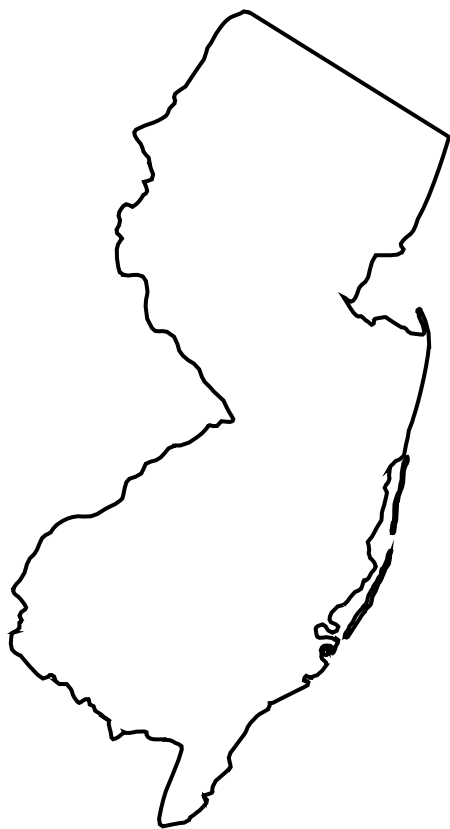


Water Resources Data New Jersey Water Year 2002

Volume 1. Surface-Water Data

Water-Data Report NJ-02-1



U.S. Department of the Interior
U.S. Geological Survey



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

CALENDAR FOR WATER YEAR 2002

2001

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6					1	2	3							1
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14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15
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28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29
														30	31					

2002

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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APRIL							MAY							JUNE						
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7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8
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JULY							AUGUST							SEPTEMBER						
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7	8	9	10	11	12	13	4	5	6	7	8	9	10	8	9	10	11	12	13	14
14	15	16	17	18	19	20	11	12	13	14	15	16	17	15	16	17	18	19	20	21
21	22	23	24	25	26	27	18	19	20	21	22	23	24	22	23	24	25	26	27	28
28	29	30	31				25	26	27	28	29	30	31	29	30					

United States Department of the Interior

U.S. GEOLOGICAL SURVEY

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

I am pleased to announce the release of our Annual report "Water Resources Data for New Jersey, Water Year 2002". This report was prepared by the U.S. Geological Survey, in cooperation with the State of New Jersey as well as many local and federal government agencies.

This report is again being published in three volumes:

Volume 1.--Surface-water streamflow data.

Volume 2.--Ground-water level data.

Volume 3 --Water-quality data.

This volume contains surface-water data, such as stream discharge, elevations of lakes and reservoirs, major surface-water diversions and tidal elevations. Special sections are devoted to low-flow and crest-stage data as well as to summaries of tidal-crest elevations in the New Jersey estuaries and intracoastal waterways.

Streamflow data again are presented in the format that was introduced in the 1988 report. The format includes extensive tabular presentations of streamflow statistics. Also, station numbers are included in the table of contents, and tables of discontinued surface-water stations are presented.

The New Jersey District of the U.S. Geological Survey has made a home page available on the world wide web. Real-time data for more than 65 stream-gaging stations, 14 ground-water wells, 28 tide gages, and 3 continuous water-quality monitors around the State are available. Also, peak-flow files for many gaging stations, ground-water level data, water-quality data, monthly hydrologic conditions, and links to other sites of interest may be accessed. This information is available at:

<http://nj.usgs.gov/>

Copies of this report in paper or microfiche are for sale through the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161. Data also can be provided by file transfer (ftp), downloading from the website listed above, via email, or on floppy disk. When ordering, refer to U.S. Geological Survey Water-Data Report NJ-02-1 (for Volume 1), NJ-02-2 (for Volume 2), or NJ-02-3 (for Volume 3). For further information on this report, or to change or remove your address from our mailing list, please contact Blaine White at (609) 771-3997 (btwhite@usgs.gov) or Tim Reed at (609) 771-3967 (treed@usgs.gov), or at the address above.

Sincerely,



William R. Bauersfeld, Chief
Hydrologic Data Assessment Program

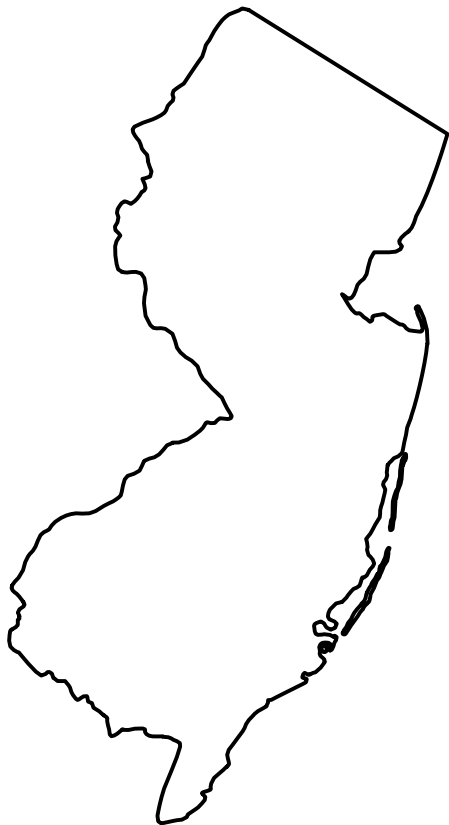
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data New Jersey Water Year 2002

Volume 1. Surface-Water Data

By T.J. Reed, B.T. White, G.L. Centinaro, J.F. Dudek, A.B. Spehar,
A.R. Protz, J.C. Shvanda, A.F. Watson, and G.K. Holzer

Water-Data Report NJ-02-1



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



UNITED STATES DEPARTMENT OF THE INTERIOR

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U.S. Geological Survey

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or access the USGS on the world wide web:

**<http://nj.usgs.gov>,
or <http://water.usgs.gov>,
or <http://www.usgs.gov>**

PREFACE

This volume of the annual hydrologic data report of New Jersey is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow (Volume 1), ground-water levels (Volume 2), and water quality (Volume 3) provide the hydrologic information needed by state, local, and federal agencies, and the private sector for developing and managing our Nation's land and water resources.

Hydrologic data for New Jersey are contained in 3 volumes:

Volume 1. Surface-Water Data
Volume 2. Ground-Water Data
Volume 3. Water-Quality Data

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

Robert D. Schopp

M.D. Morgan word processed the text of the report. G.L. Simpson, W.H. Ellis and D.K. Sun drafted the illustrations. Text was edited by R.M. Larkins and D.L. Simmons.

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

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J. Gibs	J.E. Marlow	A.F. Watson
B. Gray	E. Melvin	C.M. Wieben
H.A. Heckathorn	J.P. Nawyn	

This report was prepared in cooperation with the State of New Jersey and with other agencies under the supervision of William R. Bauersfeld, Chief of the Hydrologic Data Assessment Program; under the general supervision of David A. Stedfast, Associate District Chief; Richard H. Kropp, District Chief, New Jersey; and William J. Carswell, Jr., Regional Hydrologist, Northeastern Region.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE June 2003	3. REPORT TYPE AND DATES COVERED Annual--October 1, 2001 to September 30, 2002
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4. TITLE AND SUBTITLE Water Resources Data - New Jersey, Water Year 2002, Volume 1 Surface-Water Data	5. FUNDING NUMBERS
---	--------------------

6. AUTHOR(S) T.J. Reed, B.T. White, G.L. Centinaro, J.F. Dudek, A.B. Spehar, A.R. Protz, J.C. Shvanda, A.F. Watson, and G.K. Holzer
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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Geological Survey, Water Resources Division Mountain View Office Park 810 Bear Tavern Road, Suite 206 West Trenton, NJ 08628-1099	8. PERFORMING ORGANIZATION REPORT NUMBER USGS-WDR-NJ-02-1
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9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Geological Survey, Water Resources Division Mountain View Office Park 810 Bear Tavern Road, Suite 206 West Trenton, NJ 08628-1099	10. SPONSORING / MONITORING AGENCY REPORT NUMBER USGS-WDR-NJ-02-1
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11. SUPPLEMENTARY NOTES
Prepared in cooperation with the New Jersey Department of Environmental Protection and with other agencies.

12a. DISTRIBUTION / AVAILABILITY STATEMENT No restriction on distribution. This report can be purchased from National Technical Information Services, Springfield, Virginia 22161	12b. DISTRIBUTION CODE
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13. ABSTRACT (Maximum 200 words)
Water-resources data for the 2002 Water Year for New Jersey are presented in three volumes, and consists of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground water. Volume 1 contains discharge records for 93 gaging stations; tide summaries at 31 gaging stations; and stage and contents at 39 lakes and reservoirs. Also included are stage and discharge for 104 crest-stage partial-record stations and stage-only at 31 tidal crest-stage gages. Locations of these sites are shown in figures 8-11. Additional water data were collected at various sites that are not part of the systematic data-collection program. Discharge measurements were made at 201 low-flow partial-record stations and 121 miscellaneous sites.

*New Jersey, *hydrologic data, *surface water, *streamflow, flow rate, gaging stations, lakes, reservoirs, water temperatures.

14. SUBJECT TERMS	15. NUMBER OF PAGES 391
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT SAR
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**SURFACE WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH
RECORDS ARE PUBLISHED IN THIS VOLUME**

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

[Letter after station name designates type of data: (d) discharge, (e) elevation, gage height or contents]

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DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

The following continuous-record surface-water discharge stations in New Jersey have been discontinued. Daily streamflow records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than 1 year of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.

Discontinued Surface-Water Discharge Stations

Station name	Station number	Drainage area (mi ²)	Period of record
Wallkill River near Unionville, NY	01368000	140	1938-81
Auxiliary outlet of Upper Greenwood Lake at Moe, NJ	01368720	----	1968-80a
Passaic River near Bernardsville, NJ	01378690*	8.83	1968-77
Passaic River at Hanover Neck, NJ	01379580	132	1993-97b
Russia Brook tributary at Milton, NJ	01379630	1.64	1969-71
Rockaway River at Berkshire Valley, NJ	01379700	24.4	1985-96
Beaver Brook at Splitrock Reservoir, NJ	01380000	5.50	1925-46, 1976-88a
Passaic River at Towaco, NJ	01381950	355	1993-97b
Pequannock River at Riverdale, NJ	01382800	83.9	1994-97
Wanaque River at Monks, NJ	01384000	40.4	1935-85
Cupsaw Brook near Wanaque, NJ	01385000	4.37	1935-58
Erskine Brook near Wanaque, NJ	01385500	1.14	1934-38
West Brook near Wanaque, NJ	01386000	11.8	1935-78
Blue Mine Brook near Wanaque, NJ	01386500	1.01	1935-58
Ramapo River downstream of Pond Brook, at Oakland, NJ	01387890	143	1999-2000
Pompton River at Mountain View, NJ	01388910	371	1993-97b
Deepavaal Brook near Fairfield, NJ	01389130	1.37	1993-97b
Passaic River at Paterson, NJ	01389800	785	1897-1955
Hohokus Brook at Ho-Ho-Kus, NJ	01391000*	16.4	1954-73, 1977-96
Weasel Brook at Clifton, NJ	01392000	4.45	1937-62
Third River at Passaic, NJ	01392210	11.8	1977-97
Second River at Belleville, NJ	01392500	11.6	1938-64
Elizabeth River at Irvington, NJ	01393000	2.90	1931-38
Elizabeth River at Elizabeth, NJ	01393500	20.2	1922-73
East Fork East Branch Rahway River, at West Orange, NJ	01393800	.83	1972-74
West Branch Rahway River at Millburn, NJ	01394000	7.10	1940-50
Robinsons Branch at Goodmans, NJ	01395500	12.7	1921-24
Robinsons Branch at Rahway, NJ	01396000	21.6	1939-96
Walnut Brook near Flemington, NJ	01397500*	2.24	1936-61
Back Brook tributary near Ringoes, NJ	01398045*	1.98	1977-88
Holland Brook at Readington, NJ	01398107	9.00	1978-95
North Branch Raritan River at Pluckemin, NJ	01399000	52.0	1903-06
Lamington (Black) River at Succasunna, NJ	01399190	7.37	1976-87
Lamington (Black) River near Ironia, NJ	01399200	10.9	1975-87
Upper Cold Brook near Pottersville, NJ	01399510	2.18	1972-96
Axle Brook near Pottersville, NJ	01399525*	1.22	1977-88
South Branch Rockaway Creek at Whitehouse, NJ	01399690	13.2	1977-86
Rockaway Creek at Whitehouse, NJ	01399700	37.1	1977-84
North Branch Raritan River at North Branch, NJ	01399830*	174	1977-81
Peters Brook near Raritan, NJ	01400300	4.19	1978-95
Macs Brook at Somerville, NJ	01400350	.77	1982-95
Millstone River at Plainsboro, NJ	01400730*	65.8	1964-75, 1987-89
Baldwins Creek at Baldwin Lake, near Pennington, NJ	01400932	2.52	1963-70
Honey Branch near Pennington, NJ	01400953	.70	1967-75
Millstone River at Carnegie Lake, at Princeton, NJ	01401301*	159	1972-74, 1987-89

WATER RESOURCES DATA - NEW JERSEY, 2002

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
Millstone River near Kingston, NJ	01401500	171	1934-49
Royce Brook tributary at Frankfort, NJ	01402590	.29	1969-74
Royce Brook tributary near Belle Mead, NJ	01402600	1.20	1966-74, 1980-95
Raritan River at Bound Brook, NJ	01403000	779	1903-09, 1945-66
West Branch Middle Brook near Somerville, NJ	01403160	3.83	1983-86
Green Brook at Plainfield, NJ	01403500*	9.75	1938-84
East Branch Stony Brook at Best Lake, at Watchung	01403535*	1.57	1980-2000
Bound Brook at Middlesex, NJ	01403900*	48.4	1972-77, 1997-98
Bound Brook at Bound Brook, NJ	01404000	49.0	1923-30
Lawrence Brook at Patricks Corner, NJ	01404500	29.0	1922-26
Lawrence Brook at Farrington Dam, NJ	01405000	34.4	1927-90
Matchaponix Brook at Spotswood, NJ	01405300	43.9	1957-67
South River at Old Bridge, NJ	01405500	94.6	1939-88
Deep Run near Browntown, NJ	01406000	8.07	1932-40
Tennent Brook near Browntown, NJ	01406500	5.25	1932-41
Matawan Creek at Matawan, NJ	01407000	6.11	1932-55
South Branch Metedeconk River at Lakewood, NJ	01408140	26.0	1973-76
South Branch Metedeconk River near Lakewood, NJ	01408150	27.5	1992-99
Cedar Creek at Lanoka Harbor, NJ	01409000	55.3	1933-58, 1971
Oyster Creek near Brookville, NJ	01409095	7.43	1965-84
Westecunk Creek at Stafford Forge, NJ	01409280	15.8	1974-88
West Branch Wading River near Jenkins, NJ	01409810	84.1	1974-96
Absecon Creek at Absecon, NJ	01410500	17.9	1946-85
Great Egg Harbor River at Sicklerville, NJ	01410784	15.1	1996-98
Great Egg Harbor River tributary at Sicklerville, NJ	01410787	1.64	1972-79
Fourmile Branch at New Brooklyn, NJ	01410810	7.74	1973-79
Great Egg Harbor River near Blue Anchor, NJ	01410820	37.3	1972-79
Maurice River at Brotmanville, NJ	01411485	88.1(revised)	1992-94
Blackwater Branch at Norma, NJ	01411495	12.5	1992-94
Maurice River near Millville, NJ	01411800	191	1992-94
Maurice River at Union Lake Dam, at Millville, NJ	01411878	216	1993-94
Menantico Creek near Millville, NJ	01412000	23.2	1931-57, 1978-85
West Branch Cohansey River at Seeley, NJ	01412500*	2.58	1951-67
Cohansey River at Seeley, NJ	01412800	28.0	1978-88
Loper Run near Bridgeton, NJ	01413000	2.34	1937-59
Delaware River near Delaware Water Gap, PA	01440200	3,850	1964-96
Paulins Kill at Columbia, NJ	01444000	179	1908-09
Pequest River at Huntsville, NJ	01445000	31.0	1940-62
Pequest River at Townsbury, NJ	01445430	92.5	1977-80
Beaver Brook near Belvidere, NJ	01446000	36.7	1923-61
Delaware River at Easton, PA	01446700	4,636	1968-78
Brass Castle Creek near Washington, NJ	01455160	2.34	1970-83a
Pohatcong Creek at New Village, NJ	01455200	33.3	1960-69
Beaver Brook near Weldon, NJ	01455355	1.72	1969-71
Musconetcong River at outlet of Lake Hopatcong, NJ	01455500	25.3	1928-75
Musconetcong River near Hackettstown, NJ	01456000	68.9	1922-73
Delaware River at Riegelsville, NJ	01457500*	6,328	1906-71
Delaware and Raritan Canal at Carnegie Lake, NJ	01460490	---	1951-99ab
Delaware and Raritan Canal at Kingston, NJ	01460500	---	1947-91
Delaware River at Lambertville, NJ	01462000	6,680	1898-1906

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
New Sharon Run at Carsons Mills, NJ	01463587	6.63	1976-77
Shipetaukin Creek tributary at Lawrenceville, NJ	01463657	.78	1976-77
Little Shabakunk Creek at Bakersville, NJ	01463690	3.98	1976-77
Thorton Creek at Bordentown, NJ	01464525*	.84	1976-77
Middle Branch Mount Misery Brook in Lebanon State Forest, NJ	01466000	2.82	1953-65, 1977
Mill Creek near Willingboro, NJ	01467019	4.12	1975-78
Mill Creek at Levitt Parkway, at Willingboro, NJ	01467021	9.12	1975-77
Mantua Creek at Pitman, NJ	01475000	6.05	1940-76
Still Run near Mickleton, NJ	01476600	3.98	1957-66
Oldmans Creek near Woodstown, NJ	01477500	18.5	1932-40
Salem River at Woodstown, NJ	01482500	14.6	1940-85, 1989
Alloway Creek at Alloway, NJ	01483000	20.3	1953-72

a Not published, on file at U.S. Geological Survey, West Trenton, NJ.

b Stage only.

* Currently operated as crest-stage partial-record station.

WATER RESOURCES DATA - NEW JERSEY, 2002
DISCONTINUED CREST-STAGE PARTIAL-RECORD STATIONS

The following crest-stage partial-record stations in New Jersey have been discontinued. Annual maximum gage height and discharge measurements were made for the period of record shown for each station

Station name	Station number	Drainage area (mi ²)	Period of Record (water years)
Musquapsink Brook near Westwood, NJ	01377475	2.12	1965-86
Tenakill Brook at Cresskill, NJ	01378350	3.01	1965-78
Wolf Creek at Ridgefield, NJ	01378615	1.18	1965-86
Rockaway River at Warren Street, at Dover, NJ	01379845	52.1	1981-97
Pequannock River at Riverdale, NJ	01382800	83.9	1981,1984,1994-97*
Fleischer Brook at East Paterson, NJ	01389905	1.78	1965-66
Saddle River at Paramus, NJ	01391110	45.0	1965-78
Sprout Brook at Rochelle Park, NJ	01391485	5.56	1965-78
Weasel Brook at Clifton, NJ	01392000	4.45	1938-62*,1963-78,1989-90
Second River at Belleville, NJ	01392500	11.6	1937-64*,1963-95
East Fork East Branch Rahway River, at Orange, NJ	01393810	.83	1972-78
South Branch Raritan River near Bartley, NJ	01396117	11.7	1970
Lamington River near Whitehouse, NJ	01399550	57.3	1978-79
South Branch Rockaway Creek at Whitehouse Station, NJ	01399690	13.2	1977-86*, 1987-88
Rockaway Creek at Whitehouse, NJ	01399700	37.1	1978-84*, 1985-95
Lamington River at Lamington Road, near North Branch, NJ	01399760	97.6	1978-79
Millstone River at Southfield Road, near Grovers Mill, NJ	01400630	41.0	1971, 1975, 1979-99
Millstone River at Plainsboro, NJ	01400730	65.8	1965-75, 1976-87, 1987-89,1990-99
Bear Brook at Route 535, near Locust Corner, NJ	01400775	6.69	1971, 1975, 1979-99
Bear Brook at Route 571, near Grovers Mill, NJ	01400795	9.28	1986-99
Little Bear Brook at Penns Neck, NJ	01400822	1.84	1971, 1975, 1979-95
Woodsville Brook at Woodsville, NJ	01400850	1.78	1957-58, 1964-80
Stony Brook at Glenmoore, NJ	01400900	17.0	1957-95
Stony Brook at Pennington, NJ	01400947	26.5	1965-78
Honey Branch near Pennington, NJ	01400953	.70	1966, 1967-74*
Honey Branch near Mount Rose, NJ	01400960	1.28	1969-78
Honey Branch near Rosedale, NJ	01400970	3.83	1967-78
Duck Pond Run near Princeton Junction, NJ	01401160	1.81	1980-99
Duck Pond Run at Clarksville, NJ	01401200	5.21	1965-85
Beden Brook near Hopewell, NJ	01401520	6.67	1967-85
East Branch Middle Brook at Warrenville, NJ	01403080	2.71	1994-95
Green Brook at North Plainfield, NJ	01403470	8.01	1972-78
Green Brook at Dunellen, NJ	01403700	20.7	1972-77
Bound Brook at South Bound Brook, NJ	01404080	65.0	1972-77
Lawrence Brook at Farrington Dam, NJ	01405000	34.3	1927-90*, 1991-95
Manasquan River near Georgia, NJ	01407830	10.6	1969-95
Manasquan River at Allenwood, NJ	01408030	63.9	1969-95
Cedar Creek at Lanoka Harbor, NJ	01409000	53.3	1933-58*, 1971*, 1979-84, 1993
Oyster Creek near Brookville, NJ	01409095	7.43	1966-85*, 1991
Westecunk Creek at Stafford Forge, NJ	01409280	15.8	1973-88*, 1991
Mullica River near Atco, NJ	01409375	3.22	1975-87
Hays Mill Creek near Chesilhurst, NJ	01409402	7.13	1975-78
Wildcat Branch at Chesilhurst, NJ	01409403	1.03	1975-87
Pump Branch near Blue Anchor, NJ	01409407	6.20	1975-77
Blue Anchor Brook near Blue Anchor, NJ	01409409	3.01	1975-87

DISCONTINUED CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
Great Egg Harbor River at Berlin, NJ	01410775	1.88	1964-71
Fourmile Branch at New Brooklyn, NJ	01410810	7.74	1972-79*, 1980-91
Menantico Creek near Millville, NJ	01412000	23.2	1931-57*, 1978-84*, 1985-95
Cohansey River at Seeley, NJ	01412800	28.0	1978-88*, 1989-95
Pequest River at Huntsville, NJ	01445000	31.0	1940-62*, 1963-95
Pequest River at Townsbury, NJ	01445430	92.5	1978-80*, 1981-93
Furnace Brook at Oxford, NJ	01445490	4.29	1966-78
Beaver Brook near Belvidere, NJ	01446000	36.7	1923-61*, 1962-95
Pohatcong Creek at New Village, NJ	01455200	33.3	1960-69*, 1970-95
Musconetcong River at outlet of Lake Hopatcong, NJ	01455500	25.3	1929-75*, 1976-95
Musconetcong River near Hackettstown, NJ	01456000	68.9	1922-73*, 1974-95
Crosswicks Creek at New Egypt, NJ	01464400	41.2	1968-94
Crosswicks Creek at Groveville, NJ	01464505	98.2	1968-74
Doctors Creek at Allentown, NJ	01464515	17.4	1968-95
Doctors Creek at Groveville, NJ	01464520	25.3	1968-79
Blacks Creek at Mansfield Square, NJ	01464530	19.7	1978-95
Assisunk Creek near Columbus, NJ	01464582	10.9	1978-95
Southwest Branch Rancocas Creek at Medford, NJ	01465880	47.2	1983-95
Southwest Branch Rancocas Creek at Route 70, at Medford, NJ	01465882	47.9	1978-82
Middle Branch Mount Misery Brook in Lebanon State Forest, NJ	01466000	2.82	1953-65*, 1967-78
Parkers Creek near Mount Laurel, NJ	01467010	2.68	1967-71
North Branch Pennsauken Creek near Moorestown, NJ	01467069	12.8	1975-88
South Branch Pennsauken Creek at Maple Shade, NJ	01467080	8.10	1964-68
Cooper River at Kirkwood, NJ	01467130	5.10	1964-80
Cooper River at Lawnside, NJ	01467140	12.7	1964-68
North Branch Cooper River near Marlton, NJ	01467160	5.34	1964-88
North Branch Cooper River at Ellisburg, NJ	01467180	10.5	1964-75
Cooper River at Camden, NJ	01467190	35.2	1967-73, 1994
Newton Creek at West Collingswood, NJ	01467312	4.51	1964-68
South Branch Big Timber Creek at Blackwood, NJ	01467330	20.9	1964-84
North Branch Big Timber Creek at Laurel Springs, NJ	01467350	6.55	1964-68
Mantua Creek at Pitman, NJ	01475000	6.05	1940-76*, 1977-94
Mantua Creek at Salina, NJ	01475019	14.1	1975-88
Raccoon Creek at Mullica Hill, NJ	01477110	15.6	1940, 1978-95
Oldmans Creek near Harrisonville, NJ	01477480	13.8	1975-95
Salem River at Woodstown, NJ	01482500	14.6	1940*, 1942-84*, 1985-88, 1989-90*, 1991-95

* Operated as a continuous-record gaging station.

WATER RESOURCES DATA - NEW JERSEY, 2002**DISCONTINUED LOW-FLOW STATIONS**

The following low-flow partial-record stations in New Jersey have been discontinued. Stream flow measurements were made during periods of base-flow, for the period of record shown for each station. These measurements, when correlated with the simultaneous discharge at nearby continuous-record sites, will give a picture of the low-flow potentiality of a stream.

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Wallkill River at outlet of Lake Mohawk, at Sparta, NJ	01367620	4.38	1979-86
Wallkill River at Franklin, NJ	01367700	29.4	1959-64,1982-83,1985,1987-90
Beaver Run near Hamburg, NJ	01367750	5.59	1966-72
Wallkill River near Sussex, NJ	01367770	60.8	1977-82,1985,1987-2001
Papakating Creek at Pelletstown, NJ	01367800	15.8	1959-64
West Branch Papakating Creek at McCoys Corner, NJ	01367850	11.0	1967-72, 2001-02
Clove Brook above Clove Acre Lake, at Sussex, NJ	01367890	19.2	1967-72
Clove Brook at Sussex, NJ	01367900	19.7	1959-64
Black Creek near Vernon, NJ	01368950	17.3	1977-96,2001
Musquapsink Brook near Westwood, NJ	01377475	2.12	1964-72,1975,1978,1981-86
Tenakill Brook at Cresskill, NJ	01378350	3.01	1964-73,1975
Tenakill Brook at Closter, NJ	01378385	8.56	1964-75,1978,1982,1985-2000
Dwars Kill at Norwood, NJ	01378410	4.23	1973-80
Norwood Brook at Norwood, NJ	01378430	2.03	1973-80
Hirshfeld Brook at New Milford, NJ	01378520	4.54	1965-72
French Brook at New Bridge, NJ	01378530	.46	1965-72
Coles Brook at Hackensack, NJ	01378560	7.00	1965-72, 1998-2002
Metzler Brook at Englewood, NJ	01378590	1.54	1964-72,1977-78,1982,1987-98
Wolf Creek at Ridgewood, NJ	01378615	1.18	1964-72
Passaic River near Bernardsville, NJ	01378690	8.83	1964-77,1983-84,1987,1989, 1992-93,1997-98,2001
Passaic River at outlet Osborn Pond, at Osborn Mill, NJ	01378700	10.1	1961-68
Great Brook at Green Village, NJ	01378750	7.92	1961-65
Primrose Brook near New Vernon, NJ	01378800	4.68	1961-65
Great Brook near Basking Ridge, NJ	01378850	23.1	1961-65
Black Brook near Meyersville, NJ	01378900	11.7	1959-63
Harrisons Brook at Liberty Corner, NJ	01379150	3.74	1964-67, 1983-84
Dead River near Millington, NJ	01379200	20.8	1961-67,1973-75,1986-89
Passaic River at Stirling, NJ	01379300	84.1	1968-70,1972-73,1983-84
Canoe Brook near Millburn, NJ	01379525	10.2	1989-2001
Passaic River at Lower Chatham Bridge, near Chatham, NJ	01379550	116.0	1964,1984,1988-89
Passaic River at Hanover, NJ	01379570	128.0	1963-66,1973,1987-89
Rockaway River at Berkshire Valley, NJ	01379700	24.4	1960-72,1981,1984-98
Rockaway River at Dover, NJ	01379750	30.8	1963-66,1983-86
Hibernia Brook at outlet of Lake Telemark, NJ	01380050	2.53	1966-72
Stony Brook near Rockaway Valley, NJ	01380300	8.43	1963-67,1985-86
Crooked Brook near Boonton, NJ	01381150	7.86	1963-66
Rockaway River at Pine Brook, NJ	01381200	136	1963-70,1972-73,1979-81, 1983-83,1995-97,2001
Whippany River near Morristown, NJ	01381400	14.0	1964-72
Jacquis Brook at Greystone Park State Hospital, NJ	01381470	1.39	1967-73
Watnong Brook at Morris Plains NJ	01381490	7.77	1966-72, 1995

DISCONTINUED LOW-FLOW STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Malapardis Brook at Whippany, NJ	01381550	5.07	1961,1989-2001
Whippany River near Whippany, NJ	01381600	48.5	1963-66,1973
Troy Brook at Troy Hills, NJ	01381700	10.1	1961-66,1972-73
West Brook at Troy Hills, NJ	01381750	1.32	1961-66
Whippany River near Pine Brook	01381800	68.5	1963-68,1973,1979-2001
Passaic River at Two Bridges, NJ	01382000	361	1963-68, 1983-99
Pequannock River near Stockholm, NJ	01382050	5.39	1959-64, 2002
Kanouse Brook at Newfoundland, NJ	01382360	3.87	1963-67, 2002
Macopin River at Macopin Reservoir, NJ	01382450	5.25	1970-73
Pequannock River tributary no. 1 at Kinnelon, NJ	01382550	1.18	1992-2001
Stone House Brook at Kinnelon, NJ	01382700	3.45	1992-98,2000,2001
Belcher Creek at Stowaway Road, at West Milford, NJ	01382870	5.44 (revised)	1973-77
Belcher Creek tributary at West Milford, NJ	01382880	.61	1973-77
Belcher Creek at West Milford, NJ	01382890	7.27	1973-77, 1995
Morsetown Brook at West Milford, NJ	01382910	1.31	1973-77
Green Brook near West Milford, NJ	01382960	1.47	1973-77
Cooley Brook near West Milford, NJ	01382990	1.34	1973-77
Masonicus Brook at West Mahwah, NJ	01387490	3.84	1981-82,1992-2001
Stag Brook near Mahwah, NJ	01387520	1.35	1963-70,1972
Darlington Brook at Darlington, NJ	01387600	3.38	1963-67, 1982-83, 1998
Ramapo River near Darlington, NJ	01387670	131	1963-66,1982-83
Bear Swamp Brook near Oakland, NJ	01387700	3.25	1963-67, 1982-83
Pond Brook at Oakland, NJ	01387880	6.76	1963-72,1976-77,1981-97
Ramapo River tributary No. 5 at Oakland, NJ	01387930	.86	1963-67, 1982
Acid Brook at Pompton Lakes, NJ	01387950	1.79	1963-67, 1982
Haycock Brook at Pompton Lakes, NJ	01387980	4.18	1963-64,1973-77, 1982
Beaver Dam Brook at Lincoln Park, NJ	01388700	12.3	1992-2001
Pompton River at Two Bridges, NJ	01389000	372	1963-68,1984,1986-88
Molly Ann Brook at Paterson, NJ	01389790	7.73	1963-72,1983-84
Goffle Brook at Hawthorne, NJ	01389850	8.77	1963-67
Fleischer Brook at Elmwood Park, NJ	01389905	1.78	1964-72
Saddle River at Upper Saddle River, NJ	01390450	10.9	1964-72,1975-78,1982,1987-97
Hohokus Brook at Wyckoff, NJ	01390700	5.31	1963-67
Valentine Brook at Allendale, NJ	01390800	2.48	1963-67
Ramsey Brook at Allendale, NJ	01390900	2.55	1974-77,1982,1986-2001
Saddle River at Paramus, NJ	01391110	45.0	1964-69,1971-72
Sprout Brook at Rochelle Park, NJ	01391485	5.56	1964-72
Third River at Nutley, NJ	01392200	11.4	1963-73
Elizabeth River below Chancellor Avenue, at Irvington, NJ	01393200	5.14	1955,1961-62,1966
West Branch Elizabeth River near Union, NJ	01393350	2.53	1989-98
South Branch Rahway River at Colonia, NJ	01396030	9.41	1979-86
South Branch Raritan River tributary no. 6 at Budd Lake, NJ	01396070	.70	1973-77
South Branch Raritan River tributary no. 7 at Budd Lake, NJ	01396080	.21	1973-1977
South Branch Raritan River at outlet of Budd Lake, NJ	01396090	5.03	1964,1973-77,1980-83
South Branch Raritan River at Bartley, NJ	01396120	12.5	1964-73,1990-91

WATER RESOURCES DATA - NEW JERSEY, 2002**DISCONTINUED LOW-FLOW STATIONS--Continued**

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Drakes Brook at Reger Road, at Flanders, NJ	01396160	11.6	1965,1990
Drakes Brook at Bartley, NJ	01396180	16.6	1964-73,1975-76,1988-90,2000
Stony Brook at Naughtright, NJ	01396220	3.34	1964-67,1973,1990-98
Electric Brook at Long Valley, NJ	01396240	3.17	1991-2001
South Branch Raritan River at Middle Valley, NJ	01396280	47.7	1963-67,1973,1975,1982-92
South Branch Raritan River at Califon, NJ	01396350	58.5	1975-76,1989-90
Spruce Run near High Bridge, NJ	01396590	15.5	1973-77
Spruce Run near Clinton, NJ	01396600	18.1	1959-64
Mulhockaway Creek tributary at Van Syckel, NJ	01396670	2.76	1973-77
Mulhockaway Creek near Clinton, NJ	01396700	20.5	1959-64
Capoolong Creek at Lansdowne, NJ	01396900	14.1	1959-65, 2002
Prescott Brook at Round Valley, NJ	01397100	4.61	1958-63
Assiscong Creek at Bartles Corners, NJ	01397290	2.98	1981-89
Neshanic River near Flemington, NJ	01397800	11.4	1981-89
Third Neshanic River near Ringoes, NJ	01397900	9.24	1981-89
Back Brook near Reaville, NJ	01398052	11.4	1981-89
Pleasant Run at Centerville, NJ	01398075	8.11	1982-89
India Brook near Mendham, NJ	01398220	4.36	1964-67
North Branch Raritan River near Chester, NJ	01398260	7.57	1964-67,1980-92
Dawsons Brook near Ironia, NJ	01398300	1.04	1964-67
Burnett Brook near Chester, NJ	01398360	6.64	1964-67
Peapack Brook at Gladstone, NJ	01398700	4.23	1964-67
Peapack Brook at Far Hills, NJ	01398850	11.7	1964-67,1973-76
Mine Brook at Far Hills, NJ	01398950	7.78	1964-67,1973-76
Middle Brook at Burnt Mills, NJ	01399100	6.67	1964-67,1976
Succasunna Brook at Succasunna, NJ	01399194	1.72	1971-82
Lamington River near Chester, NJ	01399280	17.3	1963-64,1973,1990
Tanners Brook near Milltown, NJ	01399295	2.78	1991-2000
Lamington River at Milltown, NJ	01399300	23.2	1988-2001
Cold Brook at Oldwick, NJ	01399540	5.32	1973-76
Rockaway Creek at McCrea Mills, NJ	01399570	17.0	1961-65, 2002
South Branch Rockaway Creek tributary at Lebanon, NJ	01399600	1.02	1958,1960-64
Rockaway Creek at Whitehouse, NJ	01399700	37.1	1959-65,1973,1977-97,1999
Chambers Brook near North Branch, NJ	01399820	4.71	1964-72
Chambers Brook at North Branch Depot, NJ	01399900	10.2	1959-64,1976
Millstone River near Manalapan, NJ	01400540	7.37	1960-64,1971-72,1985-96
Millstone River at Applegarth, NJ	01400560	15.0	1960-64,1971-72
Millstone River at Hightstown, NJ	01400580	19.7	1960-64,1969-74
Rocky Brook at Hightstown, NJ	01400593	9.58	1965-72, 1999
Peddie Brook at Hightstown, NJ	01400596	3.07	1965-72, 1999
Millstone River at Locust Corner, NJ	01400600	37.5	1959-64,1971-72
Millstone River near Grovers Mill, NJ	01400640	42.6	1959-65,1971-72,1986-87, 1992-95,1998-2001
Cranbury Brook at Old Church, NJ	01400670	3.69	1960-64
Cranbury Brook at Cranbury Station, NJ	01400700	9.56	1959-64,1971-72, 2002
Bear Brook near Hickory Corner, NJ	01400750	3.46	1960-65

DISCONTINUED LOW-FLOW STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Little Bear Brook at Hickory Corner, NJ	01400770	1.88	1960-64
Bear Brook near Grovers Mill, NJ	01400800	9.52	1959-64
Bear Brook at Princeton Junction, NJ	01400810	12.4	1962-67,1971-72
Millstone River at Princeton Junction, NJ	01400820	78.5	1960-61
Woodsville Brook at Woodsville, NJ	01400850	1.78	1957-59,1963-73, 1980
Stony Brook at Glenmoore, NJ	01400900	17.0	1957-64,1969,1971-72,1982-89, 1992,1999
Baldwins Creek at Pennington, NJ	01400930	1.99	1957-61,1963-72,1982-94,1997, 2001
Stony Brook at Pennington, NJ	01400947	26.7	1965-72, 1985-88
Honey Branch near Rosedale, NJ	01400970	3.83	1957-59,1971-75, 1985-88
Stony Brook at Clarksville, NJ	01401100	46.5	1959-64
Duck Pond Run at Clarksville, NJ	01401200	3.74 (revised)	1954-55,1960-67, 1973, 1977, 1979-80, 1984
Heathcote Brook at Kingston, NJ	01401400	9.0	1971-72,1980-84,1989-92, 1998-2001
Beden Brook near Hopewell, NJ	01401520	6.67	1965-72
Rock Brook at Blawenburg, NJ	01401590	8.02	1962-67,1971-72, 1987-88
Beden Brook near Rocky Hill, NJ	01401600	27.0	1959-63,1965-67,1971-72,1977, 1979,1981-2001
Pike Run near Rocky Hill, NJ	01401700	22.2	1959-63,1971-72, 2001-02
Ten Mile Run near Blackwells Mills, NJ	01401800	4.36	1960-64,1971-72
Six Mile Run at Blackwells Mills, NJ	01401900	16.1	1960-67,1971-72, 2000-02
Royce Brook at Manville, NJ	01402700	11.7	1960-64, 1999
East Branch Middle Brook at Martinsville, NJ	01403100	8.45	1959-64
Bound Brook at South Plainfield, NJ	01403330	9.55	1979-86
Cedar Brook at South Plainfield, NJ	01403350	7.10	1979-86
Ambrose Brook at Middlesex, NJ	01404060	13.9	1979-91
Mill Brook at Highland Park, NJ	01404180	1.41	1979-86
Lawrence Brook at outlet of Davidsons Mill Pond, NJ	01404300	12.2	1973-77
Oakeys Brook near Patricks Corner, NJ	01404400	4.75	1973-77
Ireland Brook at Patricks Corner, NJ	01404470	6.52	1973-77
Beaverdam Brook near Patricks Corner, NJ	01404700	1.51	1973-77
Milford Brook at Englishtown, NJ	01405170	4.86	1982,1984-91
McGellairds Brook at Englishtown, NJ	01405180	14.9	1982,1984-91
Pine Brook at Clarks Mills, NJ	01405210	4.66	1982,1984-91
Matchaponix Brook near Englishtown, NJ	01405240	29.1	1978-88
Barclay Brook near Englishtown, NJ	01405285	4.94	1977-88
Manalapan Brook near Manalapan, NJ	01405335	16.0	1979-88
Manalapan Brook at Bridge Street, at Spotswood, NJ	01405440	43.9	1973-76
Iresick Brook at East Spotswood, NJ	01405470	2.29	1973-77
Deep Run near Browntown, NJ	01406000	8.07	1932-41,1982,1984-88
East Creek at North Centerville, NJ	01407055	1.33 (revised)	1969,1986-93
Waackaack Creek at Middle Road, near Keansburg, NJ	01407070	4.30	1987-93
Town Brook at Church Street, at New Monmouth, NJ	01407102	3.35	1987-93

WATER RESOURCES DATA - NEW JERSEY, 2002**DISCONTINUED LOW-FLOW STATIONS--Continued**

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Hop Brook at Holmdel, NJ	01407200	5.72	1969-74,1989
Willow Brook at Holmdel, NJ	01407250	6.88	1969-74,1989
Big Brook at Vanderburg, NJ	01407300	8.41	1969-74,1989
Yellow Brook at Colts Neck, NJ	01407400	9.71	1969-74,1989
Mine Brook at Colts Neck, NJ	01407450	5.48	1969-74,1989
Pine Brook at Tinton Falls, NJ	01407520	12.1	1969-74,1989
Poricy Brook at Red Bank, NJ	01407532	2.54	1987-93
Whale Pond Brook near Oakhurst, NJ	01407618	6.20	1989-98
Poplar Brook near Deal, NJ	01407628	2.49	1989-98
Harvey (Hog Swamp) Brook at West Allenhurst, NJ	01407636	1.99	1989-98
Shark River at Glendola, NJ	01407700	9.14	1956-63,1966
Jumping Brook above reservoir near Neptune City, NJ	01407755	5.58	1989-99,2001
Polly Pod Brook at South Belmar, NJ	01407780	.99	1989-2001
Wreck Pond Brook near Spring Lake, NJ	01407800	7.00	1956-63,1966, 1995
Hannabrand Brook at Old Mill Rd, near Spring Lake Heights	01407806	3.13	1989-2001
Manasquan River near Georgia, NJ	01407830	10.6	1966,1969-74,1978-87,1989-95
Debois Creek at Adelpia, NJ	01407860	7.21	1966,1969-74
Yellow Brook at West Farms, NJ	01407890	3.57	1966,1969-74
Manasquan River at West Farms, NJ	01407900	33.5	1959-66,1973
Timber Swamp Creek near Farmingdale, NJ	01407970	3.38	1964-72
Mingamahone Brook at Farmingdale, NJ	01408015	6.20	1969-74,1985,1987,1989-96,1999
Mingamahone Brook at Squankum, NJ	01408020	10.7	1966,1969-74
Manasquan River at Allenwood, NJ	01408030	63.9	1956-57,1966,1969-74,1982-95
North Branch Metedeconk River at Lakewood, NJ	01408100	19.4	1959-63,1966
Toms River at Whitesville, NJ	01408300	45.2	1959-63,1966
Union Branch at Lakehurst, NJ	01408440	19.0	1960-64
Manapaqua Brook at Lakehurst, NJ	01408460	6.32	1960-64
Ridgeway Branch near Lakehurst, NJ	01408490	28.2	1959-63
Webbs Mill Branch near Whiting, NJ	01408800	2.92	1973-77
Webbs Mill Branch tributary near Whiting, NJ	01408810	.53	1973-77
North Branch Forked River near Forked River, NJ	01409050	13.4	1961-65
South Branch Forked River near Forked River, NJ	01409080	1.28	1968-74
Oyster Creek near Waretown, NJ	01409100	9.95	1961-65
Mill Creek near Manahawkin, NJ	01409150	10.4	1961-67
Fourmile Branch near Manahawkin, NJ	01409200	5.24	1961-67
Cedar Run near Manahawkin, NJ	01409250	3.34	1961-67
Westecunk Creek at Stafford Forge, NJ	01409280	15.8	1969-88,1997
Mill Branch near Tuckerton, NJ	01409300	4.89	1961-67
Mullica River at Atco, NJ	01409375	3.22	1974-85,1991-2001
Mullica River at outlet Atsion Lake, at Atsion, NJ	01409387	26.7	1980-81,1985-89
Mullica River at Atsion, NJ	01409390	33.1	1975-86
Mullica River tributary near Atsion, NJ	01409395	4.10	1975-77
Hays Mill Creek at Atco, NJ	01409401	3.80	1979,1991-2001
Hays Mill Creek near Chesilhurst, NJ	01409402	7.13	1974-80,1991-2001
Cooper Branch near Chesilhurst, NJ	0140940250	1.93	1979,1991-2001

DISCONTINUED LOW-FLOW STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Wildcat Branch at Chesilhurst, NJ	01409403	1.03	1974-77
Wildcat Branch near Chesilhurst, NJ	0140940310	2.27	1979,1991-2001
Sleeper Branch Diversion Channel near Atsion, NJ	0140940365	--	1979,1991-2001
Sleeper Branch near Atsion, NJ	0140940370	16.1	1991-2001
Sleeper Branch at U.S. Route 206, near Atsion, NJ	01409404	18.2	1975-77
Clark Branch at railroad bridge, near Atsion, NJ	0140940480	6.42	1979,1991-2001
Clark Branch near Atsion, NJ	01409405	7.12	1975-77
Sleeper Branch at Batsto, NJ	01409406	36.1	1975-77
Pump Branch near Blue Anchor, NJ	01409407	6.20	1974-77
Pump Branch near Waterford Works, NJ	01409408	9.78	1991-2001
Blue Anchor Brook near Blue Anchor, NJ	01409409	3.01	1974-77
Blue Anchor Brook at Elm, NJ	0140940950	4.86	1991-2001
Albertson Branch near Elm, NJ	0140940970	17.1	1991-2001
Albertson Brook near Hammonton, NJ	01409410	19.3	1975-77
Great Swamp Branch at Elm, NJ	0140941050	2.83	1991-2001
Nescochague Creek at Pleasant Mills, NJ	01409411	43.8	1975-77
Springers Brook near Indian Mills, NJ	01409450	12.6	1959-63,1977
Springers Brook near Atsion, NJ	01409460	21.2	1975-77
Landing Creek at Philadelphia Avenue, at Egg Harbor City, NJ	01409575	4.86	1974-77
West Branch Wading River near Chatsworth, NJ	01409730	44.8	1975-77
Tulpehocken Creek near Jenkins, NJ	01409780	21.9	1975-77
West Branch Wading River near Harrisville, NJ	01409800	83.9	1957-63
Oswego River at Oswego Lake, NJ	01409970	61.4	1975-77
West Branch Bass River near New Gretna, NJ	01410200	6.54	1969-74
Clarks Mill Stream at Port Republic, NJ	01410215	8.61	1986-93
Morses Mill Stream at Port Republic, NJ	01410225	8.25	1986-93
Great Egg Harbor River at Berlin, NJ	01410775	1.88	1964-74
Great Egg Harbor River near Sicklerville, NJ	01410784	15.1	1971-77
Fourmile Branch near Williamstown, NJ	01410800	5.34	1959-64,1971
Fourmile Branch at Winslow Crossing, NJ	01410803	6.22	1972-80, 1989-96
Squankum Branch at Malaga Road, near Williamstown, NJ	01410865	3.02	1974,1990-96
Penny Pot Stream near Folsom, NJ	01411020	5.35	1968-72
Hospitality Branch at Blue Bell Road near Cecil, NJ	01411035	4.51	1990-96
Hospitality Branch near Cecil, NJ	01411040	8.30	1990-92
Whitehall Branch near Cecil, NJ	01411042	2.21	1990-92
Whitehall Branch below Victory Lakes, near Cecil, NJ	01411047	4.60	1990-96
Hospitality Branch at Berryland, NJ	01411053	20.0	1976-86
Deep Run at Weymouth, NJ	01411140	20.0	1976-86
Great Egg Harbor River at Mays Landing, NJ	01411170	205	1988-98,2001
Babcock Creek at Mays Landing, NJ	01411200	20.0	1959-63
South River near Belcoville, NJ	01411220	20.4	1994-99,2001
English Creek near Scullville, NJ	01411250	3.80	1986-93
Tarkiln Brook near Head of River, NJ	01411299	7.40	1990-92
Mill Creek near Steelmantown, NJ	01411302	3.82	1990-91
Mill Branch near Northfield, NJ	01411305	7.47	1986-93

WATER RESOURCES DATA - NEW JERSEY, 2002**DISCONTINUED LOW-FLOW STATIONS--Continued**

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Mill Creek at outlet Magnolia Lake, at Ocean View, NJ	01411351	2.28	1991-92
Mill Creek at Cold Spring, NJ	01411388	1.34	1991-92
Fishing Creek at Rio Grande, NJ	01411400	2.29	1965-72,1990-92
Green Creek at Green Creek, NJ	01411404	2.49	1965-72
Dias Creek near Cape May Court House, NJ	01411408	1.27	1965-73,1991-92
Bidwell Creek trib. no. 1 near Cape May Court House, NJ	01411410	.41	1967-73,1990-92
Bidwell Creek trib. no. 2 near Cape May Court House, NJ	01411412	.19	1967-72
Goshen Creek at Goshen, NJ	01411418	.33	1967-72,1990-92
Dennis Creek tributary no. 2 at Dennisville, NJ	01411428	4.00	1990-92
Sluice Creek at Clermont, NJ	01411430	.67	1967-72,1990-91
Sluice Creek near South Dennis, NJ	01411434	8.47	1991-92
Dennis Creek tributary near Dennisville, NJ	01411438	2.74	1990-92
East Creek near Eldora, NJ	01411442	8.10	1990-92
West Creek at outlet Pickle Factory Pond, near Eldora, NJ	01411445	11.9	1990-92
Still Run at Aura, NJ	01411450	3.21	1976-90
Scotland Run near Williamstown, NJ	01411460	3.96	1966,1990-92
Scotland Run at Fries Mill, NJ	01411461	9.25	1990-92
Scotland Run at Franklinville, NJ	01411462	14.8	1976-90
Muddy Run at Centerton, NJ	01411700	37.7	1976-84
Maurice River near Millville, NJ	01411800	191.0	1966-72
Mill Creek near Millville, NJ	01411850	15.1	1973-79,1993,1995-98
Maurice River at Sharp Street, at Millville, NJ	01411880	216	1973-76,1988-93
Buckshutem Creek near Laurel Lake, NJ	01411950	16.1	1976-84
Manumuskin River near Manumuskin, NJ	01412100	32.1	1964-71,1994-96,1998
Muskee River near Port Elizabeth, NJ	01412120	13.1	1969,1976-84
Cohansey River near Beals Mill, NJ	01412405	9.44	1976-84
Barrett Run near Bridgeton, NJ	01413010	7.02	1966,1976-84
Indian Fields Branch at Bridgeton, NJ	01413020	4.64	1976-84
Stow Creek at Jericho, NJ	01413050	8.00	1966-74
Canton Ditch near Canton, NJ	01413060	2.50	1959-63
Raccoon Ditch at Davis Mill, NJ	01413080	3.19	1976-84
Shimers Brook near Montague, NJ	01438400	7.07	1958-64,1966,2001
Big Flat Brook near Hainesville, NJ	01439800	22.6	1959-64,1966
Big Flat Brook at Tuttles Corner, NJ	01439830	28.2	1963,1970-73
Little Flat Brook at Hainesville, NJ	01439900	7.73	1959-64
Vancampens Brook near Millbrook, NJ	01440100	7.27	1958-68, 2002
Stony Brook near Columbia, NJ	01442800	3.51	1958-68
East Branch Paulins Kill trib. no. 2 near Woodruffs, NJ	01443260	2.81	1992-97
East Branch Paulins Kill trib. no. 1 near Lafayette, NJ	01443275	1.81	1992-97
Paulins Kill at Lafayette, NJ	01443300	33.0	1959-64,1966
Culvers Creek at Branchville, NJ	01443400	11.2	1959-64
Paulins Kill near Newton, NJ	01443450	69.0	1973-77
Paulins Kill at Paulins Kill, NJ	01443460	72.9	1973-77
Trout Brook near Middleville, NJ	01443475	24.0	1979-89
Blair Creek at Blairstown, NJ	01443510	13.1	1989-2001

DISCONTINUED LOW-FLOW STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Bear Creek near Johnsonburg, NJ	01445200	12.9	1940-42,1987-98,2001
Furnace Brook at Oxford, NJ	01445490	4.29	1965-72,1977-78,1990, 1994-2001
Mountain Lake Brook near Pequest, NJ	01445520	4.35	1991-2001
Honey Run near Ramseysburg, NJ	01445800	2.21	1982-90
Honey Run near Hope, NJ	01445900	10.3	1966-72
Pophandusing Brook at Belvidere, NJ	01446520	5.36	1991-98,2000-01
Buckhorn Creek at Hutchinson Road, at Hutchinson, NJ	01446568	8.38	1991-97,2000-01
Lopatcong Creek at Phillipsburg, NJ	01455100	14.5	1958-64,1979-81,1991-2001
Merrill Creek at Coopersville, NJ	01455230	3.85	1982-93
Pohatcong Creek at Carpentersville, NJ	01455300	57.0	1932,1952-64, 1978-82
Weldon Brook near Woodport, NJ	01455350	3.27	1965-69,1971-72
Beaver Brook near Woodport, NJ	01455360	2.79	1966-72
Weldon Brook at Hurdtown, NJ	01455370	8.10	1973-77
Musconetcong River at Stanhope, NJ	01455550	29.7	1973-76
Lubbers Run at Lockwood, NJ	01455780	16.3	1982-90, 1995
Mine Brook near Hackettstown, NJ	01456080	4.96	1991-2001
Hatchery Brook at Hackettstown, NJ	01456100	1.81	1966-72
Hances Brook near Beattystown, NJ	01456210	4.13	1991-2001
Hakihokake Creek at Milford, NJ	01458100	17.2	1944,1958-64, 1977-81
Harihokake Creek near Frenchtown, NJ	01458400	9.75	1944,1958-65, 1979-81
Nishisakawick Creek at Frenchtown, NJ	01458600	11.0	1958-64
Little Nishisakawick Creek at Frenchtown, NJ	01458700	3.50	1958-65
Lockatong Creek near Raven Rock, NJ	01460900	23.2	1944,1958-64
Wickecheoke Creek at Stockton, NJ	01461300	26.6	1944,1958-64,1977-83,1985-90
Alexauken Creek near Lambertville, NJ	01461900	14.9	1944,1958-64, 1977-82, 2000
Moore Creek near Titusville, NJ	01462200	10.2	1958-64
Jacobs Creek at Somerset, NJ	01462800	13.3	1957-64, 1985-88, 2000
Shipetaukin Creek at Lawrenceville, NJ	01463650	4.47	1963-67
Shipetaukin Creek at Bakersville, NJ	01463670	8.97	1963-67
Little Shabakunk Creek at Bakersville, NJ	01463690	3.98	1963-72,1976-77
Shabakunk Creek at Ewingville, NJ	01463750	5.00	1963-67
West Branch Shabakunk Creek near Ewingville, NJ	01463790	4.56	1963-72
Miry Run at Robbinsville, NJ	01463830	4.02	1963-67
Miry Run at Mercerville, NJ	01463860	12.4	1963-67
Pond Run at Trenton, NJ	01463980	8.94	1963-69,1971-72
Crosswicks Creek near Cookstown, NJ	01464300	24.9	1966,1969-74
North Run at Cookstown, NJ	01464380	7.28	1966,1969-74
Lahaway Creek near Hornerstown, NJ	01464460	21.4	1966,1969-74
Miry Run at Holmes Mills, NJ	01464480	3.15	1966,1969-74
Doctors Creek at Allentown, NJ	01464515	17.4	1966,1968-72,1991-92
Blacks Creek at Mansfield Square, NJ	01464530	19.7	1966-72, 1978-79, 1983-94
Crafts Creek at Hedding, NJ	01464540	10.6	1959-63
Assiscunk Creek at Columbus, NJ	01464580	8.28	1958-63
Assiscunk Creek near Burlington, NJ	01464590	37.4	1966-74, 1998
Southwest Branch Rancocas Creek at Medford, NJ	01465880	47.2	1961-66,1973, 1982-93, 1997

WATER RESOURCES DATA - NEW JERSEY, 2002
DISCONTINUED LOW-FLOW STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Sharps Run at Medford, NJ	01465884	4.41	1982-90
Little Creek near Lumberton, NJ	01465898	19.2	1982-90
Parkers Creek near Mount Laurel, NJ	01467010	2.66	1964-72
Mill Creek at Willingboro, NJ	01467020	7.77	1959-64,1976
Pompeston Creek at Cinnaminson, NJ	01467057	5.74	1964-85
North Branch Pennsauken Creek at Maple Shade, NJ	01467070	13.0	1959-63
South Branch Pennsauken Creek at Maple Shade, NJ	01467080	8.13	1964-67
Cooper River at Kirkwood, NJ	01467130	5.10	1964-72,1988-98
Cooper River at Lawnside, NJ	01467140	12.7	1964-72,1979-81,1985-98
North Branch Cooper River near Marlton, NJ	01467160	5.34	1964-69, 1971-72, 1977-78, 1982-98
North Branch Cooper River at Ellisburg, NJ	01467180	10.5	1964-72,1988-97
Newton Creek at Collingswood, NJ	01467305	1.32	1964-72, 1983-84, 1993-98, 2002
Newton Creek at West Collingswood, NJ	01467312	3.48	1964-72
South Branch Newton Creek at Glover Ave., at Haddon Heights, NJ	01467315	.52	1968-74
South Branch Newton Creek at Haddon Heights, NJ	01467317	.63	1964-68, 1971, 1977, 1982-86, 1990, 1994-98, 2001-02
South Branch Big Timber Creek at Blackwood, NJ	01467330	19.6	1964-72,1978,1982-83,1994-2001
North Branch Big Timber Creek at Laurel Springs, NJ	01467350	6.55	1959-72
Mantua Creek at Glassboro, NJ	01474950	1.20	1965-66,1974-77
Mantua Creek at Greentree Road, at Glassboro, NJ	01474970	2.78	1965-66,1974-77
Mantua Creek at Sewell, NJ	01475020	14.5	1966-72,1994-99,2001
Raccoon Creek near Mullica Hill, NJ	01477100	10.1	1959-63, 1966, 1981-83
South Branch Raccoon Creek near Mullica Hill, NJ	01477118	8.30	1966-72
Salem River at Sharptown, NJ	01482520	27.3	1966-72,1974-75
Major Run at Sharptown, NJ	01482530	3.04	1966-72,1974-75
Cool Run near Alloway, NJ	01482900	4.92	1959-63,1994-99,2001
Cedar Brook near Alloway, NJ	01482950	3.76	1959-63,1994-99,2001
Deep Run near Alloway, NJ	01483010	5.30	1977-84

DISCONTINUED TIDAL CREST-STAGE AND TIDAL GAGING STATIONS

Station name	Station number	Period of Record (water years)	
		Tidal Crest- Stage Gage	Tidal Gaging Station
South River below Duhernal Dam, at Old Bridge, NJ	01405700		Aug 1967-Sept 1970
Raritan River at Old Raritan Arsenal, at Metuchen, NJ	01406680		Jan 1966-Sept 1969a Oct 1969-Sept 1974
Cedar Creek at Lanoka Harbor, NJ	01409000	1932-58*, 1971*, 1979-85	
Tuckerton Cove near Tuckerton, NJ	01409290	1965-80	July 1971-Sept 1973
Tuckerton Creek at Tuckerton, NJ	01409310		July 1971-Sept 1971
Head of Big Thorofare near Tuckerton, NJ	01409315		July 1971-June 1972
Big Thorofare at mouth near Tuckerton, NJ	01409317		July 1971-Sept 1971
Marshelder Channel at Story Island, near Tuckerton, NJ	01409323		July 1971-Sept 1971
Big Sheepshead Creek at Great Bay Boulevard, near Tuckerton, NJ	01409326		July 1971-Sept 1971
East Entrance Big Sheepshead Creek near Tuckerton, NJ	01409329		July 1971-Sept 1971
Little Sheepshead Creek at Great Bay Boulevard, near Tuckerton, NJ	01409332		July 1971-Sept 1971
Newmans Thorofare at Fish Factory, near Tuckerton, NJ	01409340		July 1971-Sept 1971
Great Bay at Cape Horn Marina, near Tuckerton, NJ	01409345		July 1971-Feb 1972
Big Creek at Radio Road, near Tuckerton, NJ	01409360		July 1971-July 1973
Great Bay at Great Bay Marina, near Tuckerton, NJ	01409370		July 1971-Sept 1974
Ballangers Creek below Polly Ditch, near Tuckerton, NJ	01410300		July 1971-Sept 1971
Ballangers Creek entrance near Tuckerton, NJ	01410305		July 1971-Sept 1971
Whale Creek near Strathmere, NJ	01411340		Mar 1976-Feb 1977
Townsend Channel at Townsends Inlet, NJ	01411353	1978*	Oct 1976-Apr 1978
Grassy Sound at West Wildwood, NJ	01411380	1965-81	Oct 1977-Apr 1978
Cape May Canal at North Cape May, NJ	01411395	1965-85	
Delaware River at Florence, NJ	01464560		Apr 1964-Feb 1970
Rancocas Creek at Rancocas, NJ	01467009		Oct 1976-Apr 1977
Delaware River at Torresdale Intake, Philadelphia, PA	01467030		Oct 1963-Sept 1970
Delaware River at Palmyra, NJ	01467060		Dec 1962-Sept 1974
Delaware River at Delair, NJ	01467090		Dec 1962-Aug 1969
Delaware River below Christina River at Wilmington, DE	01481602		Dec 1982-Sept 1991
Delaware River at Delaware Memorial Bridge, at Wilmington, DE	01482100		July 1967-May 1983
Salem River at Winslow Farms Dock, near Pennsville, NJ	01482620		July 1971-Dec 1971
Delaware River at Oakwood Beach, NJ	01482705	1965-74	

* Operated as a continuous-record gaging station.

a Revised.

WATER RESOURCES DATA - NEW JERSEY, 2002

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey (USGS), in cooperation with Federal, State, and local agencies, collects a large amount of data pertaining to the water resources of New Jersey each water year. These data, accumulated over many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the USGS, the data are published annually in this report series, titled "Water Resources Data-New Jersey." This data is also available on the world wide web at <http://nj.usgs.gov> (historical data along with provisional-real-time data).

This report series includes records of stage, discharge, and water quality in streams; stage and contents, and water quality in lakes and reservoirs; and water levels and water quality in ground-water wells. This volume contains records of water discharge at 93 gaging stations; tide summaries at 31 gaging stations; and stage and contents at 39 lakes and reservoirs. Also included are stage and discharge for 104 crest-stage partial-record stations and stage-only at 31 tidal crest-stage gages. Locations of these sites are shown in figures 8-11. Additional water data were collected at various sites that are not part of the systematic data-collection program. These include discharge measurements made at 201 low-flow partial-record stations and 121 miscellaneous sites. The data in this report represent that part of the National Water Information System (NWIS) data collected by the USGS and cooperating Federal, State, and local agencies in New Jersey.

This series of annual reports for New Jersey began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning in 1975, surface-water, water-quality, and ground-water data were combined in one volume. Beginning with the 1977 water year, these data were published in two volumes based on drainage basins. Beginning with the 1990 water year, the format was changed to include all surface-water discharge and surface-water quality records in Volume 1 and all ground-water level and ground-water quality records in Volume 2. Beginning with the 1998 water year, the format has changed to include surface-water discharge records in Volume 1, ground-water level records in Volume 2, and surface-water and ground-water quality records in Volume 3.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for New Jersey were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Part 1B." For water years 1961 through 1970, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for water years 1941 through 1970 were published annually under the title "Quality of Surface Waters of the United States," and water levels for water years 1935 through 1974 were published under the title "Ground-Water Levels in the United States." The above-mentioned Water-Supply Papers can be consulted in the libraries of the principal cities of the United States and can be purchased from U.S. Geological Survey, Branch of Information Services, Box 25286, Denver, CO 80225-0286, (303) 202-4610.

Publications similar to this report are produced annually by the USGS for all States. These reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report NJ-02-1." For archiving and general distribution purposes, the reports for water years 1971 through 1974 also are identified as water-data reports. Water-data reports are available for purchase in paper copy or in microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

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

The U.S. Geological Survey, New Jersey District, maintains a World Wide Web site which has water-resource related information for New Jersey and information on New Jersey District activities. Links to other USGS and Federal web sites are also available. We invite you to visit us at:

<http://nj.usgs.gov>.

COOPERATION

The U.S. Geological Survey and agencies of the State of New Jersey have had joint-funding agreements for the collection of water-resource records since 1921. Organizations that assisted in collecting the data in this report through joint-funding agreements with the USGS are--

New Jersey Department of Environmental Protection,
Bradley M. Campbell, Commissioner
New Jersey Department of Transportation, John F. Lettiere,
Jr., Commissioner
New Jersey Water Supply Authority, Henry Patterson, III,
Executive Director
North Jersey District Water Supply Commission, Michael
Barnes, General Manager
Passaic Valley Water Commission, Joseph A. Bella,
Executive Director
City of New Brunswick, Shawn Maloney, Director, Water
Utility Department
County of Bergen, Paul Juliano, Director of Public Works
County of Essex, Mehdi Mohammadish, County Engineer
(interim)
County of Gloucester, Charles E. Romick, Director of
Planning
County of Mercer, Steven J. Dixon, Executive Director,
Mercer County Improvement Authority
County of Morris, Glen Schweizer, Executive Director,
Morris County Municipal Utilities Authority
County of Somerset, Michael J. Amorosa, Director of Public
Works
Pinelands Commission, Annette M. Barbaccia,
Executive Director
Brick Township Municipal Utilities Authority, Kevin F.
Donald, Executive Director
Township of West Windsor, Michael Hornsby, Chairman of
Environmental Commission

Borough of Westwood, Donald F. Rainey, Borough Administrator
 Delaware River Basin Commission, Carol R. Collier, Executive Director
 Ocean County Soil Conservation District, David B. Friedman, Director

Funding assistance was provided by the U.S. Army Corps of Engineers, for the collection of records at 4 surface-water stations, by the Fort Dix Directorate of Public Works for collection of records at 1 surface-water station, and by the U.S. Army Armament Research and Development Center for the collection of records at 3 surface-water stations. In addition, several stations were operated fully or partially with funds appropriated directly to the USGS. Funding also was supplied by the following Federal Energy Regulatory Commission licensees: GPU Generation Corporation, Passaic Valley Water Commission, and Great Falls Hydroelectric Company. Assistance was provided by the National Weather Service and the National Ocean Service.

The following organizations aided in collecting records:

New Jersey Department of Environmental Protection; Municipalities of Jersey City, Newark, New Brunswick, and Spotswood; Elizabethtown Water Company; Ewing-Lawrence Sewerage Authority; United Water New Jersey; New Jersey-American Water Company; Rockaway Valley Regional Sewerage Authority; and GPU Generation Corporation.

Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Precipitation and Reservoir Contents

Drought conditions continued through water year 2002 from previous water years because of persistent below normal precipitation. The State of New Jersey began a drought watch on October 31, 2001. On January 24, 2002, Governor James E. McGreevey declared a drought warning for five of the six drought regions. A state of water emergency (Executive Order No. 11) was then declared on March 4, 2002, after the driest February on record. New Jersey remained under this state of water emergency for the remainder of the water year. Since the drought of the 1960's, water supply emergencies were declared in 1980 to 1982, 1985, 1995, and 1999. Reservoir levels and ground-water levels reached record lows at times during water year 2002 as a result of the lack of precipitation, water-supply demands, and above average temperatures.

This trend of precipitation deficit began approximately July 1998, possibly as early as 1997. For 38 of 69 months from January 1997 to September 2002, monthly spatially weighted average-precipitation values throughout New Jersey were below the statewide long-term monthly means (1895-2001) as shown in figure 1. Precipitation data can be accessed at <http://climate.rutgers.edu/stateclim/>. For 32 of those 51 months from July 1998 to September 2002, the monthly spatially weighted values were below the long-term monthly means. For water year 2002, the spatially weighted values for 7 of 12 months were below the means (March

through June and September were above their respective means). For water year 2002, the statewide spatially weighted average-precipitation total was 33.99 inches, a 10.73-inch deficit when compared to the long-term mean-annual precipitation (1895-2001). Since 1895, this is the third driest water year. The driest water year was 1965 with 32.36 inches of precipitation (David Robinson, New Jersey State Climatologist, Rutgers University, oral commun., 2001). The annual precipitation total for New Jersey is approximately 45 inches. October and November 2001 were the driest October and November on record. More than 3 inches of snow fell on the northern tip of New Jersey on December 8 but quickly melted. Snow cover was as much as 6 inches in northern New Jersey with a trace in southern New Jersey for the second and third week of January. February was mostly devoid of snow and ranks as the driest February on record. September 2001 to February 2002 was the driest 6-month interval on record. The next significant snowfall occurred on March 18 over northern New Jersey; however, it melted quickly. The late snowfall of 3 inches that fell on Cape May on April 6 (a trace in northern New Jersey) did not alleviate the drought. Precipitation from March through June was slightly above the historical average; however, July was the seventh driest July on record, and September 2001 through July 2002 was the third driest September through July on record. A below average August rainfall made the July and August period the ninth driest on record. Precipitation in September was slightly above average, but the water year ended with continuing drought conditions.

Three National Weather Service (NWS) precipitation stations in Newark, Trenton, and Atlantic City have been selected as index sites for precipitation. During water year 2002, precipitation totals were below normal at all three NWS index stations. The Newark station recorded 31.49 inches, which is 68.1 percent of the 30-year reference-period (1961-90) mean. The Atlantic City station recorded 30.95 inches, which is 76.3 percent of the 30-year mean. The Trenton station recorded 32.90 inches, which is 76.7 percent of the 30-year mean. Monthly precipitation at the three NWS stations, along with the 30-year mean is shown in figure 2.

Eleven of the 12 monthly mean temperatures in the 2002 water year (determined from spatially weighted average of temperatures recorded throughout New Jersey) were above the long-term mean monthly average (1895-2001). Monthly mean temperatures ranged from 0.7 to 4.2 degrees Celsius above average for October through April. The winter was the second warmest on record. April had record to near-record highs; the temperature on April 17 reached more than 32 degrees Celsius. May was the only month with temperatures below the long-term mean, but only by 0.4 degrees Celsius. June through September temperatures were above the long-term mean (fig. 3). The long stretch of higher than normal temperatures during the summer increased evapotranspiration, which stressed water supplies. Temperature data can be accessed at <http://climate.rutgers.edu/stateclim/>.

Combined usable contents of 13 major water-supply reservoirs in New Jersey were 51.7 billion gallons at the end of September 2001, which is 97.9 percent of the 30-year mean (normal) contents for the end of September and 64.3 percent of capacity. Combined usable contents declined steadily from the September 2001 to a record low of 28.3 billion gallons at the end of February (1.7 billion gallons below the previous minimum for February). Combined usable contents

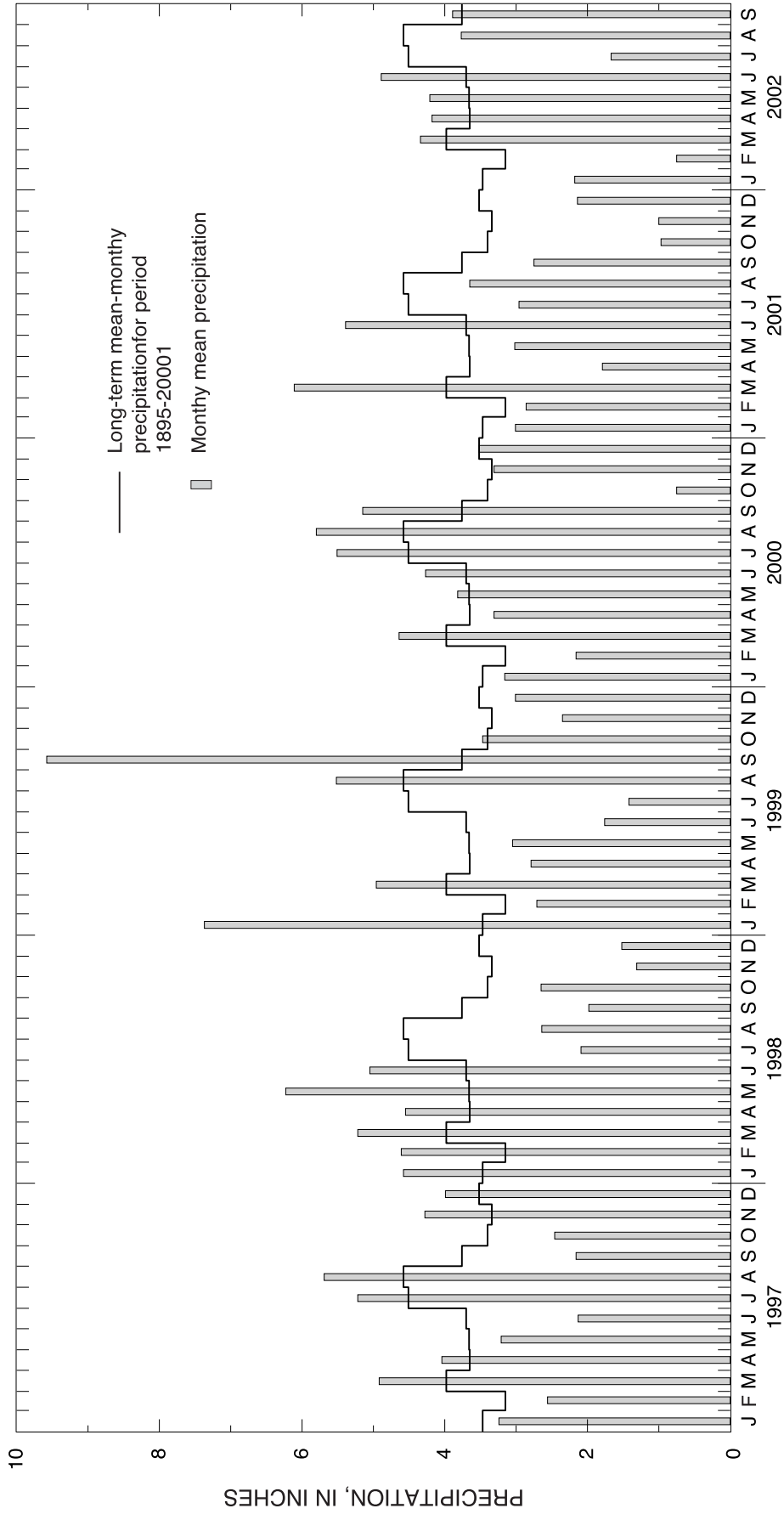


Figure 1. Monthly mean precipitation for the current drought in New Jersey and long-term mean-monthly precipitation for period 1895-2002. (Long-term mean-monthly and monthly mean precipitation are spatially weighted averages for several dozen stations throughout the State. Drought may have begun as early as 1997.)

WATER RESOURCES DATA - NEW JERSEY, 2002

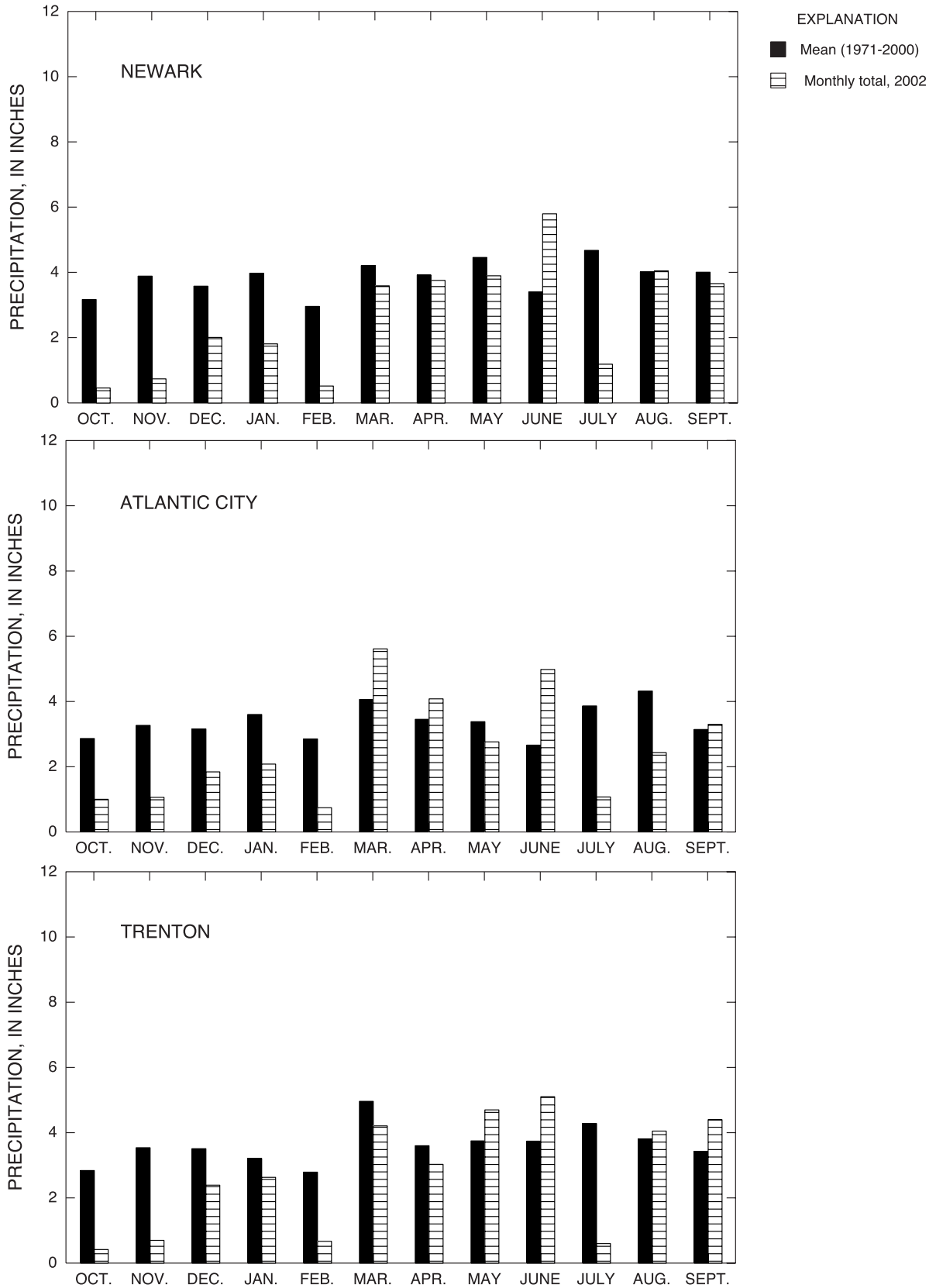


Figure 2. Monthly precipitation at three National Weather Service stations.

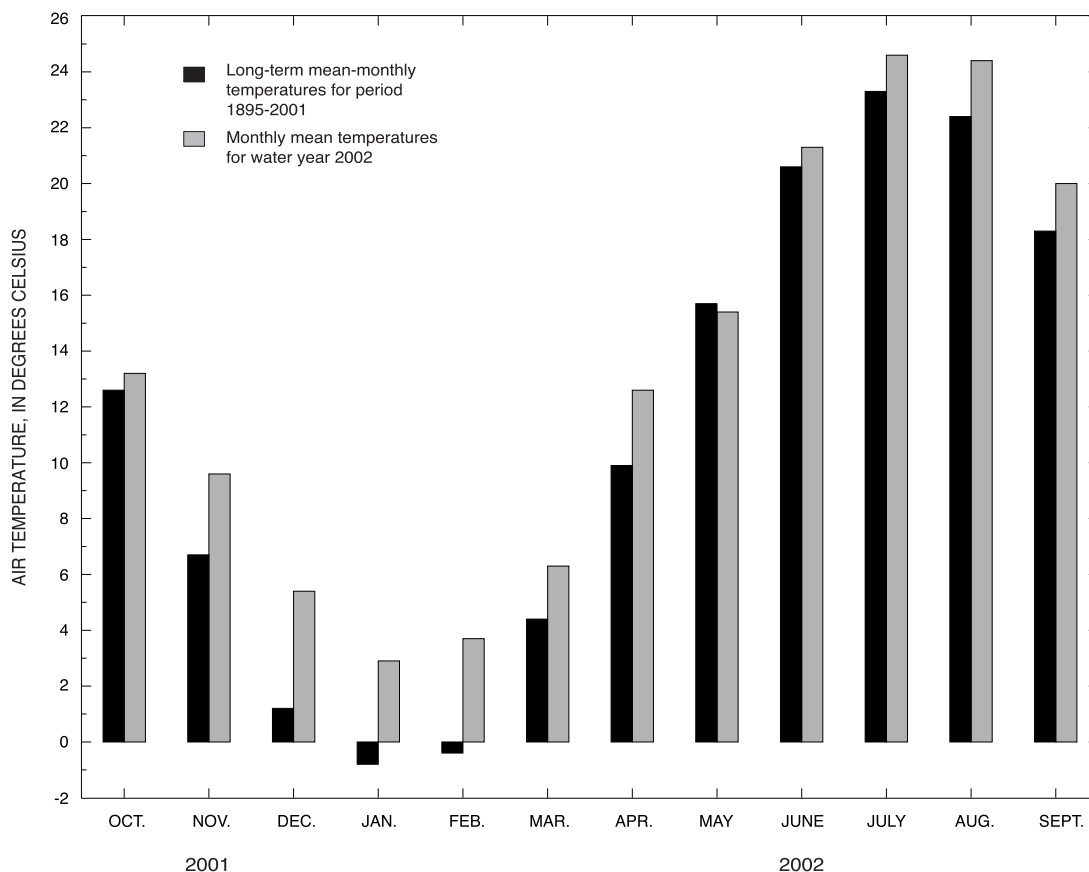


Figure 3. Water year 2002 monthly mean air temperatures and long-term mean-monthly air temperatures for New Jersey.

climbed steadily from the record low to a maximum for the water year of 70.1 billion gallons by the end of June 2002, which is 101 percent of normal contents for the end of June and 87.2 percent of capacity. Reservoir levels experienced a normal decline during the summer because of an increased demand for water supplies. By September 30, 2002, combined usable contents totalled 47.2 billion gallons, which is 89.3 percent of normal contents for the end of September and 58.7 percent of capacity (fig. 4). The term “usable contents” is used here as a measure of the total volume of water that can be removed from a reservoir without pumping, and does not account for the volume of water below the bottom of the lowest outlet or pipe (sometimes referred to as dead storage).

Streamflow

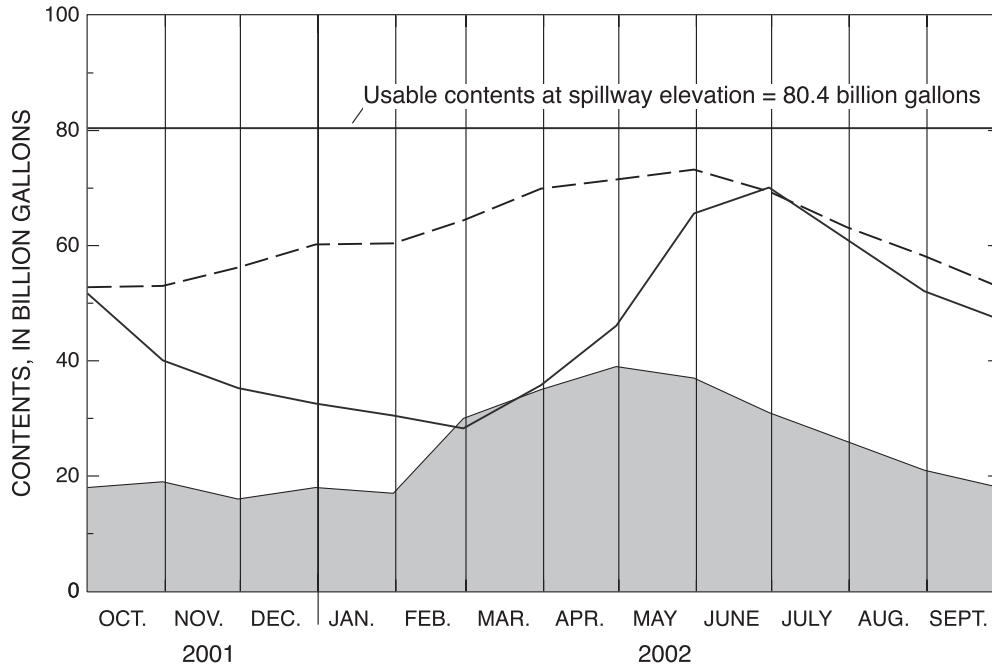
Three gaging stations, located in north, south, and central New Jersey, are considered index stations for statewide streamflow conditions. Streamflow at the index station in northern New Jersey (South Branch Raritan River near High Bridge) averaged 52.2 ft³/s for the water year, which is 42.8 percent of the 1919-2002 average. Streamflow at the index station in southern New Jersey (Great Egg Harbor River at Folsom) averaged 40.2 ft³/s, which is 47.4 percent of the 1926-2002 average. The observed annual mean discharge for the Delaware River at Trenton was 7,130 ft³/s, which is 61.4 percent of the 1913-2002 average. The Delaware River is significantly regulated by reservoirs and diversions. Monthly

mean discharge at each of these index gaging stations during the current water year and the long-term normal monthly discharge are shown in figure 5. Annual mean discharge at each of these index gaging stations and the mean annual discharge for the period of record are shown in figure 6.

Annual mean discharges at 46 gaging stations that had 40 years or more of continuous records and mean annual discharge for the period of record at each gaging station are shown in table 1. The difference is listed as percent difference. Discharge at all 46 gaging stations was well below normal for water year 2002. The percent differences ranged from -38.6 to -94.4. Discharge at 40 of the 46 gaging stations was below normal for water year 2001. The percent differences ranged from -14.5 to -28.7. Discharge at 36 of the 46 gaging stations was below normal for the water year 2000, and the percent differences ranged from 14.3 to -28.7. Several gaging stations that monitor heavily regulated rivers were not included in this comparison because of large artificial deficits related to regulation. The criterion of assessing gaging stations with 40 years or more of record was used in order to encompass at least one of the approximately 30-year drought cycles that New Jersey has experienced.

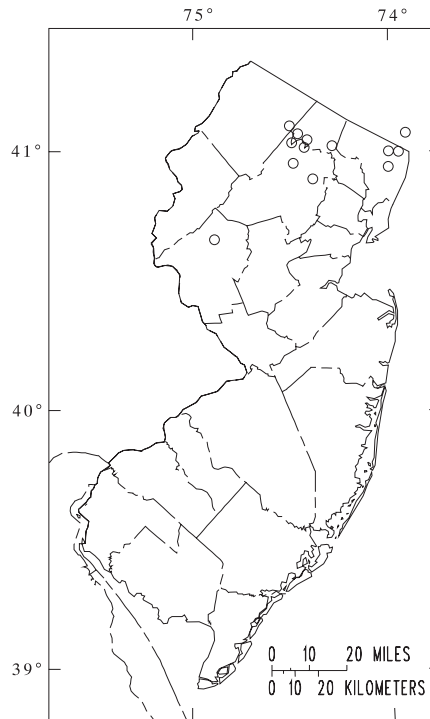
No major flooding occurred this water year. Recent major floods are the Sparta Flood in August 2000 and Hurricane Floyd in September 1999.

WATER RESOURCES DATA - NEW JERSEY, 2002



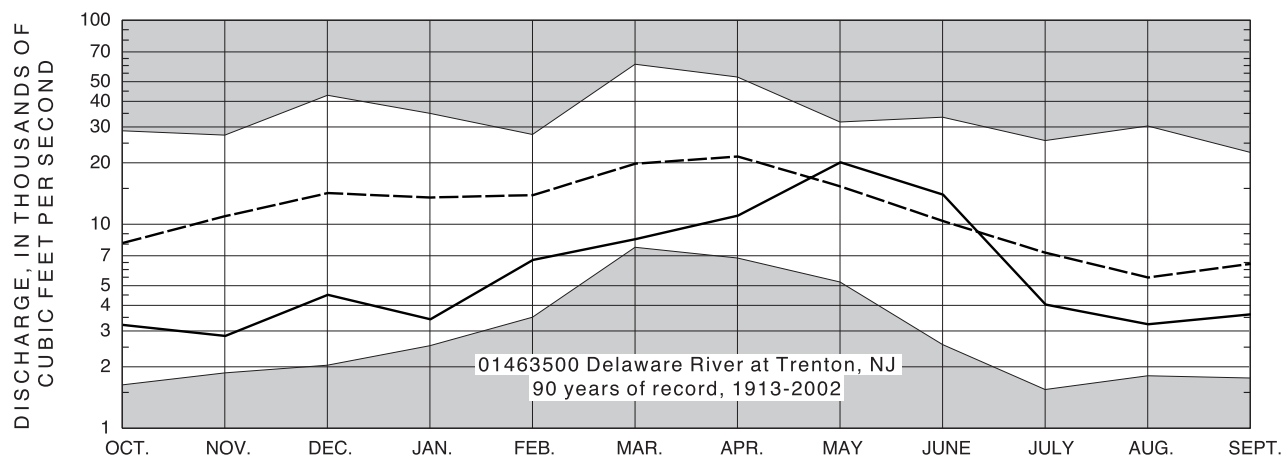
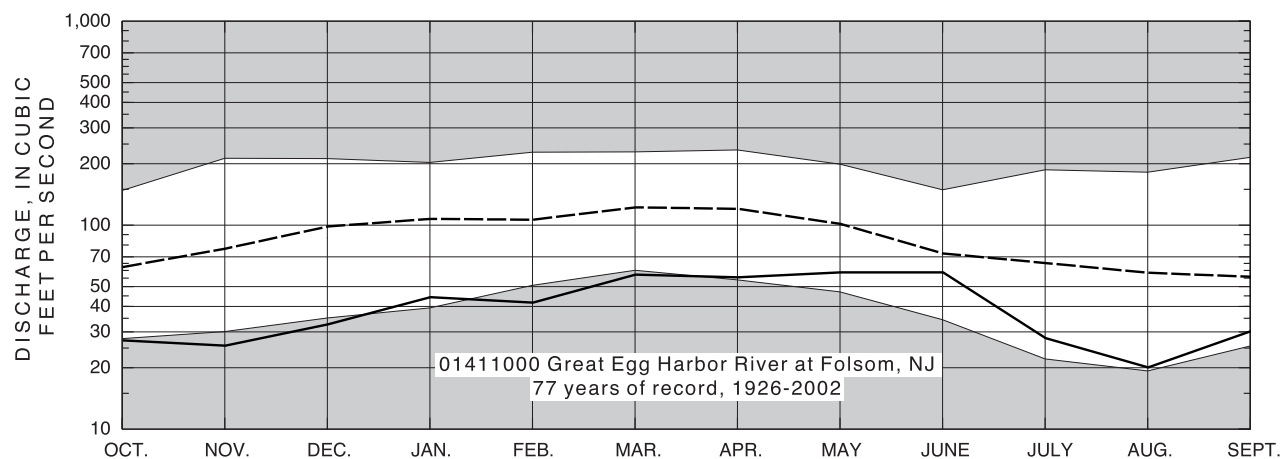
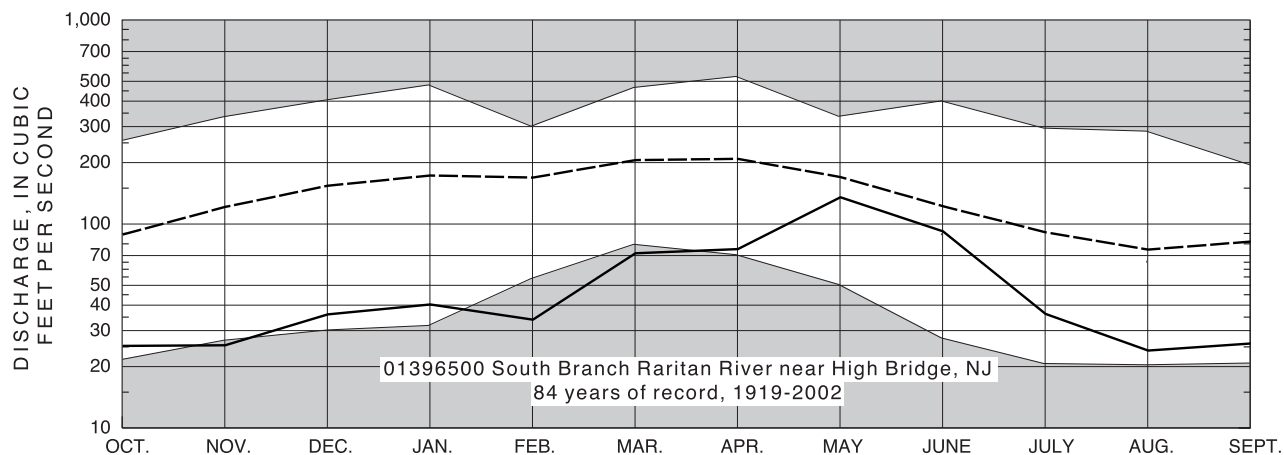
EXPLANATION

- Shaded area indicates lowest monthly usable contents for reference period
- Mean usable contents, 1961-90
- Month-end usable contents, 2002 water year



Map showing locations of reservoirs

Figure 4. Combined usable contents of 13 major water-supply reservoirs.



EXPLANATION

UNSHADED AREA--Indicates range between highest and lowest mean discharge recorded for the month, prior to 2002 water year

BROKEN LINE--Indicates normal discharge (median of the monthly means) for the standard reference period, 1971-2000

SOLID LINE--Indicates observed monthly mean discharge for the 2002 water year

Figure 5. Monthly mean discharge at index gaging stations.

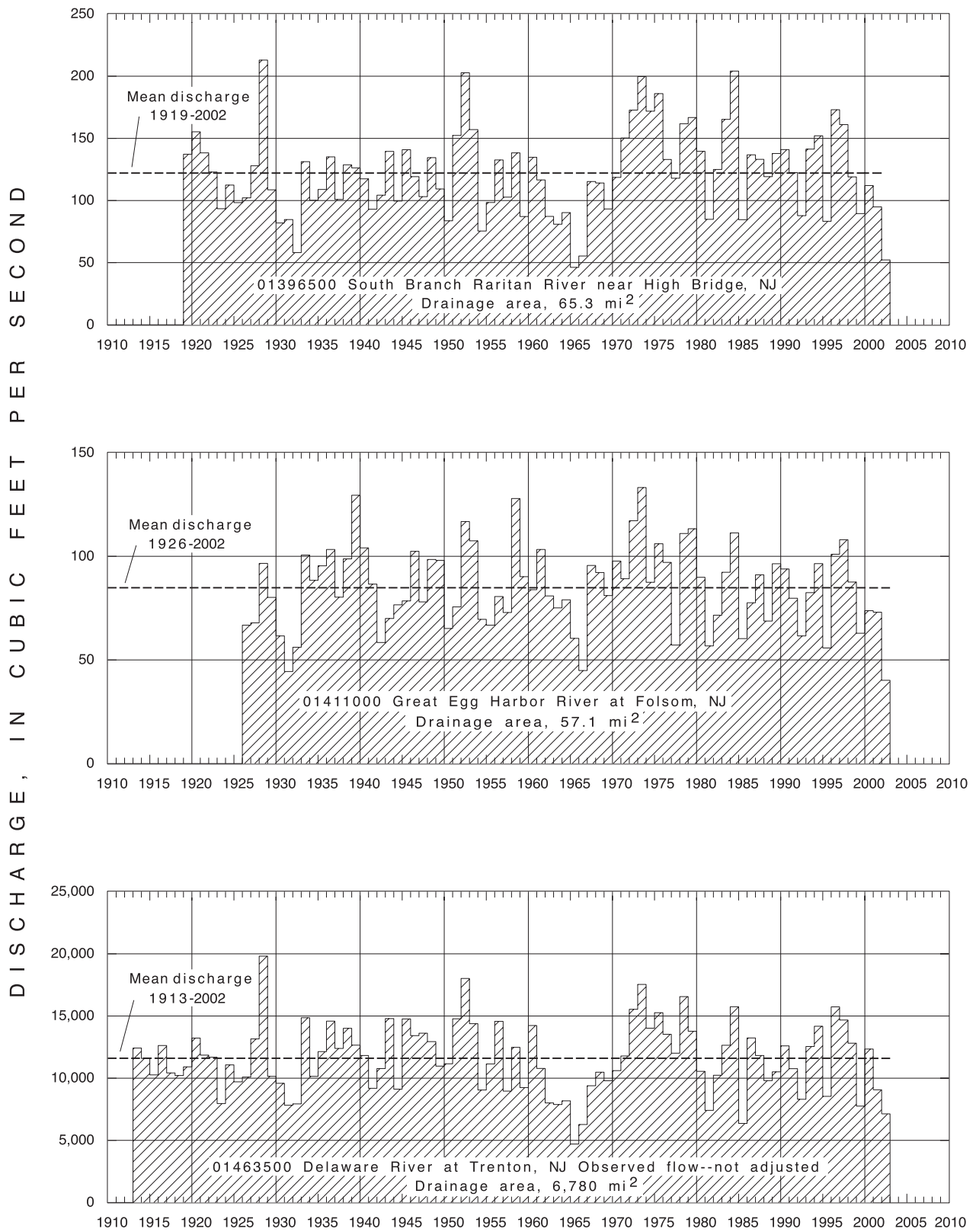


Figure 6. Annual mean discharge at index gaging stations.

Table 1. Annual mean discharges for water year 2002 and mean annual discharge for the period of record at selected continuous gaging stations with 40 years or more of records

[ft³/s, cubic feet per second; mi², square miles]

Station number	Station name	Drainage area (mi ²)	Number of years of record	Annual mean discharge for 2002 water year (ft ³ /s)	Mean annual discharge for period of record (ft ³ /s)	Percent difference
01377000	Hackensack River at Rivervale, NJ	58.0	61	34.9	86.0	-59.4
01377500	Pascack Brook at Westwood, NJ	29.6	68	32.4	53.7	-39.7
01379000	Passaic River near Millington, NJ	55.4	81	31.5	90.3	-65.1
01379500	Passaic River near Chatham, NJ	100	74	70.2	171	-58.9
01380500	Rockaway River above reservoir, at Boonton, NJ	116	65	91.4	228	-59.9
01381500	Whippany River at Morristown, NJ	29.4	81	27.8	54.1	-48.6
01382500	Pequannock River at Macopin Intake Dam, NJ	63.7	79	2.61	46.3	-94.4
01383500	Wanaque River at Awosting, NJ	27.1	83	19.2	53.9	-64.4
01384500	Ringwood Creek near Wanaque, NJ	19.1	61	11.8	32.9	-64.1
01387500	Ramapo River near Mahwah, NJ	120	84	80.1	227	-64.7
01388000	Ramapo River at Pompton Lakes, NJ	160	81	61.9	284	-78.2
01388500	Pompton River at Pompton Plains, NJ	355	63	119	484	-75.4
01389500	Passaic River at Little Falls, NJ	762	104	199	1128	-82.4
01390500	Saddle River at Ridgewood, NJ	21.6	45	14.5	33.4	-56.6
01391500	Saddle River at Lodi, NJ	54.6	80	53.7	99.2	-45.9
01393450	Elizabeth River at Ursino Lake, at Elizabeth, NJ	16.9	81	15.2	25.8	-41.1
01394500	Rahway River near Springfield, NJ	25.5	65	18.3	30.2	-39.4
01395000	Rahway River at Rahway, NJ	40.9	81	24.9	48.8	-49.0
01396500	South Branch Raritan River near High Bridge, NJ	65.3	84	52.2	122	-57.2
01396800	Spruce Run at Clinton, NJ	41.3	43	38.6	64.8	-40.4
01397000	South Branch Raritan River at Stanton, NJ	147	86	121	246	-50.8
01398000	Neshanic River at Reaville, NJ	25.7	72	14.2	37.5	-62.1
01398500	North Branch Raritan River near Far Hills, NJ	26.2	79	18.4	47.7	-61.4
01399500	Lamington (Black) River near Pottersville, NJ	32.8	81	23.4	55.4	-57.8
01400000	North Branch Raritan River near Raritan, NJ	190	79	163	308	-47.1
01400500	Raritan River at Manville, NJ	490	85	392	771	-49.2
01401000	Stony Brook at Princeton, NJ	44.5	49	29.2	65.9	-55.7
01402000	Millstone River at Blackwells Mills, NJ	258	81	181	380	-52.4
01403060	Raritan River below Calco Dam, at Bound Brook, NJ	785	64	432	1183	-63.5
01405400	Manalapan Brook at Spotswood, NJ	40.7	45	26.5	61.0	-56.6
01408000	Manasquan River at Squankum, NJ	44.0	71	31.8	73.3	-56.6
01408500	Toms River near Toms River, NJ	123	74	111	210	-47.1
01409400	Mullica River near Batsto, NJ	46.7	45	44.7	104	-57.0
01409500	Batsto River at Batsto, NJ	67.8	75	56.7	120	-52.8
01410000	Oswego River at Harrisville, NJ	72.5	72	36.6	85.8	-57.3
01411000	Great Egg Harbor River at Folsom, NJ	57.1	77	40.2	84.8	-52.6
01411500	Maurice River at Norma, NJ	112	70	72.6	162	-55.2
01440000	Flat Brook near Flatbrookville, NJ	64.0	79	52.3	110	-52.5
01443500	Paulins Kill at Blairstown, NJ	126	80	75.3	195	-61.4
01445500	Pequest River at Pequest, NJ	106	81	56.5	156	-63.8
01457000	Musconetcong River near Bloomsbury, NJ	141	85	99.3	237	-58.1
01463500	Delaware River at Trenton, NJ	6780	90	7127	11600	-38.6
01464000	Assunpink Creek at Trenton, NJ	90.6	79	70.2	133	-47.2
01464500	Crosswicks Creek at Extonville, NJ	81.5	61	54.8	133	-58.8
01466500	McDonalds Branch in Lebanon State Forest, NJ	2.35	49	.95	2.13	-55.4
01467000	North Branch Rancocas Creek at Pemberton, NJ	118	81	69.0	169	-59.2

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the streamflow representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities. At 10 of these sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the affects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program can be found at <http://water.usgs.gov/hbn/>.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations were operated in the Mississippi, Columbia, Colorado, and Rio Grande. From 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program can be found at <http://water.usgs.gov/nasqan/>.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 225 precipitation chemistry monitoring sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as all data from the individual sites, can be found at <http://bqs.usgs.gov/acidrain/>.

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the

Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 59 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program can be found at

<http://water.usgs.gov/nawqa/>.

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 2002 water year that began October 1, 2001, and ended September 30, 2002. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs. The locations of the stations where the data were collected are shown in figures 8 and 9. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

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

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direc-

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

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 01396500, which appears just to the left of the station name, includes the two-digit Part number "01" plus the 6-digit downstream-order number "396500". The Part number designates the major drainage basin; for example, Part "01" covers the North Atlantic slope basins. In some areas where all 8-digit numbers are used up, 10-digit station numbers are assigned between the 8-digit numbers.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description (fig. 7).

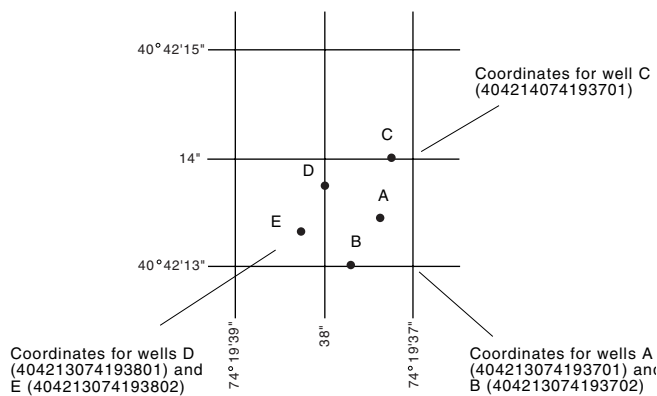


Figure 7.--System for numbering wells and miscellaneous sites (latitude and longitude)

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records. Location of all gaging stations and partial-record stations for which data are given in this report are shown in figures 8 and 9.

Data Collection and Computation

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

Continuous records of stage are obtained at a gaging station with one or more of the following instruments:

- analog recorders that trace continuous graphs of stage on graphic charts,
- digital recorders that punch stage values on paper tapes at selected time intervals,
- electronic data loggers that electronically record stage values at selected time intervals, and
- data collection platforms (DCP) that electronically record and then transmit the data via satellite to ground receiving stations.

At some gaging stations, acoustic velocity meter (AVM) systems are used to compute discharges. The AVM system measures the stream's velocity at one or more paths in the cross section. Coefficients are developed to relate this path velocity to the mean velocity in the cross section. Because the AVM sensors are fixed in position, the adjustment coeffi-

cients generally vary with stage. Cross-sectional area curves are developed to relate stage, recorded as noted above, to cross section area. Discharge is computed by multiplying path velocity by the appropriate stage related coefficient and area. Measurements of discharge are made with current meters using methods adopted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in U.S. Geological Survey Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

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

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

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship.

Even when this is done, the contents computed may become increasingly in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

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

Data Presentation

The records published for each continuous-record surface-water discharge station (gaging station) consist of five parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration; and a graphical representation of the daily mean values of discharge for the current water year.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

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

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

PERIOD OF RECORD.--This indicates the period for which records have been published for the station or for an

equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that flow at it can reasonably be considered equivalent to flow at the present station.

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

GAGE.--The type of gage in current use, the datum of the current gage referred to as "above NGVD of 1929" (formerly "sea level") (see Definition of Terms), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

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

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

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

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

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were ever revised after the station was discontinued.

Of course, if the data for a discontinued station were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

PEAK DISCHARGES FOR CURRENT YEAR.--For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. All peaks greater than the base discharge are listed with the maximum for the year footnoted by an asterisk (*). Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man or at locations where the instantaneous peak discharge does not exceed the mean daily discharge by 10 percent. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330.

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

Data table of daily mean values

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

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS ____ - ____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station records within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year, but also for the previous calendar year and for the designated period, as appropriate. The designated period selected, "WATER YEARS ____-____," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (See line headings below.), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations, the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date for the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Secondary instantaneous peak discharges above a selected base discharge are given in the station manuscript under the heading "PEAK DISCHARGES FOR CURRENT YEAR."

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

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

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 the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that has been exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

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

Water Temperature

Water temperatures are usually taken at time of discharge measurements for water-discharge stations. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Definitions of common terms such as algae, water level, and precipitation are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting inch/pound units to International System (SI) units on the inside of the back cover.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also "Annual runoff")

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

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

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a "filtered" sample.

DEFINITION OF TERMS--Continued

Annual runoff is the total quantity of water that is discharged ("runs off") from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day, 10-year low-flow statistic.)

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is collected. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also "Substrate")

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also "Biomass" and "Dry mass")

Aspect is the direction toward which a slope faces with respect to the compass.

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

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each

station is selected so that an average of about three peak flows per year will be published. (See also "Peak flow")

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bedload is material in transport that is supported primarily by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to an elevation equal to the top of the bedload sampler nozzle (ranging from 0.25 to 0.5 foot) that are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload," "Dry weight," "Sediment," and "Suspended-sediment discharge")

Bed material is the sediment mixture of which a stream-bed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

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

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

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This is also called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the

DEFINITION OF TERMS--Continued

material including the dissolved solids content of the pore water and lithology and porosity of the rock.

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $\frac{4}{3} \pi r^3$ cone $\frac{1}{3} \pi r^2 h$ cylinder $\pi r^2 h$.

pi (π) is the ratio of the circumference to the diameter of a circle; $\pi = 3.14159\dots$

From cell volume, total algal biomass expressed as biovolume ($\mu\text{m}^3/\text{mL}$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

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

Clostridium perfringens (*C. perfringens*) is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

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.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

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

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [$\text{ft}^3/\text{s}/\text{d}$]) 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, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, ($\text{ft}^3/\text{s}/\text{mi}^2$)] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration")

Daily-record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to periodic sample or data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

DEFINITION OF TERMS--Continued

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data are usually downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or UTM coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988")

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

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or flow, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, etc., within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = -\sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class")

Enterococcus bacteria are commonly found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that are generally considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli (*E. coli*) are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a

DEFINITION OF TERMS--Continued

member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) concentration value is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an 'E' code will be reported with the value. If the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an 'E' code even though the measured value is greater than the MDL. A value reported with an 'E' code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<).

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

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

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "Phytoplankton")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

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

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

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

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat are typically made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

DEFINITION OF TERMS--Continued

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate (CaCO₃).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA web site:

<http://www.co-ops.nos.noaa.gov/tideglos.html>

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = \frac{\sum (n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the USGS. Each hydrologic unit is identified by an 8-digit number.

Inch (IN., in.), as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and,

therefore, may change. [Note: In several previous NWQL documents (NWQL Technical Memorandum 98.07, 1998), the LRL was called the nondetection value or NDV—a term that is no longer used.]

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

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_o}.$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. See NOAA web site:
<http://www.co-ops.nos.noaa.gov/tideglos.html>

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a

DEFINITION OF TERMS--Continued

stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration")

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

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

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

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

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

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

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

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

Micrograms per gram (UG/G, $\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, $\mu\text{g/kg}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water.

One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, $\mu\text{S/cm}$) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

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

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

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

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations, it does not necessarily represent local mean sea level at any particular place. See NOAA web site: <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88> (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

DEFINITION OF TERMS--Continued

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Vertical Datum of 1988 (NAVD 1988) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and United States first-order terrestrial leveling networks.

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

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or volatile mass of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m²), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

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

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

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay	>0.00024- 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 -256	Manual measurement
Boulder	>256	Manual measurement

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

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

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

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measure-

DEFINITION OF TERMS--Continued

ments are made one or more times during a year but at a frequency insufficient to develop a daily record.

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

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

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

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

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

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

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

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

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] for phytoplankton. The oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

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

DEFINITION OF TERMS--Continued

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or

deposited from water, it is referred to as "fluvial sediment." Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of pre-cipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "Annual 7-day minimum" and "Recurrence interval")

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

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

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

DEFINITION OF TERMS--Continued

Stage (See "Gage height")

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

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

Substrate is the physical surface upon which an organism lives.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26-50 percent
1	> 75 percent	4	5-25 percent
2	51-75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

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

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

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "Sediment")

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment")

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment")

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydro-logic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organ-

DEFINITION OF TERMS--Continued

isms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom:	<i>Animal</i>
Phylum:	Arthropoda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	<i>Hexagenia</i>
Species:	<i>Hexagenia limbata</i>

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

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

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen

within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "Organism count/volume")

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

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "Bedload," "Bedload discharge," "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Total sediment load or **total load** is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also "Sediment," "Suspended-sediment load," and "Total load")

DEFINITION OF TERMS--Continued

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to U.S. EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of pathlength of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See "Water-table aquifer")

Vertical datum (See "Datum")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2002, is called the "2002 water year."

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

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

Wet mass is the mass of living matter plus contained water. (See also "Biomass" and "Dry mass")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "Dry weight")

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

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

CURRENT WATER RESOURCES PROJECTS IN NEW JERSEY

The U.S. Geological Survey is currently involved in a number of hydrologic investigations in the State of New Jersey. The following is a list of these investigations. Results are published at the conclusion of short-term projects or periodically in the case of long-term projects. Hydrologic data from these projects are entered into the NWIS data base.

Aquifer Flow and Chemistry in Salem County

Assessment of Current Ground-Water and Surface-Water Conditions within the NJ-NY Highlands Area

Delaware River Basin National Water Quality Assessment

Determination of Total Annual Nonpoint Source Pollution Loads to Selected River Systems in New Jersey

Development of Database, Models, and Determination of Vulnerability of Public Supply Wells and Surface-Water Intakes in New Jersey for Chemicals of Concern to Support Source Water Assessment Program

Distribution of MTBE and Related Volatile Organic Compounds in Lakes in Northern NJ and Investigation of Lake-Well Interactions

Distribution of Radium and Related Radionuclides in Coastal-Plain Aquifers

Effects of Land Use, Septic Systems, and Sewering on the Distribution of Nitrate in Shallow Ground Water

CURRENT WATER RESOURCES PROJECTS IN NEW JERSEY--Continued

EPA Technical Assistance Program

Estimation of the Relative Importance of Nonpoint Source Loads in the Raritan River Basin

Flood Characteristics of New Jersey Streams

Flow Characteristics and Basis for Development of Ecological Goals for New Jersey Streams

Geohydrology of the Naval Air Warfare Center, West Trenton, New Jersey

Ground-Water Data Collection Network

Ground-Water Levels and Chloride Concentrations in Major Aquifers of the Coastal Plain

Ground-Water Supply Availability in Southern Ocean County

Head of Tide Sampling Program for the New Jersey Harbour Toxic Contaminant Assessment Reduction Program

High-Flow Water Quality Management Objectives

Hydrogeologic Investigation to Ensure Sustainable Water Supply for Cape May County

Hydrogeologic Support to McGuire Air Force Base, Burlington County, New Jersey

Hydrogeologic Support to Picatinny Arsenal, Morris County, New Jersey

Hydrology of Surficial Aquifer Systems

Investigation of Contaminant Transport in a Fractured Rock Aquifer, Rutgers University, Busch Campus

Investigation of Ground-Water/Surface-Water Interaction in the Northern Passaic River Valley, New Jersey

Investigation of Hydrogeology and Volatile Organic Compound Contamination in Fair Lawn, New Jersey

Investigation of Hydrogeology and Volatile Organic Compound Contamination in the Pohatcong Valley, New Jersey

Investigation of Potential Threats to Water Supply from the Potomac-Raritan-Magothy Aquifer in Salem and Western Gloucester Counties, New Jersey

Low Flow Characteristics of New Jersey Streams

Modeling and Experimental Investigation of Hydrocarbon Transport and Biodegradation in the Unsaturated Zone

Movement of Chromium in the Ground Water of Pennsauken Township, Camden County

Natural Radionuclide Occurrence in Principal New Jersey Aquifers

New Jersey Drought Monitoring System

New Jersey-Long Island National Water Quality Assessment

New Jersey Tide Telemetry System

Pascack Brook Flood Warning System

Passaic Flood Warning System

Passaic River Basin Flow Model

Program to Maintain and Update Ground-Water Models to Evaluate Continued Water-Supply Development

Quality of Water Data Collection Network

Quantification of Radium Mass Loading and Radioactivity in the Shallow Aquifer from the Water-Softening-Treatment Backwash Waste Stream that is Discharged to Septic Systems

Rahway Flood Warning System

Refinement of a Data Model for Watershed Water Transfer Analysis

Small Watershed Flood Data Collection

Somerset County Flood-Information System

Surface Water Data Collection Network

Vulnerability Assessment of the Kirkwood-Cohansey Aquifer System to Radium, Mercury, and Trace Metals

Water-Quality Characteristics of Upper-Delaware Watershed

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ACCESS TO USGS WATER DATA

The U.S. Geological Survey provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at <http://water.usgs.gov> or <http://nj.usgs.gov>.

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (see address on the back of the title page).

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TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The USGS publishes a series of manuals titled the "Techniques of Water-Resources Investigations" that describe procedures for planning and conducting specialized work in water-resources investigations. The material in these manuals is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. Each chapter then is limited to a narrow field of the section subject matter. This publication format permits flexibility when revision or printing is required.

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- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS-TWRI book 4, chap. B1. 1972. 18 p.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS-TWRI book 4, chap. B2. 1973. 20 p.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS-TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS-TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS-TWRI book 5, chap. A1. 1989. 545 p.

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- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS-TWRI book 5, chap. A2. 1971. 31 p.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS-TWRI book 5, chap. A3. 1987. 80 p.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS-TWRI book 5, chap. A4. 1989. 363 p.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS-TWRI book 5, chap. A5. 1977. 95 p.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS-TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS-TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS-TWRI book 6, chap. A1. 1988. 586 p.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS-TWRI book 6, chap. A2. 1991. 68 p.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS-TWRI book 6, chap. A3. 1993. 136 p.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS-TWRI book 6, chap. A4. 1992. 108 p.

- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS-TWRI book 6, chap. A5. 1993. 243 p.
- 6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS-TWRI book 6, chap. A6. 1996. 125 p.
- 6-A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS-TWRI book 6, chap. A7. 2002. 77 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS-TWRI book 7, chap. C1. 1976. 116 p.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS-TWRI book 7, chap. C2. 1978. 90 p.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS-TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS-TWRI book 8, chap. A1. 1968. 23 p.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS-TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

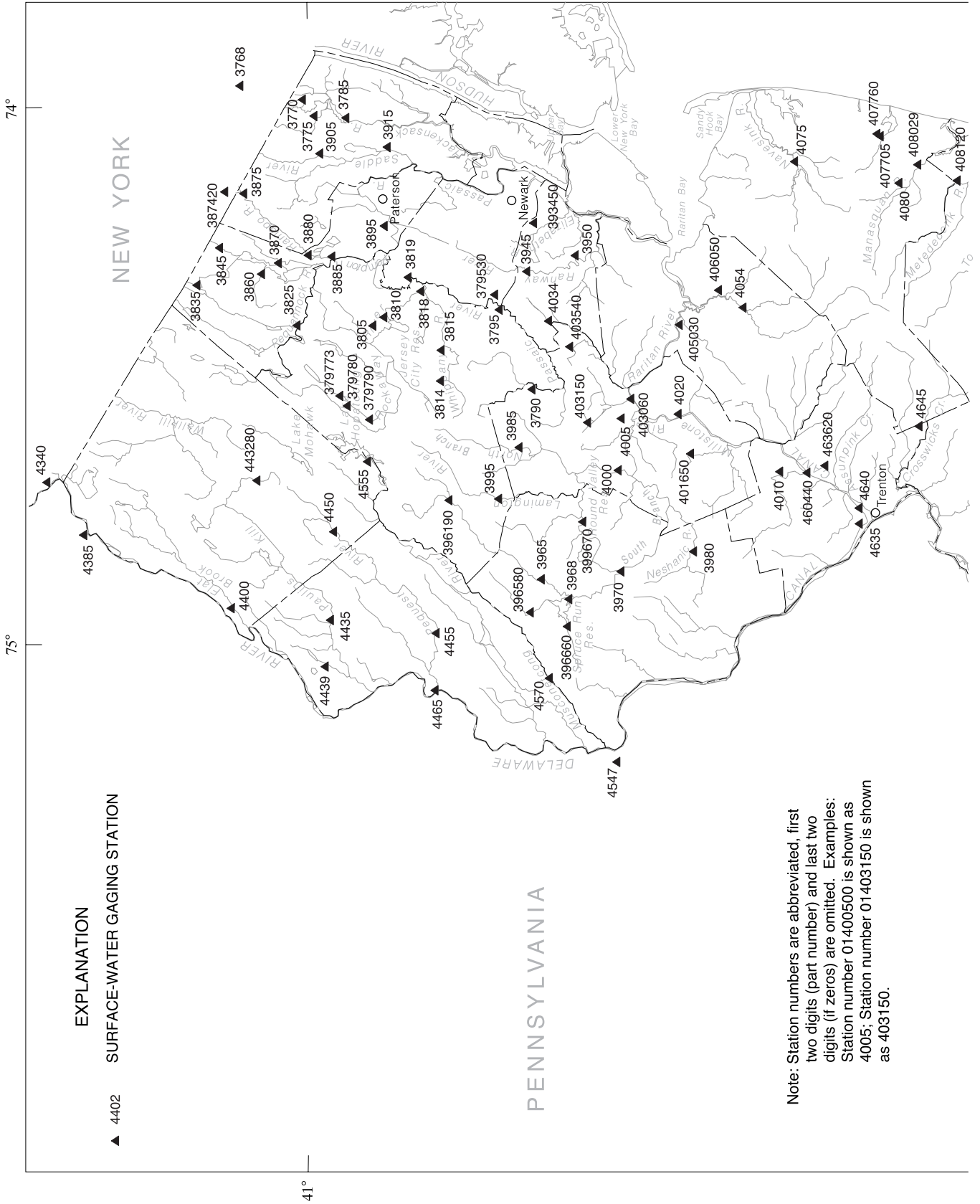
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS-TWRI book 8, chap. B2. 1968. 15 p.

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY--Continued

Book 9. Handbooks for Water-Resources Investigations*Section A. National Field Manual for the Collection of Water-Quality Data*

- 9-A1. *National field manual for the collection of water-quality data: Preparations for water sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A1. 1998. 47 p.
- 9-A2. *National field manual for the collection of water-quality data: Selection of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A2. 1998. 94 p.
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- 9-A5. *National field manual for the collection of water-quality data: Processing of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A5. 1999. 149 p.
- 9-A6. *National field manual for the collection of water-quality data: Field measurements*, edited by F.D. Wilde and D.B. Radtke: USGS-TWRI book 9, chap. A6. 1998. Variousy paginated.
- 9-A7. *National field manual for the collection of water-quality data: Biological indicators*, edited by D.N. Myers and F.D. Wilde: USGS-TWRI book 9, chap. A7. 1997 and 1999. Variousy paginated.
- 9-A8. *National field manual for the collection of water-quality data: Bottom-material samples*, by D.B. Radtke: USGS-TWRI book 9, chap. A8. 1998. 48 p.
- 9-A9. *National field manual for the collection of water-quality data: Safety in field activities*, by S.L. Lane and R.G. Fay: USGS-TWRI book 9, chap. A9. 1998. 60 p.

WATER RESOURCES DATA-NEW JERSEY, 2002



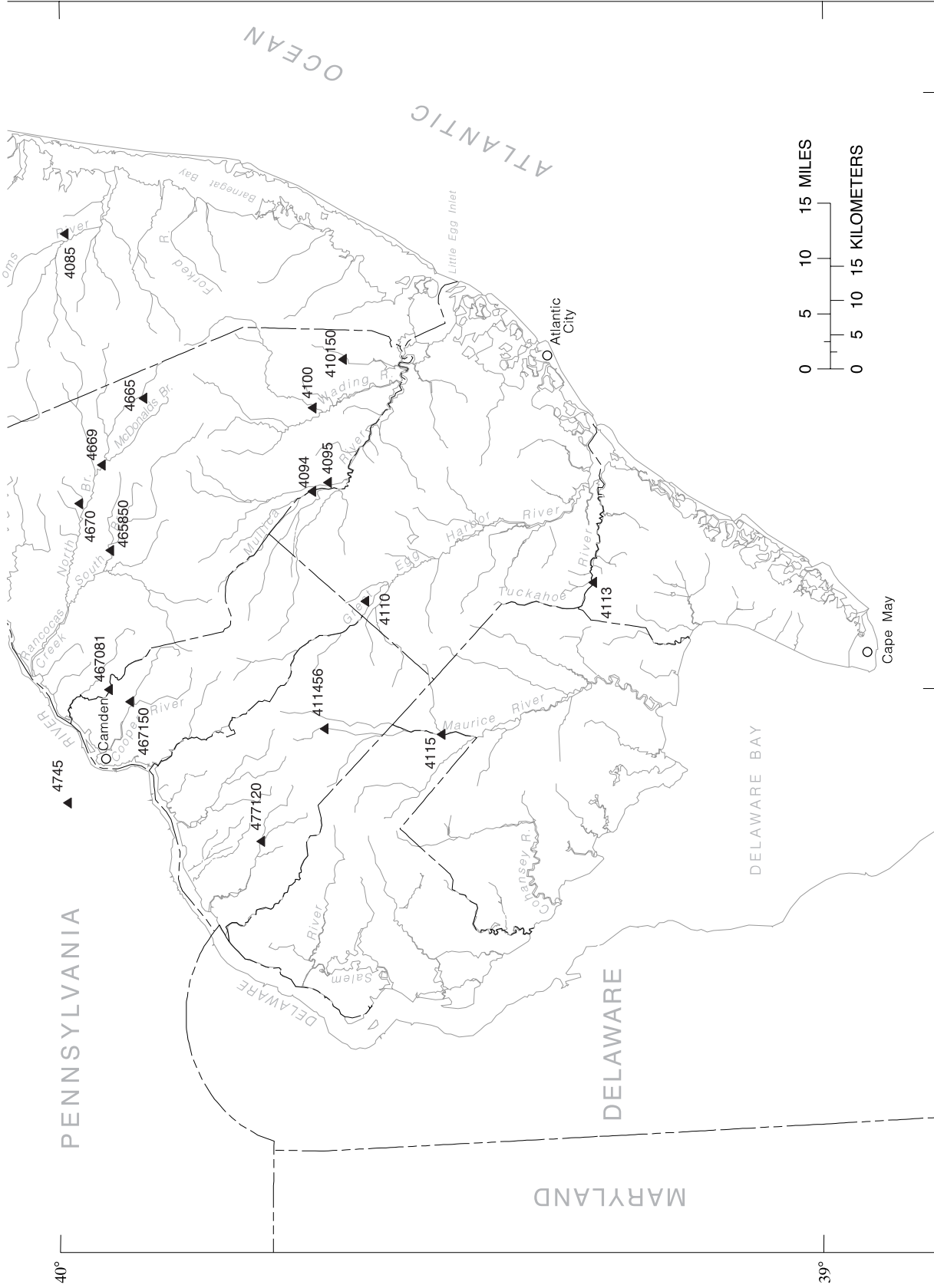
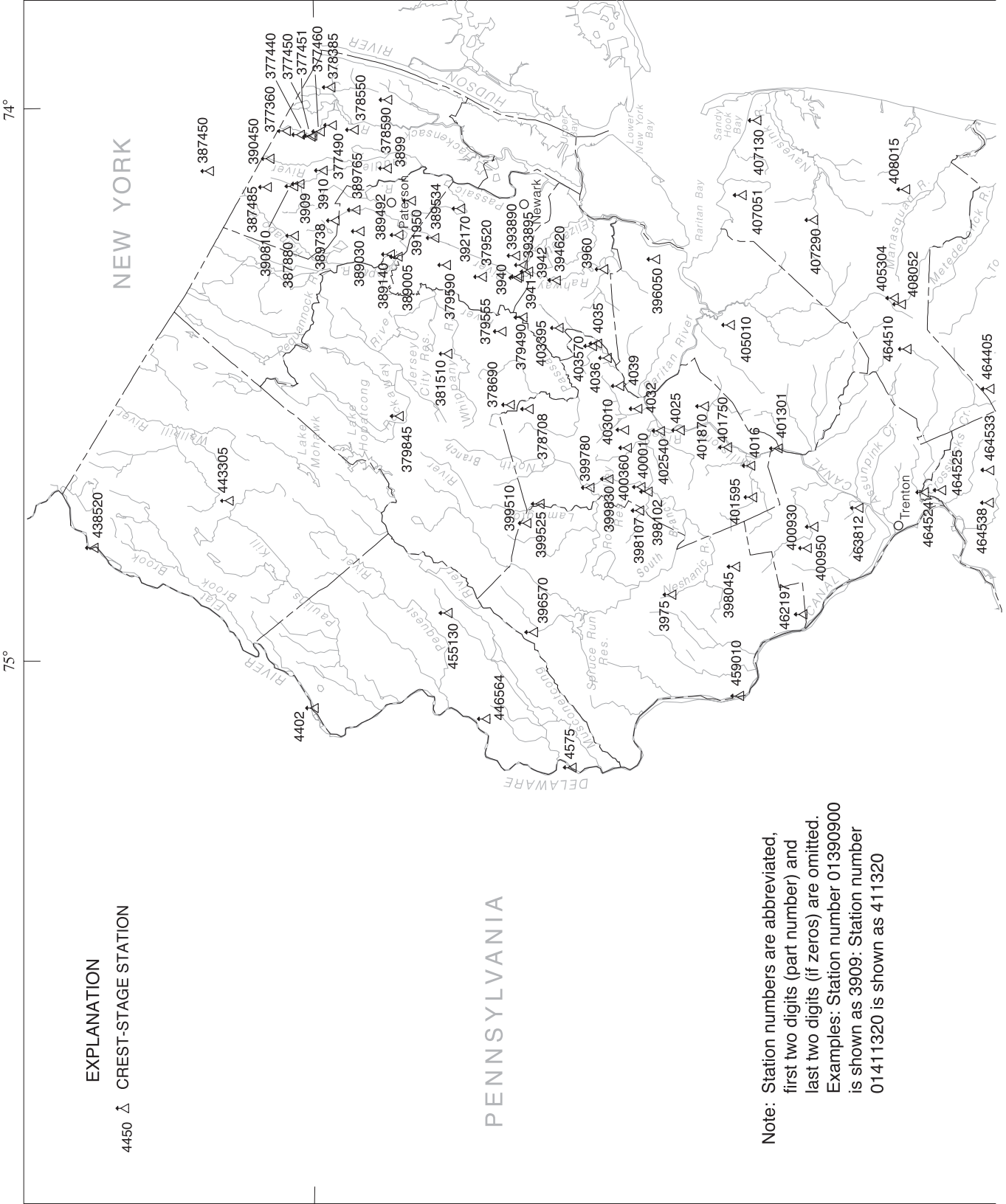


Figure 8. Map showing location of surface-water gaging stations.

WATER RESOURCES DATA-NEW JERSEY, 2002



EXPLANATION

4450 ▲ CREST-STAGE STATION

Note: Station numbers are abbreviated, first two digits (part number) and last two digits (if zeros) are omitted. Examples: Station number 01390900 is shown as 3909; Station number 01411320 is shown as 411320

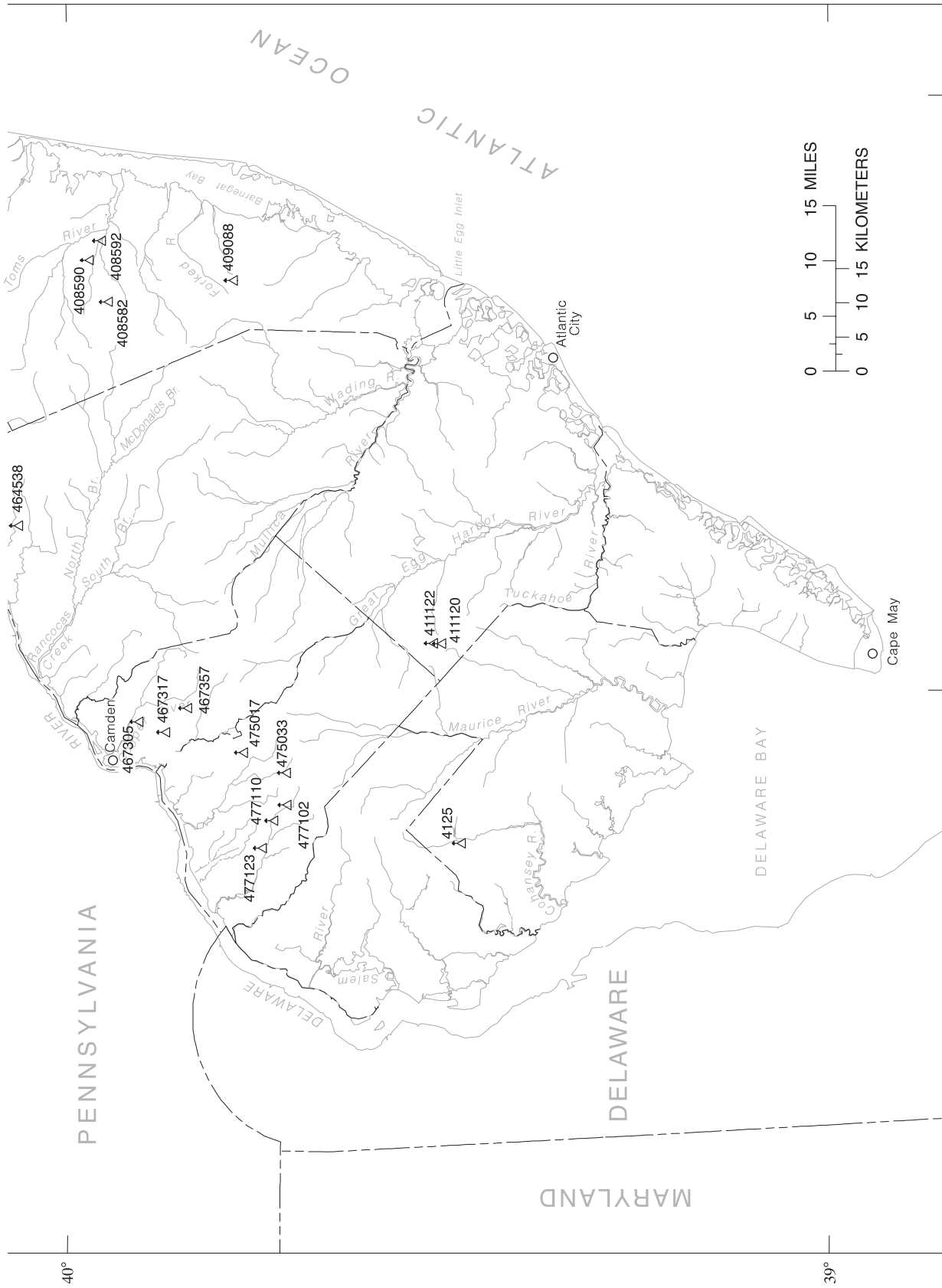
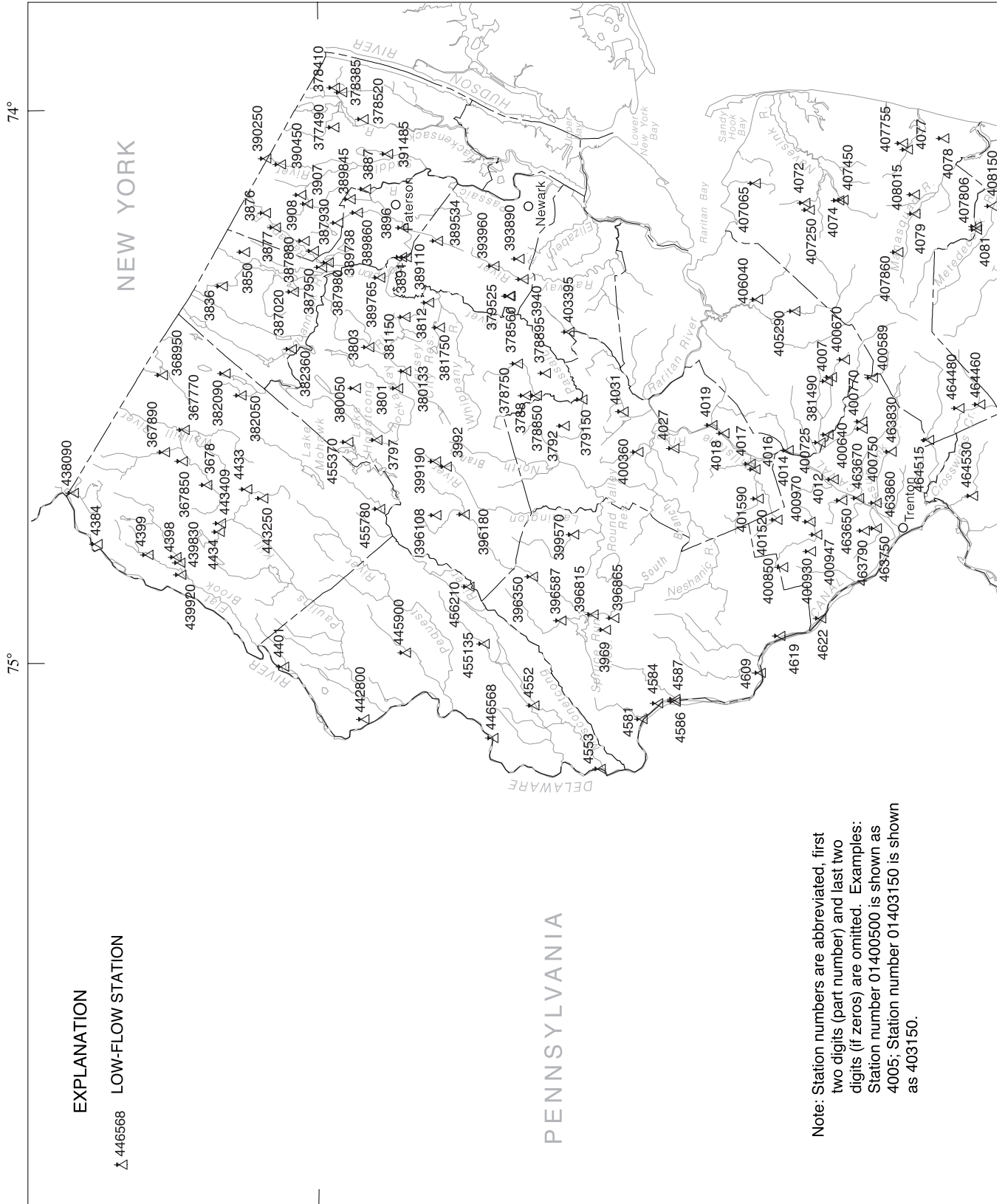


Figure 9. Map showing location of crest-stage partial-record stations.

WATER RESOURCES DATA-NEW JERSEY, 2002



EXPLANATION

△ 446568 LOW-FLOW STATION

Note: Station numbers are abbreviated, first two digits (part number) and last two digits (if zeros) are omitted. Examples: Station number 01400500 is shown as 4005; Station number 01403150 is shown as 403150.

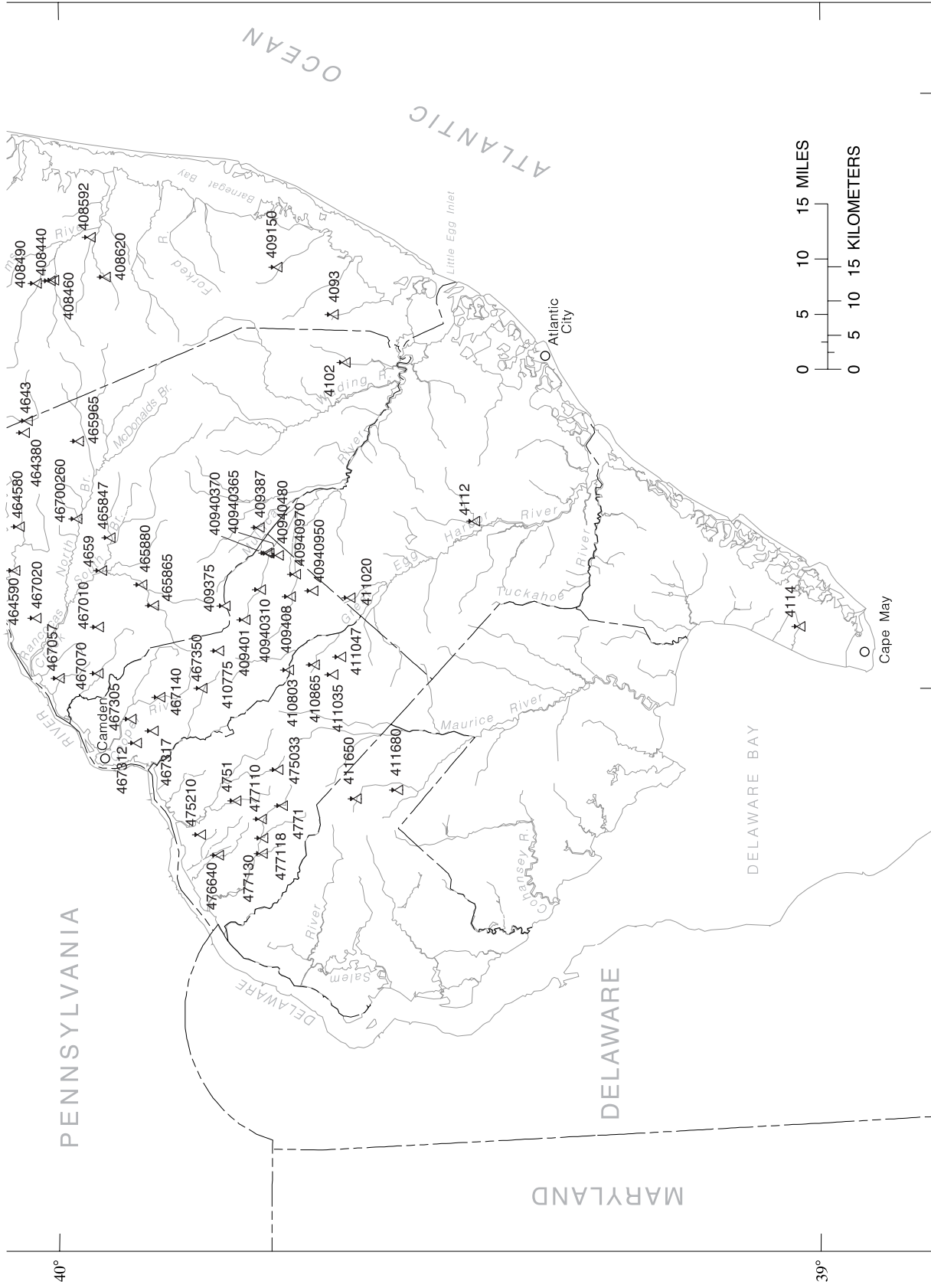
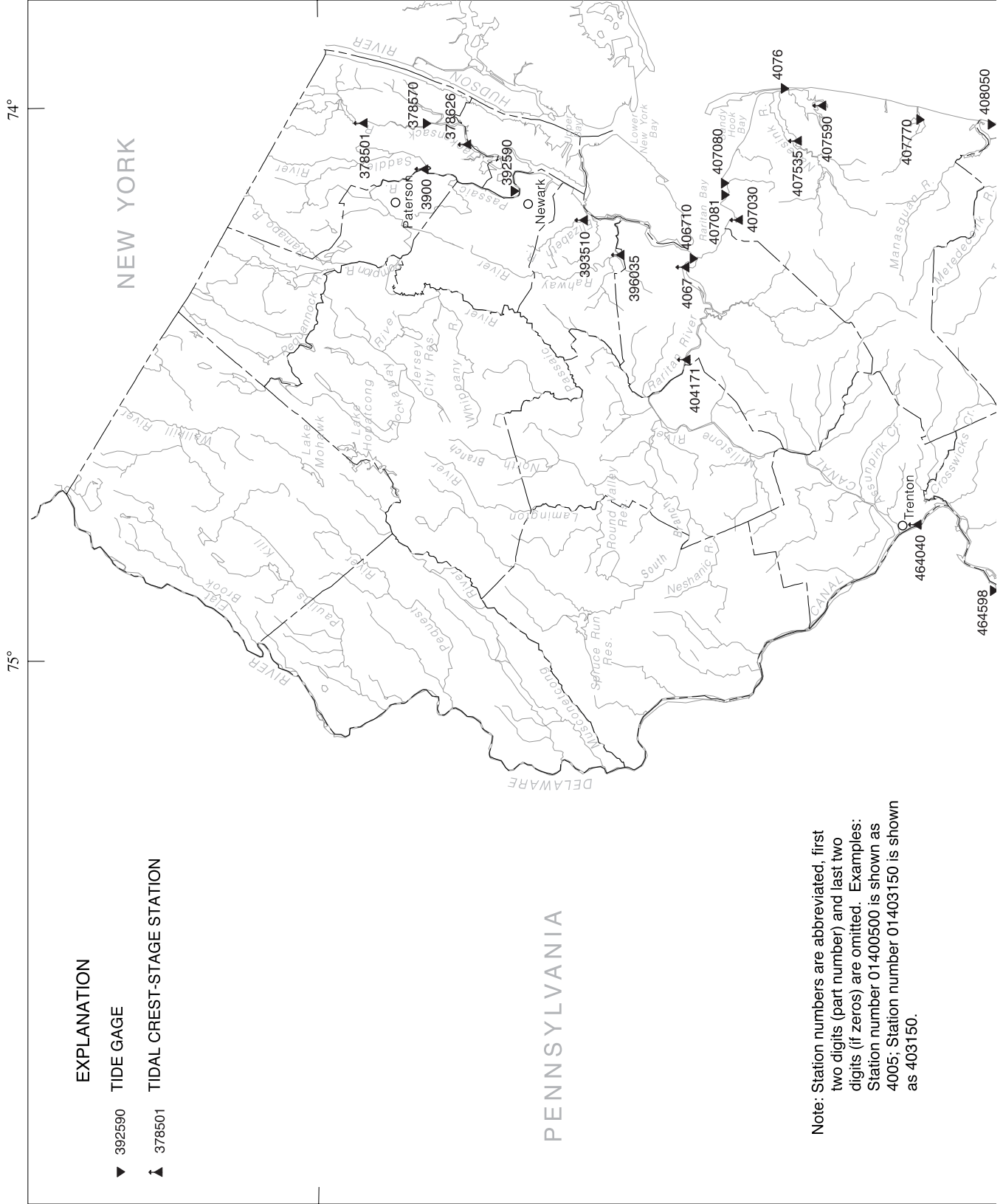


Figure 10. Map showing location of low-flow partial-record stations.

WATER RESOURCES DATA-NEW JERSEY, 2002



41°

75°

74°

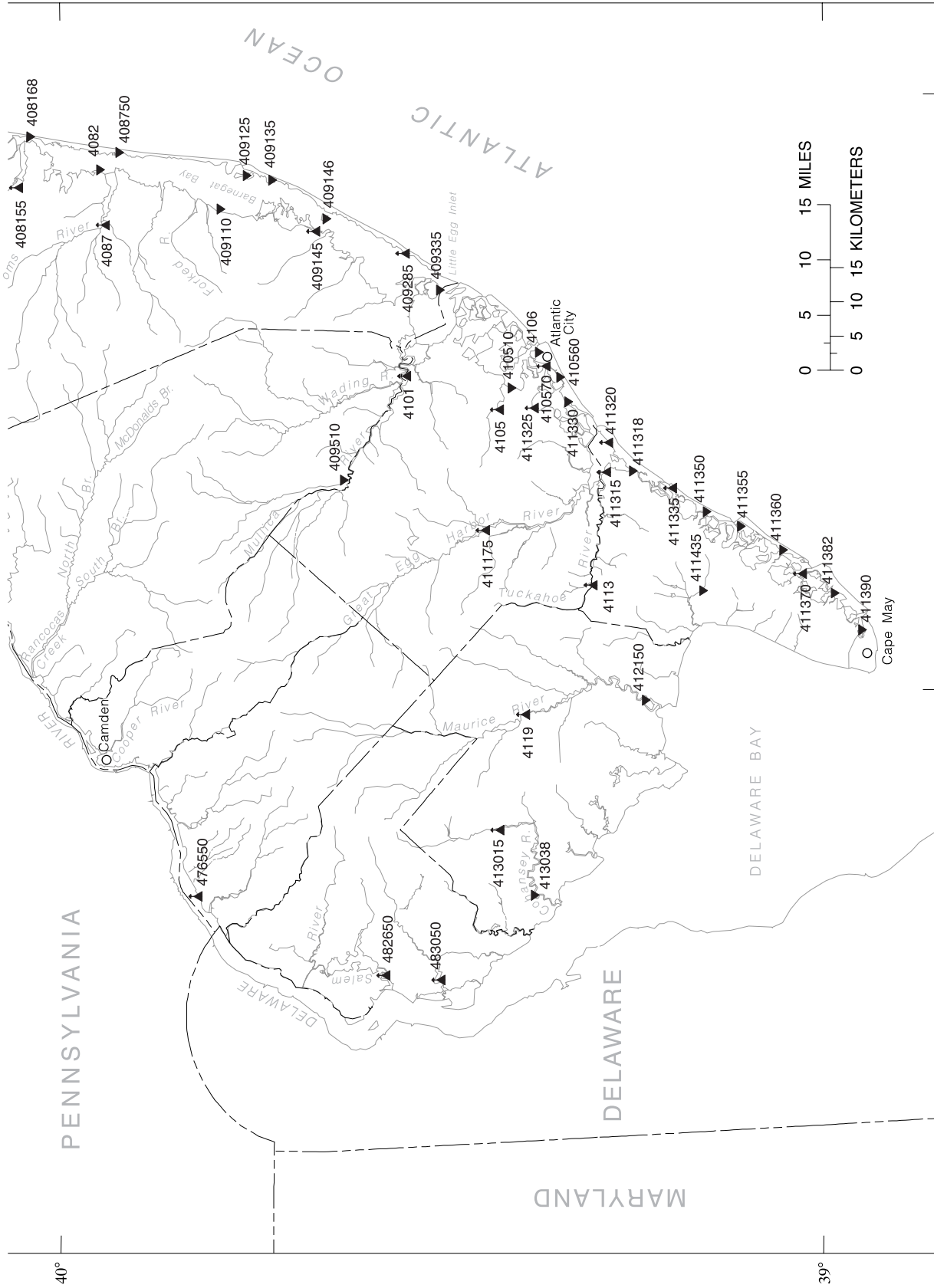


Figure 11. Map showing location of tide gage and tidal crest-stage partial-record stations.

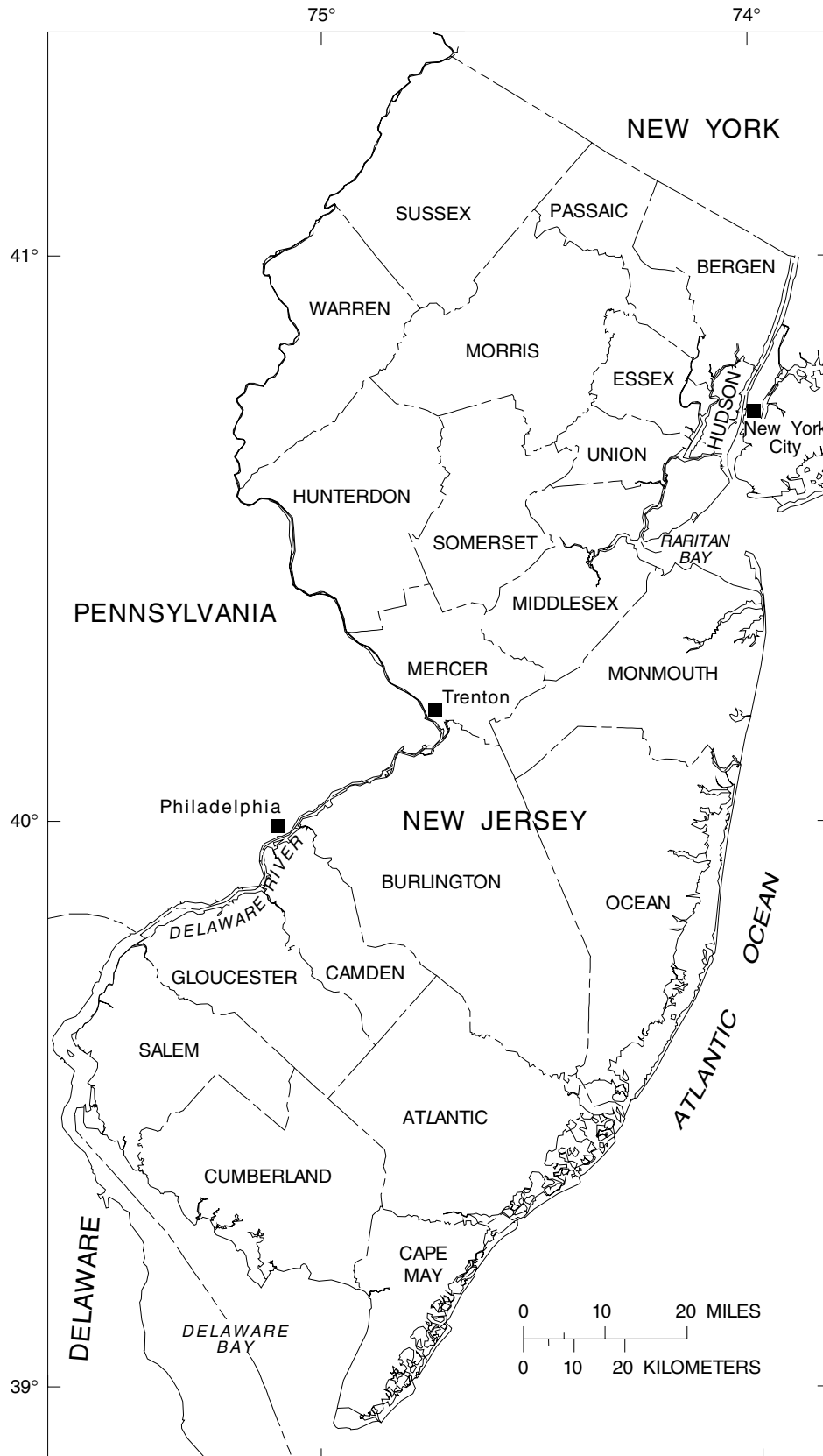


Figure 12. Map showing counties in New Jersey.

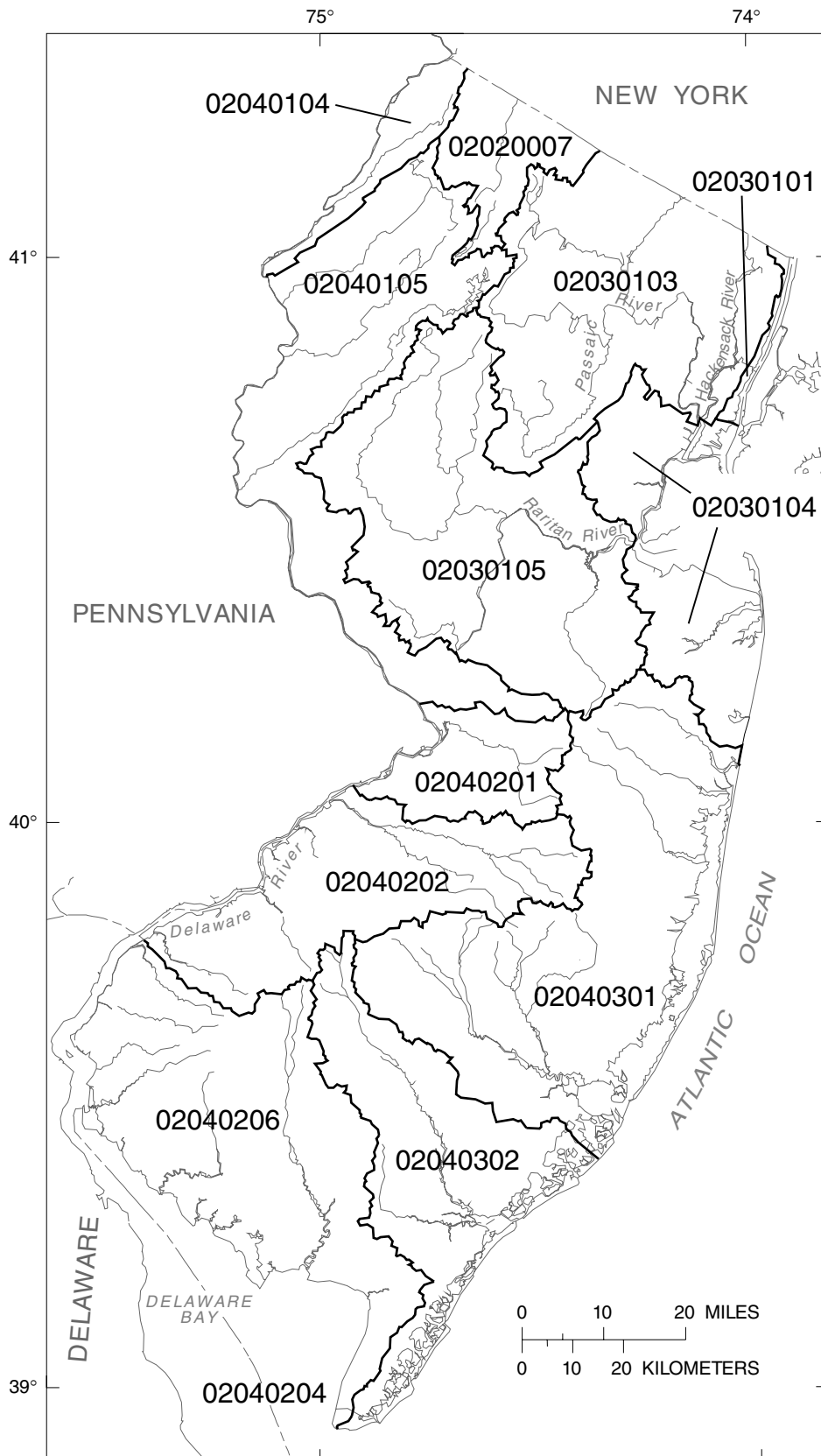


Figure 13. Map showing hydrologic cataloging units and codes in New Jersey. (Modified from Seaber and others, 1987)

HACKENSACK RIVER BASIN

01376800 HACKENSACK RIVER AT WEST NYACK, NY

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

DRAINAGE AREA.--30.7 mi².

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

REVISIONS.--WDR NY-90-1: Drainage area.

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

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by DeForest Lake (see Reservoirs in Hackensack River Basin). Diversion from gaging station pool for municipal supply for village of Nyack (see Diversions in Hackensack River Basin). Discharge given for this station represents the flow of Hackensack River downstream from this diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft³/s, Sept. 16, 1999, gage height, 11.21 ft, from floodmarks in gage house, from rating curve extended above 840 ft³/s; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 366 ft³/s, July 19, gage height, 5.72 ft; minimum discharge, 1.9 ft³/s, Aug. 3, gage height, 2.23 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	7.7	22	7.7	11	9.3	15	14	15	8.0	7.4	8.5
2	14	7.4	33	7.3	8.1	9.3	16	20	13	9.0	9.6	11
3	13	7.2	31	17	9.4	28	16	18	14	8.7	5.0	5.9
4	13	6.8	32	34	10	14	16	14	16	8.6	6.8	10
5	13	7.2	32	33	10	13	14	14	17	7.8	7.4	6.8
6	13	7.2	33	37	10	14	14	14	26	7.9	7.1	7.3
7	13	7.6	37	37	9.8	15	13	14	45	8.7	6.5	5.7
8	13	8.5	39	35	9.7	15	13	15	13	8.3	6.5	5.1
9	13	9.8	35	25	9.0	15	14	15	15	8.9	6.4	6.4
10	13	9.8	29	11	9.0	15	16	15	17	8.9	6.1	5.8
11	13	10	11	10	10	13	16	15	20	8.3	6.3	6.7
12	12	9.9	8.9	7.7	9.3	14	15	20	21	9.2	6.2	7.7
13	12	10	7.7	7.1	10	15	16	27	16	9.1	7.2	8.0
14	11	11	9.2	7.1	10	15	15	25	26	9.0	6.9	7.4
15	15	10	9.4	7.2	9.7	14	17	14	18	8.6	6.9	13
16	13	9.9	8.5	7.2	9.4	14	14	16	16	7.8	8.3	11
17	12	8.8	8.6	7.2	8.7	14	15	14	15	7.7	9.0	6.1
18	11	8.0	13	7.1	8.5	16	15	31	15	7.9	8.0	7.5
19	11	8.1	9.3	7.7	8.8	15	15	14	14	78	7.8	7.9
20	11	8.2	8.2	7.1	8.9	20	14	15	14	28	9.3	8.1
21	10	7.8	7.9	7.2	13	13	13	14	15	6.1	8.6	7.8
22	11	8.0	7.4	6.8	9.5	13	14	14	12	6.1	9.8	7.7
23	8.8	8.0	8.0	8.1	9.3	15	14	14	10	9.2	13	8.1
24	9.7	8.3	13	8.9	9.2	15	14	14	9.8	6.8	13	7.7
25	9.3	12	8.4	7.9	9.3	16	16	14	9.7	7.0	13	8.3
26	8.8	9.0	8.2	6.7	9.5	16	16	15	10	5.8	13	8.6
27	8.6	7.0	7.9	7.4	9.7	16	14	16	11	4.6	11	19
28	7.5	7.5	7.9	7.6	9.6	15	33	19	11	4.5	8.1	9.6
29	7.9	8.0	8.1	7.4	---	15	24	15	7.8	4.3	19	5.3
30	7.6	7.7	7.6	7.6	---	16	13	15	7.0	5.5	8.1	8.5
31	7.4	---	7.7	9.4	---	15	---	16	---	7.4	8.2	---
TOTAL	349.6	256.4	508.9	404.4	268.4	462.6	470	510	469.3	325.7	269.5	246.5
MEAN	11.3	8.55	16.4	13.0	9.59	14.9	15.7	16.5	15.6	10.5	8.69	8.22
MAX	15	12	39	37	13	28	33	31	45	78	19	19
MIN	7.4	6.8	7.4	6.7	8.1	9.3	13	14	7.0	4.3	5.0	5.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2002, BY WATER YEAR (WY)

MEAN	30.2	29.7	36.7	40.9	46.5	67.2	69.8	49.5	34.5	31.6	26.7	33.8
MAX	84.2	88.6	135	125	152	151	204	162	162	127	83.3	105
(WY)	1990	1976	1997	1978	1973	1961	1983	1989	1972	1984	1966	1999
MIN	7.27	7.59	5.63	8.95	9.59	6.95	9.61	7.04	12.7	10.1	8.69	8.22
(WY)	1967	1967	1967	1967	2002	1981	1966	1965	1981	1999	2002	2002

SUMMARY STATISTICS

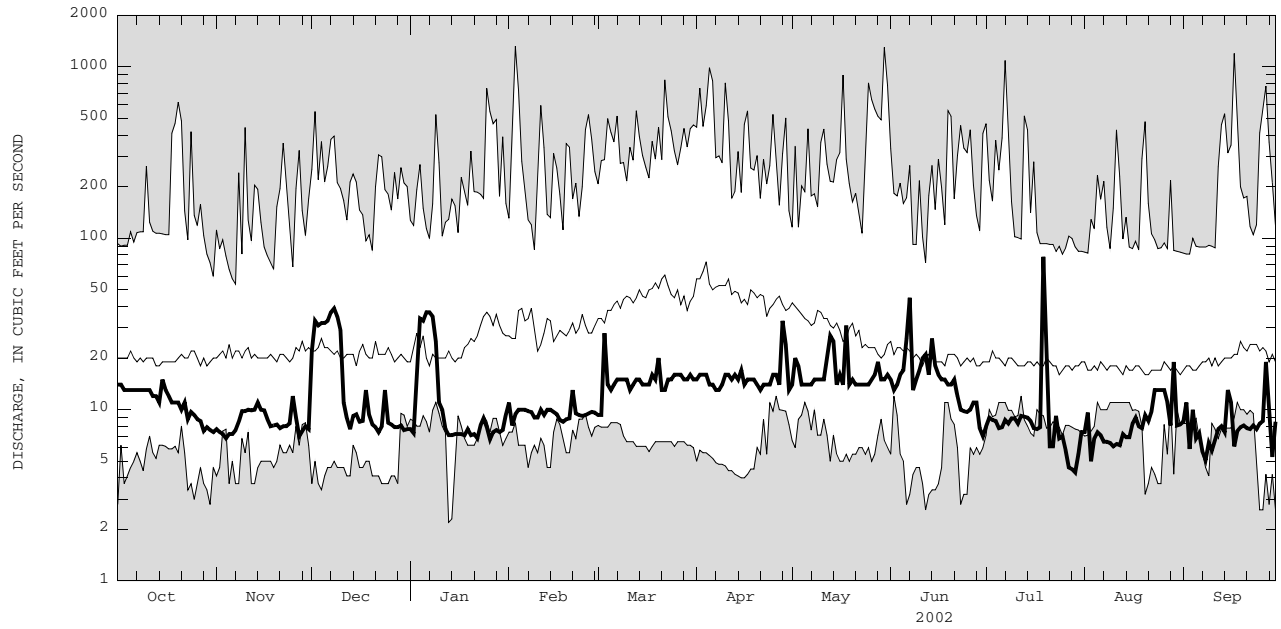
FOR 2001 CALENDAR YEAR

FOR 2002 WATER YEAR

WATER YEARS 1959 - 2002

ANNUAL TOTAL	9536.7	4541.3		
ANNUAL MEAN	26.1	12.4	41.5	
HIGHEST ANNUAL MEAN			74.1	1984
LOWEST ANNUAL MEAN			12.4	2002
HIGHEST DAILY MEAN	437	Mar 30	78	Jul 19
LOWEST DAILY MEAN	6.8	Nov 4	4.3	Jul 29
ANNUAL SEVEN-DAY MINIMUM	7.3	Oct 31	5.5	Jul 24
10 PERCENT EXCEEDS	59		18	84
50 PERCENT EXCEEDS	13		10	23
90 PERCENT EXCEEDS	8.3		7.1	12

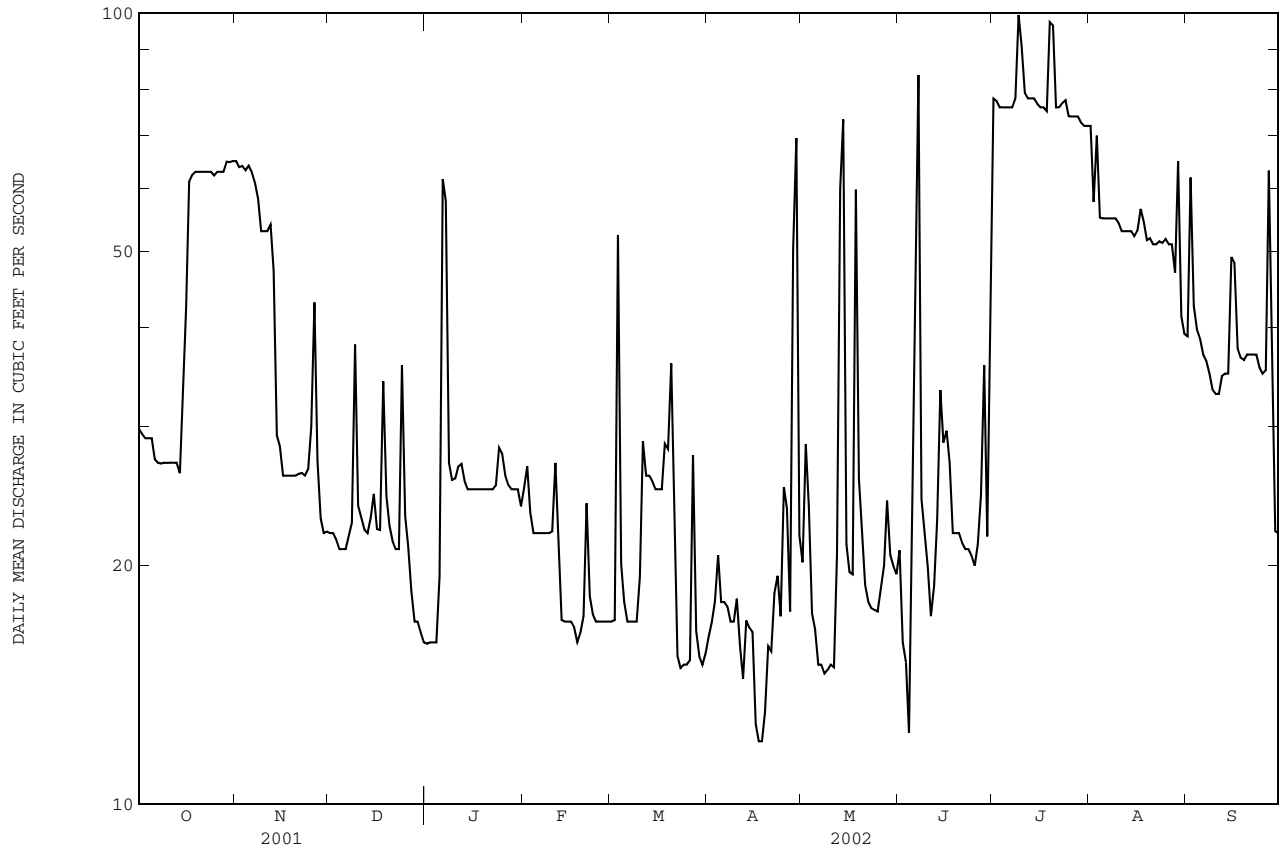
01376800 HACKENSACK RIVER AT WEST NYACK, NY--Continued



CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
 SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

01377000 HACKENSACK RIVER AT RIVERVALE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1942 - 2002	
ANNUAL TOTAL	23746		12756		86.02	
ANNUAL MEAN	65.06		34.95		156	
HIGHEST ANNUAL MEAN					30.9 1952	
LOWEST ANNUAL MEAN					2190 May 31 1984	
HIGHEST DAILY MEAN	1080	Jun 18	99	Jul 9	4.4	Oct 10 1995
LOWEST DAILY MEAN	16	Dec 30	12	many days	5.0	Oct 7 1995
ANNUAL SEVEN-DAY MINIMUM	18	Dec 25	14	Apr 15	2530	May 17 1989
MAXIMUM PEAK FLOW			229	Jul 19	8.08	May 17 1989
MAXIMUM PEAK STAGE			2.46	Jul 19	0.00	Jan 16 1970
INSTANTANEOUS LOW FLOW			10	Jun 4	165	
10 PERCENT EXCEEDS	113		67		59	
50 PERCENT EXCEEDS	43		26		21	
90 PERCENT EXCEEDS	23		17			



HACKENSACK RIVER BASIN

01377500 PASCACK BROOK AT WESTWOOD, NJ

LOCATION.--Lat 40°59'34", long 74°01'17" (revised), Bergen County, Hydrologic Unit 02030103, on right bank 75 ft upstream from Harrington Avenue in Westwood, 500 ft downstream from Musquapsink Brook, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--29.6 mi².

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

REVISED RECORDS.--WDR NJ-87-1: 1984 (P).

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

REMARKS.--Records good. Flow regulated by Woodcliff Lake 3.0 mi above station (see Hackensack River basin, reservoirs in). Water diverted for municipal supply by United Water New York (formerly Spring Valley Water Company), by pumpage from well fields in headwater area of Pascack Brook in vicinity of Spring Valley, NY, and by Park Ridge Water Department by pumping from wells above Woodcliff Lake probably reduces flow past this station. Water is diverted from Saddle River to Musquapsink Brook which then enters Pascack Brook 500 feet upstream of gage (see Diversions Into and From Hackensack River Basin). Several measurements of water temperature were made during the year. United Water New Jersey gage-height telemetry at station. Satellite/radio gage-height telemetry at station.

COOPERATION.--Gage-height record collected in cooperation with United Water New Jersey.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jul 19	1845	*407	*3.29	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	26	31	26	33	20	27	24	47	89	18	19
2	32	33	30	27	23	21	29	33	29	88	51	59
3	34	29	32	27	28	66	31	25	31	74	58	29
4	34	30	30	23	26	25	35	20	33	17	22	21
5	34	30	26	20	26	22	29	19	34	17	18	18
6	34	26	28	17	26	23	27	19	112	17	17	18
7	33	27	33	32	26	34	26	23	194	16	17	17
8	32	27	37	31	25	24	28	20	75	15	16	17
9	27	32	49	31	25	31	26	32	53	27	16	19
10	27	30	34	31	21	32	30	28	48	32	16	21
11	29	25	33	30	32	24	25	17	35	22	16	20
12	26	26	32	30	28	31	25	63	39	18	16	23
13	26	26	31	28	19	31	26	146	26	18	16	25
14	26	25	33	24	17	29	32	94	76	16	17	23
15	37	31	30	20	27	29	34	41	105	18	20	49
16	28	28	27	22	23	31	30	34	109	19	27	48
17	24	24	29	26	21	25	25	45	41	15	25	30
18	24	25	46	28	17	29	24	162	26	14	23	28
19	24	23	35	29	20	37	33	46	21	57	22	21
20	24	23	32	29	18	65	39	38	16	50	20	20
21	23	30	31	29	29	41	26	51	16	20	20	18
22	24	29	29	26	19	30	32	51	15	47	20	16
23	25	29	30	29	15	26	31	50	14	93	22	18
24	25	28	41	36	8.2	19	26	50	19	35	26	18
25	24	33	30	35	9.7	22	41	44	23	23	37	37
26	27	38	26	31	13	31	42	33	27	27	20	53
27	33	31	25	30	20	47	29	36	35	21	18	92
28	31	32	25	30	23	34	102	42	43	18	17	36
29	30	31	25	29	---	34	93	40	24	20	83	21
30	25	31	25	29	---	27	30	49	89	17	41	22
31	24	---	22	29	---	25	---	50	---	16	27	---
TOTAL	877	858	967	864	617.9	965	1033	1425	1455	976	782	856
MEAN	28.3	28.6	31.2	27.9	22.1	31.1	34.4	46.0	48.5	31.5	25.2	28.5
MAX	37	38	49	36	33	66	102	162	194	93	83	92
MIN	23	23	22	17	8.2	19	24	17	14	14	16	16

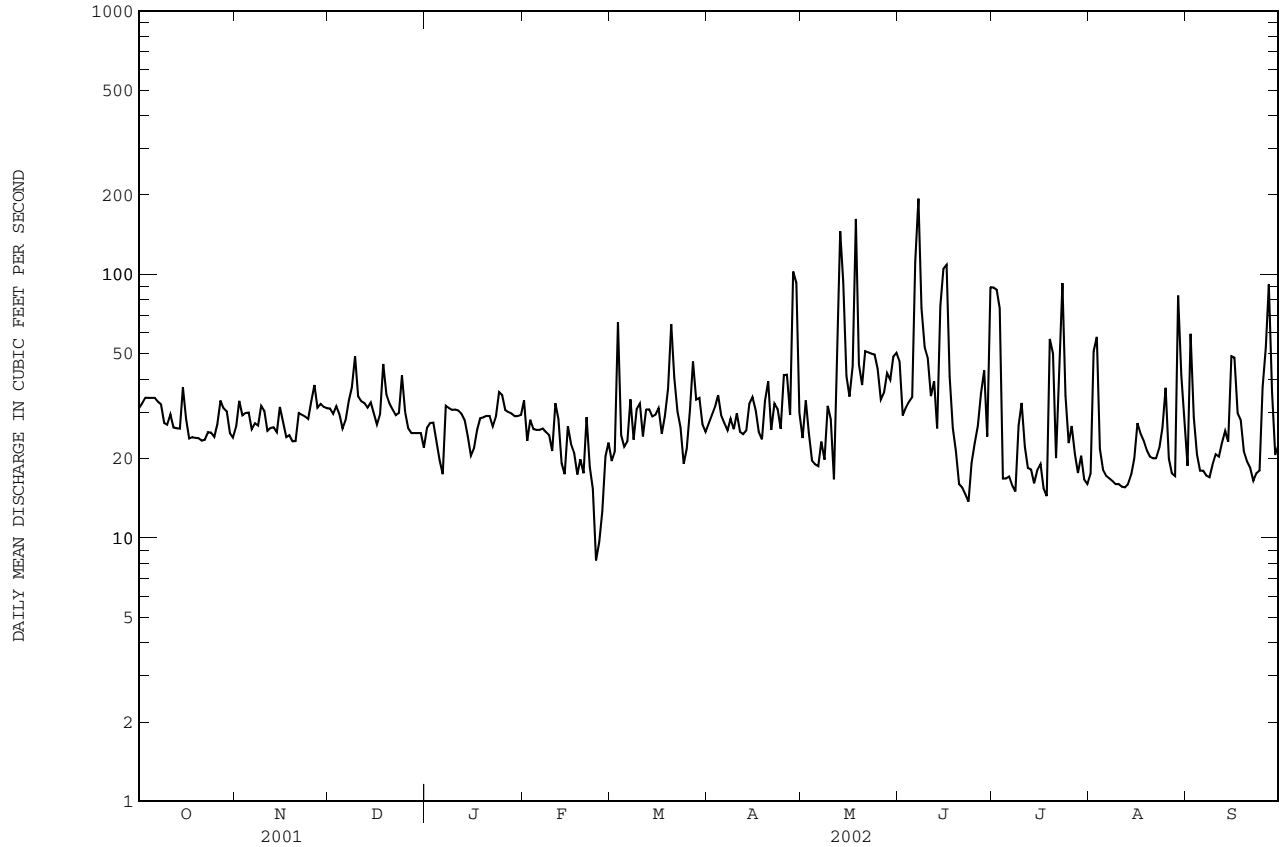
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)
38.6	47.9	51.4	53.7	57.6
78.1	77.2	61.6	50.0	45.3
42.0	41.6	143	131	129
151	135	197	198	155
175	180	127	196	196
1956	1978	1984	1979	1973
1953	1953	1983	1983	1989
1972	1945	1972	1945	1971
1999	10.2	9.83	15.8	10.8
15.7	31.1	28.9	21.2	18.2
14.2	10.0	9.45	1939	1944
1935	1950	1940	1954	1954
2002	1991	1992	1939	1944
1935	1935	1939	1944	1935
1939	1939	1939	1939	1939

01377500 PASCACK BROOK AT WESTWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1935 - 2002	
ANNUAL TOTAL	16888		11675.9			
ANNUAL MEAN	46.3		32.0		53.7	
HIGHEST ANNUAL MEAN					88.6 1952	
LOWEST ANNUAL MEAN					27.6 1965	
HIGHEST DAILY MEAN	493	Jun 17	194	Jun 7	1770	Aug 28 1971
LOWEST DAILY MEAN	22	Dec 31	8.2	Feb 24	0.45	Apr 26 1991
ANNUAL SEVEN-DAY MINIMUM	24	Oct 17	15	Feb 22	6.3	Oct 19 1949
MAXIMUM PEAK FLOW			407	Jul 19	9630a	Sep 16 1999
MAXIMUM PEAK STAGE			3.29	Jul 19	12.22b	Sep 16 1999
INSTANTANEOUS LOW FLOW			7.6	Feb 24, 25	0.05c	Apr 23 1991
10 PERCENT EXCEEDS	71		48		95	
50 PERCENT EXCEEDS	34		28		39	
90 PERCENT EXCEEDS	26		18		19	

- a From rating curve extended above 2,400 ft³/s on basis of conrtacted-opening computation of peak flow.
- b From floodmark.
- c Also occurred Sept. 28, 1993.



HACKENSACK RIVER BASIN

01378500 HACKENSACK RIVER AT NEW MILFORD, NJ

LOCATION.--Lat 40°56'54", long 74°01'37" (revised), Bergen County, Hydrologic Unit 02030103, on right bank upstream from two masonry dams and two lift gates at former pumping plant of United Water New Jersey (formerly known as Hackensack Water Co.), in New Milford, 300 feet upstream of the Elm Street bridge, 0.6 mi downstream from Oradell Reservoir Dam, and 4.0 mi downstream from the mouth of Pascack Brook.

DRAINAGE AREA.--113 mi².

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

REVISED RECORDS: WSP 601: Drainage area. WSP 711: 1927-28(M). WRD-NJ 1970: 1969. WDR-NJ 1977: 1975(M). WDR-NJ 1984: 1983. WDR-NJ 1991: 1990.

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

REMARKS.-- Records fair, except those below 1 ft³/s, which are poor. Flow regulated by DeForest Lake, Lake Tappan, Woodcliff Lake 9.0 mi upstream from station, and Oradell Reservoir 0.6 mi upstream from station (see Hackensack River basin, reservoirs in). Water pumped into basin above gage from Sparkill Creek (Hudson River basin), Saddle River and Ramapo River (Passaic River basin) by United Water New Jersey for municipal supply (see Hackensack River basin, diversions). Water diverted from Oradell Reservoir at Haworth Plant, De Forest Lake, and West Nyack, NY, for municipal supply (see Hackensack River basin, diversions). Diversion at gage was discontinued on May 30, 1990. National Weather Service telemetry at station.

COOPERATION.--Gage-height record collected in cooperation with United Water New Jersey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	0.40	0.40	1.1	0.84	0.21	e0.60	1.1	1.1	0.28	0.54	0.51
2	1.4	0.40	0.40	1.0	0.49	e0.60	e0.60	2.0	0.63	0.27	3.0	2.7
3	1.3	0.53	0.40	1.1	0.19	6.2	e0.50	0.96	0.70	0.26	1.0	0.60
4	0.95	0.55	0.40	0.97	0.20	0.78	e0.40	1.1	1.1	0.18	0.49	0.57
5	0.89	0.51	0.40	0.82	0.22	0.00	e0.30	1.5	0.75	0.20	0.52	0.58
6	1.1	0.40	0.40	1.3	0.22	e0.10	e0.20	1.7	2.6	0.18	0.48	0.58
7	1.1	0.38	0.54	2.4	0.40	e0.20	e0.10	2.0	3.4	0.33	0.41	0.57
8	1.1	0.39	0.83	1.0	0.31	e0.30	0.00	1.7	0.57	0.32	0.45	0.76
9	1.2	0.40	2.3	0.79	0.19	e0.30	0.00	1.9	0.57	1.5	0.49	0.80
10	1.3	0.40	0.82	0.67	0.36	e0.40	0.00	2.0	0.57	0.59	0.53	0.80
11	1.3	0.41	0.67	0.82	1.1	e0.50	0.00	2.0	0.57	0.34	0.49	0.64
12	1.3	0.40	0.57	0.66	0.29	e0.50	0.00	5.0	0.73	0.40	0.52	0.44
13	1.1	0.40	0.57	0.39	0.19	e0.60	0.25	10	0.66	0.40	0.57	0.57
14	1.3	0.40	0.70	0.18	0.17	e0.50	3.1	3.5	1.3	0.40	0.57	0.57
15	3.5	0.40	0.62	0.18	0.18	e0.40	7.5	0.70	0.71	0.40	0.51	3.5
16	2.4	0.45	0.57	0.20	0.17	e0.30	5.3	0.77	0.98	0.41	1.4	3.8
17	2.3	0.41	0.79	0.22	0.18	e0.20	0.53	1.1	0.68	0.45	3.2	0.57
18	2.1	0.41	2.6	0.31	0.18	e0.20	e0.60	6.1	0.68	0.49	0.58	0.57
19	2.3	0.41	1.5	0.35	0.18	e0.10	3.0	0.94	0.68	4.7	0.41	0.57
20	2.4	0.55	1.2	0.52	0.20	0.00	0.68	0.79	0.57	0.70	0.56	0.80
21	2.4	0.41	1.1	0.44	1.8	e0.10	0.23	0.81	0.56	0.42	0.44	0.58
22	2.4	0.47	1.1	0.29	0.42	e0.10	1.1	0.77	0.50	0.40	0.61	0.47
23	2.4	0.56	1.1	0.03	0.18	e0.20	0.23	0.80	0.48	1.1	0.68	0.40
24	2.0	0.66	4.2	0.61	0.18	e0.20	e0.60	0.76	0.55	0.55	2.2	0.40
25	0.64	2.6	1.8	0.37	0.18	e0.20	e0.30	0.66	0.55	0.30	1.1	0.41
26	0.59	1.8	1.4	0.18	0.19	e0.30	e0.60	0.59	0.62	0.36	0.45	0.79
27	0.59	0.57	1.1	0.18	0.31	e0.30	e0.60	0.60	1.1	0.40	0.41	3.7
28	0.57	0.53	1.1	0.18	0.36	e0.40	4.2	0.78	0.70	0.40	0.42	0.82
29	0.57	0.40	1.1	0.18	---	e0.40	2.6	0.79	0.19	0.40	4.0	0.62
30	0.48	0.40	1.1	0.18	---	e0.50	1.00	0.70	0.25	0.41	0.51	0.60
31	0.40	---	1.1	0.38	---	e0.50	---	2.8	---	0.43	0.49	---
TOTAL	45.08	17.00	32.88	18.00	9.88	15.59	35.12	56.92	25.05	17.97	28.03	29.29
MEAN	1.45	0.57	1.06	0.58	0.35	0.50	1.17	1.84	0.83	0.58	0.90	0.98
MAX	3.5	2.6	4.2	2.4	1.8	6.2	7.5	10	3.4	4.7	4.0	3.8
MIN	0.40	0.38	0.40	0.03	0.17	0.00	0.00	0.59	0.19	0.18	0.41	0.40

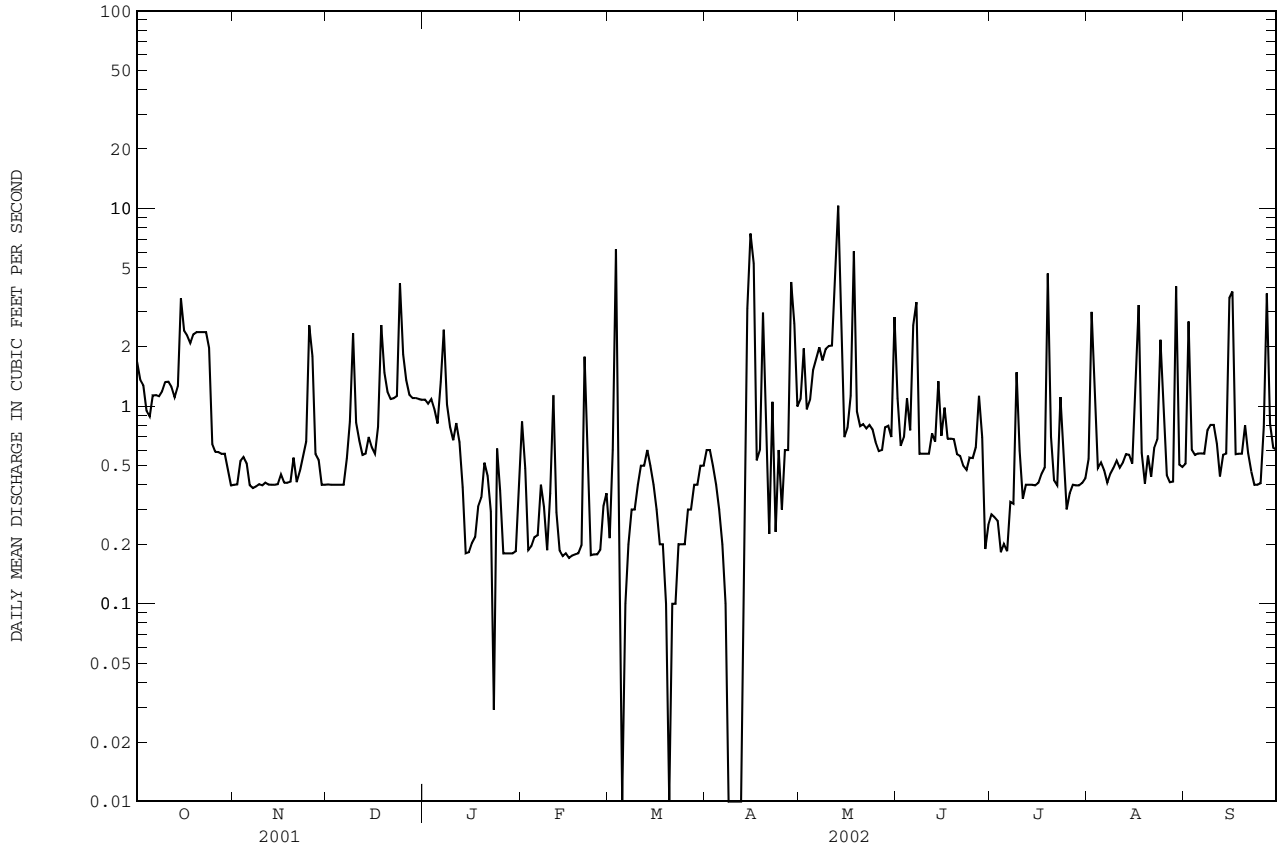
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

MEAN	33.8	60.5	83.3	98.0	119	201	190	117	59.1	43.5	37.2	43.2
MAX	480	356	339	359	396	651	774	528	612	543	373	385
(WY)	1956	1928	1997	1937	1939	1936	1983	1989	1972	1945	1927	1927
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.39	0.000	0.000	0.000	0.000
(WY)	1922	1924	1932	1971	1977	1981	1981	1985	1977	1954	1924	1923

01378500 HACKENSACK RIVER AT NEW MILFORD, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	12084.93		330.81		90.4	
ANNUAL MEAN	33.1		0.91		263 1928	
HIGHEST ANNUAL MEAN					0.40 1981	
LOWEST ANNUAL MEAN					5580 Sep 17 1999	
HIGHEST DAILY MEAN	1160	Mar 31	10	May 13	0.00	Oct 1 1921
LOWEST DAILY MEAN	0.19	May 25	0.00	Many days	0.00	Oct 1 1921
ANNUAL SEVEN-DAY MINIMUM	0.39	May 14	0.04	Apr 6	0.00	Oct 1 1921
MAXIMUM PEAK FLOW			69	Jul 19	9760a	Sep 17 1999
MAXIMUM PEAK STAGE			1.81	Jul 19	11.45b	Sep 17 1999
INSTANTANEOUS LOW FLOW			0.00	Many days	0.00	Many days
10 PERCENT EXCEEDS	31		2.1		264	
50 PERCENT EXCEEDS	1.7		0.57		15	
90 PERCENT EXCEEDS	0.40		0.20		0.00	

a From rating curve extended above 1,700 ft³/s on basis of flow-over-dam computation of peak flow
 b From high-water mark in gage house
 e Estimated



HACKENSACK RIVER BASIN

01378570 HACKENSACK RIVER AT HACKENSACK, NJ

LOCATION.--Lat 40°52'45", long 74°02'25", Bergen County, Hydrologic Unit 02030103, on upstream ice breaker on Dillard Memorial Bridge carrying Fort Lee Road (Court Street) between Hackensack and Bogota, 1100 ft east of Bergen County Courthouse, and 16 mi upstream from the mouth and Newark Bay.

PERIOD OF RECORD.--June 1997 to Apr. 21, 2000 (unpublished fragmentary gage-height record), Apr.21, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929) elevation, add 1.01 ft. To determine approximate elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8531680, add 3.57 ft.

REMARKS.--No gage record Nov. 21 to 29, Nov. 30 to Dec. 9, Dec. 23 to 26, 2000 and short portions of numerous other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.95 ft (NAVD of 1988), Mar. 7, 2001; minimum elevation recorded, -7.32 ft (NAVD of 1988), Dec. 12, 2000.

EXTREMES FOR PERIOD APRIL TO SEPTEMBER 2000.--Maximum elevation recorded, 4.72 ft (NAVD of 1988), Sept. 26; minimum elevation recorded, -4.71 ft (NAVD of 1988), May 6.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 4.95 ft (NAVD of 1988), Mar. 7; minimum elevation recorded, -7.32 ft (NAVD of 1988), Dec. 12.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 4.46 ft (NAVD of 1988), Jun. 15; minimum elevation recorded, -5.96 ft (NAVD of 1988), Feb. 28.

Summaries of tide elevations during the water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	--	---	---	4.31	4.50	4.42	4.44	4.72
high tide	Date	---	---	---	---	---	---	---	11	6	30	1	26
Minimum	Elevation	---	---	---	---	---	---	---	-4.71	-4.61	-4.47	-4.23	-4.36
low tide	Date	---	---	---	---	---	---	---	6	4	2	29	18
Mean high tide		---	---	---	---	---	---	---	3.18	3.09	3.20	3.19	3.09
Mean water level		---	---	---	---	---	---	---	.38	.28	.41	.38	.31
Mean low tide		---	---	---	---	---	---	---	-3.02	-3.18	-3.07	-3.09	-3.08

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.93	4.73	4.43	4.03	4.00	4.95	4.07	4.05	4.32	4.30	4.25	4.37
high tide	Date	16	10	12	9	9	7	7	23	23	19	19	20
Minimum	Elevation	-4.60	---	-7.32	-5.40	-6.43	-5.67	-4.69	-4.36	-4.44	-4.48	-4.66	-4.47
low tide	Date	11	---	12	11	11	12	25	4	21	23, 24	20	19
Mean high tide		2.80	---	---	2.66	2.52	2.80	2.81	2.90	2.99	3.00	3.00	3.12
Mean water level		.11	---	---	---	-.4e	.17	.09	.22	.22	.27	.26	.44
Mean low tide		-3.22	---	---	---	-3.8e	-3.21	-3.25	-3.07	-3.18	-3.09	-3.08	-2.90

e - estimated

01378570 HACKENSACK RIVER AT HACKENSACK, NJ -- continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	4.36	3.77	4.11	4.28	4.38	4.22	4.38	4.28	4.46	4.06	3.90	4.37
high tide	Date	14	17	13	31	27	29	29	25	15	20	9	10
Minimum	Elevation	-5.66	-5.08	-5.51	-5.95	-5.96	-5.76	-5.17	-4.60	-4.54	-4.21	-4.54	-4.79
low tide	Date	18	14	31	14	28	1	26	25	24	24	11	11
Mean high tide		2.79	2.65	2.60	2.42	2.68	2.46	2.71	2.76	2.94	2.90	2.91	3.05
Mean water level		.11	-.06	-.08	-.38	-.10	-.36	-.12	-.01	.24	.21	.29	.37
Mean low tide		-3.28	-3.42	-3.42	-3.89	-3.46	-3.80	-3.47	-3.30	-3.04	-3.02	-3.01	-2.93

HACKENSACK RIVER BASIN

RESERVOIRS IN HACKENSACK RIVER BASIN

01376700 DE FOREST LAKE.--Lat 41°06'23", long 73°58'01", Rockland County, NY, Hydrologic Unit 02030103, at dam on Hackensack River, 0.8 mi north of West Nyack, NY. DRAINAGE AREA, 27.5 mi². PERIOD OF RECORD, February 1956 to current year.

REVISED RECORDS.--WDR NJ-84-1: Drainage area, WDR NJ-99-1: 1998 (elevation, contents). GAGE, water-stage recorder. Datum of gage is above NGVD of 1929.

REMARKS.--Reservoir is formed by earthfill dam with sheet piling cutoff and concrete spillway; dam completed and storage began in February 1956. Crest of dam topped by two 50 ft Bascule Gates, 5 ft high. Capacity 5,670,000,000 gal, elevation, 85.00 ft, top of Bascule gates. Flow regulated by 12-inch Howell-Bunger valve at elevation, 59.25 ft and 24-inch Howell-Bunger valve at elevation, 61.25 ft. Reservoir used for storage and water released by United Water New Jersey, for municipal water supply.

COOPERATION.--Records provided by United Water New Jersey (formerly Hackensack Water Company).

01376950 LAKE TAPPAN.--Lat 41°01'05", long 74°00'05", Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River, 0.5 mi north of Old Tappan. DRAINAGE AREA, about 49.0 mi². PERIOD OF RECORD, October 1966 to current year.

REVISED RECORDS, WDR NJ-89-1: Capacity, WDR NJ-99-1: 1998 (elevation, contents). GAGE, water-stage recorder. Datum of gage is above NGVD of 1929.

REMARKS.--Reservoir is formed by earthfill dam, completed in 1966. Capacity, 3,853,000,000 gal, elevation, 55.00 ft at top of Bascule gates. Flow regulated by four Bascule gates and one sluice gate. Water is released for diversion at New Milford (diversion discontinued May 1990) and Haworth by United Water New Jersey, for municipal water supply.

COOPERATION.--Records provided by United Water New Jersey (formerly Hackensack Water Company).

01377450 WOODCLIFF LAKE.--Lat 41°00'46", long 74°02'58", Bergen County, Hydrologic Unit 02030103, at dam on Pascack Brook, 0.7 mi north of Hillsdale. DRAINAGE AREA, 19.4 mi². PERIOD OF RECORD, December 1929 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722.

REVISED RECORDS, WDR NJ-89-1: Capacity, WDR NJ-99-1: 1998 (elevation, contents). GAGE, water-stage recorder. Datum of gage is above NGVD of 1929.

REMARKS.--Reservoir is formed by earthfill dam, completed about 1905. The dam was modified in 1984, which increased capacity, 871,000,000 gal, elevation, 95.00 ft at top of Bascule gates. Flow is regulated by two Bascule gates 85 ft long and 6 ft high each and one 24-inch Ball valve. Water is released for diversion at New Milford (diversion discontinued May 1990) and Haworth by United Water New Jersey, for municipal supply.

COOPERATION.--Records provided by United Water New Jersey (formerly Hackensack Water Company).

01378480 ORADELL RESERVOIR.--Lat 40°57'22", long 74°01'46", Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River at Oradell. DRAINAGE AREA, 113 mi². PERIOD OF RECORD, December 1922 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722.

REVISED RECORDS.--WDR NJ-84-1: Spillway elevation, WDR NJ-89-1: Capacity, WDR NJ-99-1: 1998 (elevation, contents). GAGE, water-stage recorder. Datum of gage is above NGVD of 1929.

REMARKS.--Reservoir is formed by hollow concrete dam, completed in 1922. Capacity at spillway level, 3,507,000,000 gal, elevation, 23.16 ft. Flow regulated by seven sluice gates (7 by 9 ft). Prior to May 1990, water was released for diversion by United Water New Jersey, 1 mi downstream from dam for municipal supply. Water is diverted from reservoir at Haworth by United Water New Jersey, for municipal supply.

COOPERATION.--Records provided by United Water New Jersey (formerly Hackensack Water Company).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
01376700 DE FOREST LAKE						
Sept.30.....	81.19	4,476		50.15	2,249	
Oct. 31.....	79.30	3,909	-28.3	48.08	1,672	-28.8
Nov. 30.....	77.82	3,476	-22.3	46.69	1,321	-18.1
Dec. 31.....	76.36	3,060	+20.8	47.76	1,587	+13.3
CAL YR 2001			-7.1			-3.2
Jan. 31.....	75.07	2,698	-18.1	47.97	1,643	+2.8
Feb. 28.....	74.45	2,527	-9.4	48.19	1,699	+3.1
Mar. 31.....	75.45	2,804	+13.8	49.46	2,051	+17.6
Apr. 30.....	75.77	2,894	+4.6	50.95	2,492	+22.7
May 31.....	77.65	3,495	+30.0	53.25	3,240	+37.3
June 30.....	79.22	3,885	+20.1	54.56	3,695	+23.5
July 31.....	78.64	3,716	-8.4	51.71	2,731	-48.1
Aug. 31.....	76.86	3,202	-25.6	49.55	2,076	-32.7
Sept.30.....	76.56	3,115	-4.5	48.75	1,850	-11.7
WTR YR 2002			-5.8			-1.7
01377450 WOODCLIFF LAKE						
Sept.30.....	88.19	511		20.31	2,775	
Oct. 31.....	85.96	408	-5.1	19.24	2,522	-12.6
Nov. 30.....	85.95	407	-1	18.23	2,289	-12.0
Dec. 31.....	85.97	408	+1	17.83	2,199	-4.5
CAL YR 2001			-.5			-2.6
Jan. 31.....	85.94	407	-.1	17.59	2,145	-2.7
Feb. 28.....	85.93	406	-.1	17.21	2,061	-4.6
Mar. 31.....	86.85	448	+2.1	18.29	2,302	+12.0
Apr. 30.....	90.53	628	+9.3	20.94	2,931	+32.4
May 31.....	93.90	810	+9.1	20.96	2,936	+2
June 30.....	93.66	797	-.7	20.50	2,822	-5.9
July 31.....	92.32	723	-3.7	20.44	2,808	-.7
Aug. 31.....	92.44	730	+3	19.55	2,593	-10.7
Sept.30.....	92.58	737	+4	21.20	2,996	+20.8
WTR YR 2002			+1.0			+9
01378480 ORADELL RESERVOIR						

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

DIVERSIONS INTO AND FROM HACKENSACK RIVER BASIN

- 01376272 United Water New Jersey, diverts water from Sparkill Creek (Hudson River basin) at foot of Danny Lane in Northvale, 300 ft south of New York-New Jersey state line and 0.6 mi upstream from Sparkill Brook. Water is diverted into Oradell Reservoir on the Hackensack River, for municipal supply. Records provided by United Water New Jersey (formerly Hackensack Water Company).
- 01376699 United Water New York, diverts water from De Forest Lake for municipal supply in Rockland County, NY. Records provided by United Water New York (formerly Spring Valley Water Company).
- 01376810 Village of Nyack, NY, diverts water from Hackensack River 100 ft downstream from gaging station on Hackensack River at West Nyack, NY (station 01376800, measured flow does not include diversions) for municipal supply. Records provided by Board of Water Commissioners of Nyack, NY.
- 01378490 United Water New Jersey, diverts water for municipal supply from Oradell Reservoir at Haworth pumping station (station 01378478) 2.0 mi upstream from gaging station on Hackensack River at New Milford and prior to May 1990 from Hackensack River, at New Milford pumping station just upstream from gaging station on Hackensack River at New Milford, NJ (station 01378500). Diversion from the New Milford pumping station was discontinued in May 1990. Records provided by United Water New Jersey (formerly Hackensack Water Company).
- 01378521 (revised) United Water New Jersey, diverts water from Hirshfeld Brook, a tributary of the Hackensack River, below the gaging station on Hackensack River at New Milford, NJ, for municipal supply. Records provided by United Water New Jersey (formerly Hackensack Water Company).
- 01388981 United Water New Jersey diverts water from the Wanaque South pumping station on the Pompton River at Two Bridges, 750 ft upstream from the Passaic River, to Oradell Reservoir. Water can also be diverted from Wanaque Reservoir to Oradell Reservoir in the Hackensack River basin. Figures given herein include diversion from both sources. Prior to water year 1989, diversion was from Ramapo River at Pompton Lakes. Records provided by the United Water New Jersey.
- 01390520 (revised) United Water New Jersey, diverts water from Saddle River (Passaic River basin) 0.3 mi downstream from Grove Street in Paramus, and 0.3 mi upstream from Hohokus Brook. Water is diverted into Oradell Reservoir on the Hackensack River via Musquapsink and Pascack Brooks for municipal supply. Records provided by United Water New Jersey (formerly Hackensack Water Company).

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MONTH	01376699 UNITED WATER NEW YORK	01376810 WEST NYACK, NY	01378490 UNITED WATER NEW JERSEY
October	16.6	3.26	156
November	16.2	3.21	149
December	14.5	3.11	123
CAL YR 2001	15.0	3.17	158
January	13.2	3.47	116
February	7.93	3.17	116
March	6.63	3.11	144
April	10.0	3.17	110
May	11.1	3.02	136
June	13.6	2.86	151
July	13.7	3.11	188
August	16.8	3.02	181
September	12.8	2.87	150
WTR YR 2002	12.8	3.11	144

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

MONTH	01376272 SPARKILL CREEK (HUDSON RIVER BASIN)	01378521 HIRSHFELD BROOK (HACKENSACK RIVER BASIN)	01388981 POMPTON RIVER (PASSAIC RIVER BASIN)	01390520 SADDLE RIVER (PASSAIC RIVER BASIN)	WELLS TO SURFACE SUPPLY
October	0	1.16	59.7	5.14	2.47
November	0	1.79	57.8	6.45	2.39
December .....	.10	1.91	42.0	10.5	3.20
CAL YR 2001 .....	.01	1.53	35.9	5.53	1.30
January .....	.81	1.85	35.4	10.8	3.63
February .....	.91	1.69	47.6	10.4	3.72
March	1.45	2.46	36.1	10.8	3.97
April	1.44	2.66	39.2	11.2	3.90
May	1.33	2.45	2.55	8.88	2.57
June	1.32	2.71	23.0	5.25	1.35
July	1.15	2.22	56.8	2.58	2.82
August	1.22	2.69	62.8	5.39	3.28
September	1.06	3.41	64.3	3.84	3.28
WTR YR 2002 .....	.90	2.25	43.9	7.59	3.05

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ

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

DRAINAGE AREA.--55.4 mi².

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

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1905(M). WDR NJ-96-1: 1936 (M), 1949 (M), 1971 (M), 1975 (M), 1979 (M), 1984(M).

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

REMARKS.--Records fair. Diversion from Osborn Pond by Commonwealth Water Co., Bernards Division, was discontinued in April 1979 and the installation dismantled. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

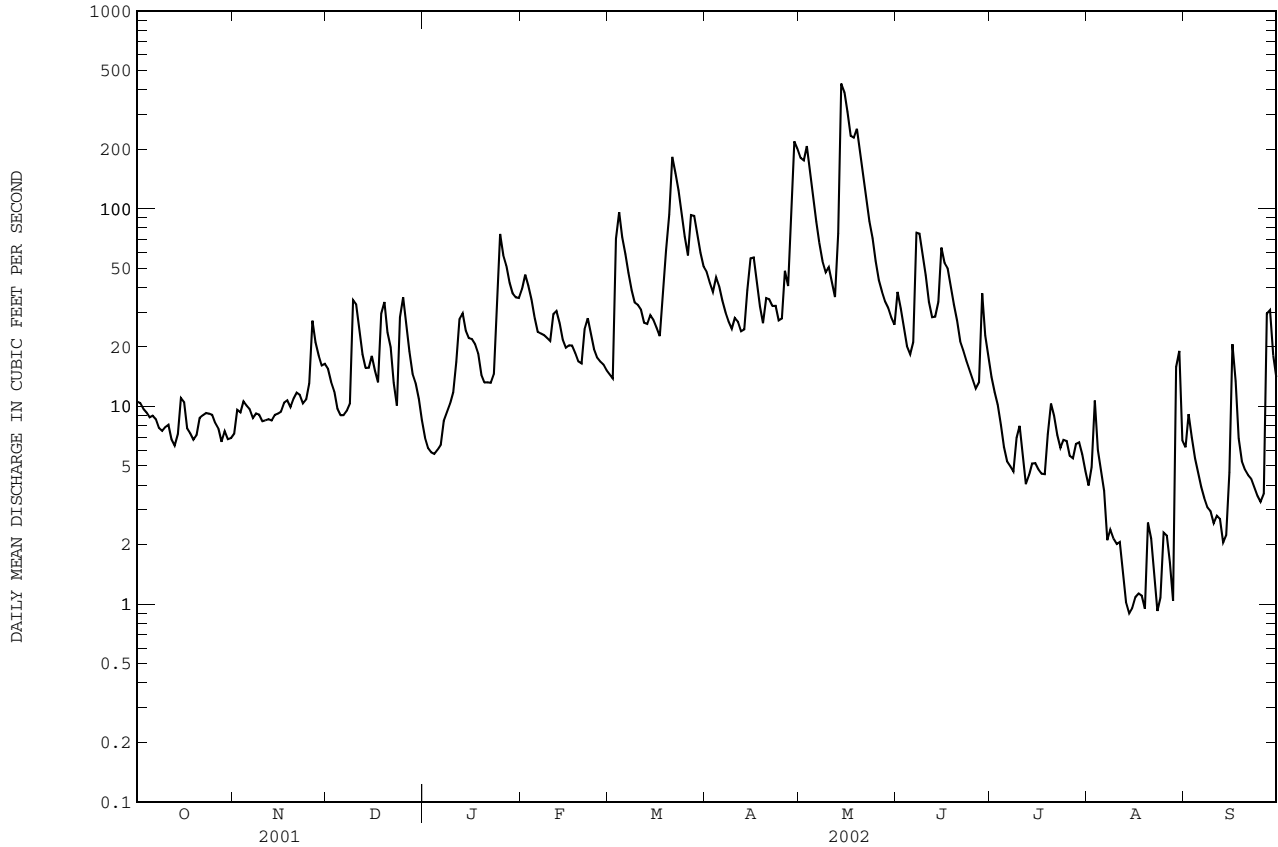
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.3	16	6.9	39	15	48	181	38	14	4.0	6.2
2	10	9.6	13	6.2	46	14	42	176	31	12	4.9	9.2
3	9.7	9.3	12	5.9	41	71	38	207	25	10	11	7.0
4	9.3	11	9.8	5.7	35	96	45	155	20	8.1	6.0	5.5
5	8.8	10	9.0	6.0	28	72	41	117	18	6.2	4.7	4.7
6	9.0	9.7	9.0	6.4	24	59	34	86	21	5.3	3.7	3.9
7	8.6	8.8	9.5	8.5	23	47	30	67	76	5.0	2.1	3.4
8	7.8	9.2	10	9.3	23	39	27	54	75	4.7	2.4	3.1
9	7.5	9.1	35	10	22	34	25	48	59	7.0	2.1	3.0
10	7.8	8.4	33	12	21	33	28	51	46	8.0	2.0	2.6
11	8.1	8.5	24	17	29	31	27	42	34	5.5	2.1	2.8
12	6.8	8.6	18	28	30	26	24	36	28	4.0	1.5	2.7
13	6.3	8.5	16	30	26	26	25	75	28	4.5	1.0	2.0
14	7.3	9.1	16	24	22	29	39	430	34	5.1	0.90	2.2
15	11	9.2	18	22	20	27	56	390	64	5.2	0.96	4.6
16	11	9.4	15	22	20	25	57	309	53	4.8	1.1	21
17	7.7	10	13	21	20	23	44	234	50	4.6	1.1	13
18	7.3	11	30	19	19	36	32	229	40	4.5	1.1	6.9
19	6.8	9.9	34	14	17	62	26	254	33	7.3	0.95	5.3
20	7.2	11	24	13	17	94	35	194	27	10	2.6	4.8
21	8.7	12	20	13	25	183	35	150	21	9.0	2.2	4.5
22	9.0	11	13	13	28	151	32	114	19	7.2	1.4	4.3
23	9.3	10	10	15	24	124	32	86	17	6.2	0.92	3.9
24	9.2	11	28	35	20	95	27	71	15	6.8	1.1	3.5
25	9.1	13	36	75	18	72	28	54	14	6.7	2.3	3.3
26	8.2	27	26	58	17	58	49	44	12	5.6	2.2	3.6
27	7.7	21	19	52	16	93	41	38	13	5.5	1.6	29
28	6.6	18	15	42	15	92	92	34	37	6.5	1.0	31
29	7.5	16	13	37	---	75	220	32	23	6.6	16	18
30	6.8	16	11	36	---	60	202	28	18	5.7	19	14
31	6.9	---	8.5	35	---	51	---	26	---	4.7	6.8	---
TOTAL	258.0	342.6	563.8	697.9	685	1913	1481	4012	989	206.3	110.73	229.0
MEAN	8.323	11.42	18.19	22.51	24.46	61.71	49.37	129.4	32.97	6.655	3.572	7.633
MAX	11	27	36	75	46	183	220	430	76	14	19	31
MIN	6.3	7.3	8.5	5.7	15	14	24	26	12	4.0	0.90	2.0
CFSM	0.15	0.21	0.33	0.41	0.44	1.11	0.89	2.34	0.60	0.12	0.06	0.14
IN.	0.17	0.23	0.38	0.47	0.46	1.28	0.99	2.69	0.66	0.14	0.07	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2002, BY WATER YEAR (WY)

MEAN	47.78	84.05	103.9	112.8	127.9	184.5	142.3	93.47	57.54	43.99	48.02	51.08
MAX	345	340	335	463	380	439	420	365	292	307	398	380
(WY)	1997	1933	1984	1905	1904	1994	1983	1989	1972	1975	1942	1971
MIN	3.56	7.47	8.18	6.78	24.5	61.7	25.9	20.3	3.95	1.25	1.37	0.73
(WY)	1964	1966	1966	1981	2002	2002	1985	1965	1965	1965	1966	1964

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR			FOR 2002 WATER YEAR			WATER YEARS 1904 - 2002		
ANNUAL TOTAL	20846.1			11488.33			90.35		
ANNUAL MEAN	57.11			31.47			163		
HIGHEST ANNUAL MEAN							1984		
LOWEST ANNUAL MEAN							31.5		
HIGHEST DAILY MEAN	425	Jun	3	430	May	14	2230	Oct	20
LOWEST DAILY MEAN	3.9	Sep	8	0.90	Aug	14	0.30	Sep	13
ANNUAL SEVEN-DAY MINIMUM	4.4	Sep	4	1.0	Aug	13	0.47	Sep	11
MAXIMUM PEAK FLOW				491			2290		
MAXIMUM PEAK STAGE				6.77			9.89		
INSTANTANEOUS LOW FLOW				0.62			0.20		
ANNUAL RUNOFF (CFSM)	1.03			0.57			1.63		
ANNUAL RUNOFF (INCHES)	14.00			7.71			22.16		
10 PERCENT EXCEEDS	144			69			219		
50 PERCENT EXCEEDS	22			16			47		
90 PERCENT EXCEEDS	7.5			4.0			8.6		



PASSAIC RIVER BASIN

01379500 PASSAIC RIVER NEAR CHATHAM, NJ

LOCATION.--Lat 40°43'34", long 74°23'24" (revised), Morris County, Hydrologic Unit 02030103, on left bank 150 ft downstream from bridge on Stanley Avenue in Chatham, and 3.0 mi upstream from Canoe Brook.

DRAINAGE AREA.--100 mi².

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

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

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

REMARKS.--Records good except for estimated discharges, which are fair. Diversion from Osborn Pond by Commonwealth Water Co., Bernards Division, during water years 1903-79. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	17	29	26	65	30	112	322	88	35	15	31
2	29	17	28	24	71	29	100	352	74	30	23	74
3	27	18	27	23	71	207	89	365	54	27	46	42
4	25	20	26	23	63	232	89	347	44	25	32	27
5	25	19	25	23	55	171	91	290	39	21	21	21
6	24	18	24	25	48	123	79	208	49	19	16	18
7	22	18	24	39	44	100	69	149	204	18	15	17
8	20	19	29	39	42	84	61	117	175	18	14	16
9	20	18	79	38	40	70	56	108	118	26	13	15
10	20	18	67	38	40	67	54	104	90	35	13	15
11	19	18	51	53	52	62	55	93	71	28	12	14
12	18	18	42	78	50	57	54	79	62	20	11	12
13	20	18	37	75	49	56	51	140	70	18	12	11
14	19	18	35	62	43	59	60	403	87	17	12	12
15	37	18	35	53	39	60	85	569	134	18	12	34
16	21	19	35	48	37	57	110	560	123	18	11	86
17	20	20	33	46	35	53	99	477	96	17	11	74
18	18	19	75	44	35	90	79	554	80	17	11	39
19	20	20	83	40	34	156	69	519	67	28	11	26
20	18	21	63	38	33	270	60	464	57	36	31	21
21	17	21	49	36	40	360	63	380	48	27	23	19
22	17	21	42	37	44	352	71	294	40	20	17	18
23	17	21	36	38	45	305	73	199	37	18	14	18
24	17	22	70	79	39	238	65	143	34	18	13	18
25	16	32	76	167	35	173	73	112	32	17	16	17
26	16	47	60	135	33	131	95	92	29	17	14	22
27	15	47	48	98	32	e212	98	77	40	16	14	174
28	14	36	40	81	31	e218	231	67	94	15	13	154
29	14	31	35	68	---	169	347	61	76	16	113	89
30	16	30	33	58	---	138	343	55	45	16	97	50
31	17	---	27	57	---	117	---	60	---	15	49	---
TOTAL	627	679	1363	1689	1245	4446	2981	7760	2257	666	725	1184
MEAN	20.23	22.63	43.97	54.48	44.46	143.4	99.37	250.3	75.23	21.48	23.39	39.47
MAX	37	47	83	167	71	360	347	569	204	36	113	174
MIN	14	17	24	23	31	29	51	55	29	15	11	11
CFSM	0.20	0.23	0.44	0.54	0.44	1.43	0.99	2.50	0.75	0.21	0.23	0.39
IN.	0.23	0.25	0.51	0.63	0.46	1.65	1.11	2.89	0.84	0.25	0.27	0.44

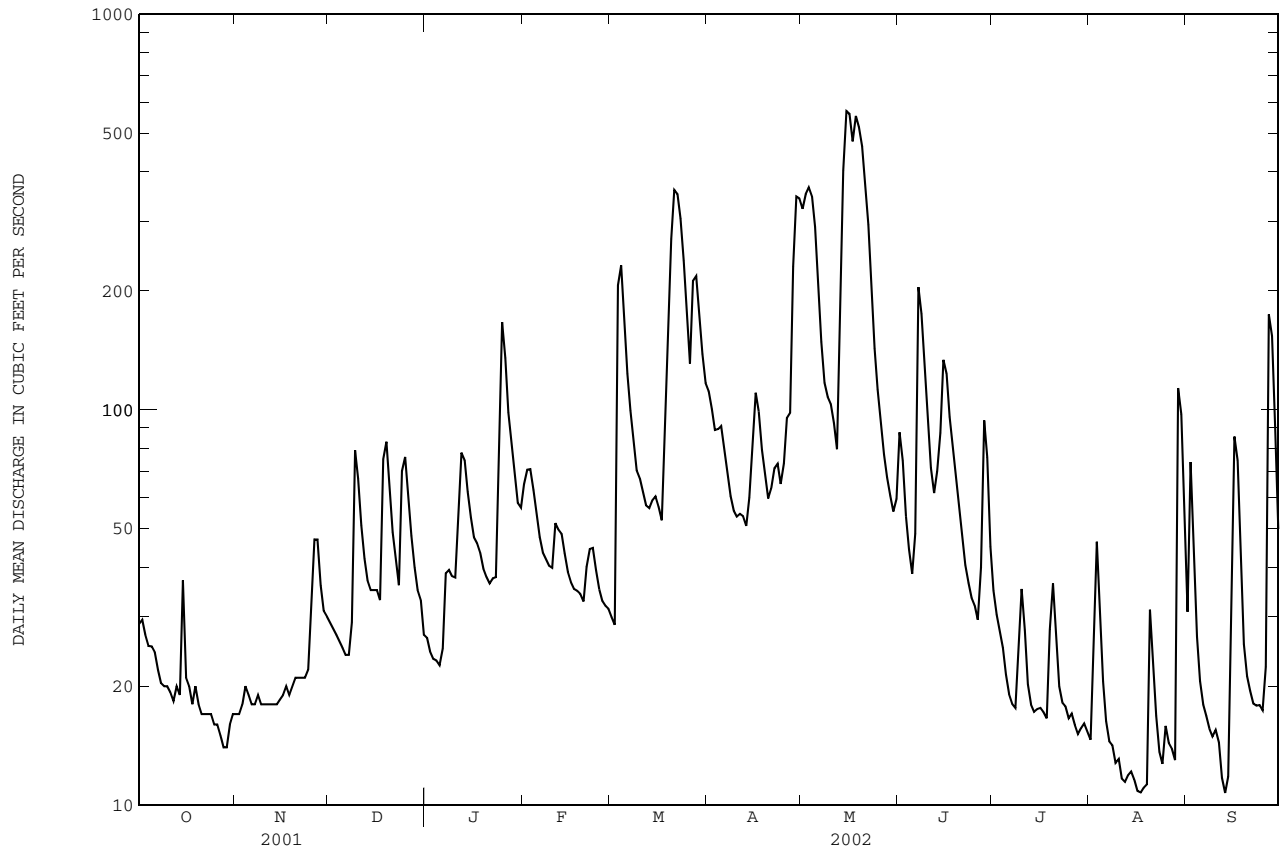
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2002, BY WATER YEAR (WY)

MEAN	91.92	153.4	199.6	224.2	236.2	335.9	260.7	175.9	115.0	83.12	92.65	95.06
MAX	576	590	655	735	493	719	711	637	533	539	664	713
(WY)	1904	1973	1984	1979	1908	1994	1983	1989	1972	1975	1942	1971
MIN	8.05	13.7	27.5	21.5	44.5	94.5	54.3	7.52	13.6	7.74	7.35	4.70
(WY)	1965	1950	1999	1981	2002	1911	1985	1903	1965	1966	1957	1906

01379500 PASSAIC RIVER NEAR CHATHAM, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1903 - 2002	
ANNUAL TOTAL	46821		25622			
ANNUAL MEAN	128.3		70.20		170.7	
HIGHEST ANNUAL MEAN					305 1984	
LOWEST ANNUAL MEAN					67.7 1965	
HIGHEST DAILY MEAN	656	Jun 4	569	May 15	2990	Jan 9 1905
LOWEST DAILY MEAN	14	Oct 28	11	Many days	2.0	May 15 1903
ANNUAL SEVEN-DAY MINIMUM	15	Oct 24	11	Aug 12	2.0	May 15 1903
MAXIMUM PEAK FLOW			707		3380	Aug 2 1973
MAXIMUM PEAK STAGE			5.21		9.36a	Aug 2 1973
INSTANTANEOUS LOW FLOW			10		10	Aug 17 2002
ANNUAL RUNOFF (CFSM)	1.28		0.70		1.71	
ANNUAL RUNOFF (INCHES)	17.42		9.53		23.19	
10 PERCENT EXCEEDS	352		155		450	
50 PERCENT EXCEEDS	55		39		83	
90 PERCENT EXCEEDS	19		16		17	

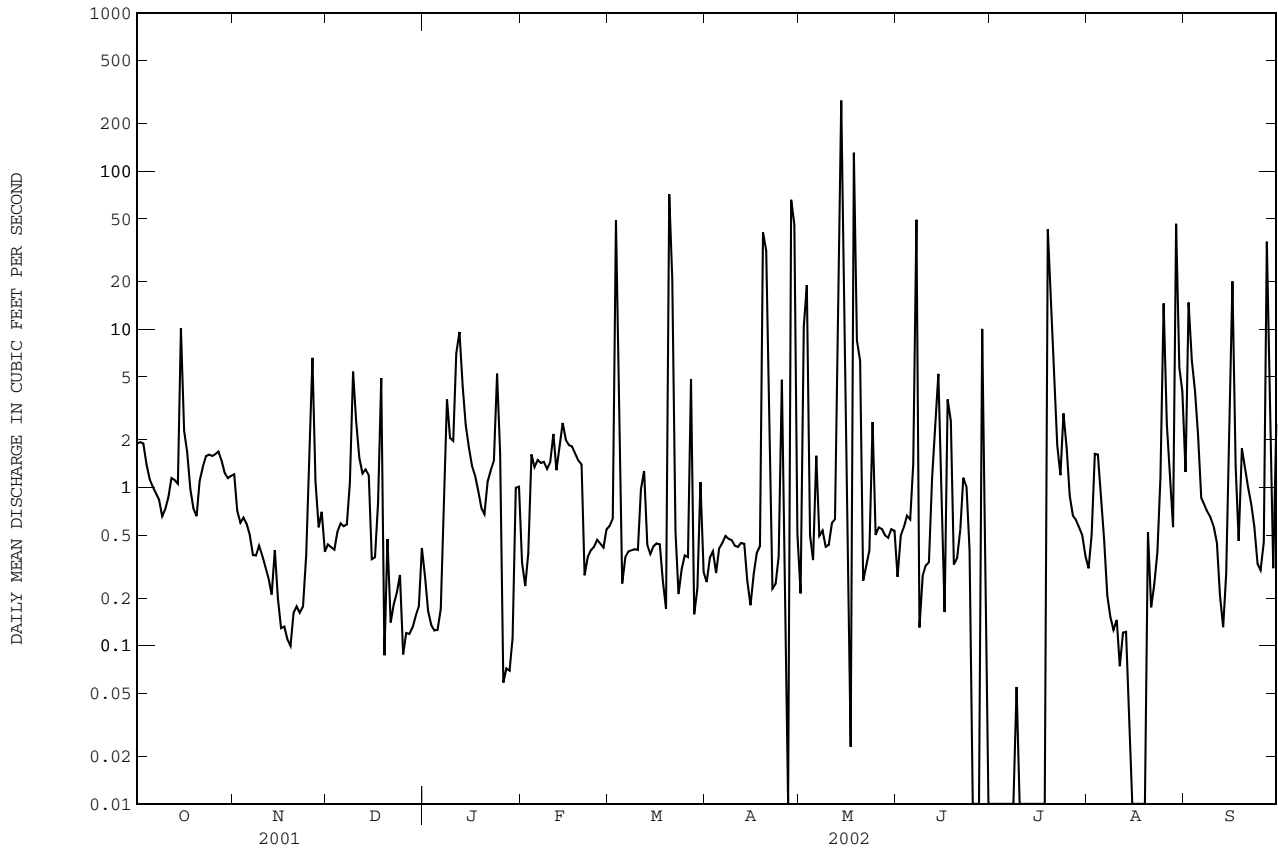
a From floodmark.
e Estimated.



01379530 CANOE BROOK NEAR SUMMIT, NJ--Continued

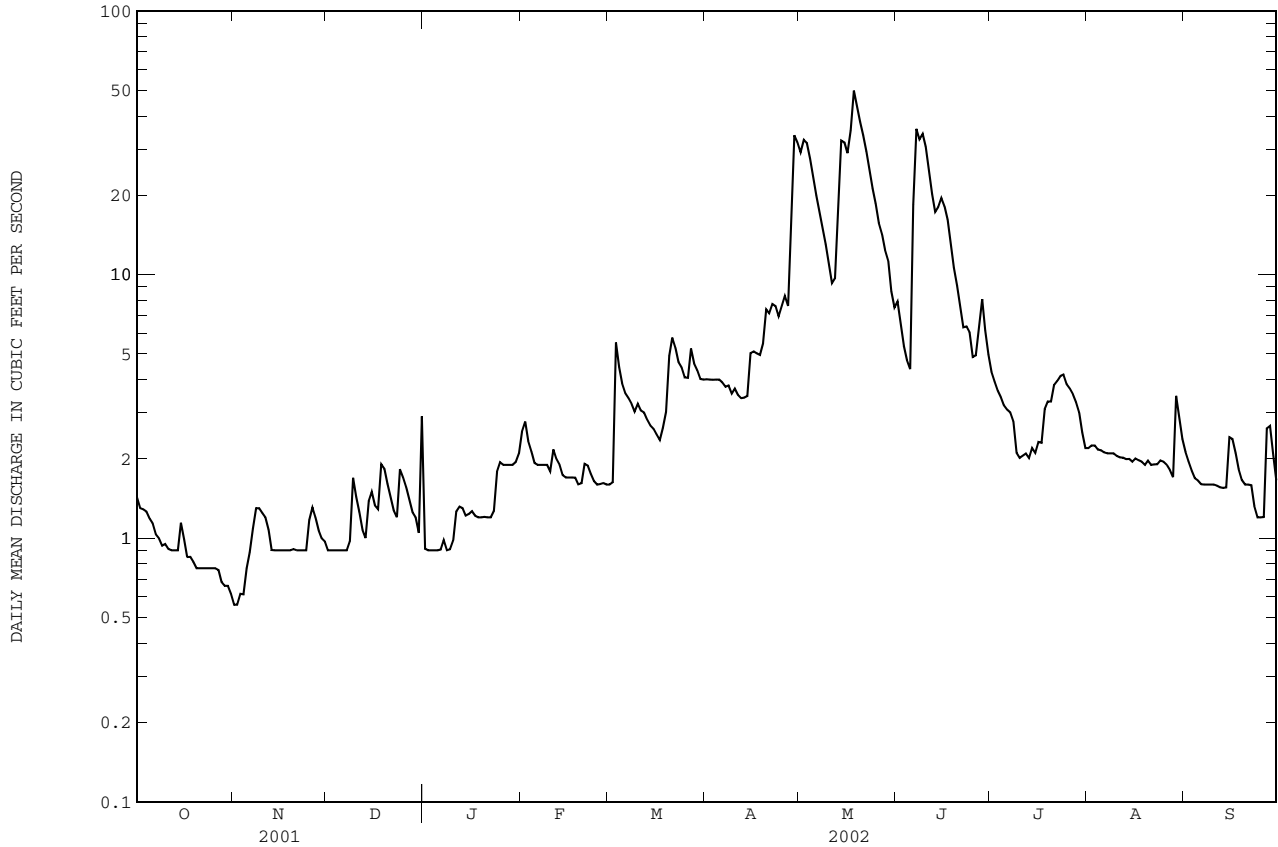
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002a	
ANNUAL TOTAL	3202.73		1425.44			
ANNUAL MEAN	8.77		3.91		12.4	
HIGHEST ANNUAL MEAN					24.0 1997	
LOWEST ANNUAL MEAN					3.91 2002	
HIGHEST DAILY MEAN	382	Mar 30	280	May 14	1900	Oct 19 1996
LOWEST DAILY MEAN	0.09	Dec 19	0.00	Apr 27	0.00	Oct 26 1965
ANNUAL SEVEN-DAY MINIMUM	0.14	Nov 16	0.00	Jun 30	0.00	Oct 26 1965
MAXIMUM PEAK STAGE			15.25 May 14			
INSTANTANEOUS LOW FLOW			0.00 Oct 1			
10 PERCENT EXCEEDS	15		4.8		20	
50 PERCENT EXCEEDS	1.9		0.54		2.4	
90 PERCENT EXCEEDS	0.28		0.10		0.00	

a Based on record with some short gaps.



01379773 GREEN POND BROOK AT PICATINNY ARSENAL, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1983 - 2002	
ANNUAL TOTAL	3297.32		1863.61			
ANNUAL MEAN	9.034		5.106		13.13	
HIGHEST ANNUAL MEAN					21.4 1984	
LOWEST ANNUAL MEAN					5.10 2002	
HIGHEST DAILY MEAN	63	Apr 11	50	May 18	248	Apr 5 1984
LOWEST DAILY MEAN	0.56	Nov 1	0.56	Nov 1,2	0.22	Nov 23 1998
ANNUAL SEVEN-DAY MINIMUM	0.61	Oct 29	0.61	Oct 29	0.25	Nov 19 1998
MAXIMUM PEAK FLOW			59	May 18	333	Apr 5 1984
MAXIMUM PEAK STAGE			2.29	May 18	3.51	Apr 5 1984
INSTANTANEOUS LOW FLOW			0.56	Many days	0.19	Nov 23 1998
ANNUAL RUNOFF (CFSM)	1.18		0.67		1.72	
ANNUAL RUNOFF (INCHES)	16.03		9.06		23.31	
10 PERCENT EXCEEDS	24		15		29	
50 PERCENT EXCEEDS	2.9		2.0		8.1	
90 PERCENT EXCEEDS	0.90		0.90		2.1	



PASSAIC RIVER BASIN

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

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

DRAINAGE AREA.--9.16 mi².

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

REVISED RECORDS.--WDR NJ-90-1: 1987 (M).

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

REMARKS.--Records fair. Occasional regulation at Picatinny Lake. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 5, 1984 reached an elevation of 699.0 ft above NGVD of 1929, 200 ft upstream from bridge on Whitmore Avenue.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

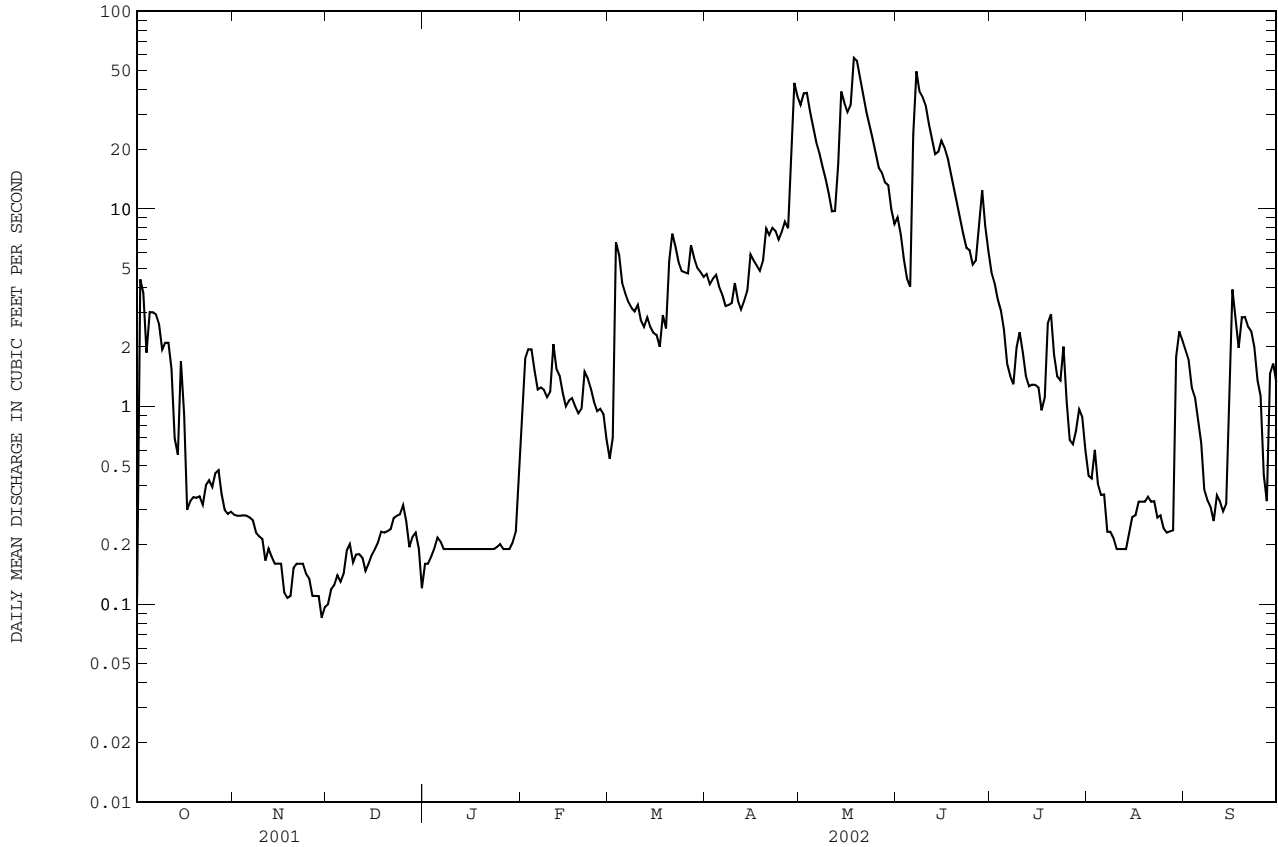
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.11	0.28	0.10	0.16	0.82	0.54	4.7	34	9.0	4.8	0.45	1.9
2	4.4	0.28	0.12	0.16	1.7	0.69	4.2	38	7.4	4.2	0.43	1.7
3	3.8	0.28	0.12	0.17	1.9	6.8	4.4	39	5.5	3.5	0.60	1.2
4	1.9	0.28	0.14	0.19	1.9	5.8	4.6	31	4.4	3.1	0.41	1.1
5	3.0	0.28	0.13	0.22	1.5	4.2	4.0	26	4.0	2.4	0.36	0.84
6	3.0	0.27	0.14	0.21	1.2	3.7	3.7	22	24	1.6	0.36	0.65
7	2.9	0.27	0.19	0.19	1.2	3.4	3.2	19	50	1.4	0.23	0.38
8	2.6	0.23	0.20	0.19	1.2	3.1	3.3	16	39	1.3	0.23	0.34
9	1.9	0.22	0.16	0.19	1.1	3.0	3.3	14	37	2.0	0.22	0.31
10	2.1	0.21	0.18	0.19	1.2	3.3	4.2	12	33	2.4	0.19	0.26
11	2.1	0.17	0.18	0.19	2.1	2.7	3.4	9.7	27	1.9	0.19	0.36
12	1.6	0.19	0.17	0.19	1.6	2.5	3.1	9.8	23	1.4	0.19	0.33
13	0.69	0.17	0.15	0.19	1.4	2.8	3.4	17	19	1.3	0.19	0.29
14	0.57	0.16	0.16	0.19	1.2	2.5	3.8	39	19	1.3	0.23	0.32
15	1.7	0.16	0.18	0.19	1.0	2.4	5.9	34	22	1.3	0.28	1.4
16	0.92	0.16	0.19	0.19	1.1	2.3	5.5	31	20	1.2	0.28	3.9
17	0.30	0.11	0.21	0.19	1.1	2.0	5.2	34	18	0.96	0.33	2.8
18	0.33	0.11	0.23	0.19	1.0	2.9	4.8	58	15	1.1	0.33	2.0
19	0.35	0.11	0.23	0.19	0.92	2.5	5.5	56	13	2.6	0.33	2.8
20	0.35	0.15	0.23	0.19	0.98	5.5	8.0	45	11	2.9	0.35	2.8
21	0.35	0.16	0.24	0.19	1.5	7.5	7.4	38	8.9	1.8	0.33	2.5
22	0.32	0.16	0.27	0.19	1.4	6.4	8.0	31	7.4	1.4	0.33	2.4
23	0.40	0.16	0.28	0.19	1.2	5.4	7.7	27	6.3	1.4	0.27	2.0
24	0.42	0.14	0.28	0.19	1.1	4.8	7.0	23	6.2	2.0	0.28	1.4
25	0.39	0.13	0.32	0.20	0.95	4.8	7.7	19	5.2	1.1	0.24	1.1
26	0.46	0.11	0.26	0.19	0.97	4.7	8.6	16	5.5	0.68	0.23	0.45
27	0.48	0.11	0.19	0.19	0.91	6.5	8.0	15	8.0	0.64	0.23	0.33
28	0.36	0.11	0.22	0.19	0.68	5.6	19	14	12	0.75	0.24	1.5
29	0.30	0.09	0.23	0.20	---	5.0	43	13	8.2	0.97	1.8	1.6
30	0.29	0.10	0.19	0.23	---	4.8	37	9.9	6.1	0.89	2.4	1.3
31	0.29	---	0.12	0.43	---	4.5	---	8.4	---	0.60	2.2	---
TOTAL	38.68	5.36	6.01	6.16	34.83	122.63	241.6	798.8	474.1	54.89	14.73	40.26
MEAN	1.248	0.179	0.194	0.199	1.244	3.956	8.053	25.77	15.80	1.771	0.475	1.342
MAX	4.4	0.28	0.32	0.43	2.1	7.5	43	58	50	4.8	2.4	3.9
MIN	0.11	0.09	0.10	0.16	0.68	0.54	3.1	8.4	4.0	0.60	0.19	0.26
CFSM	0.14	0.02	0.02	0.02	0.14	0.43	0.88	2.81	1.73	0.19	0.05	0.15
IN.	0.16	0.02	0.02	0.03	0.14	0.50	0.98	3.24	1.93	0.22	0.06	0.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2002, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	7.453	12.11	18.60	17.22	17.07	24.18	24.04	19.55	11.72	5.872	7.209	6.481						
MAX	33.3	29.5	60.7	51.2	31.8	39.8	51.1	66.7	32.4	18.4	38.5	36.7						
(WY)	1990	1996	1997	1996	1998	1999	1993	1989	1998	1990	2000	1987						
MIN	0.71	0.18	0.19	0.20	1.24	3.96	2.48	4.77	2.23	1.48	0.45	1.06						
(WY)	1985	2002	2002	2002	2002	2002	1985	1999	1987	1993	1999	2001						

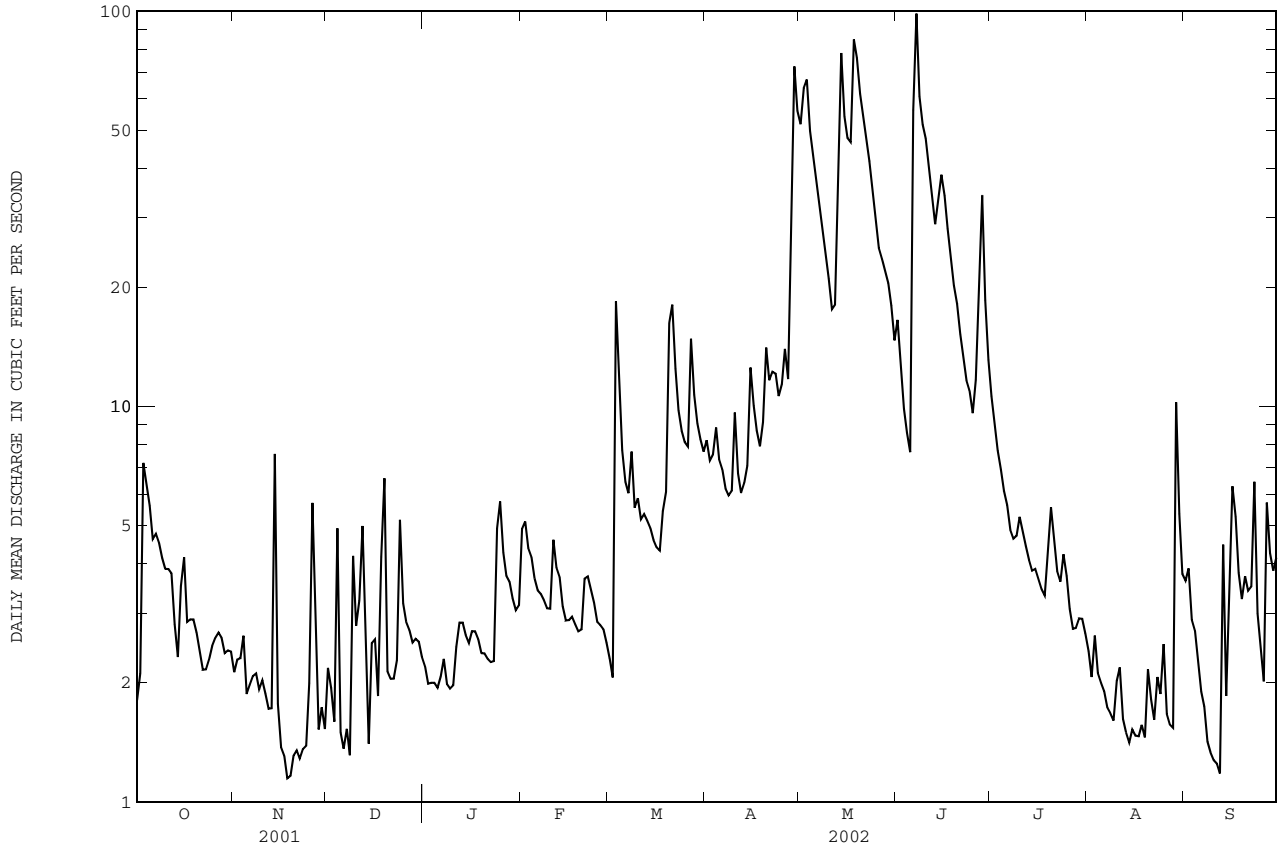
01379780 GREEN POND BROOK BELOW PICATINNY LAKE, AT PICATINNY ARSENAL, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1985 - 2002	
ANNUAL TOTAL	3611.66		1838.05			
ANNUAL MEAN	9.895		5.036		14.28	
HIGHEST ANNUAL MEAN					22.1 1990	
LOWEST ANNUAL MEAN					5.04 2002	
HIGHEST DAILY MEAN	79	Apr 12	58	May 18	206	May 17 1990
LOWEST DAILY MEAN	0.09	Nov 29	0.09	Nov 29	0.09	Nov 29 2001
ANNUAL SEVEN-DAY MINIMUM	0.11	Nov 26	0.11	Nov 26	0.11	Nov 26 2001
MAXIMUM PEAK FLOW			67	May 18	290	Aug 12 2000
MAXIMUM PEAK STAGE			3.00	May 18	3.83	Aug 12 2000
INSTANTANEOUS LOW FLOW			0.00	Dec 31	0.00	Dec 31 2001
ANNUAL RUNOFF (CFSM)	1.08		0.55		1.56	
ANNUAL RUNOFF (INCHES)	14.67		7.46		21.18	
10 PERCENT EXCEEDS	26		16		33	
50 PERCENT EXCEEDS	3.0		1.2		8.5	
90 PERCENT EXCEEDS	0.19		0.18		1.3	



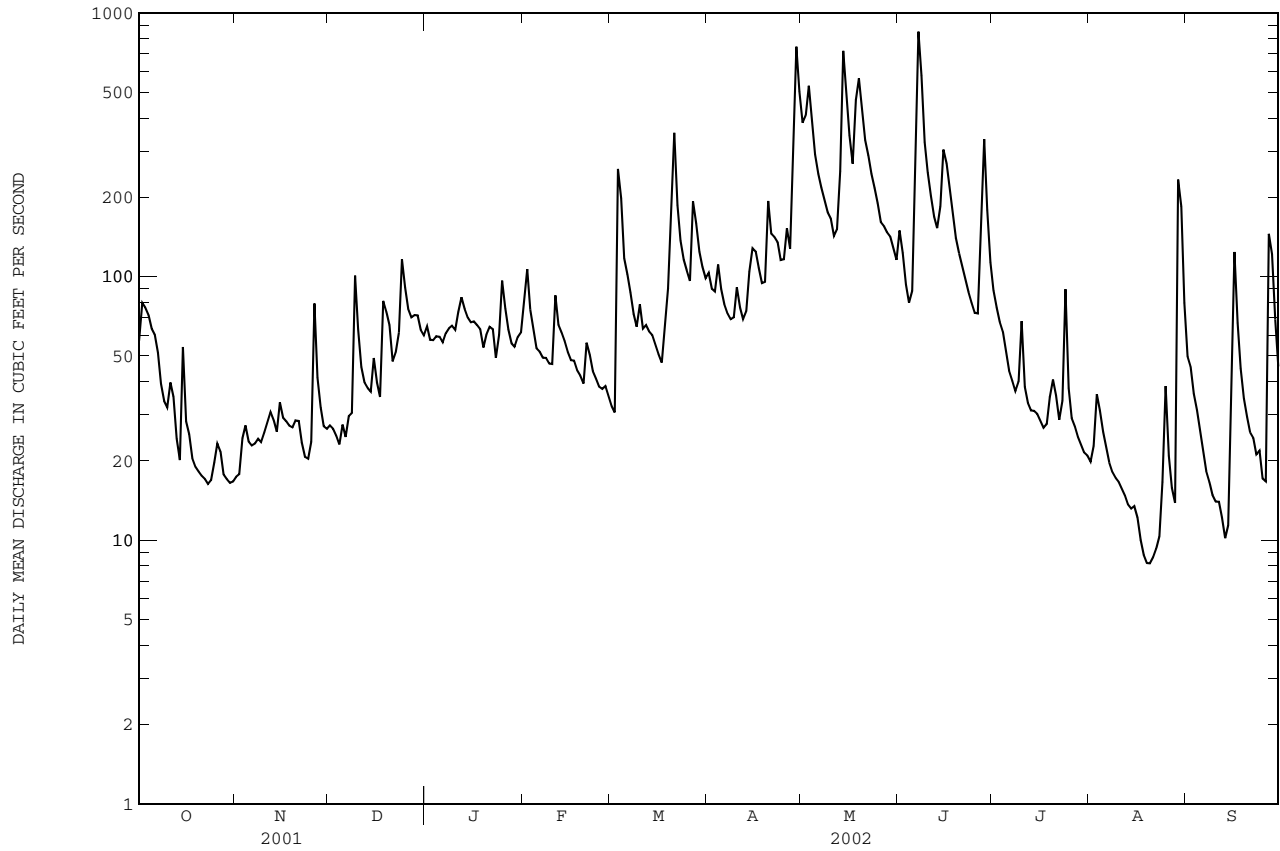
01379790 GREEN POND BROOK AT WHARTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1983 - 2002	
ANNUAL TOTAL	5901.3		3508.5			
ANNUAL MEAN	16.17		9.612		23.70	
HIGHEST ANNUAL MEAN					40.6 1984	
LOWEST ANNUAL MEAN					9.61 2002	
HIGHEST DAILY MEAN	84	Apr 12	99	Jun 7	512	Apr 6 1984
LOWEST DAILY MEAN	1.1	Nov 18	1.1	Nov 18	0.54	Sep 5 1999
ANNUAL SEVEN-DAY MINIMUM	1.3	Nov 16	1.3	Nov 16	0.70	Aug 30 1999
MAXIMUM PEAK FLOW			117	Jun 7	572	Apr 5 1984
MAXIMUM PEAK STAGE			3.47	Jun 7	5.11	Apr 5 1984
INSTANTANEOUS LOW FLOW			0.84	Dec 14	0.53	Aug 19 1999
ANNUAL RUNOFF (CFSM)	1.28		0.76		1.88	
ANNUAL RUNOFF (INCHES)	17.42		10.36		25.56	
10 PERCENT EXCEEDS	44		27		51	
50 PERCENT EXCEEDS	7.1		3.7		15	
90 PERCENT EXCEEDS	1.9		1.7		3.6	



01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1938 - 2002	
ANNUAL TOTAL	59141		33377.1		227.7	
ANNUAL MEAN	162.0		91.44		396	
HIGHEST ANNUAL MEAN					88.3 1952	
LOWEST ANNUAL MEAN					4220 1965	
HIGHEST DAILY MEAN	881	Mar 22	851	Jun 7	5.7	Jan 25 1979
LOWEST DAILY MEAN	16	Sep 8	8.2	Aug 19,20	6.1	Aug 10 1999
ANNUAL SEVEN-DAY MINIMUM	18	Oct 18	9.0	Aug 17	5590	Apr 7 1999
MAXIMUM PEAK FLOW			1040	Jun 7	7.23	Apr 5 1984
MAXIMUM PEAK STAGE			3.42	Jun 7	492	Apr 5 1984
10 PERCENT EXCEEDS	419		200		152	
50 PERCENT EXCEEDS	99		58		42	
90 PERCENT EXCEEDS	24		18			



PASSAIC RIVER BASIN

01381000 ROCKAWAY RIVER BELOW RESERVOIR, AT BOONTON, NJ

LOCATION.--Lat 40°53'49", long 74°23'42", Morris County, Hydrologic Unit 02030103, on right bank 2,000 ft downstream from Boonton Reservoir Dam at Boonton, and 0.4 mi upstream at bridge on Greenback Road.

DRAINAGE AREA.--119 mi².

PERIOD OF RECORD.--March to December 1903; January, February 1904 (gage height only); January 1906 to September 1950 (monthly discharge only, published in WSP 1302). Published as "near Boonton" 1903-4, and as "at Boonton" 1906-37.

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

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

REMARKS.--Records good. Records represent flow in river only. Sewage effluent enters river about 600 ft below station (records given herein). Flow regulated by Boonton Reservoir (see Passaic River basin, reservoirs in) 2,000 ft upstream from station, and by Splitrock Reservoir (see Passaic River basin, reservoirs in) 16.5 mi above station. Water diverted from Boonton Reservoir for municipal supply of Jersey City (see Passaic River basin, diversions). Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

COOPERATION.--Gage-height record collected in cooperation with United Water Jersey City, and record of sewage effluent furnished by Rockaway Valley Regional Sewerage Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	11	10	9.2	8.7	8.2	9.2	72	34	13	11
2	13	12	11	11	9.0	8.6	8.2	12	66	17	14	11
3	13	12	11	11	9.0	10	8.4	9.7	43	14	13	11
4	13	12	11	11	8.9	9.0	8.4	9.3	27	13	13	11
5	13	12	11	11	9.0	8.8	8.4	9.3	25	14	13	11
6	13	12	11	10	8.9	8.6	8.3	9.4	113	14	13	11
7	13	12	11	10	8.9	8.6	8.4	9.3	581	14	13	11
8	13	12	11	9.9	8.8	8.8	8.4	9.2	622	14	13	11
9	14	12	11	9.3	8.8	8.9	8.4	9.4	313	14	12	11
10	13	12	11	10	9.0	9.1	8.5	9.6	195	14	12	11
11	13	12	11	11	8.9	9.1	8.4	9.5	140	14	12	10
12	13	12	11	11	8.7	9.2	8.3	10	106	14	12	11
13	13	12	11	11	8.8	9.3	8.7	50	81	14	11	11
14	13	12	11	11	8.9	9.1	8.8	586	89	14	11	10
15	13	12	11	11	9.1	9.2	9.2	574	184	14	11	12
16	13	12	11	12	9.1	9.4	8.5	359	196	13	11	11
17	13	12	11	11	9.1	9.4	8.4	243	152	13	11	10
18	13	12	11	11	8.7	9.8	8.3	345	112	14	11	10
19	13	11	11	11	9.0	9.5	9.0	576	81	14	11	10
20	12	12	11	11	9.2	11	8.7	417	57	14	11	10
21	12	12	11	10	9.0	10	8.7	306	44	14	13	10
22	12	11	11	11	8.8	9.9	9.1	251	27	14	12	10
23	12	12	11	11	8.8	9.8	8.6	204	23	15	12	10
24	12	12	11	12	8.8	9.7	8.4	167	16	14	11	10
25	12	12	10	10	8.8	9.7	8.9	136	16	14	11	9.8
26	12	11	10	9.8	8.8	10	7.9	113	16	14	12	9.9
27	11	11	11	11	8.8	9.8	7.4	101	19	14	12	12
28	12	11	12	10	8.8	8.2	17	92	119	14	19	10
29	11	11	11	9.7	---	8.1	9.9	85	130	13	13	10
30	12	11	11	9.7	---	8.1	9.0	75	69	13	11	10
31	12	---	11	9.2	---	8.2	---	66	---	14	11	---
TOTAL	390	353	340	327.6	249.6	285.6	264.8	4861.9	3734	453	378	316.7
MEAN	12.58	11.77	10.97	10.57	8.914	9.213	8.827	156.8	124.5	14.61	12.19	10.56
MAX	14	12	12	12	9.2	11	17	586	622	34	19	12
MIN	11	11	10	9.2	8.7	8.1	7.4	9.2	16	13	11	9.8
(I)	13.9	13.5	13.8	13.7	13.7	14.2	13.9	15.8	15.0	13.4	12.6	13.1

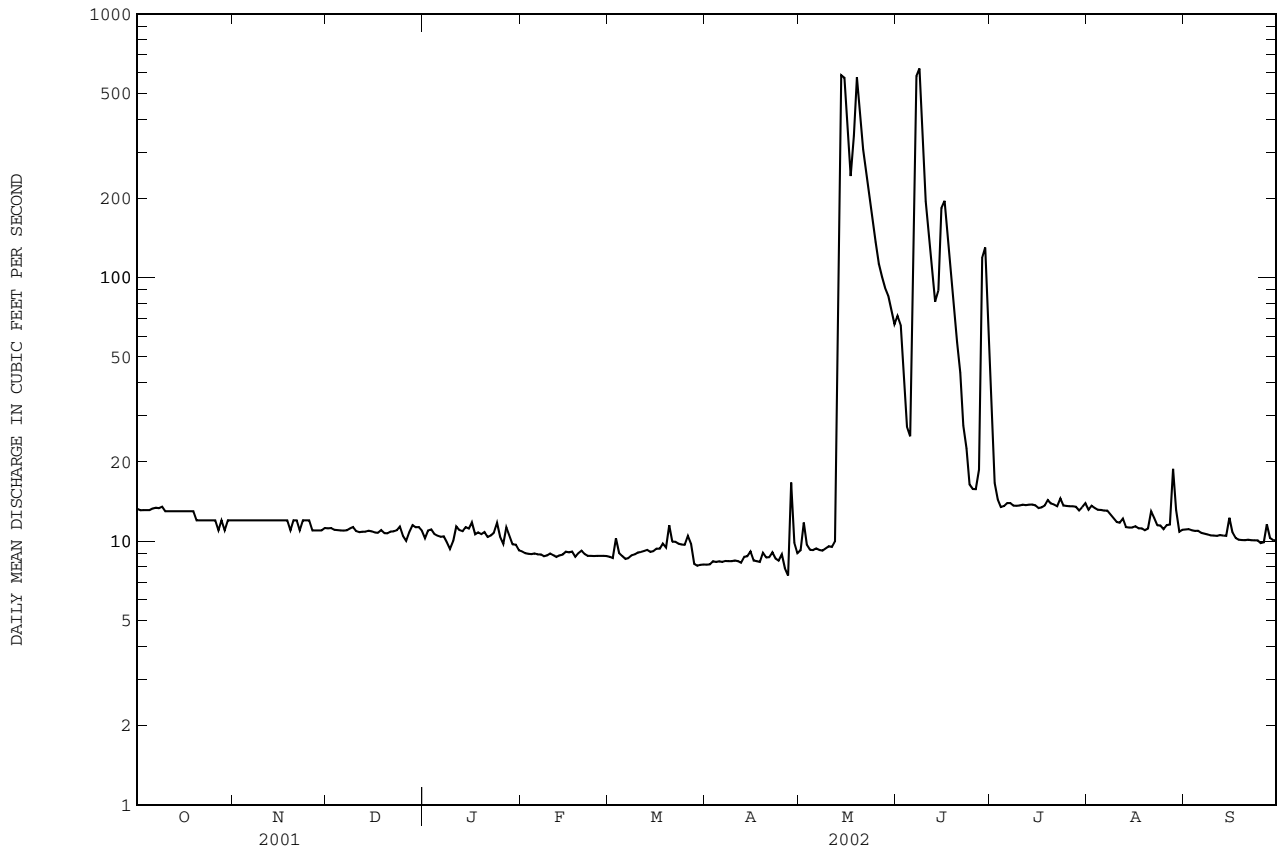
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2002, BY WATER YEAR (WY)

	51.13	94.47	162.2	157.3	173.1	275.3	289.3	189.3	98.33	50.39	47.65	41.78
MEAN	51.13	94.47	162.2	157.3	173.1	275.3	289.3	189.3	98.33	50.39	47.65	41.78
MAX	408	483	802	692	499	739	978	873	671	445	358	346
(WY)	1956	1973	1997	1979	1973	1994	1983	1989	1972	1984	2000	1960
MIN	0.23	0.43	0.35	0.39	1.49	9.21	8.83	18.6	0.40	0.25	0.29	0.28
(WY)	1964	1966	1966	1966	1966	2002	2002	1955	1957	1966	1966	1957

01381000 ROCKAWAY RIVER BELOW RESERVOIR, AT BOONTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1955 - 2002	
ANNUAL TOTAL	37339		11954.2			
ANNUAL MEAN	102.3		32.75		135.6	
(I)	15.1		13.9			
HIGHEST ANNUAL MEAN					291	1984
LOWEST ANNUAL MEAN					7.19	1965
HIGHEST DAILY MEAN	895	Mar 31	622	Jun 8	3850	Apr 6 1984
LOWEST DAILY MEAN	10	Dec 25	7.4	Apr 27	0.00	Jan 19 1959
ANNUAL SEVEN-DAY MINIMUM	11	Dec 20	8.2	Mar 28	0.00	Dec 18 1963
MAXIMUM PEAK FLOW			803	Jun 7	7560ab	Oct 10 1903
MAXIMUM PEAK STAGE			4.26	Jun 7	8.3c	Jan 25 1979
INSTANTANEOUS LOW FLOW			6.0	Dec 27	0.00a	
10 PERCENT EXCEEDS	315		66		357	
50 PERCENT EXCEEDS	14		11		36	
90 PERCENT EXCEEDS	11		8.8		0.80	

- a Since 1903; see period of record section.
- b Maximum daily.
- c Maximum peak stage since 1913.
- (I) Sewage effluent, in cubic feet per second, from plant at Rockaway Valley Regional Sewerage Authority.



PASSAIC RIVER BASIN

01381400 WHIPPANY RIVER NEAR MORRISTOWN, NJ

LOCATION.--Lat 40°48'44", long 74°30'44", Morris County, Hydrologic Unit 02030103, on left downstream side of bridge on Sussex Avenue, 1.9 mi northwest of Morristown, and 2.7 mi upstream from Lake Pocahontas Dam.

DRAINAGE AREA.--14.0 mi².

PERIOD OF RECORD.--Low-flow partial-record site 1964-72. August 1995 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 310 ft above NGVD of 1929 (from topographic map).

REMARKS.--Records good. Water diverted at Clyde Potts Reservoir for municipal supply by the Southeast Morris County Municipal Utilities Authority. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 29	0445	209	5.15	Jun 7	0800	180	5.00
May 14	0315	*237	*5.27				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	5.0	4.5	3.9	12	3.9	10	28	27	8.0	3.4	5.0
2	5.1	5.4	4.2	4.1	12	3.9	8.7	73	13	7.3	4.5	5.1
3	4.8	5.8	4.1	4.2	6.6	62	10	42	12	6.9	8.0	4.1
4	4.6	5.6	4.1	4.2	5.9	17	12	23	11	6.4	3.8	3.8
5	4.5	5.2	4.1	4.2	5.8	10	8.5	20	10	5.8	3.7	3.5
6	4.9	4.6	4.1	4.1	6.5	8.6	8.1	18	52	5.5	3.4	3.2
7	4.6	4.4	4.6	6.1	4.9	8.0	7.4	17	134	5.3	3.1	3.1
8	4.4	4.6	5.4	5.4	4.8	7.3	7.2	15	30	5.1	2.9	3.1
9	4.5	4.5	23	4.9	4.5	7.0	7.3	17	18	7.8	3.0	3.1
10	4.6	4.5	6.3	4.9	4.9	9.7	8.0	16	15	7.2	2.9	3.0
11	4.7	4.6	5.0	9.0	12	7.0	6.9	13	13	5.1	2.9	2.9
12	4.7	4.4	4.6	9.8	5.9	6.4	6.9	14	12	4.8	2.8	2.7
13	4.6	4.5	4.8	7.6	5.6	7.2	7.5	46	12	4.7	2.7	3.0
14	4.6	4.6	5.7	6.0	5.1	7.3	17	155	27	4.9	2.6	3.0
15	12	4.8	6.6	5.7	5.3	6.4	27	34	26	4.8	2.6	19
16	5.2	4.7	4.7	5.7	4.6	6.3	12	23	18	4.5	2.6	17
17	4.8	4.6	4.8	5.4	4.5	5.9	10	20	14	4.2	2.5	4.8
18	4.5	4.5	20	5.1	4.2	15	8.1	81	12	4.4	2.4	3.8
19	4.7	4.7	7.5	5.5	4.2	14	20	40	13	6.7	2.3	3.5
20	4.8	5.3	5.4	6.1	4.3	54	30	24	12	6.6	3.1	3.4
21	4.7	4.9	4.8	4.9	11	60	12	21	9.7	4.5	2.7	3.5
22	4.7	4.7	4.5	4.8	5.7	17	14	20	8.9	4.4	2.5	3.4
23	4.8	4.6	4.4	5.1	5.0	12	11	18	8.3	5.0	3.3	3.1
24	4.8	4.7	18	16	4.6	11	9.2	18	7.8	5.7	4.6	3.0
25	4.8	8.4	6.8	13	4.5	9.5	18	16	7.5	4.3	6.8	3.1
26	4.4	14	5.3	7.5	4.4	10	17	15	8.3	4.1	3.3	3.4
27	4.4	5.3	4.9	6.2	4.4	42	10	15	16	4.2	3.0	31
28	4.5	4.5	5.7	5.7	4.1	15	90	14	39	4.3	2.8	11
29	4.5	4.6	4.4	5.5	---	11	140	14	11	4.2	40	4.8
30	4.9	4.8	4.9	5.4	---	10	35	13	8.9	3.8	7.1	4.1
31	4.7	---	4.2	5.7	---	9.5	---	15	---	3.5	4.4	---
TOTAL	153.0	156.8	201.4	191.7	167.3	473.9	588.8	898	606.4	164.0	145.7	170.5
MEAN	4.935	5.227	6.497	6.184	5.975	15.29	19.63	28.97	20.21	5.290	4.700	5.683
MAX	12	14	23	16	12	62	140	155	134	8.0	40	31
MIN	4.4	4.4	4.1	3.9	4.1	3.9	6.9	13	7.5	3.5	2.3	2.7
CFSM	0.35	0.37	0.46	0.44	0.43	1.09	1.40	2.07	1.44	0.38	0.34	0.41
IN.	0.41	0.42	0.54	0.51	0.44	1.26	1.56	2.39	1.61	0.44	0.39	0.45

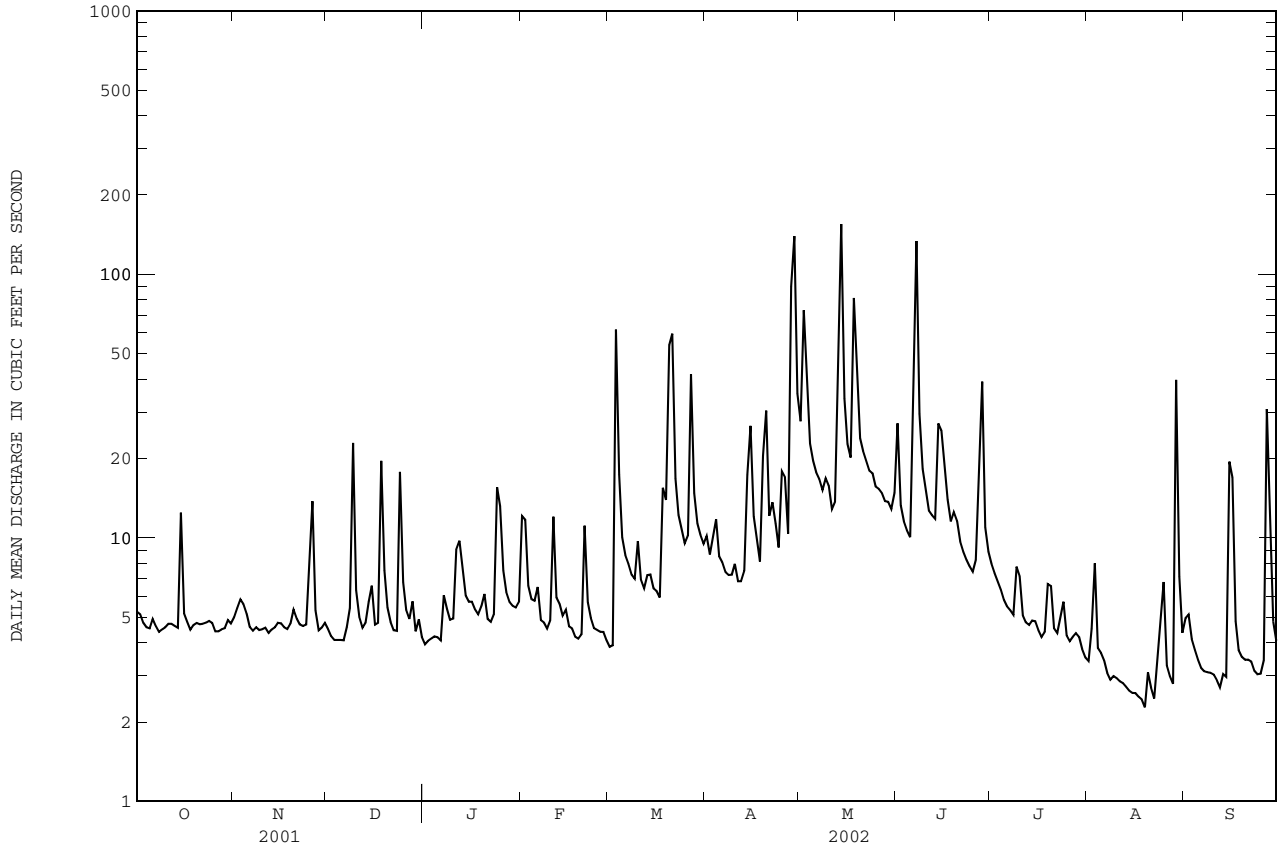
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2002, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999	2000	2001	2002	2002	2002	2002	2002
MEAN	30.90	19.66	34.87	34.75	33.35	41.31	39.63	34.23	22.36	13.41	9.547	14.26
MAX	145	40.4	154	73.8	52.3	52.1	60.6	63.4	34.0	31.3	22.6	51.4
(WY)	1997	1996	1997	1996	1996	1999	1996	1998	1998	1996	2000	1999
MIN	4.95	5.24	6.03	6.20	5.99	15.3	19.6	17.8	7.17	3.76	4.71	4.87
(WY)	2002	2002	1999	2002	2002	2002	2002	1999	1999	1999	2002	1998

01381400 WHIPPANY RIVER NEAR MORRISTOWN, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1995 - 2002	
ANNUAL TOTAL	6845.7		3917.5			
ANNUAL MEAN	18.76		10.73		27.44	
HIGHEST ANNUAL MEAN					50.9 1997	
LOWEST ANNUAL MEAN					10.7 2002	
HIGHEST DAILY MEAN	154	Jun 2	155	May 14	2000	Oct 20 1996
LOWEST DAILY MEAN	3.9	Sep 12	2.3	Aug 19	1.9	Aug 3 1999
ANNUAL SEVEN-DAY MINIMUM	4.2	Dec 1	2.5	Aug 13	2.1	Aug 2 1999
MAXIMUM PEAK FLOW			237	May 14	2950a	Oct 20 1996
MAXIMUM PEAK STAGE			5.27	May 14	9.31	Sep 16 1999
INSTANTANEOUS LOW FLOW			2.1	Aug 19,20	1.7	Aug 7 1999
ANNUAL RUNOFF (CFSM)	1.34		0.77		1.96	
ANNUAL RUNOFF (INCHES)	18.19		10.41		26.63	
10 PERCENT EXCEEDS	41		19		51	
50 PERCENT EXCEEDS	12		5.4		15	
90 PERCENT EXCEEDS	4.6		3.4		4.6	

a From rating curve extended above 530 ft³/s



PASSAIC RIVER BASIN

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ

LOCATION.--Lat 40°48'26", long 74°27'26" (revised), Morris County, Hydrologic Unit 02030103, on left bank at Morristown sewage-treatment plant, 0.8 mi northeast of Morristown, and 9.0 mi upstream from mouth.

DRAINAGE AREA.--29.4 mi².

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

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

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

REMARKS.--Records good, except for estimated daily discharges which are poor. Flow occasionally regulated by operation of gates in Pocahontas Dam, 2.5 mi above station. Diurnal fluctuations from unknown source at low flow. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 28	2130	*607	*4.53	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	17	e16	14	32	15	24	56	51	22	12	18
2	17	19	e16	15	33	15	21	119	29	21	17	19
3	16	18	e16	15	22	122	27	88	25	20	23	15
4	16	19	e15	15	21	46	27	45	24	19	13	13
5	16	19	16	15	18	27	21	39	23	18	13	12
6	17	16	16	16	17	22	20	35	121	17	12	11
7	16	17	18	21	18	21	19	33	242	16	11	11
8	15	17	25	19	17	20	19	31	69	16	11	11
9	15	17	61	18	17	19	19	35	39	20	11	11
10	15	16	24	19	20	27	22	33	33	24	10	11
11	17	16	18	27	33	20	19	27	29	17	10	10
12	17	16	16	28	22	19	19	29	30	15	10	8.6
13	16	16	17	24	22	20	23	122	30	14	10	9.3
14	15	16	20	21	17	20	40	268	62	14	9.5	9.5
15	39	17	22	20	17	18	60	70	67	15	9.6	52
16	20	17	17	19	17	18	30	45	44	14	10	81
17	16	16	18	18	17	17	25	39	33	13	9.8	21
18	15	17	50	18	16	36	22	141	28	14	9.4	13
19	16	17	28	17	16	34	44	88	28	30	9.0	12
20	16	19	20	18	18	96	76	48	30	25	13	12
21	16	18	17	18	36	112	31	41	25	16	10	12
22	16	17	16	18	20	38	32	38	23	15	9.8	12
23	16	16	16	18	18	28	29	36	22	18	12	11
24	17	17	48	41	17	24	23	35	22	26	23	10
25	17	30	25	36	17	23	40	32	21	16	24	11
26	16	39	20	26	17	27	43	31	21	14	12	15
27	16	e17	17	22	17	76	26	31	51	14	11	103
28	16	e16	17	20	16	35	194	30	92	14	10	38
29	16	e15	16	19	---	27	254	29	31	14	144	17
30	17	e17	15	19	---	24	72	28	23	13	39	14
31	17	---	15	20	---	23	---	35	---	12	16	---
TOTAL	527	544	671	634	568	1069	1321	1757	1368	536	544.1	603.4
MEAN	17.0	18.1	21.6	20.5	20.3	34.5	44.0	56.7	45.6	17.3	17.6	20.1
MAX	39	39	61	41	36	122	254	268	242	30	144	103
MIN	15	15	15	14	16	15	19	27	21	12	9.0	8.6
CFSM	0.58	0.62	0.74	0.70	0.69	1.17	1.50	1.93	1.55	0.59	0.60	0.68
IN.	0.67	0.69	0.85	0.80	0.72	1.35	1.67	2.22	1.73	0.68	0.69	0.76

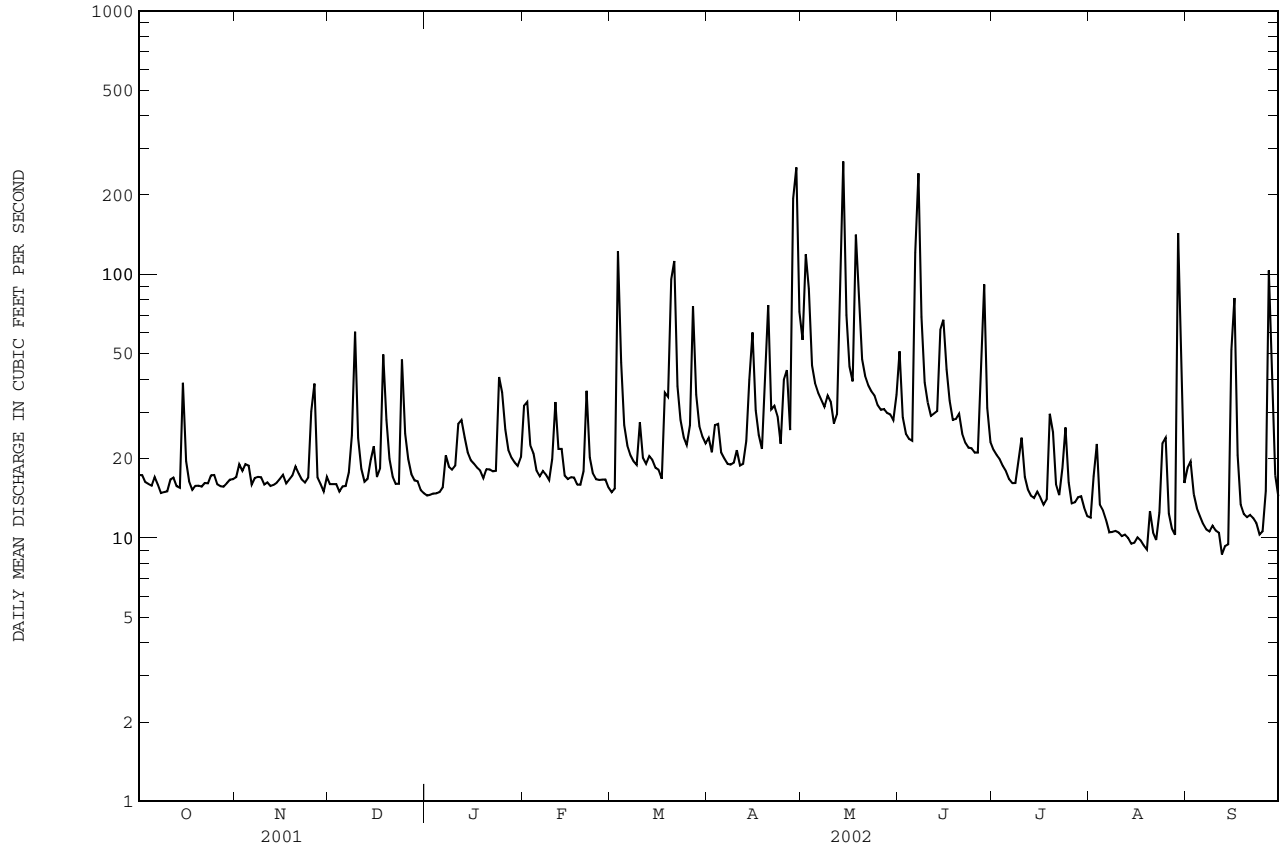
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)
MEAN	32.5	45.1	54.0	58.8	64.2	86.8	86.8	66.7	47.5	38.2	35.0	34.6
MAX	133	132	185	211	147	215	231	237	214	186	158	123
(WY)	1997	1933	1997	1979	1973	1936	1983	1989	1972	1975	1942	1971
MIN	8.72	13.4	14.2	16.9	20.3	28.1	30.2	24.4	14.6	10.3	8.02	7.25
(WY)	1931	1937	1940	1922	2002	1981	1985	1941	1965	1965	1932	1932

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	15849		10142.5			
ANNUAL MEAN	43.4		27.8		54.1	
HIGHEST ANNUAL MEAN					98.5 1984	
LOWEST ANNUAL MEAN					23.3 1965	
HIGHEST DAILY MEAN	401	Jun 2	268	May 14	1510	Aug 28 1971
LOWEST DAILY MEAN	14	Sep 12	8.6	Sep 12	4.2	Sep 10 1932
ANNUAL SEVEN-DAY MINIMUM	15	Sep 7	9.6	Aug 13	4.7	Sep 9 1932
MAXIMUM PEAK FLOW			607		2800 Aug 28 1971	
MAXIMUM PEAK STAGE			4.53		8.60 Aug 28 1971	
INSTANTANEOUS LOW FLOW			7.9		2.8 Aug 27 1932	
ANNUAL RUNOFF (CFSM)	1.48		0.95		1.84	
ANNUAL RUNOFF (INCHES)	20.05		12.83		25.01	
10 PERCENT EXCEEDS	80		44		104	
50 PERCENT EXCEEDS	32		19		36	
90 PERCENT EXCEEDS	16		12		15	

e Estimated



PASSAIC RIVER BASIN

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ

LOCATION.--Lat 40°50'42", long 74°20'51", Morris County, Hydrologic Unit 02030103, on left upstream abutment of former bridge on Edwards Road, 200 ft downstream from bridges of Interstate 280, 0.4 mi upstream from Rockaway River, and 1.2 mi southwest of Pine Brook.

DRAINAGE AREA.--68.5 mi²

PERIOD OF RECORD.--Low-flow partial record station water years 1963-69, 1973, 1979-96. November 1992 to September 1996 (gage height and discharge measurements only), October 1996 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 162 ft above NGVD of 1929 (from topographic map).

REMARKS.--Records fair except periods of backwater and estimated daily discharges which are poor. Several measurements of water temperature were made during the year. Flow includes sewage effluent from several treatment plants upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	28	31	33	61	26	54	e286	111	45	e18	39
2	29	30	28	31	87	26	47	e276	67	36	20	57
3	28	33	27	27	52	192	47	e284	47	32	54	40
4	26	32	26	27	43	213	71	e237	39	29	27	29
5	25	32	26	27	36	99	47	198	38	26	23	24
6	26	31	26	27	32	61	41	132	164	24	21	21
7	27	30	29	35	33	49	38	92	291	23	19	20
8	24	38	30	41	32	42	37	67	382	24	19	19
9	24	37	135	35	31	38	37	61	313	24	19	19
10	24	35	70	37	30	56	45	63	190	36	19	19
11	25	32	45	53	70	41	38	50	74	27	18	19
12	26	31	37	68	49	36	35	49	e65	24	18	17
13	25	30	37	54	39	38	40	113	e54	22	19	17
14	25	30	36	46	36	40	94	462	e73	22	18	17
15	68	29	47	41	31	36	128	556	106	22	17	50
16	46	27	35	41	31	34	88	e498	117	22	18	194
17	31	26	32	41	31	32	57	e366	104	21	18	81
18	27	25	94	36	29	69	47	e438	86	21	18	40
19	26	26	75	32	28	95	56	e492	79	33	17	30
20	27	27	47	34	28	138	207	e487	64	67	22	26
21	27	29	36	35	69	316	108	e415	49	28	22	24
22	27	27	31	35	47	270	81	e351	40	23	19	23
23	27	25	29	36	36	150	76	e280	36	23	22	21
24	28	26	101	79	32	97	56	e221	35	61	22	20
25	29	32	68	112	30	70	72	e170	34	32	57	19
26	28	97	47	68	30	57	138	138	33	23	27	20
27	28	40	39	51	30	174	72	93	43	22	22	189
28	27	34	34	43	28	120	217	78	223	22	20	186
29	27	32	33	39	---	74	e474	71	152	23	153	79
30	28	33	30	38	---	59	e379	64	73	22	170	46
31	27	---	33	39	---	53	---	58	---	e20	51	---
TOTAL	891	984	1394	1341	1111	2801	2927	7146	3182	879	1007	1405
MEAN	28.74	32.80	44.97	43.26	39.68	90.35	97.57	230.5	106.1	28.35	32.48	46.83
MAX	68	97	135	112	87	316	474	556	382	67	170	194
MIN	24	25	26	27	28	26	35	49	33	20	17	17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2002, BY WATER YEAR (WY)

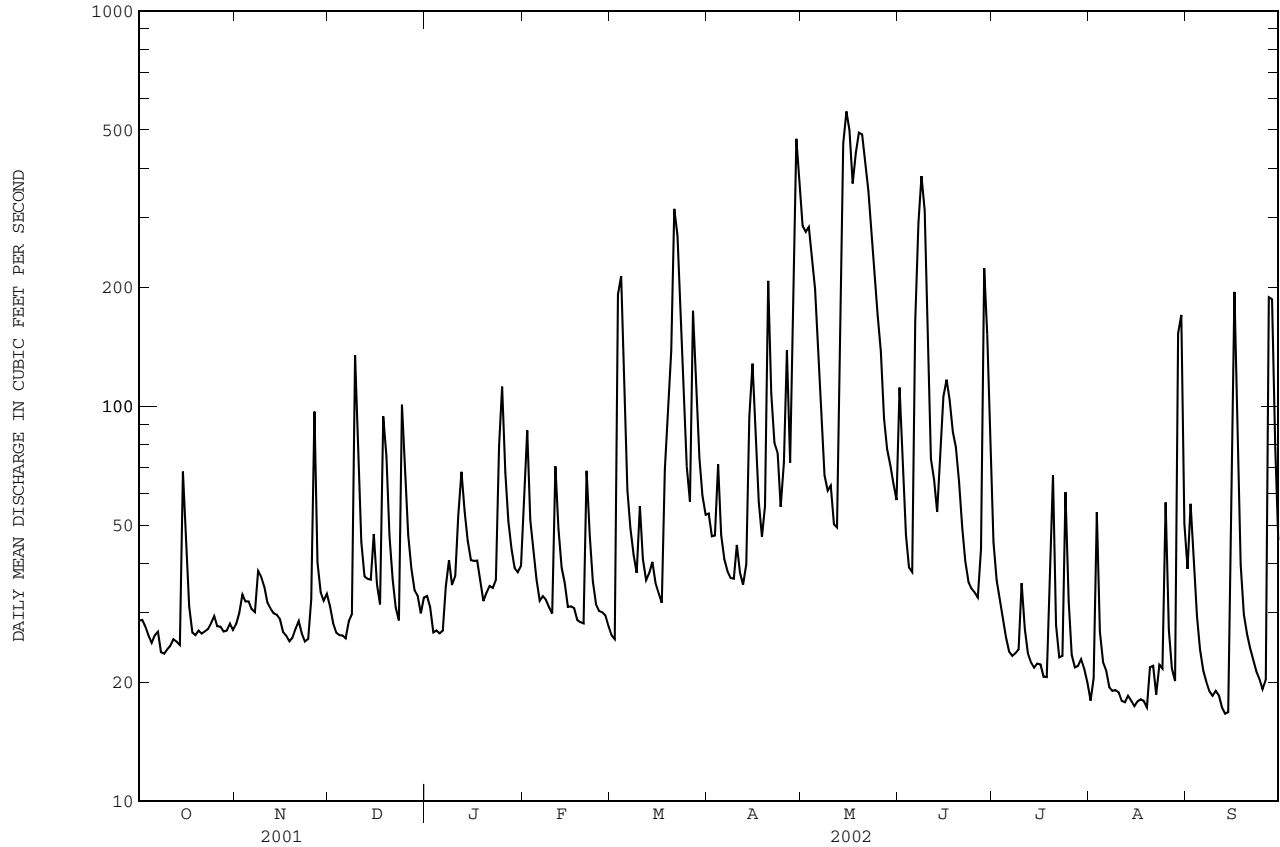
	1997	1998	1999	2000	2001	2002
MEAN	93.21	90.78	194.1	163.8	177.5	209.6
MAX	323	161	696	260	274	291
(WY)	1997	1997	1997	1997	1997	1999
MIN	28.7	32.8	33.6	43.3	39.7	90.4
(WY)	2002	2002	1999	2002	2002	2002

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR			FOR 2002 WATER YEAR		WATER YEARS 1997 - 2002	
ANNUAL TOTAL	43978			25068			
ANNUAL MEAN	120.5			68.68		140.2	
HIGHEST ANNUAL MEAN						236 1997	
LOWEST ANNUAL MEAN						68.7 2002	
HIGHEST DAILY MEAN	613	Jun	3	556	May 15	1820	Oct 20 1996
LOWEST DAILY MEAN	22	Sep	8	17	Many Days	17	Aug 2 1999
ANNUAL SEVEN-DAY MINIMUM	23	Sep	3	18	Aug 13	17	Aug 2 1999
MAXIMUM PEAK FLOW				560		2080 Oct 20 1996	
MAXIMUM PEAK STAGE				6.41		9.22a Oct 22 1996	
INSTANTANEOUS LOW FLOW				16		16 Sep 13 2002	
10 PERCENT EXCEEDS	311			157		342	
50 PERCENT EXCEEDS	64			36		75	
90 PERCENT EXCEEDS	27			22		28	

a Stage on Oct.20,1996 was higher (unknown).

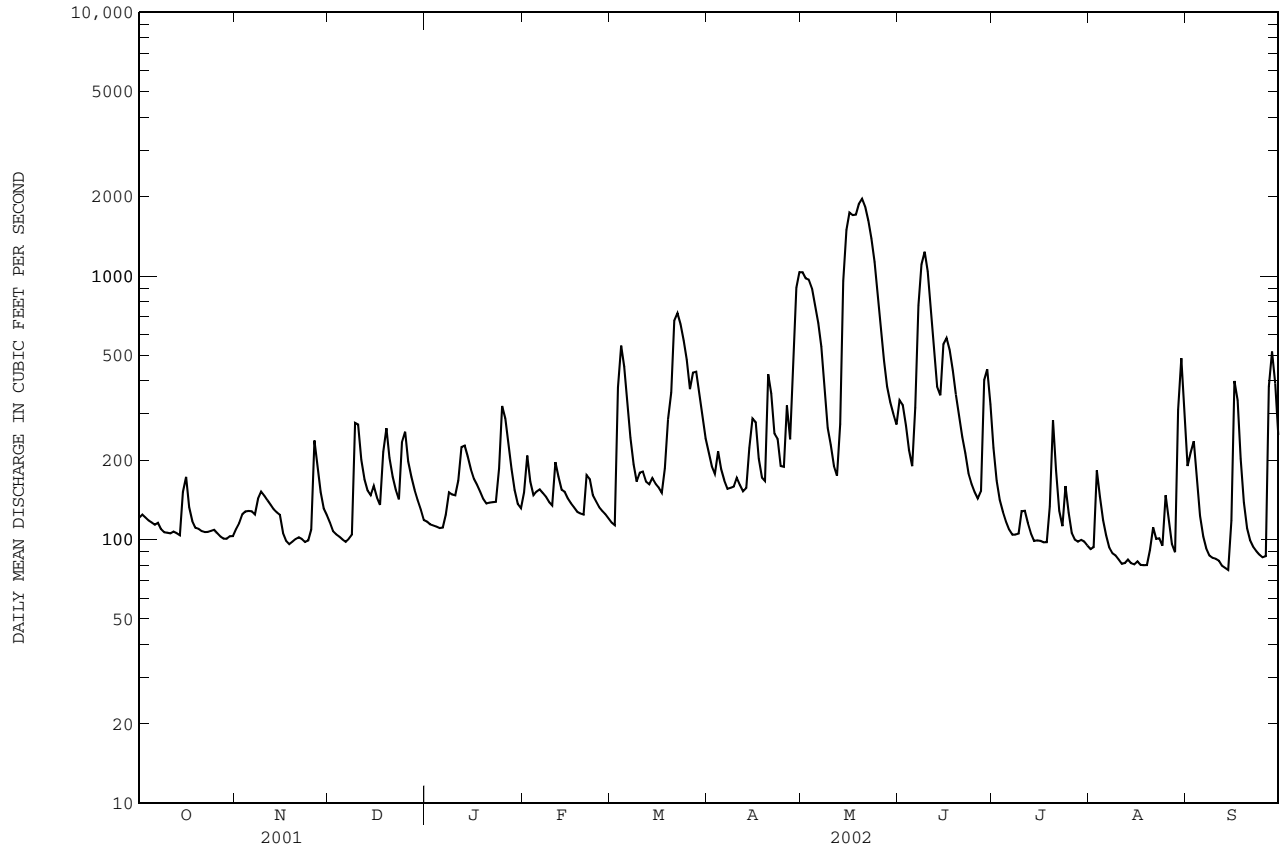
e Estimated



01381900 PASSAIC RIVER AT PINE BROOK, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1980 - 2002	
ANNUAL TOTAL	176775		93687		612	
ANNUAL MEAN	484		257		1125	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	2200	Apr 1	1970	May 20	7910	Apr 7 1984
LOWEST DAILY MEAN	89	Sep 9	77	Sep 14	72	Sep 29 1980
ANNUAL SEVEN-DAY MINIMUM	93	Sep 3	81	Aug 13	78	Oct 12 1980
MAXIMUM PEAK FLOW			1980		8000	
MAXIMUM PEAK STAGE			17.83		22.90a	
INSTANTANEOUS LOW FLOW			73		70	
10 PERCENT EXCEEDS	1260		520		1460	
50 PERCENT EXCEEDS	228		151		348	
90 PERCENT EXCEEDS	106		98		121	

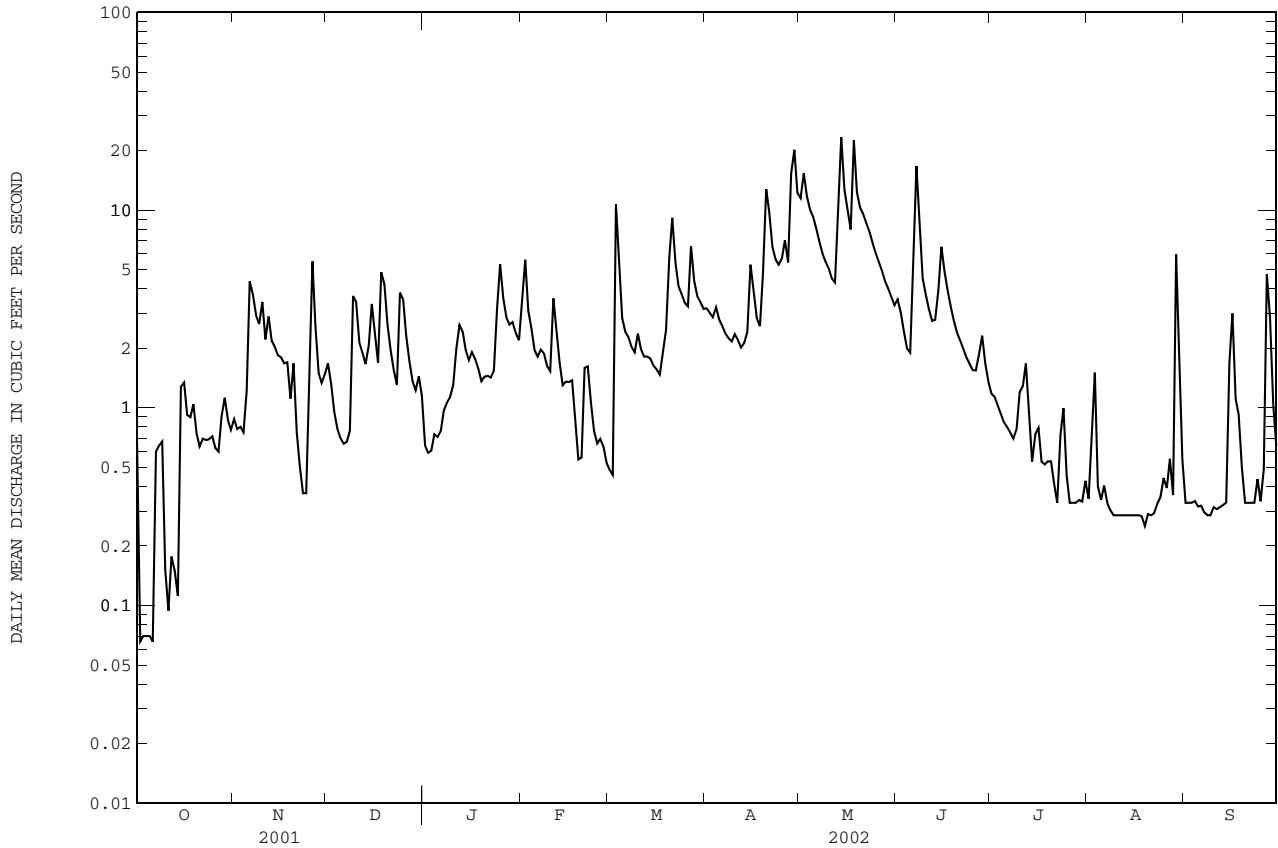
a Effected by backwater.



01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1923 - 2002	
ANNUAL TOTAL	12567.12		951.91		46.26	
ANNUAL MEAN	34.43		2.608		109	
HIGHEST ANNUAL MEAN					1952	
LOWEST ANNUAL MEAN					0.12	
HIGHEST DAILY MEAN	809	Mar 22	23	May 14,18	3170	Apr 6 1984
LOWEST DAILY MEAN	0.07	Oct 2	0.07	Oct 2-6	0.00	Oct 1 1922
ANNUAL SEVEN-DAY MINIMUM	0.18	Sep 3	0.23	Oct 2	0.00	Oct 18 1922
MAXIMUM PEAK FLOW			66	Apr 28	6100	Oct 10 1903
MAXIMUM PEAK STAGE			3.23	Apr 28	17.40a	Oct 10 1903
10 PERCENT EXCEEDS	83		5.8		140	
50 PERCENT EXCEEDS	4.4		1.6		5.1	
90 PERCENT EXCEEDS	0.53		0.33		0.00	

a Since 1898, site and datum then in use.
 e Estimate



PASSAIC RIVER BASIN

01383500 WANAQUE RIVER AT AWOSTING, NJ

LOCATION.--Lat 41°09'37", long 74°20'02" (revised), Passaic County, Hydrologic Unit 02030103, on right bank 700 ft downstream from dam at outlet of Greenwood Lake at Awosting.

DRAINAGE AREA.--27.1 mi².

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

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

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

REMARKS.--Records fair. Flow completely regulated by Greenwood Lake (see Passaic River basin, reservoirs in). Water diverted into basin above gage from Upper Greenwood Lake (Hudson River basin) by North Jersey District Water Supply Commission since 1968. Several measurements of water temperature were made during the year.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	11	95	15	12	6.4	5.6	6.0	47	9.4	3.5	5.1
2	6.7	11	72	15	12	6.4	5.8	5.9	37	7.9	3.5	2.7
3	6.7	11	72	15	12	6.4	6.1	5.8	32	6.8	2.9	2.7
4	6.7	11	72	15	12	6.1	5.9	5.5	26	6.5	2.9	2.9
5	6.7	38	49	15	12	6.1	5.9	5.3	19	6.6	5.7	2.9
6	6.7	60	21	15	11	6.1	5.9	5.5	16	5.6	10	2.9
7	6.6	72	21	15	8.8	6.1	5.9	5.6	84	5.5	10	2.9
8	6.5	97	17	15	6.4	6.1	5.9	5.4	99	5.3	10	3.8
9	6.4	97	12	17	7.7	6.1	5.9	5.3	87	5.4	8.5	5.1
10	6.6	97	12	21	7.7	5.7	5.9	4.1	75	5.3	5.7	5.1
11	6.3	97	12	21	6.9	5.9	5.9	3.2	62	5.3	5.6	5.1
12	6.4	95	11	21	6.4	6.5	5.9	3.1	54	5.3	5.6	5.1
13	6.4	95	11	21	6.4	6.1	5.9	3.8	38	5.4	5.6	5.1
14	6.4	94	11	21	6.4	5.9	5.9	6.8	39	5.3	5.2	5.1
15	21	93	11	21	6.4	5.9	6.2	8.3	58	5.3	5.1	5.2
16	31	93	11	18	6.4	5.8	6.1	7.9	69	5.4	5.4	5.1
17	31	91	11	13	6.4	5.6	6.1	7.0	76	5.6	5.6	4.9
18	31	91	11	13	6.4	6.1	6.3	6.9	69	5.6	5.6	4.8
19	31	91	11	13	6.4	6.4	6.4	6.7	58	5.6	5.6	4.8
20	31	90	11	13	6.4	6.4	6.4	6.9	49	5.6	5.6	4.8
21	31	90	11	13	6.4	6.4	6.4	9.2	42	5.6	5.6	4.8
22	31	90	11	13	6.4	6.1	6.4	14	38	5.6	5.7	4.8
23	31	89	11	13	6.4	6.1	6.4	19	34	5.5	5.9	4.8
24	31	89	11	13	6.4	6.1	6.2	28	30	5.4	5.7	4.8
25	31	90	11	13	6.4	6.1	5.9	40	24	4.6	5.6	4.8
26	31	90	13	13	6.4	6.0	5.9	35	20	3.9	5.6	4.8
27	31	91	15	13	6.4	5.9	5.9	33	18	3.8	5.6	4.9
28	31	87	15	12	6.4	5.9	5.9	35	19	3.7	5.7	4.8
29	31	123	15	12	---	5.9	5.9	41	16	3.7	5.6	4.8
30	20	120	15	12	---	5.9	5.9	38	12	3.6	5.3	4.8
31	12	---	15	12	---	5.9	---	36	---	3.5	5.3	---
TOTAL	579.1	2394	697	472	217.3	188.4	180.7	443.2	1347	167.6	179.2	134.2
MEAN	18.68	79.80	22.48	15.23	7.761	6.077	6.023	14.30	44.90	5.406	5.781	4.473
MAX	31	123	95	21	12	6.5	6.4	41	99	9.4	10	5.2
MIN	6.3	11	11	12	6.4	5.6	5.6	3.1	12	3.5	2.9	2.7

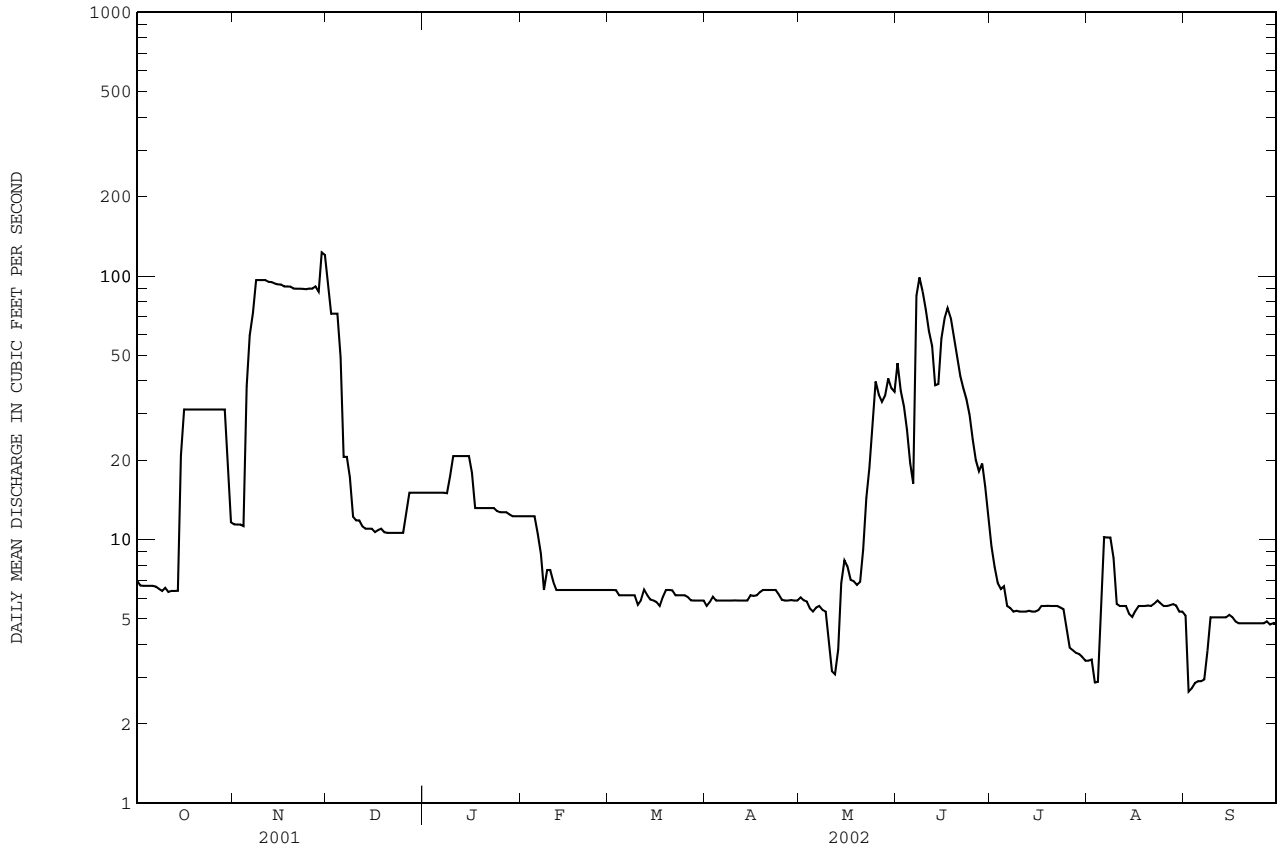
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)
MEAN	28.70	55.75	64.88	63.16	62.45	101.7	94.14	59.87	37.28	25.95	25.51	28.83
MAX	210	210	197	221	168	271	333	233	178	132	208	231
(WY)	1956	1984	1974	1979	1981	1980	1984	1989	1972	1938	1955	1927
MIN	0.20	0.18	1.88	3.00	3.04	6.08	6.02	13.4	4.37	2.76	0.006	0.057
(WY)	1932	1932	1985	1922	1922	2002	2002	1941	1957	1981	1929	1929

01383500 WANAQUE RIVER AT AWOSTING, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1919 - 2002	
ANNUAL TOTAL	16347.2		6999.7			
ANNUAL MEAN	44.79		19.18		53.87	
HIGHEST ANNUAL MEAN					105 1984	
LOWEST ANNUAL MEAN					19.2 2002	
HIGHEST DAILY MEAN	316	Mar 23	123	Nov 29	2350	Apr 6 1984
LOWEST DAILY MEAN	6.1	May 16	2.7	Sep 2,3	0.00	Oct 15 1928
ANNUAL SEVEN-DAY MINIMUM	6.1	Sep 12	3.0	Sep 2	0.00	Jul 27 1929
MAXIMUM PEAK FLOW			126	Nov 28	2800a	Apr 5 1984
MAXIMUM PEAK STAGE			2.78	Nov 28	6.65	Apr 5 1984
INSTANTANEOUS LOW FLOW			1.9	Jul 25		
10 PERCENT EXCEEDS	100		61		125	
50 PERCENT EXCEEDS	27		6.6		32	
90 PERCENT EXCEEDS	6.7		5.0		4.9	

a From rating curve extended above 750 ft³/s based on theoretical weir formula



PASSAIC RIVER BASIN

01384500 RINGWOOD CREEK NEAR WANAQUE, NJ

LOCATION.--Lat 41°07'39", long 74°15'57" (revised), Passaic County, Hydrologic Unit 02030103, on right bank 500 ft upstream from Wanaque Reservoir, 0.7 mi downstream from Ringwood Mill Pond dam, and 6.5 mi north of Wanaque.

DRAINAGE AREA.--19.1 mi².

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

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

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

REMARKS.--Records good except for those above 300 ft³/s, which are fair. Estimated discharges are poor. Records given herein include flow over spillway and through ports in dam when open or through waste gate in dam. No flow through ports this year. Currently there is leakage through the waste gate and is included in flow. Flow slightly regulated by Ringwood Mill Pond, Sterling, and Sterling Forest Lakes, and several smaller lakes above station. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 230 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	0.27	2.0	2.3	4.9	2.7	16	56	30	9.4	3.1	2.7
2	1.0	0.27	1.9	2.4	5.5	2.8	15	58	22	8.7	2.9	2.5
3	1.0	0.27	2.2	2.1	5.1	24	15	61	17	8.1	3.1	2.0
4	0.94	0.27	1.7	2.0	4.8	19	15	49	15	7.5	2.6	1.8
5	0.83	2.4	1.5	2.0	3.8	13	14	43	14	6.6	2.9	1.7
6	0.99	0.38	1.7	2.1	4.1	11	13	38	24	5.3	2.4	1.7
7	1.1	0.35	1.7	2.5	3.9	9.9	13	34	121	4.4	2.0	1.7
8	1.1	0.35	1.8	5.3	3.7	8.9	12	32	53	3.7	2.0	1.5
9	0.96	0.35	4.6	9.0	3.4	8.5	12	29	36	3.9	1.8	1.4
10	0.86	0.84	3.4	4.5	3.6	9.0	12	27	30	5.0	1.9	1.2
11	0.94	1.5	2.5	1.8	5.8	8.1	12	23	25	4.2	1.8	1.2
12	0.76	1.4	2.1	0.37	4.7	7.8	12	29	25	3.7	1.9	1.00
13	0.87	1.7	2.2	0.35	4.4	7.4	12	e70	29	3.5	1.8	0.89
14	0.84	1.5	2.9	0.35	3.9	7.5	12	e160	35	3.5	1.7	0.90
15	1.6	1.3	4.5	0.37	3.9	7.1	30	e100	48	3.5	1.6	e2.5
16	1.6	1.6	2.9	1.9	3.7	7.1	32	79	39	3.3	1.4	e5.0
17	1.4	1.1	3.0	2.4	3.7	6.7	24	66	32	3.1	1.2	2.0
18	1.2	1.5	5.9	2.4	3.7	8.1	20	154	28	2.7	1.3	1.5
19	1.3	1.2	5.4	2.5	3.5	10	19	127	26	3.0	1.2	1.3
20	1.7	1.8	3.9	2.7	3.3	21	19	95	22	4.4	1.6	1.3
21	1.2	1.4	3.0	2.4	4.3	29	18	77	19	3.6	1.5	1.2
22	4.6	1.3	2.7	2.4	3.8	27	17	64	18	3.1	1.2	1.2
23	0.96	1.4	2.4	2.6	3.5	23	17	54	16	6.9	1.7	0.90
24	0.39	1.2	4.5	3.8	3.2	20	15	45	14	11	1.7	0.90
25	1.3	2.8	3.9	4.8	3.1	18	16	38	13	7.2	1.7	0.90
26	1.6	5.5	3.4	4.1	3.1	e15	20	33	12	5.3	1.6	1.0
27	0.87	2.7	2.9	3.6	2.9	e30	17	31	12	4.3	1.4	7.4
28	0.61	2.1	2.5	3.8	2.7	22	39	30	12	4.0	1.2	5.0
29	0.38	2.0	2.7	3.4	---	19	71	29	10	3.7	9.2	2.5
30	6.4	2.0	2.4	3.4	---	17	56	25	9.7	3.1	5.6	1.9
31	3.9	---	2.0	3.7	---	17	---	25	---	3.0	3.2	---
TOTAL	44.60	42.75	90.2	87.34	110.0	436.6	615	1781	806.7	152.7	70.2	58.69
MEAN	1.44	1.43	2.91	2.82	3.93	14.1	20.5	57.5	26.9	4.93	2.26	1.96
MAX	6.4	5.5	5.9	9.0	5.8	30	71	160	121	11	9.2	7.4
MIN	0.38	0.27	1.5	0.35	2.7	2.7	12	23	9.7	2.7	1.2	0.89
CFSM	0.08	0.07	0.15	0.15	0.21	0.74	1.07	3.01	1.41	0.26	0.12	0.10
IN.	0.09	0.08	0.18	0.17	0.21	0.85	1.20	3.47	1.57	0.30	0.14	0.11

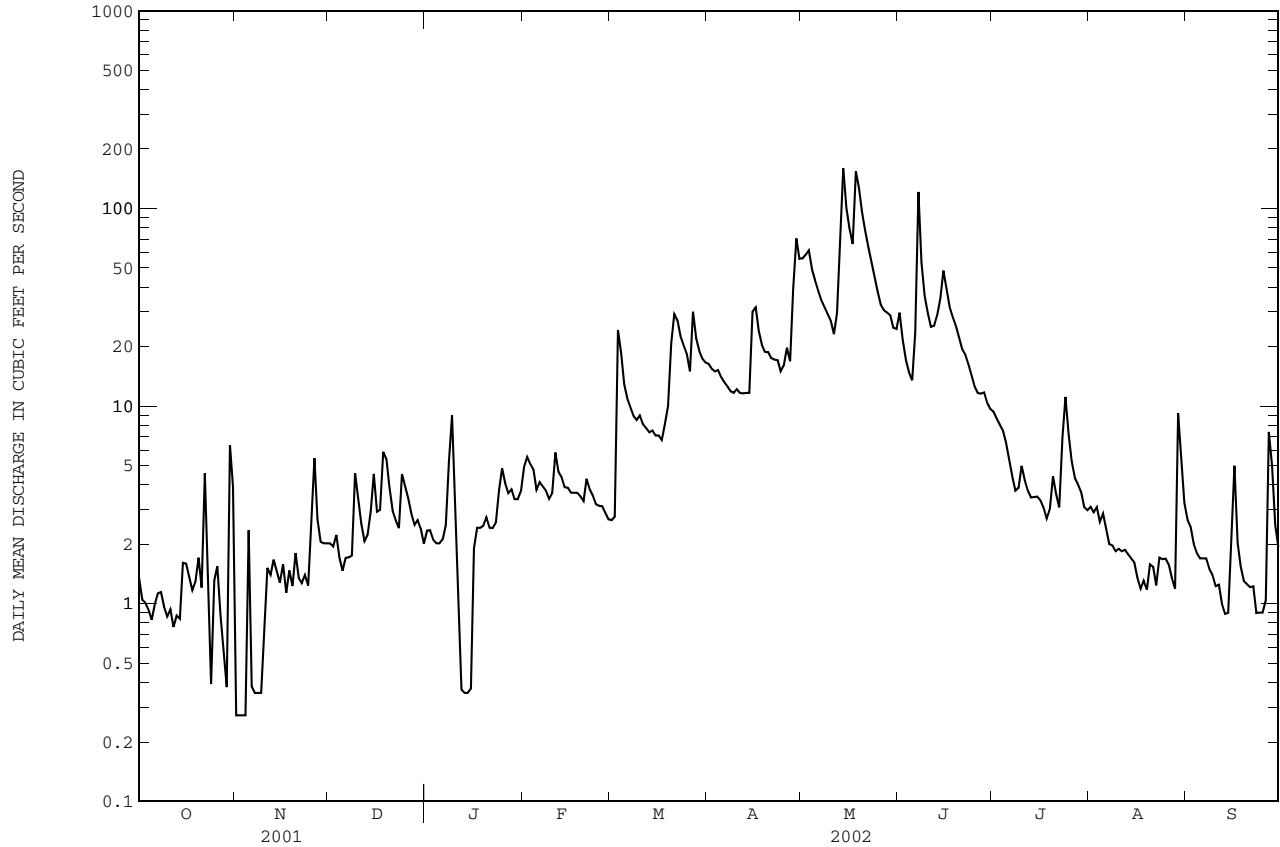
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2002, BY WATER YEAR (WY)

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	15.6	31.3	42.0	41.0	40.8	65.9	58.1	39.3	23.0	14.1	12.3	12.0																																																								
MAX	131	88.8	124	149	109	157	123	131	121	86.1	107	62.4																																																								
(WY)	1956	1973	1997	1979	1970	1936	1940	1989	1972	1945	1955	1999																																																								
MIN	1.07	1.42	2.71	2.82	3.93	14.1	18.3	10.9	3.78	1.31	0.70	0.28																																																								
(WY)	1945	2002	1999	2002	2002	2002	1966	1941	1957	1966	1966	1964																																																								

01384500 RINGWOOD CREEK NEAR WANAQUE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1935 - 2002	
ANNUAL TOTAL	9153.23		4295.78			
ANNUAL MEAN	25.1		11.8		32.9	
HIGHEST ANNUAL MEAN					54.4	1952
LOWEST ANNUAL MEAN					11.8	2002
HIGHEST DAILY MEAN	332	Mar 22	160	May 14	756	Aug 19 1955
LOWEST DAILY MEAN	0.27	Nov 1	0.27	Nov 1	0.00	Sep 11 1963
ANNUAL SEVEN-DAY MINIMUM	0.60	Nov 1	0.60	Nov 1	0.16	Sep 5 1944
MAXIMUM PEAK FLOW			227	May 18	2300	Sep 16 1999
MAXIMUM PEAK STAGE			11.52	May 18	13.92	Sep 16 1999
INSTANTANEOUS LOW FLOW			0.27	Many days	0.00	Many days
ANNUAL RUNOFF (CFSM)	1.31		0.62		1.72	
ANNUAL RUNOFF (INCHES)	17.83		8.37		23.39	
10 PERCENT EXCEEDS	68		30		75	
50 PERCENT EXCEEDS	10		3.6		20	
90 PERCENT EXCEEDS	0.96		1.1		2.1	

e Estimated



PASSAIC RIVER BASIN

01386000 WEST BROOK NEAR WANAQUE, NJ

LOCATION.--Lat 41°04'16", long 74°18'45", Passaic County, Hydrologic Unit 02030103, on right bank just upstream from Wanaque Reservoir, 0.3 mi downstream from Burnt Meadow Brook, and 2.5 mi northwest of Wanaque.

DRAINAGE AREA.--11.8 mi².

PERIOD OF RECORD.--October 1934 to September 1978, May 2002 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 NGVD of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good, except for estimated discharges, which are fair. Records herein include flow over spillway and through ports in dam or through waste gate in dam. No flow through ports or waste gates this year. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREME OUTSIDE PERIOD OF RECORD/--Flood of Sept. 19, 1999, reached a stage of 7.1 ft, from floodmarks, discharge, 2,500 ft³/s, from rating curve extended above 630 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	19	4.0	1.4	2.1
2	---	---	---	---	---	---	---	---	12	4.3	1.8	e2.1
3	---	---	---	---	---	---	---	---	8.8	3.3	2.9	1.4
4	---	---	---	---	---	---	---	---	8.5	2.9	1.8	1.6
5	---	---	---	---	---	---	---	---	e7.4	2.6	1.4	1.8
6	---	---	---	---	---	---	---	---	e13	2.5	1.4	1.6
7	---	---	---	---	---	---	---	---	e58	2.3	1.4	1.3
8	---	---	---	---	---	---	---	---	e27	2.2	1.2	1.1
9	---	---	---	---	---	---	---	---	e19	e2.0	1.1	1.1
10	---	---	---	---	---	---	---	---	e16	2.1	1.2	1.1
11	---	---	---	---	---	---	---	14	e14	2.0	1.7	1.3
12	---	---	---	---	---	---	---	23	e14	1.7	1.4	1.4
13	---	---	---	---	---	---	---	69	e16	1.7	1.1	1.4
14	---	---	---	---	---	---	---	156	e19	1.7	1.1	1.4
15	---	---	---	---	---	---	---	64	e26	1.7	1.1	3.1
16	---	---	---	---	---	---	---	43	e22	1.9	1.1	5.0
17	---	---	---	---	---	---	---	33	e18	1.6	1.2	1.9
18	---	---	---	---	---	---	---	127	16	1.4	1.1	1.4
19	---	---	---	---	---	---	---	85	14	1.5	1.1	1.4
20	---	---	---	---	---	---	---	52	14	2.0	1.4	1.4
21	---	---	---	---	---	---	---	41	10	1.6	1.5	1.5
22	---	---	---	---	---	---	---	32	8.5	1.5	1.4	1.4
23	---	---	---	---	---	---	---	26	7.3	e3.0	2.4	1.4
24	---	---	---	---	---	---	---	23	6.2	4.0	2.2	1.5
25	---	---	---	---	---	---	---	18	5.6	2.0	2.1	1.4
26	---	---	---	---	---	---	---	17	5.5	1.7	1.7	1.3
27	---	---	---	---	---	---	---	16	5.7	1.7	1.9	11
28	---	---	---	---	---	---	---	15	7.8	1.7	1.9	6.7
29	---	---	---	---	---	---	---	14	5.6	1.6	11	3.5
30	---	---	---	---	---	---	---	12	4.6	1.7	4.3	2.6
31	---	---	---	---	---	---	---	13	---	1.6	2.6	---
TOTAL	---	---	---	---	---	---	---	---	428.5	67.5	60.9	67.2
MEAN	---	---	---	---	---	---	---	---	14.3	2.18	1.96	2.24
MAX	---	---	---	---	---	---	---	---	58	4.3	11	11
MIN	---	---	---	---	---	---	---	---	4.6	1.4	1.1	1.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2002, BY WATER YEAR (WY)

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	13.4	26.8	31.5	28.3	30.4	48.7	38.7	26.0	15.6	9.76	10.1	10.4																																																								
MAX	89.6	68.9	70.7	63.1	70.4	119	76.7	62.1	76.8	48.9	56.2	49.0																																																								
(WY)	1956	1978	1958	1978	1970	1936	1952	1978	1972	1945	1955	1960																																																								
MIN	1.73	2.54	4.25	5.90	8.65	19.8	14.0	5.59	2.22	1.48	0.60	0.78																																																								
(WY)	1945	1965	1940	1977	1940	1938	1946	1941	1957	1957	1966	1953																																																								

01386000 WEST BROOK NEAR WANAQUE, NJ--Continued

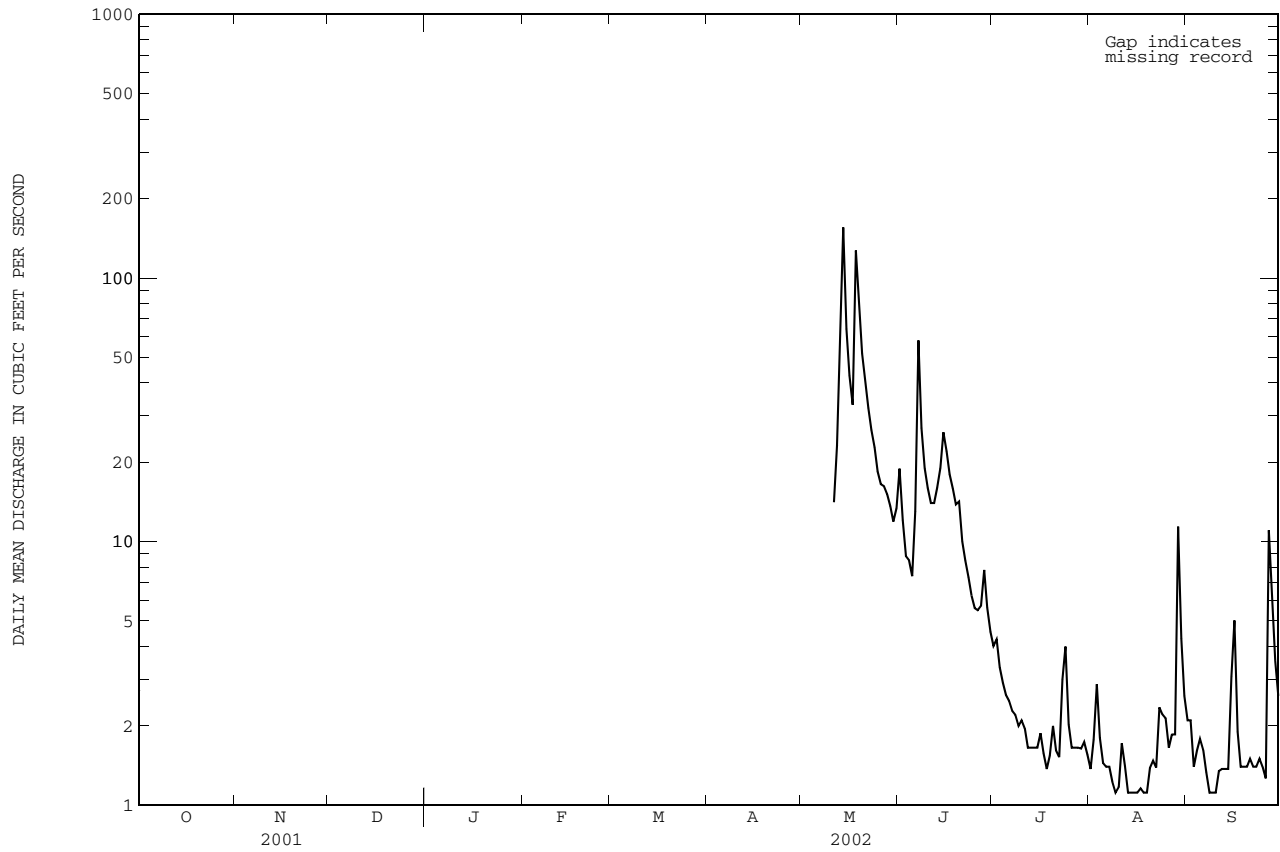
SUMMARY STATISTICS

FOR MAY 10 - SEPTEMBER 2002

WATER YEARS 1935 - 2002

ANNUAL MEAN			24.1	
HIGHEST ANNUAL MEAN			40.0	1952
LOWEST ANNUAL MEAN	156	May 14 2002	10.3	1965
HIGHEST DAILY MEAN	1.10	Many days	662	Mar 12 1936
LOWEST DAILY MEAN			0.20	Aug 8 1966
ANNUAL SEVEN-DAY MINIMUM	232	May 14 2002	0.20	Aug 8 1966
MAXIMUM PEAK FLOW	1.70	May 14 2002	1900a	Mar 30 1951
MAXIMUM PEAK STAGE	1.10	Many days	6.60b	Mar 30 1951
INSTANTANEOUS LOW FLOW			0.00c	Jan 1 1600
10 PERCENT EXCEEDS			53	
50 PERCENT EXCEEDS			14	
90 PERCENT EXCEEDS			2.1	

- a From rating curve extended above 630 ft³/s.
- b From floodmark.
- c No flow part of day in most years just after waste gate was closed and water was below ports.
- e Estimated



PASSAIC RIVER BASIN

01387000 WANAQUE RIVER AT WANAQUE, NJ

LOCATION.--Lat 41°02'39", long 74°17'36", Passaic County, Hydrologic Unit 02030103, on left bank 750 ft downstream from Raymond Dam in Wanaque, and 50 ft upstream from bridge on County Route 511.

DRAINAGE AREA.--90.4 mi², considered as 94 mi² Oct. 1, 1928 to Sept. 30, 1934.

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

REMARKS.--Records good. Flow regulated by Greenwood Lake 11 mi above station, since October 1987 by Monkville Reservoir just upstream from Wanaque Reservoir, and since 1928 by Wanaque Reservoir (see Passaic River basin, reservoirs in). North Jersey District Water Supply Commission diverts water for municipal supply from Wanaque Reservoir. Water is diverted to Wanaque Reservoir from Posts Brook at Wanaque and from Ramapo River at Pompton Lakes (see Passaic River basin, diversions). Water diverted into basin above gage from Upper Greenwood Lake (Hudson River basin) by North Jersey District Water Supply Commission since 1968). Several measurements of water temperature were made during the year. National Weather Service raingage and USGS satellite gage-height telemetry at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

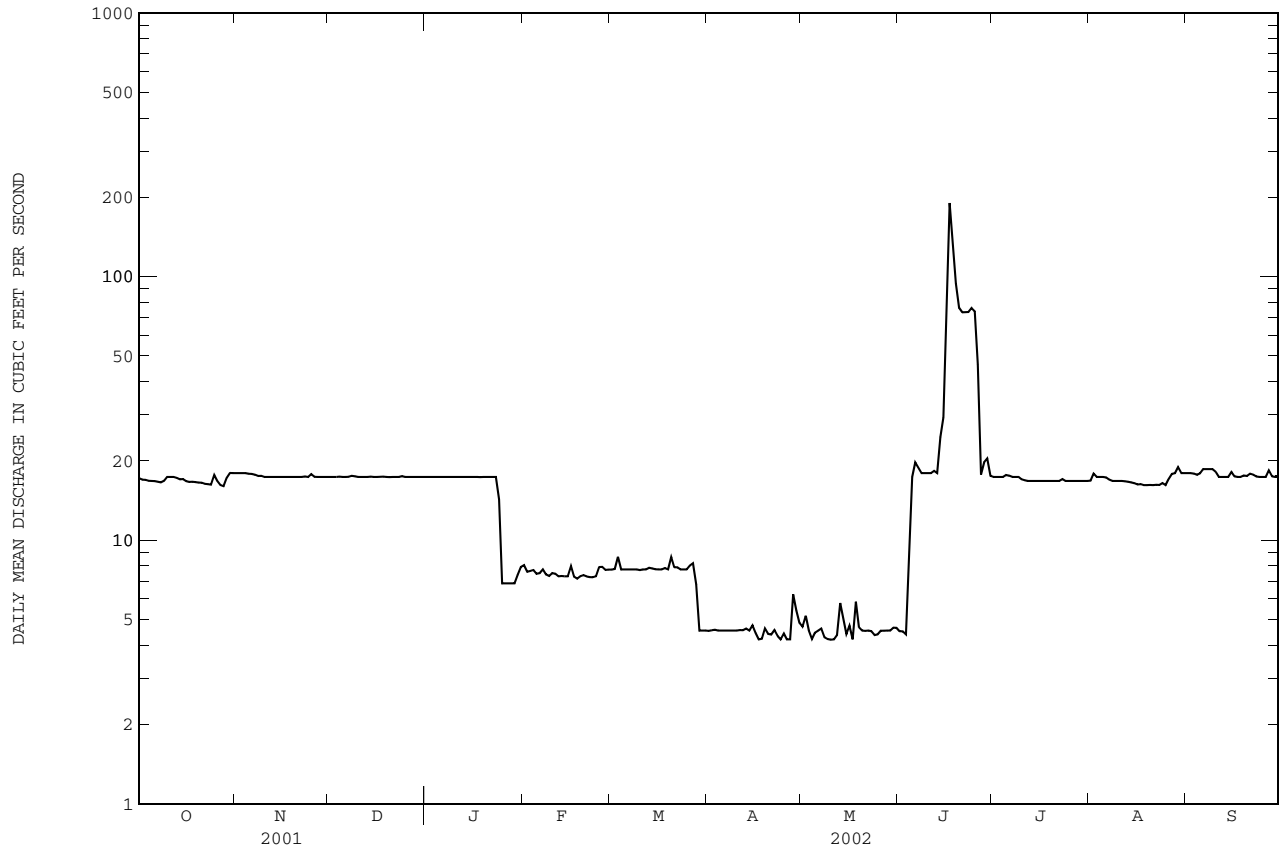
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	17	17	8.0	7.7	4.5	4.7	4.5	17	17	18
2	17	18	17	17	7.6	7.8	4.6	5.2	4.5	17	18	18
3	17	18	17	17	7.6	8.7	4.6	4.5	4.4	17	17	18
4	17	18	17	17	7.7	7.7	4.5	4.2	9.8	17	17	18
5	17	18	17	17	7.5	7.7	4.5	4.5	17	18	17	18
6	17	18	17	17	7.5	7.7	4.5	4.5	20	18	17	19
7	17	18	17	17	7.7	7.8	4.5	4.6	19	17	17	19
8	17	18	18	17	7.4	7.7	4.5	4.3	18	17	17	19
9	17	18	17	17	7.3	7.7	4.5	4.2	18	17	17	19
10	17	17	17	17	7.5	7.7	4.5	4.2	18	17	17	18
11	17	17	17	17	7.5	7.7	4.6	4.2	18	17	17	17
12	17	17	17	17	7.3	7.7	4.6	4.4	18	17	17	17
13	17	17	17	17	7.3	7.9	4.6	5.8	18	17	17	17
14	17	17	17	17	7.3	7.8	4.5	5.0	25	17	17	17
15	17	17	17	17	7.3	7.8	4.8	4.4	29	17	16	18
16	17	17	17	17	8.0	7.7	4.4	4.7	77	17	16	17
17	17	17	17	17	7.3	7.7	4.2	4.2	190	17	16	17
18	17	17	17	17	7.1	7.8	4.2	5.8	130	17	16	17
19	17	17	17	17	7.3	7.7	4.6	4.7	94	17	16	18
20	17	17	17	17	7.4	8.6	4.4	4.5	76	17	16	18
21	17	17	17	17	7.3	7.9	4.4	4.5	73	17	16	18
22	16	17	17	17	7.2	7.9	4.6	4.5	73	17	16	18
23	16	17	17	17	7.2	7.7	4.3	4.5	73	17	16	17
24	16	17	18	14	7.3	7.7	4.2	4.4	76	17	16	17
25	18	18	17	6.9	7.9	7.7	4.4	4.4	74	17	16	17
26	17	17	17	6.9	7.9	8.0	4.2	4.5	47	17	17	17
27	16	17	17	6.9	7.7	8.2	4.2	4.5	18	17	18	18
28	16	17	17	6.9	7.7	6.8	6.2	4.5	20	17	18	17
29	17	17	17	6.9	---	4.5	5.4	4.5	20	17	19	17
30	18	17	17	7.4	---	4.5	4.9	4.7	18	17	18	17
31	18	---	17	7.9	---	4.5	---	4.7	---	17	18	---
TOTAL	525	520	529	454.8	209.8	232.0	136.9	142.3	1300.2	529	523	530
MEAN	16.9	17.3	17.1	14.7	7.49	7.48	4.56	4.59	43.3	17.1	16.9	17.7
MAX	18	18	18	17	8.0	8.7	6.2	5.8	190	18	19	19
MIN	16	17	17	6.9	7.1	4.5	4.2	4.2	4.4	17	16	17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2002, BY WATER YEAR (WY)

	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	35.2	45.6	61.9	66.7	73.8	154	177	97.4	58.1	38.6	27.8	33.9																																																																															
MAX	258	435	434	453	471	758	806	545	416	247	258	477																																																																															
(WY)	1956	1928	1921	1915	1915	1920	1984	1989	1972	1938	1927	1927																																																																															
MIN	1.82	1.70	1.48	0.76	2.05	1.91	1.54	1.72	2.17	1.73	1.53	1.51																																																																															
(WY)	1966	1966	1950	1950	1966	1966	1966	1966	1966	1965	1965	1965																																																																															

01387000 WANAQUE RIVER AT WANAQUE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1912 - 2002	
ANNUAL TOTAL	13051		5632.0			
ANNUAL MEAN	35.8		15.4		71.0	
HIGHEST ANNUAL MEAN					231	1920
LOWEST ANNUAL MEAN					1.93	1966
HIGHEST DAILY MEAN	701	Mar 31	190	Jun 17	5470	Apr 6 1984
LOWEST DAILY MEAN	16	Jul 31	4.2	many days	0.06	Oct 11 1984
ANNUAL SEVEN-DAY MINIMUM	16	Aug 21	4.3	Apr 21	0.50	Dec 14 1949
MAXIMUM PEAK FLOW			237	Jun 17	10500	Apr 5 1984
MAXIMUM PEAK STAGE			2.87	Jun 17	10.82	Apr 5 1984
INSTANTANEOUS LOW FLOW			3.6	May 8	---	
10 PERCENT EXCEEDS	38		18		188	
50 PERCENT EXCEEDS	17		17		18	
90 PERCENT EXCEEDS	17		4.5		15	



PASSAIC RIVER BASIN

01387420 RAMAPO RIVER AT SUFFERN, NY

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

DRAINAGE AREA.--93.0 mi².

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

REVISED RECORDS.--WDR NY-00-1: 1999 (M).

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

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow affected by diversion from United Water New York well field upstream from station and by occasional regulation by Lake Sebago. Satellite gage-height telemetry at station.

COOPERATION.--Figures of pumpage from well field provided by United Water New York.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft³/s, Apr. 5, 1984, gage height, 15.38 ft, from rating curve extended above 5,400 ft³/s; minimum discharge, 1.7 ft³/s, Sept. 7, 1995, gage height, 1.04 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 6,600 ft³/s, Mar. 12, 1936, by computation of flow over dam at site 0.65 mi upstream, drainage area, 90.6 mi².

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 14	1245	*956	*5.24				

Minimum discharge, 5.4 ft³/s, Oct. 20, 26, 31, gage height, 1.28 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.3	9.1	e13	39	16	85	339	99	22	13	13
2	12	9.5	9.8	e13	46	15	79	321	75	20	13	13
3	12	10	13	12	38	169	75	338	61	18	13	13
4	12	8.1	8.5	9.8	32	173	82	261	51	16	12	14
5	9.5	9.9	9.4	10	29	111	72	206	43	14	13	13
6	8.0	7.9	9.6	11	26	82	65	171	76	13	13	13
7	8.3	9.9	9.8	12	23	71	59	148	440	14	12	13
8	7.9	8.9	11	12	22	62	54	129	334	13	13	13
9	8.8	8.4	15	11	21	57	53	114	192	14	13	13
10	8.2	8.1	15	12	20	67	62	105	130	16	13	13
11	8.2	8.6	13	13	35	59	59	90	101	13	13	13
12	8.5	8.6	13	16	36	47	50	108	92	13	13	13
13	12	9.6	13	17	29	44	53	338	122	12	13	12
14	11	8.8	13	17	25	43	57	886	142	13	13	13
15	11	9.0	15	15	22	40	187	614	276	12	13	19
16	11	9.0	15	15	21	39	196	385	241	13	13	17
17	11	9.1	15	15	21	38	135	300	211	13	13	14
18	8.5	10	21	15	23	45	109	606	146	13	13	13
19	7.2	10	24	14	21	58	101	692	111	24	13	12
20	8.5	13	22	15	19	103	112	443	91	25	13	13
21	8.7	8.0	18	16	24	202	99	339	73	14	14	13
22	8.2	8.9	16	15	24	179	91	281	63	13	13	12
23	8.2	9.3	15	15	23	132	88	226	54	24	12	13
24	9.0	8.8	22	17	20	108	78	182	48	46	13	13
25	10	12	23	26	19	95	86	150	40	25	12	7.8
26	7.0	20	19	29	18	88	110	128	34	16	13	7.4
27	7.7	17	17	27	18	146	94	117	34	15	13	24
28	8.1	13	15	28	18	136	195	119	38	14	13	34
29	11	13	15	26	---	110	433	125	31	13	28	17
30	11	13	15	29	---	98	361	105	25	13	31	13
31	7.2	---	e14	30	---	87	---	95	---	13	16	---
TOTAL	291.7	308.7	463.2	525.8	712	2720	3380	8461	3474	517	436	424.2
MEAN	9.41	10.3	14.9	17.0	25.4	87.7	113	273	116	16.7	14.1	14.1
MAX	12	20	24	30	46	202	433	886	440	46	31	34
MIN	7.0	7.9	8.5	9.8	18	15	50	90	25	12	12	7.4
†	1.2	1.2	3.1	3.6	8.2	10.0	9.4	9.9	9.7	6.0	4.3	3.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2002, BY WATER YEAR (WY)

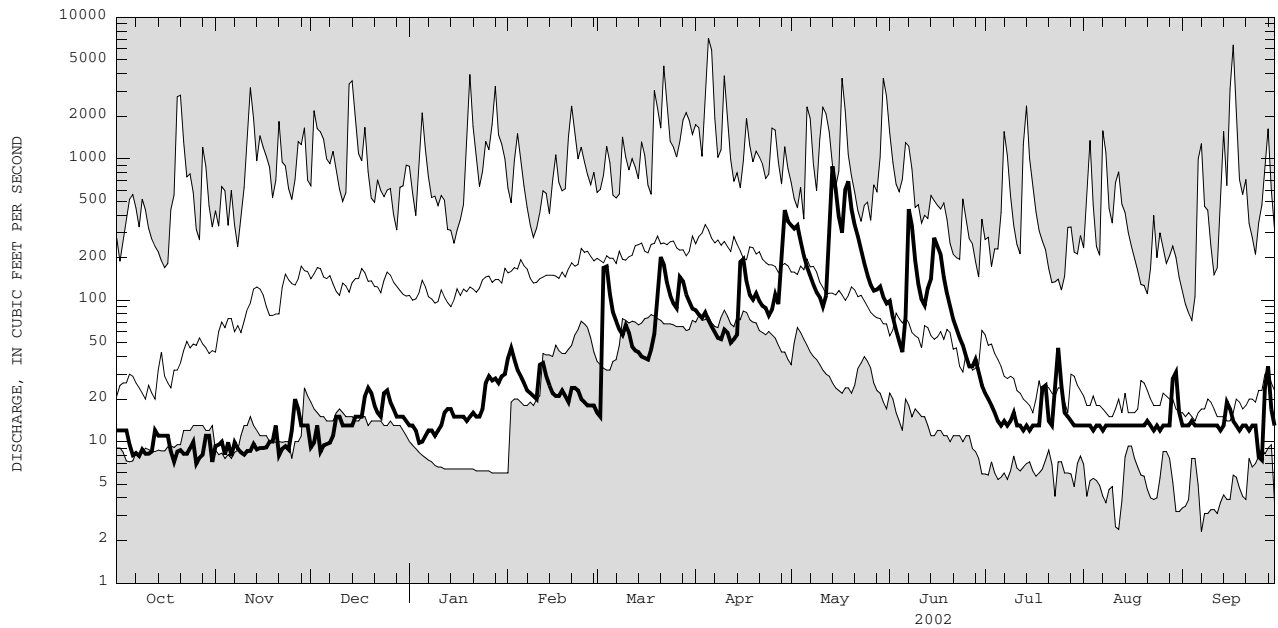
MEAN	94.3	166	204	190	210	321	328	212	111	58.5	47.5	70.9
MAX	389	496	693	654	475	816	862	777	269	308	305	508
(WY)	1990	1996	1984	1996	1981	1983	1984	1989	1982	1996	1990	1999
MIN	9.41	10.3	14.8	6.84	25.4	87.7	77.1	58.2	18.5	8.03	7.40	8.17
(WY)	2002	2002	1999	1981	2002	2002	1985	2001	1999	1993	1993	1995

01387420 RAMAPO RIVER AT SUFFERN, NY--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1979 - 2002	
ANNUAL TOTAL	43300.0		21713.6		167	
ANNUAL MEAN	119		59.5		295	
HIGHEST ANNUAL MEAN					59.5	1984
LOWEST ANNUAL MEAN					7110	2002
HIGHEST DAILY MEAN	1730	Mar 22	886	May 14		Apr 5 1984
LOWEST DAILY MEAN	7.0	Oct 26	7.0	Oct 26	2.3	Sep 7 1995
ANNUAL SEVEN-DAY MINIMUM	8.3	Oct 6	8.3	Oct 6	3.1	Sep 7 1995
10 PERCENT EXCEEDS	328		146		367	
50 PERCENT EXCEEDS	34		17		87	
90 PERCENT EXCEEDS	9.2		9.2		12	

e Estimated

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



CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
 SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

PASSAIC RIVER BASIN

01387500 RAMAPO RIVER NEAR MAHWAH, NJ

LOCATION.--Lat 41°05'53", long 74°09'47", Bergen County, Hydrologic Unit 02030103, on left bank 350 ft downstream from State Highway 17, 0.6 mi downstream from Mahwah River, 1.0 mi west of Mahwah, and 1.2 mi downstream of New York-New Jersey state-line.

DRAINAGE AREA.--120 mi².

PERIOD OF RECORD.--October 1902 to December 1906, September 1922 to current year. October 1902 to February 1905 monthly discharge only, published in WSP 1302. Figures of daily discharge Feb. 10, 1903, to Dec. 31, 1904, published in WSP 97, 125, are unreliable and should not be used. Gage-height records for 1903-14 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 781: 1904(M). WSP 1031: 1938, 1940. WSP 1552: 1923(M), 1924, 1925-26(M), 1927-28, 1933, 1937. WRD- NJ 1971: 1968(M). WDR NJ-82-1: Drainage area. WDR-NJ-87-1: 1986.

GAGE.--Water-stage recorder. Datum of gage is 253.10 ft above NGVD of 1929. Prior to Dec. 31, 1906, nonrecording gage on former bridge at site 250 ft downstream at different datum. Sept. 1, 1922 to Dec. 23, 1936, water-stage recorder just below former bridge at present datum.

REMARKS.--Records good. Flow affected by diversion from United Water-New York well field upstream from station (see station 01387420). Occasional regulation from lakes and ponds upstream from the station. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	15	17	23	71	27	116	349	156	41	19	19
2	17	15	16	22	76	24	110	339	117	38	28	20
3	17	19	21	18	61	248	106	352	94	35	29	18
4	17	13	14	14	53	215	114	279	81	31	19	19
5	15	17	15	14	46	152	99	235	73	28	25	18
6	12	11	16	16	41	118	89	205	168	25	17	16
7	13	16	18	24	38	101	81	185	571	26	16	16
8	12	15	19	20	36	89	75	167	386	23	17	15
9	15	14	47	20	34	81	73	152	236	31	17	16
10	15	12	28	23	35	100	82	143	176	33	17	15
11	15	13	23	29	69	85	79	125	145	24	16	15
12	16	13	20	32	61	71	70	154	138	22	16	17
13	21	14	20	32	50	65	75	402	170	21	16	17
14	23	12	28	31	41	64	81	1040	204	20	16	18
15	39	13	30	29	37	60	193	723	317	20	16	71
16	21	13	26	28	35	58	217	431	285	20	16	65
17	19	14	28	28	35	57	167	332	250	19	17	28
18	16	17	53	27	36	71	142	692	193	19	17	19
19	13	17	43	25	33	85	131	803	157	78	17	17
20	14	26	35	27	31	159	144	501	134	94	19	17
21	16	14	28	28	48	238	133	375	111	33	17	17
22	15	15	24	27	41	207	126	309	96	25	18	17
23	16	16	22	28	37	169	120	262	84	39	23	17
24	18	16	53	37	33	145	106	224	76	81	18	17
25	21	36	39	48	31	130	119	195	67	49	18	12
26	14	45	33	51	30	124	147	172	66	32	17	14
27	13	30	28	48	29	188	127	162	70	27	16	94
28	15	22	25	48	28	173	244	172	81	26	16	74
29	18	22	24	46	---	148	475	169	58	23	95	31
30	20	22	23	47	---	134	379	149	46	20	54	19
31	13	---	24	49	---	120	---	147	---	19	27	---
TOTAL	527	537	840	939	1196	3706	4220	9945	4806	1022	689	768
MEAN	17.0	17.9	27.1	30.3	42.7	120	141	321	160	33.0	22.2	25.6
MAX	39	45	53	51	76	248	475	1040	571	94	95	94
MIN	12	11	14	14	28	24	70	125	46	19	16	12
CFSM	0.14	0.15	0.23	0.25	0.36	1.00	1.17	2.67	1.33	0.27	0.19	0.21
IN.	0.16	0.17	0.26	0.29	0.37	1.15	1.31	3.08	1.49	0.32	0.21	0.24

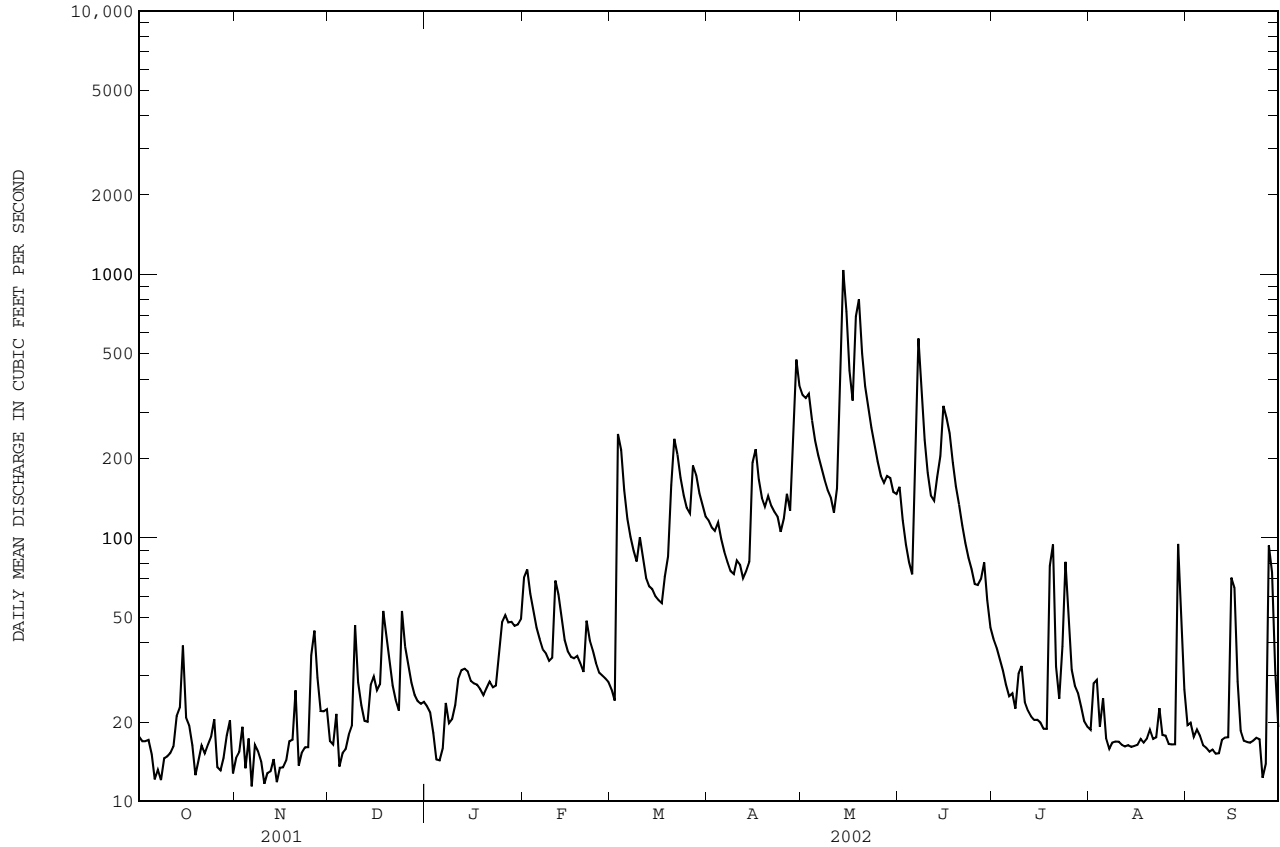
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2002, BY WATER YEAR (WY)

MEAN	140	220	270	264	278	440	397	257	153	97.8	97.5	110
MAX	954	736	873	877	701	1151	1055	994	735	602	755	641
(WY)	1904	1978	1984	1979	1970	1936	1984	1989	1972	1945	1955	1999
MIN	13.8	18.0	19.8	16.5	42.8	120	88.4	79.5	29.6	15.8	11.3	11.1
(WY)	1942	2002	1999	1981	2002	2002	1985	1905	1999	1993	1993	1964

01387500 RAMAPO RIVER NEAR MAHWAH, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1903 - 2002	
ANNUAL TOTAL	54552		29195			
ANNUAL MEAN	149.5		79.99		227	
HIGHEST ANNUAL MEAN					461 1903	
LOWEST ANNUAL MEAN					80.1 2002	
HIGHEST DAILY MEAN	2040	Mar 22	1040	May 14	8920	Oct 9 1903
LOWEST DAILY MEAN	10	Sep 13	11	Nov 6	1.2	Aug 12 1993
ANNUAL SEVEN-DAY MINIMUM	13	Nov 10	13	Nov 10	3.7	Sep 7 1995
MAXIMUM PEAK FLOW			1100	May 14	15500a	Apr 5 1984
MAXIMUM PEAK STAGE			5.86	May 14	13.35	Apr 5 1984
INSTANTANEOUS LOW FLOW			9.0	Nov 6	.20	Aug 11 1993
ANNUAL RUNOFF (CFSM)	1.25		.67		1.89	
ANNUAL RUNOFF (INCHES)	16.91		9.05		25.67	
10 PERCENT EXCEEDS	355		190		502	
50 PERCENT EXCEEDS	67		31		136	
90 PERCENT EXCEEDS	15		15		26	

a From rating curve extended above 6,500 ft³/s.



PASSAIC RIVER BASIN

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ

LOCATION.--Lat 40°59'33", long 74°16'44", Passaic County, Hydrologic Unit 02030103, on right end of dam at pumping station in Pompton Lakes, 450 ft upstream from bridge on Paterson-Hamburg Turnpike, and 2.0 mi upstream from mouth. Water samples collected upstream from dam at water-supply intake, on right bank. Water-quality monitor is 450 ft downstream from dam.

DRAINAGE AREA.--160 mi².

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

REVISED RECORDS.--WSP 1552: 1922(M), 1924-25, 1929-31(M), 1934-35(M). WRD-NJ 1970: 1968-69. WRD-NJ 1988: 1984(M).

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

REMARKS.--Records good. Diversion by North Jersey District Water Supply Commission to Wanaque Reservoir since December 1953 (see Passaic River basin, diversions) and to Oradell Reservoir by United Water New Jersey since February 1985 (see Hackensack River basin, diversions) for municipal supply. Slight regulation by Pompton Lake, capacity, 300,000,000 gal. Several measurements of water temperature, other than those published, were made during the year. National Weather Service telephone telemetry at station. Satellite telemetry also at station. Satellite gage-height telemetry at auxiliary station 450 ft below station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	15	25	25	16	7.3	20	328	49	69	22	41
2	18	15	25	25	16	6.7	11	342	14	61	35	38
3	17	16	20	25	9.5	148	18	394	21	56	73	38
4	17	17	22	24	18	130	17	251	36	51	37	35
5	16	17	32	22	11	19	4.9	164	81	47	29	32
6	17	14	28	23	10	8.2	19	109	115	41	28	28
7	15	12	22	26	11	12	15	73	593	36	23	29
8	13	11	17	26	11	17	17	44	444	34	22	34
9	13	13	38	25	14	9.0	12	20	202	40	21	35
10	15	16	42	25	14	22	15	16	91	45	21	35
11	16	16	35	28	27	11	14	17	62	36	22	34
12	15	14	27	32	23	9.9	10	22	74	31	21	30
13	15	15	26	33	16	10	9.1	224	106	31	19	33
14	15	16	30	34	11	10	18	1070	134	29	18	37
15	30	12	36	33	12	7.2	37	881	321	29	18	74
16	31	12	33	30	10	14	68	439	323	27	18	123
17	22	27	29	30	11	12	17	279	326	24	16	69
18	19	19	45	29	9.0	14	7.0	590	310	24	17	56
19	18	18	58	30	12	13	44	912	241	34	17	50
20	18	19	50	30	13	56	35	548	200	134	19	47
21	17	20	46	29	15	178	14	350	165	67	18	46
22	18	20	38	23	11	101	14	248	141	40	18	44
23	18	18	33	27	12	38	22	178	120	46	23	40
24	18	19	46	37	8.8	9.8	8.2	126	105	84	30	32
25	17	28	58	15	9.6	14	29	79	93	74	30	30
26	14	58	45	15	12	12	16	47	87	48	22	30
27	14	48	38	16	10	41	9.2	29	107	38	21	76
28	13	34	33	10	8.8	35	153	32	142	37	19	78
29	12	30	30	12	---	7.7	618	30	95	32	125	73
30	13	26	26	13	---	5.6	437	21	75	29	108	66
31	15	---	25	15	---	11	---	20	---	24	58	---
TOTAL	527	615	1058	767	361.7	989.4	1728.4	7883	4873	1398	968	1413
MEAN	17.0	20.5	34.1	24.7	12.9	31.9	57.6	254	162	45.1	31.2	47.1
MAX	31	58	58	37	27	178	618	1070	593	134	125	123
MIN	12	11	17	10	8.8	5.6	4.9	16	14	24	16	28

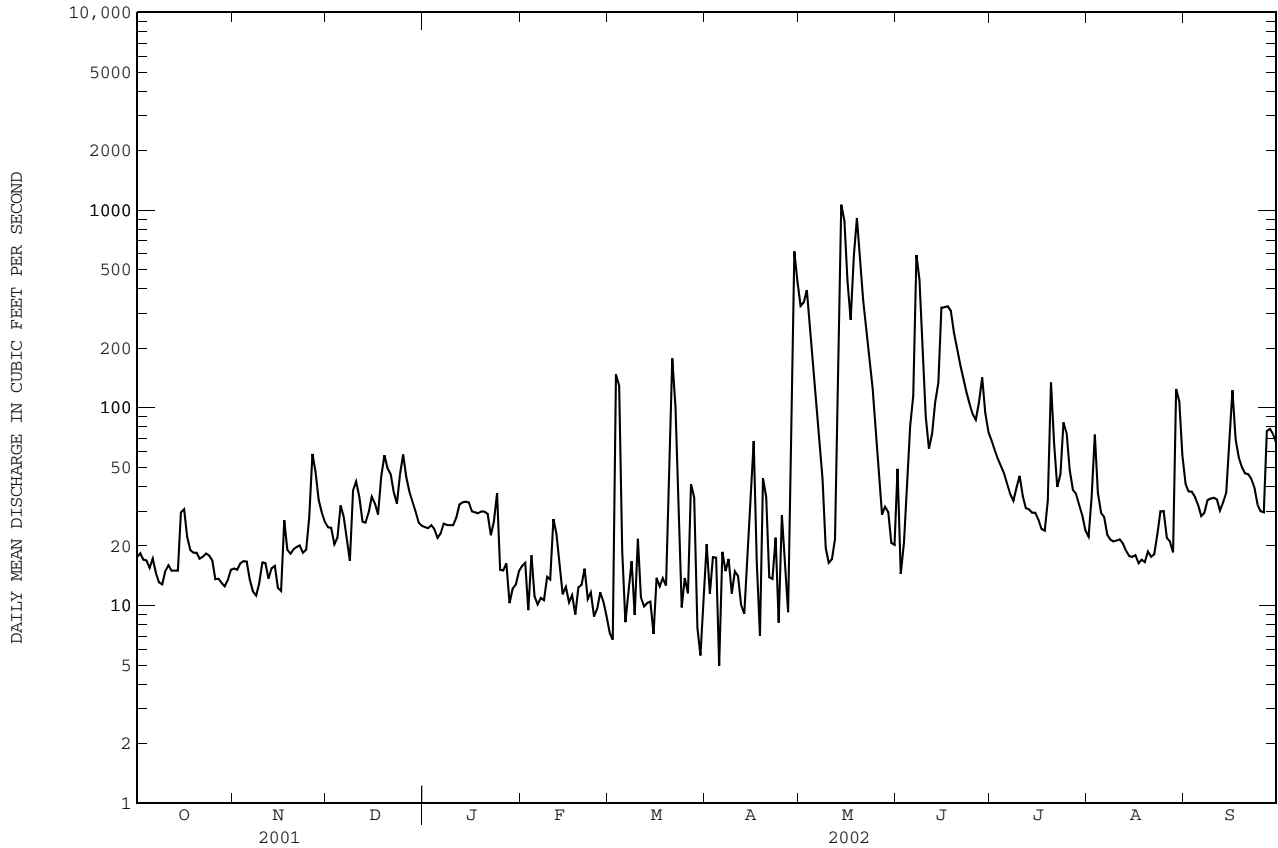
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	148	262	318	319	348	547	508	343	207	135	130	145	1154	954	1181	1035	838	1670	1465	1195	973	895	889	811	1956	1933	1997	1979	1970	1936	1983	1989	1972	1945	1955	1999	13.6	20.5	12.8	24.7	12.9	31.9	24.9	72.0	39.9	5.89	6.17	10.8	1981	2002	1981	2002	2002	2002	2002	1985	1965	1965	1985	1985	1985	1964																			

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	76488		22581.5			
ANNUAL MEAN	210		61.9		284	
HIGHEST ANNUAL MEAN					512 1984	
LOWEST ANNUAL MEAN					61.9 2002	
HIGHEST DAILY MEAN	2370	Mar 23	1070	May 14	10700	Sep 17 1999
LOWEST DAILY MEAN	11	Nov 8	4.9	Apr 5	0.00	Oct 1 1922
ANNUAL SEVEN-DAY MINIMUM	14	Oct 26	9.0	Feb 24	0.00	Dec 1 1980
MAXIMUM PEAK FLOW			1140	May 14	15400	Apr 5 1984
MAXIMUM PEAK STAGE			11.04	May 14	15.21a	Apr 5 1984
INSTANTANEOUS LOW FLOW			0.00	Many days	0.00	Many days
10 PERCENT EXCEEDS	535		128		639	
50 PERCENT EXCEEDS	92		26		160	
90 PERCENT EXCEEDS	17		12		34	

a From gage well, outside high-water marks at 15.33 ft.



PASSAIC RIVER BASIN

01388500 POMPTON RIVER AT POMPTON PLAINS, NJ

LOCATION.--Lat 40°58'09", long 74°16'56", Passaic County, Hydrologic Unit 02030103, on left bank just upstream of the Passaic Valley Water Commission pumping station, 800 ft below confluence of Pequannock and Ramapo Rivers, 140 ft upstream from bridge on Jackson Avenue (Pompton Plains Cross Road), and 0.7 mi east of Pompton Plains.

DRAINAGE AREA.--355 mi².

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

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

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

REMARKS.--Records good except for discharges over 2,000 ft³/s, which are fair. Water diverted from reservoirs on Pequannock and Wanaque Rivers, from Pompton River to Point View Reservoir, and from Ramapo River to Wanaque Reservoir and Oradell Reservoir (from February 1985) for municipal supply (see Hackensack River basin, diversions into and from and Passaic River basin, diversions). Published discharges for water years 1965-69 include flow over the weir and pumpage to Point View Reservoir from Jackson Avenue Pumping Station. Since water year 1969, the published discharges have included only flow over the weir. Flow regulated by Canistear, Oak Ridge, Clinton, Charlotteburg and Echo Lake Reservoirs on Pequannock River and by Greenwood Lake, Monksville, and Wanaque Reservoirs on Wanaque River (see Passaic River basin, reservoirs in). Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	48	59	61	53	34	56	333	112	114	56	75
2	59	47	58	61	57	32	46	448	71	109	95	72
3	57	50	54	63	42	262	58	539	70	104	151	68
4	57	49	55	61	47	171	62	263	75	100	78	64
5	57	50	64	57	41	72	49	193	117	95	64	60
6	60	46	64	58	38	47	57	155	228	92	63	58
7	53	44	57	68	38	48	53	131	1370	91	54	59
8	49	41	50	64	38	54	55	108	711	90	52	64
9	48	44	98	64	42	44	51	86	241	103	51	63
10	51	47	86	63	42	62	48	80	156	99	51	63
11	53	50	77	69	76	46	40	76	128	87	51	61
12	50	45	63	76	58	41	39	86	132	82	49	54
13	49	45	63	76	49	41	55	419	156	80	49	56
14	49	46	70	74	39	43	65	2170	192	79	47	61
15	80	45	80	73	40	38	82	1560	355	77	46	122
16	69	40	74	71	38	45	88	599	432	73	47	183
17	59	61	68	69	39	42	54	290	657	59	47	108
18	58	53	100	68	37	52	55	1150	464	59	46	89
19	55	51	103	68	38	51	144	1630	289	91	45	79
20	53	53	91	70	39	145	124	824	235	171	51	75
21	50	53	86	68	51	263	74	367	206	109	47	75
22	49	55	78	62	41	156	70	252	191	76	47	74
23	48	51	71	60	41	103	80	199	179	95	57	69
24	49	52	104	86	36	62	64	165	172	140	62	58
25	47	71	104	57	36	63	91	135	162	116	72	60
26	48	118	89	46	38	59	89	108	155	89	52	61
27	46	90	80	47	37	131	70	93	150	76	51	182
28	45	72	73	39	36	106	315	94	183	74	51	152
29	44	67	70	39	---	59	1270	90	140	70	229	120
30	47	62	66	41	---	52	620	80	123	64	162	106
31	48	---	63	44	---	54	---	79	---	58	97	---
TOTAL	1646	1646	2318	1923	1207	2478	4024	12802	7852	2822	2120	2491
MEAN	53.1	54.9	74.8	62.0	43.1	79.9	134	413	262	91.0	68.4	83.0
MAX	80	118	104	86	76	263	1270	2170	1370	171	229	183
MIN	44	40	50	39	36	32	39	76	70	58	45	54

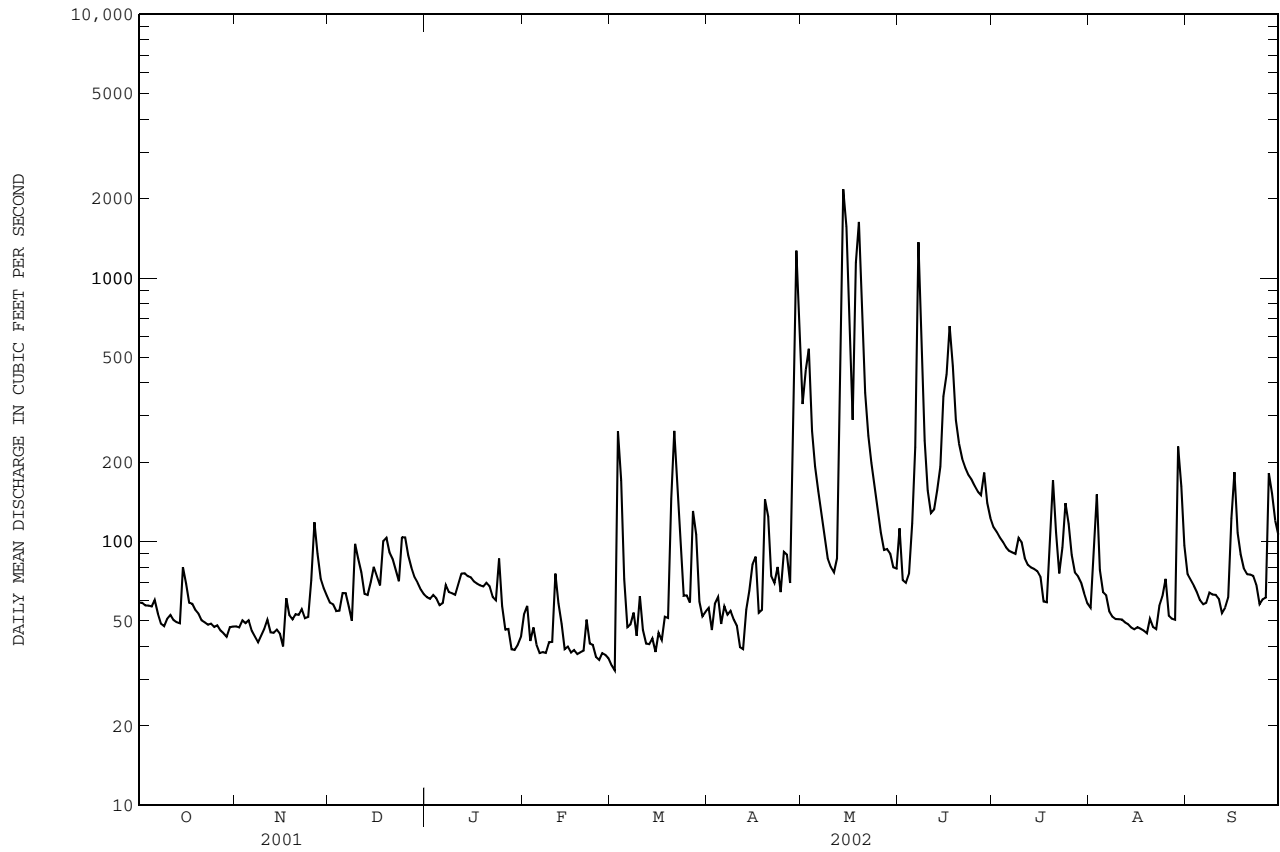
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2002, BY WATER YEAR (WY)

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	283	408	521	507	561	929	952	615	382	236	211	226	2369	1417	2245	1777	1654	2477	2995	2778	2177	1530	1520	1067	1904	1956	1997	1996	1973	1983	1983	1989	1972	1945	1955	1999	40.2	52.3	34.8	39.2	43.1	79.9	62.7	110	62.9	34.2	34.2	46.7	1981	1981	1981	1981	2002	2002	1985	1965	1965	1965	1965	1966	1980																																							

01388500 POMPTON RIVER AT POMPTON PLAINS, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1903 - 2002	
ANNUAL TOTAL	140014		43329			
ANNUAL MEAN	384		119		484	
HIGHEST ANNUAL MEAN					906 1952	
LOWEST ANNUAL MEAN					117 1965	
HIGHEST DAILY MEAN	4070	Mar 23	2170	May 14	28300	Oct 10 1903
LOWEST DAILY MEAN	40	Nov 16	32	Mar 2	0.00	Aug 18 1904
ANNUAL SEVEN-DAY MINIMUM	45	Nov 7	36	Feb 24	1.7	Aug 14 1904
MAXIMUM PEAK FLOW			2260 May 14		28300a Oct 10 1903	
MAXIMUM PEAK STAGE			11.35 May 14		14.30bc Oct 10 1903	
INSTANTANEOUS LOW FLOW			0.25d Apr 1		0.00 Aug 18 1904	
10 PERCENT EXCEEDS	1130		183		1130	
50 PERCENT EXCEEDS	152		64		240	
90 PERCENT EXCEEDS	50		44		70	

- a By computation of peak flow over dam, maximum observed.
- b Site and datum then in use.
- c Maximum stage at present site and datum was 24.47 ft, Apr. 6, 1984.
- d Notch of control blocked for pumpage, causing temporary low flow.



PASSAIC RIVER BASIN

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ

LOCATION.--Lat 40°53'05", long 74°13'35", Passaic County, Hydrologic Unit 02030103, on left bank 0.6 mi downstream from Beatties Dam in Little Falls, and 1.0 mi upstream from Peckman River.

DRAINAGE AREA.--762 mi². Area at site used prior to Oct. 1, 1955, 799 mi².

PERIOD OF RECORD.--September 1897 to current year. Monthly discharge only for September 1897, published in WSP 1302. Published as "at Paterson", September 1897 to September 1955.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 120.00 ft above NGVD of 1929 (levels by Passaic Valley Water Commission). Prior to Jan. 8, 1933, nonrecording gage and Jan. 8, 1933, to Sept. 30, 1955, water-stage recorder, at site 3.7 mi downstream at NGVD of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good, except for estimated daily discharges which are poor. Diurnal fluctuation at medium and low flow caused by hydroelectric plant at Beatties Dam. Flow regulated by reservoirs in Rockaway, Pequannock, Wanaque, and Ramapo River subbasins (see Passaic River basin, reservoirs in). Large diversions for municipal supply from Passaic River above Beatties Dam, and from Rockaway, Pequannock, Pompton, Ramapo, and Wanaque Rivers (see Passaic River basin, diversions and Hackensack River basin, diversions). In addition, the New Jersey-American Water Company (formerly Commonwealth Water Co.) diverts from Canoe Brook near Summit and from Passaic River (see Passaic River basin, diversions); that company, the city of East Orange, and others also divert water for municipal supply by pumping wells in the basin. Several measurements of water temperature, other than those published, were made during the year. National Weather Service rain-gage and gage-height telephone telemetry and USGS satellite gage-height telemetry at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE , SUTRON 8400, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	126	34	38	e30	23	37	1130	166	281	95	37
2	105	133	38	38	e39	26	28	1160	133	211	150	86
3	130	144	37	38	e25	331	52	1230	74	176	450	116
4	123	151	38	39	e25	371	45	963	46	136	244	67
5	115	147	38	70	e34	196	34	741	150	131	173	30
6	117	147	45	56	e20	59	39	553	501	116	139	30
7	125	142	45	38	e28	29	32	367	1550	114	165	33
8	123	72	45	41	e30	32	27	197	1550	103	191	34
9	116	70	142	41	e15	27	40	59	1300	98	136	40
10	110	70	96	46	e30	36	41	28	1080	146	97	70
11	115	78	55	145	52	41	22	27	846	135	80	34
12	117	70	37	44	e42	31	27	36	619	112	83	37
13	118	60	46	39	e25	31	30	274	480	92	84	37
14	117	56	41	38	e30	35	60	1710	462	81	103	29
15	188	53	43	34	e29	35	91	1790	712	78	107	111
16	205	41	40	40	38	36	52	1520	786	76	103	276
17	171	35	38	43	33	38	22	1330	926	67	128	158
18	137	39	67	40	32	39	49	1690	892	57	111	33
19	124	33	41	44	33	45	100	2020	686	187	106	56
20	123	38	36	37	30	205	280	1870	527	449	126	58
21	119	45	e30	44	39	579	157	1680	425	279	139	48
22	111	e34	42	34	38	468	48	1440	212	136	135	40
23	111	e23	36	33	37	379	34	1210	166	105	150	35
24	111	e29	77	54	29	242	44	952	154	193	134	57
25	117	58	44	60	25	165	63	713	137	209	187	31
26	110	193	34	49	26	87	93	462	99	155	152	32
27	109	78	42	37	28	158	45	280	93	139	116	284
28	105	40	38	e28	25	184	443	257	405	131	99	323
29	103	37	37	e7.6	---	71	1600	80	353	118	549	173
30	118	30	39	e6.2	---	36	1370	37	225	113	630	50
31	119	---	38	e9.5	---	29	---	43	---	106	154	---
TOTAL	3790	2272	1459	1311.3	867	4064	5005	25849	15755	4530	5316	2445
MEAN	122.3	75.73	47.06	42.30	30.96	131.1	166.8	833.8	525.2	146.1	171.5	81.50
MAX	205	193	142	145	52	579	1600	2020	1550	449	630	323
MIN	78	23	30	6.2	15	23	22	27	46	57	80	29

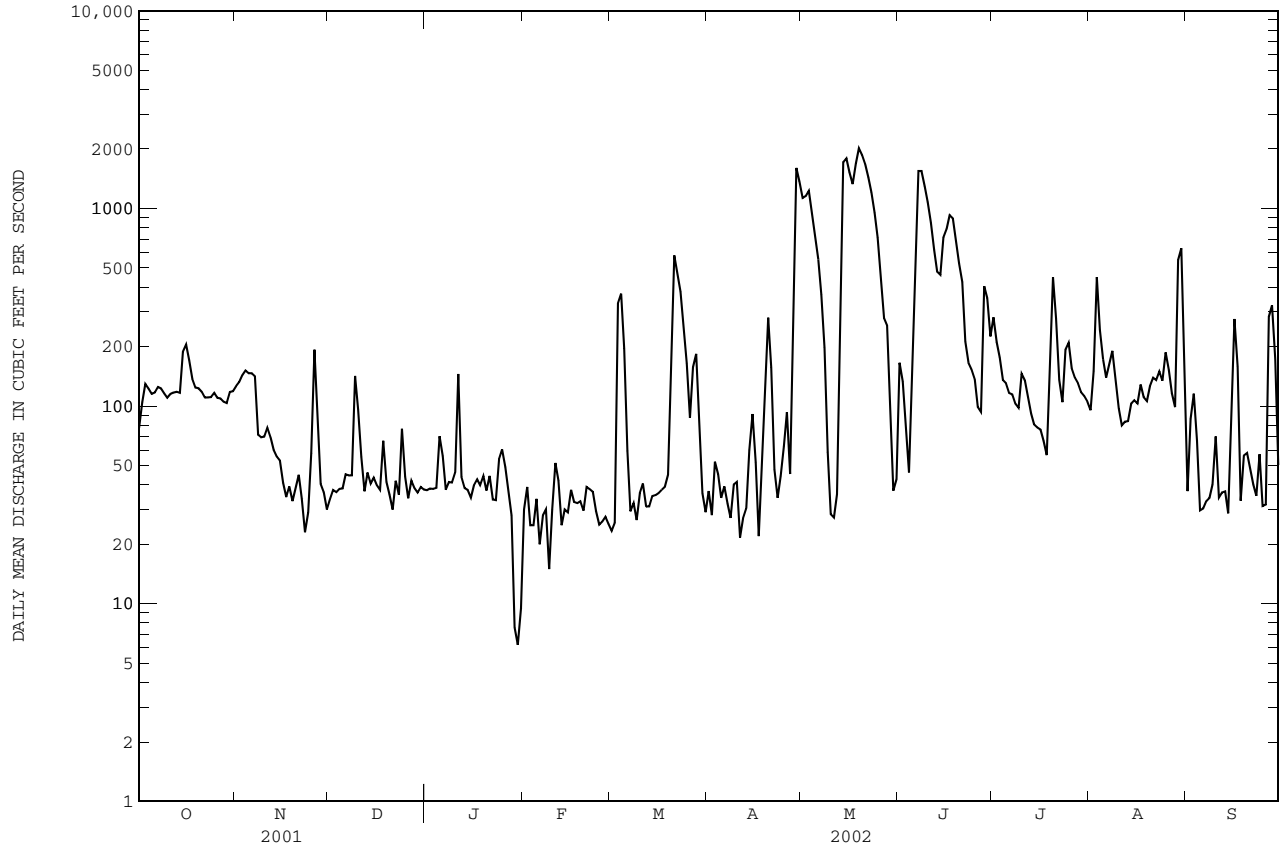
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2002, BY WATER YEAR (WY)

	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	611.9	919.0	1242	1322	1416	2329	2054	1299	771.1	525.9	535.7	527.7																																																																																													
MAX	5613	4757	4497	4039	3787	6755	5761	4554	4290	3124	2859	3561																																																																																													
(WY)	1904	1908	1903	1979	1973	1936	1983	1989	1972	1945	1942	1971																																																																																													
MIN	44.5	56.5	44.8	42.3	31.0	131	167	227	64.5	60.3	30.4	28.9																																																																																													
(WY)	1931	1999	1999	2002	2002	2002	2002	1965	1999	1954	1923	1964																																																																																													

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

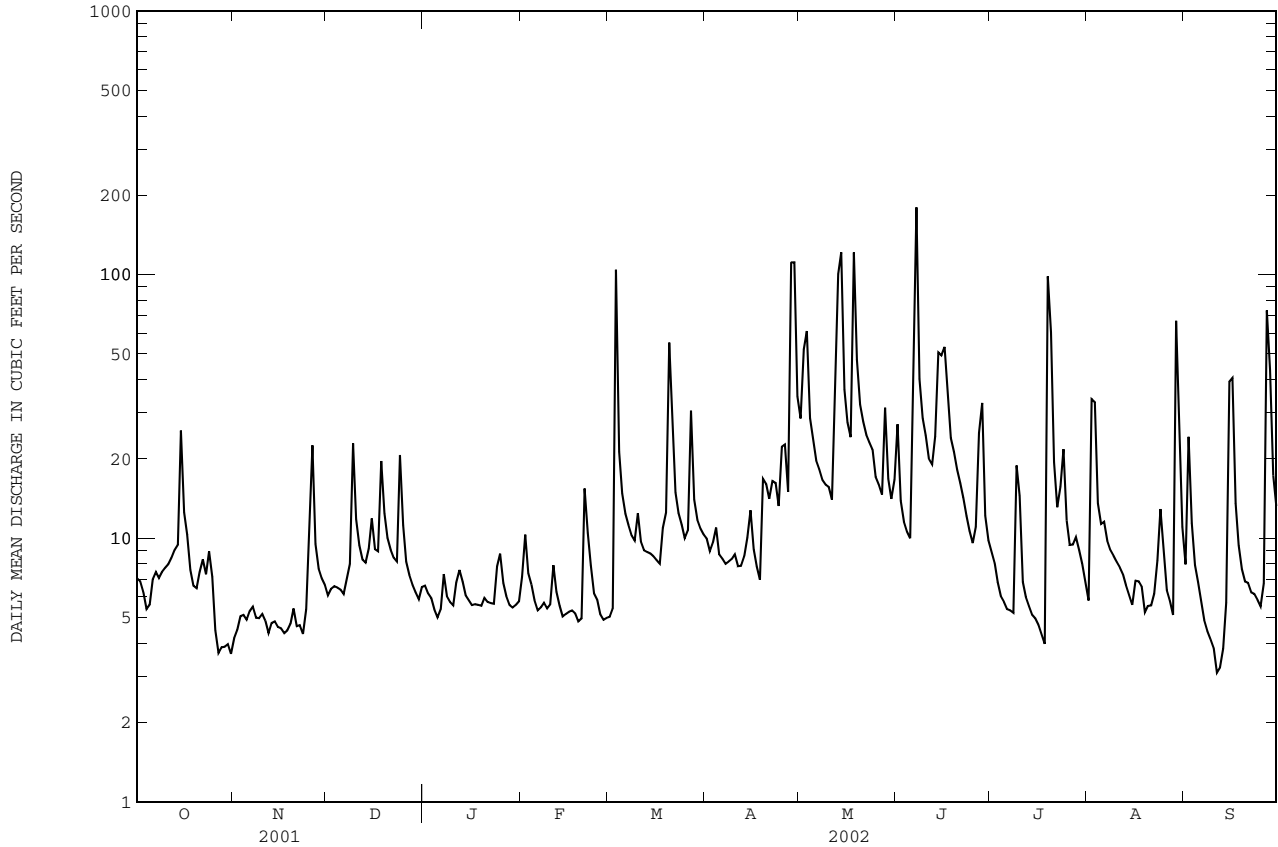
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1898 - 2002	
ANNUAL TOTAL	258257		72663.3			
ANNUAL MEAN	707.6		199.1		1128	
HIGHEST ANNUAL MEAN					2394	1903
LOWEST ANNUAL MEAN					199	2002
HIGHEST DAILY MEAN	4450	Mar 23	2020	May 19	28000	Oct 10 1903
LOWEST DAILY MEAN	23	Nov 23	6.2	Jan 30	0.00	Jul 3 1904
ANNUAL SEVEN-DAY MINIMUM	34	Nov 18	20	Jan 29	13	Sep 19 1932
MAXIMUM PEAK FLOW			2050	May 19	31700a	Oct 10 1903
MAXIMUM PEAK STAGE			3.80	May 19	12.91b	Apr 7 1984
INSTANTANEOUS LOW FLOW			1.6e	Jan 29	0.00	Jul 3 1904
10 PERCENT EXCEEDS	2050		488		2730	
50 PERCENT EXCEEDS	317		78		621	
90 PERCENT EXCEEDS	45		30		118	

a Maximum discharge recorded at present site, no peak stage available
 b Maximum stage recorded since 1956, at present site
 e Estimated



01390500 SADDLE RIVER AT RIDGEWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1955 - 2002	
ANNUAL TOTAL	9632.9		5292.5			
ANNUAL MEAN	26.4		14.5		33.4	
HIGHEST ANNUAL MEAN					58.7 1984	
LOWEST ANNUAL MEAN					14.5 2002	
HIGHEST DAILY MEAN	376	Jun 17	180	Jun 7	1610	Sep 16 1999
LOWEST DAILY MEAN	3.0	Aug 9	3.1	Sep 11	0.20	Sep 17 1966
ANNUAL SEVEN-DAY MINIMUM	4.0	Oct 26	3.9	Sep 7	0.75	Sep 10 1995
MAXIMUM PEAK FLOW			567	Jul 19	5380	Sep 16 1999
MAXIMUM PEAK STAGE			4.43	Jul 19	13.40	Sep 16 1999
INSTANTANEOUS LOW FLOW			1.8	Sep 11	0.00	Jul 27 1999
ANNUAL RUNOFF (CFSM)	1.22		0.67		1.54	
ANNUAL RUNOFF (INCHES)	16.59		9.11		20.99	
10 PERCENT EXCEEDS	54		28		66	
50 PERCENT EXCEEDS	18		8.2		21	
90 PERCENT EXCEEDS	4.8		5.0		6.4	



PASSAIC RIVER BASIN

01391500 SADDLE RIVER AT LODI, NJ

LOCATION.--Lat 40°53'25", long 74°04'51", Bergen County, Hydrologic Unit 02030103, on left bank 560 ft upstream from bridge on Outwater Lane in Lodi, 1.3 mi south of Rochelle Park, and 3.2 mi upstream from mouth.

DRAINAGE AREA.--54.6 mi².

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

REVISED RECORDS.--WSP 781: Drainage area. WSP 1031: 1940(M). WSP 1552: 1929(M), 1936(M), 1938. WRD-NJ 1969: 1967. WRD- NJ 1970: 1968, 1969.

GAGE.--Water-stage recorder. Concrete control since Nov. 2, 1938. Datum of gage is 25.00 ft above NGVD of 1929. Prior to Nov. 2, 1938, at site 560 ft downstream at datum 2.54 ft lower.

REMARKS.--Records fair. Occasional regulation at low flow. Diversion upstream from station at Paramus by United Water New Jersey, for municipal supply (see Hackensack River Basin, diversions). The flow past this station is affected by pumpage from wells by United Water New Jersey and others. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 14	0015	*1,220	*4.65	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	27	22	20	37	17	43	82	142	46	25	36
2	33	21	21	20	49	16	32	158	60	46	116	174
3	27	29	19	20	27	331	40	170	45	44	197	56
4	27	25	19	23	25	91	42	85	40	41	47	44
5	26	26	23	26	22	54	31	69	38	37	37	37
6	27	28	22	35	20	42	30	63	216	36	34	32
7	26	28	23	51	20	27	29	52	555	36	30	30
8	25	28	28	26	20	36	29	51	114	36	29	31
9	30	20	102	24	21	24	30	34	80	92	27	28
10	31	21	40	22	29	43	44	36	69	81	27	25
11	27	28	27	36	47	35	28	47	50	41	26	23
12	31	27	24	31	21	23	32	92	47	36	26	24
13	29	26	23	28	27	25	34	337	72	35	25	22
14	30	27	28	28	26	25	54	540	136	34	25	25
15	81	21	39	31	16	22	77	110	161	31	20	165
16	43	25	33	28	17	19	38	72	138	30	33	213
17	36	28	29	23	17	25	33	75	127	31	33	46
18	33	28	75	19	20	57	32	413	69	30	19	30
19	33	30	41	19	16	36	114	172	140	199	14	32
20	33	30	29	23	18	174	80	95	74	258	22	31
21	32	24	27	23	62	149	38	61	61	59	13	32
22	34	24	25	27	28	56	58	50	57	37	17	32
23	32	24	25	23	24	42	48	45	53	59	31	29
24	32	31	91	45	30	44	34	43	46	69	53	27
25	31	67	40	34	30	38	79	44	48	38	69	26
26	27	87	30	25	26	30	59	51	56	26	28	33
27	21	33	28	23	19	122	36	49	104	32	24	282
28	23	23	26	22	14	50	274	83	173	35	22	115
29	24	22	25	20	---	35	399	54	60	31	315	55
30	31	23	23	20	---	41	102	34	49	32	72	37
31	30	---	26	20	---	46	---	112	---	30	36	---
TOTAL	990	881	1033	815	728	1775	1999	3379	3080	1668	1492	1772
MEAN	31.94	29.37	33.32	26.29	26.00	57.26	66.63	109.0	102.7	53.81	48.13	59.07
MAX	81	87	102	51	62	331	399	540	555	258	315	282
MIN	21	20	19	19	14	16	28	34	38	26	13	22

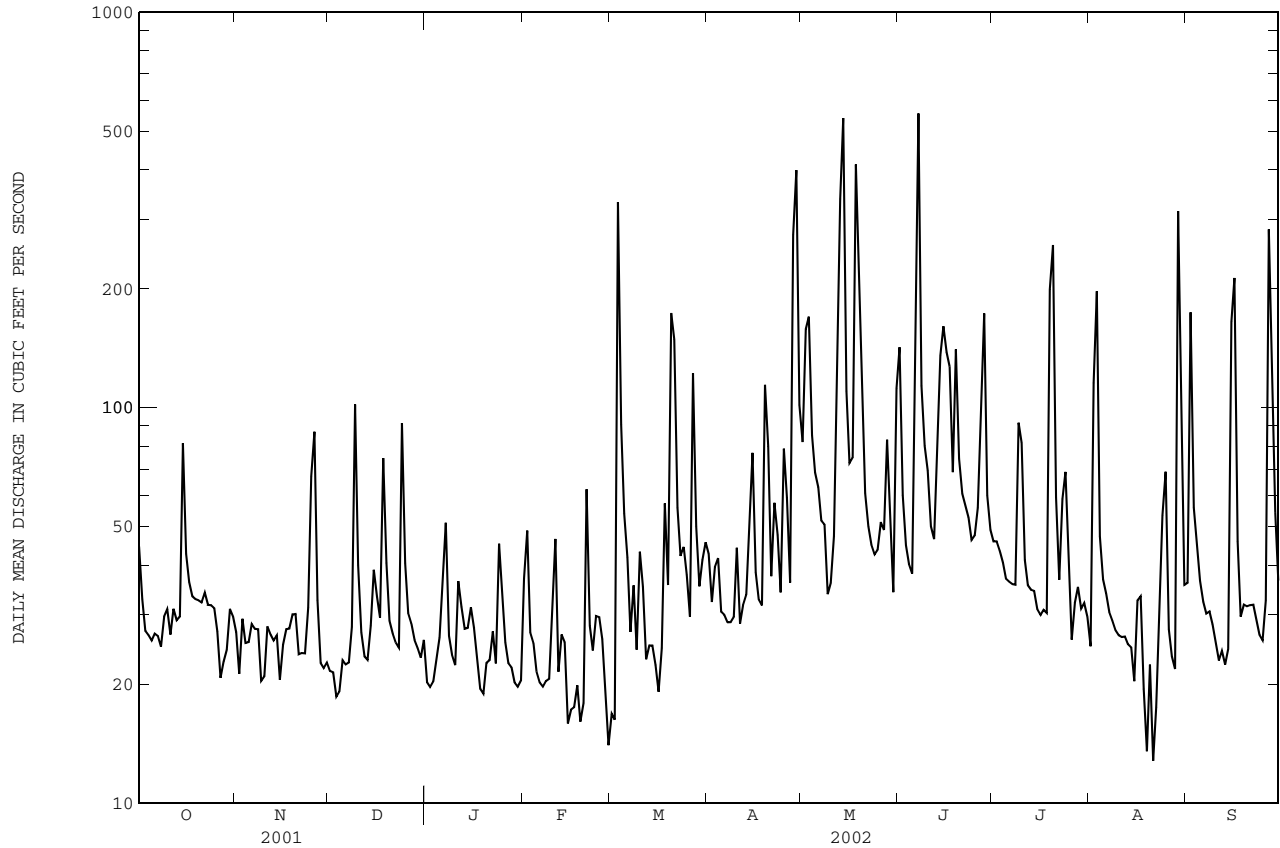
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2002, BY WATER YEAR (WY)

	64.66	87.81	98.98	104.8	116.8	153.9	153.9	117.3	85.82	71.75	67.77	68.83
MEAN	64.66	87.81	98.98	104.8	116.8	153.9	153.9	117.3	85.82	71.75	67.77	68.83
MAX	257	284	301	331	258	333	457	315	336	371	225	256
(WY)	1956	1978	1984	1979	1973	1953	1983	1984	1972	1945	1955	1971
MIN	16.5	25.5	17.0	12.1	26.0	40.1	32.9	44.9	25.5	12.9	15.1	11.4
(WY)	1936	1982	1981	1981	2002	1981	1985	1941	1999	1999	1966	1932

01391500 SADDLE RIVER AT LODI, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1924 - 2002	
ANNUAL TOTAL	29895		19612			
ANNUAL MEAN	81.90		53.73		99.23	
HIGHEST ANNUAL MEAN					187	1984
LOWEST ANNUAL MEAN					45.2	1981
HIGHEST DAILY MEAN	935	Jun 17	555	Jun 7	2970	Apr 5 1984
LOWEST DAILY MEAN	19	Dec 3	13	Aug 21	4.9	Sep 15 1995
ANNUAL SEVEN-DAY MINIMUM	21	Nov 28	19	Feb 14	7.1	Sep 10 1995
MAXIMUM PEAK FLOW			1220	May 14	5330	Sep 17 1999
MAXIMUM PEAK STAGE			4.65	May 14	13.94a	Sep 17 1999
INSTANTANEOUS LOW FLOW			7.8	Aug 21	1.0	May 25 1935
10 PERCENT EXCEEDS	142		103		189	
50 PERCENT EXCEEDS	58		32		68	
90 PERCENT EXCEEDS	25		21		26	

a From high-water mark in gage house.



PASSAIC RIVER BASIN

01392590 PASSAIC RIVER AT NEWARK, NJ

LOCATION.--Lat 40°44'00", long 74°09'30", Essex County, Hydrologic Unit 02030103, on right bank at Newark Fire Training Academy in Newark, 800 ft upstream from bridge on Jackson Avenue (South Fourth Street), 0.3 mi downstream from railroad bridges on AMTRAK mainline, and 4.2 mi upstream from Newark Bay

DRAINAGE AREA.-- 923 mi².

PERIOD OF RECORD.--June 1993 to September 1999 and March 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929) elevation, add 1.14 ft. To determine approximate elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8531680, add 3.30 ft. Data published for water years 1993-1999 was referenced to National Geodetic Vertical Datum Of 1929 (NGVD of 1929). This past data can be adjusted to NAVD of 1988 by subtracting 1.14 ft.

REMARKS.--Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 7.54 ft (adjusted to NAVD of 1988), October 19, 1996; minimum elevation recorded, -5.58 ft (NAVD of 1988), January 14, 2002.

REVISED EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 4.30 ft (NAVD of 1988), revised, Apr. 7 and 9; minimum elevation recorded, -4.26 ft (NAVD of 1988), revised, Mar. 25.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 4.45 ft (NAVD of 1988), Feb. 27; minimum elevation recorded, -5.58 ft (NAVD of 1988), Jan. 14.

REVISIONS.--Tide elevations for many days in August and September 2001, have been revised as shown in the following table. These values supersede the tide elevations published in the annual water data report for 2001.

Summaries of tide elevations during water years 2001 and 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	--	---	4.30	3.96	4.09	4.15	4.16r	4.24r
high tide	Date	---	---	---	---	---	---	7,9	23	22	19	19r	20r
Minimum	Elevation	---	---	---	---	---	-4.26	-4.20	-3.95	-3.52	-4.00	-4.07r	-3.79r
low tide	Date	---	---	---	---	---	25	6	4	25	24	22r	19r
Mean high tide		---	---	---	---	---	---	2.71	2.65	2.67	2.71	2.69r	2.87r
Mean water level		---	---	---	---	---	---	-.01	.06	.03	.05	.03r	.27r
Mean low tide		---	---	---	---	---	---	-2.90	-2.77	-2.74	-2.76	-2.77r	-2.53r

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	4.26	-3.78	4.13	4.36	4.45	4.08	4.16	4.27	4.42	4.07	3.90	4.41
high tide	Date	14	17	13	31	27	29	28	25	14	20	9	10
Minimum	Elevation	-5.23	-4.47	-4.88	-5.58	-5.43	-5.11	-4.64	-4.04	-3.91	-3.76	-3.89	-4.02
low tide	Date	18	14	31	14	28	11	26	15	24	24	11	11
Mean high tide		2.57	2.48	2.50	2.29	2.47	2.21	2.35	2.53	2.74	2.71	2.77	2.95
Mean water level		-.03	-.13	-.17	-.45	-.18	-.53	-.38	-.12	.14	.11	.21	.33
Mean low tide		-2.87	-2.97	-3.01	-3.42	-2.96	-3.42	-3.19	-2.87	-2.63	-2.61	-2.53	-2.44

r Revised

RESERVOIRS IN PASSAIC RIVER BASIN

- 01379990 SPLITROCK RESERVOIR.--Lat 40°57'40", long 74°27'45", Morris County, Hydrologic Unit 02030103, at dam on Beaver Brook, 2 mi northeast of Hibernia. DRAINAGE AREA, 5.50 mi². PERIOD OF RECORD, September 1925 to September 1931, December 1948 to September 1950, October 1953 to current year. Monthend contents only 1925-31, 1948-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929.
REVISED RECORDS.--WDR NJ-94-1: 1993.
REMARKS.--Reservoir is formed by a concrete gravity dam with earth embankment; present dam constructed 1946-48 and sluice gate first closed Dec. 22, 1948. Prior to 1946, reservoir was formed by earthfill dam with crest about 20 ft lower. Capacity of spillway level, 3,310,000,000 gal, elevation, 835 ft. Flow is regulated by two 30-inch sluice gates. Flow is released for diversion for municipal supply of Jersey City.
COOPERATION.--Records provided by United Water Jersey City.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,652,500,000 gal, Apr. 5, 1973, elevation, 836.75 ft; minimum, 1,522,800,000 gal, Jan. 4, 1954, elevation, 824.20 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,177,000,000 gal, Oct. 1, elevation, 834.35 ft; minimum, 2,409,000,000 gal, Mar. 2, elevation, 830.15 ft.
- 01380900 BOONTON RESERVOIR.--Lat 40°53'45", long 74°23'55", Morris County, Hydrologic Unit 02030103, at dam on Rockaway River at Boonton. DRAINAGE AREA, 119 mi². PERIOD OF RECORD, April 1904 to September 1950, October 1953 to current year. Monthend contents only 1904-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, hook gage. Datum of gage is above NGVD of 1929.
REVISED RECORDS.--WDR NJ-85-1: 1984, WDR NJ-94-1: 1993.
REMARKS.--Reservoir is formed by a cyclopean masonry dam with earth wings; dam completed and storage began in 1904. Total capacity at spillway level, 7,620,000,000 gal elevation, 305.25 ft of which 7,366,000,000 gal is usable contents above elevation 259.75 ft, sill of lowest outlet gate. Spillway is topped with two Bascule gates, 2 ft high; prior to 1952, flashboards were used. Flow regulated by Bascule gates, three outlets in gatehouse at head of conduit and by two 48-inch pipes (bottom of sluice pipes at elevation 205 ft). Water is diverted from reservoir for municipal supply of Jersey City.
COOPERATION.--Records provided by United Water Jersey City.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,580,000,000 gal, May 12, 1998, elevation, 309.50 ft; minimum, 1,445,000,000 gal, Jan. 31, 1981, elevation 274.71 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,683,000,000 gal, June 8, elevation, 306.06 ft; minimum, 2,036,000,000 gal, Mar. 2, elevation, 279.46 ft.
- 01382100 CANISTEAR RESERVOIR.--Lat 41°06'30", long 74°29'30", Sussex County, Hydrologic Unit 02030103, at dam on Paddock Brook, 1.8 mi northeast of Stockholm. DRAINAGE AREA, 6.08 mi². PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents 1923-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is above NGVD of 1929.
REVISED RECORDS.--WDR NJ-94-1: 1993, WDR NJ-99-1: 1998 (elevation, contents).
REMARKS.--Reservoir is formed by earth-embankment type dam, completed about 1896. Capacity at spillway level, 2,407,000,000 gal, elevation, 1,086.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and for diversion at Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply for City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.
- 01382200 OAK RIDGE RESERVOIR.--Lat 41°02'30", long 74°30'10", Passaic County, Hydrologic Unit 02030103, at dam on Pequannock River, 0.9 mi southwest of Oak Ridge. DRAINAGE AREA, 27.3 mi². PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents only 1924-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is above NGVD of 1929.
REVISED RECORDS.--WDR NJ-99-1: 1998 (elevation, contents).
REMARKS.--Reservoir is formed by earthfill dam with concrete-core wall and ogee overflow section; dam constructed between 1880-92; dam raised 10 ft during 1917-19. Capacity at spillway level, 3,895,000,000 gal, elevation, 846.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and diversion at Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply of City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.
- 01382300 CLINTON RESERVOIR.--Lat 41°04'30", long 74°27'00", Passaic County, Hydrologic Unit 02030103, at dam on Clinton Brook, 2.0 mi north of Newfoundland. DRAINAGE AREA, 10.5 mi². PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents only 1923-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is above NGVD of 1929.
REVISED RECORDS.--WDR NJ-99-1: 1998 (elevation, contents).
REMARKS.--Reservoir is formed by earthfill dam constructed between 1889-92. Capacity at spillway level, 3,518,000,000 gal, elevation, 992.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and for diversion at Charlotteburg Reservoir since May 21, 1961, for municipal supply of City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.
- 01382380 CHARLOTTEBURG RESERVOIR.--Lat 41°01'34", long 74°25'30", Passaic County, Hydrologic Unit 02030103, at dam on Pequannock River, 1.1 mi upstream from Macopin River, and 1.5 mi southeast of Newfoundland. DRAINAGE AREA, 56.2 mi². PERIOD OF RECORD, May 1961 to current year. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929.
REVISED RECORDS.--WRD NJ-74: Station number, WDR NJ-99-1: 1998 (elevation, contents).
REMARKS.--Reservoir is formed by concrete-masonry dam and earth embankment, with concrete spillway at elevation 738.00 ft; storage began May 19, 1961. Spillway equipped with automatic Bascule gate 5 ft high. Capacity, 2,964,000,000 gal, elevation, 743.00 ft, top of Bascule gate. No dead storage. Outflow is controlled by sluice and automatic Bascule gates. Water diverted from reservoir since May 21, 1961, for municipal supply of City of Newark.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.
- 01382400 ECHO LAKE.--Lat 41°03'00", long 74°24'30", Passaic County, Hydrologic Unit 02030103, at Echo Lake Dam on Macopin River, 1.6 mi north of Charlotteburg, and 1.9 mi upstream from mouth. DRAINAGE AREA, 4.35 mi². PERIOD OF RECORD, October 1927 to September 1950, October 1953 to current year. Monthend contents only 1928-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is above NGVD of 1929.
REVISED RECORDS.--WDR NJ-99-1: 1998 (elevation, contents).
REMARKS.--Lake is formed by earth-embankment type dam completed about 1925. Capacity at spillway level, 1,583,000,000 gal, elevation, 893.0 ft, with provision for additional storage of 180,000,000 gal at elevation 894.9 ft with flashboards. Usable contents, 1,045,000,000 gal above elevation 880.0 ft. Lake used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and water diverted to Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply of City of Newark. Outflow to Macopin River controlled by operation of gates in gatehouse at dam and water released through pipe and canal to Charlotteburg Reservoir.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

RESERVOIRS IN PASSAIC RIVER BASIN--Continued

01383000 GREENWOOD LAKE.--Lat 41°09'36", long 74°20'03", Passaic County, Hydrologic Unit 02030103, in gatehouse near right end of Greenwood Lake Dam on Wanaque River at Awosting. DRAINAGE AREA, 27.1 mi². PERIOD OF RECORD, June 1898 to November 1903, June 1907 to current year (gage heights only prior to October 1953). GAGE, water-stage recorder. Datum of gage is 608.86 ft above NGVD of 1929 (levels from New Jersey Geological Survey bench mark). Prior to Oct. 1, 1931, staff gage on former railroad bridge at site 100 ft upstream at datum 89.75 ft lower.

REVISED RECORDS.--WDR NJ-94-1: 1993, WDR NJ-97-1: 1995-96.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway; dam completed about 1837 and reconstruction completed in 1928 with crest of spillway 0.25 ft lower. Usable capacity, 6,860,000,000 gal between gage heights -4.00 ft, sill of gate, and 10.00 ft, crest of spillway. Dead storage, 7,140,000,000 gal. Outflow mostly regulated by two gates, 3.5 by 5.0 ft. Records given herein represent usable capacity. Lake used for recreation. Diversions by NJDWSC from Upper Greenwood Lake enter via Green Brook (see Diversions within Passaic River Basin).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 9,528,000,000 gal, Oct. 9-14, 1903, gage height, 14.25 ft, present datum; minimum, 3,160,000,000 gal, several days in November 1900, gage height, 3.50 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,151,000,000 gal, June 7, gage height, 10.47 ft; minimum, 4,081,000,000 gal, Jan. 16-19, gage height, 5.22 ft.

01384002 MONKSVILLE RESERVOIR.--Lat 41°07'20", long 74°17'49", Passaic County, Hydrologic Unit 02030103, at dam on Wanaque River at Monks. DRAINAGE AREA, 40.4 mi². PERIOD OF RECORD, September 1988 to current year. GAGE, measurement from reference point. Datum of gage is above NGVD of 1929.

REMARKS.--Reservoir is formed by a roller compacted concrete dam constructed in 1988. Total capacity at spillway level, 7,000,000,000 gal, elevation 400.0 ft. Reservoir used for storage and water released to Wanaque Reservoir. Outflow is controlled by a 60-inch fixed-cone valve in a 72-inch pipe and 10-inch cone valve which can discharge directly into Wanaque Reservoir or into the 72-inch pipe.

COOPERATION.--Records provided by North Jersey District Water Supply Commission.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,150,000,000 gal, Oct. 20, 1989, elevation 401.1 ft (corrected); minimum, 860,000,000, Sept. 28, 1988 (first filling), elevation 339.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,110,000,000 gal, May 14, 15, and 19, elevation 400.6 ft; minimum, 5,730,000,000 gal, Feb. 6, elevation 392.4 ft.

01386990 WANAQUE RESERVOIR.--Lat 41°02'42", long 74°17'44", Passaic County, Hydrologic Unit 02030103, at Raymond Dam on Wanaque River at Wanaque. DRAINAGE AREA, 90.4 mi². PERIOD OF RECORD, February 1928 to September 1950, October 1953 to current year. Monthend contents only 1928-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929 (levels by North Jersey District Water Supply Commission).

REVISED RECORDS.--WDR NJ-85-1: 1984 (M).

REMARKS.--Reservoir is formed by earthfill with concrete-core wall main dam and seven secondary dams; dams completed in 1927 and storage began in March 1928. Total capacity at spillway level, 29,630,000,000 gal, revised, elevation, 302.4 ft, prior to 1986, 300.3 ft. Capacity available by gravity at spillway level, 27,850,000,000 gal. Outflow mostly controlled by sluice gates in intake conduits in gage house. Water is diverted from reservoir for municipal supply. Diversion to reservoir from Posts Brook, Pompton River, and Ramapo River (see Passaic River basin, diversions). Records given herein represent total capacity.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,280,000,000 gal, Apr. 5, 1984, elevation, 304.52 ft; minimum, 5,110,000,000 gal, Dec. 26, 1964, elevation, 256.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,802,000,000 gal, June 17, elevation, 302.62 ft; minimum, 7,922,000,000 gal, Mar. 2, elevation, 264.21 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
01379990 SPLITROCK RESERVOIR				01380900 BOONTON RESERVOIR			01382100 CANISTEAR RESERVOIR		
Sept. 30.....	834.35	3,177		297.01	5,457		1071.70	1,079	
Oct. 31.....	833.90	3,088	-4.4	292.23	4,418	-51.8	1071.50	1,062	-.8
Nov. 30.....	833.75	3,058	-1.5	287.50	3,435	-50.7	1071.50	1,062	0
Dec. 31.....	832.75	2,865	-9.6	284.69	2,896	-26.9	1071.50	1,062	0
CAL YR 2001			-2.0				+19.5		
Jan. 31.....	830.25	2,426	-21.9	282.10	2,447	-22.4	1070.30	964	-4.9
Feb. 28.....	830.15	2,409	-.9	279.67	2,072	-20.7	1059.60	266	-38.6
Mar. 31.....	830.50	2,467	+2.9	287.71	3,475	+70.0	1059.00	238	-1.4
Apr. 30.....	831.15	2,577	+5.7	296.60	5,364	+97.4	1066.30	665	+22.0
May 31.....	832.65	2,847	+13.5	305.35	7,502	+107.0	1074.10	1,283	+30.8
June 30.....	833.95	3,098	+12.9	305.35	7,502	0	1078.00	1,626	+17.7
July 31.....	833.85	3,078	-1.0	300.92	6,395	-55.2	1078.80	1,700	+3.7
Aug. 31.....	833.30	2,969	-5.4	295.29	5,076	-65.8	1079.10	1,727	+1.4
Sept. 30.....	833.00	2,910	-3.0	291.37	4,235	-43.4	1078.80	1,700	-1.4
WTR YR 2002			-1.1				-5.2		
01382200 OAK RIDGE RESERVOIR				01382300 CLINTON RESERVOIR			01382380 CHARLOTTEBURG RESERVOIR		
Sept. 30.....	834.1	2,315		981.3	2,197		736.00	2,205	
Oct. 31.....	829.0	1,738	-28.8	972.5	1,318	-43.9	736.55	2,259	+2.7
Nov. 30.....	818.1	791	-48.8	971.3	1,215	-5.3	735.30	2,138	-6.2
Dec. 31.....	815.1	601	-9.5	968.6	996	-11.0	734.30	2,044	-4.7
CAL YR 2001			-10.1				-8.3		
Jan. 31.....	814.2	551	-2.5	967.0	874	-6.1	735.30	2,138	+4.7
Feb. 28.....	822.0	1,084	+29.5	961.5	504	-20.4	735.75	2,181	+2.4
Mar. 31.....	828.5	1,686	+30.0	965.6	774	+13.5	735.50	2,128	-2.7
Apr. 30.....	834.9	2,415	+37.6	973.3	1,390	+31.7	736.00	2,205	+4.0
May 31.....	842.4	3,393	+48.8	978.9	1,943	+27.6	739.55	2,573	+18.4
June 30.....	844.7	3,711	+16.4	980.6	2,123	+9.3	734.90	2,160	-21.3
July 31.....	838.5	2,875	-41.7	980.9	2,155	+1.6	731.90	1,828	-16.6
Aug. 31.....	828.5	1,686	-59.4	981.4	2,208	+2.6	731.90	1,828	0
Sept. 30.....	825.3	1,374	-16.1	980.2	2,080	-6.6	731.70	1,811	-.9
WTR YR 2002			-4.0				-5		

RESERVOIRS IN PASSAIC RIVER BASIN--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)**	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)b	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	
01382400 ECHO LAKE										
Sept.30.....	893.5	1,630		9.13	6,329		395.9	6,290		
Oct. 31.....	893.3	1,611	-0.9	8.40	5,890	-21.9	396.1	6,320	+1.5	
Nov. 30.....	892.8	1,564	-2.4	5.64	4,312	-81.4	394.3	6,030	-15.0	
Dec. 31.....	891.8	1,475	-4.4	5.32	4,136	-8.8	396.0	6,310	+14.0	
CAL YR 2001			-0.7				-12.1			
01383000 GREENWOOD LAKE										
Jan. 31.....	890.1	1,328	-7.3	5.31	4,130	-0.3	392.5	5,740	-28.4	
Feb. 28.....	886.2	1,005	-17.8	5.31	4,130	0	393.9	5,960	+12.2	
Mar. 31.....	883.8	820	-9.2	6.41	4,740	+30.4	397.0	6,470	+25.5	
Apr. 30.....	888.5	1,193	+19.2	7.73	5,493	+38.8	400.2	7,040	+29.4	
May 31.....	891.2	1,423	+11.5	10.24	7,009	+75.7	400.2	7,040	0	
June 30.....	892.8	1,564	+7.3	10.02	6,872	-7.1	400.2	7,040	0	
July 31.....	892.4	1,528	-1.8	9.72	6,689	-9.1	399.9	6,980	-3.0	
Aug. 31.....	892.4	1,528	0	9.41	6,500	-9.4	398.0	6,650	-16.5	
Sept.30.....	887.1	1,080	-23.1	9.34	6,464	-1.9	398.6	6,750	+5.2	
WTR YR 2002			-2.3				+0.6			

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
01386990 WANAQUE RESERVOIR			
Sept.30.....	283.21	16,700	
Oct. 31.....	274.46	12,221	-224
Nov. 30.....	271.68	10,949	-65.6
Dec. 31.....	268.97	9,798	-57.4
CAL YR 2001			-47.1
Jan. 31.....	267.57	9,238	-27.9
Feb. 28.....	264.61	8,068	-64.6
Mar. 31.....	274.46	12,221	+207
Apr. 30.....	282.30	16,219	+206
May 31.....	299.04	27,065	+541
June 30.....	302.25	29,514	+126
July 31.....	295.08	24,231	-264
Aug. 31.....	287.86	19,456	-238
Sept.30.....	285.47	18,033	-73.4
WTR YR 2002			+5.6

* Elevation at 0900 on the first day of the following month.

** Elevation at 0800 on the first day of the following month.

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

b Previously reported data recorded at 0800 on first day of following month, beginning in 1999 water year data recorded at 2400 of the last day of each month.

DIVERSIONS WITHIN PASSAIC RIVER BASIN

- 01368720 North Jersey District Water Supply Commission diverts water from Upper Greenwood Lake (Hudson River basin) near Moe, NJ to the Green Brook, a tributary of Greenwood Lake, for municipal supply. Consult North Jersey District Water Supply Commission for data available.
- 01379510 New Jersey-American Water Company diverts water from Passaic River, 1.2 mi upstream from Canoe Brook for municipal supply. Records provided by New Jersey-American Water Company.
- 01379530 New Jersey-American Water Company diverts water from Canoe Brook near Summit, 0.5 mi from mouth, for municipal supply. Records provided by New Jersey-American Water Company.
- 01380280 The Town of Boonton diverts water from a tributary of Stony Brook at Taylortown Reservoir for Municipal Water Supply. Records furnished by Town of Boonton.
- 01380800 Jersey City diverts water from Boonton Reservoir on Rockaway River at Boonton for municipal supply. Records provided by United Water Jersey City. REVISED RECORDS.--WDR NJ-97-1: 1996.
- 01382370 City of Newark diverts water from Charlotteburg Reservoir on Pequannock River since May 21, 1961 for municipal supply. Prior to May 21, 1961 water was diverted from reservoir formed by Macopin intake dam on Pequannock River (former diversion 01382490). Records provided by City of Newark, Division of Water Supply. REVISED RECORDS.--WDR NJ-82-1: Station number.
- 01386980 North Jersey District Water Supply Commission diverts water for municipal supply from Wanaque Reservoir on Wanaque River. Records provided by North Jersey District Water Supply Commission.
- 01387020 North Jersey District Water Supply Commission diverts water from Posts Brook near Wanaque into Wanaque Reservoir for municipal supply. Records not available.
- 01387959 Passaic Valley Water Commission (PVWC) diverts water from Point View Reservoir to the PVWC's intake canal at Little Falls for municipal supply. REVISED RECORDS.--WDR NJ-00-1: 1999.
- 01387990 North Jersey District Water Supply Commission diverts water from Ramapo River by pumping from Pompton Lakes into Wanaque Reservoir. Records provided by North Jersey District Water Supply Commission.
- 01388490 Passaic Valley Water Commission supplements the dependable yield of its supply at Little Falls by diverting water at high flows at the Jackson Avenue Pumping Station into Point View Reservoir on Haycock Brook. Water can also be released from Point View Reservoir into the Pompton River at Jackson Avenue Pumping Station and are noted as negative discharges. Also water is released into Haycock Brook for maintenance of flow in that stream. These diversions and releases occur upstream from Pompton Plains gaging station (01388500). Records provided by Passaic Valley Water Commission. REVISED RECORDS.--WDR NJ-82-1: Station number.
- 01388980 North Jersey District Water Supply Commission diverts water from the Wanaque South pumping station on the Pompton River at Two Bridges, 750 ft upstream from the Passaic River, to Wanaque Reservoir since January 1987. Records provided by the North Jersey District Water Supply Commission.
- 01388981 United Water New Jersey diverts water from the Wanaque South pumping station on the Pompton River at Two Bridges, 750 ft upstream from the Passaic River, to Oradell Reservoir. Water can also be diverted from Wanaque Reservoir to Oradell Reservoir in the Hackensack River basin. Figures given herein include diversion from both sources. Prior to water year 1989, diversion was from Ramapo River at Pompton Lakes. Records provided by the United Water New Jersey.
- 01388982 The Passaic Valley Water Commission (PVWC) diverts water from the Wanaque South pumping station on the Pompton River at Two Bridges, 750 ft upstream from the Passaic River, to the PVWC's intake canal just upstream of Beatties Dam at Little Falls. Previous diversions at this location were included with those made at Little Falls (01389490). Records provided by Passaic Valley Water Commission.
- 01389490 The Passaic Valley Water Commission diverts water from Passaic River above Beatties Dam at Little Falls for municipal supply. Records provided by Passaic Valley Water Commission.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MONTH	<u>01379510</u>	<u>01379530</u>	<u>01380280</u>	<u>01380800</u>	<u>01382370</u>
	New Jersey - American Water Company from Passaic River	New Jersey - American Water Company from Canoe Brook	Stony Brook tributary diversion at Taylortown		
October.....	0	0	.67	72.7	71.9
November.....	0	.30	.55	69.8	65.4
December.....	2.67	4.41	.66	72.7	50.3
CAL YR 2001	6.33	2.58	.75	76.0	70.3
January.....	5.95	1.63	.69	81.1	47.7
February.....	5.85	1.97	.74	69.5	44.0
March.....	26.6	9.92	.73	35.2	34.3
April.....	18.1	11.1	.71	44.0	30.8
May.....	24.3	11.6	.71	53.0	40.5
June.....	2.14	5.05	.65	67.3	65.0
July.....	0	.19	.59	76.0	63.3
August.....	0	1.56	.69	74.5	68.2
September.....	0	4.62	.65	68.7	67.7
WTR YR 2002	7.16	4.37	.67	65.4	54.1

DIVERSIONS WITHIN PASSAIC RIVER BASIN--Continued

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002, Continued

MONTH	<u>01386980</u>	<u>01387959</u>	<u>01387990</u>	<u>01388490</u>
	Wanaque Reservoir	Point View Reservoir to Little Falls	Ramapo River to Wanaque Reservoir	Pompton River to Point View Reservoir
October.....	166	0	0	0
November.....	167	0	0	0
December.....	178	0	0	0
CAL YR 2001	165	0	0	0
January.....	175	0	9.03	0
February.....	162	0	36.1	0
March.....	144	0	132	1.15
April.....	142	0	134	27.8
May.....	139	0	196	1.03
June.....	146	6.58	72.2	0
July.....	180	24.9	0	0
August.....	189	0	0	0
September.....	159	0	6.23	0
WTR YR 2002	162	2.67	48.8	2.47

MONTH	<u>01388980</u>	<u>01388981*</u>	<u>01388982</u>	<u>01389490</u>
	Pompton River to Wanaque Reservoir	To Oradell Reservoir	Pompton River to Passaic Valley Water Commission at Little Falls	Passaic River to Passaic Valley Water Commission at Little Falls
October.....	2.40	59.7	0	65.4
November.....	71.5	57.8	55.1	11.7
December.....	155	42.0	31.2	46.0
CAL YR 2001	64.4	35.9	64.1	75.2
January.....	129	35.4	54.1	37.1
February.....	94.0	47.6	9.87	95.1
March.....	205	36.1	32.1	52.8
April.....	183	39.2	11.2	103
May.....	302	2.55	69.1	7.77
June.....	143	23.0	55.1	24.1
July.....	0	56.8	60.0	41.8
August.....	14.6	62.8	24.9	54.2
September.....	151	64.3	0	67.6
WTR YR 2002	121	43.9	33.8	50.1

* Diversion is to the Hackensack River Basin from Pompton River or Wanaque Reservoir.

ELIZABETH RIVER BASIN

01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, NJ

LOCATION.--Lat 40°40'30", long 74°13'20", Union County, Hydrologic Unit 02030104, on left bank at Ursino Lake Dam in Elizabeth, 75 ft upstream from bridge on Trotters Lane and 3.8 mi upstream from mouth.

DRAINAGE AREA.--16.9 mi².

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

REVISED RECORDS.--WSP 1552: Drainage area, 1922-23, 1927-29(M), 1932, 1933-34(M), 1938(P), 1942(M) 1944(P), 1945(M), 1948(P), 1952-53(M). WDR NJ-84-1: 1974.

GAGE.--Water-stage recorder, two crest-stage gages, and two concrete weirs. The right concrete weir was lowered 5 ft on Dec. 18, 1985. Datum of gage is NGVD of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1922, nonrecording gage at site 2,800 ft downstream at datum 4.14 ft higher and Oct. 1, 1922 to May 18, 1923, at same site at datum 5.23 ft higher. May 19, 1923 to Dec. 27, 1972, at site 2,800 ft downstream at datum 5.23 ft higher and published as "Elizabeth River at Elizabeth" (station 01393500), drainage area 18.0 mi².

REMARKS.--Records good, except from April 20 to June 14, which are fair. Diversion by pumpage from Hammock Well Field in Union Township for municipal supply by Elizabethtown Water Company, probably reduces the flow past the station. Elizabethtown Water Co. diverted water for municipal supply from Ursino Lake in Elizabeth prior to 1929. Several measurements of water temperature, other than those published, were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug 29	1030	*1,770	*19.22	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	5.0	5.5	5.1	21	5.0	16	16	25	7.9	5.8	11
2	7.5	5.5	5.0	5.2	6.9	5.9	7.8	31	11	7.7	60	146
3	7.0	5.6	4.8	5.2	5.7	199	9.3	19	7.9	7.9	30	17
4	6.8	5.1	5.1	5.3	5.7	14	8.1	13	7.2	7.8	9.8	9.7
5	6.6	5.0	4.8	5.2	5.4	8.9	6.4	9.3	7.0	6.8	7.7	6.9
6	8.7	5.0	4.8	39	5.5	7.0	6.1	8.3	11	6.5	6.6	5.9
7	6.2	5.0	6.0	34	5.5	6.2	5.8	8.0	111	6.5	5.6	5.5
8	6.1	4.9	36	9.4	5.4	6.0	5.9	7.5	23	6.1	5.3	5.4
9	5.9	4.8	55	10	5.2	5.8	6.0	14	14	24	5.3	5.4
10	5.9	4.7	8.3	6.9	11	13	6.8	8.0	9.9	8.0	5.1	5.5
11	5.7	4.5	6.3	27	24	5.6	5.9	6.9	8.6	6.6	5.1	5.0
12	5.8	4.5	5.6	7.9	5.8	5.4	11	12	28	6.3	5.9	4.8
13	5.6	4.7	5.7	6.3	5.7	22	6.4	61	11	6.2	5.4	4.8
14	5.6	4.7	12	6.2	5.3	8.1	15	63	71	6.1	5.9	4.8
15	34	4.7	6.0	5.8	5.3	5.9	13	23	24	6.2	5.8	46
16	6.6	4.8	5.3	5.6	5.1	5.5	6.5	14	12	6.0	5.6	80
17	6.1	4.7	6.6	5.6	5.0	5.4	6.2	11	8.9	6.0	5.8	9.4
18	5.5	4.5	67	5.5	5.0	52	6.1	225	10	6.0	5.6	6.7
19	5.6	4.6	9.0	5.5	5.1	10	50	41	10	54	5.1	5.6
20	5.7	8.6	6.7	11	5.1	110	38	23	7.2	26	60	5.2
21	5.5	5.0	5.7	12	10	28	15	15	6.9	18	5.4	4.9
22	5.7	4.8	5.3	9.1	5.2	15	20	12	6.7	13	4.9	4.8
23	5.5	4.6	5.2	6.8	5.0	9.5	9.6	10	6.5	10	7.5	5.4
24	5.6	9.0	54	45	5.0	7.6	7.2	9.6	6.5	8.7	72	4.8
25	5.5	23	8.1	9.7	5.0	7.0	14	8.0	6.6	7.6	15	4.8
26	5.1	16	6.7	7.1	5.1	13	15	7.7	6.6	6.7	5.8	47
27	4.9	6.4	6.5	6.0	5.5	55	8.5	7.6	100	6.0	4.9	231
28	4.7	5.6	5.5	5.8	5.1	9.4	73	11	42	5.9	4.6	33
29	4.7	6.7	5.4	5.5	---	7.6	50	7.9	15	6.1	286	11
30	4.8	7.3	5.2	5.4	---	7.1	23	7.6	9.5	6.3	17	8.0
31	4.8	---	5.4	7.6	---	15	---	12	---	5.9	9.3	---
TOTAL	219.7	189.3	378.5	331.7	194.6	674.9	471.6	722.4	624.0	312.8	683.8	745.3
MEAN	7.09	6.31	12.2	10.7	6.95	21.8	15.7	23.3	20.8	10.1	22.1	24.8
MAX	34	23	67	45	24	199	73	225	111	54	286	231
MIN	4.7	4.5	4.8	5.1	5.0	5.0	5.8	6.9	6.5	5.9	4.6	4.8

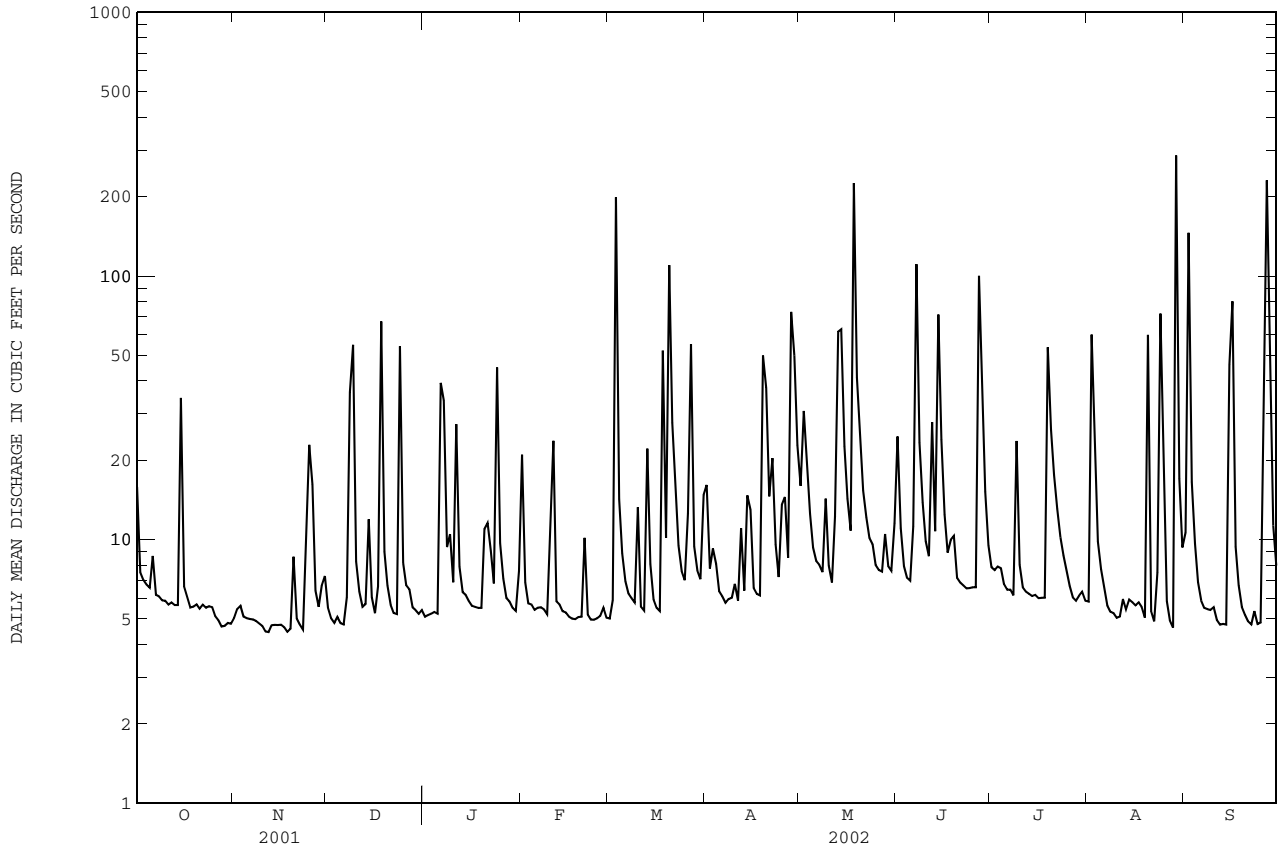
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	20.3	24.2	23.3	24.0	26.0	32.2	29.3	27.3	23.3	26.9	27.1	25.8
MEAN	20.3	24.2	23.3	24.0	26.0	32.2	29.3	27.3	23.3	26.9	27.1	25.8
MAX	60.1	90.7	85.1	86.3	55.1	75.5	97.0	83.8	57.4	83.1	195	102
(WY)	1928	1973	1984	1979	1971	1983	1983	1968	1972	1922	1971	1966
MIN	1.58	5.05	6.25	3.71	6.56	6.03	10.3	5.97	3.94	3.24	0.068	1.99
(WY)	1922	1923	1981	1925	1934	1981	1963	1923	1923	1923	1923	1923

01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	9058.2		5548.6			
ANNUAL MEAN	24.8		15.2		25.8	
HIGHEST ANNUAL MEAN					48.3	1971
LOWEST ANNUAL MEAN					10.2	1923
HIGHEST DAILY MEAN	595	Mar 30	286	Aug 29	1900	Aug 28 1971
LOWEST DAILY MEAN	4.5	Nov 11	4.5	Nov 11	0.00	Jul 14 1922
ANNUAL SEVEN-DAY MINIMUM	4.7	Nov 9	4.7	Nov 9	0.00	Aug 7 1923
MAXIMUM PEAK FLOW			1770	Aug 29	4510	Sep 16 1999
MAXIMUM PEAK STAGE			19.22	Aug 29	25.77a	Aug 2 1973
INSTANTANEOUS LOW FLOW			4.3	Many days	0.00	Jul 14 1922
10 PERCENT EXCEEDS	48		30		50	
50 PERCENT EXCEEDS	9.6		6.6		11	
90 PERCENT EXCEEDS	5.2		5.0		5.6	

a Recorded before right weir was lowered 5 ft.



RAHWAY RIVER BASIN

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ

LOCATION.--Lat 40°41'11", long 74°18'44", Union County, Hydrologic Unit 02030104, on left bank 50 ft downstream from bridge on eastbound U.S. Highway 22, 100 ft downstream from Pope Brook, and 1.5 mi south of Springfield.

DRAINAGE AREA.--25.5 mi².

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

REVISED RECORDS.--WSP 1622: 1945. WRD-NJ 1973: 1938(M), 1968(M), 1971(M).

GAGE.--Water-stage recorder. Former concrete control is no longer effective. Datum of gage is 66.17 ft above NGVD of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. Water for municipal supply diverted from river by city of Orange at Orange Reservoir upstream on the West Branch Rahway River. The flow past this station is affected by diversions by pumpage from wells by Orange, South Orange, New Jersey-American Water Co., and Springfield station of Elizabethtown Water Co. (no longer active). Several measurements of water temperature were made during the year. Since 1980, the site may be affected during high flows by backwater from the Lenape Park flood control dam, about 1 mi downstream. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	e5.9	6.1	3.8	16	5.7	16	21	33	9.0	5.5	8.5
2	9.1	e5.8	5.8	3.8	7.5	7.2	9.4	105	11	9.1	31	115
3	8.2	e6.1	5.2	4.2	5.3	181	11	31	10	9.1	33	9.7
4	8.4	e5.7	5.9	4.2	5.4	14	12	19	11	9.1	6.7	6.8
5	8.1	e6.0	6.5	4.3	5.0	9.1	8.7	17	11	8.5	6.4	6.2
6	12	e5.3	6.6	18	5.3	8.3	8.2	15	50	8.1	6.2	5.8
7	8.6	e5.6	7.8	36	6.0	8.1	8.1	15	173	8.5	5.4	5.8
8	8.0	e5.7	26	6.7	6.0	7.7	8.1	13	17	8.7	5.7	5.5
9	8.5	e6.5	65	6.5	5.7	7.5	8.3	29	14	32	5.6	5.3
10	9.1	e6.7	6.2	5.4	8.8	15	9.8	13	12	13	5.3	5.4
11	11	e6.3	5.2	27	25	7.2	7.8	12	12	7.0	5.5	5.0
12	8.0	e7.1	4.8	7.0	5.3	7.9	9.6	17	18	9.1	5.8	5.5
13	8.2	e9.6	5.2	5.1	5.0	18	9.8	127	13	8.1	5.5	8.0
14	8.5	e5.6	8.5	4.7	4.6	10	16	214	71	7.6	5.4	8.0
15	47	e5.8	6.5	5.0	4.7	7.3	13	26	26	7.9	5.1	81
16	7.8	e5.2	5.1	4.8	5.1	7.0	8.6	17	17	6.9	5.6	68
17	e8.0	e4.7	6.5	4.8	5.1	6.7	8.0	17	16	6.5	5.6	8.4
18	e7.1	e5.2	75	4.9	4.8	48	7.9	336	15	6.3	8.5	6.1
19	e5.9	e5.2	5.9	5.1	5.0	12	111	46	13	142	6.0	6.0
20	e4.0	e9.1	4.7	7.3	5.2	201	60	21	10	64	46	5.9
21	e6.6	e7.5	4.4	8.1	15	37	14	18	9.9	10	5.0	6.3
22	e6.3	e7.0	4.6	8.0	5.1	16	21	16	9.6	8.5	5.2	5.7
23	e6.3	e7.1	4.8	6.4	5.1	13	12	15	9.3	9.1	8.3	5.5
24	e6.5	e14	58	38	4.7	11	8.8	14	9.1	11	23	5.3
25	e5.9	56	5.3	7.4	4.9	10	56	12	8.8	6.6	26	5.3
26	e5.8	21	4.7	5.3	5.3	16	19	12	9.0	6.3	5.1	30
27	e6.6	4.7	4.0	5.0	5.7	57	11	12	87	6.4	5.3	194
28	e5.3	4.7	4.0	4.7	5.5	13	231	13	47	7.1	5.1	23
29	e5.2	6.6	3.9	4.5	---	11	81	12	9.1	6.6	206	7.9
30	e5.2	6.4	3.9	4.6	---	10	25	11	9.2	6.1	11	6.7
31	e5.7	---	3.8	5.6	---	14	---	47	---	5.8	6.6	---
TOTAL	277.9	258.1	369.9	266.2	192.1	796.7	830.1	1293	761.0	464.0	516.4	665.6
MEAN	8.96	8.60	11.9	8.59	6.86	25.7	27.7	41.7	25.4	15.0	16.7	22.2
MAX	47	56	75	38	25	201	231	336	173	142	206	194
MIN	4.0	4.7	3.8	3.8	4.6	5.7	7.8	11	8.8	5.8	5.0	5.0

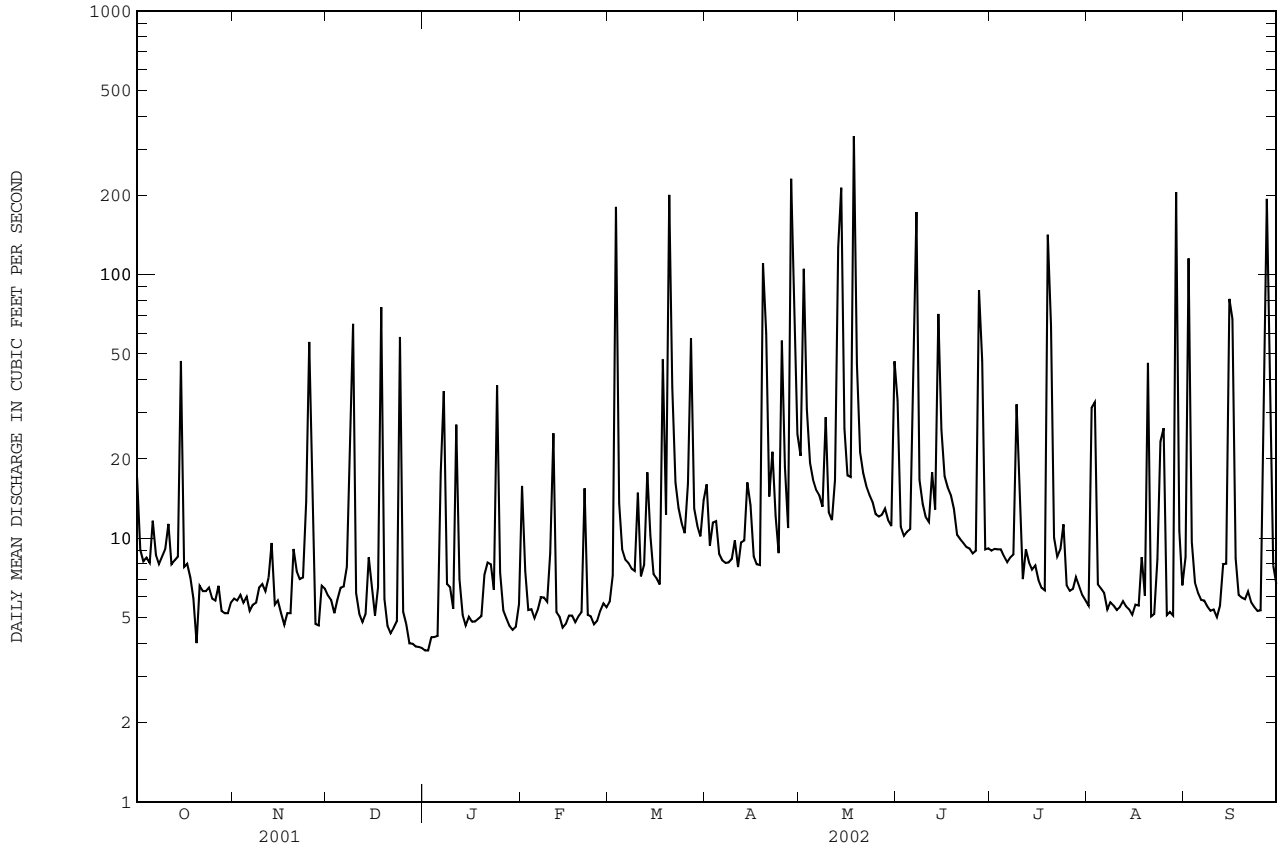
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

MEAN	18.5	27.0	30.6	31.3	34.2	47.9	42.5	34.9	24.7	25.2	22.7	23.3
MAX	108	107	129	116	79.5	120	139	112	110	138	112	151
(WY)	1997	1973	1984	1979	1998	1994	1983	1989	1972	1975	1942	1999
MIN	2.17	2.73	4.02	4.26	6.86	8.08	7.37	6.31	4.14	2.23	2.10	2.97
(WY)	1964	1950	1940	1966	2002	1981	1963	1965	1965	1966	1964	1964

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ--Continued

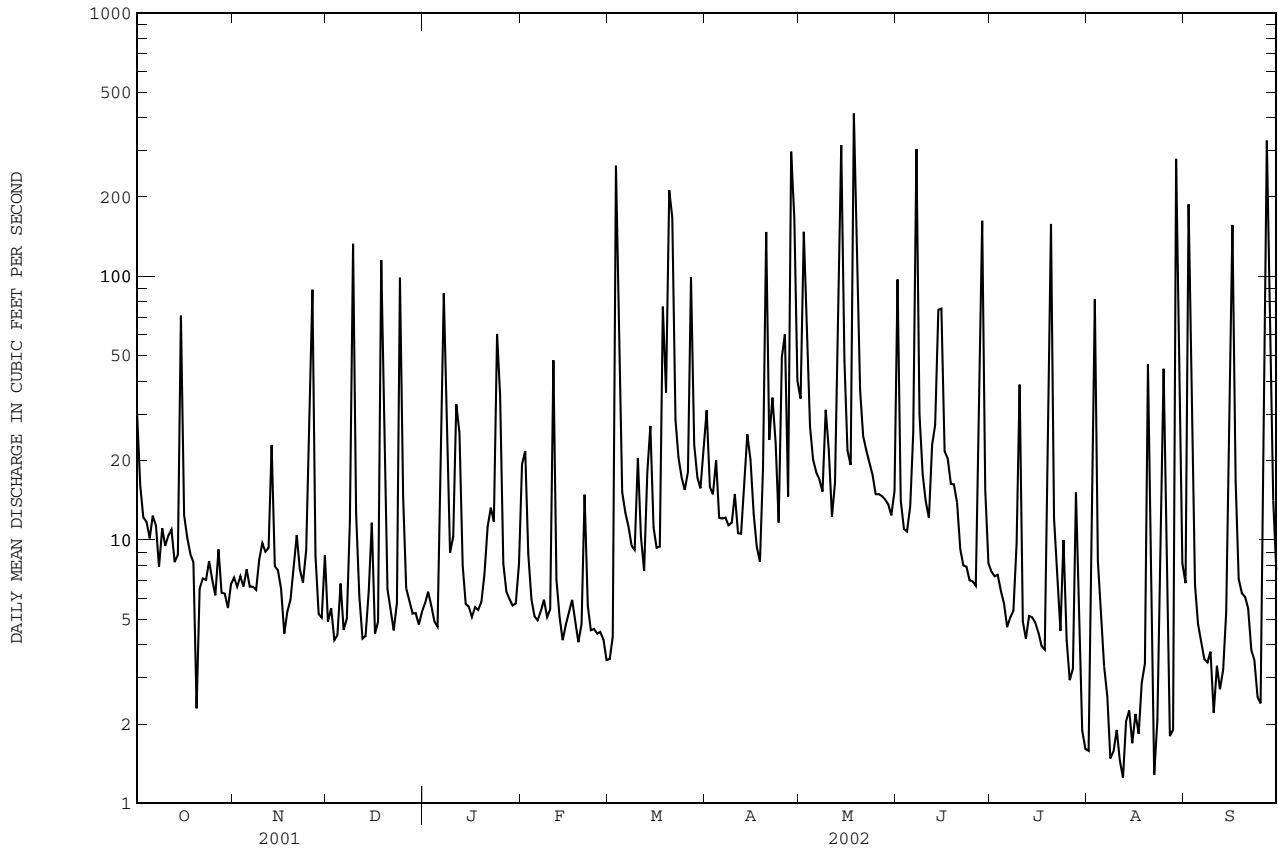
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1939 - 2002	
ANNUAL TOTAL	10989.2		6691.0			
ANNUAL MEAN	30.1		18.3		30.2	
HIGHEST ANNUAL MEAN					55.9	1973
LOWEST ANNUAL MEAN					10.0	1965
HIGHEST DAILY MEAN	574	Jun 2	336	May 18	2270	Sep 16 1999
LOWEST DAILY MEAN	3.8	Dec 31	3.8	Dec 31	0.40	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	4.2	Dec 25	3.9	Dec 27	0.71	Oct 8 1970
MAXIMUM PEAK FLOW			824	May 18	7990a	Sep 16 1999
MAXIMUM PEAK STAGE			5.07	May 18	10.67	Sep 16 1999
INSTANTANEOUS LOW FLOW			3.5	Dec 31	0.10	Sep 11 1966
10 PERCENT EXCEEDS	61		34		60	
50 PERCENT EXCEEDS	13		8.0		11	
90 PERCENT EXCEEDS	5.9		5.0		3.5	

a From rating curve extend above 1,600 ft³/s on basis of slope-area measurement of peak flow.
 e Estimated



01395000 RAHWAY RIVER AT RAHWAY, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	16390.4		9076.4		48.76	
ANNUAL MEAN	44.91		24.87		105 1973	
HIGHEST ANNUAL MEAN					15.0 1965	
LOWEST ANNUAL MEAN					3670 Sep 17 1999	
HIGHEST DAILY MEAN	863	Mar 30	414	May 18	0.00	Oct 9 1964
LOWEST DAILY MEAN	2.3	Oct 20	1.2	Aug 12	0.00	Jul 10 1981
ANNUAL SEVEN-DAY MINIMUM	5.1	Dec 1	1.7	Aug 8	5590	Sep 17 1999
MAXIMUM PEAK FLOW			706	May 18	9.60	Sep 17 1999
MAXIMUM PEAK STAGE			3.48	May 18	0.00	Many days
INSTANTANEOUS LOW FLOW			1.1	many days	99	
10 PERCENT EXCEEDS	90		48		19	
50 PERCENT EXCEEDS	18		8.8		3.6	
90 PERCENT EXCEEDS	6.5		3.8			



RARITAN RIVER BASIN

01396190 SOUTH BRANCH RARITAN RIVER AT FOUR BRIDGES, NJ

LOCATION.--Lat 40°48'21", long 74°44'28", Morris County, Hydrologic Unit 02030105, on right bank, just downstream of bridge on Elizabeth Avenue, 0.3 mi southwest of Four Bridges, 0.6 mi downstream of Drakes Brook, 0.7 mi northwest of Naughtright, and 2.7 mi northwest of Chester.

DRAINAGE AREA.--31.0 mi².

PERIOD OF RECORD.--January 1999 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 564.00 ft North American Vertical Datum of 1988 (revised, levels from New Jersey Geological Survey bench mark).

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Occasional diurnal fluctuations from sewage treatment plants upstream and possible regulation from ponds and lakes upstream.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 13	2230	542	6.12	May 18	1245	627	6.26
May 14	0315	*783	*6.49	Jun 27	2330	566	6.16

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	7.5	9.4	6.6	21	13	20	40	e39	22	8.6	8.7
2	7.7	7.7	8.4	6.7	21	12	18	89	e23	20	10	9.3
3	7.4	8.2	8.0	7.2	14	104	20	72	e21	19	11	7.3
4	6.9	8.5	7.8	7.3	13	36	26	44	e19	17	7.8	6.0
5	6.3	8.5	7.9	7.5	10	23	20	37	e21	15	6.1	4.7
6	7.3	10	7.8	7.5	10	20	17	34	e68	14	5.7	4.3
7	7.1	9.7	8.4	17	10	17	15	31	e270	13	4.9	4.2
8	6.3	8.1	9.1	18	10	14	16	30	e54	12	4.6	4.5
9	6.0	7.3	30	17	10	13	16	32	e36	15	4.2	4.3
10	6.3	7.2	15	17	10	26	22	30	e28	17	3.7	4.1
11	7.0	7.1	11	19	14	22	18	25	e27	13	3.4	3.7
12	7.4	6.9	9.1	20	11	20	17	27	e26	11	3.2	3.3
13	7.6	7.0	9.1	18	9.7	19	21	133	e25	9.7	3.0	3.5
14	7.6	7.7	11	15	7.9	18	27	294	e36	9.4	2.8	3.8
15	19	7.8	13	14	8.9	16	43	65	e46	9.3	2.7	18
16	11	8.5	9.2	14	9.9	16	28	45	e33	10	2.7	18
17	12	7.9	8.6	13	9.5	15	19	40	30	9.1	2.6	8.4
18	11	7.8	30	12	9.1	23	16	219	27	22	2.6	5.4
19	9.6	7.8	18	9.1	8.6	25	22	87	25	25	2.4	6.4
20	8.7	9.6	12	11	9.0	85	34	52	23	17	3.8	6.6
21	7.2	8.8	9.6	12	14	63	22	46	22	12	3.0	5.2
22	6.6	8.2	8.6	11	11	32	24	42	20	11	2.9	4.4
23	6.6	8.0	8.3	12	10	24	21	39	18	12	3.4	3.8
24	7.1	7.9	26	23	9.2	20	17	36	17	17	7.3	3.9
25	6.9	14	15	29	8.7	19	21	33	18	12	15	4.0
26	6.4	21	11	19	16	20	25	30	20	10	5.5	4.6
27	6.7	12	9.5	16	16	55	19	e28	81	9.8	4.3	28
28	6.6	11	8.8	15	14	29	126	e27	118	9.6	3.7	20
29	6.9	9.7	8.5	14	---	23	119	e28	34	9.2	46	8.6
30	7.2	9.3	7.4	15	---	20	40	e26	26	8.2	19	5.9
31	7.1	---	6.9	14	---	19	---	e26	---	8.1	8.6	---
TOTAL	245.5	270.7	362.4	436.9	325.5	861	869	1787	1251	418.4	214.5	222.9
MEAN	7.92	9.02	11.7	14.1	11.6	27.8	29.0	57.6	41.7	13.5	6.92	7.43
MAX	19	21	30	29	21	104	126	294	270	25	46	28
MIN	6.0	6.9	6.9	6.6	7.9	12	15	25	17	8.1	2.4	3.3
CFSM	0.26	0.29	0.38	0.45	0.38	0.90	0.93	1.86	1.35	0.44	0.22	0.24
IN.	0.29	0.32	0.43	0.52	0.39	1.03	1.04	2.14	1.50	0.50	0.26	0.27

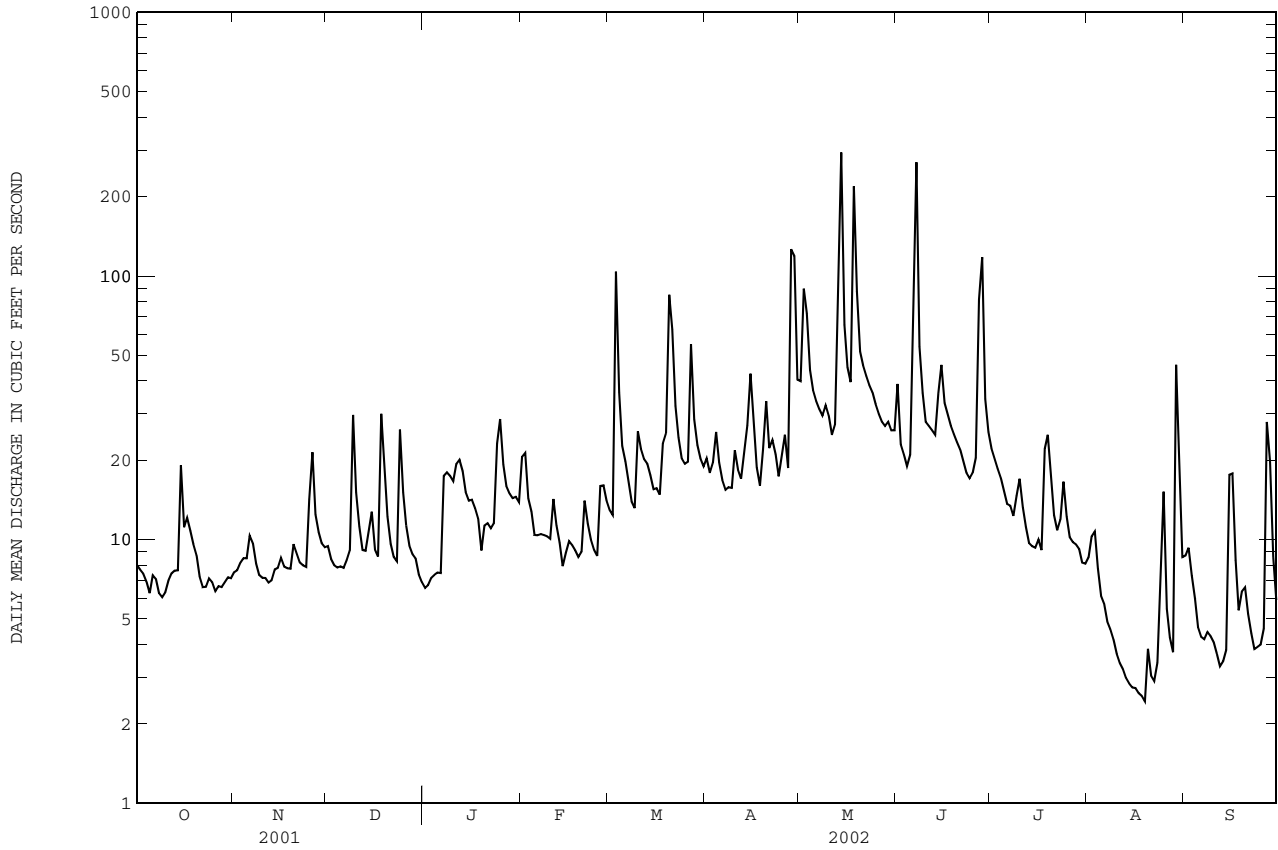
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

	1999	2000	2001	2002	1999	2000	2001	2002	1999	2000	2001	2002
MEAN	16.2	21.9	30.6	44.3	41.7	76.0	50.9	46.0	41.8	16.1	19.9	32.5
MAX	25.2	32.0	47.5	99.8	52.2	104	63.5	57.6	58.3	28.5	53.0	88.6
(WY)	2000	2000	2001	1999	2000	1999	2001	2002	2000	2000	2000	1999
MIN	7.92	9.02	11.7	14.1	11.6	27.8	29.0	34.5	13.7	6.30	6.92	7.43
(WY)	2002	2002	2002	2002	2002	2002	2002	1999	1999	1999	2002	2002

01396190 SOUTH BRANCH RARITAN RIVER AT FOUR BRIDGES, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1999 - 2002	
ANNUAL TOTAL	12223.4		7264.8			
ANNUAL MEAN	33.5		19.9		34.0	
HIGHEST ANNUAL MEAN					43.6 2000	
LOWEST ANNUAL MEAN					19.9 2002	
HIGHEST DAILY MEAN	375	Mar 30	294	May 14	1530	Sep 16 1999
LOWEST DAILY MEAN	6.0	Sep 8	2.4	Aug 19	2.4	Aug 19 2002
ANNUAL SEVEN-DAY MINIMUM	6.3	Sep 4	2.7	Aug 13	2.7	Aug 13 2002
MAXIMUM PEAK FLOW			783	May 14	5100a	Sep 16 1999
MAXIMUM PEAK STAGE			6.49	May 14	10.60	Sep 16 1999
INSTANTANEOUS LOW FLOW			2.3	Aug 19	2.3	Aug 19 2002
ANNUAL RUNOFF (CFSM)	1.08		0.64		1.10	
ANNUAL RUNOFF (INCHES)	14.67		8.72		14.90	
10 PERCENT EXCEEDS	75		35		67	
50 PERCENT EXCEEDS	23		12		24	
90 PERCENT EXCEEDS	7.3		5.5		7.8	

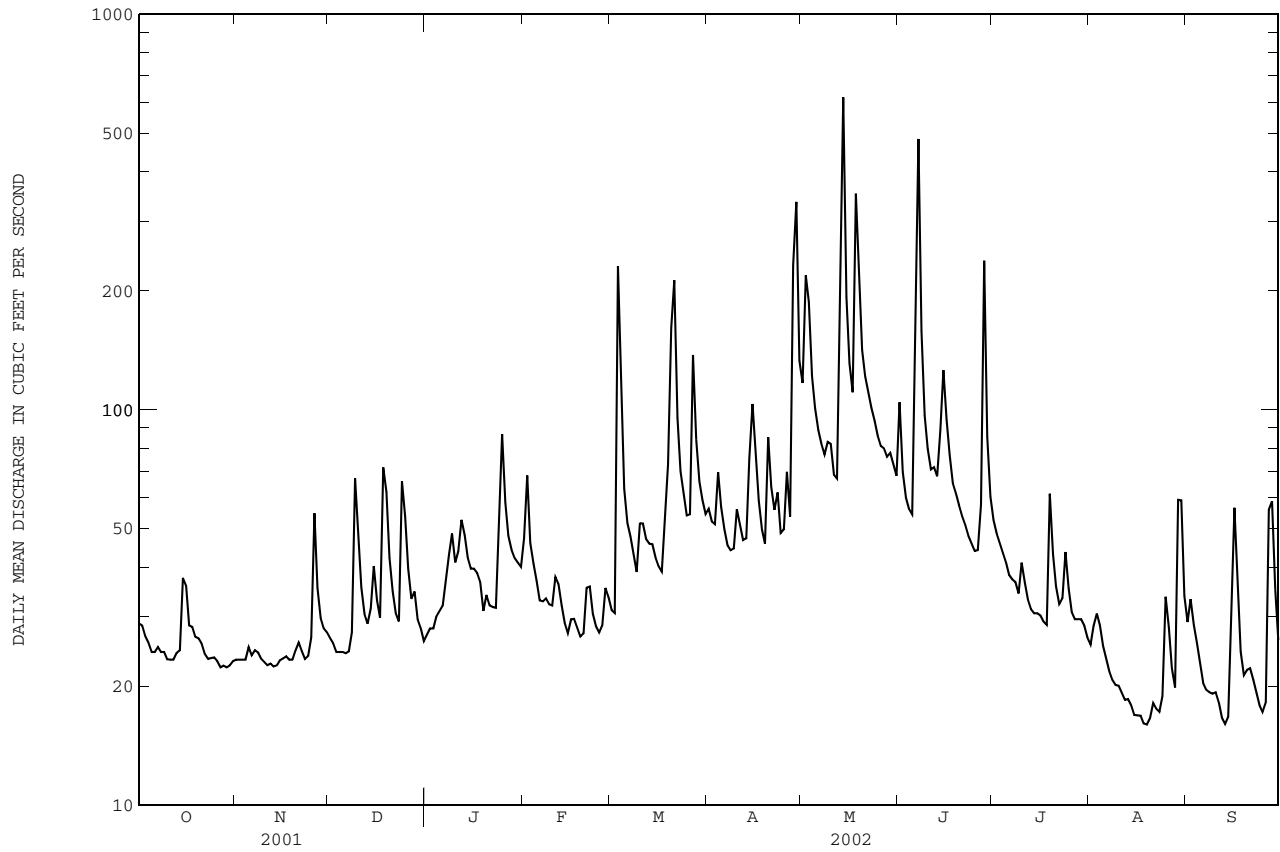
a From rating curve extended above 530 ft³/s
 e Estimated



01396500 SOUTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1919 - 2002	
ANNUAL TOTAL	31091		19071			
ANNUAL MEAN	85.2		52.2		122	
HIGHEST ANNUAL MEAN					213	1928
LOWEST ANNUAL MEAN					46.2	1965
HIGHEST DAILY MEAN	558	Mar 30	617	May 14	3340	Jan 25 1979
LOWEST DAILY MEAN	22	Oct 27	16	Many days	13	Aug 11 1966
ANNUAL SEVEN-DAY MINIMUM	23	Oct 26	17	Aug 14	17	Aug 14 2002
MAXIMUM PEAK FLOW			978	May 14	6910	Jan 25 1979
MAXIMUM PEAK STAGE			8.40	May 14	14.26a	Jan 28 1994
INSTANTANEOUS LOW FLOW			15	Many days	6.6	Oct 11 1930
ANNUAL RUNOFF (CFSM)	1.30		0.80		1.86	
ANNUAL RUNOFF (INCHES)	17.71		10.86		25.33	
10 PERCENT EXCEEDS	178		89		233	
50 PERCENT EXCEEDS	63		35		85	
90 PERCENT EXCEEDS	24		22		35	

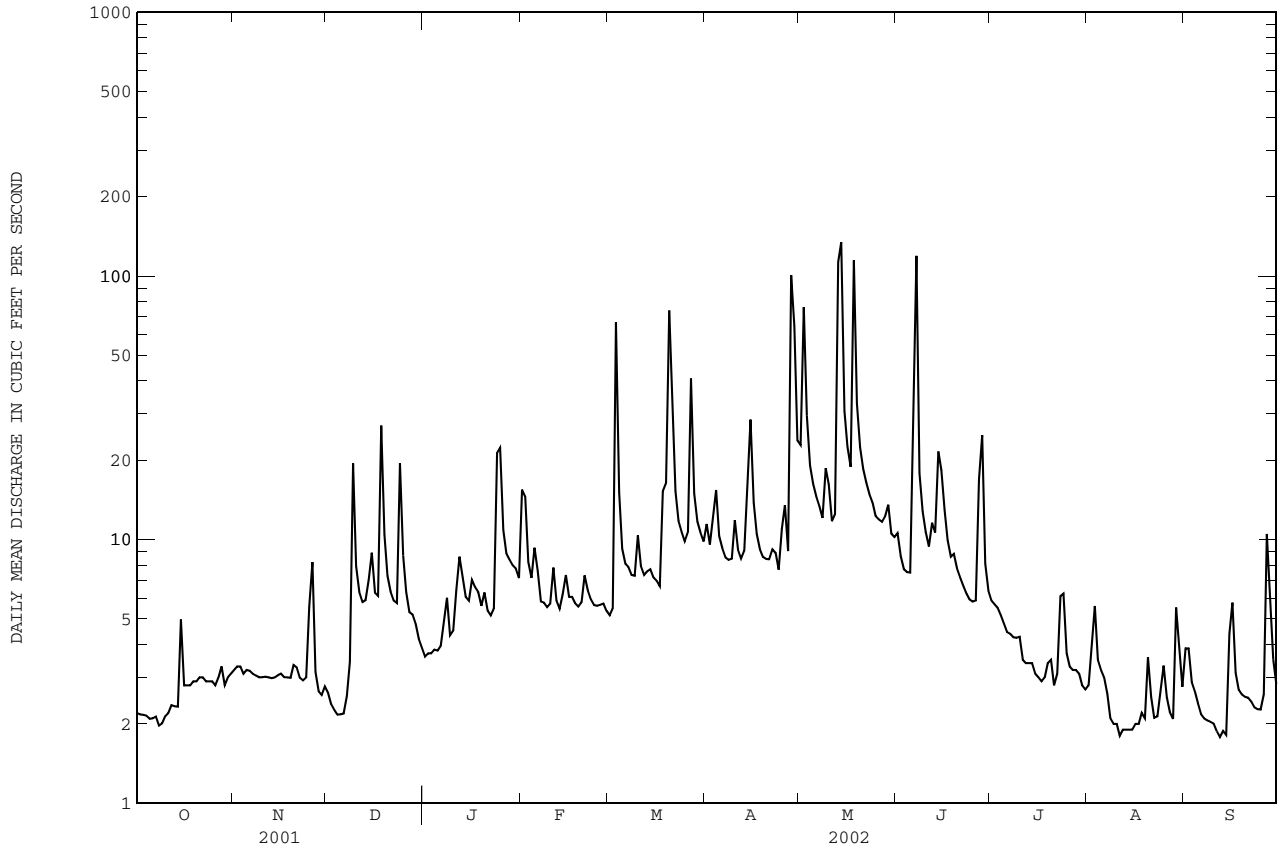
a Result of an ice jam
e Estimated



01396580 SPRUCE RUN AT GLEN GARDNER, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1978 - 2002	
ANNUAL TOTAL	5468.6		3432.2			
ANNUAL MEAN	15.0		9.40		20.0	
HIGHEST ANNUAL MEAN					33.2 1984	
LOWEST ANNUAL MEAN					9.40 2002	
HIGHEST DAILY MEAN	160	Mar 30	134	May 14	650	Sep 16 1999
LOWEST DAILY MEAN	2.0	Oct 8	1.8	many days	1.0	Sep 4 1999
ANNUAL SEVEN-DAY MINIMUM	2.1	Oct 4	1.9	Aug 9	1.3	Aug 31 1999
MAXIMUM PEAK FLOW			627		2750a	Sep 16 1999
MAXIMUM PEAK STAGE			4.07		9.27	Sep 16 1999
INSTANTANEOUS LOW FLOW			1.6		0.80	Sep 23 1998
ANNUAL RUNOFF (CFSM)	1.33		0.83		1.77	
ANNUAL RUNOFF (INCHES)	18.00		11.30		24.00	
10 PERCENT EXCEEDS	33		16		40	
50 PERCENT EXCEEDS	8.4		5.7		11	
90 PERCENT EXCEEDS	2.9		2.2		3.4	

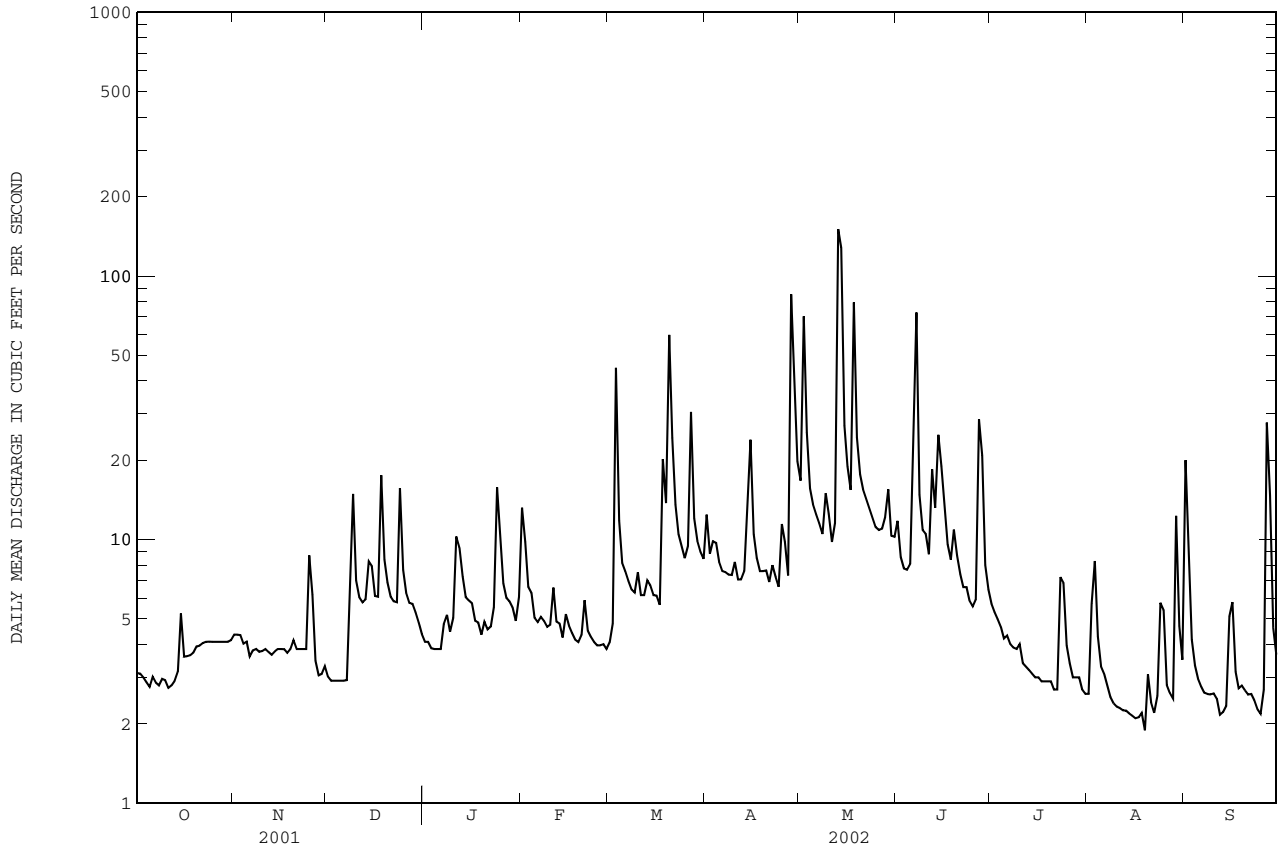
a From rating curve above 700 ft³/s on basis of slope-conveyance computation.
 e Estimated



01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1977 - 2002	
ANNUAL TOTAL	5066.9		3164.1			
ANNUAL MEAN	13.88		8.669		19.32	
HIGHEST ANNUAL MEAN					35.2 1984	
LOWEST ANNUAL MEAN					8.67 2002	
HIGHEST DAILY MEAN	130	Mar 30	151	May 13	918	Sep 16 1999
LOWEST DAILY MEAN	2.7	Oct 11	1.9	Aug 19	1.1	Aug 2 1999
ANNUAL SEVEN-DAY MINIMUM	2.9	Oct 7	2.1	Aug 13	1.2	Aug 1 1999
MAXIMUM PEAK FLOW			776	May 13	3590	Sep 20 1989
MAXIMUM PEAK STAGE			3.95	May 13	7.41	Sep 20 1989
INSTANTANEOUS LOW FLOW			1.8	Aug 19	1.0	Aug 2 1999
ANNUAL RUNOFF (CFSM)	1.18		0.73		1.64	
ANNUAL RUNOFF (INCHES)	15.97		9.97		22.24	
10 PERCENT EXCEEDS	27		15		37	
50 PERCENT EXCEEDS	8.6		5.1		12	
90 PERCENT EXCEEDS	3.7		2.7		4.1	

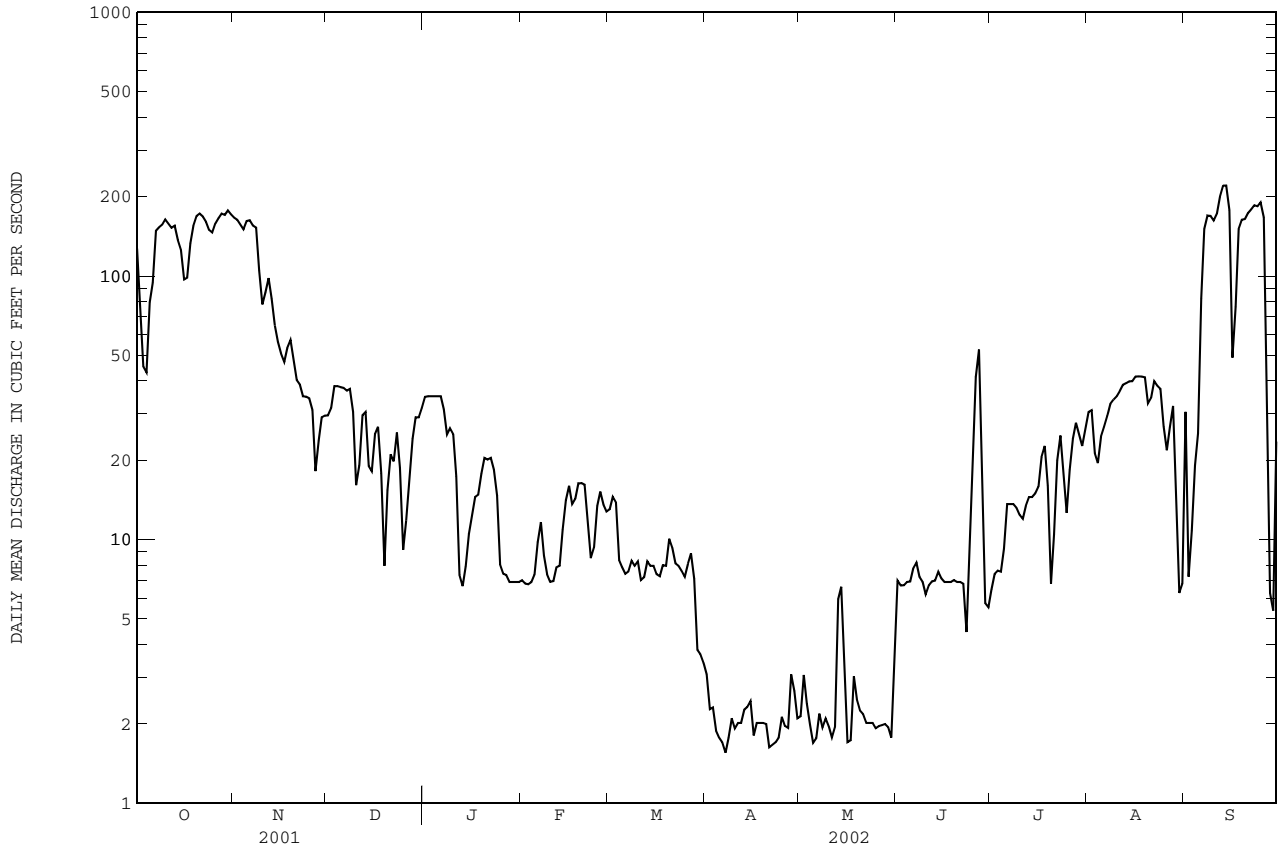
a From rating curve extended above 1,200 ft³/s.
 e Estimated



01396800 SPRUCE RUN AT CLINTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1959 - 2002	
ANNUAL TOTAL	30831.2		14107.2		64.84	
ANNUAL MEAN	84.47		38.65		111	
HIGHEST ANNUAL MEAN					1997	
LOWEST ANNUAL MEAN					3.81 1964	
HIGHEST DAILY MEAN	324	Mar 30	221	Sep 14	2060	Jul 7 1984
LOWEST DAILY MEAN	7.9	Jan 16	1.6	Apr 7,21	0.00a	Aug 22 1963
ANNUAL SEVEN-DAY MINIMUM	8.7	Jan 23	1.8	Apr 4	0.00a	Aug 22 1963
MAXIMUM PEAK FLOW			226	Sep 14	6410	Apr 2 1970
MAXIMUM PEAK STAGE			2.18	Sep 14	5.17	Apr 2 1970
INSTANTANEOUS LOW FLOW			1.3	many days	0.00a	Aug 22 1963
10 PERCENT EXCEEDS	168		155		152	
50 PERCENT EXCEEDS	73		15		40	
90 PERCENT EXCEEDS	12		2.0		7.0	

a Result of reservoir filling.



RARITAN RIVER BASIN

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ

LOCATION.--Lat 40°34'19", long 74°52'05" (revised), Hunterdon County, Hydrologic Unit 02030105, on right bank at downstream side of bridge on Stanton Road at Stanton Station, 0.4 mi upstream from Prescott Brook, and 1.4 mi west of Stanton.

DRAINAGE AREA.--147 mi².

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

REVISED RECORDS.--WSP 561: Drainage area. WSP 1552: 1904, 1922-24 (M), 1928-29 (M), 1933-35 (M). WDR NJ-88-1: 1982. WDR NJ-02-1: 2002 (m).

GAGE.--Water-stage recorder. Datum of gage is 125.01 ft above NGVD of 1929. Prior to Aug. 17, 1925, nonrecording gage on downstream side of highway bridge at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Spruce Run Reservoir since September 1963 (see Raritan River basin, reservoirs in). Occasional regulation at low flows by ponds above station. Water diverted by Hamden Pumping Station, 4.0 mi upstream, into Round Valley Reservoir since February 1966 (see Raritan River basin, diversions). Water can be released (maximum rate 186 ft³/s) from Round Valley Reservoir at Hamden Pumping Station since July 1990. Several measurements of water temperature were made during the year. USGS satellite and National Weather Service telephone gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 13	2100	*3,060	*7.19				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	204	73	108	81	58	107	127	165	93	65	106
2	130	199	69	115	106	59	96	311	125	87	67	65
3	83	195	76	110	83	372	95	275	105	82	94	46
4	82	183	75	87	72	195	112	90	98	76	59	47
5	97	198	75	79	63	116	100	67	96	71	61	49
6	127	200	74	79	62	93	88	95	151	72	60	72
7	164	193	75	88	65	86	82	86	761	71	57	144
8	181	187	79	86	61	81	78	82	266	70	60	171
9	177	161	128	85	58	76	78	98	160	68	61	168
10	189	115	101	82	57	84	84	82	131	70	60	159
11	180	121	68	91	65	87	87	58	118	68	59	173
12	174	131	77	89	65	79	83	59	e140	63	61	216
13	175	e125	76	82	59	82	78	600	e125	63	60	249
14	167	100	74	73	56	80	110	1400	e130	63	60	260
15	163	97	71	70	58	76	142	427	e200	63	59	248
16	150	89	77	70	64	73	77	269	e140	60	60	153
17	127	87	72	72	61	69	63	219	e120	61	60	95
18	152	e90	111	70	58	113	80	609	112	63	60	171
19	177	e95	115	71	61	133	74	423	131	87	58	184
20	194	e85	77	80	58	341	100	259	108	69	62	181
21	199	78	77	72	64	433	58	218	97	60	51	191
22	193	76	66	70	69	203	59	199	92	63	61	190
23	181	72	70	69	58	151	87	185	84	68	61	200
24	171	71	113	117	54	129	77	165	82	79	60	194
25	166	80	100	142	54	115	78	151	95	64	83	200
26	173	116	71	105	57	111	67	141	105	61	61	194
27	182	80	71	84	62	227	57	139	160	64	54	233
28	194	69	69	76	61	163	184	131	414	69	55	131
29	215	74	76	73	---	123	539	138	155	68	84	71
30	219	73	81	70	---	110	164	129	106	63	107	56
31	209	---	108	73	---	103	---	118	---	60	58	---
TOTAL	5153	3644	2545	2638	1792	4221	3184	7350	4772	2139	1978	4617
MEAN	166.2	121.5	82.10	85.10	64.00	136.2	106.1	237.1	159.1	69.00	63.81	153.9
MAX	219	204	128	142	106	433	539	1400	761	93	107	260
MIN	82	69	66	69	54	58	57	58	82	60	51	46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2002, BY WATER YEAR (WY)

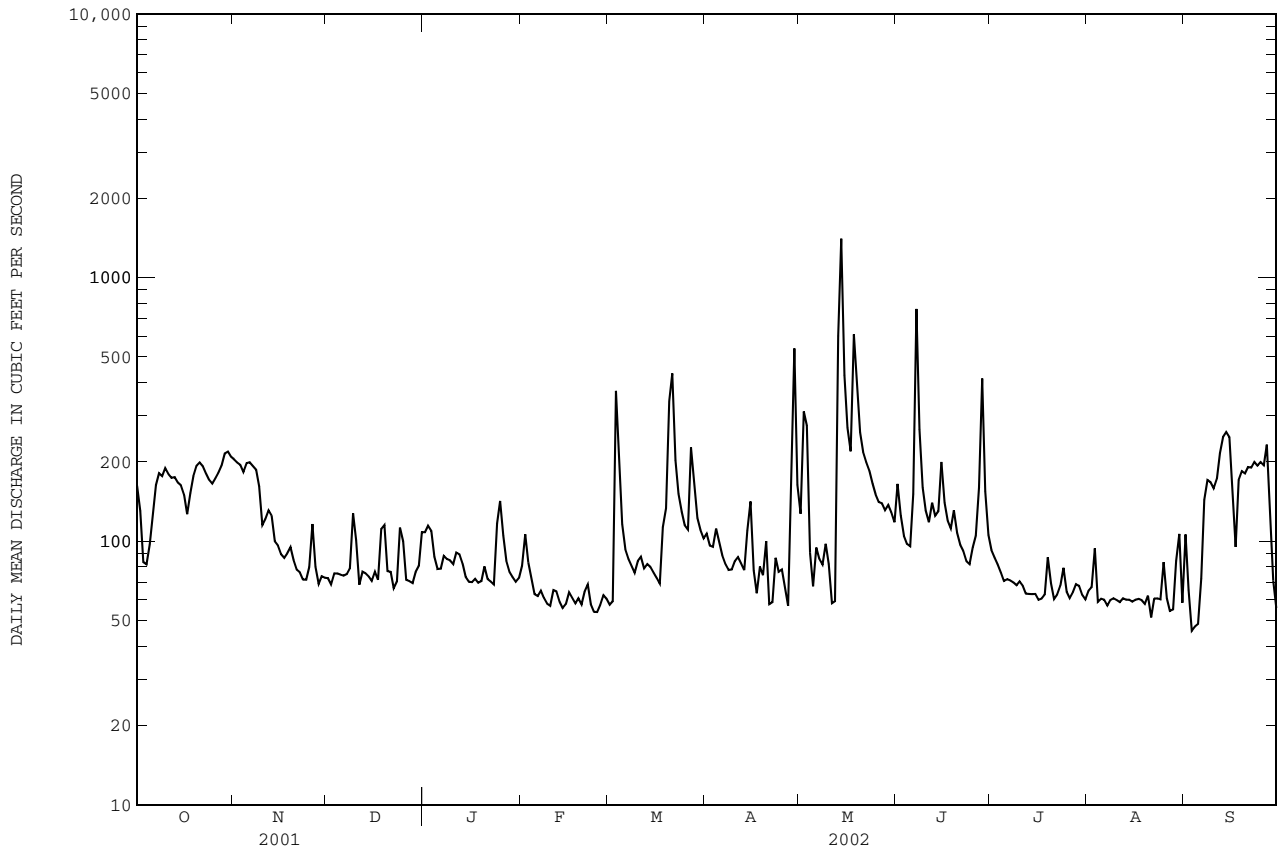
MEAN	163.3	201.0	261.1	284.8	313.3	397.3	369.8	270.2	192.5	177.0	162.6	163.7
MAX	641	659	1026	1099	807	1057	1137	750	967	752	793	554
(WY)	1904	1952	1997	1979	1925	1936	1983	1989	1972	1975	1955	1989
MIN	34.1	46.2	58.3	55.0	61.2	61.3	58.5	80.3	60.1	40.7	30.1	31.0
(WY)	1964	1965	1999	1966	1967	1981	1981	1965	1965	1955	1957	1957

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1904 - 2002	
ANNUAL TOTAL	81245		44033			
ANNUAL MEAN	222.6		120.6		246.0	
HIGHEST ANNUAL MEAN					413	1952
LOWEST ANNUAL MEAN					95.0	1966
HIGHEST DAILY MEAN	1250	Mar 30	1400	May 14	8060	Aug 19 1955
LOWEST DAILY MEAN	66	Dec 22	46	Sep 3	12	Oct 18 1963
ANNUAL SEVEN-DAY MINIMUM	73	Nov 28	58	Feb 23	25	Sep 4 1957
MAXIMUM PEAK FLOW			3060	May 13	18000a	Aug 19 1955
MAXIMUM PEAK STAGE			7.19	May 13	15.22	Aug 19 1955
INSTANTANEOUS LOW FLOW			33	Feb 5	9.0b	Nov 7 1931
10 PERCENT EXCEEDS	384		198		484	
50 PERCENT EXCEEDS	182		86		165	
90 PERCENT EXCEEDS	84		60		64	

a From rating curve above 6,400 ft³/s on basis of computation of flow over Clinton Dam, 6.5 mi upstream, at gage height 10.72 ft, contracted opening measurement 1.7 mi downstream, and slope-area measurement 0.4 mi downstream at gage height 15.22 ft, adjusted to present site.

b This value was published incorrectly (as 1.4 cfs) in WDR NJ-01-1 and reverts to the correct discharge (9.0 cfs) in WDR NJ-02-1.



RARITAN RIVER BASIN

01398000 NESHANIC RIVER AT REAVILLE, NJ

LOCATION.--Lat 40°28'22", long 74°49'40" (revised), Hunterdon County, Hydrologic Unit 02030105, on left bank 50 ft downstream from bridge on Everitts Road, 0.6 mi southwest of Reaville, 1.5 mi downstream from Third Neshanic River, and 2.2 mi upstream from Back Brook.

DRAINAGE AREA.--25.7 mi².

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

REVISED RECORDS.--WSP 1552: 1933, 1934(M), 1936(M), 1938, 1940(M), 1942(M), 1945-46, 1951, 1952(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 26, 1935. Datum of gage is 109.46 ft above NGVD of 1929.

REMARKS.--Records good except for discharges less than 2.0 ft³/s, which are fair. Several measurements of water temperature, other than those published, were made during the year. Occasional regulation possibly due to irrigation pumpage. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	1.0	1.9	1.7	22	4.1	27	30	11	4.9	0.0	99
2	2.8	1.1	1.7	1.6	21	4.0	20	94	6.9	3.9	0.12	25
3	2.4	1.4	1.6	1.7	15	106	20	54	5.3	3.2	5.9	9.2
4	2.0	1.7	1.5	1.9	14	32	21	31	4.8	2.5	0.90	4.9
5	1.7	2.0	1.5	2.0	11	21	17	25	4.6	1.8	0.26	3.0
6	1.6	1.9	1.6	2.1	10	18	15	20	11	1.3	0.16	2.1
7	1.7	1.9	1.8	10	11	16	13	18	57	1.0	0.14	1.5
8	1.5	1.9	2.3	8.8	10	13	13	15	13	0.84	0.02	1.1
9	1.3	2.1	9.4	6.2	8.5	12	12	20	9.3	0.71	0.00	0.87
10	1.4	2.2	3.9	11	7.9	16	14	16	7.2	0.85	0.00	0.81
11	1.5	1.9	2.8	39	14	11	11	11	5.8	0.66	0.00	0.66
12	1.5	1.8	2.4	22	9.3	9.8	10	25	15	0.38	0.00	0.59
13	1.5	1.8	2.7	13	8.6	16	11	184	14	0.24	0.00	0.14
14	1.3	2.0	3.5	9.1	6.8	16	11	326	20	0.23	0.00	0.06
15	1.6	2.1	3.9	7.9	6.8	12	11	60	19	0.37	0.00	4.6
16	1.4	2.1	2.7	6.8	7.4	12	9.6	38	12	0.45	0.00	32
17	1.4	2.1	2.6	6.3	7.0	9.7	8.7	30	10	0.17	0.00	6.0
18	1.1	1.9	11	5.6	5.8	64	7.9	301	7.6	0.04	0.00	2.9
19	1.2	1.8	6.0	3.9	5.2	42	7.3	78	22	6.1	0.00	2.1
20	1.2	1.8	4.5	5.2	5.3	268	7.1	47	9.6	15	1.5	1.7
21	1.4	1.4	3.4	4.8	11	124	7.0	35	6.8	2.1	0.32	1.5
22	1.2	1.4	2.8	4.8	7.0	59	13	28	5.3	1.1	0.0	1.3
23	1.4	1.2	2.6	5.9	5.8	40	9.2	23	4.4	0.73	0.00	0.99
24	1.3	1.2	14	73	5.2	32	6.5	20	3.8	0.60	0.54	0.81
25	1.1	4.0	7.0	36	5.0	39	12	16	3.1	0.61	5.1	0.60
26	0.72	6.2	5.1	19	5.1	47	14	14	2.6	0.32	0.87	1.4
27	0.75	2.7	4.0	15	5.1	98	8.0	13	49	0.26	0.24	141
28	0.72	2.0	3.5	12	4.6	42	102	12	48	0.49	0.07	67
29	0.82	1.8	3.1	11	---	33	56	11	12	0.50	17	18
30	0.96	2.0	2.6	9.7	---	26	31	9.3	6.5	0.30	4.4	11
31	1.1	---	2.1	17	---	25	---	8.4	---	0.09	1.5	---
TOTAL	44.97	60.4	119.5	374.0	255.4	1267.6	525.3	1612.7	406.6	51.74	39.04	441.83
MEAN	1.451	2.013	3.855	12.06	9.121	40.89	17.51	52.02	13.55	1.669	1.259	14.73
MAX	3.4	6.2	14	73	22	268	102	326	57	15	17	141
MIN	0.72	1.0	1.5	1.6	4.6	4.0	6.5	8.4	2.6	0.04	0.00	0.06
CF5M	0.06	0.08	0.15	0.47	0.35	1.59	0.68	2.02	0.53	0.06	0.05	0.57
IN.	0.07	0.09	0.17	0.54	0.37	1.83	0.76	2.33	0.59	0.07	0.06	0.64

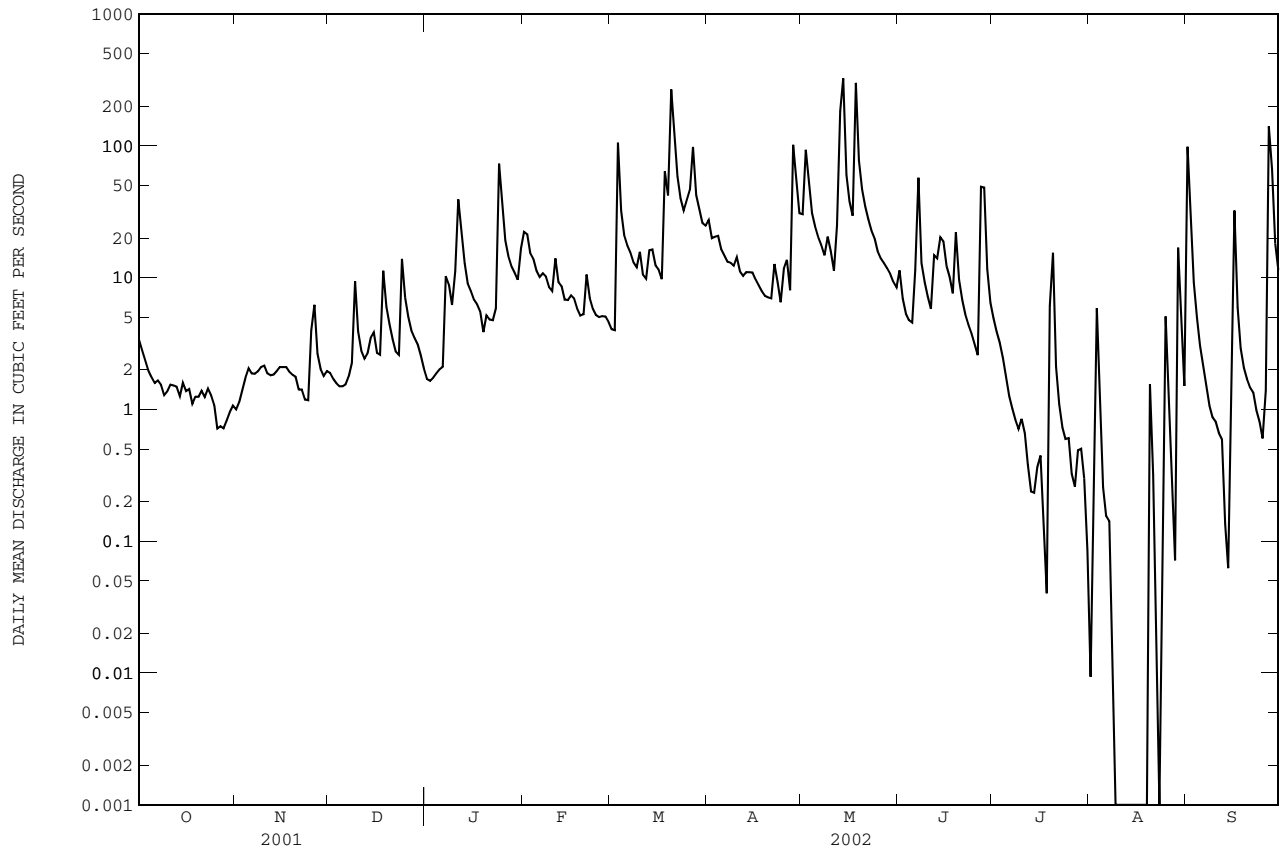
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2002, BY WATER YEAR (WY)

	14.98	32.95	48.30	56.56	58.39	76.42	54.68	33.47	21.43	18.06	17.80	18.68
MEAN	14.98	32.95	48.30	56.56	58.39	76.42	54.68	33.47	21.43	18.06	17.80	18.68
MAX	147	139	206	280	147	201	200	135	119	138	216	283
(WY)	1997	1933	1997	1994	1939	1994	1983	1989	1972	1938	1971	1999
MIN	0.67	0.90	1.42	1.14	3.92	15.2	7.20	3.78	1.11	0.066	0.44	0.47
(WY)	1965	1966	1999	1981	1934	1985	1985	1963	1965	1999	1964	1965

01398000 NESHANIC RIVER AT REAVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1931 - 2002	
ANNUAL TOTAL	11231.02		5199.08			
ANNUAL MEAN	30.77		14.24		37.55	
HIGHEST ANNUAL MEAN					70.8 1994	
LOWEST ANNUAL MEAN					14.2 2002	
HIGHEST DAILY MEAN	593	Mar 30	326	May 14	7000	Sep 16 1999
LOWEST DAILY MEAN	0.72	Oct 26	0.00	Aug 1	0.00	Jul 29 1965
ANNUAL SEVEN-DAY MINIMUM	0.87	Oct 26	0.00	Aug 9	0.00	Aug 4 1966
MAXIMUM PEAK FLOW			1540	May 14	23100a	Sep 16 1999
MAXIMUM PEAK STAGE			7.06	May 14	15.33b	Sep 16 1999
INSTANTANEOUS LOW FLOW			0.00	Jul 19	0.00	Jul 29 1965
ANNUAL RUNOFF (CFSM)	1.20		0.55		1.46	
ANNUAL RUNOFF (INCHES)	16.26		7.53		19.85	
10 PERCENT EXCEEDS	73		31		76	
50 PERCENT EXCEEDS	7.1		5.1		12	
90 PERCENT EXCEEDS	1.4		0.50		1.3	

a From rating curve extended above 1,700 ft³/s on basis of slope-area measurement 0.7 mi downstream (adjusted to present site) at gage height 11.90 ft.
 b From high-water mark in gage house.



01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, NJ

LOCATION.--Lat 40°42'30", long 74°38'11", Somerset County, Hydrologic Unit 02030105, on left bank 75 ft upstream from Ravine Lake Dam, 1.3 mi southeast of Peakpack, 1.6 mi north of Far Hills, and 2.3 mi upstream from Peapack Brook.

DRAINAGE AREA.--26.2 mi².

PERIOD OF RECORD.--October 1921 to September 1975, October 1977 to current year. Operated as crest-stage gage, water years 1976-77. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23, 1924-25(M), 1935(M). WSP 1902: 1954.

GAGE.--Water-stage recorder and crest-stage gage above masonry dam. Datum of gage is 224.49 ft above NGVD of 1929 (New Jersey Geological Survey bench mark). Prior to June 18, 1925, nonrecording gage in stilling box at left end of dam at same datum.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Records formerly included a diversion by small turbine at dam (average discharge, 3.0 ft³/s) which returned to river 1,000 ft downstream from Ravine Lake Dam. Turbine is no operated. Flow regulated occasionally by operation of waste gate in dam. Telephone, radio, and satellite telemetry for gage height. Telemetry for rain gage 500 ft downstream from station. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 28	2330	*793	*3.48	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	e6.9	e8.2	e15	e15	e10	19	56	47	14	5.5	6.8
2	9.1	e6.9	e8.1	e15	e22	e13	17	123	28	14	5.2	8.3
3	e11	e7.0	e7.8	e15	e15	e85	18	62	23	13	6.9	7.1
4	e10	e7.2	e8.8	e15	e13	e28	24	44	21	12	6.6	5.9
5	e10	e7.6	e8.4	e15	e11	e18	18	40	22	11	5.7	5.4
6	e7.7	e7.3	e8.4	e14	e11	e15	16	37	60	9.2	5.5	5.0
7	e7.9	e7.3	e8.9	e18	e11	e14	14	35	194	8.8	5.1	4.4
8	e7.5	e6.7	e11	e15	e11	e13	14	32	47	8.8	4.4	4.2
9	e7.3	e6.1	e21	e13	e11	e13	14	35	34	9.0	4.2	4.1
10	e7.1	e8.4	e13	e11	e11	e16	16	35	28	14	4.4	4.4
11	e6.7	e7.7	e9.7	e15	e14	e18	14	28	24	9.5	4.4	4.0
12	e6.7	e7.5	e9.4	e18	e13	e15	13	27	24	8.0	4.4	2.9
13	e7.1	e7.4	e9.6	e15	e12	e15	14	134	24	7.7	4.4	2.8
14	e7.6	e8.3	e10	e12	12	e15	31	191	37	8.5	3.9	2.8
15	e11	e8.3	e10	e12	e11	e13	40	59	45	9.3	3.8	8.0
16	e11	8.3	e10	e13	e11	e12	28	49	34	8.6	3.8	30
17	e8.4	e8.3	e12	e13	e10	e11	21	44	30	7.7	3.7	11
18	e8.3	e7.6	e25	e11	e9.7	e21	18	113	23	8.7	3.6	6.1
19	e7.9	e7.8	e17	e9.0	e9.0	e28	19	59	21	24	3.4	5.0
20	e7.7	e8.3	e11	e11	e10	e80	45	49	20	13	4.0	4.7
21	e7.6	e8.3	e11	e12	e13	71	26	45	17	8.5	4.3	4.7
22	e7.3	e8.0	e9.7	e11	e11	33	22	42	17	7.7	3.8	4.7
23	e7.7	e7.7	e12	e11	e8.6	25	23	39	16	7.4	3.7	4.3
24	e7.6	e8.4	e24	e21	e8.4	21	18	37	15	9.7	4.2	3.9
25	e7.4	e9.8	e15	e28	e9.8	18	20	33	14	8.3	6.5	3.7
26	e7.2	e16	e12	e17	e10	18	35	30	14	7.2	5.6	3.9
27	e7.1	e10	13	e15	e11	55	22	29	21	7.2	4.7	30
28	e7.0	e8.5	e11	e13	e10	31	147	27	46	7.2	4.1	23
29	e6.7	e8.3	e11	e12	---	24	214	26	21	7.2	35	10
30	e6.8	e8.7	e11	e12	---	21	63	25	15	6.5	19	6.9
31	e6.8	---	e13	e12	---	19	---	24	---	5.8	7.7	---
TOTAL	248.8	244.6	370.0	439.0	324.5	789	1003	1609	982	301.5	191.5	228.0
MEAN	8.026	8.153	11.94	14.16	11.59	25.45	33.43	51.90	32.73	9.726	6.177	7.600
MAX	11	16	25	28	22	85	214	191	194	24	35	30
MIN	6.7	6.1	7.8	9.0	8.4	10	13	24	14	5.8	3.4	2.8
CFSM	0.31	0.31	0.46	0.54	0.44	0.97	1.28	1.98	1.25	0.37	0.24	0.29
IN.	0.35	0.35	0.53	0.62	0.46	1.12	1.42	2.28	1.39	0.43	0.27	0.32

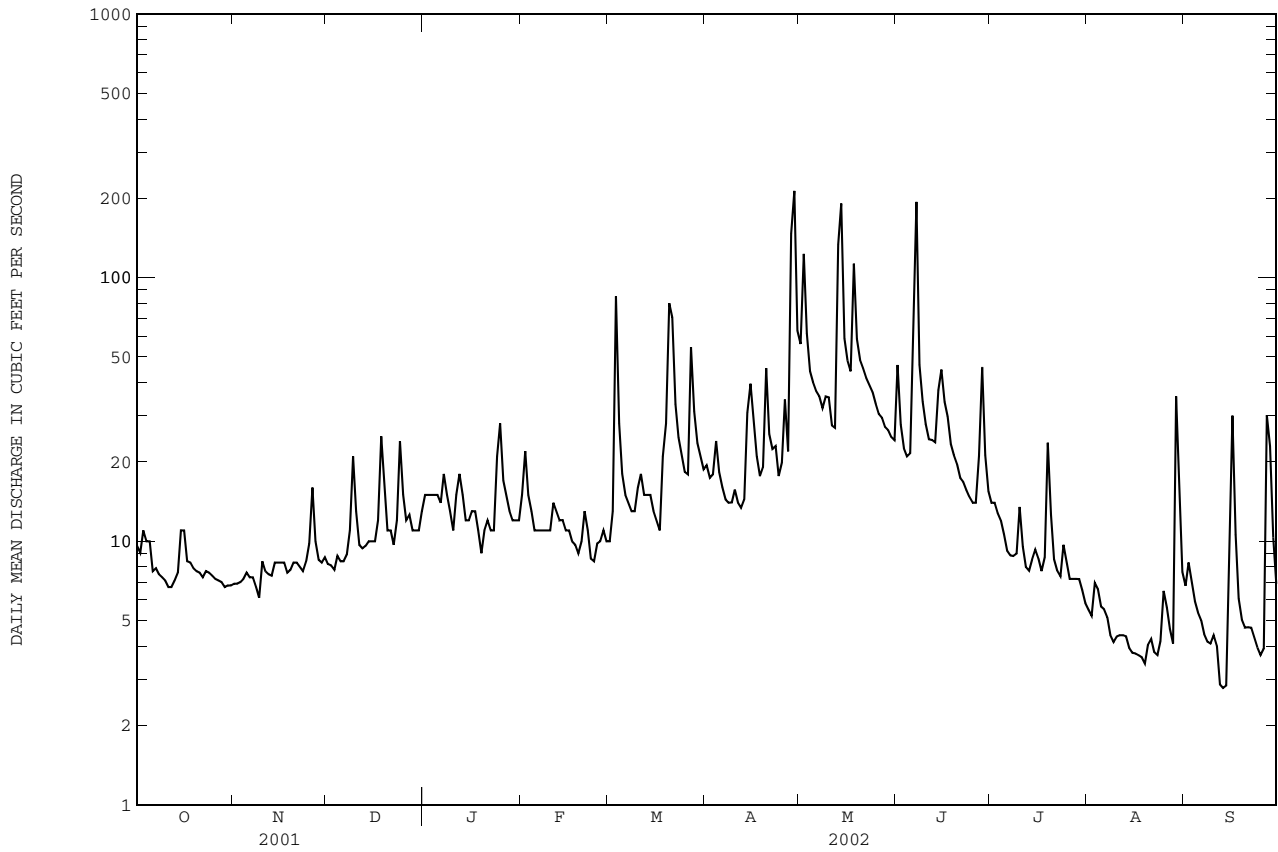
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

MEAN	26.12	41.81	48.72	53.84	58.45	80.98	81.19	59.11	38.80	29.99	27.29	26.72
MAX	120	170	124	182	128	207	226	178	190	132	153	134
(WY)	1997	1928	1974	1979	1973	1936	1983	1989	1972	1984	1942	1971
MIN	6.29	8.15	7.93	6.76	11.6	22.8	26.8	20.0	10.5	4.41	4.55	3.61
(WY)	1954	2002	1999	1981	2002	1981	1985	1965	1965	1966	1965	1964

01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	11755.6		6730.9			
ANNUAL MEAN	32.21		18.44		47.68	
HIGHEST ANNUAL MEAN					89.7 1928	
LOWEST ANNUAL MEAN					17.7 1965	
HIGHEST DAILY MEAN	240	Mar 30	214	Apr 29	1770	Oct 19 1996
LOWEST DAILY MEAN	5.0	Jun 9	2.8	Sep 13	0.20	Oct 22 1953
ANNUAL SEVEN-DAY MINIMUM	6.9	Oct 28	3.6	Sep 8	0.20	Oct 22 1953
MAXIMUM PEAK FLOW			793	Apr 28	6390a	Aug 28 1971
MAXIMUM PEAK STAGE			3.48	Apr 28	7.28	Aug 28 1971
INSTANTANEOUS LOW FLOW			2.6	Sep 13	0.00b	
ANNUAL RUNOFF (CFSM)	1.23		0.70		1.82	
ANNUAL RUNOFF (INCHES)	16.69		9.56		24.73	
10 PERCENT EXCEEDS	72		35		94	
50 PERCENT EXCEEDS	22		11		32	
90 PERCENT EXCEEDS	7.7		5.1		9.8	

a From rating curve extended above 2000 ft³/s on basis of flow-over-dam computation of peak flow.
 b Several times when lake was filling.
 e Estimated



RARITAN RIVER BASIN

01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ

LOCATION.--Lat 40°43'39", long 74°43'50", Morris County, Hydrologic Unit 02030105, on right bank 1.1 mi upstream from bridge on County Highway 512, 1.2 mi northwest of Pottersville, and 5.5 mi upstream from Cold Brook.

DRAINAGE AREA.--32.8 mi².

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October and November 1921, published in WSP 1302. Prior to October 1952, published as "Black River near Pottersville".

REVISED RECORDS.--WSP 741: 1932. WSP 781: Drainage area. WSP 1552: 1922, 1924-29(M), 1931(M), 1933-34(M), 1938(P), 1939(M), 1940, 1941(M), 1942-46(P), 1947(M), 1948-49(P), 1951-52(P), 1953(M). WDR-NJ-80-1: 1979(P).

GAGE.--Water-stage recorder. Concrete control since July 1, 1937. Datum of gage is 284.14 ft above NGVD of 1929 (levels from New Jersey U.S. Geological Survey bench mark). Prior to July 1, 1922, nonrecording gage on downstream side of highway bridge at Pottersville, 1.1 mi downstream at different datum.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Flow regulated occasionally by ponds above station. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 28	2145	*535	*3.20	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	8.1	13	16	28	13	30	83	39	38	7.4	e13
2	12	8.3	12	17	28	13	28	109	34	37	7.9	13
3	11	8.8	11	20	26	64	27	85	32	33	7.8	14
4	11	8.4	11	22	24	39	27	71	30	29	6.5	13
5	10	8.4	11	19	30	30	26	64	30	25	6.3	11
6	9.7	8.3	11	14	33	29	25	58	64	22	6.0	9.5
7	8.4	8.3	12	17	19	29	24	53	135	20	5.2	8.7
8	8.3	8.3	14	14	18	28	24	46	75	18	5.0	7.8
9	7.7	8.2	30	13	17	26	24	45	75	17	5.2	6.6
10	6.7	8.2	23	12	17	26	24	42	73	15	5.0	6.0
11	6.4	8.9	20	15	20	22	22	37	62	13	4.9	5.3
12	6.8	11	19	16	19	20	21	36	54	13	4.0	4.4
13	6.9	11	19	16	17	21	22	84	47	13	4.0	4.4
14	6.6	10	e19	16	25	20	30	130	e50	e12	3.8	5.1
15	10	10	e18	16	30	19	34	77	e47	e12	3.5	14
16	8.3	9.8	e18	17	17	19	29	76	e45	11	3.8	14
17	8.3	8.9	e17	17	16	18	28	73	e43	9.2	3.5	10
18	8.3	8.6	28	18	15	24	28	109	40	10	3.2	9.5
19	8.3	8.3	23	19	15	24	30	84	38	12	2.8	8.8
20	9.0	8.4	22	18	15	55	35	72	35	11	3.4	8.8
21	11	7.5	20	17	18	55	32	72	31	10	3.2	8.3
22	12	9.6	20	15	16	41	32	67	29	10	2.9	7.2
23	11	15	19	15	15	38	31	60	27	11	2.9	6.5
24	10	11	30	24	15	37	29	53	26	10	3.6	6.1
25	9.6	11	24	27	15	34	32	46	23	9.3	5.1	6.1
26	9.0	13	22	24	15	33	32	41	23	9.6	3.8	6.5
27	7.4	10	23	23	15	50	28	38	29	9.3	3.4	25
28	7.4	10	29	23	14	37	112	36	34	9.3	3.2	18
29	7.4	11	18	23	---	33	133	36	29	9.0	17	15
30	7.4	12	22	24	---	32	84	35	33	8.3	e8.3	13
31	7.5	---	29	24	---	31	---	35	---	7.8	e11	---
TOTAL	276.4	288.3	607	571	552	960	1083	1953	1332	473.8	163.6	298.6
MEAN	8.92	9.61	19.6	18.4	19.7	31.0	36.1	63.0	44.4	15.3	5.28	9.95
MAX	13	15	30	27	33	64	133	130	135	38	17	25
MIN	6.4	7.5	11	12	14	13	21	35	23	7.8	2.8	4.4
CFSM	0.27	0.29	0.60	0.56	0.60	0.94	1.10	1.92	1.35	0.47	0.16	0.30
IN.	0.31	0.33	0.69	0.65	0.63	1.09	1.23	2.21	1.51	0.54	0.19	0.34

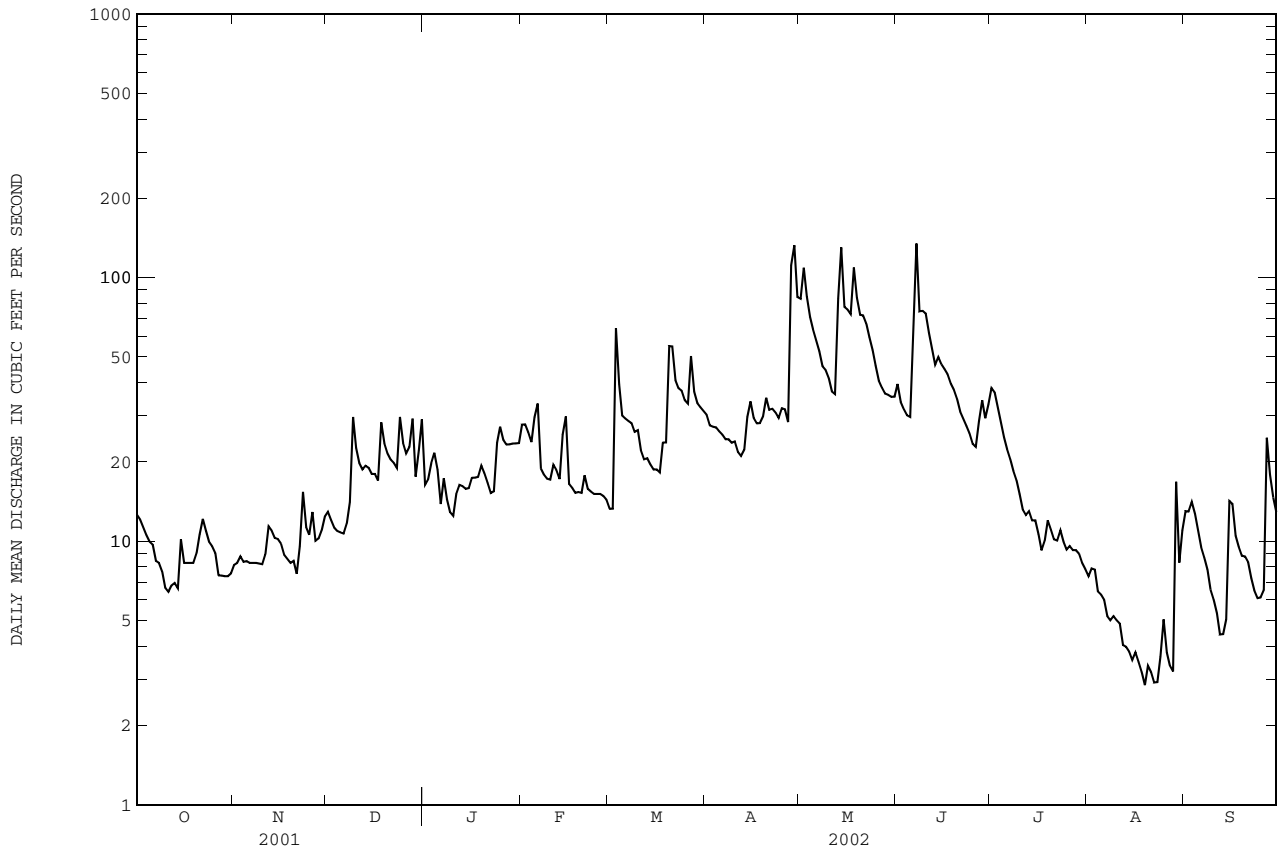
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)
33.8	48.7	59.2	64.3	69.6	89.4	87.5	66.7	45.9	36.0	32.3	32.2	
116	163	207	225	144	230	239	169	191	165	126	123	
1956	1928	1997	1979	1973	1936	1984	1989	1972	1984	1928	1971	
5.69	9.61	15.4	11.7	19.7	31.0	25.9	19.0	10.1	5.48	5.28	3.76	
1931	2002	1981	1981	2002	2002	1985	1965	1965	1965	2002	1964	

01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	14140.7		8558.7			
ANNUAL MEAN	38.7		23.4		55.4	
HIGHEST ANNUAL MEAN					104	1928
LOWEST ANNUAL MEAN					20.5	1965
HIGHEST DAILY MEAN	224	Jun 2	135	Jun 7	905	Jan 25 1979
LOWEST DAILY MEAN	6.4	Oct 11	2.8	Aug 19	1.5	Oct 4 1930
ANNUAL SEVEN-DAY MINIMUM	6.7	Sep 7	3.1	Aug 17	2.4	Sep 22 1964
MAXIMUM PEAK FLOW			535	Apr 28	3460a	Jul 7 1984
MAXIMUM PEAK STAGE			3.20	Apr 28	5.94b	Jul 7 1984
INSTANTANEOUS LOW FLOW			2.7	Aug 19,20	1.3	Oct 4 1930
ANNUAL RUNOFF (CFSM)	1.18		0.71		1.69	
ANNUAL RUNOFF (INCHES)	16.04		9.71		22.94	
10 PERCENT EXCEEDS	80		46		111	
50 PERCENT EXCEEDS	30		17		42	
90 PERCENT EXCEEDS	8.4		6.6		14	

- a From rating curve extended above 380 ft³/s on basis of slope-area measurement at gage height 4.71 ft
- b From floodmark.
- e Estimated



RARITAN RIVER BASIN

01399670 SOUTH BRANCH ROCKAWAY CREEK AT WHITEHOUSE STATION, NJ

LOCATION.--Lat 40°37'10", long 74°46'30", Hunterdon County, Hydrologic Unit 02030105, on right bank 1,700 ft upstream from bridge on U.S. Route 22, 0.4 mi northeast of Whitehouse Station, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--12.3 mi².

PERIOD OF RECORD.--October 1986 to current year. March 1977 to September 1986, water-stage recorder 1,700 ft downstream, at datum 8.07 ft lower (sta. 01399690), drainage area 13.2 mi².

REVISED RECORDS.--WDR NJ-88-1: 1987. WDR NJ-90-1: 1988.

GAGE.--Water-stage recorder. Datum of gage is 121.5 ft above NGVD of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Releases from Round Valley Reservoir enter stream directly upstream from station (see Raritan River basin, reservoirs in and diversions from). Satellite telemetry at station. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.1	94	134	9.6	57	9.7	15	11	4.5	248	7.3
2	30	4.1	93	120	9.5	64	7.6	71	6.1	4.2	266	7.0
3	66	4.2	104	116	6.3	78	9.6	31	5.2	25	207	3.9
4	65	3.7	118	110	6.1	13	11	16	5.0	50	131	3.1
5	44	3.9	120	111	4.8	8.7	7.5	13	5.0	69	129	2.6
6	4.0	3.1	120	107	4.7	6.6	7.0	11	11	94	148	2.2
7	3.7	3.4	120	56	5.0	6.1	6.3	11	50	120	233	2.1
8	3.3	6.2	112	5.8	4.7	5.4	6.4	9.4	11	138	231	2.1
9	3.3	31	73	4.5	4.2	5.2	6.2	14	8.4	151	235	2.2
10	3.5	70	47	11	4.4	9.1	6.5	11	7.4	142	235	2.1
11	3.5	70	50	18	6.5	5.3	5.6	8.1	6.6	143	243	2.6
12	3.6	70	68	11	4.3	5.0	5.4	8.8	8.8	158	252	0.95
13	3.7	87	68	7.9	4.3	6.5	6.3	207	9.6	177	261	1.6
14	3.5	113	46	6.1	3.6	6.3	14	181	19	181	278	2.6
15	7.1	115	32	5.6	3.8	5.4	20	33	15	181	282	9.0
16	4.0	115	53	5.3	4.1	5.2	9.2	23	9.5	190	282	12
17	3.7	115	58	4.9	15	4.7	7.2	18	7.8	213	283	4.1
18	3.3	115	35	4.6	21	24	6.3	77	6.5	231	283	2.8
19	3.5	115	7.0	16	27	18	5.9	26	7.5	221	282	2.7
20	3.7	115	30	53	38	92	5.8	18	6.1	149	235	2.7
21	3.7	115	45	71	28	37	5.6	15	5.5	122	226	2.7
22	7.3	115	55	60	13	17	7.0	13	5.1	133	249	2.6
23	4.4	110	74	34	5.5	13	5.9	12	4.6	152	241	2.5
24	4.0	100	45	30	34	11	5.0	10	4.5	141	196	2.2
25	3.9	89	6.5	14	59	9.4	8.8	9.3	e3.0	141	162	2.2
26	3.9	88	21	7.8	59	9.1	9.4	8.8	e3.3	161	139	3.2
27	3.7	67	45	6.4	53	34	5.7	8.6	8.1	173	146	35
28	3.2	57	53	5.9	52	13	66	7.7	17	173	146	13
29	3.6	76	61	5.5	---	10	47	9.9	5.6	189	72	4.3
30	4.3	94	66	5.3	---	9.3	17	7.1	4.7	199	6.1	3.2
31	4.1	---	113	6.0	---	8.6	---	7.5	---	223	3.3	---
TOTAL	312.9	2074.7	2032.5	1153.6	490.4	596.9	340.9	911.2	277.9	4448.7	6330.4	146.55
MEAN	10.1	69.2	65.6	37.2	17.5	19.3	11.4	29.4	9.26	144	204	4.88
MAX	66	115	120	134	59	92	66	207	50	231	283	35
MIN	3.2	3.1	6.5	4.5	3.6	4.7	5.0	7.1	3.0	4.2	3.3	0.95

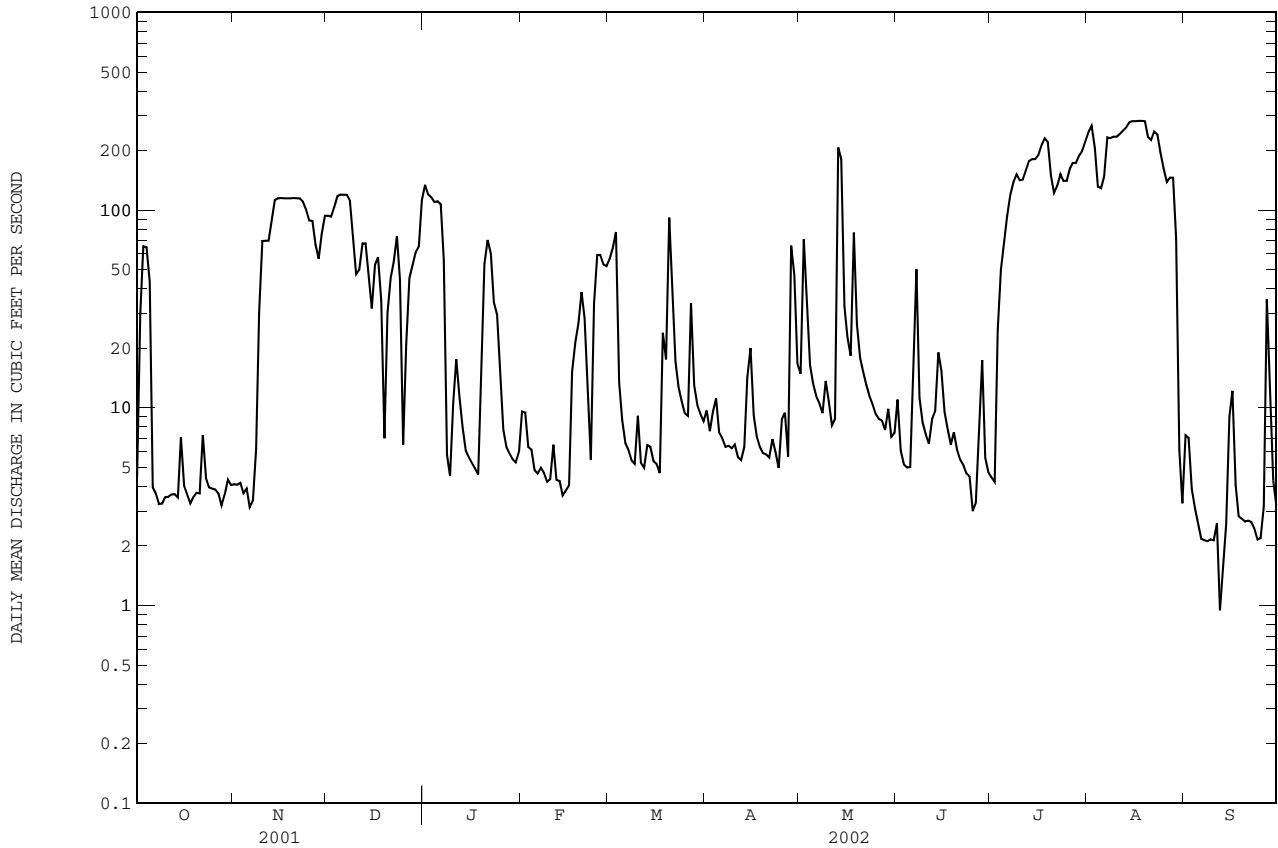
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2002, BY WATER YEAR (WY)

	MEAN	26.0	28.2	34.6	32.9	25.7	32.3	29.9	24.9	19.0	33.3	36.1	26.8
MAX	116	88.9	91.6	93.3	51.1	74.5	85.0	60.5	46.4	245	204	146	
(WY)	1981	1999	1981	1981	1979	1994	1983	1989	2001	1999	2002	1980	
MIN	4.55	6.58	9.85	8.31	9.90	10.2	3.80	8.18	8.50	4.78	5.49	4.19	
(WY)	1995	1982	1996	1985	1992	1985	1985	1995	1993	1993	1983	1983	

01399670 SOUTH BRANCH ROCKAWAY CREEK AT WHITEHOUSE STATION, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1977 - 2002	
ANNUAL TOTAL	10422.9		19116.65			
ANNUAL MEAN	28.6		52.4		29.4	
HIGHEST ANNUAL MEAN					66.0 1999	
LOWEST ANNUAL MEAN					11.1 1992	
HIGHEST DAILY MEAN	193	Jun 2	283	Aug 17, 18	885	Sep 16 1999
LOWEST DAILY MEAN	3.0	Sep 13	0.95	Sep 12	0.07	Nov 12 1994
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 7	1.9	Sep 7	0.09	Aug 5 1995
MAXIMUM PEAK FLOW			907	May 13	2620	Sep 16 1999
MAXIMUM PEAK STAGE			6.62	May 13	10.68	Sep 16 1999
INSTANTANEOUS LOW FLOW			0.32	Sep 12	0.00	Feb 2 1993
10 PERCENT EXCEEDS	75		161		71	
50 PERCENT EXCEEDS	15		11		14	
90 PERCENT EXCEEDS	4.0		3.6		4.7	

e Estimated



RARITAN RIVER BASIN

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, NJ

LOCATION.--Lat 40°34'10", long 74°40'45", Somerset County, Hydrologic Unit 02030105, on right bank, 400 ft upstream from U.S. Highway 202, 1.4 mi upstream from confluence with South Branch Raritan River, and 2.7 mi west of Raritan.

DRAINAGE AREA.--190 mi².

PERIOD OF RECORD.--June 1923 to current year. Monthly discharge only for June 1923, published in WSP 1302. Prior to October 1943, published as "at Milltown".

REVISED RECORDS.--WSP 1552: 1924-26, 1928-35. WDR NJ-79-1: 1971-78(P).

GAGE.--Water-stage recorder. Concrete control since Sept. 1, 1936. Datum of gage is 50.43 ft above NGVD of 1929. Prior to Oct. 17, 1936, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--Records good, except those above 2,000 ft³/s, which are fair. Releases from Round Valley Reservoir enter basin upstream from gage (See station number 01399670 and Raritan River Basin, diversions in). Occasional regulation from gate operation at Ravine Lake, 13.8 mi upstream. Several measurements of water temperature were made during the year. U.S. Geological Survey satellite and National Weather Service telephone gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 14	0500	*7,730	*9.25	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	42	142	181	103	105	142	319	208	93	238	67
2	62	44	141	168	144	109	124	925	134	90	282	85
3	110	46	142	161	103	681	126	526	114	89	312	60
4	108	50	156	156	93	244	170	294	107	112	173	52
5	103	48	161	157	77	142	123	244	105	121	147	43
6	53	46	161	156	74	115	111	213	201	133	154	36
7	49	43	162	169	81	108	104	192	853	158	173	31
8	45	46	171	83	75	99	100	173	258	165	226	30
9	43	46	238	70	71	93	101	185	182	188	233	28
10	43	111	152	68	68	106	108	185	168	182	233	25
11	42	112	108	116	91	92	97	147	148	172	234	23
12	41	113	128	145	81	83	91	139	156	178	241	19
13	43	120	127	109	74	89	95	820	171	196	247	16
14	41	154	128	90	61	95	165	3150	232	203	255	16
15	60	160	98	81	64	86	244	537	293	206	264	48
16	72	159	110	80	70	82	160	357	173	209	263	197
17	53	159	116	78	68	75	124	298	154	220	265	78
18	47	157	206	74	79	220	111	1140	131	235	265	48
19	45	157	132	62	76	243	105	521	133	279	263	38
20	44	159	94	103	92	895	143	335	117	221	263	35
21	46	159	110	144	119	653	121	285	105	159	219	32
22	47	159	104	125	94	259	119	254	97	157	237	31
23	51	158	129	113	70	189	118	224	91	167	241	29
24	49	153	211	224	75	163	100	201	87	177	232	26
25	49	147	118	225	113	145	115	179	82	168	217	23
26	48	198	85	128	116	137	170	164	78	175	153	28
27	45	139	110	103	112	478	114	158	128	191	161	345
28	41	108	106	93	105	218	734	149	266	192	157	192
29	40	112	123	90	---	166	1030	146	115	200	367	90
30	40	141	112	88	---	149	352	136	93	208	129	63
31	42	---	135	89	---	139	---	135	---	219	60	---
TOTAL	1664	3446	4216	3729	2449	6458	5517	12731	5180	5463	6904	1834
MEAN	53.68	114.9	136.0	120.3	87.46	208.3	183.9	410.7	172.7	176.2	222.7	61.13
MAX	110	198	238	225	144	895	1030	3150	853	279	367	345
MIN	40	42	85	62	61	75	91	135	78	89	60	16

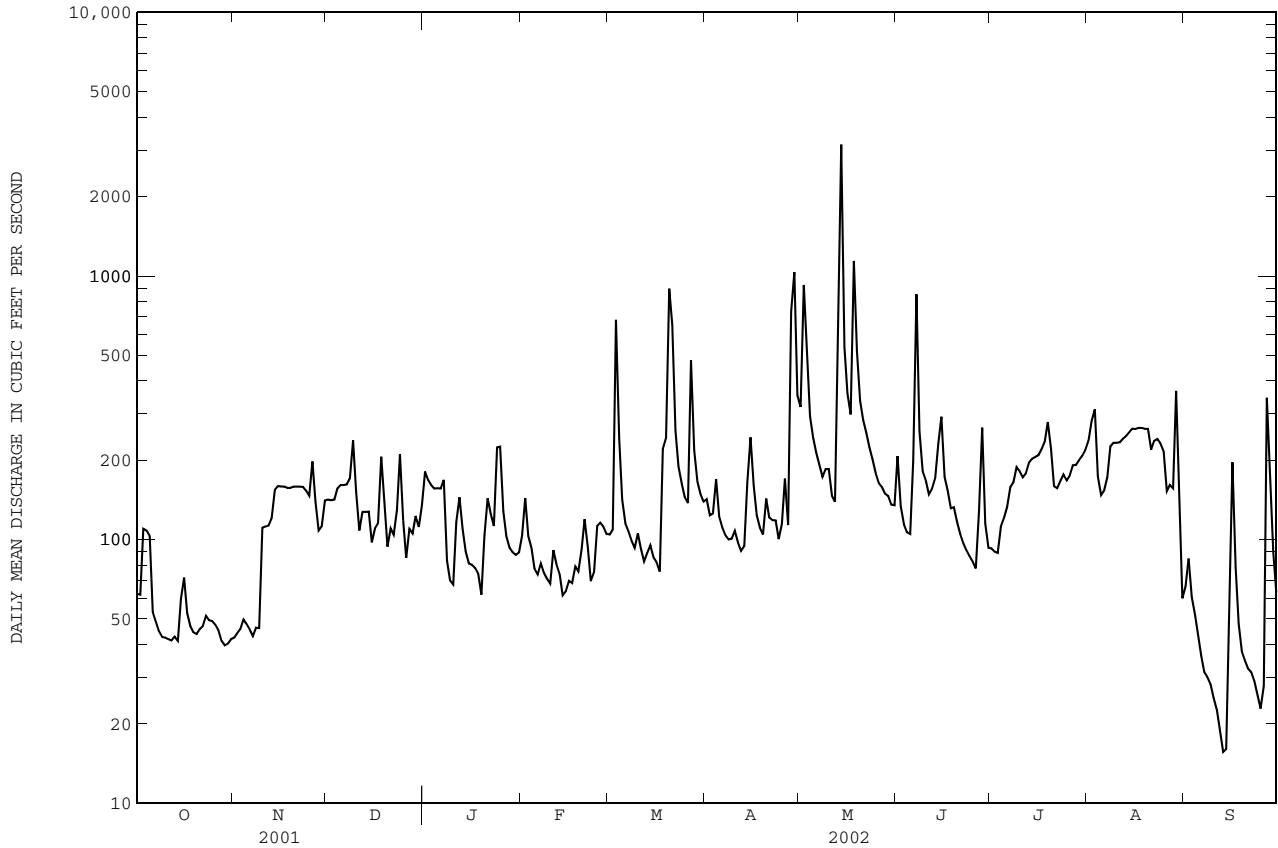
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2002, BY WATER YEAR (WY)

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
MEAN	174.6	276.6	348.1	390.8	426.9	516.6	467.0	342.2	224.2	183.7	186.3	170.4
MAX	882	824	1077	1416	948	1272	1368	1027	1270	1291	1068	675
(WY)	1997	1973	1997	1979	1925	1936	1983	1989	1972	1984	1942	1999
MIN	26.6	46.1	73.1	79.4	87.5	163	117	84.1	46.4	25.5	22.3	14.8
(WY)	1931	1965	1966	1940	2002	1981	1985	1926	1965	1966	1932	1964

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1924 - 2002	
ANNUAL TOTAL	81256		59591			
ANNUAL MEAN	222.6		163.3		308.3	
HIGHEST ANNUAL MEAN					605	1984
LOWEST ANNUAL MEAN					120	1965
HIGHEST DAILY MEAN	2220	Jun 2	3150	May 14	15300	Jul 7 1984
LOWEST DAILY MEAN	24	Sep 13	16	Sep 13,14	7.5	Sep 26 1964
ANNUAL SEVEN-DAY MINIMUM	28	Sep 7	22	Sep 8	8.9	Sep 22 1964
MAXIMUM PEAK FLOW			7730	May 14	29100	Oct 19 1996
MAXIMUM PEAK STAGE			9.25	May 14	18.98	Sep 16 1999
INSTANTANEOUS LOW FLOW			14	Sep 13	3.0a	Nov 28 1930
10 PERCENT EXCEEDS	437		256		615	
50 PERCENT EXCEEDS	151		125		183	
90 PERCENT EXCEEDS	46		46		57	

a About, result of freezeup.



RARITAN RIVER BASIN

01400500 RARITAN RIVER AT MANVILLE, NJ

LOCATION.--Lat 40°33'18", long 74°35'02", Somerset County, Hydrologic Unit 02030105, on left bank at downstream side of bridge on North Main Street (Finderne Avenue) at Manville, and 1.4 mi upstream from Millstone River.

DRAINAGE AREA.--490 mi².

PERIOD OF RECORD.--June 1903 to March 1907 (published as "at Finderne"), August 1908 to April 1915 (gage heights only, published in WSP 521), August 1921 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1552: 1904, 1906, 1922, 1923(M), 1924-25, 1926-29(M), 1930, 1932-33(M), 1924-54. WDR NJ-75-1: 1964(M), 1969(M), 1970(P), 1971(P), 1972(P), 1973(P), WDR-NJ-1-02: 2000(M).

GAGE.--Water-stage recorder. Datum of gage is 20.61 ft above NGVD of 1929. Prior to Aug. 15, 1923, nonrecording gage on downstream side of highway bridge at same site and datum. From Oct. 1, 1952 to Sept. 30, 1966, water-stage recorder at station at Bound Brook, above Calco Dam (station 01403000) used as auxiliary gage when stage is above 5.50 ft. In Oct. 1, 1966, water-stage recorder at station at Bound Brook, used as auxiliary gage, was moved downstream to present site (station 01403060). Between June 9, 1978 and June 7, 1979, gage temporarily relocated at site 1.4 mi downstream, just upstream from Millstone River, because of reconstruction of highway bridge.

REMARKS.--Records good. Records given herein represent flow at gage only. Slight diurnal fluctuation at low flow. Flow regulated by Spruce Run and Round Valley Reservoirs (see Raritan River basin, reservoirs in). Diversion to Round Valley Reservoir since March 1966 (see Raritan River basin, diversions). Prior to Sept. 1, 1986, water diverted 1,500 ft upstream from station by Johns-Manville Corporation and returned to river, 600 ft downstream from Millstone River. Several measurements of water temperature were made during the year. USGS satellite and National Weather Service telephone gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 14	0930	*10,600	*11.97	No other peak greater than base discharge.			

REVISIONS.--Peak discharge for the annual maximum (*) for water year 2000 has been revised as shown in the following table. It supercedes the peak flow published in the annual water data report for water year 2000.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug 13	0300	*10,000e	unknown

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	260	235	468	301	197	420	669	466	284	321	247
2	268	257	226	399	389	202	370	1520	366	253	368	577
3	253	259	220	268	324	1360	337	1480	283	228	556	224
4	239	248	245	260	277	840	410	726	254	243	309	164
5	230	241	251	263	233	448	343	508	242	240	232	142
6	223	257	252	273	206	347	305	435	324	244	243	125
7	214	248	251	352	228	313	281	420	1880	275	235	151
8	260	239	271	245	211	279	264	378	874	281	306	218
9	254	250	424	215	197	258	262	379	474	309	322	233
10	264	249	342	205	184	287	278	425	389	306	325	223
11	265	250	215	321	228	269	266	325	338	288	322	213
12	255	256	211	455	219	236	246	294	398	285	334	217
13	254	267	226	317	197	254	251	877	526	301	342	246
14	257	285	233	255	171	297	318	6750	436	312	350	264
15	259	286	194	230	166	253	431	1600	777	313	358	328
16	276	281	202	212	183	234	367	940	485	310	355	585
17	220	275	207	207	178	215	267	743	399	313	356	294
18	207	271	347	197	182	522	241	3040	335	339	359	203
19	237	275	339	178	173	755	238	2190	445	404	354	241
20	256	282	214	207	186	1960	272	1090	389	489	405	240
21	272	275	209	280	242	2690	281	779	298	282	316	241
22	269	269	196	258	217	1010	256	664	265	254	312	249
23	268	264	207	241	180	652	268	581	242	263	343	247
24	256	258	390	505	164	530	246	533	221	280	336	244
25	245	271	316	770	194	451	247	468	218	278	388	243
26	237	362	208	434	209	402	358	417	221	262	258	269
27	250	300	199	329	212	1090	258	401	416	284	247	1260
28	250	203	206	283	201	704	1180	380	1560	290	225	810
29	265	192	220	258	---	512	2190	367	560	300	666	377
30	269	230	215	242	---	446	846	349	345	308	403	238
31	265	---	283	259	---	413	---	336	---	305	208	---
TOTAL	7810	7860	7754	9386	6052	18426	12297	30064	14426	9123	10454	9313
MEAN	252	262	250	303	216	594	410	970	481	294	337	310
MAX	276	362	424	770	389	2690	2190	6750	1880	489	666	1260
MIN	207	192	194	178	164	197	238	294	218	228	208	125

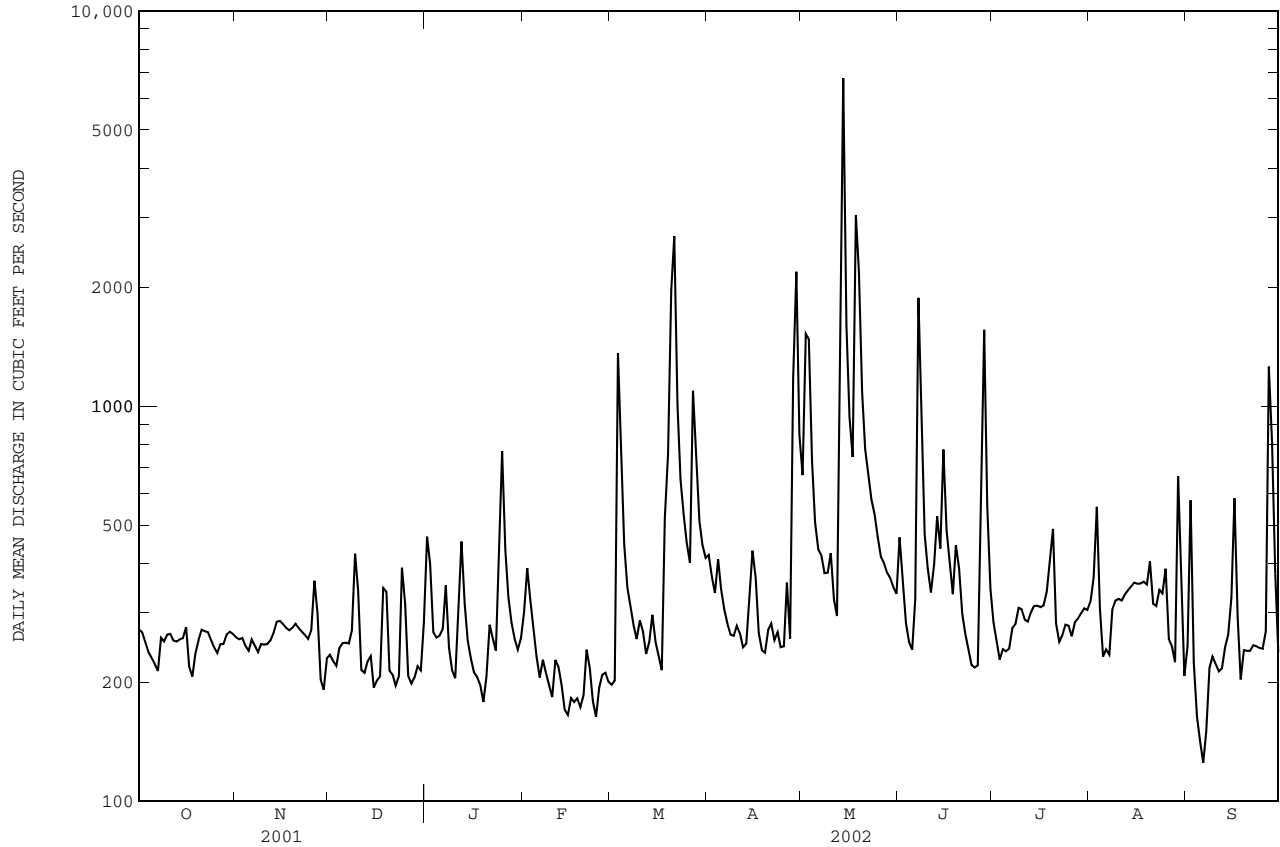
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2002, BY WATER YEAR (WY)

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	456	662	876	990	1056	1347	1143	806	530	469	461	470																																																																																							
MAX	2433	2460	2877	3856	2406	3260	3507	2707	2581	2542	2552	2068																																																																																							
(WY)	1904	1933	1997	1979	1925	1936	1983	1989	1972	1975	1955	1971																																																																																							
MIN	64.8	87.5	148	188	216	354	259	212	88.8	65.1	50.5	51.2																																																																																							
(WY)	1942	1932	1966	1966	2002	1981	1985	1926	1965	1955	1932	1941																																																																																							

01400500 RARITAN RIVER AT MANVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1904 - 2002	
ANNUAL TOTAL	229928		142965			
ANNUAL MEAN	630		392		771	
HIGHEST ANNUAL MEAN					1365	1984
LOWEST ANNUAL MEAN					309	1965
HIGHEST DAILY MEAN	4740	Jun 2	6750	May 14	30700	Sep 17 1999
LOWEST DAILY MEAN	192	Nov 29	125	Sep 6	17a	Sep 19 1964
ANNUAL SEVEN-DAY MINIMUM	213	Dec 11	177	Feb 14	29	Aug 27 1944
MAXIMUM PEAK FLOW			10600	May 14	77600b	Sep 16 1999
MAXIMUM PEAK STAGE			11.98	May 14	27.49	Sep 17 1999
INSTANTANEOUS LOW FLOW			116	Sep 7		
10 PERCENT EXCEEDS	1200		579		1570	
50 PERCENT EXCEEDS	387		272		434	
90 PERCENT EXCEEDS	238		207		142	

a Does not include water diverted to Johns-Manville plant.
 b From rating curve extended above 14,000 ft³/sec on basis of slope-area measurements at gage heights 14.9, 20.42, and 27.49 ft.
 e estimated



RARITAN RIVER BASIN

01401000 STONY BROOK AT PRINCETON, NJ

LOCATION.--Lat 40°19'59", long 74°40'56", Mercer County, Hydrologic Unit 02030105, on right bank 10 ft downstream from bridge on U.S. Highway 206, 1.6 mi southwest of Princeton, and 4.0 mi upstream from Carnegie Lake.

DRAINAGE AREA.--44.5 mi².

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

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 62.23 ft above NGVD of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records fair. Since July 1959 some regulation by several small reservoirs, combined capacity, 49,800,000 gal. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 18	1415	*2,950	*7.04	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	2.9	2.9	3.0	41	7.0	73	84	13	7.5	0.59	47
2	4.0	2.5	2.7	2.6	53	6.5	51	158	11	5.6	0.99	66
3	4.0	3.1	2.7	2.7	27	260	39	495	8.5	4.6	8.1	19
4	3.5	3.4	3.1	2.7	22	73	34	94	7.5	5.2	4.5	9.2
5	3.0	3.8	2.4	3.0	17	32	28	63	6.7	4.7	2.3	6.0
6	3.0	3.7	2.4	7.6	14	22	27	49	27	3.8	1.3	4.3
7	2.6	3.3	2.6	38	15	18	24	41	250	2.6	0.78	3.4
8	1.9	3.4	3.3	26	15	15	23	34	47	2.2	0.57	2.6
9	1.8	3.5	11	18	13	11	24	53	23	2.5	0.55	2.0
10	1.9	3.3	9.8	15	12	21	26	55	17	2.1	0.86	1.6
11	1.8	4.0	6.4	38	28	19	23	32	12	1.4	0.28	1.2
12	1.7	4.0	5.1	60	24	15	21	28	36	1.4	0.21	0.95
13	2.2	4.1	4.2	23	16	22	23	140	68	1.3	0.18	0.83
14	2.3	5.2	6.9	15	12	41	22	314	88	1.3	0.11	0.99
15	3.6	6.3	8.2	12	12	28	26	80	117	1.1	0.09	2.3
16	1.6	6.1	6.1	11	12	23	21	50	49	0.93	0.07	5.5
17	1.2	6.2	4.7	9.5	11	20	18	38	29	0.81	0.07	4.8
18	1.2	6.1	13	8.7	10	150	15	1030	21	0.74	0.11	2.8
19	2.1	5.9	15	6.3	8.7	115	13	199	24	22	0.08	2.1
20	2.6	6.0	8.9	8.8	8.6	560	14	90	26	12	0.44	1.6
21	2.7	6.1	6.4	9.3	10	298	13	64	18	3.9	0.42	1.4
22	3.0	6.6	5.0	8.5	11	96	16	51	13	2.4	0.18	1.1
23	2.5	6.7	3.9	8.7	9.9	63	22	41	9.6	1.9	0.15	0.85
24	2.4	6.4	19	63	8.5	49	14	35	8.3	1.5	3.1	0.68
25	2.3	7.5	22	90	7.9	41	17	28	7.5	1.4	8.8	0.60
26	1.9	9.0	10	31	7.7	38	34	26	6.9	1.2	3.6	1.8
27	2.0	6.2	6.3	21	8.0	227	22	24	9.3	1.3	1.8	65
28	2.4	4.1	5.7	15	7.9	80	363	21	67	1.2	1.2	81
29	2.4	3.3	5.2	14	---	53	444	18	19	1.0	55	21
30	2.5	3.0	3.8	13	---	44	94	16	9.8	0.83	18	9.7
31	2.8	---	3.7	26	---	44	---	13	---	0.82	6.1	---
TOTAL	76.6	145.7	212.4	610.4	442.2	2491.5	1584	3464	1049.1	101.23	120.53	367.30
MEAN	2.47	4.86	6.85	19.7	15.8	80.4	52.8	112	35.0	3.27	3.89	12.2
MAX	4.0	9.0	22	90	53	560	444	1030	250	22	55	81
MIN	1.2	2.5	2.4	2.6	7.7	6.5	13	13	6.7	0.74	0.07	0.60
CFSM	0.06	0.11	0.15	0.44	0.35	1.81	1.19	2.51	0.79	0.07	0.09	0.28
IN.	0.06	0.12	0.18	0.51	0.37	2.08	1.32	2.90	0.88	0.08	0.10	0.31

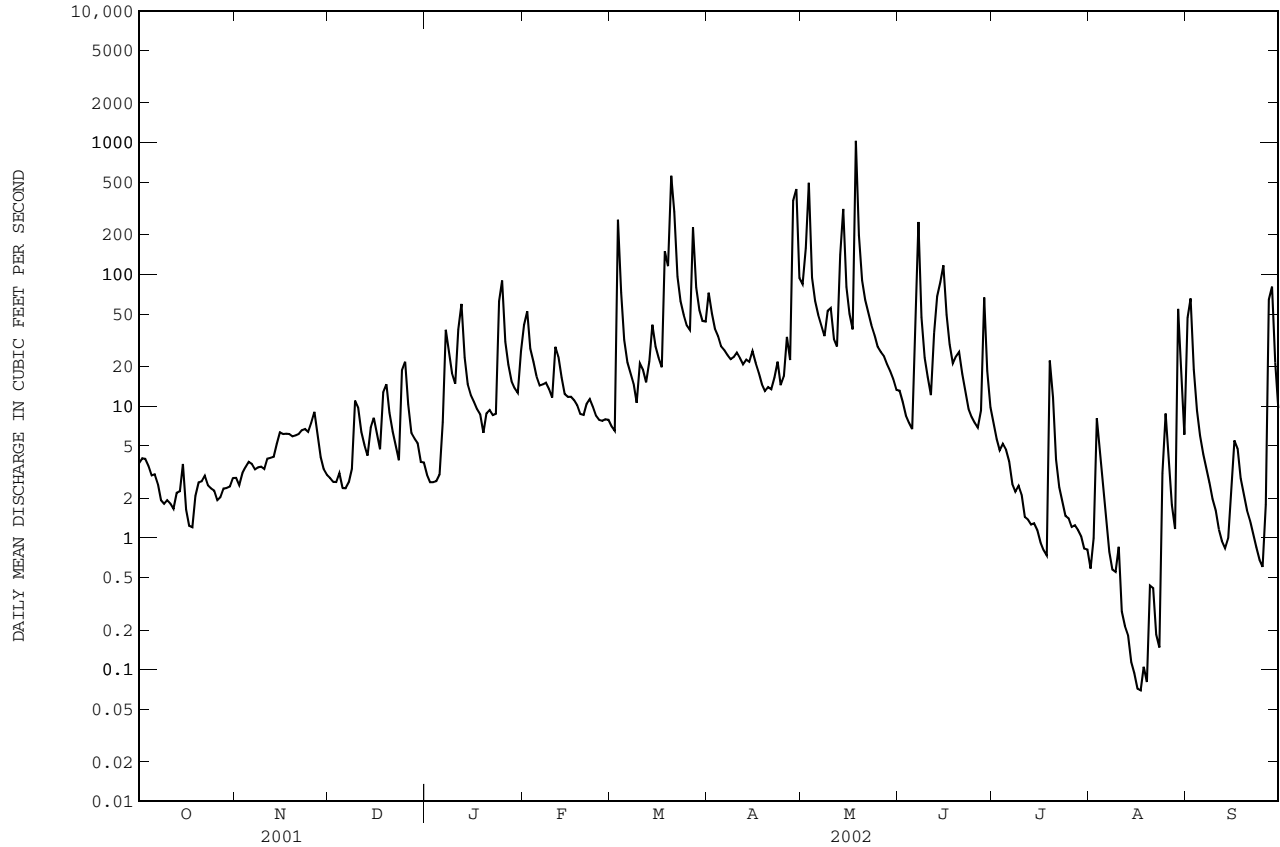
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)
MEAN	27.6	50.4	88.1	96.4	105	132	103	64.7	34.0	31.1	29.9	30.2
MAX	181	212	363	319	203	337	295	216	164	216	240	210
(WY)	1997	1973	1997	1996	1971	1994	1983	1989	1989	1975	1955	1999
MIN	1.00	1.50	1.94	3.22	15.8	31.3	20.9	8.95	2.67	0.56	0.14	1.31
(WY)	1958	1966	1999	1981	2002	1985	1985	1963	1957	1957	1966	1970

01401000 STONY BROOK AT PRINCETON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1954 - 2002	
ANNUAL TOTAL	21806.70		10664.96			
ANNUAL MEAN	59.7		29.2		65.9	
HIGHEST ANNUAL MEAN					118	1996
LOWEST ANNUAL MEAN					28.5	1966
HIGHEST DAILY MEAN	1360	Mar 30	1030	May 18	3730	Sep 16 1999
LOWEST DAILY MEAN	0.93	Sep 13	0.07	Aug 16,17	0.00	Aug 5 1966
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 7	0.10	Aug 13	0.00	Aug 5 1966
MAXIMUM PEAK FLOW			2950	May 18	8960a	Aug 28 1971
MAXIMUM PEAK STAGE			7.04	May 18	14.26	Aug 28 1971
INSTANTANEOUS LOW FLOW			0.05	Aug 17	0.00	Jan 1 1966
ANNUAL RUNOFF (CFSM)	1.34		0.66		1.48	
ANNUAL RUNOFF (INCHES)	18.23		8.92		20.12	
10 PERCENT EXCEEDS	146		61		141	
50 PERCENT EXCEEDS	11		8.5		22	
90 PERCENT EXCEEDS	2.4		1.2		2.0	

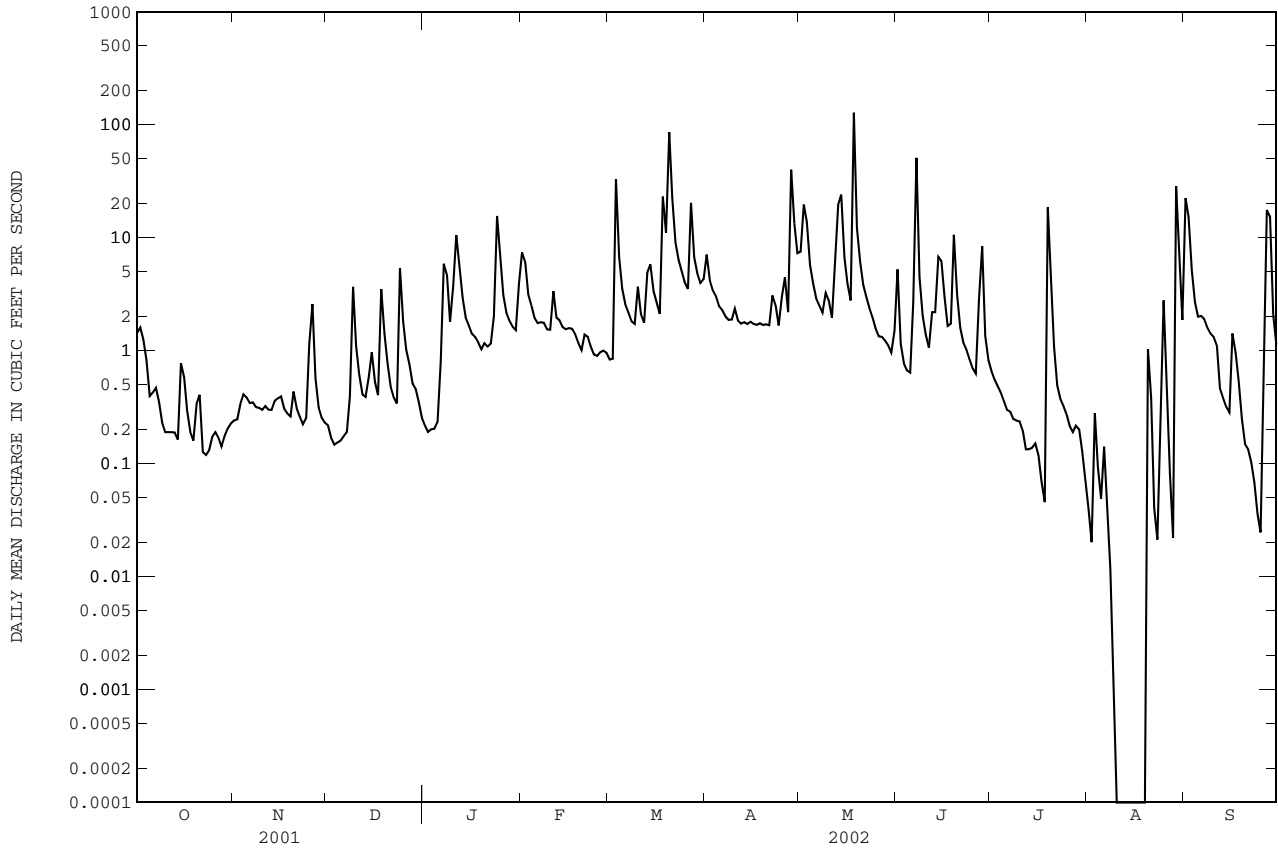
a From rating extended above 4,000 ft³/s on basis of contracted-opening measurement of peak flow.



01401650 PIKE RUN AT BELLE MEAD, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1980 - 2002	
ANNUAL TOTAL	2127.20		1211.10			
ANNUAL MEAN	5.828		3.318		8.637	
HIGHEST ANNUAL MEAN					14.3	1984
LOWEST ANNUAL MEAN					3.32	2002
HIGHEST DAILY MEAN	215	Mar 30	128	May 18	1590	Sep 16 1999
LOWEST DAILY MEAN	0.00	Aug 3	0.00	Aug 9	0.00	Aug 20 1980
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 27	0.00	Aug 9	0.00	Aug 20 1980
MAXIMUM PEAK FLOW			496	May 18	4120a	Sep 16 1999
MAXIMUM PEAK STAGE			6.39	May 18	13.61b	Sep 16 1999
INSTANTANEOUS LOW FLOW			0.00	Aug 8	0.00	Aug 20 1980
ANNUAL RUNOFF (CFSM)	1.09		0.62		1.61	
ANNUAL RUNOFF (INCHES)	14.76		8.41		21.89	
10 PERCENT EXCEEDS	9.9		6.3		15	
50 PERCENT EXCEEDS	1.2		1.1		2.6	
90 PERCENT EXCEEDS	0.14		0.14		0.27	

- a From rating curve extended above 790 ft³/s on basis of step-backwater computation.
- b From high-water mark in gage
- e Estimated



01402000 MILLSTONE RIVER AT BLACKWELLS MILLS, NJ

LOCATION.--Lat 40°28'30", long 74°34'34", Somerset County, Hydrologic Unit 02030105, on left bank 30 ft downstream from highway bridge at Blackwells Mills, and 0.3 mi downstream from Six Mile Run.

DRAINAGE AREA.--258 mi².

PERIOD OF RECORD.--June 1903 to December 1904 (gage heights only), August 1921 to current year. Monthly discharge only for some periods, published in WSP 1302. Published as "at Millstone" 1903-04.

REVISED RECORDS.--WSP 1552: 1924-25(M), 1926.

GAGE.--Water-stage recorder. Concrete control since Nov. 18, 1933. Datum of gage is 26.97 ft above NGVD of 1929. June 27, 1903 to Dec. 31, 1904, nonrecording gage at bridge 2.0 mi downstream at Millstone at different datum. Aug. 4, 1921 to Aug. 16, 1928, nonrecording gage at present site and datum.

REMARKS.--Records good. Inflow from and losses to Delaware and Raritan Canal above station. Flow slightly regulated by Carnegie Lake, capacity, 310,000,000 gal and several smaller reservoirs, combined capacity, 49,800,000 gal. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 19	0600	*3,020	*7.42	No other peak greater than base discharge.			

DISCHARGE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

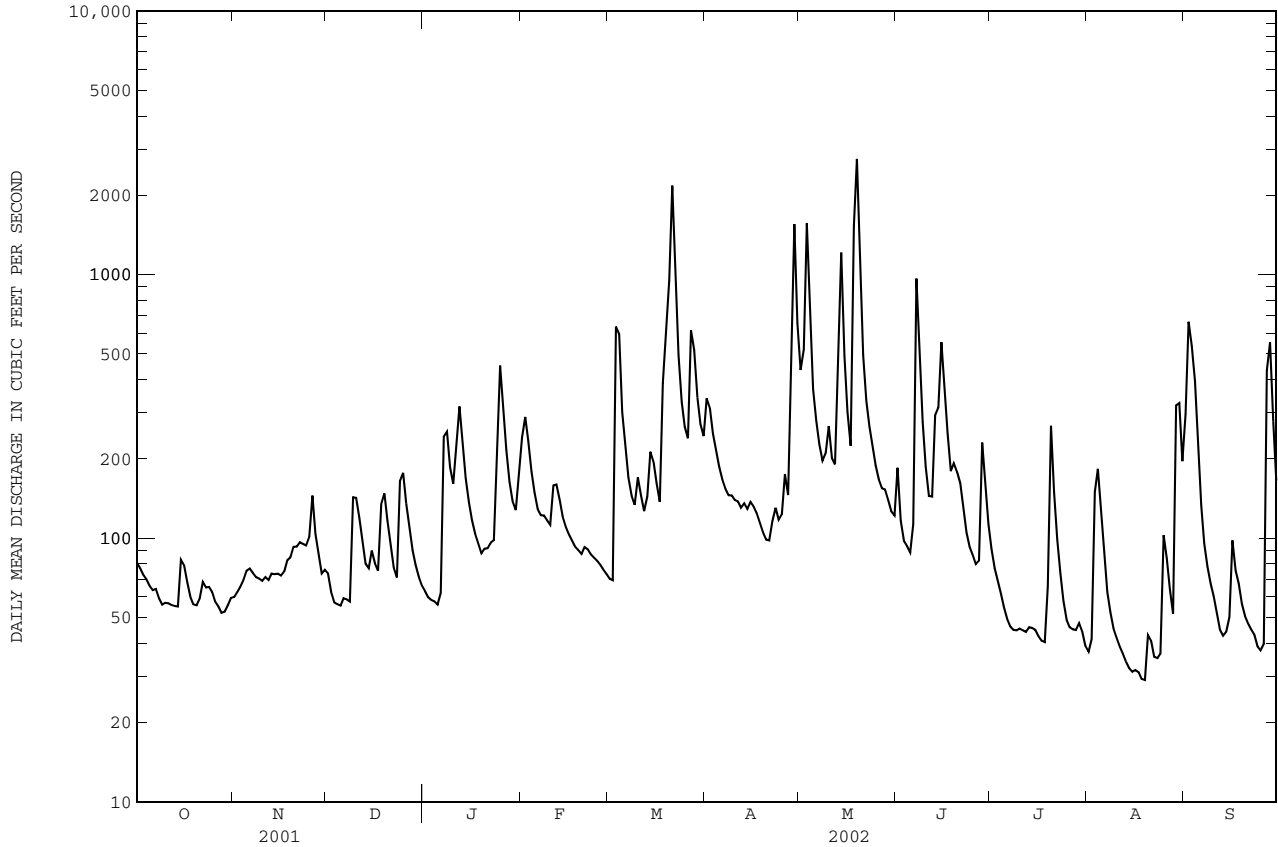
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	60	74	63	241	70	340	435	185	91	37	295
2	77	63	63	60	289	69	312	520	116	77	41	662
3	73	66	57	58	234	635	250	1570	98	69	150	536
4	70	69	56	58	179	596	214	670	93	62	183	394
5	66	75	55	56	149	302	187	369	88	55	126	241
6	64	77	59	62	129	222	167	279	113	50	87	133
7	64	74	59	243	122	170	154	228	966	46	62	95
8	59	71	58	254	122	145	146	197	495	45	52	78
9	56	70	143	186	117	134	145	210	276	45	45	68
10	57	69	142	161	112	170	140	266	187	45	42	60
11	57	71	120	220	159	146	138	201	145	45	39	52
12	56	69	96	316	160	127	131	191	144	44	36	45
13	55	73	80	233	140	144	136	397	293	46	34	43
14	55	73	77	169	121	213	129	1210	313	46	32	44
15	83	73	90	137	110	195	137	492	555	45	31	50
16	79	72	80	117	103	162	132	301	382	42	32	98
17	68	75	75	104	98	137	124	224	249	41	31	75
18	60	83	135	96	93	388	114	1530	180	40	29	67
19	56	85	148	88	90	647	106	2750	192	66	29	56
20	56	93	116	91	87	955	99	1090	178	267	43	51
21	59	93	95	92	93	2180	98	495	162	150	41	48
22	68	97	77	96	91	993	116	331	130	99	35	45
23	65	95	71	98	87	496	131	266	105	73	35	43
24	65	94	165	219	84	329	118	224	93	58	37	39
25	62	101	177	452	82	265	123	189	86	49	103	38
26	57	145	136	304	79	239	175	167	80	46	84	40
27	55	103	109	216	76	614	146	155	82	45	64	433
28	52	87	90	163	73	518	651	153	231	45	52	554
29	53	73	79	138	---	343	1550	139	167	48	319	278
30	56	76	71	128	---	271	655	126	113	44	326	165
31	59	---	66	172	---	244	---	122	---	39	196	---
TOTAL	1943	2425	2919	4850	3520	12119	7064	15497	6497	1963	2453	4826
MEAN	62.68	80.83	94.16	156.5	125.7	390.9	235.5	499.9	216.6	63.32	79.13	160.9
MAX	83	145	177	452	289	2180	1550	2750	966	267	326	662
MIN	52	60	55	56	73	69	98	122	80	39	29	38
CFSM	0.24	0.31	0.36	0.61	0.49	1.52	0.91	1.94	0.84	0.25	0.31	0.62
IN.	0.28	0.35	0.42	0.70	0.51	1.75	1.02	2.23	0.94	0.28	0.35	0.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
MEAN	195.9	325.1	459.2	513.2	563.4	689.3	535.7	363.5	239.6	240.5	215.2	228.4
MAX	1079	1113	1550	1743	1199	1882	1520	1264	823	1808	1267	1370
(WY)	1997	1973	1997	1979	1925	1994	1983	1989	1989	1975	1971	1999
MIN	42.6	51.2	67.0	62.9	105	158	103	82.8	45.5	19.3	17.3	20.2
(WY)	1942	1966	1966	1981	1934	1985	1985	1963	1963	1966	1981	1980

01402000 MILLSTONE RIVER AT BLACKWELLS MILLS, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	118832		66076		379.9	
ANNUAL MEAN	325.6		181.0		690	
HIGHEST ANNUAL MEAN					1975	
LOWEST ANNUAL MEAN					1985	
HIGHEST DAILY MEAN	4420	Mar 31	2750	May 19	22000	Sep 17 1999
LOWEST DAILY MEAN	48	Aug 3	29	Aug 18	5.0	Sep 16 1923
ANNUAL SEVEN-DAY MINIMUM	54	Jul 28	31	Aug 13	6.3	Aug 7 1966
MAXIMUM PEAK FLOW			3020	May 19	26200	Sep 17 1999
MAXIMUM PEAK STAGE			7.42	May 19	21.01	Sep 17 1999
INSTANTANEOUS LOW FLOW			27	Aug 17	5.0	Sep 16 1923
ANNUAL RUNOFF (CFSM)	1.26		0.70		1.47	
ANNUAL RUNOFF (INCHES)	17.13		9.53		20.01	
10 PERCENT EXCEEDS	731		341		814	
50 PERCENT EXCEEDS	142		98		196	
90 PERCENT EXCEEDS	59		45		59	



01403060 RARITAN RIVER BELOW CALCO DAM, AT BOUND BROOK, NJ

LOCATION.--Lat 40°33'04", long 74°32'55" (revised), Somerset County, Hydrologic Unit 02030105, on right bank 1,000 ft downstream from Calco Dam and Cuckold Brook, 1,400 ft upstream from bridge on Interstate 287, 1.2 mi downstream from Millstone River, and 1.2 mi southwest of Bound Brook.

DRAINAGE AREA.--785 mi² (includes 11 mi² which drains into the Delaware and Raritan Canal).

PERIOD OF RECORD.--September 1903 to March 1909, October 1944 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1966 published as "Raritan River at Bound Brook" (station 01403000).

REVISED RECORDS.--WSP 1552: 1903-07, 1946(M), 1949, 1952(P).

GAGE.--Water-stage recorder. Datum of gage is above NGVD of 1929. Sept. 12, 1903 to Mar. 31, 1909, nonrecording gages at highway bridge, 1.2 mi downstream at different datum. October 1944 to Sept. 30, 1966, water-stage recorder and concrete control at site 1,000 ft upstream at datum 18.06 ft higher.

REMARKS.--Records good, except estimated discharges which are fair. Water diverted 1.2 mi above station by Elizabethtown Water Co. for municipal supply (see Raritan River basin, diversions). Flow regulated by Spruce Run and Round Valley Reservoirs (see Raritan River basin, reservoirs in). Diversions to and releases from Round Valley Reservoir (see Raritan River basin, diversions and station 01399690). Slight diurnal fluctuations at low flow. Several measurements of water temperature were made during the year. National Weather Service telephone and USGS satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	199	155	154	188	395	103	625	1060	547	230	125	372
2	199	151	139	e180	536	110	551	2010	349	178	164	1270
3	180	156	125	e170	424	2050	438	3180	237	134	497	664
4	153	150	136	e155	318	1510	469	1470	196	129	299	451
5	135	134	143	159	248	647	379	788	177	117	166	277
6	132	165	145	177	194	431	318	569	247	111	153	151
7	128	158	146	438	219	339	281	488	2870	136	101	119
8	156	140	171	364	203	278	248	408	1490	122	145	159
9	148	140	409	262	188	243	241	407	649	150	151	161
10	160	130	331	215	169	311	258	534	442	176	149	141
11	162	126	191	379	248	279	240	363	343	140	149	121
12	147	122	159	654	232	226	216	318	414	124	139	115
13	144	138	156	416	203	258	217	909	703	130	139	143
14	159	154	161	284	154	361	257	7320	621	159	132	165
15	187	155	146	220	136	303	374	2400	1360	147	143	233
16	207	150	135	187	142	262	342	1230	805	134	140	557
17	148	144	130	159	136	208	211	871	529	123	149	269
18	115	142	331	149	128	786	162	4450	387	141	162	137
19	131	148	355	128	113	1430	148	5090	517	259	148	156
20	139	159	201	130	118	2760	184	2430	439	676	261	151
21	164	155	161	217	180	5430	212	1310	316	278	172	137
22	164	152	139	208	157	2260	200	927	255	169	167	154
23	161	152	144	194	117	1170	233	733	203	149	205	147
24	155	154	399	572	98	808	194	604	164	165	213	143
25	136	169	373	1230	115	615	186	495	155	151	356	132
26	134	343	216	629	126	509	355	424	143	121	192	171
27	143	258	e170	402	134	1700	242	388	346	150	163	1780
28	134	150	e150	309	114	1250	1570	367	1970	148	137	1430
29	153	114	158	258	---	770	3970	339	622	140	955	606
30	160	147	133	227	---	604	1630	322	330	144	673	296
31	158	---	101	284	---	531	---	309	---	116	298	---
TOTAL	4791	4711	6008	9544	5545	28542	14951	42513	17826	5247	7043	10808
MEAN	154.5	157.0	193.8	307.9	198.0	920.7	498.4	1371	594.2	169.3	227.2	360.3
MAX	207	343	409	1230	536	5430	3970	7320	2870	676	955	1780
MIN	115	114	101	128	98	103	148	309	143	111	101	115

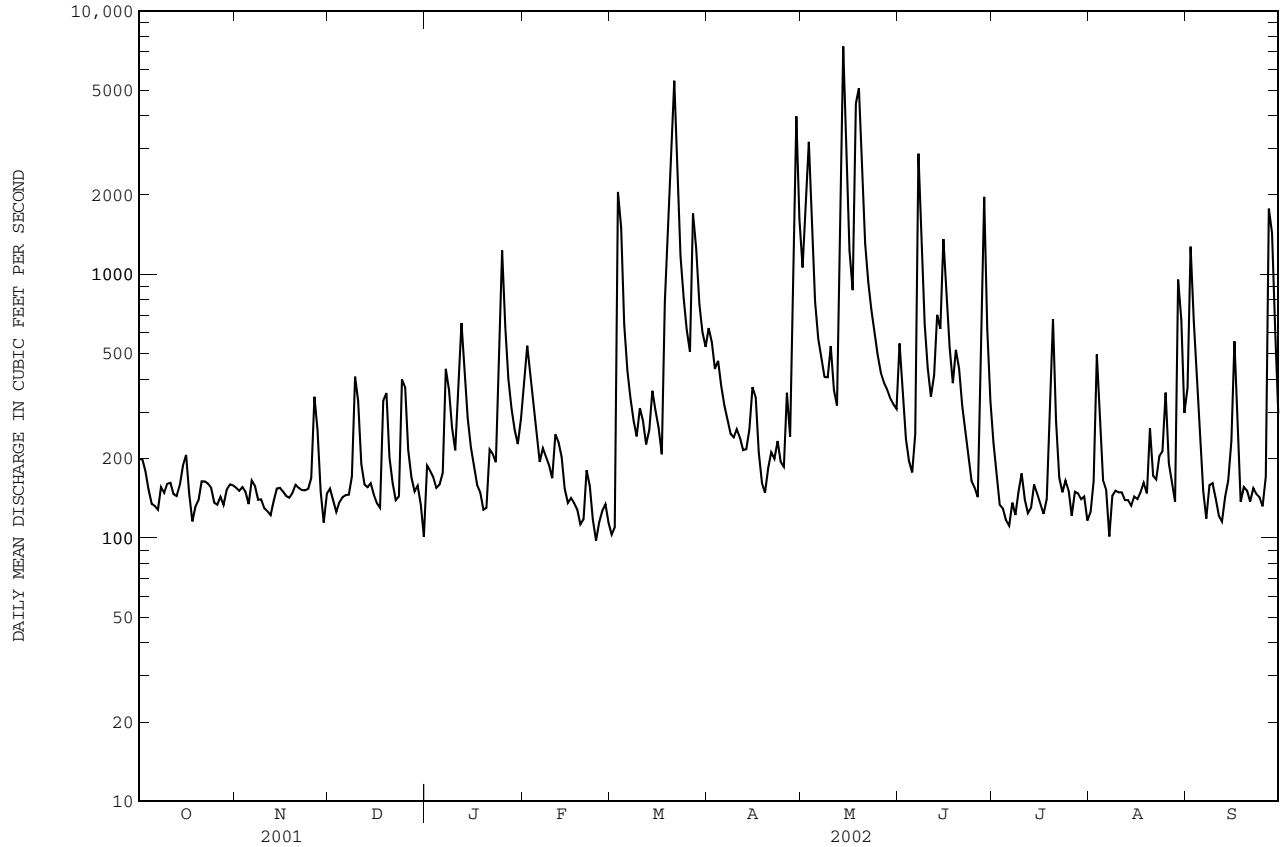
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2002, BY WATER YEAR (WY)

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	658.4	1003	1441	1585	1668	2125	1733	1265	768.3	661.2	649.7	676.6																																																																																								
MAX	2953	3684	4615	5825	3232	5093	5326	3862	3883	4624	3576	3358																																																																																								
(WY)	1904	1973	1997	1979	1971	1994	1983	1989	1972	1975	1955	1999																																																																																								
MIN	113	138	165	179	198	454	230	329	117	84.7	69.9	76.1																																																																																								
(WY)	1958	1966	1999	1981	2002	1985	1985	1992	1965	1955	1957	1957																																																																																								

01403060 RARITAN RIVER BELOW CALCO DAM, AT BOUND BROOK, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1903 - 2002	
ANNUAL TOTAL	328662		157529			
ANNUAL MEAN	900.4		431.6		1183	
HIGHEST ANNUAL MEAN					2046	1975
LOWEST ANNUAL MEAN					432	2002
HIGHEST DAILY MEAN	9050	Mar 31	7320	May 14	61000	Sep 17 1999
LOWEST DAILY MEAN	101	Dec 31	98	Feb 24	37	Sep 6 1964
ANNUAL SEVEN-DAY MINIMUM	132	Jul 28	114	Feb 24	46	Sep 4 1957
MAXIMUM PEAK FLOW			10600	May 14	82900a	Sep 17 1999
MAXIMUM PEAK STAGE			24.20	May 14	42.13b	Sep 17 1999
INSTANTANEOUS LOW FLOW			26	Dec 31	26	Dec 31 2001
10 PERCENT EXCEEDS	2290		806		2560	
50 PERCENT EXCEEDS	371		191		617	
90 PERCENT EXCEEDS	139		132		165	

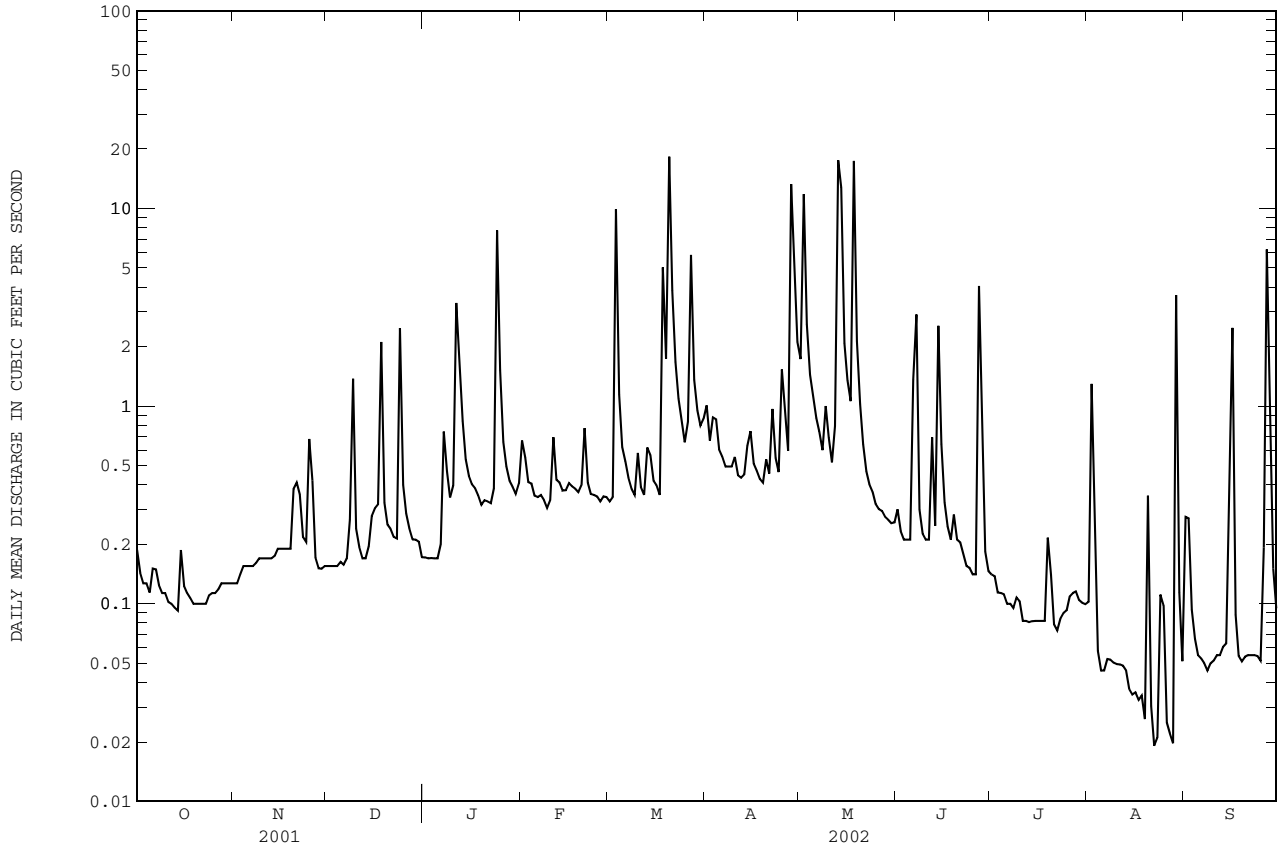
a From rating extended above 46,000 ft³/s on basis of indirect computation of peak flow downstream at Fieldville Dam.
 b From floodmark, highest since 1700.
 e Estimated



01403150 WEST BRANCH MIDDLE BROOK NEAR MARTINSVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1979 - 2002	
ANNUAL TOTAL	679.29		280.87			
ANNUAL MEAN	1.86		0.77		3.41	
HIGHEST ANNUAL MEAN					5.48 1989	
LOWEST ANNUAL MEAN					0.77 2002	
HIGHEST DAILY MEAN	63	Mar 30	18	Mar 20	318	Sep 16 1999
LOWEST DAILY MEAN	0.06	Sep 8	0.02	Many days	0.00	Sep 19 1980
ANNUAL SEVEN-DAY MINIMUM	0.06	Sep 7	0.04	Aug 13	0.00	Sep 19 1980
MAXIMUM PEAK FLOW			236	May 13	1490a	Sep 16 1999
MAXIMUM PEAK STAGE			4.80	May 13	9.30	Sep 16 1999
INSTANTANEOUS LOW FLOW			0.01	Aug 23	0.00	Sep 19 1980
ANNUAL RUNOFF (CFSM)	0.94		0.39		1.71	
ANNUAL RUNOFF (INCHES)	12.70		5.25		23.28	
10 PERCENT EXCEEDS	4.3		1.4		5.8	
50 PERCENT EXCEEDS	0.38		0.25		0.82	
90 PERCENT EXCEEDS	0.09		0.06		0.13	

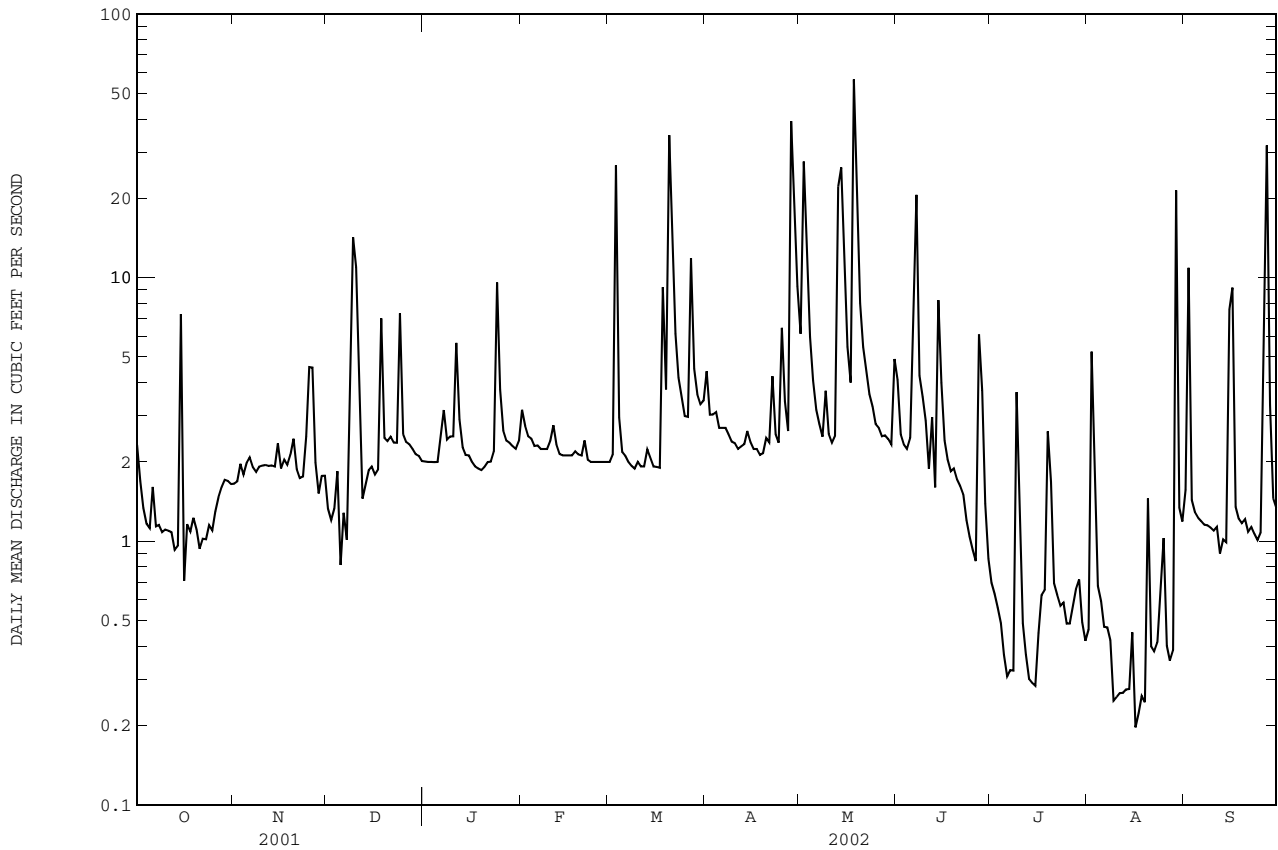
a From rating curve extended above 400 ft³/s on basis of indirect computation of peak flow



01403400 GREEN BROOK AT SEELEY MILLS, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1979 - 2002	
ANNUAL TOTAL	2499.88		1184.96			
ANNUAL MEAN	6.85		3.25		10.3	
HIGHEST ANNUAL MEAN					18.2 1984	
LOWEST ANNUAL MEAN					3.25 2002	
HIGHEST DAILY MEAN	93	Mar 30	57	May 18	1470	Sep 16 1999
LOWEST DAILY MEAN	0.71	Sep 7	0.20	Aug 16	0.00	Sep 11 1981
ANNUAL SEVEN-DAY MINIMUM	0.77	Sep 7	0.27	Aug 13	0.05	Sep 24 1981
MAXIMUM PEAK FLOW			194	May 18	6240a	Aug 2 1973
MAXIMUM PEAK STAGE			2.48	May 18	16.10b	Aug 2 1973
INSTANTANEOUS LOW FLOW			0.07	Oct 16	0.00	Sep 11 1981
ANNUAL RUNOFF (CFSM)	1.10		0.52		1.66	
ANNUAL RUNOFF (INCHES)	14.93		7.08		22.52	
10 PERCENT EXCEEDS	16		5.6		20	
50 PERCENT EXCEEDS	2.6		2.0		4.6	
90 PERCENT EXCEEDS	1.2		0.53		1.4	

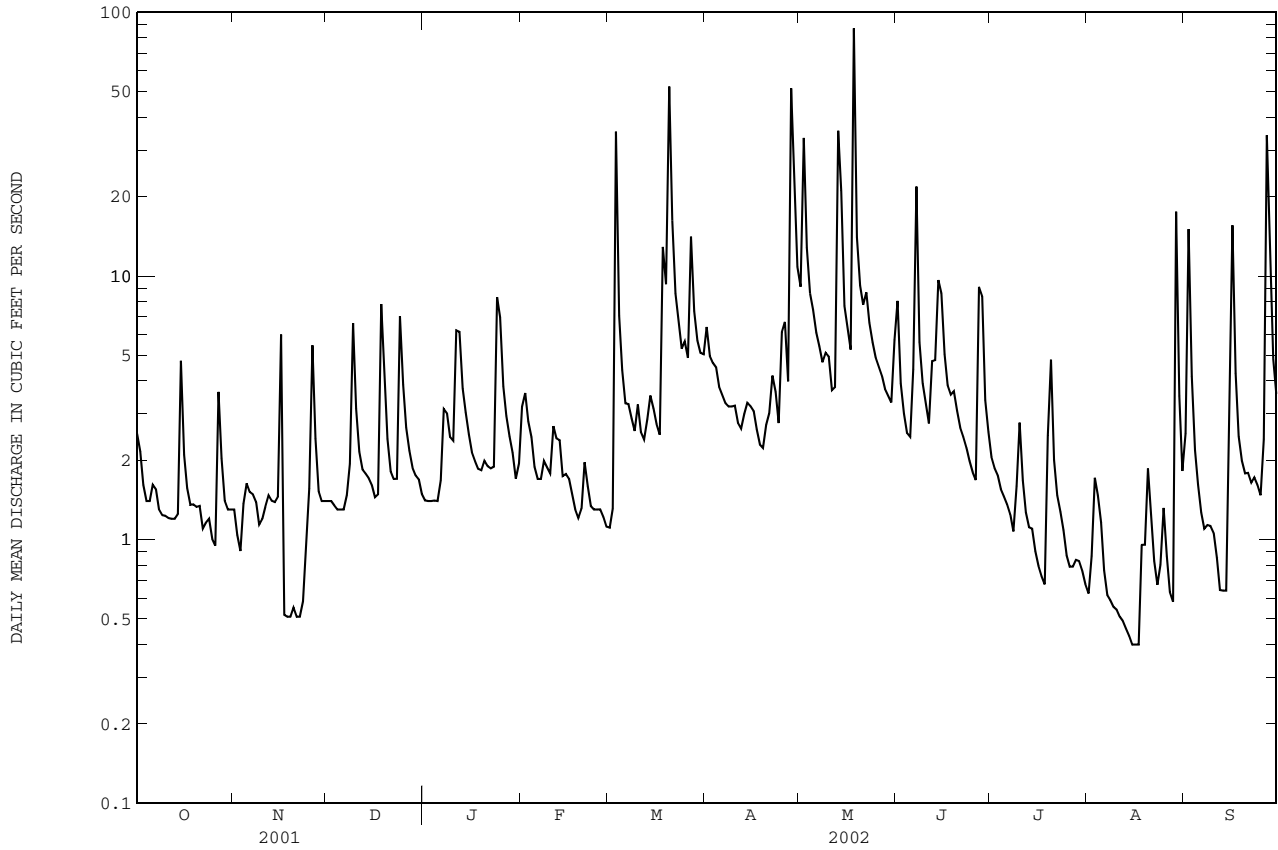
a From rating curve extended above 600 ft³/s on basis of slope area measurement of peak flow.
 b Site and datum then in use.
 e Estimated



01403540 STONY BROOK AT WATCHUNG, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1975 - 2002	
ANNUAL TOTAL	2654.91		1445.03		9.770	
ANNUAL MEAN	7.274		3.959		16.0 1984	
HIGHEST ANNUAL MEAN					3.96 2002	
LOWEST ANNUAL MEAN					814 Sep 16 1999	
HIGHEST DAILY MEAN	141	Mar 30	87	May 18	0.00	Sep 18 1982
LOWEST DAILY MEAN	0.51	Nov 18	0.40	Aug 15	0.06	Sep 13 1982
ANNUAL SEVEN-DAY MINIMUM	0.53	Nov 17	0.44	Aug 11	5380a	Sep 16 1999
MAXIMUM PEAK FLOW			459	May 18	20.40b	Jul 14 1975
MAXIMUM PEAK STAGE			12.44	May 18	0.00	Sep 13 1982
INSTANTANEOUS LOW FLOW			0.40	Aug 14	1.77	
ANNUAL RUNOFF (CFSM)	1.32		0.72		24.09	
ANNUAL RUNOFF (INCHES)	17.92		9.76		7.4 20	
10 PERCENT EXCEEDS	15		7.4		4.5	
50 PERCENT EXCEEDS	3.3		2.0		1.1	
90 PERCENT EXCEEDS	1.2		0.84			

a From rating curve extended above 500 ft³/s on basis of slope-area measurement of peak flow.
 b Corrected to current datum



RARITAN RIVER BASIN

01405030 LAWRENCE BROOK AT WESTONS MILLS, NJ

LOCATION.--Lat 40°28'59", long 74°24'45", Middlesex County, Hydrologic Unit 02030105, on left bank at dam on Westons Mill Pond at Westons Mills, 200 ft downstream from bridge on State Route 18, and 1.3 mi upstream from mouth.

DRAINAGE AREA.--44.9 mi².

PERIOD OF RECORD.--Water-quality records water years 1976-81. December 1988 to October 1994, July 1995 to current year.

REVISED RECORDS.--WDR NJ-89-1: Drainage area.

GAGE.--Water-stage recorder above masonry dam. Datum of gage is NGVD of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Farrington Lake, capacity, 655,250,000 gal. Diversion at gage by New Brunswick Water Department (see Raritan River basin, diversions). Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and records of gate openings and diversions provided by employees of City of New Brunswick.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e8.9	9.9	7.3	15	0.05	54	56	86	9.8	5.4	46
2	10	e9.2	9.6	7.1	0.28	0.05	27	106	25	9.0	9.8	262
3	10	13	9.7	5.8	1.3	7.6	24	284	18	8.7	131	72
4	8.4	11	9.9	7.8	6.4	0.05	23	85	14	8.9	22	24
5	8.1	12	10	8.4	0.05	0.05	21	45	17	8.8	12	14
6	9.6	11	10	9.5	0.10	0.05	21	30	32	10	11	11
7	11	6.9	10	8.7	1.9	1.1	20	24	226	9.6	9.6	11
8	11	8.8	11	10	4.7	0.05	19	21	52	6.5	9.0	8.4
9	10	13	11	8.8	0.32	2.9	20	34	27	6.1	9.3	7.2
10	8.8	10	11	9.8	5.7	2.7	19	33	20	8.3	9.2	7.8
11	10	9.4	11	11	5.5	0.05	20	22	18	5.4	8.9	7.4
12	11	11	10	10	0.22	0.05	19	30	28	5.1	8.0	6.1
13	12	4.9	9.7	9.2	0.14	0.79	20	98	34	11	7.3	7.3
14	13	3.5	10	8.6	0.05	5.1	20	200	67	11	5.3	9.0
15	13	7.3	9.6	9.9	0.14	7.6	18	64	77	7.4	6.4	12
16	12	6.4	9.4	5.3	4.8	6.2	20	36	35	6.1	7.5	46
17	12	17	9.3	0.82	3.8	6.2	20	26	23	3.5	7.3	16
18	e8.4	18	10	6.8	0.09	61	18	585	19	5.7	7.0	12
19	e8.2	16	9.9	14	0.70	44	17	232	25	37	5.5	8.9
20	e8.5	15	9.6	14	4.9	187	18	73	19	101	22	8.7
21	e8.6	13	9.5	11	8.9	212	13	46	17	21	12	8.4
22	e9.7	13	9.3	10	1.1	59	14	35	12	11	9.5	6.3
23	e8.8	12	8.9	10	0.13	32	24	28	13	5.9	13	6.4
24	e9.3	11	10	10	0.05	24	16	25	7.4	7.1	24	6.9
25	e8.9	11	9.5	13	0.15	22	30	22	7.9	6.4	42	6.6
26	e8.4	11	9.4	12	4.8	22	39	13	8.3	7.0	12	7.3
27	e8.4	11	9.2	13	0.13	98	22	7.0	11	8.4	9.8	223
28	e7.8	10	8.9	15	0.05	46	182	19	44	6.8	10	132
29	e8.1	10	8.5	14	---	34	200	18	17	4.7	156	33
30	e8.5	11	8.2	15	---	28	77	18	12	5.0	52	17
31	e8.9	---	7.3	14	---	29	---	25	---	5.7	20	---
TOTAL	301.4	325.3	299.3	309.82	71.40	938.59	1055	2340.0	1011.6	367.9	673.8	1043.7
MEAN	9.723	10.84	9.655	9.994	2.550	30.28	35.17	75.48	33.72	11.87	21.74	34.79
MAX	13	18	11	15	15	212	200	585	226	101	156	262
MIN	7.8	3.5	7.3	0.82	0.05	0.05	13	7.0	7.4	3.5	5.3	6.1

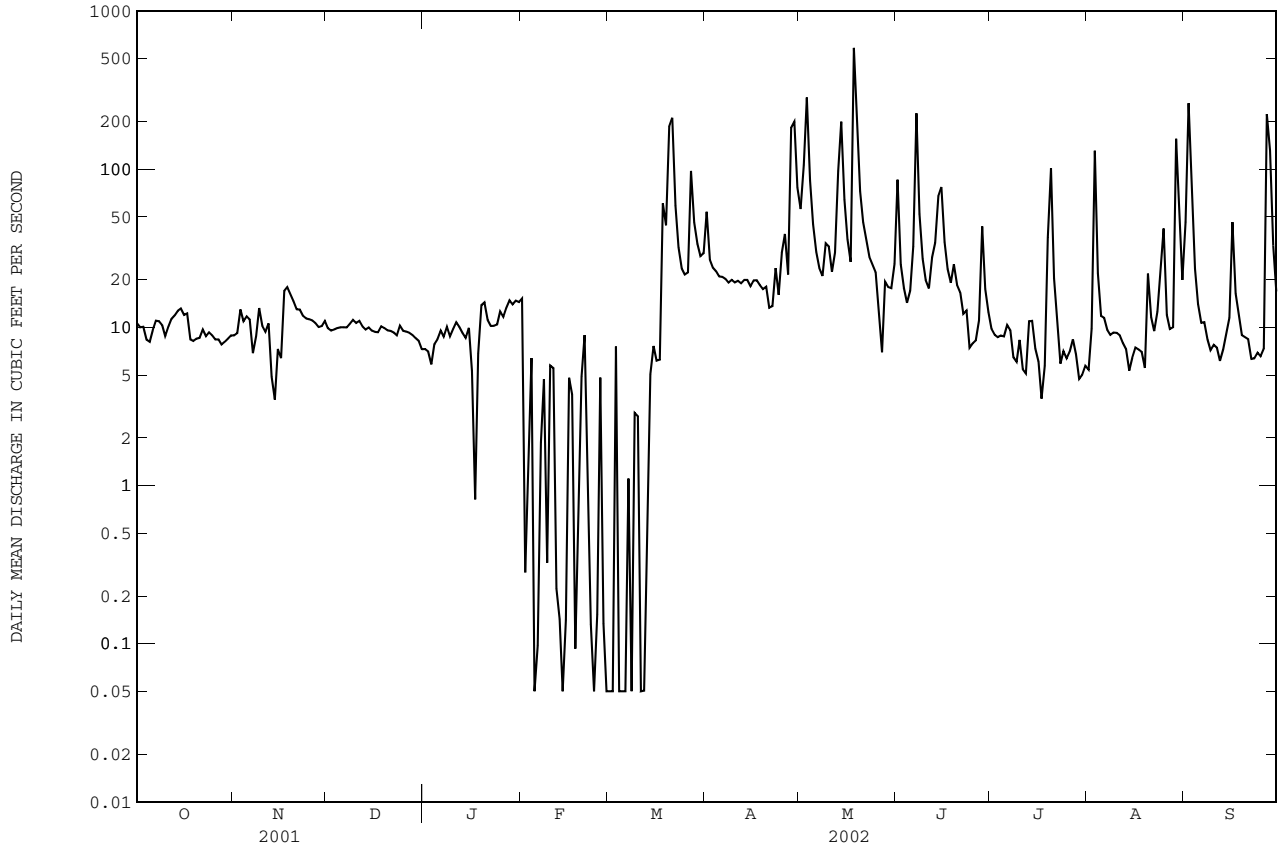
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	32.52	32.00	57.56	62.75	51.27	78.88	66.67	64.00	42.98	35.71	41.01	42.96		
MAX	104	70.9	174	114	113	179	116	169	98.9	92.7	103	184		
(WY)	1997	1996	1993	1996	1998	1993	1993	1989	1989	1989	1990	1989		
MIN	9.72	1.33	5.57	9.99	2.55	30.3	27.4	24.9	3.91	2.70	7.32	13.6		
(WY)	2002	1999	1999	2002	2002	2002	1995	1995	1999	1999	1995	2001		

01405030 LAWRENCE BROOK AT WESTONS MILLS, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	14454.8		8737.81			
ANNUAL MEAN	39.60		23.94		48.62	
HIGHEST ANNUAL MEAN					69.1 1998	
LOWEST ANNUAL MEAN					23.9 2002	
HIGHEST DAILY MEAN	853	Mar 30	585	May 18	2200	Sep 21 1989
LOWEST DAILY MEAN	3.5	Nov 14	0.05	many days	0.00	Aug 19 1995
ANNUAL SEVEN-DAY MINIMUM	7.5	Nov 10	0.75	Feb 24	0.00	Aug 19 1995
MAXIMUM PEAK FLOW			999	May 18	4850a	Sep 21 1989
MAXIMUM PEAK STAGE			17.07	May 18	19.20	Sep 21 1989
INSTANTANEOUS LOW FLOW			0.05	many days	0.00	Sep 29 1989
10 PERCENT EXCEEDS	74		45		91	
50 PERCENT EXCEEDS	24		10		26	
90 PERCENT EXCEEDS	9.4		4.8		6.9	

a From rating curve extended above 1,000 ft³/s.
 e Estimated



RARITAN RIVER BASIN

01405400 MANALAPAN BROOK AT SPOTSWOOD, NJ

LOCATION.--Lat 40°23'22", long 74°23'27", Middlesex County, Hydrologic Unit 02030105, on right bank of DeVoe Lake Dam in Spotswood, 0.1 mi upstream from Cedar Brook, and 0.6 mi upstream from confluence with Matchaponix Brook.

DRAINAGE AREA.--40.7 mi².

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

REVISED RECORDS.--WSP 1722: 1957-60.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is NGVD of 1929 (levels by Duheral Water System). January 1957 to September 1966 at datum 17.72 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Discharge given herein includes flow through sluice gate when open. Gate open January 3 to February 9 and June 7-8. Some regulation by Lake Manalapan, Helmetta Pond, and DeVoe Lake. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 227 ft³/s, May 19, gage height, 18.43 ft; minimum discharge, 0.00 ft³/s, on many days, gage height, 17.35 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	14	13	17	e35	18	51	53	33	13	9.0	42
2	16	14	13	16	e32	18	49	52	18	12	13	163
3	15	14	15	36	e28	63	39	75	16	12	29	187
4	15	14	16	e24	e25	68	35	47	16	12	13	81
5	14	14	16	e20	e24	41	32	34	18	12	12	42
6	15	14	18	e20	e22	32	31	28	46	12	11	28
7	15	14	18	e30	e23	27	29	24	e143	12	9.4	21
8	14	14	18	e60	e24	25	27	21	e101	11	9.6	18
9	14	14	42	e33	e22	25	27	28	31	11	9.2	15
10	14	14	41	e31	e21	24	27	33	26	12	9.2	14
11	14	14	29	e39	31	22	26	26	24	10	9.1	14
12	14	14	23	e46	33	21	25	26	34	9.8	9.0	14
13	14	14	21	e36	28	26	25	47	38	9.2	9.0	14
14	13	14	22	e27	25	31	25	67	56	9.3	9.0	14
15	16	14	21	e21	23	28	25	49	73	9.0	9.0	15
16	14	14	21	e20	23	25	25	33	49	9.0	9.0	19
17	13	14	19	e19	23	23	25	27	33	9.0	9.0	14
18	12	14	34	e19	21	44	25	148	26	9.0	9.0	14
19	13	14	35	e18	21	69	24	188	25	15	9.0	14
20	14	14	28	e18	21	84	23	77	25	24	11	14
21	13	13	22	e21	20	165	23	48	22	12	9.0	15
22	13	12	20	e23	21	94	25	37	19	10	9.0	15
23	13	12	19	e28	21	54	27	31	17	9.2	9.0	14
24	13	15	32	e35	20	41	25	26	16	9.0	9.7	14
25	14	16	36	56	18	35	26	23	e14	9.0	12	14
26	14	21	30	e46	19	34	29	22	e13	9.0	9.0	16
27	14	15	25	e32	19	69	26	21	14	e9.0	9.0	42
28	14	14	21	e28	18	76	61	21	22	e8.0	9.0	32
29	13	14	21	e26	---	52	126	20	17	e8.0	51	24
30	13	14	20	e26	---	43	72	19	14	9.0	26	21
31	13	---	17	e33	---	38	---	24	---	9.0	29	---
TOTAL	432	426	726	904	661	1415	1035	1375	999	333.5	398.2	964
MEAN	13.9	14.2	23.4	29.2	23.6	45.6	34.5	44.4	33.3	10.8	12.8	32.1
MAX	16	21	42	60	35	165	126	188	143	24	51	187
MIN	12	12	13	16	18	18	23	19	13	8.0	9.0	14
CFSM	0.34	0.35	0.58	0.72	0.58	1.12	0.85	1.09	0.82	0.26	0.32	0.79
IN.	0.39	0.39	0.66	0.83	0.60	1.29	0.95	1.26	0.91	0.30	0.36	0.88

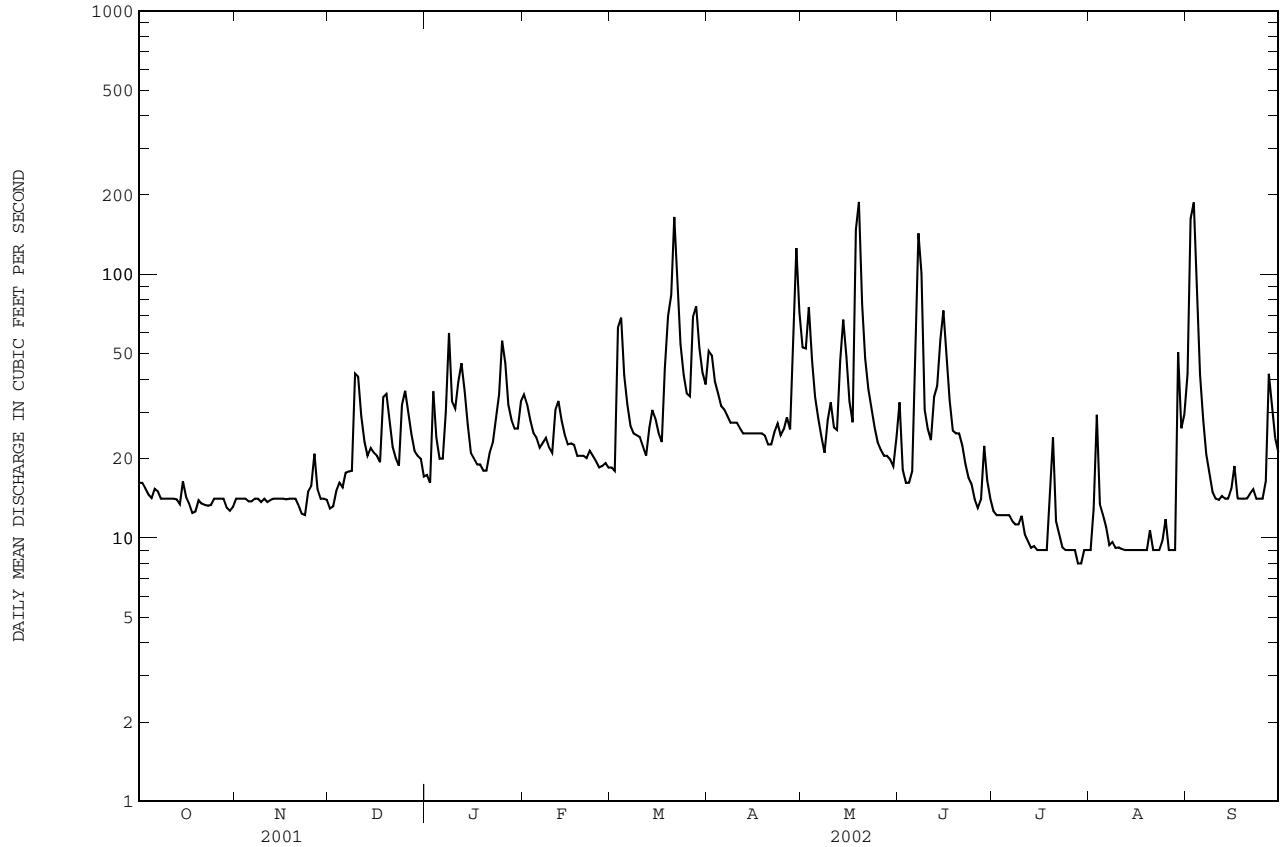
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2002, BY WATER YEAR (WY)

MEAN	39.5	54.9	72.4	77.8	75.7	90.3	83.2	66.3	46.1	41.7	41.6	40.3
MAX	95.2	154	156	186	139	164	154	148	109	141	128	138
(WY)	1990	1978	1984	1978	1979	1958	1983	1984	1968	1975	1990	1989
MIN	13.7	14.2	21.4	21.1	23.6	36.3	31.1	26.5	14.8	4.40	5.56	11.6
(WY)	1983	2002	1999	1981	2002	2000	1985	1977	1999	1966	1966	1965

01405400 MANALAPAN BROOK AT SPOTSWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1957 - 2002	
ANNUAL TOTAL	17086		9668.7		61.0	
ANNUAL MEAN	46.8		26.5		101	
HIGHEST ANNUAL MEAN					1973	
LOWEST ANNUAL MEAN					26.5	
HIGHEST DAILY MEAN	405	Mar 31	188	May 19	1390	May 30 1968
LOWEST DAILY MEAN	12	Oct 18	8.0	Jul 28	0.00	Jun 16 1957
ANNUAL SEVEN-DAY MINIMUM	13	Oct 17	8.7	Jul 24	0.64	Sep 24 1999
MAXIMUM PEAK FLOW			227	May 19	1700	Sep 20 1989
MAXIMUM PEAK STAGE			18.43	May 19	20.50	Sep 20 1989
INSTANTANEOUS LOW FLOW			0.00	Jan 7	0.00	Jun 16 1957
ANNUAL RUNOFF (CFSM)	1.15		0.65		1.50	
ANNUAL RUNOFF (INCHES)	15.62		8.84		20.37	
10 PERCENT EXCEEDS	92		47		116	
50 PERCENT EXCEEDS	28		21		44	
90 PERCENT EXCEEDS	14		9.8		18	

e Estimated



RARITAN RIVER BASIN

01406050 DEEP RUN AT OLD BRIDGE, NJ

LOCATION.--Lat 40°24'54", long 74°21'05", Middlesex County, Hydrologic Unit 02030105, on right end of dam for Deep Run Reservoir, 800 ft upstream of Waterworks Road, 0.9 mi east of Old Bridge, 1.2 mi upstream of mouth, and 3.2 mi south of Sayreville.

DRAINAGE AREA.--16.1 mi².

PERIOD OF RECORD.--Miscellaneous measurements made in Water Year 2000. October 1, 2000 to current year.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is NGVD of 1929.

REMARKS.--Records fair. Dam construction for Deep Run Reservoir was completed in 1988. Water diverted for municipal supply by City of Perth Amboy from nearby wells. Records given herein represent flow over spillway, flow through gates and leakage. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

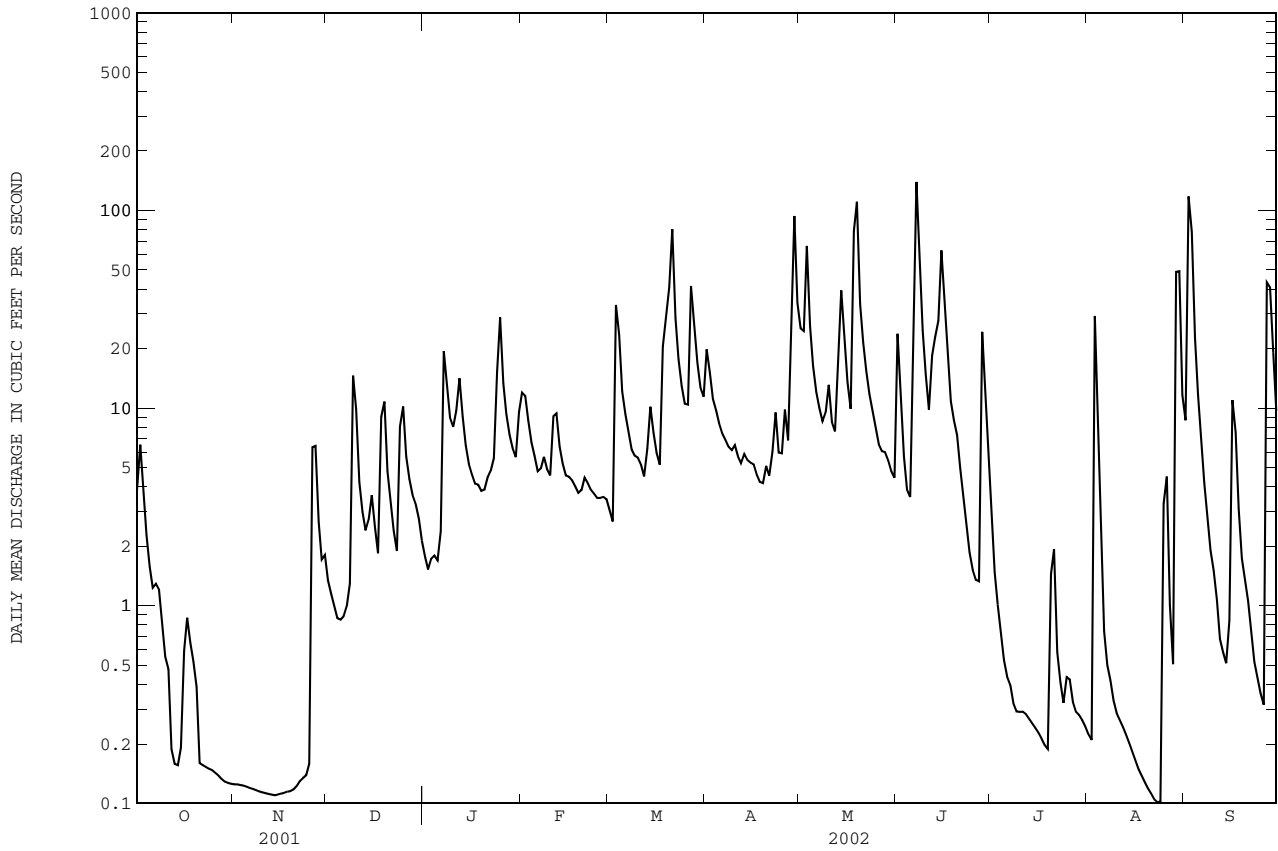
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	0.13	1.3	1.8	12	3.0	20	25	24	2.5	0.22	8.7
2	6.5	0.12	1.2	1.5	12	2.7	15	25	12	1.5	0.21	118
3	3.9	0.12	1.00	1.7	8.6	33	11	66	5.7	1.0	29	78
4	2.3	0.12	0.86	1.8	6.7	24	9.7	26	3.9	0.73	8.5	23
5	1.6	0.12	0.85	1.7	5.7	12	8.4	16	3.6	0.53	1.9	12
6	1.2	0.12	0.88	2.4	4.8	9.3	7.4	12	14	0.44	0.74	7.1
7	1.3	0.12	1.00	19	5.0	7.6	6.9	10	139	0.40	0.50	4.2
8	1.2	0.12	1.3	13	5.7	6.2	6.4	8.6	57	0.32	0.42	2.8
9	0.80	0.12	15	9.0	4.9	5.8	6.1	9.5	25	0.29	0.33	1.9
10	0.55	0.11	9.9	8.0	4.6	5.6	6.5	13	15	0.29	0.29	1.5
11	0.48	0.11	4.2	9.7	9.1	5.2	5.7	8.5	9.8	0.29	0.27	1.1
12	0.19	0.11	3.0	14	9.4	4.5	5.3	7.6	18	0.28	0.24	0.68
13	0.16	0.11	2.4	9.1	6.4	6.2	5.9	20	23	0.27	0.22	0.58
14	0.16	0.11	2.7	6.5	5.2	10	5.5	39	28	0.25	0.20	0.51
15	0.19	0.11	3.6	5.2	4.6	7.5	5.3	23	63	0.24	0.18	0.85
16	0.59	0.11	2.5	4.6	4.5	5.9	5.2	14	30	0.23	0.16	11
17	0.87	0.11	1.8	4.1	4.3	5.2	4.6	9.9	17	0.21	0.15	7.6
18	0.65	0.11	9.1	4.1	4.0	21	4.2	79	11	0.20	0.14	3.1
19	0.52	0.12	11	3.8	3.7	28	4.2	111	8.7	0.19	0.13	1.7
20	0.39	0.12	4.8	3.9	3.9	41	5.1	34	7.3	1.4	0.12	1.4
21	0.16	0.12	3.4	4.5	4.5	80	4.6	22	4.9	1.9	0.11	1.1
22	0.16	0.13	2.4	4.8	4.2	29	6.0	15	3.7	0.59	0.11	0.75
23	0.15	0.13	1.9	5.6	3.9	18	9.5	12	2.6	0.41	0.10	0.52
24	0.15	0.14	8.1	15	3.7	13	6.0	9.8	1.9	0.32	0.10	0.43
25	0.15	0.16	10	29	3.5	11	5.9	8.0	1.5	0.44	3.3	0.36
26	0.14	6.3	5.7	13	3.5	10	9.8	6.6	1.4	0.42	4.5	0.32
27	0.14	6.4	4.4	9.3	3.6	41	6.9	6.1	1.3	0.33	1.0	43
28	0.13	2.7	3.6	7.3	3.5	28	30	6.0	24	0.29	0.51	41
29	0.13	1.7	3.3	6.3	---	17	94	5.4	12	0.28	49	19
30	0.13	1.8	2.8	5.6	---	13	34	4.8	4.8	0.26	49	9.7
31	0.13	---	2.1	9.5	---	11	---	4.4	---	0.24	12	---
TOTAL	29.02	21.90	126.09	234.8	155.5	514.7	355.1	657.2	573.1	17.04	163.65	401.90
MEAN	0.94	0.73	4.07	7.57	5.55	16.6	11.8	21.2	19.1	0.55	5.28	13.4
MAX	6.5	6.4	15	29	12	80	94	111	139	2.5	49	118
MIN	0.13	0.11	0.85	1.5	3.5	2.7	4.2	4.4	1.3	0.19	0.10	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2002, BY WATER YEAR (WY)

	2001	2001	2001	2001	2001	2001	2001	2002	2002	2001	2002	2001
MEAN	4.65	8.89	12.2	17.0	15.8	35.7	21.9	17.9	17.1	3.71	4.72	7.67
MAX	8.37	17.0	20.4	26.4	26.0	54.8	32.0	21.2	19.1	6.87	5.28	13.4
(WY)	2001	2001	2001	2001	2001	2001	2001	2002	2002	2001	2002	2002
MIN	0.94	0.73	4.07	7.57	5.55	16.6	11.8	14.6	15.0	0.55	4.16	1.95
(WY)	2002	2002	2002	2002	2002	2002	2002	2001	2001	2002	2001	2001

01406050 DEEP RUN AT OLD BRIDGE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2001 - 2002	
ANNUAL TOTAL	5684.06		3250.00			
ANNUAL MEAN	15.6		8.90		13.9	
HIGHEST ANNUAL MEAN					18.9 2001	
LOWEST ANNUAL MEAN					8.90 2002	
HIGHEST DAILY MEAN	340	Mar 22	139	Jun 7	340	Mar 22 2001
LOWEST DAILY MEAN	0.11	Nov 10	0.10	Aug 23,24	0.10	Aug 23 2002
ANNUAL SEVEN-DAY MINIMUM	0.11	Nov 10	0.11	Nov 10	0.11	Nov 10 2001
MAXIMUM PEAK FLOW			191	May 19	576	Mar 22 2001
MAXIMUM PEAK STAGE			7.37	May 19	7.68	Mar 22 2001
INSTANTANEOUS LOW FLOW			0.10	Aug 22-24	0.10	Aug 22 2002
10 PERCENT EXCEEDS	39		23		34	
50 PERCENT EXCEEDS	7.2		4.2		6.8	
90 PERCENT EXCEEDS	0.15		0.14		0.25	



RARITAN RIVER BASIN

01406710 RARITAN RIVER AT SOUTH AMBOY, NJ

LOCATION.--Lat 40°29'32", long 74°16'54", Middlesex County, Hydrologic Unit 02030105, on right bank at the Werner Generating Station in South Amboy, 0.1 mi downstream from NJ Transit railroad bridge, 0.4 mi upstream from the mouth, and 1.3 mi southwest of Perth Amboy.

DRAINAGE AREA.--1,100 mi².

PERIOD OF RECORD.--August 1997 to September 1999 (unpublished fragmentary gage-height record), October 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 0.99 ft. To determine elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8531232, add 3.18 ft.

REMARKS.--Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 5.08 ft (NAVD of 1988), Sept. 26, 2000; minimum recorded, -5.33 ft (NAVD of 1988), Feb. 28, 2002, but a lower elevation could have occurred when the well was frozen, Jan. 18 to Feb. 10, 2000.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 9.4 ft (adjusted to NAVD of 1988), Dec. 11, 1992, from tidal crest-stage gage at Perth Amboy (station 01406700).

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 4.33 ft (NAVD of 1988), Jun. 14; minimum recorded, -5.33 ft (NAVD of 1988), Feb. 28.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	4.10	3.60	3.89	4.24	4.17	3.91	4.10	3.94	4.33	3.78	3.63	4.06
high tide	Date	14	17	13	31	27	29	28	25	14	20	9	10
Minimum	Elevation	-5.24	-4.50	-5.15	-5.28	-5.33	-5.29	-4.66	-4.21	-4.01	-3.69	-3.82	-3.96
low tide	Date	17	14	31	13	28	1	26	15	23	24	11	9
Mean high tide		2.28	2.17	2.15	1.93	2.13	1.97	2.29	2.23	2.45	2.39	2.48	2.61
Mean water level		-.18	-.30	-.37	-.69	-.39	-.64	-.43	-.30	-.05	-.09	.04	.14
Mean low tide		-2.82	-2.94	-3.03	-3.45	-3.00	-3.37	-3.07	-2.94	-2.68	-2.65	-2.51	-2.45

RESERVOIRS IN RARITAN RIVER BASIN

01396790 SPRUCE RUN RESERVOIR.--Lat 40°38'37", long 74°55'26", Hunterdon County, Hydrologic Unit 02030105, at dam on Spruce Run, 0.5 mi north of Clinton, and 0.6 mi upstream from mouth. DRAINAGE AREA, 41.3 mi². PERIOD OF RECORD, November 1963 to current year. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929.

REVISED RECORDS.--WDR NJ-84-1: (M). WDR NJ-85-1: 1984.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway; dam completed in October 1963 with crest of spillway at elevation 273.00 ft. Usable capacity, 11,000,000,000 gal. Dead storage 300,000 gal. Reservoir used for water supply and recreation. Outflow mostly regulated by gates. Water is released to maintain minimum flow on the South Branch Raritan River and, at times, for municipal supply. Records given herein represent usable capacity.

COOPERATION.--Records provided by New Jersey Water Supply Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 11,820,000,000 gal, Jan. 24, 1979, elevation, 274.72 ft; minimum observed, 3,100,000,000 gal, Oct. 18, 1983, elevation, 246.68 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,800,000,000 gal, July 4, elevation, 264.46 ft; minimum observed, 3,480,000,000 gal, Jan. 11, elevation, 248.15 ft.

01397050 ROUND VALLEY RESERVOIR.--Lat 40°36'39", long 74°50'42", Hunterdon County, Hydrologic Unit 02030105, at main dam on Prescott Brook, 1.8 mi south of Lebanon, 3.2 mi upstream from mouth, and 4.5 mi west of Whitehouse. DRAINAGE AREA, 5.48 mi². PERIOD OF RECORD, March 1966 to current year. Nonrecording gage read daily. Datum of gage is above NGVD of 1929.

REVISED RECORDS.--WDR NJ-85-1: 1984, WDR NJ-01-1: 1996, WDR NJ-02-1: 2001.

REMARKS.--Reservoir is formed by earthfill dam at main dam on Prescott Brook and two dams on South Branch Rockaway River at Lebanon; storage began in March 1966. Capacity at spillway level, 55,000,000,000 gal, elevation, 385.00 ft. Reservoir is used primarily for storage and is filled by pumping from South Branch Raritan River at Hamden Pumping Station (see following page). Outflow is controlled by operation of gates in pipe in dams. Water is released into South Branch Rockaway Creek and Prescott Brook.

COOPERATION.--Records provided by New Jersey Water Supply Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,400,000,000 gal, June 15, 1975, elevation, 385.63 ft; minimum observed (after first filling), 37,100,000,000 gal, Feb. 9, 1981, elevation, 361.30 ft.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 54,890,000,000 gal, Oct. 1, elevation, 384.89 ft; minimum observed, 44,440,000,000 gal, Sep. 14, elevation, 371.04 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
		01396790 SPRUCE RUN RESERVOIR		01397050 ROUND VALLEY RESERVOIR		
Sept. 30.....	262.43	7,070		384.91	54,910	
Oct. 31.....	254.40	4,860	-110	384.32	54,420	-24.5
Nov. 30.....	249.24	3,700	-59.8	382.28	52,780	-84.6
Dec. 31.....	248.81	3,610	-4.5	380.51	51,610	-58.4
CAL YR 2001			-29.2			-11.7
Jan. 31.....	249.03	3,660	+2.5	379.49	50,890	-35.9
Feb. 28.....	249.65	3,780	+6.6	379.12	50,620	-14.9
Mar. 31.....	252.75	4,470	+34.4	379.20	50,700	+4.0
Apr. 30.....	255.90	5,240	+39.7	379.76	51,030	+17.0
May 31.....	262.20	7,020	+88.8	380.80	51,750	+35.9
June 30.....	264.42	7,790	+39.7	381.01	51,910	+8.3
July 31.....	263.85	7,600	-9.5	376.82	49,010	-145
Aug. 31.....	262.26	7,030	-28.4	371.20	44,550	-223
Sept. 30.....	256.34	5,350	-86.6	371.24	44,570	+1.0
WTR YR 2002			-7.3			-43.8

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
01397050 ROUND VALLEY RESERVOIR			
Sept. 30.....	384.66a	54,680a	
Oct. 31.....	384.34a	54,440a	-12.0a
Nov. 30.....	384.21a	54,360a	-4.1a
Dec. 31.....	384.24a	54,370a	+5a
CAL YR 2000			+48.2a
Jan. 31.....	384.41a	54,510a	+7.0a
Feb. 28.....	384.62a	54,660a	+8.3a
Mar. 31.....	385.02a	55,020a	+18.0a
Apr. 30.....	385.01a	55,010a	-.5a
May 31.....	385.25a	55,250a	+12.0a
June 30.....	385.11a	55,110a	-7.2a
July 31.....	384.94a	54,940a	-8.5a
Aug. 31.....	385.03a	55,030a	+4.5a
Sept. 30.....	384.91a	54,910a	-6.2a
WTR YR 2001			+1.0a

a Corrected figures for water year 2001.
 † Elevation at 0900 of the last day of each month.

RARITAN RIVER BASIN

DIVERSIONS IN RARITAN RIVER BASIN

- 01396920 Water is diverted 4.0 mi upstream from the gaging station on South Branch Raritan River at Stanton (see station 01397000), at the Hamden Pumping Station, for storage in Round Valley Reservoir. Water can also be released from Round Valley Reservoir into the South Branch Raritan River at Hamden and are noted as negative discharge. Records provided by New Jersey Water Supply Authority. REVISED RECORDS.--WDR NJ-85-1: 1984.
- 01399669 Water is released from Round Valley Reservoir and enters the South Branch Rockaway Creek directly upstream from gaging station (01399670) at Whitehouse Station. Records provided by New Jersey Water Supply Authority.
- 01400509 Elizabethtown Water Company diverts water from the Raritan and Millstone Rivers just upstream from the mouth of the Millstone River at Manville. Records given herein represent the total diversion from both rivers. Records provided by the Elizabethtown Water Company. REVISION.--The mean diversion for water year 1991 has been revised to 146 ft³/s superceding the figure published in WDR NJ-91-1.
- 01400836 Water is diverted from Carnegie Lake (Millstone River) at Princeton to the Delaware and Raritan Canal at the aqueduct 4.1 mi downstream from the gaging station on the Delaware and Raritan Canal at Port Mercer (station 01460440). Negative discharge indicates flow from Canal to Carnegie Lake. Records provided by New Jersey Water Supply Authority. REVISED RECORDS.--WDR NJ-85-1: 1984.
- 01402910 Water is diverted from the Raritan River just below the Millstone River to the Delaware and Raritan Canal at Ten Mile Lock for municipal supply. Negative discharge indicates flow from Canal to Millstone River. Records provided by the New Jersey Water Supply Authority. REVISED RECORDS.--WDR NJ-85-1: 1984.
- 01405029 Water is diverted from Lawrence Brook at Westons Mills, just upstream of gaging station (01405030), by City of New Brunswick (since 1873), for municipal supply. Records provided by City of New Brunswick Water Department.
- 01460570 Elizabethtown Water Company diverts water from the Delaware and Raritan Canal 1200 ft downstream from Ten Mile Lock at Franklin for municipal supply. Records provided by the Elizabethtown Water Company.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MONTH	<u>01396920</u> Hamden pumping station	<u>01399669</u> Whitehouse Release	<u>01400509</u> Raritan and Millstone Rivers	<u>01400836</u> Carnegie Lake	<u>01402910</u> Ten Mile Lock diversion	<u>01405029</u> Westons Mills	<u>01460570</u> Delaware and Raritan Canal
October	-6.00	5.99	194	0	-22.7	5.70	11.2
November . . .	-73.8	73.8	196	0	-7.80	9.71	.52
December . . .	-67.6	67.6	190	0	-1.10	1.28	0
CAL YR 2001	-12.3	15.2	194	0	-18.8	5.35	17.2
January	-34.1	34.1	191	0	0	2.41	0
February . . .	-14.6	14.6	192	0	-7.60	2.63	0
March	-4.90	4.89	204	0	-15.9	1.98	0
April	10.9	0	215	0	-11.5	1.51	0
May	25.5	0	218	0	-21.3	1.88	0
June	0	0	165	0	-15.7	.93	28.6
July	-141	141	214	0	-3.80	1.99	32.3
August	-198	198	213	0	-1.90	1.33	31.7
September . .	0	0	168	0	-16.5	1.26	25.0
WTR YR 2002	-42.5	45.5	197	0	-10.5	2.71	10.8

RARITAN BAY

01407081 RARITAN BAY AT KEANSBURG, NJ

LOCATION.--Lat 40°26'55", long 74°08'52", Monmouth County, Hydrologic Unit 02030104, on south bank at Bayshore Flood Control Station in Keansburg, 20 ft downstream from tide gate, 1.3 mi east of Union Beach, and 0.3 mi downstream from bridge over Waackaack Creek on Laurel Avenue.

PERIOD OF RECORD.--September 1997 to October 2000 (unpublished fragmentary gage-height record), November 2000 to current year.

GAGE.--Water-stage, air temperature, water temperature, wind speed and direction, barometric pressure, and precipitation recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate corresponding National Geodetic Vertical Datum of 1929 (NGVD of 1929) elevation, add 1.18 ft. To determine approximate corresponding Mean Lower Low Water datum, add 3.17 ft.

REMARKS.--Gage affected by ice December 2000 to January 2001. Bay Shore Flood Control Station construction began June 19, 1970 and was completed January 18, 1973. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage and weather telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.70 ft (NAVD of 1988), Mar. 7, 2001. Minimum recorded elevation, -5.76 ft (NAVD of 1988), Dec. 12, 2000.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum known elevation, 7.9 ft (adjusted to NAVD of 1988), Nov. 25, 1950, from high-water mark in Keansburg (prior to installation of flood gate), published in Tidal Flood Plain Information - Sandy Hook Bay and Raritan Bay Shore Areas, Monmouth County, New Jersey, July 1972, by the U.S. Army Corp of Engineers.

EXTREMES FOR WATER YEAR 2001.-- Maximum elevation recorded, 4.70 ft (NAVD of 1988), Mar. 7. Minimum elevation recorded, -5.76 ft (NAVD of 1988), Dec. 12.

EXTREMES FOR WATER YEAR 2002.-- Maximum elevation recorded, 4.16 ft (NAVD of 1988), Jun. 14. Minimum elevation recorded, -5.50 ft (NAVD of 1988), Jan. 14.

Summaries of tide elevations during water years 2001 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	4.49	3.88	3.80	3.74	4.70	3.67	3.74	3.98	3.94	3.98	4.13
high tide	Date	---	26	14	9	9	7	8, 9	23	22	19	19	30
Minimum	Elevation	---	-5.04	-5.76	-4.55	-5.66	-4.89	-4.00	-3.73	-3.67	-3.70	-3.68	-3.57
low tide	Date	---	22	12	11	11	12	6	4	21	24	21	17
Mean high tide		---	2.26	---	---	1.74	2.26	2.25	2.38	2.40	2.43	2.42	2.58
Mean water level		---	-.20	---	---	-.71	-.15	-.23	-.04	-.09	-.01	-.03	.17
Mean low tide		---	-2.67	---	---	-3.31	-2.67	-2.80	-2.57	-2.69	-2.55	-2.56	-2.33

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.97	3.43	3.76	3.99	4.08	3.68	3.96	3.80	4.16	3.58	3.54	3.98
high tide	Date	14	17	13	31	27	29	28	25	14	20	9	10
Minimum	Elevation	-5.08	-4.33	-4.87	-5.50	-5.26	-4.98	-4.42	-4.09	-3.89	-3.48	-3.71	-3.84
low tide	Date	18	14	31	14	28	1	27	15	23	24	11	9
Mean high tide		2.17	2.05	2.03	1.80	2.00	1.83	2.06	2.09	2.30	2.30	2.38	2.53
Mean water level		-.21	-.34	-.40	-.69	-.42	-.70	-.46	-.36	-.10	-.08	.03	.13
Mean low tide		-2.73	-2.86	-2.92	-3.32	-2.92	-3.30	-3.01	-2.89	-2.61	-2.54	-2.42	-2.36



Figure 14. U.S. Geological Survey gage continuously monitoring the stage of the Pequannock River at Macopin Intake Dam, NJ. Photograph taken by Rick Edwards, 2002

SHREWSBURY RIVER BASIN

01407500 SWIMMING RIVER NEAR RED BANK, NJ

LOCATION.--Lat 40°19'09", long 74°06'59" (revised), Monmouth County, Hydrologic Unit 02030104, on left bank 50 ft upstream from spillway at Swimming River Reservoir, 3.3 mi southwest of Red Bank, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--49.2 mi².

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

REVISED RECORDS.--WSP 891: 1939. WDR NJ-83-1: Drainage area. WDR NJ-90-1: 1989.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 30.00 ft above NGVD of 1929. Prior to Jan. 19, 1962, at site 800 ft upstream at datum 17.67 ft lower. Jan. 19 to Mar. 30, 1962, nonrecording gage, 700 ft upstream at datum 13.87 ft lower.

REMARKS.--Records good above 200 ft³/s, and fair below 200 ft³/s. Records given herein represent flow over spillway and flow or leakage through blowoff gates. Flow regulated by and diversions from Swimming River Reservoir for municipal supply (see Reservoirs and Diversions in Atlantic Coastal Basins). Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and record of diversion furnished by New Jersey-American Water Co.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood in July 1919 reached a stage of 7.84 ft (site and datum then in use), from floodmark, discharge about 11,800 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.05	0.05	0.05	0.05	0.05	0.05	8.7	2.1	6.4	0.05	0.05	0.05
2	0.05	0.05	0.05	0.05	0.05	0.05	10	4.2	6.1	0.05	0.05	0.05
3	0.05	0.05	0.05	0.05	0.05	0.05	8.7	11	3.4	0.05	0.05	0.05
4	0.05	0.05	0.05	0.05	0.05	0.05	5.8	10	1.7	0.05	0.05	0.05
5	0.05	0.05	0.05	0.05	0.05	0.05	4.0	8.6	0.87	0.05	0.05	0.05
6	0.05	0.05	0.05	0.05	0.05	0.05	2.6	6.7	3.1	0.05	0.05	0.05
7	0.05	0.05	0.05	0.05	0.05	0.05	1.6	5.3	215	0.05	0.05	0.05
8	0.05	0.05	0.05	0.05	0.05	0.05	0.95	3.9	67	0.05	0.05	0.05
9	0.05	0.05	0.05	0.05	0.05	0.05	0.59	3.8	31	0.05	0.05	0.05
10	0.05	0.05	0.05	0.05	0.05	0.05	0.34	5.4	18	0.05	0.05	0.05
11	0.05	0.05	0.05	0.05	0.05	0.05	0.10	3.8	13	0.05	0.05	0.05
12	0.05	0.05	0.05	0.05	0.05	0.05	0.05	2.9	13	0.05	0.05	0.05
13	0.05	0.05	0.05	0.05	0.05	0.05	0.05	7.3	18	0.05	0.05	0.05
14	0.05	0.05	0.05	0.05	0.05	0.05	0.05	22	27	0.05	0.05	0.05
15	0.05	0.05	0.05	0.05	0.05	0.05	0.05	18	77	0.05	0.05	0.05
16	0.05	0.05	0.05	0.05	0.05	0.05	0.05	13	40	0.05	0.05	0.05
17	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8.1	22	0.05	0.05	0.05
18	0.05	0.05	0.05	0.05	0.05	0.05	0.05	128	15	0.05	0.05	0.05
19	0.05	0.05	0.05	0.05	0.05	0.05	0.05	116	11	0.05	0.05	0.05
20	0.05	0.05	0.05	0.05	0.05	0.05	0.05	39	9.2	0.05	0.05	0.05
21	0.05	0.05	0.05	0.05	0.05	0.05	0.05	26	6.1	0.05	0.05	0.05
22	0.05	0.05	0.05	0.05	0.05	0.05	0.05	18	3.5	0.05	0.05	0.05
23	0.05	0.05	0.05	0.05	0.05	0.05	0.05	15	1.5	0.05	0.05	0.05
24	0.05	0.05	0.05	0.05	0.05	0.05	0.05	12	0.42	0.05	0.05	0.05
25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	8.8	0.06	0.05	0.05	0.05
26	0.05	0.05	0.05	0.05	0.05	0.05	0.05	6.3	0.05	0.05	0.05	0.05
27	0.05	0.05	0.05	0.05	0.05	1.2	0.05	5.0	0.05	0.05	0.05	0.05
28	0.05	0.05	0.05	0.05	0.05	3.5	0.05	3.8	0.05	0.05	0.05	0.05
29	0.05	0.05	0.05	0.05	---	3.9	0.47	2.8	0.05	0.05	0.05	0.05
30	0.05	0.05	0.05	0.05	---	3.6	1.2	2.0	0.05	0.05	0.05	0.05
31	0.05	---	0.05	0.05	---	2.9	---	1.4	---	0.05	0.05	---
TOTAL	1.55	1.50	1.55	1.55	1.40	16.40	45.90	520.2	609.60	1.55	1.55	1.50
MEAN	0.050	0.050	0.050	0.050	0.050	0.53	1.53	16.8	20.3	0.050	0.050	0.050
MAX	0.05	0.05	0.05	0.05	0.05	3.9	10	128	215	0.05	0.05	0.05
MIN	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1.4	0.05	0.05	0.05	0.05

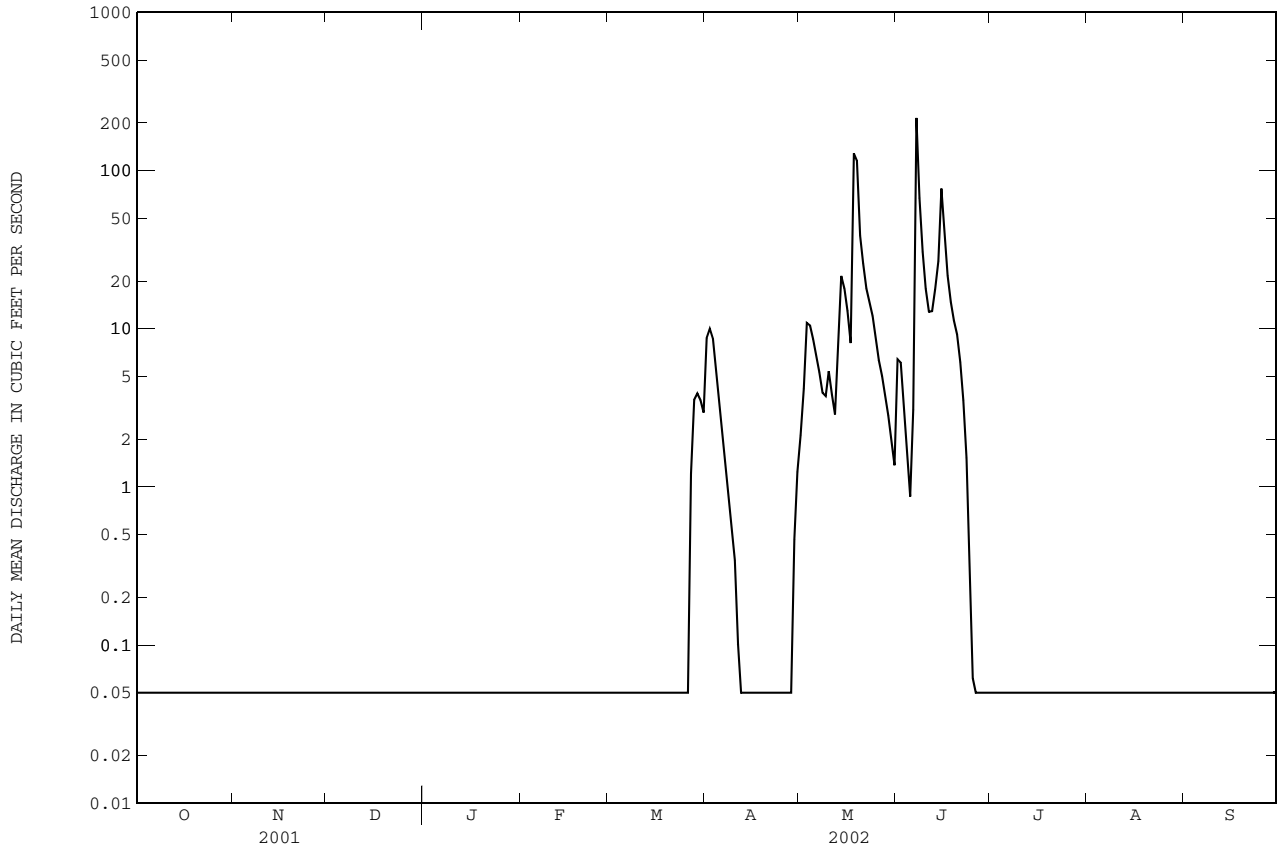
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)
MEAN	37.3	52.5	65.7	77.8
MAX	163	208	196	248
(WY)	1944	1973	1978	1978
MIN	0.000	0.000	0.000	0.000
(WY)	1971	1981	1981	1981
MEAN	88.9	102	89.7	68.8
MAX	201	216	209	227
(WY)	1979	1994	1980	1998
MIN	0.050	0.53	1.53	4.07
(WY)	2002	2002	2002	1985
MEAN	46.3	37.9	36.5	36.4
MAX	135	187	128	210
(WY)	1972	1938	1955	1938
MIN	0.000	0.000	0.000	0.000
(WY)	1985	1985	1966	1957

01407500 SWIMMING RIVER NEAR RED BANK, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	12431.66		1204.25			
ANNUAL MEAN	34.1		3.30		61.5	
HIGHEST ANNUAL MEAN					123	1928
LOWEST ANNUAL MEAN					3.30	2002
HIGHEST DAILY MEAN	1140	Mar 22	215	Jun 7	3050	Oct 27 1943
LOWEST DAILY MEAN	0.05	Jul 27	0.05	Many days	0.00	Jun 22 1923
ANNUAL SEVEN-DAY MINIMUM	0.05	Jul 27	0.05	Many days	0.00	Jul 16 1955
MAXIMUM PEAK FLOW			326	May 18, Jun 7	8910a	Oct 27 1943
MAXIMUM PEAK STAGE			5.47	May 18, Jun 7	8.96	Oct 27 1943
INSTANTANEOUS LOW FLOW			0.05	Many days	0.00	Jun 22 1923
10 PERCENT EXCEEDS	78		6.2		119	
50 PERCENT EXCEEDS	5.1		0.05		44	
90 PERCENT EXCEEDS	0.05		0.05		0.05	

a From rating curve extended above 1,000 ft³/s on basis of weir formula, site and datum then in use.



SHREWSBURY RIVER BASIN

01407600 SHREWSBURY RIVER AT SEA BRIGHT, NJ

LOCATION.--Lat 40°21'56", long 73°58'31", Monmouth County, Hydrologic Unit 02030104, on right upstream wingwall of bridge on Rumson Road (County Route 520) in Sea Bright, 0.5 mi downstream of Gunning Island, and 3.3 mi south of Sandy Hook Bay.

PERIOD OF RECORD.--August 1997 to December 1999 (unpublished fragmentary gage-height record), January 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.20 ft. To determine approximate elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8531804, add 2.01 ft.

REMARKS.-- No gage record Dec. 15 to 17, 2001, and April 17 to 19, 2002 and short portions of other days. Gage cannot measure a tide level of less than -1.92 ft (NAVD of 1988). All monthly minimum elevations, and most monthly mean low tides and monthly mean water levels are undetermined. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum recorded, 4.08 ft (NAVD of 1988), March 7, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 8.7 ft (adjusted to NAVD of 1988), Dec. 11, 1992, from high-water mark near the intersection of County Route 520 and Ocean Drive in Sea Bright.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 3.59 ft (NAVD of 1988), October 1.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.59	2.59	2.78	2.96	2.88	2.42	3.00	2.72	3.43	2.40	2.41	2.76
high tide	Date	1	29	13	31	1	27	28	13	15	19, 20	6, 8	11
Minimum	Elevation	---	---	---	---	---	---	---	---	---	---	---	---
low tide	Date	---	---	---	---	---	---	---	---	---	---	---	---
Mean high tide		1.57	1.44	1.36	1.12	1.37	1.10	1.35	1.39	1.63	1.61	1.70	1.86
Mean water level		-.03	-.17	---	---	---	---	---	---	---	---	.09	.20
Mean low tide		-1.6e	-1.7e	---	---	---	---	---	---	---	---	-1.5e	-1.5e

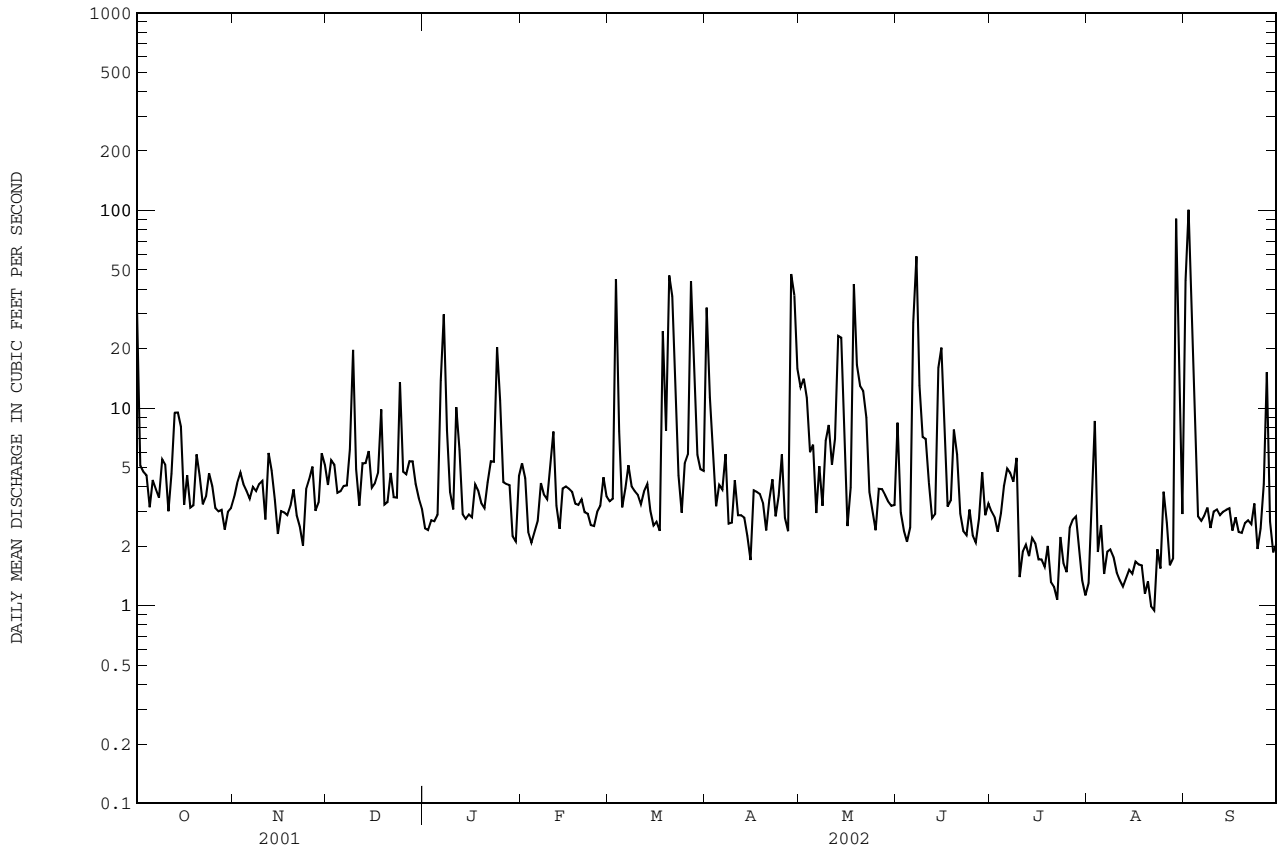
e - estimated



Figure 15. U.S. Geological Survey gage continuously monitoring the stage of the South Branch Raritan River at Stanton, NJ. Photograph taken by Blaine White, 2002.

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1967 - 2002	
ANNUAL TOTAL	4495.0		2290.04			
ANNUAL MEAN	12.3		6.27		14.0	
HIGHEST ANNUAL MEAN					24.9 1984	
LOWEST ANNUAL MEAN					6.27 2002	
HIGHEST DAILY MEAN	392	Jun 17	101	Sep 2	560	Dec 26 1969
LOWEST DAILY MEAN	2.0	Nov 23	0.95	Aug 22	0.00	Sep 20 1981
ANNUAL SEVEN-DAY MINIMUM	2.9	Sep 3	1.3	Aug 16	0.70	Sep 26 1988
MAXIMUM PEAK FLOW			203	Aug 29	1170	Aug 18 1992
MAXIMUM PEAK STAGE			4.52	Aug 29	6.59	Aug 18 1992
INSTANTANEOUS LOW FLOW			0.00	Many days	0.00	Aug 20 1978
10 PERCENT EXCEEDS	17		11		27	
50 PERCENT EXCEEDS	5.1		3.5		7.7	
90 PERCENT EXCEEDS	3.1		1.9		2.6	



SHARK RIVER BASIN

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ

LOCATION.--Lat 40°12'13", long 74°03'58", Monmouth County, Hydrologic Unit 02030104, on left bank 60 ft downstream from dam on Jumping Brook Reservoir, 0.8 mi upstream from mouth, and 1.4 mi west of Neptune City.

DRAINAGE AREA.--6.46 mi².

PERIOD OF RECORD.--October 1966 to current year. Records for water years 1976-83 are unpublished but are available in the files of New Jersey District Office.

REVISED RECORDS.--WDR-84-1: drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 13.76 ft above NGVD of 1929.

REMARKS.--Records good except those above 300 ft³/s, which are fair. Diversion above station by New Jersey-American Water Co. for municipal supply (see Atlantic Coastal Basins, diversions) and by farmers for irrigation. Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and records of diversion provided by New Jersey-American Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	2.0	2.4	2.1	7.6	2.4	31	6.4	15	1.7	0.95	31
2	7.3	2.1	2.3	2.1	5.7	2.7	8.4	10	3.4	1.4	5.1	104
3	3.7	2.1	2.3	2.2	3.9	45	5.2	5.9	2.4	1.2	21	21
4	2.9	2.1	2.3	2.2	3.6	8.6	4.2	4.0	2.1	1.4	3.3	7.2
5	2.5	2.1	2.3	2.3	2.9	4.4	3.8	3.5	2.0	1.7	2.4	5.0
6	3.4	2.3	2.3	13	2.7	3.6	3.6	3.2	26	1.3	2.9	4.9
7	2.7	2.0	2.2	27	3.7	3.2	3.4	3.3	50	1.0	1.6	2.6
8	2.3	1.9	5.3	7.1	3.3	3.0	3.4	3.0	8.4	1.0	1.3	2.4
9	2.2	1.9	19	4.8	2.9	2.9	3.4	6.4	4.9	3.1	1.1	2.2
10	2.2	1.9	4.6	4.2	3.2	3.2	4.8	4.2	4.0	3.7	1.1	1.9
11	2.3	2.0	3.5	11	9.3	2.7	3.3	3.1	3.2	1.8	1.0	2.0
12	2.4	2.0	2.9	6.9	4.2	2.7	3.7	5.4	5.0	1.8	0.97	1.6
13	2.8	2.1	2.8	4.5	3.3	6.5	4.1	25	4.5	1.3	0.97	1.9
14	3.4	2.1	3.1	3.4	2.9	4.7	3.5	21	19	1.3	1.2	1.7
15	4.3	2.1	2.8	3.1	2.8	3.4	3.1	5.7	28	1.2	1.0	1.7
16	2.6	2.1	2.4	2.8	2.8	3.1	3.0	3.9	7.4	1.1	1.1	2.1
17	3.1	2.1	2.8	2.7	2.8	3.0	2.8	4.6	4.1	0.96	1.1	1.8
18	2.1	2.1	9.8	2.6	2.6	28	2.7	35	3.2	0.96	1.0	1.7
19	2.1	2.1	4.3	2.6	2.5	11	2.6	11	5.0	3.3	0.89	1.7
20	2.0	2.3	3.0	3.6	2.6	46	2.9	5.6	3.2	8.6	1.3	1.6
21	2.0	2.2	2.6	4.6	2.7	28	2.6	4.0	2.6	2.6	1.2	1.6
22	2.0	2.2	2.5	5.1	2.5	7.8	5.2	3.5	2.2	1.8	1.0	1.6
23	2.1	2.2	2.4	6.5	2.4	5.0	4.0	3.0	2.0	1.8	1.9	1.5
24	2.4	2.6	15	19	2.4	4.3	2.9	2.7	1.9	2.1	2.1	1.4
25	2.3	4.1	4.9	12	2.4	3.8	7.1	2.5	1.7	1.7	4.0	1.6
26	2.0	6.7	3.4	5.0	2.4	5.7	6.0	2.4	1.7	2.1	1.6	5.0
27	2.0	3.0	2.9	3.9	2.7	38	3.5	2.4	2.6	1.7	1.4	22
28	1.9	2.6	2.6	3.4	2.4	9.0	44	2.4	6.9	1.6	1.3	6.6
29	2.0	2.9	2.5	3.2	---	5.4	32	2.2	2.5	1.6	132	2.8
30	1.9	2.7	2.4	3.1	---	4.5	9.4	2.2	1.9	1.2	15	2.3
31	2.0	---	2.3	6.4	---	7.0	---	3.4	---	1.0	5.3	---
TOTAL	120.9	72.6	125.9	182.4	95.2	308.6	219.6	200.9	226.8	59.02	218.08	246.4
MEAN	3.900	2.420	4.061	5.884	3.400	9.955	7.320	6.481	7.560	1.904	7.035	8.213
MAX	42	6.7	19	27	9.3	46	44	35	50	8.6	132	104
MIN	1.9	1.9	2.2	2.1	2.4	2.4	2.6	2.2	1.7	0.96	0.89	1.4

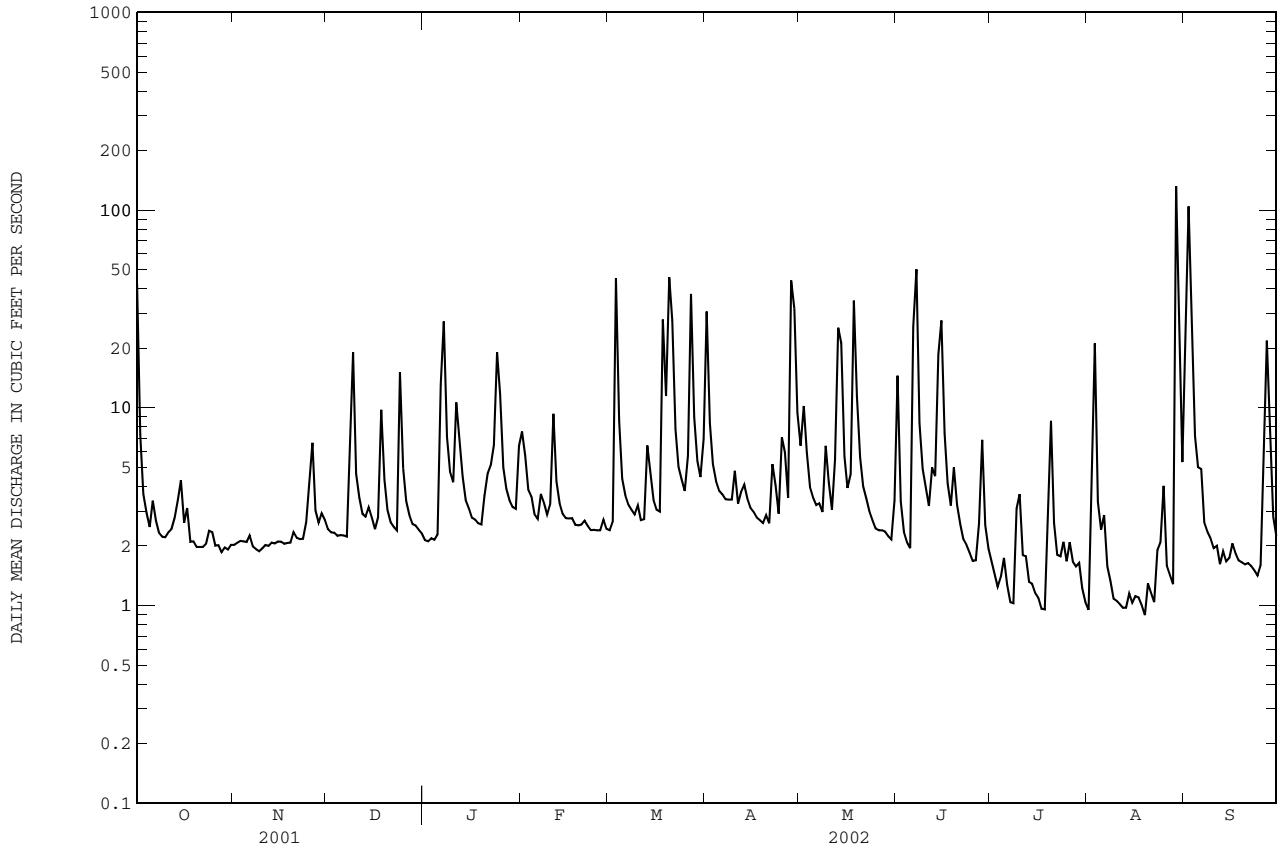
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2002, BY WATER YEAR (WY)

MEAN	6.856	8.560	10.20	12.45	11.34	14.43	13.65	12.04	7.191	7.076	7.463	6.955
MAX	34.5	47.4	30.5	55.5	62.1	47.1	66.5	53.8	23.7	21.5	19.0	24.2
(WY)	1990	1978	1970	1979	1979	1984	1980	1989	1972	1989	1992	1971
MIN	1.97	1.89	2.78	1.94	3.40	3.86	3.29	2.08	2.11	1.90	1.52	1.25
(WY)	1982	1982	1981	1981	2002	1985	1985	1977	1986	2002	1982	1982

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1967 - 2002	
ANNUAL TOTAL	3144.9		2076.40		9.848	
ANNUAL MEAN	8.616		5.689		20.4	
HIGHEST ANNUAL MEAN					4.05	
LOWEST ANNUAL MEAN					1979	
HIGHEST DAILY MEAN	329	Mar 30	132	Aug 29	954	Jan 21 1979
LOWEST DAILY MEAN	1.2	Aug 8	0.89	Aug 19	0.12	Sep 15 1981
ANNUAL SEVEN-DAY MINIMUM	1.5	Aug 3	1.0	Aug 13	0.51	Oct 7 1966
MAXIMUM PEAK FLOW			270	Aug 29	1830a	Sep 12 1971
MAXIMUM PEAK STAGE			4.00	Aug 29	7.43	Aug 18 1992
INSTANTANEOUS LOW FLOW			0.73	many days	0.00	Jun 7 1971
10 PERCENT EXCEEDS	13		9.3		18	
50 PERCENT EXCEEDS	3.8		2.8		4.8	
90 PERCENT EXCEEDS	2.0		1.6		2.0	

a From rating curve extended above 150 ft³/s.



SHARK RIVER BASIN

01407770 SHARK RIVER AT BELMAR, NJ

LOCATION.--Lat 40°10'40", long 74°02'02", Monmouth County, Hydrologic Unit 02030104, on fishing pier between Maclearie Park and Belmar Municipal Boat Basin, 1.5 miles west of Shark River Inlet, 0.3 miles southwest of south end of Shark River Island, and 1.6 miles southeast of bridge carrying State Route 18 over Shark River.

PERIOD OF RECORD.--August 1997 to June 2000 (unpublished fragmentary gage-height record), July 2000 to January 2002.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929) elevation, add 1.08 ft. To determine approximate elevations to Mean Lower Low Water Datum elevation, add 2.90 ft.

REMARKS.--Gage cannot a record a tide level below -4.58 ft (NAVD of 1988). Gage temporarily removed Jan. 16, 2002. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dash (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.46 ft (NAVD of 1988), Sept. 26, 2000.

EXTREMES FOR PERIOD JULY TO SEPTEMBER, 2000.-- Maximum elevation recorded, 4.46 ft (NAVD of 1988), Sept. 26; minimum elevation recorded, -3.38 ft (NAVD of 1988), Sep. 18.

EXTREMES FOR 2001 WATER YEAR -- Maximum elevation recorded, 4.42 ft (NAVD of 1988), Mar. 7; minimum elevation recorded, -4.47 ft (NAVD of 1988), Nov. 22.

EXTREMES FOR PERIOD OCTOBER TO DECEMBER 2001.--Maximum elevation recorded, 3.74 ft (NAVD of 1988), Oct. 1; minimum elevation recorded, -4.6 ft estimated (NAVD of 1988), Oct. 18.

Summaries of tide elevations during the 2000 water year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	---	---	3.93	3.77	4.46
high tide	Date	---	---	---	---	---	---	--	--	---	31	29	26
Minimum	Elevation	---	---	---	---	---	---	---	---	---	-3.33	-3.08	-3.38
low tide	Date	---	---	---	---	---	---	---	--	---	3	28	18
Mean high tide		---	---	---	---	---	---	---	---	---	2.28	2.25	2.18
Mean water level		---	---	---	---	---	---	---	---	---	.00	-.02	-.05
Mean low tide		---	---	---	---	---	---	---	---	---	-2.32	-2.31	-2.30

Summaries of tide elevations during the 2001 water year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.23	3.87	3.61	3.54	3.17	4.42	3.07	3.40	3.45	3.62	3.44	4.17
high tide	Date	28	26	12	9	9	7	8	23	22	19	19	30
Minimum	Elevation	-3.71	-4.47	---	-4.03	---	-4.28	-3.50	-3.35	-3.21	-3.41	-3.31	-3.17
low tide	Date	11	22	---	10	11	12	22	4	21	25	22	18
Mean high tide		1.96	1.98	1.4e	1.69	1.41	1.88	1.83	1.97	1.97	2.05	2.03	2.26
Mean water level		-.17	-.17	-.7e	-.49	-.75	-.25	-.34	-.15	-.22	-.12	-.14	.10
Mean low tide		-2.37	-2.36	-3.0e	-2.68	-2.97	-2.40	-2.53	-2.33	-2.41	-2.30	-2.32	-2.11

01407770 SHARK RIVER AT BELMAR, NJ - continued

Summaries of tide elevations during the 2002 water year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.74	3.13	3.39	---	---	---	---	---	---	---	---	---
high tide	Date	1	17	13	---	---	---	---	---	---	---	---	---
Minimum	Elevation	-4.6e	-3.95	-4.38	---	---	---	---	---	---	---	---	---
low tide	Date	18	14	31	--	---	---	---	---	---	---	---	---
Mean high tide		1.89	1.78	1.78	---	---	---	---	---	---	---	---	---
Mean water level		-.25	-.38	-.41	---	---	---	---	---	---	---	---	---
Mean low tide		-2.45	-2.60	-2.64	---	---	---	---	---	---	---	---	---

E estimated

MANASQUAN RIVER BASIN

01408000 MANASQUAN RIVER AT SQUANKUM, NJ

LOCATION.--Lat 40°09'41", Long 74°09'18" (revised), Monmouth County, Hydrologic Unit 02040301, on right bank 50 ft upstream from northbound bridge on County Highway 547 (Squankum Park Road) in Squankum, and 0.4 mi downstream from Marsh Bog Brook.

DRAINAGE AREA.--44.0 mi².

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

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 18.82 ft above NGVD of 1929. Prior to Aug. 13, 1940, water stage recorder at site 80 ft upstream at same datum.

REMARKS.--Records good except for daily discharges above 300 ft³/s, which are fair. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

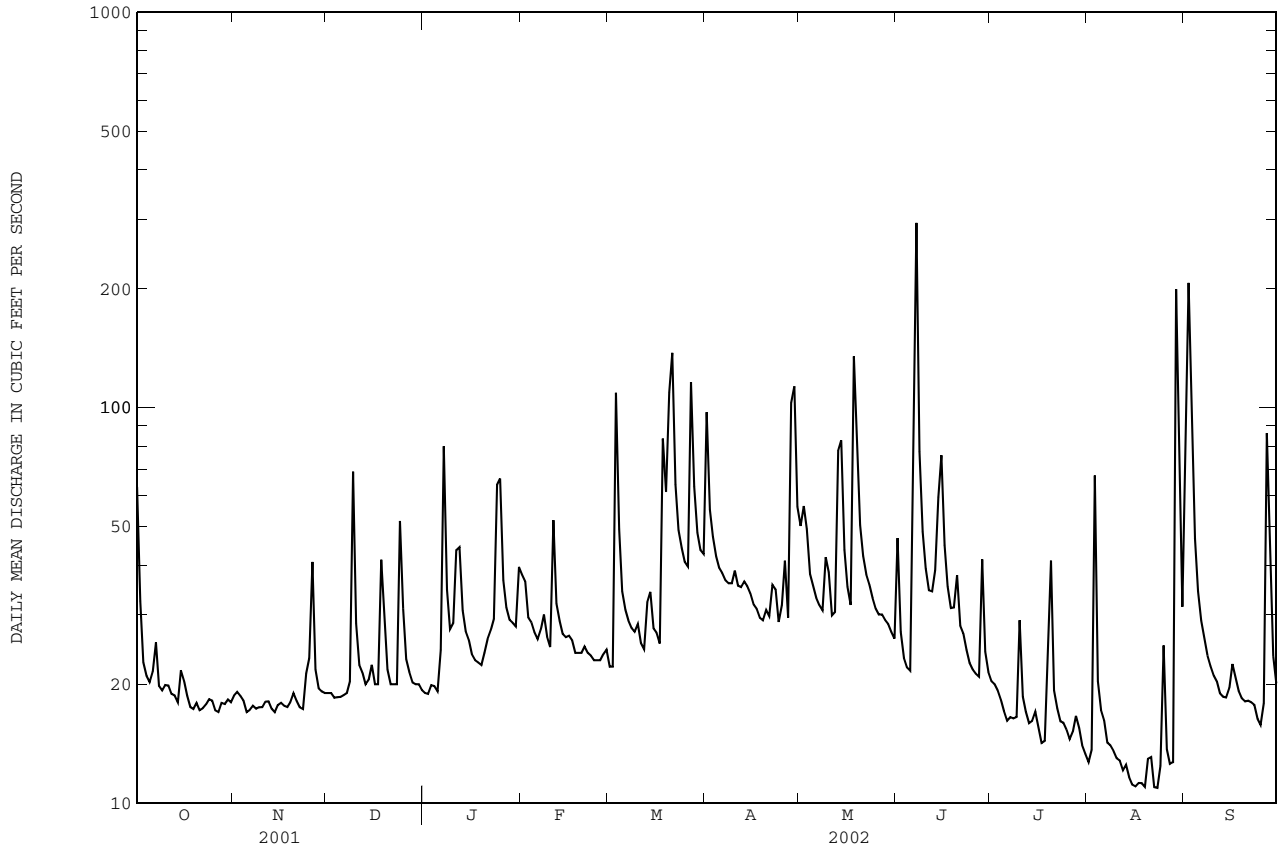
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	19	19	19	38	22	97	50	47	20	13	112
2	32	19	19	19	36	22	55	56	27	20	14	207
3	23	19	18	20	30	109	47	49	23	19	67	86
4	21	18	19	20	29	49	42	38	22	18	20	47
5	20	17	19	19	27	34	39	36	22	17	17	34
6	21	17	19	24	26	31	38	33	66	16	16	29
7	25	18	19	80	28	29	37	32	293	16	14	26
8	20	17	20	35	30	28	36	31	77	16	14	24
9	19	17	69	28	26	27	36	42	49	17	14	22
10	20	18	28	29	25	28	39	38	39	29	13	21
11	20	18	22	44	52	25	35	30	35	19	13	20
12	19	18	21	44	32	25	35	30	34	17	12	19
13	19	17	20	31	29	32	36	78	39	16	13	19
14	18	17	21	27	27	34	35	83	59	16	12	19
15	22	18	22	26	26	28	34	44	76	17	11	20
16	20	18	20	24	27	27	32	35	45	16	11	22
17	19	18	20	23	26	25	31	32	35	14	11	21
18	18	18	41	23	24	84	29	135	31	14	11	19
19	17	18	30	22	24	61	29	91	31	26	11	18
20	18	19	22	24	24	109	31	51	38	41	13	18
21	17	18	20	26	25	138	30	42	28	19	13	18
22	17	17	20	27	24	64	36	38	27	17	11	18
23	18	17	20	29	24	49	35	36	24	16	11	18
24	18	21	52	64	23	44	29	33	23	16	12	16
25	18	23	31	66	23	41	32	31	22	15	25	16
26	17	41	23	37	23	40	41	30	21	15	14	18
27	17	22	21	31	24	116	29	30	21	15	13	86
28	18	20	20	29	24	63	103	29	41	17	13	40
29	18	19	20	29	---	48	113	28	24	15	200	24
30	18	19	20	28	---	44	56	27	21	14	79	20
31	18	---	19	40	---	43	---	26	---	13	31	---
TOTAL	648	575	754	987	776	1519	1297	1364	1340	556	742	1077
MEAN	20.90	19.17	24.32	31.84	27.71	49.00	43.23	44.00	44.67	17.94	23.94	35.90
MAX	63	41	69	80	52	138	113	135	293	41	200	207
MIN	17	17	18	19	23	22	29	26	21	13	11	16
CFM	0.48	0.44	0.55	0.72	0.63	1.11	0.98	1.00	1.02	0.41	0.54	0.82
IN.	0.55	0.49	0.64	0.83	0.66	1.28	1.10	1.15	1.13	0.47	0.63	0.91

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2002, BY WATER YEAR (WY)

	50.10	67.91	79.90	88.98	94.78	112.2	98.78	78.79	56.96	51.11	50.37	51.21
MEAN	50.10	67.91	79.90	88.98	94.78	112.2	98.78	78.79	56.96	51.11	50.37	51.21
MAX	130	231	212	218	214	221	218	204	126	200	108	183
(WY)	1972	1978	1978	1979	1979	1984	1983	1998	1968	1938	1948	1938
MIN	20.8	18.9	24.4	30.7	27.5	47.2	38.6	38.8	26.6	18.0	16.7	16.7
(WY)	2002	2002	2002	1981	2002	1985	1995	1955	1957	2002	1932	1932

01408000 MANASQUAN RIVER AT SQUANKUM, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1932 - 2002	
ANNUAL TOTAL	19809		11635		73.31	
ANNUAL MEAN	54.27		31.88		131	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					31.8	
HIGHEST DAILY MEAN	834	Mar 22	293	Jun 7	1720	Nov 8 1977
LOWEST DAILY MEAN	17	Oct 19	11	Aug 15	10	Dec 5 1998
ANNUAL SEVEN-DAY MINIMUM	17	Oct 21	11	Aug 13	12	Aug 13 2002
MAXIMUM PEAK FLOW			503		2940	
MAXIMUM PEAK STAGE			5.12		12.45	
INSTANTANEOUS LOW FLOW			10		8.1	
ANNUAL RUNOFF (CFSM)	1.23		0.72		1.67	
ANNUAL RUNOFF (INCHES)	16.75		9.84		22.64	
10 PERCENT EXCEEDS	97		52		129	
50 PERCENT EXCEEDS	34		24		53	
90 PERCENT EXCEEDS	18		16		26	



MANASQUAN RIVER BASIN

01408029 MANASQUAN RIVER NEAR ALLENWOOD, NJ

LOCATION.--Lat 40°08'48", long 74°07'23", Monmouth County, Hydrologic Unit 02040301, on left bank just downstream from pumping station of Manasquan Water Supply System, 1400 ft upstream from Hospital Road, 1.1 mi west of Allenwood, 1.2 mi downstream from Mill Run, 2.2 mi east of Squankum, and 7.9 mi upstream of mouth.

DRAINAGE AREA.--63.3 mi².

PERIOD OF RECORD.--June 1990 to current year.

REVISED RECORDS.--WDR NJ-92-1: 1991 Diversions.

GAGE.--Water-stage recorder and concrete control. Datum of gage is NGVD of 1929 (New Jersey Water Supply Authority benchmark).

REMARKS.--Records good. Diversion by New Jersey-American Water Company from Manasquan Reservoir since 1990 and by Manasquan Water Supply System at gage to Manasquan Reservoir for municipal supply since March 1990 (see Atlantic Coastal Basins, diversions). Records of diversions provided by New Jersey Water Supply Authority. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	19	15	12	10	13	58	47	55	13	14	97
2	27	16	13	13	10	14	8.4	62	24	12	15	276
3	17	16	14	13	9.7	63	8.5	60	16	12	42	62
4	16	14	13	13	9.9	13	9.4	38	13	15	14	14
5	15	15	14	13	11	10	8.9	32	12	12	14	13
6	15	15	13	14	11	9.7	8.9	29	62	12	14	14
7	18	15	14	69	14	9.6	9.1	27	453	12	13	13
8	15	16	15	15	11	9.7	8.7	25	126	12	13	13
9	16	15	34	14	11	9.5	8.6	33	57	12	14	14
10	15	16	23	12	12	9.7	8.7	40	39	16	14	14
11	16	17	17	17	15	9.4	8.7	21	30	13	14	13
12	15	14	14	18	9.2	9.5	9.1	9.3	27	13	14	14
13	15	14	15	12	10	10	11	72	33	13	13	14
14	15	16	15	12	11	9.5	9.1	114	55	13	15	14
15	15	15	15	15	12	9.4	8.3	53	115	12	14	14
16	14	14	14	17	12	9.5	9.6	34	60	12	14	14
17	14	14	17	14	14	9.5	9.5	25	33	12	14	14
18	15	15	21	14	10	40	9.5	146	26	12	13	14
19	14	14	22	13	14	12	9.4	150	26	57	16	14
20	15	14	15	16	11	75	9.5	61	34	43	16	14
21	15	14	13	15	17	165	9.4	44	21	14	15	14
22	15	14	14	19	9.8	10	11	35	17	13	12	13
23	16	15	14	13	9.8	9.6	9.6	31	14	15	13	12
24	16	16	29	36	14	9.3	17	27	13	14	13	12
25	23	16	24	36	15	8.5	26	24	12	13	12	12
26	25	26	19	10	13	9.0	42	22	13	14	12	13
27	25	15	14	9.4	10	92	8.7	22	13	14	12	27
28	25	13	13	8.8	9.7	11	69	22	30	14	12	16
29	25	14	13	20	---	7.7	144	19	14	13	197	12
30	25	14	12	10	---	9.1	74	22	13	14	94	12
31	24	---	12	11	---	9.8	---	16	---	13	13	---
TOTAL	602	461	510	524.2	326.1	696.0	641.6	1362.3	1456	479	715	812
MEAN	19.4	15.4	16.5	16.9	11.6	22.5	21.4	43.9	48.5	15.5	23.1	27.1
MAX	66	26	34	69	17	165	144	150	453	57	197	276
MIN	14	13	12	8.8	9.2	7.7	8.3	9.3	12	12	12	12

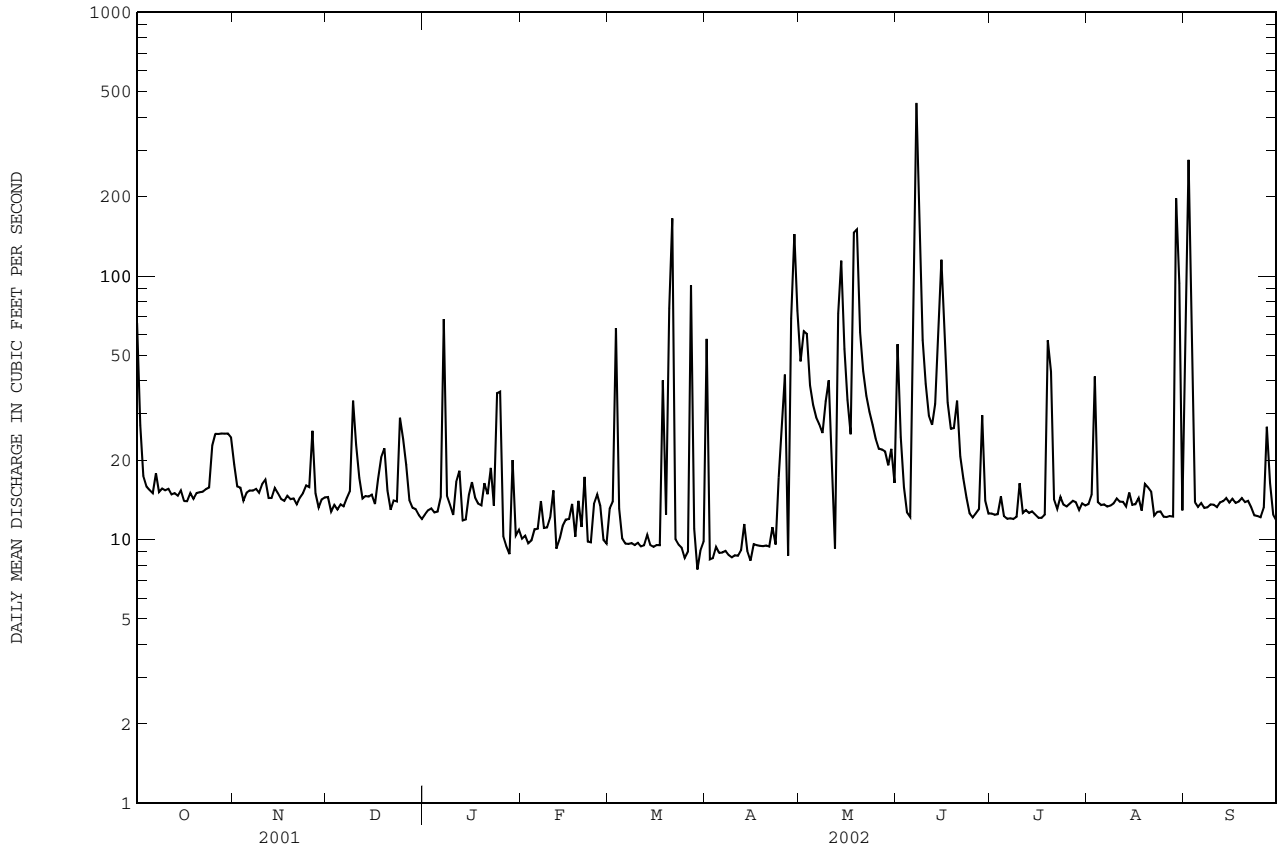
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	44.8	52.2	85.5	118	96.1	157	108	79.5	50.0	35.6	52.5	44.4	
MAX	152	129	227	218	270	319	180	312	124	66.4	131	89.9	
(WY)	1997	1996	1997	1996	1998	1993	1997	1998	1998	1990	1990	2000	
MIN	19.2	15.4	16.5	16.9	11.6	22.5	21.4	31.2	17.0	15.0	20.0	14.7	
(WY)	1995	2002	2002	2002	2002	2002	2002	1992	1999	1999	2001	2001	

01408029 MANASQUAN RIVER NEAR ALLENWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	23930		8585.2		76.2	
ANNUAL MEAN	65.6		23.5		133	
HIGHEST ANNUAL MEAN					23.5 1998	
LOWEST ANNUAL MEAN					1930 2002	
HIGHEST DAILY MEAN	1320	Mar 22	453	Jun 7	1930	Dec 12 1992
LOWEST DAILY MEAN	12	Jul 28	7.7	Mar 29	7.7	Mar 29 2002
ANNUAL SEVEN-DAY MINIMUM	13	Jul 28	8.8	Apr 5	8.8	Apr 5 2002
MAXIMUM PEAK FLOW			645	Jun 7	2580	Mar 9 1999
MAXIMUM PEAK STAGE			11.36	Jun 7	15.87	Mar 9 1999
INSTANTANEOUS LOW FLOW			0.00a	Nov 26	0.00a	Jun 24 1993
10 PERCENT EXCEEDS	127		42		152	
50 PERCENT EXCEEDS	26		14		40	
90 PERCENT EXCEEDS	13		9.6		14	

a Results of pumping to Manasquan Reservoir.



MANASQUAN RIVER BASIN

01408050 MANASQUAN RIVER AT POINT PLEASANT, NJ

LOCATION.--Lat 40°06'06", long 74°02'17", revised, Ocean County, Hydrologic Unit 02040301, on left bank along Cooks Creek at the U.S. Coast Guard Station Manasquan Inlet in Point Pleasant, 0.3 mi west of inlet mouth, and 0.7 mi east of State Highway 35 bridge over Manasquan River.

PERIOD OF RECORD.--September 1997 to May 2000 (unpublished fragmentary gage-height record), June 2000 to current year.

GAGE.--Water-stage, air temperature, water temperature, wind speed and direction, barometric pressure, and precipitation recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.10 ft. To determine approximate elevations in Mean Lower Low Water datum, add 2.52 ft.

REMARKS.-- Gage cannot record tide levels below -3.03 ft (NAVD of 88). Some monthly minimum and monthly mean statistics are undetermined. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy. Some periods cannot be estimated and are noted by dashed (---) lines. Yearly extremes for 2000 water year cannot be determined at this time. Satellite stage and weather telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.04 ft (NAVD of 1988), Mar. 7, 2001.

EXTREMES FOR PERIOD JUNE THROUGH SEPTEMBER 2000.-- Maximum elevation recorded, 3.79 ft (NAVD of 1988), Sep. 26, 2000.

EXTREMES FOR 2001 WATER YEAR.-- Maximum elevation recorded, 4.04 ft (NAVD of 1988), Mar. 7, 2001.

EXTREMES FOR 2002 WATER YEAR.-- Maximum elevation recorded, 3.55 ft (NAVD of 1988), Oct. 1, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 6.96 ft (adjusted to NAVD of 1988), December 11, 1992, from high-water mark at 58 Channel Drive across Cooks Creek from the U.S. Coast Guard Station.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	---	3.30	---	3.29	3.79
high tide	Date	---	---	---	---	---	---	---	---	5	---	29	26
Minimum	Elevation	---	---	---	---	---	---	---	---	-3.03	-2.94	-2.76	-3.01
low tide	Date	---	---	---	---	---	---	---	---	3	2, 3	29	18
Mean high tide		---	---	---	---	---	---	---	---	1.88	---	2.0e	1.96
Mean water level		---	---	---	---	---	---	---	---	-.12	---	.1e	.02
Mean low tide		---	---	---	---	---	---	---	---	-2.16	-1.99	-1.95	-1.99

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.92	3.56	3.35	3.21	2.83	4.04	2.79	3.08	3.09	3.26	3.09	3.90
high tide	Date	28	10	12	9	9	7	9	23	22	19	19	30
Minimum	Elevation	-3.03	---	---	---	---	---	---	---	-2.99	---	-2.91	-2.86
low tide	Date	12	---	---	---	---	---	---	---	21	---	21, 22	17
Mean high tide		1.79	1.83	1.25	1.56	1.27	1.76	1.69	1.82	1.79	1.86	1.84	2.06
Mean water level		-.12	-.1e	---	-.4e	---	-.2e	-.3e	-.1e	-.17	-.06	-.07	.16
Mean low tide		-2.11	-2.1e	---	-2.3e	---	-2.1e	-2.3e	-2.1e	-2.20	-2.06	-2.03	-1.82

01408050 MANASQUAN RIVER AT POINT PLEASANT, NJ--Continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

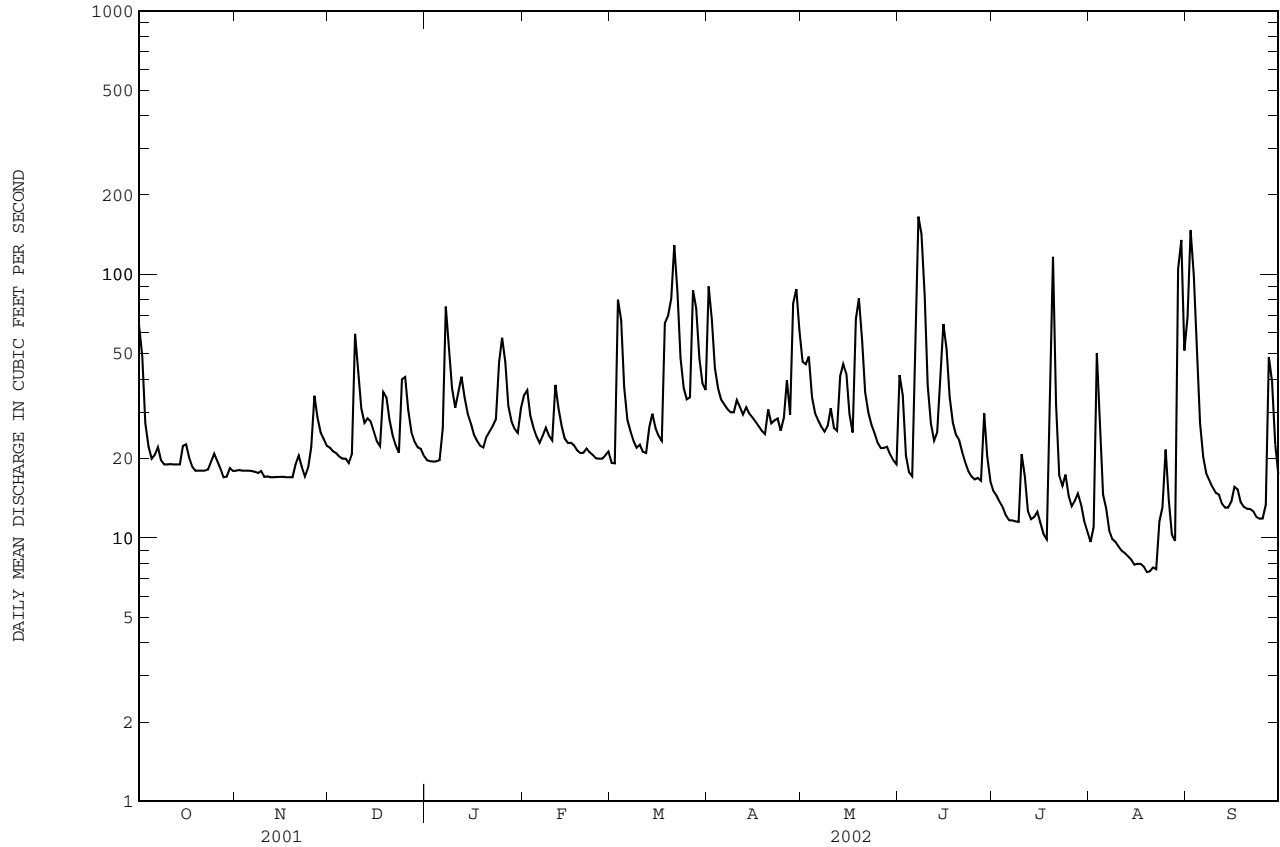
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.55	2.75	3.05	3.28	3.31	2.81	3.33	2.95	3.49	2.81	2.84	3.11
high tide	Date	1	17	13	31	27	29	28	25	14	20	9	10
Minimum	Elevation	---	---	---	---	---	---	---	---	---	-2.93	-3.00	-3.02
low tide	Date	---	---	---	---	---	---	---	---	---	24	10	8
Mean high tide		1.75	1.60	1.62	1.32	1.55	1.33	1.51	1.55	1.78	1.76	1.85	2.01
Mean water level		-.15	-.30	-.32	---	-.4e	---	-.45	-.4e	-.2e	-.14	-.03	.10
Mean low tide		-2.08	-2.26	-2.30	---	-2.3e	---	-2.44	-2.4e	-2.2e	-2.09	-1.98	-1.87

e Estimated

01408120 NORTH BRANCH METEDECONK RIVER NEAR LAKEWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1973 - 2002	
ANNUAL TOTAL	17700		10486.5			
ANNUAL MEAN	48.49		28.73		59.12	
HIGHEST ANNUAL MEAN					91.5 1984	
LOWEST ANNUAL MEAN					28.7 2002	
HIGHEST DAILY MEAN	402	Mar 22	166	Jun 7	838	Feb 25 1979
LOWEST DAILY MEAN	16	Aug 3	7.4	Aug 19	7.4	Aug 19 2002
ANNUAL SEVEN-DAY MINIMUM	17	Sep 7	7.7	Aug 16	7.7	Aug 16 2002
MAXIMUM PEAK FLOW			180	Jun 7	1370a	Nov 8 1977
MAXIMUM PEAK STAGE			5.50	Jun 7	9.28	Nov 8 1977
INSTANTANEOUS LOW FLOW			6.4	Aug 19	6.4	Aug 19 2002
ANNUAL RUNOFF (CFSM)	1.39		0.82		1.69	
ANNUAL RUNOFF (INCHES)	18.87		11.18		23.02	
10 PERCENT EXCEEDS	91		49		108	
50 PERCENT EXCEEDS	31		22		44	
90 PERCENT EXCEEDS	18		13		21	

a From rating curve extended above 600 ft³/s



ATLANTIC COASTAL BASINS

RESERVOIRS IN ATLANTIC COASTAL BASINS

01407500 SWIMMING RIVER RESERVOIR. --Lat 40°19'08", long 74°06'56", Monmouth County, Hydrologic Unit 02030104, at dam on Swimming River, 3.3 mi southwest of Red Bank, and 4.8 mi upstream from mouth. DRAINAGE AREA, 49.2 mi². PERIOD OF RECORD, August 1922 to current year. GAGE, water-stage recorder above concrete dam. Datum of gage is above NGVD of 1929.

REVISED RECORDS.--WDR NJ-00-1: 1999.

REMARKS.--Reservoir formed by concrete core and earth embankment dam, with a Trenton-type overflow spillway. Capacity at spillway level, 2,610,000,000 gal, elevation, 35.0 ft. Reservoir used for storage and water diversion by New Jersey-American Water Company. Reservoir enlarged and dam raised in 1962. Outflow is controlled by gates on a pipe.

COOPERATION.--Water-stage recorder inspected by and records of discharge provided by New Jersey-American Water Company.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,710,000,000 gal, May 18 and June 7, elevation, 35.47 ft; minimum, 1,284,000,000 gal, Aug. 23, 28, elevation, 27.3 ft.

01407965 MANASQUAN RESERVOIR.--Lat 40°10'48", long 74°11'40", Monmouth County, Hydrologic Unit 02040301, at dam on Timber Swamp Brook, 1.6 mi southwest of Farmingdale, and 1.2 mi upstream from the Manasquan River. DRAINAGE AREA, 3.18 mi² (revised). PERIOD OF RECORD, March 1990 to current year. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929.

REMARKS.--Reservoir is formed by an earthfill dam 4,840 ft long, utilizing a soil-bentonite cut-off wall to control water seepage; dam completed in July 1990 with nominal crest elevation 112.0 ft, but filling began earlier. Usable capacity 4,669,700,000 gal (revised) at elevation 103.0 ft, which represents the normal and service spillway elevation; outflow is regulated through an inlet/outlet tower and the reservoir is filled by pumping from the Manasquan River Intake Pumping Station and the Reservoir Pumping Station through 5.25 mi of 66-in. pipeline (see station 01408029). Water is used for municipal supply.

COOPERATION.--Records provided by New Jersey Water Supply Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 4,694,000,000 gal, Mar. 26, 1993, elevation, 103.1 ft; minimum (after first filling), 2,920,000,000 gal, Jan. 6, 2002, elevation 94.58 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,630,000,000 gal, May 3, elevation, 102.83 ft; minimum, 2,920,000,000 gal, Jan. 6, elevation, 94.58 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
01407500 SWIMMING RIVER RESERVOIR				01407965 MANASQUAN RESERVOIR		
Sept.30.....	31.08	1,880	--	100.25	4,050	--
Oct. 31.....	30.50a	1,785	-4.7	96.64	3,310	-36.9
Nov. 30.....	30.50a	1,785	0	95.29	3,040	-13.9
Dec. 31.....	31.00a	1,870	+4.2	94.83	2,960	-4.0
CAL YR 2001			-3.1			-6.2
Jan. 31.....	31.82	2,010	+11.2	95.85	3,160	+10.0
Feb. 28.....	32.19	2,070	-1.3	96.71	3,330	+9.4
Mar. 31.....	34.88	2,590	+26.0	100.63	4,140	+40.4
Apr. 30.....	34.76	2,560	-1.5	102.77	4,610	+24.2
May 31.....	34.79	2,570	+5	102.51	4,550	-3.0
June 30.....	34.32	2,470	-5.2	102.21	4,480	-3.6
July 31.....	30.40	1,768	-35.0	100.02	4,010	-23.5
Aug. 31.....	29.70	1,652	-5.8	97.15	3,420	-29.4
Sept.30.....	31.56	1,970	+16.4	96.38	3,270	-7.7
WTR YR 2002			+4			-3.3

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

* Elevation at 0600 on the first day of the following month.

a Elevation provided by New Jersey-American Water Company.

DIVERSIONS IN ATLANTIC COASTAL RIVER BASINS

- 01407499 Water is diverted from Swimming River Reservoir just upstream of gaging station (01407500) near Red Bank by New Jersey-American Water Company for municipal supply. Records provided by New Jersey-American Water Company.
- 01407704 Water is diverted from Shark River just upstream of gaging station (01407705) near Neptune City by New Jersey-American Water Company (since 1962), for municipal supply. Records provided by New Jersey-American Water Company.
- 01407704 Water is diverted from Jumping Brook just upstream of gaging station (01407760) near Neptune City by New Jersey-American Water Company (since 1962), for municipal supply. Records provided by New Jersey-American Water Company. REVISED RECORDS.--WDR NJ-98-1: 1997.
- 0140802880 New Jersey Water Supply Authority diverts water from the Manasquan Reservoir System, for municipal supply. Figures include water pumped to Glendola Reservoir for New Jersey American Water Company.
- 0140802890 New Jersey Water Supply Authority diverts water from the Manasquan Reservoir System to the Glendola Reservoir of New Jersey American Water Company in the Shark River Basin, for municipal supply.
- 01408153 Brick Township Municipal Utilities Authority diverts water from the Metedeconk River at a site located 1.1 mi upstream of the dam on Forge Pond for municipal supply (since 1987). Records furnished by Brick Township Municipal Utilities Authority.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MONTH	<u>01407499</u> Swimming River diversion	<u>01407704</u> Shark River diversion	<u>01407759</u> Jumping Brook diversion	<u>0140802880</u> Manasquan Reservoir System diversion	<u>0140802890</u> Glendola Reservoir NJ American Water Company	<u>01408153</u> Metedeconk River diversion
October	30.6	4.31	0	17.5	17.5	3.18
November	25.3	3.45	0	20.6	19.9	4.71
December	29.7	3.46	0	28.9	21.4	4.89
CAL YR 2001	39.9	3.25	0	26.3	20.0	8.35
January	29.6	4.46	0	42.3	20.7	6.69
February	27.4	3.69	0	39.4	17.3	6.12
March	32.2	4.37	0	65.3	17.5	10.4
April	44.8	5.47	0	52.3	17.4	13.0
May	35.2	3.76	0	28.3	17.4	13.1
June	39.1	4.57	0	25.6	17.4	12.1
July	56.8	2.71	0	13.9	22.4	6.11
August	49.9	2.56	0	14.4	29.3	2.80
September	29.8	3.87	0	32.8	28.9	4.45
WTR YR 2002	35.9	3.89	0	31.7	20.6	7.28

BARNEGAT BAY

01408168 BARNEGAT BAY AT MANTOLOKING, NJ

LOCATION.--Lat. 40°02'24", long 74°03'10", revised, Ocean County, Hydrologic Unit 02040301, on northeast abutment of bridge on County Route 528 (Mantoloking Road-Herbert Street) in Mantoloking, 2.1 mi south of Bay Head, and 4.7 mi north of Lavalette.

PERIOD OF RECORD.--Tidal crest-stage gage 1979-85, 1993. June 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). Data published for water years 1979-2000 was referenced to National Geodetic Vertical Datum of 1929 (NGVD of 1929). Data for 1993-2000 was collected 1100 ft south of present gage at foot of Downer Avenue. This past data can be adjusted to NAVD of 1988 by subtracting 1.12 ft. To determine elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8532786, add 0.28 ft.

REMARKS.--No gage-height record for portions of March. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation known, 3.81 ft (adjusted to NAVD of 1988), Dec. 11, 1992, from crest-stage gage; minimum recorded, -1.55 ft (adjusted to NAVD of 1988), Oct. 8, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 1.91 ft (NAVD of 1988), Oct. 2; minimum recorded, -1.48 ft (NAVD of 1988), Jan. 22 and Mar. 11.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	1.91	0.94	0.94	0.65	1.37	1.05	1.04	1.05	1.50	0.93	1.04	1.58
high tide	Date	2	30	13	15	1	20	25	2	16	17	29	28
Minimum	Elevation	-.88	-.88	-1.17	-1.48	-1.02	-1.48	-1.09	-1.07	-1.30	-.66	-.82	-.71
low tide	Date	8	11	21	22	14	11	4	18	7	5	6	2
Mean high tide		.39	.19	.14	-.14	.16	-.10	.14	.21	.46	.36	.48	.55
Mean water level		.17	-.06	-.10	-.40	-.09	-.37	-.12	-.07	.21	.13	.22	.29
Mean low tide		-.07	-.29	-.33	-.62	-.35	-.47	-.36	-.31	-.08	-.13	-.05	.02

01408200 BARNEGAT BAY AT BAY SHORE, NJ

LOCATION.--Lat 39°56'56", long 74°06'52", Ocean County, Hydrologic Unit 02040301, at upstream side of west end of bridge on State Route 37 over Barnegat Bay at Bay Shore, 2.2 mi west of Seaside Heights, and 4.5 mi east of Toms River.

PERIOD OF RECORD.--Tidal crest-stage gage 1965-86, 1992. August 1993 to September, 2002 (converted to tidal crest-stage gage).

GAGE.--Water-stage recorder. Datum of gage is -10.00 ft NGVD of 1929. Gage-height record converted to elevation above or below (-) NGVD of 1929 for publication. To determine approximate elevations to North American Vertical Datum of 1988 (NGVD of 1929) elevation, subtract 1.15 ft.

REMARKS.--No gage-height or partial record, October 1 to March 26. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dash (--) lines.

COOPERATION.--Record of stage collected in cooperation with the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation known, 4.27 ft, Oct. 30, 1991, from crest-stage gage; minimum recorded, -0.10 ft, Mar. 29, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 3.19 ft, Oct. 1; minimum recorded, -0.02 ft, Apr. 4, but lower elevation could have occurred during the period of missing record.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.19	2.06	2.14	1.94	2.44	2.23	2.18	2.12	2.60	2.16	2.33	2.49
high tide	Date	1	30	13	31	1	20	25	2	16	17	29	27
Minimum	Elevation	---	---	---	---	---	---	-.02	.40	.50	.55	.51	.77
low tide	Date	---	---	---	---	---	---	4	15	7	3	6	17
Mean high tide		1.62	1.41	1.42	---	1.40	---	1.46	1.43	1.67	1.63	1.74	1.84
Mean water level		---	---	---	---	---	---	1.19	1.15	1.37	1.33	1.43	1.54
Mean low tide		---	---	---	---	---	---	.86	.87	1.06	1.02	1.11	1.18

TOMS RIVER BASIN

01408500 TOMS RIVER NEAR TOMS RIVER, NJ

LOCATION.--Lat 39°59'11", long 74°13'25" (revised), Ocean County, Hydrologic Unit 02040301, on left bank 500 ft downstream from bridge on County Route 527 (Oak Ridge Parkway), 1.9 mi downstream from Union Branch, and 2.6 mi northwest of community of Toms River.

DRAINAGE AREA.--123 mi².

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for October and November 1928, published in WSP 1302.

REVISED RECORDS.--WSP 1702: 1938. WDR NJ-76-1: 1975(M). WDR NJ-77-1: 1976.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 8.10 ft above NGVD of 1929.

REMARKS.--Records good, except for estimated discharges which are fair. Diversions by Ciba-Geigy Inc., 800 ft. upstream July 1966 through 1990; the effluent is returned by pipeline directly into the Atlantic Ocean, thus bypassing station. Temporary regulation also occurs from an unknown source. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	81	128	93	121	91	193	201	e128	83	57	171
2	130	82	138	91	124	90	208	175	e131	79	56	205
3	118	83	119	90	122	130	199	179	e120	75	95	212
4	107	83	100	89	117	160	184	169	e106	73	86	223
5	99	83	92	89	112	155	168	157	94	68	76	207
6	95	81	89	93	108	136	151	142	120	64	70	138
7	93	80	87	124	106	124	141	131	223	63	63	110
8	90	80	89	141	107	115	136	123	266	64	60	105
9	89	80	121	137	97	110	133	117	321	60	55	103
10	88	80	130	127	91	107	138	119	239	70	53	88
11	86	80	114	126	101	103	137	115	176	69	53	82
12	85	79	102	135	107	100	131	110	150	63	52	74
13	85	80	109	137	110	103	130	125	148	60	49	72
14	84	80	106	129	110	111	129	142	149	60	49	70
15	87	81	104	121	106	110	127	145	e166	61	49	72
16	89	81	101	114	104	107	122	128	e179	60	49	73
17	89	81	98	110	102	104	119	117	171	56	46	74
18	85	81	107	105	100	154	91	152	150	52	45	71
19	84	81	116	103	98	186	69	196	138	80	46	67
20	83	83	114	104	96	199	106	211	135	248	e43	66
21	84	83	108	105	97	232	110	191	121	180	42	67
22	84	83	102	107	97	252	113	159	112	132	45	66
23	84	82	98	108	95	255	118	141	103	96	48	65
24	84	83	107	122	93	210	113	127	96	88	53	63
25	84	86	120	146	92	183	111	116	90	80	67	62
26	83	98	117	153	92	163	121	110	88	76	65	62
27	82	103	111	140	92	183	119	107	86	74	58	100
28	81	99	105	129	92	204	163	118	97	74	53	118
29	80	95	101	120	---	206	205	124	95	72	144	103
30	81	94	99	114	---	187	220	120	87	68	180	89
31	81	---	95	115	---	172	---	e110	---	63	164	---
TOTAL	2791	2526	3327	3617	2889	4742	4205	4377	4285	2511	2071	3078
MEAN	90.03	84.20	107.3	116.7	103.2	153.0	140.2	141.2	142.8	81.00	66.81	102.6
MAX	130	103	138	153	124	255	220	211	321	248	180	223
MIN	80	79	87	89	91	90	69	107	86	52	42	62
CFSM	0.73	0.68	0.87	0.95	0.84	1.24	1.14	1.15	1.16	0.66	0.54	0.83
IN.	0.84	0.76	1.01	1.09	0.87	1.43	1.27	1.32	1.30	0.76	0.63	0.93

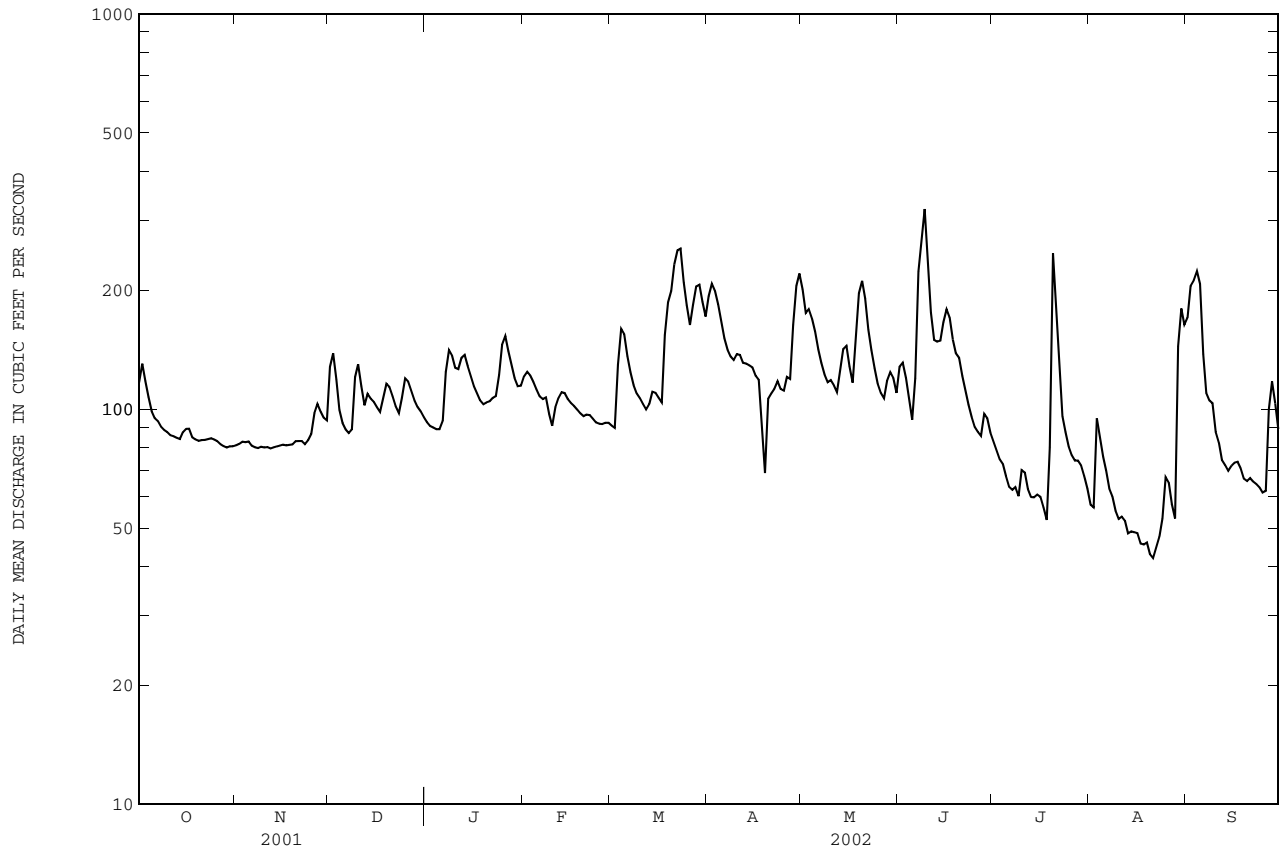
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2002, BY WATER YEAR (WY)

MEAN	154.5	195.1	220.8	243.8	249.8	289.4	278.8	241.8	184.0	154.4	158.2	150.6
MAX	325	475	447	506	455	541	573	541	463	439	359	414
(WY)	1972	1973	1973	1978	1973	1958	1984	1998	1968	1938	1990	1971
MIN	83.3	84.2	93.6	104	103	143	120	118	96.8	71.0	57.9	63.0
(WY)	1942	2002	1999	1981	2002	1985	1985	1992	1977	1999	1966	1995

01408500 TOMS RIVER NEAR TOMS RIVER, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1929 - 2002	
ANNUAL TOTAL	61738		40419		209.9	
ANNUAL MEAN	169.1		110.7		335	
HIGHEST ANNUAL MEAN					111	
LOWEST ANNUAL MEAN					1978	
HIGHEST DAILY MEAN	954	Apr 1	321	Jun 9	1910	Sep 23 1938
LOWEST DAILY MEAN	46	Aug 4	42	Aug 21	42	Aug 21 2002
ANNUAL SEVEN-DAY MINIMUM	79	Jul 29	45	Aug 17	44	Sep 10 1995
MAXIMUM PEAK FLOW			330	Jun 9	2000a	Sep 23 1938
MAXIMUM PEAK STAGE			5.26	Jun 9	12.50b	Sep 23 1938
INSTANTANEOUS LOW FLOW			41	Aug 21	37c	Aug 4 2001
ANNUAL RUNOFF (CFSM)	1.38		0.90		1.71	
ANNUAL RUNOFF (INCHES)	18.67		12.22		23.18	
10 PERCENT EXCEEDS	299		173		351	
50 PERCENT EXCEEDS	130		103		181	
90 PERCENT EXCEEDS	83		64		95	

- a From rating curve extended above 1,500 ft³/s.
- b From floodmark.
- c From temporary regulation from unknown source.
- e Estimate



01408750 BARNEGAT BAY AT SEASIDE HEIGHTS, NJ

LOCATION.--Lat 39°56'18", long 74°04'56", Ocean County, Hydrologic Unit 02040301, on public fishing pier in Seaside Heights just north of Seaside Park, 0.2 mi southeast of the east end of State Highway 37 bridge over Barnegat Bay, and 5.5 mi east of Village of Toms River.

PERIOD OF RECORD.--June 1997 to March 2000 (unpublished fragmentary gage-height record), April 2000 to present year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929) elevation, add 1.15 ft. To determine elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8533135, add 0.28 ft.

REMARKS.--No gage height record for portions of January 1 thru 4, and short portion of other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dash (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 2.08 ft (NAVD of 1988), Mar. 8, 2001; minimum elevation recorded, -1.73 ft (NAVD of 1988), Feb. 12, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 6.12 ft (adjusted to NAVD of 1988), December 11, 1992, from high-water mark at the foot of South Bayview Avenue in Seaside Park. Other significant peak elevation, 3.0 ft (adjusted to NAVD of 1988), March 6-7, 1962, from high-water mark on foot of 12th Avenue in Seaside Park.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 2.05 ft (NAVD of 1988), Oct. 1; minimum elevation recorded, -1.64 ft (NAVD of 1988), Mar. 11.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.05	0.93	1.02	0.76	1.31	1.09	1.02	1.14	1.43	0.99	1.17	1.43
high tide	Date	1	30	13	31	1	20	29	14	16	17	29	28
Minimum	Elevation	-.80	-.75	-1.15	-1.57	-1.02	-1.64	-1.12	-.89	-.76	-.62	-.65	-.41
low tide	Date	8	11	21	22	14	11	4	15	7	3	6	17
Mean high tide		.46	.28	.24	---	.28	-.06	.20	.25	.49	.45	.57	.70
Mean water level		.19	-.03	-.05	---	-.06	-.36	-.09	-.05	.20	.15	.27	.36
Mean low tide		-.12	-.34	-.37	---	-.39	-.64	-.39	-.36	-.08	-.12	-.05	-.02

01409110 BARNEGAT BAY AT WARETOWN, NJ

LOCATION.--Lat 39°47'28", long 74°10'56", Ocean County, Hydrologic Unit 02040301, on the pier of the Waretown Fishing Station at the end of Bryant Road on west side of Barnegat Bay, 0.7 mi east of Waretown, and 3.2 mi south of Forked River.

PERIOD OF RECORD.--August 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). Data published for water years 1993-2000 was referenced to National Geodetic Vertical Datum Of 1929 (NGVD of 1929). This past data can be adjusted to NAVD of 1988 by subtracting 1.23 ft.

REMARKS.--No gage-height record for portions of November 26-27, December 23 to January 4, March 13-14, 21-23, March 29 to April 1, May 6-7, 22, June 13, 17, and July 12. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (--) lines.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation recorded, 2.40 ft, Oct. 19, 1996 (adjusted to NAVD of 1988); minimum recorded, -1.87 ft, Mar. 4, 1996 (adjusted to NAVD of 1988).

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 2.13 ft (NAVD of 1988) Oct. 1; minimum recorded, -1.67 ft (NAVD of 1988) March 11, but lower elevation could have occurred during periods of missing record.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.13	0.74	0.91	0.87	0.97	0.76	0.89	0.86	1.40	0.98	1.08	1.35
high tide	Date	1	30	13	31	1	20	25	14	15	19	29	1
Minimum	Elevation	-.79	-.70	-1.10	-1.60	-.93	-1.67	-.89	-.96	-.69	-.60	-.48	-.39
low tide	Date	11	15	31	22	14	11	4	15	22	23	17	14
Mean high tide		.35	.14	.16	-.19	.10	.14	.05	.11	.37	.35	.48	.63
Mean water level		.11	-.10	-.09	-.45	-.14	-.44	-.19	-.14	.33	.10	.20	.37
Mean low tide		-.16	-.36	-.36	-.70	-.40	-.66	-.45	-.40	-.15	-.17	-.07	.07

BARNEGAT BAY

01409125 BARNEGAT BAY AT BARNEGAT LIGHT, NJ

LOCATION.--Lat 39°45'38", long 74°06'38", Ocean County, Hydrologic Unit 02040301, on bulkhead at U.S. Coast Guard Station in Barnegat Light, 0.5 mi southwest of Barnegat Inlet, and 4.4 mi east of Pebble Beach in Barnegat Township.

PERIOD OF RECORD.--Tidal crest-stage gage 1965-1980. September 1997 to October 2000 (unpublished fragmentary gage-height record), November 2000 to current year.

GAGE.--Water-stage, air temperature, water temperature, wind speed/direction, barometric pressure, and precipitation recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevation corresponding National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.26 ft. To determine approximate corresponding elevation in Mean Lower Low Water datum, add 1.67 ft.

REMARKS.--No gage-height record Dec. 19, 2001 to Feb. 2, 2002, June 2, 2002, and short periods of numerous other days. Some monthly minimum and monthly mean statistics are undetermined. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage and weather telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 3.25 ft (NAVD of 1988), Sept. 30, 2001. Minimum elevation recorded, -3.77 ft (NAVD of 1988), Jan. 14, 2002.

EXTERMES OUTSIDE PERIOD OF RECORD.-- Maximum elevation recorded, 4.93 ft (adjusted to NAVD of 1988), Dec. 11, 1992, from mark on discontinued tidal crest-stage gage.

EXTREMES FOR WATER YEAR 2001.-- Maximum elevation recorded, 3.25 ft (NAVD of 1988), Sept. 30. Minimum elevation recorded, -3.76 ft (NAVD of 1988), Feb. 11.

EXTREMES FOR WATER YEAR 2002.-- Maximum elevation recorded, 2.99 ft (NAVD of 1988), Oct. 1. Minimum elevation recorded, -3.77 ft (NAVD of 1988), Jan. 14.

Summaries of tide elevations during water years 2001 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	2.90	---	---	2.05	3.15	2.14	2.48	2.41	2.68	2.43	3.25
high tide	Date	---	12	---	---	9	7	9	23	22	19	20	30
Minimum	Elevation	---	-3.16	---	---	-3.76	-2.54	-2.34	-2.17	-2.02	-1.92	-1.90	-1.50
low tide	Date	---	22	---	---	11	12	23	1	20	25	18	17
Mean high tide		---	1.53	---	---	.90	1.33	1.26	1.43	1.37	1.45	1.42	1.64
Mean water level		---	.18	---	---	-.52	.06	-.09	.07	-.01	.10	.07	.33
Mean low tide		---	-1.17	---	---	-1.98	-1.20	-1.43	-1.30	-1.41	-1.25	-1.29	-1.00

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.99	2.21	2.47	2.61	2.63	2.22	2.56	2.23	2.75	2.21	2.26	2.48
high tide	Date	1	17	13	31	27	27	28	25, 26	14	20	9	10
Minimum	Elevation	-2.83	-2.58	-3.11	-3.77	-3.24	-3.48	-2.53	-2.54	-2.40	-2.07	-1.90	-1.97
low tide	Date	18	14	31	14	28	11	27	12	22	23	10	8
Mean high tide		1.36	1.24	1.26	.97	1.17	.96	1.12	1.17	1.37	1.39	1.48	1.65
Mean water level		.02	-.15	-.15	-.52	-.18	-.52	-.31	-.24	-.02	.00	.12	.31
Mean low tide		-1.33	-1.56	-1.57	-2.03	-1.56	-2.01	-1.74	-1.68	-1.41	-1.42	-1.29	-1.07

01409135 BARNEGAT BAY AT LOVELADIES, NJ

LOCATION.--Lat 39°43'24", long 74°08'06", Ocean County, Hydrologic Unit 02040301, on the bulkhead at Matthew's Point Park on the east shore of Barnegat Bay in Loveladies on Long Beach Island, 2.0 mi north of Harvey Cedars, and 3.0 mi south of Barnegat Inlet.

PERIOD OF RECORD.--August 1993 to September 2002 (converted to tidal crest-stage gage).

GAGE.--Water-stage recorder. Datum of gage is 10.00 ft below National Geodetic Vertical Datum of 1929 (NGVD 0f 1929). Gage-height record converted to elevation above or below NGVD 0f 1929 for publication. To adjust data to North American Vertical Datum of 1988 (NAVD 0f 1988) elevation, subtract 1.26 ft.

REMARKS.--No gage-height record, December 14-21, January 23 to February 5, and February 25 to April 2. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dash (--) lines.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation recorded, 4.46 ft, Feb. 6, 1996; minimum recorded, -0.34 ft, Mar. 5, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 3.86 ft, Oct. 1; minimum recorded, 0.50 ft, May 11, but lower or higher elevations could have occurred during periods of missing record.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.86	2.42	2.60	---	---	---	2.69	2.77	3.12	2.68	2.72	3.24
high tide	Date	1	30	13	---	---	---	25	14	15	19	29	11
Minimum	Elevation	.81	.92	.57	---	---	---	.54	.50	.72	.75	1.00	1.05
low tide	Date	11	15	31	---	---	---	8	11	22	23	17	14
Mean high tide		2.08	1.91	---	---	---	---	1.76	1.83	2.04	2.03	2.16	2.34
Mean water level		1.77	1.59	---	---	---	---	1.42	1.48	1.70	1.68	1.78	1.97
Mean low tide		1.46	1.29	---	---	---	---	1.08	1.13	1.36	1.36	1.42	1.62

01409146 EAST THOROFARE AT SHIP BOTTOM, NJ

LOCATION.--Lat 39°39'15", long 74°11'09", Ocean County, Hydrologic Unit 02040301, on south side of bridge carrying State Route 72 across East Thorofare (Manahawkin Bay) between Bonnet Island and Long Beach Island at Ship Bottom, 2.0 mi southeast of Bayside, 9.0 mi southwest of Barnegat Inlet, and 11.5 mi northeast of Little Egg Inlet.

PERIOD OF RECORD.--July 1997 to May 5, 2000 (unpublished fragmentary gage-height record); May 5, 2000 to present year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929) add 1.25 ft. To determine elevations to Mean Lower Low Water Datum, add 0.78 ft, based on data from National Ocean Service station 8533935.

REMARKS.--Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 2.92 ft (NAVD of 1988), Sep. 30, 2001; minimum elevation recorded, -2.06 ft (NAVD of 1988), Mar. 11, 2002.

EXTREMES FOR PERIOD MAY TO SEPTEMBER 2000.--Maximum elevation recorded, 2.47 ft (NAVD of 1988), Sep. 26; minimum elevation undetermined.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 2.92 ft (NAVD of 1988), Sep. 30; minimum elevation recorded, -1.99 ft (NAVD of 1988), Feb. 12.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 2.71 ft (NAVD of 1988), Oct. 1; minimum elevation recorded, -2.06 ft (NAVD of 1988), Mar. 11.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	1.78	1.95	1.63	2.10	2.47
high tide	Date	--	--	--	--	--	--	--	11	7	28, 29,30	13	26
Minimum	Elevation	---	----	----	---	---	---	---	---	-0.88	-0.82	-0.84	-1.02
low tide	Date	--	--	--	--	--	--	--	---	10, 11	13	23	18
Mean high tide		---	---	---	---	---	---	---	1.0e	.88	1.06	1.09	1.04
Mean water level		---	---	---	---	---	---	---	.3e	.13	.32	.33	.30
Mean low tide		---	---	---	---	---	---	---	-.5e	-.55	-.40	-.39	-.41

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	1.60	1.99	1.89	1.90	1.29	2.45	1.45	1.66	1.48	1.76	1.53	2.92
high tide	Date	28	12	12	21	5	7	2	24	24	19	21	30
Minimum	Elevation	-1.27	-1.52	-1.84	-1.08	-1.99	-1.30	-1.23	-1.11	-1.03	-1.00	-1.03	-.75
low tide	Date	11	23	26	18	12	12	23	1	20	3	3	9
Mean high tide		.88	.93	---	---	.33	.85	.73	.9e	.84	.91	.89	1.15
Mean water level		.16	.21	---	---	-.39	.13	.01	.15	.10	.17	.15	.40
Mean low tide		-.52	-.48	---	---	-1.05	-.56	-.69	-.53	-.60	-.52	-.54	-.31

01409146 EAST THOROFARE AT SHIP BOTTOM, NJ--Continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.71	1.35	1.61	1.68	1.64	1.44	1.56	1.61	1.97	1.44	1.48	1.94
high tide	Date	1	29	13	31	1	27	29	14	15	19	29	11
Minimum	Elevation	-1.15	-1.14	-1.47	-1.94	-1.33	-2.06	-1.36	-1.34	-1.20	-1.02	-.89	-.80
low tide	Date	11	15	31	22	28	11	8	11	22	2	17	14
Mean high tide		.84	.69	.72	.4e	.68	.34	.55	.61	.81	.81	.95	1.15
Mean water level		.14	-.03	-.03	-.4e	-.07	-.39	-.17	-.14	.09	.09	.22	.41
Mean low tide		-.53	-.71	-.72	-1.0e	---	-1.05	-.86	-.80	-.58	-.58	-.47	-.31

e estimated

01409335 LITTLE EGG INLET NEAR TUCKERTON, NJ

LOCATION.--Lat 39 30'31", Long 74 19'30", Ocean County Hydrologic Unit 02040301, on west end of docking pier at Rutgers University Marine Field Station (old U.S. Coast Guard Station) along Shooting Thorofare, 2.0 mi west of Atlantic Ocean, 4.3 mi southwest of Holgate (Long Beach Island), and 6.6 mi southeast of Tuckerton.

PERIOD OF RECORD.--1971-1975 (fragmentary gage-height record), July 1997 to Jan. 23, 2001 (unpublished fragmentary gage-height record), Jan. 24, 2001 to present year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.26 ft. To determine elevations to Mean Lower Low Water Datum, add 2.27 ft, based on data from National Ocean Service station 8534319.

REMARKS.--No gage-height records for Nov. 6, 2001 to Jan. 15, 2002 and short portions of numerous other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.61 ft (adjusted to NAVD of 1988), Feb. 19, 1972; minimum elevation recorded, -3.99 ft (NAVD of 1988), Feb. 11, 2001.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 3.68 ft (NAVD of 1988), Sep. 30; minimum elevation recorded, -3.99 ft (NAVD of 1988), Feb. 11.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 3.20 ft (NAVD of 1988), Oct. 1; minimum elevation recorded, -3.77 ft (NAVD of 1988), Mar. 11.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	2.18	3.58	2.20	2.62	2.56	2.96	2.50	3.68
high tide	Date	---	---	---	---	9	7	7	23	22	19	19	30
Minimum	Elevation	---	---	---	---	-3.99	-3.23	-2.83	-2.52	-2.35	-2.49	-2.20	-1.79
low tide	Date	---	---	---	---	11	12	23	4	21	25	18	18
Mean high tide		---	---	---	---	.90	1.41	1.32	1.48	1.41	1.49	1.44	1.74
Mean water level		---	---	---	---	-.72	-.14	-.28	-.09	-.18	-.08	-.12	.19
Mean low tide		---	---	---	---	-2.34	-1.67	-1.87	-1.63	-1.77	-1.63	-1.66	-1.33

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.20	---	---	2.88	2.68	2.30	2.70	2.39	2.86	2.36	2.46	2.46
high tide	Date	1	---	---	31	27	27	28	25	15	24	6	10
Minimum	Elevation	-3.34	---	---	---	-3.60	-3.77	-2.67	-2.70	-2.62	-2.40	-2.26	-2.13
low tide	Date	18	---	---	---	28	11	3	12, 15	22	23	15	7
Mean high tide		1.38	---	---	---	1.19	.89	1.09	1.15	1.35	1.38	1.49	1.69
Mean water level		-.17	---	---	---	-.38	-.70	-.47	-.41	-.19	-.16	-.03	.16
Mean low tide		-1.66	---	---	---	-1.93	-2.34	-2.02	-1.96	-1.68	-1.68	-1.53	-1.34



Figure 16. U.S. Geological Survey gage, in foreground, continuously monitoring the stage of the Millstone River at Blackwells Mills, NJ. Photograph taken by Jason Shvanda, 2003.

MULLICA RIVER BASIN

01409400 MULLICA RIVER NEAR BATSTO, NJ

LOCATION.--Lat 39°40'28", long 74°39'55", Atlantic County, Hydrologic Unit 02040301, on right bank 2.4 mi upstream from Sleeper Branch, and 2.5 mi north of Batsto.

DRAINAGE AREA.--46.7 mi².

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

REVISED RECORDS.--WRD-NJ 1969: 1958(M), 1960(M), 1967-68(M), WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 11.93 ft above NGVD of 1929.

REMARKS.--Records good except estimated discharges which are fair. Some regulation from upstream cranberry bogs and Atsion Lake. Diversions from Sleeper Branch enter river upstream from gage and substantially increase the discharge at the gage. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	28	28	31	64	30	88	116	60	54	23	52
2	30	27	30	31	62	35	86	82	56	51	24	62
3	28	28	28	31	58	61	83	76	51	47	29	62
4	27	27	27	31	53	55	77	76	43	40	27	58
5	24	26	26	31	49	50	72	80	38	34	26	50
6	23	26	26	34	48	47	70	75	52	33	24	44
7	22	27	26	47	49	49	67	71	124	33	22	43
8	19	29	27	41	48	48	65	68	192	33	21	42
9	20	33	37	40	46	45	64	65	164	33	20	41
10	22	30	35	40	46	45	68	63	129	37	19	37
11	22	31	35	44	52	54	70	62	99	35	19	32
12	22	34	34	45	47	54	68	60	79	33	19	24
13	20	28	33	45	46	56	65	65	73	32	19	22
14	22	22	34	43	44	56	63	68	e90	33	20	23
15	26	15	34	45	36	54	60	65	e98	33	22	23
16	23	13	33	47	33	52	47	63	e106	31	16	20
17	21	13	31	45	33	51	38	50	112	30	16	20
18	20	13	37	42	32	70	37	68	103	30	16	19
19	20	14	36	39	31	71	36	96	90	31	15	18
20	19	14	35	41	31	79	36	98	93	37	15	18
21	19	14	35	40	32	92	35	103	86	35	13	18
22	20	14	35	40	31	87	38	109	83	30	12	18
23	22	14	34	41	30	80	40	97	83	28	12	18
24	20	15	39	48	30	77	41	86	78	29	14	18
25	20	17	36	58	30	73	45	71	67	27	22	18
26	19	29	34	57	30	71	58	63	62	27	21	19
27	30	26	34	55	31	86	55	60	58	27	19	31
28	43	26	33	54	30	82	84	66	60	26	19	37
29	42	30	34	55	---	75	112	70	59	26	44	34
30	41	35	33	55	---	72	120	62	56	24	52	32
31	33	---	32	59	---	71	---	57	---	23	49	---
TOTAL	771	698	1011	1355	1152	1928	1888	2311	2544	1022	689	953
MEAN	24.87	23.27	32.61	43.71	41.14	62.19	62.93	74.55	84.80	32.97	22.23	31.77
MAX	43	35	39	59	64	92	120	116	192	54	52	62
MIN	19	13	26	31	30	30	35	50	38	23	12	18

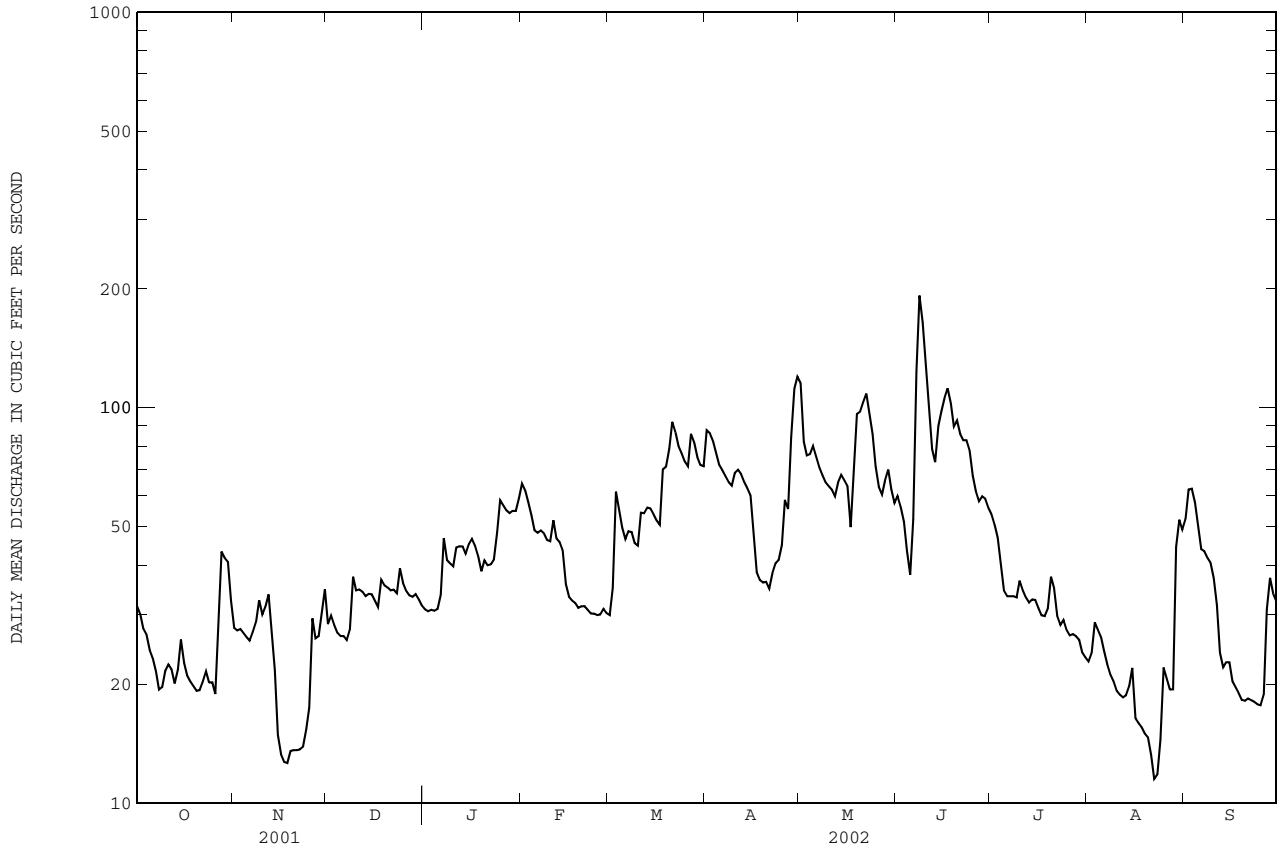
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2002, BY WATER YEAR (WY)

MEAN	66.88	84.49	115.8	136.6	138.4	159.6	149.2	120.3	75.97	68.14	71.99	60.28
MAX	192	305	305	311	292	312	358	273	159	177	253	223
(WY)	1976	1973	1973	1978	1979	1994	1983	1989	1979	1989	1958	1975
MIN	24.1	22.0	21.8	29.3	41.1	59.1	50.3	53.3	32.3	21.9	19.8	17.6
(WY)	1966	1966	1999	1981	2002	1985	1985	1992	1977	1977	1995	1995

01409400 MULLICA RIVER NEAR BATSTO, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1957 - 2002	
ANNUAL TOTAL	28029		16322			
ANNUAL MEAN	76.79		44.72		103.9	
HIGHEST ANNUAL MEAN					168 1973	
LOWEST ANNUAL MEAN					44.7 2002	
HIGHEST DAILY MEAN	334	Apr 3	192	Jun 8	1630	Feb 26 1979
LOWEST DAILY MEAN	12	Aug 10	12	Aug 22	5.1	Sep 16 1995
ANNUAL SEVEN-DAY MINIMUM	14	Nov 16	14	Nov 16	6.4	Sep 10 1995
MAXIMUM PEAK FLOW			201	Jun 8	1840	Feb 26 1979
MAXIMUM PEAK STAGE			2.31	Jun 8	6.14	Feb 26 1979
INSTANTANEOUS LOW FLOW			11	Aug 22	4.9	Sep 16 1995
10 PERCENT EXCEEDS	170		79		198	
50 PERCENT EXCEEDS	42		36		83	
90 PERCENT EXCEEDS	20		19		31	

e Estimated



MULLICA RIVER BASIN

01409500 BATSTO RIVER AT BATSTO, NJ

LOCATION.--Lat 39°38'30", long 74°39'02", revised, Burlington County, Hydrologic Unit 02040301, on right bank 30 ft downstream from bridge on County Highway 542 at Batsto, 0.6 mi east of Pleasant Mills, and 1.0 mi upstream from mouth.

DRAINAGE AREA.--67.8 mi².

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for April to September 1939, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1930, 1933, 1936, 1938. WDR NJ-83-1: Drainage area. WDR-87-1: 1939 (M). WDR-94-1: 1993 (M).

GAGE.--Water-stage recorder. Concrete control since Oct. 12, 1939; prior to Mar. 24, 1939, wooden control at site 50 ft downstream. Auxiliary tide gage (01409510) located 0.9 mi downstream used to adjust record for tide effect. Datum of gage is 1.4 ft above NGVD of 1929.

REMARKS.--Records fair, except estimated discharges, which are poor. Considerable regulation at times by sluice gates prior to December 1954 and by automatic Bascule and sluice gates since July 1959 at Batsto Lake, 300 ft upstream; the capacity of Batsto Lake is about 60,000,000 gal. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e65	44	44	45	61	50	92	84	68	57	40	60
2	62	43	43	44	58	49	98	84	67	55	39	66
3	54	43	42	45	56	65	98	91	62	53	54	67
4	49	42	42	45	57	70	89	93	58	52	45	61
5	46	43	42	45	55	64	86	86	57	50	42	54
6	46	42	42	46	54	60	83	78	62	47	39	49
7	45	44	42	52	53	59	78	73	94	47	40	46
8	44	44	44	57	53	59	75	68	130	47	39	45
9	44	43	52	53	53	55	74	66	132	46	39	43
10	44	42	54	51	53	55	75	64	115	49	39	43
11	44	42	53	53	57	53	74	64	100	48	38	42
12	44	42	50	54	58	52	73	66	88	46	36	41
13	44	42	49	55	57	54	72	75	80	45	36	41
14	43	43	47	53	55	55	71	89	92	45	36	40
15	48	45	47	51	54	55	70	95	95	45	36	40
16	45	45	45	50	54	55	70	87	99	45	36	43
17	44	43	44	50	54	53	69	77	98	43	36	41
18	44	42	49	50	53	65	65	84	90	44	35	40
19	45	42	49	49	52	73	62	104	84	44	34	41
20	46	43	48	51	52	78	61	129	84	44	33	40
21	45	42	46	50	53	88	60	127	75	48	34	39
22	43	42	45	50	52	93	59	118	72	47	33	39
23	43	42	44	51	52	86	59	106	68	44	33	39
24	44	42	50	53	52	82	58	94	65	45	38	39
25	43	43	50	57	52	79	58	81	64	44	45	39
26	43	51	48	57	50	76	60	75	67	44	42	41
27	42	50	47	57	52	90	60	71	64	44	40	47
28	42	46	46	55	51	92	73	72	62	44	41	48
29	42	45	45	55	---	88	86	81	63	43	62	45
30	43	44	45	55	---	85	89	75	61	42	64	42
31	43	---	45	59	---	86	---	70	---	41	62	---
TOTAL	1419	1306	1439	1598	1513	2124	2197	2627	2416	1438	1266	1361
MEAN	45.8	43.5	46.4	51.5	54.0	68.5	73.2	84.7	80.5	46.4	40.8	45.4
MAX	65	51	54	59	61	93	98	129	132	57	64	67
MIN	42	42	42	44	50	49	58	64	57	41	33	39
CFM	0.68	0.64	0.68	0.76	0.80	1.01	1.08	1.25	1.19	0.68	0.60	0.67
IN.	0.78	0.72	0.79	0.88	0.83	1.17	1.21	1.44	1.33	0.79	0.69	0.75

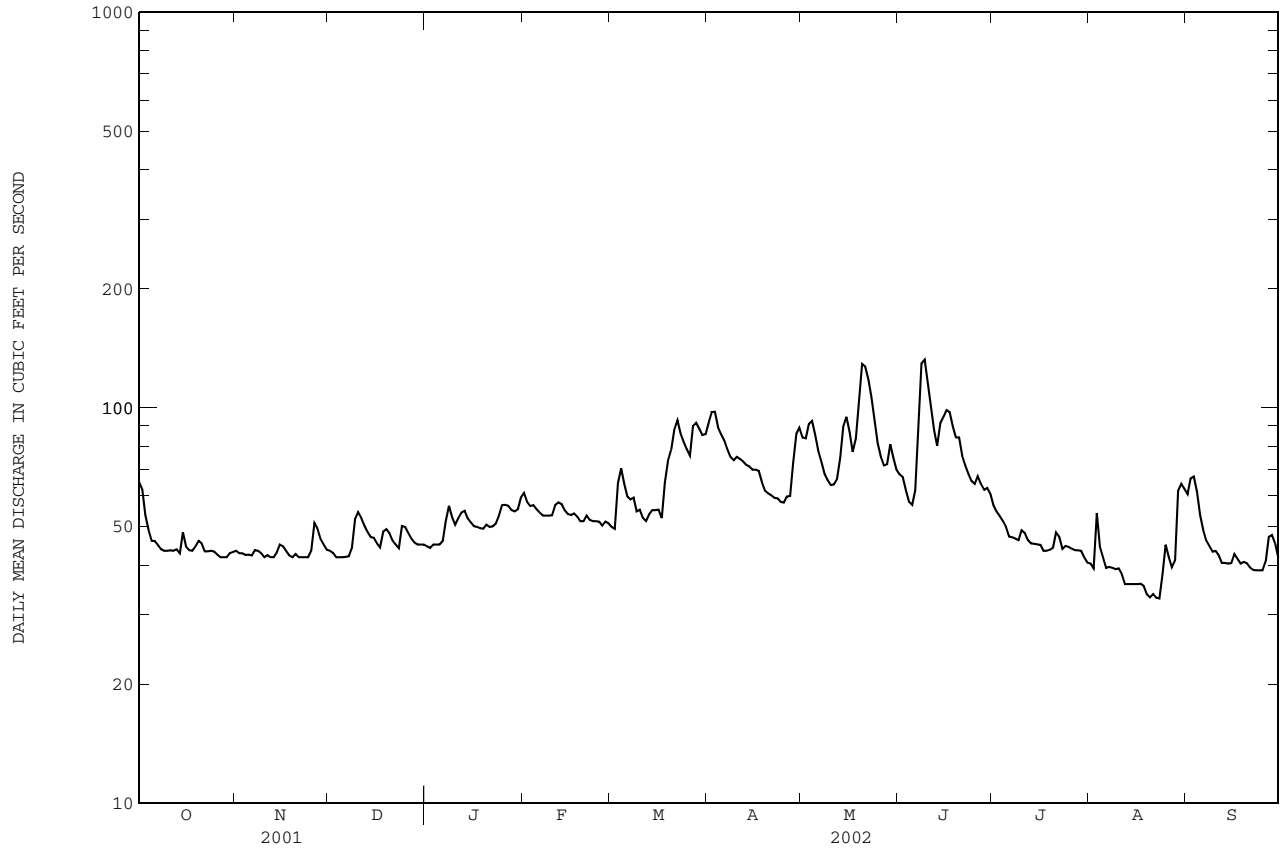
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2002, BY WATER YEAR (WY)

MEAN	86.8	109	123	139	147	169	155	141	101	89.8	99.8	90.6
MAX	241	307	302	280	361	353	322	285	242	257	332	242
(WY)	1959	1973	1973	1949	1939	1958	1970	1998	1948	1938	1958	1960
MIN	43.9	43.4	46.0	51.5	54.0	68.5	71.8	65.1	50.9	40.6	40.8	40.5
(WY)	1966	1966	1999	2002	2002	2002	1985	1977	1977	1977	2002	1995

01409500 BATSTO RIVER AT BATSTO, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1928 - 2002	
ANNUAL TOTAL	32275		20704			
ANNUAL MEAN	88.4		56.7		120	
HIGHEST ANNUAL MEAN					193	1958
LOWEST ANNUAL MEAN					56.7	2002
HIGHEST DAILY MEAN	330	Jan 22	132	Jun 9	2000	Aug 20 1939
LOWEST DAILY MEAN	36	Jun 13	33	Aug 20-23	5.7	Oct 4 1959
ANNUAL SEVEN-DAY MINIMUM	40	Sep 8	34	Aug 17	34	Aug 17 2002
MAXIMUM PEAK FLOW			168	Jun 9	2000	Aug 20 1939
MAXIMUM PEAK STAGE			2.89 ^b	Oct 1	8.7 ^a	Aug 20 1939
ANNUAL RUNOFF (CFSM)	1.30		0.84		1.77	
ANNUAL RUNOFF (INCHES)	17.71		11.36		24.08	
10 PERCENT EXCEEDS	171		86		201	
50 PERCENT EXCEEDS	59		51		100	
90 PERCENT EXCEEDS	43		41		55	

a From floodmark
 b Tide affected
 e Estimated



MULLICA RIVER BASIN

01409510 BATSTO RIVER AT PLEASANT MILLS, NJ

LOCATION.--Lat 39°37'55", long 74°38'40", Burlington County, Hydrologic Unit 02040301, on right bank, 0.4 mi upstream from Mullica River, 0.5 mi southeast of Pleasant Mills, and 0.9 mi downstream from highway bridge on County Route 542 at Batsto.

DRAINAGE AREA.--73.6 mi².

PERIOD OF RECORD.--July 1958 to current year. Annual maximum only published for 1958 to 1965.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is -8.6 ft NGVD of 1929. Gage-height record converted to elevation above or below (-) NGVD of 1929 for publication.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation recorded, 7.2 ft, Mar. 7, 1962; minimum recorded (after 1965), -0.67 ft, Jan. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 4.33 ft, Oct. 1; minimum recorded, 0.04 ft, Mar. 11.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	4.33	3.39	3.48	3.70	3.44	3.62	3.44	3.45	3.80	3.43	3.54	3.79
high tide	Date	1	17	13	31	1	3	29	26	15	25	28	1
Minimum	Elevation	0.28	0.23	0.11	0.08	0.07	0.04	0.20	0.22	0.30	0.35	0.48	0.55
low tide	Date	27	20	31	6	28	11	26	10	4	9	16	14
Mean high tide		2.77	2.68	2.62	2.42	2.62	2.47	2.64	2.67	2.85	2.80	2.90	3.01
Mean water level		1.57	1.40	1.36	1.15	1.34	1.28	1.40	1.51	1.75	1.62	1.76	1.93
Mean low tide		0.55	0.33	0.27	0.19	0.20	0.31	0.31	0.47	0.65	0.52	0.67	0.80



Figure 17. U.S. Geological Survey tide gage continuously monitoring the elevation of water surface at Cape May Harbor at Cape May, NJ. Photograph taken by Peter B. Reilly, 2002.

MULLICA RIVER BASIN

01410000 OSWEGO RIVER AT HARRISVILLE, NJ

LOCATION.--Lat 39°39'48", long 74°31'28", Burlington County, Hydrologic Unit 02040301, on right bank 50 ft downstream from bridge on County Route Spur 563 at Harrisville, and 0.3 mi upstream from confluence with West Branch Wading River.

DRAINAGE AREA.--72.5 mi².

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1955, published as "East Branch Wading River at Harrisville".

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since June 23, 1939. Datum of gage is 4.62 ft above NGVD of 1929.

REMARKS.--Records fair. Figures given herein represent flow over main spillway and through bypass channel. Flow regulated by Harrisville Pond, 200 ft above station, capacity, about 30,000,000 gal and by ponds and cranberry bogs 5 to 10 mi upstream. Flow probably reduced by ground-water outflow to nearby surface drainage basins, such as Oyster Creek. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

DISCHARGE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	28	27	27	33	26	52	45	35	33	24	52
2	46	29	27	27	32	27	49	52	32	32	25	76
3	45	29	26	27	31	43	47	56	30	32	28	72
4	43	29	27	27	31	36	45	49	27	30	26	64
5	39	29	27	27	29	33	43	44	27	29	24	53
6	36	28	26	29	28	32	41	40	46	28	25	44
7	35	29	25	35	30	31	40	38	270	28	23	39
8	33	29	27	32	31	31	47	36	258	28	23	37
9	33	28	32	32	30	30	51	36	121	29	23	35
10	34	27	28	32	29	30	50	36	84	36	23	36
11	49	27	28	34	32	28	53	34	72	31	22	38
12	48	28	27	33	30	28	55	34	64	28	22	36
13	37	28	27	33	29	31	47	41	60	28	22	35
14	33	29	27	32	28	31	39	42	83	29	22	33
15	33	28	27	31	28	30	36	39	93	29	22	35
16	32	28	27	30	28	30	43	36	86	28	22	41
17	31	28	27	30	28	30	49	34	75	27	22	39
18	30	27	30	34	28	44	42	52	66	27	22	35
19	29	28	28	30	27	42	35	65	53	28	22	33
20	29	29	27	31	28	52	34	59	52	30	23	32
21	29	29	27	31	28	76	33	55	50	28	22	32
22	29	28	27	32	27	67	35	62	47	28	22	31
23	28	28	27	32	27	53	35	54	44	27	22	30
24	28	28	32	34	27	49	34	50	43	27	27	29
25	28	30	29	35	27	50	37	42	42	27	42	29
26	28	36	28	33	27	45	38	38	40	27	31	32
27	27	30	27	32	27	67	36	36	37	27	28	40
28	27	29	27	31	27	59	53	35	38	27	27	38
29	27	28	28	31	---	43	54	33	36	27	53	34
30	27	27	27	31	---	41	47	33	35	26	52	31
31	27	---	27	33	---	41	---	31	---	24	48	---
TOTAL	1042	858	853	968	807	1256	1300	1337	2046	885	839	1191
MEAN	33.61	28.60	27.52	31.23	28.82	40.52	43.33	43.13	68.20	28.55	27.06	39.70
MAX	49	36	32	35	33	76	55	65	270	36	53	76
MIN	27	27	25	27	27	26	33	31	27	24	22	29
CFSM	0.46	0.39	0.38	0.43	0.40	0.56	0.60	0.59	0.94	0.39	0.37	0.55
IN.	0.53	0.44	0.44	0.50	0.41	0.64	0.67	0.69	1.05	0.45	0.43	0.61

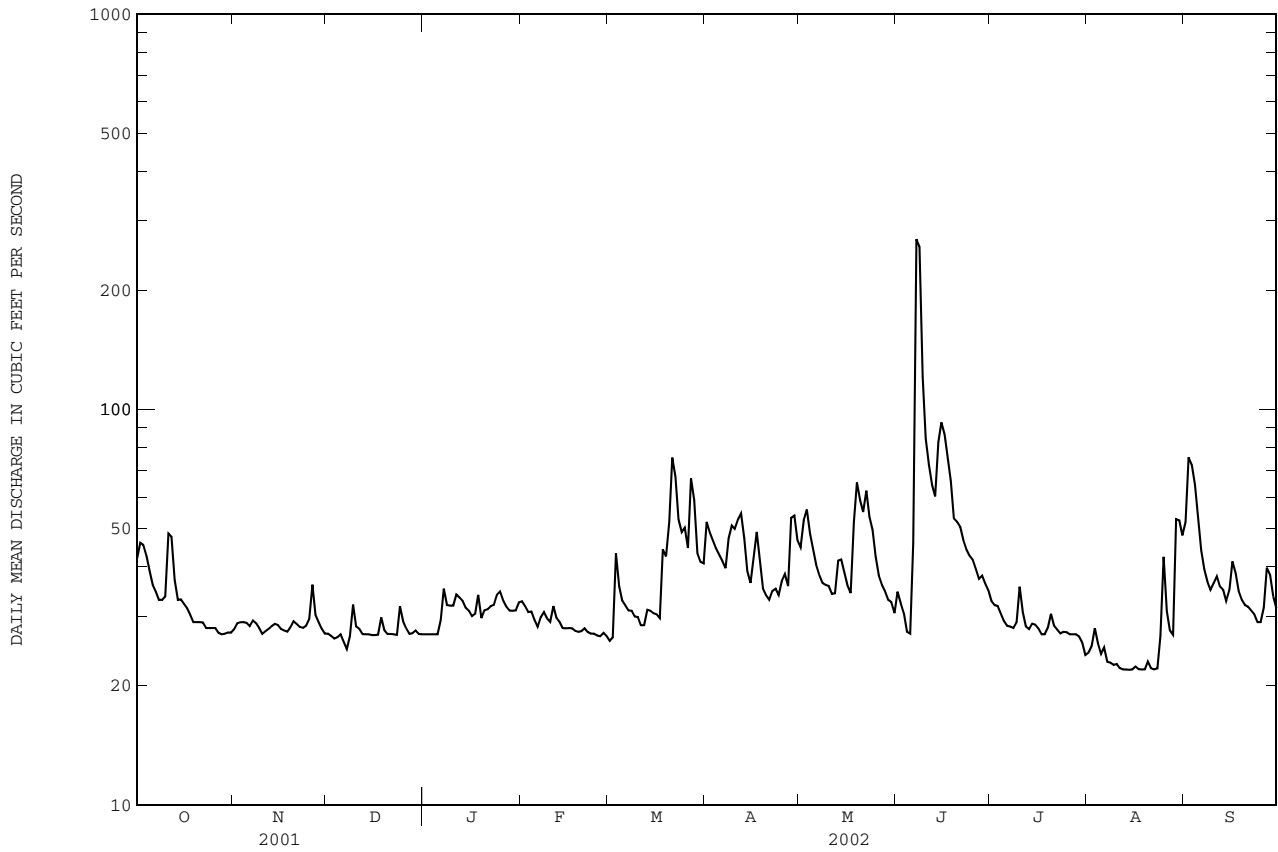
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)							
63.26	80.44	82.80	100.2	102.4	117.9	111.9	96.74	71.46	65.83	75.45	61.88
176	234	200	242	210	255	253	261	162	201	207	163
1959	1973	1973	1979	1939	1998	1970	1998	1998	1938	1933	1938
28.6	28.6	27.1	31.2	28.7	40.6	41.3	43.1	33.7	24.2	23.9	24.4
(WY)	1966	2002	1966	2002	2002	2002	1985	2002	1966	1977	1957

01410000 OSWEGO RIVER AT HARRISVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1931 - 2002	
ANNUAL TOTAL	23596		13382			
ANNUAL MEAN	64.65		36.66		85.78	
HIGHEST ANNUAL MEAN					138	1978
LOWEST ANNUAL MEAN					36.6	2002
HIGHEST DAILY MEAN	303	Jan 21	270	Jun 7	1220	Aug 20 1939
LOWEST DAILY MEAN	25	Dec 7	22	Aug 11	4.0	Jun 23 1967
ANNUAL SEVEN-DAY MINIMUM	26	Dec 1	22	Aug 11	14	Sep 7 1966
MAXIMUM PEAK FLOW			325	Jun 8	1390a	Aug 20 1939
MAXIMUM PEAK STAGE			3.94	Jun 8	9.54b	Aug 20 1939
INSTANTANEOUS LOW FLOW			21	Aug 14	0.00c	Oct 26 1932
ANNUAL RUNOFF (CFSM)	0.89		0.51		1.18	
ANNUAL RUNOFF (INCHES)	12.11		6.87		16.08	
10 PERCENT EXCEEDS	120		52		148	
50 PERCENT EXCEEDS	43		31		70	
90 PERCENT EXCEEDS	28		27		36	

- a From rating curve extended above 840 ft³/s extended by logarithmic plotting.
- b From high-water mark in gage house
- c While pond filling.



MULLICA RIVER BASIN

01410150 EAST BRANCH BASS RIVER NEAR NEW GRETNA, NJ

LOCATION.--Lat 39°37'23", long 74°26'30", Burlington County, Hydrologic Unit 02040301, on left bank upstream from bridge on Stage Road, 0.7 mi west of Lake Absegami, 2.2 mi north of New Gretna, and 5.3 mi upstream from mouth.

DRAINAGE AREA.--8.11 mi².

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1969 to 1974. January 1978 to current year.

REVISED RECORDS.--WDR NJ-81-1: 1978-80(P). WDR NJ-92-1: 1978, 1979, 1989, 1991 (P).

GAGE.--Water-stage recorder. Datum of gage is 1.10 ft above NGVD of 1929.

REMARKS.--Records good, except gage height record above 200 ft³/s. which are considered fair. Occasional regulation by Lake Absegami. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 65 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	10	10	9.6	9.8	8.7	13	11	11	10	9.4	13
2	14	10	10	9.5	9.7	8.7	12	12	10	10	9.3	18
3	12	10	9.9	9.5	9.5	12	11	13	10	10	9.6	15
4	11	10	9.8	9.5	9.4	12	11	11	9.8	10	9.7	12
5	11	10	9.8	9.5	9.3	9.7	11	10	9.8	10	9.6	12
6	11	10	9.8	9.8	9.2	9.3	11	10	11	10	9.5	11
7	11	10	9.8	11	9.4	9.1	10	10	19	10	9.3	11
8	11	10	10	10	9.7	8.9	10	10	17	10	9.4	11
9	11	10	12	10	9.5	8.9	10	10	12	9.9	9.4	11
10	10	10	11	9.9	9.3	8.8	11	10	11	11	9.3	11
11	10	10	11	10	9.7	8.8	11	9.8	11	11	9.2	10
12	10	10	10	11	9.6	8.8	10	9.9	10	11	9.3	10
13	10	10	10	10	9.4	9.1	10	11	10	10	9.3	10
14	10	10	10	10	9.2	9.5	10	12	16	10	9.2	10
15	11	10	10	10	9.1	9.1	10	11	17	10	9.2	11
16	11	10	9.8	9.8	9.1	9.1	9.9	10	14	10	9.1	12
17	10	10	9.8	9.7	9.0	8.9	9.7	9.9	12	9.9	9.1	12
18	10	10	10	9.6	9.0	12	9.5	12	11	9.8	9.0	11
19	10	10	11	9.7	8.9	13	9.4	14	11	9.7	9.1	10
20	10	10	10	9.9	8.9	12	9.8	12	11	9.9	9.1	10
21	10	10	9.8	9.9	8.9	15	9.7	11	11	9.9	9.1	10
22	10	9.9	9.8	9.9	8.9	12	9.7	11	11	9.9	9.0	10
23	10	9.9	9.7	9.9	8.8	11	9.7	10	11	9.8	9.1	10
24	10	10	11	10	8.8	10	9.4	10	11	9.7	9.6	9.9
25	10	10	11	10	8.8	10	9.5	10	11	9.9	11	9.9
26	10	13	10	9.9	8.8	10	9.9	10	11	9.8	11	10
27	10	12	9.8	9.6	8.8	14	9.5	10	11	9.8	9.9	12
28	10	11	9.8	9.5	8.8	13	14	10	11	9.9	9.7	11
29	10	10	9.8	9.5	---	11	15	10	11	9.8	15	11
30	10	10	9.7	9.5	---	11	12	10	11	9.7	18	10
31	10	---	9.7	9.7	---	10	---	10	---	9.6	13	---
TOTAL	327	305.8	313.8	305.4	257.3	323.4	317.7	330.6	353.6	310.0	310.5	334.8
MEAN	10.55	10.19	10.12	9.852	9.189	10.43	10.59	10.66	11.79	10.00	10.02	11.16
MAX	14	13	12	11	9.8	15	15	14	19	11	18	18
MIN	10	9.9	9.7	9.5	8.8	8.7	9.4	9.8	9.8	9.6	9.0	9.9
CFSM	1.30	1.26	1.25	1.21	1.13	1.29	1.31	1.31	1.45	1.23	1.24	1.38
IN.	1.50	1.40	1.44	1.40	1.18	1.48	1.46	1.52	1.62	1.42	1.42	1.54

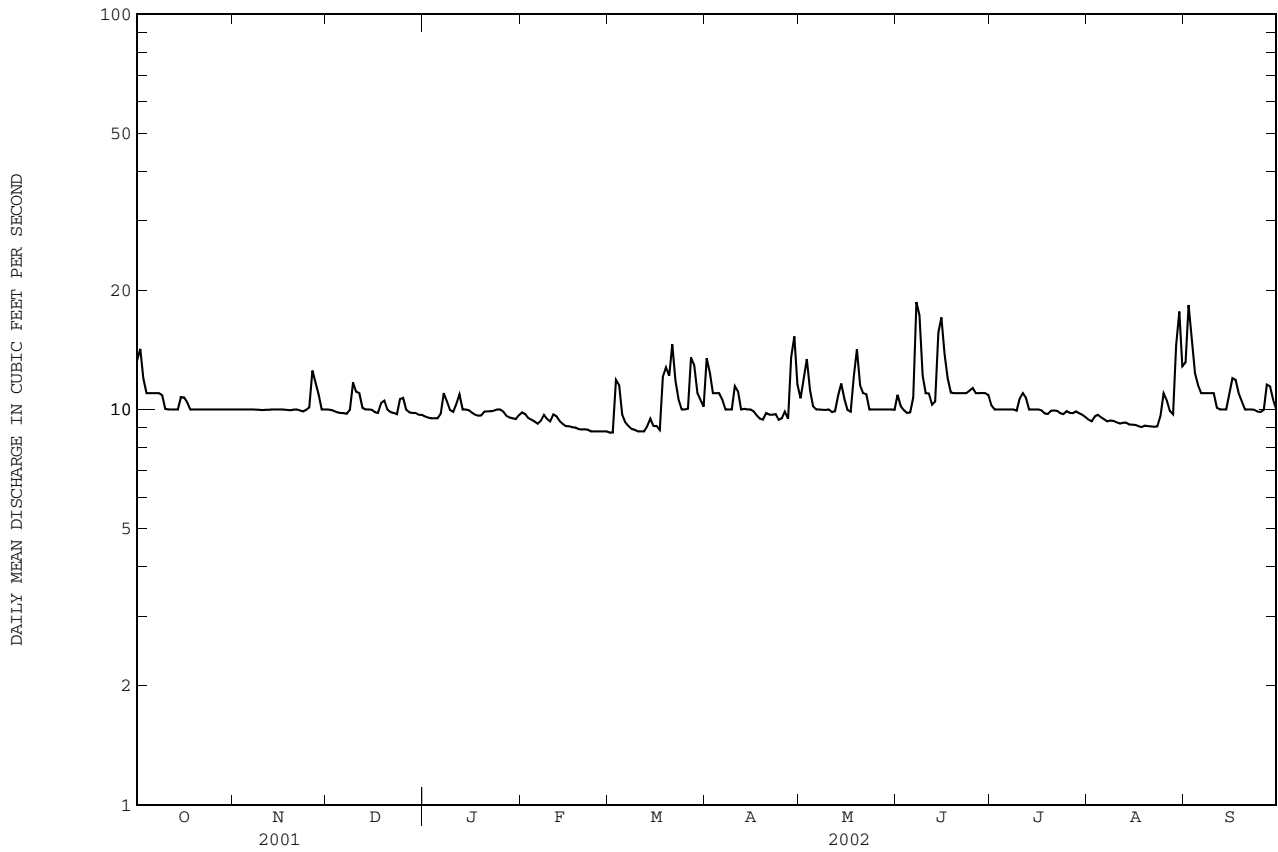
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2002, BY WATER YEAR (WY)

MEAN	12.60	13.81	15.24	18.24	18.02	20.78	20.94	19.08	15.50	13.67	15.19	12.75
MAX	24.2	23.1	28.3	35.0	34.3	40.8	38.6	41.5	35.2	25.8	43.7	23.2
(WY)	1990	1990	1997	1978	1998	1998	1984	1998	1998	1978	1997	2000
MIN	8.13	8.75	9.78	9.28	9.20	10.4	9.06	8.95	8.11	7.80	6.54	6.77
(WY)	1983	1982	1986	1981	2002	2002	1985	1985	1986	1985	1995	1995

01410150 EAST BRANCH BASS RIVER NEAR NEW GREYNA, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1978 - 2002	
ANNUAL TOTAL	5362.6		3789.9			
ANNUAL MEAN	14.69		10.38		16.07	
HIGHEST ANNUAL MEAN					25.3	1998
LOWEST ANNUAL MEAN					9.60	1985
HIGHEST DAILY MEAN	55	Jun 18	19	Jun 7	533	Aug 21 1997
LOWEST DAILY MEAN	9.7	Dec 23	8.7	Mar 1,2	4.8	Sep 15 1995
ANNUAL SEVEN-DAY MINIMUM	9.9	Dec 1	8.8	Feb 24	5.0	Sep 10 1995
MAXIMUM PEAK FLOW			21	Jun 7	1130a	Aug 21 1997
MAXIMUM PEAK STAGE			4.20	Jun 7	7.28	Aug 21 1997
INSTANTANEOUS LOW FLOW			8.7	Mar 1,2	4.7	Sep 15 1995
ANNUAL RUNOFF (CFSM)	1.81		1.28		1.98	
ANNUAL RUNOFF (INCHES)	24.60		17.38		26.92	
10 PERCENT EXCEEDS	22		12		26	
50 PERCENT EXCEEDS	12		10		14	
90 PERCENT EXCEEDS	10		9.2		8.8	

a From rating curve extended above 200 ft³/sec extended by logarithmic plotting.



ABSECON BAY

01410510 ABSECON CREEK AT US ROUTE 30, AT ABSECON, NJ

LOCATION.--Lat 39°25'21", long 74°25'21", Atlantic County, Hydrologic Unit 02040302, on left bank, 5 ft upstream of bridge on US Route 30 in Absecon, 200 ft downstream of AMTRAK railroad bridge, 1.8 mi upstream of mouth and Absecon Bay, 1.7 mi downstream of dam at Atlantic City Reservoir (Doughty Pond), and 2.4 mi northwest of Pleasantville.

PERIOD OF RECORD.--June 19, 1997 to April 4, 2000 (unpublished fragmentary gage-height record), April 5, 2000 to present year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.27 ft. To determine elevations to Mean Lower Low Water Datum, add 2.57 ft, based on data from National Ocean Service station 8534540 operated as a short-term tide gage at this location, May 19, 1977 to Dec. 4, 1978.

REMARKS.--No gage height record for portions of Apr. 18-19, May 23-25, Oct. 26-27, December 23-26, 2000, May 6-7, Aug. 15-16, and 20-30, 2001, Jan. 1-3, Jun. 12-17, 2002 and short portions of numerous other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.12 ft (NAVD of 1988), Sep. 26, 2000; minimum elevation recorded, -3.81 ft (NAVD of 1988), Jan. 14 and Mar. 11, 2002.

EXTREMES FOR PERIOD APRIL TO SEPTEMBER 2000.--Maximum elevation recorded, 4.12 ft (NAVD of 1988), Sep. 26; minimum elevation recorded, -3.62 ft (NAVD of 1988), April 10.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 3.97 ft (NAVD of 1988), Sep. 30; minimum elevation recorded, -3.73 ft (NAVD of 1988), Feb. 11.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 3.49 ft (NAVD of 1988), July 24; minimum elevation recorded, -3.81 ft (NAVD of 1988), Jan. 14 and Mar 11.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	3.35	3.04	3.35	3.23	3.54	4.12
high tide	Date	--	--	--	--	--	--	17	19	6	31	13	26
Minimum	Elevation	---	----	----	---	---	---	-3.62	-2.88	-2.56	-2.46	-2.44	-2.90
low tide	Date	--	--	--	--	--	--	10	5	9	3	27	18
Mean high tide		---	---	---	---	---	---	1.87	2.02	1.88	2.08	2.07	2.04
Mean water level		---	---	---	---	---	---	-.05	.08	-.02	.20	.20	.18
Mean low tide		---	---	---	---	---	---	-1.99	-2.06	-2.10	-1.89	-1.93	-1.94

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.91	3.44	2.74	2.68	2.56	3.84	2.66	2.97	2.97	3.49	2.93	3.97
high tide	Date	17	26	12	21	9	7	7	23	22	19	19	30
Minimum	Elevation	-3.26	-3.50	-3.64	-2.97	-3.73	-3.18	-2.95	-2.76	-2.78	-2.86	-2.72	-2.41
low tide	Date	11	23	13	22	11	12	23	1	27	25	18	18
Mean high tide		1.89	1.83	---	---	1.32	1.79	1.72	1.89	1.83	1.90	---	2.14
Mean water level		.00	-.03	---	---	-.58	-.05	-.18	.03	-.07	.04	---	.30
Mean low tide		-2.02	-2.04	---	---	-2.61	-2.06	-2.21	-2.02	-2.14	-2.02	---	-1.80

01410510 ABSECON CREEK AT US ROUTE 30, AT ABSECON, NJ--Continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.47	2.94	3.01	3.34	2.96	2.69	3.03	2.92	3.09	3.49	2.94	2.96
high tide	Date	1	17	13	31	1	31	28	25	9	24	6	1
Minimum	Elevation	-3.25	-3.02	-3.51	-3.81	-3.71	-3.81	-3.05	-3.11	-2.90	-2.76	-2.75	-2.68
low tide	Date	18	15	31	14	28	11	26	15	22,23	24	11	8
Mean high tide		1.79	1.71	1.66	1.38	1.60	1.37	1.57	1.62	---	1.80	1.90	2.08
Mean water level		-.07	-.21	-.25	-.58	-.31	-.59	-.37	-.32	---	-.08	-.06	.25
Mean low tide		-2.08	-2.25	-2.32	-2.63	-2.35	-2.63	-2.44	-2.35	---	-2.13	-2.00	-1.85

01410560 INSIDE THOROFARE AT US ROUTE 40, AT ATLANTIC CITY, NJ

LOCATION.--Lat 39°21'12", long 74°27'25", Atlantic County, Hydrologic Unit 02040302, on wooden cribbing near east bank, about 10 ft south of bridge on US Routes 40 and 322 (Albany Street) in Chelsea Heights section of Atlantic City, 0.5 mi southwest of northern confluence with Beach Thorofare, 0.9 mi southwest of AMTRAK railroad bridge over Beach Thorofare, and 1.7 mi northeast of Ventnor post office.

PERIOD OF RECORD.--July 11, 1997 to June 2, 2000 (unpublished fragmentary gage-height record), June 3, 2000 to present year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.31 ft. To determine elevations to Mean Lower Low Water Datum, add 2.65 ft, based on data from National Ocean Service station 8534721 operated at same location.

REMARKS.--No gage height record for portions of Dec. 23-30, 2000, Jan. 1-5, May 6-7, 2001 and short portions of numerous other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.17 ft (NAVD of 1988), Sep. 30, 2001; minimum elevation recorded, -4.81 ft (NAVD of 1988), Feb. 11, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 6.5 ft (adjusted to NAVD of 1988), March 6 or 7, 1962, from high-water mark near Raleigh Avenue about 0.4 mi southwest of gage.

EXTREMES FOR PERIOD MAY TO SEPTEMBER 2000.--Maximum elevation recorded, 4.08 ft (NAVD of 1988), Sep. 26; minimum elevation recorded, -3.46 ft (NAVD of 1988), May 5.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 4.17 ft (NAVD of 1988), Sep. 30; minimum elevation recorded, -4.81 ft (NAVD of 1988), Feb. 11.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 3.60 ft (NAVD of 1988), Oct. 1; minimum elevation recorded, -4.74 ft (NAVD of 1988), Jan. 14.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	2.90	3.37	3.45	3.53	4.08
high tide	Date	--	--	--	--	--	--	--	11	6	31	13	26
Minimum	Elevation	---	----	----	---	---	---	---	-3.46	-3.06	-3.21	-2.86	-3.21
low tide	Date	--	--	--	--	--	--	--	5	4	4	28	18
Mean high tide		---	---	---	---	---	---	---	2.00	1.87	2.08	2.09	2.01
Mean water level		---	---	---	---	---	---	---	-.02	-.16	.05	.06	.06
Mean low tide		---	---	---	---	---	---	---	-2.18	-2.34	-2.14	-2.11	-2.04

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.90	3.53	3.21	3.29	2.71	4.07	2.65	3.09	3.10	3.54	3.06	4.17
high tide	Date	17	12	12	9	9	7	26	23	22	19	19	30
Minimum	Elevation	-3.81	-4.21	-4.60	-3.95	-4.81	-3.94	-3.50	-3.17	-3.07	-3.33	-3.09	-2.68
low tide	Date	11	23	13	10	11	12	23	4	21	25	18	17,18
Mean high tide		1.90	1.86	1.33	1.66	1.33	1.79	1.70	1.87	1.83	1.90	1.85	2.15
Mean water level		-.06	-.08	-.66	-.32	-.69	-.14	-.30	-.09	-.18	-.07	-.13	.19
Mean low tide		-2.13	-2.16	-2.68	-2.47	-2.84	-2.18	-2.40	-2.14	-2.26	-2.16	-2.20	-1.88

01410560 INSIDE THOROFARE AT US ROUTE 40, AT ATLANTIC CITY, NJ--Continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.60	2.98	3.15	3.42	3.16	2.73	3.33	2.91	3.34	2.88	3.03	3.01
high tide	Date	1	17	13	31	27	27	28	25	15	24	6	10
Minimum	Elevation	-4.29	-3.64	-4.14	-4.74	-4.62	-4.51	-3.54	-3.45	-3.38	-3.12	-3.10	-3.02
low tide	Date	18	14	31	14	28	1	27	15	23	24	11	8
Mean high tide		1.81	1.69	1.68	1.37	1.62	1.36	1.51	1.59	1.81	1.81	1.92	2.12
Mean water level		-.16	-.30	-.33	-.70	-.37	-.71	-.48	-.42	-.19	-.16	-.03	.18
Mean low tide		-2.21	-2.38	-2.43	-2.85	-2.45	-2.86	-2.60	-2.51	-2.27	-2.22	-2.08	-1.90

01410600 ABSECON CHANNEL AT ATLANTIC CITY, NJ

LOCATION.--Lat 39°22'41", long 74°25'22", Atlantic County, Hydrologic Unit 02040302, on bulkhead at U.S. Coast Guard Station Atlantic City on Clam Creek, 400 ft south of Absecon Channel, in Atlantic City, 2,200 ft southeast of the south end of bridge on State Highway 87 over Absecon Channel, 1.3 mi northwest of Absecon Inlet, and 3.3 mi southwest of Brigantine city hall.

PERIOD OF RECORD.--June 16, 1997 to June 17, 2000 (unpublished fragmentary gage-height record), June 18, 2000 to present year.

GAGE.--Water-stage, water-temperature, and precipitation recorders. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.33 ft. To determine elevations to Mean Lower Low Water Datum, add 2.72 ft, based on data from National Ocean Service station 8534638.

REMARKS.--No gage height record for portions of Oct. 26-30, December 23-26, 2000, May 6-7, Oct. 30-Nov. 1, 2001 and short portions of numerous other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage and weather telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.16 ft (NAVD of 1988), Sep. 26, 2000; minimum elevation recorded, -4.94 ft (NAVD of 1988), Dec. 12, 2000.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 7.7 ft (adjusted to NAVD of 1988), March 6 or 7, 1962, from high-water mark at the U.S. Coast Guard Station.

EXTREMES FOR PERIOD JUNE TO SEPTEMBER 2000.--Maximum elevation recorded, 4.16 ft (NAVD of 1988), Sep. 26; minimum elevation recorded, -3.41 ft (NAVD of 1988), July 4.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 4.12 ft (NAVD of 1988), Sep. 30; minimum elevation recorded, -4.94 ft (NAVD of 1988), Dec. 12.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 3.60 ft (NAVD of 1988), Oct. 1; minimum elevation recorded, -4.76 ft (NAVD of 1988), Feb. 28.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	---	3.11	3.48	3.59	4.16
high tide	Date	--	--	--	--	--	--	--	--	29	31	13	26
Minimum	Elevation	---	----	----	---	---	---	---	---	-2.83	-3.41	-2.82	-3.15
low tide	Date	--	--	--	--	--	--	--	--	18	4	28	18
Mean high tide		---	---	---	---	---	---	---	---	---	2.04	2.03	2.00
Mean water level		---	---	---	---	---	---	---	---	---	.03	.06	.04
Mean low tide		---	---	---	---	---	---	---	---	---	-2.10	-2.03	-1.99

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.87	3.48	3.17	3.24	2.63	3.98	2.85	3.05	3.12	3.49	3.04	4.12
high tide	Date	17	12	12	9	9	7	8	23	22	19	18,19	30
Minimum	Elevation	-3.88	-4.14	-4.94	-3.94	-4.78	-3.94	-3.45	-3.18	-3.08	-3.45	-3.17	-2.88
low tide	Date	11	22	12	10	11	12	22	4	21	25	18	18
Mean high tide		1.79	1.79	1.28	1.58	1.27	1.74	1.65	1.82	1.76	1.85	1.79	2.09
Mean water level		-.12	-.11	-.68	-.40	-.72	-.15	-.30	-.10	-.19	-.09	-.15	.17
Mean low tide		-2.07	-2.09	-2.73	-2.47	-2.82	-2.12	-2.34	-2.15	-2.24	-2.13	-2.16	-1.83

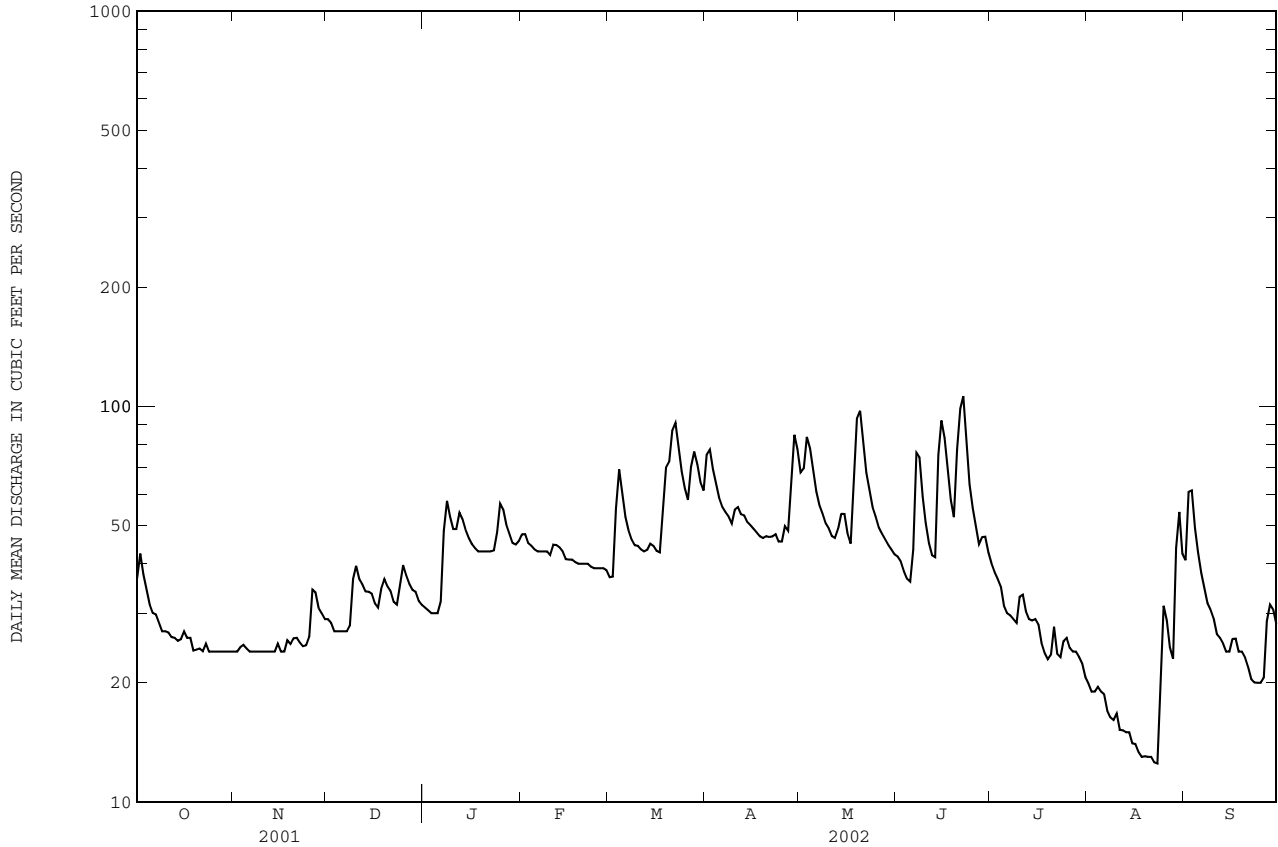
01410600 ABSECON CHANNEL AT ATLANTIC CITY, NJ--Continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.60	3.07	3.13	3.40	3.17	2.92	3.14	2.87	3.48	2.85	3.03	2.96
high tide	Date	1	17	13	31	27	31	28	25	14	24	6	10
Minimum	Elevation	-4.40	-3.74	-4.08	-4.75	-4.76	-4.56	-3.74	-3.56	-4.37	-3.10	-3.14	-3.07
low tide	Date	18	14	31	14	28	1	26	15	14	24	11	8
Mean high tide		1.70	1.62	1.64	1.32	1.56	1.32	1.48	1.54	1.73	1.76	1.87	2.07
Mean water level		-.20	-.33	-.35	-.72	-.40	-.73	-.51	-.44	-.25	-.15	-.06	.17
Mean low tide		-2.16	-2.36	-2.42	-2.84	-2.45	-2.86	-2.58	-2.49	-2.30	-2.18	-2.00	-1.82

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, NJ--Continued

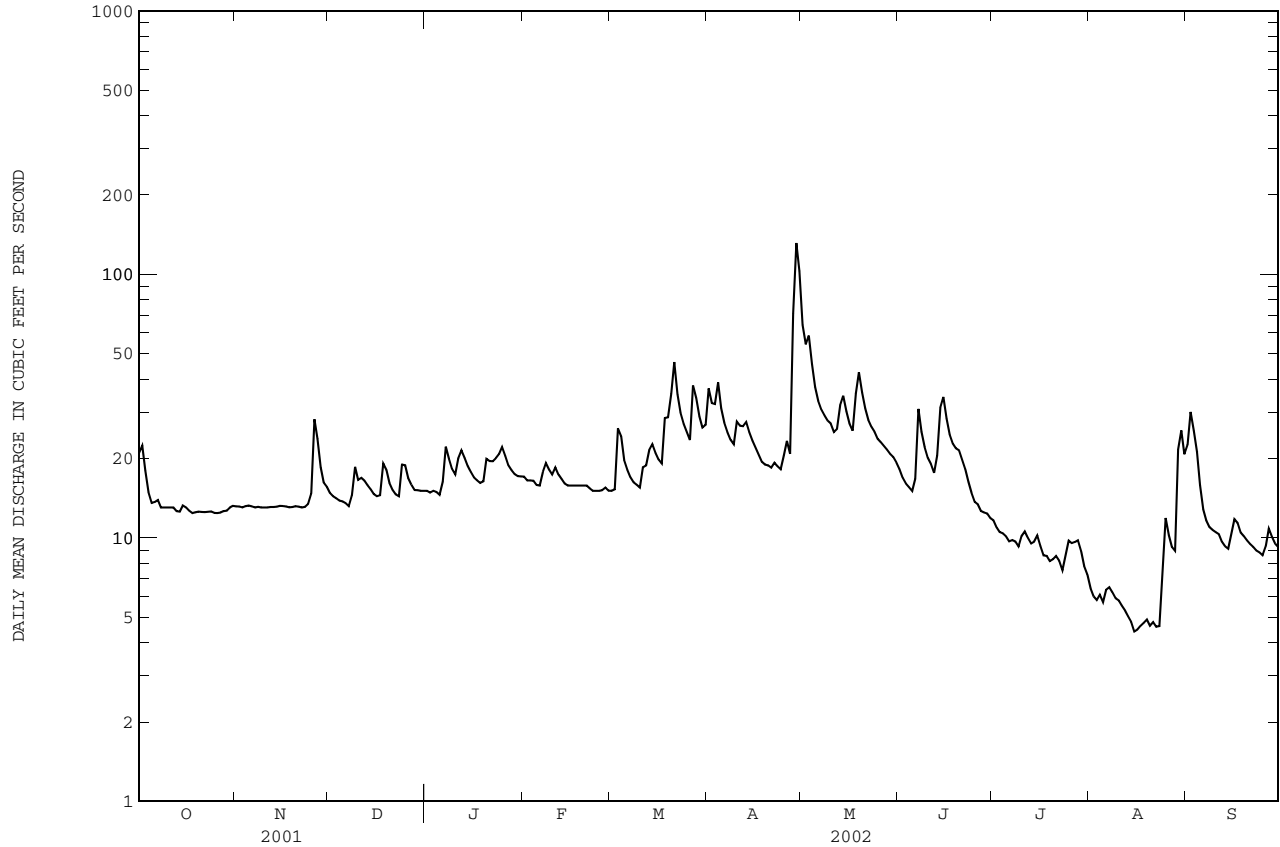
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1925 - 2002	
ANNUAL TOTAL	23267		14670			
ANNUAL MEAN	63.75		40.19		84.85	
HIGHEST ANNUAL MEAN					133 1973	
LOWEST ANNUAL MEAN					40.2 2002	
HIGHEST DAILY MEAN	253	Apr 1	106	Jun 22	1300	Sep 3 1940
LOWEST DAILY MEAN	21	Aug 10	12	Aug 23	12	Aug 22 2002
ANNUAL SEVEN-DAY MINIMUM	23	Aug 5	13	Aug 17	13	Aug 17 2002
MAXIMUM PEAK FLOW			108 Jun 22		1440 Sep 3 1940	
MAXIMUM PEAK STAGE			4.05 Jun 22		9.09 Sep 3 1940	
INSTANTANEOUS LOW FLOW			12 Aug 22		12 Aug 22 2002	
ANNUAL RUNOFF (CFSM)	1.12		0.70		1.49	
ANNUAL RUNOFF (INCHES)	15.16		9.56		20.19	
10 PERCENT EXCEEDS	116		64		147	
50 PERCENT EXCEEDS	46		38		72	
90 PERCENT EXCEEDS	25		23		36	



01411300 TUCKAHOE RIVER AT HEAD OF RIVER, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1970 - 2002	
ANNUAL TOTAL	11135		6561.5			
ANNUAL MEAN	30.5		18.0		42.0	
HIGHEST ANNUAL MEAN					66.0 1998	
LOWEST ANNUAL MEAN					18.0 2002	
HIGHEST DAILY MEAN	148	Mar 31	132	Apr 29	920	Aug 21 1997
LOWEST DAILY MEAN	11	Sep 9	4.4	Aug 15	1.3	Sep 3 1980
ANNUAL SEVEN-DAY MINIMUM	11	Sep 8	4.7	Aug 14	1.9	Sep 9 1980
MAXIMUM PEAK FLOW			136		1340 Aug 21 1997	
MAXIMUM PEAK STAGE			4.79		9.09 Aug 22 1997	
INSTANTANEOUS LOW FLOW			3.9		3.9 Aug 15 2002	
ANNUAL RUNOFF (CFSM)	0.99		0.58		1.36	
ANNUAL RUNOFF (INCHES)	13.45		7.92		18.54	
10 PERCENT EXCEEDS	55		28		82	
50 PERCENT EXCEEDS	24		16		31	
90 PERCENT EXCEEDS	13		8.9		15	

e Estimated.



GREAT EGG HARBOR BAY

01411318 PECK BAY AT OCEAN CITY, NJ

LOCATION.--Lat 39°15'15", long 74°37'39", Cape May County, Hydrologic Unit 02040302, on left bank, about 300 ft north of bridge on County Route 623 (Roosevelt Boulevard) at All Seasons Marina, 1.3 mi southeast of Marmora, 2.1 mi south of Great Egg Harbor Bay, and 3.3 mi southwest of Ocean City city hall.

PERIOD OF RECORD.--Tidal crest-stage gage 1979-1985 and tidal gaging station 1974-1976, located 300 ft south of current station. May 22, 1997 to April 20, 2000 (unpublished fragmentary gage-height record), April 21, 2000 to present year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.28 ft. To determine elevations to Mean Lower Low Water Datum, add 2.64 ft, based on data from National Ocean Service station 8534319 operated at same location.

REMARKS.--No gage height record for portions of Dec. 23, 2000 to Jan. 8, 2001 and short portions of numerous other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 5.33 ft (adjusted to NAVD of 1988), Dec. 1, 1974; minimum elevation recorded, -4.41 ft (NAVD of 1988), Dec. 13, 2000.

EXTREMES FOR PERIOD MAY TO SEPTEMBER 2000.--Maximum elevation recorded, 4.05 ft (NAVD of 1988), Sep. 26; minimum elevation recorded, -3.15 ft (NAVD of 1988), May 5.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 4.10 ft (NAVD of 1988), Sep. 30; minimum elevation recorded, -4.41 ft (NAVD of 1988), Dec. 13.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 3.57 ft (NAVD of 1988), Oct. 1; minimum elevation recorded, -4.34 ft (NAVD of 1988), Jan. 14.

Summaries of tide elevations during water years 2000 to 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 to SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	2.74	3.21	3.17	3.43	4.05
high tide	Date	--	--	--	--	--	--	--	30	6	31	8	26
Minimum	Elevation	---	---	---	---	---	---	---	-3.15	-2.73	-2.83	-2.61	-3.12
low tide	Date	--	--	--	--	--	--	--	5	27	3	27	13
Mean high tide		---	---	---	---	---	---	---	1.90	1.76	1.97	1.97	1.95
Mean water level		---	---	---	---	---	---	---	.04	-.10	.11	.12	.13
Mean low tide		---	---	---	---	---	---	---	-1.96	-2.12	-1.93	-1.92	-1.86

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 to SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.84	3.28	2.76	3.26	2.69	3.99	2.75	3.08	3.06	3.52	3.00	4.10
high tide	Date	17	12,27	12	9	9	7	7	23	22	19	19	30
Minimum	Elevation	-3.82	-4.17	-4.44	-3.90	-4.41	-3.59	-3.16	-2.82	-2.64	-2.94	-2.59	-2.07
low tide	Date	11	24	13	10	11	12	23	4	21	25	17	17
Mean high tide		1.83	1.78	---	1.8e	1.47	1.94	1.84	2.00	1.94	1.98	1.91	2.20
Mean water level		.01	-.04	---	---	-.44	.15	-.02	.20	.07	.18	.11	.45
Mean low tide		-1.97	-2.02	---	---	-2.54	-1.78	-2.03	-1.77	-1.96	-1.79	-1.84	-1.48

e - estimated

01411318 PECK BAY AT OCEAN CITY, NJ - continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 to SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.57	3.05	3.05	3.36	3.05	2.76	3.11	2.85	3.22	2.87	2.98	3.00
high tide	Date	1	17	13	31	27	31	28	25	15	24	6	1
Minimum	Elevation	-3.94	-3.18	-3.86	-4.34	-4.32	-4.12	-2.97	-3.07	-3.01	-2.81	-2.63	-2.55
low tide	Date	18	15	31	14	28	1	27	15	22	23	15	7
Mean high tide		1.86	1.77	1.74	1.45	1.68	1.45	1.62	1.64	1.82	1.84	1.96	2.16
Mean water level		.07	-.05	-.08	-.45	-.13	-.44	-.23	-.18	.02	.04	.18	.40
Mean low tide		-1.87	-2.03	-2.06	-2.48	-2.08	-2.44	-2.21	-2.15	-1.89	-1.92	-1.77	-1.55

BEACH THOROFARE

01411330 BEACH THOROFARE AT MARGATE, NJ

LOCATION.--Lat 39°20'15", long 74°30'48", Atlantic County, Hydrologic Unit 02040302, on pier near southeast end of bridge on Margate-Northfield Road (County Route 563) at west edge of Margate, 500 ft east of Pork Island, and 3.2 mi northeast of Great Egg Harbor Inlet.

PERIOD OF RECORD.--June 1997 to March 2000 (unpublished fragmentary gage-height record), April 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.30 ft.

REMARKS.--No gage height record for portions of June 14-15 and Sept. 1-2, and short portions of several other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.09 ft (NAVD of 1988), Sept. 30, 2001; minimum recorded, -4.63 ft (NAVD of 1988), Feb. 11, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 9.8 ft (adjusted to NAVD of 1988), tides of March 6-7, 1962, from high-water mark near the intersection of Washington and Atlantic Avenues in Margate.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 3.52 ft (NAVD of 1988), Oct. 1; minimum recorded, -4.58 ft (NAVD of 1988), Jan. 14.

REVISIONS.--Tide elevations have been revised for March through September 2001, as shown in the following table. These values supersede the tide elevations published in the annual water data report for 2001.

Summaries of tide elevations during water years 2001 and 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 to SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.88	3.47	3.14	3.25	2.69	4.03	2.67r	3.06r	3.07r	3.48r	3.02r	4.09r
high tide	Date	17	12	12	9	9	7	26	23	22	19	19	30
Minimum	Elevation	-3.76	-4.13	-4.48	-3.81	-4.63	-3.76	-3.41 r	-3.04 r	-2.95 r	-3.18 r	-2.91 r	-2.52 r
low tide	Date	11	23	13	10	11	12	23	4	21	25	18	17
Mean high tide		1.86	1.82	1.25	1.56	1.32	1.80r	1.70r	1.86r	1.80r	1.86r	1.81r	2.09r
Mean water level		-.08	-.11	-.68	-.43	-.70	-.16	-.31 r	-.11 r	-.21 r	-.10 r	-.15 r	.17 r
Mean low tide		-2.06	-2.08	-2.66	-2.41	-2.74	-2.11	-2.31 r	-2.08 r	-2.20 r	-2.09 r	-2.11 r	-1.77 r

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 to SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.52	2.93	3.07	3.33	3.06	2.65	3.16	2.89	3.15	2.83	2.98	2.93
high tide	Date	1	17	13	31	1, 27	27	28	25	15	24	6	10
Minimum	Elevation	-4.16	-3.49	-4.06	-4.58	-4.55	-4.45	-3.44	-3.33	-3.24	-2.95	-2.92	-2.87
low tide	Date	18	14	31	14	28	1	27	15	23	24	11	8
Mean high tide		1.75	1.63	1.61	1.30	1.55	1.29	1.46	1.53	1.75	1.75	1.86	2.09
Mean water level		-.19	-.33	-.37	-.73	-.42	-.75	-.53	-.46	-.28	-.19	-.07	.09
Mean low tide		-2.13	-2.30	-2.36	-2.77	-2.40	-2.78	-2.53	-2.42	-2.21	-2.14	-2.00	-1.90

r Revised

INGRAM THOROFARE

01411355 INGRAM THOROFARE AT AVALON, NJ

LOCATION.--Lat 39°06'38", long 74°44'03", Cape May County, Hydrologic Unit 02040302, on fishing pier at east end of Old Avalon Boulevard, 1.0 mi southwest of Townsends Inlet, 1.6 mi east of Upper Island in Great Sound, and 0.5 mi east of bridge carrying County Route 601 (Avalon Boulevard) over Ingram Thorofare.

PERIOD OF RECORD.--October 1977 to May 1978, 1979 to 1981 (annual maximum elevation only), May 1997 to May 2000 (unpublished fragmentary gage-height record), May 13, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.29 ft. To determine approximate elevations in Mean Lower Low Water datum, add 2.60 ft, based on data from National Ocean Service station 8535419. From October 1977 to May 1978, water-stage recorder at NGVD of 1929 and from 1978 to 1981, crest-stage gage at NGVD of 1929 located 200 ft south of current station.

REMARKS.-- Gage cannot measure a tide level of less than -2.23 ft (NAVD of 1988). Monthly minimum elevations, monthly mean low tides, and monthly mean water levels are undetermined. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 6.29 ft (adjusted to NAVD of 1988), Mar.29, 1984, from tidal crest-stage gage.

EXTREMES FOR PERIOD MAY TO SEPTEMBER 2000.--Maximum elevation recorded, 4.33 ft (NAVD of 1988), Sept.26.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 4.16 ft (NAVD of 1988), Sept. 30.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 3.58 ft (NAVD of 1988), Oct. 1.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	---	3.45	3.41	3.64	4.33
high tide	Date	---	---	---	---	---	---	---	---	6	31	13	26
Minimum	Elevation	---	---	---	---	---	---	---	---	---	---	---	---
low tide	Date	---	---	---	---	---	---	---	---	---	---	---	---
Mean high tide		---	---	---	---	---	---	---	---	1.82	2.05	2.06	2.04
Mean water level		---	---	---	---	---	---	---	---	---	---	---	---
Mean low tide		---	---	---	---	---	---	---	---	---	---	---	---

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 to SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.05	3.54	3.06	3.27	2.71	4.05	2.82	3.11	3.11	3.66	3.07	4.16
high tide	Date	17	26	12	9	9	7	7	23	22	19	19	30
Minimum	Elevation	----	---	---	---	---	---	---	---	---	---	---	---
low tide	Date	---	---	---	---	---	---	---	---	---	---	---	---
Mean high tide		1.88	1.85	1.3e	1.60	1.31	1.79	1.71	1.88	1.80	1.87	1.82	2.12
Mean water level		---	---	---	---	---	---	---	---	---	---	---	---
Mean low tide		---	---	---	---	---	---	---	---	---	---	---	---

e - estimated.

01411360 GREAT CHANNEL AT STONE HARBOR, NJ

LOCATION.--Lat 39°03'24", long 74°45'52", Cape May County, Hydrologic Unit 02040302, on county pier near east of bridge on Stone Harbor Boulevard (County Route 657) at the west edge of Stone Harbor, 3.7 mi southeast of Cape May Court House, and 3.9 mi southwest of Avalon.

PERIOD OF RECORD.--1964 to 1977, 1979 to 1999 (annual maximum elevation only), October 1977 to May 1978, May 1997 to February 2000 (unpublished fragmentary gage-height record), March 2000 to current year.

GAGE.--Water-stage recorder and tidal crest-stage gage. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.30 ft. To determine approximate elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8535581, add 2.69 ft. From October 1964 to September 1999, crest-stage gage at NGVD of 1929. From October 1977 to May 1978, water-stage recorder at south side of bridge to National Geodetic Vertical Datum of 1929.

REMARKS.--Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 6.03 ft (adjusted to NAVD of 1988), March 29, 1984, from tidal crest-stage gage; minimum elevation recorded, -4.82 ft (NAVD of 1988), Feb. 11, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 3.59 ft (NAVD of 1988), Oct. 1; minimum elevation recorded, -4.69 ft (NAVD of 1988), Oct. 18.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.59	3.17	3.22	3.48	3.14	2.71	3.10	2.91	3.34	3.01	3.12	3.19
high tide	Date	1	17	13	31	27	26,27	28	25	15	24	6	1
Minimum	Elevation	-4.69	-3.98	-4.20	-4.56	-4.61	-4.52	-3.57	-3.43	-3.35	-3.17	-3.03	-3.00
low tide	Date	18	14	31	14	28	1	27	15	23	24	11	7
Mean high tide		1.78	1.67	1.64	1.34	1.59	1.34	1.53	1.58	1.81	1.83	1.96	2.18
Mean water level		-.32	-.47	-.46	-.73	-.41	-.71	-.50	-.45	-.19	-.17	.00	.22
Mean low tide		-2.44	-2.70	-2.61	-2.86	-2.49	-2.85	-2.61	-2.55	-2.29	-2.25	-2.09	-1.89

01411382 GRASSY SOUND CHANNEL AT WILDWOOD, NJ

LOCATION.--Lat 38°59'22", long 74°50'13", Cape May County, Hydrologic Unit 02040302, on pier in back of pumpout station at Lighthouse Pointe Marina in Wildwood, 900 ft southwest of bridge on State Highway 47, and 1,000 ft north of Ephraim Island.

PERIOD OF RECORD.--May 1997 to February 2000 (unpublished fragmentary gage-height record), March 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.30 ft. To determine approximate elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8535838, add 3.03 ft.

REMARKS.--Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 4.26 ft (NAVD of 1988), Mar. 7, 2001; minimum recorded, -5.17 ft (NAVD of 1988), Feb. 11, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 7.5 ft (adjusted to NAVD of 1988), tides of March 6-7, 1962, from high-water mark at the intersection of 15th Street and New Jersey Avenue in North Wildwood.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 3.64 ft, Jan. 31; minimum recorded, -5.03 ft, Mar. 1.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.63	3.25	3.31	3.64	3.28	2.82	3.27	3.11	3.47	3.16	3.36	3.35e
high tide	Date	14	17	13	31	27	27	28	25	15	24	6	1
Minimum	Elevation	-4.70	-4.00	-4.58	-4.92	-5.01	-5.03	-4.06	-3.89	-3.76	-3.44	-3.43	-3.47
low tide	Date	18	14	31	14	28	1	27	15	23	24	11	7
Mean high tide		1.94	1.83	1.79	1.48	1.72	1.46	1.67	1.69	1.94	1.96	2.08	2.29
Mean water level		-.22	-.33	-.38	-.77	-.45	-.77	-.54	-.50	-.23	-.21	-.08	.07
Mean low tide		-2.51	-2.64	-2.70	-3.12	-2.74	-3.13	-2.87	-2.79	-2.52	-2.50	-2.38	-2.26

e Estimated

CAPE MAY HARBOR

01411390 CAPE MAY HARBOR AT CAPE MAY, NJ

LOCATION.--Lat 38°56'55", long 74°53'28", Cape May County, Hydrologic Unit 02040302, on Pier 2 at Cape May U.S. Coast Guard Station in Cape May, 1.0 mi west of Cape May Inlet, and 0.7 mi east of east entrance to Cape May Canal.

PERIOD OF RECORD.--Tidal crest-stage gage 1965-85, 1992. September 1997 to May 2000 (unpublished fragmentary gage-height record), June 2000 to current year.

GAGE.--Water-stage, air temperature, water temperature, wind speed and direction, barometric pressure, and precipitation recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate corresponding National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.31 ft. To determine approximate corresponding elevation in Mean Lower Low Water datum, add 3.05 ft.

REMARKS.--Gage cannot measure a tide level below -4.63 ft (NAVD of 1988). Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage and weather telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 5.58 ft (adjusted to NAVD of 1988), Oct. 25, 1980.

EXTREMES FOR PERIOD JUNE TO SEPTEMBER 2000.--Maximum elevation recorded, 4.97 ft (NAVD of 1988), Sept. 26.

EXTREMES FOR WATER YEAR 2001.-- Maximum elevation recorded, 4.10 ft (NAVD of 1988), Mar. 7.

EXTREMES FOR WATER YEAR 2002.-- Maximum elevation recorded, 3.61 ft (NAVD of 1988), Oct. 14.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	---	3.60	3.69	3.71	4.97
high tide	Date	---	---	---	---	---	---	---	---	6	31	13	26
Minimum	Elevation	---	---	---	---	---	---	---	---	-3.60	-3.73	-3.36	-3.42
low tide	Date	---	---	---	---	---	---	---	---	4	4	27	18
Mean high tide		---	---	---	---	---	---	---	---	1.99	2.21	2.19	2.20
Mean water level		---	---	---	---	---	---	---	---	-.31	-.08	-.08	.00
Mean low tide		---	---	---	---	---	---	---	---	-2.67	-2.49	-2.45	-2.28

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.18	3.73	3.27	3.43	2.82	4.10	2.96	3.27	3.36	3.85	3.30	3.98
high tide	Date	17	12	12	9	9	7	26	23	22	19	19	30
Minimum	Elevation	-4.25	-4.62	---	-4.44	---	-4.36	-3.88	-3.58	-3.45	-3.69	-3.54	-3.23
low tide	Date	11	22	12	10	---	11	7	5	21	25	20	17
Mean high tide		2.00	1.94	---	1.8e	1.41	2.0e	1.81	2.0e	1.95	1.99	1.95	2.24
Mean water level		-.15	-.21	---	-.5e	-.82	-.2e	-.43	-.2e	-.30	-.20	-.25	.09
Mean low tide		-2.40	-2.44	---	-2.8e	-3.1e	-2.5e	-2.73	-2.5e	-2.63	-2.49	-2.52	-2.14

e Estimated

01411390 CAPE MAY HARBOR AT CAPE MAY, NJ--Continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.61	3.20	3.28	---	3.25	2.97	3.25	3.09	3.48	3.10	3.34	---
high tide	Date	14	17	13	---	27	31	28	25	15	24	6	---
Minimum	Elevation	-4.61	-3.99	-4.52	-4.7e	---	---	-4.18	-4.02	-3.80	-3.48	-3.46	---
low tide	Date	18	14	31	14	28	1	27	15	23	24	11	---
Mean high tide		1.90	1.8e	1.74	1.4e	1.6e	---	1.60	1.6e	2.0e	1.89	2.02	2.1e
Mean water level		-.27	-.4e	-.42	-.8e	-.5e	---	-.60	-.6e	-.3e	-.29	-.14	.1e
Mean low tide		-2.48	-2.6e	-2.67	-3.3e	-2.6e	---	-2.88	-2.8e	-2.7e	-2.50	-2.35	-2.0e

e - Estimated

DENNIS CREEK BASIN

01411435 SLUICE CREEK NEAR SOUTH DENNIS, NJ

LOCATION.--Lat 39°09'42", long 74°49'57", Cape May County, Hydrologic Unit 02040206, on left upstream wingwall of bridge on State Highway 47, 1.6 mi upstream from Dennis Creek, and 3.3 mi from Delaware Bay.

DRAINAGE AREA.--9.37 mi².

PERIOD OF RECORD.--April 1997 to February 2000 (unpublished fragmentary gage-height record), March 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.27 ft.

REMARKS.--Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 3.51 ft (NAVD of 1988), March 7, 2001; minimum recorded, -5.65 ft (NAVD of 1988), Mar. 1, 2002.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Dec. 11, 1992 reached a stage of 5.6 ft (adjusted to NAVD of 1988), from high-water mark near Reeds Beach, 4.5 mi southwest of station.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 3.21 ft (NAVD of 1988), Oct. 14; minimum recorded, -5.65 ft (NAVD of 1988), Mar. 1

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.21	2.85	3.04	3.12	3.17	2.86	3.20	3.11	3.18	3.00	3.09	3.02
high tide	Date	14	17	13	31	1	29	29	14	15	12	6	6
Minimum	Elevation	-4.98	-4.78	-4.45	-5.35	-5.56	-5.65	-5.04	-4.33	-4.43	-4.25	-4.14	-4.38
low tide	Date	18	14	29	14	28	1	27	11	22,24	24	10	7
Mean high tide		2.28	2.20	2.13	1.88	2.18	1.95	2.16	2.20	2.35	2.37	2.39	2.46
Mean water level		.16	-.06	-.06	---	-.08	-.47	-.18	-.10	.14	.17	.26	.44
Mean low tide		-3.04	-3.32	-3.31	---	-3.33	-3.83	-3.59	-3.44	-3.24	-3.24	-3.10	-2.86



Figure 18. Construction of U.S. Geological Survey gage that will continuously monitor the stage of Little Ease Run near Clayton, NJ. Photograph taken by U.S. Geological Survey personnel, 1988.

MAURICE RIVER BASIN

01411456 LITTLE EASE RUN NEAR CLAYTON, NJ

LOCATION.--Lat 39°39'32", long 75°04'04", Gloucester County, Hydrologic Unit 02040206, on right bank 30 ft downstream from bridge on Academy Road (County Route 610), 0.9 mi west of Fries Mill, 1.3 mi east of Clayton, and 1.4 mi downstream from Beaverdam Branch.

DRAINAGE AREA.--9.77 mi².

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1966, 1976-84, 1987. February 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.94 ft above NGVD of 1929.

REMARKS.--Records fair, except for estimated daily discharges which are poor. Occasional regulation from unknown sources. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	--------------------------------	------------------	------	------	--------------------------------	------------------

No peak greater than base discharge.

DISCHARGE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.92	e0.90	1.3	1.3	3.7	1.7	9.3	9.3	1.3	1.3	0.47	1.1
2	0.95	1.1	1.2	1.3	3.7	1.7	8.4	11	1.2	1.2	0.47	2.3
3	0.78	0.96	1.2	1.3	3.3	6.9	7.3	12	1.1	1.1	1.00	1.6
4	0.72	0.73	1.1	1.2	3.0	6.4	6.2	9.8	1.1	1.0	0.81	1.2
5	0.72	0.76	1.1	1.2	2.7	5.6	5.4	7.6	1.0	0.96	0.63	0.96
6	0.73	0.78	1.1	1.8	2.6	4.9	4.7	5.6	1.8	0.87	0.59	0.84
7	0.72	0.71	1.1	4.5	2.6	4.3	4.2	4.3	6.2	0.81	0.60	0.74
8	0.72	0.78	1.4	3.6	2.6	3.7	3.8	3.3	4.4	0.80	0.59	0.68
9	0.76	0.92	2.7	2.9	2.5	3.3	3.7	2.8	3.3	0.72	0.55	0.63
10	0.81	1.0	1.9	2.8	2.4	3.0	4.6	2.6	2.5	0.76	0.55	0.63
11	0.81	1.0	1.7	4.3	2.7	2.7	4.5	2.3	1.9	0.81	0.52	0.59
12	0.81	1.2	1.7	4.9	2.6	2.6	4.3	2.1	1.6	0.73	0.47	0.55
13	0.81	1.2	1.5	4.2	2.6	2.6	4.1	2.5	1.5	0.72	0.43	0.55
14	0.81	1.3	1.5	3.7	2.4	2.8	4.0	3.2	11	0.72	0.43	0.55
15	1.00	1.4	1.6	3.2	2.4	2.6	3.8	2.6	14	0.72	0.43	0.55
16	0.85	1.3	1.4	2.9	2.3	2.6	3.8	2.2	14	0.67	0.46	0.55
17	0.74	1.2	1.3	2.7	2.2	2.4	3.8	2.0	11	0.59	0.43	0.55
18	0.68	1.4	2.1	2.6	2.1	6.0	3.6	8.5	7.1	0.55	0.41	0.52
19	0.64	1.4	1.9	2.5	2.1	6.9	3.5	13	5.9	0.55	0.42	0.49
20	0.61	1.4	1.7	2.5	2.1	9.7	4.3	11	17	0.55	0.42	0.49
21	0.61	1.4	1.5	2.4	2.1	15	3.9	9.1	17	0.55	0.41	0.52
22	0.54	1.3	1.4	2.3	2.0	13	3.7	6.6	13	0.54	0.41	0.50
23	0.57	1.3	1.3	2.6	1.8	12	3.6	4.7	8.8	0.47	0.41	0.48
24	0.56	1.3	2.7	5.0	1.8	10	3.2	3.5	5.1	0.47	0.69	0.48
25	e0.60	1.6	2.3	6.3	1.7	8.2	3.2	2.6	3.6	0.48	0.53	0.47
26	e0.60	2.2	1.9	5.4	1.7	6.8	3.9	2.3	2.5	0.49	0.47	0.56
27	e0.70	1.7	1.8	4.7	1.7	10	3.4	2.0	2.0	0.55	0.44	0.74
28	e0.80	1.5	1.7	4.1	1.7	10	9.1	1.8	2.1	0.55	0.42	0.81
29	e0.90	1.3	1.6	3.6	---	8.9	12	1.6	1.8	0.52	1.3	0.68
30	e0.90	1.3	1.6	3.2	---	7.8	11	1.4	1.4	0.47	0.86	0.63
31	e0.90	---	1.4	3.4	---	7.0	---	1.3	---	0.47	0.73	---
TOTAL	23.27	36.34	49.7	98.4	67.1	191.1	154.3	154.6	166.2	21.69	17.35	21.94
MEAN	0.751	1.211	1.603	3.174	2.396	6.165	5.143	4.987	5.540	0.700	0.560	0.731
MAX	1.0	2.2	2.7	6.3	3.7	15	12	13	17	1.3	1.3	2.3
MIN	0.54	0.71	1.1	1.2	1.7	1.7	3.2	1.3	1.0	0.47	0.41	0.47
CFSM	0.08	0.12	0.16	0.32	0.25	0.63	0.53	0.51	0.57	0.07	0.06	0.07
IN.	0.09	0.14	0.19	0.37	0.26	0.73	0.59	0.59	0.63	0.08	0.07	0.08

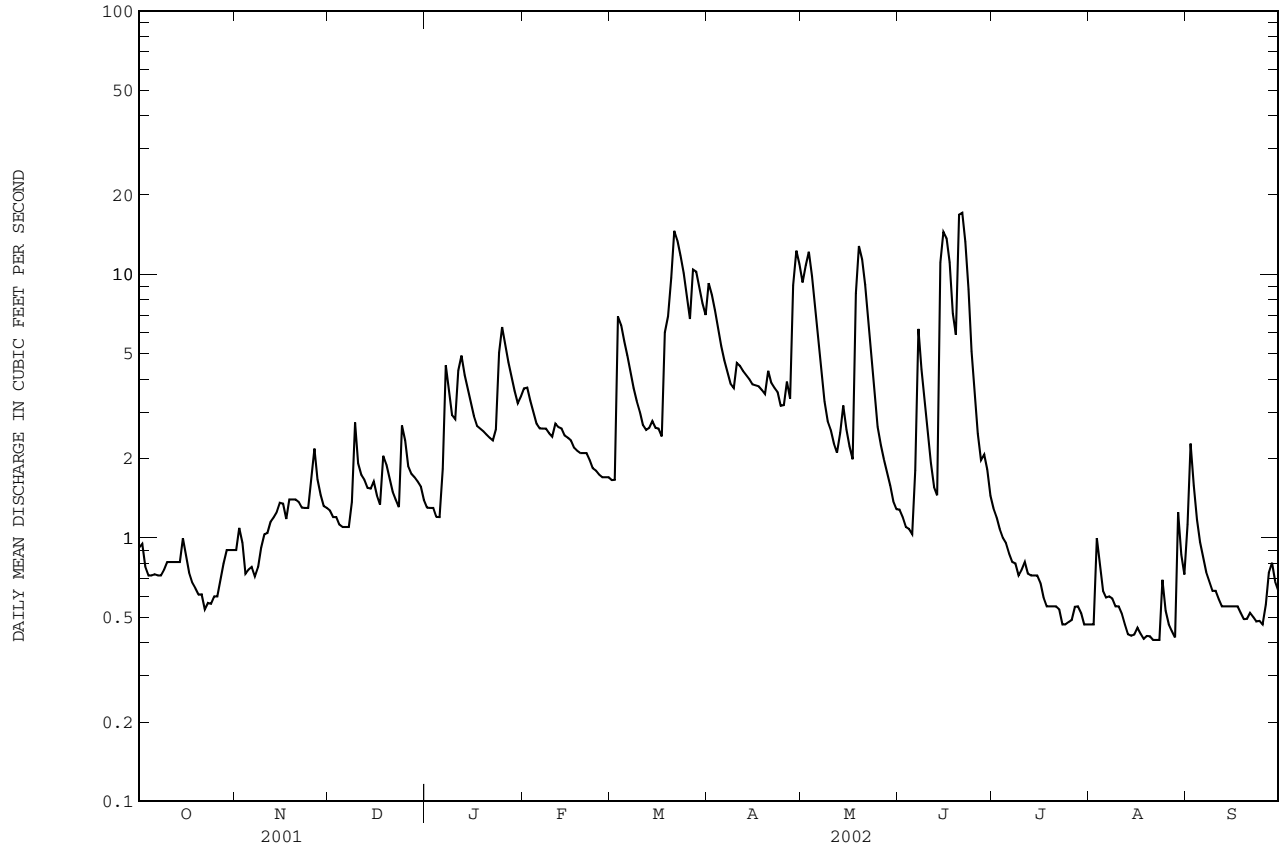
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	5.196	6.893	11.15	13.68	13.67	19.40	16.10	11.29	6.442	4.235	4.481	4.133			
MAX	19.7	15.0	35.5	26.5	22.4	38.7	26.2	29.3	15.4	19.0	15.2	20.4			
(WY)	1990	1990	1997	1991	1997	1994	1996	1989	1989	1989	1989	1989			
MIN	0.95	1.22	1.61	3.18	2.41	6.16	5.15	4.45	1.38	0.70	0.56	0.56			
(WY)	2002	2002	2002	2002	2002	2002	2002	1999	1999	2002	2002	2001			

01411456 LITTLE EASE RUN NEAR CLAYTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1988 - 2002	
ANNUAL TOTAL	2487.18		1001.99		9.816	
ANNUAL MEAN	6.814		2.745		14.3 1997	
HIGHEST ANNUAL MEAN					2.77 2002	
LOWEST ANNUAL MEAN					111 Sep 20 1989	
HIGHEST DAILY MEAN	40	Mar 31	17	Jun 20	0.41	Aug 16 1988
LOWEST DAILY MEAN	0.41	Sep 19	0.41	many days	0.42	Aug 17 2002
ANNUAL SEVEN-DAY MINIMUM	0.45	Sep 13	0.42	Aug 17	124	Sep 20 1989
MAXIMUM PEAK FLOW			18	Jun 20	4.40	Mar 22 2000
MAXIMUM PEAK STAGE			2.50	Jun 20	0.35	Aug 15 1988
INSTANTANEOUS LOW FLOW			0.41	many days	1.00	
ANNUAL RUNOFF (CFSM)	0.70		0.28		13.65	
ANNUAL RUNOFF (INCHES)	9.47		3.82		22	
10 PERCENT EXCEEDS	18		6.9		6.3	
50 PERCENT EXCEEDS	2.3		1.6		1.2	
90 PERCENT EXCEEDS	0.63		0.55			

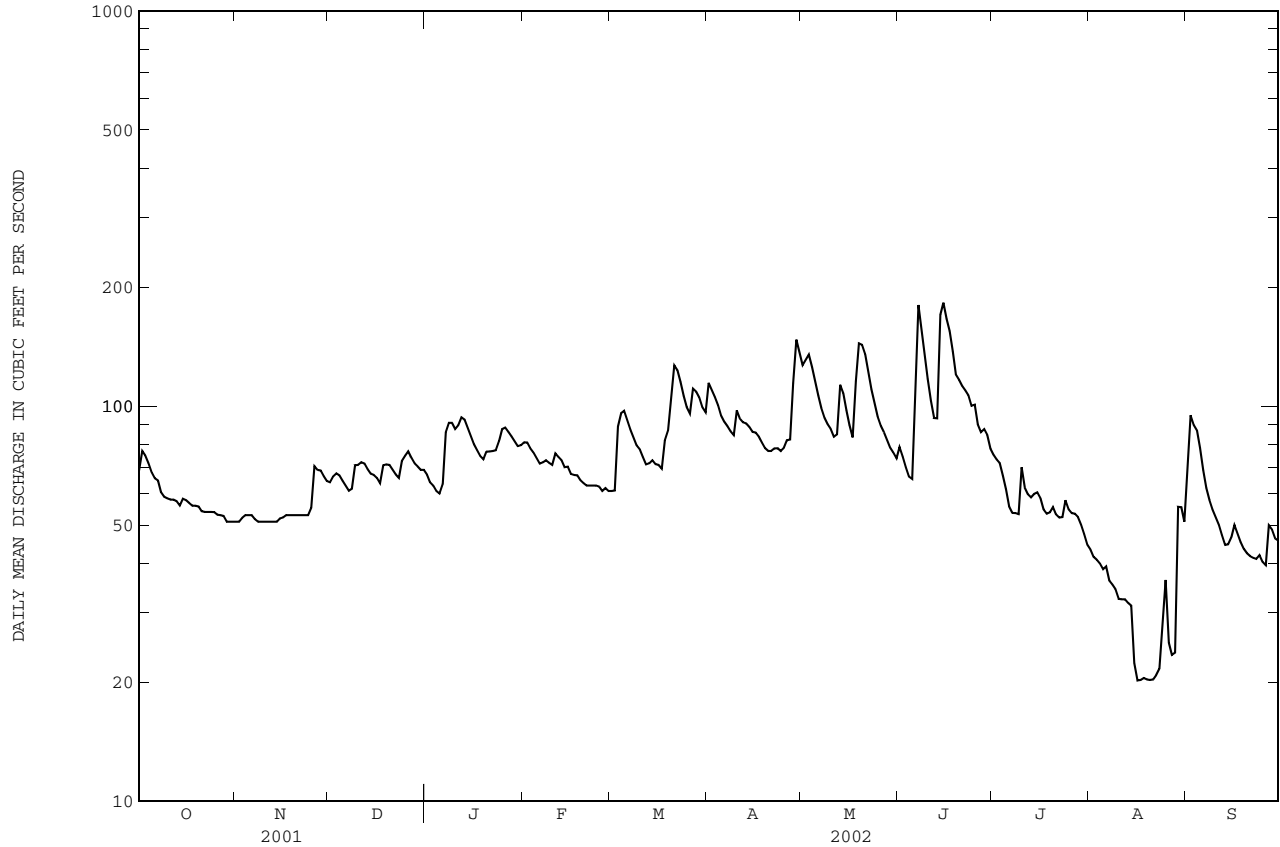
e Estimated



01411500 MAURICE RIVER AT NORMA, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1933 - 2002	
ANNUAL TOTAL	44217		26526			
ANNUAL MEAN	121.1		72.67		161.8	
HIGHEST ANNUAL MEAN					253 1973	
LOWEST ANNUAL MEAN					67.4 1966	
HIGHEST DAILY MEAN	373	Apr 1	183	Jun 15	5260	Sep 2 1940
LOWEST DAILY MEAN	48	Sep 18	20	Aug 16	20	Aug 16 2002
ANNUAL SEVEN-DAY MINIMUM	50	Sep 14	20	Aug 16	20	Aug 16 2002
MAXIMUM PEAK FLOW			191	Jun 14	7360a	Sep 2 1940
MAXIMUM PEAK STAGE			2.94	Jun 14	8.72	Sep 2 1940
INSTANTANEOUS LOW FLOW			20	Aug 15	20	Aug 15 2002
ANNUAL RUNOFF (CFSM)	1.08		0.65		1.44	
ANNUAL RUNOFF (INCHES)	14.69		8.81		19.63	
10 PERCENT EXCEEDS	222		107		279	
50 PERCENT EXCEEDS	100		70		141	
90 PERCENT EXCEEDS	53		45		67	

a From rating curve extended above 3,000 ft³/s by logarithmic plotting, peak was highest since 1867.



MAURICE RIVER BASIN

01412150 MAURICE RIVER AT BIVALVE, NJ

LOCATION.--Lat 39°13'54", long 75°02'01", Cumberland County, Hydrologic Unit 02040406, on pier at Long Reach Marina in Bivalve, 1.1 mi south of Port Norris, and 1.4 mi northeast of Delaware Bay.

PERIOD OF RECORD.--October 1964 to September 1985 (annual maximum elevation only), May 1997 to February 2000 (unpublished fragmentary gage-height record), March 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is at 0.00 ft North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.20 ft. To determine elevations to Mean Lower Low Water Datum, based on data from National Ocean Service station 8536889, add 3.54 ft. From October 1964 to September 1985, crest-stage gage at NGVD of 1929 located 0.3 mi downstream of current station.

REMARKS.--Gage cannot record a tide level of less than -4.84 ft (NAVD of 1988). No gage height record for portions of Jan. 1 thru Jan. 7, 2002. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 6.91 ft (adjusted to NAVD of 1988), Oct. 25, 1980, from tidal crest-stage gage; minimum recorded, -5.2 ft (NAVD of 1988), estimated, Dec. 13, 2000.

REVISED EXTREMES FOR 2000 WATER YEAR.--Maximum elevation recorded, 4.54 ft (NAVD of 1988), Sept. 26; minimum recorded, -4.9 ft (NAVD of 1988), estimated, Apr. 9.

REVISED EXTREMES FOR 2001 WATER YEAR.--Maximum elevation recorded, 4.66 ft (NAVD of 1988), Mar. 8; minimum recorded, -5.2 ft (NAVD of 1988), estimated, Dec. 13.

EXTREMES FOR 2002 WATER YEAR.--Maximum elevation recorded, 4.48 ft (NAVD of 1988), Oct. 14; minimum recorded, -5.1 ft (NAVD of 1988), estimated, Feb. 11 and Mar. 11.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation since 1878, 7.3 ft (adjusted to NAVD of 1988), Nov.25, 1950, from high-water mark reported by the U.S. Army Corps of Engineers.

REVISIONS.--Minimum tide elevations have been revised as shown in the following tables. These values supersede the monthly and annual minimum tide elevations published in the annual water data reports for 2000 and 2001.

Summaries of tide elevations during water years 2000 to 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	3.60	4.05	3.66	4.22	4.50	4.21	4.54
high tide	Date	---	---	---	---	---	20	19	19	2	31	29	26
Minimum	Elevation	---	---	---	---	---	-4.41	-4.9e r	-4.16	-3.83	-3.76	-3.59	-3.70
low tide	Date	---	---	---	---	---	17	9	5	3	4	28	18
Mean high tide		---	---	---	---	---	---	2.59	2.84	2.75	3.00	2.94	2.89
Mean water level		---	---	---	---	---	---	-.17	.08	-.01	.18	.17	.17
Mean low tide		---	---	---	---	---	---	-3.04	-2.88	-2.99	-2.84	-2.80	-2.75

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.84	4.25	4.06	4.02	3.60	4.66	3.83	4.05	4.30	4.56	4.15	4.44
high tide	Date	17	12	12	9	9	8	7	23	22	19	19	15
Minimum	Elevation	-4.48	-5.0e r	-5.2e r	-3.84	-5.1e r	-4.66	-4.28	-3.86	-3.69	-3.72	-3.81	-3.42
low tide	Date	11	23	12	22	10	12	23	4	17	25	18	17
Mean high tide		2.59	2.58	---	---	2.15	2.57	2.65	2.76	2.79	2.84	2.78	2.94
Mean water level		-.02	-.03	---	---	-.58 r	-.13 r	-.14	.06	.03	.10 r	.06 r	.30 r
Mean low tide		-2.83	-2.82	---	---	-3.39 r	-3.03	-3.13	-2.80	-2.96	-2.84	-2.85	-2.53

01412150 MAURICE RIVER AT BIVALVE, NJ - continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	4.48	3.74	3.99	4.26	4.17	3.84	4.19	3.90	4.10	3.82	3.95	3.87
high tide	Date	14	17	13	31	1	29	28	25	14	11	6	6
Minimum	Elevation	-4.9e	-4.16	-4.78	-5.0e	-5.1e	-5.1e	-4.41	-3.98	-4.03	-4.01	-3.67	-3.76
low tide	Date	18	14	31	14	11	11	27	15	22	24	11	7
Mean high tide		2.60	2.47	2.38	---	2.39	2.11	2.41	2.45	2.65	2.65	2.72	2.91
Mean water level		-.07	-.16	-.24	---	-.25	-.57	-.32	-.24	-.03	-.05	.05	.20
Mean low tide		-2.87	-3.04	-3.06	---	-3.09	-3.48	-3.27	-3.13	-3.00	-2.90	-2.82	-2.60

e - estimated

r - revised

COHANSEY RIVER BASIN

01413038 COHANSEY RIVER AT GREENWICH, NJ

LOCATION.--Lat 39°22'44", long 75°21'21", Cumberland County, Hydrologic Unit 02040206, on private pier at Hancock Harbor Marina, 600 ft downstream of Pine Mount Creek, 0.5 mi downstream of Greenwich Pier, 1.2 mi southwest of Greenwich, 4.4 mi upstream of mouth and Delaware Bay, and 7.4 mi southwest of Bridgeton.

PERIOD OF RECORD.--Tidal crest-stage gage 1979-2001, located 0.5 mi upstream at Greenwich Pier. October 28, 1996 to April 27, 2000 (unpublished fragmentary gage-height record), April 28, 2000 to present year.

GAGE.--Water-stage recorder. Datum of gage is North American Vertical Datum of 1988 (NAVD of 1988). To determine approximate elevations to National Geodetic Vertical Datum of 1929 (NGVD of 1929), add 1.34 ft. To determine elevations to Mean Lower Low Water Datum, add 3.47 ft, based on data from National Ocean Service station 8537374.

REMARKS.--No gage height record for portions of May. 13, 18-19, 21, 23-25, June 1-15, July 24-Aug 1, 18, Sep. 26-27, Dec. 17, 21, 23-31, 2000, Jan. 1-17, 20-21, Feb. 3-6, 18, 26, Apr. 17, May 21-22, Jun. 4, 12, Aug. 2, Dec. 8-9, 2001, Jan. 2, 17-23, Feb 19, Mar, 3, May 18, 23, Aug. 1, Sep. 26-27, 2002 and short portions of numerous other days. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 5.99 ft (adjusted to NAVD of 1988), Oct. 25, 1980; minimum elevation recorded, -5.3 ft (NAVD of 1988), estimated, Feb. 11, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 7.5 ft (adjusted to NAVD of 1988), Nov. 25, 1950, from high-water mark reported by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD APRIL TO SEPTEMBER 2000.--Maximum elevation recorded, 3.94 ft (NAVD of 1988), Sep. 26; minimum elevation recorded, -3.89 ft (NAVD of 1988), May 5.

EXTREMES FOR WATER YEAR 2001.--Maximum elevation recorded, 4.11 ft (NAVD of 1988), Mar. 8 and July 19; minimum elevation recorded, -5.3 ft (NAVD of 1988), estimated, Feb 11.

EXTREMES FOR WATER YEAR 2002.--Maximum elevation recorded, 4.14 ft (NAVD of 1988), Oct. 14; minimum elevation recorded, -5.05 ft (NAVD of 1988), Feb. 28.

Summaries of tide elevations during water years 2000 through 2002 are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	---	---	---	---	---	---	---	3.59	3.76	3.83	3.87	3.94
high tide	Date	--	--	--	--	--	--	--	20	29	3	13	26
Minimum	Elevation	---	----	----	---	---	---	---	-3.89	-3.59	-3.48	-3.34	-3.71
low tide	Date	--	--	--	--	--	--	--	5	27	3	4	18
Mean high tide		---	---	---	---	---	---	---	2.77	---	2.80	2.82	2.78
Mean water level		---	---	---	---	---	---	---	.22	---	.26	.29	.04
Mean low tide		---	---	---	---	---	---	---	-2.78	---	-2.77	-2.70	-2.63

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.62	3.81	3.24	3.28	3.13	4.11	3.47	3.63	3.90	4.11	3.69	3.96
high tide	Date	17	26	17	13	9	8	7	23	23	19	20	15
Minimum	Elevation	-4.43	-4.96	-5.1e	-3.89	-5.3e	-4.40	-4.04	-3.62	-3.81	-3.65	-3.51	-3.12
low tide	Date	11	23	12	22	11	12	23	4	17	25	18	14
Mean high tide		2.53	2.37	1.90	---	2.05	2.38	2.54	2.66	2.69	2.70	2.67	2.73
Mean water level		.07	-.01	---	---	-.47	-.08	-.00	.18	.16	.21	.20	.41
Mean low tide		-2.77	-2.75	---	---	-3.32	-2.93	-3.01	-2.71	-2.86	-2.75	-2.70	-2.39

01413038 COHANSEY RIVER AT GREENWICH, NJ--Continued

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

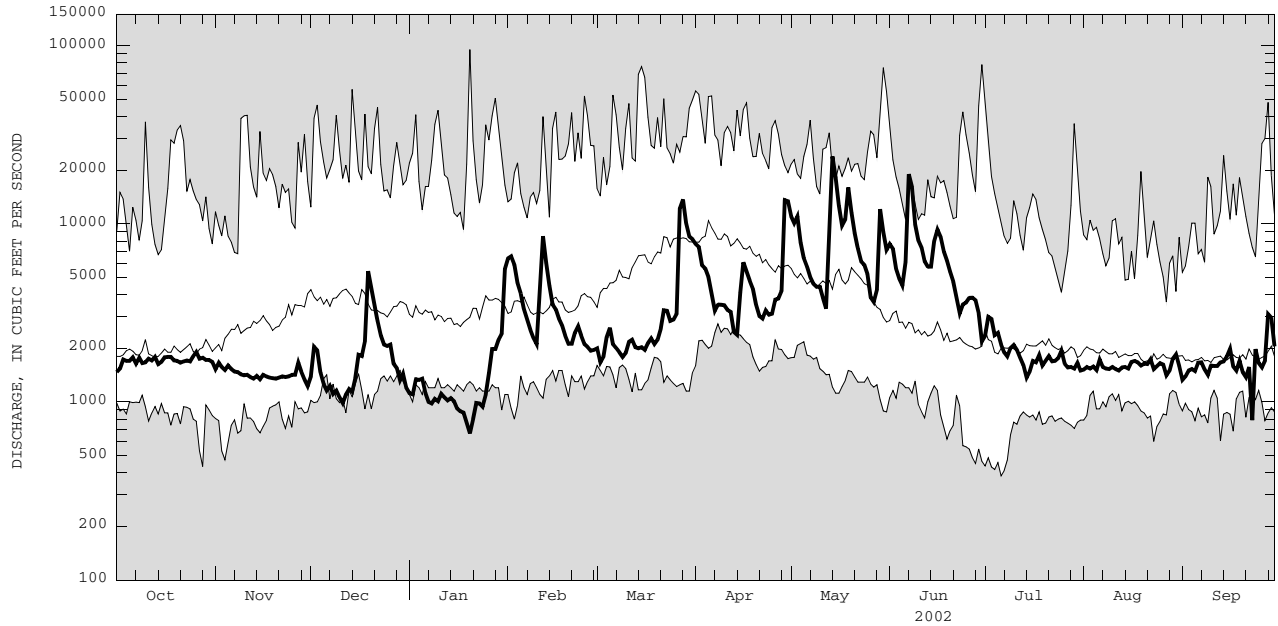
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	4.14	3.43	3.53	3.76	3.63	3.42	3.57	3.68	3.96	3.61	3.60	3.57
high tide	Date	14	17	13	31	1	29	29	25	14	25	7, 10	6
Minimum	Elevation	-4.79	-4.08	-4.69	-4.76	-5.05	-5.03	-4.40	-4.31	-3.84	-3.77	-3.38	-3.31
low tide	Date	18	9	31	14	28	11	3	15	22	24	13	11
Mean high tide		2.52	2.36	2.20	2.06	2.21	2.04	2.31	2.38	2.68	2.65	2.70	2.76
Mean water level		.04	-.09	-.26	---	-.28	-.52	-.24	-.12	.17	.13	.25	.36
Mean low tide		-2.79	-2.90	-3.00	-3.47	-3.08	-3.37	-3.18	-3.09	-2.71	-2.88	-2.61	-2.37

e Estimated

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1964 - 2002	
ANNUAL TOTAL	1225225		1162320			
ANNUAL MEAN	3357		3184		4698	
HIGHEST ANNUAL MEAN					7216	1973
LOWEST ANNUAL MEAN					2028	1965
HIGHEST DAILY MEAN	32600	Apr 10	23900	May 14	95200	Jan 20 1996
LOWEST DAILY MEAN	985	Dec 11	666	Jan 20	385	Jul 6 1965
ANNUAL SEVEN-DAY MINIMUM	1100	Dec 8	842	Jan 16	432	Jul 1 1965
10 PERCENT EXCEEDS	5880		7190		10200	
50 PERCENT EXCEEDS	1920		1830		2800	
90 PERCENT EXCEEDS	1410		1330		1500	

e Estimated

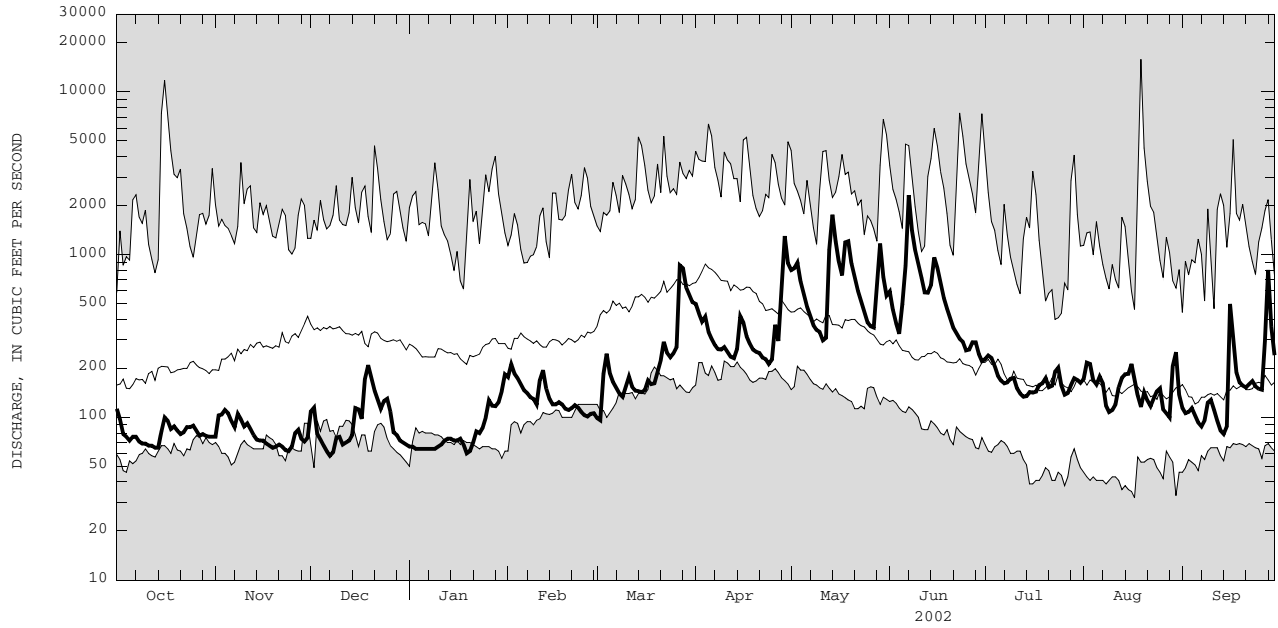


CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
 SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

01437500 NEVERSINK RIVER AT GODEFFROY, NY--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1954 - 2002	
ANNUAL TOTAL	116761		88670			
ANNUAL MEAN	320		243		416	
HIGHEST ANNUAL MEAN					704	
LOWEST ANNUAL MEAN					215	
HIGHEST DAILY MEAN	4280	Apr 10	2320	Jun 7	15900	Aug 19 1955
LOWEST DAILY MEAN	58	Dec 7	58	Dec 7	32	Aug 17 1965
ANNUAL SEVEN-DAY MINIMUM	65	Nov 19	64	Jan 3	38	Aug 11 1965
10 PERCENT EXCEEDS	705		585		868	
50 PERCENT EXCEEDS	179		146		270	
90 PERCENT EXCEEDS	76		70		105	

e Estimated

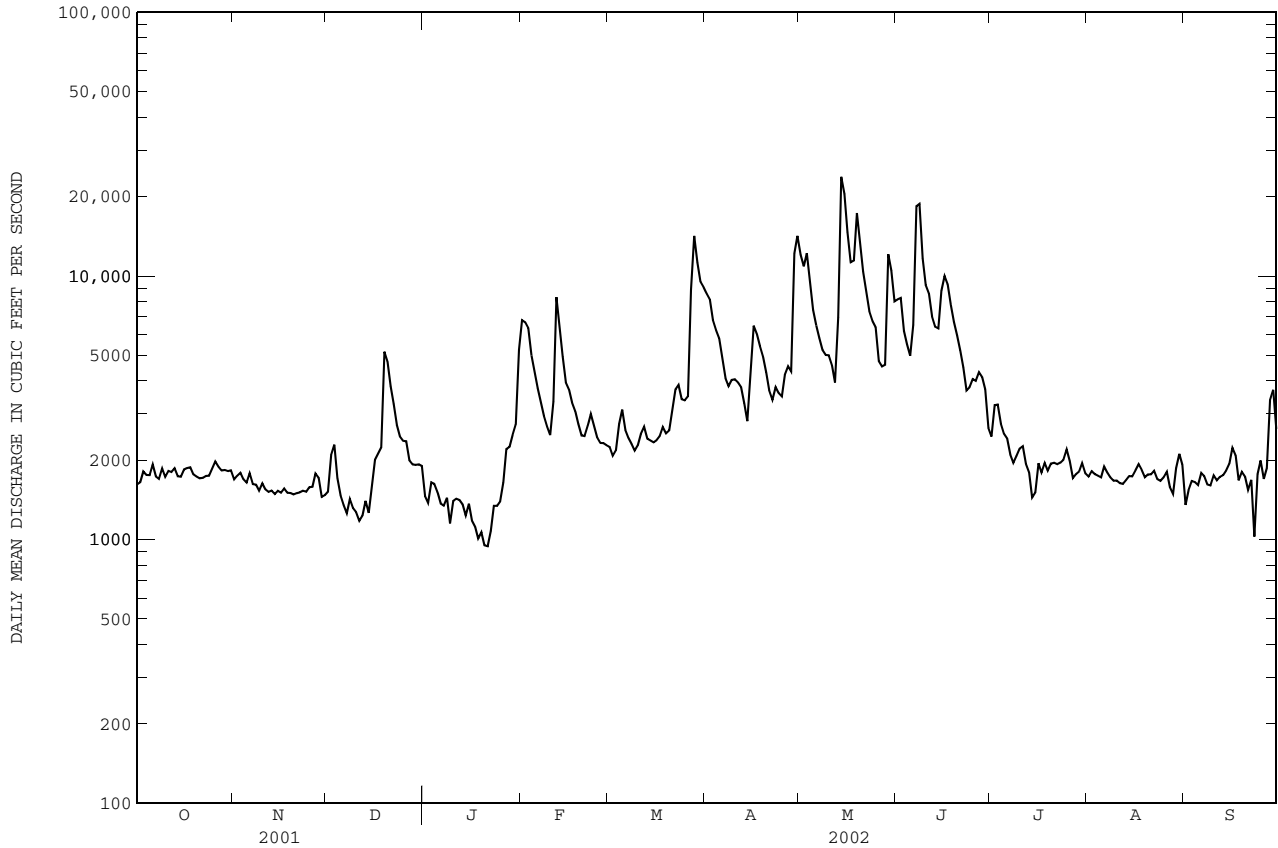


CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
 SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	1379530		1288474			
ANNUAL MEAN	3780		3530		5646	
HIGHEST ANNUAL MEAN					8621 1952	
LOWEST ANNUAL MEAN					2309 1965	
HIGHEST DAILY MEAN	35800	Apr 11	23800	May 14	187000	Aug 19 1955
LOWEST DAILY MEAN	1180	Dec 11	943	Jan 21	412	Aug 23 1954
ANNUAL SEVEN-DAY MINIMUM	1290	Dec 6	1050	Jan 16	565	Jul 1 1965
MAXIMUM PEAK FLOW			26300	May 14	250000a	Aug 19 1955
MAXIMUM PEAK STAGE			11.91	May 14	35.15	Aug 19 1955
INSTANTANEOUS LOW FLOW			776	Jan 21	382	Aug 24 1954
10 PERCENT EXCEEDS	6630		7870		12000	
50 PERCENT EXCEEDS	2200		2080		3400	
90 PERCENT EXCEEDS	1590		1470		1600	

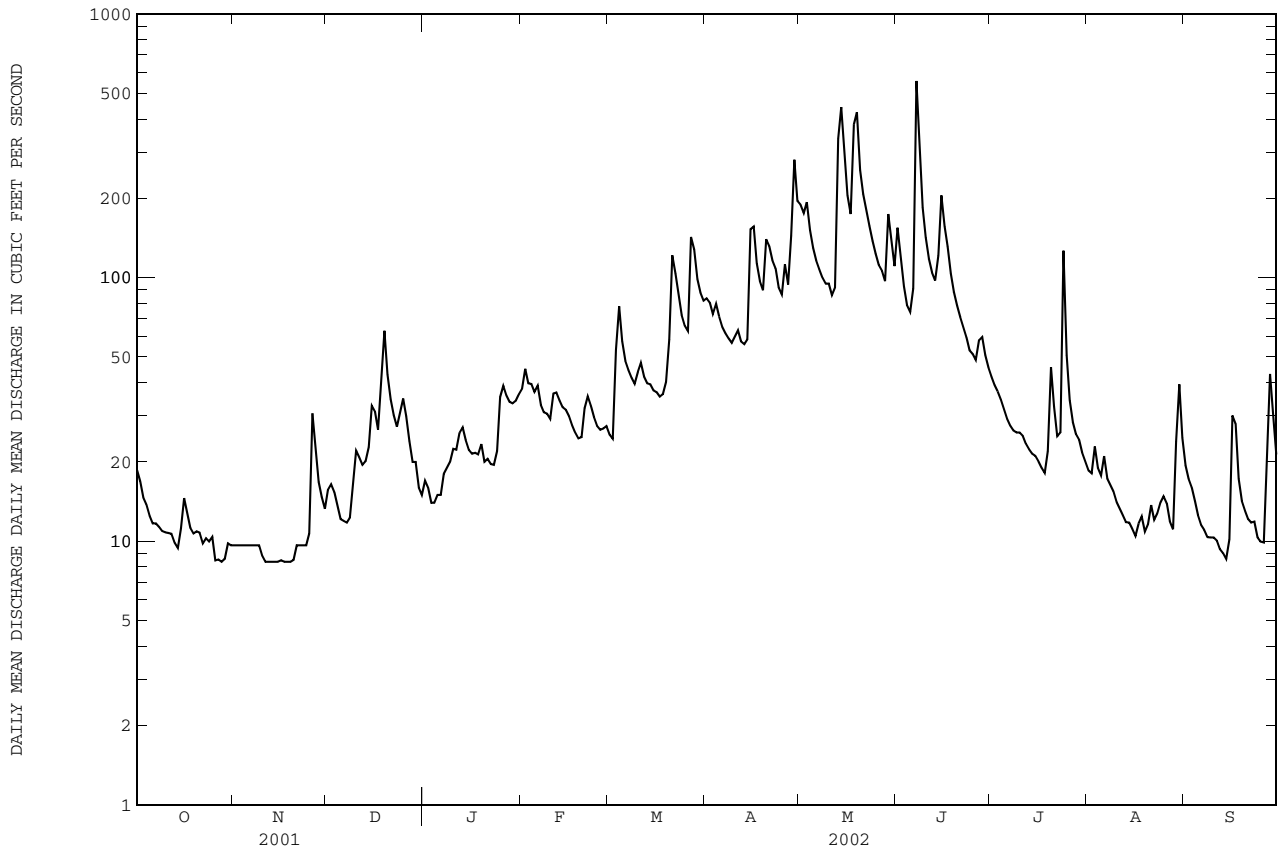
a From rating curve extended above 90,000 ft³/s on basis of flood-routing study.



01440000 FLAT BROOK NEAR FLATBROOKVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1924 - 2002	
ANNUAL TOTAL	27850.1		19104.5		109.8	
ANNUAL MEAN	76.30		52.34		210	
HIGHEST ANNUAL MEAN					43.4 1928	
LOWEST ANNUAL MEAN					6310 Aug 19 1955	
HIGHEST DAILY MEAN	690	Mar 31	558	Jun 7	4.1 Sep 11 1966	
LOWEST DAILY MEAN	8.4	Oct 28	8.4	Oct 28	5.3 Sep 6 1995	
ANNUAL SEVEN-DAY MINIMUM	8.4	Nov 11	8.4	Nov 11	9560a Aug 19 1955	
MAXIMUM PEAK FLOW			724	Jun 7	12.58b Aug 19 1955	
MAXIMUM PEAK STAGE			3.84	Jun 7	3.6 Sep 25 1964	
INSTANTANEOUS LOW FLOW			7.7	Sep 14,15		
ANNUAL RUNOFF (CFSM)	1.19		0.82		1.71	
ANNUAL RUNOFF (INCHES)	16.19		11.10		23.30	
10 PERCENT EXCEEDS	190		127		235	
50 PERCENT EXCEEDS	44		26		70	
90 PERCENT EXCEEDS	9.8		9.9		16	

- a From rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow.
- b From high-water mark in gage house.
- e Estimated



DELAWARE RIVER BASIN

01443280 EAST BRANCH PAULINS KILL NEAR LAFAYETTE, NJ

LOCATION.--Lat 41°04'34", long 74°41'45", Sussex County, Hydrologic Unit 02020007, on right downstream wingwall of bridge on Garrison Road, 0.8 mi upstream from mouth, and 1.6 mi south of Lafayette.

DRAINAGE AREA.--13.0 mi².

PERIOD OF RECORD.--August 1992 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 555.40 ft above NGVD of 1929 (levels from American Geodetic Survey Co. benchmark).

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Possible regulation from ponds and golf courses upstream. A significant portion of the base flow is the result of pumpage from a limestone quarry into a tributary approximately 1.5 mi upstream from gage.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
------	------	--------------------------------	------------------	------	------	--------------------------------	------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	6.7	8.1	e6.8	10	5.6	12	19	15	9.6	6.4	6.4
2	6.0	6.7	4.6	e6.4	8.4	6.1	16	21	11	9.3	6.5	6.0
3	6.0	6.9	3.9	e5.8	6.3	9.3	13	21	9.7	8.2	8.2	5.5
4	5.8	7.4	5.3	e5.7	5.6	8.6	13	19	9.8	7.6	7.0	5.5
5	6.2	6.9	4.5	e5.9	5.5	7.5	12	15	9.6	7.9	6.8	5.3
6	6.3	6.8	4.8	5.8	5.4	7.4	12	13	13	8.1	6.5	5.0
7	5.7	7.1	5.4	6.3	5.3	7.2	12	12	54	8.2	6.5	5.2
8	6.3	6.7	5.3	6.4	6.5	7.2	13	11	35	10	6.2	5.5
9	8.3	6.3	8.5	6.3	7.9	7.3	13	11	19	8.5	5.4	5.2
10	7.1	11	7.9	6.4	6.2	7.8	13	10	15	7.9	4.2	5.1
11	7.1	7.8	6.6	6.8	6.6	7.5	13	9.0	12	7.5	5.6	4.9
12	7.1	5.5	5.6	7.3	6.1	7.0	12	9.6	12	7.4	5.8	5.4
13	7.2	4.2	5.9	7.2	6.1	7.2	13	16	11	6.7	5.2	6.0
14	7.5	5.3	6.4	6.7	5.6	7.5	13	46	15	8.6	4.6	6.2
15	8.5	5.7	6.9	7.0	5.2	7.0	22	28	21	8.8	4.2	8.0
16	8.0	4.5	6.8	7.1	5.0	6.4	19	19	17	9.0	3.9	12
17	12	6.3	6.4	7.7	5.6	6.3	16	16	14	8.3	4.1	8.3
18	8.5	3.7	9.4	7.1	5.6	7.1	14	37	13	8.1	5.3	5.5
19	5.1	4.9	10	6.5	5.9	10	14	47	11	9.5	5.0	4.9
20	6.0	5.3	6.8	6.3	5.7	17	17	27	11	15	5.4	5.4
21	7.0	4.5	5.4	6.2	6.1	22	16	21	10	9.0	5.5	6.1
22	7.5	4.8	6.5	6.8	6.6	14	15	18	9.7	7.3	4.9	5.9
23	7.4	5.1	9.4	6.9	6.1	13	15	16	9.5	8.1	5.1	5.5
24	13	5.3	9.9	7.7	6.0	13	14	14	9.2	9.3	6.4	5.1
25	9.8	5.7	8.3	8.5	5.9	12	14	15	8.7	7.4	9.1	4.4
26	8.8	7.8	7.9	8.1	8.5	12	15	17	9.3	6.8	5.8	4.7
27	5.5	6.0	7.4	11	7.5	14	14	16	12	6.7	4.6	9.8
28	4.6	5.3	6.9	8.9	6.0	13	21	14	13	6.7	4.7	8.4
29	6.9	5.2	6.8	7.3	---	12	29	14	11	5.9	12	5.4
30	7.6	6.4	e6.2	7.8	---	13	22	11	9.9	7.1	13	4.6
31	6.0	---	e6.1	13	---	12	---	10	---	6.5	8.5	---
TOTAL	224.8	181.8	209.9	223.7	177.2	307.0	457	572.6	430.4	255.0	192.4	181.2
MEAN	7.25	6.06	6.77	7.22	6.33	9.90	15.2	18.5	14.3	8.23	6.21	6.04
MAX	13	11	10	13	10	22	29	47	54	15	13	12
MIN	4.6	3.7	3.9	5.7	5.0	5.6	12	9.0	8.7	5.9	3.9	4.4
CFSM	0.56	0.47	0.52	0.56	0.49	0.76	1.17	1.42	1.10	0.63	0.48	0.46
IN.	0.64	0.52	0.60	0.64	0.51	0.88	1.31	1.64	1.23	0.73	0.55	0.52

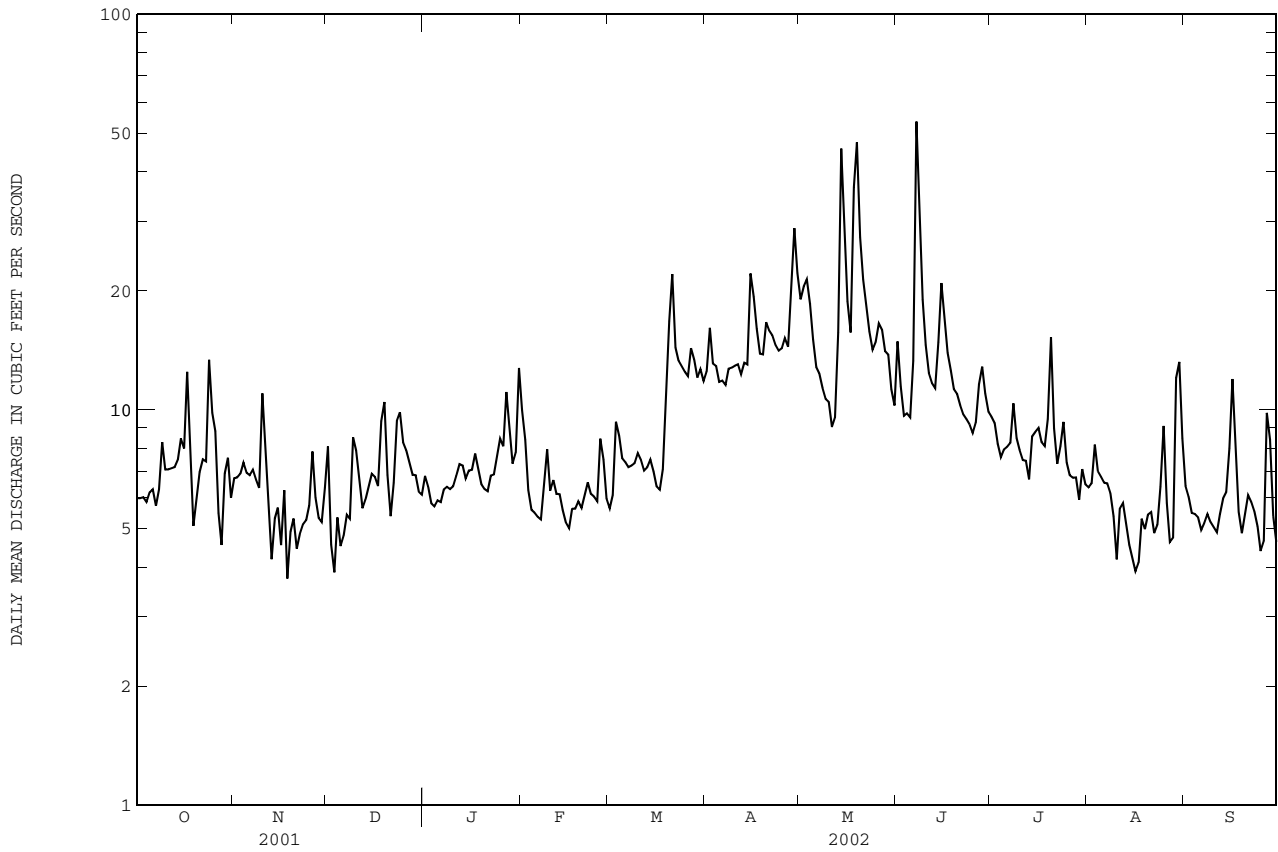
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2002, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
MEAN	14.8	16.6	22.3	23.1	22.4	35.6	35.2	24.5	17.2	11.8	12.2	11.6
MAX	33.2	34.3	63.4	41.1	32.5	58.5	64.3	48.8	36.4	19.3	37.7	23.9
(WY)	1997	1996	1997	1996	1996	1993	1993	1998	1998	1996	2000	1999
MIN	7.25	6.06	6.77	7.22	6.33	9.90	15.2	14.3	8.27	6.68	6.21	6.04
(WY)	2002	2002	2002	2002	2002	2002	2002	1995	1999	1999	2002	2002

01443280 EAST BRANCH PAULINS KILL NEAR LAFAYETTE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1992 - 2002	
ANNUAL TOTAL	5862.9		3413.0			
ANNUAL MEAN	16.1		9.35		20.6	
HIGHEST ANNUAL MEAN					27.2 1996	
LOWEST ANNUAL MEAN					9.35 2002	
HIGHEST DAILY MEAN	82	May 28	54	Jun 7	210	Aug 13 2000
LOWEST DAILY MEAN	3.7	Nov 18	3.7	Nov 18	3.7	Nov 18 2001
ANNUAL SEVEN-DAY MINIMUM	4.8	Nov 18	4.6	Aug 13	4.6	Aug 13 2002
MAXIMUM PEAK FLOW			63	Jun 7	275	Jan 20 1996
MAXIMUM PEAK STAGE			3.77	May 14	5.81a	Jan 20 1996
INSTANTANEOUS LOW FLOW			3.4	Sep 26	2.9	Sep 29 1998
ANNUAL RUNOFF (CFSM)	1.24		0.72		1.59	
ANNUAL RUNOFF (INCHES)	16.79		9.77		21.56	
10 PERCENT EXCEEDS	32		15		39	
50 PERCENT EXCEEDS	13		7.4		15	
90 PERCENT EXCEEDS	5.8		5.2		7.5	

a From crest-stage gage.
e Estimated



01443500 PAULINS KILL AT BLAIRSTOWN, NJ

LOCATION.--Lat 40°58'51", long 74°57'14", Warren County, Hydrologic Unit 02040105, on right bank 1,200 ft upstream from bridge on State Highway 94 in Blairstown, 1,400 ft upstream from Blairs Creek, and 10 mi upstream from mouth.

DRAINAGE AREA.--126 mi².

PERIOD OF RECORD.--October 1921 to September 1976, October 1977 to current year.

REVISED RECORDS.--WSP 971: 1942. WSP 1382: 1952-53(M).

GAGE.--Water-stage recorder. Concrete control at current location since Aug. 1941. Datum of gage is 335.86 ft above NGVD of 1929. Prior to May 23, 1922, a non-recording gage was located at former highway bridge 1,300 ft downstream of current location. From May 23, 1922 to Jun. 24, 1931, a water-stage recorder was located 1,300 ft downstream at former highway bridge. Water-stage recorder was located 100 ft downstream of current location from Aug. 8, 1931 to Jul. 28, 1939 (same datum). Water-stage recorder was relocated to current site on Jul. 28, 1939. A concrete control was 280 ft downstream of current location from Aug. 1931 until it was destroyed on Jun. 1941. Water-stage recorder was temporarily relocated to old site (100 ft downstream of current location) from Jun. 9-Aug. 4, 1941 during construction of current control.

REMARKS.--Records good, except for estimated daily discharges which are poor. Diurnal fluctuations caused by unknown source and flow regulated slightly by Swartwood Lake and other lakes and ponds. Pumpage from limestone quarry enters tributary upstream from gage for decades. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	30	30	29	65	36	75	308	183	71	e30	32
2	29	30	33	26	73	34	74	323	154	67	28	27
3	27	33	29	24	66	52	74	378	125	64	41	24
4	28	32	26	23	60	71	81	301	108	58	35	23
5	25	31	25	24	53	64	73	254	94	53	30	21
6	25	30	24	24	48	57	66	212	139	47	28	19
7	27	27	25	31	48	53	64	186	560	46	23	18
8	24	27	27	30	44	51	58	172	439	44	23	17
9	22	26	43	31	42	48	56	159	314	44	22	16
10	21	28	46	32	46	49	65	149	247	43	20	16
11	24	28	44	33	59	54	64	136	199	38	18	14
12	25	32	39	36	61	48	60	138	171	35	17	12
13	25	27	36	39	55	47	61	253	161	34	18	11
14	23	25	37	39	46	45	65	446	170	35	18	14
15	26	24	45	38	44	43	228	372	e230	34	17	18
16	26	28	43	37	43	41	264	273	e220	32	16	37
17	25	26	40	38	41	42	191	230	203	30	15	34
18	21	21	52	38	41	46	147	469	173	30	15	27
19	30	20	64	35	39	50	127	568	154	31	16	22
20	22	19	58	36	38	71	218	417	135	59	19	19
21	18	23	46	38	41	121	190	339	119	46	22	18
22	18	21	38	38	41	119	157	287	108	39	18	18
23	22	20	35	36	41	90	138	245	99	41	21	17
24	35	20	47	40	39	83	119	215	91	75	24	16
25	37	24	54	52	36	79	116	195	87	53	25	15
26	36	43	45	57	38	72	134	178	87	42	25	16
27	31	38	38	53	37	95	124	167	95	38	22	38
28	30	32	33	54	39	104	229	159	100	38	19	69
29	26	29	33	54	---	92	484	187	87	37	31	52
30	26	28	27	52	---	82	360	166	77	34	46	40
31	32	---	26	55	---	77	---	144	---	31	41	---
TOTAL	816	822	1188	1172	1324	2016	4162	8026	5129	1369	743	720
MEAN	26.3	27.4	38.3	37.8	47.3	65.0	139	259	171	44.2	24.0	24.0
MAX	37	43	64	57	73	121	484	568	560	75	46	69
MIN	18	19	24	23	36	34	56	136	77	30	15	11
CFSM	0.21	0.22	0.30	0.30	0.38	0.52	1.10	2.05	1.36	0.35	0.19	0.19
IN.	0.24	0.24	0.35	0.35	0.39	0.60	1.23	2.37	1.51	0.40	0.22	0.21

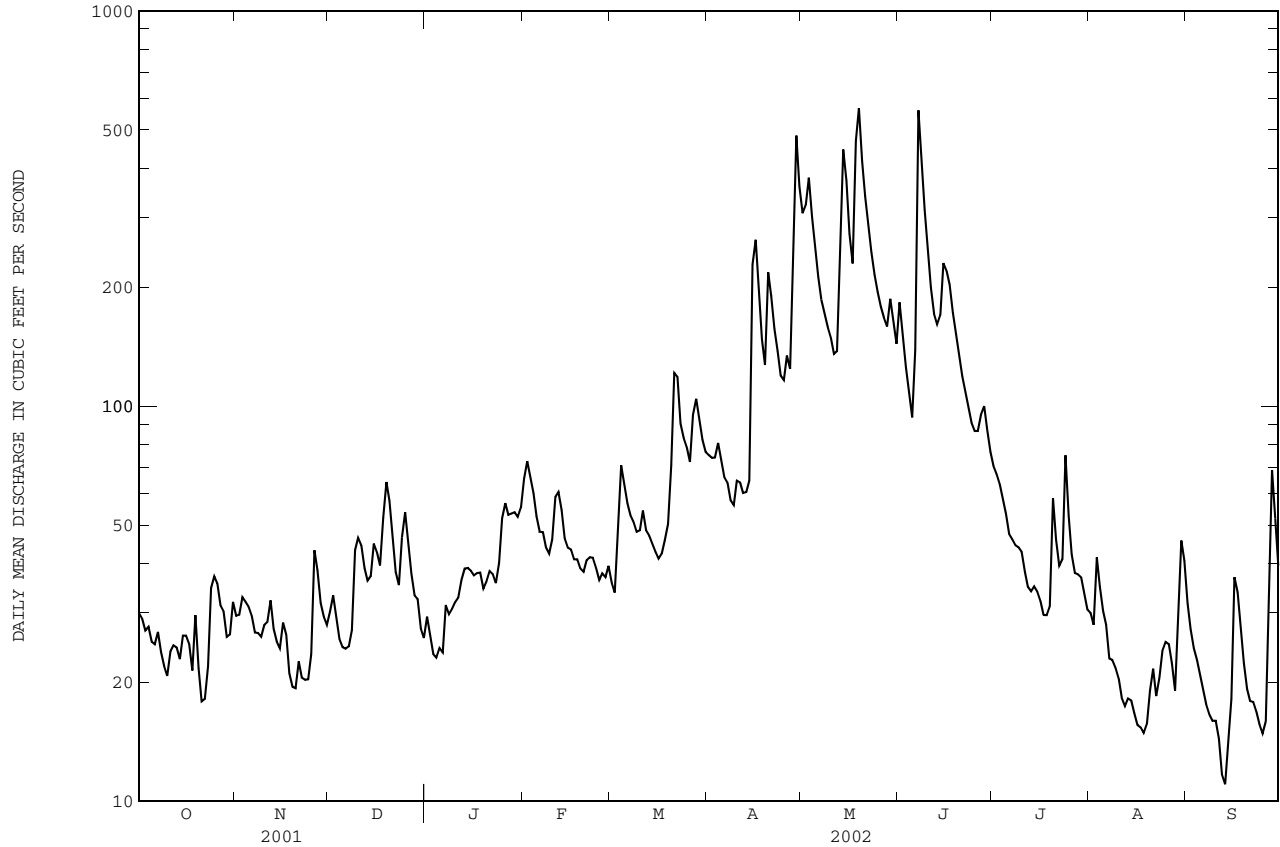
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	107	163	212	220	246	369	335	224	153	103	104	634	479	862	712	516	963	930	650	690	527	663	626	1956	1933	1997	1979	1951	1936	1983	1989	1972	1945	1955	1933	20.5	22.1	35.5	37.8	47.3	65.0	106	54.6	41.0	19.4	19.6	18.2	1964	1965	1999	2002	2002	2002	1985	1941	1965	1955	1932	1964																						

01443500 PAULINS KILL AT BLAIRSTOWN, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	52900		27487			
ANNUAL MEAN	145		75.3		195	
HIGHEST ANNUAL MEAN					362	1952
LOWEST ANNUAL MEAN					67.4	1965
HIGHEST DAILY MEAN	1030	Mar 31	568	May 19	5950	Aug 19 1955
LOWEST DAILY MEAN	16	Sep 8	11	Sep 13	5.0	Aug 13 1930
ANNUAL SEVEN-DAY MINIMUM	18	Sep 4	14	Sep 8	11	Aug 3 1999
MAXIMUM PEAK FLOW			745	May 18	8750	Aug 19 1955
MAXIMUM PEAK STAGE			3.01	May 18	11.12	Aug 19 1955
INSTANTANEOUS LOW FLOW			11	Sep 12,13	2.8	Nov 1 1922
ANNUAL RUNOFF (CFSM)	1.15		0.60		1.55	
ANNUAL RUNOFF (INCHES)	15.62		8.12		21.06	
10 PERCENT EXCEEDS	353		186		410	
50 PERCENT EXCEEDS	78		40		130	
90 PERCENT EXCEEDS	24		21		34	

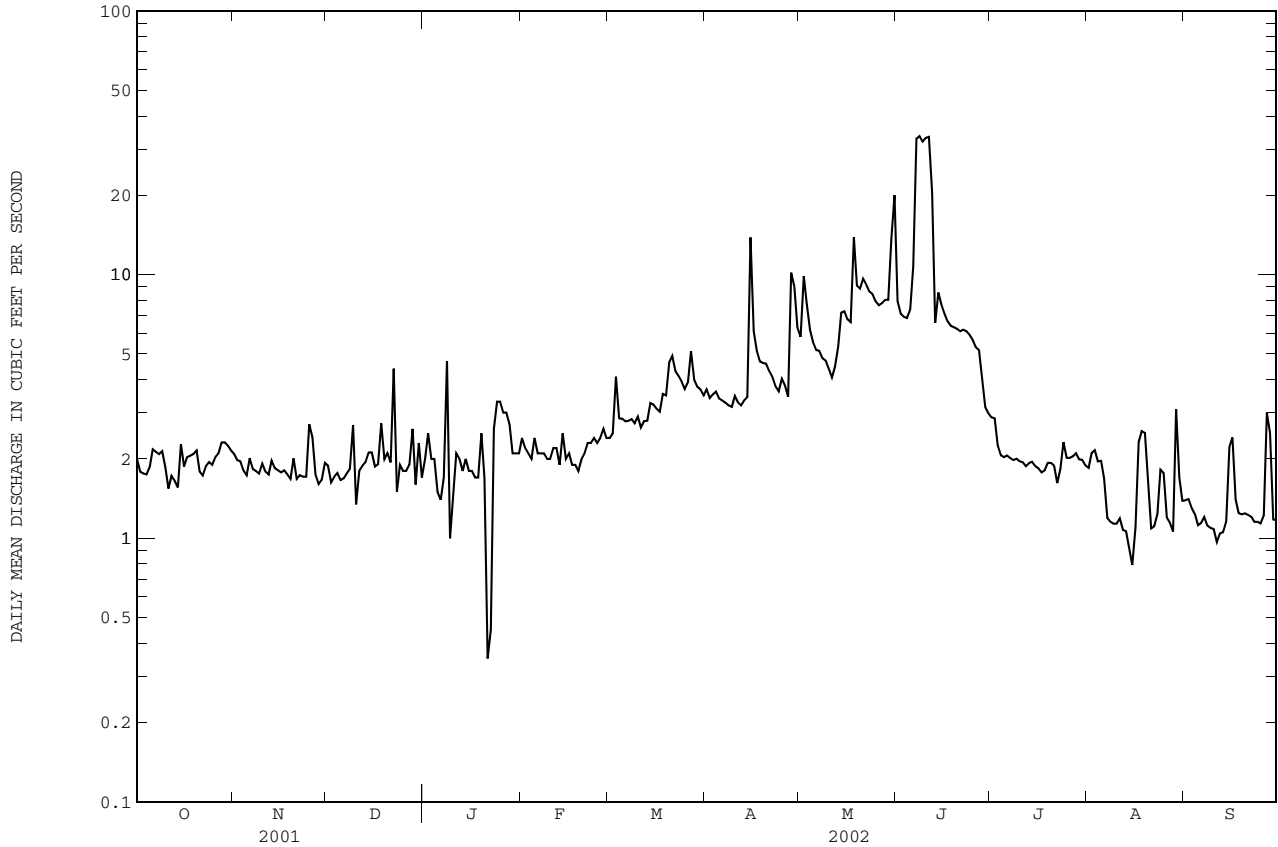
e Estimated



01443900 YARDS CREEK NEAR BLAIRSTOWN, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1967 - 2002	
ANNUAL TOTAL	2927.3		1280.77			
ANNUAL MEAN	8.020		3.509		10.53	
HIGHEST ANNUAL MEAN					16.1	1996
LOWEST ANNUAL MEAN					3.17	1985
HIGHEST DAILY MEAN	54	Apr 1	34	Jun 8	225	Jan 18 1977
LOWEST DAILY MEAN	1.2	Jul 30	0.35	Jan 21	0.02	Jun 19 1970
ANNUAL SEVEN-DAY MINIMUM	1.7	Nov 27	1.0	Aug 9	0.46	Oct 7 1980
MAXIMUM PEAK FLOW			62	Jun 7	583	Feb 24 1977
MAXIMUM PEAK STAGE			2.82	Jun 7	3.92	Feb 24 1977
INSTANTANEOUS LOW FLOW			0.02	Feb 5a	0.00	Sep 12 1971
10 PERCENT EXCEEDS	18		6.8		24	
50 PERCENT EXCEEDS	3.8		2.1		4.6	
90 PERCENT EXCEEDS	1.8		1.2		1.3	

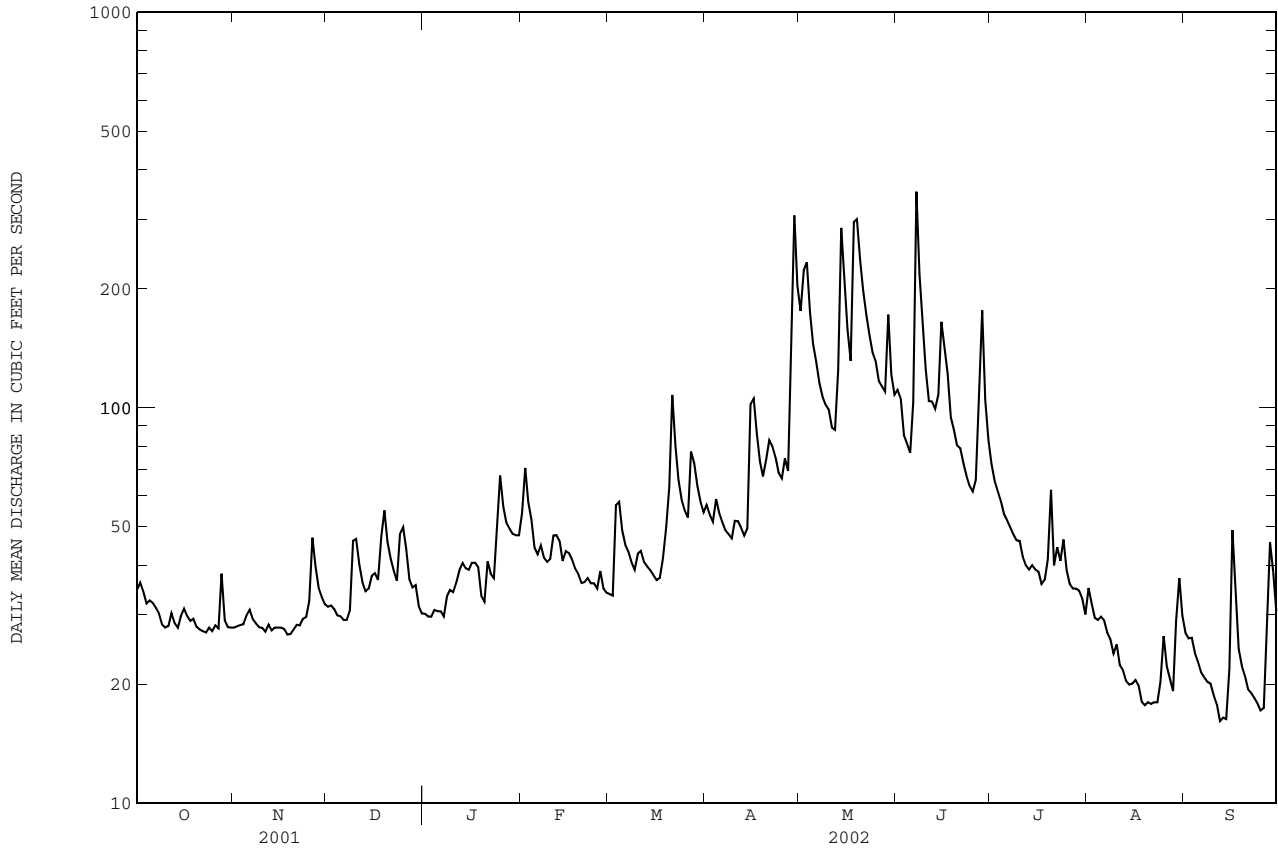
e Estimated
a Possibly due to ice jam upstream



0144550 PEQUEST RIVER AT PEQUEST, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	42438		20617			
ANNUAL MEAN	116.3		56.48		155.8	
HIGHEST ANNUAL MEAN					285	1952
LOWEST ANNUAL MEAN					45.8	1965
HIGHEST DAILY MEAN	552	Mar 31	352	Jun 7	2040	Jan 25 1979
LOWEST DAILY MEAN	27	Oct 22	16	many days	12	Aug 18 1965
ANNUAL SEVEN-DAY MINIMUM	28	Oct 20	18	Sep 8	13	Aug 15 1965
MAXIMUM PEAK FLOW			469	May 18	2130	Jan 25 1979
MAXIMUM PEAK STAGE			2.79	May 18	5.97a	Jan 25 1979
INSTANTANEOUS LOW FLOW			16	many days	12	Sep 17 1965
ANNUAL RUNOFF (CFSM)	1.10		0.53		1.47	
ANNUAL RUNOFF (INCHES)	14.89		7.24		19.97	
10 PERCENT EXCEEDS	271		110		326	
50 PERCENT EXCEEDS	81		39		110	
90 PERCENT EXCEEDS	28		24		35	

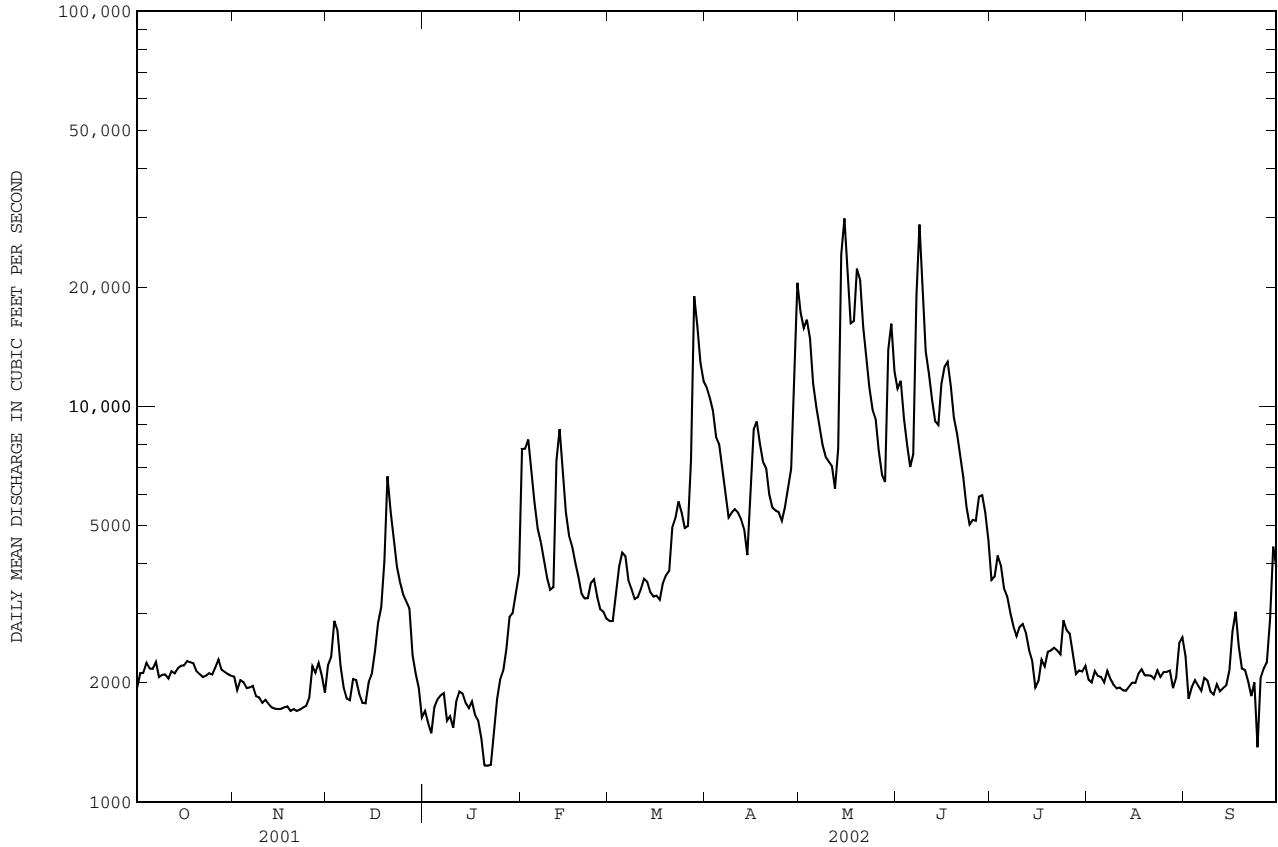
a From high-water mark.
e Estimated



01446500 DELAWARE RIVER AT BELVIDERE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1923 - 2002	
ANNUAL TOTAL	1918750		1720830		7776	
ANNUAL MEAN	5257		4715		14130	
HIGHEST ANNUAL MEAN					1928	
LOWEST ANNUAL MEAN					2990	
HIGHEST DAILY MEAN	46200	Apr 11	29900	May 15	184000	Aug 19 1955
LOWEST DAILY MEAN	1630	Dec 31	1230	Jan 21	610	Aug 25 1954
ANNUAL SEVEN-DAY MINIMUM	1720	Nov 16	1410	Jan 17	782	Aug 14 1954
MAXIMUM PEAK FLOW			34100	May 14	273000a	Aug 19 1955
MAXIMUM PEAK STAGE			10.45	May 14	30.21b	Aug 19 1955
INSTANTANEOUS LOW FLOW			1070	Jan 20	609	Sep 28 1943
10 PERCENT EXCEEDS	9690		10700		16500	
50 PERCENT EXCEEDS	3180		2720		4960	
90 PERCENT EXCEEDS	1960		1800		1950	

a From rating curve extended above 170,000 ft³/s on basis of flood-routing study.
 b From high-water mark in gage house.



DELAWARE RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, PA

(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°40'09", long 75°14'12", Northampton County, Hydrologic Unit 02040106, on right bank 140 ft upstream from highway bridge in Hugh Moore Parkway at Glendon, 2.3 mi upstream from mouth, and 2.0 mi southwest of Easton.

DRAINAGE AREA.--1,359 mi².

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

REVISED RECORDS.--WDR PA-72-1: 1971(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 164.30 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Francis E. Walter Reservoir (station 01447780), Penn Forest Reservoir (station 01449400), Wild Creek Reservoir (station 01449700), and since February 1971, by Beltzville Lake (station 01449790) about 60 mi upstream. Flows above 10,000 ft³/s may be affected by backwater from the Delaware River. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	662	1330	969	2030	1010	2880	5000	2780	1680	711	772
2	1070	622	1580	982	2070	998	2500	5650	2420	1520	723	987
3	1050	598	1550	1000	1530	1760	2210	5670	2260	1340	787	704
4	961	595	1450	1050	1470	1940	2020	4590	2000	1220	950	591
5	912	590	1290	1080	1400	1610	1840	4120	1830	1180	957	548
6	968	599	1160	1050	1410	1470	2020	3790	2060	1090	943	500
7	1240	620	1140	1030	1490	1440	2090	3080	4690	962	721	477
8	883	609	1130	1070	1310	1340	1990	2770	4270	944	669	508
9	830	611	1420	1060	1260	1300	1810	2920	3110	923	657	542
10	805	599	1400	1060	1210	1480	1830	3120	2860	874	655	535
11	772	582	1230	1130	1360	1700	1920	2660	3500	829	876	567
12	765	568	1170	1230	1480	1620	1790	2530	3690	803	893	572
13	774	559	1140	1200	1320	1870	1720	3710	2800	758	819	584
14	767	581	1210	1140	1240	1910	1870	6280	2570	813	637	574
15	1010	640	1320	1110	1200	1740	4650	6480	2750	831	703	671
16	1120	660	1290	1100	1220	1630	5230	5230	2520	813	709	1150
17	998	683	1220	1080	1210	1570	4390	3670	2590	754	680	1210
18	974	660	1580	1020	1190	1760	3310	5810	2590	740	852	742
19	847	655	1880	996	1150	2100	2990	5880	2880	809	869	631
20	801	647	1880	913	1140	2530	2800	6680	2440	930	848	604
21	829	613	1840	991	1190	3790	2370	5600	2060	1080	e589	646
22	721	597	1620	956	1200	3310	2280	4150	1910	1050	e551	1000
23	683	619	1470	942	1140	2900	2360	3770	1960	1010	e533	667
24	715	602	1580	1100	1100	2670	2180	3270	1910	955	e615	613
25	704	751	1520	1480	1070	2490	2000	2770	1640	893	658	566
26	685	1240	1420	1540	1060	2220	2010	2560	1450	802	e619	525
27	689	1160	1290	1470	1070	3700	2100	2440	2080	800	e562	1340
28	673	1080	1150	1440	1050	3420	3060	2370	3400	1030	472	1780
29	662	1060	1140	1410	---	2940	5510	5750	2100	1050	809	1370
30	659	1050	1030	1400	---	2800	5770	8670	1780	938	623	949
31	658	---	984	1630	---	2760	---	4090	---	739	568	---
TOTAL	26385	21112	42414	35629	36570	65778	81500	135080	76900	30160	22258	22925
MEAN	851.1	703.7	1368	1149	1306	2122	2717	4357	2563	972.9	718.0	764.2
MAX	1240	1240	1880	1630	2070	3790	5770	8670	4690	1680	957	1780
MIN	658	559	984	913	1050	998	1720	2370	1450	739	472	477
CFSM	0.63	0.52	1.01	0.85	0.96	1.56	2.00	3.21	1.89	0.72	0.53	0.56
IN.	0.72	0.58	1.16	0.98	1.00	1.80	2.23	3.70	2.10	0.83	0.61	0.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2002, BY WATER YEAR (WY)

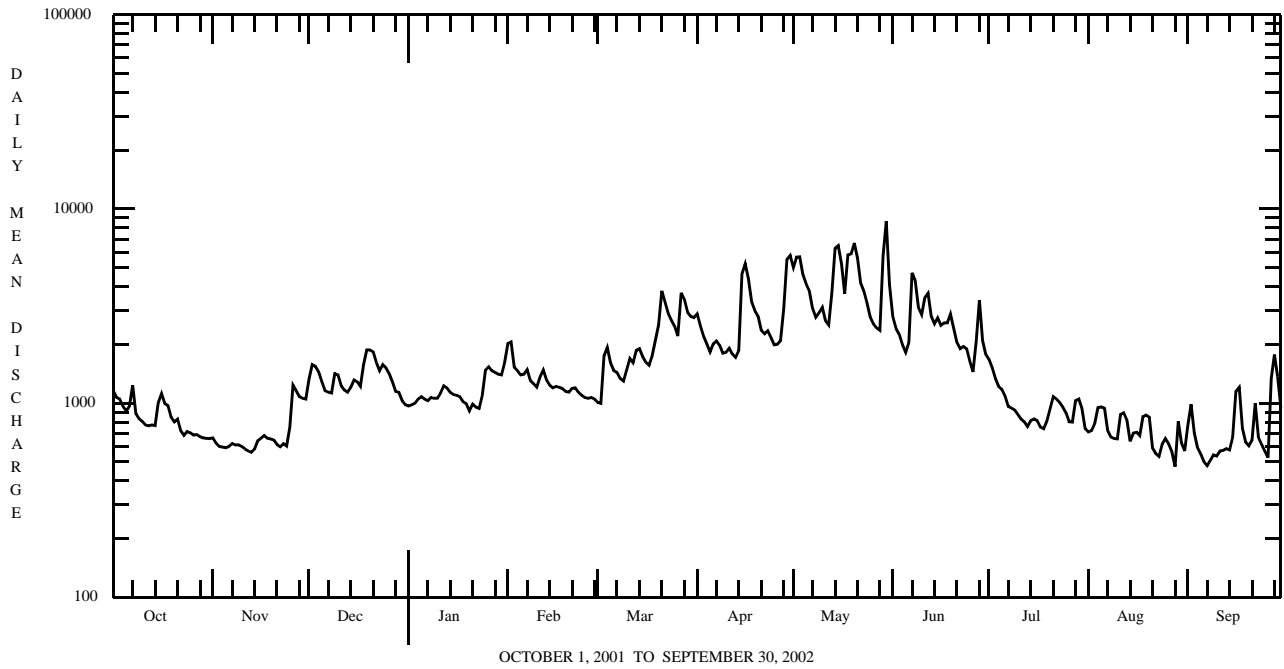
	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002			
MEAN	1920	2605	3354	3036	3200	4258	4407	3418	2532	1811	1458	1633																											
MAX	5272	5438	9593	8414	5385	8344	10810	8542	7607	4641	4179	7920																											
(WY)	1977	1971	1997	1996	1976	1977	1993	1989	1972	1984	1969	1987																											
MIN	771	704	633	405	1278	1805	1639	1502	906	630	607	660																											
(WY)	1981	2002	1981	1981	1980	1981	1985	1995	1999	1999	1999	1983																											

e Estimated.

01454700 LEHIGH RIVER AT GLENDON, PA--Continued

SUMMARY STATISTICS	FOR 2002 WATER YEAR		WATER YEARS 1967 - 2002	
ANNUAL TOTAL	596711			
ANNUAL MEAN	1635		2800	
HIGHEST ANNUAL MEAN			3997	1984
LOWEST ANNUAL MEAN			1594	1985
HIGHEST DAILY MEAN	8670	May 30	44300	Jun 23 1972
LOWEST DAILY MEAN	472	Aug 28	330	Jan 31 1981a
ANNUAL SEVEN-DAY MINIMUM	525	Sep 5	349	Jan 26 1981
MAXIMUM PEAK FLOW	9200	May 30	b60600	Jun 23 1972
MAXIMUM PEAK STAGE	11.98	May 30	24.86	Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.20		2.06	
ANNUAL RUNOFF (INCHES)	16.33		27.99	
10 PERCENT EXCEEDS	3180		5500	
50 PERCENT EXCEEDS	1170		2040	
90 PERCENT EXCEEDS	617		852	

- a Also Feb. 1, 1981.
- b From rating curve extended above 36,000 ft³/s.



01455500 MUSCONETCONG RIVER AT OUTLET OF LAKE HOPATCONG, NJ--Continued

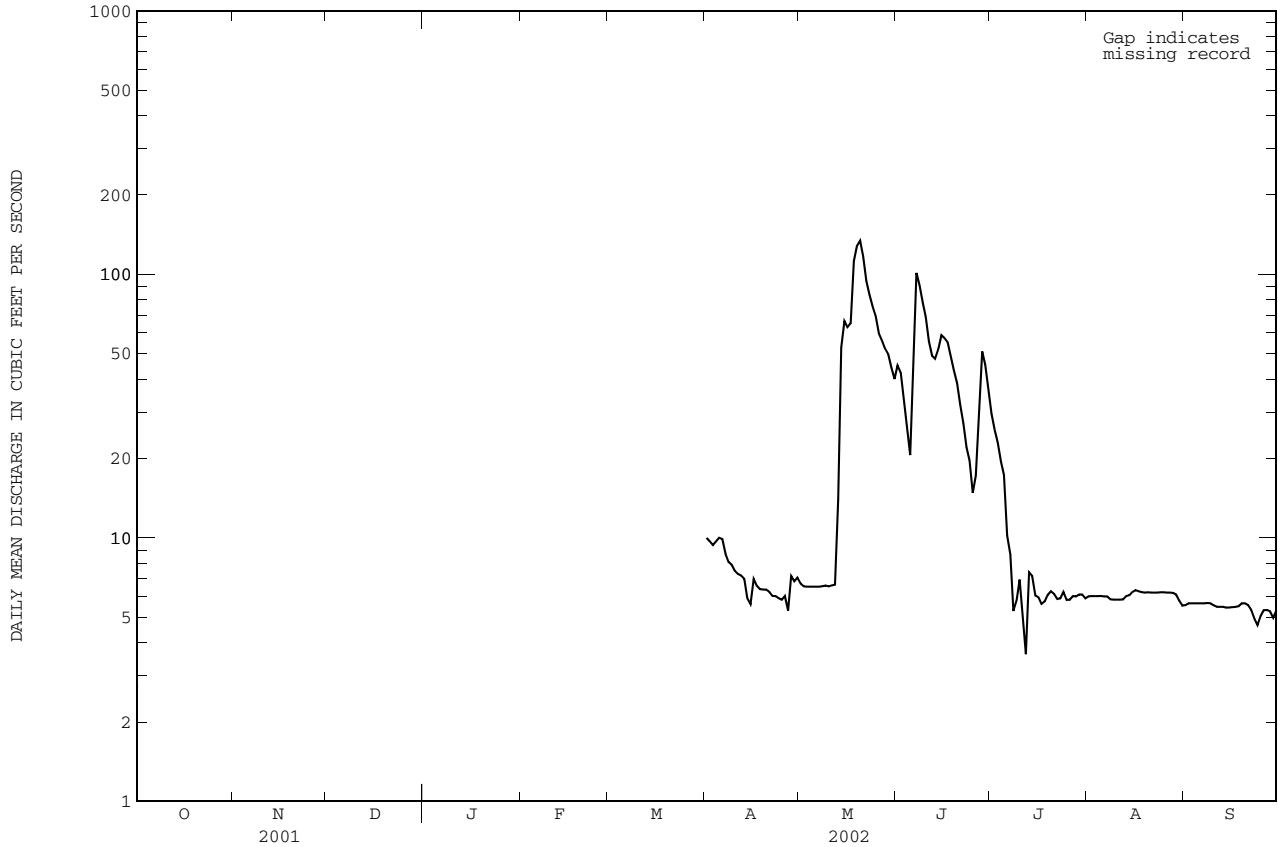
SUMMARY STATISTICS

FOR APRIL TO SEPTEMBER 2002

WATER YEARS 1928 - 2002

ANNUAL MEAN			43.6	
HIGHEST ANNUAL MEAN			71.9	1973
LOWEST ANNUAL MEAN			8.02	1966
HIGHEST DAILY MEAN	134	May 20	731	Aug 20 1955
LOWEST DAILY MEAN	3.6	Jul 12	0.00	Mar 13 1961
ANNUAL SEVEN-DAY MINIMUM			0.00	Mar 13 1961
MAXIMUM PEAK FLOW	149	May 20	1900a	Aug 13 2000
MAXIMUM PEAK STAGE	2.92	May 20	10.74b	Aug 13 2000
INSTANTANEOUS LOW FLOW	3.2	Jul 12,13	0.00	Many days
10 PERCENT EXCEEDS			103	
50 PERCENT EXCEEDS			29	
90 PERCENT EXCEEDS			8.4	

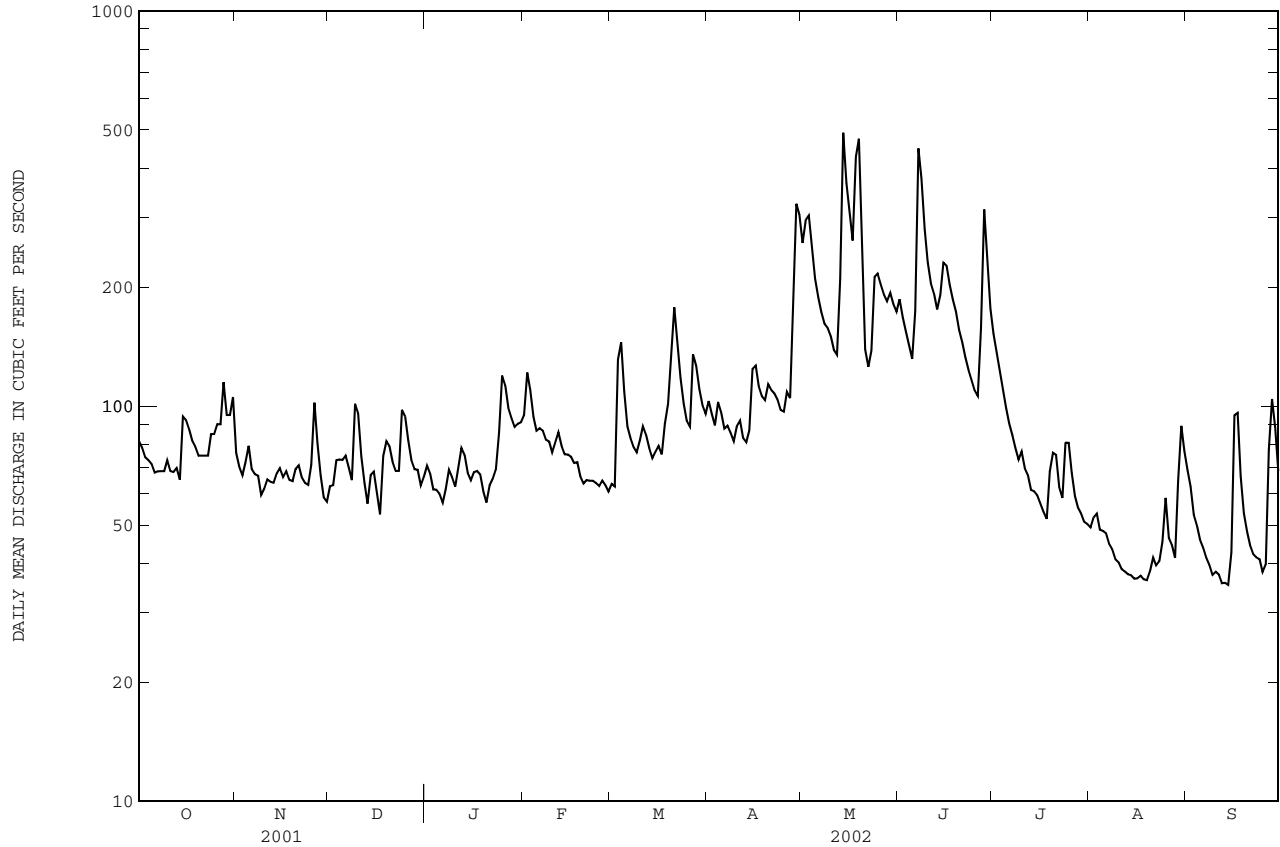
- a From rating curve extended above 340 ft³/s on basis of computation of peak flow over dam. Level of Lake Hopatcong highest since dam built in 1928.
- b From floodmark in gage house
- e Estimated.



01457000 MUSCONETCONG RIVER NEAR BLOOMSBURY, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1904 - 2002	
ANNUAL TOTAL	62080		36252			
ANNUAL MEAN	170.1		99.32		236.9	
HIGHEST ANNUAL MEAN					425	1928
LOWEST ANNUAL MEAN					82.6	1965
HIGHEST DAILY MEAN	532	Mar 30	491	May 14	5850	Oct 10 1903
LOWEST DAILY MEAN	53	Dec 17	35	Sep 14	27	Sep 8 1966
ANNUAL SEVEN-DAY MINIMUM	63	Dec 11	37	Aug 13	32	Aug 28 1966
MAXIMUM PEAK FLOW			635	May 18	7200a	Jan 25 1979
MAXIMUM PEAK STAGE			2.99	May 18	8.50b	Jan 25 1979
INSTANTANEOUS LOW FLOW			35	many days	8.1	Aug 2 1955
10 PERCENT EXCEEDS	319		183		455	
50 PERCENT EXCEEDS	139		76		181	
90 PERCENT EXCEEDS	68		46		76	

a From rating curve extended 1,800 ft³/s on basis of slope-area measurement at gage height 6.95 ft.
 b From floodmark.
 e Estimated.



DELAWARE RIVER BASIN

01460440 DELAWARE AND RARITAN CANAL AT PORT MERCER, NJ

LOCATION.--Lat 40°18'16", long 74°41'08", Mercer County, Hydrologic Unit 02030105, on right bank, 300 ft upstream from bridge on Province Line (Quaker Bridge) Road at Port Mercer, 2.2 mi east of Lawrenceville, and 3.5 mi southwest of Princeton.

PERIOD OF RECORD.--August 1990 to current year. Miscellaneous measurements made 1923, 1937-38, 1942-43, 1945, 1981, 1987-90.

GAGE.--Water-stage recorder and ultrasonic-velocity meter. Datum of gage is NGVD of 1929.

REMARKS.--Records fair except for estimated daily discharges and flows under 10 ft³/s, which are poor. The canal diverts water from the Delaware River at Raven Rock and discharges into Raritan River at New Brunswick. Reverse flow (denoted by a negative symbol) can occur during periods of heavy precipitation due to waste gate operation upstream and inflow into canal downstream from gage. Gage is located at the drainage divide between the Delaware and Raritan River Basins. Satellite gage-height and velocity telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159	147	e85	e92	101	97	87	83	142	144	145	e120
2	156	144	e85	e90	100	98	94	91	142	146	141	130
3	155	150	e83	e90	99	94	92	84	140	134	141	144
4	156	153	e83	e88	99	92	98	97	140	146	144	148
5	152	145	e84	e87	97	94	99	87	144	143	149	148
6	151	124	e86	e87	97	94	101	99	140	138	154	147
7	153	105	e88	114	99	101	100	99	118	149	148	e146
8	156	107	e88	108	98	103	97	102	139	151	142	e146
9	157	111	e90	109	96	96	97	100	141	149	113	e148
10	158	104	e91	106	97	98	101	89	139	151	103	e150
11	159	107	e89	86	98	100	101	99	140	147	113	e150
12	156	e86	e88	76	95	101	104	105	141	149	120	e147
13	158	e81	e87	90	97	104	99	94	133	149	136	e149
14	157	e80	e84	91	96	102	100	92	132	151	142	e150
15	149	e83	e89	88	95	100	88	101	132	149	141	e135
16	147	e84	e90	89	96	103	71	90	136	143	145	e138
17	149	e83	e94	91	97	101	90	95	139	146	149	e140
18	112	e83	e101	93	98	99	99	51	140	145	148	151
19	111	e83	e105	84	98	97	97	84	138	143	154	154
20	128	e83	e105	93	98	75	102	99	137	144	150	e150
21	154	e82	e99	94	101	72	100	103	140	148	149	e150
22	154	e80	e92	89	99	91	101	104	141	155	146	e152
23	152	e81	e94	91	99	90	102	103	142	151	151	e144
24	145	e83	e97	96	100	95	102	94	142	149	137	e144
25	143	e83	e97	98	99	102	103	103	142	149	136	e140
26	146	e88	e97	94	97	100	98	103	139	146	147	e138
27	147	e87	e96	93	96	87	102	126	137	150	148	145
28	151	e87	e94	94	97	92	79	149	137	150	146	135
29	149	e86	e94	96	---	94	81	148	142	151	141	e147
30	147	e85	e95	99	---	91	92	144	148	148	144	e146
31	145	---	e94	101	---	98	---	141	---	148	150	---
TOTAL	4612	2985	2844	2897	2739	2961	2877	3159	4163	4562	4373	4332
MEAN	149	99.5	91.7	93.5	97.8	95.5	95.9	102	139	147	141	144
MAX	159	153	105	114	101	104	104	149	148	155	154	154
MIN	111	80	83	76	95	72	71	51	118	134	103	120

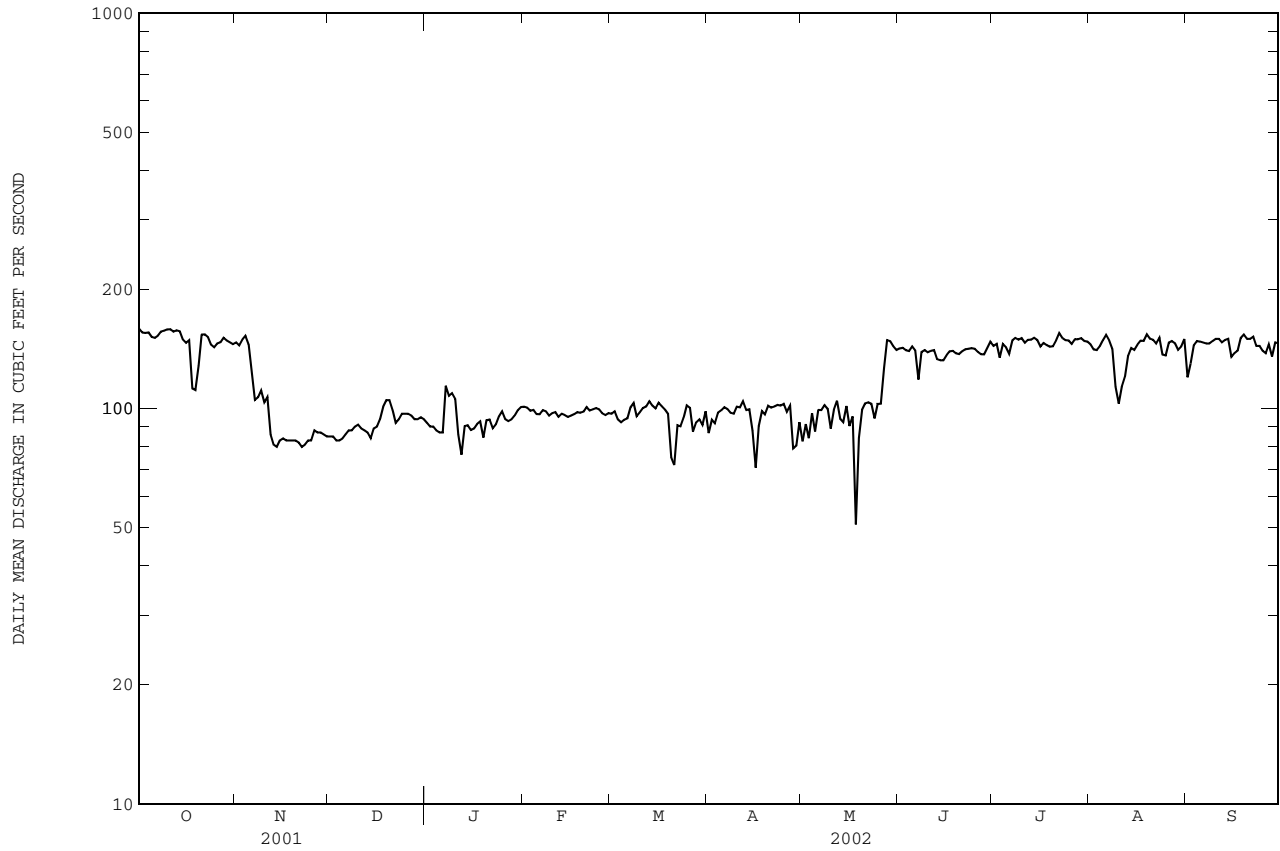
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	138	131	124	123	126	120	128	138	143	147	144	141	141
MAX	159	154	143	143	143	148	147	152	159	163	156	155	155
(WY)	1999	1999	1996	1997	1995	1997	1997	1999	1999	1999	2001	1992	1992
MIN	115	99.5	91.7	93.5	97.8	91.4	95.8	102	120	123	114	112	112
(WY)	1992	2002	2002	2002	2002	1992	1992	2002	1996	1996	1996	1999	1999

01460440 DELAWARE AND RARITAN CANAL AT PORT MERCER, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	47885		42504			
ANNUAL MEAN	131		116		134	
HIGHEST ANNUAL MEAN					143	1991
LOWEST ANNUAL MEAN					116	2002
HIGHEST DAILY MEAN	176	Aug 5	159	Oct 1,11	222	Aug 22 1990
LOWEST DAILY MEAN	21	Mar 30	51	May 18	-280	Sep 17 1999
ANNUAL SEVEN-DAY MINIMUM	82	Nov 17	82	Nov 17	4.9	Sep 15 1999
MAXIMUM PEAK STAGE			55.73	May 18	61.19	Sep 16 1999
10 PERCENT EXCEEDS	158		150		154	
50 PERCENT EXCEEDS	134		103		140	
90 PERCENT EXCEEDS	91		87		102	

e Estimated



01463500 DELAWARE RIVER AT TRENTON, NJ

LOCATION.--Lat 40°13'18", long 74°46'42", Mercer County, Hydrologic Unit 02040105, on left bank 450 ft upstream from Calhoun Street Bridge at Trenton, 0.5 mi upstream from Assunpink Creek, and at river mile 134.5.

DRAINAGE AREA.--6,780 mi².

PERIOD OF RECORD.--February 1913 to current year. October 1912 to February 1913 monthly discharge only, published in WSP 1302. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 951: Drainage area. WSP 1302: 1913-20. WSP 1382: 1924, 1928.

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929. 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 450 ft downstream.

REMARKS.--Records good. Diurnal fluctuations 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, Wild Creek, and Merrill Creek Reservoirs (see Delaware River basin, reservoirs in) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs. Diversion to Bradshaw and Merrill Creek Reservoirs and to Delaware and Raritan Canal (see Delaware River basin, diversions). Water diverted just above station by borough of Morrisville, PA, and city of Trenton for municipal supply (see Delaware River basin, diversions). Satellite gage-height and water-quality parameter telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 11, 1903, reached an elevation of about 28.5 ft above NGVD of 1929, discharge estimated, 295,000 ft³/s. Maximum elevation known, 30.6 ft above NGVD of 1929, Mar. 8, 1904, from floodmark, due to ice jam.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
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No peak greater than base discharge.

DISCHARGE FROM ADR/EDL, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3890	2970	3210	3100	6800	4170	15300	26800	15800	6880	3210	4120
2	3390	3020	3810	3160	11500	4110	14800	24000	14800	5900	3080	4680
3	3460	2870	4150	2930	10600	5570	13600	26100	14500	5830	3420	3550
4	3400	2860	4650	2930	10400	6940	12300	23800	11700	5930	3330	3320
5	3370	2930	4440	2930	8720	6720	11100	19000	10500	5500	3420	3210
6	3290	2860	3750	3160	7540	6630	10600	16300	9880	4920	3390	3050
7	3330	2840	3380	3360	6940	6240	9640	14500	17000	4620	3290	2920
8	3580	2970	3260	3150	6480	5610	8660	12900	34400	4260	3180	2990
9	3100	2800	3430	2950	5950	5310	7940	11900	28400	3930	3110	2990
10	3010	2740	3890	2950	5450	5140	8080	12000	20100	3790	3010	2910
11	3090	2680	3720	2960	5230	5460	8090	11300	16800	3760	2980	2860
12	2990	2710	3390	3410	5480	5580	7940	10600	16300	3790	3200	2890
13	3070	2600	3220	3620	10700	5990	7540	10900	15300	3680	3190	2840
14	3060	2550	3190	3490	9940	6130	7080	31300	13000	3420	3100	2900
15	3190	2550	3560	3340	8300	5890	7580	41800	14500	3360	2950	3100
16	3430	2600	3720	3230	6960	5560	14300	33300	16100	3000	3050	3630
17	3510	2660	3950	3290	6380	5460	15200	25000	16800	3000	3070	4620
18	3430	2640	4540	3110	6040	5810	13700	24700	15900	3210	3140	4850
19	3430	2670	5340	2980	5610	7060	11900	30000	15000	3100	3470	3980
20	3300	2630	7120	2810	5240	9030	11200	32100	13200	3660	3500	3380
21	3150	2600	8830	2480	4870	12400	10200	26600	11600	3660	3430	3240
22	3130	2550	7560	2550	4820	11000	8980	20900	10100	3810	3050	3290
23	3050	2520	6540	2500	4790	10100	8610	17500	9160	3730	3050	3410
24	3080	2550	6080	2890	5050	9870	8640	15500	7990	3790	3070	3140
25	3100	2640	5770	4480	5040	9040	8320	13900	7540	4070	3470	2600
26	3010	3040	5370	4550	4650	8440	8150	13200	7260	3880	3400	2740
27	3030	3840	5060	4430	4400	9690	8590	10900	7090	3740	3280	4260
28	3160	3630	4680	4510	4310	17800	10800	10200	12600	3530	3170	5200
29	3120	3530	3860	4910	---	22700	17000	11800	9980	3440	3450	5820
30	2950	3430	3550	4960	---	17900	26600	27200	8230	3490	3620	6580
31	2960	---	3520	5430	---	15900	---	21500	---	3310	3760	---
TOTAL	100060	85480	140540	106550	188190	263250	332440	627500	421530	125990	100840	109070
MEAN	3228	2849	4534	3437	6721	8492	11080	20240	14050	4064	3253	3636
MAX	3890	3840	8830	5430	11500	22700	26600	41800	34400	6880	3760	6580
MIN	2950	2520	3190	2480	4310	4110	7080	10200	7090	3000	2950	2600

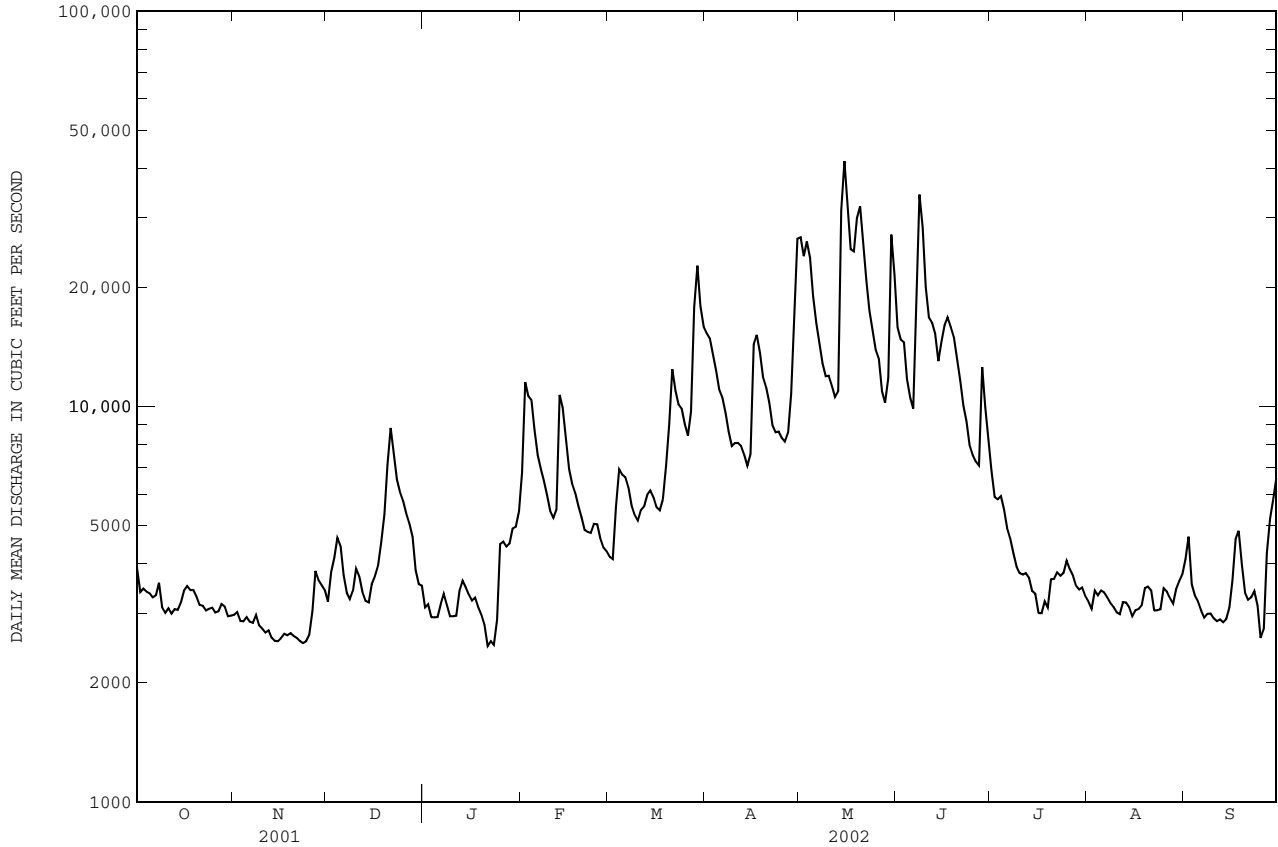
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)
1913	6794	28710	1956	1632	1942	10310	27340	1928	1868	1915	12530	42860	1997	2037	1923
1914	12350	34950	1979	2539	1981	12750	27550	1951	3500	1920	20480	60840	1936	7715	1981
1915	22170	52680	1940	6828	1985	14180	31690	1989	5074	1995	9149	33460	1972	2572	1965
1916	6980	25720	1928	1548	1965	5856	30290	1928	1808	1965	5727	22490	1933	1762	1932

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1913 - 2002	
ANNUAL TOTAL	2954910		2601440			
ANNUAL MEAN	8096		7127		11600	
HIGHEST ANNUAL MEAN					19810 1928	
LOWEST ANNUAL MEAN					4708 1965	
HIGHEST DAILY MEAN	50200	Apr 11	41800	May 15	279000	Aug 20 1955
LOWEST DAILY MEAN	2520	Nov 23	2480	Jan 21	1240	Oct 31 1914
ANNUAL SEVEN-DAY MINIMUM	2590	Nov 18	2590	Nov 18	1310	Oct 31 1914
MAXIMUM PEAK FLOW			43400	May 15	329000a	Aug 20 1955
MAXIMUM PEAK STAGE			13.52	May 15	28.60b	Aug 20 1955
INSTANTANEOUS LOW FLOW			2220	Sep 26	1180	Oct 31 1963
10 PERCENT EXCEEDS	15500		15300		24400	
50 PERCENT EXCEEDS	5400		4260		7830	
90 PERCENT EXCEEDS	3020		2930		3000	

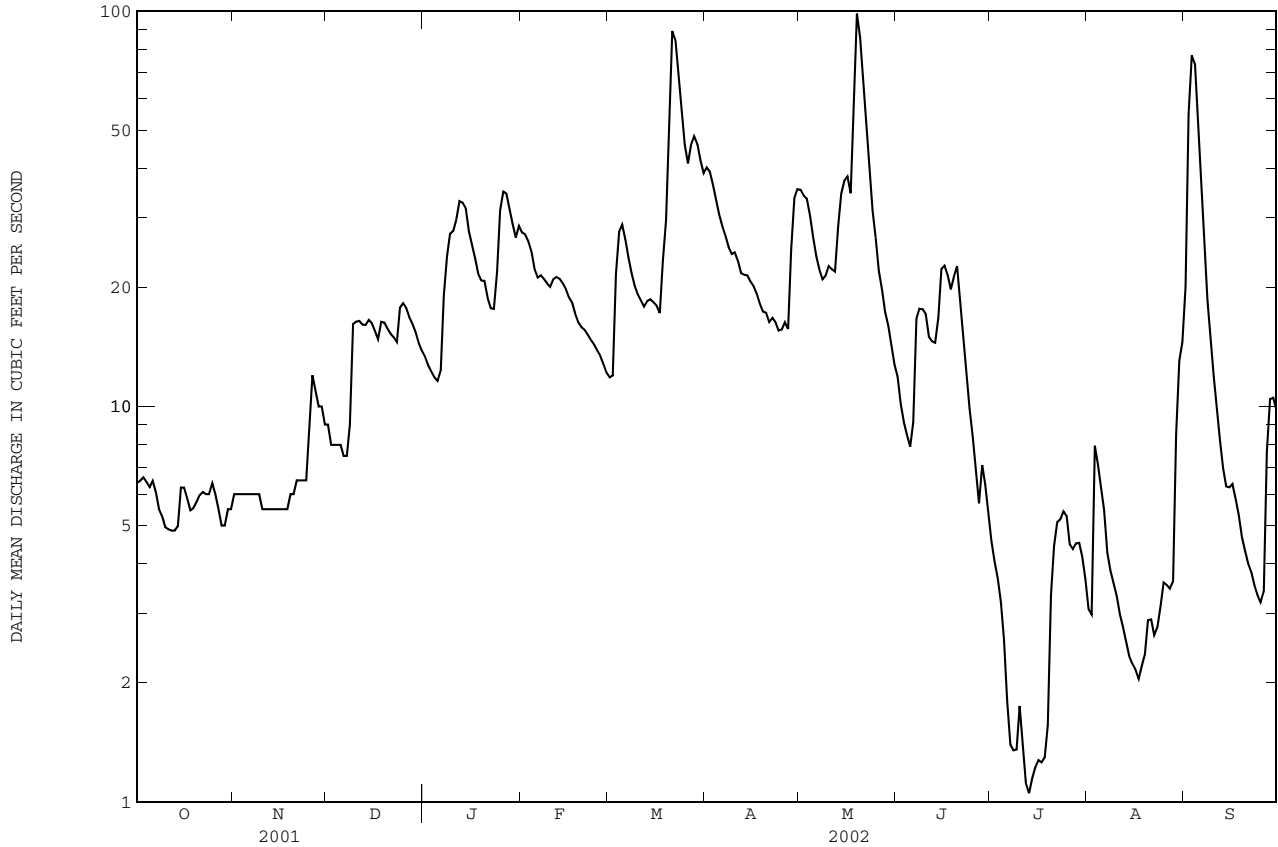
a From rating curve extended above 230,000 ft³/s, maximum flow since 1692.
 b From high-water mark in gage house, current datum.



01463620 ASSUNPINK CREEK NEAR CLARKSVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1973 - 2002	
ANNUAL TOTAL	13094.8		6041.1			
ANNUAL MEAN	35.9		16.6		48.5a	
HIGHEST ANNUAL MEAN					74.7a 1994	
LOWEST ANNUAL MEAN					16.6a 2002	
HIGHEST DAILY MEAN	286	Mar 31	99	May 19	832a	Feb 26 1979
LOWEST DAILY MEAN	4.1	Sep 13	1.1	Jul 12-14	1.0a	Sep 6 1995
ANNUAL SEVEN-DAY MINIMUM	4.4	Sep 7	1.2	Jul 12	1.2a	Jul 26 1999
MAXIMUM PEAK FLOW			102	May 19	1050a	Jul 21 1975
MAXIMUM PEAK STAGE			4.86	May 19	9.36a	Jul 21 1975
INSTANTANEOUS LOW FLOW			1.0	Jul 12-14	1.0a	Sep 6 1995
10 PERCENT EXCEEDS	92		34		100	
50 PERCENT EXCEEDS	17		14		32	
90 PERCENT EXCEEDS	5.5		3.4		10	

a Not all monthly record is included. See Period of Record section.
 e Estimated



DELAWARE RIVER BASIN

01464000 ASSUNPINK CREEK AT TRENTON, NJ

LOCATION.--Lat 40°13'27", long 74°44'58", Mercer County, Hydrologic Unit 02040105, on left bank 20 ft upstream from bridge on Chambers Street (Lincoln Avenue) in Trenton, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--90.6 mi².

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

REVISED RECORDS.--WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder. Concrete control since July 10, 1932. Datum of gage is 24.76 ft above NGVD of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good. Records include water diverted from outside the basin since February 1954 for municipal supply which returns to Assumpink Creek through Ewing-Lawrence Sewerage Authority Treatment Plant, 2.4 mi above station (records given herein). In addition there is an average inflow of about 2.0 ft³/s from industrial use of water that originates outside the basin. Some diversion for irrigation in headwater area during summer months. Flow regulated by several flood-control reservoirs upstream from gage since mid-1970's. Several measurements of water temperature were made during the year. National Weather Service gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 18	1300	*1,390	*7.45	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	26	35	40	84	43	165	140	54	52	21	171
2	46	25	33	39	75	45	110	178	50	48	32	278
3	42	27	33	38	68	263	96	200	46	45	151	180
4	41	28	33	37	68	127	85	130	44	42	45	133
5	39	28	33	36	66	92	78	103	43	39	35	102
6	42	24	32	87	62	78	74	89	115	31	31	78
7	40	23	31	139	66	71	68	80	265	28	25	64
8	37	24	45	72	63	68	66	72	104	27	20	54
9	36	24	110	69	56	65	65	155	82	26	19	49
10	36	24	50	70	56	86	66	104	68	44	16	44
11	35	23	45	114	83	63	62	85	65	28	15	41
12	34	23	44	101	60	57	62	119	113	26	15	36
13	31	23	44	75	58	71	63	205	109	24	14	32
14	30	23	57	65	56	68	63	206	186	23	13	32
15	60	23	54	61	55	63	63	129	148	23	14	34
16	33	24	45	57	53	59	58	99	104	21	14	50
17	27	24	43	54	52	57	55	84	84	19	17	37
18	25	24	84	52	51	184	56	736	91	18	14	33
19	25	25	53	50	50	130	64	370	137	32	14	30
20	27	29	48	54	50	403	68	256	102	54	28	28
21	30	29	45	54	54	356	61	189	75	38	17	26
22	31	27	43	53	54	228	80	146	63	32	15	23
23	30	26	42	55	49	163	68	121	55	29	50	23
24	27	26	138	157	48	133	60	105	51	28	48	21
25	24	50	61	107	47	114	84	89	48	27	125	20
26	22	60	53	86	47	106	80	78	46	26	36	41
27	22	35	50	76	46	232	68	73	64	25	26	230
28	22	34	47	71	45	146	321	63	127	25	24	175
29	23	35	46	64	---	120	246	59	65	25	322	71
30	24	34	43	63	---	107	155	57	56	24	89	55
31	26	---	42	97	---	111	---	56	---	23	59	---
TOTAL	1016	850	1562	2193	1622	3909	2710	4576	2660	952	1364	2191
MEAN	32.77	28.33	50.39	70.74	57.93	126.1	90.33	147.6	88.67	30.71	44.00	73.03
MAX	60	60	138	157	84	403	321	736	265	54	322	278
MIN	22	23	31	36	45	43	55	56	43	18	13	20
(I)	12.9	12.0	12.5	13.4	13.8	15.7	15.4	17.6	14.6	12.1	16.1	13.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2002, BY WATER YEAR (WY)

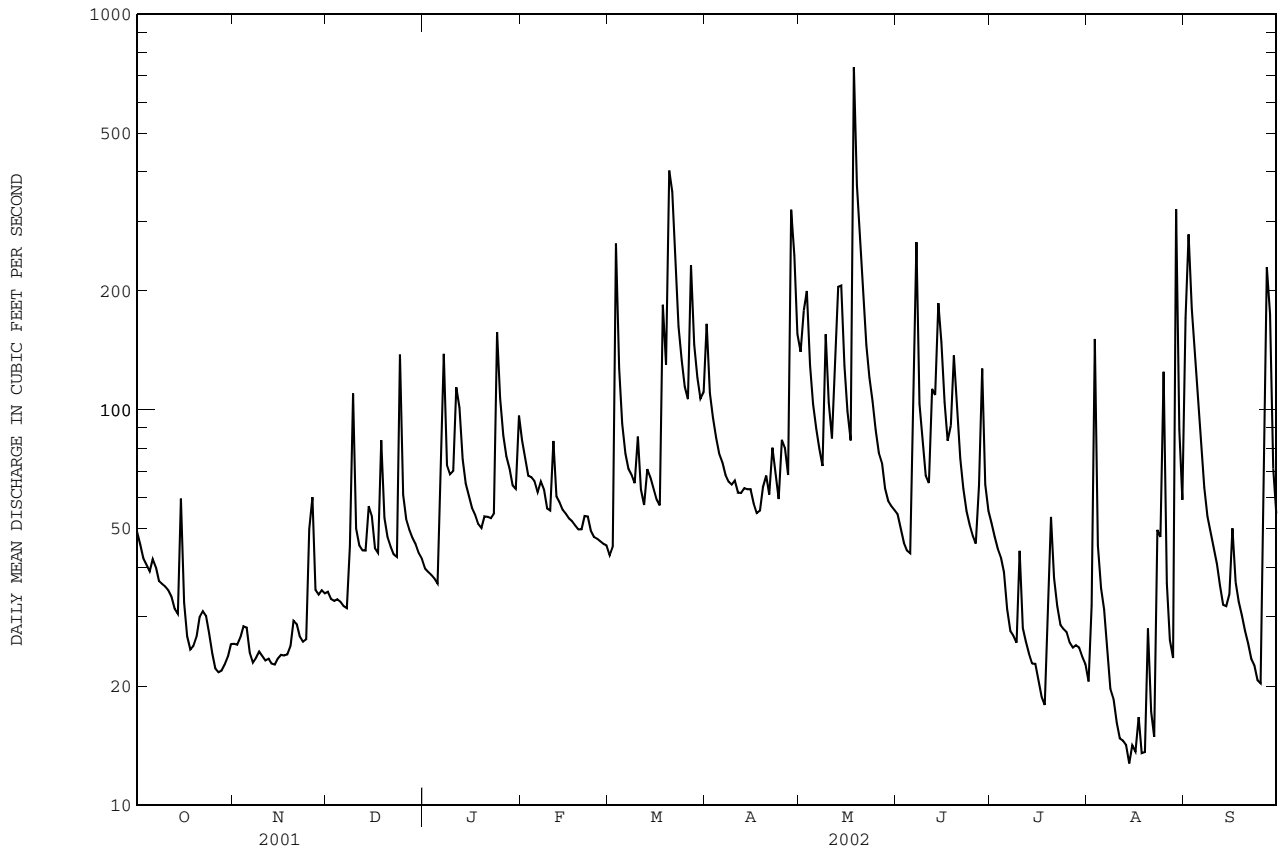
	MEAN	MAX	MIN	(I)
1924	79.86	328	19.1	1931
1925	111.8	331	27.6	1932
1926	146.6	501	32.0	1933
1927	167.6	498	44.2	1934
1928	184.4	395	52.0	1935
1929	212.7	554	76.7	1936
1930	180.3	494	65.2	1937
1931	132.3	340	40.0	1938
1932	99.95	371	25.9	1939
1933	98.32	545	17.2	1940
1934	92.93	355	17.3	1941
1935	93.69	395	15.8	1942
1936				
1937				
1938				
1939				
1940				
1941				
1942				
1943				

01464000 ASSUNPINK CREEK AT TRENTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1924 - 2002	
ANNUAL TOTAL	50861		25605			
ANNUAL MEAN	139.3		70.15		133.1	
(I)	15.6		14.1			
HIGHEST ANNUAL MEAN					233	1984
LOWEST ANNUAL MEAN					69.2	1931
HIGHEST DAILY MEAN	1320	Mar 30	736	May 18	4050	Jul 21 1975
LOWEST DAILY MEAN	22	Aug 2	13	Aug 14	4.0	Jul 21 1929
ANNUAL SEVEN-DAY MINIMUM	23	Oct 25	14	Aug 13	9.6	Aug 25 1944
MAXIMUM PEAK FLOW			1390	May 18	5450	Jul 21 1975
MAXIMUM PEAK STAGE			7.45	May 18	14.61a	Jul 21 1975
INSTANTANEOUS LOW FLOW			7.8	Aug 14, 15	1.0	Aug 21 1931
10 PERCENT EXCEEDS	358		137		273	
50 PERCENT EXCEEDS	63		53		87	
90 PERCENT EXCEEDS	27		24		32	

a From high-water mark in gage house

(I) Inflow from outside basin, equivalent in cubic feet per second, 2.4 mi. upstream of station through plant of Ewing-Lawrence Sewerage Authority.



DELAWARE RIVER BASIN

01464500 CROSSWICKS CREEK AT EXTONVILLE, NJ

LOCATION.--Lat 40°08'15", long 74°36'02", Mercer County, Hydrologic Unit 02040201, on right bank upstream from bridge on Extonville Road, 0.5 mi south of Extonville, 0.5 mi upstream from Pleasant Run, and 0.7 mi downstream from Mercer- Monmouth County line.

DRAINAGE AREA.--81.5 mi².

PERIOD OF RECORD.--August 1940 to October 1951, October 1952 to current year.

REVISED RECORDS.--WDR NJ-79-2: 1971(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 24.94 ft above NGVD of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated occasionally by lakes above station. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	30	43	62	75	42	133	83	e71	26	11	51
2	71	31	40	47	80	41	121	77	e56	24	11	229
3	50	31	38	39	70	129	92	110	e41	23	61	210
4	42	33	38	40	61	133	78	81	e37	21	54	86
5	37	32	38	39	57	81	70	64	e35	17	27	60
6	38	30	39	44	54	68	64	56	e65	15	e19	45
7	45	30	38	155	56	62	62	51	e150	14	e15	36
8	36	30	39	114	61	58	62	48	143	14	13	30
9	32	29	108	76	58	55	62	55	99	12	12	26
10	31	30	91	72	55	54	64	58	73	27	11	22
11	32	31	61	88	71	52	63	46	56	26	12	19
12	33	31	57	121	71	47	61	43	46	18	10	17
13	33	30	53	86	62	51	63	77	53	15	9.2	19
14	32	31	52	73	57	e62	61	102	e74	15	9.0	18
15	41	31	55	65	55	e60	58	73	e107	16	7.4	18
16	49	32	49	60	53	e55	54	57	e80	14	8.2	20
17	38	33	46	57	53	e50	50	48	72	12	9.4	26
18	34	32	65	54	49	e120	46	e141	68	11	9.7	21
19	30	33	76	52	47	176	43	259	60	16	8.9	17
20	28	34	58	55	46	176	43	120	56	72	8.9	16
21	30	38	51	55	48	396	44	81	45	46	e8.2	16
22	31	36	48	55	48	213	49	67	39	26	e6.8	15
23	31	36	46	59	46	137	56	58	34	19	10	14
24	33	37	78	97	46	102	47	52	29	18	12	13
25	30	46	91	153	45	84	46	46	28	18	21	12
26	29	82	64	99	46	81	59	42	25	17	18	16
27	27	61	56	77	44	202	52	40	25	15	14	70
28	26	47	51	69	44	173	114	145	55	16	13	67
29	30	45	48	64	---	112	179	164	46	16	87	44
30	29	46	47	61	---	90	102	100	32	14	124	e32
31	29	---	61	68	---	82	---	e65	---	12	53	---
TOTAL	1114	1098	1725	2256	1558	3244	2098	2509	1800	625	693.7	1285
MEAN	35.9	36.6	55.6	72.8	55.6	105	69.9	80.9	60.0	20.2	22.4	42.8
MAX	71	82	108	155	80	396	179	259	150	72	124	229
MIN	26	29	38	39	44	41	43	40	25	11	6.8	12
CFSM	0.44	0.45	0.68	0.89	0.68	1.28	0.86	0.99	0.74	0.25	0.27	0.53
IN.	0.51	0.50	0.79	1.03	0.71	1.48	0.96	1.15	0.82	0.29	0.32	0.59

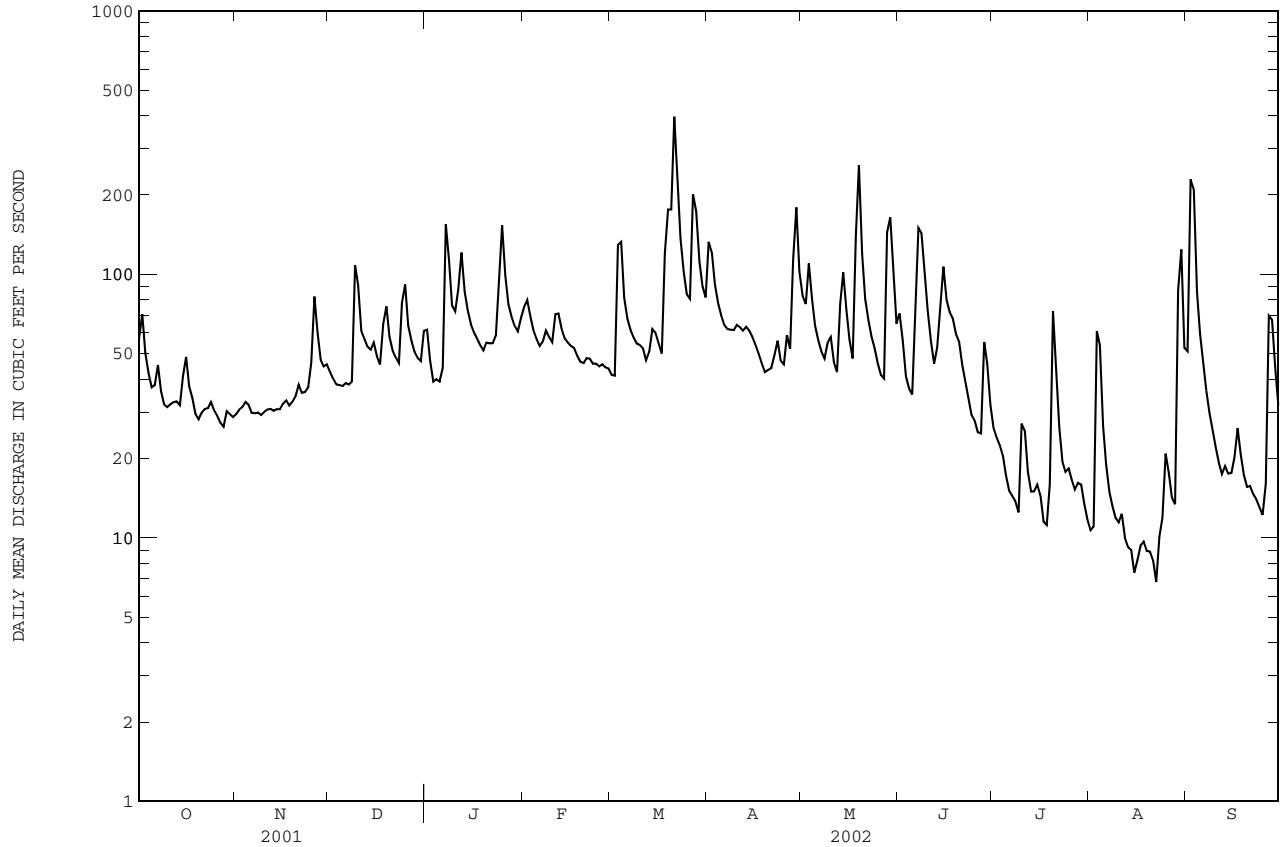
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
MEAN	87.5	125	158	175	177
MAX	231	406	392	452	416
(WY)	1997	1973	1997	1978	1979
MIN	32.9	36.6	42.6	62.1	55.6
(WY)	1966	2002	1999	1981	2002

01464500 CROSSWICKS CREEK AT EXTONVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	37299		20005.7		133	
ANNUAL MEAN	102		54.8		225	
HIGHEST ANNUAL MEAN					54.8	
LOWEST ANNUAL MEAN					1978	
HIGHEST DAILY MEAN	1470	Mar 31	396	Mar 21	3930	Aug 28 1971
LOWEST DAILY MEAN	21	Aug 3	6.8	Aug 22	6.8	Aug 22 2002
ANNUAL SEVEN-DAY MINIMUM	27	Jul 28	8.6	Aug 16	8.6	Aug 16 2002
MAXIMUM PEAK FLOW			434	Mar 21	4860	Sep 1 1978
MAXIMUM PEAK STAGE			5.85	Mar 21	14.18	Sep 1 1978
INSTANTANEOUS LOW FLOW			5.8	Aug 22	5.8	Aug 22 2002
ANNUAL RUNOFF (CFSM)	1.25		0.67		1.63	
ANNUAL RUNOFF (INCHES)	17.02		9.13		22.16	
10 PERCENT EXCEEDS	195		99		247	
50 PERCENT EXCEEDS	56		47		92	
90 PERCENT EXCEEDS	30		15		40	

e Estimated



DELAWARE RIVER BASIN

01464598 DELAWARE RIVER AT BURLINGTON, NJ

LOCATION.--Lat 40°04'42", long 74°52'28", Burlington County, Hydrologic Unit 02040201, on left bank in the intake canal of the Public Service Electric and Gas Company generating station, 0.3 mi downstream from Burlington-Bristol Bridge, 1.4 mi downstream from Assiscunk Creek, and at river mile 117.54.

DRAINAGE AREA.--7,160 mi².

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 of the Army Corps of Engineers.

REVISED RECORDS.--WDR NJ-76-1: 1973 (m).

GAGE.--Water-stage recorder. Datum of gage is 12.90 ft below National Geodetic Vertical Datum of 1929 (NGVD of 1929). Gage-height record converted to elevation above or below NGVD of 1929 for publication. To determine corresponding North American Vertical Datum of 1988 (NAVD of 1988) elevation, subtract 1.07 ft. To determine corresponding Mean Lower Low Water Datum elevation, add 2.86 ft (correction based on data from National Ocean Service station 8539094). Prior to May 20, 1971, water-stage recorder at site 0.7 mi upstream at same datum.

REMARKS.--Many low-tides October 2001 through April 2002 were not recorded for several days each month due to the accumulation of the silt in and around the gage well. Summaries for months with short periods of no gage-height record have been estimated with little or no loss of accuracy, unless otherwise noted. Some periods cannot be estimated and are noted by dash (---) lines. Satellite stage telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation recorded, 8.78 ft (NGVD of 1929), Dec. 11, 1992; minimum recorded, -6.86 ft (NGVD of 1929), Nov. 21, 1989.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 10.8 ft (NGVD of 1929), Aug. 20, 1955, from high-water mark at site 1.4 mi upstream; minimum elevation known, -9.1 ft (NGVD of 1929), Dec. 31, 1962, at present site.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 6.91 ft (NGVD of 1929), Oct. 15; minimum recorded, unknown.

REVISIONS.--Low-tide data published for February through September 2000 are probably lower than those published in WDR-NJ-1, due to the accumulation of the silt in and around the gage well.

Summaries of tide elevations during the year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	6.91	5.69	6.05	6.03	6.32	6.54	6.34	6.32	6.68	6.09	5.95	6.03
high tide	Date	15	30	13	31	1	3	29	19	8	22	10	27
Minimum	Elevation	---	---	---	---	---	---	---	-2.94	-2.99	-3.42	-3.36	-3.25
low tide	Date	---	---	---	---	---	---	---	11	29	24	6	12
Mean high tide		4.95	4.74	4.63	4.31	4.68	4.55	4.91	5.12	5.29	5.02	5.00	5.06
Mean water level		1.5e	1.3e	1.4e	---	---	---	---	1.66	1.75	1.41	1.47	1.62
Mean low tide		---	---	---	---	---	---	---	-2.08	-2.11	-2.57	-2.44	-2.17

e Estimated



Figure 19. U.S. Geological Survey gage continuously monitoring the stage of the Delaware River near Delaware Water Gap, PA. Photograph taken by Rick Edwards, 2001.

DELAWARE RIVER BASIN

01465850 SOUTH BRANCH RANCOCAS CREEK AT VINCENTOWN, NJ

LOCATION.--Lat 39°56'22", long 74°45'50", Burlington County, Hydrologic Unit 02040202, on left bank 150 ft downstream from highway bridge on Landing Road (County Route 641), 0.8 mi west of Vincentown, 2.9 mi southwest of Lumberton, and 3.1 mi upstream from Southwest Branch Rancocas Creek.

DRAINAGE AREA.--64.5 mi².

PERIOD OF RECORD.--July 1961 to October 1975, October 1999 to June 27,2002. Operated as a crest-stage partial-record station 1976-95.

GAGE.--Water-stage recorder. Datum of gage is 13.17 ft above NGVD of 1929. Prior to Oct. 30, 1961, at site 150 ft upstream at same datum. Satellite telemetry at station.

REMARKS.--Records poor. Occasional regulation by lakes and ponds above station. Gaging station is temporary discontinued as of June 27,2002.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	13	17	16	53	25	87	73	e49	---	---	---
2	27	19	15	17	52	25	90	77	e44	---	---	---
3	21	15	15	16	47	53	80	92	e32	---	---	---
4	18	14	14	18	46	62	70	79	e28	---	---	---
5	15	13	12	19	41	50	64	67	e29	---	---	---
6	19	13	8.6	28	37	46	60	65	45	---	---	---
7	21	13	8.5	61	37	43	57	67	89	---	---	---
8	18	14	9.7	63	39	40	54	58	89	---	---	---
9	11	14	22	58	38	37	51	49	73	---	---	---
10	13	13	22	e50	37	38	52	48	68	---	---	---
11	12	13	25	e59	43	36	51	46	60	---	---	---
12	14	12	24	e70	44	42	49	45	52	---	---	---
13	12	12	20	56	42	50	49	72	49	---	---	---
14	12	15	17	52	39	52	48	98	59	---	---	---
15	23	18	17	50	38	43	46	82	78	---	---	---
16	11	16	14	46	37	38	46	62	82	---	---	---
17	14	15	14	46	36	35	48	58	76	---	---	---
18	13	14	19	45	34	57	43	87	69	---	---	---
19	9.9	14	24	42	32	72	39	134	63	---	---	---
20	13	14	22	47	32	78	37	98	64	---	---	---
21	e12	14	19	48	33	137	34	86	62	---	---	---
22	e13	15	19	51	32	107	35	79	57	---	---	---
23	e13	14	18	57	30	86	36	73	53	---	---	---
24	e15	14	27	60	29	73	34	64	50	---	---	---
25	e16	16	31	63	28	66	e38	54	51	---	---	---
26	e17	22	26	57	28	65	e56	48	44	---	---	---
27	e15	25	23	54	27	101	66	48	---	---	---	---
28	e14	25	19	51	26	107	82	e74	---	---	---	---
29	14	23	18	48	---	89	98	e81	---	---	---	---
30	13	20	19	45	---	77	92	e62	---	---	---	---
31	13	---	18	47	---	69	---	e50	---	---	---	---
TOTAL	480.9	472	576.8	1440	1037	1899	1692	2176	---	---	---	---
MEAN	15.5	15.7	18.6	46.5	37.0	61.3	56.4	70.2	---	---	---	---
MAX	29	25	31	70	53	137	98	134	---	---	---	---
MIN	9.9	12	8.5	16	26	25	34	45	---	---	---	---
CFSM	0.24	0.24	0.29	0.72	0.57	0.95	0.87	1.09	---	---	---	---
IN.	0.28	0.27	0.33	0.83	0.60	1.10	0.98	1.25	---	---	---	---

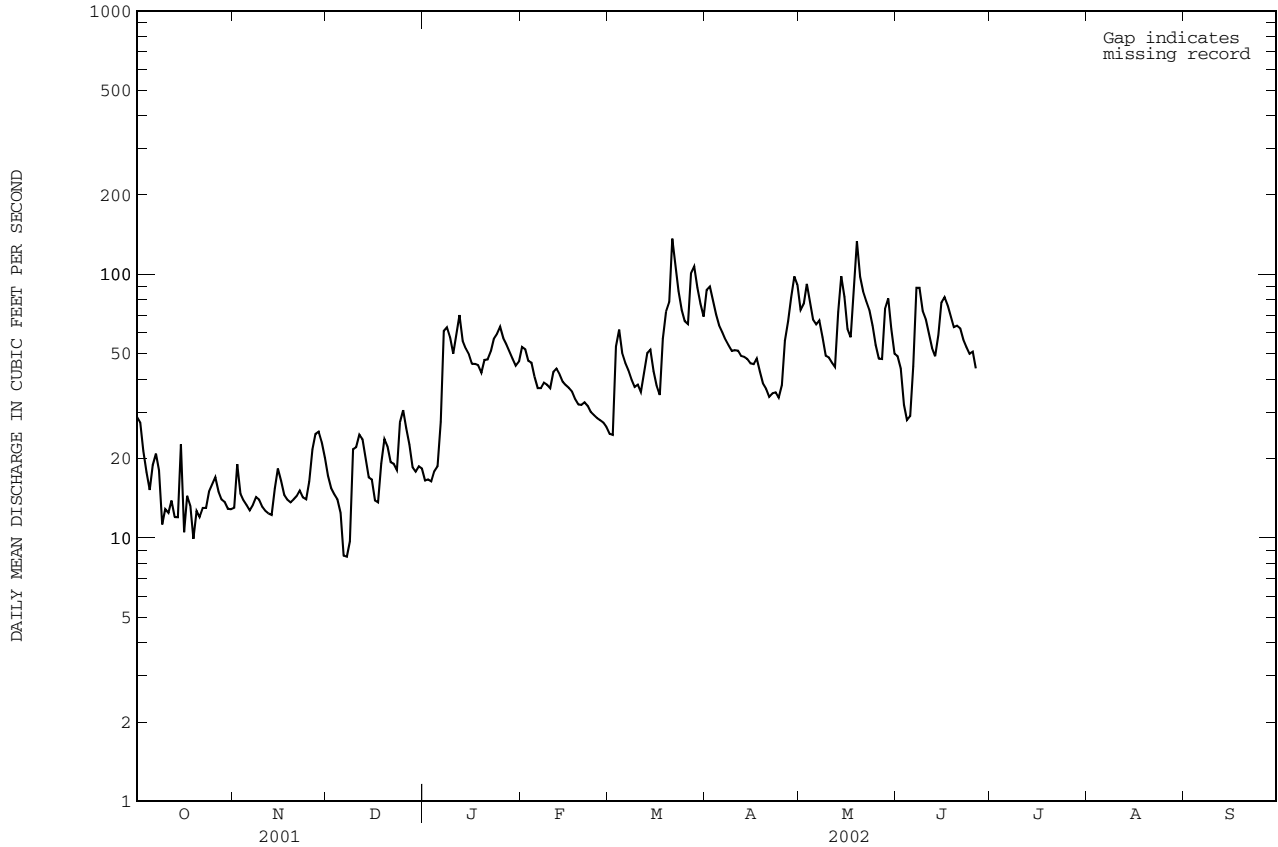
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY)

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
MEAN	65.0	91.3	123	113	122	135	121	85.2	62.5	56.6	65.3	62.6	62.6	62.6	62.6
MAX	155	325	291	177	238	200	243	184	165	139	169	155	155	155	155
(WY)	1976	1973	1973	1964	1973	1962	1970	1972	1968	1975	1967	1975	1975	1975	1975
MIN	15.5	15.7	18.6	31.4	37.0	61.3	56.4	38.0	16.6	14.1	14.0	13.9	13.9	13.9	13.9
(WY)	2002	2002	2002	1966	2002	2002	2002	1965	1965	1971	1964	1965	1965	1965	1965

01465850 SOUTH BRANCH RANOCAS CREEK AT VINCENTOWN, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR SEPTEMBER 2001 - JUNE 26 2002	WATER YEARS 1961 - 2002
ANNUAL TOTAL	23211.7		
ANNUAL MEAN	63.6		94.1
HIGHEST ANNUAL MEAN		137 Mar 21 2002	157 1973
LOWEST ANNUAL MEAN		8.5 Dec 7 2001	47.3 1966
HIGHEST DAILY MEAN	514 Mar 31		981 Nov 9 1972
LOWEST DAILY MEAN	8.5 Dec 7	149 Mar 21 2002	3.1 Aug 9 1966
ANNUAL SEVEN-DAY MINIMUM	12 Dec 2	3.21 Mar 21 2002	7.7 Sep 7 1966
MAXIMUM PEAK FLOW		7.60 Oct 19 2001	1320 Aug 28 1978
MAXIMUM PEAK STAGE			7.98 Aug 28 1978
INSTANTANEOUS LOW FLOW			2.8 Jul 17 1966
ANNUAL RUNOFF (CFSM)	0.99		1.46
ANNUAL RUNOFF (INCHES)	13.39		19.82
10 PERCENT EXCEEDS	146		187
50 PERCENT EXCEEDS	37		72
90 PERCENT EXCEEDS	13		20

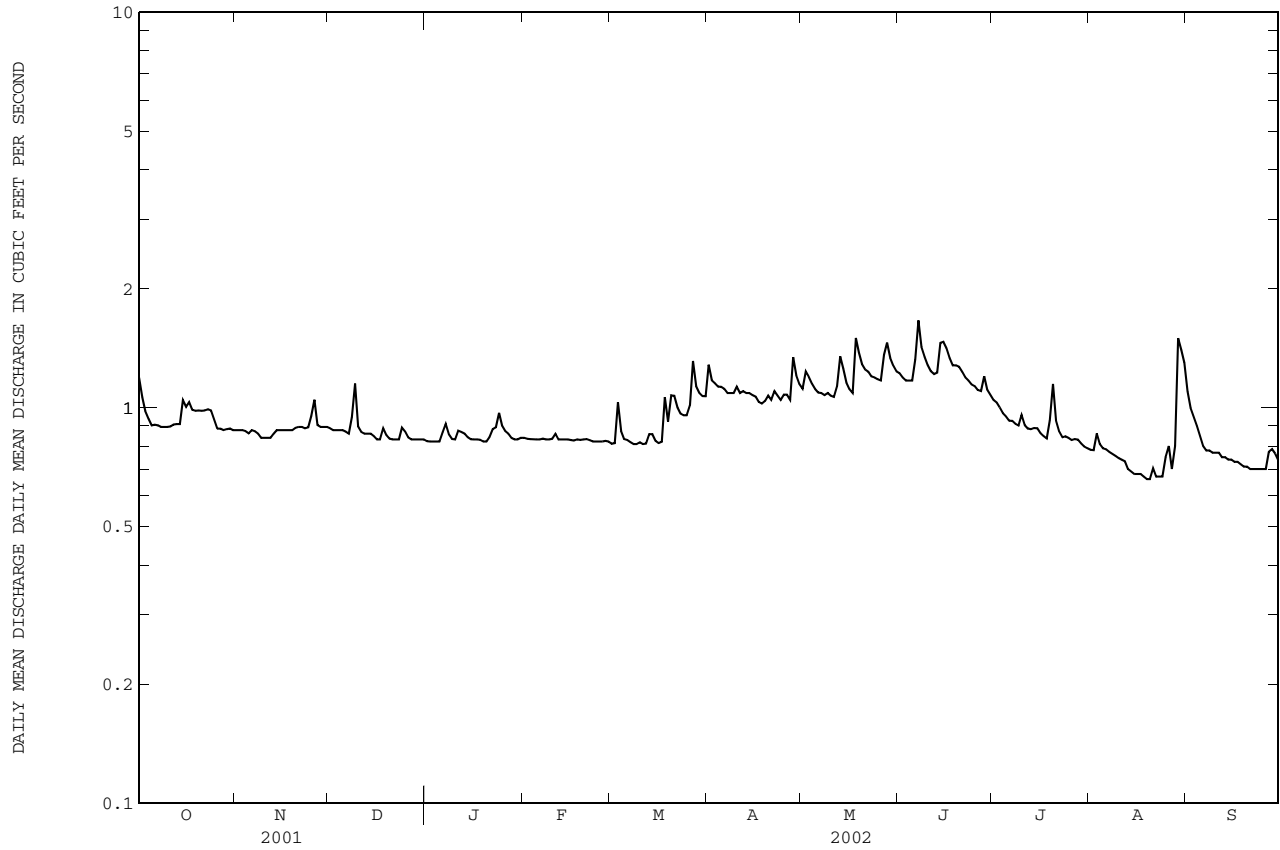
e Estimated



01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ--Continued
(Hydrologic bench-mark station)

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1954 - 2002	
ANNUAL TOTAL	601.66	345.50		
ANNUAL MEAN	1.648	0.947	2.128	
HIGHEST ANNUAL MEAN			3.85	1973
LOWEST ANNUAL MEAN			0.95	2002
HIGHEST DAILY MEAN	7.2 Mar 31	1.7 Jun 7	20	Feb 28 1958
LOWEST DAILY MEAN	0.83 Dec 16	e0.66 Aug 19,20	0.50	Oct 13 1995
ANNUAL SEVEN-DAY MINIMUM	0.84 Dec 25	0.67 Aug 18	0.58	Oct 8 1995
MAXIMUM PEAK FLOW		2.0 many days	35	Aug 25 1958
MAXIMUM PEAK STAGE		1.32 May 18	2.33	Aug 25 1958
INSTANTANEOUS LOW FLOW		0.66a Aug 20	0.49	Oct 13 1995
ANNUAL RUNOFF (CFSM)	0.70	0.40	0.91	
ANNUAL RUNOFF (INCHES)	9.52	5.47	12.30	
10 PERCENT EXCEEDS	2.9	1.2	3.6	
50 PERCENT EXCEEDS	1.4	0.88	1.8	
90 PERCENT EXCEEDS	0.88	0.77	1.1	

e Estimated.
a Measured discharge.



DELAWARE RIVER BASIN

01466900 GREENWOOD BRANCH AT NEW LISBON, NJ

LOCATION.--Lat 39°57'22", long 74°37'41", Burlington County, Hydrologic Unit 02040202, on right bank, 50 ft upstream of bridge on Fourmile Road (County Route 646), 0.1 mi south of in New Lisbon, 0.7 mi upstream from mouth, and 3.1 mi east of Pemberton.

DRAINAGE AREA.--77.9 mi².

PERIOD OF RECORD.--Occasional miscellaneous discharge measurements, water years 1954, 1973. May 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 50 ft above NGVD of 1929 (from topographic map).

REMARKS.--Records good, except estimated daily discharges which are fair. Water diverted for water supply to Fort Dix Army Base just upstream from gage (see Delaware River Basin, diversions and withdrawals). Several measurements of water temperature were made during the year. Satellite raingage and gage-height telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	46	32	31	47	27	74	66	48	35	19	34
2	44	41	31	30	50	25	81	66	45	41	19	52
3	40	50	30	30	47	41	79	72	40	37	29	48
4	38	49	29	30	44	41	72	71	38	41	25	38
5	35	42	30	44	42	36	66	61	40	42	24	33
6	35	45	30	40	40	35	57	52	56	29	23	29
7	35	49	29	49	39	35	52	48	86	25	22	27
8	32	52	29	46	39	37	50	46	100	25	21	25
9	31	51	44	47	37	36	47	44	96	24	21	24
10	31	42	42	47	36	35	49	47	83	26	20	23
11	34	38	37	47	42	33	54	47	66	26	20	23
12	35	35	35	49	42	32	60	45	59	24	19	23
13	34	34	e33	47	40	35	68	61	56	24	19	23
14	32	33	e32	44	39	37	77	71	60	24	19	27
15	33	32	31	43	37	35	80	69	77	25	18	28
16	32	32	29	40	36	35	78	56	82	23	18	28
17	30	33	28	39	35	31	79	47	73	22	19	27
18	30	32	33	37	34	41	85	58	64	24	18	24
19	30	31	33	36	34	49	85	84	58	26	18	23
20	30	33	31	e38	34	50	63	89	66	36	18	24
21	30	33	29	e40	34	68	46	84	59	32	18	24
22	31	32	29	e41	32	72	43	73	54	27	18	23
23	32	32	29	43	31	74	43	65	48	27	19	22
24	31	33	38	48	31	67	41	59	42	28	21	22
25	31	34	38	53	30	59	40	54	39	27	22	21
26	30	42	36	50	30	57	45	50	36	24	20	22
27	29	39	35	47	30	69	44	49	34	24	19	34
28	29	35	34	46	29	80	57	66	42	25	18	33
29	28	34	33	45	---	81	72	65	40	23	36	29
30	29	33	33	43	---	76	68	56	37	21	45	27
31	36	---	32	44	---	67	---	50	---	19	32	---
TOTAL	1017	1147	1014	1314	1041	1496	1855	1871	1724	856	677	840
MEAN	32.8	38.2	32.7	42.4	37.2	48.3	61.8	60.4	57.5	27.6	21.8	28.0
MAX	44	52	44	53	50	81	85	89	100	42	45	52
MIN	28	31	28	30	29	25	40	44	34	19	18	21

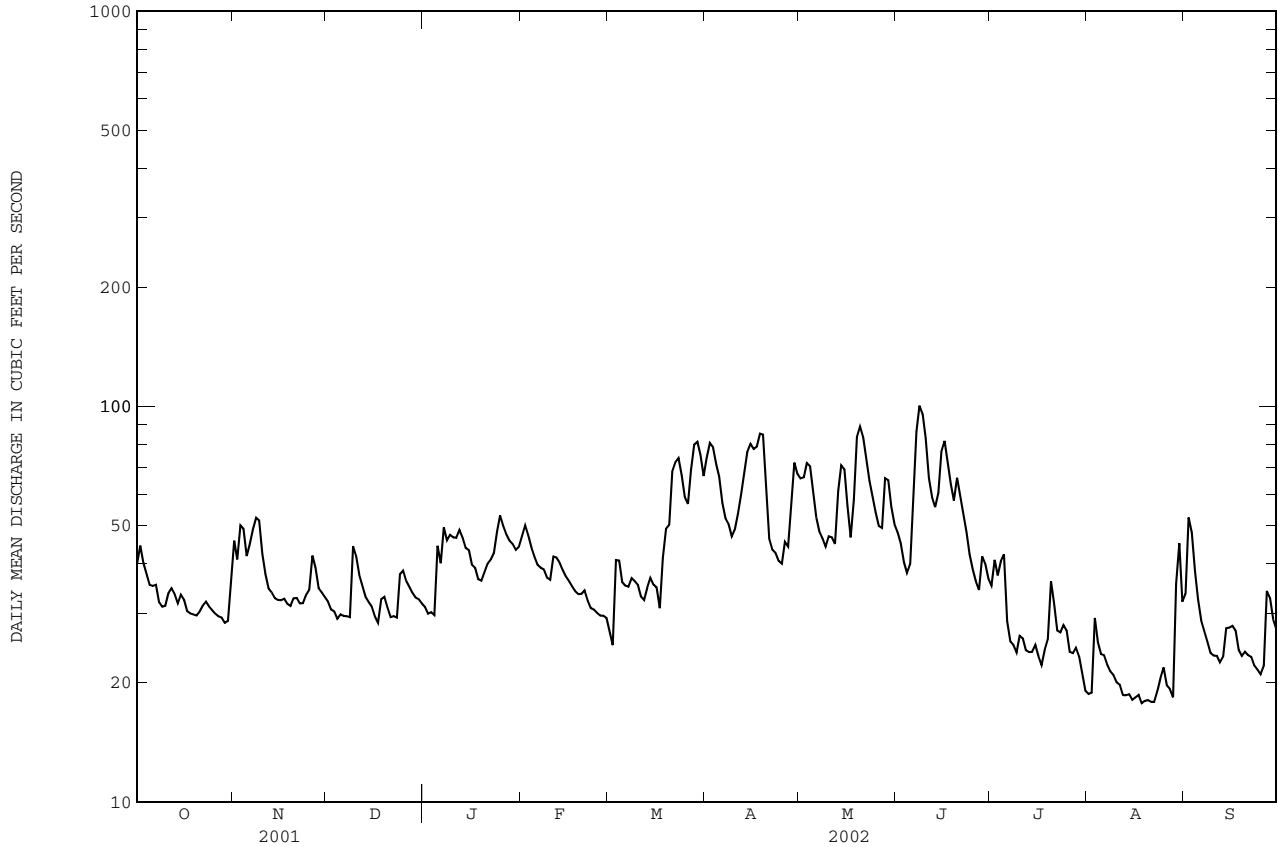
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2002, BY WATER YEAR (WY)

	1998	1999	2000	2001	2002
MEAN	58.3	56.6	61.4	86.2	92.3
MAX	89.7	82.6	98.3	108	129
(WY)	2000	2000	2000	2001	2001
MIN	32.8	34.6	29.3	42.4	37.2
(WY)	2002	1999	1999	2002	2002

01466900 GREENWOOD BRANCH AT NEW LISBON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1998 - 2002	
ANNUAL TOTAL	26689		14852			
ANNUAL MEAN	73.1		40.7		68.8	
HIGHEST ANNUAL MEAN					83.9 2001	
LOWEST ANNUAL MEAN					40.7 2002	
HIGHEST DAILY MEAN	353	Mar 31	100	Jun 8	940	May 11 1998
LOWEST DAILY MEAN	27	Aug 10	18	many days	17	Aug 4 1999
ANNUAL SEVEN-DAY MINIMUM	29	Aug 6	18	Aug 15	18	Aug 15 2002
MAXIMUM PEAK FLOW			103	Jun 8	940a	May 11 1998
MAXIMUM PEAK STAGE			2.36	Jun 8	7.78a	May 11 1998
INSTANTANEOUS LOW FLOW			15	Aug 16,17	15	Aug 16 2002
10 PERCENT EXCEEDS	139		67		118	
50 PERCENT EXCEEDS	57		36		63	
90 PERCENT EXCEEDS	30		23		29	

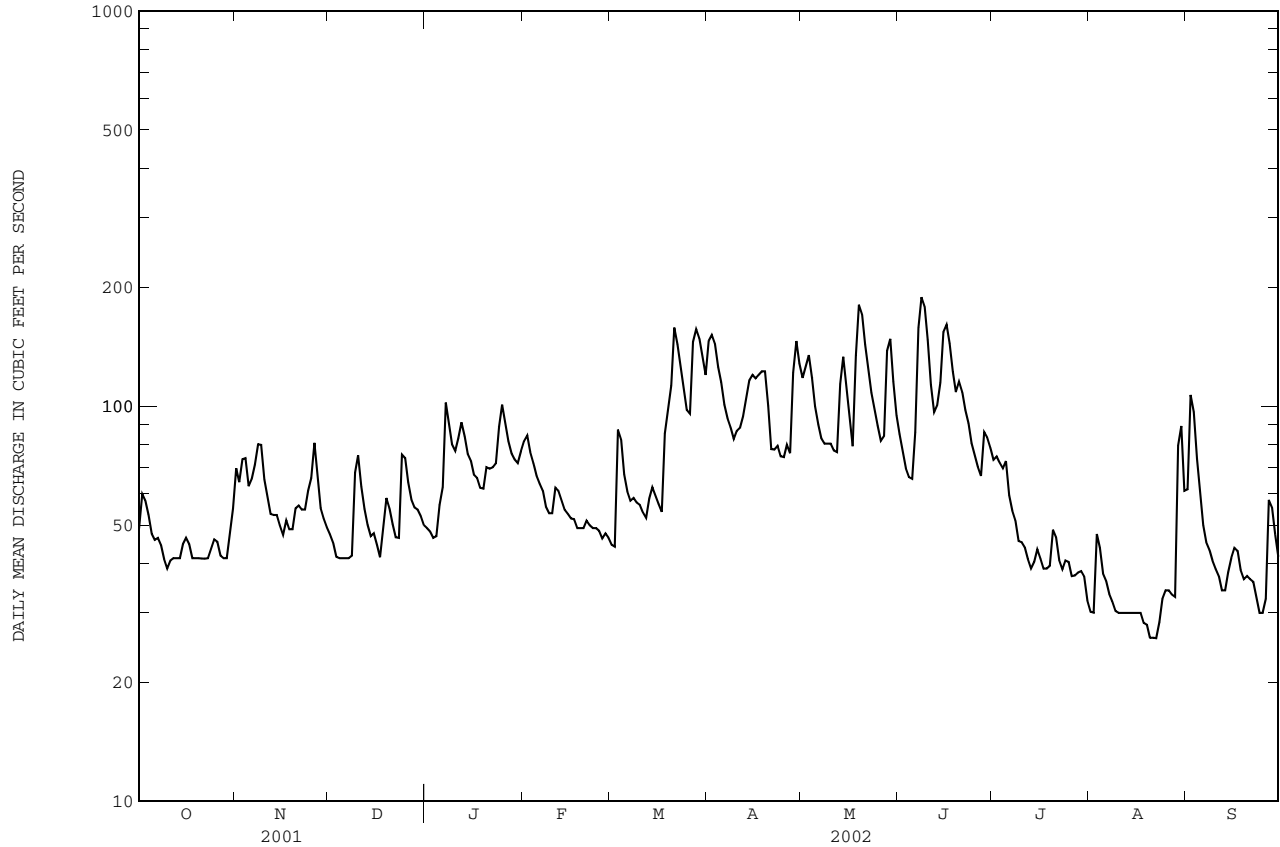
a Observed by field personnel before gage established.
 e Estimated



01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	45705		25192		168.9	
ANNUAL MEAN	125.2		69.02		286	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	668	Mar 31	189	Jun 8	1690	Aug 21 1939
LOWEST DAILY MEAN	35	Sep 10	26	Aug 20	9.0	Sep 29 1932
ANNUAL SEVEN-DAY MINIMUM	39	Sep 4	27	Aug 17	27	Oct 2 1922
MAXIMUM PEAK FLOW			191	Jun 8	1730	Aug 21 1939
MAXIMUM PEAK STAGE					10.77a	Aug 21 1939
INSTANTANEOUS LOW FLOW			26	Aug 20	9.0	Sep 29 1932
ANNUAL RUNOFF (CFSM)	1.06		0.58		1.43	
ANNUAL RUNOFF (INCHES)	14.41		7.94		19.45	
10 PERCENT EXCEEDS	266		120		310	
50 PERCENT EXCEEDS	80		59		139	
90 PERCENT EXCEEDS	42		37		61	

a From high-water mark, site and datum then in use.



01467081 SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, NJ

LOCATION.--Lat 39°56'30", long 75°00'05", Camden County, Hydrologic Unit 02040202, on left bank on downstream wingwall of bridge on Mill Road in Cherry Hill, 1.1 mi south of Maple Shade and 3.8 mi upstream from confluence with the North Branch Pennsauken Creek.

DRAINAGE AREA.--8.98 mi².

PERIOD OF RECORD.--October 1967 to September 1976, October 1977 to current year.

REVISED RECORDS.--WDR NJ-82-2: Drainage area. WDR NJ-90-1: 1968 (P), 1970 (P), 1971 (P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 8.12 ft above NGVD of 1929.

REMARKS.--Records good except from October 30 to November 20, which are fair. Diurnal fluctuations from unknown source. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jul 20	0530	*409	*7.91	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	3.1	5.0	6.1	11	4.2	32	12	6.4	3.7	3.4	43
2	7.6	3.3	4.2	4.1	8.4	5.4	8.6	27	3.8	3.1	4.3	67
3	5.2	3.5	4.1	3.8	5.8	86	7.2	8.7	3.2	3.0	6.8	8.5
4	4.7	3.5	4.2	3.6	5.5	11	5.9	5.4	3.2	2.9	3.0	5.8
5	4.9	3.1	4.3	4.8	4.9	7.0	5.6	4.7	3.3	2.5	6.8	4.6
6	10	3.3	4.3	33	4.7	6.1	5.4	4.4	19	2.4	4.8	4.4
7	4.9	3.4	4.1	49	5.1	5.7	5.0	4.2	54	2.4	2.8	3.8
8	3.6	3.1	19	12	5.2	5.4	5.1	4.1	7.1	2.3	2.7	3.7
9	3.5	3.9	45	8.3	4.8	5.2	5.4	5.9	4.9	2.7	2.6	3.7
10	3.4	3.0	7.4	7.6	6.1	10	6.4	4.8	4.0	23	2.4	3.5
11	3.8	3.7	8.3	32	20	5.2	5.7	3.7	3.4	3.9	2.4	3.4
12	3.5	2.9	6.0	11	5.9	4.9	6.5	19	3.5	2.9	2.6	3.5
13	3.4	3.5	6.1	6.7	5.1	15	6.4	84	3.6	2.7	2.4	3.6
14	3.4	3.8	12	5.7	4.7	7.9	5.8	12	37	5.5	2.4	4.7
15	16	3.7	8.1	5.0	4.5	5.6	4.9	6.1	12	3.7	2.3	4.1
16	4.1	3.7	5.3	4.9	4.5	4.9	5.3	4.9	12	2.7	2.4	7.1
17	3.7	3.8	5.1	4.8	4.5	7.8	5.1	4.5	5.7	2.5	2.4	3.9
18	3.8	3.2	28	4.6	4.2	70	6.5	115	6.3	2.6	2.3	3.3
19	3.7	3.3	7.9	4.7	4.2	15	6.6	19	47	69	2.2	3.2
20	3.8	5.0	5.7	8.8	4.6	84	7.3	8.9	66	182	2.2	3.2
21	3.8	3.6	5.9	8.3	6.0	30	4.7	6.6	8.6	15	2.2	3.1
22	4.0	2.5	5.8	8.8	4.4	11	19	5.6	6.2	8.1	2.3	3.2
23	3.9	2.3	5.7	9.0	4.8	8.5	6.7	5.0	5.3	15	2.8	3.2
24	4.6	2.3	42	31	4.4	6.9	5.1	4.6	5.5	24	45	3.1
25	4.2	25	9.3	12	4.2	6.2	12	4.3	5.7	5.8	34	3.1
26	4.9	28	6.2	6.8	4.0	12	8.5	4.3	4.3	4.5	4.7	16
27	5.1	6.1	5.3	5.9	4.1	60	5.0	3.8	14	4.4	3.3	47
28	5.1	5.3	5.1	5.4	4.2	11	66	3.6	27	4.4	3.2	18
29	3.6	4.6	4.4	5.2	---	8.8	12	3.5	4.5	4.1	78	4.9
30	4.4	4.5	4.3	6.2	---	7.6	8.2	3.7	3.6	3.7	8.7	4.0
31	3.9	---	4.0	14	---	12	---	4.1	---	3.6	4.9	---
TOTAL	178.5	154.0	292.1	333.1	159.8	540.3	293.9	407.4	390.1	418.1	252.3	293.6
MEAN	5.758	5.133	9.423	10.75	5.707	17.43	9.797	13.14	13.00	13.49	8.139	9.787
MAX	34	28	45	49	20	86	66	115	66	182	78	67
MIN	3.4	2.3	4.0	3.6	4.0	4.2	4.7	3.5	3.2	2.3	2.2	3.1
CFSM	0.64	0.57	1.05	1.20	0.64	1.94	1.09	1.46	1.45	1.50	0.91	1.09
IN.	0.74	0.64	1.21	1.38	0.66	2.24	1.22	1.69	1.62	1.73	1.05	1.22

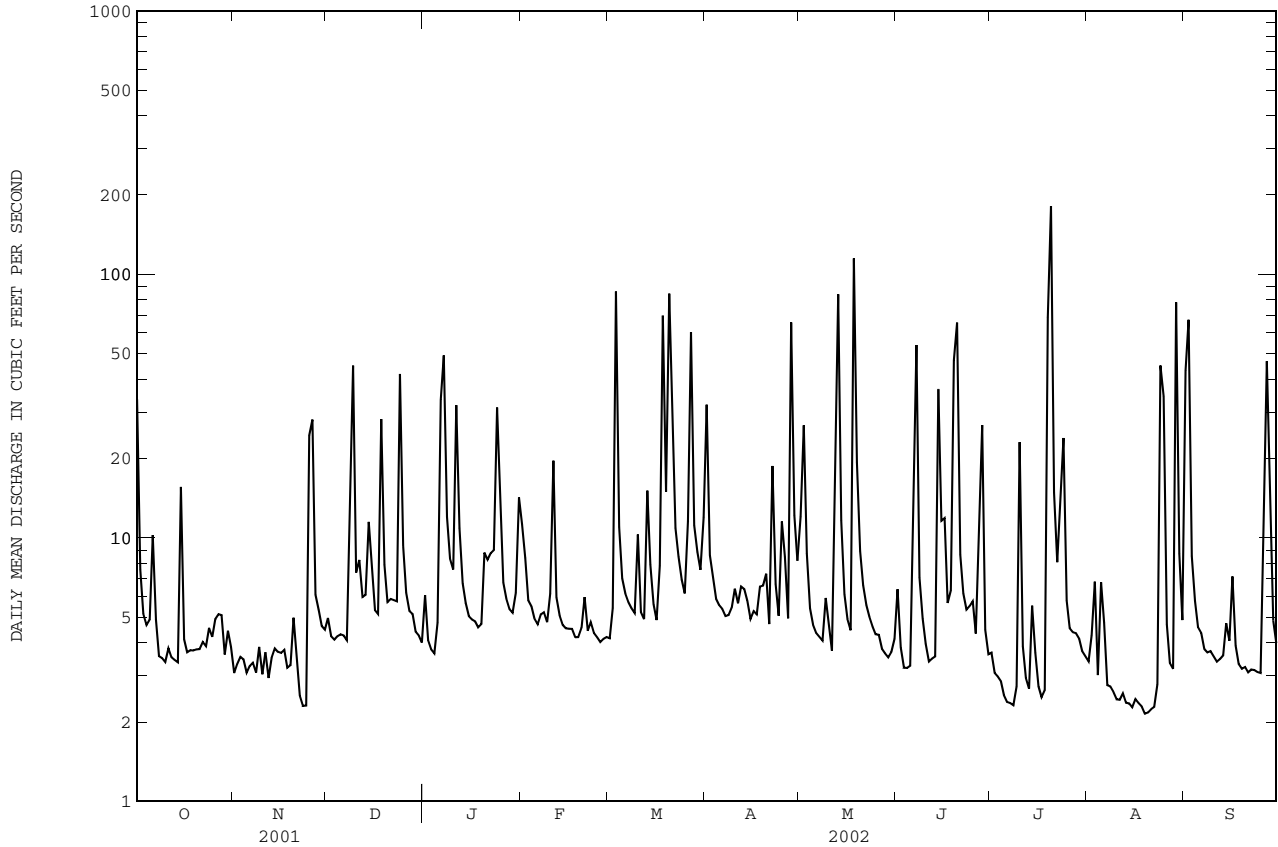
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2002, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
MEAN	13.09	16.52	21.56	22.12	19.68	24.11	21.19	18.56	14.75	16.79	15.64	14.11	13.09	16.52	21.56	22.12	19.68	24.11	21.19	18.56	14.75	16.79	15.64	14.11	13.09	16.52	21.56	22.12	19.68	24.11	21.19	18.56	14.75	16.79	15.64	14.11
MAX	26.0	48.8	60.4	50.5	44.7	46.5	49.8	47.0	33.4	46.5	58.2	38.8	26.0	48.8	60.4	50.5	44.7	46.5	49.8	47.0	33.4	46.5	58.2	38.8	26.0	48.8	60.4	50.5	44.7	46.5	49.8	47.0	33.4	46.5	58.2	38.8
(WY)	1990	1973	1997	1979	1979	1994	1983	1989	1989	1989	1978	1975	1990	1973	1997	1979	1979	1994	1983	1989	1989	1989	1978	1975	1990	1973	1997	1979	1979	1994	1983	1989	1989	1989	1978	1975
MIN	5.76	5.13	6.38	6.55	5.71	9.29	8.08	8.24	6.50	6.30	4.17	4.71	5.76	5.13	6.38	6.55	5.71	9.29	8.08	8.24	6.50	6.30	4.17	4.71	5.76	5.13	6.38	6.55	5.71	9.29	8.08	8.24	6.50	6.30	4.17	4.71
(WY)	2002	2002	1999	1981	2002	1985	1985	1993	1995	1999	1995	1968	2002	2002	1999	1981	2002	1985	1985	1993	1995	1999	1995	1968	2002	2002	1999	1981	2002	1985	1985	1993	1995	1999	1995	1968

01467081 SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1968 - 2002	
ANNUAL TOTAL	5080.8		3713.2			
ANNUAL MEAN	13.92		10.17		18.24	
HIGHEST ANNUAL MEAN					27.3 1978	
LOWEST ANNUAL MEAN					10.2 2002	
HIGHEST DAILY MEAN	313	Mar 30	182	Jul 20	551	Jul 5 1989
LOWEST DAILY MEAN	2.3	Nov 23	2.2	many days	2.2	Nov 14 1998
ANNUAL SEVEN-DAY MINIMUM	3.2	Nov 18	2.3	Aug 15	2.3	Aug 15 2002
MAXIMUM PEAK FLOW			409	Jul 20	1500	Jul 14 1994
MAXIMUM PEAK STAGE			7.91	Jul 20	11.63a	Jul 14 1994
INSTANTANEOUS LOW FLOW			1.5	Aug 19	1.1	Aug 7 1999
ANNUAL RUNOFF (CFSM)	1.55		1.13		2.03	
ANNUAL RUNOFF (INCHES)	21.05		15.38		27.60	
10 PERCENT EXCEEDS	28		19		35	
50 PERCENT EXCEEDS	6.9		4.9		9.4	
90 PERCENT EXCEEDS	3.5		3.1		4.7	

a From high water mark.



DELAWARE RIVER BASIN

01467150 COOPER RIVER AT HADDONFIELD, NJ

LOCATION.--Lat 39°54'11", long 75°01'18" (revised), Camden County, Hydrologic Unit 02040202, on right bank of Wallworth Lake in Pennypacker Park, 200 ft upstream from bridge on State Highway 41 (Kings Highway) in Haddonfield, 0.6 mi upstream from North Branch Cooper River, and 7.7 mi upstream from mouth.

DRAINAGE AREA.--17.0 mi².

PERIOD OF RECORD.--October 1963 to current year.

REVISED RECORDS.--WRD-NJ 1969: 1967(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 9.29 ft above NGVD of 1929.

REMARKS.--Records fair except for daily discharges above 40 CFS, which are good. Bypass gates were installed on both ends of the dam in August 1987. Bypass gate opened February 16, 2002 to clean out the fish ladder this year. Occasional regulation at low flow from small lakes and wastewater treatment plants (prior to summer 1987). Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jun 20	0015	*1,020	*3.44	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	9.3	6.5	5.5	17	11	41	17	24	6.0	4.8	48
2	13	8.8	6.1	6.1	16	12	17	54	9.2	5.6	4.8	92
3	9.2	9.0	6.1	6.3	10	109	14	24	7.0	5.0	8.0	18
4	7.5	9.4	6.2	6.4	9.2	28	13	13	6.2	5.3	5.3	12
5	7.4	8.7	6.5	6.2	8.8	17	12	11	5.7	5.0	4.7	9.3
6	13	7.8	7.3	40	8.2	14	10	9.8	48	4.7	4.5	7.3
7	8.0	7.5	7.1	66	8.5	12	9.9	9.2	86	4.7	4.2	6.9
8	5.3	6.7	20	24	8.4	11	11	12	20	4.7	4.0	6.8
9	5.0	5.0	48	15	8.3	10	10	11	11	4.6	4.0	6.7
10	5.0	5.2	13	12	8.8	17	12	9.0	8.9	29	4.0	5.7
11	5.0	5.5	12	39	25	12	9.5	7.6	8.1	7.0	3.8	5.4
12	5.1	4.9	9.7	21	11	11	11	12	8.0	5.4	3.8	5.0
13	5.1	4.7	9.7	13	9.1	22	10	51	9.2	4.8	4.0	4.9
14	5.3	5.3	15	9.3	8.4	16	9.4	15	62	6.6	4.0	6.3
15	20	9.9	13	8.4	8.0	13	9.2	9.3	41	6.0	4.1	6.0
16	8.6	9.7	8.1	8.3	10	12	8.9	8.8	41	5.7	4.3	8.3
17	8.2	7.1	9.3	8.3	11	14	9.1	8.9	14	5.4	3.8	6.2
18	7.3	6.2	30	8.5	11	79	9.8	143	13	5.4	3.8	5.7
19	7.1	5.3	11	8.5	11	29	11	37	171	56	3.6	5.4
20	7.1	7.1	9.0	13	11	108	13	15	381	90	3.8	5.4
21	6.9	6.2	9.3	12	12	51	9.8	11	34	14	4.0	5.1
22	6.8	5.8	5.6	13	11	22	23	9.5	15	8.5	4.0	5.0
23	7.2	5.0	5.2	14	11	15	12	8.9	11	20	4.3	5.1
24	9.0	5.1	41	38	11	13	9.4	8.4	9.5	17	23	5.2
25	13	23	11	22	11	13	15	8.0	8.9	6.1	25	5.2
26	12	23	8.2	13	11	16	14	7.8	8.0	5.3	6.6	16
27	9.0	8.0	7.1	10	11	72	9.8	7.7	9.9	5.8	6.4	52
28	8.6	7.8	6.7	10	11	23	73	14	24	6.1	6.3	27
29	9.2	7.1	6.4	9.2	---	16	24	12	7.3	6.4	68	8.4
30	9.5	6.8	6.2	8.8	---	14	14	9.6	6.5	5.3	13	7.5
31	9.7	---	6.0	18	---	18	---	9.4	---	5.1	8.7	---
TOTAL	293.1	240.9	366.3	492.8	307.7	830	454.8	583.9	1108.4	366.5	256.6	407.8
MEAN	9.455	8.030	11.82	15.90	10.99	26.77	15.16	18.84	36.95	11.82	8.277	13.59
MAX	40	23	48	66	25	109	73	143	381	90	68	92
MIN	5.0	4.7	5.2	5.5	8.0	10	8.9	7.6	5.7	4.6	3.6	4.9
CFSM	0.56	0.47	0.70	0.94	0.65	1.57	0.89	1.11	2.17	0.70	0.49	0.80
IN.	0.64	0.53	0.80	1.08	0.67	1.82	1.00	1.28	2.43	0.80	0.56	0.89

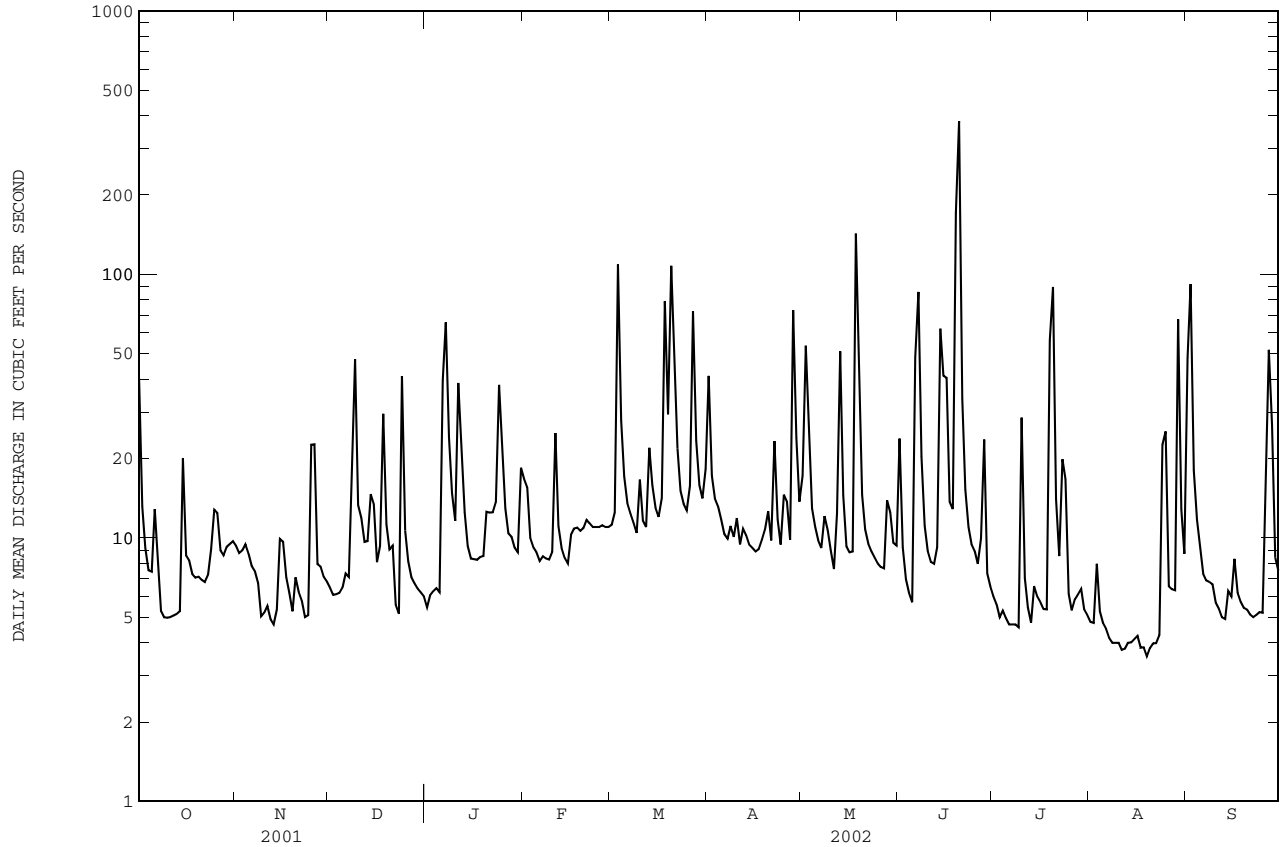
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2002, BY WATER YEAR (WY)

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002																					
MEAN	25.31	29.55	36.41	37.82	35.79	42.21	39.31	34.77	28.63	29.63	28.23	25.94	46.8	79.6	85.3	97.8	76.1	78.9	99.4	66.7	54.9	66.8	97.6	65.8	1976	1973	1997	1978	1979	1984	1983	1983	1972	1975	1971	1975	9.26	8.03	8.21	14.6	10.9	23.2	15.1	14.2	10.9	10.5	7.79	5.67	1966	2002	1999	1992	2002	1981	1992	1965	1988	1999	1966	2001

01467150 COOPER RIVER AT HADDONFIELD, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1964 - 2002	
ANNUAL TOTAL	8121.8		5708.8			
ANNUAL MEAN	22.25		15.64		32.80	
HIGHEST ANNUAL MEAN					50.6	1973
LOWEST ANNUAL MEAN					15.6	2002
HIGHEST DAILY MEAN	477	Mar 30	381	Jun 20	1510	Aug 28 1971
LOWEST DAILY MEAN	3.0	Sep 8	3.6	Aug 19	1.2	Jun 27 1964
ANNUAL SEVEN-DAY MINIMUM	3.6	Sep 4	3.9	Aug 16	3.6	Sep 4 2001
MAXIMUM PEAK FLOW			1020	Jun 20	3300	Aug 28 1971
MAXIMUM PEAK STAGE			3.44	Jun 20	5.46	Aug 28 1971
INSTANTANEOUS LOW FLOW			3.3	Aug 18	0.80a	Nov 13 1972
ANNUAL RUNOFF (CFSM)	1.31		0.92		1.93	
ANNUAL RUNOFF (INCHES)	17.77		12.49		26.21	
10 PERCENT EXCEEDS	45		27		57	
50 PERCENT EXCEEDS	12		9.2		22	
90 PERCENT EXCEEDS	5.2		5.0		10	

a Regulation from unknown source

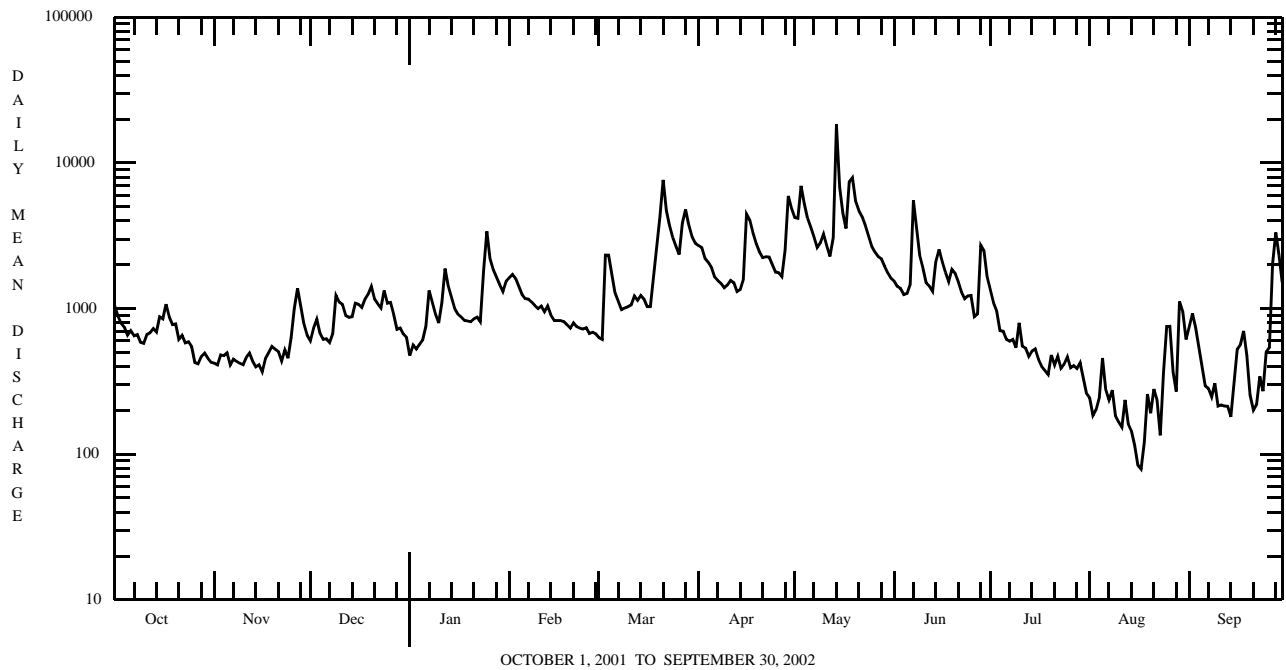


01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1932 - 2002	
ANNUAL TOTAL	771730		507166		2702	
ANNUAL MEAN	2114		1389		4791	
HIGHEST ANNUAL MEAN					1014	1984
LOWEST ANNUAL MEAN					93400	1965
HIGHEST DAILY MEAN	12200	Mar 30	18400	May 14	24	Jun 23 1972
LOWEST DAILY MEAN	368	Nov 16	79	Aug 17	0.60	Sep 2 1966
ANNUAL SEVEN-DAY MINIMUM	426	Nov 10	134	Aug 12	24	Sep 28 1941
MAXIMUM PEAK FLOW			28400	May 14	a103000	Jun 23 1972
MAXIMUM PEAK STAGE			9.75	May 14	14.65	Jun 23 1972
INSTANTANEOUS LOW FLOW			54	Aug 16	0.00	Sep 2 1966
10 PERCENT EXCEEDS	4610		3090		5780	
50 PERCENT EXCEEDS	1290		889		1660	
90 PERCENT EXCEEDS	495		302		434	

a From rating curve extended above 92,000 ft³/s.

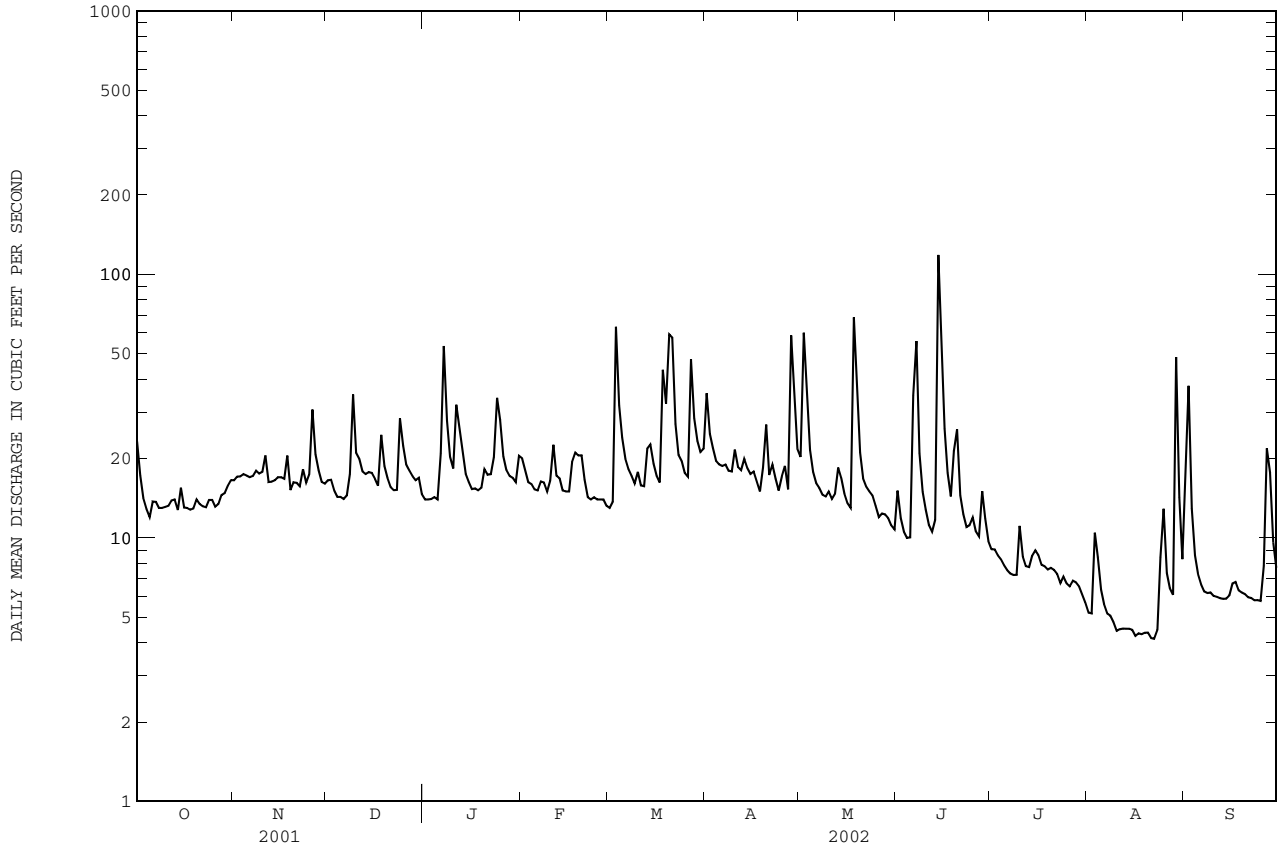
† Diversion for municipal supply of City of Philadelphia, equivalent in cubic feet per second.



01477120 RACCOON CREEK NEAR SWEDESBORO, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002	
ANNUAL TOTAL	11105.1		6034.5			
ANNUAL MEAN	30.42		16.53		38.96	
HIGHEST ANNUAL MEAN					64.7 1973	
LOWEST ANNUAL MEAN					16.5 2002	
HIGHEST DAILY MEAN	497	Mar 30	118	Jun 14	1260	Aug 28 1971
LOWEST DAILY MEAN	9.3	Aug 9	4.1	Aug 22	2.9	Jul 14 1966
ANNUAL SEVEN-DAY MINIMUM	10	Aug 3	4.3	Aug 16	3.3	Aug 25 1966
MAXIMUM PEAK FLOW			147	Jun 14	3530	Aug 10 1967
MAXIMUM PEAK STAGE			9.77	Jun 14	17.44a	Aug 10 1967
INSTANTANEOUS LOW FLOW			3.3	Aug 21	2.9	Jul 14 1966
ANNUAL RUNOFF (CFSM)	1.13		0.61		1.45	
ANNUAL RUNOFF (INCHES)	15.36		8.35		19.68	
10 PERCENT EXCEEDS	51		24		65	
50 PERCENT EXCEEDS	20		15		28	
90 PERCENT EXCEEDS	12		6.2		14	

a Adjusted to current datum



RESERVOIRS IN DELAWARE RIVER BASIN

- 01416900 PEPACTON RESERVOIR.--Lat 42°04'38", long 74°58'04", Delaware County, NY, Hydrologic Unit 02040102, near release chamber at Downsview Dam on East Branch Delaware River, and 1.6 mi east of Downsview. DRAINAGE AREA, 372 mi². PERIOD OF RECORD, September 1954 to current year. REVISED RECORDS, WDR NY-90-1: Drainage area. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929 (levels by Board of Water Supply, City of New York).
Reservoir is formed by an earthfill rockfaced 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 149,799 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 (see elsewhere in this section), for water supply to 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 provided by New York City Department of Environmental Protection.
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..
EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 133,365 mil gal, June 30, elevation, 1,270.79 ft; minimum observed, 55,188 mil gal, Jan. 24, elevation, 1,213.64 ft.
- 01424997 CANNONSVILLE RESERVOIR.--Lat 42°03'46", long 75°22'29", Delaware County, NY, Hydrologic Unit 02040101, in emergency gate tower at Cannonsville Dam on West Branch Delaware River, and 1.8 mi southeast of Stilesville. DRAINAGE AREA, 454 mi². PERIOD OF RECORD, October 1963 to current year. REVISED RECORDS, WDR NY-71-1: 1966. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929 (levels by Board of Water Supply, City of New York).
Reservoir is formed by an earthfill rockfaced 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 elsewhere in this section); is released in Delaware River for downstream low flow augmentation, as directed by the Delaware River Master; and is released for conservation flow in the Delaware River. No diversion prior to January 29, 1964. Records provided by New York City Department of Environmental Protection.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,617 mil gal, Mar. 16, 1986, elevation, 1,156.73 ft; minimum observed (after first filling), 6,157 mil gal, Nov. 26, 2001, elevation, 1,051.76 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 92,320 mil gal, June 19, elevation, 1,145.86 ft; minimum observed, 6,157 mil gal, Nov. 26, elevation, 1,051.76 ft.
- 01428900 PROMPTON RESERVOIR.--Lat 41°35'18", long 75°19'39", Wayne County, Hydrologic Unit 02040103, at dam on West Branch Lackawaxen River, 0.3 mi north of Prompton, 0.4 mi upstream from highway bridge, and 0.5 mi upstream from Van Auken Creek. DRAINAGE AREA, 59.6 mi². PERIOD OF RECORD, December 1960 to current year. GAGE, data collection platform (U.S. Army Corps of Engineers datum).
REMARKS.--Reservoir formed by an earth and rockfill dam with ungated bedrock 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 is 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.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,170 acre-ft, June 29, 1973, elevation, 1,138.40 ft; minimum (after first filling), 2,500 acre-ft, June 5, 1991, elevation, 1,121.46 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,490 acre-ft, Apr. 29, elevation, 1,128.53 ft; minimum contents, 2,930 acre-ft, Aug. 12-20, elevation, 1,122.96 ft.
- 01429400 GENERAL EDGAR JADWIN RESERVOIR.--Lat 41°36'44", long 75°15'55", Wayne County, Hydrologic Unit 02040103, at dam on Dyberry Creek, 0.4 mi upstream from unnamed tributary, 2.4 mi north of Honesdale, and 2.9 mi upstream from mouth. DRAINAGE AREA, 64.5 mi². PERIOD OF RECORD, October 1959 to current year. GAGE, data collection platform (U.S. Army Corps of Engineers datum).
REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 1,053.00 ft. Storage began October 1959. Capacity at elevation of 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. Since Oct. 1, 1996, pool elevations below 990 ft are not recorded.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 6,520 acre-ft, June 19, 1973, elevation, 1,017.40 ft; minimum contents, no storage many times.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 867 acre-ft, May 14, elevation, 992.67 ft; minimum contents, no storage many times.
- 01431700 LAKE WALLENPAPACK.--Lat 41°27'35", long 75°11'10", Wayne County, Hydrologic Unit 02040103, at dam on Wallenpau-pack Creek at Wilsonville, 1.2 mi south of Hawley, and 1.5 mi upstream from mouth. DRAINAGE AREA, 228 mi². PERIOD OF RECORD, January 1926 to current year. GAGE, vertical staff. Datum of gage is above NGVD of 1929 (levels by Pennsylvania Power and Light Co.).
REMARKS.--Lake formed by concrete gravity-type and earthfill dam, with concrete spillway in two sections at elevation 1,176.00 ft. Spillway equipped with 14 ft high roller gate on each section. Storage began Nov. 3, 1925; water in reservoir first reached minimum pool elevation January 1926. Total capacity at elevation 1,190.00 ft (top of gates), is 209,300 acre-ft, of which 108,900 acre-ft, above elevation 1,170.00 ft (minimum pool), is controlled storage. Prior to 1984, minimum pool elevation was 1,160.00 ft. Reservoir is used for generation of hydroelectric power. Figures given herein represent usable contents. Records prior to 1984 included additional usable contents of 48,900 acre-ft.
COOPERATION.--Records provided by Pennsylvania Power and Light Co.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 129,300 acre-ft, Aug. 19-21, 1955, elevation, 1,193.45 ft; minimum (after first filling), 12,280 acre-ft (old minimum pool), Mar. 28, 1958, elevation, 1,162.60 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 94,680 acre-ft, June 10, elevation, 1,187.7 ft; minimum contents, 32,050 acre-ft, Sept. 28-30, elevation 1,176.5 ft.
- 01433000 SWINGING BRIDGE RESERVOIR.--Lat 41°34'21", long 74°47'00", Sullivan County, NY, Hydrologic Unit 02040104, at dam on Mongaup River, and 1.8 mi northwest of Fowlersville. DRAINAGE AREA, 116 mi², excluding Cliff Lake, Lebanon Lake, and Toronto Reservoir. PERIOD OF RECORD, January 1930 to current year. REVISED RECORDS, WSP 1552: 1951-54. WDR NY-86-1: 1985. WDR NY-90-1: Drainage area. GAGE, nonrecording gage, daily readings at 0900. Datum of gage is above NGVD of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,010 ft.
Reservoir is formed by an earthfill dam. Storage began Jan. 19, 1930. Usable capacity, 1,436.6 mil ft³ 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 ft³. Reservoir is used for storage of water for power. Figures given herein represent contents above 1,010.0 ft. Water is received from Cliff Lake, Lebanon Lake, and Toronto Reservoir. Records provided by Mirant New York, Inc.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,461.6 mil ft³, Mar. 14, 1977, elevation, 1,071.8 ft; minimum observed (after first filling), -141.4 mil ft³, Dec. 2, 1938, elevation, 987.5 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,379.2 mil ft³, Mar. 28, elevation, 1,069.8 ft; minimum observed, 847.5 mil ft³, Nov. 29, 30, Dec. 14, elevation, 1,055.1 ft.

RESERVOIRS IN DELAWARE RIVER BASIN--Continued

- 01433100 TORONTO RESERVOIR.--Lat 41°37'15", long 74°49'55", Sullivan County, NY, Hydrologic Unit 02040104, at dam on Black Lake Creek, and 2.5 mi southeast of village of Black Lake. DRAINAGE AREA, 22.9 mi². PERIOD OF RECORD, January 1926 to current year. REVISED RECORDS, WSP 1552: 1951-54. WSP 1702: 1959 (M). WDR NY-85-1: 1984. WDR NY-86-1: 1985. WDR NY-90-1: Drainage area. GAGE, nonrecording gage, daily readings at 0900. Datum of gage is above NGVD of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,165.0 ft.
- Reservoir is formed by an earthfill dam completed July 24, 1926. Storage began Jan. 13, 1926. Usable capacity 1,098.2 mil ft³ 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 ft³. Reservoir is used for storage of water for power. Figures given herein represent contents above 1,165.0 ft. Records provided by Mirant New York, Inc.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,171.2 mil ft³, July 20, 1945, elevation, 1,222.0 ft; minimum observed (after first filling), -26.8 mil ft³, Nov. 15, 1928, elevation, 1,144.5 ft.
- EXTREMES OF CURRENT YEAR.--Maximum contents observed, 955.0 mil ft³, July 1, 3, 5, elevation, 1,215.8 ft; minimum observed, 413.3 mil ft³, Nov. 30, elevation, 1,195.6 ft.
- 01433200 CLIFF LAKE.--Lat 41°35'00", long 74°47'40", Sullivan County, NY, Hydrologic Unit 02040104, at dam on Black Lake Creek, and 2.5 mi northwest of Fowlersville. DRAINAGE AREA, 6.46 mi², excluding area above Toronto Reservoir. PERIOD OF RECORD, January 1939 to current year. REVISED RECORDS, WSP 1552: 1951-54. WDR NY-75-1: 1974(m). WDR NY-86-1: 1985. GAGE, nonrecording gage, daily readings at 0900. Datum of gage is above NGVD of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,043.3 ft.
- Reservoir is formed by a concrete gravity-type dam. Storage began Jan. 6, 1939. Usable capacity, 136.06 mil ft³ 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 ft³. 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 provided by Mirant New York, Inc.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 145.44 mil ft³, July 30, 31, 1945, elevation, 1,073.1 ft; minimum observed (after first filling), about -6.54 mil ft³, Mar. 16, 1963, elevation, 1,038.0 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 118.10 mil ft³, May 29, elevation, 1,069.8 ft; minimum observed, 31.39 mil ft³, Dec. 12, elevation, 1,054.9 ft.
- 01435900 NEVERSINK RESERVOIR.--Lat 41°49'27", long 74°38'20", Sullivan County, NY, Hydrologic Unit 02040104, at a gate-house at Neversink Dam on Neversink River, and 2 mi southwest of Neversink. DRAINAGE AREA, 92.5 mi². PERIOD OF RECORD, June 1953 to current year. REVISED RECORDS, WDR NY-85-1: Drainage area. GAGE, nonrecording gage read daily at 0900. Datum of gage is above NGVD of 1929 (levels by Board of Water Supply, City of New York).
- Reservoir is formed by an earthfill rockfaced 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 (see elsewhere in this section); 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 provided by New York City Department of Environmental Protection.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 37,983 mil gal, Apr. 17, 1993, elevation, 1,441.68 ft; minimum observed (after first filling), 1,985 mil gal, Nov. 25, 1964, elevation, 1,316.98 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 33,471 mil gal, June 24, elevation, 1,432.33 ft; minimum observed, 13,224 mil gal, Nov. 30, elevation, 1,377.07 ft.
- 01447780 FRANCIS E. WALTER RESERVOIR (formerly published as Bear Creek Reservoir).--Lat 41°06'45", long 75°43'15", Luzerne County, Hydrologic Unit 02040106, at dam on Lehigh River, 2,200 ft downstream from Bear Creek, and 5.0 mi northeast of White Haven. DRAINAGE AREA, 289 mi². PERIOD OF RECORD, February 1961 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).
- REMARKS.--Reservoir formed by an earthfill embankment covered with a rock shell, with concrete spillway at elevation 1,450.0 ft. Storage began Feb. 17, 1961; reservoir first reached conservation pool in June 1961. Total capacity (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. Flow regulated by three gates and low-flow by-pass system. Reservoir is used for flood control and recreation. Satellite telemetry at station.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 62,100 acre-ft, Sept. 28, 1985, elevation, 1,417.08 ft; minimum contents (after establishment of conservation pool), 980 acre-ft, July 6, 1982, elevation, 1,287.70 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,750 acre-ft, May 29, elevation, 1,399.27 ft; minimum contents, 1,660 acre-ft, Dec. 26, Jan. 19, elevation, 1,298.22 ft.
- 01449400 PENN FOREST RESERVOIR.--Lat 40°55'45", long 75°33'45", Carbon County, Hydrologic Unit 02040106, at dam on Wild Creek, 0.7 mi upstream from hatchery, 2.6 mi upstream from Wild Creek Dam, 4.4 mi upstream from mouth, and 10.0 mi northeast of Palmerton. DRAINAGE AREA, 16.5 mi². PERIOD OF RECORD, October 1958 to current year. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929 (levels by city of Bethlehem).
- REMARKS.--Reservoir formed by a roller-compacted concrete dam with ungated concrete spillway at elevation 1,000.60 ft (capacity, 18,510 acre-ft). Storage began October 1958. Reservoir is used for municipal water supply. Regulation by valves on pipe through dam. Figures given herein represent total contents and include diversion since October 1969 from Tunkhannock Creek Basin to Wild Creek Basin.
- COOPERATION.--Records provided by city of Bethlehem.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 20,800 acre-ft, Apr. 16, 1983, elevation, 1,001.69 ft; minimum contents, 0 acre-ft, many days during 1996, 1997, 1998, and 1999 water years, elevation, 890.60 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 18,730 acre-ft, Apr. 29, elevation, 1,001.03 ft; minimum contents, 15,420 acre-ft, Mar. 2, elevation, 993.21 ft.
- 01449700 WILD CREEK RESERVOIR.--Lat 40°53'50", long 75°33'50", Carbon County, Hydrologic Unit 02040106, at dam on Wild Creek, 1.6 mi upstream from mouth, 2.4 mi south of hatchery, and 7.5 mi northeast of Palmerton. DRAINAGE AREA, 22.2 mi². PERIOD OF RECORD, January 1941 to current year. GAGE, nonrecording gage. Datum of gage is above NGVD of 1929 (levels by city of Bethlehem).
- REMARKS.--Reservoir formed by earthfill dam with concrete ungated spillway at elevation 820.00 ft. Storage began January 27, 1941; reservoir first reached minimum contents 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. Regulation by valves on pipe through dam. Figures given herein represent usable contents and include diversion since October 1969 from Tunkhannock Creek Basin to Wild Creek Basin.
- COOPERATION.--Records provided by city of Bethlehem.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 12,880 acre-ft, May 23, 1942, elevation, 822.93 ft; minimum contents (after first filling), 2,680 acre-ft, Nov. 15, 1966, elevation, 774.10 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,160 acre-ft, May 14, elevation, 820.52 ft; minimum contents, 11,330 acre-ft, Oct. 8, elevation 817.30 ft.

RESERVOIRS IN DELAWARE RIVER BASIN--Continued

- 01449790 BELTZVILLE LAKE.--Lat 40°50'56", long 75°38'19", Carbon County, Hydrologic Unit 02040106, at dam on Pohopoco Creek, 0.4 mi upstream from gaging station on Pohopoco Creek, 0.6 mi upstream from Sawmill Run, and 2.3 mi northeast of Parryville. DRAINAGE AREA, 96.3 mi². PERIOD OF RECORD, February 1971 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).
 REMARKS.--Lake formed by an earth and rockfill dam with ungated, partially lined spillway at an elevation of 651.00 ft. Storage began Feb. 8, 1971. Capacity at elevation 651.00 ft is 68,300 acre-ft. Ordinary minimum contents (conservation) pool elevation is 628.00 ft, capacity, 41,250 acre-ft. Dead storage is 1,390 acre-ft. Lake 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.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 49,730 acre-ft, Jan. 29, 1976, elevation, 636.30 ft; minimum contents, 15,110 acre-ft, Mar. 31, 1983, elevation, 588.79 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,570 acre-ft, May 20, elevation, 629.37 ft; minimum contents, 39,660 acre-ft, Nov. 25, elevation, 626.33 ft.
- 01455221 MERRILL CREEK RESERVOIR.--Lat 40°43'42", long 75°06'11", Warren County, Hydrologic Unit 02040105, at dam on Merrill Creek in Harmony Township, 4.5 mi northeast of Phillipsburg, and 2.8 mi upstream from mouth. DRAINAGE AREA, 3.13 mi². PERIOD OF RECORD, March 1988 to current year. GAGE, measurement from reference point. Datum of gage is above NGVD of 1929.
 REMARKS.--Reservoir formed by zoned, compacted, earth-rockfill dam constructed in November 1987. Storage began March 1988. Total capacity at spillway elevation, 16,617,000,000 gal, elevation 929.0 ft. Usable capacity, 15,6654,000,000 gal. Reservoir used for storage of water pumped from the Delaware River through a 57-inch diameter pipe 17,000 ft long. Releases are made into the Delaware River through the same pipe. Reservoir is used to augment low flow in the Delaware River. Conservation release of 3 ft³/s made to Merrill Creek.
 COOPERATION.--Records provided by the Merrill Creek Reservoir Project.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 16,710,000,000 gal, Jan. 15, 1990, elevation, 923.3 ft; minimum (after first filling), 12,800,000,000 gal, Mar. 17 and 26, 2002, elevation 908.20 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,470,000,000 gal, May 19, elevation 921.93 ft; minimum, 12,800,000,000 gal, Mar. 17 and 26, elevation 908.20 ft.
- 01455400 LAKE HOPATCONG.--Lat 40°55'00", long 74°39'50", Morris County, Hydrologic Unit 02040105, in gatehouse of Lake Hopatcong Dam on Musconetcong River at Landing. DRAINAGE AREA, 25.3 mi². PERIOD OF RECORD, February 1887 to current year. Monthend contents only prior to October 1950, published in WSP 1302. REVISED RECORDS, WDR NJ-82-2: Drainage area; WDR NJ-83-2: Corrections 1981 (m/m). GAGE, staff gage. 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 NGVD of 1929.
 REMARKS.--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), also by 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. Data collected at 0700 on the first day of the following month since Jan. 1985, previously data collected at 2400 on the last day of each month. Lake used for recreation.
 COOPERATION.--Records provided by New Jersey Department of Environmental Protection.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 9,745,000,000 gal, Aug. 13, 2000, gage height, 11.80 ft; minimum, 1,525,000,000 gal, Dec. 29, 1960, gage height, 0.65 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,948,000,000 gal, May 19,20, gage height, 9.58 ft; minimum, 5,693,000,000 gal, Jan. 14-18, and 24, gage height, 6.82 ft.
- 01459350 NOCKAMIXON RESERVOIR.--Lat 40°28'13", long 75°11'10", Bucks County, PA, Hydrologic Unit 02040105, at dam on Tohickon Creek, 6.2 mi upstream from gaging station on Tohickon Creek, 1.3 mi east of Ottsville, and 2.9 mi upstream from Mink Run. DRAINAGE AREA.-- 73.3 mi². PERIOD OF RECORD.--December 1973 to Sept. 2000. GAGE.--Water stage recorder. Datum of gage is above NGVD of 1929 (levels by Pennsylvania Department of Environmental Protection).
 REMARKS.--Reservoir formed by earthfill dam with concrete spillway at elevation 395.0 ft. Storage began December 1973. Total capacity is 66,500 acre-ft at elevation 410 ft. Reservoir is used primarily for recreation, but can be used for water supply and flood control.
 COOPERATION.--Records furnished by Pennsylvania Department of Environmental Protection.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 45,390 acre-ft, Sept. 17, 1999, elevation, 398.50 ft; minimum contents (after first filling), 15,900 acre-ft, around Dec. 31, 1975, elevation, 372.78 ft.
 EXTREMES FOR CURRENT YEAR.--Data not available for current year.
- 01469200 STILL CREEK RESERVOIR.--Lat 40°51'25", long 75°59'30", Schuylkill County, Hydrologic Unit 02040106, at dam on Still Creek, 1.0 mi upstream from mouth, and 2.3 mi north of Hometown. DRAINAGE AREA, 7.19 mi². PERIOD OF RECORD, January 1933 to current year. GAGE, nonrecording gage. Datum of gage is above NGVD of 1929 (levels by Panther Valley Water Co.).
 REMARKS.--Reservoir formed by earthfill dam with ungated concrete spillway at elevation 1,182.00 ft. Storage began 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 by valves on pipe through dam. COOPERATION.--Records provided by the borough of Tamaqua.
 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 or 1951 water years; minimum contents (after first filling), 588 acre-ft, Dec. 8, 1944, elevation, 1,136.70 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,340 acre-ft, Mar. 27, elevation, 1,182.2 ft; minimum contents, 7,190 acre-ft, Sept. 30, elevation, 1,178.0 ft.
- 01470870 BLUE MARSH LAKE.--Lat 40°22'45", long 76°01'59", Berks County, Hydrologic Unit 02040203, at dam on Tulpehocken Creek, 0.8 mi upstream from gaging station on Tulpehocken Creek (station 01470960), 1.0 mi northeast of Blue Marsh, 1.9 mi upstream from Rebers Bridge, and 5.1 mi southeast of Bernville. DRAINAGE AREA, 175 mi². PERIOD OF RECORD, April 1979 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).
 REMARKS.--Lake formed by earthfill dam with ungated concrete spillway at elevation 307.00 ft. Storage began April 23, 1979. Capacity at elevation 307.00 ft is 50,000 acre-ft. Dead storage is 3,000 acre-ft. Lake is used for flood control, water supply, and recreation. Figures herein represent total contents. Satellite telemetry at station. COOPERATION.--Records provided by U.S. Army Corps of Engineers.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,480 acre-ft, Apr. 17, 1983, elevation, 301.65 ft; minimum contents (after first filling), 13,150 acre-ft, Mar. 18, 1994, elevation, 279.88 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,410 acre-ft, May 20, elevation, 291.29 ft; minimum contents, 16,830 acre-ft, Nov. 25, elevation, 284.17 ft.

RESERVOIRS IN DELAWARE RIVER BASIN--Continued

01472200 GREEN LANE RESERVOIR.--Lat 40°20'30", long 75°28'45", Montgomery County, Hydrologic Unit 02040203, at dam on Perkiomen Creek, 0.4 mi west of Green Lane, and 2.1 mi upstream from Unami Creek. DRAINAGE AREA, 70.9 mi². PERIOD OF RECORD, December 1956 to current year. GAGE, water-stage recorder. Datum of gage is above NGVD of 1929 (levels by Philadelphia Suburban Water Co.).

REMARKS.--Reservoir formed by concrete, gravity-type dam with ungated spillway at elevation 286.00 ft. Storage began December 21, 1956. Capacity at elevation 286.00 ft is 13,430 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation by valves on pipe through dam. COOPERATION.--Records provided by Philadelphia Suburban Water Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,030 acre-ft, June 23, 1972, elevation, 290.05 ft; minimum contents (after first filling), 1,270 acre-ft, Aug. 25, 1957, elevation, 251.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,550 acre-ft, May 14, elevation, 287.26 ft; minimum contents, 9,930 acre-ft, Jan. 11, elevation, 281.28 ft.

01480399 CHAMBERS LAKE.--Lat 40°01'40", long 75°51'03", Chester County, Hydrologic Unit 02040205, at Hibernia Dam on Birch Run, 0.6 mi upstream from gaging station on Birch Run (station 01480400), 0.9 mi upstream from mouth, and 1.4 mi northwest of Wagontown. DRAINAGE AREA, 4.5 mi². PERIOD OF RECORD, May 1997 to current year. GAGE, non-recording gage. Manual measurement from top of concrete riser at upstream flank of Hibernia Dam. Datum of gage is above NGVD of 1929 (levels by Chester County Water Resources Authority, Chester County Parks and Recreation Department).

REMARKS.--Reservoir formed by earthfill dam with principle spillway at elevation 587.5 ft, capacity 2,000 acre-ft. Dam crest at elevation 596.5 ft. Normal elevation 580 ft, capacity 1,226 acre feet. Reservoir is used for water supply, flood control, and recreation. Figures given herein represent total contents.

COOPERATION.--Records provided by Chester County Water Resources Authority, in cooperation with City of Coatesville Authority and Chester County Parks and Recreation Department.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,440 acre-ft, March 22, 2000, elevation, 582.76 ft; minimum contents, 659 acre-ft, Dec. 28, 1998, elevation, 572.42 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,240 acre-ft, June 7, elevation, 580.68 ft; minimum contents, 666 acre-ft, Sept. 26, elevation, 572.58 ft.

01480684 MARSH CREEK LAKE.--Lat 40°03'24", long 75°43'06", Chester County, Hydrologic Unit 02040205, on right bank at dam on Marsh Creek, 0.3 mi upstream from mouth, and 3.2 mi north of Downingtown. DRAINAGE AREA, 20.1 mi². PERIOD OF RECORD, November 1973 to current year. GAGE, Water-stage recorder. Datum of gage is above NGVD of 1929 (levels by Pennsylvania Department of Environmental Protection).

REMARKS.--Reservoir formed by earthfill dam with concrete spillway at elevation 359.5 ft. Storage began November 1973. Total capacity, 22,190 acre-ft, elevation 373 ft. Reservoir is used for water supply, flood control, and recreation. Figures given herein represent contents above lowest gate sill at elevation 289.5 ft.

COOPERATION.--Records provided by Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 16,500 acre-ft, Sept. 18, 1999, elevation, 363.49 ft; minimum contents (after first filling), 10,410 acre-ft, Mar. 3, 1976, elevation, 351.75 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,938 acre-ft, May 19, elevation, 360.87 ft; minimum contents, 12,899 acre-ft, Jan. 6, elevation, 356.98 ft.

MONTH-END ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)††	Contents (million gallons)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet)††	Contents (million gallons)	Change in contents (equiv- alent in ft ³ /s)			
01416900 Pepacton Reservoir									
Sept. 30.....	1,272.41a	136,177 a		1,139.66a	83,317 a				
Oct. 31.....	1,267.66a	128,020 a	-407 a	1,141.51a	85,968 a	+132 a			
Nov. 30.....	1,262.53a	119,525 a	-438 a	1,144.38a	90,116 a	+214 a			
Dec. 31.....	1,266.97a	126,858 a	+366 a	1,151.05a	100,308 a	+509 a			
CAL YR 2000	--	--	+73.0a	--	--	+117 a			
01424997 Cannonsville Reservoir									
Jan. 31.....	1,261.66a	118,117 a	-436 a	1,145.64a	91,985 a	-415 a			
Feb. 28.....	1,261.08a	117,182 a	-1.7a	1,149.52a	97,888 a	+326 a			
Mar. 31.....	1,262.55a	119,557 a	+119 a	1,151.61a	101,209 a	+166 a			
Apr. 30.....	1,279.38a	148,659 a	+1,501 a	1,150.80a	99,905 a	-67.3a			
May 31.....	1,273.61a	138,282 a	-518 a	1,147.45a	94,739 a	-258 a			
June 30.....	1,274.31a	139,517 a	+63.7a	1,145.70a	92,077 a	-137 a			
July 31.....	1,266.78a	126,539 a	-648 a	1,136.95a	79,573 a	-624 a			
Aug. 31.....	1,257.88a	112,101 a	-721 a	1,118.58a	56,126 a	-1,170 a			
Sept. 30.....	1,249.08a	98,808 a	-686 a	1,100.10a	36,280 a	-1,024 a			
WTR YR 2001	--	--	-158 a	--	--	-199 a			
Date	Elevation (feet)††	Contents (million gallons)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet)††	Contents (million gallons)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft ³ /s)
01416900 Pepacton Reservoir			01424997 Cannonsville Reservoir			01428900 Prompton Reservoir			
Sept. 30.....	1,249.08	98,808		1,100.10	36,280		1,123.35	3,040	---
Oct. 31.....	1,238.58	84,284	-725	1,067.81	12,699	-1,177	1,123.25	3,010	-5
Nov. 30.....	1,218.99	60,889	-1,207	1,052.69	6,459	-322	1,123.42	3,060	+0.8
Dec. 31.....	1,216.21	57,894	-149	1,066.32	11,942	+274	1,124.38	3,330	+4.4
CAL YR 2001	--	--	-292	--	--	-375	--	--	-3
Jan. 31.....	1,216.95	58,683	+39.4	1,080.83	20,491	+427	1,126.00	3,780	+7.3
Feb. 28.....	1,225.86	68,606	+548	1,101.45	37,618	+946	1,124.94	3,480	-5.4
Mar. 31.....	1,237.62	83,028	+720	1,112.65	49,336	+585	1,126.34	3,880	+6.5
Apr. 30.....	1,247.03	95,860	+662	1,125.64	64,703	+793	1,127.34	4,160	+4.7
May 31.....	1,262.73	119,850	+1,197	1,142.10	86,821	+1,104	1,125.11	3,530	-10.2
June 30.....	1,270.72	133,244	+691	1,144.18	89,827	+155	1,124.76	3,430	-1.7
July 31.....	1,262.75	119,882	-667	1,132.41	73,448	-818	1,123.19	2,990	-7.2
Aug. 31.....	1,253.74	105,723	-707	1,110.43	46,867	-1,327	1,123.22	3,000	+0.2
Sept. 30.....	1,244.67	92,537	-680	1,101.44	37,608	-478	1,124.98	3,490	+8.2
WTR YR 2002	--	--	-26.6	--	--	+5.6	--	--	+6

a Corrected figures for water year 2001.

RESERVOIRS IN DELAWARE RIVER BASIN--Continued

MONTH-END ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) *	Contents (million ft ³)	Change in contents (equiv- alent in ft ³ /s)
01429400 General Edgar Jadwin Reservoir			01431700 Lake Wallenpaupack			01433000 Swinging Bridge Reservoir			
Sept. 30.....	--	0	---	1,179.3	47,710	---	1,061.3	1,056.0	
Oct. 31.....	--	0	0	1,179.1	46,370	-21.8	1,058.4	955.6	- 37.5
Nov. 30.....	--	0	0	1,179.6	49,780	+57.3	1,055.1	847.5	- 41.7
Dec. 31.....	--	0	0	1,180.6	55,440	+92.1	1,056.5	892.6	+ 16.8
CAL YR 2001	--	--	0	--	--	+8.8	--	--	- 10.7
Jan. 31.....	--	0	0	1,181.0	57,340	+30.9	1,056.3	886.1	- 2.4
Feb. 28.....	--	0	0	1,182.4	64,520	+129	1,063.3	1,128.1	+100
Mar. 31.....	--	0	0	1,185.7	83,810	+314	1,068.2	1,315.1	+ 69.8
Apr. 30.....	--	0	0	1,186.9	90,170	+107	1,068.3	1,319.1	+ 1.5
May 31.....	--	0	0	1,186.9	90,170	0	1,068.1	1,311.1	- 2.9
June 30.....	--	0	0	1,186.1	85,880	-72.1	1,068.1	1,311.1	0
July 31.....	--	0	0	1,182.0	62,390	-382	1,064.8	1,183.8	- 47.5
Aug. 31.....	--	0	0	1,180.7	55,910	-105	1,064.7	1,180.1	- 1.4
Sept. 30.....	--	0	0	1,176.5	32,050	-401	1,064.0	1,064.0	1,153.9
WTR YR 2002	--	--	0	--	--	-21.6	--	--	+ 3.1
Date	Elevation (feet) *	Contents (million ft ³)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) *	Contents (million ft ³)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) ††	Contents (million gallons)	Change in contents (equiv- alent in ft ³ /s)
01433100 Toronto Reservoir			01433200 Cliff Lake			01435900 Neversink Reservoir			
Sept. 30.....	1,197.9	465.8		1,061.2	60.50		1,401.15	20,749	
Oct. 31.....	1,196.7	438.1	-10.4	1,058.4	46.04	- 5.4	1,384.58	15,352	-269
Nov. 30.....	1,195.6	413.3	- 9.6	1,055.4	33.32	- 4.9	1,377.67	13,388	-101
Dec. 31.....	1,196.0	422.2	+ 3.3	1,056.3	36.89	+ 1.3	1,382.27	14,675	+ 64.2
CAL YR 2001	--	--	- 2.9	--	--	- 2.0	--	--	- 73.2
Jan. 31.....	1,196.0	422.2	0	1,056.2	36.48	- .2	1,380.47	14,163	- 25.6
Feb. 28.....	1,197.8	463.5	+17.1	1,063.0	71.06	+14.3	1,383.40	15,003	+ 46.4
Mar. 31.....	1,201.0	541.2	+29.0	1,068.6	108.86	+14.1	1,393.92	18,275	+163
Apr. 30.....	1,204.0	618.2	+29.7	1,068.6	108.86	0	1,408.81	23,568	+273
May 31.....	1,210.2	786.5	+62.8	1,069.8	118.10	+ 3.4	1,424.75	30,067	+324
June 30.....	1,215.8	955.0	+65.0	1,068.3	106.61	- 4.4	1,430.95	32,835	+143
July 31.....	1,212.9	864.8	-33.7	1,064.9	83.02	- 8.8	1,421.30	28,589	-212
Aug. 31.....	1,206.7	689.9	-65.3	1,064.6	81.10	- 0.7	1,409.64	23,885	-235
Sept. 30.....	1,206.6	687.2	- 1.0	1,063.9	76.64	- 1.7	1,402.44	21,208	-138
WTR YR 2002	--	--	+ 7.0	--	--	+ 0.5	--	--	+ 1.9
Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)
01447780 Francis E. Walter Lake			01449400 Penn Forest Reservoir			01449700 Wild Creek Reservoir			
Sept. 30.....	1,304.81	2,230	---	998.30	17,530	---	817.80	11,470	---
Oct. 31.....	1,300.18	1,810	-6.8	995.23	16,240	-21.0	818.83	11,750	+4.6
Nov. 30.....	1,303.10	2,070	+4.4	993.47	15,520	-12.1	818.35	11,620	-2.2
Dec. 31.....	1,301.92	1,970	-1.6	993.86	15,680	+2.6	818.24	11,590	- .5
CAL YR 2001	--	--	- .7	--	--	-3.9	--	--	+1.5
Jan. 31.....	1,304.53	2,200	+3.7	993.30	15,450	-3.7	818.02	11,540	-.8
Feb. 28.....	1,356.80	14,210	+216	993.25	15,430	-0.4	818.35	11,620	+1.4
Mar. 31.....	1,386.45	32,050	+290	995.65	16,410	+15.9	818.96	11,790	+2.8
Apr. 30.....	1,392.08	36,520	+75.1	1,000.99	18,710	+38.7	819.91	11,980	+3.2
May 31.....	1,390.21	34,970	-25.2	1,000.78	18,600	-1.8	820.24	12,070	+1.5
June 30.....	1,392.52	36,890	+32.3	1,000.68	18,550	-.8	820.08	12,020	-.8
July 31.....	1,385.79	31,530	-87.2	1,000.36	18,410	-2.3	817.70	11,450	-9.3
Aug. 31.....	1,371.14	21,540	-162	997.38	17,150	-20.5	818.37	11,630	+2.9
Sept. 30.....	1,371.63	21,840	+5.0	995.45	16,330	-13.8	818.72	11,720	+1.5
WTR YR 2002	--	--	+27.1	--	--	-1.7	--	--	+0.3

RESERVOIRS IN DELAWARE RIVER BASIN--Continued

MONTH-END ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (million gallons)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet)**	Contents (million gallons)	Change in contents (equiv- alent in ft ³ /s)
01449790 Beltzville Lake									
Sept. 30.....	627.96	41,210	--	919.61	14,999		8.08	6,702	
Oct. 31.....	627.71	40,970	-3.9	918.72	14,824	-8.7	7.50	6,232	-23.5
Nov. 30.....	626.60	39,920	-17.7	911.70	13,362	-75.4	7.00	5,834	-20.5
Dec. 31.....	628.09	41,340	+23.1	911.33	13,387	+1.2	6.88	5,740	-4.7
CAL YR 2001	--	--	+1.0			-7.3			-1.2
01455221 Merrill Creek Reservoir									
Jan. 31.....	628.14	41,380	+7.7	908.78	12,907	-24.0	6.88	5,740	0
Feb. 28.....	627.97	41,220	-2.9	908.38	12,833	-4.1	6.88	5,740	0
Mar. 31.....	628.25	41,490	+4.4	908.91	12,932	+4.9	7.38	6,136	+19.8
Apr. 30.....	628.20	41,440	-8	917.87	14,655	+88.8	8.52	7,062	+47.8
May 31.....	628.13	41,370	-1.1	921.80	15,443	+39.3	9.34	7,745	+34.1
June 30.....	627.97	41,220	-2.5	921.53	15,388	-2.8	9.26	7,677	-3.5
July 31.....	627.96	41,210	-2	920.71	15,222	-8.3	8.86	7,343	-16.7
Aug. 31.....	627.14	40,430	-12.7	920.07	15,094	-6.4	8.58	7,111	-11.6
Sept. 30.....	626.99	40,290	-2.4	919.54	14,987	-5.5	8.56	7,095	-8
WTR YR 2002	--	--	-1.3			-1			+1.7

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)
01459350 Nockamixon Reservoir									
Sept. 30.....	a	a		1,182.0	8,290	--	289.56	22,390	--
Oct. 31.....	a	a		1,181.8	8,230	-1.0	284.98	17,600	-77.9
Nov. 30.....	a	a		1,181.8	8,230	0	284.85	17,480	-2.0
Dec. 31.....	a	a		1,182.1	8,320	+1.5	285.08	17,700	+3.4
CAL YR 2001				--	--	0	--	--	-1
01469200 Still Creek Reservoir									
Jan. 31.....	a	a		1,182.1	8,320	0	285.07	17,690	-2
Feb. 28.....	a	a		1,182.1	8,320	0	285.12	17,740	+9
Mar. 31.....	a	a		1,182.2	8,340	+3	289.01	21,780	+65.7
Apr. 30.....	a	a		1,182.2	8,340	0	290.83	23,860	+35.0
May 31.....	a	a		1,182.1	8,320	-3	290.09	23,000	-14.0
June 30.....	a	a		1,182.1	8,320	0	290.30	23,240	+4.0
July 31.....	a	a		1,181.7	8,210	-1.8	289.97	22,860	-6.2
Aug. 31.....	a	a		1,181.2	8,070	-2.3	289.29	22,090	-12.5
Sept. 30.....	a	a		1,178.0	7,190	-14.8	288.37	21,080	-17.0
WTR YR 2002				--	--	-1.5	--	--	-1.8

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)
01472200 Green Lane Reservoir									
Sept. 30.....	285.05	12,590	--	579.50	1,142	---	358.76	13,790	---
Oct. 31.....	283.70	11,540	-17.1	577.80	1,024	-2.0	358.03	13,420	-6.0
Nov. 30.....	282.24	10,530	-17.0	576.78	945	-1.3	357.36	13,090	-5.6
Dec. 31.....	281.67	10,170	-5.9	575.50	855	-1.3	357.17	12,990	-1.6
CAL YR 2001	--	--	-4.5	--	--	-4.6	--	--	-8
01480399 Chambers Lake Reservoir									
Jan. 31.....	282.58	10,760	+9.6	576.29	910	+81	358.10	13,460	+7.6
Feb. 28.....	282.85	10,930	+3.1	575.59	861	-90	358.10	13,460	0
Mar. 31.....	286.00	13,430	+40.7	577.70	1,016	+2.6	359.90	14,400	+15.3
Apr. 30.....	286.13	13,550	+2.0	578.90	1,103	+1.3	360.26	14,600	-3.4
May 31.....	286.00	13,430	-2.0	579.90	1,168	+1.1	360.34	14,650	+8
June 30.....	286.00	13,430	0	580.00	1,175	+1.7	360.07	14,500	-2.5
July 31.....	285.15	12,680	-12.2	579.10	1,116	-98	359.09	13,960	-8.8
Aug. 31.....	283.36	11,290	-22.6	576.62	933	-3.1	358.45	13,630	-5.4
Sept. 30.....	283.31	11,260	-5	572.68	671	-4.4	358.04	13,430	-3.4
WTR YR 2002	--	--	-1.8	--	--	-6.5	--	--	-5

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)	Elevation (feet) †	Contents (acre-feet)	Change in contents (equiv- alent in ft ³ /s)
01480684 Marsh Creek Lake									
Sept. 30.....	285.05	12,590	--	579.50	1,142	---	358.76	13,790	---
Oct. 31.....	283.70	11,540	-17.1	577.80	1,024	-2.0	358.03	13,420	-6.0
Nov. 30.....	282.24	10,530	-17.0	576.78	945	-1.3	357.36	13,090	-5.6
Dec. 31.....	281.67	10,170	-5.9	575.50	855	-1.3	357.17	12,990	-1.6
CAL YR 2001	--	--	-4.5	--	--	-4.6	--	--	-8
Jan. 31.....	282.58	10,760	+9.6	576.29	910	+81	358.10	13,460	+7.6
Feb. 28.....	282.85	10,930	+3.1	575.59	861	-90	358.10	13,460	0
Mar. 31.....	286.00	13,430	+40.7	577.70	1,016	+2.6	359.90	14,400	+15.3
Apr. 30.....	286.13	13,550	+2.0	578.90	1,103	+1.3	360.26	14,600	-3.4
May 31.....	286.00	13,430	-2.0	579.90	1,168	+1.1	360.34	14,650	+8
June 30.....	286.00	13,430	0	580.00	1,175	+1.7	360.07	14,500	-2.5
July 31.....	285.15	12,680	-12.2	579.10	1,116	-98	359.09	13,960	-8.8
Aug. 31.....	283.36	11,290	-22.6	576.62	933	-3.1	358.45	13,630	-5.4
Sept. 30.....	283.31	11,260	-5	572.68	671	-4.4	358.04	13,430	-3.4
WTR YR 2002	--	--	-1.8	--	--	-6.5	--	--	-5

* Elevation at 0900 on the first day of the following month.
 ** Elevation at 0700 on the first day of the following month.
 † Elevation at 2400 on the last day of each month.
 †† Elevation at daily reading on the first day of the following month.
 a Data not available for current year.

DELAWARE RIVER BASIN

DIVERSIONS AND WITHDRAWALS

WITHDRAWALS FROM THE DELAWARE RIVER BASIN

- 01415200 Diversion from Pepacton Reservoir (see preceding pages) 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 provided by Bureau of Water Resources Development and Department of Environmental Protection, City of New York.
REVISED RECORDS, WDR NY-71-1: 1970. WDR NY-81-1: 1980.
- 01423900 Diversion from Cannonsville Reservoir (see preceding pages) 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 provided by Bureau of Water Resources Development and Department of Environmental Protection, City of New York.
REVISED RECORDS, WDR NY-81-1: 1980.
- 01435800 Diversion from Neversink Reservoir (see preceding pages) 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 provided by Bureau of Water Resources Development and Department of Environmental Protection, City of New York.
REVISED RECORDS, WDR NY-82-1: 1976, 1977.
- 01436520 Village of Woodridge, NY, diverts water from East Pond Reservoir, tributary to Neversink River, for municipal supply outside of basin. Village of Woodridge has estimated that this year virtually all the withdrawal from East Pond Reservoir was returned to the Neversink River.
- 01437360 Diversion from Bear Swamp Reservoir, NY, tributary to Neversink River, by the New York State Training School, Otisville, NY, for water supply outside of basin. Records provided by Delaware River Basin Commission. No more diversion as of June 10, 1998; plant closed down.
- 01447750 Diversion from Bear Creek, PA, tributary to Lehigh River, by Pennsylvania American Water Company for water supply outside of basin. Records provided by Delaware River Basin Commission.
- 01448830 Diversion from Hazle Creek Watershed by Hazelton Joint Sewerage Authority for municipal water supply. Waste effluent from the municipal water system is released to the Susquehanna River. Records provided by Delaware River Basin Commission.
- 01460440 Diversion by Delaware and Raritan Canal from Delaware River at Raven Rock, for municipal and industrial use. Water is discharged into the Raritan River at New Brunswick. Records of discharge are collected on the Delaware and Raritan Canal at Port Mercer since Aug. 1, 1990 (see station 01460440). Prior to Aug. 1, 1990, records of discharge were collected at Kingston.

DIVERSION, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MONTH	WITHDRAWALS BY CITY OF NEW YORK		
	01415200 Pepacton Reservoir	01423900 Cannonsville Reservoir	01435800 Neversink Reservoir
October	733	69.1	292
November	765	0.0	121
December	506	0.0	91.7
CAL YR 2001	606	258	157
January	375	9.9	129
February	409	278	162
March	137	441	141
April	296	368	56.6
May	32.2	462	28.8
June	51.7	693	46.4
July	675	456	181
August	666	425	179
September	728	151	128
WTR YR 2002	448	279	130

MISCELLANEOUS WITHDRAWALS FROM BASIN, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MONTH	01437360	01447750	01448830	01460440
	Bear Swamp Reservoir*	Bear Creek	Hazle Creek	Delaware and Raritan Canal
October	0	0	6.91	149
November	0	0	7.62	99.5
December	0	0	6.50	91.7
CAL YR 2001	0	0	6.88	131
January	0	0	5.65	93.5
February	0	0	5.09	97.9
March	0	4.20	4.92	95.5
April	0	10.8	4.97	95.9
May	0	4.86	6.32	102
June	0	0	5.55	139
July	0	0	6.31	147
August	0	0	7.89	141
September	0	0	8.37	144
WTR YR 2002	0	1.66	6.35	116

* No diversion from Bear Swamp Reservoir, plant closed since 1998.

DIVERSIONS WITHIN THE DELAWARE RIVER BASIN

- 01446572 Diversion from Delaware River at Brainards, NJ to Merrill Creek Reservoir for storage to augment low flow in the Delaware River. There is a conservation release of 3 ft³/s to lower Merrill Creek, which eventually reaches the Delaware River. Releases other than the conservation release are designated by a minus (-) sign. Records provided by Merrill Creek Reservoir Project. REVISED RECORDS.--WDR NJ-00-1: 2000.
- 01459005 Diversion from the Delaware River at Point Pleasant, PA by Philadelphia Electric Company to Bradshaw Reservoir on the East Branch Perkiomen Creek, tributary to Schuylkill River, to supplement flow to Limerick Power Station. Diversion began August 1989. Records provided by the Delaware River Basin Commission. REVISED RECORDS.--WDR NJ-00-1: 2000.
- 01463480 Diversion from the Delaware River at the Morrisville Filtration Plant, by the Borough of Morrisville, PA for municipal supply. The water withdrawn at this site is returned to the basin after treatment, only slightly diminished by consumptive uses and losses in transmission. Records provided by the Borough of Morrisville, PA.
- 01463490 Diversion from the Delaware River just above the Trenton gaging station by the city of Trenton, NJ for municipal supply. The water being withdrawn is returned to the basin after treatment only slightly diminished by consumptive uses and losses in transmission. Records provided by the City of Trenton. REVISED RECORDS.--WDR NJ-82-2: Station number.
- 01466899 Diversion from the Delaware River just above New Lisbon gaging station by Fort Dix, NJ, for municipal supply. 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 provided by the Fort Dix Directorate of Public Works. Diversions started in 1935.
- 01467030 Diversion from the Delaware River at the Torresdale Intake, by the City of Philadelphia, PA for municipal supply. 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 provided by the Delaware River Basin Commission.
- 01474500 Diversion from the Schuylkill River at the Belmont and Queen Lane Intakes, by the City of Philadelphia, PA for municipal supply. 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 provided by the Delaware River Basin Commission.

WITHDRAWALS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MONTH	01446572	01459005	01463480	01463490
	Merrill Creek Reservoir	Point Pleasant	Borough of Morrisville	City of Trenton
October	-2.43	83.5	3.85	43.3
November	-61.4	70.4	3.90	46.8
December	0	58.4	3.57	41.6
CAL YR 2001	-5.25	57.0	3.84	45.1
January	-20.9	60.6	3.53	42.9
February	0	43.8	3.43	41.1
March	9.97	33.8	3.44	40.5
April	86.0	67.4	3.63	39.0
May	38.6	47.4	3.52	35.0
June	0	83.7	4.19	36.2
July	0	93.6	4.65	52.1
August	0	99.8	4.44	52.2
September	0	66.9	4.02	46.3
WTR YR 2002	4.16	67.6	3.84	43.0

WITHDRAWALS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002--Continued

MONTH	City of Philadelphia			
	01466899 Greenwood Branch	01467030	01474500	
		Delaware River Torresdale	Schuylkill River	
		Belmont	Queen Lane	
October	2.26	245	68.4	123
November	2.02	239	72.7	122
December	1.76	239	71.8	118
CAL YR 2001	2.30	254	73.8	124
January	1.89	250	72.8	132
February	1.80	244	67.9	130
March	1.76	243	73.3	111
April	1.85	246	70.9	105
May	1.73	243	70.8	110
June	1.75	251	77.3	119
July	1.71	256	87.6	133
August .....	.14	260	92.2	136
September .....	.09	242	88.7	117
WTR YR 2002	1.56	247	76.3	121

DELAWARE RIVER BASIN

DIVERSIONS AND WITHDRAWALS--Continued

DIVERSIONS IMPORTED INTO BASIN

01367630 Water diverted from Morris Lake, tributary to the Wallkill River (Hudson River basin), by the Newton Water and Sewer Authority for municipal use. After use the water is released into the Paulins Kill (Delaware River basin). Records provided by the Delaware River Basin Commission.

01578420 Water diverted from West Branch Octoraro Creek (Susquehanna River basin) at the McCray Plant of the Coatesville Water Authority (formerly Octoraro Water Co.) for municipal use. After use the water is released into the Delaware River basin. Records provided by the Delaware River Basin Commission.

01578450 Water diverted from Octoraro Lake (Susquehanna River basin) by Chester Water Authority for municipal use. After use the water is released into the Delaware River basin. Records provided by the Delaware River Basin Commission.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002--Continued			
MONTH	OCTORARO CREEK		
	01367630 Morris Lake	01578420 Coatesville Water Authority	01578450 Chester Water Authority
October	0a	1.65	57.4
November	0a	1.49	54.9
December .....	.80	1.36	52.3
CAL YR 2001	.07	1.74	55.1
January	1.47	1.18	58.6
February	1.56	1.29	57.6
March	1.49	1.26	54.1
April	1.50	1.30	52.3
May	1.49	1.17	52.8
June	1.60b	1.42	54.1
July	1.55b	1.71	57.8
August	1.55b	1.35	59.3
September	1.55b	1.24	51.2
WTR YR 2002	1.21	1.37	55.2

a No diversion from Morris Lake from October to November 2001 due to a broken pipeline.

b Diversion data for Morris Lake estimated from June through September 2002 due to meter repair.

DISCHARGE AT PARTIAL-RECORD STATIONS

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 U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations.

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower stages may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined. Previously published peaks for these stations are available at <http://nj.usgs.gov>.

Maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
HACKENSACK RIVER BASIN								
Pascack Brook at Montvale, NJ (01377360)	Lat 40°02'24", long 74°01'58" (revised), Bergen County, Hydrologic Unit 02030103, on right bank 250 ft upstream from bridge on Grand Avenue at entrance to fire station, 800 ft west of Montvale Memorial School, and 1,300 ft upstream from Silver Lake. Drainage area is 13.2 mi ² . Radio stage telemetry at station.	1998-2002	7-19-02 @1930	3.12	a	9-16-99	9.39	5,660
Bear Brook at Park Ridge, NJ (01377440)	Lat 41°01'40", long 74°02'49", Bergen County, Hydrologic Unit 02030103, on upstream right wingwall of bridge on Pascack Road, 0.2 mi upstream from mouth, 0.8 mi southwest of Silver Lake, and 0.8 mi south of Park Ridge. Drainage area is 2.38 mi ² .	1998-2002	7-19-02	5.60	400	9-16-99	11.05	a
Woodcliff Lake at Hillsdale, NJ (01377450)	Lat 41°00'46", long 74°02'58", Bergen County, Hydrologic Unit 02030103, at dam on Pascack Brook, 0.7 mi north of Hillsdale, and 1.5 mi north of Westwood. Datum of gage is 0.00 ft above NGVD of 1929. Drainage area is 19.4 mi ² . Radio stage telemetry at station.	1998-2002	6-07-02	95.23	a	9-16-99	96.54	a
Pascack Brook at Woodcliff Lake outlet, at Hillsdale, NJ (01377451)	Lat 41°00'41", long 74°02'54", Bergen County, Hydrologic Unit 02030103, 700 ft downstream from spillway of Woodcliff Lake, 0.7 mi north of Hillsdale, and 1.5 mi northwest of Westwood. Datum of gage is 59.08 ft above NGVD of 1929. Drainage area is 19.4 mi ² . Radio stage telemetry at station.	1998-2002	7-19-02	4.20	a	9-16-99	11.25	a
Pascack Brook at Hillsdale, NJ (01377460)	Lat 41°00'06", long 74°02'36", Bergen County, Hydrologic Unit 02030103, on upstream left wingwall of at bridge on Patterson Street, 0.5 mi north of Westwood, and 1.1 mi downstream from Woodcliff Lake. Drainage area is 20.7 mi ² .	1998-2002	7-19-02	<6.45h	<208 i	9-16-99	15.48	7,610
Musquapsink Brook at Westwood, NJ (01377490)	Lat 40°59'11", long 74°01'51", Bergen County, Hydrologic Unit 02030103, on the left bank downstream side of Prospect Avenue bridge (in Westwood), 330 ft upstream from the railroad bridge, 1,100 ft downstream from former site at Bogert Pond Dam (prior to 1998 at datum 47.67 ft, drainage area 6.53 mi ²), and 1.0 mi upstream from mouth. Drainage area is 6.59 mi ² . Radio stage telemetry at station.	1966-86, 1998-2002	3-03-02	4.13	a	9-16-99	7.83	465 r

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
HACKENSACK RIVER BASIN--Continued								
Tenakill Brook at Closter, NJ *(01378385)	Lat 40°58'29", long 73°58'06", Bergen County, Hydrologic Unit 02030103, at downstream left wingwall of bridge on High Street in Closter, 0.7 mi upstream from mouth. Datum of gage is 23.85 ft above NGVD of 1929. Drainage area is 8.56 mi ² .	1965-2002	5-13-02	1.42	351	9-16-99	6.30	1,650
Van Saun Mill Brook at Oradell, NJ (01378550)	Lat 40°57'21", long 74°02'19", Bergen County, Hydrologic Unit 02030103, on the right bank, just downstream of culvert on Oradell Avenue (County Route 6), 3.3 mi west of Dumont, and 4.0 mi upstream of mouth. Drainage area is 0.37mi ² .	2001-02	7-19-02	2.85	a	6-17-01	3.68	a
Metzler Brook at Englewood, NJ *(01378590)	Lat 40°54'29", long 73°59'13", Bergen County, Hydrologic Unit 02030103, on downstream left wingwall of bridge on Lantana Avenue in Englewood, and 1.6 mi upstream from mouth. Datum of gage is 43.10 ft above NGVD of 1929. Drainage area is 1.54 mi ² .	1965-2002	8-03-02	2.35	250	9-22-66 9-16-99	3.47 2.91z	205 534
PASSAIC RIVER BASIN								
Passaic River near Bernardsville, NJ *(01378690)	Lat 40°44'03", long 74°32'26", Somerset County, Hydrologic Unit 02030103, on downstream right wingwall of bridge on U.S. Route 202, 1.8 mi northeast of Bernardsville, and 3.0 mi upstream from Great Brook. Datum of gage is 238.07 ft above NGVD of 1929. Drainage area is 8.83 mi ² .	1968-76 ⁺ , 1977-2002	5-14-02	12.99	255	8-28-71	18.56	3,850
Penns Brook tributary at Basking Ridge, NJ (01378708)	Lat 40°42'30", long 74°32'53", Somerset County, Hydrologic Unit 02030103, on upstream right wingwall of culvert on North Maple Avenue in Basking Ridge, 0.3 mi upstream of mouth, and 1.2 mi west of the Passaic River. Datum of gage is 270 ft above NGVD of 1929, from topographic map. Drainage area is 0.19 mi ² .	1999-2002	6-06-02	6.35	a	9-16-99	6.82	115
Passaic River tributary at Summit, NJ (01379490)	Lat 40°42'59", long 74°23'03", Union County, Hydrologic Unit 02030103, on left bank upstream wingwall of bridge on Passaic Avenue in Summit, 0.3 mi north of intersection of Passaic Avenue and Springfield Avenue, and 0.4 mi upstream of mouth. Datum of gage is 260 ft above NGVD of 1929, from topographic map. Drainage area is 0.27 mi ² .	1999-2002	5-18-02	4.15	100	9-16-99	7.75	300
Cub Brook at Northfield, NJ (01379520)	Lat 40°46'16", long 74°18'39", Essex County, Hydrologic Unit 02030103, on upstream left wingwall of culvert on Chestnut Street in Northfield, 230 ft from intersection of Chestnut Street and Northfield Road, and 280 ft upstream of confluence with Bear Brook. Datum of gage is 280 ft above NGVD of 1929 from topographic map. Drainage area is 0.48 mi ² .	1999-2002	7-19-02	8.07	a	9-16-99	11.77	610
Spring Garden Brook at Madison, NJ (01379555)	Lat 40°45'16", long 74°24'24", Morris County, Hydrologic Unit 02030103, on the right bank at the upstream side of the culvert on Dean Street in Madison, 0.2 mi downstream of culvert on Main Street (State Route 124), 0.2 mi southeast of the high school in Madison, 1.5 mi northwest of Chatham, and 2.5 mi upstream of mouth. Datum of gage is 210 ft above NGVD of 1929, from topographic map. Drainage area is 1.20 mi ² .	2000-02	5-13-02	1.65	a	6-17-01	1.88	a

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued								
North Branch Foulerton Brook at Roseland, NJ (01379590)	Lat 40°49'11", long 74°17'22", Essex County, Hydrologic Unit 02030103, on left bank upstream wingwall of culvert on Harrison Avenue in Roseland, 300 ft southeast of intersection of Harrison Avenue and Eagle Rock Avenue, and 0.5 mi downstream of unnamed pond. Datum of gage is 375 ft above NGVD of 1929, from topographic map. Drainage area is 0.42 mi ² .	1999-2002	8-11-00	2.64	56 r	9-16-99	6.11	130
			6-17-01	3.98	88 r			
			6-27-02	2.54	54			
Rockaway River at Warren Street, at Dover, NJ (01379845)	Lat 40°53'08", long 74°33'36", Morris County, Hydrologic Unit 02030103, on left bank, 100 ft upstream from bridge on Warren Street in Dover, 4.0 mi west of Denville, and 6 mi southeast of Lake Hopatcong. Datum of gage is 561.83 ft above NGVD of 1929. Drainage area is 52.1 mi ² .	1981-94, 1999-2002	6-07-02	<3.56h	<400 i	9-17-99	8.91r	3,440 r
Whippany River tributary no. 5 at Boulevard Road, at Cedar Knolls, NJ (01381510)	Lat 40°49'07", long 74°26'54", Morris County, Hydrologic Unit 02030103, on left upstream wingwall of culvert on Boulevard Road, in Cedar Knoll, just north of intersection with Cedar Knolls Road, 0.2 mi upstream from mouth, and 3.8 mi northeast of Morristown. Datum of gage is 266 feet above NGVD of 1929, from topographic map. Drainage area is 0.06 mi ² .	1999-2002	6-07-03	5.48	27	9-16-99	7.60	63
Mahwah River near Suffern, NY (01387450)	Lat 41°08'27", long 74°07'01", Rockland County, NY, Hydrologic Unit 02030103, on left bank 13 ft upstream from bridge on U.S. Route 202, 4.8 mi upstream from mouth, and 2.5 mi northeast of Suffern. Datum of gage is 321.57 ft above NGVD of 1929. Drainage area is 12.3 mi ² . Satellite stage telemetry at station.	1959-95 ⁺ , 1996-2002	5-14-00	3.52	179 r	11-08-77	9.91	1,840
			@0230					
			6-23-01	5.83	638 r			
			@1915					
Masonicus Brook at Ramsey, NJ (01387485)	Lat 41°04'32", long 74°08'26", Bergen County, Hydrologic Unit 02030103, on the left bank, just upstream of the culvert on Spring Street, 1.3 mi north of Ramsey, 2.9 mi upstream of mouth, and 0.5 mi southeast of the Camp Hlond Reservoir. Drainage area is 0.78 mi ² .	2001-02	7-19-02	4.89	44	6-23-01	7.48	a
Pond Brook at Oakland, NJ *(01387880)	Lat 41°01'36", long 74°14'04", Bergen County, Hydrologic Unit 02030103, at bridge on Interstate 287 State Route 208 in Oakland, 0.2 mi upstream from former site at Franklin Avenue (prior to October 1975), 0.6 mi upstream from mouth, and 1.5 mi northwest of Franklin Lakes. Datum of gage is 276.97 ft above NGVD of 1929. Drainage area is 6.76 mi ² .	1968-71, 1976-2002	7-19-02	<1.40h	<162 i	9-16-99	7.83	1,680
Passaic River below Pompton River, at Two Bridges, NJ (01389005)	Lat 40°53'47", long 74°16'10", Passaic County, Hydrologic Unit 02030103, on right bank, at Two Bridges, 400 ft downstream from the Pompton River, and 1.4 mi northwest of Little Falls. Datum of gage is 155.00 ft above NGVD of 1929. Drainage area is 734 mi ² . Satellite stage telemetry at station.	1989-2002	5-19-02 @1400	5.52	a	9-18-99	12.71	a
Preakness (Singac) Brook near Preakness, NJ (01389030)	Lat 40°56'55", long 74°13'25", Passaic County, Hydrologic Unit 02030103, on downstream side of bridge on Ratzler Road, 1.0 mi north of Preakness, and 2.0 mi upstream from Naachpunkt Brook. Datum of gage is 230.8 ft above NGVD of 1929. Drainage area is 3.24 mi ² .	1979-2002	7-19-02	4.53	723	9-16-99	7.91	1,920

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued								
Passaic River above Beatties Dam, at Little Falls, NJ (01389492)	Lat 40°53'04", long 74°14'05", Passaic County, Hydrologic Unit 02030103, at Little Falls, 100 ft upstream of Beatties Dam, on left bank, 600 ft upstream from bridge on Union Boulevard and 1.5 mi upstream from Peckman River. Datum of gage is 150.00 ft above NGVD of 1929. Drainage area is 762 mi ² .	1984, 1991-2002†	4-29-02 @0415	9.39	a	4-07-84	14.0	a
Peckman River at Ozone Avenue, at Verona, NJ *(01389534)	Lat 40°50'42", long 74°14'09", Passaic County, Hydrologic Unit 02030103, on right downstream wingwall of bridge on Ozone Avenue in Verona, 4.0 mi west of Clifton and 1.0 mi southwest of Cedar Grove Reservoir. Datum of gage is 300.08 ft above NGVD of 1929. Drainage area is 4.45 mi ² . Radio stage telemetry at station.	1945, 1979-2002	7-19-02 @1800	4.79	1,420	7-23-45	---	3,800 s
Molly Ann Brook tributary near Franklin Lakes, NJ *(01389738)	Lat 40°58'52", long 74°12'11", Bergen County, Hydrologic Unit 02030103, on the right bank, just upstream of the culvert on Belmont Avenue, 0.5 mi upstream of mouth at Haledon Reservoir, 1.6 mi southeast of Franklin Lakes and 2.1 mi north of North Haledon. Drainage area is 0.33mi ² .	2001-02	5-13-02	2.94	a	12-17-00	3.38	a
Molly Ann Brook at North Haledon, NJ *(01389765)	Lat 40°57'11", long 74°11'07", Passaic County, Hydrologic Unit 02030103, on left upstream wingwall of culvert on Overlook Avenue in North Haledon, 0.5 mi upstream from Oldham Pond Dam, and 1.5 mi west of Hawthorne. Datum of gage is 209.68 ft above NGVD of 1929. Drainage area is 3.89 mi ² . Radio stage telemetry at station.	1945, 1979-2002	7-19-02 @1730	6.42	484	7-23-45	---	3,100 f
Fleischer Brook at Market Street, at Elmwood Park, NJ (01389900)	Lat 40°53'57", long 74°06'54", Bergen County, Hydrologic Unit 02030103, on left bank upstream wingwall of culvert on Market Street in Elmwood Park, and 2.0 mi upstream from mouth. Datum of gage is 33.83 ft above NGVD of 1929. Prior to 1995 at datum 1.44 ft higher. Drainage area is 1.37 mi ² .	1967-2002	5-14-02	2.6e	a	9-16-99	5.66	a
Saddle River at Upper Saddle River, NJ *(01390450)	Lat 41°03'32", long 74°05'44", Bergen County, Hydrologic Unit 02030103, at downstream side of culvert on Lake Street in Upper Saddle River, and 1.3 mi downstream from Pine Brook. Datum of gage is 186.11 ft above NGVD of 1929. Drainage area is 10.9 mi ² .	1966-2002	7-19-02	3.97	1,020	9-16-99	5.64	6,290
Hohokus Brook at Allendale, NJ (01390810)	Lat 41°01'37", long 74°08'44", Bergen County, Hydrologic Unit 02030103, at bridge on Brookside Avenue in Allendale and 0.2 mi downstream from Valentine Brook. Datum of gage is 277.46 ft above NGVD of 1929. Drainage area is 9.11 mi ² .	1969-2002	6-07-02	b	200 e	9-16-99	12.15	3,010
Ramsey Brook at Allendale, NJ *(01390900)	Lat 41°01'44", long 74°08'07", Bergen County, Hydrologic Unit 02030103, at downstream side of bridge on Brookside Avenue in Allendale and 0.6 mi upstream from Hohokus Brook. Datum of gage is 270.79 ft above NGVD of 1929. Drainage area is 2.55 mi ² .	1975-2002	6-07-02	<1.79h	<46 i	9-16-99	5.41	987
Hohokus Brook at Ho-Ho-Kus, NJ (01391000)	Lat 40°59'52", long 74°06'44" (revised), Bergen County, Hydrologic Unit 02030103, on left bank 500 ft upstream from bridge on Maple Avenue in Ho-Ho-Kus, and 3.5 mi upstream from mouth. Datum of gage is 120.09 ft above NGVD of 1929. Drainage area is 16.4 mi ² . Satellite stage telemetry at station.	1954-73†, 1977-96†, 1997-2002	6-07-02 @0230	2.48	387	9-16-99	7.32	4,670

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued								
Weasel Brook at Garden-State Parkway at Clifton, NJ (01391950)	Lat 40°52'39", long 74°10'09", Passaic County, Hydrologic Unit 02030103, on the right bank, just upstream of the culvert under the southbound exit ramp of the Garden State Parkway, 150 ft downstream of culvert on Grove Street in Clifton, 1.2 mi east of Great Notch Reservoir, and 2.9 mi south of Paterson. Datum of gage is 188 ft above NGVD of 1929 from topographic map. Drainage area is 0.71 mi ² .	2001-02	9-27-02	5.22	a	9-27-02	5.22	a
Third River at Bloomfield, NJ (01392170)	Lat 40°47'59", long 74°11'18", Essex County, Hydrologic Unit 02030103, on downstream left wingwall of bridge on entrance ramp at Interchange 149 to the Garden State Parkway in Bloomfield, 0.6 mi west of Nutley, and 5.1 mi upstream from Passaic River. Drainage area is 7.71 mi ² . Radio stage telemetry at station.	1988-2002	7-19-02 @1800	6.20	982	9-16-99	9.97	2,670
RAHWAY RIVER BASIN								
East Branch Rahway River at Maplewood, NJ *(01393890)	Lat 40°44'06", long 74°16'14", Essex County, Hydrologic Unit 02030104, on downstream right wingwall of bridge on Jefferson Avenue in Maplewood, 1,100 ft west of Fielding School, and 2.5 mi upstream of confluence of West Branch River and East Branch Rahway River. Datum of gage is 114.60 ft above NGVD of 1929. Drainage area is 5.11 mi ² . Radio stage telemetry at station.	1998-2002	7-19-02 @1930	7.57	1,670	9-16-99	10.08r	3,470
East Branch Rahway River at Millburn Avenue, at Millburn, NJ (01393895)	Lat 40°22'11", long 74°17'07", Essex County, Hydrologic Unit 02030104, at downstream side of bridge on Millburn Avenue at Millburn, 0.9 mi east of Millburn, and 1.5 mi upstream of confluence with West Branch Rahway River. Datum of gage is 88.9 ft above NGVD of 1929. Drainage area is 7.09 mi ² . Radio stage telemetry at station.	1998-2002	7-19-02 @1330	8.0e	a	9-16-99	11.36	a
West Branch Rahway River at Millburn, NJ *(01394000)	Lat 40°43'54", long 74°18'28" (revised), Essex County, Hydrologic Unit 02030104, on left bank 100 ft upstream from Diamond Mill Pond dam, 1,000 ft upstream from Glen Avenue in Millburn, and 1.9 mi upstream from confluence with East Branch. Datum of gage is 173.65 ft above NGVD of 1929. Drainage area is 7.10 mi ² . Radio stage telemetry at station.	1940-50†, 1973, 1998-2002	5-14-02 @0200	2.22	316	9-16-99	5.2r	2,840
West Branch Rahway River at Millburn Avenue, at Millburn, NJ (01394100)	Lat 40°53'26", long 74°41'26" (revised), Essex County, Hydrologic Unit 02030104, on downstream right wingwall of bridge on Millburn Avenue, in Millburn, just upstream of Taylor Park, 0.6 mi downstream of Diamond Mill Pond, and 0.9 mi east of Short Hills. Datum of gage is 111.87 ft above NGVD of 1929 (levels by Killam Associates). Drainage area is 7.74 mi ² .	1999-2002	5-18-02	<12.14h	a	9-16-99	19.6	a
Rahway River at Morris Avenue, at Springfield, NJ (01394200)	Lat 40°42'28", long 74°18'08", Union County, Hydrologic Unit 02030104, on upstream right bank of bridge on Morris Avenue (State Route 82), 0.7 mi east of Springfield Municipal building, 1.4 mi west of Hamilton School, and 0.7 mi upstream of unnamed tributary. Datum of gage is 66.17 ft above NGVD of 1929. Drainage area is 25.5 mi ² .	1999-2002	8-29-02	11.42	a	9-17-99	16.6	a

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
RAHWAY RIVER BASIN--Continued								
Rahway River at Kenilworth, NJ (01394620)	Lat 40°40'23", long 74°18'48", Union County, Hydrologic Unit 02030104, on right downstream wingwall of bridge on Kenilworth Boulevard at Kenilworth, 0.9 mi west of Harding School, 1.7 mi west of Kenilworth Municipal building, and 4.7 mi northwest of confluence of Rahway River and Robinsons Branch. Drainage area is 32.0 mi ² . Telephone stage telemetry at station.	1999-2002	5-18-02 @1415	8.33	a	9-17-99	13.3	a
Robinsons Branch at Rahway, NJ (01396000)	Lat 40°36'20", long 74°17'57", Union County, Hydrologic Unit 02030104, on right bank, 70 ft upstream of dam on Milton Lake, 0.4 mi upstream from Maple Avenue at Milton Lake in Rahway, 0.6 mi downstream from Middlesex Reservoir Dam, and 1.6 mi upstream from mouth. Datum of gage is 19.99 ft above NGVD of 1929. Drainage area is 21.6 mi ² . Telephone stage telemetry at station.	1937-96 ⁺ , 1999-2002	5-18-02 @1045	4.74	424	9-16-99	6.48	4,800
WOODBIDGE CREEK BASIN								
Spa Spring Creek at Perth Amboy, NJ (01396050)	Lat 40°32'33", long 74°16'39", Middlesex County, Hydrologic Unit 02030104, on the left bank at upstream side culvert of Convery Boulevard (State Route 35) in Perth Amboy, 0.7 mi upstream of mouth, and 1.0 mi south of Woodbridge. Drainage area is 0.68 mi ² .	2001-02	6-27-02	4.46	a	8-13-01	8.38	a
RARITAN RIVER BASIN								
Alpough Brook at Hampton, NJ (01396570)	Lat 40°42'13", long 74°56'52", Hunterdon County, Hydrologic Unit 02030105, on upstream left wingwall of culvert on State Route 31 at Hampton, 0.1 mi upstream of mouth, 0.6 mi north of Glen Gardner. Drainage area is 0.41 mi ² .	1995-2002	5-14-02	<1.13h	<33 i	10-19-96	2.83	105
Walnut Brook near Flemington, NJ (01397500)	Lat 40°30'55", long 74°52'52", Hunterdon County, Hydrologic Unit 02030105, on right bank, 1.2 mi northwest of Flemington, and 2.3 mi upstream from mouth. Datum of gage is 267.33 ft above NGVD of 1929. Drainage area is 2.24 mi ² .	1936-61 ⁺ , 1963-2002	5-13-02	3.54	706	9-16-99	5.50	2,870
Back Brook tributary near Ringoes, NJ (01398045)	Lat 40°25'41", long 74°49'52", Hunterdon County, Hydrologic Unit 02030105, at right upstream wingwall of bridge on Wertsville Road, 2.1 mi east of Ringoes, 1.3 mi upstream from Back Brook, and 2.3 mi southwest of Wertsville. Datum of gage is 161.6 ft above NGVD of 1929. Drainage area is 1.98 mi ² .	1978-88 ⁺ , 1989-2002	5-18-02	2.97	510	9-16-99	5.95	1,580
South Branch Raritan River at South Branch, NJ (01398102)	Lat 40°32'48", long 74°41'48", Somerset County, Hydrologic Unit 02030105, on left downstream wingwall of bridge on Studdiford Drive (South Branch Road) at village of South Branch, and 2.0 mi north of Flagtown. Drainage area is 265 mi ² . Radio stage telemetry at station.	1998-2002	5-14-02	10.29	a	9-16-99	20.29	a
Holland Brook at Readington, NJ (01398107)	Lat 40°33'30", long 74°43'50", Somerset County, Hydrologic Unit 02030105, on right bank 15 ft downstream from bridge on Old York Road, 0.9 mi southeast of Readington, and 2.5 mi upstream from mouth. Drainage area is 9.00 mi ² .	1978-96 ⁺ , 1999-2002	5-14-02	6.90	1,000	9-16-99	10.67	4,150
Axle Brook near Pottersville, NJ (01399525)	Lat 40°41'40", long 74°43'05", Somerset County, Hydrologic Unit 02030105, on right upstream wingwall of bridge on Black River Road, 1.3 mi, south of Pottersville, and 0.3 mi upstream from mouth. Datum of gage is 172.74 ft above NGVD of 1929. Drainage area is 1.22 mi ² .	1977-88 ⁺ , 1989-2002	5-18-02	3.82	374	9-16-99	6.32	960

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
RARITAN RIVER BASIN--Continued								
Lamington River at Burnt Mills, NJ (01399780)	Lat 40°38'04", long 74°41'13", Somerset County, Hydrologic Unit 02030105, at bridge on Walsh Road at Burnt Mills, 0.2 mi upstream of mouth, and 4.4 mi south-west of Far Hills. Drainage area is 100 mi ² . Radio stage telemetry at station.	1964, 1973, 1975-78, 1981-2002	5-14-02	10.21	a	7-07-84	90.0p	a
North Branch Raritan River at North Branch, NJ (01399830)	Lat 40°36'00", long 74°40'27", Somerset County, Hydrologic Unit 02030105, on right bank 5 ft upstream from bridge on State Highway 28 in village of North Branch, 0.1 mi downstream from River Brook, and 3.6 mi upstream from confluence with South Branch Raritan River. Datum of gage is 56.94 ft above NGVD of 1929. Drainage area is 174 mi ² . Radio stage telemetry at station.	1977-81†, 1982-95, 1997-2002	5-14-02	12.15	6,900	9-16-99	21.53	27,800
North Branch Raritan River at South Branch, NJ (01400010)	Lat 40°33'24", long 74°41'19", Somerset County, Hydrologic Unit 02030105, at bridge on Old York Road, 0.8 mi northeast of village of South Branch, and 500 ft upstream from confluence with South Branch Raritan River. Datum of gage is 46.03 ft above NGVD of 1929. Drainage area is 190 mi ² . Radio stage telemetry at station.	1993-2002	5-14-02	8.85	a	9-16-99	18.98	a
Peters Brook at Mercer Street, at Somerville, NJ (01400360)	Lat 40°34'30", long 74°37'07", Somerset County, Hydrologic Unit 02030105, on the left bank on the downstream side of the bridge on Mercer Street in Somerville, 0.4 mi downstream from Macs Brook and 0.6 mi upstream from Ross Brook. Datum of gage is 42.51 ft above NGVD of 1929. Drainage area is 7.37 mi ² . Radio stage and rainfall telemetry at station.	1991-2002	5-14-02	5.55	a	9-16-99	13.97	a
Baldwins Creek at Pennington, NJ *(01400930)	Lat 40°20'18", long 74°47'50", Mercer County, Hydrologic Unit 02030105, on left upstream wingwall of culvert on State Route 31, 0.8 mi north of Pennington, and 0.9 mi upstream from Baldwin Lake dam. Datum of gage is 161.69 ft above NGVD of 1929. Drainage area is 1.99 mi ² .	1960-2002	5-18-02	4.50	264	9-16-99	8.95	1,430
Hart Brook near Pennington, NJ (01400950)	Lat 40°19'17", long 74°45'38", Mercer County, Hydrologic Unit 02030105, on right bank wingwall at culvert on Federal City Road, 1.6 mi upstream of mouth, and 1.7 mi southeast of Pennington. Datum of gage after July 1, 1975 is 163.32 ft above NGVD of 1929. Drainage area is 0.57 mi ² .	1968-2002	7-07-84 5-18-02	4.30r 2.82	190 73	8-28-71 7-14-87	6.77 5.27	a 470
Millstone River at Carnegie Lake, at Princeton, NJ (01401301)	Lat 40°22'11", long 74°37'15", Middlesex County, Hydrologic Unit 02030105, at right end of Carnegie Lake dam, 2.5 mi northeast of Princeton. Datum of gage is 50.00 ft above NGVD of 1929. Drainage area is 159 mi ² .	1971, 1973-74†, 1977-87, 1988-89†, 1990-2002	5-18-02	4.10	2,800	8-28-71	7.09	13,000
Rock Brook near Blawenburg, NJ (01401595)	Lat 40°25'47", long 74°41'05", Somerset County, Hydrologic Unit 02030105, on left bank downstream wingwall of bridge on Burnt Hill Road, 0.7 mi upstream from mouth, 1.0 mi northeast of Blawenburg, and 2.8 mi northwest of Rocky Hill. Datum of gage is 63.45 ft above NGVD of 1929. Drainage area is 9.03 mi ² .	1967-2002	5-18-02	4.00	a	8-28-71	10.00	4,530
Beden Brook near Rocky Hill, NJ *(01401600)	Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, on right bank downstream wingwall of bridge on U.S. Route 206, 0.7 mi upstream from Pike Run, 1.2 mi northwest of Rocky Hill, and 4.6 mi north of Princeton. Datum of gage is 38.09 ft above NGVD of 1929. Drainage area is 27.0 mi ² , revised.	1967-2002	5-18-02	7.53	2,030	9-16-99	18.61	15,300

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum			
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)	
RARITAN RIVER BASIN--Continued									
Millstone River at Griggstown, NJ (01401750)	Lat 40°26'20", long 74°37'06", Somerset County, Hydrologic Unit 02030105, on left bank 300 ft downstream from bridge at Griggstown, 200 ft downstream from Simonson Brook, and 300 ft downstream from Griggstown Causeway. Datum of gage is 26.52 ft above NGVD of 1929. Drainage area is 229 mi ² . Radio stage telemetry at station.	1938, 1960-61, 1971, 1997, 1999-2002	5-19-02 @0200	11.39	a	9-16-99	23.2	a	
Six Mile Run near Middlebush, NJ (01401870)	Lat 40°28'12", long 74°32'42", Somerset County, Hydrologic Unit 02030105, on left bank upstream wingwall of bridge on South Middlebush Road, 1.6 mi upstream from mouth, and 2.1 mi south of Middlebush. Datum of gage is 39.91 ft above NGVD of 1929. Drainage area is 10.7 mi ² .	1966-2002	5-18-02	6.90	641	7-14-75	11.77	10,200	
Millstone River at Millstone, NJ (01402500)	Lat 40°30'10", long 74°35'15", Somerset County, Hydrologic Unit 02030105, on left bank at downstream side of bridge on County Route 514 (Amwell Road), in Millstone Borough, 2.7 mi south of Manville, and 4.4 mi upstream from mouth. Datum of gage is 24.4 ft above NGVD of 1929. Drainage area is 264 mi ² . Radio stage telemetry at station.	1903-04†, 1999-2002	5-19-02 @0745	8.04	a	9-17-99	22.30	a	
Millstone River at Weston, NJ (01402540)	Lat 40°31'47", long 74°35'19", Somerset County, Hydrologic Unit 02030105, at downstream right bank side of Wilhouski Street bridge over bypass channel at Weston, 0.8 mi southwest of Alma White College, and 1.9 miles north of Millstone. Datum of gage is 21.9 ft above NGVD of 1929. Drainage area is 271 mi ² . Radio stage telemetry at station.	1999-2002	5-14-02	7.79	a	9-17-99	23.21	a	
Cuckels Brook at U.S. Route 22, near Somerville, NJ (01403010)	Lat 40°34'43", long 74°35'12", Somerset County, Hydrologic Unit 02030105, on left upstream wingwall of culvert on U.S. Route 22, 1.5 mi northeast of Somerville, 2.7 mi upstream of mouth, 0.7 mi northwest of Adamsville School, and 3.0 mi west of Bound Brook. Datum of gage is 95 ft above NGVD of 1929, from topographic map. Drainage area is 0.32 mi ² .	1999-2002	6-27-02	7.53	a	9-16-99	10.1	a	
Middle Brook at Bound Brook, NJ (01403200)	Lat 40°33'38", long 74°32'56", Middlesex County, Hydrologic Unit 02030105, on downstream left wingwall of bridge on Talmadge Avenue at Bound Brook, 0.6 mi downstream from bridge on State Route 28, and 0.5 mi upstream from mouth. Datum of gage is 21.53 ft above NGVD of 1929. Drainage area is 17.2 mi ² . Radio stage and rainfall telemetry at station.	1993-2002	5-14-02	<8.22h	a	9-17-99	19.76m	a	
Blue Brook at Seeleys Pond Dam, near Berkeley Heights, NJ *(01403395)	Lat 40°40'02", long 74°24'13", Union County, Hydrologic Unit 02030105, on wall on right bank, upstream from Seeleys Pond dam, 300 ft from mouth, 1.0 mi north of Scotch Plains, 1.0 mi west of Mountain-side, and 4.5 mi southeast of Berkeley Heights. Datum of gage is 202.05 ft above NGVD of 1929. Drainage area is 3.59 mi ² .	1927, 1969, 1973, 1981-2002	5-18-02	<4.46h	<158 i	8-02-73	7.55	2,080	
Green Brook at Plainfield, NJ (01403500)	Lat 40°36'53", Long 74°25'55", Union County, Hydrologic Unit 02030105, on left wingwall downstream of bridge on Sycamore Avenue in Plainfield and 1.0 mi upstream from Stony Brook. Datum of gage is 70.37 ft above NGVD of 1929. Drainage area is 9.75 mi ² .	1938-84†, 1985-2002	5-18-02	<2.82h	<540 i	7-23-38	5.82	2,890	

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
RARITAN RIVER BASIN--Continued								
Stony Brook at North Plainfield, NJ (01403570)	Lat 40°37'19", long 74°26'11", Somerset County, Hydrologic Unit 02030105, on right upstream wingwall of bridge on Green Brook Road, in North Plainfield, 100 ft downstream of Crab Brook, and 1.4 mi upstream of mouth. Datum of gage is 71.59 ft above NGVD of 1929. Drainage area is 6.88 mi ² . Radio stage and rainfall telemetry at station.	1938, 1975-83, 1991-2002	5-18-02 @1050	3.97	558	7-23-38 10-19-96	10.00 7.35	a 3,130
Green Brook at Rock Avenue, at Plainfield, NJ (01403600)	Lat 40°36'07", long 74°27'28", Somerset County, Hydrologic Unit 02030105, on left downstream wingwall of bridge on Rock Avenue in Plainfield, 0.3 mi north of West Front Street, and 0.6 mi south of U.S. Route 22. Datum of gage is 45.70 ft above NGVD of 1929. Drainage area is 18.2 mi ² . Radio stage and rainfall telemetry at station.	1972-79, 1992-2002	5-18-02 @1115	6.55	a	8-02-73 10-19-96 9-16-99	10.65 11.40 12.17	10,400 a a
Bound Brook at Middlesex, NJ (01403900)	Lat 40°35'06", long 74°30'29", Somerset County, Hydrologic Unit 02030105, at bridge on Sebrings Mill Road at Middlesex, 0.4 mi downstream of mouth of Green Brook, and 2.3 mi upstream of mouth. Datum of gage is 26.52 ft above NGVD of 1929. Drainage area is 48.4 mi ² . Radio stage and rainfall telemetry at station.	1972-77†, 1992-95, 1996-2002	5-18-02	5.42	820	9-17-99	13.54	7,840
Sawmill Brook at South River, NJ (01405010)	Lat 40°26'02", long 74°24'02", Middlesex County, Hydrologic Unit 02030105, on right bank upstream wingwall of culvert at intersection of County Route 535 and Merrill Road at entrance to East Brunswick High School, 0.2 mi north of St. Mary Cemetery, 1.3 mi northwest of Duhernal Lake, and 1.6 mi southwest of South River. Drainage area is 0.49 mi ² .	1998-2002	8-02-02	2.22	135	8-02-02	2.22	135
Manalapan Brook tributary at Smithburg, NJ (01405304)	Lat 40°12'37", long 74°21'17", Monmouth County, Hydrologic Unit 02030105, on upstream left wingwall of culvert on Woodville Road at Smithburg, 0.1 mi north of intersection of Woodville Road and Freehold-Mt. Holly Road, and 0.7 mi south of Pasture Pond. Datum of gage is 190 ft above NGVD of 1929, from topographic map. Drainage area is 0.47 mi ² .	1999-2002	5-18-02	1.57	3.4	3-30-01	3.25	70
EAST CREEK BASIN								
East Creek at NJ Route 35, at Centerville, NJ (01407051)	Lat 40°25'00", long 74°10'09", Monmouth County, Hydrologic Unit 02030104, on upstream left wingwall of culvert on State Route 35, 0.5 mi east of Bethany Road and Route 35, and 0.7 mi west of Centerville. Datum of gage is 79 ft above NGVD of 1929, from topographic map. Drainage area is 0.59 mi ² .	1999-2002	8-03-02	5.79	a	8-03-02	5.79	a
MANY MIND CREEK BASIN								
Many Mind Creek at Atlantic Highlands, NJ (01407130)	Lat 40°24'12", long 74°01'49", Monmouth County, Hydrologic Unit 02030104, upstream side of culvert on State Route 36 at Atlantic Highlands, 190 ft east of intersection of State Route 36 and Valley Drive, and 1.0 mi southeast of mouth. Datum of gage is 29.54 ft above NGVD of 1929. Drainage area is 0.26 mi ² .	1999-2002	8-03-02	5.61u	a	3-30-01	5.92u	a

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
SHREWSBURY RIVER BASIN								
Big Brook near Marlboro, NJ (01407290)	Lat 40°19'10", long 74°12'52", Monmouth County, Hydrologic Unit 02030104, downstream left side of bridge on Hillsdale Road, 1.7 mi east of Marlboro, and 3.0 mi northwest of Colts Neck. Drainage area is 6.42 mi ² .	1980-2002	8-29-02	5.20	480	09-20-89	10.16	1,370
MANASQUAN RIVER BASIN								
Mingamahone Brook at Farmingdale, NJ (01408015)	Lat 40°11'38", long 74°09'42", Monmouth County, Hydrologic Unit 02040301, on upstream right wingwall of culvert on Belmar Boulevard, 0.3 mi east of Farmingdale, and 3.0 mi upstream from mouth. Datum of gage is 48.64 ft above NGVD of 1929. Drainage area is 6.20 mi ² .	1969-2002	6-07-02	<3.54h	<70 i	7-21-75	7.31	425
METEDECONK RIVER BASIN								
North Branch Metedeconk River at Smithburg, NJ (01408052)	Lat 40°12'04", long 74°21'57", Monmouth County, Hydrologic Unit 02040301, at spillway of pond just upstream from culvert on Monmouth Road (County Route 537), at Charleston Springs, 0.8 mi southwest of Smithburg, and 4.1 mi east of Clarksburg. Datum of gage is 188 ft above NGVD of 1929, from topographic map. Drainage area is 0.10 mi ² .	1999-2002	9-01-02	6.00	1.8	9-16-99	6.43	3.2
TOMS RIVER BASIN								
Michaels Branch tributary at Keswick Grove, NJ (01408582)	Lat 39°56'48", long 74°20'15", Ocean County, Hydrologic Unit 02040301, on upstream right wingwall of culvert on Pinewald Road (County Route 530), 0.1 mi upstream from mouth, 1.5 mi east of intersection of Pinewald Road and Whiting Lacey Road, and 0.4 mi southeast of Keswick Grove. Datum of gage is 98 ft above NGVD of 1929, from topographic map. Drainage area is 0.67 mi ² .	1999-2002	7-19-02	1.32	2.50	9-16-99	3.65	a
Wrangel Brook at Bimini Drive, near Toms River, NJ (01408590)	Lat 39°58'16", long 74°15'58", Ocean County, Hydrologic Unit 02040301, on right bank pier at downstream side of bridge on Bimini Drive, 1.0 mi south of intersection of Bimini Drive and State Route 37, 2.6 mi west of Toms River, and 3.3 mi upstream of mouth. Datum of gage is 30 ft above NGVD of 1929, from topographic map. Drainage area is 13.6 mi ² .	1998-2002	9-01-02	<2.06h	<74 i	5-10-98	3.58	210 r
Wrangel Brook at Mule Road, near Toms River, NJ *(01408592)	Lat 39°57'39", long 74°13'42", Ocean County, Hydrologic Unit 02040301, at downstream side of bridge on Mule Road in Berkeley Township, 0.5 mi upstream from mouth, and 1.7 mi west of Toms River. Datum of gage is 11 ft above NGVD of 1929, from topographic map. Drainage area is 19.5 mi ² .	1998-2002	9-01-02	5.61	151	9-28-00	7.40	340
OYSTER CREEK BASIN								
Brookville Creek at Brookville, NJ (01409088)	Lat 39°46'58", long 74°18'10" (revised), Ocean County, Hydrologic Unit 02040301, at downstream side of bridge on Brookville Road, 0.1 mi east of Brookville, 0.9 mi south of intersection of Brookville Road, and Wells Mills Road, and 1.2 mi southwest of Wells Mills Lake. Datum of gage is 107 ft above NGVD of 1929, from topographic map. Drainage area is 0.25 mi ² . Formerly published as Oyster Creek tributary.	1999-2002	6-07-02	4.65	7.5	9-16-99	4.92	10

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
MULLICA RIVER BASIN								
West Branch Wading River near Jenkins, NJ (01409810)	Lat 39°41'17", long 74°32'54", Burlington County, Hydrologic Unit 02040301, on right bank 900 ft downstream from Godfrey Bridge on Washington-Jenkins Road, 1.2 mi southwest of Jenkins, and 2.2 mi downstream from Hospitality Brook. Drainage area is 84.1 mi ² .	1975-96†, 1998	5-12-98	14.65d	767 d	2-26-79	16.14	1,320
GREAT EGG HARBOR RIVER BASIN								
Deep Run at U.S. Route 40, at Landisville, NJ (01411120)	Lat 39°30'41", long 74°55'15", Atlantic County, Hydrologic Unit 02040302, downstream left bank of culvert on U.S. Route 40, 0.2 mi upstream of Pennsylvania-Reading-Seashore railroad tracks, 0.3 mi southeast of Buena, 1.1 mi northwest of Pancoast Lake, and 1.3 mi southeast of Landisville. Drainage area is 0.33 mi ² .	1997-2002	8-29-02	2.49	3.3	8-23-97	2.83	20
Deep Run tributary at NJ Route 54, at Landisville, NJ (01411122)	Lat 39°31'20", long 74°55'13", Atlantic County, Hydrologic Unit 02040302, upstream right bank of culvert on State Route 54, 0.4 mi southwest of Pancoast Road, 0.6 mi southeast of Landisville, and 1.0 mi northeast of Pancoast Lake. Drainage area is 1.18 mi ² .	1997-2002	6-14-02	3.10	77	8-23-97	4.18	300 r
COHANSEY RIVER BASIN								
West Branch Cohansey River at Seeley, NJ (01412500)	Lat 39°29'06", long 75°15'33", Cumberland County, Hydrologic Unit 02040206, on right bank 15 ft upstream from bridge on County Highway 31 at Seeley, 450 ft upstream from mouth, and 4.1 mi northwest of Bridgeton. Datum of gage is 42.23 ft above NGVD of 1929. Drainage area is 2.58 mi ² .	1952-67†, 1968-2002	6-14-02	2.24	59	6-20-83	11.17	885
DELAWARE RIVER BASIN								
White Brook tributary at Montague, NJ (01438520)	Lat 41°18'05", long 74°47'41", Sussex County, Hydrologic Unit 02040104, on right upstream wingwall of culvert on County Route 521 just north of U.S. Route 206, 0.2 mi south of Montague, 0.4 mi east of Milford Toll Bridge, and 0.5 mi upstream of mouth. Datum of gage is 515 ft above NGVD of 1929, from topographic map. Drainage area is 0.23 mi ² .	1999-2002	6-07-02	1.09	5.1	12-18-00	2.63	a
Delaware River near Delaware Water Gap, PA (01440200)	Lat 41°00'48", long 75°05'11", Warren County, Hydrologic Unit 02040105, on left bank 700 ft streamward from River Road, 1.0 mi downstream from Tocks Island, 3.7 mi northeast of Delaware Water Gap, PA, and 4.0 mi upstream from bridge on Interstate Route 80. Datum of gage is 293.64 ft above NGVD of 1929. Drainage area is 3,850 mi ² .	1955, 1964-96†, 2002	5-14-02 @2030	11.74	31,600	8-19-55	37.4	260,000
Paulins Kill tributary at Ross Corner, NJ (01443305)	Lat 41°07'02", long 74°42'39", Sussex County, Hydrologic Unit 02040105, on left bank upstream wingwall of culvert on State Route 15, 0.1 mi southeast of Ross Corner, 2.0 mi northwest of Lafayette, and 0.2 mi upstream of mouth. Datum of gage is 500 ft above NGVD of 1929, from topographic map. Drainage area is 0.35 mi ² .	1999-2002	6-07-02	4.62	7.8	8-13-00	7.06	34
Lapahannock Creek at Ridge Road, at Roxburg, NJ (01446564)	Lat 40°46'06", long 75°06'11", Warren County, Hydrologic Unit 02040105, on upstream left wingwall of culvert on Ridge Road, 0.2 mi south of unnamed pond and 0.8 mi east of County Route 519 at Roxburg. Drainage area is 0.86 mi ² .	1995-2002	5-13-02	4.19	56	1-19-96	8.10	285

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued								
Pohatcong Creek tributary near Washington, NJ (01455130)	Lat 40°47'55", long 74°56'48", Warren County, Hydrologic Unit 02040105, on downstream left wingwall of culvert on County Route 628 1.0 mi southwest of Karrsville, 0.3 mi upstream of Pohatcong Creek, and 0.5 mi upstream of Willever Lake. Datum of gage is 530 ft above NGVD of 1929, from topographic map. Drainage area is 0.55 mi ² .	1999-2002	5-13-02	2.04	a	9-16-99	3.32	a
Delaware River at Riegelsville, NJ (01457500)	Lat 40°35'36", long 75°11'17", Warren County, Hydrologic Unit 02040105, on left bank just upstream of suspension bridge at Riegelsville, 600 ft upstream from Musconetcong River (flow of which is included in the records for this station since Oct. 1, 1931). Datum of gage is 125.12 ft above NGVD of 1929. Drainage area is 6,328 mi ² . Satellite stage telemetry at station.	1906-71†, 1972-2002	5-15-02 @0445	11.80	41,200	8-19-55	38.85	340,000
Delaware River tributary at Byram, NJ (01459010)	Lat 40°25'23", long 75°03'42", Hunterdon County, Hydrologic Unit 02040105, at left bank on downstream side of culvert on State Route 29, 0.1 mi south of Byram, 0.1 mi upstream from mouth, and 0.9 mi north of Bulls Island. Datum of gage is 69.7 ft above NGVD of 1929. Drainage area is 1.23 mi ² .	1945, 1955, 1995-2002	5-13-02	7.48	115	7-09-45 8-20-55	18.4 28.37k	2,900 a
Moores Creek tributary at Valley Road, near Lambertville, NJ (01462197)	Lat 40°20'12", long 74°54'59", Mercer County, Hydrologic Unit 02040105, at upstream side of culvert on Valley Road, 0.3 mi east of Belle Mountain, and 0.7 mi upstream of mouth, and 2.3 mi south of Lambertville. Drainage area is 0.73 mi ² .	1989, 1995-2002	5-13-02	2.10	183	8-15-89	--	1,150 j
Shabakunk Creek tributary at Texas Avenue, near Lawrenceville, NJ (01463812)	Lat 40°15'36", long 74°43'38", Mercer County, Hydrologic Unit 02040105, at downstream right wingwall of culvert on Texas Avenue, just upstream of Lawrence Shopping Center, 2.6 mi south of Lawrenceville, 600 ft west of Brunswick Pike, and 0.2 mi north of Colonial Lake. Drainage area is 0.27 mi ² .	1995-2002	8-29-02	3.68	152	9-16-99	5.13	1,780
Stony Ford Brook at New Egypt, NJ (01464405)	Lat 40°04'21", long 74°31'00", Ocean County, Hydrologic Unit 02040201, on right bank upstream wingwall of culvert on Lakewood Road, 0.7 mi northwest of New Egypt, and 0.9 mi upstream from mouth. Drainage area is 0.99 mi ² .	1979, 1995-2002	8-29-02	4.32	34	8-31-79	13.65	340
Doctors Creek at Clarksburg, NJ (01464510)	Lat 40°11'37", long 74°26'43", Monmouth County, Hydrologic Unit 02040201, on left bank upstream wingwall at bridge on Coach Road (County Routes 524 and 571), 0.2 mi north of Clarksburg, 2.2 mi upstream of Red Valley Lake, and 2.4 mi southeast of Roosevelt. Datum of gage is 194 ft above NGVD of 1929. Drainage area is 0.25 mi ² .	1999-2002	8-02-02	2.17	a	9-16-99 8-02-02	2.02 2.17	53 a
Crosswicks Creek tributary at U.S. Route 206, near Bordentown, NJ (01464524)	Lat 40°10'15", long 74°41'59", Burlington County, Hydrologic Unit 02040201, on left bank upstream wingwall of culvert on U.S. Route 206, 0.4 mi south of Sylvan Glen, and 1.9 mi northeast of Bordentown. Drainage area is 0.43 mi ² .	1995-2002	1-06-02	2.09	50	3-30-01	4.26	107
Thornton Creek at Bordentown, NJ (01464525)	Lat 40°08'50", long 74°41'46", Burlington County, Hydrologic Unit 02040201, on right bank upstream side of abandoned dam, 50 ft upstream of Thornton Lane, 0.4 mi upstream of unnamed pond, 0.9 mi east of Bordentown, and 2.5 mi west of Crosswicks. Drainage area is 0.84 mi ² .	1976-77†, 1995-2002	5-18-02	<1.35h	<48 i	9-16-99	4.21	310

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued								
Crafts Creek at Route 68, at Georgetown, NJ (01464533)	Lat 40°04'37", long 74°39'48", Burlington County, Hydrologic Unit 02040201, on right upstream wingwall of culvert on State Route 68, 0.5 mi west of Georgetown, 0.7 mi downstream of unnamed pond, and 3.1 mi east of Columbus. Drainage area is 0.58 mi ² .	1995-2002	5-18-02	2.50	11	9-16-99	4.57	43
Crafts Creek at Columbus, NJ (01464538)	Lat 40°04'44", long 74°43'07", Burlington County, Hydrologic Unit 02040201, on right downstream wingwall of culvert on Columbus-Mansfield Road, 0.4 mi north of Columbus, and 6.0 mi northeast of Mount Holly. Datum of gage is 33.71 ft above NGVD of 1929. Drainage area is 5.38 mi ² .	1978-2002	6-19-92 5-18-02	5.23 3.56	113 r 61	7-06-89	10.25	880
Newton Creek at Collingswood, NJ *(01467305)	Lat 39°54'30", long 75°03'13", Camden County, Hydrologic Unit 02040202, at bridge on Park Avenue in Westmont, 0.3 mi east of Cuthbert Avenue, and 1.0 mi east of Collingswood. Datum of gage is 18.74 ft above NGVD of 1929. Drainage area is 1.33 mi ² .	1964-2002	6-20-02	3.87	192	7-14-94	6.82	328
South Branch Newton Creek at Haddon Heights, NJ *(01467317)	Lat 39°52'45", long 75°04'26", Camden County, Hydrologic Unit 02040202, at bridge on 13th Avenue in Haddon Heights, and 2.6 mi south of Collingswood. Datum of gage is 23.34 ft above NGVD of 1929. Drainage area is 0.63 mi ² .	1964-2002	7-14-94 3-09-95 8-13-96 7-23-97 7-31-98 8-26-99 9-04-00 6-17-01 1-06-02	3.71 2.25 3.18 1.66 2.28 2.92 2.85 3.13 2.62	287 r 135 r 227 r 86 r 38 r 200 r 193 r 222 r 170	9-01-78	4.62	295
Gravelly Run at Somerdale, NJ (01467357)	Lat 39°46'17", long 75°01'49", Camden County, Hydrologic Unit 02040202, upstream left wingwall of culvert, on Warwick Road (County Route 669) in Somerdale 0.8 mi south of Evesham Road, 0.8 mi north of Sterling High School, and 1.2 mi upstream of mouth, where it feeds Otter Brook. Drainage area is 0.35 mi ² .	1997-2002	6-20-02	2.39	54	9-26-00	4.46	164
Bees Branch at Hurffville, NJ (01475017)	Lat 39°46'17", long 75°06'21", Gloucester County, Hydrologic Unit 02040202, upstream right bank at culvert, on State Route 47, 0.4 mi south of Barnsboro Road, 0.6 mi north of Hurffville, and 0.8 mi southwest of headwater at unnamed lake. Drainage area is 0.43 mi ² .	1997-2002	12-16-96 9-16-99 5-18-02	4.93 5.99 1.91	58 r 76 r 14	9-16-99	5.99	76 r
Plank Run at Glassboro, NJ *(01475033)	Lat 39°42'54", long 75°08'25", Gloucester County, Hydrologic Unit 02040202, upstream right bank at culvert, on U.S. Route 322, 0.4 mi southwest of intersection with State Route 55, 0.6 mi west of Glassboro, and 0.7 mi south of Alcyon Lake. Datum of gage is 106.85 ft above NGVD of 1929. Drainage area is 0.71 mi ² .	1997-2002	5-18-02	1.51	18	9-16-99	2.60	47
Miery Run near Ewan, NJ (01477102)	Lat 39°42'52", Long 75°11'41", Gloucester County, Hydrologic Unit 02040202, downstream left bank at culvert on County Route 623, 0.3 mi southeast of mouth of Raccoon Creek, 1.2 mi northwest of Ewan, and 1.5 mi southeast of intersection with U.S. Route 322. Drainage area is 0.73 mi ² .	1997-2002	12-14-96 6-14-98 9-16-99 3-22-00 3-30-01 4-28-02	2.31 1.14 2.44 1.95 1.62 1.02	45 r 14 r 49 r 58 r 36 r 17	9-16-99 3-22-00	2.44 1.95	49 r 58 r

CREST-STAGE PARTIAL-RECORD STATIONS

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued								
Raccoon Creek tributary no. 3 near Mullica Hill, NJ (01477123)	Lat 39°44'47", long 75°16'05", Gloucester County, Hydrologic Unit 02040202, downstream left bank of culvert, on Mullica Hill Road, 0.3 mi upstream of mouth, 2.0 mi east of Swedesboro, and 2.3 mi northwest of Mullica Hill. Drainage area is 0.47 mi ² .	1997-2002	4-28-02	.96	11	5-24-99	1.33	21 r

* Also a low-flow partial-record station.

† Operated as a continuous-record gaging station.

a Discharge not determined.

b Gage height not determined.

c Recorded at previous site.

d Previously unpublished.

e Estimated.

f Determined at Squaw Lake Dam, 0.2 mi upstream of gage.

g Gage height (NGVD 1929) from previous site location approximately 150 ft upstream of current site.

h Peak gage height for the period was less than minimum recordable gage height indicated.

i Peak discharge for the period was less than the minimum recordable discharge.

j Determined at site 0.1 mi downstream (USGS station number 01462198, drainage area 0.80 mi²), adjusted for change in drainage area.

k Due to backwater from Delaware River.

m Due to backwater from Raritan River.

p Elevation above NGVD of 1929.

r Revised.

s Determined at Bradford Avenue, 0.2 mi downstream of gage, adjusted for change in drainage area.

t Due to backwater from debris and snow at upstream side of culvert.

u Due to backwater from debris pile-up at upstream side of culvert.

v Was probably exceeded by peak of May 24 when gage was out of operation.

w Peak gage height was less than 12.14 ft.

x From rating curve extended above 125 ft³/s on basis of slope area measurement at gage height 3.91 ft.

z Backwater condition.

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 during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
HUDSON RIVER BASIN						
01367750	Beaver Run near Hamburg, NJ	Lat 41°10'52", long 74°35'27", Sussex County, Hydrologic Unit 02020007, on State Route 23, 1.0 mi upstream from mouth, and 2.2 mi north of Hamburg.	5.59	1966-72, 2002	9-19-02	0.53
01367770	Wallkill River near Sussex, NJ	Lat 41°11'38", long 74°34'32", Sussex County, Hydrologic Unit 02020007, at bridge on Glenwood Road, 0.6 mi upstream from Papakating Creek, 1.7 mi southwest of Independence Corner, and 2.0 mi southeast of Sussex.	60.8	1977-82, 1985, 1987-2002	2-20-02 6-04-02 8-13-02	7.3 47 6.5
01367800	Papakating Creek at Pelletstown, NJ	Lat 41°09'45", long 74°40'31", Sussex County, Hydrologic Unit 02020007, at bridge on County Route 565 in Pelletstown, 3.9 mi northwest of Branchville, and 4.5 mi above West Branch.	15.8	1959-64, 1999-2002	11-20-01 2-20-02 6-13-02 8-22-02	2.1 3.6 12 .85
01367850	West Branch Papakating Creek at McCoys Corner, NJ	Lat 41°11'49", long 74°37'55", Sussex County, Hydrologic Unit 02020007, 0.1 mi southwest of McCoys Corner, 1.0 mi upstream of mouth, and 4.2 mi northwest of Hamburg.	11.0	1967-72, 2001-02	11-01-01 1-29-02 4-16-02 8-27-02 9-19-02	.64 4.1 26 .50 .63
01367890	Clove Brook above Clove Acres Lake, at Sussex, NJ	Lat 41°13'13", long 74°36'54", Sussex County, Hydrologic Unit 02020007, on road to Libertyville, 0.1 mi northwest of fork from State Route 23 at Sussex.	19.2	1967-72, 2002	9-19-02	1.4
01368950	Black Creek near Vernon, NJ	Lat 41°13'21", long 74°28'33", Sussex County, Hydrologic Unit 02020007, at bridge on Maple Grange Road, 0.6 mi upstream of confluence with Wawayanda Creek, 0.7 mi northwest of Maple Grange, and 1.7 mi northeast of Vernon.	17.3	1977-86, 1988, 1990-91, 1994-96, 2001-02	11-08-01 2-06-02 4-18-02 8-12-02	2.5 7.5 18 .50
HACKENSACK RIVER BASIN						
01377490	Musquapsink Brook at Westwood, NJ	Lat 40°59'11", long 74°01'51", Bergen County, Hydrologic Unit 02030103, on the left bank downstream side of bridge on Prospect Avenue in Westwood, 330 ft upstream from the railroad bridge, 1,100 ft downstream from former site at Bogert Pond Dam (prior to 1998, drainage area 6.53 mi ²), and 1.0 mi upstream from mouth.	6.59	1965-66, 1968, 1972, 1977-78, 1983, 2002	6-20-02 9-06-02	6.4 4.3
01378385	Tenakill Brook at Closter, NJ	Lat 40°58'29", long 73°58'06", Bergen County, Hydrologic Unit 02030103, at bridge on High Street in Closter, 0.7 mi upstream from mouth, and 2.7 mi downstream from former crest-stage gage on Madison Avenue in Cresskill.	8.56	1964-73, 1975, 1978, 1982, 1985, 1987-89, 1991-93, 1996-97, 1999, 2000, 2002	6-19-02 9-06-02	8.4 5.9

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
HACKENSACK RIVER BASIN-- Continued						
01378410	Dwars Kill at Norwood, NJ	Lat 40°59'01", long 73°57'35", Bergen County, Hydrologic Unit 02030103, at Blanche Avenue at Norwood, 1.0 mi east of Harrington Park, 1.5 mi upstream from Oradell reservoir.	3.23	1973-80, 1999, 2002	6-20-02 9-06-02	1.8 .72
01378520	Hirshfeld Brook at New Milford, NJ	Lat 40°56'49", long 74°01'00", Bergen County, Hydrologic Unit 02030103, at bridge on The Boulevard in New Milford, 0.45 mi upstream from mouth and 0.7 mi west of Dumont.	4.54	1965-72, 2002	6-19-02 9-06-02	2.9 2.1
01378560	Coles Brook at Hackensack, NJ	Lat 40°54'40", long 74°02'26", Bergen County, Hydrologic Unit 02030103, at bridge on Main Street in Hackensack, 0.8 mi upstream from mouth and 1.9 mi northwest of Teaneck.	7.00	1965-72, 1999-2002	11-14-01 3-13-02 8-07-02	.66 .62 1.2
PASSAIC RIVER BASIN						
01378750	Great Brook at Green Village, NJ	Lat 40°44'22", long 74°27'32", Morris County, Hydrologic Unit 02030103, at bridge on Green Village Road in Green Village, 1.2 mi upstream from Loantaka Brook, and 2.5 mi southwest of Madison.	7.92	1961-65, 2002	9-20-02	.57
01378800	Primrose Brook near New Vernon, NJ	Lat 40°43'42", long 74°30'58", Morris County, Hydrologic Unit 02030103, at bridge on Lees Hill Road, 0.9 mi upstream from Great Brook, 1.5 mi southwest of New Vernon, and 2.3 mi northeast of Basking Ridge.	4.68	1961-65, 2002	9-20-02	.63
01378850	Great Brook near Basking Ridge, NJ	Lat 40°42'49", long 74°30'59", Somerset County, Hydrologic Unit 02030103, at bridge on Pleasant Plains Road, 0.6 mi upstream from mouth, 1.8 mi east of Basking Ridge, and 2.7 mi north of Millington.	23.1	1961-65, 2002	9-20-02	2.0
01378895	Black Brook at Meyersville, NJ	Lat 40°42'04", long 74°28'34", Morris County, Hydrologic Unit 02030103, at bridge on New Vernon Road, 0.8 mi north of Meyersville, 3.0 mi upstream of mouth.	9.90	2002	9-20-02	.96
01379150	Harrisons Brook at Liberty Corner, NJ	Lat 40°40'27", long 74°34'14", Somerset County, Hydrologic Unit 02030103, at bridge on Lyons Road, 0.8 mi northeast of Liberty Corner, and 1.6 mi upstream from mouth.	3.74	1964-67, 1983-84, 2002	9-20-02	.48
01379200	Dead River near Millington, NJ	Lat 40°38'56", long 74°31'26", Morris County, Hydrologic Unit 02030103, at bridge on King George Road (Spur County Route 527), 100 feet upstream from mouth, 2.0 mi south of Millington, and 4.2 mi south of Basking Ridge.	20.8	1961-67, 1973-75, 1986-89, 1999-2002	12-12-01 2-06-02 2-13-02 4-17-02 5-30-02 6-11-02 8-12-02	7.3 7.2 9.0 16 10 9.4 4.5
01379525	Canoe Brook near Millburn, NJ	Lat 40°44'55", long 74°20'14", Essex County, Hydrologic Unit 02030103, at bridge on Parsonage Hill Road, 0.2 mi downstream from Taylor Lake, 1.0 mi upstream from New Jersey-American Water Company pumping station, and 1.4 mi northwest of Millburn.	10.2	1989-2002	8-09-02 9-05-02	.18 1.3
01379700	Rockaway River at Berkshire Valley, NJ	Lat 40°55'51", long 74°35'42", Morris County, Hydrologic Unit 02030103, on left bank, 60 ft downstream from bridge on Berkshire Valley Road in Berkshire Valley, 2.7 mi upstream from Stephens Brook and 3.8 mi northwest of Dover.	24.4	1960-72a, 1981-98a, 2002	8-09-02 9-05-02	3.4 3.2

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued						
01380050	Hibernia Brook at outlet of Lake Telemark, NJ	Lat 40°57'32", long 74°30'06", Morris County, Hydrologic Unit 02030103, at bridge at outlet of Lake Telemark, 1.0 mi north of Hibernia, and 3.2 mi upstream from mouth.	2.53	1966-72, 2002	9-12-02	.12
01380100	Beaver Brook at Rockaway, NJ	Lat 40°54'08", long 74°30'06", Morris County, Hydrologic Unit 02030103, at bridge on Gill Avenue, and 0.2 mi upstream from mouth, and 0.7 mi east of Rockaway.	22.2	1963, 1984-86, 1999-2002	11-13-01 2-06-02 5-29-02 8-05-02 8-09-02 9-05-02	7.7 7.7 20 5.0 1.1 1.4
01380133	Den Brook at Denville, NJ	Lat 40°53'25", long 74°28'18", Morris County, Hydrologic Unit 02030103, at bridge on Broadway Avenue, at Denville, 150 ft from mouth, and 0.6 mi downstream from Indian Lake.	8.78	1986, 2002	8-09-02 9-05-02	.12 2.6
01380300	Stony Brook near Rockaway Valley, NJ	Lat 40°56'25", long 74°25'39", Morris County, Hydrologic Unit 02030103, at bridge on Rockaway Valley Road, 0.2 mi downstream of unnamed tributary and 1.7 mi west of Taylortown.	8.43	1963-67, 1984-86, 2002	6-19-02 9-07-02	7.7 .39
01381150	Crooked Brook near Boonton, NJ	Lat 40°53'25" long 74°22'27", Morris County, Hydrologic Unit 02030103, at bridge on Horseneck Road, 0.1 mi upstream from mouth, and 1.9 mi southeast of Boonton.	7.86	1963-66, 2002	9-12-02	.91
01381200	Rockaway River at Pine Brook, NJ	Lat 40°51'29", long 74°20'53", Morris County, Hydrologic Unit 02030103, at bridge on U.S. Route 46 at intersection with New Road in Pine Brook, and 1.1 mi upstream of mouth.	136	1963-73, 1979-81, 1983-97, 2000-02	11-15-01 2-11-02 2-19-02 4-16-02 5-16-02 9-10-02	52 32 25 28 510 26
01381490	Watnong Brook at Morris Plains, NJ	Lat 40°48'50", long 74°29'38", Morris County, Hydrologic Unit 02030103, at bridge on Lake Road, 0.1 mi upstream from mouth and 0.8 mi south of Morris Plains.	7.77	1966-72, 1995, 2002	9-12-02	1.8
01381750	West Brook at Troy Hills, NJ	Lat 40°50'36", long 74°23'37", Morris County, Hydrologic Unit 02030103, at bridge on Beverwyck Road, 0.7 mi south of Troy Hills, 0.8 mi upstream from mouth, and 1.8 mi northeast of Whippany.	1.32	1961-66, 2002	9-12-02	0
01382000	Passaic River at Two Bridges, NJ	Lat 40°53'50", long 74°16'23", Essex County, Hydrologic Unit 02030103, at bridge on Two Bridges Road, just upstream from confluence with Pompton River, 0.3 mi northeast of Two Bridges, and 2.6 mi northwest of Little Falls.	361	1963-68, 1983-84, 1986-98, 2002	6-19-02 9-06-02	369 116
01382050	Pequanock River near Stockholm, NJ	Lat 41°06'55", long 74°30'50", Sussex County, Hydrologic Unit 02030103, at bridge on County Route 515, 1.6 mi above Pacock Brook, and 1.8 mi north of Stockholm.	5.39	1959-64, 2002	6-19-02 9-07-02	2.2 .02
01382090	Pacock Brook near Highland Lakes, NJ	Lat 41°08'11", long 74°28'22", Sussex County, Hydrologic Unit 02030103, at bridge on Canistear Road, 0.3 mi upstream from Canistear Reservoir, and 2.8 mi south of Highland Lakes.	---	2002	6-19-02 9-07-02	2.6 .09
01382360	Kanouse Brook at Newfoundland, NJ	Lat 41°02'50", long 74°25'48", Passaic County, Hydrologic Unit 02030103, at culvert on Kanouse Road, 0.3 mi east of Newfoundland, and 0.6 mi upstream from mouth.	3.87	1963-67, 2002	6-19-02 9-07-02	3.9 .20

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued						
01383600	Hewitt Brook at Hewitt, NJ	Lat 41°08'28", long 74°18'55", Passaic County, Hydrologic Unit 02030103, at bridge on Lake Road, 0.2 mi west of Hewitt, 0.4 mi upstream from mouth.	---	2002	6-20-02 9-06-02	2.1 .47
01385000	Cupsaw Brook near Wanaque, NJ	Lat 41°06'37", long 74°15'23", Passaic County, Hydrologic Unit 02030103, at bridge on Carletondale Road, just upstream from Wanaque Reservoir, 0.3 mi downstream from Cupsaw Lake, and 5 mi north of Wanaque.	4.37	1935-58a, 2001-02	6-20-02 9-06-02	3.4 .04
01387008	Meadow Brook at Highland Avenue, at Wanaque, NJ	Lat 41°02'34", long 74°17'10", Passaic County, Hydrologic Unit 02030103, at culvert on Highland Avenue, in Wanaque, 0.3 mi upstream from mouth, and 0.5 mi east of Raymond Dam.	---	2002	11-14-01 8-27-02	.38 3.1
01387019	Posts Brook above diversion near Wanaque, NJ	Lat 41°02'35", long 74°19'39", Passaic County, Hydrologic Unit 02030103, 0.7 mi upstream from inlet to Lake Ioscoe, 1.7 mi west of Wanaque, and 2.8 mi north of Bloomingdale.	3.55	2002	6-20-02 9-06-02	3.3 .03
01387020	Posts Brook diversion near Wanaque, NJ	Lat 41°02'35", long 74°19'37", Passaic County, Hydrologic Unit 02030103, 0.2 mi upstream from Wanaque Reservoir, 1.7 mi west of Wanaque, and 2.8 mi north of Bloomingdale.	---	1935, 1937, 1941-48, 1950-52, 1954, 1956-57, 1959-64, 2002	6-20-02 9-06-02	3.1 0
01387450	Mahwah River near Suffern, NY	Lat 41°08'27", long 74°07'01", Rockland County, NY, Hydrologic Unit 02030103, on left bank 13 ft upstream from bridge on U.S. Highway 202, 2.5 mi northeast of Suffern, and 4.8 upstream of mouth.	12.3	1958-2002	6-20-02 9-06-02	15 .94
01387600	Darlington Brook near Darlington, NJ	Lat 41°04'46", long 74°11'02", Bergen County, Hydrologic Unit 02030103, at bridge on Valley Road (U.S. Route 202), at Darlington, 0.3 mi upstream from mouth, and 2.6 mi northwest of Ramsey.	3.38	1963-67, 1981-83, 1998, 2002	9-14-02	.26
01387700	Bear Swamp Brook near Oakland, NJ	Lat 41°03'59", long 74°12'35", Bergen County, Hydrologic Unit 02030103, at bridge, 0.1 mi upstream from mouth, and 2.9 mi northeast of Oakland.	3.25	1963-67, 1981-83, 2002	9-14-02	0
01387880	Pond Brook at Oakland, NJ	Lat 41°01'36", long 74°14'04", Bergen County, Hydrologic Unit 02030103, at bridge on Interstate 287/State Route 208 in Oakland, 0.2 mi upstream from former site at Franklin Avenue (prior to October 1975), 0.6 mi upstream from mouth, and 1.5 mi northwest of Franklin Lakes.	6.76	1963-2002	5-18-02 6-19-02	67 8.9
01387930	Ramapo River tributary No. 5 at Oakland, NJ	Lat 41°00'54", long 74°15'14", Bergen County, Hydrologic Unit 02030103, at bridge on U.S. Route 202, 0.35 mi above mouth, and 1.5 mi southwest of Oakland, Bergen County.	.86	1963-67, 1982, 2002	9-14-02	.89
01387950	Acid Brook at Pompton Lakes, NJ	Lat 41°00'19", long 74°16'57", Passaic County, Hydrologic Unit 02030103, at bridge on Lakeside Avenue in Pompton Lakes, Passaic County, and 300 ft upstream from mouth.	1.79	1963-67, 1982, 2002	9-19-02	0
01387980	Haycock Brook at Pompton Lakes, NJ	Lat 40°59'40", long 74°16'28", Passaic County, Hydrologic Unit 02030103, at bridge on U.S. Highway 202 at Pompton Lakes, 150 ft upstream from mouth and 1.5 mi east of Riverdale.	4.18	1963-64, 1973-77, 1982, 2002	9-19-02	17

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued						
01388700	Beaver Dam Brook at Lincoln Park, NJ	Lat 40°55'29", long 74°18'10", Morris County, Hydrologic Unit 02030103, at bridge on Park Avenue, at Lincoln Park, 0.6 mi downstream of East Ditch, and 0.7 mi upstream of mouth.	12.3	1992-99, 2001-02	8-14-02	.47
01389090	Naachtpunkt Brook at Totowa, NJ	Lat 40°54'48", long 74°13'52", Passaic County, Hydrologic Unit 02030103, at bridge on Totowa Road, 1.0 mi upstream from Preakness Brook and Singac Brook, and 1.0 mi northwest of Totowa.	1.14	2002	11-02-01 7-30-02	.59 .32
01389100	Singac Brook at Singac, NJ	Lat 40°53'37", long 74°15'57", Passaic County, Hydrologic Unit 02030103, at bridge on Fairfield Road, between Interstate 80 and U.S. Route 46, 60 ft upstream from mouth, 1.2 mi northwest of Singac, and 1.8 mi northwest of Little Falls.	11.1	1963-67, 1983-84, 1986-2002	11-02-01 2-11-02 4-16-02 9-05-02	18 21 21 17
01389110	Passaic River at Route 46, at Singac, NJ	Lat 40°53'32", long 74°15'58", Passaic County, Hydrologic Unit 02030103 at bridge on U.S. Route 46, 400 downstream of Singac Brook, 1.4 mi west of Singac, and 0.6 mi downstream from Pompton River.	745	1996-2002	11-02-01 9-05-02	195 128
01389534	Peckman River at Ozone Avenue, at Verona, NJ	Lat 40°50'42", long 74°14'09", Passaic County, Hydrologic Unit 02030103, at bridge on Ozone Avenue in Verona, 1.0 mi southwest of Cedar Grove Reservoir, and 4.0 mi west of Clifton.	4.45	1979-2002	11-02-01 8-27-02	3.5 3.6
01389600	Peckman River at West Paterson, NJ	Lat 40°53'32", long 74°12'43", Passaic County, Hydrologic Unit 02030103, at bridge on McBride Avenue, 0.2 mi above mouth, and 0.7 mi west of West Paterson.	10.1	1963-67, 1983-87, 1994, 1998, 2001-02	2-12-02 4-15-02	9.8 26
01389738	Molly Ann Brook tributary near Franklin Lakes, NJ	Lat 40°58'51", long 74°12'11", Bergen County, Hydrologic Unit 02030103, at culvert on Belmont Avenue, 0.5 mi upstream of mouth at Haledon Reservoir, 1.6 mi southeast of Franklin Lakes, and 2.1 mi north of North Haledon.	0.33	2001-02	11-14-01 12-06-01 5-18-02 7-30-02	.16 .04 4.8 .04
01389765	Molly Ann Brook at North Haledon, NJ	Lat 40°57'11", long 74°11'07", Passaic County, Hydrologic Unit 02030103, Overlook Avenue in North Haledon, 0.5 mi upstream from Oldham Pond Dam, and 1.5 mi west of Hawthorne.	3.89	1979-2002	11-02-01 7-30-02	.70 .75
01389844	Deep Brook at Goffle Road at Hawthorne, NJ	Lat 40°57'54", long 74°09'32", Passaic County, Hydrologic Unit 02030103, at bridge on Goffle Road, 270 ft upstream from mouth, and 0.8 mi north of Hawthorne.	2.04	2002	11-14-01 7-30-02	.18 .33
01389845	Goffle Brook at Arnold Dam, at Hawthorne, NJ	Lat 40°57'46", long 74°09'36", Passaic County, Hydrologic Unit 02030103, at Arnold Dam, at foot of Van Winkle Avenue in Hawthorne, and 700 ft downstream of Deep Brook.	7.2	2002	11-13-01 7-30-02	.20 .23
01389860	Diamond Brook at Fair Lawn, NJ	Lat 40°56'37", long 74°08'31", Bergen County, Hydrologic Unit 02030103, at culvert on Bindery Entrance Road in Fair Lawn, 1,200 ft upstream from mouth, and 1.9 mi north of Paterson.	3.19	2001-02	11-13-01 8-07-02 8-27-02	1.0 1.3 1.2
01390250	Saddle River at Brook Road, near Upper Saddle River, NJ	Lat 41°01'32", long 74°05'07", Bergen County, Hydrologic Unit 02030103, at bridge on Brook Road, 430 ft downstream from Penners Lake, 875 ft south of the NJ-NY state line, and 1.0 mi northeast of Upper Saddle River.	---	2002	11-02-01 6-20-02 9-06-02 9-14-02	.28 .88 0 0

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued						
01390700	Hohokus Brook at Wyckoff, NJ	Lat 41°01'25", long 74°10'05", Bergen County, Hydrologic Unit 02030103, at bridge on Wyckoff Avenue (County Route 87), 1.0 mi north of Wyckoff, and 1.2 mi upstream from Valentine Brook.	5.31	1963-67, 2002	9-19-02	3.3
01390800	Valentine Brook at Allendale, NJ	Lat 41°01'53", long 74°09'10", Bergen County, Hydrologic Unit 02030103, at bridge on Forest Road (County Route 85), 0.4 mi upstream from mouth, 1.1 mi west of Allendale, and 1.9 mi northeast of Wyckoff.	2.48	1963-67, 2002	9-19-02	.54
01391485	Sprout Brook at Rochelle Park, NJ	Lat 40°54'45", long 74°04'47", Bergen County, Hydrologic Unit 02030103, at bridge on Passaic Street in Rochelle Park, 0.9 mi upstream from mouth.	5.56	1964-73, 2002	9-19-02	4.1
RAHWAY RIVER BASIN						
01393890	East Branch Rahway River at Maplewood, NJ	Lat 40°44'06", long 74°16'14", Essex County, Hydrologic Unit 02030104, on bridge on Jefferson Avenue in Maplewood, 1,100 ft west of Fielding School, and 2.5 mi upstream of confluence of West Branch River and East Branch Rahway River.	5.11	1999-2002	12-05-01 7-30-02	1.3 2.2
01393960	West Branch Rahway River at Northfield Avenue at West Orange, NJ	Lat 40°46'11", long 74°17'00", Essex County, Hydrologic Unit 02030104, at bridge on Northfield Avenue in West Orange, 0.1 mi upstream of Orange Reservoir, and 2.2 mi east of Northfield.	7.09	2002	11-13-01 8-27-02	.33 .32
01394000	West Branch Rahway River at Millburn, NJ	Lat 40°43'54", long 74°18'28", Essex County, Hydrologic Unit 02030104, on left bank 100 ft upstream from Diamond Mill Pond Dam, 1,000 ft upstream from Glen Avenue in Millburn, and 1.9 mi upstream from confluence with East Branch.	7.10	1939-50a, 1973, 1998-2002	12-05-01 7-30-02	.36 .94
RARITAN RIVER BASIN						
01396108	Turkey Brook at Mount Olive, NJ	Lat 40°51'04", long 74°43'51", Morris County, Hydrologic Unit 02030105, at bridge on Jakestown Road in Mount Olive, 1.0 mi southeast of Budd Lake, and 1.2 mi above mouth.	---	1965, 2002	11-14-01 9-05-02	.34 .42
01396180	Drakes Brook at Bartley, NJ	Lat 40°48'43", long 74°43'45", Morris County, Hydrologic Unit 02030105, at bridge on Bartley Road, 0.25 mi upstream from mouth, 0.9 mi southwest of Bartley and 2.5 mi of Chester.	16.6	1963-76, 1988-91, 2000, 2002	8-09-02 9-05-02	.39 2.2
01396350	South Branch Raritan River at Califon, NJ	Lat 40°43'08", long 74°50'32", Hunterdon County, Hydrologic Unit 02030105, 0.3 mi west of Califon, 0.3 mi downstream of bridge on Main Street Califon, and 1.2 mi upstream of Little Brook.	58.5	1975-76, 1989-90, 2001-02	10-18-01 1-23-02 5-07-02 8-05-02	23 27 68 20
01396587	Rocky Run near Clinton, NJ	Lat 40°40'48", long 74°55'15", Hunterdon County, Hydrologic Unit 02030105, at bridge on State Route 31, 260 ft upstream of mouth, and 2.0 mi north of Clinton.	---	2002	6-20-02 9-05-02	1.8 .44
01396815	Beaver Brook at Clinton, NJ	Lat 40°38'10", long 74°54'36", Hunterdon County, Hydrologic Unit 02030105, at bridge on River Road in Clinton, 0.24 upstream of mouth, and 1.0 mi northeast of Franklin.	---	2002	6-20-02 9-05-02	4.8 1.1

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
RARITAN RIVER BASIN--Continued						
01396865	Sidney Brook at Grandin, NJ	Lat 40°37'07", long 74°55'59", Hunterdon County, Hydrologic Unit 02030105, at bridge on County Route 513 (Grandin Road) in Grandin, 1.3 mi upstream of mouth, 1.8 mi southwest of Clinton, and 2.7 mi northeast of Pittstown.	4.71	1997-99, 2001-02	11-14-01 9-05-02	1.0 1.0
01396900	Capoolong Creek at Lansdowne, NJ	Lat 40°36'28", long 74°54'58", Hunterdon County, Hydrologic Unit 02030105, at bridge on Lower Lansdown Road, 0.4 mi upstream from mouth, 0.5 mi west of Lansdowne, and 2.1 mi south of Clinton.	14.1	1959-65, 2002	6-20-02 9-05-02	13 3.6
01399190	Lamington (Black) River at Succasunna, NJ	Lat 40°51'03", long 74°38'02", Morris County, Hydrologic Unit 02030105, bridge on Righter Road, 0.4 mi upstream from Succasunna Brook, and 0.7 mi south of Succasunna.	7.37	1977-87a, 1988-2002	10-10-01 11-14-01 6-27-02 8-07-02 9-05-02	3.2 .94 6.4 .51 .51
01399200	Lamington (Black) River near Ironia, NJ	Lat 40°50'07", long 74°38'40", Morris County, Hydrologic Unit 02030105, at bridge on Ironia Road, 1.0 mi downstream from Succasunna Brook, and 1.3 mi northwest of Ironia.	10.9	1964-72, 1976-87a, 1988-2002	10-10-01 11-14-01 2-13-02 4-17-02 6-27-02 8-07-02 9-05-02	3.1 1.7 4.6 6.9 10 1.6 1.3
01399570	Rockaway Creek at McCrea Mills, NJ	Lat 40°39'42", long 74°45'58", Hunterdon County, Hydrologic Unit 02030105, at bridge on Rockaway Road in McCrea Mills, 1.1 mi southwest of Oldwick, 3.1 mi above South Branch Rockaway Creek, and 4.0 mi northeast of Lebanon.	17.0	1961-65, 2002	6-20-02 9-05-02	13 4.1
01400360	Peters Brook at Mercer Street, at Somerville, NJ	Lat 40°34'29", long 74°36'58", Somerset County, Hydrologic Unit 02030105, on downstream side of bridge on Mercer Street, 0.4 mi downstream from Macs Brook and 0.6 mi upstream from Ross Brook.	7.37	1992, 2002	6-20-02 9-05-02	1.6 1.1
01400589	Rocky Brook at Disbrow Hill Road, at Etra, NJ	Lat 40°15'11", long 74°29'16", Mercer County, Hydrologic Unit 02030105, at bridge on Disbrow Hill Road, 0.5 mi upstream from Timber Run tributary and 2.2 mi east of Hightstown.	7.14	1987, 1989, 2002	11-19-01 7-30-02	3.3 1.4
01400640	Millstone River near Grovers Mill, NJ	Lat 40°18'48", long 74°35'22", Mercer County, Hydrologic Unit 02030105, at bridge on Cranbury Neck Road, 1.0 mi east of Grovers Mill, 1.8 mi upstream from Cranbury Brook, and 1.8 mi east of Princeton Junction.	42.6	1959-65, 1971, 1986-87, 1992-93, 1995, 1998-2002	12-05-01 2-05-02 6-05-02 8-06-02	16 28 14 19
01400670	Cranbury Brook at Old Church, NJ	Lat 40°17'24", long 74°27'22", Middlesex County, Hydrologic Unit 02030105, at bridge on Federal Road, 0.4 mi east of Old Church, 3.7 mi northeast of Hightstown, and 4.2 mi above dam at Brainerd Lake in Cranbury.	3.69	1960-64, 2002	9-12-02	.06
01400700	Cranbury Brook at Cranbury Station, NJ	Lat 40°18'28", long 74°29'13", Middlesex County, Hydrologic Unit 02030105, at highway bridge on east side of tracks of Penn Central Railroad, 0.5 mi northeast of Cranbury Station, and 1.6 mi upstream from dam at Brainerd Lake in Cranbury.	9.56	1959-64, 1971-72, 2002	11-19-01 7-30-02	1.5 1.2
01400725	Cranbury Brook at Plainsboro, NJ	Lat 40°19'34", long 74°36'11", Middlesex County, Hydrologic Unit 02030105, at bridge on Maple Avenue at outlet of Plainsboro Pond in Plainsboro, and 0.7 mi upstream of mouth.	22.1	1967, 1971-72, 1987-1989, 2002	11-19-01 7-31-02	2.5 2.0

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
RARITAN RIVER BASIN--Continued						
01400750	Bear Brook near Hickory Corner, NJ	Lat 40°16'01", long 74°34'45", Mercer County, Hydrologic Unit 02030105, at bridge on Dutch Neck Road, 0.8 mi above Little Bear Brook, 1.3 mi southwest of Hickory Corner, and 3.0 mi west of Hightstown.	3.46	1960-65, 2002	9-12-02	.01
01400770	Little Bear Brook at Hickory Corner, NJ	Lat 40°16'05", long 74°33'57", Mercer County, Hydrologic Unit 02030105, at bridge on Dutch Neck Road, 0.5 mi southwest of Hickory Corner, 0.8 mi above mouth, and 2.3 mi west of Hightstown.	1.88	1960-64, 2002	9-12-02	.23
01400850	Woodsville Brook at Woodsville, NJ	Lat 40°22'37", long 74°49'33", Mercer County, Hydrologic Unit 02030105, at bridge on Marshalls Corner-Woodsville Road, 0.3 mi southeast of Woodsville, 0.8 mi above mouth, and 3.4 mi west of Hopewell.	1.78	1957-59, 1963-73, 2002	9-13-02	0
01400930	Baldwins Creek at Pennington, NJ	Lat 40°20'18", long 74°47'50", Mercer County, Hydrologic Unit 02030105, at bridge on State Route 31, 0.8 mi north of Pennington, and 0.9 mi upstream of Baldwin Lake Dam.	1.99	1960-1996, 2001	6-21-02	1.2
01400947	Stony Brook at Pennington, NJ	Lat 40°19'50", long 74°46'05", Mercer County, Hydrologic Unit 02030105, 25 ft upstream from dam on Stony Brook at Old Mill Road, 1.3 mi east of Pennington, and 1.4 mi downstream from Baldwin Creek.	26.7	1965-72, 1985-88, 2002	9-13-02	.52
01400970	Honey Branch near Rosedale, NJ	Lat 40°20'26", long 74°44'39", Mercer County, Hydrologic Unit 02030105, at bridge on Elm Ridge Road, 0.2 mi above mouth and 1.2 mi west of Rosedale	3.83	1957-59, 1965-75, 1985-88, 2002	9-13-02	.06
01401200	Duck Pond Run at Clarksville, NJ	Lat 40°18'24", long 74°40'06", Mercer County, Hydrologic Unit 02030105, at bridge on U.S. Route 1, 0.7 mi above Stony Brook, 0.9 mi northeast of Clarksville, and 3.5 mi northeast of Lawrenceville.	3.74	1954-55, 1960-67, 1973-80, 1984, 2002	9-12-02	.11
01401400	Heathcote Brook at Kingston, NJ	Lat 40°22'10", long 74°36'59", Middlesex County, Hydrologic Unit 02030105, at bridge on Mapleton Road, at abandoned railroad bridge, 0.3 mi south of Kingston, and 0.4 mi upstream from mouth.	9.00	1971-72, 1979-84, 1989-92, 1998-2002	12-05-01 2-05-02 6-05-02 8-07-02	1.3 3.9 1.8 1.1
01401520	Beden Brook near Hopewell, NJ	Lat 40°23'02", long 74°44'28", Mercer County Hydrologic Unit 02030105, at bridge on Aunt Molly Road, 1.1 mi southeast of Hopewell and 2.6 mi southwest of Blawenberg.	6.67	1965-72, 1975, 1982-87, 2002	9-13-02	.15
01401590	Rock Brook at Blawenburg, NJ	Lat 40°24'40", long 74°42'10", Somerset County, Hydrologic Unit 02030105, at bridge on Great Road, 0.3 mi north of Blawenburg, 1.7 mi upstream of mouth and 3.7 mi west of Rocky Hill.	8.02	1962-67, 1971-72, 1987-88, 2002	9-13-02	.08
01401700	Pike Run near Rocky Hill, NJ	Lat 40°25'12", long 74°38'28", Somerset County, Hydrologic Unit 02030105, at bridge on County Route 533 (River Road), 0.1 mi upstream of mouth, and 1.4 mi north of Rocky Hill.	22.2	1959-63, 1971-72, 2001-02	10-02-01 1-10-02 4-08-02 8-15-02 9-14-02	4.8 10 11 .43 1.6
01401800	Ten Mile Run near Blackwells Mills, NJ	Lat 40°27'23", long 74°35'09", Somerset County, Hydrologic Unit 02030105, at bridge on Canal Road, 0.4 mi upstream from mouth, and 1.5 mi southwest of Blackwells Mills.	4.36	1960-64, 1971-72, 2002	9-14-02	.18

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
RARITAN RIVER BASIN--Continued						
01401900	Six Mile Run at Blackwells Mills, NJ	Lat 40°28'21", long 74°34'17", Somerset County, Hydrologic Unit 02030105, at culvert on Canal Road, just upstream of the Delaware and Raritan Canal, 0.1 mi upstream of mouth, and 0.2 mi south of Blackwells Mills.	16.1	1960-67, 1971-72, 2001-02	10-12-01 1-10-02 4-08-02 8-15-02 9-14-02	5.3 9.8 9.8 1.5 3.1
01402700	Royce Brook at Manville, NJ	Lat 40°31'30", long 74°36'44", Somerset County, Hydrologic Unit 02030105, at bridge on Main Street, 1.6 mi southwest of Manville and 2.1 mi above mouth	11.7	1960-64, 1999, 2002	9-14-02	.78
01403100	East Branch Middle Brook at Martinsville, NJ	Lat 40°35'37", long 74°32'43", Somerset County, Hydrologic Unit 02030105, at bridge on Vosseller Avenue, 0.9 mi southeast of Martinsville, 1.2 mi upstream from West Branch Middle Brook, and 2.3 mi north of Bound Brook.	8.45	1959-64, 2002	9-14-02	.58
01403395	Blue Brook at Seeleys Pond Dam near Berkeley Heights, NJ	Lat 40°40'02", long 74°24'13", Union County, Hydrologic Unit 02030105, at dam on Seeleys Pond, 200 ft upstream from mouth, and 2.2 mi southeast of Berkeley Heights.	3.59	1973, 1979-80, 1989-2002	12-05-01 7-30-02	.86 .45
01405290	Matchaponix Brook at Texas, NJ	Lat 40°21'35", long 74°22'05", Middlesex County, Hydrologic Unit 02030105, at bridge on County Route 520 (Texas Road), 0.1 mi east of Texas, and 4.9 mi upstream of Duhernal Lake.	41.7	2001-02	11-23-01 12-03-01 3-07-02 6-11-02 7-31-02 9-05-02	22 20 33 36 12 37
01406040	Deep Run at Route 516 near Old Bridge, NJ	Lat 40°24'34", long 74°20'47", Middlesex County, Hydrologic Unit 02030105, at bridge on County Route 516 (Old Bridge Road), 1.6 mi southeast of Old Bridge, and 1.7 mi upstream of mouth.	15.6	2000-02	11-15-01 12-03-01 12-05-01 3-07-02 6-11-02 8-01-02 9-05-02	1.4 0 2.5 9.6 9.3 .42 14
WAACKAACK CREEK BASIN						
01407065	Mahoras Brook at Hendrickson Corners, NJ	Lat 40°24'40", long 74°08'22", Monmouth County, Hydrologic Unit 02030104, at bridge on State Route 35, 0.2 mi west of Hendrickson Corners, and 0.8 mi upstream of mouth.	3.39	2001-02	10-10-01 12-05-01 1-15-02 4-23-02 7-22-02 7-30-02	1.4 1.5 2.1 1.9 1.6 .90
SHREWSBURY RIVER BASIN						
01407200	Hop Brook at Holmdel, NJ	Lat 40°20'41", long 74°10'29", Monmouth County, Hydrologic Unit 02030104, at bridge on County Route 520, 0.5 mi east of its intersection with South Street in Holmdel and 1.7 mi downstream from Big Brook.	5.72	1969-74, 1989, 2002	6-25-02 9-05-02	4.3 2.6
01407250	Willow Brook at Holmdel, NJ	Lat 40°20'17", long 74°11'14", Monmouth County, Hydrologic Unit 02030104, at bridge on South Street, 0.5 mi south of its intersection with County Route 520 in Holmdel, and 1.9 mi upstream from Hop Brook.	6.88	1969-74, 1989, 2002	6-25-02 9-06-02	2.7 3.1
01407400	Yellow Brook at Colts Neck, NJ	Lat 40°17'47", long 74°10'16", Monmouth County, Hydrologic Unit 02030104, at bridge on Creamery Road, 0.3 mi upstream from Mine Brook, and 0.7 mi north of Colts Neck.	9.71	1969-74, 1980-82, 1989, 2002	6-25-02 9-05-02	6.1 6.5
01407450	Mine Brook at Colts Neck, NJ	Lat 40°17'29", long 74°10'11", Monmouth County, Hydrologic Unit 02030104, at bridge on Creamery Road, 0.4 mi northeast of Colts Neck and 0.5 mi upstream from Yellow Brook.	5.48	1969-74, 1979-80, 1982, 1989, 2002	6-25-02 9-06-02	3.1 3.5

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
SHARK RIVER BASIN						
01407700	Shark River at Glendola, NJ	Lat 40°12'10", long 74°04'53", Monmouth County, Hydrologic Unit 02030104, at bridge on Gully Road, 0.5 mi upstream from Robins Swamp Brook, 0.8 mi north of Glendola, and 2.8 mi west of Neptune City.	9.14	1956, 1959-63, 1966, 2002	6-25-02	6.5
					9-06-02	7.5
01407755	Jumping Brook above reservoir, near Neptune City, NJ	Lat 40°12'30", long 74°04'12", Monmouth County, Hydrologic Unit 02030104, at bridge on State Route 33, 0.2 mi upstream of Jumping Brook Reservoir, and 2.3 mi west of Neptune City.	5.58	1989-99, 2001-02	6-25-02 9-06-02	1.1 3.5
WRECK POND BROOK BASIN						
01407800	Wreck Pond Brook near Spring Lake, NJ	Lat 40°09'11", long 74°03'43", Monmouth County, Hydrologic Unit 02030104, at Osborne Pond Dam, 1.1 mi above Hannabrand Brook and 1.7 mi west of Spring Lake	7.00	1956-57, 1959-63, 1966, 1995, 2002	9-14-02	3.8
01407806	Hannabrand Brook at Old Mill Road, near Spring Lake Heights, NJ	Lat 40°08'36", long 74°03'14", Monmouth County, Hydrologic Unit 02030104, at highway bridge on U.S. Route 9, 0.3 mile north of County Line Road in Lakewood, and 3.6 mi above Muddy Ford Brook.	3.13	1989-2002	10-11-01 1-14-02 4-09-02	1.8 2.2 2.7
MANASQUAN RIVER BASIN						
01407860	Debois Creek at Adelphia, NJ	Lat 40°13'02, long 74°15'50, Monmouth County, Hydrologic Unit 02040301, at bridge on US Route 9, 0.4 mi west of Adelphia, and 0.9 mi upstream from mouth.	7.21	1966, 1969-74, 2002	6-25-02 9-05-02	3.8 3.1
01407900	Manasquan River at West Farms, NJ	Lat 40°11'34", long 74°11'44", Monmouth County, Hydrologic Unit 02040301, at highway bridge, 0.3 mi east of West Farms.	33.5	1959-63a, 1966, 1972-74, 2002	6-19-02 6-25-02 9-06-02	26 19 22
01408015	Mingamahone Brook at Farmingdale, NJ	Lat 40°11'38", long 74°09'42", Monmouth County, Hydrologic Unit 02040301, at bridge on Belmar Road in Farmingdale and 3.0 mi upstream from mouth.	6.20	1969-74, 1981-2002	6-19-02 6-25-02 9-06-02	5.0 3.1 4.3
METEDECONK RIVER BASIN						
01408100	North Branch Metedeconk River at Lakewood, NJ	Lat 40°06'35", long 74°13'10", Ocean County, Hydrologic Unit 02040301, at highway bridge on U.S. Route 9, 0.3 mi north of County Line Road in Lakewood, and 3.6 mi upstream from Muddy Ford Brook.	19.4	1959-63, 1966, 1998-2002	11-19-01 2-12-02 6-03-02 8-14-02	8.7 20 10 3.4
01408150	South Branch Metedeconk River near Lakewood, NJ	Lat 40°05'04", long 74°11'01", Ocean County, Hydrologic Unit 02040301, at outlet of Lake Shenandoah, 0.2 mi upstream from New Hampshire Avenue and 0.8mi east of Lakewood.	27.5	1965, 1992-99, 2002	6-25-02 9-06-02	16 29
TOMS RIVER BASIN						
01408440	Union Brook at Lakehurst, NJ	Lat 40°00'34", long 74°18'06", Ocean County, Hydrologic Unit 02040301, at bridge on State Route 37, 150 ft upstream from Manapqua Brook, and 0.6 mi southeast of Lakehurst.	19.0	1960-64, 2002	9-14-02	13
01408460	Manapqua Brook at Lakehurst, NJ	Lat 40°00'44", long 74°18'10", Ocean County, Hydrologic Unit 02040301, at bridge on State Route 70, 0.2 mi above mouth, and 0.5 mi east of Lakehurst.	6.32	1960-64, 2002	9-14-02	1.7
01408490	Ridgeway Branch near Lakehurst, NJ	Lat 40°01'57", long 74°18'24", Ocean County, Hydrologic Unit 02040301, at bridge on County Route 547, 1.4 mi north of Lakehurst, and 2.2 mi upstream from Cabin Branch.	28.2	1959-63, 2002	9-14-02	3.5

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
TOMS RIVER BASIN--Continued						
01408592	Wrangel Brook at Mule Road, near Toms River, NJ	Lat 39°57'53", long 74°14'39", Ocean County, Hydrologic Unit 02040301, at bridge on Mule Road in Berkeley Township, 2.7 mi upstream from mouth, and 2.7 mi west of Toms River.	14.3	1998-2002	7-30-02	17
					8-16-02	15
01408620	Davenport Branch near Dover Forge, NJ	Lat 39°56'29", long 74°17'49", Ocean County, Hydrologic Unit 02040301, at bridge on County Route 530 (Pinewald Road), 2.2 mi north of Dover Forge, 2.3 mi east of Keswick Grove, and 3.0 mi northeast of Cedar Crest.	7.41	1994-2002	7-30-02	.42
MILL CREEK BASIN						
01409150	Mill Creek near Manahawkin, NJ	Lat 39°42'54", long 74°16'56", Ocean County, Hydrologic Unit 02040301, at bridge on State Route 72, 0.3 mi northwest of intersection of State Route 72 and Garden State Parkway, 1.8 mi northwest of Manahawkin, and 6.5 mi above mouth.	10.4	1961-67, 2002	9-19-02	21
TUCKERTON CREEK BASIN						
01409300	Mill Branch near Tuckerton, NJ	Lat 39°38'29", long 74°21'49", Ocean County, Hydrologic Unit 02040301, at culvert under northbound lane of Garden State Parkway, 2.9 mi northwest of Tuckerton, and 3.0 mi upstream from Giffords Mill Branch.	4.89	1961-67, 2002	9-13-02	.63
MULLICA RIVER BASIN						
01409375	Mullica River near Atco, NJ	Lat 39°47'08", long 74°51'38", Camden County, Hydrologic Unit 02040301, on left bank of small lake 50 ft downstream from bridge on Jackson-Medford Road, 0.7 mi north of intersection of County Route 534 with Jackson-Medford Road, and 1.6 mi east of Atco.	3.22	1974-85b, 1991-2002	1-03-02	.08
					2-27-02	.25
					5-22-02	.43
					7-09-02	.02
					9-25-02	0
01409387	Mullica River at outlet of Atsion Lake, at Atsion, NJ	Lat 39°44'25", long 74°43'37", Burlington County, Hydrologic Unit 02040301, at bridge on U.S. Route 206 in Atsion, at outlet of Atsion Lake, and 0.2 mi upstream from Wesickaman Creek.	26.7	1980-81, 1985-2002	12-17-01	14
					2-20-02	11
					5-30-02	22
					6-19-02	24
					8-19-02	8.6
01409401	Hays Mill Creek at Atco, NJ	Lat 39°45'32", long 74°53'02", Camden County, Hydrologic Unit 02040301, at bridge on U.S. Route 30, at outlet of Atco Lake in Atco, and 3.3 mi southeast of Berlin.	3.80	1979, 1991-2002	1-03-02	1.0
					2-27-02	1.3
					7-09-02	.75
					9-25-02	.47
0140940310	Wildcat Branch near Chesilhurst, NJ	Lat 39°44'20", long 74°49'58", Camden County, Hydrologic Unit 02040301, at bridge on Burnt Mill Road, 0.1 mi downstream from outlet of Beaverdam Lake, 1.4 mi northeast of Waterford Works, and 1.9 mi east of Chesilhurst.	2.27	1979, 1991-2002	1-03-02	1.1
					2-27-02	.82
					7-09-02	.17
					9-25-02	.07
0140940365	Sleeper Branch Diversion (Saltars Ditch) near Atsion, NJ	Lat 39°43'48", long 74°46'09", Camden County, Hydrologic Unit 02040301, at bridge on Burnt House Road, 600 ft downstream from Sleeper Branch, and 2.3 mi west of Atsion.	---	1979, 1991-2002	1-03-02	.01
					2-27-02	.09
					7-09-02	0
					9-25-02	0
0140940370	Sleeper Branch near Atsion, NJ	Lat 39°43'42", long 74°46'12", Camden County, Hydrologic Unit 02040301, at bridge on Burnt House Road, 500 ft downstream from Sleeper Branch Diversion (Saltars Ditch) and 2.3 mi west of Atsion.	16.1	1991-2002	1-03-02	11
					2-27-02	9.5
					7-09-02	8.6
					9-25-02	4.7

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
MULLICA RIVER BASIN--Continued						
0140940480	Clark Branch near Atsion, NJ	Lat 39°42'53", long 74°46'25", Camden County, Hydrologic Unit 02040301, at abandoned railroad bridge, 0.2 mi downstream from Price Branch and 2.8 mi west of Atsion.	6.42	1979, 1991-2002	1-03-02 2-27-02 7-09-02 9-25-02	0 .03 .11 0
01409408	Pump Branch near Waterford Works, NJ	Lat 39°41'59", long 74°50'40", Camden County, Hydrologic Unit 02040301, at bridge on Old Whitehorse Pike, 0.5 mi downstream from lake at Camp Ha-Lu-Wa-Sa, and 1.6 mi south of Waterford Works.	9.78	1991-2002	1-04-02 2-27-02 7-09-02 9-25-02	6.4 4.6 4.1 7.1
0140940950	Blue Anchor Brook at Elm, NJ	Lat 39°41'17", long 74°50'06", Camden County, Hydrologic Unit 02040301, at bridge on U.S. Route 30 (Whitehorse Pike) at Elm, at outlet of unnamed lake, and 1.4 mi upstream from confluence with Pump Branch.	4.86	1991-2002	12-03-01 1-04-02 2-13-02 2-27-02 6-03-02 7-09-02 8-19-02 9-25-02	.80 .72 .59 .65 .75 .61 .31 .02
0140940970	Albertson Branch near Elm, NJ	Lat 39°41'34", long 74°48'24", Camden County, Hydrologic Unit 02040301, at bridge on Fleming Pike, 0.4 mi downstream from confluence of Blue Anchor Brook and Pump Branch, and 1.6 mi northeast of Elm.	17.1	1991-2002	1-03-02 2-27-02 7-09-02 9-25-02	8.8 7.3 6.9 4.3
01410200	West Branch Bass River near New Gretna, NJ	Lat 39°37'26", long 74°26'47", Burlington County, Hydrologic Unit 02040301, at bridge on Stage Road, 0.6 mi upstream from mouth, and 2.2 mi north of New Gretna.	6.54	1969-74, 2002	9-13-02	4.8
GREAT EGG HARBOR RIVER BASIN						
01410775	Great Egg Harbor River at Berlin, NJ	Lat 39°47'39", long 74°56'14", Camden County, Hydrologic Unit 02040302, at bridge and pumping station on Berlin-Albion Road in Berlin, 8.2 mi upstream from Fourmile Branch.	1.88	1964-74, 2002	9-13-02	0
01410803	Fourmile Branch at Winslow Crossing, NJ	Lat 39°42'07", long 74°58'11", Camden County, Hydrologic Unit 02040302, at bridge on Andrews Road in Winslow Crossing, 1.4 mi northeast of Williamstown, and 2.1 mi 2.1 mi upstream of Great Egg Harbor.	6.22	1972-80, 1990-96, 2001-02	1-04-02 7-03-02	2.4 1.5
01410865	Squankum Branch at Malaga Road, near Williamstown, NJ	Lat 39°40'04", long 74°57'39", Gloucester County, Hydrologic Unit 02040302, at bridge on Malaga Road, 1.0 mi upstream of Hedges Branch, and 2.2 mi east of Williamstown.	3.02	1974, 1990-96, 2001-02	1-04-02 7-03-02	.03 .05
01411020	Penny Pot Stream near Folsom, NJ	Lat 39°37'15", long 74°50'48", Atlantic County, Hydrologic Unit 02040302, at bridge on Fourteenth Street, 2.5 mi southwest of center of Hammonton.	5.35	1968-72, 2002	9-13-02	0
01411035	Hospitality Branch at Blue Bell Road near Cecil, NJ	Lat 39°38'36", long 74°58'40", Gloucester County, Hydrologic Unit 02040302, at bridge on Blue Bell Road, 1.2 mi upstream of Timber Lakes, and 2.0 mi west of Cecil.	4.51	1990-2002	12-11-01 1-04-02 2-19-02 6-03-02 7-03-02 8-20-02	1.1 1.1 1.0 .99 .75 .23
01411047	Whitehall Branch below Victory Lakes, near Cecil, NJ	Lat 39°37'59", long 74°56'51", Gloucester County, Hydrologic Unit 02040302, at bridge on unnamed dirt road off of Yardley Road in Friendly Villiage trailer park, 800 ft below Victory Lake and 1.0 mi south of Cecil.	4.60	1990-96, 2001-02	1-04-02 7-03-02	.34 .78

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
GREAT EGG HARBOR RIVER BASIN-- Continued						
01411200	Babcock Creek at Mays Landing, NJ	Lat 39°27'18", long 74°43'04", Atlantic County, Hydrologic Unit 02040302, at bridge on Old Egg Harbor Road, 0.6 mi northeast of Mays Landing, and 0.7 mi upstream from mouth.	20.0	1959-63, 2002	9-13-02	4.0
FISHING CREEK BASIN						
01411400	Fishing Creek at Rio Grande, NJ	Lat 39°01'39", long 74°53'48" Cape May County, Hydrologic Unit 02040206, at bridge on State Route 47, at Wildwood pumping station and 1.4 mi northwest of Rio Grande.	2.29	1965-72, 1990-92, 1998-2002	12-13-01 6-18-02 8-21-02	.25 .45 .03
MAURICE RIVER BASIN						
01411650	Muddy Run near Elmer, NJ	Lat 39°36'48", long 75°11'21", Salem County, Hydrologic Unit 02040206, at bridge on Friendship Church Road, 1.6 mi north of Elmer, and 1.8 mi upstream of Elmer Lake.	4.94	1994-2002	11-15-01 7-31-02	.97 .28
01411680	Palatine Branch at Palatine, NJ	Lat 39°33'25", long 75°10'28", Salem County, Hydrologic Unit 02040206, at bridge on Elmer-Palatine Road, at Palatine, 0.6 mi upstream of Palatine Lake, and 2.5 mi south of Elmer.	5.39	1994-2002	11-15-01 7-31-02	2.0 .51
DELAWARE RIVER BASIN						
01438090	Clove Brook at N.J. Route 23 at Duttonville, NJ	Lat 41°21'06", long 74°41'11", Sussex County, Hydrologic Unit 02040104, at bridge on State Route 23, 500 ft north of Duttonville, and 1.0 mi upstream of mouth.	10.4	2001-02	11-14-01 11-26-01 2-28-02 5-21-02 9-05-02	.15 3.4 3.6 32 1.8
01438400	Shimers Brook near Montague, NJ	Lat 41°18'47", long 74°46'52", Sussex County, Hydrologic Unit 02040104, at culvert on County Route 521 (River Road), 0.8 mi upstream of mouth, and 1.0 mi northeast of Montague.	7.06	1943, 1958-65, 2001-02	5-08-02 5-22-02 6-05-02 6-19-02 7-02-02 7-18-02 7-31-02 8-14-02 8-28-02 9-11-02 9-25-02	9.4 17 14 18 7.8 1.9 2.2 1.7 1.6 2.0 1.5
01439800	Big Flat Brook near Hainesville, NJ	Lat 41°12'23", long 74°48'14", Sussex County, Hydrologic Unit 02040104, at bridge on U.S. Route 206, 1.2 mi southeast of Layton, 1.4 mi downstream from Stony Brook, and 3.1 mi south of Hainesville.	22.8	1959-66, 2002	9-12-02	1.4
01439830	Big Flat Brook at Tuttle's Corner, NJ	Lat 41°12'00", long 74°48'56", Sussex County, Hydrologic Unit 02040104, at bridge on County Route 560, 0.7 mi west of Tuttle's Corner, and 2.4 mi upstream of mouth.	28.3	1964, 1970-73, 1978-81, 2001-02	10-30-01 2-13-02 4-24-02 5-08-02 5-22-02 6-05-02 6-19-02 7-02-02 7-18-02 7-31-02 8-08-02 8-14-02 8-28-02 9-11-02 9-25-02	2.5 12 48 42 78 28 30 9.6 3.9 5.1 4.2 2.4 2.2 4.2 3.0

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01439900	Little Flat Brook at Hainesville, NJ	Lat 41°14'35", long 74°48'05", Sussex County, Hydrologic Unit 02040104, at bridge on U.S. Route 206 at Hainesville, 1.1 mi downstream from Beers Kill, and 2.2 mi northeast of Layton.	8.36	1959-64, 2002	9-12-02	.46
01439920	Little Flat Brook at Peters Valley, NJ	Lat 41°11'54", long 74°50'10", Sussex County, Hydrologic Unit 02040104, 0.8 mi east of Peters Valley, 1.1 mi upstream of mouth, and 5.5 mi downstream of bridge on U.S. Route 206.	14.7	2001-02	10-30-01 11-14-01 2-13-02 4-24-02 5-08-02 5-22-02 6-05-02 6-19-02 7-02-02 7-18-02 7-31-02 8-08-02 8-14-02 8-28-02 9-05-02 9-11-02 9-25-02	1.7 1.7 2.3 14 16 32 16 20 9.7 3.8 4.2 2.4 1.7 1.5 1.8 1.3 1.2
01440100	Vancampens Brook near Millbrook, NJ	Lat 41°03'28", long 75°00'13", Warren County, Hydrologic Unit 02040104, at bridge on Francis Road, 2.3 mi upstream of mouth, and 2.5 mi southwest of Millbrook.	7.40	1958-68, 2002	5-08-02 5-22-02 6-05-02 6-19-02 7-02-02 7-18-02 7-31-02 8-14-02 8-28-02 9-11-02 9-25-02	17 21 7.0 11 3.9 1.4 1.3 .84 .71 .56 .65
01442800	Stony Brook near Columbia, NJ	Lat 40°56'54", long 75°05'55", Warren County, Hydrologic Unit 02040105, at bridge on Stony Brook Road, 1.1 mi upstream of mouth, and 1.5 mi north of Columbia.	3.53	1958-68, 2002	9-12-02	.06
01443250	Paulins Kill at Warbasse Junction Road, near Lafayette, NJ	Lat 41°05'08", long 74°41'58", Sussex County, Hydrologic Unit 02040105, at bridge on Warbasse Junction Road, 0.4 mi upstream of East Branch Paulins Kill, and 1.0 mi south of Lafayette.	11.4	2002	11-14-01 9-05-02	2.5 4.5
01443300	Paulins Kill at Lafayette, NJ	Lat 41°06'25", long 74°42'00", Sussex County, Hydrologic Unit 02040105, at bridge on State Route 15, 0.8 mi northwest of Lafayette, and 4.2 mi upstream from Dry Brook.	33.0	1959-66, 2002	9-12-02	6.5
01443400	Culvers Creek at Branchville, NJ	Lat 41°08'49", long 74°45'35", Sussex County, Hydrologic Unit 02040105, at bridge on U.S. Route 206, 0.4 mi west of Branchville, 0.8 mi upstream of mouth, 2.1 mi downstream from outlet of Culvers Lake.	11.2	1959-64, 2002	9-12-02	0
01443409	Dry Brook at Mill Road, at Branchville, NJ	Lat 41°08'36", long 74°44'44", Sussex County, Hydrologic Unit 02040105, 0.1 mi downstream of Culvers Creek, 0.2 mi southeast of Branchville, and 1.4 mi upstream of mouth.	17.0	2001-02	11-14-01 12-06-01 3-12-02 6-04-02 9-05-02 9-09-02	.01 .20 3.2 3.1 0 0
01445900	Honey Run near Hope, NJ	Lat 40°53'33", long 74°58'42", Warren County, Hydrologic Unit 02040105, at bridge on County Route 519, 700 ft upstream from mouth and 1.5 mi south of Hope.	10	1966-72, 2002	9-19-02	.02

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01446568	Buckhorn Creek at Hutchinson Road, at Hutchinson, NJ	Lat 40°46'18", long 75°07'53", Warren County, Hydrologic Unit 02040105, at bridge on Hutchinson Road at Hutchinson, 50 ft upstream from unnamed tributary, and 800 ft upstream from mouth.	8.38	1991-98, 2000-02	10-22-01 1-24-02 5-02-02 8-13-02	.58 1.8 40 .05
01455135	Pohatcong Creek at Tunnel Hill Road, near Washington, NJ	Lat 40°47'06", long 74°57'42", Warren County, Hydrologic Unit 02040105, 0.8 mi downstream of Willever Lake, 1.1 mi upstream of bridge on State Route 31, and 1.8 mi northeast of Washington.	9.2	2000-02	10-23-01 11-14-01 1-28-02 4-15-02 7-30-02 9-05-02	1.2 1.0 4.2 24 1.6 .94
01455200	Pohatcong Creek at New Village, NJ	Lat 40°42'57", long 75°04'20", Warren County, Hydrologic Unit 02040105, at bridge on Edison Road, 0.5 mi southeast of New Villiage, and 8.1 mi downstream of Brass Castle Creek.	33.3	1959-69, 1982-97, 2000-02	10-22-01 1-24-02 5-02-02 8-13-02 9-05-02	4.3 8.0 26 2.8 2.0
01455300	Pohatcong Creek at Carpentersville, NJ	Lat 40°37'30", long 75°11'10", Warren County, Hydrologic Unit 02040105, at bridge on Carpentersville- Riegelsville Road, 2,000 ft above mouth, and 0.7 mi south of Carpentersville.	57.0	1932, 1958-64, 1978-83, 2002	9-19-02	9.9
01455370	Weldon Brook at Hurdtown, NJ	Lat 40°58'10", long 74°35'55", Morris County, Hydrologic Unit 02040105, at bridge on Union Turnpike at Hurdtown, and 400 ft downstream from Lake Shawnee Dam.	8.09	1973-80, 2002	4-25-02 5-29-02 6-26-02 7-30-02 9-04-02	14 13 2.4 .26 .26
01455780	Lubbers Run at Lockwood, NJ	Lat 40°55'36", long 74°43'09", Sussex County, Hydrologic Unit 02040105, at bridge on U.S. Route 206 at Lockwood, 1.0 mi upstream from mouth, and 1.5 mi northwest of Stanhope.	16.3	1982-90, 1995, 2001-02	10-29-01 2-04-02 5-13-02 7-11-02	14 10 31 2.2
01456210	Hances Brook near Beattystown, NJ	Lat 40°48'17", long 74°51'38", Warren County, Hydrologic Unit 02040105, at bridge on State Route 57, 600 ft upstream from mouth, and 1.1 mi southwest of Beattystown.	4.13	1991-2002	10-12-01	1.3
01458100	Hakihokake Creek at Milford, NJ	Lat 40°34'06", long 75°05'44", Hunterdon County, Hydrologic Unit 02040105, at highway bridge in Milford, 4,000 ft upstream from mouth.	17.2	1944, 1958-64, 1977-81, 2002	9-20-02	4.2
01458400	Hakihokake Creek near Frenchtown, NJ	Lat 40°32'53", long 75°04'09", Hunterdon County, Hydrologic Unit 02040105, at bridge on Frenchtown-Milford Road, 1,600 ft upstream from mouth, and 1.5 mi north of Frenchtown.	9.75	1944, 1958-65, 1979-81, 2002	9-20-02	.32
01458600	Nishisakawick Creek at Frenchtown, NJ	Lat 40°31'27", long 75°03'42", Hunterdon County, Hydrologic Unit 02040105, Hydrologic Unit 02040105, at bridge on State Route 29, at Frenchtown, and 700 ft above mouth.	11.0	1958-64, 2002	9-20-02	.73
01458700	Little Nishisakawick Creek at Frenchtown, NJ	Lat 40°31'23", long 75°03'43", Hunterdon County, Hydrologic Unit 02040105, at bridge on State Route 29, at Frenchtown, and 500 ft above mouth.	3.50	1958-65, 2002	9-20-02	.06
01460900	Lokatong Creek near Raven Rock, NJ	Lat 40°24'28", long 75°00'52", Hunterdon County, Hydrologic Unit 02040105, at bridge on State Route 29, 1.1 mi east of Raven Rock, and 300 ft upstream from mouth.	23.2	1944-45, 1958-64, 2002	9-20-02	.69

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01461900	Alexauken Creek near Lambertville, NJ	Lat 40°22'51", long 74°56'54", Hunterdon County, Hydrologic Unit 02040105, at bridge on State Route 29, 0.4 mi upstream from mouth and 1.1 mi north of Lambertville.	14.8	1945, 1955, 1958-64, 1977-82, 2000, 2002	9-20-02	.58
01462200	Moores Creek near Titusville, NJ	Lat 40°19'26", long 74°55'02", Mercer County, Hydrologic Unit 02030105, at bridge on State Route 29, 400 ft above mouth, 2.1 mi northwest of Titusville.	10.2	1958-64, 2002	9-20-02	0
01463650	Shipetaukin Creek at Lawrenceville, NJ	Lat 40°17'48", long 74°42'23", Mercer County, Hydrologic Unit 02040105, 300 ft upstream of bridge on County Route 583 (Princeton Pike), 1.3 mi east of Lawrenceville, and 2.2 mi upstream of mouth.	4.47	1963-67, 2002	9-13-02	0
01463670	Shipetaukin Creek at Bakersville, NJ	Lat 40°16'26", long 74°42'10", Mercer County, Hydrologic Unit 02040105, at bridge on County Route 546 (Youngs Road), 0.3 mi east of Bakersville, and 0.4 mi upstream of mouth.	8.97	1963-67, 2002	9-13-02	.49
01463750	Shabakunk Creek at Ewingville, NJ	Lat 40°15'47", long 74°45'37", Mercer County, Hydrologic Unit 02040105, at bridge on Ewingville Road, 1.2 mi east of Ewingville, and 3.0 mi upstream of mouth.	5.00	1963-67, 2002	9-13-02	.38
01463790	West Branch Shabakunk Creek near Ewingville, NJ	Lat 40°14'55", long 74°45'24", Mercer County, Hydrologic Unit 02040105, at bridge on Spruce Street, 0.5 mi upstream from mouth, and 1.7 mi southeast of Ewingville.	4.56	1963-72, 2002	9-13-02	.63
01463830	Miry Run at Robbinsville, NJ	Lat 40°13'41", long 74°37'13", Mercer County, Hydrologic Unit 02040105, at bridge on County Route 526 (Robbinsville-Edinburg Road), 0.9 mi north of Robbinsville, and 5.6 mi upstream of mouth.	4.02	1963-67, 2002	9-20-02	.24
01463860	Miry Run at Mercerville, NJ	Lat 40°14'57", long 74°42'41", Mercer County, Hydrologic Unit 02040105, at bridge on Klockner Road, 0.4 mi upstream of mouth, and 1.5 mi northwest of Mercerville.	12.4	1963-67, 2002	9-13-02	.45
01464300	Crosswicks Creek near Cookstown, NJ	Lat 40°02'44, long 74°32'23, Burlington County, Hydrologic Unit 02040201, at bridge on Bunting Bridge Road, 0.7 mi upstream from North Run, and 1.2 mi east of Cookstown.	21.3	1966, 1969-74, 2002	9-19-02	4.1
01464380	North Run at Cookstown, NJ	Lat 40°02'58, long 74°33'47, Burlington County, Hydrologic Unit 02040201, at bridge on Spur County Route 528, at downstream end of Cookstown Pond at Cookstown.	7.04	1966, 1969-74, 2002	9-19-02	1.5
01464460	Lahaway Creek near Hornerstown, NJ	Lat 40°06'24, long 74°32'12, Monmouth County, Hydrologic Unit 02040201, at bridge on Allentown-New Egypt Road, 1.0 mi west of Hornerstown.	21.4	1966, 1969-74, 2002	9-19-02	6.6
01464480	Miry Run at Holmes Mills, NJ	Lat 40°08'02, long 74°32'35, Monmouth County, Hydrologic Unit 02040201, at bridge on Allentown-New Egypt Road, at Holmes Mills and 1.0 mi west of Cream Ridge.	3.15	1966, 1969-74, 2002	9-12-02	.94

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01464515	Doctors Creek at Allentown, NJ	Lat 40°10'37", long 74°35'57", Monmouth County, Hydrologic Unit 02040201, at bridge on Breza Road, 0.8 mi west of Allentown and 0.8 mi downstream from Conines Mill Pond.	17.2	1966, 1968-74, 1979-95, 1998-2002	11-15-01 2-19-02 6-03-02 8-07-02	4.4 7.5 6.0 1.7
01464530	Blacks Creek at Mansfield Square, NJ	Lat 40°07'02", long 74°41'58", Burlington County, Hydrologic Unit 02040201, at bridge on Mansfield Square-Crosswicks Road, 0.4 mi east of Mansfield Square, and 3.4 mi upstream from mouth. Datum of gage is 12.44 ft National Geodetic Vertical Datum of 1929	19.7	1966-72, 1978-79, 1983-94, 2002	9-12-02	2.2
01464580	Assiscunk Creek at Columbus, NJ	Lat 40°03'25", long 74°43'27", Burlington County, Hydrologic Unit 02040201, at bridge on U.S. Route 206, 1.1 mi south of Columbus, and 1.3 mi downstream of Annaricken Creek.	8.28	1958-63, 2002	9-12-02	.33
01464590	Assiscunk Creek near Burlington, NJ	Lat 40°04'19, long 74°47'57, Burlington County, Hydrologic Unit 02040201, at bridge on Old York Road, 3.3 mi east of Burlington, and 4.3 mi upstream from mouth.	37.2	1966-74, 1998, 2002	9-12-02	1.0
01465847	Jade Run at Vincentown, NJ	Lat 39°56'10", long 74°44'37", Burlington County, Hydrologic Unit 02040202, at bridge on U.S. Route 206, 0.4 mi east of Vincentown, and 0.08 mi upstream of mouth.	11.3	2001-02	10-04-01 1-07-02 4-02-02 7-15-02 7-30-02	.30 10 14 .02 0
01465865	Barton Run at Tuckerton Road, near Medford, NJ	Lat 39°52'43", long 74°51'38", Burlington County, Hydrologic Unit 02040202, at bridge on Tuckerton Road, 1.5 mi upstream of Southwest Branch Rancocas Creek, and 2.5 mi southwest of Medford.	12.0	2001-02	10-24-01 11-14-01 1-08-02 4-04-02 7-31-02	2.1 1.5 19 10 1.8
01465880	Southwest Branch Rancocas Creek at Medford, NJ	Lat 39°53'43", long 74°49'26", Burlington County, Hydrologic Unit 02040202, at bridge on Argonne Highway (County Route 541), 0.6 mi south of intersection of Argonne Highway and State Highway 70 at Medford, and 5.3 mi upstream from the mouth.	47.2	1961-66, 1973, 1982-93, 1997, 2002	9-13-02	11
01465900	Southwest Branch Rancocas at Eayrestown, NJ	Lat 39°56'49", long 74°47'58", Burlington County, Hydrologic Unit 02040202, at bridge on Bridge Road (County Route 612) 0.3 mi above mouth, and 0.5 mi west of Eayrestown.	76.0	1959-61, 1999, 2001-02	5-15-02 7-01-02 7-30-02	82 38 21
01465965	Ong Run at Browns Mills, NJ	Lat 39°58'35", long 74°34'37", Burlington County, Hydrologic Unit 02040202, 200 ft upstream of Mirror Lake, 0.7 mi north of Browns Mills, and 1.5 mi downstream of bridge on County Route 545.	1.87	2001-02	10-01-01 1-03-02 4-01-02 7-08-02 7-30-02	2.3 .77 2.2 .53 .52
0146700260	Indian Run at Birmingham, NJ	Lat 39°58'50", long 74°42'42", Burlington County, Hydrologic Unit 02040202, at bridge on Birmingham Road, 0.2 mi upstream of mouth, and 0.4 mi north of Birmingham.	5.89	2001-02	10-01-01 11-21-01 1-03-02 4-01-02 7-30-02	3.5 2.6 2.6 13 .75
01467010	Parkers Creek near Mount Laurel, NJ	Lat 39°57'05", long 74°53'46", Burlington County, Hydrologic Unit 02040202, at bridge on light-duty road, 1.2 mi north of Mount Laurel, and 3.0 mi southeast of Morrestown.	2.68	1964-72, 2002	9-13-02	.50

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01467020	Mill Creek at Willingboro, NJ	Lat 40°01'58", long 74°52'46", Burlington County, Hydrologic Unit 02040202, at bridge on Kennedy Parkway at Willingboro, 0.7 mi (1.1 km) upstream from South Branch Mill Creek, and 3.1 mi (5.0 km) southeast of Beverly.	7.27	1959-64, 1975-76, 2002	9-12-02	0
0146702680	Swede Run at Conrow Road, at Delran, NJ	Lat 40°00'21", long 74°56'47", Burlington County, Hydrologic Unit 02040202, at bridge on Conrow Road, in Delran, 3.0 mi upstream from mouth.	---	2002	11-14-01 7-31-02	.66 .95
01467057	Pompeston Creek at Cinnaminson, NJ	Lat 40°00'11", long 74°59'00", Burlington County, Hydrologic Unit 02040202, at U.S. Route 130 bridge, 0.7 mi northwest of Cinnaminson, 1.7 mi upstream from mouth, and 2.1 mi east of Palmyra.	5.77	1964-85, 2002	9-13-02	0
01467070	North Branch Pennsauken Creek at Maple Shade, NJ	Lat 39°57'11", long 74°58'32", Burlington County, Hydrologic Unit 02040202, at bridge on Lenola Road, 0.4 mi downstream from Stawbridge Lake dam, 1.0 mi east of Maple Shade.	13.0	1959-63, 2002	9-13-02	2.5
01467140	Cooper River at Lawnside, NJ	Lat 39°52'14", long 75°00'59", Camden County, Hydrologic Unit 02040202, on right bank at Melrose Avenue at Lawnside, 300 ft downstream from former Lawnside sewage treatment plant, and 2.0 mi upstream from New Jersey Turnpike.	12.7	1964-72, 1979-81, 1985-98, 2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	7.8 7.4 5.1 2.4 2.8
01467305	Newton Creek at Collingswood, NJ	Lat 39°54'30", long 75°03'13", Camden County, Hydrologic Unit 02040202, at bridge on Park Avenue in Collingswood, 0.3 mi east of Cuthbert Avenue.	1.33	1964-72, 1982-84, 1989-98, 2002	5-02-02 5-02-02 9-13-02	12 21 .15
01467317	South Branch Newton Creek at Haddon Heights, NJ	Lat 39°52'45", long 75°04'26", Camden County, Hydrologic Unit 02040202, at bridge on 13th Avenue in Haddon Heights, and 2.6 mi south of Collingswood.	0.63	1964-71, 1977, 1982-86, 1990, 1994-2002	5-02-02 9-14-02	3.4 .39
01467350	North Branch Big Timber Creek at Laurel Springs, NJ	Lat 39°48'55", long 75°00'04", Camden County, Hydrologic Unit 02040202, at bridge on Park Avenue at Laurel Springs, 5.6 mi upstream from mouth.	6.55	1959-72, 2002	9-14-02	3.7
01475033	Plank Run at Glassboro, NJ	Lat 39°42'54", long 75°08'25", Gloucester County, Hydrologic Unit 02040202, at culvert on U.S. Route 322, 0.6 mi west of Glassboro, and 0.7 mi south of Alycon Lake.	.71	1996, 1999-2002	11-15-01 5-01-02 7-31-02	.79 .50 .60
01475100	Edwards Run near Mantua, NJ	Lat 39°46'20", long 75°11'35", Gloucester County, Hydrologic Unit 02040202, at bridge on State Route 45 (Bridgeton Pike), 1.7 mi southwest of Mantua, and 3.3 mi above mouth.	6.45	1957, 1966, 2002	11-14-01 7-31-02	2.7 .64
01475210	Clonmell Creek near Gibbstown, NJ	Lat 39°49'08", long 75°15'05", Gloucester County, Hydrologic Unit 02040202, at Swedesboro Avenue Bridge, 2.3 mi east of Gibbstown, and 2.7 mi above mouth.	1.13	1957, 1966, 2002	11-14-01 7-31-02	0 0
01476640	Pargey Creek at Swedesboro Avenue at Repaupo, NJ	Lat 39°47'34", long 75°17'13", Gloucester County, Hydrologic Unit 02040202, 0.8 mi southeast of Repaupo, 1.5 mi upstream of bridge on U.S. Route 130/Interstate Route 295, and 6.0 mi upstream of Delaware River	4.44	2001-02	10-09-01 11-14-01 1-08-02 4-04-02 7-09-02 7-31-02	1.5 2.2 6.6 4.0 0 .01

Discharge measurements made at low-flow partial-record stations during water year 2002

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01477100	Raccoon Creek near Mullica Hill, NJ	Lat 39°42'31", long 75°12'05", Gloucester County, Hydrologic Unit 02040202, at highway bridge on Cedar Grove-Richwood Road, 0.6 mi upstream from Miery Run, 1.0 mi downstream from outlet of Ewan Lake, 2.5 mi southeast of Mullica Hill, and 4.0 mi southwest of Pitman.	10.1	1959-63, 1966, 1981-83, 2002	9-14-02	.37
01477110	Raccoon Creek at Mullica Hill, NJ	Lat 39°44'10", long 75°13'30", Gloucester County, Hydrologic Unit 02040202, at bridge on State Routes 45 and 77 in Mullica Hill, 1,200 ft downstream of Mullica Hill Pond, and 5.5 mi west of Pitman.	15.6	1940, 1977-79, 1983-94, 2002	11-15-01 7-31-02	6.7 2.4
01477118	South Branch Raccoon Creek near Mullica Hill, NJ	Lat 39°44'09", long 75°15'23", Gloucester County, Hydrologic Unit 02040202, at bridge on Hill Street, 0.2 mi upstream from mouth and 1.7 mi west of Mullica Hill	8.3	1966-72, 2002	9-14-02	1.5
01477130	Basgalore Creek at Russell Mill Road, near Swedesboro, NJ	Lat 39°44'15", long 75°17'00" Gloucester County, Hydrologic Unit 02040202, at bridge on Russell Mill Road, 0.8 mi above mouth, and 1.7 mi east-southeast of Swedesboro.	3.30	1957c, 1966c, 1994-2002	11-15-01 7-31-02	2.3 1.5

* Active crest-stage partial-record station.

a Operated as a continuous-record gaging station by U.S. Geological Survey.

b Operated as a crest-stage partial-record station.

c Published as Raccoon Creek tributary.

DISCHARGE MEASUREMENTS AT MISCELLANEOUS SITES

Measurements of streamflow at points other than gaging stations are given in the following table.

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
HUDSON RIVER BASIN						
01367625	Wallkill River at Sparta, NJ	Lat 41°02'25", long 74°37'48", Sussex County, Hydrologic Unit 02020007, at bridge on State Route 15, 0.4 mi northeast of Sparta, 1.2 mi downstream from outlet of Lake Mohawk, and 1.8 mi east of Fox Hollow Lake.	5.88	1998-2002	11-28-01	1.6
					2-14-02	3.6
					6-13-02	9.7
					8-06-02	.87
01367715	Wallkill River at Scott Road, at Franklin, NJ	Lat 41°08'00", long 74°34'44", Sussex County, Hydrologic Unit 02020007, at bridge on Scott Road, 0.8 mi north of Franklin, 1.8 mi upstream of bridge on State Route 94, and 3.5 mi downstream of Franklin Pond.	40.6	1999, 2001-02	11-01-01	7.5
					1-29-02	17
					4-16-02	86
01367735	Wallkill River near Hamburg, NJ	Lat 41°10'02", long 74°35'12", Sussex County, Hydrologic Unit 02020007, at bridge on State Route 23, 0.9 mi upstream of Beaver Run, 1.1 mi northwest of Hamburg.	51.0	2001-02	11-08-01	11
					2-06-02	23
					4-18-02	62
01367875	Clove Brook at Unionville Road, near Colesville, NJ	Lat 41°15'43", long 74°37'49", Sussex County, Hydrologic Unit 02020007, at bridge on Unionville Road, 1.3 mi southeast of Colesville, and 4.4 mi downstream of Clove Acres Lake.	7.25	2001-02	11-19-01	.46
					11-26-01	1.3
					2-28-02	2.9
					5-21-02	27
01367910	Papakating Creek at Sussex, NJ	Lat 41°12'02", long 74°35'59", Sussex County, Hydrologic Unit 02020007, at bridge on State Route 23, 0.7 mi upstream of Clove Brook, and 0.8 mi southeast of Sussex.	59.4	1977-80, 1982, 1985, 1989-95, 2001-02	11-01-01	3.5
					1-29-02	23
					4-16-02	126
01368000	Wallkill River near Unionville, NY	Lat 41°15'36", long 74°32'56", Sussex County, Hydrologic Unit 02020007, at bridge on the Bassetts Bridge Road, 0.6 mi upstream from small tributary, 2.0 mi south of the New York-New Jersey state line, and 3.0 mi south of Unionville.	140	1938-81a, 1979-81, 1991-99, 2001-02	11-20-01	14
					2-12-02	68
01368820	Double Kill at Wawayanda, NJ	Lat 41°11'13", long 74°25'13", Sussex County, Hydrologic Unit 02020007, at bridge on Laurel Pond Road, 0.4 mi downstream from Wawayanda Lake, 3.5 mi east of Vernon, and 4.6 mi upstream from Wawayanda Creek.	6.46	1998-2002	12-17-01	.04
					2-14-02	3.5
					5-30-02	9.9
					6-13-02	9.2
					7-01-02	3.7
01368900	Wawayanda Creek at Maple Grange, NJ	Lat 41°13'35", long 74°27'15", Sussex County, Hydrologic Unit 02020007, at bridge on County Route 515 (Price Road), 0.9 mi northeast of Maple Grange, and 1.8 mi upstream of Black Creek.	65.8	2001-02	11-08-01	20
					2-16-02	29
					4-18-02	85
PASSAIC RIVER BASIN						
01378780	Primrose Brook at Morristown National Historical Park, NJ	Lat 40°45'54", long 74°31'48", Morris County, Hydrologic Unit 02030103, at bridge on Camp Trail Road in Morristown National Historic Park, 20 ft downstream from unnamed tributary, 500 ft west of Mount Kemble, and 2.4 mi northeast of Bernardsville.	1.07	1998-2002	12-12-01	.40
					3-13-02	.60
					6-11-02	.80
					8-20-02	.35
01379010	Passaic River at Valley Road, near Millington, NJ	Lat 40°39'53", long 74°31'49", Morris County, Hydrologic Unit 02030103, at bridge on (Passaic) Valley Road, 1.1 mi southwest of Millington, and 4.4 mi downstream of Black Brook.	55.9	2001-02	11-29-01	12
					3-05-02	77
					6-06-02	23
01379580	Passaic River near Hanover Neck, NJ	Lat 40°49'39", long 74°20'07", Morris County, Hydrologic Unit 02030103, at bridge on Eagle Rock Avenue, 1.0 mi east of Hanover Neck, and 2.4 mi downstream of Rockaway River.	132	1983-84, 1998, 2001-02	11-15-01	24
					2-19-02	44
					5-16-02	567

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued						
01379680	Rockaway River at Longwood Valley, NJ	Lat 40°57'14", long 74°34'17", Morris County, Hydrologic Unit 02030103, at bridge on Berkshire Valley Road, 1.7 mi southwest of Longwood Valley, 2.0 mi northwest of Berkshire Valley, and 2.3 mi downstream from Longwood Lake.	22.1	1998, 2001-02	11-20-01 2-25-02 6-03-02	4.5 7.8 24
01381330	Whippany River at Whitehead Road, at Washington Valley, NJ	Lat 40°47'48", long 74°31'49", Morris County, Hydrologic Unit 02030103, at bridge on Whitehead Road, 0.6 mi south of Washington Valley, and 3.6 mi upstream of Speedwell Lake.	8.91	1972-73, 2001-02	11-29-01 3-05-02 6-06-02	3.2 6.3 22
01382170	Pequannock River at NJ Route 23, near Oak Ridge, NJ	Lat 41°04'41", long 74°29'23", Sussex County, Hydrologic Unit 02030103, at bridge on State Route 23, 0.6 mi upstream of Oak Ridge Reservoir, and 2.2 mi north of Oak Ridge.	19.3	2001-02	11-14-01 2-26-02 5-28-02	.94 35 16
01382800	Pequannock River at Riverdale, NJ	Lat 40°59'55", long 74°17'54", Passaic County, Hydrologic Unit 02030103, at bridge on Paterson-Hamburg Turnpike in Riverdale, 0.6 mi upstream from Wanaque River, and 2.8 mi upstream of mouth.	83.9	1963, 1980-83, 1993, 1994-97a, 1998, 2001-02	11-19-01 2-21-02 5-06-02	6.1 13 59
01384495	Ringwood Creek near Skylands, NJ	Lat 41°08'31", long 74°14'55", Passaic County, Hydrologic Unit 02030103, site along Manor Road 0.7 mi into Ringwood State Park, 1.2 mi northwest of Skylands, and 1.8 mi upstream of Wanaque Reservoir.	14.3	2001-02	11-07-01 2-05-02 5-09-02	1.6 3.1 30
01387010	Wanaque River at Highland Avenue, at Wanaque, NJ	Lat 41°02'14", long 74°17'09", Passaic County, Hydrologic Unit 02030103, at foot of Highland Avenue, 0.5 mi east of Wanaque, 1.2 mi upstream on Lake Inez, and 1.6 mi downstream of Wanaque Reservoir.	96.4	2001-02	11-07-01 2-05-02 5-09-02	17 7.4 14
01388100	Ramapo River at Dawes Highway, at Pompton, NJ	Lat 40°59'08", long 74°16'47", Passaic County, Hydrologic Unit 02030103, at bridge on Dawes Highway, 0.5 mi south of Pompton, and 0.6 mi downstream of Pompton Lake.	160	1998, 2001-02	11-19-01 2-21-02 5-06-02	-- 29 104
01388720	Beaver Dam Brook at Ryerson Road, at Lincoln Park, NJ	Lat 40°55'35", long 74°17'35", Morris County, Hydrologic Unit 02030103, at bridge on Ryerson Road in Lincoln Park, 1.7 mi northwest of Mountain View, and 0.3 mi upstream of mouth.	13.1	2001-02	11-14-01 2-19-02 5-29-02	.76 2.2 7.9
01388910	Pompton River at Mountain View, NJ	Lat 40°54'52", long 74°16'15", Passaic County, Hydrologic Unit 02030103, at bridge on U.S. Route 202 at Mountain View, 0.1 mi downstream of Packanack Brook and 1.3 mi upstream of mouth.	371	1987-88, 2001-02	11-14-01 2-26-02 5-28-02	46 44 105
01389492	Passaic River above Beatties Dam, at Little Falls, NJ	Lat 40°53'04", long 74°14'05", Passaic County, Hydrologic Unit 02030103, at Beatties Dam at Little Falls, 600 ft upstream from Union Boulevard, and 1.5 mi upstream from Peckman River. Note--flow over dam, not through intake canal.	762	1948-53, 1955, 1991-95, 1997-99, 2002	10-05-01	85
01389802	Passaic River at Passaic Falls, at Paterson, NJ	Lat 40°54'57", long 74°10'55", Passaic County, Hydrologic Unit 02030103, just upstream from Passaic Falls (Great Falls) in Paterson and 1.5 mi downstream of Peckman River. Note--flow over falls only, not through hydroelectric plant.	779	1987-89, 1991-95, 1997-99, 2001-02	12-06-01 9-19-02 9-25-02	51 56 59
01389862	Henderson Brook at railroad bridge, at Fair Lawn, NJ	Lat 40°56'57", long 74°07'29", Bergen County, Hydrologic Unit 02030103, at Conrail railroad bridge in Fair Lawn, 1.4 mi upstream of mouth, and 2.3 mi southwest of Ridge-wood.	.44	2000-02	8-07-02	.05

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
PASSAIC RIVER BASIN--Continued						
01389863	Henderson Brook above Pollitt Drive, at Fair Lawn, NJ	Lat 40°56'47", long 74°07'48", Bergen County, Hydrologic Unit 02030103, at bridge on Pollitt Drive in Fair Lawn, 0.7 mi south of Glen Rock, and 1.0 mi upstream from mouth.	.57	2000-02	8-07-02	.25
01389865	Henderson Brook at River Road, at Fair Lawn, NJ	Lat 40°56'24", long 74°08'34", Bergen County, Hydrologic Unit 02030103, at bridge on River Road, 200 ft upstream of mouth, and 1.2 mi southeast of Hawthorne.	1.25	2000-02	9-07-00 8-07-02	1.6f .51
01389870	Passaic River at Morlot Avenue, at Fair Lawn, NJ	Lat 40°55'26", long 74°08'26", Bergen County, Hydrologic Unit 02030103, at bridge on Morlot Avenue, 1.3 mi south of Fair Lawn, and 2.6 mi downstream of Goffle Brook.	797	1970, 2001-02	11-27-01 3-04-02 5-23-02	131 390 1,390
01389873	Lyncrest Brook at River Road, at Fair Lawn, NJ	Lat 40°55'24", long 74°07'51", Bergen County, Hydrologic Unit 02030103, at bridge on River Drive in Fair Lawn, 500 ft upstream of mouth, and 2.4 mi southeast of Prospect Park.	.45	2000-02	8-07-02	.03
01391100	Hohokus Brook at mouth, at Paramus, NJ	Lat 40°57'21", long 74°06'04", Bergen County, Hydrologic Unit 02030103, 300 ft upstream from mouth, 0.8 mi southeast of Glen Rock, 1.5 mi north of Fair Lawn, and 2.0 mi west of Paramus.	20.2	1998, 2001-02	2-12-01 4-15-02	18.3 48
01391109	Jordan Brook at Fair Lawn, NJ	Lat 40°56'52", long 74°06'14", Bergen County, Hydrologic Unit 02030103, at bridge on Saddle River Road, 0.1 mi upstream of mouth, 0.9 mi northeast of Fair Lawn, and 1.1 mi southeast of Glen Rock.	1.05	2000-02	8-07-02	.08
01391250	Beaver Dam Brook at Arcola, NJ	Lat 40°55'47", long 74°05'45", Bergen County, Hydrologic Unit 02030103, at bridge on Saddle River Road, 800 ft upstream of mouth, 0.5 mi northwest of Arcola, and 1.0 mi southeast of Fair Lawn.	.74	2000-02	8-07-02	0
RARITAN RIVER BASIN						
01396550	Spruce Run at Newport, NJ	Lat 40°43'29", long 74°54'34", Hunderdon County, Hydrologic Unit 02030105, at bridge on Newport Road in Newport, 1.2 mi northwest of Woodglen, and 6.4 mi upstream from Spruce Run Reservoir.	5.67	1998-2002	11-07-01 2-04-02 5-23-02 8-15-02	1.8 3.6 7.5 .50
01397400	South Branch Raritan River at Three Bridges, NJ	Lat 40°31'01", long 74°48'10", Hunterdon County, Hydrologic Unit 02030105, at bridge on Main Street in Three Bridges, 0.4 mi northeast from Voorhees Corner, 1.3 mi downstream of Bushkill Brook, and 2.2 mi southeast of Darts Mills.	181	1969, 1975-76, 1978-81, 1983, 1985-97, 1999, 2001-02	11-13-01 2-14-02 5-20-02	137 68 337
01398065	Neshanic River near Neshanic, NJ	Lat 40°29'37", long 74°45'13", Somerset County, Hydrologic Unit 02030105, at bridge on County Route 514 (Amwell Road), 1.1 mi upstream of mouth, and 1.8 mi west of Neshanic.	53.3	1975-76, 2001-02	11-13-01 2-14-02 5-20-02	1.6 9.2 116
01398110	Holland Brook at South Branch, NJ	Lat 40°33'11", long 74°42'03", Somerset County, Hydrologic Unit 02030105, at bridge on South Branch Road (County Route 567), 0.6 mi north of South Branch, 0.6 mi upstream of mouth, and 1.2 mi downstream of bridge on U.S. Route 202.	12.2	1975-76, 2001-02	10-04-01 10-16-01 1-22-02 4-11-02	5.5 2.5 3.8 6.3
01398900	North Branch Raritan River at Bedminster, NJ	Lat 40°40'58", long 74°38'19", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 202, 0.4 mi east of Bedminster, and 1.0 mi downstream of Peapack Brook.	40.8	1975-76, 2001-02	10-18-01 1-23-02 5-07-02	13 16 53

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
RARITAN RIVER BASIN--Continued						
01399320	Lamington River at NJ Route 24, at Milltown, NJ	Lat 40°46'43", long 74°38'18", Morris County, Hydrologic Unit 02030105, at bridge on State Route 24 in Milltown, 1.1 mi downstream of Tanners Brook, and 1.4 mi west of Chester.	23.7	2001-02	10-03-01 10-18-01 1-23-02 5-07-02	8.9 6.0 11 35
01399545	Lamington River at Lamington, NJ	Lat 40°39'38", long 74°43'46", Somerset County, Hydrologic Unit 02030105, at bridge on County Route 523 in Lamington, 0.4 mi downstream from Cold Brook, and 3.8 mi south of Potterstown.	53.6	1978-81, 2001-02	10-16-01 1-22-02 4-11-02	15 20 27
01399720	Rockaway Creek at Island Road, at Whitehouse, NJ	Lat 40°37'24", long 74°43'17". Hunterdon County, Hydrologic Unit 02030105, at bridge on Island Road, 0.6 mi upstream from mouth, 0.9 mi east of Whitehouse, and 2.5 mi northwest of North Branch.	38.4	1977-78, 2001-02	10-04-01 10-16-01 1-22-02 4-11-02	18 13 74 20
01400690	Cranbury Brook near Prospect Plains, NJ	Lat 40°18'19", long 74°28'24", Middlesex County, Hydrologic Unit 02030105, at bridge on County Route 619 (Applegarth Road), 1.3 mi south of Prospect Plains, and 1.9 mi upstream of Brainerd Lake.	7.64	2001-02	10-15-01 1-17-02 4-25-02	2.3 1.9 1.7
01403300	Raritan River at Queens Bridge, at Bound Brook, NJ	Lat 40°33'34", long 74°31'41", Somerset County, Hydrologic Unit 02030105, at Queens Bridge on Main Street in Bound Brook, and 1.7 mi upstream from Fieldsville Dam.	804	1964-69, 1971-73, 1978, 1981-2002	2-13-02 4-17-02	210 245
01403385	Bound Brook at Route 28, at Middlesex, NJ	Lat 40°34'51", long 74°29'58", Middlesex County, Hydrologic Unit 02030105, at bridge on State Route 28, 0.3 mi upstream from Green Brook, 0.9 mi northeast of Middlesex, 2.4 mi west of the intersection of State Route 28, and Washington Avenue in Dunellen.	23.9	1998-2002	11-19-01 2-06-02 5-30-02 6-12-02 8-20-02	2.6 7.4 6.5 7.2 6.8
01405003	Lawrence Brook at Riva Avenue, at Milltown, NJ	Lat 40°26'55", long 74°26'47", Middlesex County, Hydrologic Unit 02030105, at bridge on Riva Avenue, 0.5 mi downstream of Farrington Lake, and 0.5 mi south of Milltown.	36.1	2001-02	10-11-01 1-14-02 4-09-02	22 .87 14
01405303	Manalapan Brook at Charleston Springs, NJ	Lat 40°12'04", long 74°22'40", Monmouth County, Hydrologic Unit 02030105, at bridge on County Route 524, 0.2 mi west of Charleston Springs, and 6.6 mi upstream of Still House Brook.	1.20	2001-02	10-15-01 1-17-02 4-25-02	1.5 .76 .62
01405340	Manalapan Brook at Federal Road, near Manalapan, NJ	Lat 40°17'46", long 74°23'53", Middlesex County, Hydrologic Unit 02030105, at bridge on Federal Road, 2.0 mi west of Englishtown, 2.6 mi north of Manalapan, and 3.0 mi downstream from Still House Brook.	20.9	1969,1971, 1979-80, 1986-96, 1998-2002	11-14-01 2-05-02 5-09-02 8-13-02	6.1 11 9.4 2.6
01405390	Manalapan Brook at Helmetta, NJ	Lat 40°22'29", long 74°24'56", Middlesex County, Hydrologic Unit 02030105, at bridge on Old Forge Road, 0.5 mi east of Helmetta, and 2.5 mi upstream of DeVoe Lake.	38.0	2001-02	12-03-01 3-07-02 6-11-02	14 25 22
01405435	Cedar Brook at Spotswood, NJ	Lat 40°23'26", long 74°23'31", Middlesex County, Hydrologic Unit 02030105, 50 ft upstream from mouth in Spotswood, and 4.3 mi south of South River.	3.85	1943, 1949-50, 1957-87d, 1987, 1989-91, 1993-2002	10-25-01 11-28-01 1-03-02 1-25-02 3-27-02 5-08-02 8-15-02	2.8 3.6 3.3 6.0 10 7.4 1.2

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
SHREWSBURY RIVER BASIN						
01407320	Big Brook at Cross Road, near Vandenburg, NJ	Lat 40°19'24", long 74°10'27", Monmouth County, Hydrologic Unit 02030104, at bridge on Cross Road, 0.6 mi upstream of mouth, 1.0 mi downstream of bridge on State Route 34, and 1.1 mi northeast of Vandenburg.	9.81	2001-02	10-10-01	5.5
					1-15-02	5.3
					4-23-02	5.6
01407460	Yellow Brook at Scobeyville, NJ	Lat 40°17'57", long 74°09'23", Monmouth County, Hydrologic Unit 02030104, at bridge on Muhlenbrink Road, 0.7 mi west of Scobeyville, and 3.5 mi downstream of Bucks Pond.	16.2	2001-02	10-10-01	7.6
					1-15-02	11
					4-23-02	8.3
MANASQUAN RIVER BASIN						
01407871	Manasquan River at Route 9, at Wyckoff Mills, NJ	Lat 40°12'15", long 74°15'25", Monmouth County, Hydrologic Unit 02040301, at bridge on U.S. Route 9, 0.3 mi east of Wyckoff Mills, and 0.3 mi upstream of Bannen Meadow Brook.	22.4	1966, 1973-74, 2001-02	10-11-01	5.0
					1-14-02	9.0
					4-09-02	14
01408009	Mingamahone Brook near Earle, NJ	Lat 40°12'45", long 74°10'07", Monmouth County, Hydrologic Unit 02040301, at bridge on Cranberry Bog Road, 0.6 mi upstream from Branch Mingamahone Brook, and 1.7 mi southwest of Earle.	3.32	1998-2002	11-19-01	1.3
					2-05-02	2.2
					5-09-02	4.2
					8-13-02	.79
TOMS RIVER BASIN						
01408473	Success Branch 100 ft downstream of Elisha Branch, near Colliers Mills, NJ	Lat 40°02'13", long 74°25'47", Ocean County, Hydrologic Unit 02040301, 100 ft downstream from Elisha Branch, 4,600 ft upstream from mouth, and 2.4 mi southeast of Colliers Mills.	1.39	2002	7-10-02	.03
0140847340	Success Branch 400 ft downstream of Elisha Branch, near Colliers Mills, NJ	Lat 40°02'16", long 74°25'47", Ocean County, Hydrologic Unit 02040301, 400 ft downstream from Elisha Branch, 4,300 ft upstream from mouth, and 2.3 mi southeast of Colliers Mills.	1.40	2002	7-10-02	.16
0140847360	Success Branch 600 ft downstream of Elisha Branch, near Colliers Mills, NJ	Lat 40°02'18", long 74°25'48", Ocean County, Hydrologic Unit 02040301, 600 ft downstream from Elisha Branch, 4,100 ft upstream from mouth, and 2.3 mi southeast of Colliers Mills.	1.43	2002	7-10-02	.21
01408474	Success Branch 1,600 ft downstream of Elisha Branch, near Colliers Mills, NJ	Lat 40°02'26", long 74°25'48", Ocean County, Hydrologic Unit 02040301, 1,600 ft downstream from Elisha Branch, 3,100 ft upstream from mouth, and 2.1 mi southeast of Colliers Mills.	1.68	2002	7-10-02	.38
CEDAR CREEK BASIN						
01408830	Cedar Creek at Cedar Crest, NJ	Lat 39°53'50", long 74°19'00", Ocean County, Hydrologic Unit 02040301, at bridge on Whiting-Lacey Road in Cedar Crest, 0.2 mi downstream from outlet of Bamber Lake, and 3.7 mi southeast of Keswick Grove.	20.1	1998-2002	11-28-01 2-07-02 6-12-02 8-08-02	22 18 28 16
MULLICA RIVER BASIN						
0140940200	Hays Mill Creek near Chesilhurst, NJ	Lat 39°45'02", long 74°50'28", Camden County, Hydrologic Unit 02040301, at bridge on Tremont Avenue in Wharton State Forest, 0.6 mi upstream of mouth, and 2.0 mi northeast of Chesilhurst.	7.13	1974-80, 1991-2002	1-03-02 2-27-02 7-09-02 9-25-02	4.6 4.6 3.7 2.6
01409416	Hammonton Creek at Wescoatville, NJ	Lat 39°38'02", long 74°43'05", Atlantic County, Hydrologic Unit 02040301, at bridge on Chestnut Road, 0.4 mi south of Wescoatville, and 1.6 mi upstream from Norton Branch.	9.57	1974, 1978-81, 1983, 1985-2002	12-10-01 2-07-02 6-06-02 8-26-02	7.9 8.8 9.4 5.3

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
MULLICA RIVER BASIN--Continued						
01409815	West Branch Wading River at Maxwell, NJ	Lat 39°40'30", long 74°32'28", Burlington County, Hydrologic Unit 02040301, at bridge on County Highway 563 in Maxwell, 1.6 mi southeast of Washington, 1.8 mi southwest of Jenkins, and 2.2 mi upstream from mouth.	85.9	1985-90, 1997-2002	12-10-01	44
					2-07-02	60
					6-06-02	53
					8-26-02	49
GREAT EGG HARBOR RIVER BASIN						
01410810	Fourmile Branch at New Brooklyn, NJ	Lat 39°41'47", long 74°56'25", Camden County, Hydrologic Unit 02040302, at bridge on Malaga Road in New Brooklyn, 0.4 mi upstream of mouth, and 2.7 mi northeast of Williamstown.	7.74	1971-72, 1973-79a, 1982, 1985, 1989-97, 2001-02	1-04-02	4.6
					7-03-02	3.4
01411110	Great Egg Harbor River at Weymouth, NJ	Lat 39°30'50", long 74°46'47", Atlantic County, Hydrologic Unit 02040302, at bridge on U.S. Route 322 in Weymouth, 0.5 mi upstream of Deep Run, and 8.5 mi east of Landisville.	154	1978-81, 1985-2002	11-29-01	72
					2-13-02	94
					6-06-02	118
					8-15-02	44
01411196	Babcock Creek near Mays Landing, NJ	Lat 39°28'08", long 74°41'34", Atlantic County, Hydrologic Unit 02040302, at bridge on U.S. Route 322, 2.2 mi northeast of Mays Landing, and 2.8 mi upstream from Watering Race Branch.	16.3	1998-2002	11-29-01	5.0
					2-12-02	6.2
					6-06-02	5.3
					8-15-02	1.6
WEST CREEK BASIN						
01411444	West Creek near Leesburg, NJ	Lat 39°15'36", long 74°54'42", Cumberland County, Hydrologic Unit 02040206, at bridge on County Route 550, 1.3 mi upstream from Hands Mill Pond, and 3.7 mi east of Leesburg.	6.64	1999-2002	12-13-01	1.0
					6-18-02	1.4
					9-04-02	.35
MAURICE RIVER BASIN						
01411466	Indian Brook near Malaga, NJ	Lat 39°35'27", long 75°03'36", Gloucester County, Hydrologic Unit 02040206, at bridge on State Route 47 (Delsea Drive), 0.4 mi upstream from Malaga Lake, and 1.4 mi north of Malaga.	6.50	1957, 1998-2002	12-11-01	3.6
					2-19-02	3.2
					6-18-02	5.1
					8-20-02	.65
01411955	Gravelly Run at Laurel Lake, NJ	Lat 39°20'14", long 75°03'04", Cumberland County, Hydrologic Unit 02040206, at bridge on Battle Lane, 0.3 mi upstream from mouth, and 1.1 mi west of community of Laurel Lake.	3.19	1998-2002	12-06-01	.52
					2-12-02	.64
					6-11-02	.60
					8-21-02	.09
COHANSEY RIVER BASIN						
01412800	Cohansey River at Seeley, NJ	Lat 39°28'21", long 75°15'21", Cumberland County, Hydrologic Unit 02040206, at bridge on Silver Lake Road, 0.6 mi south of Seeley, and 1.8 mi upstream of Shaw Branch.	28.0	1978-88a, 1989-2002	12-11-01	25
					2-14-02	17
					8-22-02	6.3
DELAWARE RIVER BASIN						
01442760	Dunnfield Creek at Dunnfield, NJ	Lat 40°58'14", long 75°07'35", Warren County, Hydrologic Unit 02040104, at foot bridge on Appalachian Trail/Dunnfield Rest Area in Dunnfield, 1,300 ft upstream from mouth, and 3.5 mi northwest of Columbia.	3.56	1998-2002	11-07-01	.59
					2-06-02	8.6
					5-15-02	9.7
					8-05-02	.63
01443401	Paulins Kill at Route 626, at Balesville, NJ	Lat 41°06'13", long 74°45'29", Sussex County, Hydrologic Unit 02040105, at bridge on County Route 627 (Larson Road), 0.2 mi southwest of Balesville, 2.6 mi upstream of Paulins Kill Lake.	67.2	2001-02	12-06-01	8.8
					3-12-02	16
					6-04-02	24
01445160	Bear Brook at Dark Moon Road, near Johnsonburg, NJ	Lat 40°58'30", long 74°50'57", Warren County, Hydrologic Unit 02040105, at bridge on Dark Moon Road 1.3 mi northeast of Johnsonburg, and 0.4 mi northwest of Francis Lake.	5.10	2001-02	11-15-01	.16
					2-14-02	.09
					5-15-02	8.9
					8-08-02	.68

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01446000	Beaver Brook near Belvidere, NJ	Lat 40°50'40", long 75°02'48", Warren County, Hydrologic Unit 02040105, at bridge on County Route 618 (Serepta Road), 0.4 mi upstream from mouth, and 2 mi east of Belvidere.	36.7	1922-61a, 1963-95 2001-02	10-25-01	2.5
					2-20-02	7.0
					5-14-02	113
					8-19-02	1.7
01446400	Pequest River at Belvidere, NJ	Lat 40°49'45", long 74°04'44", Warren County, Hydrologic Unit 02040105, at bridge on County Route 519 in Belvidere, 0.3 mi upstream from mouth, and 2.8 mi west of Bridgeton.	157	1974, 1977-2002	11-02-01	31
					2-14-02	54
					5-21-02	307
					8-20-02	19
01455080	Lopatcong Creek near Stewartsville, NJ	Lat 40°42'09", long 75°08'14", Warren County, Hydrologic Unit 02040105, at bridge on State Route 57, 0.7 mi upstream of Morris Canal, and 1.4 mi northwest of Stewartsville.	7.10	2001-02	10-22-01	1.0
					1-24-02	1.9
					5-02-02	41
					8-13-02	.49
01455371	Lake Hopatcong tributary 18 at Hurdton, NJ	Lat 40°58'31", long 74°36'13", Morris County, Hydrologic Unit 02040105, 0.5 mi from outflow of Lake Shawnee, 0.6 mi northwest of Hurdton, 4.1 miles northeast of Hopatcong.		2002	5-30-02	.47
					6-26-02	.06
					7-30-02	.005
					9-04-02	.02
01455372	Lake Winona outlet at Woodport, NJ	Lat 40°59'20", long 74°36'26", Morris County, Hydrologic Code 02040105, 150 ft upstream from Lake Hopatcong, 150 ft downstream from Lake Winona outlet, and 0.5 mi north of Woodport, NJ.		2002	4-25-02	2.7
					5-29-02	2.4
					6-26-02	.55
					7-30-02	.03
01455373	Lake Hopatcong tributary 16 at Woodport, NJ	Lat 40°59'16", long 74°37'43", Morris County, Hydrologic Code 02040105, 300 ft upstream of Lake Hopatcong, 0.3 mi southwest of Lake Winona outlet, and 0.5 mi north of Woodport.		2002	4-24-02	1.1
					5-29-02	1.3
					6-26-02	.26
					7-30-02	.04
01455374	Lake Hopatcong tributary 15 at Woodport, NJ	Lat 40°59'12", long 74°36'59", Morris County, Hydrologic Unit 02040105, 20 ft upstream from Lake Hopatcong, 0.5 mi southwest of Lake Winona outlet, and 0.6 mi northwest of Woodport.		2002	4-24-02	.46
					5-29-02	1.8
					6-26-02	.52
					7-30-02	.16
01455376	Jaynes Brook at Northwood, NJ	Lat 40°58'34", long 74°37'44", Sussex County, Hydrologic Unit 02040105, 0.2 mi upstream from Lake Hopatcong, 0.5 mi northeast of Northwood, and 1.2 mi west of Woodport.		2002	4-24-02	.74
					5-29-02	.76
					6-26-02	.13
					7-30-02	.01
01455377	Mountain Brook at Northwood, NJ	Lat 40°58'26", long 74°38'31", Sussex County, Hydrologic Unit 02040105, 0.3 mi upstream from Lake Hopatcong, 0.4 mi northwest of Northwood, and 1.9 mi southwest of Woodport.		2002	7-31-02	0
					9-04-02	0
					4-24-02	.55
					5-29-02	.36
01455378	Mountain Brook tributary at Northwood, NJ	Lat 40°58'26", long 74°38'20", Sussex County, Hydrologic Unit 02040105, 0.2 mi north of Northwood, 1.7 mi from Woodport, and 2.0 mi southwest of Lake Winona outlet.		2002	6-26-02	.05
					7-30-02	0
					9-04-02	.01
					9-30-02	.01
01455380	Lake Hopatcong tributary 6 at Byram Cove, NJ	Lat 40°57'18", long 74°39'43", Sussex County, Hydrologic Unit 02040105, at Byram Cove, 500 ft upstream of Byram Cove on Lake Hopatcong, and 1.8 mi southwest of Northwood.		2002	4-22-02	.32
					5-28-02	.11
					6-24-02	.01
					7-30-02	0
01455381	Lake Hopatcong tributary 7 at Byram Cove, NJ	Lat 40°57'17", long 74°39'38", Sussex County, Hydrologic Unit 02040105, at Byram Cove, 200 ft upstream from Byram Cove on Lake Hopatcong, and 1.8 mi southwest of Northwood.		2002	9-03-02	0
					9-30-02	.01
					4-23-02	.41
					5-28-02	.19
					6-24-02	.10
					7-30-02	0
					9-03-02	.01
					9-30-02	.05

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01455382	Lake Hopatcong tributary 8 at Byram Cove, NJ	Lat 40°57'27", long 74°39'49", Sussex County, Hydrologic Unit 02040105, 0.2 mi northwest of Byram Cove, 1.7 mi southwest of Northwood, and 3.7 mi southwest of Lake Winona outlet.		2002	4-23-02	.17
					5-28-02	.14
					6-24-02	.003
					7-30-02	0
					9-03-02	0
					9-30-02	.005
01455383	Lake Hopatcong tributary 10 near Sisters Island, near Northwood, NJ	Lat 40°58'01", long 74°39'01", Sussex County, Hydrologic Unit 02040105, 350 ft upstream from Lake Hopatcong, 0.8 mi southwest of Northwood, and 2.7 mi southwest of Lake Winona outlet.		2002	4-23-02	.17
					5-28-02	.04
					6-26-02	.01
					7-30-02	0
					9-03-02	0
					9-30-02	.002
01455384	Lake Hopatcong tributary 9 near Sisters Island, near Northwood, NJ	Lat 40°57'54", long 74°39'14", Sussex County, Hydrologic Unit 02040105, 250 ft upstream of Lake Hopatcong near Sister Islands, 1.1 mi southwest of Northwood, and 2.7 mi southwest of Woodport.		2002	4-23-02	.07
					5-28-02	.05
					6-24-02	.01
					7-30-02	0
					9-03-02	0
					9-30-02	0
01455385	Lake Hopatcong tributary 5 at Sperry Springs, NJ	Lat 40°57'19", long 74°38'53", Sussex County, Hydrologic Unit 02040105, at Sperry Springs, 200 ft upstream of Byram Bay on Lake Hopatcong, 1.3 mi southwest of Northwood.		2002	4-22-02	.01
					5-28-02	.004
					6-24-02	0
					7-30-02	0
					9-03-02	.001
					9-30-02	.002
01455387	Lake Hopatcong tributary 4 near Sperry Springs, NJ	Lat 40°56'58", long 74°38'51", Sussex County, Hydrologic Unit 02040105, 0.3 mi upstream from Lake Hopatcong, 0.4 mi south of Sperry Springs, and 1.7 mi southwest of Northwood.		2002	4-22-02	.08
					5-28-02	.04
					6-24-02	.01
					7-30-02	0
					9-03-02	0
					9-30-02	.01
01455388	Lake Hopatcong tributary 25 at Espanong, NJ	Lat 40°56'46", long 74°36'54", Morris County, Hydrologic Unit 02040105, 0.2 mi east of Espanong, 0.4 mi upstream from Great Cove on Lake Hopatcong, and 2.0 mi southeast of Northwood.		2002	5-30-02	.67
					6-21-02	1.0
					7-30-02	.14
					9-05-02	.04
01455390	Lake Hopatcong tributary 3 at River Styx, at Hopatcong, NJ	Lat 40°56'24", long 74°39'22", Sussex County, Hydrologic Unit 02040105, 150 ft upstream from River Styx on Lake Hopatcong, 0.5 mi north of Hopatcong, and 0.5 mi south of Lookout Mountain.		2002	4-22-02	.01
					5-28-02	.01
					6-24-02	0
					7-29-02	0
					9-03-02	0
					9-30-02	0
01455391	Lake Hopatcong tributary 22 at Van Every Cove, at Mount Arlington, NJ	Lat 40°56'02", long 74°37'48", Morris County, Hydrologic Unit 02040105, 200 ft upstream from Van Every Cove on Lake Hopatcong, 0.6 mi north of Mount Arlington, and 1.5 mi east of Hopatcong.		2002	4-25-02	.18
					5-30-02	.21
					6-27-02	.13
					7-30-02	.01
					7-31-02	.02
					9-05-02	.01
01455393	Lake Hopatcong tributary 23 at Mount Arlington, NJ	Lat 40°55'40", long 74°38'16", Morris County, Hydrologic Unit 02040105, at Mount Arlington, 600 ft upstream from Lake Hopatcong, and 1.2 mi east of Hopatcong.		2002	4-25-02	.26
					5-30-02	.41
					6-27-02	.44
					7-30-02	.05
					9-05-02	.04
					01455395	Lake Hopatcong tributary 2 at Hopatcong, NJ	Lat 40°55'52", long 74°39'26", Sussex County, Hydrologic Unit 02040105, at culvert at Lakeside Boulevard at Hopatcong, and 200 ft upstream of Lake Hopatcong.		2002	4-22-02	.13
5-28-02	.08					
6-24-02	.05					
7-29-02	.02					
9-03-02	.03					
9-30-02	.02					
01455397	Lake Hopatcong tributary 1 at Ingram Cove, at Hopatcong, NJ	Lat 40°55'38", long 74°39'41", Sussex County, Hydrologic Unit 02040105, 300 ft upstream of Ingram Cove on Lake Hopatcong, 0.4 mi south of Hopatcong, and 1.4 mi south of Lookout Mountain.		2002	4-22-02	.09
					5-28-02	.12
					6-24-02	.10
					7-29-02	.08
					9-03-02	.08
					9-30-02	.08

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01455398	Lake Hopatcong tributary 24 at King Cove, near Landing, NJ	Lat 40°55'08", long 74°38'45", Morris County, Hydrologic Unit 02040105, 500 ft upstream from King Cove on Lake Hopatcong, 1.3 mi northeast of Landing, and 2.0 mi south of Lookout Mountain.		2002	4-25-02 5-30-02 6-27-02 7-30-02 9-05-02	.14 .30 .25 .05 .04
01456200	Musconetcong River at Beattystown, NJ	Lat 40°48'48", long 74°50'32", Warren County, Hydrologic Unit 02040105, at bridge on Kings Highway, 500 ft east of Beattystown, and 2.2 mi downstream of Mine Brook.	90.3	1973, 1979-81, 1983, 1985-90, 1993-97, 1999-2002	10-23-01 1-28-02 4-15-02	60 53 90
01456590	Musconetcong River at New Hampton, NJ	Lat 40°43'23", long 74°57'38", Hunterdon County, Hydrologic Unit 02040105, at bridge on New Hampton Road, 0.3 mi north of New Hampton, and 19.7 mi upstream of mouth.	121	2001-02	10-23-01 1-28-02 4-15-02	67 67 141
01457400	Musconetcong River at Riegelsville, NJ	Lat 40°35'32", long 75°11'20", Warren County, Hydrologic Unit 02040105, at bridge on County Route 627 in Riegelsville, 0.2 mi north of Mount Joy, and 0.2 mi upstream from mouth.	156	1940-55, 1973, 1977-81, 1983, 1985-86, 1988-2002	11-13-01 2-07-02 5-28-02 8-12-02	87 99 196 51
01458570	Nishisakawick Creek near Frenchtown, NJ	Lat 40°32'32", long 75°02'49", Hunterdon County, Hydrologic Unit 02040105, site along Creek Road, 1.3 mi north of Frenchtown, 2.1 mi upstream from mouth, and 3.1 mi southeast of Milford.	10.1	1998-2002	11-13-01 2-07-02 5-28-02 8-12-02	.96 4.7 10 .93
01460500	Delaware and Raritan Canal at Kingston, NJ	Lat 40°22'24", long 74°37'08", Middlesex County, Hydrologic Unit 02030105, at canal lock at Kingston near dam at Carnegie Lake, 160 ft upstream from bridge on State Route 27.	---	1947-92a, 1993-94, 1997, 2002	1-14-02	95
01463850	Miry Run at Route 533, at Mercerville, NJ	Lat 40°14'50", long 74°41'14", Mercer County, Hydrologic Unit 02040105, at bridge on County Route 533 (Quaker Bridge Road), 2.1 mi upstream of mouth, 0.7 mi north of Mercerville, and 3.8 mi northwest of Robbinsville.	10.7	1998-2002	11-26-01 2-04-02 5-07-02 8-06-02	.25 .50 .41 .06
01464020	Assunpink Creek at Peace Street, at Trenton, NJ	Lat 40°13'01", long 74°46'04", Mercer County, Hydrologic Unit 02040105, at bridge on Peace Street in Trenton, 0.1 mi upstream of mouth, and 4.4 mi west of Mercerville.	91.4	1963, 1967, 1998-2002	12-12-01 2-04-02 6-04-02 8-14-02	44 63 42 14
01464504	Crosswicks Creek at Groveville Road, at Groveville, NJ	Lat 40°10'02", long 74°40'40", Mercer County, Hydrologic Unit 02040201, at bridge on Groveville Road (Main Street) in Groveville, 1.2 mi upstream from Doctors Creek, and 2.2 mi northeast of Bordentown.	98.0	1966, 1998-2002	12-12-01 2-26-02 6-12-02 8-22-02	65 51 59 13
01464527	Blacks Creek at Chesterfield, NJ	Lat 40°06'34", long 74°38'31", Burlington County, Hydrologic Unit 02040201, at bridge on Chesterfield-Georgetown Road, 0.4 mi south of Chesterfield, 2.2 mi north of Georgetown, and 2.4 mi upstream of mouth.	8.91	1969, 2001-02	11-28-01 2-05-02 5-07-02 8-22-02	7.5 4.2 2.8 .14
01465835	South Branch Rancocas Creek at Retreat, NJ	Lat 39°55'23", long 74°43'05", Burlington County, Hydrologic Unit 02040202, at bridge on County Route 642 (Ridge Road), 0.3 mi northwest of Retreat, and 2.6 mi upstream of Vincetown Millpond.	44.1	1979-81, 2998, 2001-02	10-04-01 1-07-02 4-02-02 5-15-02 7-01-02 7-15-02	18 38 66 68 23 14
01465848	Jade Run at Main Street at Vincentown, NJ	Lat 39°56'18", long 74°45'06", Burlington County, Hydrologic Unit 02040202, at bridge on Main Street in Vincentown, 400 ft upstream of mouth.	---	2002	5-15-02 6-17-02 7-01-02	9.6 7.5 .88

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01465882	South Branch Rancocas Creek at Route 70, at Medford, NJ	Lat 39°54'16", long 74°48'47", Burlington County, Hydrologic Unit 02040202, at bridge on State Route 70, 0.6 mi northeast of Medford and 4.2 mi upstream from mouth.	47.9	1973-75, 1979, 2001-02	10-04-01 1-07-02 4-02-02 7-15-02	29 86 54 17
01465893	Little Creek at Chairville, NJ	Lat 39°53'53", long 74°47'19", Burlington County, Hydrologic Unit 02040202, at bridge on State Route 70 in Chairville, 1.9 mi east of Medford, and 4.7 mi upstream from mouth.	6.32	1998-2002	11-27-01 2-20-02 5-30-02 6-17-02 8-19-02	2.5 2.2 7.3 8.5 .67
01466000	Middle Branch Mount Misery Brook in Lebanon State Forest, NJ	Lat 39°55'00", long 74°30'30", Burlington County, Hydrologic Unit 02040202, 20 ft upstream from bridge on North Branch Road, 0.3 mi upstream from South Branch Misery Brook, and 0.5 mi southwest of Browns Mills.	2.82	1952-65, 1970, 1975-77, 2002	8-20-02	0
01467003	North Branch Rancocas Creek at Ewanville, NJ	Lat 39°58'55", long 74°44'11", Burlington County, Hydrologic Unit 02040202, at bridge on U.S. Route 206 in Ewanville, 0.2 mi upstream of Powells Run, and 2.9 mi southeast of Mount Holly.	132	1973, 2000-02	10-01-01 1-03-02 4-01-02 7-08-02	69 52 201 49
0146700350	North Branch Rancocas Creek at sod farm, at Smithville, NJ	Lat 39°59'02", long 74°44'39", Burlington County, Hydrologic Unit 02040202, 0.4 mi upstream from bridge on County Route 684 (Smithville-Jacksonville Road) in Smithville, and 0.3 mi downstream of Powells Run.	138	2002	5-15-02 6-17-02 7-01-02	145 153 70
01467005	North Branch Rancocas Creek at Iron Works Park, at Mount Holly, NJ	Lat 39°59'31", long 74°46'58", Burlington County, Hydrologic Unit 02040202, at Mill Dam Park in Mount Holly, 2.4 mi east of Hainesport, and 4.0 mi downstream of Smithville Lake.	140	1970, 1998-2002	11-27-01 2-13-02 6-04-02 8-19-02	78 78 67 22
01467027	Swede Run at Route 130, at Delran, NJ	Lat 40°00'53", long 74°57'24", Burlington County, Hydrologic Unit 02040202, at bridge on U.S. Route 130, 0.6 mi south of Delran, and 2.1 mi upstream of Dredge Harbor.	5.54	2001-02	10-09-01 1-08-02 4-04-02 7-09-02	0 2.4 .85 0
01467063	North Branch Pennsauken Creek at Mount Laurel, NJ	Lat 39°55'12", long 74°53'54", Burlington County, Hydrologic Unit 02040202, at culvert on Church Road, 1.0 mi southwest of Mount Laurel, and 5.1 mi from mouth.	1.70	1998, 2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	.24 .30 .51 .11 .16
01467066	North Branch Pennsauken Creek at Gaither Drive, at Fellowship, NJ	Lat 39°56'15", long 74°56'59", Burlington County, Hydrologic Unit 02040202, at bridge on Gaithers Road, 1.0 mi northeast of Fellowship, and 1.2 mi from mouth.	6.61	2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	2.6 3.9 4.8 .67 1.4
01467069	North Branch Pennsauken Creek near Moorestown, NJ	Lat 39°57'07", long 74°58'10", Burlington County, Hydrologic Unit 02040202, at bridge on State Route 41 (Kings Highway), and 1.7 mi southwest of Moorestown.	12.8	1974-75, 1978-97, 2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	7.8 7.0 7.0 1.3 3.4
01467075	South Branch Pennsauken Creek at Springdale, NJ	Lat 39°54'21", long 74°57'09", on Burlington-Camden County line, Hydrologic Unit 02040202, at bridge on Green Tree Road, 0.7 mi west of Springdale, and 10.7 mi from mouth.	2.47	2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	1.0 .89 1.1 .65 1.2
01467077	South Branch Pennsauken Creek at Springdale Road, at Fellowship, NJ	Lat 39°55'14", long 74°57'53", on Burlington-Camden County line, Hydrologic Unit 02040202, at bridge on Springdale Road, 0.4 mi south of Fellowship, and 9.2 mi from mouth.	4.40	2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	3.4 3.6 3.4 2.3 2.4

Discharge measurements made at miscellaneous sites during water year 2002

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
01467120	Cooper River at Norcross Road, at Lindenwold, NJ	Lat 39°49'43", long 74°58'55", Camden County, Hydrologic Unit 02040202, at bridge on Norcross Road, at downstream end of Linden Lake at Lindenwold, and 0.4 mi upstream from Nicholson Branch.	1.13	1971, 1979-80, 1985-90, 2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	.52 .42 .28 .20 .20
01467155	North Branch Cooper River at Kresson, NJ	Lat 39°51'33", long 74°55'46", Camden County, Hydrologic Unit 02040202, at bridge on Kresson Road, 0.5 mi northwest of Kresson, and 9.0 mi from mouth.	1.04	2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	.67 .18 .02 0 .10
01467181	North Branch Cooper River at Erlton, NJ	Lat 39°54'31", long 75°01'32", Camden County, Hydrologic Unit 02040202, at bridge on Cooper River Drive, 600 ft upstream from mouth, and 0.6 mi southwest of Erlton.	11.0	2002	6-18-02 6-25-02 7-23-02 8-21-02 9-17-02	6.9 7.1 5.0 2.7 3.4
01467359	North Branch Big Timber Creek at Glendora, NJ	Lat 39°50'04", long 75°04'02", Camden County, Hydrologic Unit 02040202, at bridge on Chews Landing-Clementon Road (County Route 683), 0.7 mi south of Glendora, 1.8 mi upstream from South Branch Big Timber Creek, and 2.5 mi north of Blackwood.	18.8	1998-2002	12-17-01 2-13-02 6-13-02 8-07-02	18 19 47 51
01475000	Mantua Creek at Pitman, NJ	Lat 39°44'14", long 75°06'53", Gloucester County, Hydrologic Unit 02040202, on left abutment of Wadsworth Dam, 0.9 mi east of Pitman, and 2.0 mi upstream from Porch Branch.	6.05	1940-74a, 1982, 1991, 1994, 2002	5-31-02	5.7
01475017	Bees Branch at Hurffville, NJ	Lat 39°46'17", long 75°06'21", Gloucester County, Hydrologic Unit 02040202, at bridge on State Route 47, 0.7 mi north of Hurffville, and 1.7 mi from mouth.	.43	1996-99, 2002	5-02-02@1300 5-02-02@1345	5.4 4.9

- * Peak discharge.
- a Operated as continuous-recording gaging station.
- b Discharge records published in reports of the New Jersey Department of Environmental Protection.
- c Discharge records on file in U.S. Geological Survey Office, West Trenton, New Jersey.
- d Operated as continuous gaging station by Duhernal Water Company.
- f Revised.
- g Flow from spring drainage area cannot be determined.

The following table contains annual maximum elevations for tidal crest-stage stations. The information is obtained from a crest-stage gage or a water-stage recorder located at each site. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. All stages are elevations above NGVD of 1929 unless otherwise noted. Only the maximum elevation is given. Information on some other high elevations may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum elevation has been determined.

Maximum elevation at tidal crest-stage partial-record stations

Station name and number	Location	Period of record	Water year 2002 maximum		Period of record maximum	
			Date	Elevation (ft)	Date	Elevation (ft)
Hackensack River below dam, at New Milford, NJ (01378501)	Lat 40°56'52", long 74°01'34", Bergen County, Hydrologic Unit 02030103, on right bank approx. 50 ft downstream from New Milford gaging station, on dam wingwall 10 ft downstream from dam.	1997-2002	7-19-02	5.80	9-16-99	17.7d
Hackensack River at NJ Route 3, near Lynhurst, NJ (01378626)	Lat 40°48'17", long 74°03'55", Bergen County, Hydrologic Unit 02030103, on downstream side of concrete left channel pier on the westbound State Route 3 bridge, 0.5 mi east of East Rutherford, and 0.6 mi east of Lynhurst.	1997-2002	6-15-02	5.54	10-19-96	6.90a
Passaic River at Garfield, NJ (01390000)	Lat 40°51'53", long 74°06'37", Bergen County, Hydrologic Unit 02030103, on left downstream wingwall of bridge on Passaic Street at Garfield, 0.3 mi west of intersection of Midland Avenue and Passaic Street.	1997-2002	6-15-02	<6.45f	9-16-99	14.7
Elizabeth River at Linden, NJ (01393510)	Lat 40°38'50", long 74°12'19", Union County, Hydrologic Unit 02030104, on upstream right concrete wingwall of bridge on Atlantic Avenue in Linden, just east of Mattano Park, and 0.8 mi east of Bayway Circle.	1997-2002	6-15-02	4.74	10-19-96	6.98
Rahway River at U.S. Route 1, at Rahway, NJ (01396035)	Lat 40°35'56", long 74°16'09", Union County, Hydrologic Unit 02030104, on downstream right abutment of bridge on U.S. Route 1 (at Lawrence Street prior to 1999) in Rahway, 930 ft downstream of South Branch Rahway River, and 1.6 mi south of Linden.	1997-2002	6-15-02	5.53	10-19-96	8.57
Raritan River at State Route 18, at New Brunswick, NJ (01404171)	Lat 40°30'31", long 74°27'26", Middlesex County, Hydrologic Unit 02030104, on left bank, 100 ft downstream from bridge on State Route 18, on the downstream end of small tributary culvert headwall in Johnson Park, next to unnamed road, and 0.8 mi northwest of New Brunswick.	1997-2002	6-15-02	6.18	9-16-99	17.2
Raritan River at Perth Amboy, NJ (01406700)	Lat 40°30'31", long 74°17'30", Middlesex County, Hydrologic Unit 02030105, on upstream left bridge pier of Victory Bridge on State Route 35 in Perth Amboy, 0.5 mi downstream from Garden State Parkway bridge, and 1.5 mi upstream from mouth.	1938, 1944, 1950, 1953, 1955, 1960, 1967-70†, 1980-2002	6-15-02	5.63	12-11-92	10.4
Luppapatong Creek at Keyport, NJ (01407030)	Lat 40°26'08", long 74°12'27", Monmouth County, Hydrologic Unit 02030104, on left bank upstream side of bridge on West Front Street (Amboy Avenue) in Keyport, 0.1 mi upstream from mouth, and 2.0 mi northwest of Matawan.	1944, 1950, 1960, 1980-2002	6-14-02	6.01	9-12-60	10.3
Navesink River at Red Bank, NJ (01407535)	Lat 40°21'14", long 74°04'00", Monmouth County, Hydrologic Unit 02030104, on wooden piling upstream side of old boat ramp at right bank, in Red Bank, 0.15 mi north of East Front Street, on the east side of Riverview Hospital.	1997-2002	6-15-02	4.35	10-19-96	5.77
Branchport Creek at Oceanport, NJ (01407590)	Lat 40°19'12", long 74°00'12", Monmouth County, Hydrologic Unit 02030104, on wooden piling at right bank bulkhead, just upstream from bridge on Monmouth Boulevard in Oceanport, and 1.2 mi north of Long Branch.	1997-2002	6-15-02	3.64bg	2-24-98	5.11b

ELEVATIONS AT TIDAL CREST-STAGE STATIONS

Maximum elevation at tidal crest-stage partial-record stations--Continued

Station name and number	Location	Period of record	Water year 2002 maximum		Period of record maximum	
			Date	Elevation (ft)	Date	Elevation (ft)
Metedeconk River at Laurelton, NJ (01408155)	Lat 40°03'58", long 74°08'01", Ocean County, Hydrologic Unit 02040301, on downstream right wingwall of the bridge on State Route 70, just downstream of Forge Pond, at Laurelton.	1997-2002	10-01-01	3.33	2-24-98	4.08
Toms River at Toms River, NJ (01408700)	Lat 39°57'02", long 74°11'58", Ocean County, Hydrologic Unit 02040301, on fourth piling at the left bank bulkhead, downstream from bridge on South Main Street in Toms River, upstream from bridge on State Route 166, and 0.8 mi northwest of Beechwood.	1962, 1997-2002	10-01-01	3.35	3-06-62	4.1
Manahawkin Bay near Manahawkin, NJ (01409145)	Lat 39°40'01", long 74°12'54" (revised), Ocean County, Hydrologic Unit 02040301, at west end of bridge on State Route 72 over Manahawkin Bay, 2.5 mi northwest of Ship Bottom, and 3.1 mi southeast of Manahawkin.	1965-2002	6-15-02	3.31g	12-11-92	6.02
Little Egg Harbor at Beach Haven, NJ (01409285)	Lat 39°33'10", long 74°15'07", Ocean County, Hydrologic Unit 02040301, in Beach Haven at U.S. Coast Guard station, 6.0 mi east of Tuckerton and 7.4 mi southwest of Ship Bottom.	1979-2002	4-28-02	3.94g	12-11-92	6.93
Batsto River at Pleasant Mills, NJ (01409510)	Lat 39°37'55", long 74°38'40", Ocean County, Hydrologic Unit 02040301, on right bank, 1.0 mi southeast of Pleasant Mills, and 0.5 mi upstream from mouth.	1958-2002†	10-01-01	4.32	3-07-62	7.2
Mullica River near Port Republic, NJ (01410100)	Lat 39°33'12", long 74°27'46", Atlantic County, Hydrologic Unit 02040301, on right bank on bulkhead piling at south end of U.S. Route 9 and Garden State Parkway bridge over Mullica River, 2.8 mi northeast of Port Republic, and 2.8 mi south of New Gretna.	1962, 1965-2002	10-01-01	4.31	3-06-62	7.9
Absecon Creek at Absecon, NJ (01410500)	Lat 39°25'45", long 74°31'16", Atlantic County, Hydrologic Unit 02040302, on right abutment of bridge on Mill Road, 50 ft downstream of former gaging station, 1.0 mi west of Absecon, and 3.4 mi upstream from mouth.	1923-29†, 1933-38†, 1946-84†, 1985-2002	10-01-01	4.71	3-29-84	7.77
Beach Thorofare at Atlantic City, NJ (01410570)	Lat 39°21'56", long 74°26'44", Atlantic County, Hydrologic Unit 02040302, on east abutment south side of AMTRAK railroad swivel bridge in Atlantic City, 0.5 mi northeast of Bader Field airport, and 2.7 mi northeast of Ventnor City.	1944, 1950, 1960, 1962, 1978†, 1969-2002	10-01-01	4.98	3-06-62	8.3
Great Egg Harbor River at U.S. 40, at Mays Landing, NJ (01411175)	Lat 39°26'55", long 74°43'38", Atlantic County, Hydrologic Unit 02040302, at Mays Landing river access parking lot on the south side of River Drive and intersection of Farragut Avenue, in Mays Landing, 0.1 mi downstream of bridge on U.S. Route 40.	1997-2002	10-01-01	4.78	2-05-98	6.21
Tuckahoe River at Head of River, NJ (01411300)	Lat 39°18'25", long 74°49'15", Cape May County, Hydrologic Unit 02040302, downstream right abutment of highway bridge on State Route 49, 0.2 mi upstream from McNeals Branch, 0.4 mi southeast of Head of River, and 3.7 mi west of Tuckahoe.	1979-2002†	10-01-01	4.18	12-11-92	7.01
Great Egg Harbor Bay at Beesleys Point, NJ (01411315)	Lat 39°17'16", long 74°37'41", Cape May County, Hydrologic Unit 02040302, on upstream side of earth filled pier at Tuckahoe Inn, 250 ft east of U.S. Route 9 toll bridge over Great Egg Harbor Bay at Beesleys Point, 2.5 mi southwest of Somers Point.	1963-78†, 1979-81, 1997-2002	10-01-01	5.07	2-05-98r	7.12r
Great Egg Harbor Bay at Ocean City, NJ (01411320)	Lat 39°17'03", long 74°34'41", Cape May County, Hydrologic Unit 02040302, on bulkhead at west end of 7th Street (prior to October 1974, gage was located at 5th Street), in Ocean City, and 2.5 mi southeast of Somers Point.	1965-2002	10-01-01	5.14	12-11-92	7.89

Maximum elevation at tidal crest-stage partial-record stations--Continued

Station name and number	Location	Period of record	Water year 2002 maximum		Period of record maximum	
			Date	Elevation (ft)	Date	Elevation (ft)
Lakes Bay at Pleasantville, NJ (01411325)	Lat 39°22'54", long 74°31'08", Atlantic County, Hydrologic Unit 02040302, on west shore of Lakes Bay, at east end of East Bayview Avenue, on pier on south side of road, in Pleasantville and 5.2 mi west of Atlantic City.	1997-2002	1-31-02	3.43b	2-05-98	5.97
Strathmere Bay at Strathmere, NJ (01411335)	Lat 39°12'04", long 74°39'19", Cape May County, Hydrologic Unit 02040302, on right bank upstream side of Corsons Inlet Bridge on County Route 636, in Strathmere, 3.9 mi north of Sea Isle City, and 5.5 mi south of Ocean City.	1997-2002	10-01-01	4.31b	2-05-98r	6.47br
Grassy Sound Channel at Nummy Island, near North Wildwood, NJ (01411370)	Lat 39°01'43", long 74°48'05", Cape May County, Hydrologic Unit 02040302, on pier at Dad's Place Marina at the south end of bridge from Nummy Island, 1.0 mi west of Hereford Inlet, and 1.1 mi northwest of North Wildwood.	1993-96†, 1997-2002	10-01-01	5.15	2-05-98	8.19
Maurice River at Millville, NJ (01411900)	Lat 39°23'43", long 75°02'27", Cumberland County, Hydrologic Unit 02040206, at bridge on State Route 49 on downstream concrete wall at left bank bridge abutment in Millville, 300 ft west of intersection with High Street, and 0.4 mi south of Broad Street.	1997-2002	10-14-01	3.79b	8-22-97	4.53b
Cohansey River at Bridgeton, NJ (01413015)	Lat 39°25'45", long 75°14'13", Cumberland County, Hydrologic Unit 02040206, at bridge on Commerce Street on upstream concrete wall at right bank bridge abutment, approx. 700 ft north of bridge on Broad Street (State Route 49) in Bridgeton.	1997-2002	10-14-01	5.56	2-05-98r	6.38r
Delaware River at Marine Terminal, at Trenton, NJ (01464040)	Lat 40°11'21", long 74°45'22", Mercer County, Hydrologic Unit 02040201, on downstream left bank concrete wall near Trenton Marine Terminal on Lambertson Road, approx. 0.2 mi south of the intersection with State Route 29.	1921-46†, 1951-55†, 1957-92†, 1997-2002	10-15-01	6.35	8-20-55	16.8b
Delaware River near Gibbstown, NJ (01476550)	Lat 39°49'52", long 75°19'58", Gloucester County, Hydrologic Unit 02040202, on left bank on floodgate at mouth of Repaupo Creek 2.2 mi northeast of Bridgeport, 5.5 mi north of Swedesboro, and at river mile 84.00, prior to October 1980 located at Reynolds Aluminum Company pier in Chester, PA at river mile 82.30.	1972-77†, 1979-85, 1997-2002	10-15-01	5.92	2-26-79	7.53
Salem River at Salem NJ, (01482650)	Lat 39°34'40", long 75°28'37", Salem County, Hydrologic Unit 02040206, on downstream left bank side of bridge on State Route 49 at Salem.	1997-2002	12-13-97 2-05-98 1-03-99 11-03-99 3-08-01 10-15-01	3.90br 4.42br 3.96br 3.47br 3.38br 3.44b	2-05-98	4.42br
Alloway Creek at Hancocks Bridge, NJ (01483050)	Lat 39°30'31", long 75°27'39", Salem County, Hydrologic Unit 02040206, on left bank at downstream side of bridge on Locust Island Road (County Route 658) in Hancocks Bridge, 3.7 mi southwest from Quinton, and 4.0 mi south of Salem.	1980-85, 1993, 1997-2002	10-15-01	5.04	12-11-93	7.57

† Operated as a continuous-record gaging station.

a Not previously published.

b Elevation is to North American Datum of 1988, not National Geodetic Vertical Datum of 1929.

d Peak based on high-water marks at the New Milford gage house, not the actual crest-stage gage.

f Peak gage-height for the period was less than minimum recordable gage height.

g May have been exceeded by high tide on Oct. 1, 2001.

r Revised.

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CONVERSION FACTORS AND DATUMS

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

Horizontal coordinate information is referenced to the North American Datum of 1927 (NAD27), unless otherwise noted.

Vertical coordinate information is referenced to the National Geodetic Vertical Datum of 1929 (NGVD of 1929), unless otherwise noted.