	9.0	7.3	166	40
30	14	32	28	33	-----	35	43	31	8.0	23	57	38
31	13	-----	37	31	-----	34	-----	44	-----	35	47	-----
TOTAL	678	1,190	1,108	1,438	2,360	2,022	1,241	1,559	756.5	358.8	2,231.6	2,158
MEAN	21.9	39.7	35.7	46.4	84.3	65.2	41.4	50.3	25.2	11.6	72.0	71.9
MAX	110	162	192	301	421	400	174	200	63	35	1,260	434
MIN	13	12	19	28	28	34	23	24	7.5	7.3	7.6	19
CFSM	.73	1.33	1.19	1.55	2.82	2.18	1.38	1.68	.84	.39	2.41	2.40
IN.	.84	1.48	1.38	1.79	2.94	2.52	1.54	1.94	.94	.45	2.78	2.68
CAL YR 1970	TOTAL 13,874.0 MEAN 38.0 MAX 432 MIN 10 CFSM 1.27 IN 17.26											
WTR YR 1971	TOTAL 17,100.9 MEAN 46.9 MAX 1,260 MIN 7.3 CFSM 1.57 IN 21.28											

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-05	1245	9.91	455	8-28	1045	15.69	2,060
2-08	0600	12.54	695	9-12	1345	12.49	682

DELAWARE RIVER BASIN

01482500 Salem River at Woodstown, N. J.

LOCATION.--Lat 39°38'36", long 74°19'52", Salem County, on right end of Memorial Lake Dam at Woodstown, 0.2 mile upstream from small brook, and 0.3 mile downstream from Penn Central-Reading Seashore Lines bridge.

DRAINAGE AREA.--14.6 sq mi.

PERIOD OF RECORD.--March to September 1940, December 1941 to current year. Prior to October 1952, published as Salem Creek at Woodstown.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 29.49 ft above mean sea level.

AVERAGE DISCHARGE.--29 years (1942-71), 18.1 cfs (16.84 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,520 cfs (includes flow through waste gate) Aug. 28 (gage height, 2.96 ft); no flow Sept. 2-4 when waste gate was closed and water was below spillway.

Period of record: Maximum discharge, 22,000 cfs Sept. 1, 1940 (gage height, 7.98 ft, from floodmark in recorder shelter) from rating curve extended above 220 cfs on basis of slope-area measurement of peak flow at site 0.5 mile downstream; no flow for short periods during many years just after waste gate was closed and water was below spillway.

REMARKS.--Records fair. Records given herein represent flow over dam, and flow through waste gate. Occasional regulation by Memorial Lake and several small lakes and ponds above station.

REVISIONS (WATER YEARS).--WSP 1432: 1951(M). WSP 1702: 1959.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	7.3	11	12	8.5	20	13	15	14	5.2	5.2	5.0
2	4.4	8.5	11	11	7.3	19	12	14	9.9	5.2	4.8	3.0
3	4.4	11	9.4	11	7.3	24	14	13	11	5.2	4.5	0
4	4.4	19	9.4	19	7.3	97	17	12	19	7.3	6.0	5.2
5	4.4	24	9.4	140	21	40	14	12	13	8.5	23	9.0
6	4.4	12	8.5	52	27	26	18	11	11	8.5	16	9.0
7	4.4	9.4	8.5	19	52	30	60	13	10	4.4	10	9.0
8	4.4	8.5	8.5	13	388	27	120	15	9.0	3.5	7.0	6.6
9	4.4	8.5	8.5	12	103	18	50	30	10	5.2	4.8	6.6
10	3.5	9.4	9.4	12	21	17	26	20	9.8	4.4	5.2	6.6
11	3.5	13	9.4	12	13	20	22	15	8.8	6.1	5.9	21
12	3.7	46	11	12	12	20	19	14	8.0	5.2	6.6	221
13	4.4	71	15	11	202	15	17	13	7.0	5.2	6.7	275
14	4.4	24	11	13	103	15	16	24	6.8	5.2	6.4	67
15	4.4	140	9.4	17	24	15	15	20	6.8	6.1	6.1	32
16	4.4	40	11	12	17	14	14	50	6.4	5.2	5.5	21
17	3.5	17	131	11	14	13	14	95	6.0	5.2	5.7	14
18	3.5	13	33	9.4	15	13	13	40	5.8	5.2	8.2	37
19	4.4	15	17	9.4	16	19	13	19	5.6	5.2	7.3	28
20	4.4	15	13	8.5	18	42	13	16	5.2	4.4	6.4	19
21	6.1	27	12	8.5	29	20	13	15	5.0	5.2	7.3	16
22	90	15	33	9.4	82	16	12	32	4.8	6.1	7.3	12
23	71	12	43	12	175	31	11	20	4.7	6.1	8.8	10
24	13	11	43	11	42	22	11	15	4.4	4.4	6.2	10
25	8.5	9.4	21	13	28	16	10	12	4.4	5.2	6.8	8.0
26	8.5	9.4	15	17	19	15	10	18	4.4	8.5	7.3	9.0
27	7.3	11	13	15	74	15	11	14	5.2	11	204	12
28	6.1	11	12	9.4	34	13	12	10	5.1	12	619	12
29	6.1	11	11	8.5	-----	13	19	8.5	5.2	6.1	39	12
30	6.1	13	11	9.4	-----	13	16	9.4	5.2	7.3	12	10
31	6.1	-----	9.4	11	-----	13	-----	20	-----	17	9.0	-----
TOTAL	312.5	641.4	577.8	540.5	1,559.4	691	625	634.9	232.5	139.3	1,076.0	915.0
MEAN	10.1	21.4	18.6	17.4	55.7	22.3	20.8	20.5	7.75	6.43	34.7	30.5
MAX	90	140	131	140	388	97	120	95	19	17	619	275
MIN	3.5	7.3	8.5	8.5	7.3	13	10	8.5	4.4	3.5	4.5	0
CFSM	.69	1.47	1.27	1.19	3.82	1.53	1.42	1.40	.53	.44	2.38	2.09
IN.	.80	1.63	1.47	1.38	3.97	1.76	1.59	1.62	.59	.51	2.74	2.33

CAL YR 1970 TOTAL 5,585.6 MEAN 15.3 MAX 195 MIN 2.5 CFSM 1.05 IN 14.23
WTR YR 1971 TOTAL 8,005.3 MEAN 21.9 MAX 619 MIN 0 CFSM 1.50 IN 20.40

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	0300	2.35	835	8-28	0900	2.96	1,520
2-13	1800	2.02	508	9-13	1400	2.14	620

NOTE.--No gage-height record Mar. 31 to May 27. Waste gate open Aug. 27 to Sept. 2.

DELAWARE RIVER BASIN

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01482100 Delaware River at Delaware Memorial Bridge, Wilmington, Del.

LOCATION.--Lat 39°41'21", long 75°31'19", New Castle County, Del., at right tower pier of downstream bridge of dual bridges at Wilmington, Del., 2.0 miles downstream from Christina River and at mile 68.70 upstream from Atlantic Ocean.

DRAINAGE AREA.--11,030 sq mi.

PERIOD OF RECORD.--July 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 10.00 ft below mean sea level. Water-stage recorder at same datum at Reynolds Aluminum Co., pier in Chester, Pa., 13.6 miles upstream used as auxiliary gage. Gage-height record converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations during year are as follows:

		TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971											
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	5.18	6.07	5.58	5.26	5.50	5.96	4.95	5.20	5.44	4.83	4.98	5.54
high tide	Date	30	15	3	26	23	29	21	24	15	13	5	13
Minimum	Elevation	-2.75	-2.69	-4.38	-5.82	-3.48	-5.06	-3.19	-2.55	-2.31	-2.61	-2.62	-2.44
low tide	Date	16	6	7	27	10	5	10	26	9	20	12	5
Mean high tide		3.99	4.33	3.57	3.12	3.51	3.50	3.77	4.00	4.18	3.84	3.90	4.19
Mean water level		1.37	1.70	.96	.56	.94	.77	1.00	1.21	1.33	1.08	1.13	1.43
Mean low tide		-1.35	-1.13	-1.80	-2.11	-1.68	-2.07	-1.88	-1.71	-1.67	-1.78	-1.72	-1.44

Maximum high tide known, 8.4 ft above mean sea level Nov. 23, 1950, furnished by Corps of Engineers, U.S. Army; minimum low tide, 9.1 ft below mean sea level Dec. 31, 1962.

REMARKS.--No gage-height record Nov. 20 to Dec. 1, Jan. 29 to Feb. 1; estimates made on basis of records for station at Chester, Pa. Volume records for water year 1971 are published on the following pages and are considered fair. Flow caused primarily by ocean tides; volumes of flow in alternate directions are tabulated for each cycle of ebb and flood tide. Base data are simultaneous readings of gage heights obtained by two standard U.S.G.S. digital recorders located at the ends of a fairly uniform channel reach. The method of computation is, in effect, an approximate digital computer solution of two first-order quasi-linear hyperbolic partial differential equations of two dependent and two independent variables representing unsteady open-channel flow. The power series method is applied to obtain discharges at 15-minute intervals over a specified time period. Fixed information for a given site includes values of channel widths and conveyance areas corresponding to different depths, and distance between the gage stations. The roughness coefficient is obtained by working backwards from discharges obtained by a field measurement of flow through a tidal cycle. Records of water quality for the current year are published in Part 2 of this report.

01482100 Delaware River at Delaware Memorial Bridge, Wilmington, Del.

Volume of flow, in millions of cubic feet, water year October 1970 to September 1971

Day	October		November		December		January		February		March		April		May		June		July		August		September		Day		
	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream	Down-stream	Up-stream			
1...			6,270 8,330	2,540 8,200 2,920			4,500 7,230	6,880 6,640 410			10,200 10,000	4,000 5,000 500	9,000 8,000	7,000 6,000	8,980 6,470	7,700 6,940	50 6,000	7,000 8,900					6,670 6,660 1,420	5,820 8,510	...1		
2...			6,090 7,440	3,400 8,800 1,910	7,660 9,050	b2,500 7,730 560	8,100 8,460	7,620 7,840			9,950 8,460	6,770 6,650	8,800 5,810	8,520 5,530	480 5,460 5,540	7,490 6,650	2,160 9,160 4,160	8,160 9,050	b2,420 5,940 3,250	6,390 7,960			8,340 7,210 330	6,500 8,860	...2		
3...			6,670 9,160	4,880 8,190 260	7,050 8,260	5,350 7,740 60	30 7,920 7,140	7,260 7,070			8,590 5,590	7,980 7,880	1,830 7,910 3,850	7,480 5,460	4,000 8,500 5,000	7,000 6,900	5,040 9,370 2,410	6,940 8,210	4,350 4,580 2,490	6,110 8,480	b6,360 6,740 700	5,330 8,640	9,590 8,080	6,580 8,800	...3		
4...			5,910 8,770	5,030 9,120		6,670 4,440 8,140	790 6,680 5,920	7,630 7,410	b1,760 6,890 1,700	7,490 6,350	240 8,000 5,000	8,320 7,000	2,640 8,670 2,310	7,700 6,560	3,320 9,130 1,910	6,920 6,730	6,640 7,890 1,020	7,480 9,560	5,930 6,420 930	5,850 8,120	9,020 7,400 10	5,590 8,780		20 9,720 7,360 8,540 7,930	...4		
5...			7,110 7,810	4,790 6,750		6,680 8,010 6,950	1,670 9,210 4,040	8,160 4,770	3,560 8,050 1,680	8,050 5,080	2,550 7,610 2,090	5,420 4,140	4,680 6,860 920	7,470 6,840	5,540 8,430 1,230	7,240 8,220	8,420 7,550 250	7,830 11,000	7,370 6,370 90	6,070 8,950	9,010 7,640	6,440 8,440		740 9,630 7,660 8,780 6,560	...5		
6...			1,740 4,820 6,700	6,230 7,280		1,430 4,760 3,560	5,360 4,760	4,130 8,740 1,770	6,450 4,840	5,570 9,050 1,410	7,410 5,540	3,770 7,350 1,410	6,890 7,080	6,130 4,800	8,470 8,360	7,810 7,920 220	7,860 8,270	10,200 8,260	8,100 10,500 7,050	8,570 8,190		240 10,200 8,090 7,540	6,180 9,500 8,890	2,140 8,340 4,990	...6		
7...			1,920 7,210 4,640	6,180 6,900		2,620 6,160 2,710	6,540 7,880	4,680 8,620 740	7,170 4,540	5,940 8,000	7,720 6,000	5,460 5,290 770	7,760		210 4,900 5,710	8,930 8,350 10	7,180 8,410	10,700 8,130	8,100 8,940	9,160 6,810	6,710 8,220		1,180 6,950 6,040	3,720 9,150 2,710	...7		
8...			3,270 6,980 2,580	6,970 7,980		4,020 8,720 1,980	8,670 6,680	5,590 7,470 20	7,230 6,450		390 7,070 6,370	7,840 11,700 40	5,490 3,070		5,110 7,630	9,620 9,270	7,340 9,320		230 7,060 8,240	620 6,400 7,320		2,760 9,760 8,320 4,510	5,010 8,890 1,150	...8			
9...			5,020 7,360 1,400	7,310 7,300		6,170 9,090 470	7,810 6,360	5,880 8,620	8,650 6,210		230 4,010 3,540	7,090 7,950	5,470 6,320		9,070	130		310 6,810 7,760	10,300 10,300 6,760	970 7,170 7,800 5,810	1,800 6,870 5,810		4,190 9,660 8,560 2,350	6,390 8,680 100	...9		
10...			6,390 7,890 330	8,090 7,290		6,620 9,060 30	8,140 6,360		70 8,480 5,230		950 6,390 3,720		350 7,170 8,180				820 6,680 7,390		2,670 10,200 6,000	3,300 9,320 7,410		5,770 9,180 8,740 640	8,000 8,280	7,000 9,080	..10		
11...			7,550 8,420	8,050 7,480		6,710 8,190	8,860 6,980		440 7,900 4,750		1,840 7,350 3,320		440 8,480 5,560				1,680 6,790 5,820		3,810 7,600 4,080	5,170 9,140 2,610		8,580 8,850 7,430	6,730 7,660 7,840	80 8,230	7,050 8,230	...11	
12...				10		150			1,460		2,690		1,070				2,690		5,620		6,460		7,820	6,980	1,720	5,940	..12
			7,590 9,580	8,200 6,420		6,840 7,560	9,950 6,280	7,310 8,110	7,360 3,640	7,350 7,370	7,010 2,740	8,760 8,120	7,220 5,260		9,220 6,980	6,780 4,660	10,600 8,280		5,620 7,350 1,930 7,320	9,060 8,000		7,840	8,560	7,640 6,070	7,750	...13	
13...				30		980			2,780		3,780		2,020				3,980		7,700		7,580		380	6,770	2,710	5,790	..13
			9,620 10,300	8,440 4,470		7,020 9,440	8,920 3,920	5,930 7,350	8,080 3,130	6,970 7,390	7,650 1,020	8,580 7,920	6,950 4,450		9,250 7,560	6,370 2,550	9,980 8,180		8,400 580	9,360 7,800 7,820		7,410 6,630	8,540	8,470 5,490	7,090	...14	
14...			8,640 10,400	7,460 3,590		8,080 8,580	6,520 3,080	6,520 8,370	7,740 1,620	10,000 8,790	5,000 320	8,420 8,130	7,040 3,150		9,120 7,790	6,780 1,360	9,790		9,540 b40	9,400 7,080 7,390		1,770 6,900 4,560	6,440 8,850	7,690 8,340 2,330	3,540 7,640	..14	
15...				2,300 7,940 1,380		3,650 7,720 2,120		4,580 6,920 7,580		4,110 7,220 660		3,990 5,820 360				7,140 6,640 320			440 7,790 6,470	7,420 9,020		3,470 8,420 3,060	6,230 8,420	8,340 7,300 850	5,500 7,920	..15	

16...				2,500	4,320	3,880	6,150	4,240	6,050	7,970			2,230	6,950	5,530	6,700	9,060	6,530	..16
		8,180	6,510	6,380	9,140	6,390	7,080	8,240	5,580	6,410	10,200	6,050	8,970	6,430					
		9,570	870	6,550	1,620	5,660	490	6,950	90	8,220	800	7,080	410						
17...		b1,120	4,250	6,350	6,800	6,810	5,330	8,940	10	8,490			4,020	6,600	7,940	5,750	9,220		..17
	7,750	7,460	7,440	5,110	6,850	7,030	8,100	5,820	8,530	5,560	9,740	7,670	10,800	7,060					
	7,600	2,120	9,240	300	8,970	150	7,490	60	7,380	160	7,140		6,870						
18...		4,560	5,410	7,010	4,300	6,910	360	6,000	5,900	130	8,260	1,060	8,360						..18
	7,820	6,740	7,070	7,430	6,270	6,780	6,210	8,230	4,740	7,940	5,790	10,100	9,670	8,090					
	8,480	490	8,690	10	7,400	7,250	5,760		7,000	20	5,570		5,710						
19...		4,900	5,550	7,040	160	6,820	910	6,900	7,550	1,060	9,110	3,280	8,540						..19
	6,470	8,340	6,960	7,130	6,210	5,810	6,460	5,650	7,970	5,490	8,000	7,120	9,440	8,970	9,700	9,180			
	7,210	280	8,400		8,280	5,740	4,590		8,070			4,460			3,700				
20...		6,130		440	5,080	910	7,380	2,070	8,150	2,180	4,880	3,680	8,650	5,680	8,150				..20
	6,290	8,260		6,360	5,760	6,450	4,210	8,650	5,070	9,340	2,580	10,000	9,020	9,390	8,920				
	7,730			6,050	3,880	2,860			5,780		2,830			2,200					
21...		200	5,640	1,100	6,730	1,450	7,980	4,290	7,970	2,130	5,420	6,040	9,690	8,270	8,330				..21
	1,040	7,990		5,910	6,390	6,670	5,090	9,610	5,550	8,900	5,440	10,500	8,300	9,480	9,410				
	6,390			4,770	4,120	1,080			2,370		1,690			540					
22...		5,950		1,910	8,060	3,400	7,820	6,100	8,680	3,280	8,390	9,140	9,040	10,100					..22
	6,100	5,800		6,360	5,450	8,210	5,190	9,390	7,470	9,560	6,580	10,600	8,420	9,370	7,990				
	6,080			3,980	1,310	100			2,090		230				9,800				
23...		5,370		2,920	8,070	4,200	8,750	7,930	7,620	5,980	8,320	10,500	8,640	11,200	8,110				..23
	6,520	6,400		7,360	6,580	8,890	5,330	11,600	5,980	9,840	6,080	10,000	9,170	9,080	9,950				
	4,200			1,890		310			890										
24...		5,120		4,210	7,300	5,690		10,100	7,260	8,190	7,310		30		420				..24
	7,050	6,130		10,500	5,120	8,300	8,080	10,900	6,570	9,700	6,190	11,300	8,640	11,400	8,620				
	2,590			730			6,780			10		8,870	7,330	9,080	8,530				
25...		6,220		5,980	7,700	6,070		590	8,320	7,760		290			1,710				..25
	6,880	7,180		7,640	7,580	9,000	9,090	9,200	8,710	8,490	7,660	10,100	7,580	12,000	7,580				
	890			40			6,540	10,900	5,990			8,910	6,650	10,100	5,850				
26...		6,830		6,440		280		1,740		270		2,060			3,610				..26
	6,870	8,230		9,280	6,780	6,740	9,770	9,950	8,370	8,780	9,120	9,650	7,440	11,900	8,200				
	30				5,700	11,600	1,420	10,400	4,470	8,640	7,460	8,640	4,740	8,980	4,640				
27...		6,680		30		600		3,640		1,450	9,640	3,360			5,570				..27
	6,870	7,260		6,620	8,890	8,000	4,920	9,930	7,340	9,200	8,690	9,640	7,300	11,300	8,700				
		7,030		9,280	4,930	8,820	1,590	10,700	2,870	8,050	7,470	3,700	3,700	9,140	2,910				
28...		20		120		2,780		4,930		3,210		5,130			7,510				..28
	7,110	7,100		7,530	7,950	3,770	8,700	11,300	6,720	8,270	9,560	7,360	11,600	8,390					
	7,550	6,420		9,040	3,850	8,580	2,350	10,900	1,050	8,720	4,660	7,730	2,010	8,580	1,030				
29...		110		1,400								4,360	6,390		8,940				..29
	7,330	7,480		6,410	8,790				10,800	9,570	7,090	9,570	6,270	10,100	9,680				
	7,880	6,030		8,560	3,690				9,220	2,390	7,350	610		7,260	120				
30...		750		2,990						5,750		7,740			10,300				..30
	6,360	8,500		7,250	8,010				10,300	6,440	9,610	6,570	8,900	8,800					
	8,400	4,910		8,640	2,030				7,490	790	7,210			7,480					
31...		1,520		4,570						7,100					120	9,730			..31
	6,740	8,070		6,950	9,020				9,180	7,080					9,840	8,610			
	8,540	3,950		8,000	1,740				6,560	260					7,440				

a Partial volume of flow not given.

b Incomplete volume of flow.

NOTE.--Where 2 successive downstream or upstream volumes are shown on adjacent days, the portions of the volume occurring in each day should be combined to obtain total downstream or upstream volume for that ebb or flood tide. Non-synchronous or no gage-height record at one of the two gages on days where volumes are not listed.

DELAWARE RIVER BASIN

01483000 Alloway Creek at Alloway, N. J.

LOCATION.--Lat 39°33'55", long 75°21'35", Salem County, on right bank at Alloway Lake Dam at Alloway and 0.8 mile upstream from Deep Run.

DRAINAGE AREA.--21.9 sq mi.

PERIOD OF RECORD.--October 1952 to September 1971 (discontinued).

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 13.96 ft above mean sea level.

AVERAGE DISCHARGE.--19 years, 22.9 cfs (14.20 inches per year).

EXTREMES.--Current year: Maximum discharge, 845 cfs (includes flow through waste gate) Aug. 28 (gage height, 3.05 ft), from rating curve extended above 400 cfs; no flow for part or all of some days when waste gate was closed and water was below spillway.

Period of record: Maximum discharge, 1,860 cfs Sept. 12, 1960 (gage height, 4.24 ft), from rating curve extended above 400 cfs; no flow on July 18, 19, 21-27, 1966 (unregulated), also no flow on some days for several years when the waste gate was closed and water was below spillway.

REMARKS.--Records good except those for periods when waste gate was open and those below 10 cfs, which are fair. Records of water quality for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1702: 1953-59.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	6.5	15	16	12	41	16	18	29	4.5	12	0
2	5.0	7.0	13	15	9.5	33	17	16	19	4.6	11	30
3	5.1	8.1	12	14	8.0	37	22	16	20	4.1	7.7	5.3
4	5.3	14	12	20	8.4	124	21	15	23	3.4	8.4	8.7
5	4.8	28	11	152	16	78	18	14	19	3.7	22	9.8
6	4.6	20	10	120	33	47	21	16	16	3.8	20	8.7
7	4.5	13	9.6	47	38	49	158	18	14	3.3	10	6.8
8	4.5	10	9.0	28	365	49	108	29	12	2.9	7.1	6.5
9	4.6	8.2	9.7	24	100	35	48	33	13	2.9	5.7	6.5
10	5.0	9.0	11	21	55	30	33	24	12	4.2	4.8	6.5
11	5.1	12	11	20	32	28	28	18	9.1	4.1	5.0	10
12	5.1	23	13	20	27	26	24	16	8.0	4.5	7.2	45
13	5.1	41	17	18	174	25	23	17	8.0	4.1	6.2	235
14	5.1	31	16	20	146	24	21	29	8.0	3.2	4.9	82
15	5.4	122	13	25	60	24	19	22	7.6	3.4	4.5	0
16	5.5	85	13	21	37	24	18	95	7.0	3.4	4.2	0
17	4.3	34	98	17	31	21	17	98	6.3	3.3	3.9	6.6
18	3.9	23	65	15	31	19	17	42	5.2	2.7	3.9	5.4
19	4.3	20	32	14	31	23	16	26	4.7	3.3	4.1	20
20	4.5	20	24	12	31	46	15	19	4.3	3.9	4.5	29
21	6.3	26	20	11	36	35	15	26	4.3	3.8	4.8	23
22	40	23	31	13	76	27	14	37	3.7	3.4	4.5	18
23	77	18	55	16	199	39	14	26	3.5	3.5	4.2	16
24	32	15	52	16	34	36	14	19	3.3	3.2	3.6	15
25	16	13	37	18	42	28	13	16	3.1	2.7	3.4	14
26	11	12	27	24	37	24	14	22	3.4	2.4	3.4	13
27	8.4	12	21	23	93	22	14	19	4.2	2.7	83	16
28	7.3	12	18	15	71	20	15	15	3.8	2.4	511	16
29	6.9	12	15	12	-----	20	22	14	4.5	2.5	45	15
30	6.6	15	14	14	-----	20	21	15	4.8	6.7	3.3	25
31	6.5	-----	13	15	-----	18	-----	30	-----	14	0	-----
TOTAL	314.8	691.3	717.3	816	1,832.9	1,072	816	820	283.8	120.6	823.3	663.10
MEAN	10.2	23.1	23.1	26.2	65.5	34.6	27.2	26.5	9.46	3.89	26.6	22.1
MAX	77	122	98	152	365	124	158	98	29	14	511	235
MIN	3.9	6.5	9.0	11	8.0	18	13	14	3.1	2.4	0	0
CFSM	.47	1.05	1.05	1.70	2.99	1.58	1.24	1.21	.43	.18	1.21	1.01
IN.	.53	1.13	1.22	1.39	3.11	1.82	1.39	1.39	.48	.20	1.40	1.13
CAL YR 1970	TOTAL 7,172.50	MEAN 19.7	MAX 170	MIN 3.4	CFSM .90	IN 12.18						
WTR YR 1971	TOTAL 8,971.60	MEAN 24.6	MAX 511	MIN 0	CFSM 1.12	IN 15.24						

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
2-08	0700	2.77	660	8-28	1100	3.05	845
2-13	2100	2.35	415	9-13	1800	2.37	435
2-23	0200	2.17	316				

NOTE.--Waste gate open Feb. 8, 9, 13, 14, 23, 24, Aug. 27-30, and Sept. 11-18, 30.

Reservoirs in Delaware River basin

- 01416900 PEPACTON RESERVOIR.--Lat 42°04'38", long 74°58'04", Delaware County, N.Y., near release chamber at Downsview Dam on East Branch Delaware River, 1.6 miles east of Downsview, N.Y. Drainage area, 371 sq mi. Period of record, September 1954 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by Board of Water Supply, City of New York). Extremes for current year: Maximum contents observed, 151,374 mil gal May 14 (elevation, 1,280.85 ft); minimum observed, 93,936 mil gal Feb. 13 (elevation, 1,245.67 ft). Extremes for period of record: Maximum contents observed, 154,027 mil gal Apr. 5, 1960 (elevation, 1,282.27 ft); minimum observed (after first filling), 9,575 mil gal Dec. 26, 1964 (elevation, 1,151.92 ft).
- Reservoir is formed by an earthfill, rock-faced dam; storage began Sept. 15, 1954. Usable capacity, 140,190 mil gal between minimum operating level (elevation, 1,152.0 ft) and crest of spillway (elevation, 1,280.0 ft). Capacity: at crest of spillway 149,700 mil gal; at minimum operating level, 9,609 mil gal; at sill of diversion tunnel (elevation, 1,143.0 ft), 6,098 mil gal; in dead storage below release outlet (elevation, 1,126.50 ft), 1,898 mil gal. Figures given herein represent total contents. Reservoir impounds water for diversion through East Delaware Tunnel to Rondout Reservoir on Rondout Creek, in Hudson River basin, for water supply of City of New York; for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master, and for conservation release. No diversion prior to Jan. 6, 1955. Records furnished by Board of Water Supply and Department of Water Resources, City of New York.
- 01424997 CANNONSVILLE RESERVOIR.--Lat 42°03'46", long 75°22'29", Delaware County, N.Y., in emergency gate tower at Cannonville dam on West Branch Delaware River, 1.8 miles southeast of Stilesville, N.Y. Drainage area, 454 sq mi. Period of record, October 1963 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by Board of Water Supply, City of New York). Extremes for current year: Maximum contents observed, 102,738 mil gal Apr. 15 (elevation, 1,152.56 ft); minimum observed, 29,146 mil gal Oct. 15 (elevation, 1,092.18 ft). Extremes for period of record: Maximum contents observed, 103,768 mil gal Mar. 25, 1968 (elevation, 1,153.20 ft); minimum observed (after first filling), 11,901 mil gal Nov. 7, 1968 (elevation, 1,066.24 ft).
- Reservoir is formed by an earthfill, rock-faced dam; storage began Sept. 30, 1963. Usable capacity, 95,706 mil gal between minimum operating level (elevation, 1,040.0 ft) and crest of spillway (elevation, 1,150.0 ft). Capacity, at crest of spillway, 98,618 mil gal; at minimum operating level, 2,912 mil gal; at mouth of inlet channel to diversion tunnel (elevation, 1,035.0 ft), 1,892 mil gal; in dead storage below release outlet (elevation, 1,020.5 ft), 328 mil gal. Figures given herein represent total contents. Impounded water is diverted for New York City water supply via West Delaware Tunnel to Rondout Reservoir in Hudson River basin (see page 135); is released in Delaware River for downstream low flow augmentation as directed by Delaware River Master; and is released for conservation flow in the Delaware River. No diversion prior to January 29, 1964. Records furnished by Board of Water Supply, City of New York.
- REVISIONS:--The figure of change for contents (equivalent in cfs) for July, 1966 has been revised to -1,420 cfs, superseding figure published in WRD New York, 1967.
- 01428900 PROMPTON RESERVOIR.--Lat 41°35'18", long 75°19'39", Wayne County, Pa., at dam on West Branch Lackawaxen River, 0.3 mile north of Prompton, Pa., 0.4 mile upstream from highway bridge, and 0.5 mile upstream from Van Aken Creek. Drainage area, 59.6 sq mi. Period of record, December 1960 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Extremes for current year: Maximum contents, 5,000 acre-ft Mar. 17 (elevation, 1,130.20 ft); minimum, 3,500 acre-ft July 28, 29 (elevation, 1,125.30 ft). Extremes for period of record: Maximum contents, 6,120 acre-ft Mar. 10, 1964 (elevation, 1,133.40 ft); minimum (after first filling), 2,920 acre-ft Sept. 27, 1964 (elevation, 1,123.20 ft).
- Reservoir formed by an earth and rockfill dam with ungated bed rock spillway at elevation 1,205.00 ft. Storage began July 1960. Capacity at elevation 1,205.00 ft is 51,700 acre-ft. Ordinary minimum (conservation) pool elevation, 1,125.00 ft (capacity, 3,420 acre-ft). Reservoir is used for flood control and recreation. Figures given herein represent total contents. Regulation is accomplished by discharge through an ungated tunnel. Records furnished by Corps of Engineers.
- 01429400 GENERAL EDGAR JADWIN RESERVOIR.--Lat 41°36'44", long 75°15'55", Wayne County, Pa., at dam on Dyberry Creek, 0.45 mile upstream from unnamed tributary, 2.4 miles north of Honesdale, Pa., and 2.9 miles upstream from mouth. Drainage area, 64.5 sq mi. Period of record, October 1959 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Extremes for current year: Maximum contents, 1,820 acre-ft Feb. 14 (elevation, 999.50 ft); minimum, no storage many times. Extremes for period of record: Maximum contents, 4,000 acre-ft Apr. 1, 1962 (elevation, 1,009.0 ft); minimum, no storage many times.
- Reservoir formed by an earth and rockfill dam with ungated, concrete spillway at elevation 1,053.00 ft. Storage began in October 1959. Capacity at elevation 1,053.00 ft is 24,500 acre-ft. Reservoir is used for flood control. Figures given herein represent total contents. Regulation is accomplished by discharge through an ungated tunnel. Records furnished by Corps of Engineers.
- 01431700 LAKE WALLENPAUPACK.--Lat 41°27'35", long 75°11'10", Wayne County, Pa., at dam on Wallenpaupack Creek at Wilsonville, Pa., 1.2 miles south of Hawley and 1.5 miles upstream from mouth. Drainage area, 228 sq mi. Period of record, January 1926 to current year. Gage, vertical staff. Datum of gage is at mean sea level (levels by Pennsylvania Power and Light Co.). Extremes for current year: Maximum contents, 142,780 acre-ft May 16, 17 (elevation, 1,187.40 ft); minimum, 70,640 acre-ft Feb. 12, 13 (elevation, 1,174.20 ft). Extremes for period of record: Maximum contents, 178,200 acre-ft Aug. 19-21, 1955 (elevation, 1,193.45 ft); minimum (after first filling), 12,280 acre-ft Mar. 28, 1958 (elevation, 1,162.60 ft).
- Reservoir formed by concrete gravity-type and earthfill dam, with concrete spillway in two sections, at elevation 1,176.00 ft. Spillway equipped with roller gate, 14 ft high, on each section. Storage began Nov. 3, 1925; water in reservoir first reached minimum pool elevation in January 1926. Total capacity at elevation, 1,190.00 ft (top of gates) is 209,300 acre-ft of which 157,800 acre-ft is controlled storage above elevation, 1,160.0 ft (minimum pool). Reservoir is used for generation of hydroelectric power. Figures given herein represent usable contents. Records furnished by Pennsylvania Power and Light Co.
- 01433000 SWINGING BRIDGE RESERVOIR.--Lat 41°34'25", long 74°47'00", Sullivan County, N.Y., at dam on Mongaup River, 1.8 miles northwest of Fowlersville, N.Y. Drainage area, 118 sq mi. Period of record, January 1930 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by Orange and Rockland Utilities, Inc.). Extremes for current year: Maximum contents, 1,315 mil cu ft Oct. 30 (elevation, 1,068.2 ft); minimum, 693 mil cu ft Feb. 15 (elevation, 1,050.0 ft). Extremes for period of record: Maximum contents, 1,457.4 mil cu ft Mar. 18, 1936, and Oct. 15, 1955 (elevation, 1,071.7 ft); minimum (after first filling), 141.4 mil cu ft Dec. 2, 1938 (elevation, 987.5 ft).
- Reservoir is formed by an earthfill dam. Storage began Jan. 19, 1930. Usable capacity, 1,436.6 mil cu ft between elevations, 1,010.0 ft (minimum operating pool) and 1,071.2 ft (top of flashboards). Capacity below elevation, 1,010.0 ft (minimum operating pool) about 212.7 mil cu ft. Reservoir is used for storage of water for power. Figures given herein represent contents above 1,010.0 ft. Records furnished by Orange and Rockland Utilities, Inc.
- REVISIONS (WATER YEARS).--WSP 1552: 1951-54.

Reservoirs in Delaware River basin--Continued

- 01433100 TORONTO RESERVOIR.--Lat 41°37'15", long 74°49'55", Sullivan County, at dam on Black Lake Creek, 2.5 miles southeast of village of Black Lake, N.Y. Drainage area, 23.2 sq mi. Period of record, January 1926 to current year. Nonrecording gage. Datum of gage is at mean sea level (levels by Orange and Rockland Utilities, Inc.). Extremes for current year: Maximum contents observed, 770 mil cu ft June 14 (elevation, 1,209.6 ft); minimum observed, 197 mil cu ft Oct. 2 (elevation, 1,184.1 ft). Extremes for period of record: Maximum contents observed, 1,171.2 mil cu ft July 20, 1945 (elevation, 1,222.0 ft); minimum observed (after first filling), -26.8 mil cu ft Nov. 15, 1928 (elevation, 1,144.5 ft).
Reservoir is formed by an earthfill dam completed July 24, 1926. Storage began Jan. 13, 1926. Usable capacity, 1,098.2 mil cu ft between elevations 1,165.0 ft (minimum operating pool) and 1,220.0 ft (top of permanent flashboards). Capacity below elevation 1,165.0 ft (minimum operating pool) about 26.8 mil cu ft. Reservoir is used for storage of water for power. Figures given herein represent contents above 1,165.0 ft. Records furnished by Orange and Rockland Utilities, Inc.
REVISIONS (WATER YEARS).--WSP 1552: 1951-54. WSP 1702: 1959(M).
- 01433200 CLIFF LAKE.--Lat 41°35'00", long 74°47'40", Sullivan County, N.Y., at dam on Black Lake Creek, 2.5 miles northwest of Fowlersville, N.Y. Drainage area, 6.46 sq mi (excluding area above Toronto Reservoir). Period of record, January 1939 to current year. Nonrecording gage. Datum of gage is at mean sea level (levels by Orange and Rockland Utilities, Inc.). Extremes for current year: Maximum contents observed, 118 mil cu ft Aug. 6 (elevation, 1,069.8 ft); minimum observed, 23.2 mil cu ft Feb. 3 (elevation, 1,052.6 ft). Extremes for period of record: Maximum contents observed, 145.44 mil cu ft July 30, 31, 1945 (elevation, 1,073.1 ft); minimum observed (after first filling, about -6.54 mil cu ft Mar. 16, 1963 (elevation, 1,058.0 ft).
Reservoir is formed by a concrete gravity-type dam. Storage began Jan. 6, 1939. Usable capacity, 136.06 mil cu ft between elevations 1,043.3 ft (minimum operating pool) and 1,072.0 ft (top of permanent flashboards). Capacity below elevation 1,043.3 ft (minimum operating pool) about 6.54 mil cu ft. Reservoir is used for storage of water for power. Water is received from Toronto and Lebanon Lake Reservoirs and is discharged through a tunnel into Swinging Bridge Reservoir. Figures given herein represent contents above 1,043.3 ft. Records furnished by Orange and Rockland Utilities, Inc.
REVISIONS (WATER YEARS).--WSP 1552: 1951-54.
- 01435900 NEVERSINK RESERVOIR.--Lat 41°49'40", long 74°38'21", Sullivan County, at a gatehouse at Neversink Dam on Neversink River, 2 miles southwest of Neversink, N.Y. Drainage area, 91.8 sq mi. Period of record, June 1953 to current year. Nonrecording gage read daily at 0900. Datum of gage is at mean sea level (levels by Board of Water Supply, City of New York). Extremes for current year: Maximum contents observed, 37,290 mil gal May 19 (elevation, 1,440.29 ft); minimum observed, 13,047 mil gal Oct. 22 (elevation, 1,376.42 ft). Extremes for period of record: Maximum contents observed, 37,978 mil gal Apr. 25, 1961 (elevation, 1,441.67 ft); minimum observed (after first filling), 1,985 mil gal Nov. 25, 1964 (elevation, 1,316.98 ft).
Reservoir is formed by an earthfill, rock-faced dam; storage began June 2, 1953. Usable capacity, 34,941 mil gal between minimum operating level (elevation, 1,319.0 ft) and crest of spillway (elevation, 1,440.0 ft). Capacity, at crest of spillway 37,146 mil gal; at minimum operating level 2,205 mil gal; dead storage below diversion sill and outlet sill (elevation, 1,314.0 ft), 1,680 mil gal. Figures given herein represent total contents. Reservoir impounds water for diversion through Neversink-Grahamsville Tunnel to Rondout Reservoir on Rondout Creek, in Hudson River basin, for water supply of City of New York; for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master, and for conservation release. No diversion prior to Dec. 3, 1953. Records furnished by Board of Water Supply, and Department of Water Resources, City of New York.
- 01447780 FRANCIS E. WALTER RESERVOIR (formerly published as Bear Creek Reservoir).--Lat 41°06'45", long 75°43'15", Luzerne County, Pa., at dam on Lehigh River, 2,200 ft downstream from Bear Creek and 5 miles northwest of White Haven. Drainage area, 289 sq mi. Period of record, February 1961 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Extremes for current year: Maximum contents, 14,910 acre-ft Oct. 10 (elevation, 1,357.20 ft); minimum, 1,850 acre-ft Oct. 20 (elevation, 1,298.60 ft). Extremes for period of record: Maximum contents, 36,920 acre-ft May 30, 1966 (elevation, 1,391.70 ft); minimum (after establishment of conservation pool), 1,510 acre-ft Apr. 23, 1962 (elevation, 1,295.10 ft).
Reservoir is formed by an earthfill embankment covered with a rock shell, with concrete spillway at elevation, 1,450 ft. Storage began Feb. 17, 1961; water in reservoir first reached conservation pool elevation in June 1961. Total capacity at elevation 1,450.0 ft is 110,700 acre-ft of which 108,700 acre-ft is controlled storage above elevation 1,300.0 ft (conservation pool). Dead storage is 2,000 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow regulated by three gates and low flow by-pass system. Records furnished by Corps of Engineers.
- 01449400 PENN FOREST RESERVOIR.--Lat 40°55'45", long 75°33'45", Carbon County, Pa., at dam on Wild Creek near Hatchery, Pa., 0.7 mile upstream from Hatchery, 2.6 miles upstream from Wild Creek Dam, 4.4 miles upstream from mouth, and 10 miles northeast of Palmerton. Drainage area, 16.5 sq mi. Period of record, October 1958 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by city of Bethlehem). Extremes for current year: Maximum contents, 20,290 acre-ft Mar. 3 (elevation, 1,000.53 ft); minimum, 15,650 acre-ft Oct. 10 (elevation, 990.01 ft). Extremes for period of record: Maximum contents, 20,460 acre-ft Apr. 2, 1970 (elevation, 1,000.83 ft); minimum, 176 acre-ft Oct. 6, 1965 (elevation, 902.40 ft).
Reservoir is formed by an earthfill dam, with ungated concrete spillway at elevation, 1,000.00 ft. Storage began in October 1958. Capacity at elevation 1,000.00 ft is 19,980 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation is done by valves on pipe through dam. Records furnished by city of Bethlehem. Figures given herein include diversion, since October 1969, from Tunkhannock Creek basin into Wild Creek basin.
- 01449700 WILD CREEK RESERVOIR.--Lat 40°53'50", long 75°33'50", Carbon County, Pa., at dam on Wild Creek near Hatchery, Pa., 1.6 miles upstream from mouth, 2.4 miles south of Hatchery, and 7.5 miles northeast of Palmerton. Drainage area, 22.2 sq mi. Period of record, January 1941 to current year. Gage, nonrecording. Datum of gage is at mean sea level (levels by city of Bethlehem). Extremes for current year: Maximum contents, 12,210 acre-ft Mar. 1 (elevation, 820.70 ft); minimum, 7,560 acre-ft Oct. 1 (elevation, 802.33 ft). Extremes for period of record: Maximum contents, 12,880 acre-ft May 23, 1942 (elevation, 822.93 ft); minimum (after first filling), 2,680 acre-ft Nov. 15, 1966 (elevation, 774.10 ft).
Reservoir is formed by earthfill dam, with concrete ungated spillway at elevation, 820.00 ft. Storage began Jan. 27, 1941; water in reservoir first reached minimum pool elevation in February 1941. Total capacity at elevation 820.00 ft is 12,500 acre-ft of which 12,000 acre-ft is controlled storage. Reservoir is used for municipal water supply. Figures given herein represent usable contents. Regulation is done by valves on pipe through dam. Records furnished by city of Bethlehem.

Reservoirs in Delaware River basin--Continued

- 01449790 BELTZVILLE LAKE.--Lat 40°50'56", long 75°38'19", Carbon County, Pa., at dam on Pohopoco Creek, 0.45 mile upstream from gaging station on Pohopoco Creek, 0.55 mile upstream from Sawmill Run, and 2.3 miles northeast of Parryville, Pa. Drainage area, 96.3 sq mi. Period of record, February to September 1971. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Extremes for current year: Maximum contents during period February to September, 28,480 acre-ft Sept. 30 (elevation, 612.40 ft); minimum, 136 acre-ft Feb. 8 (elevation, 516.20 ft).
- Reservoir formed by an earth and rockfill dam with ungated, partially lined spillway at elevation, 651.00 ft. Storage began Feb. 8, 1971. Capacity at elevation 651.00 ft is 68,300 acre-ft. Ordinary minimum (conservation) pool elevation, 628.00 ft (capacity, 41,250 acre-ft). Dead storage is 1,390 acre-ft. Reservoir is used for recreation, flood control, low-flow augmentation, and water supply. Figures given herein represent total contents. Regulation is accomplished by a multi-level water-quality outlet system and two flood-control gates. Records furnished by Corps of Engineers.
- 01455400 LAKE HOPATCONG.--Lat 40°55'00", long 74°39'50", Morris County, in gatehouse of Lake Hopatcong Dam on Musconetcong River at Landing. Drainage area, 25.6 sq mi. Period of record, February 1887 to current year. Monthend contents only prior to October 1950, published in WSP 1302. Gage, water-stage recorder. Prior to June 24, 1928, daily readings obtained by measuring from high-water mark to water surface converted to gage height, present datum. Datum of gage is 914.57 ft above mean sea level (New Jersey Geological Survey datum). Extremes for current year: Maximum contents, 8,416,000,000 gal Aug. 29 (gage height, 10.13 ft); minimum, 2,474,000,000 gal Oct. 23 (gage height, 2.28 ft), lake drawn down for dock repairs along shore. Extremes for period of record: Maximum contents 8,528,000,000 gal Aug. 6, 1969 (gage height, 10.26 ft); minimum, 1,525,000,000 gal Dec. 29, 1960 (gage height, 0.65 ft).
- Lake is formed by concrete spillway and earthfill dam completed about 1828. Crest of spillway was lowered 0.11 ft in 1925. Usable capacity, 7,459,000,000 gal between gage height -2.6 ft (sills of gates) and 9.00 ft (crest of spillway). Flow regulated by four gates (3 by 5 ft). One 24-inch pipe with gate valve to recreation fountain 250 ft downstream from dam. Dead storage, about 8,117,000,000 gal. Figures given herein represent usable capacity. Lake used for recreation.
- 01469200 STILL CREEK RESERVOIR.--Lat 40°51'25", long 75°59'30", Schuylkill County, Pa., at dam on Still Creek, 1 mile upstream from mouth, and 2.3 miles north of Hometown. Drainage area, 8.5 sq mi. Period of record, January 1933 to current year. Staff gage. Datum of gage is at mean sea level (levels by Panther Valley Water Co.). Extremes for current year: Maximum contents, 8,380 acre-ft Mar. 3 (elevation, 1,182.29 ft); minimum, 6,600 acre-ft Oct. 21, 22 (elevation, 1,176.00 ft). Extremes for period of record: Maximum contents, 8,570 acre-ft Oct. 15, 1955 (elevation, 1,182.92 ft), but may have been greater during 1950 and 1951 water years; minimum, 390 acre-ft Feb. 26, 1933 (elevation, 1,132.00 ft).
- Reservoir formed by earthfill dam, with ungated concrete spillway at elevation 1,182.00 ft. Storage began in February 1933. Capacity at elevation 1,182.00 ft is 8,290 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation is done by valves on pipe through dam. Records furnished by Panther Valley Water Co.
- 01472200 GREEN LANE RESERVOIR.--Lat 40°20'30", long 75°28'45", Montgomery County, Pa., at dam on Perkiomen Creek at Green Lane, Pa., 0.4 mile west of Green Lane and 2.1 miles upstream from Unami Creek. Drainage area, 70.9 sq mi. Period of record, December 1956 to current year. Gage, water-stage recorder. Datum of gage is at mean sea level (levels by Philadelphia Suburban Water Co.). Extremes for current year: Maximum contents, 14,940 acre-ft Aug. 28 (elevation, 287.70 ft); minimum, 10,530 acre-ft Oct. 21 (elevation, 282.25 ft). Extremes for period of record: Maximum contents, 15,430 acre-ft Nov. 27, 1961 (elevation, 288.25 ft); minimum (after first filling), 1,270 acre-ft Aug. 25, 1957 (elevation, 251.60 ft).
- Reservoir formed by concrete, gravity-type dam, with ungated spillway at elevation 286.00 ft. Storage began Dec. 21, 1956. Capacity at spillway level (elevation, 286.00 ft), 13,430 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation is done by valves on pipe through dam. Records furnished by Philadelphia Suburban Water Co.

DELAWARE RIVER BASIN

Reservoirs in Delaware River basin--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in cfs)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in cfs)
01416900 Pepacton Reservoir						
Sept. 30.....	1,252.65	104,080	-	1,096.64	33,066	-
Oct. 31.....	1,251.69	102,645	-71.6	1,100.76	36,934	+193
Nov. 30.....	1,250.73	101,223	-73.3	1,109.64	46,011	+468
Dec. 31.....	1,248.56	98,055	-158	1,118.45	55,974	+497
CAL YR 1970.....	-	-	-68.0	-	-	-23.5
Jan. 31.....	1,246.63	95,292	-138	1,123.48	62,032	+302
Feb. 28.....	1,253.02	104,634	+516	1,135.23	77,196	+838
Mar. 31.....	1,267.98	128,560	+1,190	1,150.00	98,618	+1,070
Apr. 30.....	1,280.35	150,448	+1,130	1,151.09	100,372	+90.5
May 31.....	1,279.55	148,972	-73.6	1,150.55	99,502	-43.5
June 30.....	1,278.00	146,135	-146	1,134.04	75,607	-1,230
July 31.....	1,270.87	133,502	-630	1,109.32	45,674	-1,490
Aug. 31.....	1,263.77	121,548	-597	1,105.36	41,513	-208
Sept. 30.....	1,255.44	108,315	-682	1,094.32	30,967	-544
WTR YR 1971.....	-	-	+17.9	-	-	-8.9
01428900 Prompton Reservoir						
Sept. 30.....	1,125.55	3,570	-	975.21	0	-
Oct. 31.....	1,125.70	3,620	+ .8	975.02	0	0
Nov. 30.....	1,126.10	3,730	+1.8	976.43	0	0
Dec. 31.....	1,125.80	3,640	-1.5	976.27	0	0
CAL YR 1970.....	-	-	- .1	-	-	0
Jan. 31.....	1,125.70	3,620	- .3	975.44	0	0
Feb. 28.....	1,128.10	4,330	+12.8	983.23	169	+3.0
Mar. 31.....	1,126.60	3,870	-7.5	977.70	0	-2.7
Apr. 30.....	1,128.70	4,520	+10.9	977.16	0	0
May 31.....	1,125.90	3,670	-13.8	975.86	0	0
June 30.....	1,125.40	3,530	-2.4	974.82	0	0
July 31.....	1,125.80	3,640	+1.8	976.56	0	0
Aug. 31.....	1,125.80	3,640	0	975.41	0	0
Sept. 30.....	1,125.60	3,590	- .8	975.41	0	0
WTR YR 1971.....	-	-	0	-	-	0
01429400 General Edgar Jadwin Reservoir						
Sept. 30.....	1,125.55	3,570	-	975.21	0	-
Oct. 31.....	1,125.70	3,620	+ .8	975.02	0	0
Nov. 30.....	1,126.10	3,730	+1.8	976.43	0	0
Dec. 31.....	1,125.80	3,640	-1.5	976.27	0	0
CAL YR 1970.....	-	-	- .1	-	-	0
Jan. 31.....	1,125.70	3,620	- .3	975.44	0	0
Feb. 28.....	1,128.10	4,330	+12.8	983.23	169	+3.0
Mar. 31.....	1,126.60	3,870	-7.5	977.70	0	-2.7
Apr. 30.....	1,128.70	4,520	+10.9	977.16	0	0
May 31.....	1,125.90	3,670	-13.8	975.86	0	0
June 30.....	1,125.40	3,530	-2.4	974.82	0	0
July 31.....	1,125.80	3,640	+1.8	976.56	0	0
Aug. 31.....	1,125.80	3,640	0	975.41	0	0
Sept. 30.....	1,125.60	3,590	- .8	975.41	0	0
WTR YR 1971.....	-	-	0	-	-	0
01431700 Lake Wallenpaupack						
Sept. 30.....	1,176.00	80,100	-	1,062.3	1,092	-
Oct. 31.....	1,175.70	78,510	-25.9	1,067.9	1,303	+78.8
Nov. 30.....	1,180.00	101,600	+388	1,067.3	1,276	-10.4
Dec. 31.....	1,180.70	105,380	+61.5	1,062.5	1,099	-66.1
CAL YR 1970.....	-	-	-22.8	-	-	+10.9
Jan. 31.....	1,177.10	85,940	-316	1,054.3	822	-103
Feb. 28.....	1,178.20	91,880	+107	1,060.8	1,045	+92.2
Mar. 31.....	1,183.50	120,800	+470	1,057.0	909	-50.7
Apr. 30.....	1,186.20	135,940	+254	1,065.0	1,191	+109
May 31.....	1,187.20	141,640	+92.7	1,066.0	1,229	+14.2
June 30.....	1,186.40	137,080	-76.6	1,063.9	1,150	-30.5
July 31.....	1,186.30	136,510	-25.5	1,064.2	1,161	+4.1
Aug. 31.....	1,181.20	108,100	-462	1,064.5	1,173	+4.5
Sept. 30.....	1,178.00	90,800	-291	1,064.7	1,180	+2.7
WTR YR 1971.....	-	-	+14.8	-	-	+2.8
01433000 Swinging Bridge Reservoir						
Sept. 30.....	1,176.00	80,100	-	1,062.3	1,092	-
Oct. 31.....	1,175.70	78,510	-25.9	1,067.9	1,303	+78.8
Nov. 30.....	1,180.00	101,600	+388	1,067.3	1,276	-10.4
Dec. 31.....	1,180.70	105,380	+61.5	1,062.5	1,099	-66.1
CAL YR 1970.....	-	-	-22.8	-	-	+10.9
Jan. 31.....	1,177.10	85,940	-316	1,054.3	822	-103
Feb. 28.....	1,178.20	91,880	+107	1,060.8	1,045	+92.2
Mar. 31.....	1,183.50	120,800	+470	1,057.0	909	-50.7
Apr. 30.....	1,186.20	135,940	+254	1,065.0	1,191	+109
May 31.....	1,187.20	141,640	+92.7	1,066.0	1,229	+14.2
June 30.....	1,186.40	137,080	-76.6	1,063.9	1,150	-30.5
July 31.....	1,186.30	136,510	-25.5	1,064.2	1,161	+4.1
Aug. 31.....	1,181.20	108,100	-462	1,064.5	1,173	+4.5
Sept. 30.....	1,178.00	90,800	-291	1,064.7	1,180	+2.7
WTR YR 1971.....	-	-	+14.8	-	-	+2.8

Reservoirs in Delaware River basin--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Elevation (feet)†	Contents (millions of cubic feet)	Change in contents (equivalent in cfs)	Elevation (feet)†	Contents (millions of cubic feet)	Change in contents (equivalent in cfs)
	01433100 Toronto Reservoir			01433200 Cliff Lake Reservoir		
Sept. 30.....	1,188.7	275	-	1,063.2	72.3	-
Oct. 31.....	1,187.3	250	+9.3	1,069.1	113	+15.2
Nov. 30.....	1,188.8	277	+10.4	1,067.3	99.3	-5.3
Dec. 31.....	1,192.2	378	+37.7	1,062.6	68.7	-11.4
CAL YR 1970.....	-	-	+2.6	-	-	+1.2
Jan. 31.....	1,194.8	396	-6.7	1,054.2	28.8	-14.9
Feb. 28.....	1,188.5	271	-51.7	1,064.0	77.0	+19.9
Mar. 31.....	1,200.0	516	+91.5	1,062.4	67.5	-3.5
Apr. 30.....	1,205.8	666	+57.9	1,066.4	93.0	+9.8
May 31.....	1,209.1	756	+33.6	1,067.0	97.1	+1.5
June 30.....	1,209.6	770	+5.4	1,064.5	80.5	-6.4
July 31.....	1,201.9	540	-85.9	1,069.2	113	+12.1
Aug. 31.....	1,195.4	409	-48.9	1,066.2	91.6	-8.0
Sept. 30.....	1,193.3	364	-17.4	1,064.7	81.7	-3.8
WTR YR 1971.....	-	-	+2.8	-	-	+3
	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in cfs)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equivalent in cfs)
	01435900 Neversink Reservoir			01447780 Francis E. Walter Reservoir		
Sept. 30.....	1,384.12	15,215	-	1,300.28	2,030	-
Oct. 31.....	1,389.96	16,999	+89.1	1,323.70	5,140	+50.6
Nov. 30.....	1,396.62	19,177	+112	1,300.60	2,060	-51.8
Dec. 31.....	1,394.09	18,331	-42.2	1,301.10	2,110	+8
CAL YR 1970.....	-	-	-4.7	-	-	-3
Jan. 31.....	1,388.72	16,610	-85.8	1,300.10	2,010	-1.6
Feb. 28.....	1,387.04	16,091	-28.6	1,304.80	2,490	+8.6
Mar. 31.....	1,400.05	20,360	+213	1,300.50	2,050	-7.2
Apr. 30.....	1,429.74	32,282	+615	1,302.00	2,200	+2.5
May 31.....	1,438.08	36,203	+196	1,302.90	2,290	+1.5
June 30.....	1,432.37	32,490	-140	1,298.80	1,870	-7.1
July 31.....	1,413.55	25,412	-403	1,303.80	2,380	+8.3
Aug. 31.....	1,393.71	18,205	-360	1,300.10	2,010	-6.0
Sept. 30.....	1,390.51	17,173	-53.2	1,300.70	2,070	+1.0
WTR YR 1971.....	-	-	+8.3	-	-	+1
	Elevation (feet)†	Contents (acre- feet)	Change in contents (equivalent in cfs)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equivalent in cfs)
	01449400 Penn Forest Reservoir			01449700 Wild Creek Reservoir		
Sept. 30.....	996.50	18,400	-	802.33	7,560	-
Oct. 31.....	990.02	15,650	-44.7	812.07	9,890	+37.9
Nov. 30.....	996.48	18,390	+46.1	818.32	11,620	+29.1
Dec. 31.....	1,000.17	20,080	+27.5	815.21	10,760	-14.0
CAL YR 1970.....	-	-	0	-	-	+4
Jan. 31.....	1,000.12	20,050	-5	815.61	10,870	+1.8
Feb. 28.....	1,000.49	20,260	+3.8	820.68	12,200	+23.9
Mar. 31.....	1,000.16	20,070	-3.1	820.13	12,040	-2.6
Apr. 30.....	1,000.17	20,080	+2	819.94	11,990	-8
May 31.....	1,000.31	20,160	+3.1	820.37	12,110	+2.0
June 30.....	1,000.12	20,050	-1.8	818.64	11,710	-6.7
July 31.....	1,000.09	20,030	-3	813.62	10,320	-22.6
Aug. 31.....	1,000.00	19,980	-8	810.81	9,540	-12.7
Sept. 30.....	997.12	18,680	-21.8	815.60	10,870	+22.4
WTR YR 1971.....	-	-	+4	-	-	+4.6

DELAWARE RIVER BASIN

Reservoirs in Delaware River basin--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Gage Height (feet)†	Contents (million gallons)	Change in contents (equivalent in cfs)	Elevation (feet)‡	Contents (acre-feet)	Change in contents (equivalent in cfs)
01455400 Lake Hopatcong				01469200 Still Creek Reservoir		
Sept.30.....	6.63	5,544	-	1,178.00	7,150	-
Oct. 31.....	a3.16	3,035	-125	1,176.50	6,740	-6.7
Nov. 30.....	a2.96	2,904	-6.8	1,182.02	8,290	+26.1
Dec. 31.....	a3.50	3,261	+17.8	1,182.01	8,290	0
CAL YR 1970.....	-	-	-.84	-	-	+2.1
Jan. 31.....	3.79	3,458	+9.8	1,181.92	8,260	-.5
Feb. 28.....	5.91	4,990	+84.6	1,182.17	8,340	+1.4
Mar. 31.....	8.15	6,758	+88.2	1,182.04	8,300	-.7
Apr. 30.....	9.15	7,585	+42.7	1,181.83	8,240	-1.0
May 31.....	9.29	7,703	+5.9	1,182.04	8,300	+1.0
June 30.....	8.93	7,401	-15.6	1,181.62	8,180	-2.0
July 31.....	8.88	7,359	-2.1	1,180.75	7,920	-4.2
Aug. 31.....	9.76	8,100	+37.0	1,181.42	8,120	+3.3
Sept.30.....	8.88	7,359	-37.0	1,181.58	8,160	+7
WTR YR 1971.....	-	-	+7.7	-	-	+1.4
01472200 Green Lane Reservoir				01449790 Beltzville Lake		
Sept.30.....	283.32	11,260	-	-	-	-
Oct. 31.....	284.90	12,460	+19.5	-	-	-
Nov. 30.....	285.99	13,420	+16.1	-	-	-
Dec. 31.....	285.90	13,340	-1.3	-	-	-
CAL YR 1970.....	-	-	-.2	-	-	-
Jan. 31.....	285.93	13,370	+5	-	-	-
Feb. 28.....	286.24	13,640	+4.9	534.40	1,120	+20.2
Mar. 31.....	286.04	13,470	-2.8	560.10	5,480	+70.9
Apr. 30.....	286.00	13,430	-.7	579.00	11,120	+94.8
May 31.....	286.16	13,570	+2.3	595.60	18,380	+118
June 30.....	285.55	13,030	-9.1	601.70	21,650	+55.0
July 31.....	285.47	12,960	-1.1	602.50	22,110	+7.5
Aug. 31.....	286.09	13,510	+8.9	606.10	24,260	+35.0
Sept.30.....	285.64	13,110	-6.7	612.40	28,480	+70.9
WTR YR 1971.....	-	-	+2.6	-	-	+39.3

† Elevation at 0900 hours on first day of following month.

‡ Elevation or gage height at 2400 hours.

a Observed.

DIVERSIONS AND WITHDRAWALS

Withdrawals from the Delaware River basin

- 01415200 Diversion from Pepacton Reservoir, N.Y., (see p. 129) on East Branch Delaware River to Rondout Reservoir on Rondout Creek, in Hudson River basin, for municipal supply of City of New York. No diversion prior to Jan. 6, 1955. Records furnished by Board of Water Supply and Department of Water Resources, City of New York. REVISIONS.--The figure of diversion for April 1970 has been revised to 92.7 cfs.
- 01423900 Diversion from Cannonsville Reservoir, N.Y., (see p. 129) on West Branch Delaware River to Rondout Reservoir on Rondout Creek, in Hudson River basin, for municipal supply of City of New York. No diversion prior to Jan. 29, 1964. Records furnished by Board of Water Supply, City of New York.
- 01435800 Diversion from Neversink Reservoir, N.Y., (see p. 130) on Neversink River to Rondout Reservoir on Rondout Creek, in Hudson River basin, for municipal supply of City of New York. No diversion prior to Dec. 3, 1953. Records furnished by Board of Water Supply and Department of Water Resources, City of New York.
- 01436520 Village of Woodbridge, N.Y., diverts water from East Pond Reservoir, tributary to Neversink River, for municipal supply outside of basin. Records furnished by Delaware River Basin Commission.
- 01437360 Diversion from Bear Swamp Reservoir, tributary to Neversink River by the Otisville, New York State Training School for water supply outside of basin. Records furnished by Delaware River Basin Commission.
- 01447750 Diversion from Bear Creek, tributary to Lehigh River, by Bear Creek Gas and Water Company for water supply outside of basin. Records furnished by Delaware River Basin Commission.
- 01448830 Diversion from Hazle Creek Watershed by Hazleton Joint Sewerage Authority for municipal water supply. Waste effluent from the municipal water system is released to the Susquehanna River. Records furnished by Delaware River Basin Commission.
- 01460500 Diversion by Delaware and Raritan Canal from Delaware River at Raven Rock, N.J., for municipal and industrial use. Water is discharged into the Raritan River at New Brunswick, N.J. Records of discharge are collected on the Delaware and Raritan Canal at Kingston. (see station 01460500).
- 01467480 Diversion from Mud Run, tributary to Schuylkill River by Mahanoy Township Authority for municipal use outside of basin. Records furnished by Delaware River Basin Commission.

Withdrawals by City of New York

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Month	Pepacton Reservoir	Cannonsville Reservoir	Neversink Reservoir
October.....	686	0	231
November.....	621	0	153
December.....	622	76.9	201
CAL YR 1970.....	567	126	217
January.....	579	197	200
February.....	388	402	244
March.....	86.2	530	41.0
April.....	341	253	3.2
May.....	659	286	191
June.....	283	674	211
July.....	608	176	430
August.....	696	77.4	439
September.....	698	385	218
WTR YR 1971.....	524	253	214

Miscellaneous withdrawals from basin

	East Pond Reservoir	Bear Swamp Reservoir	Bear Creek	Hazle Creek	Delaware & Raritan Canal	Mud Run
October.....	.5	.3	0	3.1	93.3	.08
November.....	.5	.3	0	3.1	93.6	.08
December.....	.5	.3	0	3.1	99.3	.08
CAL YR 1970.....	.55	.38	0	3.03	98.0	.063
January.....	.5	.3	0	3.1	95.3	.08
February.....	.5	.5	0	3.1	116	.08
March.....	.5	.3	14	3.1	124	.08
April.....	.5	.3	8.48	3.1	120	.08
May.....	.5	.3	0	3.1	110	.06
June.....	.5	.3	0	3.1	112	.03
July.....	.6	.3	0	3.1	120	0
August.....	.6	.3	0	3.1	104	.02
September.....	.5	.3	0	3.1	52.4	.03
WTR YR 1971.....	.52	.32	1.87	3.10	103	.058

DELAWARE RIVER BASIN

Diversions and Withdrawals--Continued

Diversions within the Delaware River basin

- 01463480 Diversion from the Delaware River at the Morrisville Filtration Plant for municipal supply, by the Borough of Morrisville, Pa. The water withdrawn at this site is returned to the basin after treatment, only slightly diminished by consumptive uses and losses in transmission. Records furnished by the Borough of Morrisville, Pa.
- 01463500 Diversion from the Delaware River just above the Trenton gaging station for municipal supply by the city of Trenton, N.J. The water being withdrawn is returned to the basin after treatment only slightly diminished by consumptive uses and losses in transmission. Records furnished by the city of Trenton.
- 01467030 Diversion from the Delaware River at the Torresdale Intake for municipal supply, by the city of Philadelphia, Pa. The water being withdrawn at this intake is returned to the basin after treatment only slightly diminished by consumptive uses and losses in transmission. Records furnished by the Delaware River Basin Commission.
- 01474500 Diversion from the Schuylkill River at the Belmont and Queen Lanes Intakes for municipal supply, by the city of Philadelphia, Pa. The water being withdrawn at these intakes is returned after treatment within the Delaware River basin only slightly diminished by consumptive uses and losses in transmission. Records furnished by the Delaware River Basin Commission.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Month	Withdrawal	Withdrawal	Withdrawal		
	Borough of	City of	City of		
	<u>Morrisville</u>	<u>Trenton</u>	<u>Schuylkill River</u>	<u>Philadelphia</u>	<u>Delaware River</u>
			<u>Belmont</u>	<u>Queen Lane</u>	<u>Torresdale</u>
October.....	2.8	58.7	114	158	325
November.....	2.7	56.0	101	139	319
December.....	2.9	58.4	102	141	312
CAL YR 1970:.....	2.7	60.7	111	155	334
January.....	3.0	61.0	107	142	323
February.....	3.1	63.7	108	145	345
March.....	3.0	64.8	105	142	330
April.....	3.0	61.8	108	139	320
May.....	2.9	63.5	108	136	314
June.....	2.6	69.5	128	176	367
July.....	3.3	70.9	127	187	370
August.....	2.9	66.5	122	179	348
September.....	2.9	64.9	114	169	328
WTR YR 1971.....	2.9	63.3	112	154	333

Diversions imported into basin

- 01367630 Water diverted from Morris Lake, tributary to the Walkkill River, by the Newton Water and Sewer Authority for municipal use. After use, the water is released into the Paulins Kill (Delaware River basin). Records furnished by the Delaware River Basin Commission.
- 01578420 Water diverted from West Branch Octoraro Creek at the McCray Plant of the Octoraro Water Co., for municipal use. After use, the water is released into the Delaware River basin. Records furnished by the Delaware River Basin Commission.
- 01578450 Water diverted from Octoraro Lake by Chester Water Authority for municipal use. After use, the water is released into the Delaware River basin. Records furnished by the Delaware River Basin Commission.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Month	Morris Lake	Octoraro Creek	
		Octoraro Water Co.	Chester Water Authority
October.....	1.44	2.63	39.6
November.....	1.30	2.61	41.9
December.....	1.30	2.66	42.4
CAL YR 1970.....	1.36	2.62	43.5
January.....	1.30	3.03	45.0
February.....	1.30	2.17	45.9
March.....	1.31	2.91	41.3
April.....	1.31	3.00	40.1
May.....	1.30	2.61	39.1
June.....	1.33	2.88	42.9
July.....	1.44	2.75	47.6
August.....	1.45	2.31	44.2
September.....	1.45	2.29	43.3
WTR YR 1971.....	1.35	2.65	42.8

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 discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

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 ground-water 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

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Discharge (cfs)
Hudson River basin						
01367750	Beaver Run near Hamburg, N. J.	Lat 41°10'52", long 74°35'27", Sussex County, on State Route 23, 1.0 mile upstream from mouth and 2.2 miles north of Hamburg.	5.59	1966-71	4-14-71	11.2
01367850	West Branch Papakating Creek at McCoys Corner, N. J.	Lat 41°11'49", long 74°37'55", Sussex County, 0.8 mile upstream from mouth, 1.7 miles southwest of intersection of State Routes 23 and 284 at Sussex.	11.0	1967-71	4-14-71	15.2
01367890	Clove Brook above Clove Acres Lake, at Sussex, N. J.	Lat 41°13'13", long 74°36'54", Sussex County, on road to Libertyville, 0.1 mile northwest of fork from State Route 23 at Sussex.	19.2	1967-71	4-14-71	33.6
Hackensack River basin						
*01377475	Musquapsink Brook near Westwood, N. J.	Lat 40°59'41", long 74°03'42", Bergen County, at culvert on Pascack Road in Washington Borough, 1.5 miles west of Westwood and 5.3 miles upstream from mouth.	2.16	1964-71	4-14-71	3.22
*01378350	Tenakill Brook at Cresskill, N. J.	Lat 40°56'30", long 74°57'52", Bergen County, at bridge on Madison Avenue in Cresskill, 0.15 mile west of Erie Lackawanna Railroad station and 3.3 miles upstream from Oradell Reservoir.	3.01	1964-71	4-14-71	2.32
*01378385	Tenakill Brook at Closter, N. J.	Lat 40°58'29", long 73°58'06", Bergen County, at bridge on High Street in Closter, 0.7 mile upstream from mouth.	8.56	1964-71	4-14-71	11.5
01378520	Hirshfeld Brook at New Milford, N. J.	Lat 40°56'49", long 74°01'00", Bergen County, at bridge on The Boulevard in New Milford, 0.45 mile upstream from mouth and 0.7 mile west of Dumont.	a5	1965-71	4-13-71	2.97
01378530	French Brook at New Bridge, N. J.	Lat 40°55'00", long 74°01'25", Bergen County, at bridge on New Bridge Road in New Bridge, 0.45 mile upstream from mouth and 1.6 miles north of Teaneck.	a1	1965-71	4-13-71	.57

See footnotes at end of table, p. 146.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Measurements Discharge (cfs)
Hackensack River basin--Continued						
01378560	Coles Brook at Hackensack, N. J.	Lat 40°54'40", long 74°02'26", Bergen County, at bridge on Main Street in Hackensack, 0.8 mile upstream from mouth and 1.9 miles northwest of Teaneck.	a7	1965-71	4-13-71	4.14
*01378590	Metzler Brook at Englewood, N. J.	Lat 40°54'29", long 73°59'13", Bergen County, at bridge on Lantana Avenue in Englewood, 1.6 miles upstream from mouth.	1.54	1964-71	4-14-71	1.18
*01378615	Wolf Creek at Ridgefield, N. J.	Lat 40°49'45", long 74°00'14", Bergen County, at bridge on Clark Avenue in Ridgefield, 0.9 mile upstream from mouth.	1.18	1964-71	4-13-71	1.23
Passaic River basin						
01379700	Rockaway River at Berkshire Valley, N. J.	Lat 40°55'51", long 74°35'42", Morris County, at bridge on Berkshire Valley Road in Berkshire Valley, 2.7 miles upstream from Stephens Brook, and 3.8 miles northwest of Dover.	24.4	1960-69, 1971	4-14-71	89.0
01380050	Hibernia Brook at outlet of Lake Telemark, N. J.	Lat 40°57'32", long 74°30'06", Morris County, at bridge at outlet of Lake Telemark, 1.0 mile north of Hibernia and 3.2 miles upstream from mouth.	a2.6	1966-71	4-14-71	8.94
01381400	Whippany River near Morristown, N. J.	Lat 40°48'44", long 74°30'44", Morris County, at bridge on Sussex Avenue, 1.9 miles northwest of Morristown and 2.7 miles upstream from Lake Pocahontas Dam.	14.0	1964-71	4-14-71	30.9
01381470	Whippany River tributary No. 2 at Greystone Park State Hospital, N. J.	Lat 40°50'13", long 74°30'08", Morris County, 0.5 mile above Graniss Avenue at Greystone Park State Hospital, 0.8 mile upstream from mouth.	1.39	1967-71	4-14-71	3.29
01381490	Whippany River tributary at Morris Plains, N. J.	Lat 40°18'50", long 74°29'38", Morris County, at bridge on Lake Road, 0.1 mile upstream from mouth and 0.8 mile south of Morris Plains.	7.77	1966-71	4-14-71	18.7
*01381900	Passaic River at Pine Brook, N. J.	Lat 40°51'45", long 74°19'18", Morris County, at bridge on U.S. Route 46, 0.5 mile east of Pine Brook and 1.3 miles downstream from Rockaway River.	349	1963-69	-	-
01382450	Macopin River at Macopin Reservoir, N. J.	Lat 41°01'33", long 74°24'31", Passaic County, at bridge on northbound lane of State Route 23, 4.0 miles northwest of its intersection with State Route 511 at west edge of Butler.	a5.25	1970-71	4-14-71	6.32
*01387880	Pond Brook at Oakland, N. J.	Lat 41°01'45", long 74°14'13", Bergen County, 0.3 mile upstream from mouth, at bridge on U. S. Route 202, at Oakland.	7.20	1963-71	4-14-71	13.0
01389790	Molly Ann Brook at Paterson, N. J.	Lat 40°54'52", long 74°11'26", Passaic County, at bridge on Totowa Avenue, 0.1 mile upstream from mouth and 1.8 miles west of Paterson.	7.73	1963-71	4-13-71	1.36

See footnotes at end of table, p. 146.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Discharge (cfs)
Passaic River basin--Continued					
01389905	Fleischer Brook at East Paterson, N. J.	Lat 40°53'26", long 74°07'15", Bergen County, at culvert on Martha Street in East Paterson, 1.3 miles upstream from mouth.	1.78	1964-71	4-13-71 1.60
*01390450	Saddle River at Upper Saddle River, N. J.	Lat 41°03'32", long 74°05'44", Bergen County, at culvert on Lake Street in Upper Saddle River, 1.3 miles downstream from Pine Brook.	10.9	1964-71	4-14-71 17.5
*01391110	Saddle River at Paramus, N. J.	Lat 40°56'47", long 74°05'56", Bergen County, at bridge on Dunkerhook Road in Paramus, 0.75 mile downstream from Hohokus Brook.	45.0	1964-69, 1971	4-13-71 95.2
*01391485	Sprout Brook at Rochelle Park N. J.	Lat 40°54'45", long 74°04'47", Bergen County, at bridge on Passaic Street in Rochelle Park, 0.9 mile upstream from mouth.	5.56	1964-71	4-14-71 8.02
01392200	Third River at Nutley, N. J.	Lat 40°49'29", long 74°08'55", Essex County, at bridge on Passaic Avenue, at Kingsland Park at Nutley.	11.4	1963-71	4-13-71 12.3
Raritan River basin					
01396120	South Branch Raritan River at Bartley, N. J.	Lat 40°49'51", long 74°43'30", Morris County, at inlet to diversion to mill pond, 0.7 mile northwest of Bartley, and 3.2 miles southeast of Budd Lake.	12.5	1964-69, 1971	4-13-71 29.5
01396180	Drakes Brook at Bartley, N. J.	Lat 40°48'43", long 74°43'45", Morris County, at bridge on Bartley Road, 0.25 mile upstream from mouth, and 0.9 mile southwest of Bartley.	16.6	1964-69, 1971	4-13-71 31.8
01399200	Lamington River near Ironia, N. J.	Lat 40°50'07", long 74°38'40", Morris County, at bridge on Ironia Road, 1.0 mile downstream from Succasunna Brook, 1.3 miles northwest of Ironia, and 4.4 miles northwest of Chester.	10.9	1964-71	4-13-71 25.9
01399820	Chambers Brook near North Branch, N. J.	Lat 40°37'26", long 74°39'48", Somerset County, at bridge on Love Road, 0.6 mile upstream from mouth and 1.7 miles northeast of North Branch.	4.71	1964-71	4-13-71 4.40
01400540	Millstone River near Manalapan, N. J.	Lat 40°15'44", long 74°25'13", Monmouth County, at bridge on State Highway 33, 1.3 miles west of Manalapan, and 8.4 miles upstream from Rocky Brook.	7.37	1960-62, 1964, 1971	4-12-71 11.6 6-21-71 3.58 8-26-71 2.35
01400560	Millstone River at Applegarth, N. J.	Lat 40°16'28", long 74°28'22", Middlesex County, at bridge on Prospect Plains-Applegarth Road, 0.3 mile south of Applegarth, and 5.2 miles upstream from Rocky Brook.	15.0	1960-62, 1964, 1971	4-12-71 19.7 6-21-71 3.89 8-26-71 1.62
01400580	Millstone River at Hightstown, N. J.	Lat 40°17'25", long 74°31'21", Mercer County, at bridge on U.S. Highway 130, 1.3 miles upstream from Rocky Brook, and 1.4 miles north of Hightstown.	19.7	1960-62, 1964, 1967, 1969, 1971	4-12-71 27.4 6-21-71 4.58 8-26-71 3.13

See footnotes at end of table, p. 146.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Discharge (cfs)
Raritan River basin--Continued						
01400593	Rocky Brook at Hightstown, N. J.	Lat 40°15'40", long 74°30'52", Mercer County, at bridge on first road downstream from New Jersey Turnpike, 0.8 mile southeast of Hightstown and 2.7 miles upstream from mouth.	9.58	1965-71	4-12-71 6-21-71 8-26-71	11.2 5.31 2.79
01400596	Peddle Brook at Hightstown, N. J.	Lat 40°15'36", long 74°31'08", Mercer County, at bridge on Etra Road, 0.2 mile upstream from mouth and 0.7 mile southeast of Hightstown.	3.07	1965-71	4-12-71 6-21-71 8-26-71	4.88 1.31 .82
01400600	Millstone River at Locust Corner, N. J.	Lat 40°17'28", long 74°32'58", Mercer County, at bridge on State Highway 535, 0.7 mile downstream from Rocky Brook, and 0.8 mile northeast of Locust Corner.	37.4	1959-62, 1964, 1971	4-12-71 6-21-71 8-26-71	58.1 9.91 7.36
01400640	Millstone River near Grovers Mills, N. J.	Lat 40°18'48", long 74°35'22", Mercer County, at bridge on Cranbury Neck Road, 1.0 mile east of Grovers Mills, and 1.8 miles upstream from Cranbury Brook.	42.6	1959-62, 1964-65, 1971	4-12-71 6-21-71 8-26-71	70.6 10.5 13.8
01400700	Cranbury Brook at Cranbury Station, N. J.	Lat 40°18'28", long 74°29'13", Middlesex County, at highway bridge on east side of tracks of Penn Central Railroad, 0.5 mile northeast of Cranbury Station, and 1.6 miles upstream from dam at Brainerd Lake in Cranbury.	9.56	1959-62, 1964, 1971	4-12-71 6-21-71 8-26-71	8.66 2.27 1.45
01400810	Big Bear Brook at Princeton Junction, N. J.	Lat 40°19'21", long 74°37'00", Mercer County, at Penn Central Railroad bridge, 0.2 mile upstream from mouth, and 0.7 mile northeast of Princeton Junction.	12.4	1962-67, 1971	6-21-71 8-26-71	2.15 2.74
*01400850	Woodsville Brook at Woodsville, N. J.	Lat 40°22'37", long 74°49'33", Mercer County, at bridge on secondary road, 0.3 mile southeast of Woodsville and 0.8 mile upstream from mouth.	1.78	1957, 1965-71	4-12-71 6-21-71 8-26-71	6.83 .01 0
*01400900	Stony Brook at Glenmoore, N. J.	Lat 40°21'55", long 74°47'14", Mercer County, at bridge on Spur State Highway 518, at Glenmoore, 200 ft east of tracks of Reading Railroad, and 2.0 miles southwest of Hopewell.	17.0	1960-62, 1964, 1971	4-12-71 6-21-71 8-26-71	24.4 1.77 .90
*01400947	Stony Brook at Pennington, N. J.	Lat 40°19'50", long 74°46'05", Mercer County, 25 ft upstream from dam on Stony Brook at Oldmill Road, 1.3 miles east of Pennington and 1.4 miles downstream from Baldwin Creek.	26.5	1965-69, 1971	4-12-71 6-21-71 8-26-71	37.2 1.57 .64
*01401520	Beden Brook near Hopewell, N. J.	Lat 40°23'02", long 74°44'28", Mercer County, at bridge on Aunt Molly Road, 1.1 miles southeast of Hopewell and 2.6 miles southwest of Blawenburg.	6.07	1965-71	4-12-71 6-21-71 8-26-71	10.9 .74 .20
01401590	Rock Brook at Blawenburg, N. J.	Lat 40°24'40", long 74°42'10", Somerset County, at bridge on Great Road, 0.3 mile north of Blawenburg, and 1.7 miles upstream from mouth.	7.96	1962-67, 1971	4-12-71 6-21-71 8-26-71	15.0 .68 .10
*01401600	Beden Brook near Rocky Hill, N. J.	Lat 40°24'52", long 74°39'02", Somerset County, at bridge on U.S. Highway 206, 0.7 mile upstream from Pike Run, and 1.2 miles northwest of Rocky Hill.	27.6	1959-63, 1965, 1971	4-12-71 6-21-71 8-26-71	47.7 3.13 1.67

See footnotes at end of table, p. 146.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Discharge (cfs)
Raritan River basin--Continued						
01401700	Pike Run near Rocky Hill, N. J.	Lat 40°25'12", long 74°38'28", Somerset County, at bridge on State Highway 533, 600 ft upstream from mouth, and 1.4 miles north of Rocky Hill.	22.2	1959-63, 1971	4-12-71 6-21-71 8-26-71	32.1 2.02 1.34
01401800	Ten Mile Run near Blackwells Mills, N. J.	Lat 40°27'23", long 74°35'09", Somerset County, at bridge on Canal Road, 0.4 mile upstream from mouth, and 1.5 miles southwest of Blackwells Mills.	4.36	1960-64, 1971	4-12-71 6-21-71 8-26-71	6.51 .36 .33
01401900	Six Mile Run at Blackwells Mills, N. J.	Lat 40°28'21", long 74°34'17", Somerset County, at bridge on Canal Road, 300 ft upstream from mouth, and 0.2 mile south of Blackwells Mills.	16.1	1960-67, 1971	4-12-71 6-21-71 8-26-71	29.1 1.48 2.94
Navesink River basin						
01407200	Hop Brook at Holmdel, N. J.	Lat 40°20'41", long 74°10'29", Monmouth County, at bridge on State Route 520, 0.5 mile east of South Street in Holmdel and 1.7 miles downstream from Big Brook.	5.72	1969-71	4-5-71	6.36
01407250	Willow Brook at Holmdel, N. J.	Lat 40°20'17", long 74°11'14", Monmouth County, at bridge on South Street in Holmdel, 1.9 miles upstream from Hop Brook.	6.88	1969-71	4-5-71	6.92
01407300	Big Brook at Vanderburg, N. J.	Lat 40°19'32", long 74°11'19", Monmouth County, at bridge on State Route 34 at intersection with Conover Road, 0.8 mile north of Vanderburg and 1.8 miles upstream from Hop Brook.	8.41	1969-71	4-5-71	9.60
01407400	Yellow Brook at Colts Neck, N. J.	Lat 40°17'47", long 74°10'16", Monmouth County, at bridge on Creamery Road, 0.3 mile upstream from Mine Brook, and 0.7 mile north of Colts Neck.	9.71	1969-71	4-5-71	11.7
01407450	Mine Brook at Colts Neck, N. J.	Lat 40°17'29", long 74°10'11", Monmouth County, at bridge on Creamery Road, 0.4 mile northeast of Colts Neck and 0.5 mile upstream from Yellow Brook.	5.48	1969-71	4-5-71	6.53
01407520	Pine Brook at Tinton Falls, N. J.	Lat 40°18'15", long 74°06'05", Monmouth County, at bridge on Tinton Avenue in Tinton Falls, 0.9 mile downstream from Hockhockson Brook.	12.1	1969-71	4-13-71	23.8
Manasquan River basin						
*01407830	Manasquan River near Georgia, N. J.	Lat 40°12'36", long 74°16'41", Monmouth County, at culvert on Jacksons Mill Road, 0.9 mile southwest of State Route 524, and 1.3 miles southwest of Adelphia.	10.6	1966, 1969-71	4-5-71	9.05
01407860	Debois Creek at Adelphia, N. J.	Lat 40°13'02", long 74°15'50", Monmouth County, at bridge on State Route 9, 0.4 mile west of Adelphia and 0.9 mile upstream from mouth.	7.21	1966, 1969-71	4-13-71	16.0
01407890	Manasquan River tributary No. 7 at West Farms, N. J.	Lat 40°12'08", long 74°12'09", Monmouth County, at bridge on State Route 524, 0.3 mile upstream from mouth and 0.8 mile north of West Farms.	3.57	1966, 1969-71	4-13-71	7.26

See footnotes at end of table, p. 146.

Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Discharge (cfs)
Manasquan River basin--Continued						
01407970	Manasquan River tributary near Farmingdale, N. J.	Lat 40°10'47", long 74°11'22", Monmouth County, at bridge on Manassa Road, 1.0 mile upstream from mouth, and 1.6 miles southwest of Farmingdale.	3.38	1964-69, 1971	4-5-71	2.75
*01408015	Mingamahone Brook at Farmingdale, N. J.	Lat 40°11'38", long 74°09'42", Monmouth County, at bridge on Belmar Road in Farmingdale, 0.2 mile northeast of State Route 547.	6.22	1969-71	4-5-71	9.50
01408020	Mingamahone Brook at Squankum, N. J.	Lat 40°09'56", long 74°09'01", Monmouth County, at bridge on State Route 524 at Squankum, 0.5 mile upstream from mouth.	10.7	1966, 1969-71	4-5-71	13.9
*01408030	Manasquan River at Allenwood, N. J.	Lat 40°08'35", long 74°07'03", Monmouth County, at bridge on Hospital Road, 0.9 mile west of Allenwood and 1.5 miles downstream from Mill Run.	63.9	1956-57, 1966, 1969-71	4-5-71	84.0
Forked River basin						
01409080	South Branch Forked River near Forked River, N. J.	Lat 39°48'56", long 74°13'50", Ocean County, at culvert on southbound lane of Garden State Parkway at mile marker 71.9.	1.28	1968-71	4-13-71	4.56
Westecunk Creek basin						
01409280	Westecunk Creek at Stafford Forge, N. J.	Lat 39°40'01", long 74°19'13", Ocean County, at culvert under southbound lane of Garden State Parkway, 0.2 mile south of Stafford Forge and at mile marker 60.3.	16.0	1969-71	4-13-71	37.4
Mullica River basin						
01410150	East Branch Bass River near New Gretna, N. J.	Lat 39°37'23", long 74°26'30", Burlington County, at bridge on Stage Road, 2.2 miles north of New Gretna and 5.3 miles upstream from mouth.	8.11	1969-71	4-14-71	21.6
01410200	West Branch Bass River near New Gretna, N. J.	Lat 39°37'26", long 74°26'47", Burlington County, at bridge on Stage Road, 0.6 mile upstream from mouth and 2.2 miles north of New Gretna.	6.54	1969-71	4-14-71	15.7
Great Egg Harbor River basin						
*01410775	Great Egg Harbor River at Berlin, N. J.	Lat 39°47'39", long 74°56'14", Camden County, at bridge and pumping station on Berlin-Albion Road in Berlin, 8.2 miles upstream from Fourmile Branch.	1.88	1964-71	4-14-71	.71
01410800	Fourmile Branch near Williamstown, N. J.	Lat 39°42'17", long 74°58'53", at bridge on Spur State Highway 536, 1.5 miles northeast of Williamstown, and 2.8 miles upstream from mouth.	a8	1959-64, 1971	6-25-71	*2.88
01411020	Penny Pot Stream near Folsom, N. J.	Lat 39°37'15", long 74°50'48", Atlantic County, at bridge on Fourteenth Street, 2.5 miles southwest of center of Hammonton.	5.35	1968-71	4-14-71	6.62
Fishing Creek basin						
01411400	Fishing Creek at Rio Grande, N. J.	Lat 39°01'39", long 74°53'48", Cape May County, at bridge on State Route 47 at Wildwood Pumping Station, 1.4 miles northwest of Rio Grande.	a3	1965-71	4-13-71	3.53

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Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Discharge (cfs)
Green Creek basin						
01411404	Green Creek at Green Creek, N. J.	Lat 39°03'11", long 74°54'07", Cape May County, at culvert on State Route 47 in Green Creek, 1.3 miles upstream from mouth and 3.0 miles northwest of Rio Grande.	a3	1965-71	4-13-71	2.14
Dias Creek basin						
01411408	Dias Creek near Cape May Court House, N. J.	Lat 39°04'24", long 74°52'10", Cape May County, at culvert pipe on Stagecoach Road, 2.4 miles southwest of Cape May Court House and 3.0 miles upstream from mouth.	1.27	1965-71	4-13-71	1.61
Bidwell Ditch basin						
01411410	Bidwell Ditch tributary near Cape May Court House, N. J.	Lat 39°06'34", long 74°50'16", Cape May County, at culvert pipe on Goshen Road, 2.0 miles northwest of Cape May Court House and 3.6 miles upstream from mouth.	.41	1967-71	4-13-71	.70
01411412	Bidwell Ditch tributary No. 2 near Cape May Court House, N. J.	Lat 39°06'25", long 74°50'12", Cape May County, at culvert pipe on Goshen Road, 1.8 miles northwest of Cape May Court House and 3.6 miles upstream from mouth.	a0.2	1967-71	4-13-71	.15
Goshen Creek basin						
01411418	Goshen Creek at Goshen, N. J.	Lat 39°07'39", long 74°50'45", Cape May County, at culvert pipe on Goshen Road, 1.0 mile southeast of Goshen and 3.3 miles upstream from mouth.	0.34	1967-71	4-13-71	.73
Dennis Creek basin						
01411430	Sluice Creek at Clermont, N. J.	Lat 39°09'26", long 74°46'18", Cape May County, at culvert pipe on State Route 83, 0.6 mile northwest of Clermont and 5.6 miles upstream from mouth.	0.66	1967-71	4-13-71	.56
Maurice River basin						
01411800	Maurice River near Millville, N. J.	Lat 39°26'52", long 75°04'22", Cumberland County, at bridge on Sherman Avenue, 3.5 miles north of mouth of Union Lake at Millville and 4.0 miles southwest of Vineland.	a193	1966-71	4-15-71	361
01412100	Manumuskin River near Manumuskin, N. J.	Lat 39°20'57", long 74°57'31", Cumberland County, at bridge on light-duty road, 1.1 miles north of Manumuskin and 5.0 miles upstream from mouth.	a35	1964-71	9-4-70 4-15-71	b13.2 50.3
Stow Creek basin						
01413050	Stow Creek at Jericho, N. J.	Lat 39°28'14", long 75°21'10", Cumberland County, at bridge on Tattletown-Jericho Road, 0.6 mile above Long Branch Run and 3.0 miles northwest of Shiloh.	a8	1966-71	4-14-71	13.3
Delaware River basin						
01439830	Big Flat Brook at Tuttles Corner, N. J.	Lat 41°12'00", long 74°48'56", Sussex County, at bridge on State Route 521, 0.7 mile west of U.S. Route 206 at Tuttles Corner and 2.0 miles upstream from Little Flat Brook.	29.4	1964, 1970-71	4-14-71	64.6

See footnotes at end of table, p. 146.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Discharge (cfs)
Delaware River basin--Continued						
01445000	Pequest River at Huntsville, N. J.	Lat 40°58'49", long 74°46'38", Sussex County, on right bank 20 ft upstream from highway bridge in Huntsville, 0.4 mile downstream from East Branch.	31.4	1940-62, 1963-71	(c)	d3.1
*01445490	Furnace Brook at Oxford, N. J.	Lat 40°48'15", long 74°59'42", Warren County, at bridge on State Route 31 in Oxford, 2.4 miles upstream from mouth and 3.2 miles north of Washington.	a4	1965-69, 1971	4-15-71	9.03
01445900	Honey Run near Hope, N. J.	Lat 40°53'33", long 74°58'42", Warren County, at bridge on State Route 519, 700 ft upstream from mouth and 1.5 miles south of Hope.	a10	1966-71	4-15-71	13.8
01446000	Beaver Brook near Belvidere, N. J.	Lat 40°50'40", long 75°02'48", Warren County, on right bank, 2,000 ft upstream from mouth and 2 miles east of Belvidere.	36.2	1922-61, 1963-71	(e)	d3.5
01455350	Weldon Brook near Woodport, N. J.	Lat 40°58'54", long 74°35'18", Morris County, at culverts on medium-duty road, 400 ft upstream from mouth at Lake Shawnee, 1.2 miles east of Woodport, and 6.9 miles north of Dover.	3.44	1965-69, 1971	4-14-71	14.3
01455360	Beaver Brook near Woodport, N. J.	Lat 40°58'34", long 74°35'16", Morris County, at bridge on light-duty road, 220 ft upstream from mouth at Lake Shawnee and 1.2 miles east of Woodport.	2.79	1966-71	4-14-71	10.5
01456100	Hatchery Brook at Hackettstown, N. J.	Lat 40°51'21", long 74°50'07", Warren County, at bridge on U.S. Route 46 at Hackettstown, 1.2 miles upstream from the N.J. State Fish Hatchery.	3.19	1966-71	4-14-71	3.30
01463690	Little Shabakunk Creek at Bakersville, N. J.	Lat 40°16'06", long 74°42'54", Mercer County, at bridge on U.S. Route 1, 0.5 mile upstream from mouth and 0.6 mile southwest of Bakersville.	3.98	1963-71	4-15-71	6.92
01463790	West Branch Shabakunk Creek near Ewingville, N. J.	Lat 40°14'55", long 74°45'24", Mercer County, at bridge on Spruce Street, 0.5 mile upstream from mouth and 1.7 miles southeast of Ewingville.	4.56	1963-71	4-15-71	3.79
01463980	Pond Run at Trenton, N. J.	Lat 40°13'43", long 74°43'40", Mercer County, at bridge on Greenwood Avenue, 1.1 miles upstream from mouth, and 1.6 miles east of Trenton Post Office.	8.94	1963-69, 1971	4-5-71	1.67
01464380	North Run at Cookstown, N. J.	Lat 40°02'58", long 74°33'47", Burlington County, at bridge on Spur State Route 528, at downstream end of Cookstown Pond at Cookstown.	7.04	1966, 1969-71	4-5-71	5.63
01464460	Lahaway Creek near Hornerstown, N. J.	Lat 40°06'24", long 74°32'12", Monmouth County, at bridge on Allentown-New Egypt Road, 1.0 mile west of Hornerstown.	a21	1966, 1969-71	4-5-71	24.8

See footnotes at end of table, p. 146.

Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Discharge (cfs)
Delaware River basin--Continued						
01464480	Miry Run at Holmes Mills, N. J.	Lat 40°08'02", long 74°32'35", Monmouth County, at bridge on Allentown-New Egypt Road, at Holmes Mills and 1.0 mile west of Cream Ridge.	a3	1966, 1969-71	4-5-71	2.96
*01464515	Doctors Creek at Allentown, N. J.	Lat 40°10'37", long 74°35'57", Monmouth County, at bridge on Breza Road in Allentown, 0.8 mile downstream from dam at Conines Millpond.	17.2	1966, 1968-71	4-13-71	28.5
01464530	Blacks Creek at Mansfield Square, N. J.	Lat 40°07'02", long 74°41'58", Burlington County, at bridge on Mansfield Square-Crosswicks Road, 0.4 mile east of Mansfield Square and 3.4 miles upstream from mouth.	a20	1966-71	4-13-71	26.6
01464590	Assiscunk Creek near Burlington, N. J.	Lat 40°04'19", long 74°47'57", Burlington County, at bridge on Old York Road, 3.3 miles east of Burlington and 4.3 miles upstream from mouth.	a37	1966-71	4-15-71	21.6
*01467010	Parkers Creek near Mount Laurel, N. J.	Lat 39°57'05", long 74°53'46", Burlington County, at bridge on light-duty road, 1.2 miles north of Mount Laurel and 3.0 miles southeast of Moorestown.	a4	1964-71	4-16-71	1.26
01467057	Pompeston Creek at Cinnaminson, N. J.	Lat 40°00'11", long 74°59'00", Burlington County, at bridge on U.S. Route 130, 0.7 mile northeast of Cinnaminson and 1.7 miles upstream from mouth.	a8	1964-71	4-13-71	3.13
*01467130	Cooper River at Kirkwood, N. J.	Lat 39°50'11", long 75°00'06", Camden County, 5 ft upstream from dam at Kirkwood Lake in Kirkwood, 1.0 mile north of Laurel Springs.	5.14	1964-71	4-5-71 6-11-71	6.81 4.20
01467140	Cooper River at Lawnside, N. J.	Lat 39°52'14", long 75°00'59", Camden County, at bridge in Lawnside, 300 ft downstream from Lawnside sewage-treatment plant.	12.8	1964-71	4-5-71 6-11-71	15.5 12.8
*01467160	North Branch Cooper River near Marlton, N. J.	Lat 39°53'20", long 74°58'08", Camden County, at bridge on blacktop road to Springdale, 2.5 miles west of Marlton.	5.33	1964-69, 1971	4-16-71	6.82
*01467180	North Branch Cooper River at Ellisburg, N. J.	Lat 39°54'27", long 75°00'42", Camden County, at bridge on Ellisburg-Vernon Road, 0.4 mile south of Ellisburg and 0.9 mile upstream from confluence with Cooper River.	10.4	1964-69, 1971	4-16-71	11.7
*01467305	Newton Creek at Collingswood, N. J.	Lat 39°54'30", long 75°03'13", Camden County, at bridge on Park Avenue, 0.3 mile east of Collingswood Boro line.	1.32	1964-71	4-16-71	.84
01467312	Newton Creek at West Collingswood, N. J.	Lat 39°54'05", long 75°05'42", Camden County, at bridge on State Route 168 in West Collingswood, 2.9 miles north-west of Haddonfield.	4.50	1964-65, 1967-71	4-14-71	31.9
01467315	South Branch Newton Creek at Glover Avenue at Haddon Heights, N. J.	Lat 39°52'47", long 75°04'08", Camden County, at bridge on Glover Avenue in Haddon Heights.	a0.5	1968-71	4-14-71	.24

See footnotes at end of table, p. 146.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Discharge (cfs)
Delaware River basin--Continued						
*01467330	South Branch Big Timber Creek at Blackwood, N. J.	Lat 39°48'17", long 75°04'33", Camden County, at bridge on Lower Landing Road in Blackwood, 3.0 miles upstream from mouth.	a19	1964-71	4-14-71	37.8
01467350	North Branch Big Timber Creek at Laurel Springs, N. J.	Lat 39°48'55", long 75°00'04", Camden County, at bridge on Park Avenue at Laurel Springs, 5.6 miles upstream from mouth.	6.54	1959-71	4-14-71	15.0
01475020	Mantua Creek at Sewell, N. J.	Lat 39°46'22", long 75°08'10", Gloucester County, at bridge on Wenonah-Pitman Road, 0.5 mile downstream from Bees Branch and 0.6 mile east of Sewell.	14.4	1966-71	4-14-71	22.6
01477118	South Branch Raccoon Creek near Mullica Hill, N. J.	Lat 39°44'09", long 75°15'23", Gloucester County, at bridge on Hill Street, 0.2 mile upstream from mouth and 1.7 miles west of Mullica Hill.	a8.3	1966-71	4-13-71	9.62
01482510	Nichomus Run near Woodstown, N. J.	Lat 39°38'22", long 75°20'59", Salem County, at bridge on State Route 45, 1.4 miles southwest of Woodstown and 1.7 miles upstream from mouth.	a3.9	1966-71	4-13-71	3.35
01482520	Salem River at Sharptown, N. J.	Lat 39°39'09", long 75°22'05", Salem County, at bridge on Kings Highway (Salem-Sharptown Road), 0.2 mile south of Sharptown and 1.0 mile upstream from Major Run.	a27	1966-71	4-13-71	25.1
01482530	Major Run at Sharptown, N. J.	Lat 39°38'56", long 75°22'29", Salem County, at bridge on Kings Highway (Salem-Sharptown Road), 0.7 mile southwest of Sharptown and 2.2 miles upstream from mouth.	a3.0	1966-71	4-13-71	2.02

* Also a crest-stage partial-record station.

Operated as a continuous-record gaging station.

a Estimated.

b Measured during 1970 water year; not previously published.

c Occurred between Aug. 23, 1971 and Sept. 1, 1971.

d Minimum for year; computed from minimum gage reading and rating.

e Occurred during period Oct. 1-21, 1970.

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 floods 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

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum	
						Gage height (feet)	Discharge (cfs)
Hackensack River basin							
*01377475	Musquapsink Brook near Westwood, N. J.	Lat 40°59'41", long 74°03'42", Bergen County, at culvert on Pascack Road in Washington Borough, 1.5 miles west of Westwood, and 5.3 miles upstream from mouth. Datum of gage is 72.66 ft above mean sea level.	2.16	1965-71	9-12-71	b4.70	1,000
01377490	Musquapsink Brook at Westwood, N. J.	Lat 40°59'11", long 74°02'03", Bergen County, at footbridge at Bogert Pond, 8 ft upstream from dam near intersection of Mill Street and First Avenue in Westwood.	6.53	1966-71	8-28-71	1.54	278
*01378350	Tenakill Brook at Cresskill, N. J.	Lat 40°56'30", long 74°57'52", Bergen County, at bridge on Madison Avenue in Cresskill, 0.15 mile west of Erie Lackawanna Railroad station, and 3.3 miles upstream from Oradell Reservoir. Datum of gage is 32.38 ft above mean sea level.	3.01	1965-71	8-28-71	b4.83	220
*01378385	Tenakill Brook at Closter, N. J.	Lat 40°58'29", long 74°58'06", Bergen County, at bridge on High Street in Closter, 0.7 mile upstream from mouth.	8.56	1965-71	8-28-71	b4.00	450
*01378590	Metzler Brook at Englewood, N. J.	Lat 40°54'32", long 73°59'40", Bergen County, at bridge on Lantana Avenue in Englewood, and 1.6 miles upstream from mouth.	1.54	1965-71	8-28-71	b2.30	197
*01378615	Wolf Creek at Ridgefield, N. J.	Lat 40°49'45", long 74°00'14", Bergen County, at bridge on Clark Avenue in Ridgefield, and 0.9 mile upstream from mouth.	1.18	1965-71	8-28-71	b5.70	293
Passaic River basin							
*01381900	Passaic River at Pine Brook, N. J.	Lat 40°51'45", long 74°19'18", Morris County, at bridge on U.S. Route 46, 0.5 mile east of Pine Brook, and 1.3 miles downstream from Rockaway River.	349	1966-71	9-12 or 13, 1971	b11.84	4,800
*01387880	Pond Brook at Oakland, N. J.	Lat 41°01'45", long 74°14'13", Bergen County, at bridge on U.S. Highway 202, 0.3 mile upstream from mouth, at Oakland.	7.20	1968-69, 1971	8-28-71	11.45	1,240
01389900	Fleischer Brook at Market Street, at East Paterson, N. J.	Lat 40°53'57", long 74°19'19", Bergen County, at culvert on Market Street in East Paterson, and 2.0 miles upstream from mouth. Datum of gage is 35.31 ft above mean sea level.	1.37	1967-71	9-12-71	4.08	228
*01390450	Saddle River at Upper Saddle River, N. J.	Lat 41°03'32", long 74°05'44", Bergen County, at culvert on Lake Street in Upper Saddle River, and 1.3 miles downstream from Pine Brook.	10.9	1965-71	8-28-71	b3.76	2,610

See footnotes at end of table, p. 162.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum	
						Gage height (feet)	Discharge (cfs)
Passaic River Basin--Continued							
01390810	Hohokus Brook at Allendale, N. J.	Lat 41°01'37", long 74°08'44", Bergen County, at bridge on Brookside Avenue in Allendale, and 0.2 mile downstream from Valentine Brook.	a9	1969-71	8-28-71	7.89	904
*01391110	Saddle River at Paramus, N. J.	Lat 40°56'47", long 74°05'56", Bergen County, at bridge on Dunkerhook Road in Paramus, and 0.75 mile downstream from Hohokus Brook.	45.0	1965-71	8-28-71	b6.16	4,350
*01391485	Sprout Brook at Rochelle Park, N. J.	Lat 40°54'45", long 74°04'47", Bergen County, at bridge on Passaic Street in Rochelle Park, and 0.9 mile upstream from mouth. Datum of gage is 33.25 ft above mean sea level.	5.56	1965-71	9-12-71	b7.25	900
01392000	Weasel Brook at Clifton, N. J.	Lat 40°52'12", long 74°08'47", Passaic County, at right end of masonry dam at Jewett Street in Clifton. Datum of gage is 68.52 ft above mean sea level.	4.45	1937-62†, 1963-71	9-12-71	5.60	1,460
01392500	Second River at Belleville, N. J.	Lat 40°47'17", long 74°10'19", Essex County, 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 mean sea level.	11.6	1937-64†, 1965-71	8-28-71	5.80	2,130
Raritan River basin							
01397500	Walnut Brook near Flemington, N. J.	Lat 40°30'55", long 74°52'52", Hunterdon County, on right bank, 1.2 miles northwest of Flemington, and 2.3 miles upstream from mouth. Datum of gage is 267.33 ft above mean sea level.	2.24	1936-61†, 1963-71	8-28-71	4.61	1,570
*01400850	Woodsville Brook at Woodsville, N. J.	Lat 40°22'37", long 74°49'33", Mercer County, at bridge on secondary road, 0.3 mile southeast of Woodsville, and 0.8 mile upstream from mouth.	1.78	1957-58, 1964-71	8-28-71	6.40	1,480
*01400900	Stony Brook at Glenmoore, N. J.	Lat 40°21'55", long 74°47'14", Mercer County, at highway bridge on Spur State Route 518, 200 ft east of tracks of Reading Railroad, at Glenmoore, and 2.0 miles southwest of Hopewell.	17.0	1957-71	8-28-71	b11.02	6,100
01400930	Baldwin Creek at Pennington, N. J.	Lat 40°20'18", long 74°47'50", Mercer County, at bridge on State Route 31, 0.8 mile north of Pennington, and 0.9 mile upstream from Baldwin Lake dam.	1.99	1957, 1960-71	8-28-71	8.64	1,260
*01400947	Stony Brook at Pennington, N. J.	Lat 40°19'50", long 74°46'05", Mercer County, 25 ft upstream from dam on Stony Brook at Old-mill Road, 1.3 miles east of Pennington, and 1.4 miles downstream from Baldwin Creek. Datum of gage is 139.26 ft above mean sea level.	26.5	1965-71	8-28-71	6.8	†

See footnotes at end of table, p. 162.

Crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum	
						Gage height (feet)	Discharge (cfs)
Raritan River basin--Continued							
01400950	Hart Brook near Pennington, N. J.	Lat 40°19'17", long 74°45'38", Mercer County, at culvert on Federal City Road, 1.0 mile upstream from mouth, and 1.7 miles southeast of Pennington.	a0.8	1968-71	8-28-71	6.77	†
01400960	Honey Branch near Mount Rose, N. J.	Lat 40°21'17", long 74°45'29", Mercer County, at bridge on Mount Rose Road, 0.6 mile northeast of Centerville, 1.4 miles southwest of Mount Rose, and 2.5 miles northeast of Pennington.	a1.5	1968-71	8-28-71	b5.84	†
01400970	Honey Branch near Rosedale, N. J.	Lat 40°20'26", long 74°44'39", Mercer County, at bridge on Elm Ridge Road, 0.2 mile upstream from mouth, 1.2 miles west of Rosedale, and 2.0 miles south of Mount Rose.	3.83	1967-71	8-28-71	11.84	†
01401200	Duck Pond Run at Clarksville, N. J.	Lat 40°18'24", long 74°40'06", Mercer County, at bridge on U.S. Route 1, 0.5 mile upstream from Delaware and Raritan Canal, and 0.9 mile northeast of Clarksville. Datum of gage is 54.14 ft above mean sea level.	5.21	1965-71	8-28-71	6.12	402
*01401520	Beden Brook near Hopewell, N. J.	Lat 40°23'02", long 74°44'28", Mercer County, at bridge on Aunt Molly Road, 0.8 mile upstream from Province Line Road (revised), 1.1 miles southeast of Hopewell, and 2.6 miles southwest of Blawenburg. Datum of gage is 116.43 ft above mean sea level.	6.07	1967-71	8-28-71	10.8	7,240
01401595	Rock Brook near Blawenburg, N. J.	Lat 40°25'47", long 74°41'05", Somerset County, at bridge on Burnt Hill Road, 0.7 mile upstream from mouth, 1.0 mile northeast of Blawenburg, and 2.8 miles northwest of Rocky Hill. Datum of gage is 63.45 ft above mean sea level.	9.03	1967-71	8-28-71	b10.00	4,530
01401600	Beden Brook near Rocky Hill, N. J.	Lat 40°24'52", long 74°39'02", Somerset County, at bridge on U.S. Route 206, 0.7 mile upstream from Pike Run, 1.2 miles northwest of Rocky Hill, and 4.6 miles north of Princeton. Datum of gage is 38.09 ft above mean sea level.	27.6	1967-71	8-28-71	b16.83	12,100
01401870	Six Mile Run near Middlebush, N. J.	Lat 40°28'12", long 74°32'42", Somerset County, at bridge on South Middlebush Road, 1.6 miles upstream from mouth, and 2.1 miles south of Middlebush.	10.7	1966-71	8-28-71	b10.30	†
Manasquan River basin							
*01407830	Manasquan River near Georgia, N. J.	Lat 40°12'36", long 74°16'41", Monmouth County, at culvert on Jacksons Mill Road near Georgia, and 0.5 mile upstream from Debois Creek.	10.6	1969-71	8-28-71	11.61	3,750
*01408015	Mingamahone Brook at Farmingdale, N. J.	Lat 40°11'38", long 74°09'42", Monmouth County, at bridge on Belmar Road in Farmingdale, and 3.0 miles upstream from mouth.	6.22	1969-71	9-12 or 13, 1971	5.02	1,670

See footnotes at end of table, p. 162.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum	
						Gage height (feet)	Discharge (cfs)
Manasquan River basin--Continued							
*01408030	Manasquan River at Allenwood, N. J.	Lat 40°08'35", long 74°07'03", Monmouth County, at bridge on Hospital Road at Allenwood, and 1.5 miles downstream from Mill Run.	63.9	1969-71	8-28-71	8.37	1,650
Great Egg Harbor River basin							
*01410775	Great Egg Harbor River at Berlin, N. J.	Lat 39°47'39", long 74°56'14", Camden County, at bridge and pumping station on Berlin-Albion Road in Berlin, and 8.2 miles upstream from Fourmile Branch.	1.88	1964-71	9-12 or 13, 1971	4.39	†
Cohansey River basin							
01412500	West Branch Cohansey River at Seeley, N. J.	Lat 39°29'06", long 75°15'33", Cumberland County, on right bank 15 ft upstream from county bridge, Highway 31, at Seeley, 450 ft upstream from mouth and 4.1 miles northwest of Bridgeton. (Revised). Datum of gage is 42.23 ft above mean sea level.	2.55	1952-67†, 1968-71	8-28-71	4.71	245
Delaware River basin							
*01445000	Pequest River at Huntsville, N. J.	Lat 40°58'49", long 74°46'38", Sussex County, on right bank, 20 ft upstream from highway bridge in Huntsville, and 0.4 mile downstream from East Branch. Datum of gage is 553.81 ft above mean sea level.	31.4	1940-62†, 1963-71	2-27-71	3.67	251
*01445490	Furnace Brook at Oxford, N. J.	Lat 40°48'15", long 74°59'42", Warren County, at bridge on State Route 31 in Oxford, 2.4 miles upstream from mouth, and 3.2 miles north of Washington.	a4	1966-71	2-23-71	3.18	†
*01446000	Beaver Brook near Belvidere, N. J.	Lat 40°50'40", long 75°02'48", Warren County, on right bank, 2,000 ft upstream from mouth, and 2 miles east of Belvidere. Datum of gage is 303.36 ft above mean sea level.	36.2	1922-61†, 1963-71	2-23-71	3.84	528
01455200	Pohatcong Creek at New Village, N. J.	Lat 40°42'57", long 75°04'20", Warren County, at bridge on Edison Road, 0.4 mile southeast of New Village, and 4.3 miles upstream from Merrill Creek. Datum of gage is 310.82 ft above mean sea level.	33.4	1960-69†, 1971	2-13-71	5.22	1,000
01464400	Crosswicks Creek at New Egypt, N. J.	Lat 40°04'03", long 74°31'57", Ocean County, at upstream side of bridge on State Route 528 in New Egypt, and 300 ft downstream from Oakford Lake dam. Datum of gage is 43.46 ft above mean sea level.	a38	1968-71	8-28-71	23.68	1,940
01464505	Crosswicks Creek at Groveville, N. J.	Lat 40°10'26", long 74°40'48", Mercer County, at U.S. Highway 130 bridge, 0.3 mile upstream from Doctors Creek, 0.5 mile northwest of Groveville and 0.6 mile southwest of Yardville. Datum of gage is 2.15 ft below mean sea level.	a94.5	1968-71	8-28-71	b16.21	†

See footnotes at end of table, p. 162.

Crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum	
						Gage height (feet)	Discharge (cfs)
Delaware River basin--Continued							
*01464515	Doctors Creek at Allentown, N. J.	Lat 40°10'37", long 74°35'57", Monmouth County, at bridge on Breza Road in Allentown, and 0.8 mile downstream from Conines Mill Pond dam. Datum of gage is mean sea level.	17.2	1968-71	8-28-71	69.46	1,120
01464520	Doctors Creek at Groveville, N. J.	Lat 40°10'21", long 74°39'33", Mercer County, at bridge on Groveville-Allentown road at Groveville, 0.7 mile southeast of Yardville, and 1.5 miles upstream of mouth. Datum of gage is 14.23 ft above mean sea level.	a24.7	1968-71	8-28-71	b9.33	1,550
01466000	Middle Branch Mount Misery Brook in Lebanon State Forest, N. J.	Lat 39°55'00", long 74°30'30", Burlington County, in Lebanon State Forest, 20 ft upstream from bridge on North Branch Road, and 5.1 miles southeast of Browns Mills. Datum of gage is 99.71 ft above mean sea level.	2.73	1952-65†, 1967-71	9-13-71	1.80	8.20
*01467010	Parkers Creek near Mount Laurel, N. J.	Lat 39°57'05", long 74°53'46", Burlington County, at bridge on Walton Avenue, 1.2 miles north of Mount Laurel, and 3.0 miles southeast of Moorestown.	a4	1967-71	8-28-71	3.46	511
*01467130	Cooper River at Kirkwood, N. J.	Lat 39°50'11", long 75°00'06", Camden County, 5 ft upstream from dam at Kirkwood Lake in Kirkwood, and 1.0 mile north of Laurel Springs. Datum of gage is 57.82 ft above mean sea level.	5.14	1964-71	8-28-71	2.31	347
*01467160	North Branch Cooper River near Marlton, N. J.	Lat 39°53'20", long 74°58'08", Burlington County, at bridge on blacktop road to Springdale, 2.5 miles west of Marlton. Datum of gage is 36.36 ft above mean sea level.	5.33	1964-71	8-28-71	b4.26	290
*01467180	North Branch Cooper River at Ellisburg, N. J.	Lat 39°54'27", long 75°00'42", Camden County, at bridge on Ellisburg-Vernon Road, 0.4 mile south of Ellisburg, and 0.9 mile upstream from confluence with Cooper River. Datum of gage is 9.80 ft above mean sea level.	10.4	1964-71	8-28-71	b6.65	1,000
01467190	Cooper River at Camden, N. J.	Lat 39°55'35", long 75°05'03", Camden County, at bridge on U.S. Routes 130 and 30 in Camden, 3.4 miles upstream from mouth, 3.5 miles northwest of Haddonfield, 3.7 miles downstream from mouth of North Branch Cooper River, and 0.6 mile above tidal-barrier dam. Datum of gage is mean sea level.	a36	1967-71	8-28-71	7.85	†
*01467305	Newton Creek at Collingswood, N. J.	Lat 39°54'30", long 75°03'13", Camden County, at bridge on Park Avenue in Collingswood, 0.3 mile east of Cuthbert Avenue. Datum of gage is 18.74 ft above mean sea level.	1.32	1964-71	8-28-71	5.18	245

See footnotes at end of table, p. 162.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum	
						Gage height (feet)	Discharge (cfs)
Delaware River basin--Continued							
01467317	South Branch Newton Creek at Haddon Heights, N. J.	Lat 39°52'45", long 75°04'26", Camden County, at bridge in Haddon Heights Park in Haddon Heights, and 2.6 miles south of Collingswood. Datum of gage is 23.34 ft above mean sea level.	0.63	1964-71	8-28-71	4.18	150
*01467330	South Branch Big Timber Creek at Blackwood, N. J.	Lat 39°48'17", long 75°04'33", Camden County, at bridge on Lower Landing Road in Blackwood, and 3.0 miles upstream from mouth. Datum of gage is 8.41 ft above mean sea level.	a19	1964-71	8-28-71	b7.11	2,300

* Also a low-flow partial-record station.

† Discharge not determined.

‡ Operated as a continuous-record gaging station.

a Estimated.

b Downstream side of bridge.

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 (*); measurements of peak flow by a dagger (†).

Discharge measurements made at miscellaneous sites during water year 1971

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Measurements Discharge (cfs)
Passaic River basin						
Passaic River	Newark Bay	Lat 40°55'34", long 74°10'00", Passaic County, at bridge on Haledon Street in Paterson.	-	-	4-19-71	*1,090
Passaic River	Newark Bay	Lat 40°52'46", long 74°07'14", Passaic County, at bridge at Outwater Lane in Garfield between Passaic and Bergen Counties.	-	-	4-19-71	*1,100
Raritan River basin						
Rocky Brook	Millstone River	Lat 40°16'37", long 74°32'06", Mercer County, at bridge on U.S. Route 130 at Hightstown, and 0.4 mile north-east of intersection of U.S. Route 130 and County Route 571.	-	-	4-12-71 6-21-71 8-26-71	*23.9 *6.29 *5.89
Cranbury Brook	Millstone River	Lat 40°19'34", long 74°36'11", Middlesex County, at downstream end of Plainsboro Pond on Maple Avenue in Plainsboro, N.J.	-	-	4-12-71 8-26-71	*28.6 *a.20
Shallow Brook	Devils Brook	Lat 40°20'48", long 74°33'27", Middlesex County, at bridge at Scotts Corner in South Brunswick Township, 0.6 mile north of Dey Road.	-	-	4-12-71 6-21-71 8-26-71	*4.52 *a.10 *0
Devils Brook	Millstone River	Lat 40°20'09", long 74°36'09", Middlesex County, at Plainsboro on light duty road, 0.2 mile north of intersection of Princeton-Cranbury Road.	-	-	4-12-71 6-21-71 8-26-71	*21.4 *2.55 *2.29
Stony Brook	Millstone River	Lat 40°20'21", long 74°46'42", Mercer County, 250 feet upstream from confluence with Baldwin Creek in, Hopewell Township, and 1.1 miles northwest of intersection of East Delaware Avenue and Main Street in Pennington Borough.	-	-	4-12-71 6-21-71 8-26-71	*28.6 *1.02 *.39
Lewis Brook	Stony Brook	Lat 40°20'02", long 74°46'58", Mercer County, 200 feet upstream from mouth, 0.3 mile northeast of intersection of King George Road and Mount Rose Road in Pennington Borough.	-	-	4-12-71 6-21-71	*1.29 *.10
Lewis Brook tributary	Lewis Brook	Lat 40°20'00", long 74°46'57", Mercer County, 100 feet upstream from mouth and 0.3 mile northeast of intersection of King George Road and Mount Rose Road in Pennington.	-	-	4-12-71 6-21-71	*.11 *.02
Stony Brook tributary No. 4	Stony Brook	Lat 40°19'52", long 74°46'42", Mercer County, 100 ft upstream from mouth near Mount Rose Road at Pennington, 0.2 mile downstream from Federal City Road.	-	-	4-12-71 6-21-71 8-26-71	*.48 *0 *0
Stony Brook tributary No. 5	Stony Brook	Lat 40°19'43", long 74°46'12", Mercer County, at bridge on Federal City Road east of Pennington, and 0.1 mile upstream from mouth.	-	-	4-12-71 6-21-71 8-26-71	*1.99 *.04 *a.05

a Estimated.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements at miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1971--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Measurements Discharge (cfs)
Raritan River basin--Continued						
Stony Brook	Millstone River	Lat 40°20'35", long 74°43'33", Mercer County, at bridge on Carter Road in Rosedale, 1.2 miles downstream from Honey Branch.	-	-	4-12-71 8-26-71	*50.4 *1.06
Harrys Brook	Millstone River	Lat 40°21'58", long 74°37'41", Mercer County, at bridge on Route 27, 1.1 miles east of Princeton and 0.9 miles southwest of Kingston.	-	-	4-12-71 6-21-71 8-26-71	*4.38 *.40 *.02
Heathcote Brook	Millstone River	Lat 40°22'10", long 74°36'59", Middlesex County, on State Route 27, at Penn Central Railroad bridge on State Route 27 in South Brunswick Township and 0.3 mile south of Kingston.	-	-	4-12-71 6-21-71 8-26-71	*12.4 *1.60 *1.33
Matchaponix Brook	Raritan River	Lat 40°20'22", long 74°22'24", Middlesex County, at bridge on light-duty road, 0.4 mile east of Matchaponix.	-	-	3-17-71	*42.1
Manalapan Brook	Matchaponix Brook	Lat 40°14'22", long 74°20'30", Monmouth County, 500 ft upstream from lake at Millhurst, in Manalapan Township.	6.66	-	6-24-71	*3.51
Manalapan Brook tributary	Manalapan Brook	Lat 40°15'39", long 74°20'32", Monmouth County, at bridge on State Route 527, in Manalapan Township, 0.5 mile north of Millhurst.	1.81	-	6-24-71	*.59
Manalapan Brook	Matchaponix Brook	Lat 40°16'31", long 74°22'18", Monmouth County, at end of private road off McCaffert Road, in Manalapan Township, 1.2 miles downstream from Stillhouse Brook, and 1.6 miles south of English-town.	14.9	1969	6-24-71	*7.94
Manalapan Brook	Matchaponix Brook	Lat 40°17'46", long 74°23'53", Middlesex County, at bridge on Federal Road, in Monroe Township, 0.9 mile northeast of its intersection with Middlesex Boulevard.	20.9	1969	6-24-71	*8.97
Great Egg Harbor River basin						
Great Egg Harbor River	Great Egg Harbor Bay	Lat 39°44'02", long 74°57'05", Camden County, at bridge on New Freedom Road in Winslow Township, 0.7 mile northeast of Blackwood-New Brooklyn Road.	-	-	4-5-71 6-25-71	*14.2 *4.81
Great Egg Harbor River	Great Egg Harbor Bay	Lat 39°42'06", long 74°56'17", Camden County, at outlet of New Brooklyn Lake in Winslow Township, on New Brooklyn-Cedar Brook Road.	-	-	6-25-71	*12.0
Great Egg Harbor River	Great Egg Harbor Bay	Lat 39°41'49", long 74°56'09", Camden County, at north side of and adjacent to Atlantic City Expressway below New Brooklyn Lake, 0.5 mile southeast of Malaga Road overpass, in Winslow Township.	-	-	4-5-71	*26.8

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements at miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1971--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Measurements Discharge (cfs)
Great Egg Harbor River basin--Continued						
Fourmile Branch	Great Egg Harbor River	Lat 39°41'47", long 74°56'24", Camden County, at bridge on Malaga Road at New Brooklyn, in Monroe Township, 0.1 mile south of Atlantic City Expressway.	-	-	4-5-71 6-25-71	*10.7 *6.54
Delaware River basin						
Cooper River	Delaware River	Lat 39°49'43", long 74°58'55", Camden County, on Norcross Road, at downstream end of Linden Lake at Lindenwold.	-	-	4-5-71 6-11-71	*1.28 *.67
Cooper River	Delaware River	Lat 39°49'48", long 74°59'01", Camden County, at Lindenwold Borough on Linden Avenue, 0.1 mile downstream from Linden Lake.	-	-	4-5-71 6-11-71	*3.35 *2.70
Millard Creek	Cooper River	Lat 39°50'07", long 74°58'46", Camden County, at first bridge upstream from mouth (0.5 mile) at Gibbsboro.	-	-	4-5-71 6-11-71	*2.81 *1.31
Nicholson Branch	Millard Creek	Lat 39°50'08", long 74°58'57", Camden County, at bridge on Gibbsboro-Voorhees Road in Gibbsboro, 0.2 mile upstream from mouth.	-	-	4-5-71 6-11-71	*.40 *.23
Cooper River	Delaware River	Lat 39°50'51", long 75°00'44", Camden County, at bridge on Somerdale Road in Somerdale, 0.4 mile northeast of White Horse Pike.	-	-	4-5-71 6-11-71	*7.46 *4.97
Cooper River	Delaware River	Lat 39°51'34", long 75°00'59", Camden County, at bridge on Evesham Road in Voorhees Township, 0.7 mile east of White Horse Pike.	-	-	4-5-71 6-11-71	*12.4 *8.40
Cooper River tributary	Cooper River	Lat 39°52'14", long 75°00'22", Camden County, at bridge at Woodcrest in Cherry Hill Township, 0.8 mile north of the intersection of Evesham Road and Burnt Mill Road.	-	-	4-5-71 6-11-71	*2.87 *1.92
Cooper River	Delaware River	Lat 39°53'14", long 75°01'39", Camden County, in Mountwell Park, in Haddonfield Borough at old railroad bridge abutment.	-	-	4-5-71 6-11-71	*21.5 *17.3
Tindale Run	Cooper River	Lat 39°53'20", long 75°01'06", Camden County, at bridge on Haddonfield-Berlin Road in Cherry Hill Township, 0.5 mile upstream from mouth.	-	-	4-5-71 6-11-71	*1.19 *.70

TIDAL CREST-STAGE STATIONS

The following table contains annual maximum stages 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 mean sea level, datum of 1929, unless otherwise noted. Only the maximum stage is given. Information on some other high stages 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 has been determined.

Annual maximum stages at tidal crest-stage partial-record stations

Station No.	Station name	Location	Period of record	Annual maximum	
				Date	Elevation above mean sea level (feet)
01408160	Metedeconk River near Laurelton, N. J.	Lat 40°03'20", long 74°06'37", Ocean County, on pier at Laurelton Yacht Basin at Princeton Avenue. 1.4 miles southeast of Laurelton, and 2.4 miles upstream from mouth.	1969-71	11-15-70	3.39
01408200	Barnegat Bay at Bay Shore, N. J.	Lat 39°56'56", long 74°06'52", Ocean County, at west end of State Route 37 bridge over Barnegat Bay at Bay Shore, 2.2 miles west of Seaside Heights, and 4.5 miles east of Toms River.	1965-71	11-15-70	3.30
01409125	Barnegat Bay at Barnegat Light, N. J.	Lat 39°45'37", long 74°06'39", Ocean County, at north side of pier of U.S. Coast Guard Boat Basin on 7th Street (extended) in Barnegat Light, Boro, 0.35 mile southwest of Barnegat Lighthouse and 9.1 miles northeast of Ship Bottom.	1965-71	11-15-70	4.83
01409145	Manahawkin Bay near Manahawkin, N. J.	Lat 39°40'13", long 74°12'54", Ocean County, at west end of State Route 72 bridge over Manahawkin Bay, 2.5 miles northwest of Ship Bottom, and 3.1 miles southeast of Manahawkin.	1965-71	11-15-70	3.75
01409290	Tuckerton Cove near Tuckerton, N. J.	Lat 39°34'35", long 74°19'50", Ocean County, on bulkhead piling of Tuckerton Cove at the Tuckerton Beach Club, at the southern end of State Route 539, 0.4 mile east of mouth of Tuckerton Creek, and 1.9 miles south of Tuckerton.	1965-71	11-15-70	4.72
01409510	Batsto River at Pleasant Mills, N. J.	Lat 39°37'55", long 74°38'40", Ocean County, on right bank, 0.5 mile upstream from mouth, and 1.0 mile southeast of Pleasant Mills.	1958-71	3-04-71	4.05
01410100	Mullica River near Port Republic, N. J.	Lat 39°33'12", long 74°27'46", Atlantic County, on right bank on bulkhead piling at south end of U.S. Route 9 and Garden State Parkway bridge over Mullica River, 2.8 miles northeast of Port Republic, and 2.8 miles south of New Gretna.	1965-71	3-04-71	4.21
01410500	Absecon Creek at Absecon, N. J.	Lat 39°25'45", long 74°31'16", Atlantic County, on right bank 30 ft downstream from Doughty Pond Dam of Atlantic City Water Department, 1 mile west of Absecon, and 3.4 miles upstream from mouth.	1923-29#, 1933-38#, 1946-71#	11-15-70	4.84
01411315	Great Egg Harbor Bay at Beesleys Point, N. J.	Lat 39°17'18", long 74°37'50", Cape May County, at Atlantic City Electric Company's B. L. England Generating Station intake, 0.1 mile west of south end of Route 9 bridge over Great Egg Harbor Bay, 0.7 mile north of Beesleys Point, and 3.0 miles west of Ocean City.	1963-71	11-15-70	4.8

See footnotes at end of table, p. 165.

TIDAL CREST-STAGE STATIONS

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Annual maximum stages at tidal crest-stage partial-record stations--Continued

Station No.	Station name	Location	Period of record	Annual maximum	
				Date	Elevation above mean sea level (feet)
01411320	Great Egg Harbor Bay at Ocean City, N. J.	Lat 39°17'10", long 74°34'29", Cape May County, on bulkhead piling at west end of 5th Street, Ocean City, and 2.5 miles southeast of Sommers Point.	1965-71	11-15-70	5.57
01411360	Great Channel at Stone Harbor, N. J.	Lat 39°03'26", long 74°45'53", Cape May County, on bulkhead piling at east end of bridge at west end of town of Stone Harbor, 3.7 miles southeast of Cape May Court House, and 3.9 miles southwest of Avalon.	1965-71	11-15-70	5.23
01411380	Grassy Sound at West Wildwood, N. J.	Lat 39°00'19", long 74°49'04", Cape May County, on bulkhead piling near northeast end of Glenwood Avenue at northern tip of West Wildwood, 1.2 miles northwest of Wildwood, and 2.9 miles east of Rio Grande.	1965-71	3-27-71	11.41
01411390	Cape May Harbor at Cape May, N. J.	Lat 38°56'54", long 74°53'26", Cape May County, on bulkhead near most easterly pier, (Pier 3) on grounds of U.S. Coast Guard Receiving Center in Cape May, and 0.7 mile southeast of east end of Cape May Canal.	1965-71	11-13, 15-1970	5.41
01411395	Cape May Canal at North Cape May, N. J.	Lat 38°58'02", long 74°57'25", Cape May County, on Cape May Canal on slip of Cape May, New Jersey to Lewes, Delaware, ferry, 0.5 mile from west end of Cape May Canal, and 0.8 mile south of North Cape May.	1965-71	3-27-71	b5.6
01412150	Maurice River at Bivalve, N. J.	Lat 39°13'42", long 75°02'12", Cumberland County, on right bank on bulkhead piling on the south side of Bivalve, and 1.3 miles south of Port Norris.	1965-71	3-27-71	6.44
01482705	Delaware River at Oakwood Beach, N. J.	Lat 39°33'18", long 75°31'11", Salem County, on left bank on bulkhead piling at Oakwood Beach, 1.3 miles south of mouth of Salem River, 2.4 miles east of Reedy Point, Delaware, and 3.0 miles southwest of Salem, New Jersey.	1965-71	12-13-70	a7.43

* Operated as a continuous-record gaging station.

a Gage datum; not to mean sea level datum.

b Furnished by National Ocean Survey.

The following tide summary data were collected during the 1970-71 Water Year as a part of a pilot program for the New Jersey Wetlands in the Tuckerton and Salem Areas. Additional data will appear in the 1972 report.

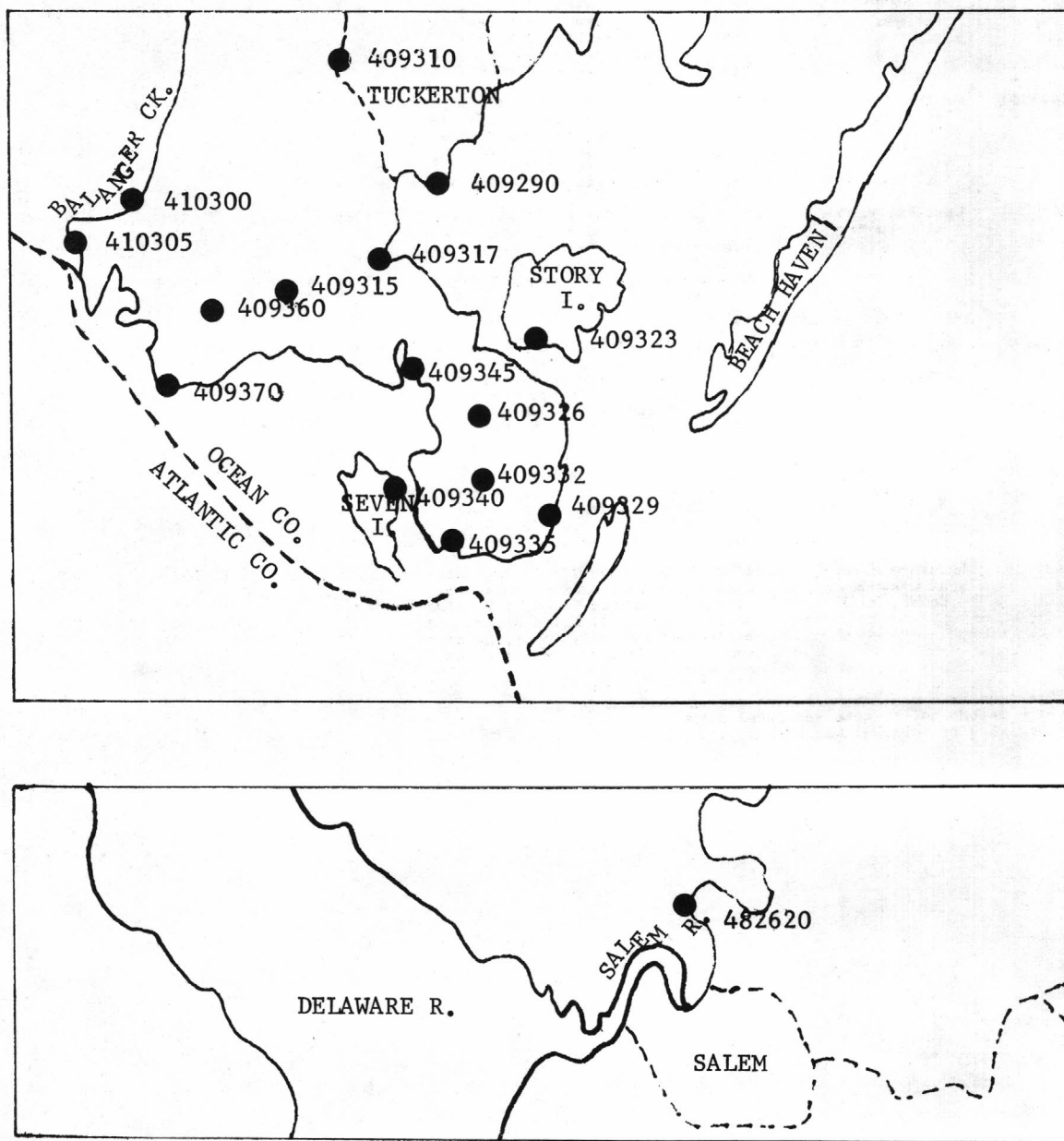


FIGURE 5

01409290 Tuckerton Cove near Tuckerton, N. J.

LOCATION.--Lat 39°34'35", long 74°19'50", Ocean County, on bulkhead piling of Tuckerton Cove at the Tuckerton Beach Club, at the southern end of State Route 539, 0.4 mile east of mouth of Tuckerton Creek, and 1.9 miles south of Tuckerton.

PERIOD OF RECORD.--Established June 29, 1971. Operated as a tidal crest-stage gage 1965-71.

GAGE.--Water-stage recorder. Gage height converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations for period are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										2.91	3.62	3.15
high tide	Date										11	28	14
Minimum	Elevation										-.33	-.21	-.46
low tide	Date										1	2	4
Mean high tide											2.10	2.22	2.44
Mean water level											1.04	1.16	1.39
Mean low tide											-.02	.08	.31

01409310 Tuckerton Creek at Tuckerton, N. J.

LOCATION.--Lat 39°36'10", long 74°20'30", Ocean County, on right bank at end of private dock behind Tuckerton Water Company, downstream from Pohatcong Lake and U.S. Highway Route 9 in Tuckerton at head of tide.

PERIOD OF RECORD.--Established June 29, 1971.

GAGE.--Water-stage recorder. Gage height converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations for period are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										2.80	3.69	3.06
high tide	Date										11	28	14
Minimum	Elevation										-.60	-.66	-.63
low tide	Date										9	11	4
Mean high tide											1.99	2.11	2.33
Mean water level											.92	1.02	1.25
Mean low tide											-.21	-.10	.14

NEW JERSEY WETLANDS

01409315 Head of Big Thorofare near Tuckerton, N. J.

LOCATION.--Lat 39°33'30", long 74°21'45", Ocean County, at the end of Playhouse Road, Mystic Island Development on old radio tower anchor, 2,000 ft east of Radio Road.

PERIOD OF RECORD.--Established June 25, 1971.

GAGE.--Water-stage recorder. Record expressed in gage height above an established datum. The distance above or below mean sea level of the datum not yet determined.

Summaries of gage heights for period are as follows:

GAGE HEIGHT, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Gage height										4.54	5.29	4.64
high tide	Date										11	28	11
Minimum	Gage height										.42	.34	.36
low tide	Date										8	11	4
Mean high tide											3.71	3.81	4.01
Mean water level											2.29	2.33	2.57
Mean low tide											.81	.88	1.10

REMARKS.--No gage-height record Aug. 16-22, 31, Sept. 1, 2, 6-10, 16-22, 31; gage height estimated on the basis of the record for Big Creek at Radio Road and Big Thorofare at Mouth.

01409317 Big Thorofare at Mouth, near Tuckerton, N. J.

LOCATION.--Lat 39°33'55", long 74°20'35", Ocean County, on bridge piling at Great Bay Boulevard, 2.5 miles south of Tuckerton.

PERIOD OF RECORD.--Established June 29, 1971.

GAGE.--Water-stage recorder. Gage-height record converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations for period are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										2.82	3.03	4.4
high tide	Date										11	28	11
Minimum	Elevation										-.62	-.65	-.59
low tide	Date										9	11	4,5
Mean high tide											2.01	2.08	2.36
Mean water level											.94	1.02	1.27
Mean low tide											-.15	-.05	.18

REMARKS.--No gage-height record Aug. 29 to Sept. 2, Sept. 6-30. Record estimated on the basis of Big Sheepshead Creek at Great Bay Boulevard and Tuckerton Cove with probable maximum error of 0.05 ft.

01409323 Marshelder Channel at Story Island, near Tuckerton, N. J.

LOCATION.--Lat 39°32'37", long 74°18'11", Ocean County, on piling of old pier wreckage, southern end of Story Island, 3.0 miles southeast of Tuckerton.

PERIOD OF RECORD.--Established June 30, 1971. Discontinued Oct. 6, 1971.

GAGE.--Water-stage recorder. Record expressed in gage height above an established datum. The distance above or below mean sea level of the datum not yet determined.

Summaries of gage heights for period are as follows:

GAGE HEIGHT, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971													
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Gage height										5.15	5.66	5.28
high tide	Date										11	28	14
Minimum	Gage height										1.60	1.52	1.49
low tide	Date										1	11	4
Mean high tide											4.29	4.45	4.63
Mean water level											3.20	3.36	3.56
Mean low tide											2.08	2.22	2.46

01409326 Big Sheepshead Creek at Great Bay Boulevard, near Tuckerton, N. J.

LOCATION.--Lat 39°51'58", long 74°19'13", Ocean County, on bridge piling at Great Bay Boulevard, 4.9 miles south of Tuckerton.

PERIOD OF RECORD.--Established June 24, 1971. Discontinued Oct. 6, 1971.

GAGE.--Water-stage recorder. Gage-height record converted to elevation above or (-) below mean sea level for publication.

Summaries of tide elevations for period are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971													
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										3.56	3.79	3.55
<u>high tide</u>	Date										11	28	7
Minimum	Elevation										-1.09	-1.29	-1.35
<u>low tide</u>	Date										10	11	4
Mean high tide											2.48	2.59	2.81
Mean water level											.94	1.04	1.26
Mean low tide											-.62	-.53	-.31

NEW JERSEY WETLANDS

01409329 East Entrance Big Sheepshead Creek near Tuckerton, N. J.

LOCATION.--Lat 39°31'23", long 74°17'50", Ocean County, on south shore of East Entrance, north of power line and 5.8 miles southeast of Tuckerton.

PERIOD OF RECORD.--Established June 25, 1971. Discontinued Oct. 6, 1971.

GAGE.--Water-stage recorder. Record expressed in gage height above an established datum. The distance above or below mean sea level of the datum not yet determined.

Summaries of gage heights for period are as follows:

GAGE HEIGHT, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Gage height										5.00	5.30	5.07
<u>high tide</u>	Date										11	28	11
Minimum	Gage height										.86	.46	.50
<u>low tide</u>	Date										10	11	4
Mean high tide											4.07	4.13	4.36
Mean water level											2.74	2.77	3.02
Mean low tide											1.34	1.36	1.63

01409332 Little Sheepshead Creek at Great Bay Boulevard, near Tuckerton, N. J.

LOCATION.--Lat 39°31'10", long 74°19'10", Ocean County, on piling near center of Great Bay Boulevard bridge.

PERIOD OF RECORD.--Established June 29, 1971. Discontinued Oct. 6, 1971.

GAGE.--Water-stage recorder. Gage height converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations for period are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										3.49	3.96	4.27
<u>high tide</u>	Date										11	28	28
Minimum	Elevation										-1.21	-1.49	-1.22
<u>low tide</u>	Date										10	11	3
Mean high tide											2.40	2.53	2.81
Mean water level											.83	.93	1.21
Mean low tide											-.73	-.64	-.40

REMARKS.--No gage-height record Sept. 4-9, 14, 15, 27-29; gage height estimated on the basis of the record for Big Sheepshead Creek at Great Bay Boulevard.

NEW JERSEY WETLANDS

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01409335 Shooting Thorofare at Old Coast Guard Station, near Tuckerton, N. J.

LOCATION.-- Lat 39°30'30", long 74°19'30", Ocean County, northwest end of boat dock behind the abandoned Little Egg Coast Guard Station at foot of Great Bay Boulevard, 6.4 miles south of Tuckerton.

PERIOD OF RECORD.--Established June 19, 1971.

GAGE.--Water-stage recorder. Gage height converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations for period are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										3.50	4.02	3.58
high tide	Date										11	28	7
Minimum	Elevation										-1.45	-1.73	-1.79
low tide	Date										10	11	5
Mean high tide											2.45	2.56	2.81
Mean water level											.80	.86	1.04
Mean low tide											-.86	-.83	-.52

01409340 Seven Islands near Tuckerton, N. J.

LOCATION.--Lat 39°31'08", long 74°19'11", Ocean County, on northeast corner of Wharf, Fish Products Company of N. J., at Seven Islands, 5.8 miles south of Tuckerton.

PERIOD OF RECORD.--Established June 29, 1971.

GAGE.--Water-stage recorder. Gage height converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations for period are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										3.52	3.97	3.44
high tide	Date										11	28	7
Minimum	Elevation										-1.32	-1.69	-1.72
low tide	Date										10	11	4
Mean high tide											2.39	2.48	2.72
Mean water level											.72	.79	1.03
Mean low tide											-.84	-.78	-.55

NEW JERSEY WETLANDS

01409345 Great Bay at Cape Horn Marina, near Tuckerton, N. J.

LOCATION.--Lat 39°32'35", long 74°19'42", Ocean County, on boat dock at Cape Horn Marina, 600 ft west of Great Bay Boulevard and 4.0 miles south of Tuckerton.

PERIOD OF RECORD.--Established June 4, 1971.

GAGE.--Water-stage recorder. Gage height converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations for period are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										3.53	4.32	3.53
high tide	Date										11	28	7
Minimum	Elevation										-1.11	-1.18	-1.31
low tide	Date										10	11	4
Mean high tide											2.48	2.57	2.82
Mean water level											.88	.98	1.22
Mean low tide											-.68	-.61	-.38

01409360 Big Creek at Radio Road, near Tuckerton, N. J.

LOCATION.--Lat 39°33'14", long 74°22'30", Ocean County, on northern abutment of highway bridge at Radio Road in Mystic Islands, 3.8 miles southwest of Tuckerton.

PERIOD OF RECORD.--Established June 29, 1971.

GAGE.--Water-stage recorder. Record expressed in gage height above an established datum. The distance above or below mean sea level of the datum not yet determined.

Summaries of gage heights for period are as follows:

GAGE HEIGHT, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Gage height										4.27	4.96	4.38
high tide	Date										11	28	11
Minimum	Gage height										.07	-.02	-.01
low tide	Date										8	11	4
Mean high tide											3.46	3.52	3.76
Mean water level											1.96	2.01	2.27
Mean low tide											.46	.50	.73

01409370 Great Bay at Great Bay Marina, near Tuckerton, N. J.

LOCATION.--Lat 39°32'23", long 74°23'13", Ocean County, in southwest corner of Marina, at end of Radio Road, 4.6 miles southwest of Tuckerton.

PERIOD OF RECORD.--Established June 18, 1971.

GAGE.--Water-stage recorder. Record expressed in gage height above an established datum. The distance above or below mean sea level of the datum not yet determined.

Summaries of gage heights for period are as follows:

GAGE HEIGHT, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971													
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Gage height										5.60	6.81	5.69
high tide	Date										11	28	7
Minimum	Gage height										1.08	.97	.84
low tide	Date										8	11	4
Mean high tide											4.63	4.76	4.98
Mean water level											3.04	3.13	3.36
Mean low tide											1.49	1.57	1.77

01410300 Ballangers Creek below Polly Ditch, near Tuckerton, N. J.

LOCATION.--Lat 39°34'21", long 74°24'00", Ocean County, on left bank near private dock downstream from Polly Ditch, 0.5 mile east of end of Bass River State Forest Service road and 3.8 miles southwest of Tuckerton.

PERIOD.--Established June 26, 1971.

GAGE.--Water-stage recorder. Record expressed in gage height above an established datum. The distance above or below mean sea level of the datum not yet determined.

Summaries of gage heights for period are as follows:

GAGE HEIGHT, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971													
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Gage height										6.08	6.77	6.17
high tide	Date										11	28	14
Minimum	Gage height										1.86	1.98	1.70
low tide	Date										8	12	4, 5
Mean high tide											5.36	5.44	5.64
Mean water level											3.87	4.03	4.16
Mean low tide											2.27	2.45	2.63

NEW JERSEY WETLANDS

01410305 Ballangers Creek Entrance near Tuckerton, N. J.

LOCATION.--Lat 39°33'47", long 74°25'03", Ocean County, above fishing camp, 0.4 mile above mouth and 4.8 miles southwest of Tuckerton.

PERIOD OF RECORD.--Established July 1, 1971.

GAGE.--Water-stage recorder. Record expressed in gage height above an established datum. The distance above or below mean sea level of the datum not yet determined.

Summaries of gage heights for period are as follows:

		GAGE HEIGHT, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971											
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Gage height										7.06	7.42	7.17
<u>high tide</u>	Date										11	28	11
Minimum	Gage height										2.71	2.57	2.54
<u>low tide</u>	Date										14	11	4
Mean high tide											6.21	6.30	6.54
Mean water level											4.66	4.75	5.00
Mean low tide											3.11	3.21	3.43

01482620 Salem River at Winslow Farms, near Pennsville, N. J.

LOCATION.--Lat 39°37'44", long 75°28'48", Salem County, near left bank, 300 ft upstream of Winslow Farms Boat Dock, 3.0 miles southeast of Pennsville.

PERIOD OF RECORD.--Established June 30, 1971.

GAGE.--Water-stage recorder. Gage height converted to elevation above or below (-) mean sea level for publication.

Summaries of tide elevations for period are as follows:

		TIDE ELEVATIONS, IN FEET, WATER YEAR JULY 1971 TO SEPTEMBER 1971											
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation										7.94	7.92	8.5 est.
high tide	Date										27,29	31	13
Minimum	Elevation										2.27	3.00	3.55
low tide	Date										7	29	4
Mean high tide											6.91	7.45	7.58
Mean water level											5.48	5.48	6.15
Mean low tide											3.57	3.85	4.26

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