

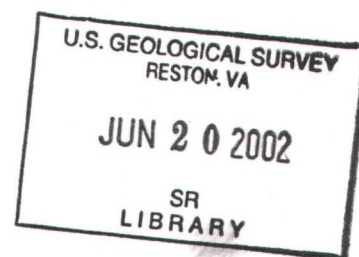
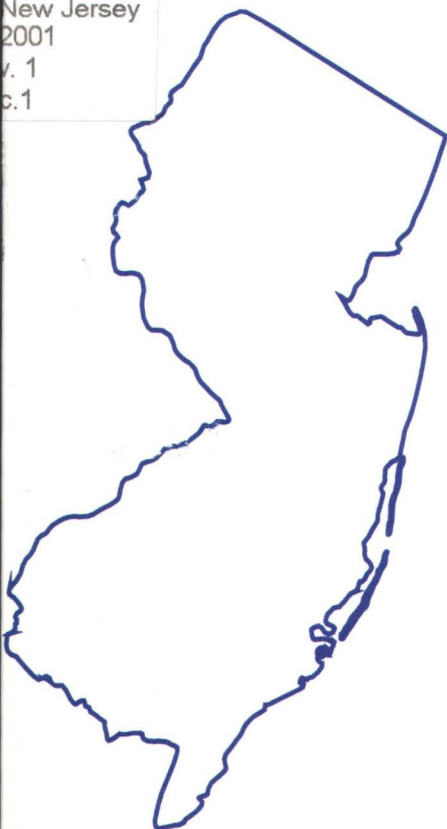
# Water Resources Data New Jersey Water Year 2001

## Volume 1. Surface-Water Data

Water-Data Report NJ-01-1

REFERENCE

(200)  
Ga3  
New Jersey  
2001  
v. 1  
c.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 2001

2000

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	7				1	2	3	4						1	2
8	9	10	11	12	13	14	5	6	7	8	9	10	11	3	4	5	6	7	8	9
15	16	17	18	19	20	21	12	13	14	15	16	17	18	10	11	12	13	14	15	16
22	23	24	25	26	27	28	19	20	21	22	23	24	25	17	18	19	20	21	22	23
29	30	31					26	27	28	29	30			24	25	26	27	28	29	30
														31						

2001

JANUARY							FEBRUARY							MARCH						
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	2	3
7	8	9	10	11	12	13	4	5	6	7	8	9	10	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28				25	26	27	28	29	30	31

APRIL							MAY							JUNE						
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	7			1	2	3	4	5						1	2
8	9	10	11	12	13	14	6	7	8	9	10	11	12	3	4	5	6	7	8	9
15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16
22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23
29	30						27	28	29	30	31			24	25	26	27	28	29	30

JULY							AUGUST							SEPTEMBER						
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	7				1	2	3	4							1
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8
15	16	17	18	19	20	21	12	13	14	15	16	17	18	9	10	11	12	13	14	15
22	23	24	25	26	27	28	19	20	21	22	23	24	25	16	17	18	19	20	21	22
29	30	31					26	27	28	29	30	31		23	24	25	26	27	28	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 2001." 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 56 stream-gaging stations, 7 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) or on floppy disk. When ordering, refer to U.S. Geological Survey Water-Data Report NJ-01-1 (for Volume 1), NJ-01-2 (for Volume 2), or NJ-01-3 (for Volume 3). For further information on this report, or to change or remove your address from our mailing list, please contact me at the above address, telephone (609) 771-3980, or send e-mail to [wbauers@usgs.gov](mailto:wbauers@usgs.gov).

Sincerely,

William R. Bauersfeld, Chief  
Hydrologic Data Assessment Program



# Water Resources Data New Jersey Water Year 2001

## Volume 1. Surface-Water Data

By T.J. Reed, B.T. White, G.L. Centinaro, J.F. Dudek, V. Corcino, A.B. Spehar, and  
A.R. Protz

Water-Data Report NJ-01-1





**UNITED STATES DEPARTMENT OF THE INTERIOR**

**GALE A. NORTON, *Secretary***

**U.S. GEOLOGICAL SURVEY**

**Charles G. Groat, *Director***

For information on the water program in New Jersey write to

District Chief, Water Resources Division  
U.S. Geological Survey  
Mountain View Office Park  
810 Bear Tavern Road, Suite 206  
West Trenton, New Jersey 08628-1099

or access the USGS on the world wide web:

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

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

G.A. Brown	R.W. Edwards	H.L. Hoppe	T.D. Oden	K. Romanok
H.L. Burns	J. Gibbs	W.D. Jones	R.L. Owre	J.J. Scudder
G.M. Bosonetto	B. Gray	D.S. Kauffman	E.A. Pritchett	J.C. Shvanda
G.B. Carelton	K.L. Hibbs	G.L. Mattes	J.A. Rauth	G.C. Steckrodt
M.J. Deluca	R.E. Hickman	J.E. Marlow	P.B. Reilly	A.M. Thomas
H.A. Doyle	G.K. Holzer	J.P. Nawyn	R.G. Reiser	A.F. Watson
				B.L. Weidner

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; Eric Evenson, 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 May 2002	3. REPORT TYPE AND DATES COVERED Annual--October 1, 2000 to September 30, 2001	
4. TITLE AND SUBTITLE Water Resources Data - New Jersey, Water Year 2001, Volume 1 Surface-Water Data			5. FUNDING NUMBERS	
6. AUTHOR(S) T.J. Reed, B.T. White, G.L. Centinaro, J.F. Dudek, V. Corcino, A.B. Spehar, and A.R. Protz				
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-01-1	
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-01-1	
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	
13. ABSTRACT (Maximum 200 words) Water-resources data for the 2001 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 90 gaging stations; tide summaries at 17 gaging stations; and stage and contents at 38 lakes and reservoirs. Also included are stage and discharge for 106 crest-stage partial-record stations and stage-only at 32 tidal crest-stage gages. Locations of these sites are shown in figures 8 and 9. Additional water data were collected at various sites that are not part of the systematic data-collection program. Discharge measurements were made at 105 low-flow partial-record stations and 95 miscellaneous sites.				
14. SUBJECT TERMS *New Jersey, *hydrologic data, *surface water, *streamflow, flow rate, gaging stations, lakes, reservoirs, water temperatures.			15. NUMBER OF PAGES 324	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT Unclassified	



# CONTENTS

	Page
Preface .....	iii
List of surface-water stations, in downstream order, for which records are published .....	vii
List of discontinued surface-water discharge stations .....	x
List of discontinued crest-stage partial-record stations .....	xiii
List of discontinued low-flow stations .....	xv
List of discontinued tidal crest-stage and tidal gaging stations .....	xxiv
Introduction .....	1
Cooperation .....	1
Summary of hydrologic conditions .....	2
Precipitation and reservoir contents .....	2
Streamflow .....	5
Special networks and programs .....	10
Explanation of records .....	10
Station identification numbers .....	10
Downstream order system .....	10
Latitude-longitude system .....	11
Records of stage and water discharge .....	11
Data collection and computation .....	11
Data presentation .....	12
Station manuscript .....	12
Data table of daily mean values .....	13
Statistics of monthly mean data .....	13
Summary statistics .....	14
Identifying estimated daily discharge .....	15
Accuracy of the records .....	15
Other records available .....	15
Water temperature .....	15
Current water-resources projects in New Jersey .....	15
Water-related reports for New Jersey completed in recent years .....	16
Water-related articles for New Jersey completed in recent years .....	19
Water-related factsheets for New Jersey completed in recent years .....	20
Access to USGS water data .....	20
Definition of terms .....	21
Selected references .....	24
Publications on Techniques of Water-Resources Investigations .....	25
Station records, surface water .....	36
Discharge at partial-record stations and miscellaneous sites .....	251
Crest-stage partial-record stations .....	251
Low-flow partial-record stations .....	267
Miscellaneous sites .....	277
Tidal crest-stage stations .....	286
Index .....	289

## ILLUSTRATIONS

Figure 1. Monthly mean precipitation for the current drought in New Jersey and mean monthly precipitation for period 1895-2000 .....	3
2. Monthly precipitation at three National Weather Service locations .....	4
3. Water year 2001 monthly mean air temperatures and mean monthly air temperatures for New Jersey .....	5
4. Combined usable storage in 13 major water-supply reservoirs .....	6
5. Monthly mean discharge at index gaging stations .....	7
6. Annual mean discharge at index gaging stations .....	8
7. System for numbering wells and miscellaneous sites .....	11
8. Map showing location of gaging stations and surface-water quality stations .....	30
9. Map showing location of low-flow and crest-stage partial-record stations .....	32
10. Map showing counties in New Jersey .....	34
11. Map showing hydrologic cataloging units and codes in New Jersey .....	35

## TABLES

Table 1. Annual mean discharges for water year 2001 and mean annual discharge for the period of record at continuous gaging stations with 40 years or more of records .....	9
---	---

## 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]

	Station number	Page
<b><u>HACKENSACK RIVER BASIN</u></b>		
Hackensack River at West Nyack, NY (d).....	01376800	36
Hackensack River at Rivervale (d).....	01377000	37
Pascack Brook at Westwood (d).....	01377500	39
Hackensack River at New Milford (d).....	01378500	41
Reservoirs in Hackensack River basin (e).....		43
Diversions in Hackensack River basin.....		44
<b><u>PASSAIC RIVER BASIN</u></b>		
Passaic River near Millington (d).....	01379000	45
Passaic River near Chatham (d).....	01379500	47
Rockaway River:		
Green Pond Brook at Picatinny Arsenal (d).....	01379773	49
Green Pond Brook below Picatinny Lake, at Picatinny Arsenal (d).....	01379780	51
Green Pond Brook at Wharton (d).....	01379790	53
Rockaway River above reservoir, at Boonton (d).....	01380500	55
Rockaway River below reservoir, at Boonton (d).....	01381000	57
Whippany River near Morristown (d).....	01381400	59
Whippany River at Morristown (d).....	01381500	61
Whippany River near Pine Brook (d).....	01381800	63
Passaic River at Pine Brook (d).....	01381900	65
Pompton River:		
Pequannock River (head of Pompton River) at Macopin Intake Dam (d).....	01382500	67
Wanaque River at Awosting (d).....	01383500	69
Ringwood Creek near Wanaque (d).....	01384500	71
Wanaque River at Wanaque (d).....	01387000	73
Ramapo River at Suffern, NY (d).....	01387420	75
Ramapo River near Mahwah (d).....	01387500	76
Ramapo River at Pompton Lakes (d).....	01388000	78
Pompton River at Pompton Plains (d).....	01388500	80
Passaic River at Little Falls (d).....	01389500	82
Saddle River at Ridgewood (d).....	01390500	84
Saddle River at Lodi (d).....	01391500	86
Passaic River at Newark (e).....	01392590	88
Reservoirs in Passaic River basin (e).....		89
Diversions in Passaic River basin.....		92
<b><u>ELIZABETH RIVER BASIN</u></b>		
Elizabeth River at Ursino Lake, at Elizabeth (d).....	01393450	94
<b><u>RAHWAY RIVER BASIN</u></b>		
Rahway River near Springfield (d).....	01394500	96
Rahway River at Rahway (d).....	01395000	98
<b><u>RARITAN RIVER BASIN</u></b>		
South Branch Raritan River at Four Bridges.....	01396190	100
South Branch Raritan River near High Bridge (d).....	01396500	102
Spruce Run at Glen Gardner (d).....	01396580	104
Mulhockaway Creek at Van Syckel (d).....	01396660	106
Spruce Run at Clinton (d).....	01396800	108
South Branch Raritan River at Stanton (d).....	01397000	110
Neshanic River at Reaville (d).....	01398000	112
North Branch Raritan River near Far Hills (d).....	01398500	114
Lamington (Black) River near Pottersville (d).....	01399500	116



# **SURFACE WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME**

	Station number	Page
<b><u>RARITAN RIVER BASIN--Continued</u></b>		
Rockaway Creek:		
South Branch Rockaway Creek at Whitehouse Station (d) .....	01399670	118
North Branch Raritan River near Raritan (d) .....	01400000	120
Raritan River at Manville (d) .....	01400500	122
Millstone River:		
Stony Brook at Princeton (d) .....	01401000	124
Beden Brook:		
Pike Run at Belle Mead (d) .....	01401650	126
Millstone River at Blackwells Mills (d) .....	01402000	128
Raritan River below Calco Dam, at Bound Brook (d) .....	01403060	130
Middle Brook:		
West Branch Middle Brook near Martinsville (d) .....	01403150	132
Bound Brook:		
Green Brook at Seeley Mills (d) .....	01403400	134
Stony Brook:		
Stony Brook at Watchung (d) .....	01403540	136
Lawrence Brook at Westons Mills (d) .....	01405030	138
South River:		
Matchaponix Brook (head of South River):		
Manalapan Brook at Spotswood (d) .....	01405400	140
Deep Run at Old Bridge (d) .....	01406050	142
Raritan River at South Amboy (e) .....	01406710	144
Reservoirs in Raritan River basin (e) .....		145
Diversions in Raritan River basin .....		146
Waackaack Creek Basin:		
Waackaack Creek at Keansburg (e) .....	01407080	147
<b><u>SHREWSBURY RIVER BASIN</u></b>		
Navesink River:		
Swimming River (head of Navesink River) near Red Bank (d) .....	01407500	148
Shrewsbury River at Sea Bright (e) .....	01407600	150
<b><u>SHARK RIVER BASIN</u></b>		
Shark River near Neptune City (d) .....	01407705	151
Jumping Brook near Neptune City (d) .....	01407760	153
<b><u>MANASQUAN RIVER BASIN</u></b>		
Manasquan River at Squankum (d) .....	01408000	155
Manasquan River near Allenwood (d) .....	01408029	157
<b><u>METEDECONK RIVER BASIN</u></b>		
North Branch Metedeconk River near Lakewood (d) .....	01408120	159
Atlantic Coastal Basins		
Reservoirs in Atlantic Coastal Basins .....		161
Diversions in Atlantic Coastal Basins .....		162
<b><u>BARNEGAT BAY</u></b>		
Barnegat Bay at Mantoloking (e) .....	01408168	163
Barnegat Bay at Bay Shore (e) .....	01408200	164
<b><u>TOMS RIVER BASIN</u></b>		
Toms River near Toms River (d) .....	01408500	165
<b><u>BARNEGAT BAY</u></b>		
Barnegat Bay at Seaside Heights (e) .....	01408750	167
Barnegat Bay at Waretown (e) .....	01409110	168
Barnegat Bay at Loveladies (e) .....	01409135	169
<b><u>MULLICA RIVER BASIN</u></b>		
Mullica River near Batsto (d) .....	01409400	170
Batsto River at Batsto (d) .....	01409500	172
Batsto River at Pleasant Mills (e) .....	01409510	174
Wading River:		
Oswego River at Harrisville (d) .....	01410000	175
East Branch Bass River near New Gretna (d) .....	01410150	177

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

	Station number	Page
<u>GREAT EGG HARBOR RIVER BASIN</u>		
Great Egg Harbor River at Folsom (d) .....	01411000	179
<u>TUCKAHOE RIVER BASIN</u>		
Tuckahoe River at Head of River (d) .....	01411300	181
<u>BEACH THOROFARE BASIN</u>		
Beach Thorofare at Margate (e) .....	01411330	183
<u>LUDLAM THOROFARE BASIN</u>		
Ludlam Thorofare at Sea Isle City (e) .....	01411350	184
<u>GREAT CHANNEL BASIN</u>		
Great Channel at Stone Harbor (e) .....	01411360	185
<u>GRASSY SOUND CHANNEL BASIN</u>		
Grassy Sound Channel at Wildwood (e) .....	01411382	186
<u>DENNIS CREEK BASIN</u>		
Sluice Creek near South Dennis (e) .....	01411435	187
<u>MAURICE RIVER BASIN</u>		
Maurice River:		
Little Ease Run near Clayton (d) .....	01411456	188
Maurice River at Norma (d) .....	01411500	190
Maurice River at Bivalve (e) .....	01412150	192
<u>DELAWARE RIVER BASIN</u>		
Delaware River at Port Jervis, NY (d) .....	01434000	193
Neversink River at Godeffroy, NY (d) .....	01437500	195
Delaware River at Montague (d) .....	01438500	197
Flat Brook near Flatbrookville (d) .....	01440000	199
Paulins Kill:		
East Branch Paulins Kill near Lafayette (d) .....	01443280	201
Paulins Kill at Blairstown (d) .....	01443500	203
Yards Creek near Blairstown (d) .....	01443900	205
Pequest River at Pequest (d) .....	01445500	207
Delaware River at Belvidere (d) .....	01446500	209
Lehigh River at Glendon, PA (d) .....	01454700	211
Musconetcong River near Bloomsbury (d) .....	01457000	213
Delaware and Raritan Canal at Port Mercer (d) .....	01460440	215
Delaware River at Trenton (d) .....	01463500	217
Assunpink Creek near Clarksville (d) .....	01463620	219
Assunpink Creek at Trenton (d) .....	01464000	221
Crosswicks Creek at Extonville (d) .....	01464500	223
Delaware River at Burlington (e) .....	01464598	225
South Branch Rancocas Creek at Vincentown (d) .....	01465850	226
North Branch Rancocas Creek:		
Greenwood Branch:		
McDonalds Branch in Lebanon State Forest (d) .....	01466500	228
Greenwood Branch at New Lisbon (d) .....	01466900	230
North Branch Rancocas Creek at Pemberton (d) .....	01467000	232
Pennsauken Creek:		
South Branch Pennsauken Creek at Cherry Hill (d) .....	01467081	234
Cooper River at Haddonfield (d) .....	01467150	236
Schuylkill River at Philadelphia, PA (d) .....	01474500	238
Raccoon Creek near Swedesboro (d) .....	01477120	240
Reservoirs in Delaware River basin (e) .....		242
Diversions and withdrawals in Delaware River basin .....		248
Discharge at partial-record stations and miscellaneous sites .....		251
Crest-stage partial-record stations .....		251
Low-flow partial-record stations .....		267
Miscellaneous sites .....		277
Elevation at tidal crest-stage partial-record stations .....		286

# WATER RESOURCES DATA - NEW JERSEY, 2001

## 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 <sup>2</sup> )	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



**DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued**

Station name	Station number	Drainage area (mi <sup>2</sup> )	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 Townsburry, NJ	01445430	92.5	1977-80
Beaver Brook near Belvidere, NJ	01446000	36.7	1923-61
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
New Sharon Run at Carsons Mills, NJ	01463587	6.63	1976-77

***WATER RESOURCES DATA - NEW JERSEY, 2001***  
**DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued**

Station name	Station number	Drainage area (mi <sup>2</sup> )	Period of record
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.

**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 <sup>2</sup> )	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 Cove, 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

## WATER RESOURCES DATA - NEW JERSEY, 2001

## DISCONTINUED CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name	Station number	Drainage area (mi <sup>2</sup> )	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 Townsburys, 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
Assiscunk 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, 2001

xv

## 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 <sup>2</sup> )	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
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
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
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



**WATER RESOURCES DATA - NEW JERSEY, 2001**  
**DISCONTINUED LOW-FLOW STATIONS--Continued**

Station name	Station number	Drainage area (mi <sup>2</sup> )	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
Kanouse Brook at Newfoundland, NJ	01382360	3.87	1963-67
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
Ramapo River near Darlington, NJ	01387670	131	1963-66,1982-83
Bear Swamp Brook near Oakland, NJ	01387700	3.25	1963-67
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
Acid Brook at Pompton Lakes, NJ	01387950	1.79	1963-67
Haycock Brook at Pompton Lakes, NJ	01387980	4.18	1963-64,1973-77
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

**DISCONTINUED LOW-FLOW STATIONS--Continued**

Station name	Station number	Drainage area (mi <sup>2</sup> )	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
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
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
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
Peddie Brook at Hightstown, NJ	01400596	3.07	1965-72
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
Bear Brook near Hickory Corner, NJ	01400750	3.46	1960-65

**WATER RESOURCES DATA - NEW JERSEY, 2001**  
**DISCONTINUED LOW-FLOW STATIONS--Continued**

Station name	Station number	Drainage area (mi <sup>2</sup> )	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	1957-59,1965-73
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
Honey Branch near Rosedale, NJ	01400970	3.83	1957-59,1971-72
Stony Brook at Clarksville, NJ	01401100	46.5	1959-64
Duck Pond Run at Clarksville, NJ	01401200	3.74 (revised)	1954-55,1960-67
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
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
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
Royce Brook at Manville, NJ	01402700	11.7	1960-64
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
McGellairs 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, 2001**  
**DISCONTINUED LOW-FLOW STATIONS--Continued**

xix

Station name	Station number	Drainage area (mi <sup>2</sup> )	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
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 Adelphia, 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



**WATER RESOURCES DATA - NEW JERSEY, 2001**  
**DISCONTINUED LOW-FLOW STATIONS--Continued**

Station name	Station number	Drainage area (mi <sup>2</sup> )	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, 2001**  
**DISCONTINUED LOW-FLOW STATIONS--Continued**

xxi

Station name	Station number	Drainage area (mi <sup>2</sup> )	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
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

**WATER RESOURCES DATA - NEW JERSEY, 2001**  
**DISCONTINUED LOW-FLOW STATIONS--Continued**

Station name	Station number	Drainage area (mi <sup>2</sup> )	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	57.1	1932,1952-64
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
Harihokake Creek near Frenchtown, NJ	01458400	9.75	1944,1958-65
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
Moore Creek near Titusville, NJ	01462200	10.2	1958-64
Jacobs Creek at Somerset, NJ	01462800	13.3	1957-64
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
Crafts Creek at Hedding, NJ	01464540	10.6	1959-63
Assiscunk Creek at Columbus, NJ	01464580	8.28	1959-63
Assiscunk Creek near Burlington, NJ	01464590	37.4	1966-74
Southwest Branch Rancocas Creek at Medford, NJ	01465880	47.2	1961-66,1973

**WATER RESOURCES DATA - NEW JERSEY, 2001**  
**DISCONTINUED LOW-FLOW STATIONS--Continued**

xxiii

Station name	Station number	Drainage area (mi <sup>2</sup> )	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	1964-72
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
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	1964-67
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	1959-71
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
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

**WATER RESOURCES DATA - NEW JERSEY, 2001**  
**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	
Barnegat Bay at Barnegat Light, NJ	01409125	1965-80	
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
Little Egg Inlet at Old Coast Guard Station, near Tuckerton, NJ	01409335		July 1971-Sept 1975
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
Crook Horn Creek at Ocean City, NJ	01411318	1979-85	June 1974-Sept 1976
Whale Creek near Strathmere, NJ	01411340		Mar 1976-Feb 1977
Townsend Channel at Townsends Inlet, NJ	01411353	1978*	Oct 1976-Apr 1978
Ingram Thorofare at Avalon, NJ	01411355	1978*, 1979-81	Oct 1977-May 1978
Grassy Sound at West Wildwood, NJ	01411380	1965-81	Oct 1977-Apr 1978
Cape May Harbor at Cape May, NJ	01411390	1965-85	
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.



## **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 90 gaging stations; tide summaries at 17 gaging stations; and stage and contents at 38 lakes and reservoirs. Also included are stage and discharge for 106 crest-stage partial-record stations and stage-only at 32 tidal crest-stage gages. Locations of these sites are shown in figures 8 and 9. Additional water data were collected at various sites that are not part of the systematic data-collection program. These include discharge measurements made at 105 low-flow partial-record stations and 95 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-01-1." 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, Jr., Commissioner  
New Jersey Department of Transportation, James P. Fox,  
Commissioner  
New Jersey Water Supply Authority, Thomas G. Baxter,  
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, Anthony V. Scolpino, 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

Drier than normal conditions continue for water year 2001 from previous water years because of persistent below normal rainfalls. This trend of rainfall deficit began approximately July 1998, possibly as early as 1997. For 32 of 57 months from January 1997 to September 2001, monthly spatially weighted average-precipitation values throughout New Jersey were below the statewide long term monthly means (1895-2000) as shown in figure 1. Precipitation data can be accessed at <http://climate.rutgers.edu/stateclim/>. For 26 of those 39 months from July 1998 to September 2001, the monthly spatially weighted values were below the long-term monthly means. For water year 2001, the spatially weighted values for 10 of 12 months were below the means (March and June were above their respective means). For water year 2001, the statewide spatially weighted average-precipitation total was 39.12 inches, a 5.68 inch deficit when compared to the long-term annual-mean total (1895-2000). Since 1895, this is the 21st driest water year. The driest water year was 1965 with 32.16 inches of precipitation (David Robinson, New Jersey State Climatologist, Rutgers University, oral commun., 2001). Snowfall was heavy on December 30-31, with as much as 20 inches reported in northern New Jersey. Snow cover was recorded for most of January, mostly in northern New Jersey; several snowfalls added to the cover. Snow cover was maintained for most of February by two snowfalls; the first which occurred on February 5, left as

much as 18.5 inches in High Point State Park. On February 22-23, about 7 inches of snow fell but was quickly melted by warm temperatures at the end of the month. March temperatures were above normal and an early March snowfall quickly melted. During the last three weeks in March snow cover was present mainly in northern Sussex County. Snow cover was present near Montague for 91 consecutive days through March 20.

Water year 2001 was devoid of any outstanding hydrologic or weather related events. On May 27, a F2 (Fujita Scale) tornado was reported in Manalapan, and on May 29 a hailstorm was reported in northern New Jersey.

Three National Weather Service (NWS) precipitation stations in Newark, Trenton, and Atlantic City have been selected as index sites for precipitation. During water year 2001, precipitation totals were below normal at all three NWS index stations. The Newark station recorded 34.42 inches, which is 78.3 percent of the 30-year reference-period (1961-90) mean. The Atlantic City station recorded 31.87 inches, which is 76.9 percent of the 30-year mean. The Trenton station recorded 38.60 inches, which is 86.9 percent of the 30-year mean. Monthly precipitation at the three NWS stations, along with the 30-year mean is shown in figure 2. The Atlantic City station recorded a new monthly low of 0.06 inches for October. The previous record low for October was 0.15 inches in 1963.

The October monthly mean temperature determined from spatially weighted average of temperatures recorded throughout New Jersey was 0.3 degrees Celsius above the long-term mean monthly average (1895-2000). Monthly mean temperatures were below average for November through January. The December monthly mean temperature was almost 2.6 degrees Celsius below the December long-term mean monthly average. The February monthly mean was 2.1 degrees Celsius above the average. The March monthly mean was close to average, whereas for April, May, and June the monthly mean averages were about 1 degree Celsius above average. The July monthly mean average was 1.4 degrees Celsius below average. The August monthly mean average was 2.0 degrees Celsius above average, and September ended the water year with monthly mean temperatures 0.2 degrees above average (fig. 3). The long stretch of higher than normal temperatures during the summer increased evapotranspiration, which stressed water supplies.

Combined usable contents of 13 major water-supply reservoirs in New Jersey were 69.9 billion gallons at the end of September 2000, which is 132 percent of the 30-year mean (normal) contents for the end of September and 86.9 percent of capacity. Combined usable contents increased to a maximum of 78.3 billion gallons by the end of March 2001, which is 112 percent of normal contents for the end of March and 97.4 percent of capacity. Reservoir levels experienced a normal decline during the summer because of an increased demand for water supplies. By September 30, 2001, combined usable contents totalled 51.7 billion gallons, which is 97.9 percent of normal contents for the end of September and 64.3 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).

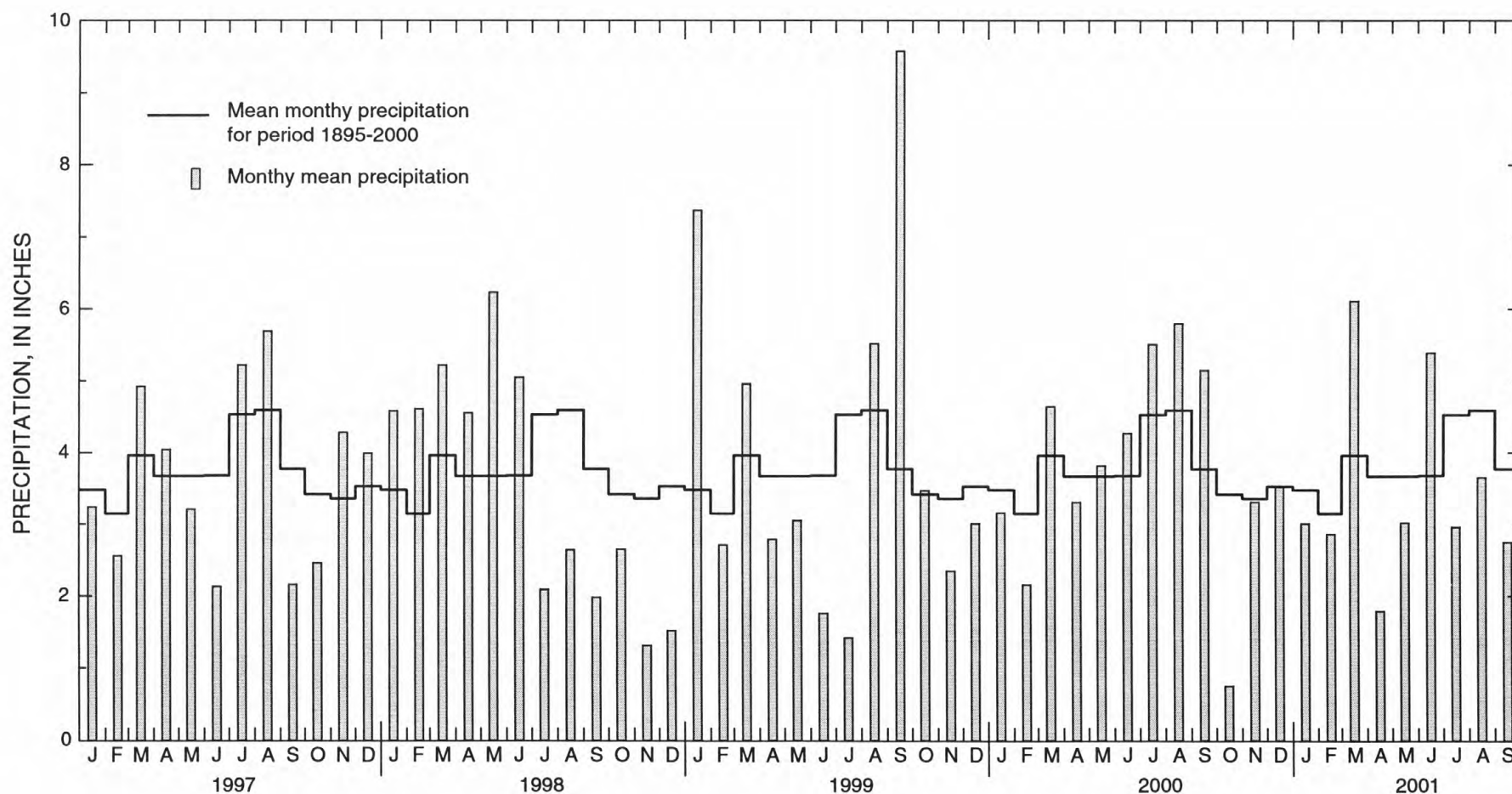


Figure 1. Monthly mean precipitation for the current drought in New Jersey and mean-monthly precipitation for period 1895-2000. (Mean-monthly and monthly mean precipitation are spatially weighted averages for several dozen stations throughout the State. Drought may have begun as early as 1997.)

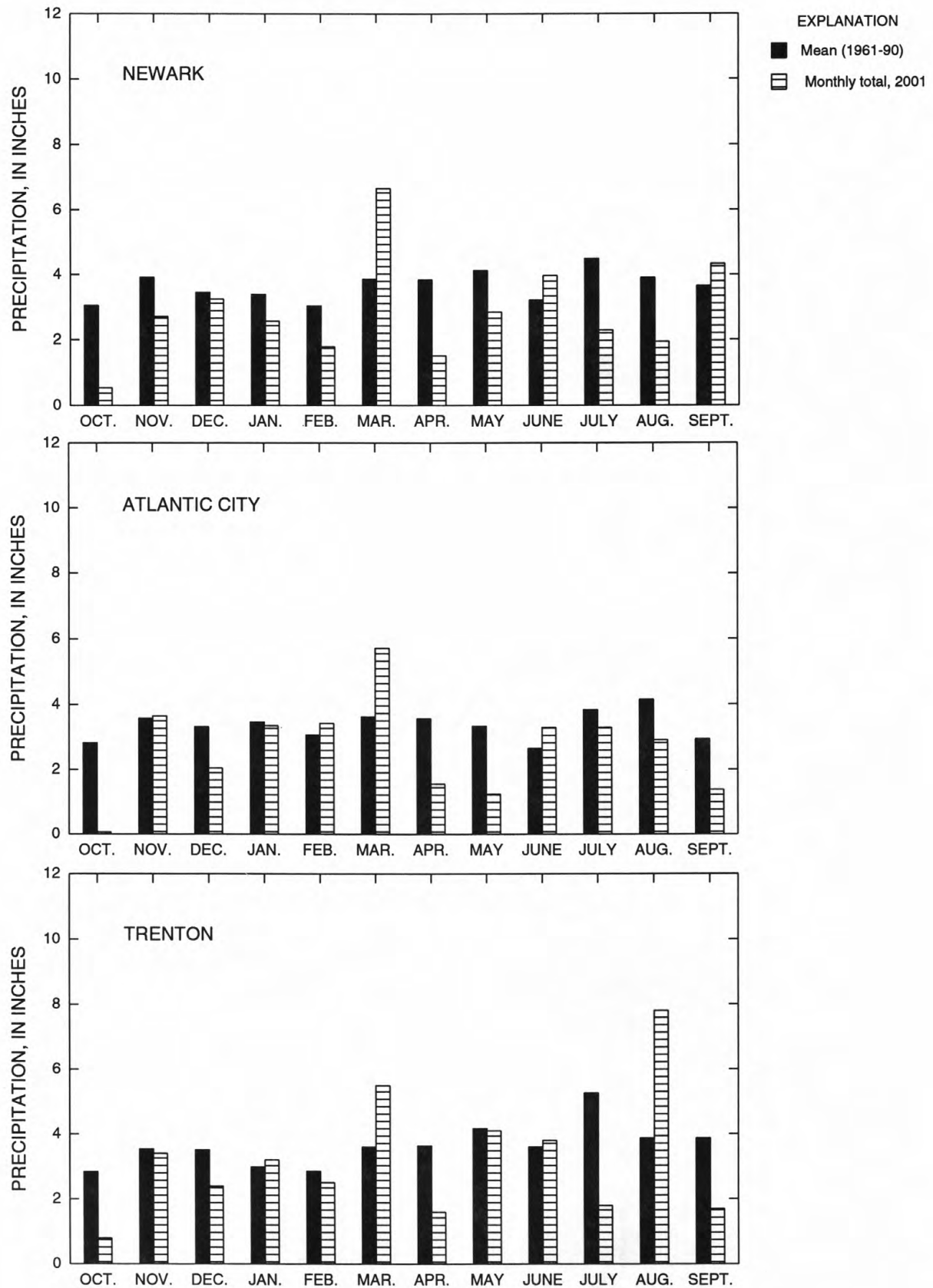


Figure 2. Monthly precipitation at three National Weather Service stations.

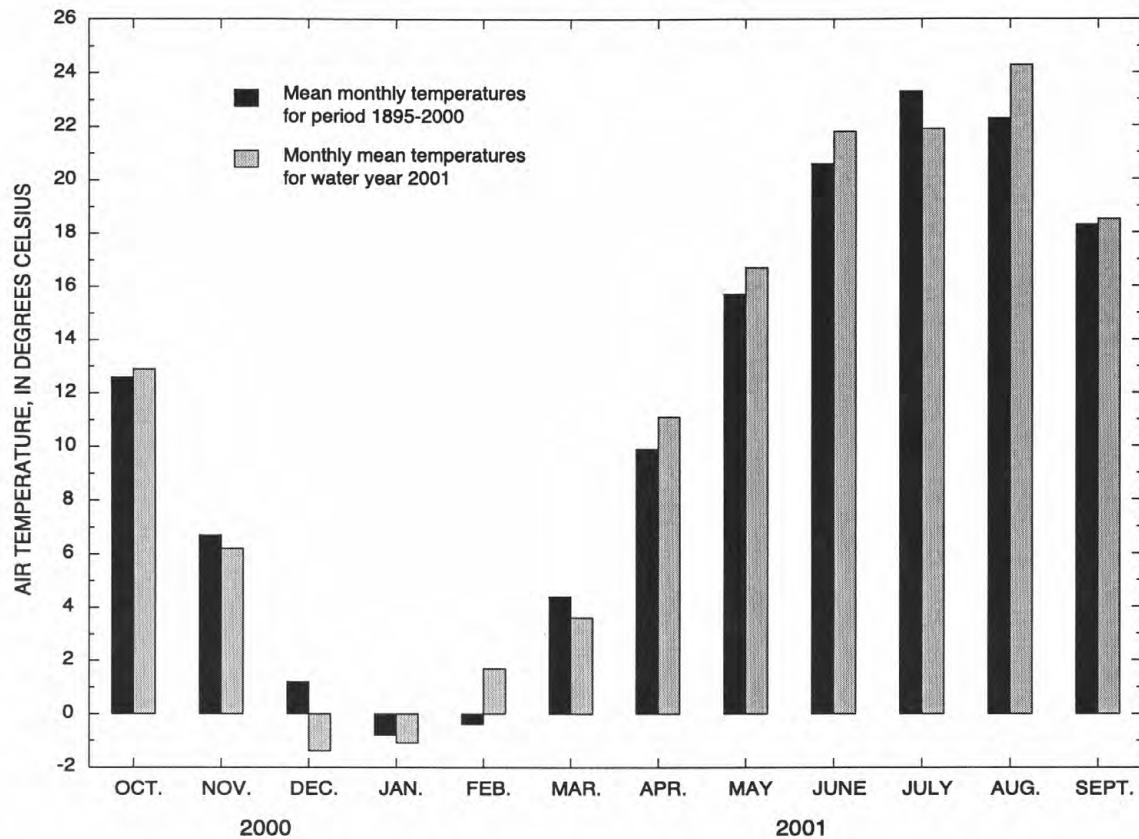


Figure 3. Water year 2001 monthly mean air temperatures and mean monthly air temperatures for New Jersey.

### Streamflow

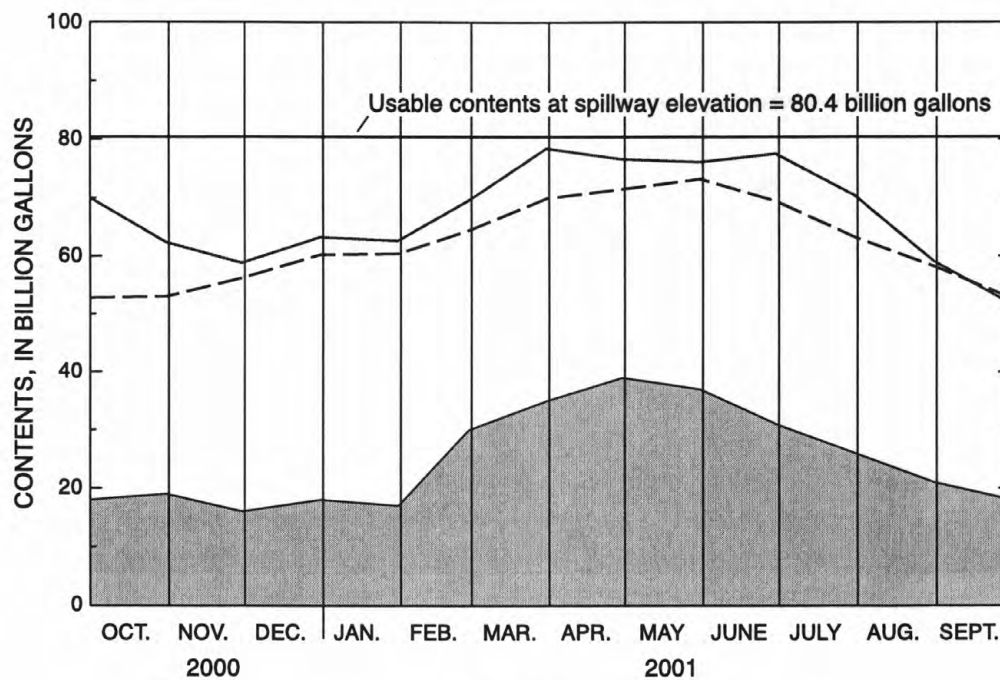
Three gaging stations, located in north, south, and central New Jersey, are considered index stations for statewide streamflow conditions. Streamflow at the index station in northern New Jersey (South Branch Raritan River near High Bridge) averaged 94.8 ft<sup>3</sup>/s for the water year, which is 77.1 percent of the 1919-2001 average. Streamflow at the index station in southern New Jersey (Great Egg Harbor River at Folsom) averaged 73.0 ft<sup>3</sup>/s, which is 85.5 percent of the 1926-2001 average. The observed annual mean discharge for the Delaware River at Trenton was 9,069 ft<sup>3</sup>/s, which is 77.8 percent of the 1913-2001 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 40 of the 46 gaging stations was below




normal for water year 2001. Three of the six gaging stations with above-normal flow recorded flow that was less than 10 percent above normal. 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.

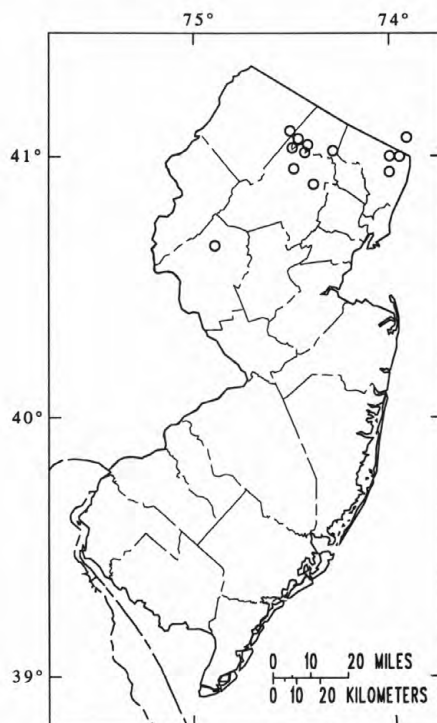
The first notable flooding of water year 2001 occurred on December 17, when a thunderstorm dropped more than 3 inches of rain in northern and southern New Jersey and more than 2 inches fell in central New Jersey, flooding some streets. Associated high winds and lightning brought down trees and power lines. Lightning struck close to Mayor Gerald Van Gorden, who said he could feel the heat from the lightning bolt, as he was surveying floodwaters during a local state of emergency near Branchville (New Jersey Herald, Newton, N.J., December 18, 2000). The most notable flooding was caused by rain from Tropical Storm Allison. As much as 5 inches fell on Father's Day, June 17. Several fatalities were linked to the approximately 10 inches of rain that fell in the neighboring Commonwealth of Pennsylvania. Several minor floods also occurred in August throughout New Jersey.





## EXPLANATION

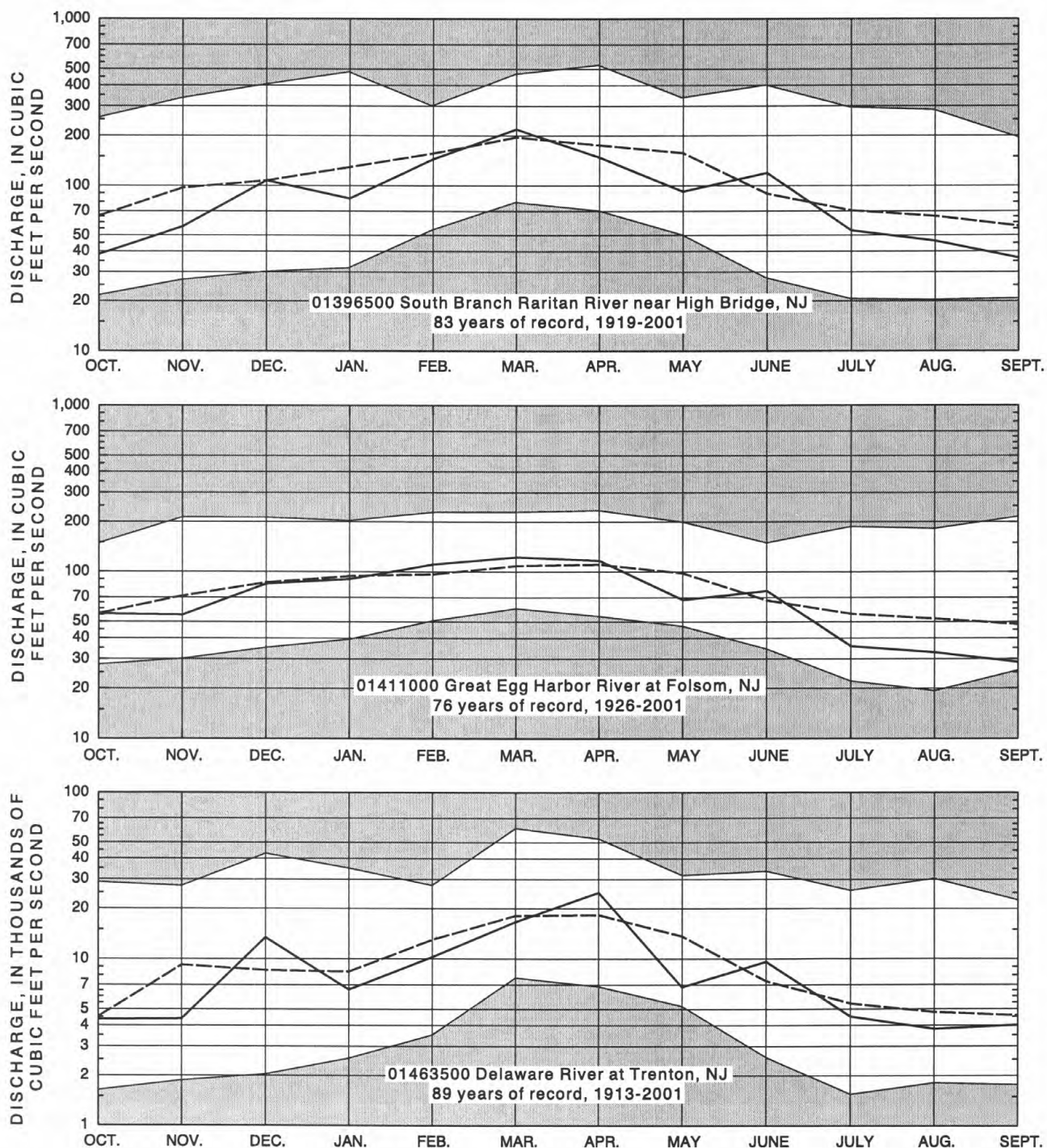
-  Shaded area indicates lowest monthly usable contents for reference period
-  Mean usable contents, 1961-90
-  Month-end usable contents, 2001 water year



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 2001 water year

BROKEN LINE--Indicates normal discharge (median of the monthly means) for the standard reference period, 1961-90

SOLID LINE--Indicates observed monthly mean discharge for the 2001 water year

Figure 5. Monthly mean discharge at index gaging stations.

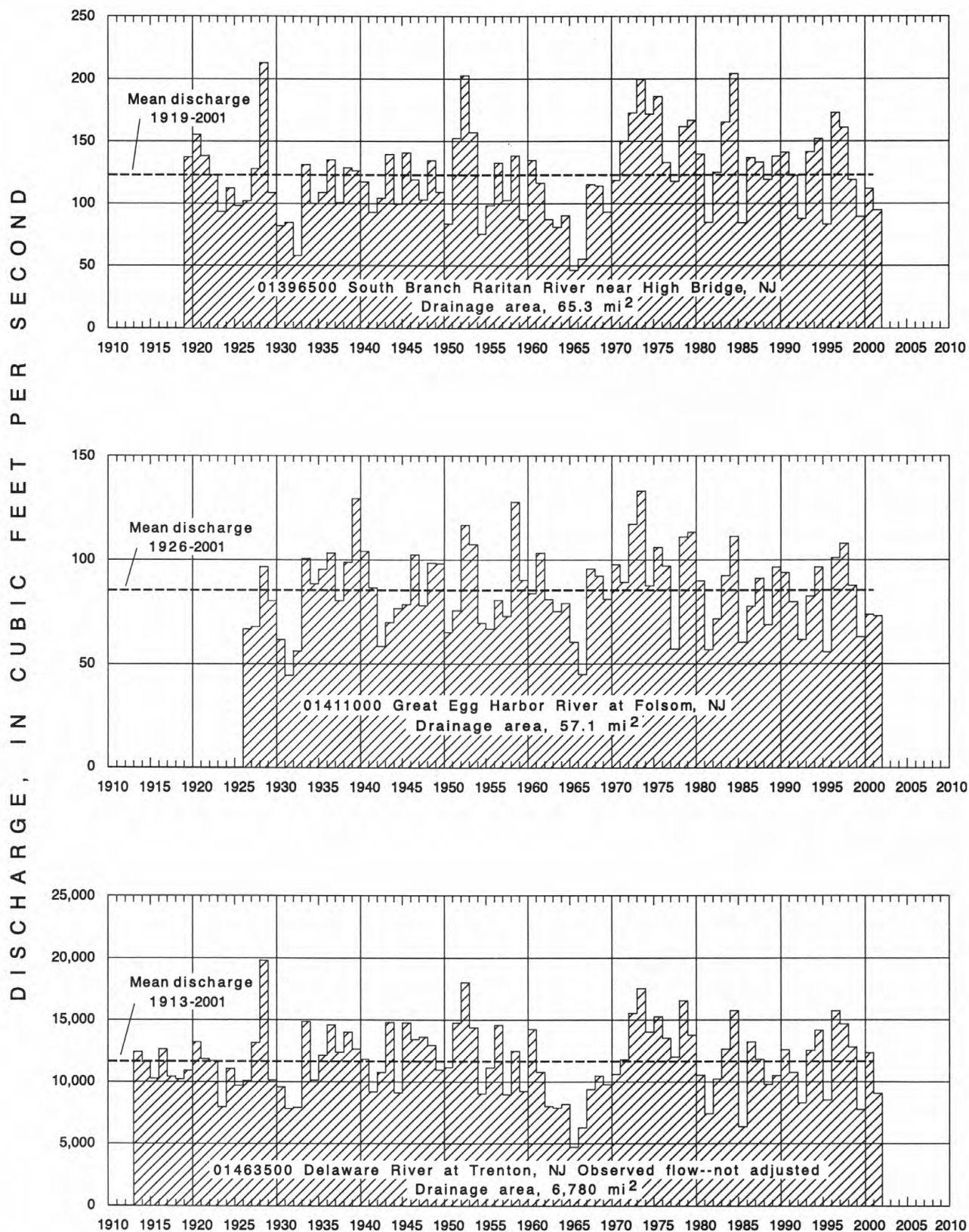


Figure 6. Annual mean discharge at index gaging stations.

**Table 1.** Annual mean discharges for water year 2001 and mean annual discharge for the period of record at continuous gaging stations with 40 years or more of records[ft<sup>3</sup>/s, cubic feet per second; mi<sup>2</sup>, square miles]

Station number	Station name	Drainage area (mi <sup>2</sup> )	Number of years of record	Annual mean discharge for 2001 water year (ft <sup>3</sup> /s)	Mean annual discharge for period of record (ft <sup>3</sup> /s)	Percent difference
01377000	Hackensack River at Rivervale, NJ	58.0	60	70.4	86.9	-19.0
01377500	Pascack Brook at Westwood, NJ	29.6	67	48.2	54.0	-10.7
01379000	Passaic River near Millington, NJ	55.4	80	65.7	91.1	-27.9
01379500	Passaic River near Chatham, NJ	100	73	146	172	-15.1
01380500	Rockaway River above reservoir, at Boonton, NJ	116	64	180	230	-21.7
01381500	Whippany River at Morristown, NJ	29.4	80	46.9	54.4	-13.8
01382500	Pequannock River at Macopin Intake Dam, NJ	63.7	78	36.5	46.8	-22.0
01383500	Wanaque River at Awosting, NJ	27.1	82	43.3	54.3	-20.3
01384500	Ringwood Creek near Wanaque, NJ	19.1	60	30.1	33.2	-9.3
01387500	Ramapo River near Mahwah, NJ	120	83	178	228	-21.9
01388000	Ramapo River at Pompton Lakes, NJ	160	80	249	287	-13.2
01388500	Pompton River at Pompton Plains, NJ	355	62	439	490	-10.4
01389500	Passaic River at Little Falls, NJ	762	103	822	1137	-27.7
01390500	Saddle River at Ridgewood, NJ	21.6	44	29.0	33.8	-14.2
01391500	Saddle River at Lodi, NJ	54.6	79	90.2	99.8	-9.6
01393450	Elizabeth River at Ursino Lake, at Elizabeth, NJ	16.9	80	27.5	25.9	6.2
01394500	Rahway River near Springfield, NJ	25.5	64	34.3	30.4	12.8
01395000	Rahway River at Rahway, NJ	40.9	80	51.7	49.1	5.3
01396500	South Branch Raritan River near High Bridge, NJ	65.3	83	94.8	123	-22.9
01396800	Spruce Run at Clinton, NJ	41.3	42	75.0	65.5	14.5
01397000	South Branch Raritan River at Stanton, NJ	147	85	230	248	-7.3
01398000	Neshanic River at Reaville, NJ	25.7	71	34.0	37.8	-10.1
01398500	North Branch Raritan River near Far Hills, NJ	26.2	78	34.3	48.1	-28.7
01399500	Lamington (Black) River near Pottersville, NJ	32.8	80	43.0	55.8	-22.9
01400000	North Branch Raritan River near Raritan, NJ	190	78	235	310	-24.2
01400500	Raritan River at Manville, NJ	490	84	669	775	-13.7
01401000	Stony Brook at Princeton, NJ	44.5	48	68.4	66.6	2.7
01402000	Millstone River at Blackwells Mills, NJ	258	80	369	382	-3.4
01403060	Raritan River below Calco Dam, at Bound Brook, NJ	785	63	1009	1195	-15.6
01405400	Manalapan Brook at Spotswood, NJ	40.7	44	53.3	61.8	-13.8
01408000	Manasquan River at Squankum, NJ	44.0	70	60.7	73.9	-17.9
01408500	Toms River near Toms River, NJ	123	73	187	211	-11.4
01409400	Mullica River near Batsto, NJ	46.7	44	88.1	105	-16.1
01409500	Batsto River at Batsto, NJ	67.8	74	100	121	-17.4
01410000	Oswego River at Harrisville, NJ	72.5	71	72.5	86.5	-16.2
01411000	Great Egg Harbor River at Folsom, NJ	57.1	76	73.0	85.4	-14.5
01411500	Maurice River at Norma, NJ	112	69	133	163	-18.4
01440000	Flat Brook near Flatbrookville, NJ	64.0	78	91.4	110	-16.9
01443500	Paulins Kill at Blairstown, NJ	126	79	172	197	-12.7
01445500	Pequest River at Pequest, NJ	106	80	136	157	-13.4
01457000	Musconetcong River near Bloomsbury, NJ	141	84	195	239	-18.4
01463500	Delaware River at Trenton, NJ	6780	89	9069	11650	-22.2
01464000	Assunpink Creek at Trenton, NJ	90.6	78	158	134	17.9
01464500	Crosswicks Creek at Extonville, NJ	81.5	60	116	134	-13.4
01466500	McDonalds Branch in Lebanon State Forest, NJ	2.35	48	1.78	2.15	-17.2
01467000	North Branch Rancocas Creek at Pemberton, NJ	118	80	145	170	-14.7



## 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/nawqa\\_home.html](http://water.usgs.gov/nawqa/nawqa_home.html).

## EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 2001 water year that began October 1, 2000, and ended September 30, 2001. 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).

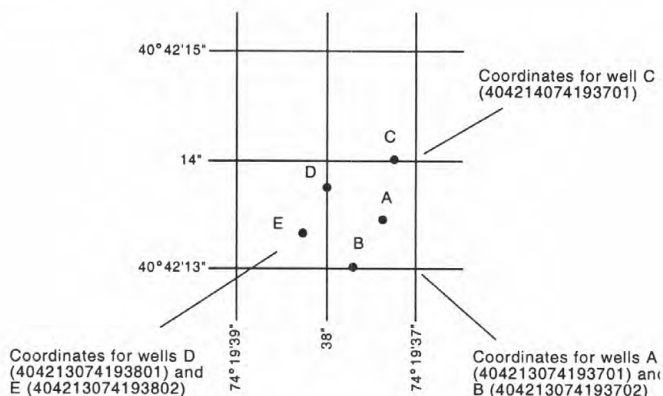


Figure 7.--System for numbering wells and miscellaneous sites (latitude and longitude)

### 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 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 ft<sup>3</sup>/s; to the nearest tenth between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures for more than 1,000 ft<sup>3</sup>/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.

### 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.

- Delaware River Basin National Water Quality Assessment
- Development of Database and Models 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
- 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

## CURRENT WATER RESOURCES PROJECTS IN NEW JERSEY--Continued

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

High-Flow Water Quality Management Objectives

Hydrology of Surficial Aquifer Systems

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

Hydrogeologic Support to Picatinny Arsenal, Morris County,  
New Jersey

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

Lower Delaware Non-Point Source

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

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

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

Quality of Water Data Collection Network

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

Vulnerability of Public Supply Wells and Surface-Water  
Intakes in New Jersey for Chemicals of Concern  
(Source Water Assessment Program)

Water-Quality Characteristics of Upper-Delaware Watershed

## WATER-RELATED REPORTS FOR NEW JERSEY COMPLETED BY THE U.S. GEOLOGICAL SURVEY IN RECENT YEARS

- Ator, S.W., and Ferrari, M.J., 1997, Nitrate and selected pesticides in ground water of the Mid-Atlantic Region: U.S. Geological Survey Water-Resources Investigations Report 97-4139, unpaginated.
- Ayers, M.A., Kennen, J.G., and Stackelberg, P.E., 2000, Water quality in the Long Island-New Jersey Coastal drainages, New York and New Jersey, 1996-98: U.S. Geological Survey Water-Resources Circular 1201, 40 p.
- Baehr, A.L., and Zapecza, O.S., 1998, Methyl tert-butyl ether (MTBE) and other volatile organic compounds in lakes in Byram Township, Sussex County, New Jersey, summer 1998: U.S. Geological Survey Water-Resources Investigations Report 98-4264, unpaginated.
- Barringer, J.L., 1998, Arsenic and metals in soils in the vicinity of the Imperial Oil Superfund site, Marlboro Township, New Jersey: U.S. Geological Survey Water Resources Investigations Report 98-4016, 251 p.
- Barringer, J.L., MacLeod, C.L., and Gallagher, R.A., 1997, Mercury in ground water, soils, and sediments of the Kirkwood-Cohansey aquifer system in the New Jersey Coastal Plain: U.S. Geological Survey Open-File Report 95-475, 260 p.
- Barringer, J.L., Szabo, Zoltan, and Barringer, T.H., 1998, Arsenic and metals in soils in the vicinity of the Imperial Oil Company Superfund site, Marlboro Township, Monmouth County, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 98-4016, 268 p.
- Barringer, T.H., Reiser, R.G., and Price, C.V., 2000, Use of low-flow trend and transfer-function models to determine relation of low flows to regional urbanization and precipitation, Rahway River Basin, New Jersey, 1940-91: U.S. Geological Survey Open-File Report 99-257, 24 p.
- Buxton, D.E., Hunchak-Kariouk, Kathryn, and Hickman, R.E., 1998, Relations of surface-water quality to stream flow in the Hackensack, Passaic, Elizabeth, and Rahway River Basins, New Jersey, water years 1976-93: U.S. Geological Survey Water-Resources Investigations Report 98-4049, 102 p.
- \_\_\_\_\_, 1999, Relations of surface-water quality to stream-flow in the Raritan River Basin, New Jersey, water years 1976-93: U.S. Geological Survey Water-Resources Investigations Report 99-4045, 109 p.
- \_\_\_\_\_, 1999, Relations of surface-water quality to stream flow in the Wallkill and upper Delaware River Basins, New Jersey and vicinity, water years 1976-93: U.S. Geological Survey Water-Resources Investigations Report 99-4016, 98 p.



**WATER-RELATED REPORTS FOR NEW JERSEY COMPLETED BY THE U.S. GEOLOGICAL SURVEY IN RECENT YEARS--Continued**

- Carleton, G.B., Welty, Claire, and Buxton, H.T., 1999, Design and analysis of tracer tests to determine effective porosity and dispersivity in fractured sedimentary rocks, Newark Basin, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 98-4126A, 80 p.
- Cauller, S.J., Carleton, G.B., and Storck, M.J., 1999, Hydrogeology of water withdrawal from, and water levels and chloride concentrations in the major Coastal Plain aquifers of Gloucester and Salem Counties, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 98-4136, 123 p., 6 pl.
- Chang, Ming, Tasker, Gary, and Neiswand, Steven, 2001, Model simulation of the Manasquan water-supply system in Monmouth County, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 01-4172, 51 p.
- Clawges, R.M., Oden, T.D., and Vowinkel, E.F., 1998, Water-quality data for 90 community water supply wells in New Jersey, 1994-95: U.S. Geological Survey Open-File Report 97-625, 31 p.
- DeLuca, M.J., Oden, J.H., Romanok, K.M., and Riskin, M.L., 1999, Water-resources data for New Jersey-water year 1998, volume 3, Water-quality data: U.S. Geological Survey Water-Data Report NJ-98-3, 450 p.
- DeLuca, M.J., Romanok, K.M., Riskin, M.L., Mattes, G.L., Thomas, A.M., and Gray, B.J., 2000, Water-resources data for New Jersey - water year 1999, Volume 3, Water-quality data: U.S. Geological Survey Water-Data Report NJ-99-3, 517 p.
- DeLuca, M.J., M.L., Mattes, G.L., Burns, H.L., Thomas, A.M., Gray, B.J., and Doyle, H.A., 2001, Water-resources data for New Jersey - water year 2000, Volume 3, Water-quality data: U.S. Geological Survey Water-Data Report NJ-00-3, 618 p.
- Gibs, Jacob, 1998, Literature review of the environmental fate of four herbicides applied to surface-water bodies in New Jersey: U.S. Geological Survey Open-File Report 98-573, 55 p.
- Gibs, Jacob, Gray, Bonnie, Rice, D.E., Tessler, Steven, and Barringer, T.H., 2001, Water quality of the Delaware and Raritan Canal, New Jersey, 1998-99: U.S. Geological Survey Water-Resources Investigations Report 01-4072, 67 p.
- Hickman, R.E., 1997, Stream flow, tidal-water-level, and water-quality data for the tidal embayments of the Metedeconk and Toms Rivers, New Jersey, water years 1993-94: U.S. Geological Survey Open-File Report 96-368, 277 p.
- Hickman, R.E., and Barringer, T.H., 1999, Trends in water quality of New Jersey streams, water years 1986-95: U.S. Geological Survey Water-Resources Investigations Report 98-4204, 174 p.
- Hunchak-Kariouk, Kathryn, 1999, Relation of water quality to land use in the drainage basins of four tributaries to the Toms River, New Jersey, 1994-95: U.S. Geological Survey Water-Resources Investigations Report 99-4001, 120 p.
- Hunchak-Kariouk, Kathryn, Buxton, D.E., and Hickman, R.E., 1999, Relations of surface-water quality to stream flow in the Atlantic Coastal, lower Delaware River, and Delaware Bay Basins, New Jersey, water years 1976-93: U.S. Geological Survey Water-Resources Investigations Report 98-4244, 158 p.
- Jacobsen, Eric, 2000, Ground-water quality, water levels, and precipitation at the biosolids study site, Lakehurst Naval Air Engineering Station, New Jersey, 1995-97: U.S. Geological Survey Open-File Report 00-197, 61 p.
- Johnson, M.L., and Charles, E.G., 1997, Hydrology of the unconfined aquifer system, Salem River area: Salem River and Raccoon, Oldmans, Alloway, and Stow Creek Basins, New Jersey, 1993-94: U.S. Geological Survey Water-Resources Investigations Report 96-4195, 5 sheets.
- Jones, W.D., 2001, Water-resources data for New Jersey-water year 2000, Volume 2, Ground-water data: U.S. Geological Survey Water-Data Report NJ-00-2, \_\_\_ p.
- Jones, W.D., 2000, Water-resources data for New Jersey - water year 1999, Volume 2, Ground-water data: U.S. Geological Survey Water-Data Report NJ-99-2, 233 p.
- Jones, W.D., 1999, Water resources data for New Jersey - water year 1998, volume 2, Ground-water data: U.S. Geological Survey Water-Data Report NJ-98-2, 211 p.
- Jones, W.D., 1998, Water resources data for New Jersey - water year 1997, volume 2, Ground-water data: U.S. Geological Survey Water-Data Report NJ-97-2, 226 p.
- Jones, W.D. and DeLuca, M.J., 1998, Water resources data for New Jersey - water year 1997, volume 2, Ground-water data: U.S. Geological Survey Water-Data Report NJ-97-2, 226 p.
- Jones, W.D. and DeLuca, M.J., 1997, Water resources data for New Jersey - water year 1996, volume 2, Ground-water data: U.S. Geological Survey Water-Data Report NJ-96-2, 207 p.

# WATER-RELATED REPORTS FOR NEW JERSEY COMPLETED BY THE U.S. GEOLOGICAL SURVEY IN RECENT YEARS--Continued

- Kauffman, L.J., Baehr, A.L., Ayers, M.A., and Stackelberg, P.E., 2001, Effects of land use and travel time on the distribution of nitrate in the Kirkwood-Cohansey aquifer system in southern New Jersey: U.S. Geological Survey Water-Resources Investigations Report 01-4117, 58 p.
- Lacombe, P.J., 2000, Hydrogeologic framework, water levels, and trichloroethylene contamination, Naval Air Warfare Center, West Trenton, New Jersey, 1993-97: U.S. Geological Survey Water-Resources Investigations Report 98-4167, 139 p.
- Lacombe, Pierre J., and Rosman, Robert, 1997, Water levels in, extent of freshwater in, and water withdrawal from eight major confined aquifers, New Jersey Coastal Plain: U.S. Geological Survey Water-Resources Investigations Report 96-4206, 8 sheets.
- Lahvis, M.A., and Baehr, A.L., 1997, Documentation of R-UNSAT, a computer model for the simulation of reactive, multispecies transport in the unsaturated zone: U.S. Geological Survey Open-File Report 97-630, 104 p.
- Lewis-Brown, J.C., dePaul, Vincent, 2000, Ground-water flow and distribution of volatile organic compounds, Rutgers University Busch Campus and vicinity, Piscataway Township, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 99-4256, 72 p.
- Long, G.R., Chang, Ming, Kennen, J.G., 2000, Trace elements and organochlorine compounds in bed sediment and fish tissue at selected sites in New Jersey streams--Sources and effects: U.S. Geological Survey Water-Resources Investigations Report 99-4235, 24 p.
- McAuley, S.D., Barringer, J.L., Paulachok, G.N., Clark, J.S., and Zapecza, O.S., 2001, Ground-water flow and quality in the Atlantic City 800-foot sand, New Jersey: New Jersey Department of Environmental Protection, Geological Survey Report GSR41, 86 p.
- Modica, Edward, 1998, Analytical methods, numerical modeling and monitoring strategies for evaluating the effects of ground-water withdrawals on unconfined aquifers in the New Jersey Coastal Plain: U.S. Geological Survey Water-Resources Investigations Report 98-4003, 66 p.
- Nawyn, J.P., 1997, Water use in Camden County, New Jersey, 1991: U.S. Geological Survey Open-File Report 97-12, 39 p.
- Nawyn, J.P., 1998, Withdrawals of ground water and surface water in New Jersey, 1991-92: U.S. Geological Survey Open-File Report 98-282, 57 p.
- Nicholson, R.S., and Watt, M.K., 1997, Simulation of ground-water flow in the unconfined aquifer system of the Toms River, Metedeconk River, and Kettle Creek Basins, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 97-4066, 100 p.
- Nicholson, R.S., and Watt, M.K., 1998, Simulation of ground-water-flow patterns and areas contributing recharge to streams and water-supply wells in a valley-fill and carbonate-rock aquifer system, southwestern Morris County, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 97-4216, 40 p.
- Pope, D.A., and Gordon, A.D., 1999, Simulation of ground-water flow and movement of the freshwater-saltwater interface in the New Jersey Coastal Plain: U.S. Geological Survey Water-Resources Investigations Report 98-4216, 159 p.
- Pucci, A.A., Jr., Barton, Cynthia, Buxton, H.T., 1997, Hydrogeology and simulated ground-water flow in the area of Greenwich Township, Gloucester County, New Jersey: U.S. Geological Survey Open-File Report 95-716, 63 p.
- Reed, T.J., Centinaro, G.L., DeLuca, M.J., Hutchinson, J.T. and Scudder, J., 1997, Water resources data for New Jersey - water year 1996, volume 1, Surface-water data: U.S. Geological Survey Water-Data Report NJ-96-1, 562 p.
- Reed, T.J., Centinaro, G.L., DeLuca, M.J., and Oden, J.H., 1998, Water resources data for New Jersey - water year 1997, volume 1, Surface-water data: U.S. Geological Survey Water-Data Report NJ-97-1, 608 p.
- Reed, T.J., Centinaro, G.L., Dudek, J.F., Corcino, Victor, and Steckroat, G.C., 1999, Water-resources data for New Jersey - water year 1998, volume 1. Surface-water data: U.S. Geological Survey Water-Data Report NJ-98-1, 291 p.
- \_\_\_\_\_, 2000, Water-resources data for New Jersey - water year 1999, volume 1. Surface-water data: U.S. Geological Survey Water-Data Report NJ-99-1, 293 p.
- \_\_\_\_\_, 2001, Water-resources data for New Jersey - water year 2000, volume 1. Surface-water data: U.S. Geological Survey Water-Data Report NJ-00-1, 328 p.
- Reiser, R.G., 1999, Relation of pesticide concentrations to season, streamflow, and land use in seven New Jersey streams: U.S. Geological Survey Water-Resources Investigations Report 99-4154, unpaginated
- Reiser, R.G., and O'Brien, A.K., 1998, Occurrence and seasonal variability of volatile organic compounds in seven New Jersey streams: U.S. Geological Survey Water-Resources Investigations Report 98-4074, unpaginated.

**WATER-RELATED REPORTS FOR NEW JERSEY COMPLETED BY THE U.S. GEOLOGICAL SURVEY IN RECENT YEARS--  
Continued**

- \_\_\_\_\_. 1999, Pesticides in streams in New Jersey and Long Island, New York, and relation to land use: U.S. Geological Survey Water-Resources Investigations Report 98-4261, unpaginated.
- Rice, D.E., and Voronin, L.M., 1997, Analysis of ground-water flowpaths near water-supply wells, Picatinny Arsenal, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 96-4228, 26 p.
- Rice, D.E., and Szabo, Zoltan, 1997, Relation of ground-water flowpaths and travel time to the distribution of radium and nitrate in current and former agricultural areas of the Kirkwood-Cohansey aquifer system, New Jersey Coastal Plain: U.S. Geological Survey Water-Resources Investigations Report 96-4165B, 41 p.
- Rosman, Robert, 1997, Potentiometric surfaces of the Potomac-Raritan-Magothy aquifer system near National Park, New Jersey, 1996: U.S. Geological Survey Water-Resources Investigations Report 97-4112, 4 sheets.
- Spitz, F.J., 1998, Analysis of ground-water flow and saltwater encroachment in the shallow aquifer system of Cape May County, New Jersey: U.S. Geological Survey Water-Supply Paper 2490, 51 p.
- \_\_\_\_\_. 2001, Method and computer programs to improve pathline resolution near weak sinks representing wells in MODFLOW and MODPATH ground-water-flow simulations: U.S. Geological Survey Open-File Report 00-392, 51 p.
- Stackelberg, P.E., Hopple, J.A., and Kauffman, L.J., 1997, Occurrence of nitrate, pesticides, and volatile organic compounds in the Kirkwood-Cohansey aquifer system, southern New Jersey: U.S. Geological Survey Water-Resources Investigations Report 97-4241, 8 p.
- Stackelberg, P.E., Kauffman, L.J., Baehr, A.L., and Ayers, M.A., 2000, Comparison of nitrate, pesticides, and volatile organic compounds in samples from monitoring and public-supply wells, Kirkwood-Cohansey aquifer system, southern New Jersey: U.S. Geological Survey Water-Resources Investigations Report 00-4123, 78 p.
- Storck, D.A., Isaacs, K.N., and Vowinkel, E.F., 1997, Development of a data base of community water-supply wells in New Jersey and a method to evaluate their sensitivity to contamination: U.S. Geological Survey Water-Resources Investigations Report 96-4132, 59 p.
- Storck, D.A., and Nawyn, J.P., 2001, Reconstruction of streamflow records in the Passaic and Hackensack River Basins, New Jersey and New York, water years 1993-96: U.S. Geological Survey Water-Resources Investigations Report 01-4078, 95 p.
- Suro, T.P., 1998, December 11-12, 1992, in New Jersey, in Perry, C.A., and Combs, L.J., eds., Summary of floods in the United States, January 1992 through September 1993: U.S. Geological Survey Water-Supply Paper 2499, p. 165-171.
- Szabo, Zoltan, Rice, D.E., MacLeod, C.L., and Barringer, T.H., 1997, Relation of distribution of radium, nitrate, and pesticides to agricultural land use and depth, Kirkwood-Cohansey aquifer system, New Jersey Coastal Plain, 1990-91: U.S. Geological Survey Water-Resources Investigations Report 96-4165A, 119 p.
- Szabo, Zoltan, Taylor, T.A., Payne, D.F., and Ivahnenko, Tamara, 1997, Relation of hydrogeologic characteristics to distribution of radioactivity in ground water, Newark Basin, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 95-4136, 134 p., 6 pl.
- Watt, M.K., 2001, A hydrologic primer for New Jersey watershed management: U.S. Geological Survey Water-Resources Investigations Report 00-4140, 116 p.

**WATER-RELATED ARTICLES FOR NEW JERSEY COMPLETED BY THE U.S. GEOLOGICAL SURVEY IN RECENT YEARS**

- Baehr, A.L., 1999, Evaluation of the atmosphere as a source of volatile organic compounds in shallow groundwater: Water Resources Research, v. 35, no. 1, p. 127-136.
- Baehr, A.L., 1999, Occurrence of methyl-tert butyl ether (MTBE) throughout the hydrologic cycle in New Jersey: AGU 1999 Fall Meeting, December 13-17, 1999, San Francisco, Calif. p. F421.
- Gibs, Jacob, Szabo, Zoltan, Ivahnenko, Tamara, and Wilde, F.D., 2000, Change in field turbidity and trace element concentrations during well purging: Ground Water, v. 38, no. 4, p. 577-588.
- Ivahnenko, Tamara, Szabo, Zoltan, and Gibs, Jacob, 2001, Changes in sample collection and analytical techniques and effects on retrospective comparability of low-level concentrations of trace elements in ground water: Water Resources, v. 35, no. 15, p. 3611-4117, 58 p.
- Lacombe, P.J., 1999, Three types of saltwater intrusion in aquifers of the New Jersey Coastal Plain and resulting water management plans: AGU 1999 Fall Meeting, December 13-17, 1999, San Francisco, Calif. p. F371.
- Lahvis, M.A., Rehmann, L.C., Baehr, A.L., Baker, R.J., 1999, Effects of unsaturated-zone processes on ground-water contamination at gasoline-spill sites: AGU Fall Meeting, December 13-17, 1999, San Francisco, Calif. p. F469.



**WATER-RELATED ARTICLES FOR NEW JERSEY COMPLETED BY THE U.S. GEOLOGICAL SURVEY IN RECENT YEARS--  
Continued**

Mast, M.A., and Turk, J.T., 1999, Environmental characteristics and water quality of hydrologic benchmark network stations--McDonalds Branch in Lebanon State Forest, New Jersey, *in* Environmental characteristics and water quality of hydrologic benchmark network stations in the eastern United States, 1963-95: U.S. Geological Survey Circular 1173-A, p. 63-71.

Pucci, A.A., Szabo, Zoltan, Owens, J.P., 1997, Variations in pore-water quality, mineralogy, and sedimentary texture of clay-silts in the lower Miocene Kirkwood Formation, Atlantic City, New Jersey, *in* Miller, K.G., and Snyder, S.W., eds., Proceedings of the Ocean Drilling Program, Scientific Results, v. 150x, p. 317-340.

Szabo, Zoltan, Pucci, A.A., Jr., Feigenson, M.D., 1997, Sr-isotopic evidence for leakage of pore water from clay-silt confining units to the Atlantic City 800-foot sand, Atlantic City, New Jersey, *in* Miller K.G., and Snyder, S.W., eds., Proceedings of the Ocean Drilling Program, Scientific Results, v. 150x, p. 343-354.

Vowinkel, E.F., 1998, Use of a numerical rating model to determine the vulnerability of community water-supply wells in New Jersey to contamination by pesticides, *in* Monitoring: Critical foundations to protect our waters: Proceedings of the NWQMC National Conference, Reno, Nevada, July 7-9, 1998, p. III 539 - III 546.

**WATER-RELATED FACT SHEETS FOR NEW JERSEY COMPLETED BY THE U.S. GEOLOGICAL SURVEY IN RECENT YEARS**

Fischer, J.M., 1999, National Water-Quality Assessment Program, Delaware River Basin: U.S. Geological Survey Fact Sheet FS-056-99.

Jacobsen, Eric, 1997, Effects of land application of composted biosolids on ground water and native vegetation in the New Jersey Pinelands: U.S. Geological Survey Fact Sheet FS-035-97.

Jones, W.D., Navoy, A.S., Pope, D.A., 2002, Real-time ground-water-level monitoring in New Jersey, 2001: U.S. Geological Survey Fact Sheet FS-011-02, unpaginated.

Kennen, J.G., 1998, Relation of benthic macro invertebrate community impairment to basin characteristics in New Jersey streams: U.S. Geological Survey Fact Sheet FS-057-98.

Lahvis, M.A. and Baehr, A.L., 1998, Simulating transport of volatile organic compounds in the unsaturated zone using the computer model R-UNSAT: U.S. Geological Survey Fact Sheet FS-019-98.

Modica, Edward, 1999, Source and age of ground-water seepage to streams: U.S. Geological Survey Fact Sheet FS-063-99, unpaginated.

Nawyn, J.P., 1997, Withdrawals of ground water and surface water in New Jersey, 1993: U.S. Geological Survey Fact Sheet FS-119-97.

Nawyn, J.P., 1997, Withdrawals of ground water and surface water in New Jersey, 1994: U.S. Geological Survey Fact Sheet FS-120-97.

O'Brien, A. K., 1997, Presence and distribution of trace elements in streambed sediments, New Jersey: U.S. Geological Survey Fact Sheet FS-049-97.

O'Brien, A.K., Reiser, R.G., and Gylling, Helle, 1998, Spatial variability of volatile organic compounds in streams on Long Island, New York, and in New Jersey: U.S. Geological Survey Fact Sheet FS-194-97.

Reiser, R.G., and Schopp, R.D., 2001, Sparta, New Jersey, flood of August 11-14, 2000: U.S. Geological Survey Fact Sheet FS-104-01, unpaginated.

Summer, W.M., 1998, New Jersey Tide Telemetry System: U.S. Geological Survey Fact Sheet FS-091-98.

Summer, W.M., 1998, Passaic Flood Warning System: U.S. Geological Survey Fact Sheet FS-092-98.

Summer, W.M., 1998, Somerset County Flood Information System: U.S. Geological Survey Fact Sheet FS-090-98.

Szabo, Zoltan, and dePaul, Vincent, 1998, Radium-226 and radium-228 in shallow ground water, southern New Jersey: U.S. Geological Survey Fact Sheet FS-062-98.

Terracciano, S. A., and O'Brien, A. K., 1997, Occurrence of volatile organic compounds in streams on Long Island, New York, and New Jersey: U.S. Geological Survey Fact Sheet FS-063-97.

U.S. Geological Survey, 1997, The U.S. Geological Survey Drinking Water Initiative: U.S. Geological Survey Fact Sheet FS-047-97.

**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).

## DEFINITION OF TERMS

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

**Acre-foot** (AC-FT, acre-ft) is 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")

**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 to 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.)

**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 peaks per year will be published.

**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 groundwater discharge.

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

**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 downstream from a gaging station that physically influences 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<sup>3</sup>/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 feet per second" but is now obsolete.

**Cubic foot per second-day** (CFS-DAY, Cfs-day, [(ft<sup>3</sup>/s)/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, (ft<sup>3</sup>/s)/mi<sup>2</sup>] 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-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.

**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 sediments 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 chemical constituents, 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).

**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")

**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 larger 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 is often 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. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

**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>

**Horizontal datum** (See "Datum")

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

**Hydrologic index stations** referred to in this report are four 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")

**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>

**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")

**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.

**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")

**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 U.S. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and U.S. first-order terrestrial leveling networks.

**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.

**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 to 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.

**Periodic-record station** is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year, but at a frequency insufficient to develop a daily record.

**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 non-exceedance 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 non-exceedances of the  $7Q_{10}$  occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. 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  $7Q_{10}$ .

**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 used to denote location along a river.

**Runoff** is the quantity of water that is discharged ("runs off") from a drainage basin in 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. See conversion of units page (inside back cover) for identification of the datum used in this report.

**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-run 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 "Recurrence interval" and "Annual 7-day minimum")

**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.

**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.

**Synoptic studies** are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic 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.



**Vertical datum** (See "Datum")

**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, 2001, is called the "2001 water year."

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

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

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

### SELECTED REFERENCES

- Anderson, P.W., and George, J.R., 1966, Water-quality characteristics of New Jersey streams: U.S. Geological Survey Water-Supply Paper 1819-G, 48 p.
- Ayers, M.A., and Pustay, E.A., 1988, New Jersey ground-water quality: in National Water Summary 1986, U.S. Geological Survey Water Supply Paper 2325, p. 369-376.
- Bauersfeld, W.R., and Schopp, R.D., 1991, New Jersey floods and droughts: in National Water Summary, 1988-89--Floods and droughts: U.S. Geological Survey Water-Supply Paper 2375, p. 401-405.
- Fusillo, T.V., Hochreiter, J.J., Jr., and Lord, D.G., 1984, Water-quality data for the Potomac-Raritan-Magothy aquifer system in southwestern New Jersey, 1923-83: U.S. Geological Survey Open-File Report 84-737, 127 p, 1 plate.
- Gillespie, B.D., and Schopp, R.D., 1982, Low-flow characteristics and flow duration of New Jersey streams: U.S. Geological Survey Open-File Report 81-1110, 164 p.
- Heath, R.C., 1983, Basic ground-water hydrology: U.S. Geological Survey Water-Supply Paper 2220, 84 p.
- Hem, J.D., 1985, Study and interpretation of the chemical characteristics of natural water, 3d ed.: U.S. Geological Survey Water-Supply Paper 2254, 263 p.
- Langbein, W.B., and Iseri, K.T., 1960, General introduction of hydrologic definitions: U.S. Geological Survey Water-Supply Paper 1541-A, 29 p.
- Lohman, S.W., and others, 1972, Definitions of selected ground-water terms-revisions and conceptual refinements: U.S. Geological Survey Water-Supply Paper 1988, 21 p.
- Luzier, J.E., 1980, Digital-simulation and projection of head changes in the Potomac-Raritan-Magothy aquifer system, Coastal Plain, New Jersey: U.S. Geological Survey Water-Resources Investigations 80-11, 72 p.
- Rantz, S.E., and others, 1982, Measurement and computation of streamflow; Volume 1. Measurement of stage and discharge, Volume 2. Computation of Discharge: U.S. Geological Survey Water-Supply Paper 2175, 631 p.
- Reed, T.J., and Hunchak-Kariouk, Kathryn, 1995, Surface-water-temperature statistics for streams in New Jersey and vicinity, 1955-93: U.S. Geological Survey Open-File Report 95-196, 142 p.
- Rooney, J.G., 1971, Ground-water resources, Cumberland County, New Jersey: New Jersey Department of Environmental Protection Special Report 34, 83 p.
- Schaefer, F.L., 1983, Distribution of chloride concentrations in the principal aquifers of the New Jersey Coastal Plain, 1977-81: U.S. Geological Survey Water-Resources Investigations Report 83-4061, 56 p.
- , 1987, Selected literature on the water resources of New Jersey by the U.S. Geological Survey, through 1986: U.S. Geological Survey Open-File Report 87-767, 45 p.
- Schopp, R.D., and Bauersfeld, W.R., 1986, New Jersey surface-water resources: in National Water Summary 1985 - Hydrologic events and surface-water resources, U.S. Geological Survey Water-Supply Paper 2300, p. 335-340.
- Seaber, P.R., 1963, Chloride concentrations of water from wells in the Atlantic Coastal Plain of New Jersey, 1923-61: New Jersey Division of Water Policy and Supply, Special Report 22, 250 p.
- Seaber, P.R., Kapinos, F.P., and Knapp, G.L., 1987, Hydrologic unit maps: U.S. Geological Survey Water-Supply Paper 2294, 63 p.
- U.S. Geological Survey, 1976, Surface-water supply of the United States, 1966-70, Part 1. North Atlantic Slope basins, Volume 2. Basins from New York to Delaware: U.S. Geological Survey Water-Supply Paper 2102, 985 p., (final volume).
- , 1977, Ground-water levels in the United States, 1973-74, Northeastern States: U.S. Geological Survey Water-Supply Paper 2164, 126 p., (final volume).
- Vickers, A.A., and McCall, J.E., 1968, Surface water supply of New Jersey, streamflow records 1961-65: New Jersey Division of Water Policy and Supply, Special Report 31, 351 p., (most recent volume).

**SELECTED REFERENCES--Continued**

- Vowinkel, E.F., 1984, Ground-water withdrawals from the Coastal Plain of New Jersey, 1956-80: U.S. Geological Survey Open-File Report 84-226, 32 p.
- Walker, R.L., 1983, Evaluation of water levels in major aquifers of the New Jersey Coastal Plain, 1978: U.S. Geological Survey Water-Resources Investigations 82-4077, 56 p.
- U.S. Environmental Protection Agency, 1996, Drinking water regulations and health advisories: Office of Water, Washington, D.C., EPA 822-R-96-001, 16 p.

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

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

The reports listed below are for sale by the U.S.G.S., Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be made in the form of a check or money order payable to the "U.S. Geological Survey." Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

### Book 1. Collection of Water Data by Direct Measurement

#### Section D. Water Quality

- 1-D1. *Water temperature—influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS-TWRI book 1, chap. D1. 1975. 65 p.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS-TWRI book 1, chap. D2. 1976. 24 p.

### Book 2. Collection of Environmental Data

#### Section D. Surface Geophysical Methods

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

- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS-TWRI book 2, chap. D2. 1988. 86 p.

#### Section E. Subsurface Geophysical Methods

- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS-TWRI book 2, chap. E1. 1971. 126 p.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS-TWRI book 2, chap. E2. 1990. 150 p.

#### Section F. Drilling and Sampling Methods

- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS-TWRI book 2, chap. F1. 1989. 97 p.

### Book 3. Applications of Hydraulics

#### Section A. Surface-Water Techniques

- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS-TWRI book 3, chap. A1. 1967. 30 p.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS-TWRI book 3, chap. A2. 1967. 12 p.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS-TWRI book 3, chap. A3. 1968. 60 p.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 p.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS-TWRI book 3, chap. A5. 1967. 29 p.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS-TWRI book 3, chap. A6. 1968. 13 p.
- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI book 3, chap. A7. 1968. 28 p.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI book 3, chap. A8. 1969. 65 p.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS-TWRI book 3, chap. A9. 1989. 27 p.

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

- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS-TWRI book 3, chap. A10. 1984. 59 p.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS-TWRI book 3, chap. A11. 1969. 22 p.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS-TWRI book 3, chap. A12. 1986. 34 p.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS-TWRI book 3, chap. A13. 1983. 53 p.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS-TWRI book 3, chap. A14. 1983. 46 p.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS-TWRI book 3, chap. A15. 1984. 48 p.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS-TWRI book 3, chap. A16. 1985. 52 p.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS-TWRI book 3, chap. A17. 1985. 38 p.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS-TWRI book 3, chap. A18. 1989. 52 p.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS-TWRI book 3, chap. A19. 1990. 31 p.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS-TWRI book 3, chap. A20. 1993. 38 p.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS-TWRI book 3, chap. A21. 1995. 56 p.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS-TWRI book 3, chap. B3. 1980. 106 p.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS-TWRI book 3, chap. B4. 1990. 232 p.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS-TWRI book 3, chap. B4. 1993. 8 p.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS-TWRI book 3, chap. B5. 1987. 15 p.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS-TWRI book 3, chap. B6. 1987. 28 p.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS-TWRI book 3, chap. B7. 1992. 190 p.
- 3-B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS-TWRI book 3, chap. B8. 2001. 29 p.

## Section C. Sedimentation and Erosion Techniques

- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS-TWRI book 3, chap. C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS-TWRI book 3, chap. C2. 1999. 89 p.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS-TWRI book 3, chap. C3. 1972. 66 p.

## Book 4. Hydrologic Analysis and Interpretation

### Section A. Statistical Analysis

- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS-TWRI book 4, chap. A1. 1968. 39 p.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS-TWRI book 4, chap. A2. 1968. 15 p.

### Section B. Surface Water

- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS-TWRI book 4, chap. B1. 1972. 18 p.

## Section B. Ground-Water Techniques

- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS-TWRI book 3, chap. B1. 1971. 26 p.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS-TWRI book 3, chap. B2. 1976. 172 p.



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

- 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.

- 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. Greenson, 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. A5, 1996. 125 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.

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

- 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.

### 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 Gibbs, 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 Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A2. 1998. 94 p.

- 9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A3. 1998. 75 p.

- 9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A4. 1999. 156 p.

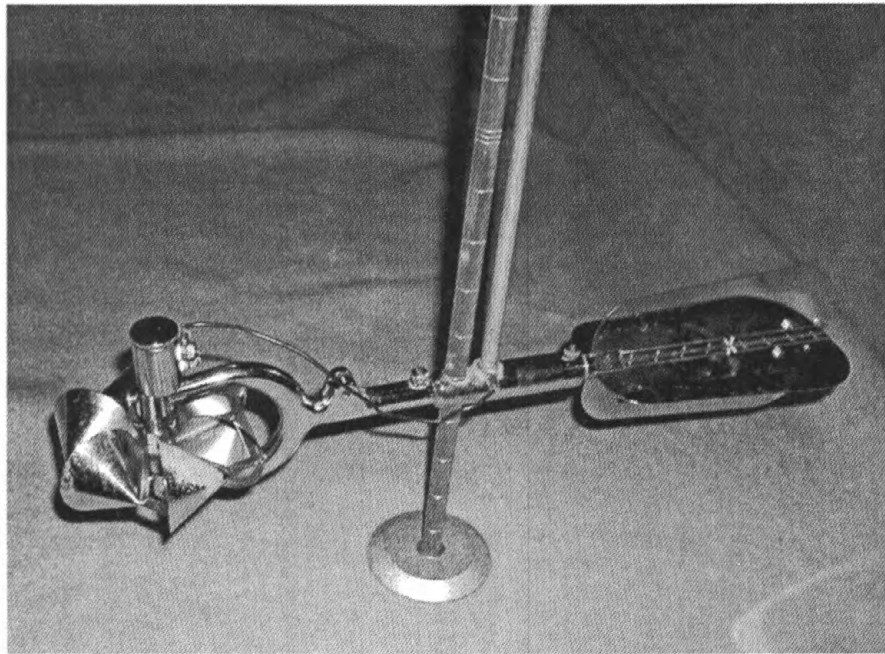
- 9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A5. 1999. 149 p.

- 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. Variously 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. Variously paginated.

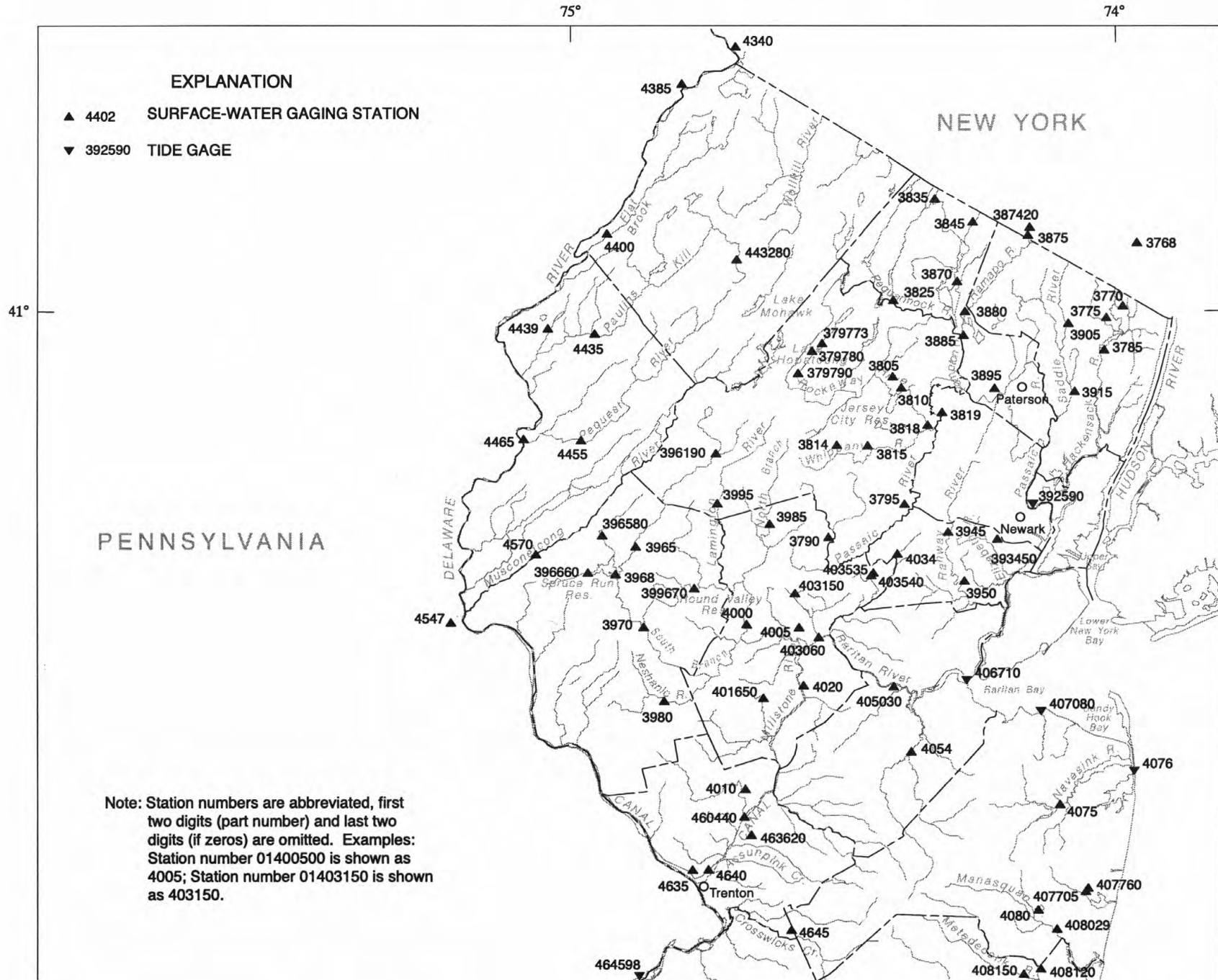
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS-TWRI book 9, chap. A8. 1998. 48 p.

- 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.



Price type AA meter used to measure the velocity of flowing water. Photograph by T.J. Reed.

# WATER RESOURCES DATA-NEW JERSEY, 2001





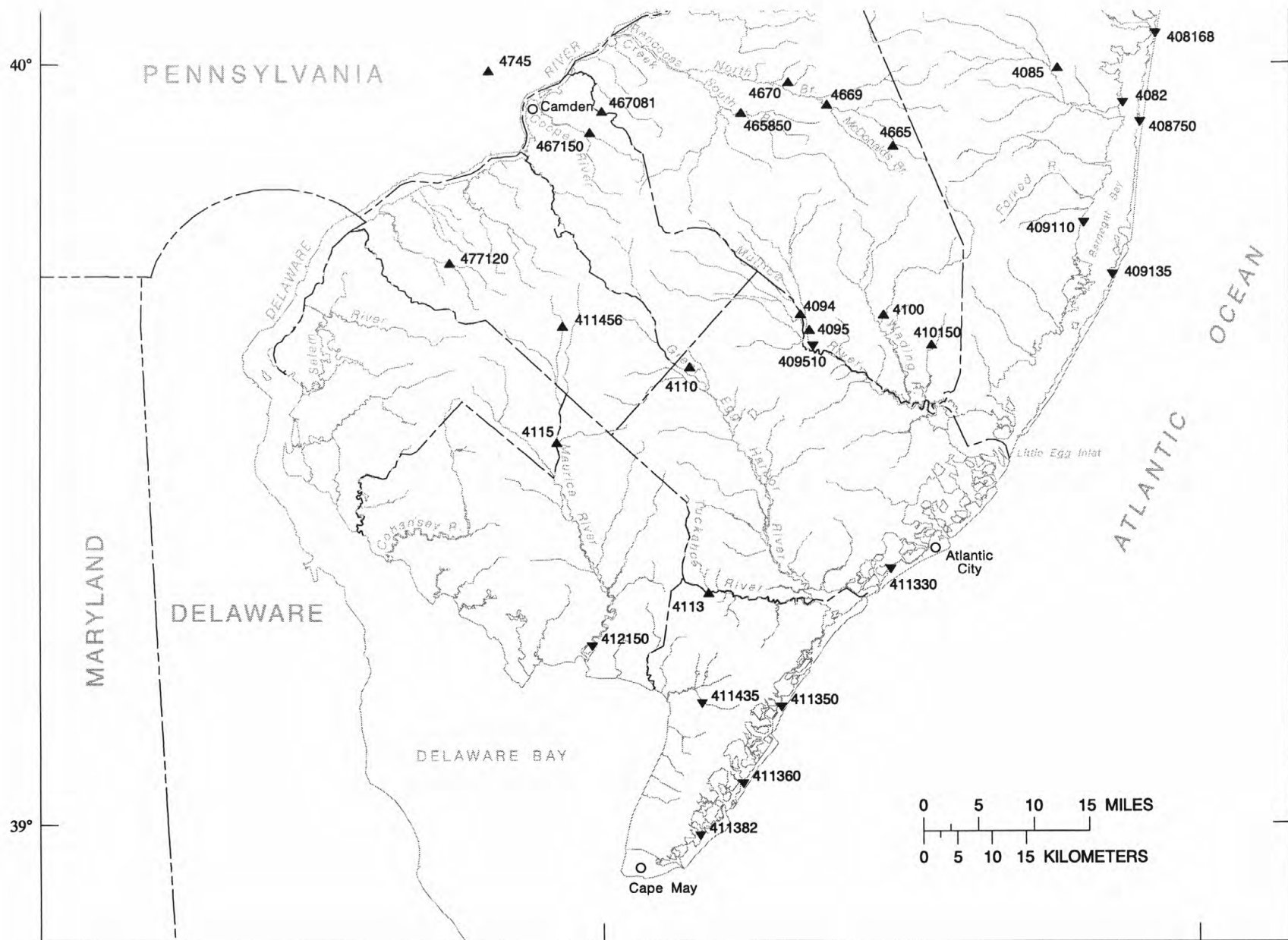


Figure 8. Map showing location of surface-water gaging stations.

# WATER RESOURCES DATA-NEW JERSEY, 2001

75°

74°

32

## EXPLANATION

- 443510 ▲ LOW-FLOW STATION
- 4450 ▲ CREST-STAGE STATION
- 4067 ▲ TIDAL CREST-STAGE STATION
- 3909 ▲ LOW-FLOW AND CREST-STAGE STATION

41°

PENNSYLVANIA

NEW YORK

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

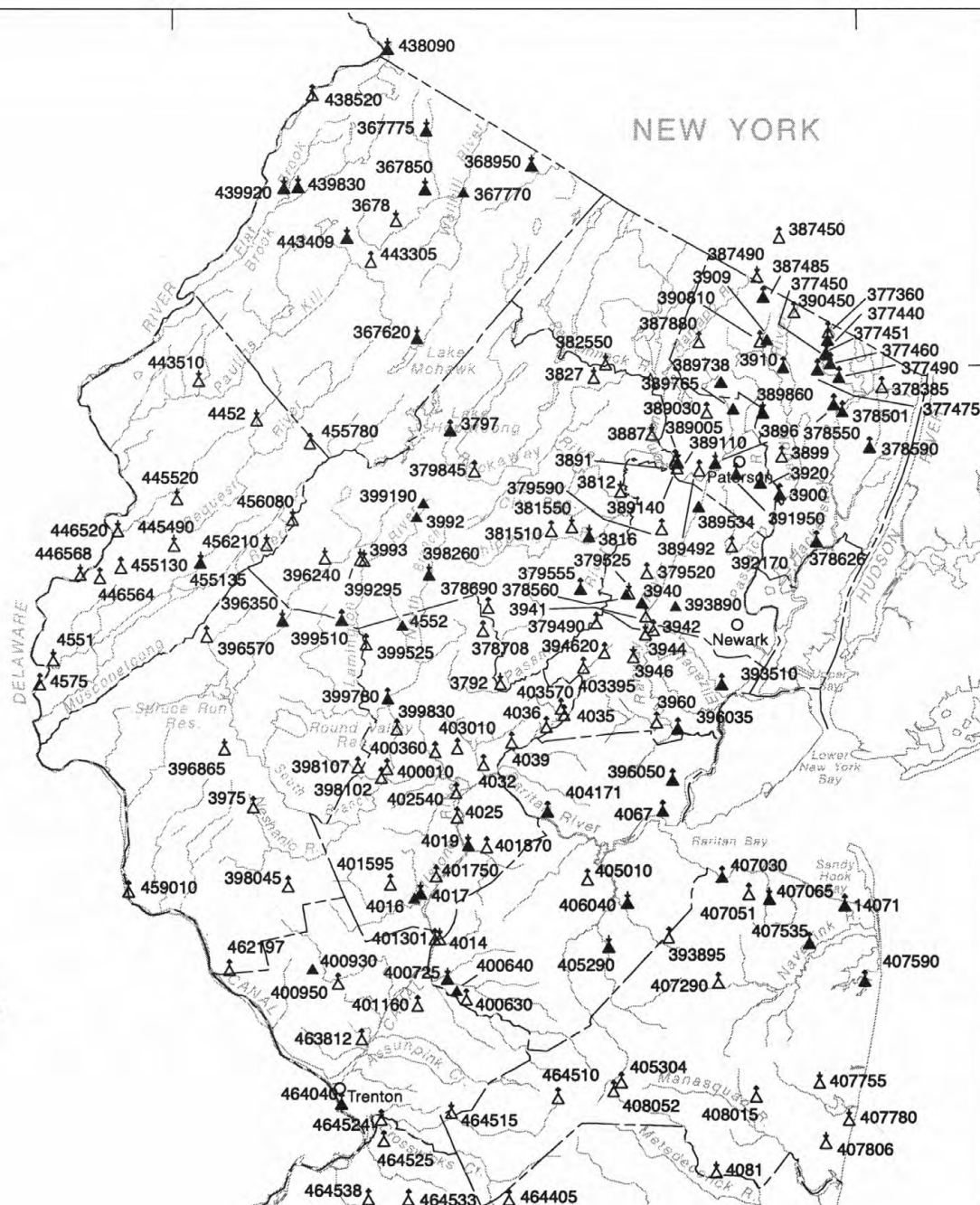




Figure 9. Map showing location of low-flow and crest-stage partial-record stations.

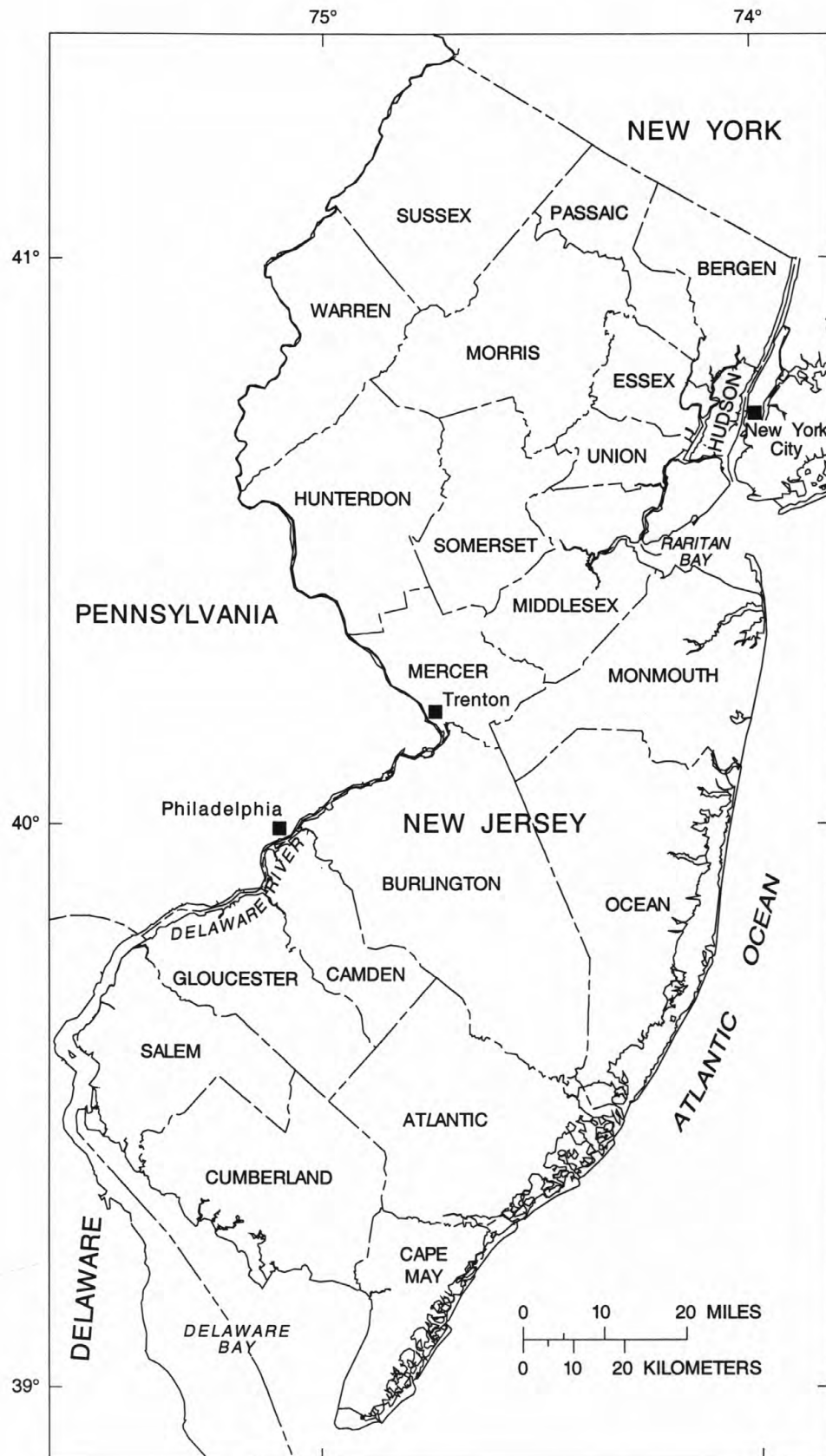


Figure 10. Map showing counties in New Jersey.



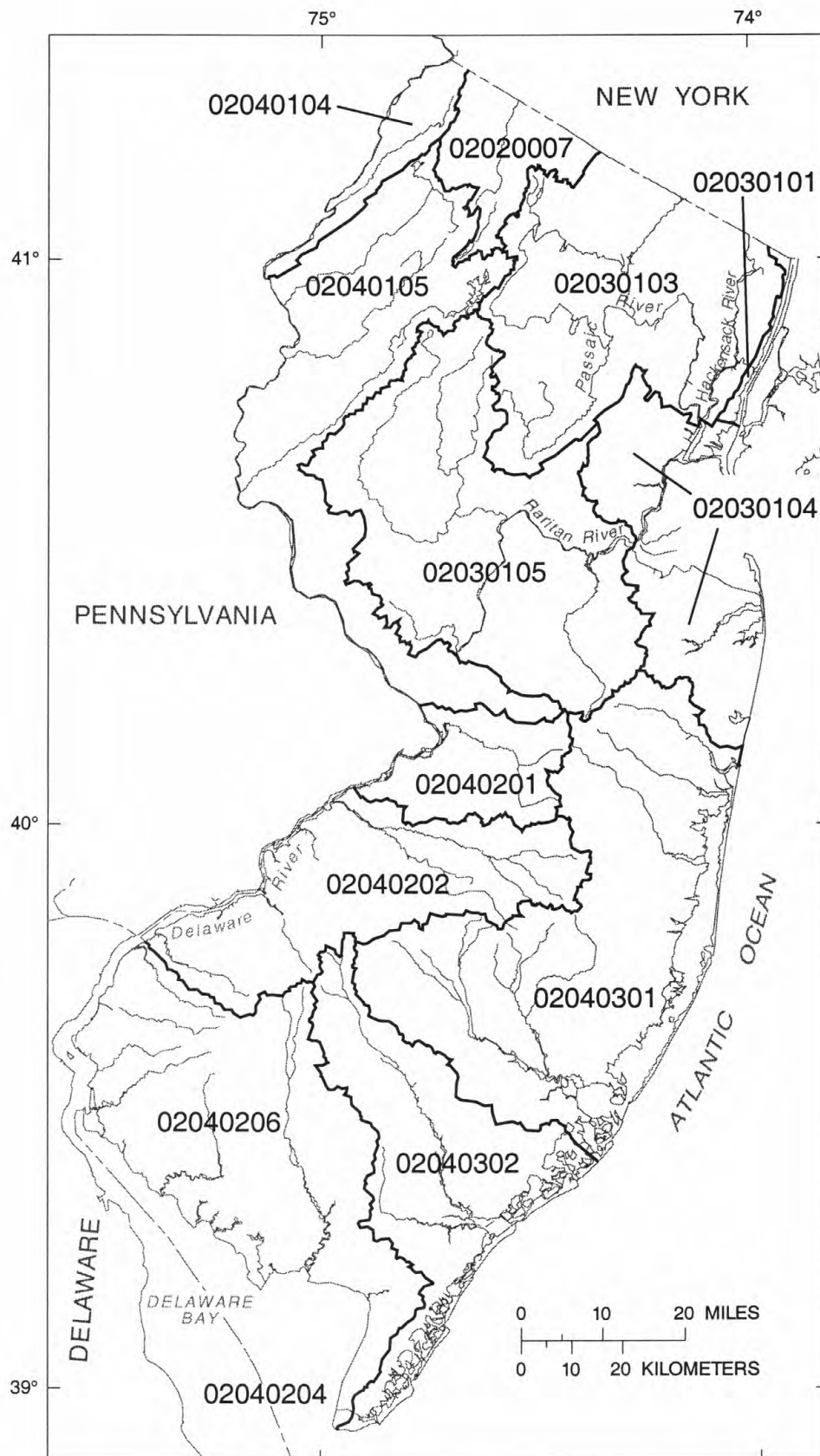


Figure 11. Map showing hydrologic cataloging units and codes in New Jersey. (Modified from Seaber and others, 1987)

## HACKENSACK RIVER BASIN

01376800 HACKENSACK RIVER AT WEST NYACK, NY

LOCATION.--Lat 41°05'44", long 73°57'52", Rockland County, NY, 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 mi<sup>2</sup>.

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 sea level (levels by Hackensack Water Co.).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by DeForest Lake (see Reservoirs in Hackensack River Basin). Diversion from gaging station pool for municipal supply for village of Nyack (see Diversions in Hackensack River Basin). Discharge given for this station represents the flow of Hackensack River downstream from this diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft<sup>3</sup>/s, Sept. 16, 1999, gage height, 11.21 ft, from floodmarks in gage house, from rating curve extended above 840 ft<sup>3</sup>/s; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 343 ft<sup>3</sup>/s, June 7, gage height, 5.56 ft; minimum, 4.5 ft<sup>3</sup>/s, Nov. 21, 22, 23, gage height, 2.33 ft.

Refer to Water Resources Data New York Water Year 2001, Volume 1, for daily values for October 1, 2000 to September 30, 2001

## HACKENSACK RIVER BASIN

37

01377000 HACKENSACK RIVER AT RIVERVALE, NJ

LOCATION.--Lat 40°59'57", long 73°59'23" (revised), Bergen County, Hydrologic Unit 02030103, on upstream right bank at bridge on Westwood Avenue in Riverdale, 1.5 mi upstream from Pascack Brook, 4.1 mi downstream of Lake Tappan, and 4.6 mi upstream from Oradell Dam.

DRAINAGE AREA.--58.0 mi<sup>2</sup>.

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

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

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

REMARKS.--Records good. Flow regulated by De Forest Lake (since 1956) and Lake Tappan (since 1965), see Hackensack River basin, reservoirs in. Diversions from De Forest Lake and West Nyack, NY, for municipal water supply (see Hackensack River basin, diversions). Several measurements of water temperature were made during the year. United Water New Jersey (formerly Hackensack Water Co.) gage-height telemetry at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	97	22	22	44	43	288	31	22	57	117	30
2	32	96	22	22	44	43	166	30	116	68	117	29
3	33	81	22	22	42	43	138	29	123	43	113	28
4	33	72	21	22	40	43	118	29	153	37	109	27
5	33	72	21	24	40	43	104	26	113	56	109	29
6	49	72	39	32	42	43	96	29	85	79	102	29
7	91	72	66	32	43	45	101	67	67	55	88	33
8	106	72	66	32	42	46	93	72	54	77	87	49
9	106	55	66	33	41	49	97	72	43	73	86	54
10	106	63	66	32	51	49	434	72	35	55	86	71
11	106	26	65	32	45	47	238	72	31	52	86	76
12	106	23	65	32	41	45	147	71	32	45	92	70
13	107	23	62	34	41	78	133	70	30	35	84	68
14	121	27	49	52	42	52	113	70	27	29	46	86
15	121	29	30	54	43	42	95	73	25	25	40	71
16	121	23	24	55	44	35	86	76	25	24	38	70
17	121	23	87	55	49	35	81	76	805	24	35	70
18	95	23	36	55	42	35	80	78	1080	23	30	69
19	103	23	26	63	41	31	67	76	221	22	30	65
20	101	22	24	52	42	30	59	76	113	22	47	53
21	101	23	23	42	43	43	56	77	92	21	30	55
22	101	24	23	39	41	137	67	110	79	21	27	31
23	101	43	22	38	42	107	64	68	84	74	33	29
24	101	48	22	38	41	169	59	40	380	118	40	29
25	101	48	21	37	51	150	55	24	237	120	30	48
26	99	69	21	37	55	127	48	18	114	125	29	31
27	99	35	21	37	45	115	44	26	85	122	29	29
28	99	24	21	37	44	99	42	17	68	120	29	29
29	99	22	21	37	---	89	36	26	55	119	29	29
30	97	23	21	50	---	626	33	25	44	119	29	29
31	84	---	25	48	---	858	---	22	---	118	30	---
TOTAL	2805	1353	1120	1197	1221	3397	3238	1648	4438	1978	1877	1416
MEAN	90.5	45.1	36.1	38.6	43.6	110	108	53.2	148	63.8	60.5	47.2
MAX	121	97	87	63	55	858	434	110	1080	125	117	86
MIN	32	22	21	22	40	30	33	17	22	21	27	27

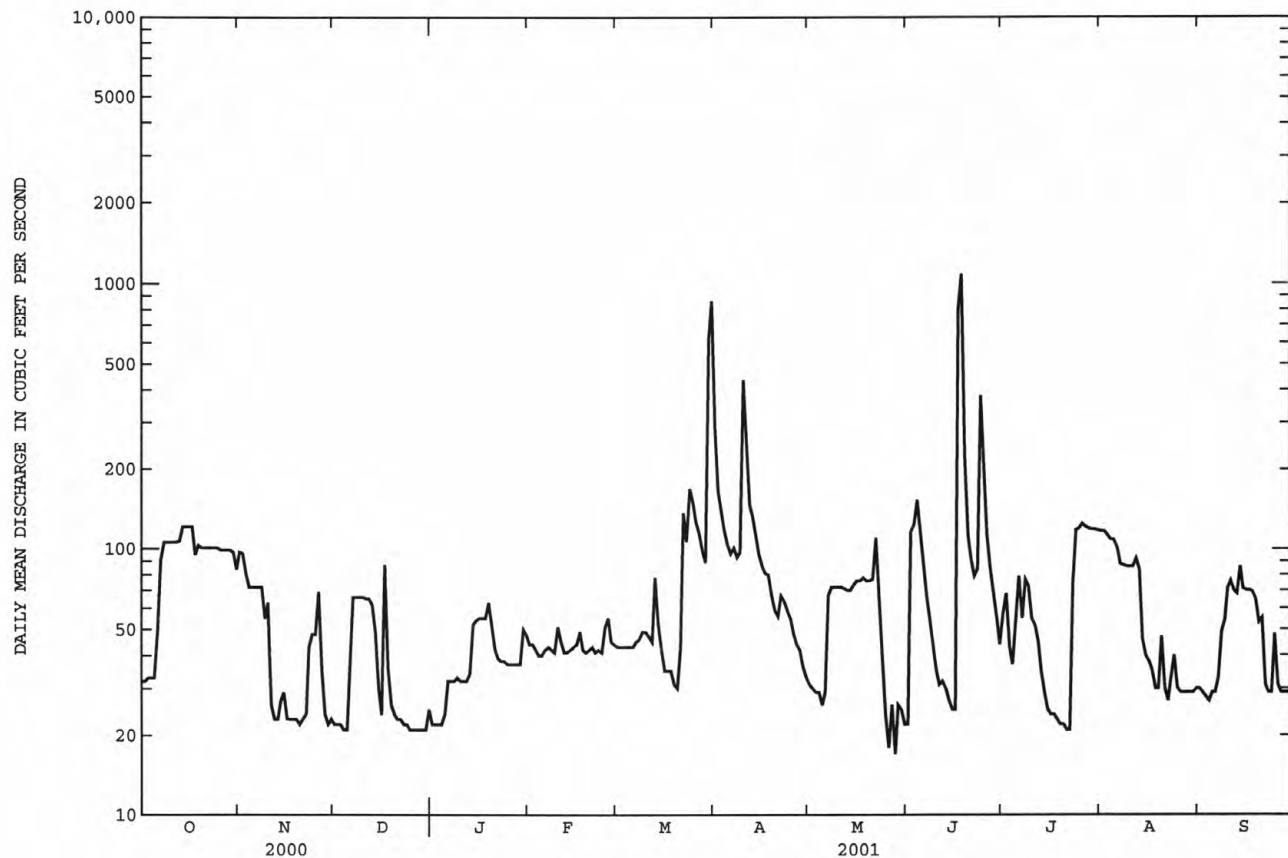
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2001, BY WATER YEAR (WY)

	MEAN	59.5	69.1	78.2	86.7	90.0	134	137	100	75.5	77.4	69.6	65.2
MAX	312	240	248	251	221	379	438	310	319	339	197	177	
(WY)	1956	1956	1997	1949	1951	1953	1983	1989	1972	1945	1955	1975	
MIN	12.1	16.6	12.6	22.6	23.0	11.2	14.5	20.4	13.4	11.6	11.4	7.87	
(WY)	1942	1996	1981	1982	1967	1981	1981	1981	1957	1954	1944	1953	

## HACKENSACK RIVER BASIN

01377000 HACKENSACK RIVER AT RIVERVALE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1942 - 2001	
ANNUAL TOTAL	24129		25688		86.9	
ANNUAL MEAN	65.9		70.4		156	
HIGHEST ANNUAL MEAN					30.9	
LOWEST ANNUAL MEAN					2190	
HIGHEST DAILY MEAN	492	Jun 7	1080	Jun 18	4.4	May 31 1984
LOWEST DAILY MEAN	21	Dec 4	17	May 28	5.0	Oct 10 1995
ANNUAL SEVEN-DAY MINIMUM	21	Dec 24	21	Dec 24	5.0	Oct 7 1995
MAXIMUM PEAK FLOW			1560	Jun 18	2530	May 17 1989
MAXIMUM PEAK STAGE			5.62	Jun 18	8.08	May 17 1989
INSTANTANEOUS LOW FLOW			14	Dec 30	.00	Jan 16 1970
10 PERCENT EXCEEDS	108		115		165	
50 PERCENT EXCEEDS	56		48		59	
90 PERCENT EXCEEDS	28		23		21	





## HACKENSACK RIVER BASIN

39

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 mi<sup>2</sup>.

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 sea level.

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 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 22	0400	545	3.64	Apr 10	0300	479	3.48
Mar 22	2030	511	3.56	Jun 17	0630	*1,200	*4.87
Mar 30	1445	928	4.42	Jun 17	1345	713	4.01

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	33	23	26	32	37	88	31	42	41	30	39
2	22	33	25	26	31	38	71	34	171	38	32	29
3	22	34	24	25	30	37	62	46	110	30	28	30
4	22	37	24	25	29	36	56	46	100	31	40	32
5	22	31	23	26	30	38	51	45	58	72	35	33
6	22	29	22	26	34	38	54	41	34	37	33	33
7	22	38	22	25	33	41	56	39	33	32	35	32
8	22	38	23	26	31	40	51	39	32	55	29	32
9	22	32	24	27	31	47	69	36	32	74	24	32
10	21	84	22	26	37	44	228	34	31	96	29	40
11	21	32	38	25	33	43	71	36	31	101	34	36
12	21	29	99	25	31	42	65	39	30	110	48	30
13	21	27	85	25	31	139	58	35	30	80	63	32
14	22	36	61	25	31	91	52	32	33	44	43	64
15	21	34	51	28	32	62	47	29	79	38	37	35
16	23	29	101	27	35	54	44	26	97	39	37	32
17	31	28	195	27	41	61	63	26	493	39	36	32
18	35	28	119	27	35	67	67	32	129	39	36	32
19	33	27	106	50	34	51	41	40	69	37	34	32
20	32	27	99	44	34	47	39	40	81	37	57	42
21	29	27	91	32	35	130	39	45	97	36	42	59
22	23	27	75	29	34	404	53	144	97	36	41	36
23	24	26	43	28	35	170	42	114	136	34	47	34
24	33	26	24	28	34	79	40	69	133	36	42	34
25	35	26	23	27	51	63	40	54	104	36	32	59
26	36	71	23	27	49	58	38	51	100	36	32	39
27	34	28	23	27	40	54	37	95	98	35	32	37
28	32	25	22	26	38	49	37	66	72	33	32	36
29	30	24	22	26	---	80	34	55	34	30	33	35
30	30	25	24	51	---	474	32	42	31	31	33	34
31	36	---	25	36	---	157	---	39	---	33	50	---
TOTAL	821	991	1581	898	971	2771	1725	1500	2617	1446	1156	1102
MEAN	26.5	33.0	51.0	29.0	34.7	89.4	57.5	48.4	87.2	46.6	37.3	36.7
MAX	36	84	195	51	51	474	228	144	493	110	63	64
MIN	21	24	22	25	29	36	32	26	30	30	24	29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2001, BY WATER YEAR (WY)

	MEAN	38.8	48.2	51.7	54.0	58.1	78.8	77.9	61.9	50.1	45.5	42.3	41.8
MAX	143	131	129	151	135	197	198	155	175	180	127	196	
(WY)	1956	1978	1984	1979	1973	1953	1983	1989	1972	1945	1971	1999	
MIN	10.2	9.83	15.8	10.8	15.7	34.8	28.9	21.2	18.2	14.2	10.0	9.45	
(WY)	1942	1950	1940	1954	1954	1965	1991	1992	1939	1944	1935	1939	

## HACKENSACK RIVER BASIN

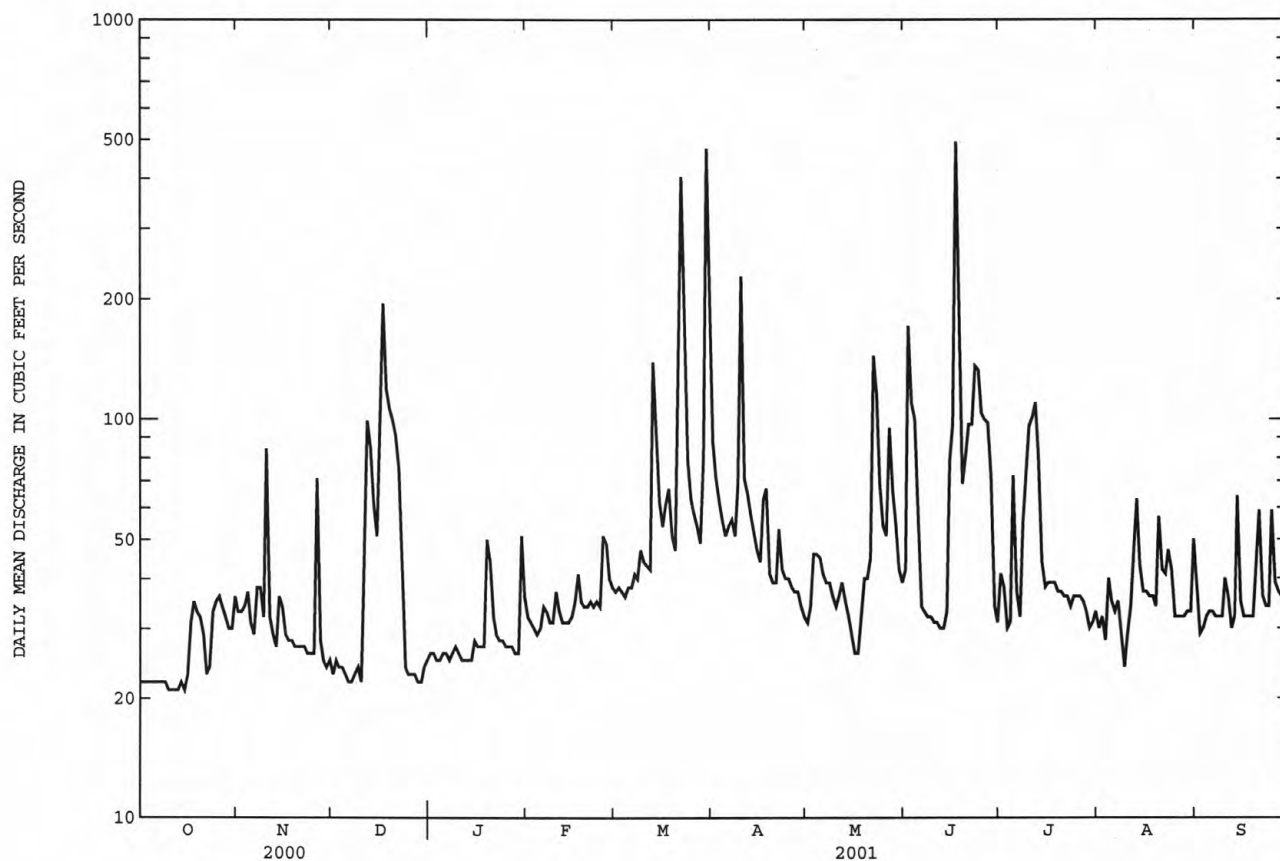
01377500 PASCACK BROOK AT WESTWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1935 - 2001	
ANNUAL TOTAL	17339		17579			
ANNUAL MEAN	47.4		48.2		54.0	
HIGHEST ANNUAL MEAN					88.6	
LOWEST ANNUAL MEAN					27.6	
HIGHEST DAILY MEAN	321	Jul 30	493	Jun 17	1770	Aug 28 1971
LOWEST DAILY MEAN	18	Jan 19	21	Oct 10	.45	Apr 26 1991
ANNUAL SEVEN-DAY MINIMUM	18	Jan 18	21	Oct 9	6.3	Oct 19 1949
MAXIMUM PEAK FLOW			1200	Jun 17	9630a	Sep 16 1999
MAXIMUM PEAK STAGE			4.87	Jun 17	12.22b	Sep 16 1999
INSTANTANEOUS LOW FLOW			18	Dec 30	.05c	Apr 23 1991
10 PERCENT EXCEEDS	98		84		96	
50 PERCENT EXCEEDS	34		35		39	
90 PERCENT EXCEEDS	22		25		19	

a From rating curve extended above 2,400 ft<sup>3</sup>/s on basis of contracted-opening computation of peak flow

b From floodmark

c Also occurred Sept. 28, 1993.



## HACKENSACK RIVER BASIN

41

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 bridge on Elm Street, 0.6 mi downstream from Oradell Reservoir Dam, and 4.0 mi downstream from the mouth of Pascack Brook.

DRAINAGE AREA.--113 mi<sup>2</sup>.

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 sea level. 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 good except those below 20 ft<sup>3</sup>/s which are fair, and those below 2 ft<sup>3</sup>/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 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	1.8	15	14	20	13	290	13	1.1	20	.57	1.1
2	14	1.4	12	18	16	13	122	14	192	10	.57	.57
3	12	1.4	14	18	14	12	47	14	117	.86	.58	.50
4	12	1.5	17	16	17	12	18	13	22	1.1	.91	.53
5	11	2.1	17	15	14	12	16	15	22	1.6	1.2	.57
6	11	8.9	16	15	14	11	130	15	22	.94	.93	.57
7	13	4.3	16	15	15	13	172	14	22	.77	.80	.58
8	11	4.0	17	15	14	13	24	13	22	1.6	.64	.59
9	12	1.8	16	16	16	12	168	13	22	.75	.57	.58
10	12	11	15	15	14	12	852	.57	22	.74	.89	1.5
11	11	12	15	15	15	11	419	.36	9.5	1.0	1.2	.61
12	11	11	16	15	15	11	102	.39	.80	.81	1.1	.52
13	12	9.9	17	15	14	11	60	.40	.80	.87	2.1	.56
14	8.5	11	16	15	14	11	61	.43	.80	1.0	1.6	3.5
15	7.6	10	14	15	12	11	59	.46	.80	1.1	1.2	.42
16	10	9.7	14	15	15	10	73	.40	.67	.96	.87	.40
17	10	12	18	15	13	8.2	72	.39	568	.80	.66	.40
18	12	14	16	14	13	10	35	.40	932	.81	.57	.40
19	11	12	17	16	14	9.9	22	.35	139	.75	.57	.40
20	9.4	9.5	16	15	14	72	22	.29	35	.80	1.7	1.2
21	2.5	10	16	15	15	344	21	.52	81	.78	2.2	1.6
22	3.9	11	15	14	16	378	20	2.0	160	.74	1.8	.41
23	5.3	9.1	13	14	12	401	15	.48	325	.78	1.7	.40
24	3.9	11	13	14	13	23	11	.24	208	.73	1.9	1.4
25	3.6	11	14	14	13	29	14	.19	216	.52	1.7	3.6
26	3.1	11	14	15	14	42	13	.39	25	.58	1.5	2.0
27	1.7	11	14	16	13	107	13	.62	24	.57	.85	2.0
28	2.5	16	14	15	12	192	12	.29	24	1.1	.58	2.2
29	4.9	15	17	15	---	867	12	.85	22	1.5	.58	1.8
30	5.3	18	14	17	---	868	12	.50	20	.94	.44	1.5
31	2.7	---	13	13	---	1160	---	.40	---	.69	1.4	---
TOTAL	266.9	272.4	471	469	401	4699.1	2907	134.92	3256.47	56.19	33.88	32.41
MEAN	8.61	9.08	15.2	15.1	14.3	152	96.9	4.35	109	1.81	1.09	1.08
MAX	17	18	18	18	20	1160	852	15	932	20	2.2	3.6
MIN	1.7	1.4	12	13	12	8.2	11	.19	.67	.52	.44	.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

	MEAN	34.2	61.3	84.3	99.2	121	203	193	119	59.9	44.1	37.7	43.7
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	.000	.000	.000	.000	.000	.000	.000	.39	.000	.000	.000	.000	
(WY)	1922	1924	1932	1971	1977	1981	1981	1985	1977	1954	1924	1923	

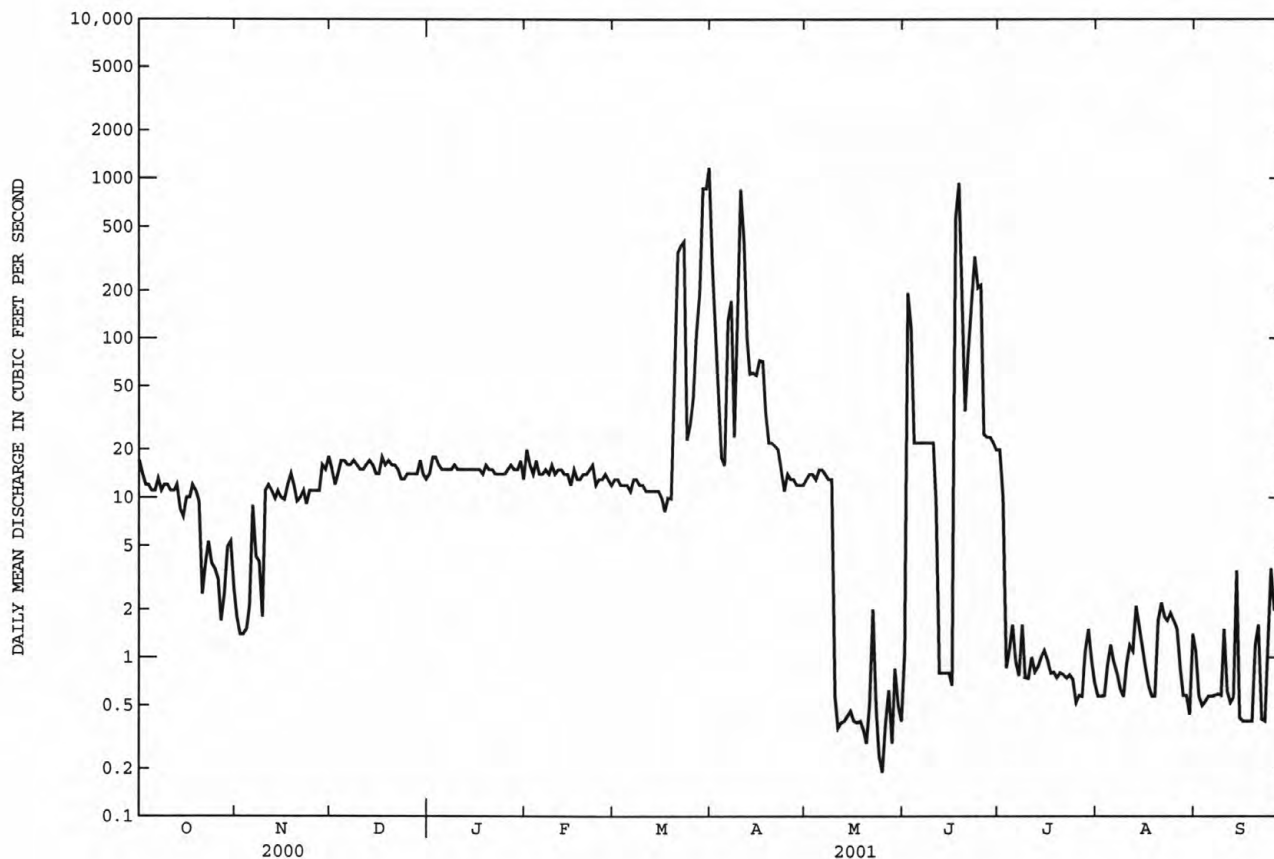
## HACKENSACK RIVER BASIN

01378500 HACKENSACK RIVER AT NEW MILFORD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1922 - 2001
ANNUAL TOTAL	9033.47	13000.27	91.5
ANNUAL MEAN	24.7	35.6	263
HIGHEST ANNUAL MEAN			.40 1928
LOWEST ANNUAL MEAN			.00 1981
HIGHEST DAILY MEAN	509 Jul 31	1160 Mar 31	5580 Sep 17 1999
LOWEST DAILY MEAN	.41 Jul 9	.19 May 25	.00 Oct 1 1921
ANNUAL SEVEN-DAY MINIMUM	.72 Jul 8	.39 May 14	.00 Oct 1 1921
MAXIMUM PEAK FLOW		1820 Jun 18	9760a Sep 17 1999
MAXIMUM PEAK STAGE		4.45 Jun 18	11.45b Sep 17 1999
INSTANTANEOUS LOW FLOW		.18 Aug 31	.00 Many days
10 PERCENT EXCEEDS	19	31	268
50 PERCENT EXCEEDS	14	12	15
90 PERCENT EXCEEDS	4.0	.57	.00

a From rating curve extended above 1,700 ft<sup>3</sup>/s on basis of flow-over-dam computation of peak flow

b From high-water mark in gage house





## RESERVOIRS IN HACKENSACK RIVER BASIN

01376700 DE FOREST LAKE.--Lat 41°06'23", long 73°58'01", Rockland County, NY, Hydrologic Unit 02030103, at dam on Hackensack River, 0.8 mi north of West Nyack, NY. DRAINAGE AREA, 27.5 mi<sup>2</sup>. 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 sea level.

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 mi<sup>2</sup>. 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 sea level.

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 mi<sup>2</sup>. 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 sea level.

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 mi<sup>2</sup>. 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 sea level.

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 2000 TO SEPTEMBER 2001

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01376700 DE FOREST LAKE				01376950 LAKE TAPPAN		
Sept.30.....	83.60	5,220	--	54.18	3,562	--
Oct. 31.....	81.99	4,717	-25.1	49.74	2,130	-71.5
Nov. 30.....	81.56	4,588	-6.7	49.52	2,067	-3.2
Dec. 31.....	82.05	4,737	+7.4	50.47	2,345	+13.9
CAL YR 2000			-4.0			-4.7
Jan. 31.....	82.45	4,861	+6.2	50.51	2,360	+7
Feb. 28.....	83.92	5,321	+25.4	51.47	2,656	+15.8
Mar. 31.....	85.36	5,808	+24.3	55.43	4,007	+67.4
Apr. 30.....	84.98	5,663	-7.5	55.07	3,877	-6.7
May 31.....	84.80	5,606	-2.8	54.11	3,537	-17.0
June 30.....	85.03	5,679	+3.8	55.08	3,879	+17.6
July 31.....	84.04	5,360	-15.9	53.20	3,224	-32.7
Aug. 31.....	82.20	4,781	-28.9	51.16	2,560	-33.1
Sept.30.....	81.19	4,476	-15.7	50.15	2,249	-16.0
WTR YR 2001			-3.1			-5.6
Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01377450 WOODCLIFF LAKE				01378480 ORADELL RESERVOIR		
Sept.30.....	90.42	622	--	19.97	2,694	--
Oct. 31.....	88.43	523	-4.9	19.27	2,529	-8.2
Nov. 30.....	91.25	666	+7.4	19.88	2,672	+7.4
Dec. 31.....	88.67	534	-6.6	20.43	2,804	+6.6
CAL YR 2000			-4			+1.2
Jan. 31.....	88.59	530	-2	19.60	2,607	-9.8
Feb. 28.....	90.33	618	+4.9	19.61	2,608	+1
Mar. 31.....	91.36	671	+2.6	21.48	3,065	+22.8
Apr. 30.....	91.07	657	-7	20.37	2,789	-14.3
May 31.....	91.14	660	+2	21.03	2,952	+8.1
June 30.....	92.06	709	+2.5	21.76	3,137	+9.5
July 31.....	88.73	537	-8.6	19.20	2,512	-31.2
Aug. 31.....	87.35	471	-3.3	19.83	2,660	+7.4
Sept.30.....	88.19	511	+2.1	20.31	2,775	+5.9
WTR YR 2001			-5			+3

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

## HACKENSACK RIVER BASIN

## 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 (formerly Spring Valley Water Company), 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 includes 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).
- 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 2000 TO SEPTEMBER 2001

MONTH	01376699 UNITED WATER NEW YORK.	01376810 WEST NYACK, NY	01378490 UNITED WATER NEW JERSEY
October .....	12.3	3.13	139
November .....	12.4	2.64	135
December .....	12.3	2.93	130
CAL YR 2000 .....	13.4	2.95	146
January .....	12.4	3.08	132
February .....	12.4	3.12	141
March .....	11.9	3.08	144
April .....	12.2	2.77	141
May .....	15.3	3.09	172
June .....	16.5	3.12	183
July .....	17.7	3.28	185
August .....	18.5	3.42	191
September .....	15.5	3.55	174
WTR YR 2001 .....	14.1	3.09	155

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

MONTH	01376272 SPARKILL CREEK (HUDSON RIVER BASIN)	01378521 HIRSHFELD BROOK (HACKENSACK RIVER BASIN)	01388981 POMPTON RIVER (PASSAIC RIVER BASIN)	01390520 SADDLE RIVER (PASSAIC RIVER BASIN)	WELLS TO SURFACE SUPPLY
October .....	0	.39	0	5.54	.45
November .....	0	2.25	30.5	11.5	.40
December .....	0	1.50	18.0	7.72	.24
CAL YR 2000 .....	.06	.59	9.67	4.40	.46
January .....	0	0	24.3	.01	.24
February .....	0	0	16.8	0	.21
March .....	0	0	10.9	0	.21
April .....	0	0	0	0	.47
May .....	0	6.00	51.6	12.6	.59
June .....	0	2.11	10.4	1.65	.60
July .....	0	1.45	26.2	8.04	.43
August .....	0	2.22	66.3	10.4	2.19
September .....	0	1.52	62.2	10.9	2.50
WTR YR 2001 .....	0	1.46	26.4	5.72	.71

## PASSAIC RIVER BASIN

45

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ

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

DRAINAGE AREA.--55.4 mi<sup>2</sup>.

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 sea level (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, except for estimated daily discharges which are poor. 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 telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	7.3	93	22	149	163	381	30	55	40	5.6	6.6
2	22	7.4	76	22	172	134	317	29	335	45	5.3	5.5
3	21	7.2	60	22	169	118	227	28	425	33	5.0	4.8
4	20	7.4	49	22	147	108	163	25	344	36	11	4.9
5	22	8.1	42	22	118	100	125	24	281	62	15	4.9
6	22	8.6	36	22	97	91	108	22	201	45	10	4.3
7	21	8.7	31	22	108	94	113	21	128	35	8.2	4.0
8	19	8.7	28	22	119	108	104	20	79	30	6.7	3.9
9	19	16	25	24	116	117	105	20	55	32	5.7	4.2
10	18	71	22	26	153	130	148	20	43	27	5.1	4.5
11	18	85	23	25	207	120	140	19	36	22	12	8.6
12	22	50	28	25	169	109	150	18	39	20	11	5.9
13	24	47	27	24	137	205	142	17	33	17	26	4.7
14	17	45	69	24	126	277	118	15	29	16	31	25
15	14	51	114	26	130	249	100	16	27	15	17	22
16	13	40	98	31	140	207	97	16	26	13	14	13
17	13	37	185	36	160	176	94	15	86	14	12	12
18	17	34	293	37	148	158	101	16	125	17	9.5	11
19	23	29	270	53	123	132	97	18	114	13	8.1	9.6
20	17	24	249	101	107	110	81	16	103	11	8.4	9.6
21	14	21	208	102	109	109	76	17	88	9.8	14	28
22	12	18	143	102	95	252	70	57	73	9.1	8.0	19
23	10	15	e96	100	79	266	64	80	69	8.5	7.6	14
24	8.9	13	75	95	81	218	53	64	130	8.1	16	13
25	8.2	11	55	90	89	170	49	50	103	7.5	9.8	17
26	7.3	67	38	81	193	135	47	53	83	9.9	8.2	18
27	6.8	163	31	73	220	112	43	136	62	9.3	7.4	12
28	7.3	135	28	66	199	97	40	134	50	7.7	6.8	11
29	7.2	122	23	59	---	85	37	98	43	7.4	6.3	11
30	7.3	110	22	68	---	254	35	78	37	6.8	5.8	10
31	7.0	---	21	115	---	422	---	60	---	6.0	6.1	---
TOTAL	482.0	1267.4	2558	1559	3860	5026	3425	1232	3302	633.1	322.6	322.0
MEAN	15.5	42.2	82.5	50.3	138	162	114	39.7	110	20.4	10.4	10.7
MAX	24	163	293	115	220	422	381	136	425	62	31	28
MIN	6.8	7.2	21	22	79	85	35	15	26	6.0	5.0	3.9
CFSM	.28	.76	1.49	.91	2.49	2.93	2.06	.72	1.99	.37	.19	.19
IN.	.32	.85	1.72	1.05	2.59	3.37	2.30	.83	2.22	.43	.22	.22

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)

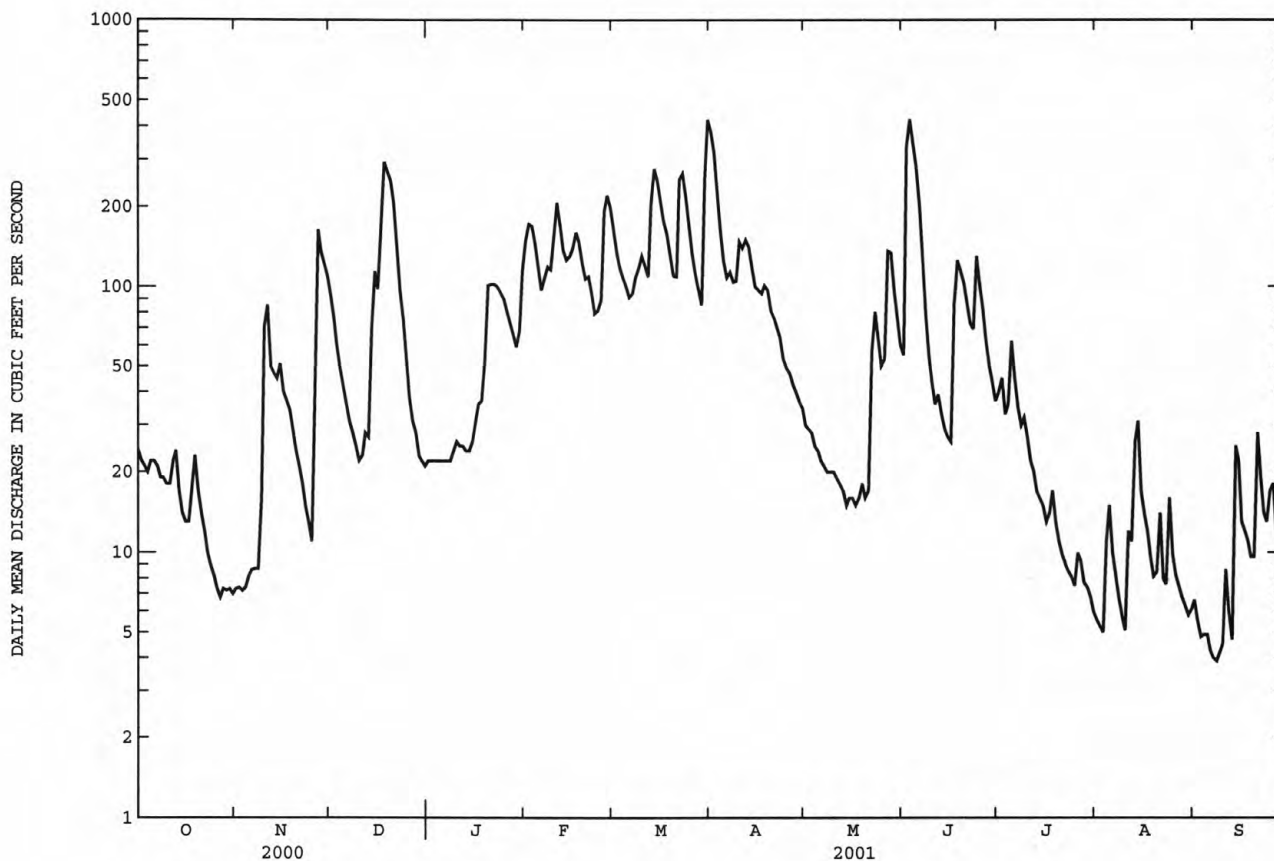
	MEAN	MAX	(WY)	MIN	(WY)
48.3	345	1997	3.56	1964	
84.9	340	1933	7.47	1966	
105	335	1984	8.18	1966	
114	463	1905	6.78	1981	
129	380	1904	26.1	1934	
186	439	1994	64.2	1981	
143	420	1983	25.9	1985	
93.0	365	1989	20.3	1965	
57.8	292	1972	3.95	1965	
44.4	307	1975	1.25	1965	
48.6	398	1942	1.37	1966	
51.6	380	1971	.73	1964	

## PASSAIC RIVER BASIN

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1904 - 2001	
ANNUAL TOTAL	24089.7		23989.1		91.1	
ANNUAL MEAN	65.8		65.7		163	
HIGHEST ANNUAL MEAN					32.3	
LOWEST ANNUAL MEAN					1984	
HIGHEST DAILY MEAN	293	Dec 18	425	Jun 3	2230	Oct 20 1996
LOWEST DAILY MEAN	5.1	Jul 13	3.9	Sep 8	.30	Sep 13 1966
ANNUAL SEVEN-DAY MINIMUM	7.0	Jul 8	4.4	Sep 4	.47	Sep 11 1964
MAXIMUM PEAK FLOW			460	Jun 3	2290	Oct 20 1996
MAXIMUM PEAK STAGE			6.70	Jun 3	9.89	Oct 20 1996
INSTANTANEOUS LOW FLOW			3.8	Sep 7	.20	Sep 12 1966
ANNUAL RUNOFF (CFSM)	1.19		1.19		1.64	
ANNUAL RUNOFF (INCHES)	16.18		16.11		22.34	
10 PERCENT EXCEEDS	148		155		222	
50 PERCENT EXCEEDS	45		31		48	
90 PERCENT EXCEEDS	15		7.5		9.0	

e Estimated.





## PASSAIC RIVER BASIN

47

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 mi<sup>2</sup>.

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 sea level. 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 telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jun 17	0430	*1,000	*5.69	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	23	155	49	363	352	644	65	113	123	21	22
2	37	23	127	47	364	309	605	62	478	198	20	22
3	37	23	103	47	353	260	529	57	641	145	20	18
4	34	23	80	49	298	217	441	54	656	109	24	18
5	39	23	75	54	208	197	355	51	567	184	39	18
6	38	22	65	59	208	186	282	48	474	166	38	18
7	34	23	54	55	264	186	241	45	383	107	28	18
8	32	23	49	55	254	219	215	43	280	83	24	17
9	29	24	43	59	241	270	208	42	165	73	23	17
10	27	177	39	58	359	284	302	42	105	68	32	17
11	27	190	42	52	425	258	323	42	80	58	29	19
12	27	124	39	50	415	222	328	40	114	53	42	18
13	27	86	38	49	360	413	316	37	125	46	108	19
14	31	103	185	48	304	443	283	36	80	41	107	137
15	27	108	268	56	285	456	237	34	63	37	75	115
16	24	90	207	71	301	422	209	32	67	35	44	59
17	23	72	519	86	333	388	196	33	421	34	35	35
18	37	65	584	93	319	349	193	34	358	79	32	30
19	47	59	551	182	268	301	189	34	315	59	27	26
20	43	53	467	387	227	247	170	35	239	39	24	36
21	32	48	388	370	222	257	151	41	228	32	28	100
22	27	45	315	e300	213	414	140	144	203	29	31	88
23	26	40	234	e230	163	419	129	207	194	27	29	53
24	25	37	190	e200	162	410	118	167	278	27	29	37
25	24	34	e140	e195	196	370	104	122	284	26	32	57
26	23	232	e108	e150	343	317	95	109	210	30	26	45
27	26	354	e88	e140	386	257	90	249	148	31	22	42
28	26	298	e70	e125	385	203	83	322	112	29	22	33
29	23	208	62	127	---	168	75	296	92	25	22	30
30	23	180	38	185	---	485	69	216	105	23	21	28
31	22	---	50	357	---	586	---	142	---	22	20	---
TOTAL	937	2810	5373	3985	8219	9865	7320	2881	7578	2038	1074	1192
MEAN	30.2	93.7	173	129	294	318	244	92.9	253	65.7	34.6	39.7
MAX	47	354	584	387	425	586	644	322	656	198	108	137
MIN	22	22	38	47	162	168	69	32	63	22	20	17
CFSM	.30	.94	1.73	1.29	2.94	3.18	2.44	.93	2.53	.66	.35	.40
IN.	.35	1.05	2.00	1.48	3.06	3.67	2.72	1.07	2.82	.76	.40	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

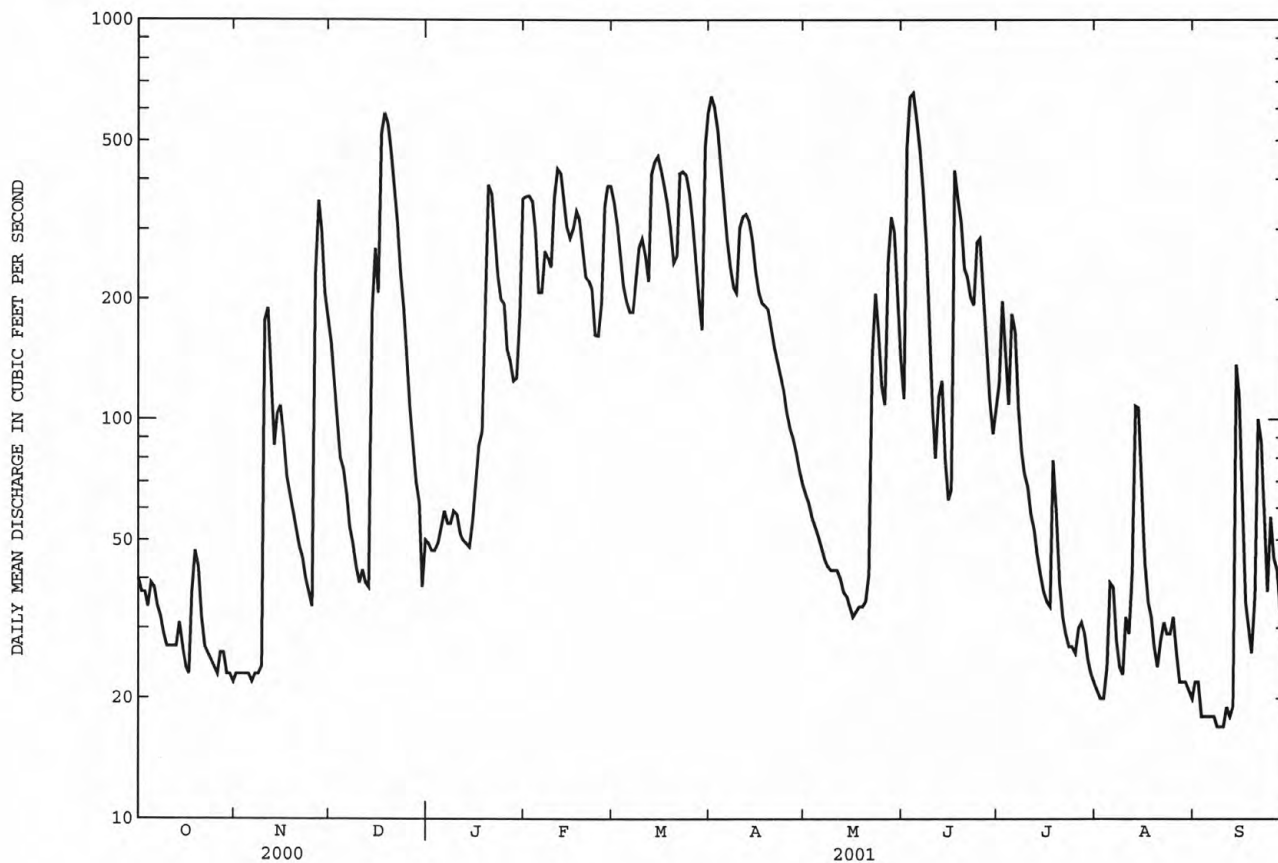
	MEAN	MAX	(WY)	MIN	(WY)
92.9	155	202	227	239	339
576	590	655	735	493	719
1904	1973	1984	1979	1908	1994
8.05	13.7	27.5	21.5	63.2	94.5
1965	1950	1999	1981	1980	1911
263	175	115	84.0	93.6	95.8
711	637	533	539	664	713
1983	1989	1972	1975	1942	1971
54.3	7.52	13.6	7.74	7.35	4.70
1985	1903	1965	1966	1957	1906

## PASSAIC RIVER BASIN

01379500 PASSAIC RIVER NEAR CHATHAM, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	51025		53272		172	
ANNUAL MEAN	139		146		305	1984
HIGHEST ANNUAL MEAN					67.7	1965
LOWEST ANNUAL MEAN					2990	Jan 9 1905
HIGHEST DAILY MEAN	700	May 21	656	Jun 4	2.0	May 15 1903
LOWEST DAILY MEAN	21	Jul 14	17	Sep 8	2.0	May 15 1903
ANNUAL SEVEN-DAY MINIMUM	23	Oct 31	18	Sep 4	3380	Aug 2 1973
MAXIMUM PEAK FLOW			1000	Jun 17	9.36a	Aug 2 1973
MAXIMUM PEAK STAGE			5.69	Jun 17	11	Jul 28 1999
INSTANTANEOUS LOW FLOW			16	Sep 9	1.72	
ANNUAL RUNOFF (CFSM)	1.39		1.46		23.38	
ANNUAL RUNOFF (INCHES)	18.98		19.82		456	
10 PERCENT EXCEEDS	311		359		84	
50 PERCENT EXCEEDS	94		80		17	
90 PERCENT EXCEEDS	32		23			

a From floodmark.  
e Estimated.



## PASSAIC RIVER BASIN

49

01379773 GREEN POND BROOK AT PICATINNY ARSENAL, NJ

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

DRAINAGE AREA.--7.65 mi<sup>2</sup>.

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

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

REMARKS.--Records fair except for discharges below 1.0 cfs which are poor. Discharges given herein includes flow through sluice gates when open. Some regulation by Lake Denmark and Green Pond. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft<sup>3</sup>/s and maximum (\*):

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.0	4.0	9.6	20	21	43	4.7	10	5.8	2.1	1.6
2	3.5	2.9	3.9	9.1	20	19	38	4.3	29	6.5	2.1	1.6
3	3.4	2.9	3.7	9.1	20	18	34	3.9	31	4.5	2.0	1.6
4	3.4	3.2	3.5	8.6	19	16	30	3.7	29	4.1	2.3	1.6
5	3.5	3.1	3.4	8.4	20	18	25	3.3	23	5.0	2.3	1.6
6	3.6	2.9	3.4	8.3	21	17	23	3.2	18	11	2.1	1.5
7	3.5	2.8	3.3	7.9	20	17	22	2.9	15	11	2.0	1.5
8	3.4	2.8	3.2	7.8	18	16	22	2.8	11	10	2.0	1.5
9	3.3	2.9	3.2	8.0	17	16	25	2.8	8.7	8.3	2.0	1.5
10	3.2	4.5	3.0	7.7	19	15	47	2.7	6.9	6.3	2.3	1.5
11	3.2	4.0	3.0	7.3	19	14	63	2.5	6.0	5.8	2.4	1.5
12	3.2	3.5	3.2	7.0	18	13	58	2.3	5.4	4.8	2.3	1.5
13	3.2	3.1	3.1	6.7	17	21	50	2.2	4.6	4.0	2.3	1.5
14	3.1	3.3	4.9	6.4	17	25	43	2.0	4.0	3.6	2.1	2.0
15	3.1	3.4	4.5	7.1	17	26	37	2.0	3.6	3.2	2.1	1.5
16	3.2	3.2	4.3	7.5	17	28	34	1.9	3.4	2.9	2.0	1.5
17	3.0	3.1	24	7.4	18	31	30	1.8	8.3	2.8	1.9	1.5
18	3.5	2.9	37	7.3	17	33	29	1.9	8.4	2.7	1.9	1.5
19	3.5	2.8	39	10	15	32	26	1.8	8.5	2.7	1.9	1.5
20	3.5	2.7	34	14	13	30	23	1.6	8.1	2.5	1.9	2.0
21	3.3	2.6	28	16	13	32	22	1.8	7.4	2.5	1.9	2.9
22	3.3	2.6	24	16	12	48	21	4.3	6.4	2.4	1.8	2.3
23	3.2	2.4	20	16	12	52	19	4.6	8.8	2.4	1.9	1.8
24	3.1	2.4	17	15	11	46	16	3.6	12	2.4	1.8	1.6
25	3.0	2.4	15	14	14	39	14	3.6	9.5	2.4	1.7	2.5
26	3.0	5.2	13	13	20	34	13	6.4	8.0	2.5	1.7	2.1
27	3.0	5.4	11	12	21	29	10	14	6.6	2.3	1.7	1.8
28	3.0	4.6	9.9	12	22	25	8.4	16	5.5	2.2	1.7	1.6
29	3.0	4.1	8.8	11	---	23	6.4	16	4.7	2.2	1.6	1.5
30	3.0	4.1	10	15	---	40	5.2	15	4.0	2.2	1.6	1.4
31	3.0	---	11	19	---	45	---	12	---	2.1	1.6	---
TOTAL	100.8	98.8	359.3	324.2	487	839	837.0	151.6	314.8	133.1	61.0	51.0
MEAN	3.25	3.29	11.6	10.5	17.4	27.1	27.9	4.89	10.5	4.29	1.97	1.70
MAX	3.6	5.4	39	19	22	52	63	16	31	11	2.4	2.9
MIN	3.0	2.4	3.0	6.4	11	13	5.2	1.6	3.4	2.1	1.6	1.4
CFSM	.43	.43	1.52	1.37	2.27	3.54	3.65	.64	1.37	.56	.26	.22
IN.	.49	.48	1.75	1.58	2.37	4.08	4.07	.74	1.53	.65	.30	.25

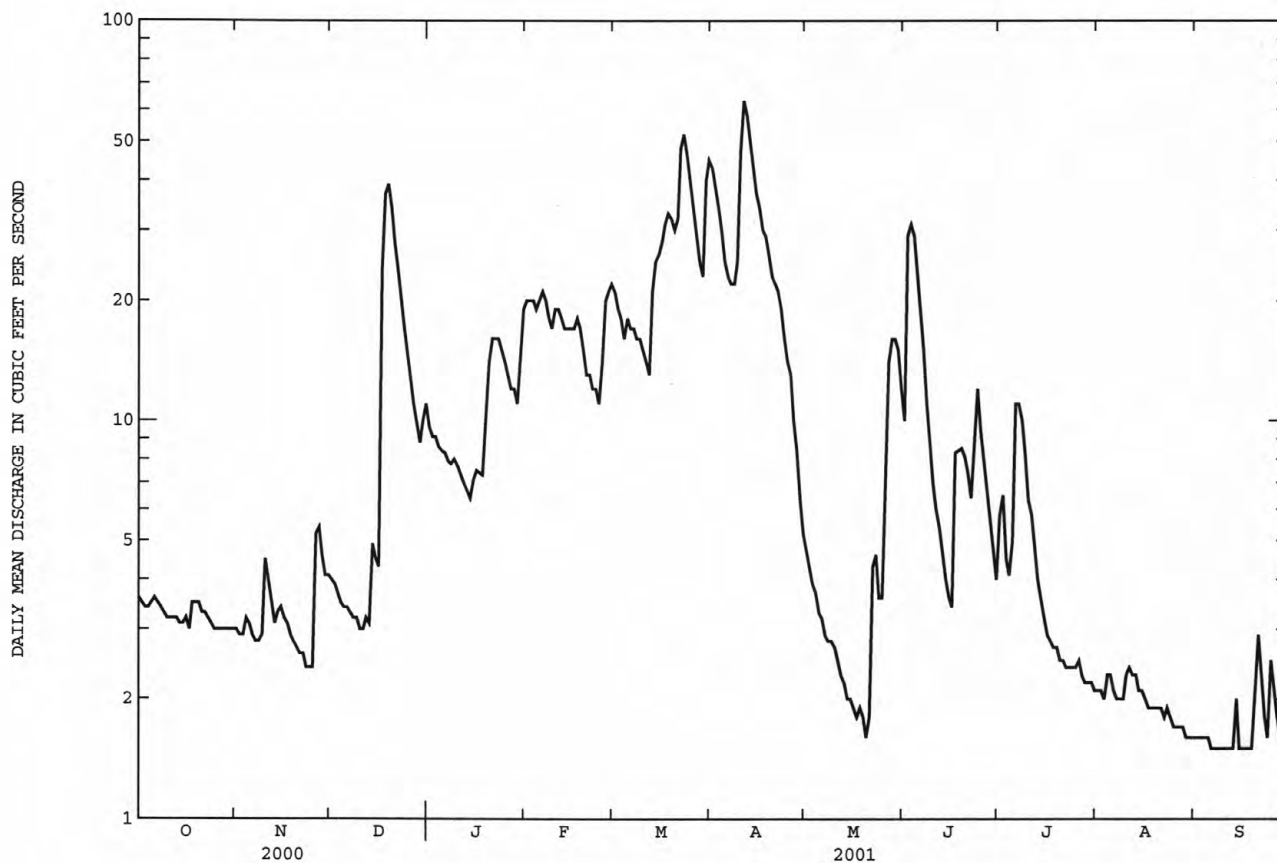
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2001, BY WATER YEAR (WY)

MEAN	6.94	10.4	16.9	15.6	16.6	23.9	25.2	17.1	10.7	7.25	6.72	5.60
MAX	26.1	22.4	49.5	45.5	32.0	49.5	64.1	50.6	29.1	32.6	31.9	24.7
(WY)	1990	1996	1997	1996	1996	1983	1983	1989	1998	1984	2000	1987
MIN	.68	.53	.55	5.85	5.92	10.5	3.84	4.49	2.55	1.71	1.49	1.36
(WY)	1998	1999	1999	1992	1992	1985	1985	1999	1999	1999	1999	1998

## PASSAIC RIVER BASIN

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

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1983 - 2001
ANNUAL TOTAL	4702.9	3757.6	
ANNUAL MEAN	12.8	10.3	13.5
HIGHEST ANNUAL MEAN			21.4
LOWEST ANNUAL MEAN			6.63
HIGHEST DAILY MEAN	91 Aug 13	63 Apr 11	248 Apr 5 1984
LOWEST DAILY MEAN	2.4 Nov 23	1.4 Sep 30	.22 Nov 23 1998
ANNUAL SEVEN-DAY MINIMUM	2.6 Nov 19	1.5 Sep 6	.25 Nov 19 1998
MAXIMUM PEAK FLOW		66 Apr 11	333 Apr 5 1984
MAXIMUM PEAK STAGE		2.35 Apr 11	3.51 Apr 5 1984
INSTANTANEOUS LOW FLOW		1.3 Sep 30	.19 Nov 23 1998
ANNUAL RUNOFF (CFSM)	1.68	1.35	1.77
ANNUAL RUNOFF (INCHES)	22.87	18.27	24.06
10 PERCENT EXCEEDS	25	25	30
50 PERCENT EXCEEDS	10	4.6	8.5
90 PERCENT EXCEEDS	3.2	1.8	2.4





## PASSAIC RIVER BASIN

51

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

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

DRAINAGE AREA.--9.16 mi<sup>2</sup>.

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 sea level (U.S. Army, Picatinny Arsenal, benchmark).

REMARKS.--Records fair, except for estimated daily discharges which are poor. 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 sea level, 200 ft upstream from bridge on Whitmore Avenue.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr 12	1230	*95	*3.12	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.1	3.9	e12	21	24	52	5.3	12	5.5	1.7	.55
2	2.2	1.1	3.7	e11	22	23	45	4.8	37	6.9	1.0	.55
3	2.2	1.1	3.3	e10	22	21	39	4.4	37	5.1	.65	.55
4	2.2	1.1	3.1	e9.8	21	20	33	3.8	33	4.6	.61	.55
5	2.4	1.1	3.1	e9.5	25	22	28	3.5	27	5.5	.55	.55
6	2.5	1.1	2.9	e9.3	24	21	26	2.9	22	8.8	.53	.48
7	2.3	1.1	2.8	e8.9	21	19	25	2.1	18	10	.55	.50
8	2.0	1.1	2.7	e8.8	19	18	23	1.9	14	11	.54	.37
9	1.9	1.1	2.5	e8.5	18	18	25	2.0	11	9.3	.52	.34
10	1.7	4.1	2.5	e8.5	20	17	51	1.8	8.5	7.1	.55	.33
11	1.8	4.7	2.5	e8.1	21	17	69	1.7	7.4	6.8	.52	.81
12	1.7	3.9	2.8	e7.6	20	16	79	1.6	7.3	5.5	.49	.38
13	1.7	3.3	2.4	e7.2	19	25	64	1.3	6.2	4.3	.46	2.3
14	1.7	3.6	6.2	e7.2	19	29	52	.92	7.0	3.5	.46	2.9
15	1.8	3.8	5.7	e7.6	19	31	43	.80	5.1	2.9	.41	2.7
16	1.9	3.3	4.9	e8.1	19	31	40	.77	4.4	2.5	.44	2.7
17	2.0	3.0	32	e8.1	21	35	34	.52	10	2.4	.46	2.6
18	2.8	2.9	47	e8.4	20	38	32	.90	10	2.3	.45	2.5
19	3.0	2.7	47	11	18	36	27	1.1	8.9	2.1	.46	2.5
20	2.6	2.6	42	14	16	34	25	1.0	8.6	1.9	.46	2.4
21	2.4	2.4	33	17	15	36	23	1.2	7.8	1.9	.45	1.3
22	2.3	2.2	27	16	15	58	23	6.6	7.1	1.9	.45	.76
23	3.6	2.1	22	16	15	62	20	7.5	10	1.9	.45	.76
24	4.0	2.0	19	16	13	57	17	5.7	15	2.0	.45	.66
25	3.8	2.0	18	14	16	48	15	4.7	12	2.1	.46	.40
26	3.7	6.8	17	14	23	40	14	7.7	9.2	2.0	.42	.26
27	3.7	8.1	16	13	25	33	11	18	7.2	1.8	.42	.25
28	3.5	5.8	15	12	25	28	8.6	19	6.0	1.8	.42	.24
29	3.4	4.7	e13	11	---	25	7.2	18	4.9	1.8	.45	.26
30	2.2	4.6	e13	16	---	50	5.9	17	4.1	1.7	.46	.27
31	1.1	---	e13	21	---	55	---	13	---	1.7	.54	---
TOTAL	76.2	88.5	429.0	349.6	552	987	956.7	161.51	377.7	128.6	16.78	31.72
MEAN	2.46	2.95	13.8	11.3	19.7	31.8	31.9	5.21	12.6	4.15	.54	1.06
MAX	4.0	8.1	47	21	25	62	79	19	37	11	1.7	2.9
MIN	1.1	1.1	2.4	7.2	13	16	5.9	.52	4.1	1.7	.41	.24
CFSM	.27	.32	1.51	1.23	2.15	3.48	3.48	.57	1.37	.45	.06	.12
IN.	.31	.36	1.74	1.42	2.24	4.01	3.89	.66	1.53	.52	.07	.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2001, BY WATER YEAR (WY)

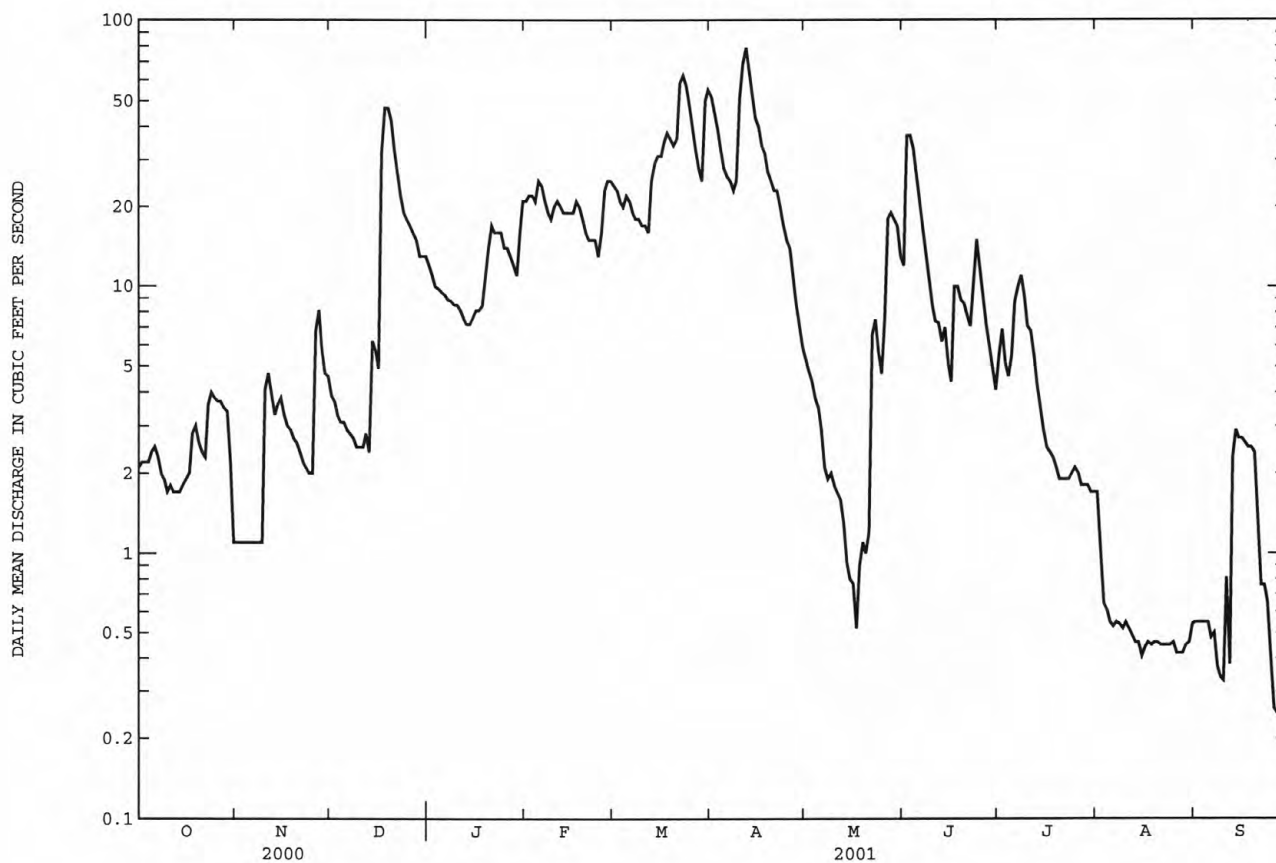
	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985
MEAN	7.82	12.8	19.7	18.2	18.0	25.4	25.0	19.2	11.5	6.11	7.61	6.78
MAX	33.3	29.5	60.7	51.2	31.8	39.8	51.1	66.7	32.4	18.4	38.5	36.7
(WY)	1990	1996	1997	1998	1999	1999	1993	1998	1998	1990	2000	1987
MIN	.71	.28	1.04	6.98	7.08	10.6	2.48	4.77	2.23	1.48	.45	1.06
(WY)	1985	1985	1999	1985	1992	1985	1985	1999	1987	1993	1999	2001

## PASSAIC RIVER BASIN

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

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1985 - 2001	
ANNUAL TOTAL	5206.5		4155.31		14.8	
ANNUAL MEAN	14.2		11.4		22.1	
HIGHEST ANNUAL MEAN					6.35	
LOWEST ANNUAL MEAN					206	
HIGHEST DAILY MEAN	135	Aug 13	79	Apr 12	.20	May 17 1990
LOWEST DAILY MEAN	1.1	Oct 31	.24	Sep 28	.20	Nov 20 1984
ANNUAL SEVEN-DAY MINIMUM	1.1	Oct 31	.33	Sep 24	.20	Nov 17 1984
MAXIMUM PEAK FLOW			95	Apr 12	290	Aug 12 2000
MAXIMUM PEAK STAGE					3.83	Aug 12 2000
INSTANTANEOUS LOW FLOW			.10	Sep 30	.10	Sep 30 2001
ANNUAL RUNOFF (CFSM)	1.55		1.24		1.62	
ANNUAL RUNOFF (INCHES)	21.14		16.88		21.99	
10 PERCENT EXCEEDS	28		30		33	
50 PERCENT EXCEEDS	10		5.5		9.1	
90 PERCENT EXCEEDS	2.4		.54		1.5	

e Estimated.



## PASSAIC RIVER BASIN

53

01379790 GREEN POND BROOK AT WHARTON, NJ

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

DRAINAGE AREA.--12.6 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 680.26 ft above sea level (U.S. Army, Picatinny Arsenal, bench mark).

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft<sup>3</sup>/s and maximum (\*):

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	2.6	8.3	16	36	e38	69	11	18	10	3.9	1.9
2	3.9	2.9	7.4	15	36	e34	63	9.9	72	12	3.8	1.9
3	3.5	2.7	6.5	14	35	e32	56	9.3	55	9.0	3.0	1.9
4	3.4	2.9	6.1	14	32	e29	50	8.5	46	9.0	3.0	1.6
5	4.1	2.7	5.9	14	34	e34	45	7.5	39	11	2.8	1.8
6	4.0	3.0	5.6	14	37	e32	43	7.3	32	15	2.7	1.8
7	3.9	2.7	5.3	13	33	e30	42	6.0	26	15	2.7	1.7
8	3.4	2.7	5.2	13	30	e28	40	5.5	22	17	2.5	1.7
9	3.2	2.7	5.1	14	29	e29	42	5.5	18	16	2.5	1.8
10	3.2	12	4.9	13	36	e27	71	5.4	15	12	5.8	1.5
11	3.2	8.7	5.0	12	36	e25	75	5.1	13	13	3.9	2.6
12	2.8	6.7	5.4	11	32	e24	84	4.8	13	9.9	3.1	1.9
13	2.9	5.5	5.1	11	31	e56	75	4.4	11	7.8	3.2	1.9
14	2.8	6.2	16	10	31	53	64	4.1	11	6.5	2.9	7.1
15	3.2	7.4	14	13	e31	52	56	3.7	9.7	5.8	2.8	4.6
16	3.2	5.8	11	14	e30	53	54	3.5	9.4	5.6	3.0	4.2
17	3.4	5.1	61	14	e31	57	47	3.7	27	5.6	2.7	4.0
18	5.4	4.6	71	13	e32	59	47	3.7	19	5.0	2.6	3.9
19	5.9	4.4	62	20	e31	55	41	3.8	15	4.7	2.3	3.6
20	4.5	4.1	56	28	e26	52	38	3.7	13	4.2	2.5	4.5
21	4.4	3.7	47	28	e23	57	36	4.1	12	4.1	2.5	8.0
22	4.4	3.4	40	26	e24	81	37	18	11	3.9	2.3	3.8
23	4.9	3.3	33	24	e23	76	33	17	18	3.7	2.6	2.6
24	6.1	3.1	28	24	e21	71	29	12	27	3.8	2.9	2.0
25	5.8	3.1	24	22	e20	64	25	9.0	18	3.7	2.5	5.0
26	5.7	19	21	21	e27	57	23	19	14	4.5	2.4	2.7
27	5.5	19	19	20	e41	50	20	45	12	3.8	2.0	2.0
28	5.5	12	17	18	e40	45	16	36	10	3.5	2.0	1.8
29	5.3	9.6	15	17	---	41	15	28	8.2	3.3	2.0	1.6
30	5.1	9.4	17	27	---	82	13	25	7.2	3.9	1.9	1.8
31	3.6	---	19	38	---	77	---	20	---	3.9	1.9	---
TOTAL	129.8	181.0	646.8	551	868	1500	1349	349.5	621.5	236.2	86.7	87.2
MEAN	4.19	6.03	20.9	17.8	31.0	48.4	45.0	11.3	20.7	7.62	2.80	2.91
MAX	6.1	19	71	38	41	82	84	45	72	17	5.8	8.0
MIN	2.8	2.6	4.9	10	20	24	13	3.5	7.2	3.3	1.9	1.5
CFSM	.33	.48	1.66	1.41	2.46	3.84	3.57	.89	1.64	.60	.22	.23
IN.	.38	.53	1.91	1.63	2.56	4.43	3.98	1.03	1.83	.70	.26	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2001, BY WATER YEAR (WY)

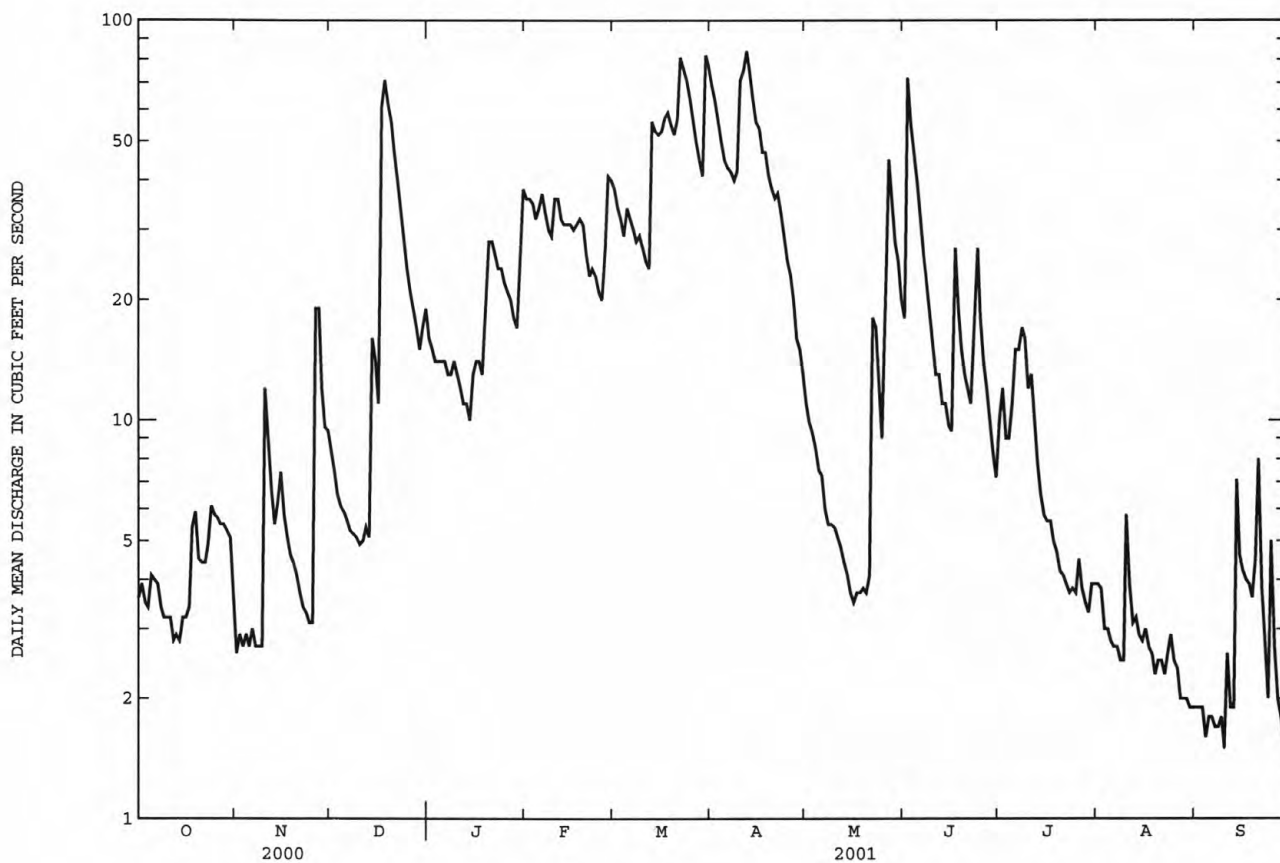
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	12.5	19.5	30.1	27.9	29.6	42.5	45.4	30.7	19.3	13.1	11.9	11.2							
MAX	46.7	46.3	79.4	80.2	49.7	89.2	112	87.0	40.9	61.4	59.7	54.0							
(WY)	1990	1996	1997	1996	1996	1983	1983	1989	1998	1984	2000	1987							
MIN	2.18	2.33	2.29	11.3	13.2	17.8	8.96	9.44	4.90	2.97	2.01	2.70							
(WY)	1999	1999	1999	1985	1992	1985	1985	1999	1999	1999	1999	1998							

## PASSAIC RIVER BASIN

01379790 GREEN POND BROOK AT WHARTON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1983 - 2001	
ANNUAL TOTAL	8264.2		6606.7		24.4	
ANNUAL MEAN	22.6		18.1		40.6	
HIGHEST ANNUAL MEAN					12.5	
LOWEST ANNUAL MEAN					512	
HIGHEST DAILY MEAN	372	Aug 13	84	Apr 12	.54	Apr 6 1984
LOWEST DAILY MEAN	2.3	Jul 14	1.5	Sep 10	.70	Sep 5 1999
ANNUAL SEVEN-DAY MINIMUM	2.8	Nov 3	1.7	Sep 4	572	Aug 30 1999
MAXIMUM PEAK FLOW			101	Mar 30	5.11	Apr 5 1984
MAXIMUM PEAK STAGE					.53	Aug 19 1999
INSTANTANEOUS LOW FLOW					1.94	
ANNUAL RUNOFF (CFSM)	1.79		.84	Sep 10	26.36	
ANNUAL RUNOFF (INCHES)	24.40		19.51		52	
10 PERCENT EXCEEDS	43		47		16	
50 PERCENT EXCEEDS	16		11		4.0	
90 PERCENT EXCEEDS	3.7		2.7			

e Estimated.





## PASSAIC RIVER BASIN

55

01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, NJ

LOCATION.--Lat 40°54'10", long 74°24'36", Morris County, Hydrologic Unit 02030103, on right bank, under New Jersey Transit railroad bridge, just downstream from bridge on Morris Avenue in Boonton, 1.8 mi upstream from dam at Boonton Reservoir.

DRAINAGE AREA.--116 mi<sup>2</sup>.

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

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

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

REMARKS.--Records good, except for estimated discharges, which are poor. Flow regulated by Splitrock Reservoir on Beaver Brook, 14.5 mi upstream from station (see Passaic River basin, reservoirs in). Town of Boonton diverts water for municipal supply from Taylortown Reservoir on Stony Brook, capacity, 75,000,000 gal and by pumping from wells in vicinity of Boonton. For diversion from Taylortown Reservoir, see Passaic River Basin diversions. Rockaway Valley trunk sewer bypasses the station (see station 01381000). Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	2315	989	3.55	Jun 2	1745	1,020	3.59
Mar 30	2315	*1,060	*3.63				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	40	112	e145	324	347	609	134	167	107	26	27
2	61	41	100	e135	295	336	547	133	760	130	27	25
3	67	39	83	e120	272	309	500	126	687	100	25	23
4	61	41	73	e125	239	303	453	122	455	90	81	21
5	54	39	71	e125	217	300	398	120	334	144	93	23
6	55	35	75	127	268	291	372	108	285	124	39	20
7	56	34	74	124	259	288	366	110	239	109	31	17
8	64	34	69	119	224	294	356	117	194	110	30	16
9	61	35	66	126	221	297	376	104	155	114	27	17
10	57	186	64	122	319	300	641	93	132	91	84	16
11	64	150	67	117	360	286	590	77	124	97	124	28
12	60	95	71	112	279	285	559	74	141	91	61	20
13	60	77	66	106	270	522	537	67	127	73	61	18
14	55	93	205	99	270	550	476	60	116	63	59	104
15	45	116	213	133	283	476	406	57	105	56	50	55
16	39	89	148	152	298	451	405	61	102	50	41	36
17	39	76	531	148	353	510	370	62	455	62	33	28
18	60	67	791	131	297	525	358	66	411	55	29	23
19	77	61	527	187	265	496	326	67	202	48	28	24
20	55	57	439	301	242	459	293	61	147	42	60	31
21	48	56	325	242	262	480	268	63	121	39	53	243
22	52	55	279	201	252	881	276	280	110	37	34	98
23	46	51	e190	184	242	724	267	309	235	33	49	55
24	42	48	e220	175	223	605	253	203	556	32	106	38
25	42	48	e190	162	274	547	238	159	313	34	44	125
26	43	241	e160	146	485	513	217	223	208	60	33	84
27	41	348	e110	143	451	477	204	497	163	42	27	57
28	41	178	e100	130	389	431	174	455	135	36	26	44
29	43	146	e100	120	---	392	150	312	114	33	32	39
30	40	132	113	214	---	744	146	274	98	30	24	44
31	40	---	137	377	---	853	---	207	---	27	22	---
TOTAL	1634	2708	5769	4848	8133	14272	11131	4801	7391	2159	1459	1399
MEAN	52.7	90.3	186	156	290	460	371	155	246	69.6	47.1	46.6
MAX	77	348	791	377	485	881	641	497	760	144	124	243
MIN	39	34	64	99	217	285	146	57	98	27	22	16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2001, BY WATER YEAR (WY)

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
MEAN	124	218	272	264	277	394	391	276	183	126	118	120
MAX	523	694	718	855	590	798	979	836	847	553	447	484
(WY)	1956	1973	1997	1979	1973	1977	1983	1989	1972	1975	1955	1971
MIN	23.7	47.8	49.5	74.8	107	152	87.0	90.5	35.3	18.1	16.6	16.8
(WY)	1965	1999	1999	1981	1940	1985	1985	1965	1965	1966	1957	1964

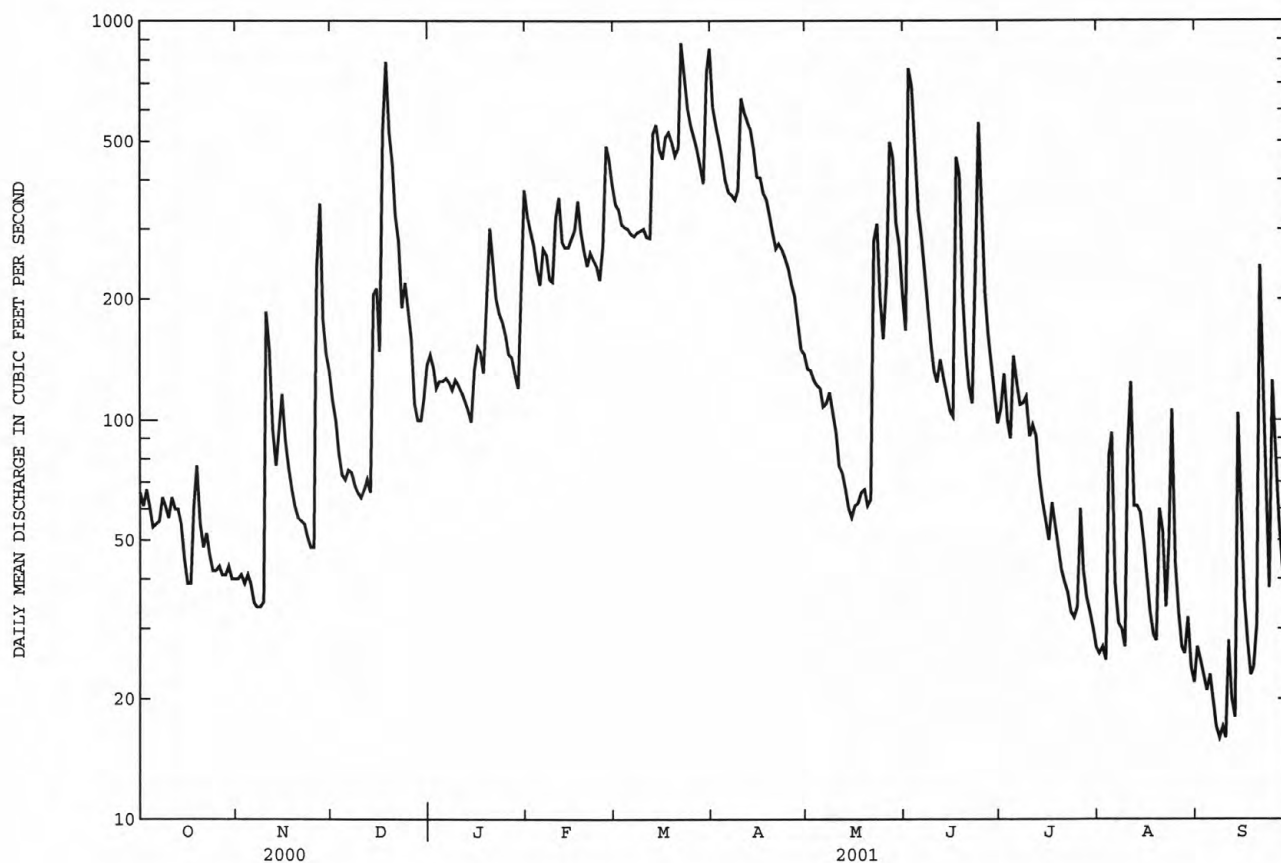
## PASSAIC RIVER BASIN

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

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1938 - 2001	
ANNUAL TOTAL	77029		65704		230	
ANNUAL MEAN	210		180		396	1952
HIGHEST ANNUAL MEAN					88.3	1965
LOWEST ANNUAL MEAN					5.7	Jan 25 1979
HIGHEST DAILY MEAN	2310	Aug 13	881	Mar 22	4220	Aug 10 1999
LOWEST DAILY MEAN	34	Nov 7	16	Sep 8	6.1	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	37	Nov 3	19	Sep 4	5590	Apr 5 1984
MAXIMUM PEAK FLOW			1060	Mar 30	7.23	Apr 5 1984
MAXIMUM PEAK STAGE			3.63	Mar 30	2.6a	Jan 15 2000
INSTANTANEOUS LOW FLOW			15	Sep 10	494	
10 PERCENT EXCEEDS	414		452		154	
50 PERCENT EXCEEDS	153		117		42	
90 PERCENT EXCEEDS	56		33			

a Result of a ice jam  $\frac{1}{4}$  mile upstream of gage.

e Estimated



## PASSAIC RIVER BASIN

57

## 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 mi<sup>2</sup>.

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	12	58	260	266	634	19	101	23	13	13
2	11	17	12	60	227	247	499	19	531	19	13	12
3	11	17	12	49	196	226	421	19	742	28	13	12
4	11	17	12	40	167	217	364	19	404	19	13	12
5	11	17	12	41	173	223	316	19	274	43	13	12
6	11	17	11	42	171	209	285	19	210	43	13	12
7	11	17	11	37	189	193	272	19	166	44	13	12
8	11	17	11	34	159	202	255	19	123	40	12	12
9	11	17	10	40	141	210	280	17	89	44	12	12
10	11	20	10	36	182	212	485	15	65	36	13	12
11	11	16	11	32	270	197	546	13	52	21	13	12
12	11	16	61	27	216	184	475	14	54	18	13	12
13	11	16	32	23	187	347	441	14	50	14	13	12
14	11	16	67	19	176	489	372	14	42	14	13	13
15	11	16	134	30	182	382	314	17	35	14	13	13
16	11	15	92	55	204	337	298	15	25	14	12	13
17	11	15	301	63	246	375	277	13	253	14	13	13
18	12	15	770	55	226	416	262	12	414	14	13	14
19	11	15	544	79	182	388	237	11	190	14	13	14
20	11	15	393	206	161	349	205	11	99	14	13	14
21	11	15	285	206	162	368	181	12	60	13	13	14
22	11	15	221	149	165	734	186	13	47	13	13	14
23	4.8	15	143	122	163	750	176	13	96	13	13	14
24	.53	15	134	110	141	582	169	12	452	13	13	14
25	6.3	15	125	97	161	489	148	12	326	13	13	14
26	9.7	19	89	80	314	429	133	13	178	13	13	14
27	10	15	83	78	353	377	120	109	111	13	13	14
28	11	12	79	64	305	332	100	349	65	13	12	13
29	11	11	49	54	---	301	78	253	41	13	12	13
30	11	11	59	95	---	561	40	199	32	13	12	13
31	11	---	48	257	---	895	---	136	---	13	12	---
TOTAL	318.33	468	3833	2338	5679	11487	8569	1439	5327	633	396	388
MEAN	10.3	15.6	124	75.4	203	371	286	46.4	178	20.4	12.8	12.9
MAX	12	20	770	257	353	895	634	349	742	44	13	14
MIN	.53	11	10	19	141	184	40	11	25	13	12	12
(I)	13	13.6	14.5	14.7	16.6	18.2	17.3	15.3	16.3	14.2	13.9	14

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2001, BY WATER YEAR (WY)

	MEAN	48.4	99.0	171	165	178	286	299	191	103	51.2	46.9	43.3
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	.23	.43	.35	.39	1.49	13.9	11.4	18.6	.40	.25	.29	.28	
(WY)	1964	1966	1966	1966	1966	1981	1985	1955	1957	1966	1966	1957	

## PASSAIC RIVER BASIN

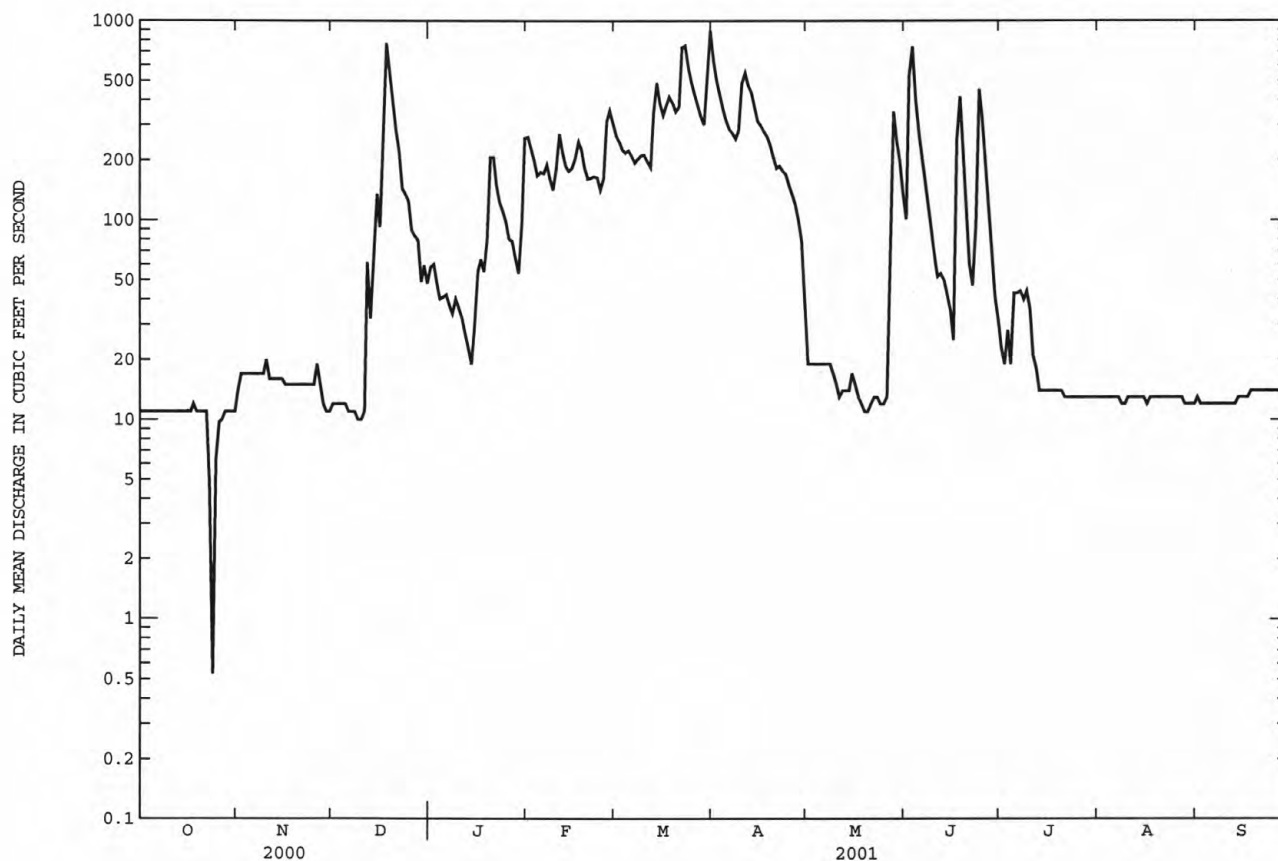
01381000 ROCKAWAY RIVER BELOW RESERVOIR, AT BOONTON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1950 - 2001
ANNUAL TOTAL	49513.33	40875.33	
ANNUAL MEAN	135	112	140
(I)	14.7	15.1	
HIGHEST ANNUAL MEAN			296
LOWEST ANNUAL MEAN			7.19
HIGHEST DAILY MEAN	2380 Aug 14	895 Mar 31	3850 Apr 6 1984
LOWEST DAILY MEAN	.53 Oct 24	.53 Oct 24	.00 Jan 19 1959
ANNUAL SEVEN-DAY MINIMUM	7.6 Oct 21	7.6 Oct 21	.00 Dec 18 1963
MAXIMUM PEAK FLOW		975 Mar 31	7560ab Oct 10 1903
MAXIMUM PEAK STAGE		4.54 Mar 31	--a Oct 10 1903
INSTANTANEOUS LOW FLOW		.07 Oct 25	.07 Oct 25 2000
10 PERCENT EXCEEDS	305	334	367
50 PERCENT EXCEEDS	65	21	39
90 PERCENT EXCEEDS	11	11	1.1

a Since 1903; see period of record section.

b Maximum daily

(I) Sewage effluent, in cubic feet per second, from plant at Rockaway Valley Regional Sewerage Authority.





## PASSAIC RIVER BASIN

59

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 mi<sup>2</sup>.

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 sea level (from topographic map).

REMARKS.--Records good, except for estimated discharges, which were fair. 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov 26	1945	153	5.02	Mar 30	1545	*209	*5.32
Dec 17	1845	193	5.25	Jun 2	1230	206	5.31
Mar 22	0415	169	5.12				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	5.7	8.4	e12	34	33	57	20	18	18	5.6	6.7
2	6.7	5.7	7.7	e11	29	32	51	19	154	16	5.4	4.9
3	6.5	5.5	7.2	e15	24	33	45	18	60	12	5.6	4.8
4	6.4	5.6	7.9	e11	20	33	41	17	29	15	11	4.9
5	7.1	5.4	6.6	e11	20	33	39	17	25	31	8.7	4.8
6	7.0	5.5	6.3	e11	29	31	41	16	22	15	6.2	4.5
7	6.6	5.5	6.4	e10	26	33	43	16	21	12	6.2	4.4
8	6.1	5.5	6.1	e12	23	35	41	16	19	15	5.6	4.5
9	6.1	5.7	6.0	e13	22	40	41	17	17	13	5.1	4.5
10	6.2	5.9	7.1	e12	51	38	49	17	17	11	12	4.6
11	6.2	14	6.2	e11	41	34	39	15	16	10	9.3	4.6
12	6.1	8.1	6.7	e11	29	33	48	17	19	9.4	8.7	3.9
13	6.1	7.1	6.1	e10	24	99	37	16	16	9.1	31	3.9
14	5.9	11	48	e10	25	63	32	12	15	8.8	16	16
15	5.9	10	22	e16	37	44	31	12	15	8.3	7.8	5.6
16	6.0	7.5	14	e16	34	41	38	12	15	8.0	6.7	4.7
17	6.5	6.9	118	15	46	50	35	13	71	8.1	6.3	4.6
18	9.0	6.5	80	12	30	47	46	14	26	8.3	5.9	4.5
19	8.0	6.2	22	38	25	38	32	13	17	7.9	5.7	4.4
20	6.4	6.2	16	51	26	35	29	12	15	7.5	18	11
21	6.3	6.2	13	28	31	45	28	16	14	7.2	7.7	25
22	6.1	6.1	12	28	25	128	27	44	14	6.9	5.9	6.2
23	5.9	5.9	14	17	31	62	25	30	38	6.7	13	5.3
24	5.8	5.9	10	14	22	47	26	20	56	6.5	12	5.0
25	5.9	6.1	9.2	14	42	43	23	16	21	6.4	6.6	16
26	5.9	6.9	9.2	16	88	41	22	44	16	11	5.9	6.5
27	6.0	51	9.6	13	55	38	22	89	14	7.2	5.6	5.4
28	5.7	13	9.6	12	43	36	21	43	13	6.5	5.6	5.2
29	5.4	10	9.4	14	---	34	20	26	12	6.4	5.4	5.0
30	5.6	10	12	36	---	138	20	23	12	6.2	5.1	4.8
31	5.6	---	e12	50	---	91	---	17	---	6.1	5.2	---
TOTAL	195.8	375.8	528.7	550	932	1528	1049	677	817	320.5	264.8	196.2
MEAN	6.32	12.5	17.1	17.7	33.3	49.3	35.0	21.8	27.2	10.3	8.54	6.54
MAX	9.0	69	118	51	88	138	57	89	154	31	31	25
MIN	5.4	5.4	6.0	10	20	31	20	12	12	6.1	5.1	3.9
CFSM	.45	.89	1.22	1.27	2.38	3.52	2.50	1.56	1.95	.74	.61	.47
IN.	.52	1.00	1.40	1.46	2.48	4.06	2.79	1.80	2.17	.85	.70	.52

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2001, BY WATER YEAR (WY)

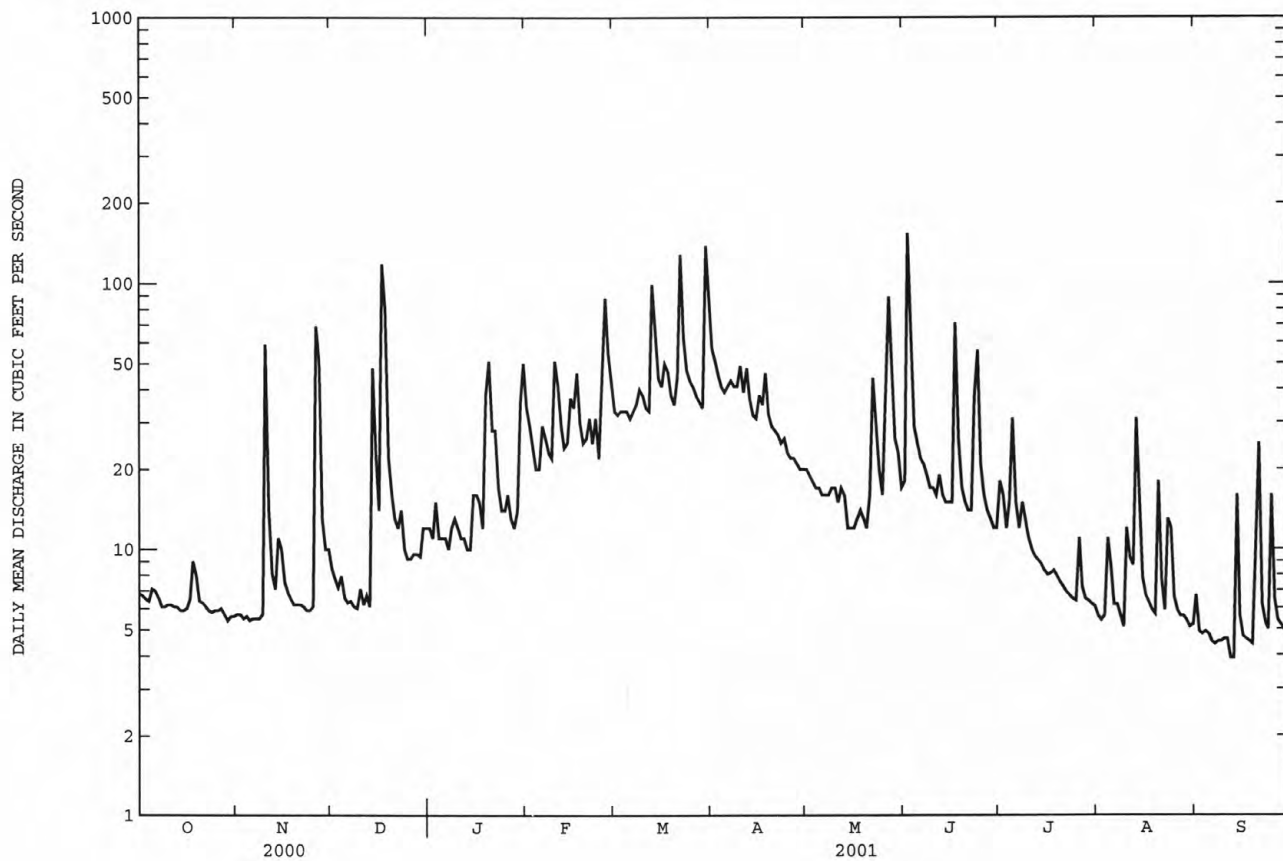
	1995	1996	1997	1998	1999	2000	2001
MEAN	35.2	22.1	39.6	39.5	37.9	45.6	43.0
MAX	145	40.4	154	73.8	52.3	52.1	60.6
(WY)	1997	1996	1997	1996	1999	1996	1998
MIN	6.32	7.03	6.03	17.7	22.2	32.2	27.2
(WY)	2001	1999	1999	2001	1999	2000	1999

## PASSAIC RIVER BASIN

01381400 WHIPPANY RIVER NEAR MORRISTOWN, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1995 - 2001	
ANNUAL TOTAL	7825.0		7434.8		30.2	
ANNUAL MEAN	21.4		20.4		20.4	1997
HIGHEST ANNUAL MEAN					50.9	2001
LOWEST ANNUAL MEAN					20.4	1996
HIGHEST DAILY MEAN	121	Jun 12	154	Jun 2	2000	Oct 20 1996
LOWEST DAILY MEAN	5.4	Oct 29	3.9	Sep 12	1.9	Aug 3 1999
ANNUAL SEVEN-DAY MINIMUM	5.5	Nov 2	4.3	Sep 7	2.1	Aug 2 1999
MAXIMUM PEAK FLOW			209	Mar 30	2950a	Oct 20 1996
MAXIMUM PEAK STAGE			5.32	Mar 30	9.31	Sep 16 1999
INSTANTANEOUS LOW FLOW			3.6	Sep 12	1.7	Aug 7 1999
ANNUAL RUNOFF (CFSM)	1.53		1.45		2.16	
ANNUAL RUNOFF (INCHES)	20.79		19.76		29.33	
10 PERCENT EXCEEDS	42		43		54	
50 PERCENT EXCEEDS	16		13		17	
90 PERCENT EXCEEDS	6.2		5.6		5.4	

a From rating curve extended above 530 ft<sup>3</sup>/s  
e Estimate



## PASSAIC RIVER BASIN

61

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 mi<sup>2</sup>.

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 sea level (levels from New Jersey Geological Survey bench mark). Prior to July 16, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good. 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 telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jun 2	0745	712	4.74	Aug 13	1515	*774	*4.88
Jun 17	0345	652	4.60				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	18	25	29	76	67	100	45	64	42	18	22
2	20	18	23	28	66	64	91	44	401	47	18	16
3	20	18	22	38	58	64	83	42	129	31	17	16
4	19	18	21	26	46	65	78	40	64	46	25	17
5	21	18	22	27	46	67	74	39	56	70	31	16
6	21	18	21	27	58	64	77	37	50	39	21	15
7	20	19	21	27	58	67	79	36	46	30	18	15
8	19	18	20	29	53	71	79	35	42	36	17	15
9	19	22	20	33	48	78	80	36	39	33	16	15
10	19	157	19	29	86	74	88	37	39	29	36	16
11	19	47	20	27	82	68	79	34	38	27	35	17
12	18	24	21	27	53	66	88	36	45	26	44	14
13	19	21	20	26	52	189	74	33	37	25	108	14
14	18	32	102	26	55	116	64	29	35	24	53	63
15	18	30	56	39	66	84	63	28	35	22	25	24
16	19	23	38	40	68	76	73	27	37	22	21	17
17	19	21	269	39	82	88	68	29	207	22	19	16
18	27	20	171	36	59	85	82	32	74	23	19	15
19	29	20	60	80	52	73	66	31	42	22	18	15
20	18	19	45	104	53	68	61	29	36	21	41	29
21	13	19	37	65	61	106	59	41	34	20	31	75
22	19	19	35	46	55	235	58	108	34	20	20	27
23	18	19	30	40	53	109	56	79	98	20	32	19
24	19	18	30	38	49	86	56	51	117	19	42	17
25	19	18	27	36	85	79	50	38	52	20	22	51
26	18	180	41	32	147	75	49	80	40	32	19	30
27	18	114	26	33	102	71	49	167	35	22	18	20
28	19	36	26	31	80	68	47	90	32	19	18	18
29	17	27	24	30	---	67	45	60	30	19	19	16
30	18	28	28	79	---	333	45	54	35	19	17	16
31	18	---	28	102	---	179	---	40	---	18	17	---
TOTAL	598	1059	1348	1269	1849	3002	2061	1507	2023	865	855	676
MEAN	19.3	35.3	43.5	40.9	66.0	96.8	68.7	48.6	67.4	27.9	27.6	22.5
MAX	29	180	269	104	147	333	100	167	401	70	108	75
MIN	13	18	19	26	46	64	45	27	30	18	16	14
CFSM	.66	1.20	1.48	1.39	2.25	3.29	2.34	1.65	2.29	.95	.94	.77
IN.	.76	1.34	1.71	1.61	2.34	3.80	2.61	1.91	2.56	1.09	1.08	.86

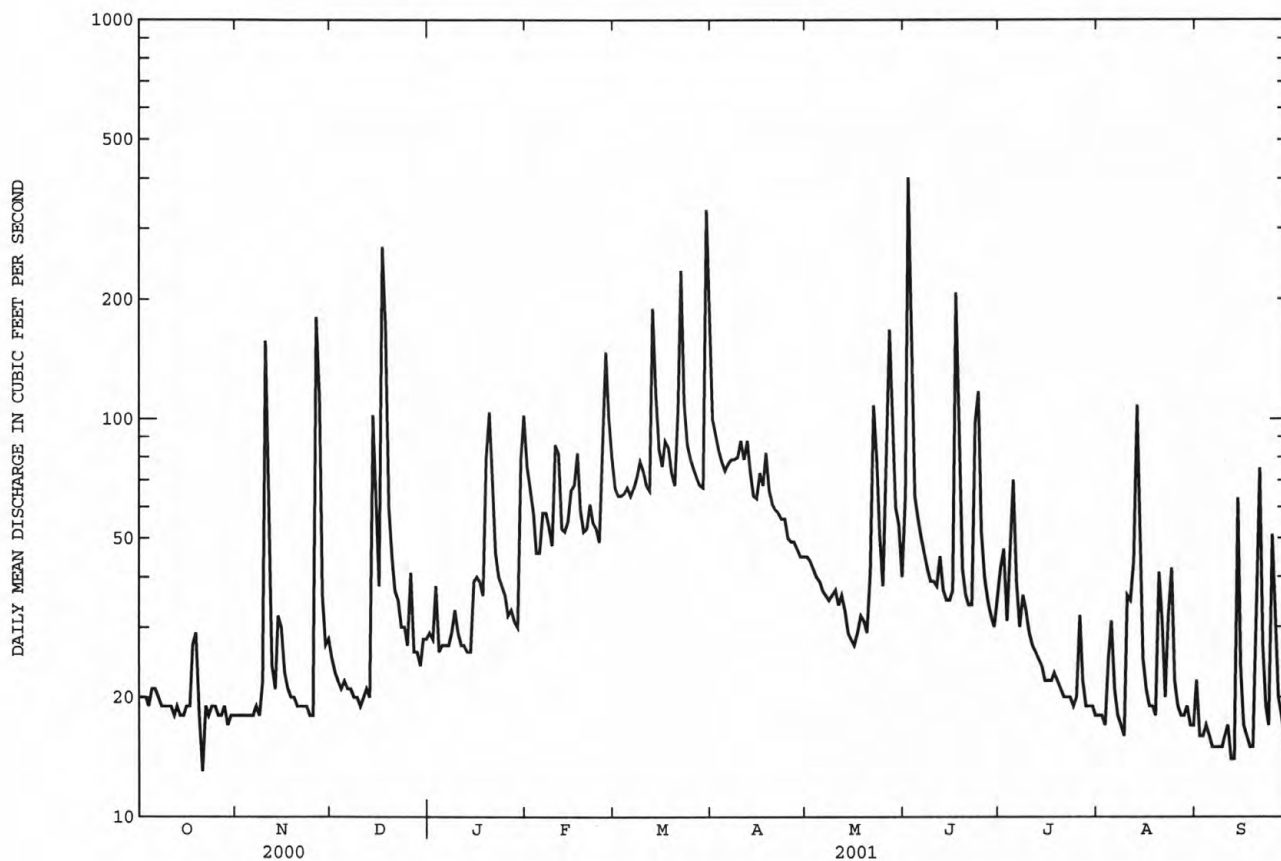
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

	32.7	45.5	54.4	59.3	64.7	87.5	87.3	66.8	47.5	38.4	35.3	34.7
MEAN	32.7	45.5	54.4	59.3	64.7	87.5	87.3	66.8	47.5	38.4	35.3	34.7
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	23.5	28.1	30.2	24.4	14.6	10.3	8.02	7.25
(WY)	1931	1937	1940	1922	1940	1981	1985	1941	1965	1965	1932	1932

## PASSAIC RIVER BASIN

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001	
ANNUAL TOTAL	17578		17112		54.4	
ANNUAL MEAN	48.0		46.9		98.5	
HIGHEST ANNUAL MEAN					23.3	
LOWEST ANNUAL MEAN					1984	
HIGHEST DAILY MEAN	291	Jul 27	401	Jun 2	1510	Aug 28 1971
LOWEST DAILY MEAN	13	Oct 21	13	Oct 21	4.2	Sep 10 1932
ANNUAL SEVEN-DAY MINIMUM	18	Oct 20	15	Sep 7	4.7	Sep 9 1932
MAXIMUM PEAK FLOW			774	Aug 13	2800	Aug 28 1971
MAXIMUM PEAK STAGE			4.88	Aug 13	8.60	Aug 28 1971
INSTANTANEOUS LOW FLOW			3.3	Oct 21	2.8	Aug 27 1932
ANNUAL RUNOFF (CFSM)	1.63		1.59		1.85	
ANNUAL RUNOFF (INCHES)	22.24		21.65		25.16	
10 PERCENT EXCEEDS	85		83		104	
50 PERCENT EXCEEDS	35		34		36	
90 PERCENT EXCEEDS	19		18		15	





## PASSAIC RIVER BASIN

63

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. Water-quality samples collected 450 ft upstream at bridge on Ridgedale Avenue.

DRAINAGE AREA.--68.5 mi<sup>2</sup>

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 sea level (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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	38	117	91	347	336	512	65	136	66	26	33
2	42	38	81	86	328	274	478	63	469	88	26	27
3	42	38	65	83	283	232	436	60	613	54	24	24
4	41	32	58	85	203	191	394	58	e490	58	28	24
5	45	30	57	83	153	167	348	56	e367	149	46	25
6	44	32	53	87	169	150	311	53	e300	108	33	23
7	42	34	51	86	179	132	299	51	e272	64	27	23
8	40	37	50	84	175	142	277	50	e240	67	25	22
9	39	40	48	85	145	144	e260	49	e209	67	24	22
10	39	250	45	72	204	163	e300	52	e184	51	40	27
11	39	e187	47	65	319	145	e311	49	e135	45	69	47
12	39	e137	53	64	297	119	e332	48	117	41	67	26
13	38	e83	55	62	240	190	e326	45	83	38	170	22
14	38	106	175	59	208	317	e312	41	67	36	185	131
15	37	142	306	84	205	308	e291	39	56	34	72	88
16	38	92	237	105	224	254	e278	39	54	33	45	39
17	42	74	397	112	274	215	e264	40	385	34	36	31
18	54	63	600	105	269	208	e259	46	e407	34	32	27
19	73	57	609	179	207	187	e247	48	e375	34	29	26
20	54	57	e433	366	166	172	233	41	e289	32	45	29
21	34	56	e351	390	158	172	196	48	e224	30	69	147
22	41	52	e321	342	142	342	185	198	e175	28	36	65
23	41	46	e257	275	125	410	169	234	e189	28	50	38
24	41	44	e191	212	110	390	153	159	e290	28	105	32
25	41	44	e155	166	125	348	132	93	e236	28	45	80
26	41	188	133	123	321	304	117	107	e182	45	32	61
27	41	e288	97	109	410	263	107	267	e144	37	29	36
28	42	e237	89	96	396	229	98	380	189	28	29	32
29	36	e197	79	83	---	197	82	381	103	27	32	29
30	34	e157	69	156	---	310	75	333	61	26	27	27
31	35	---	99	330	---	494	---	223	---	26	28	---
TOTAL	1295	2876	5378	4325	6382	7505	7782	3416	7041	1464	1531	1263
MEAN	41.8	95.9	173	140	228	242	259	110	235	47.2	49.4	42.1
MAX	73	288	609	390	410	494	512	381	613	149	185	147
MIN	34	30	45	59	110	119	75	39	54	26	24	22

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2001, BY WATER YEAR (WY)

	1997	1998	1999	2000	2001
MEAN	106	102	224	188	205
MAX	323	161	696	260	274
(WY)	1997	1997	1997	1997	1999
MIN	41.8	38.1	33.6	97.5	154
(WY)	2001	1999	1999	2000	1999

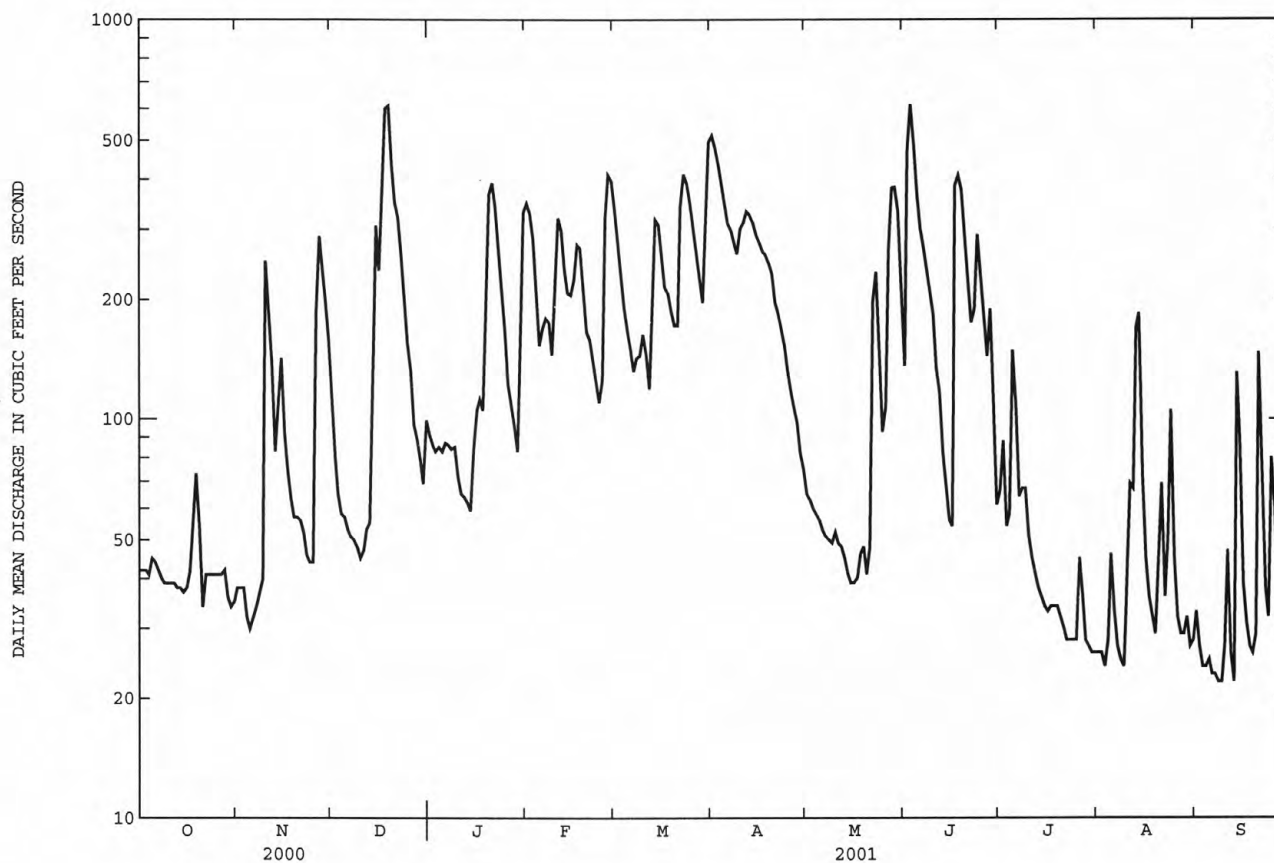
## PASSAIC RIVER BASIN

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1997 - 2001	
ANNUAL TOTAL	52928		50258		155	
ANNUAL MEAN	145		138		236	
HIGHEST ANNUAL MEAN					114	
LOWEST ANNUAL MEAN					1820	
HIGHEST DAILY MEAN	650	Aug 14	613	Jun 3	17	Oct 20 1996
LOWEST DAILY MEAN	30	Nov 5	22	many days	17	Aug 2 1999
ANNUAL SEVEN-DAY MINIMUM	34	Nov 2	23	Sep 3	17	Aug 2 1999
MAXIMUM PEAK FLOW			620	Jun 3	2080	Oct 20 1996
MAXIMUM PEAK STAGE			6.80	Jun 3	9.22a	Oct 22 1996
INSTANTANEOUS LOW FLOW			21	Sep 13	17	Aug 6 1993
10 PERCENT EXCEEDS	344		323		358	
50 PERCENT EXCEEDS	85		83		90	
90 PERCENT EXCEEDS	40		30		31	

a Stage on Oct.20,1996 was a higher elevation.

e Estimated



LOCATION.--Lat 40°51'45", long 74°19'18", Morris County, Hydrologic Unit 02030103, on left bank 20 ft downstream from bridge on U.S. Route 46, 0.5 mi east of Pine Brook, and 1.3 mi downstream from Rockaway River.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1963-69, 1973, and annual maximum, water years 1966-75, 1978-79. October 1979 to current year. Feb. 19 to Aug. 24, 1939 in files of U.S. Army Corps of Engineers, New York District.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 149.26 ft above sea level. December 1965 to September 1979, crest-stage gage at same site at datum 10.00 ft higher. Feb. 19 to Aug. 24, 1939, water-stage recorder at present State Route 506 bridge, 1,600 ft upstream from gage, operated by U.S. Army Corps of Engineers, New York District at datum 13.05 ft higher.

REMARKS.--Records good except those above 1,000 ft<sup>3</sup>/s, which are fair. Flow regulated by Boonton and Splitrock Reservoir (see Passaic River basin reservoirs in) and many small lakes. Water diverted from Boonton Reservoir for municipal supply of Jersey City (see Passaic River basin, diversions). Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 19	1200	*2,220	18.19	Apr 1	1130	2,210	*18.41
Mar 23	1745	2,090	18.28				

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	120	637	261	1010	1310	2200	251	535	310	105	109
2	159	127	476	264	1130	1220	2110	229	892	345	103	104
3	155	130	372	252	1130	1110	1920	217	1440	349	101	96
4	152	126	317	238	1010	983	1710	206	1780	328	104	95
5	158	123	281	228	890	901	1530	203	1720	402	127	96
6	164	122	253	231	789	832	1400	194	1540	422	129	94
7	159	122	234	232	817	765	1300	182	1380	362	122	93
8	148	123	223	228	843	743	1200	177	1210	311	112	91
9	142	121	217	255	797	762	1120	173	1010	290	103	89
10	140	446	205	250	828	821	1220	172	852	246	111	100
11	138	652	204	227	998	837	1290	168	663	216	187	181
12	137	596	219	216	1110	812	1350	163	509	191	169	129
13	136	429	270	208	1080	902	1350	159	398	172	342	101
14	135	341	432	201	1010	1160	1300	154	333	156	394	274
15	136	428	750	224	962	1380	1210	151	275	145	297	379
16	136	361	766	291	953	1410	1130	149	232	137	205	267
17	140	295	1030	333	1010	1390	1040	147	944	136	154	182
18	155	250	1780	348	1040	1380	958	153	1550	143	129	135
19	226	225	2200	433	973	1350	902	158	1670	174	117	117
20	194	213	2150	805	908	1290	830	151	1450	161	133	118
21	150	208	1950	948	852	1240	737	155	1210	136	177	293
22	124	196	1710	954	796	1630	674	364	981	122	130	311
23	120	183	1430	879	744	2040	621	500	860	117	140	224
24	113	171	1100	745	689	2030	560	461	994	116	256	165
25	109	164	843	612	649	1820	503	361	1140	115	168	227
26	116	416	570	492	897	1610	472	302	1090	135	126	250
27	118	870	400	424	1150	1460	422	434	929	137	113	177
28	137	943	322	380	1310	1330	389	639	759	121	110	146
29	124	916	265	338	---	1200	342	752	561	113	113	126
30	119	808	222	423	---	1320	304	765	381	109	106	116
31	118	---	280	812	---	1890	---	687	---	107	104	---
TOTAL	4420	10225	22108	12732	26375	38928	32094	8977	29288	6324	4787	4885
MEAN	143	341	713	411	942	1256	1070	290	976	204	154	163
MAX	226	943	2200	954	1310	2040	2200	765	1780	422	394	379
MIN	109	120	204	201	649	743	304	147	232	107	101	8

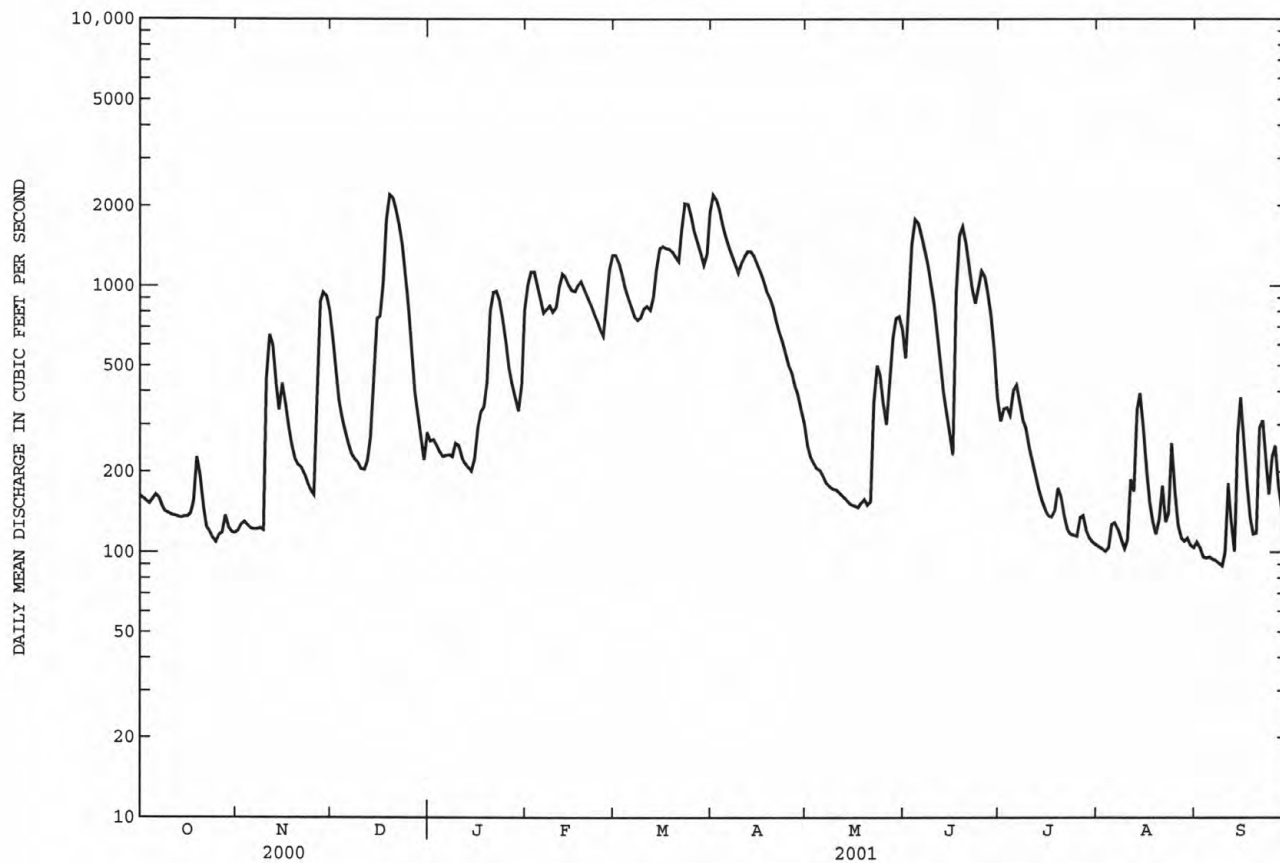
MEAN	384	537	755	670	794	1029	1148	774	539	349	285	291
MAX	1566	1355	2286	1516	1268	2204	2842	2537	1482	1485	1079	1204
(WY)	1997	1996	1984	1996	1996	1994	1983	1989	1984	1984	2000	1999
MIN	133	148	107	105	211	272	161	289	146	98.1	117	91.0
(WY)	1995	1999	1981	1981	1980	1981	1985	1995	1999	1999	1981	1980

## PASSAIC RIVER BASIN

01381900 PASSAIC RIVER AT PINE BROOK, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1980 - 2001	
ANNUAL TOTAL	211795		201143		628	
ANNUAL MEAN	579		551		1125	1984
HIGHEST ANNUAL MEAN					276	1981
LOWEST ANNUAL MEAN					7910	Apr 7 1984
HIGHEST DAILY MEAN	3040	Aug 15	2200	Dec 19	72	Sep 29 1980
LOWEST DAILY MEAN	109	Oct 25	89	Sep 9	78	Oct 12 1980
ANNUAL SEVEN-DAY MINIMUM	119	Oct 24	93	Sep 3	8000	Apr 7 1984
MAXIMUM PEAK FLOW			2220	Dec 19	22.90a	Apr 7 1984
MAXIMUM PEAK STAGE			18.19	Dec 19	70	Sep 29 1980
INSTANTANEOUS LOW FLOW			86	Sep 9	1490	
10 PERCENT EXCEEDS	1230		1310		362	
50 PERCENT EXCEEDS	398		310		123	
90 PERCENT EXCEEDS	146		118			

a Effected by backwater.





## 01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, NJ

LOCATION.--Lat 41°01'05", long 74°24'07", Morris County, Hydrologic Unit 02030103, on left bank 15 ft downstream from culvert at crossover between northbound and southbound lanes on State Route 23, 1,000 ft downstream from Macopin Intake Dam, 0.6 mi downstream from Macopin River, and 2.8 mi northwest of Butler.

DRAINAGE AREA.--63.7 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1898 to March 1990, September 1992 to current year. Monthly discharge only for some periods, published in WSP 1302. Records for January 1892 to December 1897, published in WSP 541, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 549.17 ft above sea level. Prior to May 22, 1970, at site just upstream from Macopin Intake Dam, at datum 36.35 ft higher. May 22, 1970 to March 5, 1990, at site just upstream from Macopin Intake Dam, at datum 20.83 ft higher.

REMARKS.--Records fair, except for daily discharges above 40 cfs, which are poor. Flow regulated by Canistear, Oak Ridge, Clinton, Charlotteburg Reservoirs, and Echo Lake (see Passaic River basin, reservoirs in). Water diverted at Charlotteburg Reservoir for municipal supply of city of Newark (see Passaic River basin, diversions). During peak flows, frequent variations in flow due to automatic gate operations upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	4.5	12	22	21	22	285	8.2	8.2	4.3	.54	.36
2	2.9	1.9	11	15	20	21	238	6.8	34	7.3	.48	.50
3	3.0	2.1	7.3	13	18	21	212	6.5	27	5.0	.43	.24
4	3.2	1.7	4.5	11	16	21	197	5.8	32	3.6	2.0	.18
5	4.9	3.3	4.3	9.1	17	25	181	5.6	46	4.1	5.3	.20
6	6.7	4.3	5.8	9.3	21	25	169	5.7	38	6.6	1.3	.20
7	6.8	2.5	3.6	8.3	17	24	174	4.7	24	4.5	.54	.16
8	5.1	2.0	3.2	7.6	14	23	156	4.0	15	5.7	.44	.13
9	4.5	2.3	3.2	8.1	14	23	151	6.8	13	6.9	.60	.16
10	3.7	15	3.2	7.5	21	24	257	4.5	9.1	5.3	1.0	.25
11	3.7	18	3.1	7.1	19	31	212	3.6	6.6	5.3	1.0	.58
12	4.3	12	4.0	6.9	16	59	201	2.9	5.9	5.2	.77	.26
13	3.1	4.5	4.2	6.1	15	314	185	3.9	5.3	3.6	1.4	.20
14	3.1	5.8	9.3	6.0	15	425	152	3.9	5.1	2.4	1.3	1.1
15	3.6	15	16	7.2	16	350	93	3.1	5.8	2.5	2.2	1.1
16	5.2	11	15	8.3	16	331	89	2.8	5.0	1.8	1.3	.40
17	5.6	7.2	59	8.5	20	469	79	2.4	10	1.3	1.1	.81
18	7.4	6.9	56	7.8	16	291	93	2.2	12	1.3	1.1	1.5
19	8.3	4.4	39	9.5	14	264	57	2.2	9.4	1.2	1.1	.93
20	2.6	3.5	32	18	14	257	39	2.2	6.2	1.1	1.1	.69
21	1.6	4.1	24	17	16	347	37	2.2	5.5	1.0	1.0	4.5
22	2.4	4.9	22	16	15	809	42	8.8	5.8	.92	.97	1.8
23	1.9	5.8	18	13	19	769	40	12	17	.83	1.1	.76
24	1.4	3.4	16	12	14	461	34	12	26	.78	1.4	.46
25	1.5	2.0	17	11	20	318	32	10	14	.75	1.0	3.7
26	1.6	15	22	10	31	264	16	9.2	13	1.1	.57	1.9
27	1.6	23	14	8.6	26	230	12	23	9.7	1.2	.44	.84
28	8.2	15	13	8.3	25	198	12	21	7.5	.88	.36	.48
29	12	14	12	12	---	183	12	14	6.5	.69	.32	1.0
30	9.3	13	23	12	---	336	10	13	4.7	.66	.28	1.2
31	8.9	---	39	24	---	383	---	11	---	.59	.28	---
TOTAL	141.0	228.1	515.7	340.2	506	7318	3467	224.0	427.3	88.40	32.72	26.59
MEAN	4.55	7.60	16.6	11.0	18.1	236	116	7.23	14.2	2.85	1.06	.89
MAX	12	23	59	24	31	809	285	23	46	7.3	5.3	4.5
MIN	1.4	1.7	3.1	6.0	14	21	10	2.2	4.7	.59	.28	.15

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2001, BY WATER YEAR (WY)

MEAN	16.3	32.3	40.3	41.3	50.9	101	131	66.6	31.8	18.9	15.0	18.3
MAX	288	309	357	308	270	572	506	263	360	238	228	211
(WY)	1956	1928	1997	1996	1939	1936	1983	1989	1972	1938	1955	1960
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1929	1929	1929	1931	1930	1965	1950	1954	1944	1923	1923	1929

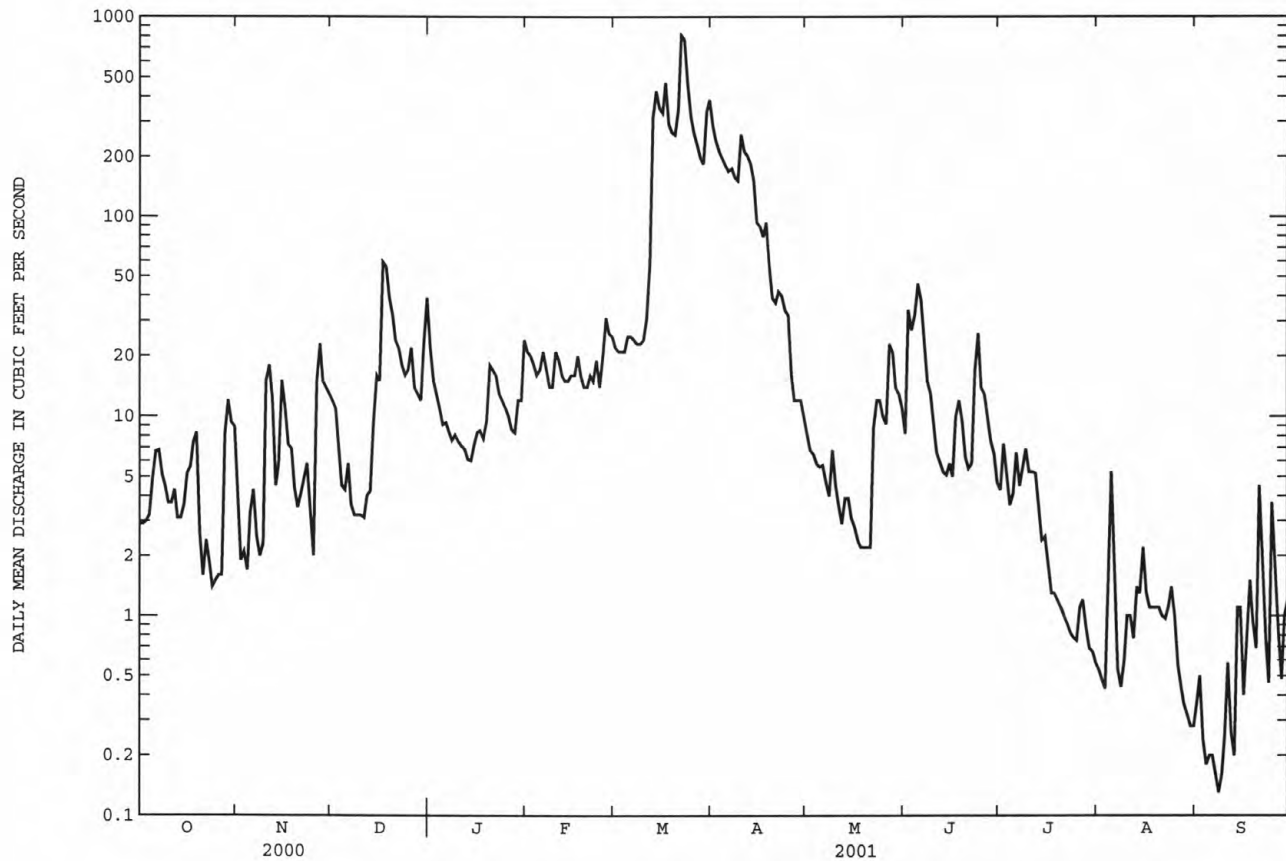
## PASSAIC RIVER BASIN

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

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1923 - 2001	
ANNUAL TOTAL	13422.5		13315.01		46.8	
ANNUAL MEAN	36.7		36.5		109	
HIGHEST ANNUAL MEAN					1952	
LOWEST ANNUAL MEAN					1954	
HIGHEST DAILY MEAN	204	Aug 13	809	Mar 22	3170	Apr 6 1984
LOWEST DAILY MEAN	1.4	Oct 24	.13	Sep 8	.00	Oct 1 1922
ANNUAL SEVEN-DAY MINIMUM	1.7	Oct 21	.18	Sep 3	.00	Oct 18 1922
MAXIMUM PEAK FLOW			1410	Mar 22	6100	Oct 10 1903
MAXIMUM PEAK STAGE			4.40	Mar 22	17.40a	Oct 10 1903
10 PERCENT EXCEEDS	92		83		141	
50 PERCENT EXCEEDS	22		7.3		5.6	
90 PERCENT EXCEEDS	3.7		.80		.00	

a Since 1898, site and datum then in use.

e Estimate



## PASSAIC RIVER BASIN

69

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 mi<sup>2</sup>.

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 sea level (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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 18	1030	311	3.37	Mar 31	0245	279	3.29
Mar 23	0330	*320	*3.39				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	13	29	50	50	65	250	22	59	20	7.0	6.8
2	7.7	13	28	43	54	63	214	21	119	23	7.0	6.7
3	9.7	13	26	38	56	62	182	21	148	15	7.0	6.7
4	11	13	25	35	54	60	151	19	132	13	7.0	6.7
5	12	13	24	33	62	72	121	20	109	14	7.0	6.7
6	13	13	23	33	73	79	107	16	88	18	7.0	6.7
7	18	13	22	31	66	77	99	12	72	14	7.0	6.7
8	23	13	22	30	58	70	89	11	58	18	7.0	6.7
9	22	13	22	30	53	66	93	11	43	22	7.0	6.7
10	20	13	20	29	55	64	156	10	26	19	7.0	6.7
11	20	13	19	27	61	58	142	9.8	17	20	6.7	6.4
12	18	13	21	26	60	55	132	9.2	16	17	6.7	6.1
13	15	13	22	25	59	75	124	7.8	15	14	6.7	6.1
14	15	13	30	24	57	97	110	7.0	15	13	6.7	6.1
15	15	13	35	24	57	105	90	6.3	16	10	6.7	6.1
16	15	12	34	24	57	109	82	6.1	15	8.3	6.7	6.1
17	15	11	148	23	63	126	76	6.4	61	7.9	6.7	6.1
18	15	10	295	23	59	143	75	6.4	64	7.6	6.7	6.1
19	15	10	262	27	56	140	65	6.4	49	7.6	6.7	6.1
20	15	10	217	36	52	134	57	6.4	41	7.6	6.7	6.1
21	14	10	173	45	51	138	53	6.8	36	7.6	6.7	6.1
22	14	10	147	43	50	258	55	7.2	28	7.6	6.7	6.1
23	14	9.9	125	40	53	316	52	7.3	39	7.6	6.7	6.1
24	14	9.8	105	37	50	289	49	10	73	7.6	6.7	6.1
25	15	9.8	88	35	51	250	45	15	66	7.6	6.7	7.5
26	15	10	71	33	63	210	37	21	54	7.8	6.7	7.5
27	15	12	59	31	66	180	34	56	45	7.3	7.0	7.3
28	15	15	52	31	69	153	33	101	37	7.0	6.9	7.3
29	14	18	45	29	---	135	26	103	29	7.0	6.7	7.2
30	14	25	53	33	---	200	23	95	23	7.0	6.8	7.0
31	14	---	58	44	---	276	---	75	---	7.0	6.7	---
TOTAL	458.0	377.5	2300	1012	1615	4125	2822	732.1	1593	370.1	211.3	196.6
MEAN	14.8	12.6	74.2	32.6	57.7	133	94.1	23.6	53.1	11.9	6.82	6.55
MAX	23	25	295	50	73	316	250	103	148	23	7.0	7.5
MIN	5.6	9.8	19	23	50	55	23	6.1	15	7.0	6.7	6.1

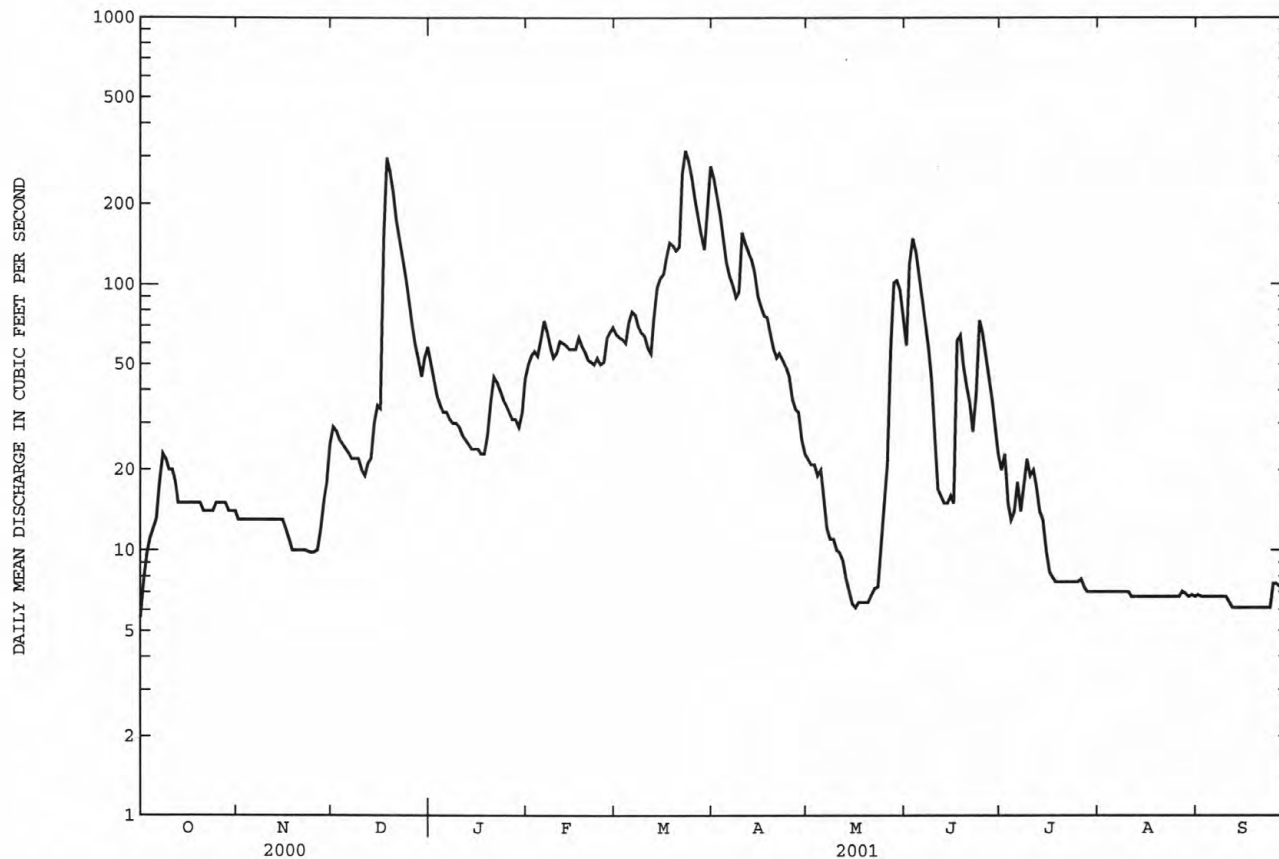
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2001, BY WATER YEAR (WY)

MEAN	28.8	55.5	65.4	63.7	63.1	103	95.2	60.4	37.2	26.2	25.8	29.1
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	.20	.18	1.88	3.00	3.04	41.2	24.7	13.4	4.37	2.76	.006	.057
(WY)	1932	1932	1985	1922	1922	1998	1985	1941	1957	1981	1929	1929

## PASSAIC RIVER BASIN

01383500 WANAQUE RIVER AT AWOSTING, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1919 - 2001	
ANNUAL TOTAL	18749.3		15812.6		54.3	
ANNUAL MEAN	51.2		43.3		105	1984
HIGHEST ANNUAL MEAN					19.9	1965
LOWEST ANNUAL MEAN					2350	Apr 6 1984
HIGHEST DAILY MEAN	295	Dec 18	316	Mar 23	.00	Oct 15 1928
LOWEST DAILY MEAN	3.1	Sep 9	5.6	Oct 1	.00	Jul 27 1929
ANNUAL SEVEN-DAY MINIMUM	4.0	Sep 8	6.1	Sep 12	2800a	Apr 5 1984
MAXIMUM PEAK FLOW			320	Mar 23	6.65	Apr 5 1984
MAXIMUM PEAK STAGE			3.39	Mar 23	.00	Many Days
INSTANTANEOUS LOW FLOW			1.7	Sep 25	125	
10 PERCENT EXCEEDS	110		109		33	
50 PERCENT EXCEEDS	37		22		4.9	
90 PERCENT EXCEEDS	13		6.7			

a From rating curve extended above 750 ft<sup>3</sup>/s based on theoretical weir formula



PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 230 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1715	*537	*12.22	Apr 9	2300	247	11.58
Mar 21	2400	362	11.86	Jun 23	2030	358	11.85
Mar 30	1245	295	11.70				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	3.0	14	e27	39	45	141	18	16	26	3.5	1.6
2	5.7	2.7	12	e24	40	43	117	17	149	24	2.9	1.3
3	5.2	2.4	11	e23	38	41	99	17	96	19	2.5	.97
4	4.8	2.5	10	e22	33	41	86	16	61	18	2.3	.90
5	5.4	2.5	9.9	e22	33	43	76	15	47	20	2.5	.77
6	6.5	2.7	9.6	e22	38	43	70	13	40	21	2.3	.70
7	4.8	3.0	9.0	e22	33	41	67	11	34	17	2.1	.70
8	4.4	3.0	8.8	e21	30	39	60	9.9	29	24	2.0	.69
9	4.6	3.0	8.8	e22	30	40	78	9.8	24	22	1.9	.64
10	4.1	14	8.3	e20	41	38	154	9.8	22	17	1.7	.67
11	4.2	12	8.5	e19	44	37	97	9.4	20	17	1.9	.63
12	3.9	10	9.5	e19	42	37	90	9.1	21	16	2.1	.64
13	3.9	7.6	9.0	e18	36	89	80	8.6	19	14	2.4	.58
14	3.9	8.8	17	e17	35	87	69	8.1	17	12	2.4	1.9
15	4.8	14	21	e18	37	78	60	6.6	16	11	2.0	1.6
16	3.8	13	18	e18	39	84	54	6.0	14	10	1.8	1.1
17	3.6	11	317	e18	45	106	52	6.0	55	9.4	1.6	.90
18	4.8	9.5	298	e18	37	111	49	5.7	34	9.3	1.4	.77
19	6.5	8.5	153	e23	34	99	42	5.4	23	8.5	1.3	.74
20	4.7	7.9	116	e30	34	95	38	3.5	20	7.3	1.5	1.2
21	4.6	7.3	90	e28	36	125	35	5.4	18	6.8	1.7	3.3
22	4.8	7.0	77	e24	33	332	37	17	16	6.3	1.4	1.9
23	4.3	6.8	64	e22	33	244	34	21	147	5.1	1.7	1.2
24	4.6	6.2	54	e22	31	192	31	17	190	4.8	1.9	1.0
25	4.4	5.7	e44	e21	39	148	29	13	84	4.4	1.7	2.1
26	4.0	17	e43	e20	57	121	26	12	58	3.9	1.5	1.8
27	3.7	25	e34	e19	53	102	25	20	44	4.3	1.4	1.1
28	3.0	18	e31	e19	50	87	23	35	35	4.2	1.3	.87
29	2.7	15	e28	e19	---	78	23	25	30	4.1	1.2	.81
30	3.2	15	e29	e30	---	220	20	22	26	3.6	1.3	1.1
31	3.3	---	e34	41	---	189	---	17	---	3.6	1.4	---
TOTAL	138.2	264.1	1596.4	688	1070	3075	1862	409.3	1405	373.6	58.6	34.18
MEAN	4.46	8.80	51.5	22.2	38.2	99.2	62.1	13.2	46.8	12.1	1.89	1.14
MAX	6.5	25	317	41	57	332	154	35	190	26	3.5	3.3
MIN	2.7	2.4	8.3	17	30	37	20	3.5	14	3.6	1.2	.58
CFSM	.23	.46	2.70	1.16	2.00	5.19	3.25	.69	2.45	.63	.10	.06
IN.	.27	.51	3.11	1.34	2.08	5.99	3.63	.80	2.74	.73	.11	.07

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2001, BY WATER YEAR (WY)

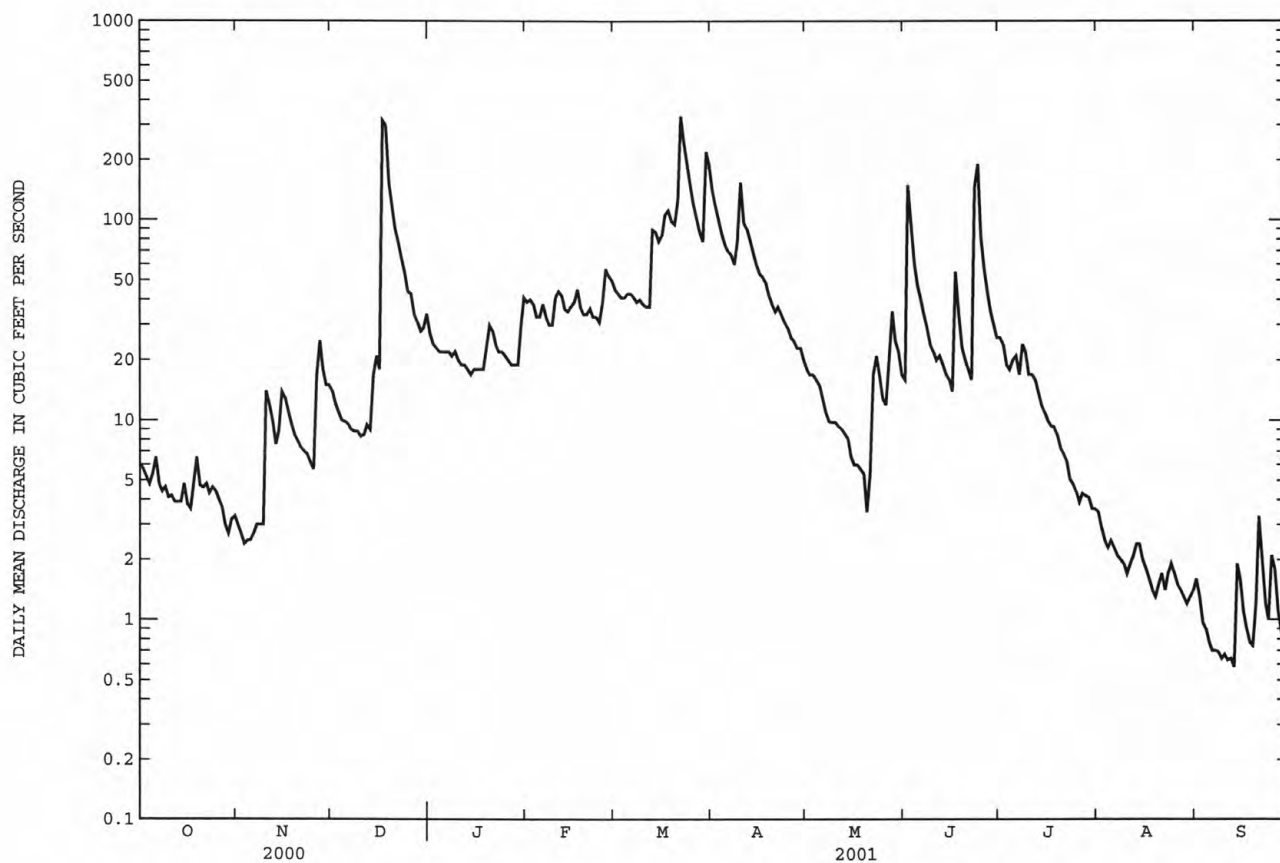
MEAN	15.9	31.7	42.7	41.6	41.4	66.8	58.7	39.0	22.9	14.2	12.5	12.1
MAX	131	88.8	124	149	109	157	123	131	121	86.1	107	62.4
(WY)	1956	1973	1997	1979	1970	1936	1940	1989	1972	1945	1955	1999
MIN	1.07	2.27	2.71	12.5	14.0	28.5	18.3	10.9	3.78	1.31	.70	.28
(WY)	1945	1950	1999	1940	1940	1938	1966	1941	1957	1966	1966	1964

## PASSAIC RIVER BASIN

01384500 RINGWOOD CREEK NEAR WANAQUE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1935 - 2001	
ANNUAL TOTAL	11447.9		10974.38		33.2	
ANNUAL MEAN	31.3		30.1		54.4	
HIGHEST ANNUAL MEAN					13.2	
LOWEST ANNUAL MEAN					1952	
HIGHEST DAILY MEAN	317	Dec 17	332	Mar 22	756	Aug 19 1955
LOWEST DAILY MEAN	2.4	Nov 3	.58	Sep 13	.00	Sep 11 1963
ANNUAL SEVEN-DAY MINIMUM	2.7	Nov 1	.65	Sep 7	.16	Sep 5 1944
MAXIMUM PEAK FLOW			537	Dec 17	2300	Sep 16 1999
MAXIMUM PEAK STAGE			12.22	Dec 17	13.92	Sep 16 1999
INSTANTANEOUS LOW FLOW			.44	Sep 11	.44	Sep 11 2001
ANNUAL RUNOFF (CFSM)	1.64		1.57		1.74	
ANNUAL RUNOFF (INCHES)	22.30		21.37		23.64	
10 PERCENT EXCEEDS	64		78		76	
50 PERCENT EXCEEDS	23		17		20	
90 PERCENT EXCEEDS	4.9		1.7		2.1	

e Estimated



## 73

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

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 sea level (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 Monksville Reservoir just upstream from Wanauke Reservoir, and since 1928 by Wanauke Reservoir (see Passaic River basin, reservoirs in). North Jersey District Water Supply Commission diverts water for municipal supply from Wanauke Reservoir. Water is diverted to Wanauke Reservoir from Posts Brook at Wanauke 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 rainage and USGS satellite gage-height telemetry at station.

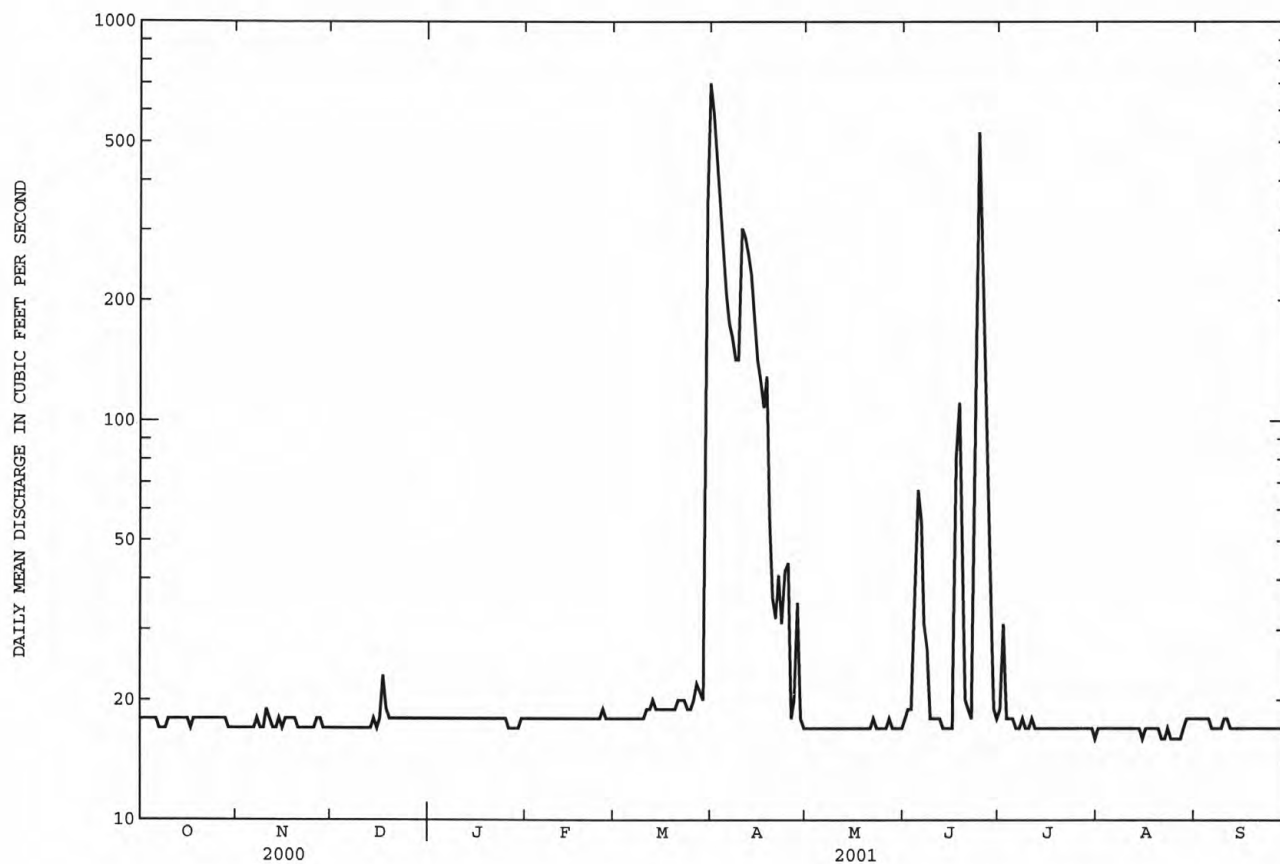
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	17	17	18	18	18	589	17	18	19	17	18
2	18	17	17	18	18	18	458	17	19	31	17	18
3	18	17	17	18	18	18	349	17	19	18	17	18
4	18	17	17	18	18	18	272	17	42	18	17	18
5	18	17	17	18	18	18	209	17	67	18	17	18
6	18	17	17	18	18	18	175	17	56	17	17	17
7	17	18	17	18	18	18	161	17	31	17	17	17
8	17	17	17	18	18	18	142	17	27	18	17	17
9	17	17	17	18	18	18	142	17	18	17	17	17
10	18	19	17	18	18	18	303	17	18	17	17	18
11	18	18	17	18	18	19	288	17	18	18	17	18
12	18	17	17	18	18	19	260	17	18	17	17	17
13	18	17	17	18	18	20	232	17	17	17	17	17
14	18	18	18	18	18	19	185	17	17	17	17	17
15	18	17	17	18	18	19	142	17	17	17	16	17
16	18	18	18	18	18	19	126	17	17	17	17	17
17	17	18	23	18	18	19	108	17	81	17	17	17
18	18	18	19	18	18	19	129	17	111	17	17	17
19	18	18	18	18	18	19	57	17	59	17	17	17
20	18	17	18	18	18	19	36	17	20	17	17	17
21	18	17	18	18	18	20	32	17	19	17	16	17
22	18	17	18	18	18	20	41	18	18	17	16	17
23	18	17	18	18	18	20	31	17	69	17	17	17
24	18	17	18	18	18	19	42	17	529	17	16	17
25	18	17	18	18	19	19	44	17	361	17	16	17
26	18	18	18	17	18	20	18	17	183	17	16	17
27	18	18	18	17	18	22	20	18	85	17	16	17
28	18	17	18	17	18	21	35	17	43	17	17	17
29	17	17	18	17	---	20	18	17	19	17	18	17
30	17	17	18	18	---	354	17	17	18	17	18	17
31	17	---	18	18	---	701	---	17	---	16	18	---
TOTAL	551	521	550	554	505	1607	4661	529	2034	547	523	517
MEAN	17.8	17.4	17.7	17.9	18.0	51.8	155	17.1	67.8	17.6	16.9	17.2
MAX	18	19	23	18	19	701	589	18	529	31	18	18
MIN	17	17	17	17	18	18	17	17	17	16	16	17

MEAN	35.4	45.9	62.4	67.3	74.6	155	179	98.5	58.2	38.8	27.9	34.1
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	.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

## PASSAIC RIVER BASIN

01387000 WANAQUE RIVER AT WANAQUE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1912 - 2001
ANNUAL TOTAL	12216.0	13099	71.6
ANNUAL MEAN	33.4	35.9	231
HIGHEST ANNUAL MEAN			1.93
LOWEST ANNUAL MEAN			1920
HIGHEST DAILY MEAN	466 Jun 8	701 Mar 31	5470 Apr 6 1984
LOWEST DAILY MEAN	6.9 Jan 1	16 Jul 31	.06 Oct 11 1984
ANNUAL SEVEN-DAY MINIMUM	7.0 Jan 1	16 Aug 21	.50 Dec 14 1949
MAXIMUM PEAK FLOW		732 Mar 31	10500 Apr 5 1984
MAXIMUM PEAK STAGE		4.42 Mar 31	10.82 Apr 5 1984
INSTANTANEOUS LOW FLOW		7.3 Nov 13	4.2 Aug 23 1999
10 PERCENT EXCEEDS	76	38	196
50 PERCENT EXCEEDS	18	18	18
90 PERCENT EXCEEDS	17	17	16





## 01387420 RAMAPO RIVER AT SUFFERN, NY

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

DRAINAGE AREA.--93.0 mi<sup>2</sup>.

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

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

REMARKS.--Records good 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 telemeter at station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft<sup>3</sup>/s, Apr. 5, 1984, gage height, 15.38 ft, from rating curve extended above 5,400 ft<sup>3</sup>/s; minimum discharge, 1.7 ft<sup>3</sup>/s, Sept. 7, 1995, gage height, 1.04 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 6,600 ft<sup>3</sup>/s, Mar. 12, 1936, by computation of flow over dam at site 0.65 mi upstream, drainage area, 90.6 mi<sup>2</sup>.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 6	1400	*1,350	*6.17	No other peak greater than base discharge.			

Minimum discharge, 16 ft<sup>3</sup>/s, Sept. 12, 13; minimum gage height, 1.53 ft, Sept. 12.

REVISIONS.--The maximum discharge for the water year 1999 has been revised to about 10,500 ft<sup>3</sup>/s, Sept. 16, 1999, gage height, 15.23 ft (backwater), based on runoff comparison with nearby stations. This figure supercedes that published in the report for 1999.

Refer to Water Resources Data New York Water Year 2001, Volume 1, for daily values for October 1, 2000 to September 30, 2001

01387500 RAMAPO RIVER NEAR MAHWAH, NJ

LOCATION.--Lat 41°05'53", long 74°09'47" (revised), 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 mi<sup>2</sup>.

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 sea level. 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 telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 18	0200	*2,560	*7.64	Mar 30	2145	1,460	6.47
Mar 22	1715	2,450	7.54				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	25	129	168	287	285	825	113	94	122	20	25
2	41	25	112	151	283	269	610	107	883	114	20	15
3	40	25	98	146	265	254	504	100	718	87	21	14
4	39	23	87	142	234	248	436	95	399	81	22	14
5	44	25	81	136	230	265	390	88	275	113	24	14
6	43	29	78	139	256	266	368	83	215	121	21	13
7	40	24	73	134	228	258	355	76	180	90	20	12
8	36	23	69	129	207	245	326	72	154	129	19	13
9	33	23	66	133	197	246	365	70	130	124	18	13
10	32	129	63	126	274	242	760	66	112	96	18	23
11	30	117	63	119	352	233	528	60	101	97	18	20
12	28	95	67	116	289	232	447	56	112	80	19	14
13	27	75	66	111	262	448	403	52	94	62	34	10
14	26	89	161	108	248	512	343	48	82	55	33	45
15	25	117	169	119	256	450	302	45	74	50	22	24
16	25	101	133	123	278	444	281	44	67	45	19	17
17	25	84	1300	125	320	558	266	42	315	42	18	14
18	38	73	2100	123	276	584	260	46	237	39	17	14
19	60	66	941	165	245	514	225	45	150	37	17	15
20	49	58	559	222	234	486	205	42	114	34	25	33
21	38	52	408	205	244	602	196	50	110	31	18	68
22	32	48	340	177	233	2040	225	158	96	28	15	33
23	29	45	286	157	229	1750	203	180	433	26	36	21
24	25	42	249	149	214	1090	183	136	769	24	29	20
25	25	41	215	144	247	789	166	105	355	23	18	128
26	24	198	205	135	351	611	152	103	255	28	15	47
27	27	246	180	133	343	505	142	147	192	25	15	29
28	23	181	170	129	317	427	134	228	155	23	15	21
29	23	145	156	124	---	385	125	181	129	22	14	19
30	24	137	168	183	---	1070	118	143	110	21	14	18
31	28	---	212	274	---	1270	---	108	---	21	14	---
TOTAL	1023	2361	9004	4545	7399	17578	9843	2889	7110	1890	628	766
MEAN	33.0	78.7	290	147	264	567	328	93.2	237	61.0	20.3	25.5
MAX	60	246	2100	274	352	2040	825	228	883	129	36	128
MIN	23	23	63	108	197	232	118	42	67	21	14	10
CFSM	.28	.66	2.42	1.22	2.20	4.73	2.73	.78	1.98	.51	.17	.21
IN.	.32	.73	2.79	1.41	2.29	5.45	3.05	.90	2.20	.59	.19	.24

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

MEAN	142	222	273	267	281	443	400	256	153	98.6	98.4	111
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	21.6	19.8	16.5	70.8	144	88.4	79.5	29.6	15.8	11.3	11.1
(WY)	1942	1999	1999	1981	1980	1985	1985	1905	1999	1993	1993	1964

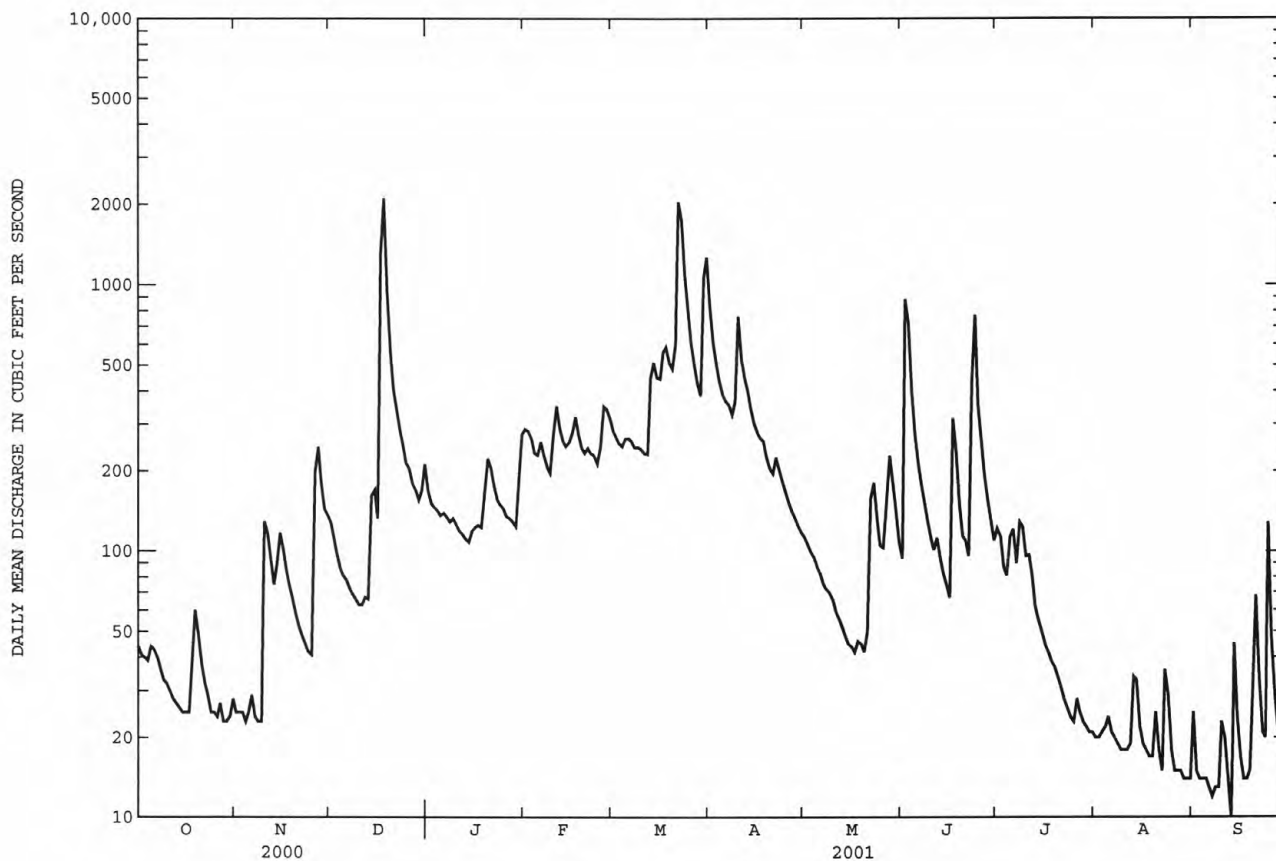
# PASSAIC RIVER BASIN

77

01387500 RAMAPO RIVER NEAR MAHWAH, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	74232		65036		228	
ANNUAL MEAN	203		178		461	
HIGHEST ANNUAL MEAN					99.5	
LOWEST ANNUAL MEAN					8920	
HIGHEST DAILY MEAN	2100	Dec 18	2100	Dec 18	1.2	Oct 9 1903
LOWEST DAILY MEAN	23	Oct 28	10	Sep 13	3.7	Aug 12 1993
ANNUAL SEVEN-DAY MINIMUM	24	Oct 24	13	Sep 3	15500a	Sep 7 1995
MAXIMUM PEAK FLOW			2560	Dec 18	13.35	Apr 5 1984
MAXIMUM PEAK STAGE			7.64	Dec 18	.20	Aug 11 1993
INSTANTANEOUS LOW FLOW			5.8	Sep 20	1.90	
ANNUAL RUNOFF (CFSM)	1.69		1.48		25.87	
ANNUAL RUNOFF (INCHES)	23.01		20.16		504	
10 PERCENT EXCEEDS	404		394		138	
50 PERCENT EXCEEDS	140		111		27	
90 PERCENT EXCEEDS	41		20			

a From rating curve extended above 6,500 ft<sup>3</sup>/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 mi<sup>2</sup>.

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 sea level. 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 telemeter at station. Satellite telemeter at auxiliary station 450 ft below station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 18	0830	2,560	11.72	Mar 30	1730	1,880	11.42
Mar 23	0045	*2,660	*11.76				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	44	174	202	401	422	1310	158	127	167	33	27
2	72	44	154	171	400	387	984	148	1040	207	30	26
3	70	43	135	157	380	364	799	141	1190	141	30	26
4	68	41	122	161	331	346	676	130	697	126	34	26
5	71	36	113	164	320	366	594	121	454	142	31	22
6	74	34	107	159	342	366	551	107	324	191	32	13
7	70	37	101	147	320	353	540	98	275	141	33	18
8	65	34	97	141	284	347	495	92	229	196	32	18
9	61	35	91	141	261	342	485	90	189	204	29	18
10	60	154	87	137	322	347	1020	87	158	153	41	23
11	58	166	85	126	484	331	862	79	139	146	36	24
12	56	125	88	121	416	328	692	75	139	137	36	24
13	53	105	89	113	368	603	621	69	130	110	41	22
14	51	108	179	111	344	802	531	67	114	94	57	38
15	51	167	244	124	343	705	468	65	102	83	66	41
16	51	144	202	131	369	651	432	61	93	76	44	30
17	49	123	1110	133	443	764	403	61	552	71	41	25
18	54	103	2420	133	400	860	398	63	447	64	35	23
19	66	96	1490	167	345	765	348	64	270	58	33	20
20	73	84	876	300	321	694	309	58	200	51	35	28
21	65	75	616	280	333	742	289	59	167	49	47	82
22	57	70	483	229	327	1980	316	177	165	44	37	60
23	51	66	395	195	316	2370	300	266	382	42	44	40
24	51	61	334	182	293	1590	270	204	1220	40	65	32
25	49	58	285	177	316	1180	238	151	641	38	49	119
26	48	236	228	163	501	930	218	137	407	39	36	85
27	47	397	222	162	517	776	206	181	312	35	33	42
28	47	269	204	152	473	650	191	267	238	35	31	27
29	42	210	177	144	---	570	176	261	192	34	28	20
30	42	190	173	197	---	1310	170	191	162	34	26	18
31	42	---	205	370	---	1790	---	152	---	34	26	---
TOTAL	1791	3355	11286	5290	10270	24031	14892	3880	10755	2982	1171	1017
MEAN	57.8	112	364	171	367	775	496	125	358	96.2	37.8	33.9
MAX	77	397	2420	370	517	2370	1310	267	1220	207	66	119
MIN	42	34	85	111	261	328	170	58	93	34	26	13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
MEAN	149	265	322	323	352	553	514	344	208	136	132	146
MAX	1154	954	1181	1035	838	1670	1465	1195	973	895	889	811
(WY)	1956	1933	1997	1979	1970	1936	1983	1989	1972	1945	1955	1999
MIN	13.6	21.3	12.8	27.5	83.0	67.8	24.9	72.0	39.9	5.89	6.17	10.8
(WY)	1981	1999	1981	1981	1969	1985	1985	1965	1965	1985	1985	1964

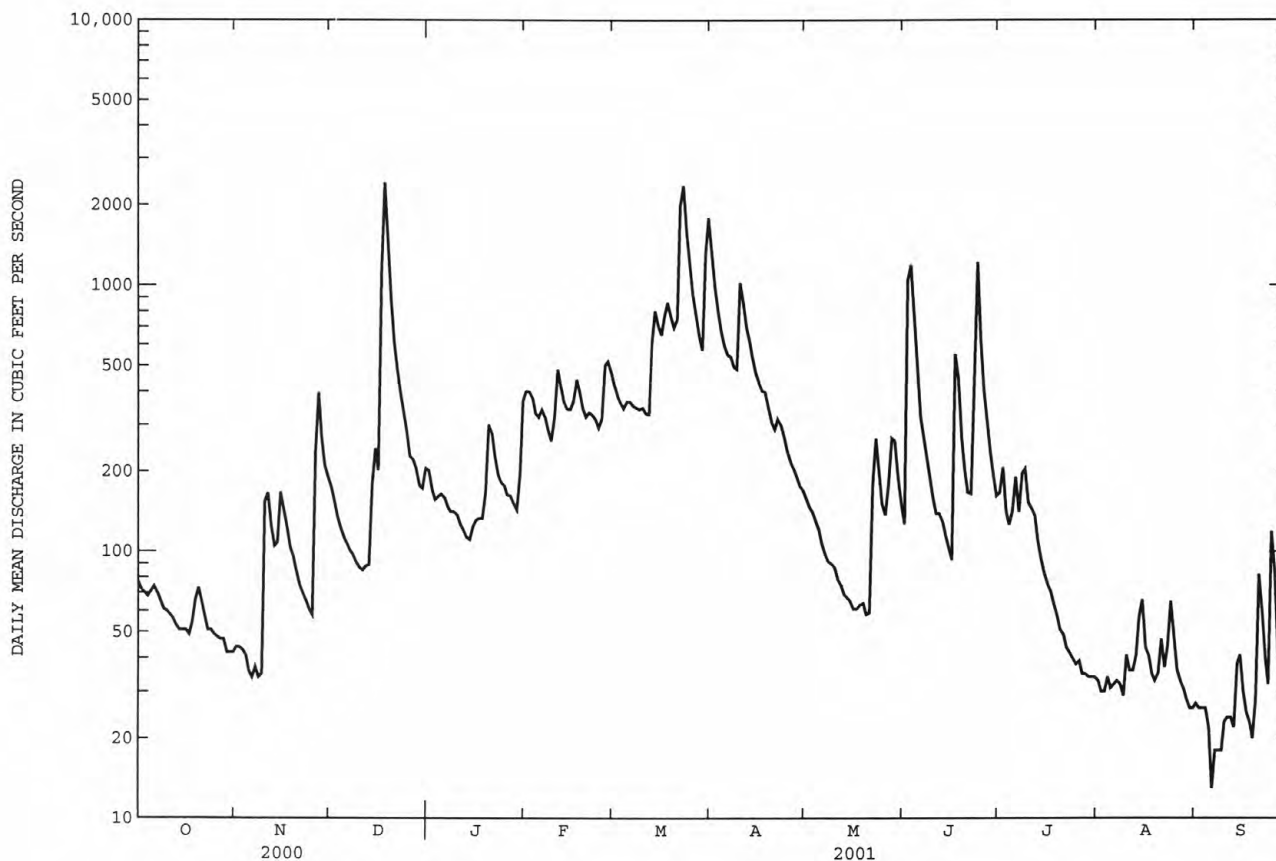
PASSAIC RIVER BASIN

79

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001	
ANNUAL TOTAL	104298		90720		287	
ANNUAL MEAN	285		249		512	
HIGHEST ANNUAL MEAN					73.1	
LOWEST ANNUAL MEAN					10700	
HIGHEST DAILY MEAN	2420	Dec 18	2420	Dec 18		Sep 17 1999
LOWEST DAILY MEAN	34	Nov 6	13	Sep 6	.00	Oct 1 1922
ANNUAL SEVEN-DAY MINIMUM	37	Nov 3	19	Sep 5	.00	Dec 1 1980
MAXIMUM PEAK FLOW			2660	Mar 23	15400	Apr 5 1984
MAXIMUM PEAK STAGE			11.76	Mar 23	15.21a	Apr 5 1984
INSTANTANEOUS LOW FLOW			9.8	Sep 6		
10 PERCENT EXCEEDS	567		598		641	
50 PERCENT EXCEEDS	208		141		163	
90 PERCENT EXCEEDS	61		34		35	

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 mi<sup>2</sup>.

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 sea level. 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 ft<sup>3</sup>/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 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 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 18	0730	3,590	12.10	Mar 31	0900	4,100	12.51
Mar 23	0315	*4,610	*12.93				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	78	272	302	643	690	2930	232	189	256	64	60
2	141	73	244	261	639	631	2270	218	1760	317	63	57
3	112	73	220	239	598	573	1910	205	1730	214	63	57
4	118	71	198	239	472	552	1620	193	1070	190	81	56
5	135	63	196	221	441	607	1390	184	853	222	75	53
6	140	61	178	230	532	598	1250	174	638	279	68	42
7	124	67	161	216	460	550	1230	160	443	209	66	47
8	115	63	150	208	394	542	1130	153	334	302	64	48
9	113	65	145	213	364	567	1120	152	279	298	60	48
10	107	322	139	202	495	574	2200	146	235	221	93	56
11	102	256	139	188	755	543	1900	135	204	208	77	66
12	98	190	145	184	636	565	1630	129	202	195	75	53
13	94	159	143	177	538	1120	1450	119	189	160	81	50
14	95	176	300	172	488	1390	1250	114	171	143	108	97
15	94	246	363	199	489	1240	1070	109	159	131	125	83
16	90	207	312	206	547	1170	995	104	151	122	80	68
17	89	180	1830	211	686	1360	925	99	1280	121	73	59
18	101	157	3380	206	603	1520	963	104	900	114	69	59
19	116	147	2170	274	486	1340	776	109	505	105	64	57
20	125	140	1390	481	437	1250	627	100	306	97	80	72
21	112	134	1040	422	469	1390	544	103	275	91	83	157
22	100	122	868	344	449	3570	635	329	261	85	68	109
23	90	114	716	298	433	4080	591	400	700	81	88	79
24	88	109	593	282	399	2740	494	302	2400	78	115	65
25	85	103	455	265	506	2090	463	227	1460	79	85	178
26	84	446	334	242	849	1670	347	217	944	84	69	149
27	83	675	328	237	850	1410	312	319	597	74	63	99
28	83	392	302	225	781	1210	309	412	392	73	61	82
29	80	315	267	208	---	1080	277	363	286	70	61	66
30	79	291	256	313	---	2610	254	271	242	68	58	60
31	79	---	310	615	---	3840	---	221	---	66	58	---
TOTAL	3223	5495	17544	8080	15439	43072	32862	6103	19155	4753	2338	2232
MEAN	104	183	566	261	551	1389	1095	197	638	153	75.4	74.4
MAX	151	675	3380	615	850	4080	2930	412	2400	317	125	178
MIN	79	61	139	172	364	542	254	99	151	66	58	42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

	MEAN	287	413	529	515	570	943	965	618	383	238	214	228
MAX	2369	1417	2245	1777	1654	2477	2995	2778	2177	1530	1520	1067	
(WY)	1904	1956	1997	1996	1973	1983	1983	1989	1972	1945	1955	1999	
MIN	40.2	52.3	34.8	39.2	149	118	62.7	110	62.9	34.2	34.2	46.7	
(WY)	1981	1981	1981	1981	1969	1981	1985	1965	1965	1965	1966	1980	

PASSAIC RIVER BASIN

81

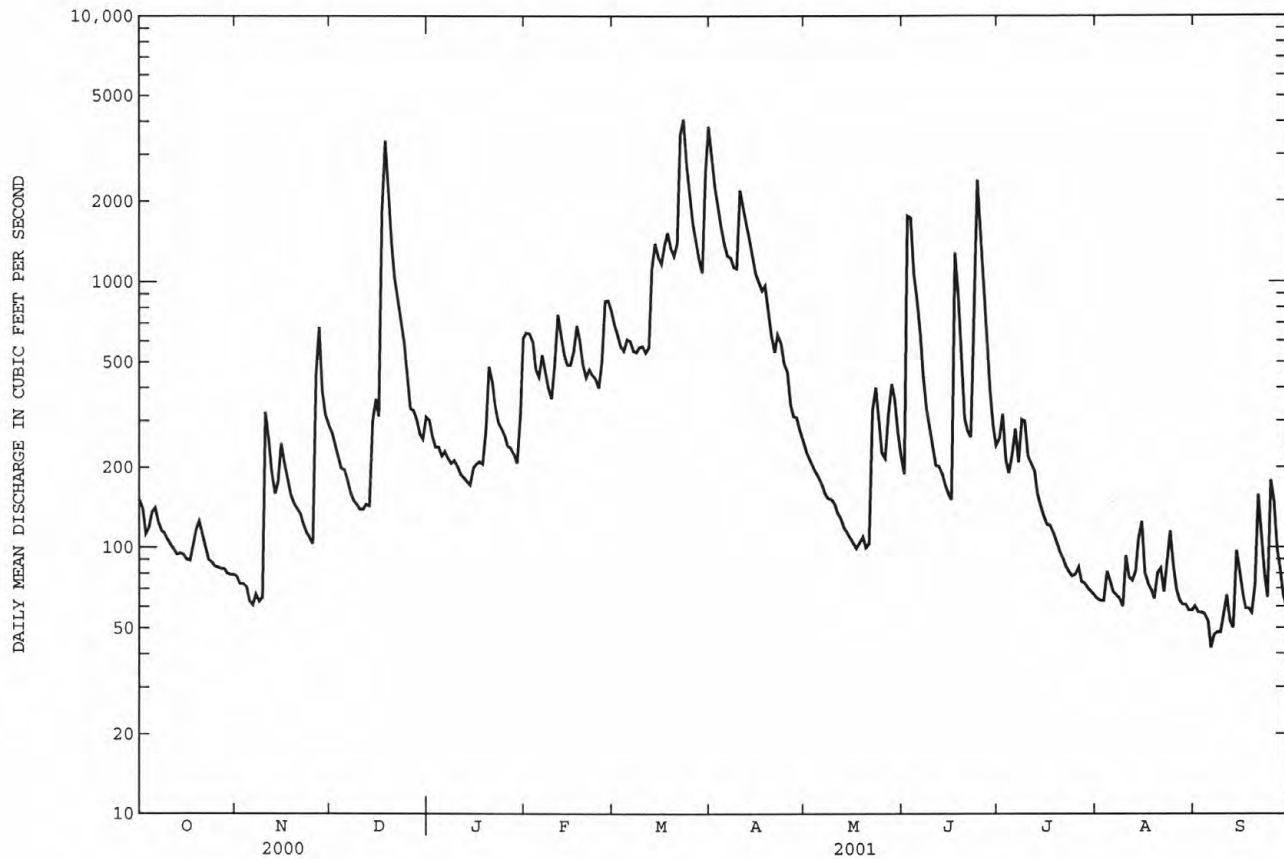
01388500 POMPTON RIVER AT POMPTON PLAINS, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	193719		160296		490	
ANNUAL MEAN	529		439		906	
HIGHEST ANNUAL MEAN					117	
LOWEST ANNUAL MEAN					1952	
HIGHEST DAILY MEAN	3380	Dec 18	4080	Mar 23	28300	Oct 10 1903
LOWEST DAILY MEAN	61	Nov 6	42	Sep 6	.00	Aug 18 1904
ANNUAL SEVEN-DAY MINIMUM	66	Nov 3	50	Sep 4	1.7	Aug 14 1904
MAXIMUM PEAK FLOW			4610	Mar 23	28300a	Oct 10 1903
MAXIMUM PEAK STAGE			12.93	Mar 23	14.30bc	Oct 10 1903
INSTANTANEOUS LOW FLOW			41	Sep 6	.00	Aug 18 1904
10 PERCENT EXCEEDS	1210		1220		1150	
50 PERCENT EXCEEDS	310		209		246	
90 PERCENT EXCEEDS	108		67		72	

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.



## 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 mi<sup>2</sup>. Area at site used prior to Oct. 1, 1955, 799 mi<sup>2</sup>.

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 sea level (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 sea level (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good. 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 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 23	2015	*4,650	*5.98	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	285	144	842	324	1430	1380	4350	470	500	545	94	128
2	272	145	669	344	1500	1360	4130	429	2050	614	81	118
3	239	146	538	457	1340	1270	3700	399	2380	556	73	111
4	227	150	464	448	1180	1180	3270	366	2240	509	77	105
5	245	141	403	417	1100	1200	2870	175	2150	606	112	104
6	266	134	375	419	1040	1160	2550	128	2020	659	114	91
7	248	132	293	410	1030	1120	2330	209	1820	570	99	89
8	221	132	143	399	977	1070	2140	292	1560	586	80	89
9	210	129	144	428	919	1110	2060	193	1260	594	67	88
10	203	672	67	422	969	1080	2680	180	980	468	91	115
11	194	815	67	388	1200	1070	2750	151	849	416	187	196
12	190	734	87	368	1240	1080	2610	95	694	362	277	173
13	183	578	146	344	1210	1640	2460	65	430	295	464	126
14	180	485	524	334	1160	1940	2290	76	328	252	464	354
15	183	579	777	382	1140	1970	2070	110	243	219	449	433
16	177	537	772	488	1170	1970	1910	105	191	200	274	330
17	173	447	2040	528	1230	2050	1760	101	2390	196	184	221
18	199	368	3300	548	1180	2200	1690	105	2450	200	151	160
19	281	304	3350	719	1080	2160	1550	121	1950	231	129	134
20	268	253	2880	1180	998	2100	1350	111	1710	228	163	147
21	229	265	2470	1280	972	2300	1210	113	1540	195	220	358
22	192	259	2120	1240	905	3590	1170	373	1350	137	166	328
23	174	233	1760	1140	847	4450	1100	593	1460	128	194	206
24	148	212	1450	1020	781	4450	1000	493	2480	124	365	159
25	158	200	1120	872	836	3890	907	317	2410	119	266	285
26	153	773	718	743	1290	3310	818	217	1950	149	175	317
27	156	1350	540	648	1390	2850	717	408	1560	174	147	174
28	162	1230	385	591	1410	2450	662	637	1210	151	138	120
29	153	1130	292	544	---	2140	605	867	945	137	137	101
30	147	1020	198	707	---	3020	544	760	684	129	124	72
31	142	---	235	1200	---	4000	---	648	---	112	121	---
TOTAL	6258	13697	29169	19332	31524	66560	59253	9307	43784	9861	5683	5432
MEAN	202	457	941	624	1126	2147	1975	300	1459	318	183	181
MAX	285	1350	3350	1280	1500	4450	4350	867	2480	659	464	433
MIN	142	129	67	324	781	1070	544	65	191	112	67	72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2001, BY WATER YEAR (WY)

	MEAN	MAX	MIN
1898	617	5613	44.5
1899	927	4757	56.5
1900	1254	4497	44.8
1901	1334	4039	104
1902	1429	3787	178
1903	2350	6755	423
1904	2072	5761	228
1905	1303	4554	227
1906	773	4290	64.5
1907	530	3124	60.3
1908	539	2859	30.4
1909	532	3561	28.9
1910	532	3561	28.9
1911	532	3561	28.9
1912	532	3561	28.9
1913	532	3561	28.9
1914	532	3561	28.9
1915	532	3561	28.9
1916	532	3561	28.9
1917	532	3561	28.9
1918	532	3561	28.9
1919	532	3561	28.9
1920	532	3561	28.9
1921	532	3561	28.9
1922	532	3561	28.9
1923	532	3561	28.9
1924	532	3561	28.9
1925	532	3561	28.9
1926	532	3561	28.9
1927	532	3561	28.9
1928	532	3561	28.9
1929	532	3561	28.9
1930	532	3561	28.9
1931	532	3561	28.9
1932	532	3561	28.9
1933	532	3561	28.9
1934	532	3561	28.9
1935	532	3561	28.9
1936	532	3561	28.9
1937	532	3561	28.9
1938	532	3561	28.9
1939	532	3561	28.9
1940	532	3561	28.9
1941	532	3561	28.9
1942	532	3561	28.9
1943	532	3561	28.9
1944	532	3561	28.9
1945	532	3561	28.9
1946	532	3561	28.9
1947	532	3561	28.9
1948	532	3561	28.9
1949	532	3561	28.9
1950	532	3561	28.9
1951	532	3561	28.9
1952	532	3561	28.9
1953	532	3561	28.9
1954	532	3561	28.9
1955	532	3561	28.9
1956	532	3561	28.9
1957	532	3561	28.9
1958	532	3561	28.9
1959	532	3561	28.9
1960	532	3561	28.9
1961	532	3561	28.9
1962	532	3561	28.9
1963	532	3561	28.9
1964	532	3561	28.9
1965	532	3561	28.9
1966	532	3561	28.9
1967	532	3561	28.9
1968	532	3561	28.9
1969	532	3561	28.9
1970	532	3561	28.9
1971	532	3561	28.9
1972	532	3561	28.9
1973	532	3561	28.9
1974	532	3561	28.9
1975	532	3561	28.9
1976	532	3561	28.9
1977	532	3561	28.9
1978	532	3561	28.9
1979	532	3561	28.9
1980	532	3561	28.9
1981	532	3561	28.9
1982	532	3561	28.9
1983	532	3561	28.9
1984	532	3561	28.9
1985	532	3561	28.9
1986	532	3561	28.9
1987	532	3561	28.9
1988	532	3561	28.9
1989	532	3561	28.9
1990	532	3561	28.9
1991	532	3561	28.9
1992	532	3561	28.9
1993	532	3561	28.9
1994	532	3561	28.9
1995	532	3561	28.9
1996	532	3561	28.9
1997	532	3561	28.9
1998	532	3561	28.9
1999	532	3561	28.9
2000	532	3561	28.9
2001	532	3561	28.9

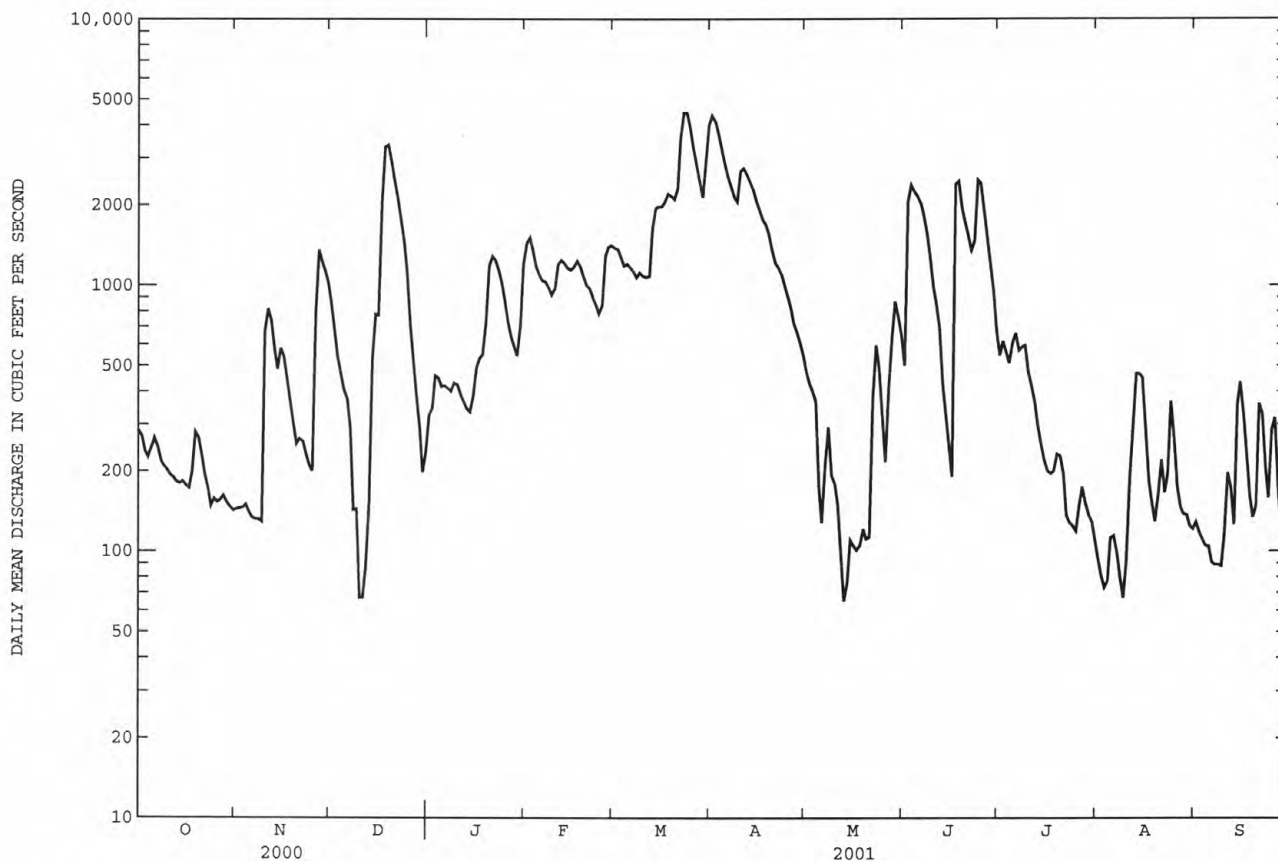
PASSAIC RIVER BASIN

83

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1898 - 2001	
ANNUAL TOTAL	334148		299860		1137	
ANNUAL MEAN	913		822		2394	
HIGHEST ANNUAL MEAN					269	
LOWEST ANNUAL MEAN					1903	
HIGHEST DAILY MEAN	3350	Dec 19	4450	Mar 23	28000	Oct 10 1903
LOWEST DAILY MEAN	67	Dec 10	65	May 13	.00	Jul 3 1904
ANNUAL SEVEN-DAY MINIMUM	135	Dec 7	89	Aug 3	13	Sep 19 1932
MAXIMUM PEAK FLOW			4650	Mar 23	31700a	Oct 10 1903
MAXIMUM PEAK STAGE			5.98	Mar 23	12.91b	Apr 7 1984
INSTANTANEOUS LOW FLOW			52	May 14	.00	Jul 3 1904
10 PERCENT EXCEEDS	1940		2140		2750	
50 PERCENT EXCEEDS	699		448		630	
90 PERCENT EXCEEDS	188		121		122	

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



## PASSAIC RIVER BASIN

01390500 SADDLE RIVER AT RIDGEWOOD, NJ

LOCATION.--Lat 40°59'06", long 74°05'27", Bergen County, Hydrologic Unit 02030103, on left bank 15 ft upstream from bridge on State Highway 17 in Ridgewood and 2.8 mi upstream from Hohokus Brook.

DRAINAGE AREA.--21.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1954 to September 1974, October 1977 to current year. Operated as a maximum-stage gage water years 1975- 77.

REVISED RECORDS.--WRD-NJ 1974: 1971.

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

REMARKS.--Records fair except estimated daily discharges which are poor. The flow past this station is effected by pumpage from wells by United Water New Jersey and others. Several measurements of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of July 23, 1945, reached a discharge of 6,400 ft<sup>3</sup>/s, at site 1.6 mi upstream, drainage area, 19.1 mi<sup>2</sup>, by slope-area measurement.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1715	710	4.87	Jun 2	0445	520	4.28
Mar 22	0130	631	4.63	Jun 2	1015	551	4.38
Mar 30	1330	644	4.67	Jun 17	1030	*1,260	*6.27
Apr 9	2400	386	3.81	Jun 23	2100	845	5.25

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e15	e5.9	11	21	39	33	76	25	19	45	4.7	5.6
2	e14	e5.8	11	21	37	32	67	24	294	36	5.0	5.1
3	13	e5.5	10	22	33	31	61	23	63	23	5.0	5.1
4	12	e5.1	9.6	22	28	29	56	21	39	24	5.6	4.6
5	12	e6.1	9.5	20	29	33	54	21	31	40	5.8	4.2
6	14	e6.3	9.2	20	31	32	57	19	26	49	4.7	3.9
7	13	e4.9	9.3	18	29	33	55	19	23	25	4.2	3.8
8	13	e5.4	8.8	18	28	34	52	18	21	60	3.6	3.6
9	13	e5.7	8.4	20	27	40	81	18	19	31	3.0	3.5
10	13	70	8.1	18	47	40	138	17	18	20	4.4	5.5
11	13	12	7.8	17	39	40	59	16	17	26	5.2	11
12	12	8.3	8.1	17	29	38	59	15	18	18	15	7.1
13	12	7.1	8.4	16	27	137	54	14	14	16	17	3.9
14	11	14	45	16	27	67	46	13	13	14	e21	22
15	11	15	19	21	31	51	43	12	13	13	e13	9.2
16	12	9.1	16	22	34	48	42	12	12	12	5.8	5.5
17	12	8.2	287	22	45	58	46	12	376	11	5.1	4.4
18	17	7.6	76	20	31	57	44	13	62	11	7.7	3.6
19	18	7.5	41	47	28	45	37	12	35	9.4	5.3	3.0
20	12	7.6	34	52	28	42	35	9.3	29	8.6	34	13
21	10	7.6	29	34	31	98	35	11	28	7.8	13	44
22	9.5	7.5	28	27	28	264	45	86	28	7.1	7.0	7.4
23	7.7	7.5	26	25	27	104	35	45	194	6.2	20	4.3
24	7.2	7.8	24	23	26	73	33	27	133	5.8	23	3.2
25	7.4	8.0	23	22	47	65	30	20	46	5.3	8.4	79
26	e6.7	95	27	20	61	64	29	21	35	11	6.6	13
27	e6.8	34	25	21	42	57	29	54	29	7.1	6.5	8.7
28	e5.9	16	21	20	37	54	28	39	26	5.3	6.7	7.5
29	e6.3	13	22	19	---	51	26	25	22	5.5	5.6	6.9
30	e7.0	13	22	47	---	333	25	20	21	5.6	5.2	6.4
31	e5.7	---	27	46	---	105	---	18	---	5.0	5.2	---
TOTAL	342.2	426.5	911.2	754	946	2188	1477	699.3	1704	563.7	282.3	308.0
MEAN	11.0	14.2	29.4	24.3	33.8	70.6	49.2	22.6	56.8	18.2	9.11	10.3
MAX	18	95	287	52	61	333	138	86	376	60	34	79
MIN	5.7	4.9	7.8	16	26	29	25	9.3	12	5.0	3.0	3.0
CFSM	.51	.66	1.36	1.13	1.56	3.27	2.28	1.04	2.63	.84	.42	.48
IN.	.59	.73	1.57	1.30	1.63	3.77	2.54	1.20	2.93	.97	.49	.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2001, BY WATER YEAR (WY)

	MEAN	21.4	33.2	35.4	36.3	39.9	54.8	57.7	41.8	27.8	20.1	19.0	18.9
MAX	104	109	109	115	86.9	104	152	118	121	87.6	77.1	87.4	
(WY)	1956	1978	1973	1979	1961	1983	1983	1989	1972	1984	1955	1999	
MIN	5.79	8.00	5.86	6.43	11.8	15.6	11.0	12.4	6.08	2.27	2.69	2.34	
(WY)	1983	1999	1999	1981	1980	1985	1985	1995	1999	1999	1995	1980	



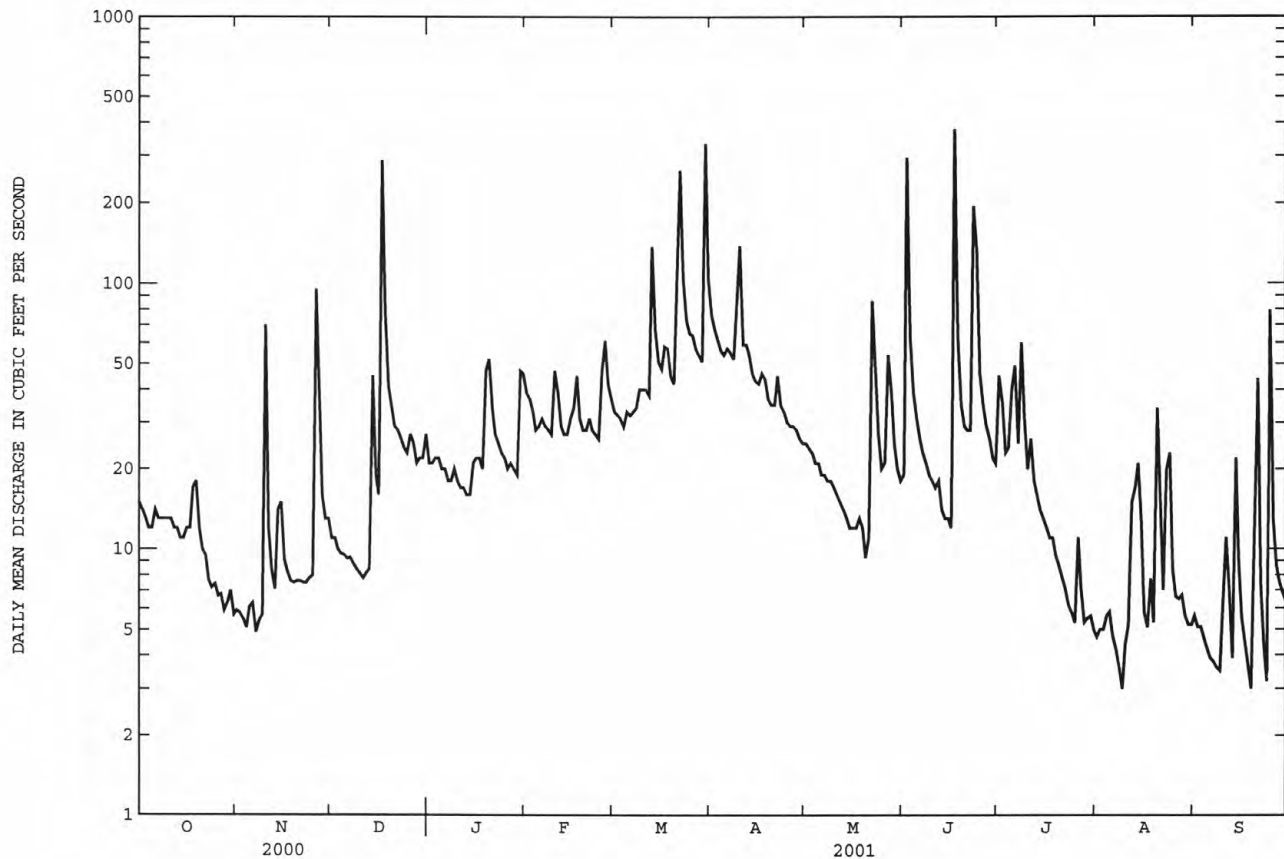
PASSAIC RIVER BASIN

85

01390500 SADDLE RIVER AT RIDGEWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1955 - 2001	
ANNUAL TOTAL	9594.5		10602.2		33.8	
ANNUAL MEAN	26.2		29.0		58.7	
HIGHEST ANNUAL MEAN					14.7	
LOWEST ANNUAL MEAN					1610	
HIGHEST DAILY MEAN	287	Dec 17	376	Jun 17	.20	Sep 16 1999
LOWEST DAILY MEAN	4.5	Jul 13	3.0	Aug 9	.75	Sep 17 1966
ANNUAL SEVEN-DAY MINIMUM	5.6	Nov 3	4.1	Sep 3	5380	Sep 16 1999
MAXIMUM PEAK FLOW			1260	Jun 17	13.40	Sep 16 1999
MAXIMUM PEAK STAGE			6.27	Jun 17	.00	Jul 27 1999
INSTANTANEOUS LOW FLOW			2.4	Sep 19	1.56	
ANNUAL RUNOFF (CFSM)	1.21		1.34		21.26	
ANNUAL RUNOFF (INCHES)	16.52		18.26		66	
10 PERCENT EXCEEDS	45		55		22	
50 PERCENT EXCEEDS	18		20		6.5	
90 PERCENT EXCEEDS	7.9		5.5			

e Estimated



## 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 and 3.2 mi upstream from mouth.

DRAINAGE AREA.--54.6 mi<sup>2</sup>.

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 sea level. 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 telemetry] at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1830	1,480	5.13	Jun 17	1415	*1,860	*5.85
Mar 30	1400	1,590	5.36	Jun 24	0045	1,460	5.09

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	30	46	61	110	89	211	81	58	108	32	35
2	57	29	38	58	101	86	178	75	735	141	30	30
3	54	28	36	56	94	85	155	62	215	77	42	25
4	55	24	36	57	81	81	142	58	121	75	31	24
5	56	30	35	56	82	93	135	57	97	128	30	25
6	59	31	34	57	100	93	143	57	86	135	28	24
7	54	23	33	55	95	96	140	55	78	78	24	23
8	51	26	31	57	86	98	136	55	73	179	28	21
9	51	26	27	64	81	128	159	58	68	111	33	20
10	52	292	30	57	114	112	374	58	65	80	61	76
11	49	78	31	55	118	105	164	53	64	94	40	43
12	48	48	28	54	87	101	167	48	64	63	77	29
13	48	41	29	53	81	355	145	49	60	53	155	22
14	47	63	169	53	80	186	129	51	54	49	128	173
15	46	84	80	66	84	133	121	53	43	51	75	48
16	44	48	79	69	98	117	120	54	49	47	35	29
17	33	51	708	67	127	140	128	54	935	46	30	27
18	61	34	297	63	89	143	130	49	210	45	31	24
19	53	33	118	147	80	112	111	43	111	43	32	22
20	39	33	98	158	77	102	106	38	89	42	126	61
21	37	34	87	100	81	193	105	53	89	38	65	203
22	42	34	79	79	78	669	136	263	84	36	29	51
23	39	34	73	71	79	282	107	141	325	38	64	34
24	30	32	70	68	75	171	100	73	548	34	100	31
25	30	31	66	66	134	145	96	56	147	31	44	241
26	30	276	62	63	167	139	93	67	107	42	33	69
27	32	156	62	64	114	130	89	130	92	38	31	43
28	30	68	61	62	99	119	87	113	84	34	31	36
29	32	55	59	60	---	113	82	102	75	35	27	32
30	34	55	47	149	---	877	82	75	73	35	25	31
31	28	---	77	135	---	335	---	54	---	31	80	---
TOTAL	1378	1827	2726	2280	2692	5628	4071	2235	4899	2037	1597	1552
MEAN	44.5	60.9	87.9	73.5	96.1	182	136	72.1	163	65.7	51.5	51.7
MAX	61	292	708	158	167	877	374	263	935	179	155	241
MIN	28	23	27	53	75	81	82	38	43	31	24	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001, BY WATER YEAR (WY)

	MEAN	65.1	88.6	99.8	106	118	155	155	117	85.6	72.0	68.0	69.0
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	38.1	40.1	32.9	44.9	25.5	12.9	15.1	11.4	
(WY)	1936	1982	1981	1981	1980	1981	1985	1941	1999	1999	1966	1932	

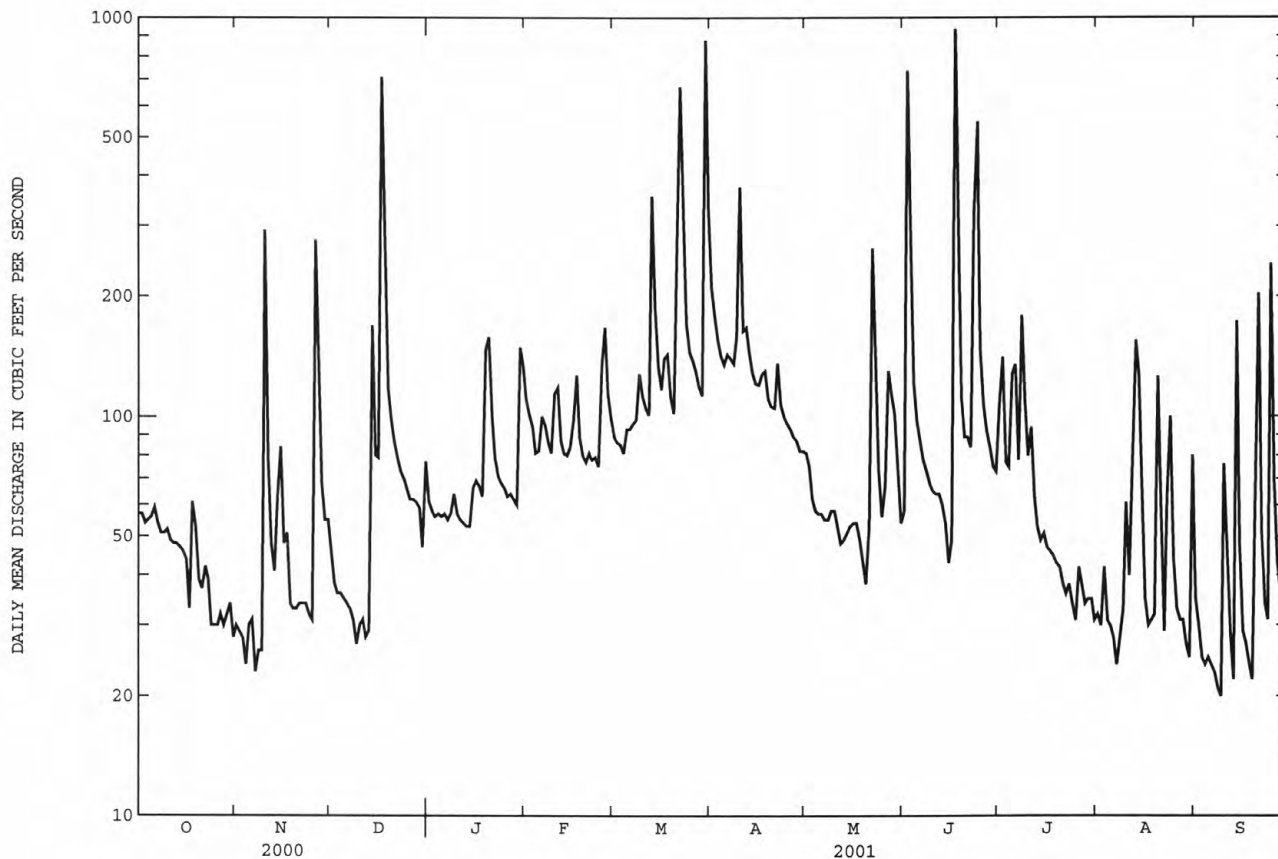
PASSAIC RIVER BASIN

87

01391500 SADDLE RIVER AT LODI, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001	
ANNUAL TOTAL	35697		32922		99.8	
ANNUAL MEAN	97.5		90.2		187	
HIGHEST ANNUAL MEAN					45.2	
LOWEST ANNUAL MEAN					2970	
HIGHEST DAILY MEAN	708	Dec 17	935	Jun 17	4.9	Apr 5 1984
LOWEST DAILY MEAN	23	Nov 7	20	Sep 9	7.1	Sep 15 1995
ANNUAL SEVEN-DAY MINIMUM	27	Nov 3	23	Sep 3	5330	Sep 10 1995
MAXIMUM PEAK FLOW			1860	Jun 17	13.94a	Sep 17 1999
MAXIMUM PEAK STAGE			5.85	Jun 17	1.0	Sep 17 1999
INSTANTANEOUS LOW FLOW			15	Sep 9	190	May 25 1935
10 PERCENT EXCEEDS	170		148		69	
50 PERCENT EXCEEDS	75		63		26	
90 PERCENT EXCEEDS	34		30			

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 feet 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 mi<sup>2</sup>.

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

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 elevation, 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.--No gage height record October 1 to March 23. 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, 7.54 ft (adjusted to NAVD of 1988), October 19, 1996; minimum elevation recorded, -4.77 ft (NAVD of 1988), November 5, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 4.90 ft (NAVD of 1988), Sept. 20; minimum elevation recorded, -4.36 ft (NAVD of 1988), Mar. 25.

Summaries of tide elevations during the 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	---	---	---	---	--	---	4.30	3.96	4.09	4.15	4.16	4.90
high tide	Date	---	---	---	---	---	---	7,9	23	22	19	21	20
Minimum	Elevation	---	---	---	---	---	-4.26	-4.20	-3.95	-3.52	-4.00	-3.96	-3.13
low tide	Date	---	---	---	---	---	25	6	4	25	24	21	19
Mean high tide		---	---	---	---	---	---	2.71	2.65	2.67	2.71	2.92	3.53
Mean water level		---	---	---	---	---	---	-.01	.06	.03	.05	.25	.93
Mean low tide		---	---	---	---	---	---	-2.90	-2.77	-2.74	-2.76	-2.55	-1.87

## RESERVOIRS IN PASSAIC RIVER BASIN

- 01379990 SPLITROCK RESERVOIR.--Lat 40°57'40", long 74°27'45", Morris County, Hydrologic Unit 02030103, at dam on Beaver Brook, 2 mi northeast of Hibernia. DRAINAGE AREA, 5.50 mi<sup>2</sup>. 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 sea level.  
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 United Water New Jersey.  
COOPERATION.--Records provided by United Water New Jersey, Bureau of Water.  
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,652,500,000 gal, Apr. 5, 1973, elevation, 836.75 ft; minimum, 1,522,800,000 gal, Jan. 4, 1954, elevation, 824.20 ft.  
EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,474,000,000 gal, Dec. 18, elevation, 835.85 ft; minimum, 3,167,000,000 gal, Sep. 30, elevation, 834.25 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 mi<sup>2</sup>. PERIOD OF RECORD, April 1904 to September 1950, October 1953 to current year. Monthend contents only 1904-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. REVISED RECORDS.--WDR NJ-85-1: 1984. GAGE, hook gage. Datum of gage is sea level.  
REVISED RECORDS.--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 United Water New Jersey.  
COOPERATION.--Records provided by United Water New Jersey, Bureau of Water.  
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, 8,170,000,000 gal, June 3, elevation, 307.96 ft; minimum, 5,457,000,000 gal, Sep. 30, elevation, 297.00 ft.
- 01382100 CANISTEAR RESERVOIR.--Lat 41°06'30", long 74°29'30", Sussex County, Hydrologic Unit 02030103, at dam on Pacock Brook, 1.8 mi northeast of Stockholm. DRAINAGE AREA, 6.08 mi<sup>2</sup>. 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 sea level.  
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 mi<sup>2</sup>. 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 sea level.  
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 mi<sup>2</sup>. 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 sea level.  
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, NJ. DRAINAGE AREA, 56.2 mi<sup>2</sup>. PERIOD OF RECORD, May 1961 to current year. GAGE, water-stage recorder. Datum of gage is sea level.  
REVISED RECORDS.--WDR 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 mi<sup>2</sup>. 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 sea level.  
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 Wanauque River at Awosting. DRAINAGE AREA, 27.1 mi<sup>2</sup>. 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 sea level (levels from New Jersey Geological Survey bench mark). Prior to Oct. 1, 1931, staff gage on former railroad bridge at site 100 ft upstream at datum 89.75 ft lower.

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

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, 7,387,000,000 gal, Mar. 23, gage height, 10.85 ft; minimum, 6,280,000,000 gal, Sep. 20, gage height, 9.05 ft.

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

01384002 MONKSVILLE RESERVOIR.--Lat 41°07'20", long 74°17'49", Passaic County, Hydrologic Unit 02030103, at dam on Wanauque River at Monks. DRAINAGE AREA, 40.4 mi<sup>2</sup>. PERIOD OF RECORD, September 1988 to current year. GAGE, measurement from reference point. Datum of gage is sea level.

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 Wanauque 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 Wanauque 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 gal, Sept. 28, 1988 (first filling), elevation 339.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,180,000,000 gal, July 1, Aug. 11, 14, 22, Sep. 1, 2, elevation 401.0 ft; minimum, 6,290,000,000 gal, Sep. 30, elevation 395.9 ft.

01386990 WANAUQUE RESERVOIR.--Lat 41°02'42", long 74°17'44", Passaic County, Hydrologic Unit 02030103, at Raymond Dam on Wanauque River at Wanauque. DRAINAGE AREA, 90.4 mi<sup>2</sup>. 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 sea level (levels by North Jersey District Water Supply Commission).

REMARKS.--Reservoir is formed by earthfill with concrete-core wall main dam and seven secondary dams; dams completed in 1927 and storage began in March 1928. Total capacity 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.

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

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, 30,000,000,000 gal, Mar. 31, elevation, 302.91 ft; minimum, 16,400,000,000 gal, Sep. 24, elevation, 282.67 ft.

## MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01379990 SPLITROCK RESERVOIR				01380900 BOONTON RESERVOIR			01382100 CANISTEAR RESERVOIR		
Sept. 30.....	834.95	3,296	--	307.02	7,929	--	1,068.60	833	--
Oct. 31.....	834.60	3,226	-3.5	305.27	7,482	-22.3	1,063.50	481	-19.1
Nov. 30.....	835.00	3,306	+4.1	306.00	7,668	+9.6	1,065.00	576	+4.9
Dec. 31.....	835.15	3,335	+1.4	305.31	7,492	-8.8	1,066.00	658	+4.1
CAL YR 2000			+1			-2.2			-7.5
Jan. 31.....	835.55	3,414	+3.9	305.62	7,571	+3.9	1,063.90	506	-7.6
Feb. 28.....	835.40	3,385	-1.6	305.69	7,589	+1.0	1,065.20	590	+4.6
Mar. 31.....	835.54	3,404	+1.0	306.21	7,721	+6.6	1,065.20	590	0
Apr. 30.....	835.00	3,306	-5.1	305.37	7,508	-11.0	1,064.00	512	-4.0
May 31.....	835.15	3,335	+1.4	307.42	8,032	+26.1	1,066.20	658	+7.3
June 30.....	835.05	3,315	-1.0	307.27	7,994	-2.0	1,070.50	980	+16.6
July 31.....	834.75	3,256	-2.9	304.46	7,780	+10.7	1,071.40	1,054	+3.7
Aug. 31.....	834.45	3,197	-2.9	300.42	6,271	-75.3	1,071.40	1,054	0
Sept. 30.....	834.35	3,177	-1.0	297.01	5,457	-323	1,071.70	1,079	+1.3
WTR YR 2001			-5			-31.7			+9
Date	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01382200 OAK RIDGE RESERVOIR				01382300 CLINTON RESERVOIR			01382380 CHARLOTTEBURG RESERVOIR		
Sept. 30.....	846.2	3,924	--	991.9	3,505	--	735.75	2,181	--
Oct. 31.....	843.2	3,587	-16.8	990.0	3,275	-11.5	736.95	2,278	+4.1
Nov. 30.....	838.0	2,875	-36.7	989.7	3,236	-2.0	735.85	2,176	-5.3
Dec. 31.....	839.5	2,979	+5.2	987.8	2,963	-13.6	739.85	2,627	+22.5
CAL YR 2000			-4			-2.1			+1.6
Jan. 31.....	844.2	3,641	+33.0	990.3	3,300	+16.8	736.63	2,264	-18.1
Feb. 28.....	846.0	3,895	+14.0	992.0	3,518	+12.0	740.60	2,687	+23.4
Mar. 31.....	846.4	3,953	+2.9	992.3	3,556	+1.9	743.40	3,014	+16.3
Apr. 30.....	846.0	3,895	-3.0	991.9	3,505	-2.6	742.40	2,894	-6.2
May 31.....	846.2	3,924	+1.4	992.1	3,531	+1.3	740.30	2,654	-12.0
June 30.....	846.0	3,909	-8	991.9	3,505	-1.3	740.55	2,681	+1.4
July 31.....	842.8	3,448	-23.0	991.7	3,480	-1.2	738.15	2,423	-12.9
Aug. 31.....	835.1	2,441	-50.3	989.2	3,160	-16.0	736.75	2,278	-7.2
Sept. 30.....	834.1	2,315	-6.5	981.3	2,197	-49.7	736.00	2,205	-3.8
WTR YR 2001			-6.8			-5.6			+1

## RESERVOIRS IN PASSAIC RIVER BASIN--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)**	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)b	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01382400 ECHO LAKE				01383000 GREENWOOD LAKE			01384002 MONKSVILLE RESERVOIR		
Sept.30.....	893.5	1,630	--	10.00	6,860	--	400.0	7,000	--
Oct. 31.....	893.3	1,611	-.9	9.72	6,689	-8.5	400.0	7,000	0
Nov. 30.....	893.5	1,630	+1.0	10.17	6,965	+14.2	400.0	7,000	0
Dec. 31.....	893.5	1,630	0	10.22	6,996	+1.5	400.0	7,000	0
CAL YR 2000			+ .4			+ .1			0
Jan. 31.....	893.5	1,630	0	10.20	6,984	-.6	400.0	7,000	0
Feb. 28.....	893.6	1,638	+ .4	10.28	7,034	+2.8	400.0	7,000	0
Mar. 31.....	893.6	1,638	0	10.72	7,306	+13.6	400.0	7,000	0
Apr. 30.....	893.5	1,630	-.4	10.07	6,903	-20.8	400.0	7,000	0
May 31.....	893.6	1,638	+ .4	10.26	7,021	+5.9	400.0	7,000	0
June 30.....	893.5	1,629	-.5	10.08	6,910	-5.7	401.0	7,180	+9.3
July 31.....	893.3	1,611	-.9	9.70	6,677	-11.6	400.6	7,100	-4.0
Aug. 31.....	893.3	1,611	0	9.31	6,439	-11.9	401.0	7,180	+4.0
Sept.30.....	893.5	1,630	+1.0	9.13	6,329	-5.7	395.9	6,290	-46.0
WTR YR 2001			+ .1			-2.2			-.3

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01386990 WANAQUE RESERVOIR			
Sept.30.....	293.86	23,390	--
Oct. 31.....	288.72	20,000	-169
Nov. 30.....	284.00	17,200	-144
Dec. 31.....	290.14	20,900	+185
CAL YR 2000			-20.7
Jan. 31.....	287.39	19,200	-84.8
Feb. 28.....	293.30	23,000	+210
Mar. 31.....	302.88	30,000	+349
Apr. 30.....	301.93	29,300	-36.1
May 31.....	300.97	28,500	-39.9
June 30.....	302.04	29,400	+46.4
July 31.....	296.52	25,200	-210
Aug. 31.....	288.83	20,100	-255
Sept.30.....	283.21	16,700	-175
WTR YR 2001			-28.3

\* 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 Elevation at 0700 on the first day of the following month.

## DIVERSIONS WITHIN PASSAIC RIVER BASIN

- 01368720 North Jersey District Water Supply Commission diverts water from Upper Greenwood Lake (Hudson River basin) near Moe, NJ to the Green Brook, a tributary of Greenwood Lake, for municipal supply. Consult North Jersey District Water Supply Commission for data available.
- 01379510 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 New Jersey. 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 diverts water from Point View Reservoir to the PVWC's intake canal at Little Falls for municipal supply. No diversion this year. 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 may be 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 to the 2001 water year 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. Diversions include those made at Wanaque South pumping station on the Pompton River at Two Bridges (01388982). Occasionally releases from Point View Reservoir (01387959) are included in this total. Records provided by Passaic Valley Water Commission.

## DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

MONTH	01379510 New Jersey - American Water Company from Passaic River	01379530 New Jersey - American Water Company from Canoe Brook	01380280 Stony Brook tributary diversion at Taylortown	01380800 Jersey City	01382370 Newark
October.....	0	0	.69	68.7	77.0
November.....	4.44	1.33	.68	70.8	67.5
December.....	21.3	7.62	.76	83.1	75.9
CAL YR 2000	7.56	2.66	.74	76.6	74.1
January.....	18.9	.01	.79	81.5	71.9
February.....	27.2	3.70	.71	71.2	76.9
March.....	10.5	3.47	.71	68.7	68.6
April.....	5.42	4.41	.76	69.0	77.1
May.....	11.0	3.86	.89	74.7	75.0
June.....	1.69	8.89	.75	77.0	75.7
July.....	0	.74	.73	86.8	67.6
August.....	0	.54	.83	89.5	71.5
September.....	0	.86	.91	77.1	72.8
WTR YR 2001	8.25	2.93	.77	76.4	72.9

## PASSAIC RIVER BASIN

93

## DIVERSIONS WITHIN PASSAIC RIVER BASIN--Continued

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001, Continued

MONTH	01386980 Wanaque Reservoir	01387959 Point View Reservoir to Little Falls	01387990 Ramapo River to Wanaque Reservoir	01388490 Pompton River to Point View Reservoir
October.....	168	0	0	0
November.....	155	0	0	0
December.....	158	0	0	0
CAL YR 2000	168	0	0	0
January.....	167	0	0	0
February.....	151	0	0	0
March.....	146	0	0	0
April.....	139	0	0	0
May.....	171	0	0	0
June.....	153	0	0	0
July.....	184	0	0	0
August.....	186	0	0	0
September.....	170	0	0	0
WTR YR 2001	162	0	0	0

MONTH	01388980 Pompton River to Wanaque Reservoir	01388981* To Oradell Reservoir	01388982 Pompton River to Passaic Valley Water Commission at Little Falls	01389490 Passaic River to Passaic Valley Water Commission at Little Falls
October.....	0	0	68.2	70.2
November.....	0	30.5	76.3	79.4
December.....	163	18.0	60.1	59.7
CAL YR 2000	31.0	9.67	55.0	71.4
January.....	12.0	24.3	68.8	71.5
February.....	202	16.8	72.7	69.2
March.....	118	10.9	76.2	76.4
April.....	0	0	75.3	80.7
May.....	139	51.6	77.5	101
June.....	57.3	10.4	83.2	96.8
July.....	0	26.2	81.7	97.2
August.....	0	66.3	79.8	105
September.....	25.1	62.2	69.0	80.3
WTR YR 2001	58.9	26.4	73.8	82.1

\* 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 mi<sup>2</sup>.

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 sea level (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 mi<sup>2</sup>.

REMARKS.--Records good except for estimated discharges 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. 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 14	0800	1,590	18.99	Mar 30	1045	1,730	19.17
Dec 17	1015	1,580	18.98	Jun 2	0130	*2,130	*19.64
Mar 13	0345	1,620	19.03	Jun 17	0400	1,510	18.88
Mar 21	2145	1,610	19.01	Jul 4	2400	1,640	19.06

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	6.3	8.4	e7.9	22	11	34	9.3	115	100	5.8	26
2	7.3	6.1	7.7	e7.9	16	11	22	9.4	459	19	6.0	5.4
3	7.2	6.4	7.2	e8.0	14	10	18	9.2	46	10	5.9	5.2
4	9.0	5.8	7.5	e8.4	12	11	16	12	19	89	11	5.2
5	15	5.6	7.6	8.4	25	29	14	8.6	13	109	6.1	5.1
6	8.0	5.9	7.5	10	71	30	38	9.2	12	13	6.6	5.0
7	7.2	5.8	7.4	9.6	33	34	17	10	10	8.7	6.9	5.0
8	6.8	6.3	7.3	22	18	15	31	10	9.5	49	7.8	4.9
9	6.8	9.1	6.8	25	17	62	78	10	8.3	11	8.8	4.8
10	7.0	146	6.7	11	25	16	36	10	7.9	8.3	76	40
11	7.1	17	7.4	10	14	12	29	10	11	7.5	22	9.4
12	6.8	12	7.7	10	12	11	42	9.0	48	6.8	137	5.4
13	8.5	9.3	6.8	8.9	12	317	17	7.7	8.8	6.6	74	5.3
14	6.8	35	172	8.3	12	36	14	7.7	8.4	6.4	18	265
15	6.5	11	18	39	12	20	13	7.8	7.2	6.3	8.7	17
16	6.8	8.4	43	19	28	17	31	7.7	7.9	6.3	6.9	8.5
17	7.0	7.8	376	14	26	33	24	7.7	388	55	6.3	6.7
18	32	7.2	46	15	11	24	16	12	31	26	7.0	6.2
19	8.7	6.9	23	136	10	13	12	7.3	14	8.2	6.1	5.7
20	7.1	6.6	e16	67	10	12	11	7.1	19	7.3	7.1	63
21	6.7	6.9	e13	29	9.9	265	11	47	49	6.8	6.1	137
22	6.3	6.6	e11	19	9.4	260	12	235	11	6.5	6.0	15
23	6.3	6.4	e9.6	15	21	48	13	51	136	6.7	21	8.2
24	6.3	6.2	e10	15	11	25	11	14	22	6.8	8.5	6.6
25	6.4	6.1	e9.4	13	84	18	10	9.6	12	7.6	6.1	105
26	6.3	202	e8.6	12	27	16	9.8	28	9.3	11	5.7	11
27	6.3	25	e8.5	11	15	15	10	50	8.4	6.4	5.7	8.0
28	5.9	15	e8.1	10	12	14	9.3	18	9.2	6.1	5.5	6.7
29	6.0	11	e7.7	10	---	15	9.0	68	8.3	6.1	8.6	6.3
30	6.1	17	e8.6	163	---	595	9.3	18	8.7	6.0	5.3	14
31	6.2	---	e9.4	36	---	73	---	10	---	5.9	12	---
TOTAL	247.6	626.7	893.9	778.4	589.3	2068	617.4	730.3	1516.9	629.3	524.5	816.6
MEAN	7.99	20.9	28.8	25.1	21.0	66.7	20.6	23.6	50.6	20.3	16.9	27.2
MAX	32	202	376	163	84	595	78	235	459	109	137	265
MIN	5.9	5.6	6.7	7.9	9.4	10	9.0	7.1	7.2	5.9	5.3	4.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

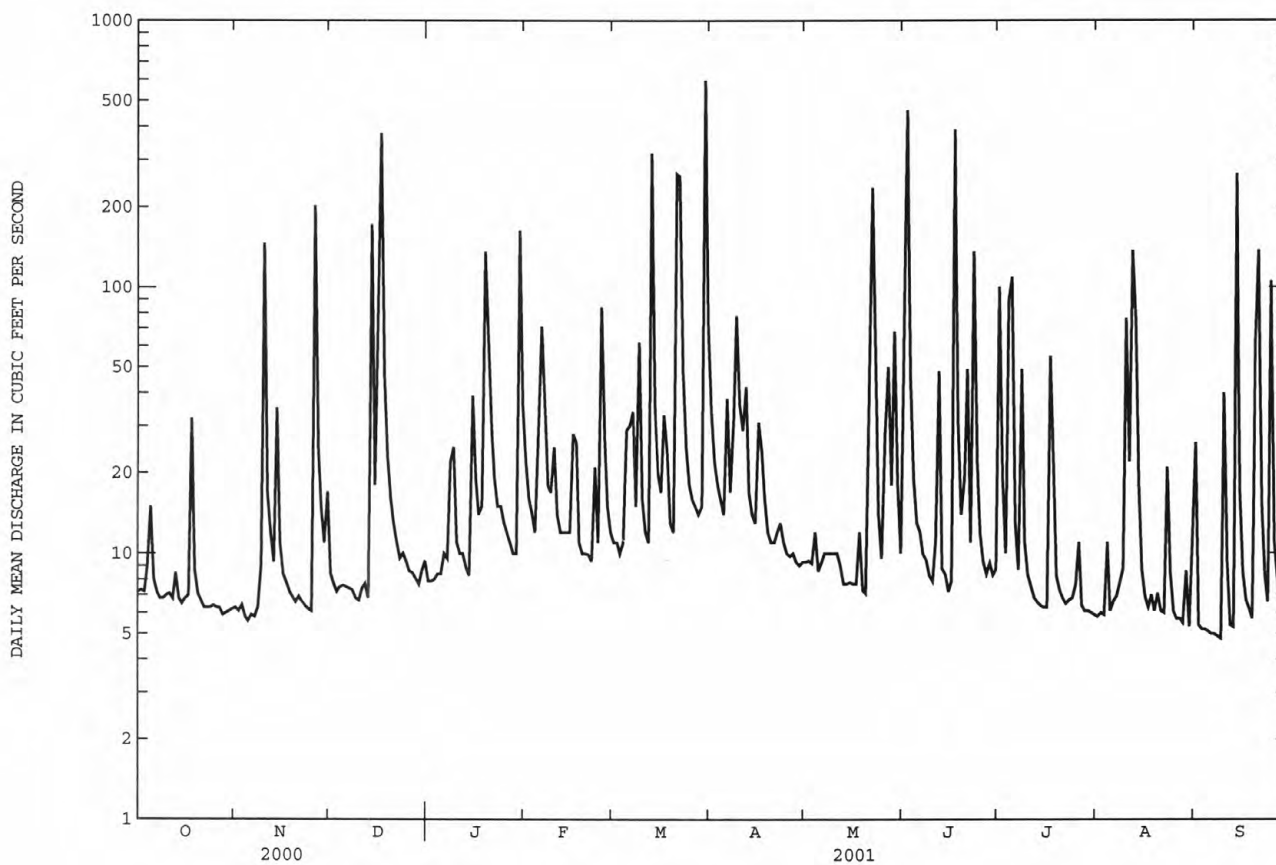
	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
MEAN	20.4	24.4	23.5	24.1	26.2	32.4	29.5	27.3	23.3	27.1	27.2	25.8
MAX	60.1	90.7	85.1	86.3	55.1	75.5	97.0	83.8	57.4	83.1	195	102
(WY)	1928	1973	1984	1979	1971	1983	1983	1968	1972	1922	1971	1966
MIN	1.58	5.05	6.25	3.71	6.56	6.03	10.3	5.97	3.94	3.24	.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 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001	
ANNUAL TOTAL	9078.6		10038.9		25.9	
ANNUAL MEAN	24.8		27.5		48.3	
HIGHEST ANNUAL MEAN					10.2	
LOWEST ANNUAL MEAN					1900	
HIGHEST DAILY MEAN	376	Dec 17	595	Mar 30	1900	Aug 28 1971
LOWEST DAILY MEAN	5.6	Nov 5	4.8	Sep 9	.00	Jul 14 1922
ANNUAL SEVEN-DAY MINIMUM	6.0	Nov 1	5.0	Sep 3	.00	Aug 7 1923
MAXIMUM PEAK FLOW			2130	Jun 2	4510	Sep 16 1999
MAXIMUM PEAK STAGE			19.64	Jun 2	25.77a	Aug 2 1973
INSTANTANEOUS LOW FLOW			4.8	Sep 8	4.8	Sep 8 2001
10 PERCENT EXCEEDS	46		49		51	
50 PERCENT EXCEEDS	11		10		11	
90 PERCENT EXCEEDS	7.0		6.2		5.6	

a Recorded before right weir was lowered 5 ft  
e Estimated



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.

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 sea level.

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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1400	*1,170	*6.06	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e11	11	10	60	20	70	16	40	71	8.1	18
2	11	e11	9.4	10	42	21	47	15	574	20	8.1	8.6
3	11	e11	9.8	10	32	20	40	13	65	13	8.1	7.9
4	12	e11	11	11	23	20	34	13	24	39	11	7.5
5	18	e10	9.7	11	34	28	30	13	18	62	8.3	7.8
6	e11	e10	9.3	11	65	28	52	13	15	13	7.5	7.3
7	e11	e9.0	9.2	11	45	39	35	13	14	12	7.5	7.0
8	e10	e10	9.7	16	29	27	43	13	13	36	7.5	7.0
9	e10	e14	9.2	21	28	91	64	13	12	12	7.4	7.0
10	e10	187	9.2	12	116	45	83	13	12	11	69	22
11	e11	12	9.3	11	48	29	41	13	12	10	16	14
12	e10	9.9	12	11	26	24	61	12	25	10	56	7.2
13	e12	8.9	17	11	22	334	34	12	12	9.8	89	7.2
14	e10	37	159	11	23	76	28	12	12	9.7	16	238
15	e10	14	22	29	29	36	26	12	11	9.1	9.3	12
16	e11	11	35	20	39	32	42	12	13	8.6	8.7	8.5
17	e10	11	580	17	59	44	30	12	560	38	8.6	8.1
18	e35	11	102	16	24	41	27	15	63	22	8.6	8.2
19	e15	11	29	148	20	26	22	12	23	9.9	8.6	8.0
20	e9.0	12	23	138	19	22	21	11	34	9.1	9.1	73
21	e10	12	17	48	20	175	20	43	97	8.6	8.6	120
22	e8.0	12	15	28	18	372	20	148	28	8.7	8.3	12
23	e10	12	13	23	22	114	19	34	73	8.9	17	9.6
24	e11	13	13	22	19	49	19	15	40	8.6	13	9.5
25	e9.0	15	12	20	103	36	17	12	19	8.2	8.4	112
26	e9.0	288	11	18	95	33	17	23	16	12	8.3	11
27	e10	39	11	18	32	29	17	40	14	8.4	8.2	9.9
28	e10	18	11	16	25	27	16	18	13	8.2	8.1	9.5
29	e10	14	10	15	---	27	16	47	12	8.4	8.1	9.6
30	e11	17	11	165	---	569	16	21	11	8.1	8.1	12
31	e12	---	12	114	---	141	---	11	---	8.1	28	---
TOTAL	358.0	861.8	1221.8	1022	1117	2575	1007	670	1875	521.4	496.5	799.4
MEAN	11.5	28.7	39.4	33.0	39.9	83.1	33.6	21.6	62.5	16.8	16.0	26.6
MAX	35	288	580	165	116	569	83	148	574	71	89	238
MIN	8.0	8.9	9.2	10	18	20	16	11	11	8.1	7.4	7.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	18.7	27.3	30.9	31.6	34.6	48.2	42.8	34.7	24.6	25.4	22.8	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	7.01	8.08	7.37	6.31	4.14	2.23	2.10	2.97
(WY)	1964	1950	1940	1966	1954	1981	1963	1965	1965	1966	1964	1964

## RAHWAY RIVER BASIN

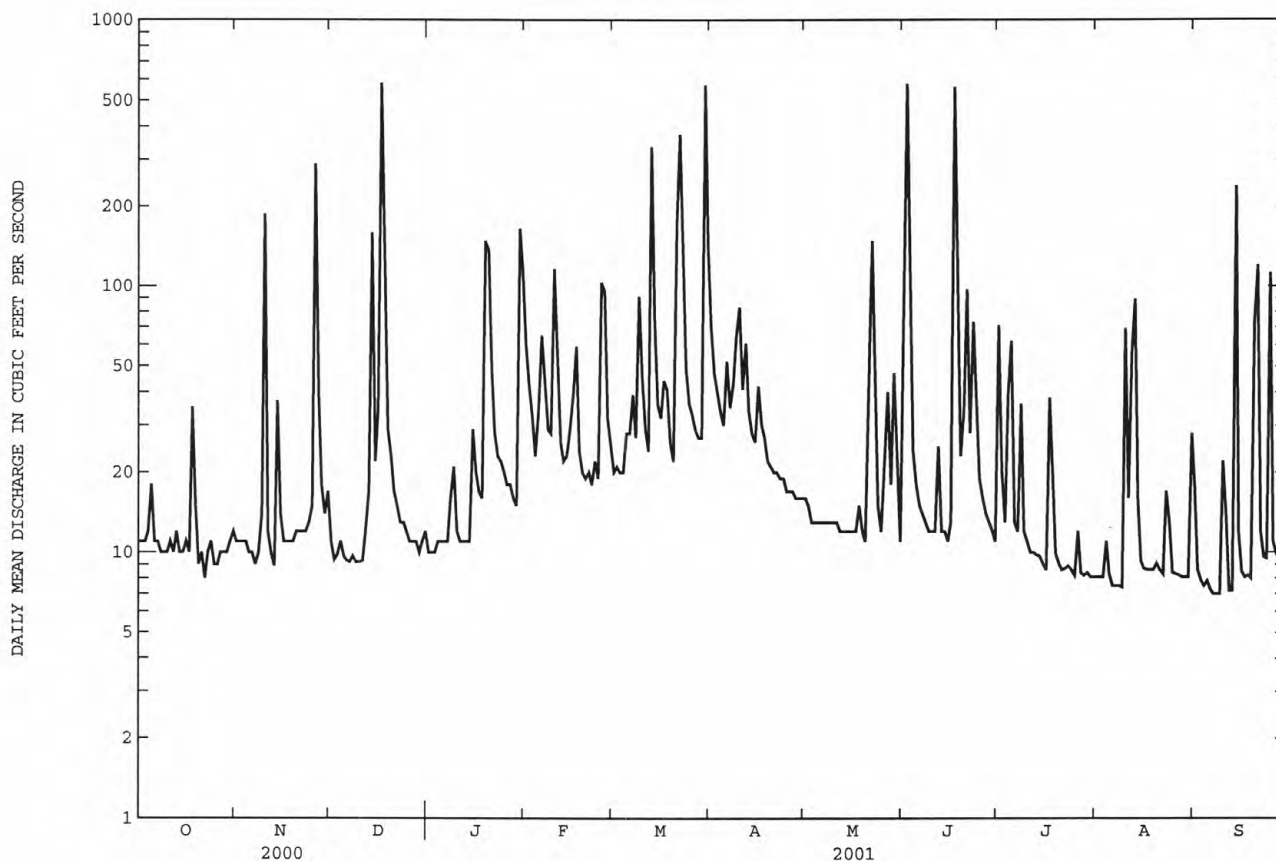
97

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1939 - 2001
ANNUAL TOTAL	12256.7	12524.9	
ANNUAL MEAN	33.5	34.3	30.4
HIGHEST ANNUAL MEAN			55.9
LOWEST ANNUAL MEAN			10.0
HIGHEST DAILY MEAN	580 Dec 17	580 Dec 17	2270 Sep 16 1999
LOWEST DAILY MEAN	8.0 Oct 22	7.0 Sep 7	.40 Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	9.4 Dec 5	7.4 Sep 3	.71 Oct 8 1970
MAXIMUM PEAK FLOW		1170 Dec 17	7990a Sep 16 1999
MAXIMUM PEAK STAGE		6.06 Dec 17	10.67 Sep 16 1999
INSTANTANEOUS LOW FLOW		7.0 Dec 30	.10 Sep 11 1966
10 PERCENT EXCEEDS	61	64	60
50 PERCENT EXCEEDS	17	14	11
90 PERCENT EXCEEDS	10	8.6	3.5

a From rating curve extend above 1,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.

e Estimated



## RAHWAY RIVER BASIN

01395000 RAHWAY RIVER AT RAHWAY, NJ

LOCATION.--Lat 40°37'08", long 74°17'01" (revised), Union County, Hydrologic Unit 02030104, on left bank, 100 ft upstream from bridge on St. Georges Avenue in Rahway and 0.9 mi upstream from Robinsons Branch.

DRAINAGE AREA.--40.9 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23(M), 1924, 1930-31(M), 1937. WDR NJ-79-1: 1978.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8.77 ft above sea level. Prior to Aug. 25, 1934, nonrecording gage at site 40 ft downstream from Church Street and 1,500 ft downstream from present site at datum 2.77 ft lower.

REMARKS.--Records good. Water for municipal supply diverted from river by Rahway and Orange. The flow past this station is affected by diversions by pumpage from wells by Orange, South Orange, New Jersey-American Water Co., Springfield station of Elizabethtown Water Co., by storage in the Lenape Park flood control reservoir (since 1980) and by gate operations at Hansels Dam 5.6 mi upstream from gage in Cranford, and Taylor Park Dam 11.6 mi upstream from gage on the West Branch Rahway River in Millburn. 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov 26	1745	793	3.55	Mar 30	1145	*1,460	*4.64
Dec 17	1530	1,110	4.08	Jun 2	1145	974	3.86
Mar 13	0815	648	3.28	Jun 17	1430	1,080	4.03
Mar 21	2330	827	3.61	Sep 14	1200	625	3.24

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	18	18	14	90	28	110	20	35	49	8.2	37
2	13	18	14	13	63	27	52	17	804	89	5.9	9.1
3	14	17	13	13	47	25	57	17	266	26	6.6	8.1
4	13	18	13	14	31	23	51	14	43	61	7.1	7.8
5	29	17	15	14	48	35	44	18	18	142	9.9	8.3
6	15	14	13	15	92	41	56	12	23	26	5.3	8.3
7	14	11	12	15	92	50	63	15	24	27	5.8	16
8	12	12	12	17	60	54	58	15	21	49	7.0	7.5
9	13	13	12	39	42	96	62	17	18	24	7.5	5.8
10	13	271	12	19	108	85	169	13	18	15	47	13
11	14	34	13	15	86	42	59	15	19	14	57	33
12	13	15	12	16	40	32	98	12	28	13	42	8.6
13	14	13	9.7	15	34	448	58	11	19	13	201	7.6
14	14	34	246	15	33	149	45	12	14	13	46	316
15	13	44	60	44	34	61	39	14	20	12	20	55
16	14	14	29	34	58	40	58	14	18	12	11	14
17	14	13	625	30	91	69	42	10	679	15	9.4	11
18	33	12	504	25	37	58	46	19	323	59	8.2	9.4
19	35	12	60	179	27	34	34	14	49	15	7.8	9.9
20	11	12	37	231	26	30	32	10	35	13	12	50
21	12	13	26	91	27	145	35	29	98	12	12	257
22	9.3	12	22	47	24	638	35	284	65	11	7.2	30
23	11	11	19	34	29	188	31	81	111	11	14	15
24	19	11	17	30	31	71	27	32	69	10	27	12
25	12	11	16	28	87	53	24	20	32	8.4	9.5	161
26	11	357	14	25	155	46	26	31	32	10	7.4	26
27	13	190	14	24	61	45	25	68	26	11	15	15
28	14	35	13	23	36	33	24	38	19	8.5	10	13
29	15	23	12	21	---	32	23	46	19	9.0	7.0	11
30	17	31	14	171	---	863	23	87	28	11	7.6	13
31	20	---	18	177	---	419	---	22	---	19	16	---
TOTAL	477.3	1306	1914.7	1448	1589	3960	1506	1027	2973	807.9	657.4	1188.4
MEAN	15.4	43.5	61.8	46.7	56.8	128	50.2	33.1	99.1	26.1	21.2	39.6
MAX	35	357	625	231	155	863	169	284	804	142	201	316
MIN	9.3	11	9.7	13	24	23	23	10	14	8.4	5.3	5.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

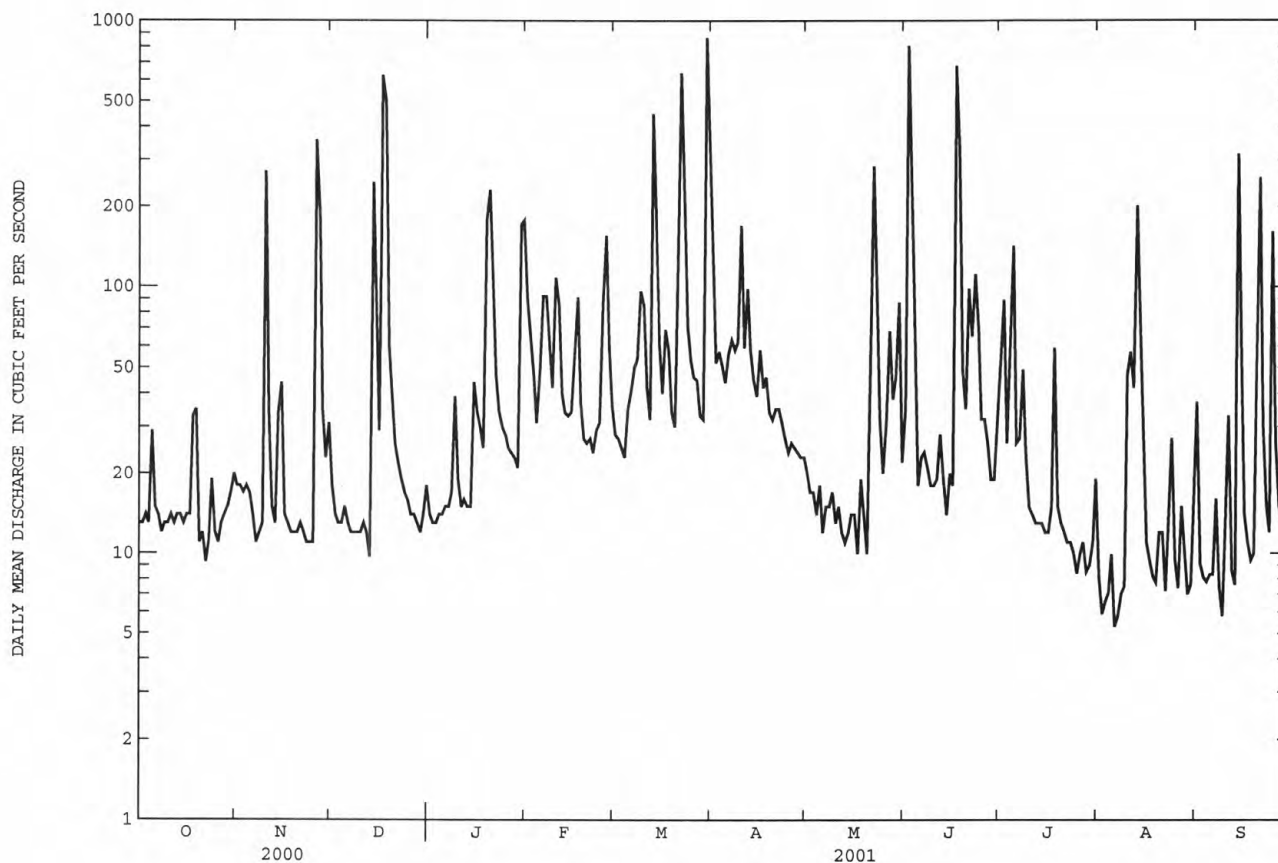
	MEAN	29.1	43.2	48.1	52.1	58.4	79.3	68.8	53.3	37.7	42.0	38.9	38.2
MAX	197	221	255	211	156	190	246	199	173	268	242	231	
(WY)	1997	1973	1984	1979	1925	1983	1983	1989	1972	1975	1971	1999	
MIN	1.48	3.05	3.27	1.41	12.5	12.6	7.80	6.20	3.32	.33	.43	2.26	
(WY)	1964	1966	1981	1981	1954	1981	1963	1965	1965	1966	1964	1964	

## RAHWAY RIVER BASIN

99

01395000 RAHWAY RIVER AT RAHWAY, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1922 - 2001
ANNUAL TOTAL	17744.3	18854.7	
ANNUAL MEAN	48.5	51.7	49.1
HIGHEST ANNUAL MEAN			105
LOWEST ANNUAL MEAN			15.0
HIGHEST DAILY MEAN	731	863	3670
LOWEST DAILY MEAN	3.9	5.3	.00
ANNUAL SEVEN-DAY MINIMUM	7.9	6.8	.00
MAXIMUM PEAK FLOW		1460	5590
MAXIMUM PEAK STAGE		4.64	9.60
INSTANTANEOUS LOW FLOW		4.8	.00
10 PERCENT EXCEEDS	114	92	100
50 PERCENT EXCEEDS	23	21	19
90 PERCENT EXCEEDS	12	10	3.6





## 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, 1.7 mi west of Chester and 0.6 mi south of Drakes Brook on Bartley Road.

DRAINAGE AREA.--31.0 mi<sup>2</sup>.

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. Several measurements of water temperature were made during the year. Occasional diurnal fluctuations due to sewage treatment plants upstream.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1315	*1,330	*7.15	May 27	0815	596	6.21
Mar 13	0630	465	6.00	Jun 2	0830	754	6.45
Mar 30	1115	640	6.28	Jun 17	0815	465	6.00

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

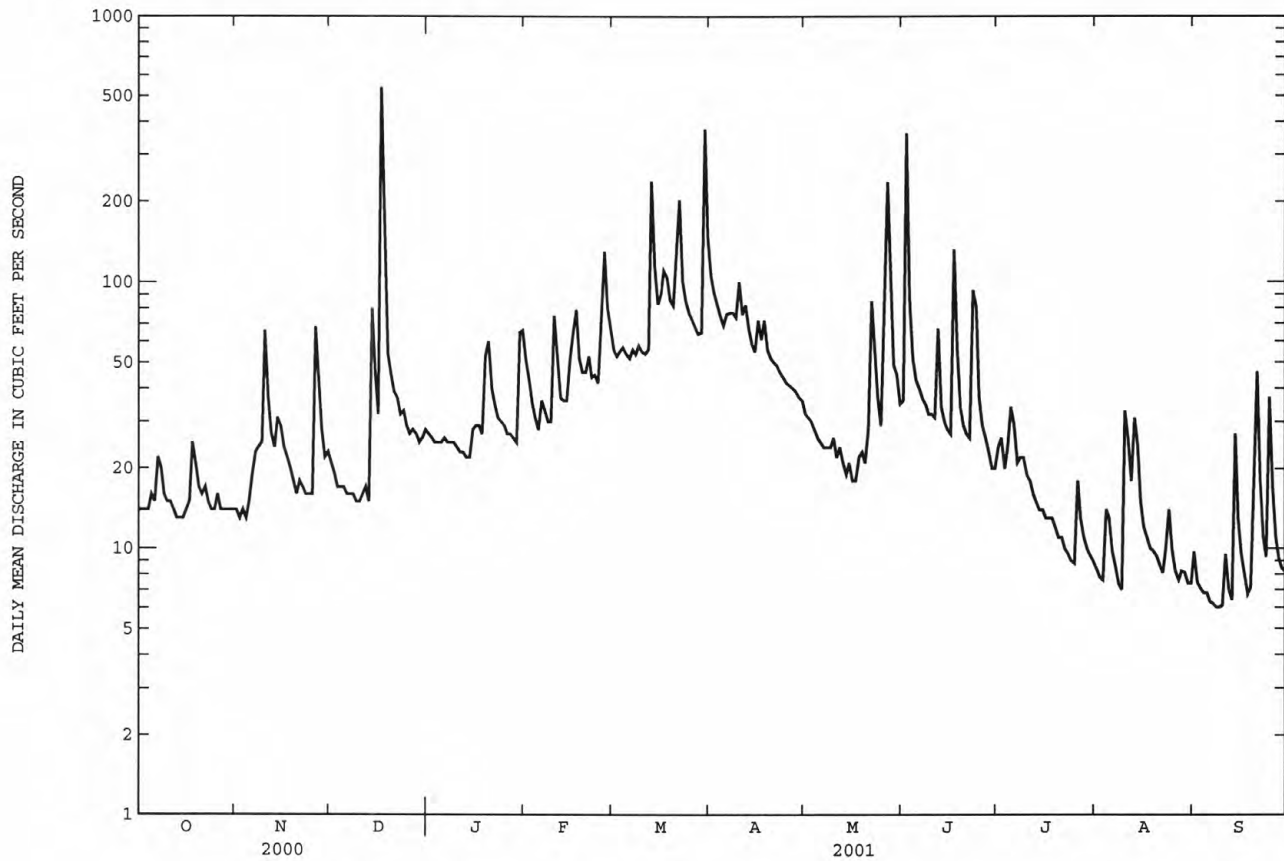
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	21	27	51	56	106	32	36	24	8.4	9.7
2	14	13	19	26	43	53	91	31	361	26	7.8	7.5
3	14	14	17	25	35	55	82	30	86	20	7.6	7.1
4	14	13	17	25	31	57	75	28	52	24	14	6.8
5	16	15	17	25	28	54	69	26	43	34	13	6.8
6	15	19	16	26	36	52	76	25	40	29	9.8	6.3
7	22	23	16	25	33	56	77	24	37	21	8.6	6.2
8	20	24	16	25	30	54	77	24	35	22	7.4	6.0
9	16	25	15	25	30	58	74	24	32	22	7.0	6.0
10	15	66	15	24	75	55	100	26	32	19	33	6.1
11	15	37	16	23	52	54	76	22	31	18	26	9.5
12	14	27	17	23	37	56	82	24	67	16	18	7.0
13	13	24	15	22	36	238	68	21	34	15	31	6.4
14	13	31	80	22	36	115	59	19	30	14	25	27
15	13	29	45	28	51	83	55	21	28	14	15	13
16	14	24	32	29	65	90	72	18	27	13	12	9.5
17	15	22	538	29	79	111	61	18	132	13	11	8.0
18	25	20	129	27	52	105	72	22	56	13	10	6.7
19	21	18	54	53	46	86	56	23	34	12	9.8	7.1
20	17	16	45	60	46	82	52	21	29	11	9.4	18
21	16	18	39	40	53	131	50	28	27	11	8.7	46
22	17	17	37	35	44	203	49	85	26	10	8.1	18
23	15	16	32	31	45	101	46	54	93	9.6	10	11
24	14	16	33	30	42	85	44	37	81	9.0	14	9.3
25	14	16	29	29	77	77	42	29	37	8.8	9.8	37
26	16	68	27	27	130	73	41	72	29	18	8.2	17
27	14	45	28	27	81	68	40	236	26	13	7.6	11
28	14	28	27	26	67	64	39	91	23	11	8.2	9.1
29	14	22	25	25	---	65	37	49	20	10	8.1	8.4
30	14	23	26	65	---	375	36	45	20	9.4	7.4	8.2
31	14	---	28	66	---	148	---	35	---	9.0	7.4	---
TOTAL	482	743	1471	970	1431	2960	1904	1240	1604	498.8	381.3	355.7
MEAN	15.5	24.8	47.5	31.3	51.1	95.5	63.5	40.0	53.5	16.1	12.3	11.9
MAX	25	68	538	66	130	375	106	236	361	34	33	46
MIN	13	13	15	22	28	52	36	18	20	8.8	7.0	6.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2001, BY WATER YEAR (WY)

	20.4	28.4	40.0	54.4	51.6	92.0	58.3	42.1	41.8	17.0	24.2	40.8
MEAN	20.4	28.4	40.0	54.4	51.6	92.0	58.3	42.1	41.8	17.0	24.2	40.8
MAX	25.2	32.0	47.5	99.8	52.2	104	63.5	51.9	58.3	28.5	53.0	88.6
(WY)	2000	2000	2001	1999	2000	1999	2001	2000	2000	2000	2000	1999
MIN	15.5	24.8	32.6	31.3	51.1	77.0	53.0	34.5	13.7	6.30	7.39	11.9
(WY)	2001	2001	2000	2001	2001	2000	1999	1999	1999	1999	1999	2001

01396190 SOUTH BRANCH RARITAN RIVER AT FOUR BRIDGES, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1999 - 2001	
ANNUAL TOTAL	15891		14040.8			
ANNUAL MEAN	43.4		38.5		41.0	
HIGHEST ANNUAL MEAN					43.6	
LOWEST ANNUAL MEAN					38.5	
HIGHEST DAILY MEAN	538	Dec 17	538	Dec 17	1530	Sep 16 1999
LOWEST DAILY MEAN	13	Jul 13	6.0	Sep 8	3.5	Aug 3 1999
ANNUAL SEVEN-DAY MINIMUM	14	Oct 29	6.3	Sep 4	3.9	Jul 31 1999
MAXIMUM PEAK FLOW			1330	Dec 17	5100a	Sep 16 1999
MAXIMUM PEAK STAGE			7.15	Dec 17	10.60	Sep 16 1999
INSTANTANEOUS LOW FLOW			3.0	Sep 25	3.0	Sep 25 2001
10 PERCENT EXCEEDS	74		77		76	
50 PERCENT EXCEEDS	30		26		29	
90 PERCENT EXCEEDS	15		9.4		9.4	

a From rating curve extended above 530 ft<sup>3</sup>/s

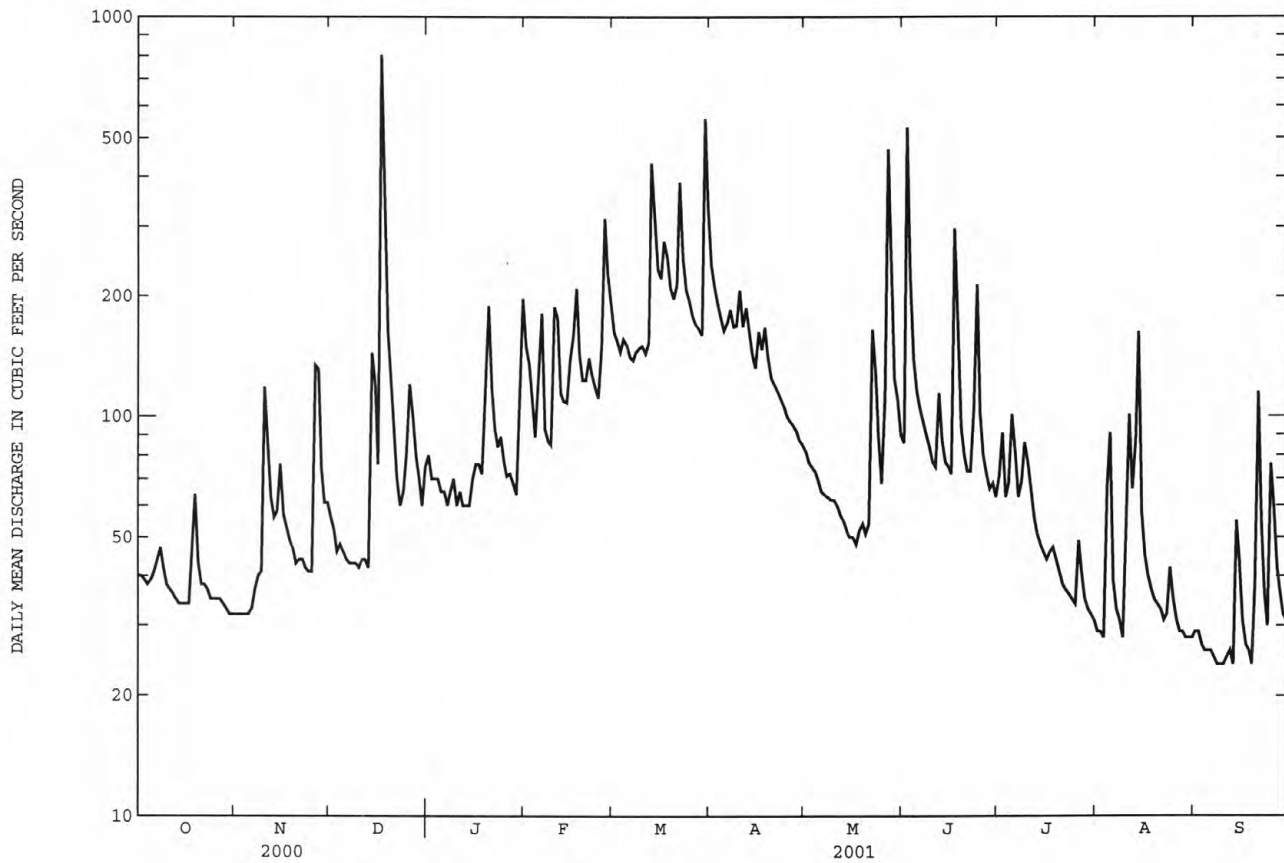


01396500 SOUTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1919 - 2001	
ANNUAL TOTAL	39791		34595		123	
ANNUAL MEAN	109		94.8		213	
HIGHEST ANNUAL MEAN					46.2	
LOWEST ANNUAL MEAN					1928	
HIGHEST DAILY MEAN	803	Dec 17	803	Dec 17	3340	Jan 25 1979
LOWEST DAILY MEAN	32	Oct 30	24	Sep 8	13	Aug 11 1966
ANNUAL SEVEN-DAY MINIMUM	32	Oct 30	25	Sep 7	17	Aug 3 1999
MAXIMUM PEAK FLOW			1450	Dec 17	6910	Jan 25 1979
MAXIMUM PEAK STAGE			8.95	Dec 17	14.26a	Jan 28 1994
INSTANTANEOUS LOW FLOW			23	Sep 13	6.6	Oct 11 1930
ANNUAL RUNOFF (CFSM)	1.66		1.45		1.88	
ANNUAL RUNOFF (INCHES)	22.67		19.71		25.51	
10 PERCENT EXCEEDS	190		183		234	
50 PERCENT EXCEEDS	81		69		86	
90 PERCENT EXCEEDS	41		32		36	

a Result of an ice jam

e Estimated



01396580 SPRUCE RUN AT GLEN GARDNER, NJ

LOCATION.--Lat 40°41'35", long 74°56'25", Hunterdon County, Hydrologic Unit 02030105, on right downstream wingwall of bridge on Sanatorium Road in Glen Gardner, 0.8 mi downstream from Alpaugh Brook, and 2.0 mi upstream from Spruce Run Reservoir.

DRAINAGE AREA.--11.3 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1978 to September 1988, December 1991 to current year.

REVISED RECORD.--WDR NJ-86-1: 1983-85(P). WDR NJ-93-1: Drainage area, longitude.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 389.10 ft above sea level.

REMARKS.--Records fair except for estimated daily discharges, October and November which are poor. Some regulation from unknown sources upstream. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov 25	0730	587	3.97	Aug 4	1845	509	3.75
Dec 17	0845	*1,260	*5.63				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.7	7.7	8.4	30	26	37	13	13	24	3.2	4.6
2	4.2	4.8	6.7	e8.0	27	25	32	13	139	15	3.0	4.3
3	4.0	4.8	6.0	e8.0	19	27	29	12	26	7.6	3.0	4.2
4	3.8	4.9	7.2	8.0	15	27	26	11	17	8.9	44	4.7
5	5.1	5.0	5.8	e8.0	15	26	24	11	14	11	14	4.8
6	4.9	4.9	5.7	8.4	20	23	33	10	13	8.0	5.7	4.4
7	4.5	4.7	5.2	8.1	16	24	32	9.8	11	6.2	4.9	4.2
8	3.9	4.8	5.3	8.3	15	26	27	9.8	10	8.4	4.4	4.2
9	3.8	5.1	5.1	8.9	15	32	28	9.8	9.5	13	4.2	4.2
10	4.2	21	5.2	8.2	71	32	36	9.5	8.9	12	20	4.3
11	4.3	9.7	5.5	e8.0	32	33	28	9.1	8.8	11	15	4.7
12	4.0	6.7	6.2	7.7	21	33	37	8.8	9.3	6.5	9.4	4.3
13	3.9	5.4	5.3	8.2	19	139	27	8.4	8.4	5.6	55	4.1
14	4.0	8.5	53	8.0	20	56	23	8.1	8.2	5.3	28	11
15	4.0	10	18	12	38	42	21	8.0	8.2	5.2	8.3	5.0
16	4.1	6.6	11	13	37	42	32	7.8	8.2	5.3	6.4	3.8
17	4.5	5.8	373	13	46	54	26	7.9	81	5.9	5.8	3.4
18	10	5.4	47	11	23	44	36	8.8	16	6.3	5.6	2.9
19	9.3	5.1	23	52	19	32	24	8.8	10	5.3	5.3	2.9
20	6.0	4.8	e16	42	21	29	21	7.9	9.4	4.7	5.2	13
21	5.4	4.9	e11	20	26	60	21	10	8.6	4.3	5.0	17
22	5.0	4.4	e10	17	19	70	20	50	8.4	4.2	4.9	5.1
23	4.9	4.0	e10	e15	19	37	19	24	13	4.2	5.3	4.3
24	4.9	4.1	e11	e14	16	31	18	15	14	4.1	5.7	4.2
25	4.9	13	e10	12	43	27	17	11	8.8	4.4	4.9	23
26	4.8	44	e9.0	e10	76	27	16	32	7.7	8.9	4.7	5.5
27	4.9	17	e8.0	10	42	25	16	136	7.2	5.0	4.5	3.0
28	4.8	9.9	e8.0	9.6	34	23	15	35	6.7	4.1	4.8	2.2
29	4.8	8.1	e7.0	11	---	23	14	17	7.1	3.9	4.6	2.2
30	4.7	9.4	8.3	52	---	160	13	13	6.9	3.8	4.4	2.2
31	4.7	---	8.9	39	---	50	---	11	---	3.6	4.4	---
TOTAL	150.4	251.5	719.1	466.8	794	1305	748	546.5	517.3	225.7	303.6	167.7
MEAN	4.85	8.38	23.2	15.1	28.4	42.1	24.9	17.6	17.2	7.28	9.79	5.59
MAX	10	44	373	52	76	160	37	136	139	24	55	23
MIN	3.8	4.0	5.1	7.7	15	23	13	7.8	6.7	3.6	3.0	2.2
CFSM	.43	.74	2.05	1.33	2.51	3.73	2.21	1.56	1.53	.64	.87	.49
IN.	.50	.83	2.37	1.54	2.61	4.30	2.46	1.80	1.70	.74	1.00	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2001, BY WATER YEAR (WY)

MEAN	12.3	17.8	24.1	26.0	25.8	36.5	35.0	24.9	14.7	10.9	6.71	8.85
MAX	44.4	34.6	87.6	106	44.7	83.5	73.7	61.3	31.4	46.9	12.9	29.5
(WY)	1996	1986	1997	1979	1979	1994	1983	1984	1992	1984	2000	1979
MIN	3.54	4.32	3.54	5.66	9.93	12.8	9.74	8.95	3.16	1.85	2.48	1.88
(WY)	1983	1999	1999	1981	1980	1981	1985	1995	1999	1999	1999	1980



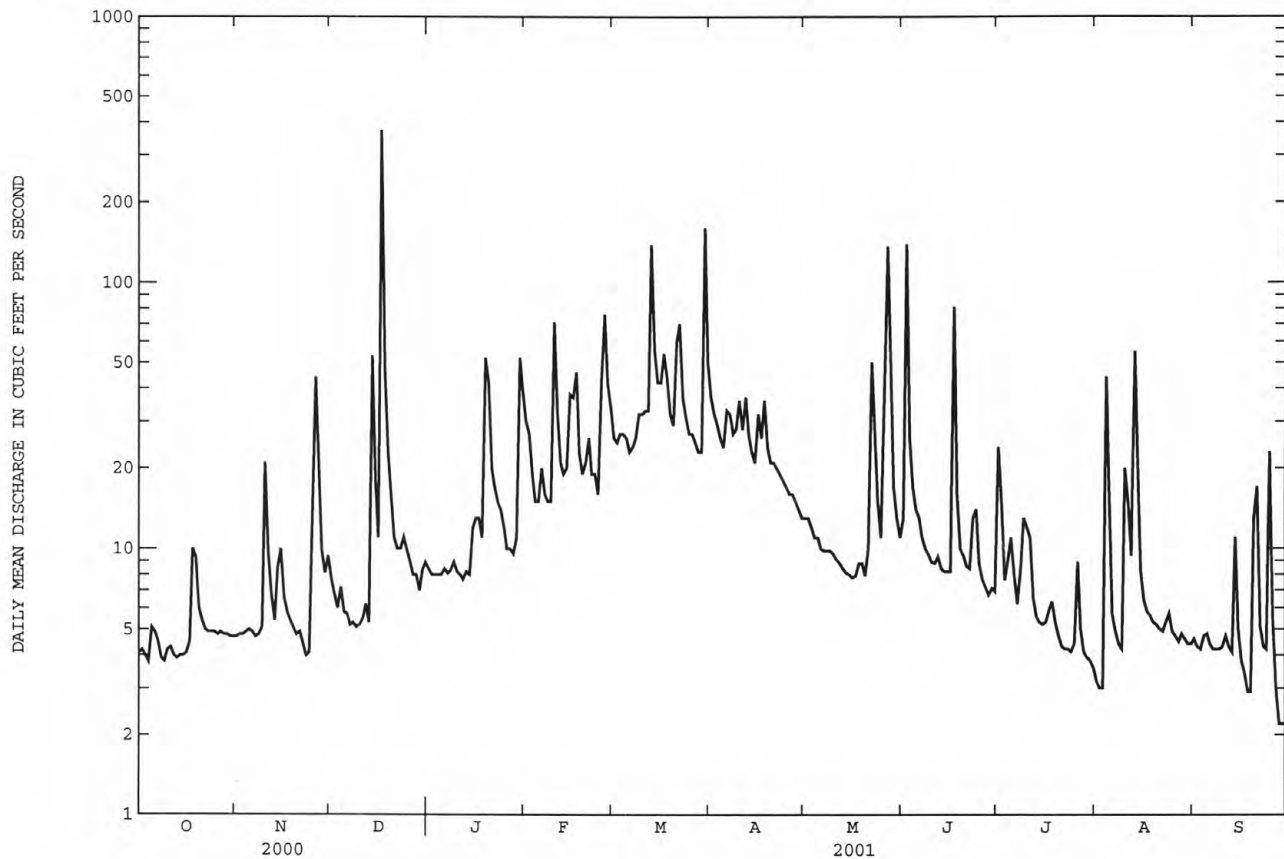
RARITAN RIVER BASIN

105

01396580 SPRUCE RUN AT GLEN GARDNER, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1978 - 2001
ANNUAL TOTAL	6925.6	6195.6	
ANNUAL MEAN	18.9	17.0	20.5
HIGHEST ANNUAL MEAN			33.2
LOWEST ANNUAL MEAN			11.3
HIGHEST DAILY MEAN	373 Dec 17	373 Dec 17	650 Sep 16 1999
LOWEST DAILY MEAN	3.6 Sep 22	2.2 Sep 28	1.0 Sep 4 1999
ANNUAL SEVEN-DAY MINIMUM	4.0 Oct 8	3.5 Jul 28	1.3 Aug 31 1999
MAXIMUM PEAK FLOW		1260 Dec 17	2750a Sep 16 1999
MAXIMUM PEAK STAGE		5.63 Dec 17	9.27 Sep 16 1999
INSTANTANEOUS LOW FLOW		2.6 Sep 18	.80 Sep 23 1998
ANNUAL RUNOFF (CFSM)	1.67	1.50	1.82
ANNUAL RUNOFF (INCHES)	22.80	20.40	24.67
10 PERCENT EXCEEDS	38	35	40
50 PERCENT EXCEEDS	11	9.1	11
90 PERCENT EXCEEDS	4.6	4.2	3.6

a From rating curve extended above 700 ft<sup>3</sup>/s on basis of slope-conveyance computation.  
e Estimated



## RARITAN RIVER BASIN

01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ

LOCATION.--Lat 40°38'51", long 74°58'09", Hunterdon County, Hydrologic Unit 02030105, on left bank downstream side of bridge on Jutland Road, 0.2 mi south of Van Syckel, 0.8 mi north of Perryville, and 0.3 mi upstream from Spruce Run Reservoir.

DRAINAGE AREA.--11.8 mi<sup>2</sup>.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1973-77. July 1977 to current year.

REVISED RECORDS.--WDR-NJ 89-1: 1978(P), 1979(P), 1980(P), 1981(P), 1982(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 280.25 ft above sea level.

REMARKS.--Records good except for estimated discharges 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 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	0915	*1,810	*5.61	Jul 1	1845	410	2.97
Jun 2	0330	478	3.19	Jul 10	2130	382	2.88
Jun 29	2100	307	2.62	Aug 13	1945	465	3.15

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5.4	e3.8	7.2	8.3	29	19	30	13	18	60	4.7	8.6
2	e5.5	e3.8	6.7	8.0	23	19	27	12	123	25	4.4	5.3
3	e5.5	e3.7	6.1	7.6	17	19	24	12	23	12	4.3	5.1
4	e5.1	e3.7	5.9	7.6	14	19	22	11	16	17	12	12
5	e6.8	e3.6	6.1	7.6	13	20	20	11	14	17	9.4	7.7
6	e5.5	e3.6	5.9	7.7	19	18	29	10	12	12	6.2	5.7
7	5.6	e3.9	5.7	7.6	18	25	25	9.8	11	9.2	5.0	5.2
8	5.2	e3.8	5.8	7.8	16	25	22	9.8	10	13	4.5	5.0
9	5.2	e4.3	5.6	9.4	17	30	24	9.7	9.4	13	4.3	4.9
10	5.2	22	5.5	8.6	83	24	27	9.0	9.0	40	e8.0	4.9
11	4.9	8.5	6.1	7.9	28	21	28	8.5	8.8	26	e9.0	4.8
12	4.7	6.3	6.2	7.6	18	20	36	8.2	9.8	12	13	4.5
13	4.6	5.6	5.5	7.6	19	94	24	7.7	8.4	9.5	58	4.4
14	4.6	9.8	51	7.6	20	34	20	7.3	8.2	8.5	22	21
15	4.6	8.0	16	12	31	26	19	7.1	8.1	8.1	9.3	5.4
16	4.9	6.0	14	15	30	24	26	7.0	14	7.6	7.4	4.4
17	5.2	5.6	423	14	36	30	22	7.0	60	8.7	6.9	4.1
18	16	5.3	43	12	19	26	32	7.7	14	12	6.6	3.9
19	8.2	5.1	23	64	17	21	20	7.4	9.9	7.6	6.4	3.8
20	e5.3	5.1	19	44	19	20	19	6.9	8.6	e6.6	6.5	16
21	e5.0	5.1	15	22	20	52	18	12	8.4	e6.4	6.0	13
22	e4.9	4.9	14	16	15	57	18	62	8.3	e6.3	5.8	4.3
23	e4.6	4.8	11	13	17	29	17	21	14	e6.0	7.8	3.5
24	e4.5	4.7	11	13	15	24	17	13	12	e5.9	7.0	3.2
25	e4.5	4.8	9.5	12	33	21	16	9.7	8.3	e6.0	6.0	9.1
26	e4.4	36	8.1	11	57	21	15	34	7.3	9.4	5.7	4.1
27	e4.6	14	8.3	11	29	20	15	84	6.5	6.4	5.7	3.6
28	e4.3	9.0	8.3	10	23	19	14	24	6.2	5.8	5.8	3.3
29	e3.9	7.8	7.7	9.3	---	19	13	15	29	5.6	5.3	3.2
30	e3.8	9.3	7.8	47	---	130	13	12	19	5.3	5.1	3.1
31	e3.9	---	8.5	40	---	39	---	10	---	5.1	5.3	---
TOTAL	166.4	221.9	776.5	476.2	695	965	652	478.8	514.2	393.0	273.4	187.1
MEAN	5.37	7.40	25.0	15.4	24.8	31.1	21.7	15.4	17.1	12.7	8.82	6.24
MAX	16	36	423	64	83	130	36	84	123	60	58	21
MIN	3.8	3.6	5.5	7.6	13	18	13	6.9	6.2	5.1	4.3	3.1
CF5M	.45	.63	2.12	1.30	2.10	2.64	1.84	1.31	1.45	1.07	.75	.53
IN.	.52	.70	2.45	1.50	2.19	3.04	2.06	1.51	1.62	1.24	.86	.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2001, BY WATER YEAR (WY)

	MEAN	12.0	16.3	21.7	24.2	24.1	31.7	33.7	25.9	16.9	12.1	8.63	9.81
MAX	35.6	32.6	77.9	79.2	40.2	76.8	94.1	59.2	61.1	53.2	25.3	40.0	
(WY)	1990	1986	1997	1979	1979	1994	1984	1984	1989	1984	1990	1999	
MIN	4.55	4.50	3.95	5.01	11.1	10.2	6.88	10.0	4.62	1.98	2.79	2.85	
(WY)	1983	1999	1999	1981	1980	1985	1985	1995	1999	1999	1995	1980	

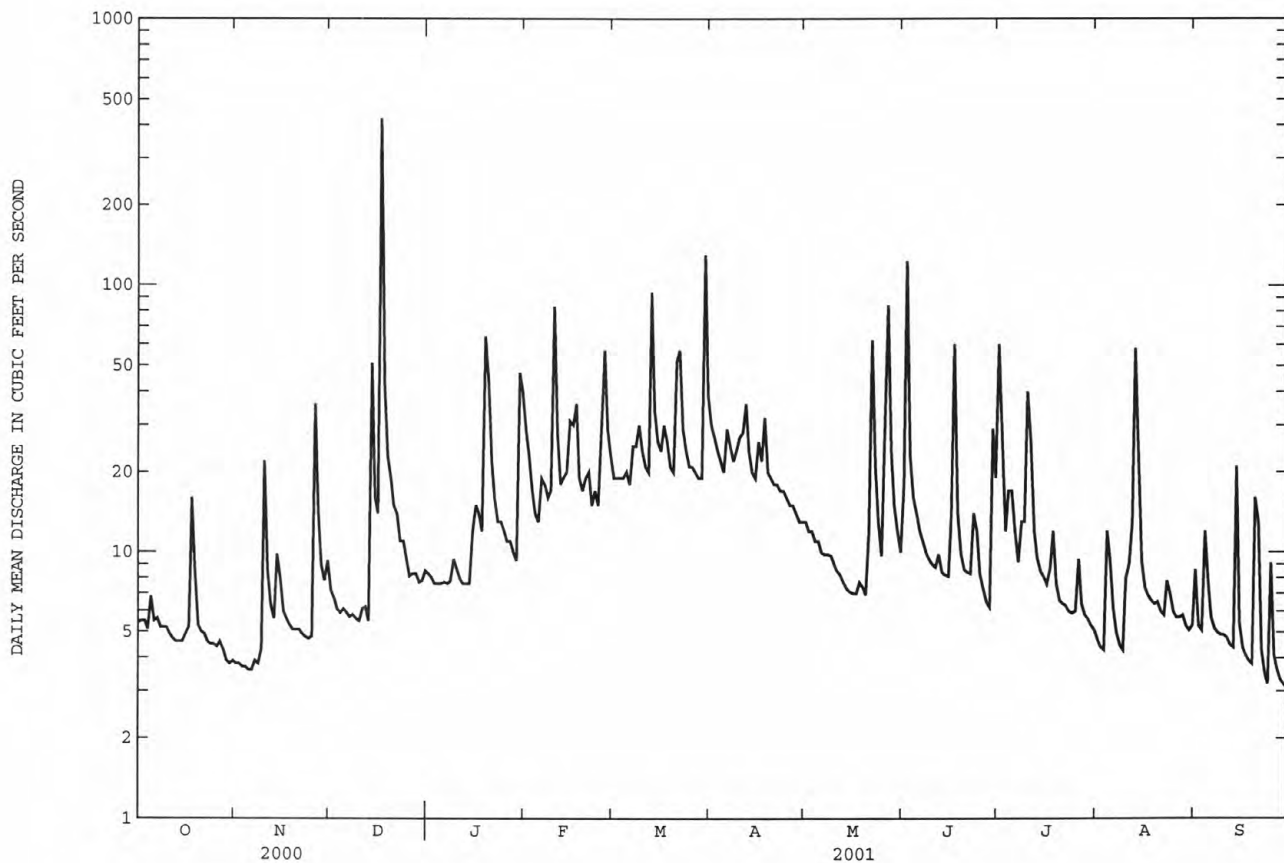
RARITAN RIVER BASIN

107

01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1977 - 2001	
ANNUAL TOTAL	5933.2		5799.5		19.8	
ANNUAL MEAN	16.2		15.9		35.2	
HIGHEST ANNUAL MEAN					11.1	
LOWEST ANNUAL MEAN					11.1	
HIGHEST DAILY MEAN	423	Dec 17	423	Dec 17	918	Sep 16 1999
LOWEST DAILY MEAN	3.6	Nov 5	3.1	Sep 30	1.1	Aug 2 1999
ANNUAL SEVEN-DAY MINIMUM	3.7	Oct 31	3.7	Oct 31	1.2	Aug 1 1999
MAXIMUM PEAK FLOW			1810	Dec 17	3590a	Sep 20 1989
MAXIMUM PEAK STAGE			5.61	Dec 17	7.41	Sep 20 1989
INSTANTANEOUS LOW FLOW			2.7	Sep 30	1.0	Aug 2 1999
ANNUAL RUNOFF (CFSM)	1.37		1.35		1.67	
ANNUAL RUNOFF (INCHES)	18.70		18.28		22.76	
10 PERCENT EXCEEDS	28		29		37	
50 PERCENT EXCEEDS	9.9		9.4		12	
90 PERCENT EXCEEDS	5.1		4.6		4.2	

a From rating curve extended above 1,200 ft<sup>3</sup>/s.  
e Estimated



## RARITAN RIVER BASIN

01396800 SPRUCE RUN AT CLINTON, NJ

LOCATION.--Lat 40°38'21", long 74°54'58", Hunterdon County, Hydrologic Unit 02030105, 1,800 ft downstream from dam at Spruce Run Reservoir, 0.2 mi north of Clinton, 0.3 mi upstream from mouth, and 2.2 mi southwest of High Bridge.

DRAINAGE AREA.--41.3 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Concrete control since Mar. 15, 1964. Datum of gage is 193.5 ft above sea level. May to Nov. 24, 1959, nonrecording gage; Nov. 25, 1959 to July 23, 1961, water-stage recorder at site 1,800 ft upstream and at datum 1.41 ft lower; July 24, 1961 to Mar. 14, 1964, water-stage recorder at site 1,500 ft upstream at datum 1.41 ft lower.

REMARKS.--Records good. Flow regulated by Spruce Run Reservoir (see Raritan River basin, reservoirs in). Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	73	7.9	163	9.1	133	156	34	20	72	169	132
2	9.3	69	7.9	163	9.1	97	134	37	320	124	182	148
3	20	66	7.9	162	9.1	88	104	37	173	38	208	165
4	16	66	16	163	9.1	87	98	36	91	45	206	193
5	15	70	25	163	10	101	88	42	62	63	171	175
6	14	77	30	163	9.2	93	102	22	49	54	156	182
7	27	82	42	163	9.1	87	120	19	42	18	155	173
8	20	87	41	163	10	87	102	21	43	21	175	169
9	13	75	40	145	11	97	100	24	31	42	231	190
10	13	35	40	120	13	100	118	29	30	44	208	195
11	23	7.6	40	120	12	95	106	24	27	85	125	179
12	32	7.6	40	117	12	91	133	39	35	44	114	187
13	41	7.9	40	117	12	240	125	40	30	23	53	187
14	55	8.0	24	115	12	206	87	28	27	24	11	83
15	66	7.9	9.4	55	44	137	66	49	25	17	11	52
16	66	8.1	8.7	7.9	92	134	97	69	28	14	31	110
17	47	8.5	53	7.9	145	141	94	80	241	60	84	136
18	19	8.5	135	8.5	103	145	131	60	135	67	62	147
19	9.5	12	92	12	79	116	71	38	64	24	81	155
20	8.3	15	104	12	74	92	59	46	46	31	101	113
21	14	15	49	12	81	75	64	38	35	51	96	39
22	32	15	71	11	79	228	76	12	28	69	96	11
23	48	15	53	9.1	85	207	60	19	40	105	121	49
24	65	15	24	9.1	68	133	81	34	62	128	106	62
25	69	20	31	8.5	92	106	48	34	36	145	112	22
26	64	18	110	8.5	168	82	38	67	24	118	135	9.8
27	63	9.5	162	8.5	154	52	50	272	25	102	156	20
28	60	8.8	159	8.5	149	32	58	178	25	120	129	44
29	66	8.3	159	8.5	---	46	28	86	19	138	101	73
30	73	8.0	159	9.9	---	324	30	76	60	146	117	116
31	73	---	162	9.8	---	242	---	39	---	154	127	---
TOTAL	1150.2	923.7	1942.8	2243.7	1559.7	3894	2624	1629	1873	2186	3830	3516.8
MEAN	37.1	30.8	62.7	72.4	55.7	126	87.5	52.5	62.4	70.5	124	117
MAX	73	87	162	163	168	324	156	272	320	154	231	195
MIN	8.3	7.6	7.9	7.9	9.1	32	28	12	19	14	11	9.8

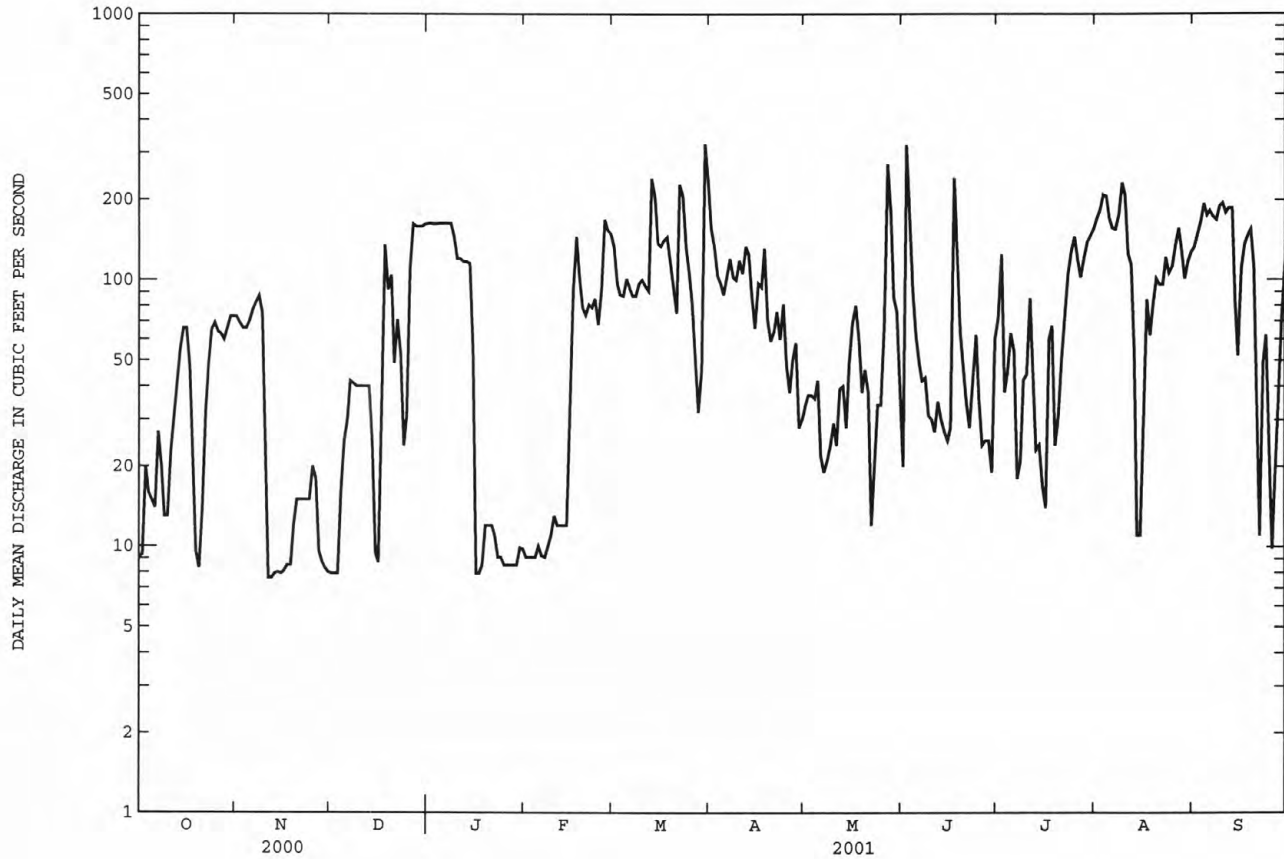
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2001, BY WATER YEAR (WY)

MEAN	57.6	30.3	48.9	59.9	64.8	80.0	99.1	72.9	62.6	73.5	60.4	75.8
MAX	290	96.2	308	258	162	190	342	225	278	244	171	241
(WY)	1990	1990	1997	1979	1971	1993	1983	1984	1972	1975	1995	1989
MIN	.000	.000	.000	.000	.000	.19	.86	.81	2.60	4.24	4.32	.50
(WY)	1964	1964	1964	1964	1964	1964	1964	1964	1981	1964	1963	1963

01396800 SPRUCE RUN AT CLINTON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1959 - 2001	
ANNUAL TOTAL	21598.7		27372.9		65.5	
ANNUAL MEAN	59.0		75.0		111	
HIGHEST ANNUAL MEAN					3.81	
LOWEST ANNUAL MEAN					2060	
HIGHEST DAILY MEAN	413	May 19	324	Mar 30		Jul 7 1984
LOWEST DAILY MEAN	7.0	Jul 17	7.6	Nov 11	.00a	Aug 22 1963
ANNUAL SEVEN-DAY MINIMUM	7.9	Nov 11	7.9	Nov 11	.00a	Aug 22 1963
MAXIMUM PEAK FLOW			448	Mar 30	6410	Apr 2 1970
MAXIMUM PEAK STAGE			2.46	Mar 30	5.17	Apr 2 1970
INSTANTANEOUS LOW FLOW			7.4	Nov 11	.00a	Aug 22 1963
10 PERCENT EXCEEDS	135		163		152	
50 PERCENT EXCEEDS	46		62		41	
90 PERCENT EXCEEDS	8.5		9.5		7.1	

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 mi<sup>2</sup>.

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.

GAGE.--Water-stage recorder. Datum of gage is 125.01 ft above sea level. 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 ft<sup>3</sup>/s) from Round Valley Reservoir at Hamden Pumping Station since July 1990. Several measurements of water temperature were made during the year. National Weather Service telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft<sup>3</sup>/s and maximum (\*):

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	124	88	e260	283	380	575	154	150	405	208	173
2	71	121	79	e269	249	323	486	150	1210	386	224	176
3	75	115	74	e283	205	294	417	144	588	159	249	189
4	76	116	74	e293	169	300	376	138	327	182	312	254
5	85	117	87	e306	186	320	342	140	246	281	335	225
6	74	123	85	e303	192	296	360	117	210	198	205	211
7	86	133	96	240	186	294	409	108	188	138	205	202
8	90	146	96	242	168	310	348	108	175	140	209	195
9	76	140	95	235	161	332	346	110	152	181	270	212
10	73	192	93	191	493	334	436	114	142	186	280	234
11	75	152	96	202	369	307	361	109	132	275	260	205
12	82	96	99	187	238	306	450	109	174	151	207	218
13	93	82	97	192	224	918	394	122	154	117	360	214
14	99	83	227	185	211	726	320	99	131	110	326	215
15	116	113	236	160	264	503	278	111	125	100	110	112
16	116	88	130	116	339	458	336	129	129	94	90	145
17	107	79	1340	119	495	529	323	141	1150	150	142	160
18	96	73	1090	113	341	509	376	134	497	348	125	168
19	105	71	403	260	280	427	291	117	247	118	122	175
20	77	75	336	409	268	362	245	111	187	108	148	198
21	70	72	232	241	284	396	243	126	165	126	142	281
22	84	73	222	189	267	850	248	243	147	130	137	102
23	103	71	235	163	263	629	226	225	283	160	160	94
24	114	69	186	158	236	451	235	168	450	180	167	116
25	124	70	154	141	284	405	206	136	221	196	153	145
26	116	201	202	129	666	348	180	197	161	196	168	109
27	115	252	327	124	524	306	186	1050	141	168	186	80
28	116	126	281	118	435	263	190	607	131	171	176	89
29	111	98	297	112	---	271	158	303	115	183	133	111
30	124	93	265	234	---	1250	153	238	210	191	143	147
31	124	---	265	383	---	913	---	180	---	195	156	---
TOTAL	2944	3364	7587	6557	8280	14310	9494	5938	8338	5723	6108	5155
MEAN	95.0	112	245	212	296	462	316	192	278	185	197	172
MAX	124	252	1340	409	666	1250	575	1050	1210	405	360	281
MIN	70	69	74	112	161	263	153	99	115	94	90	80

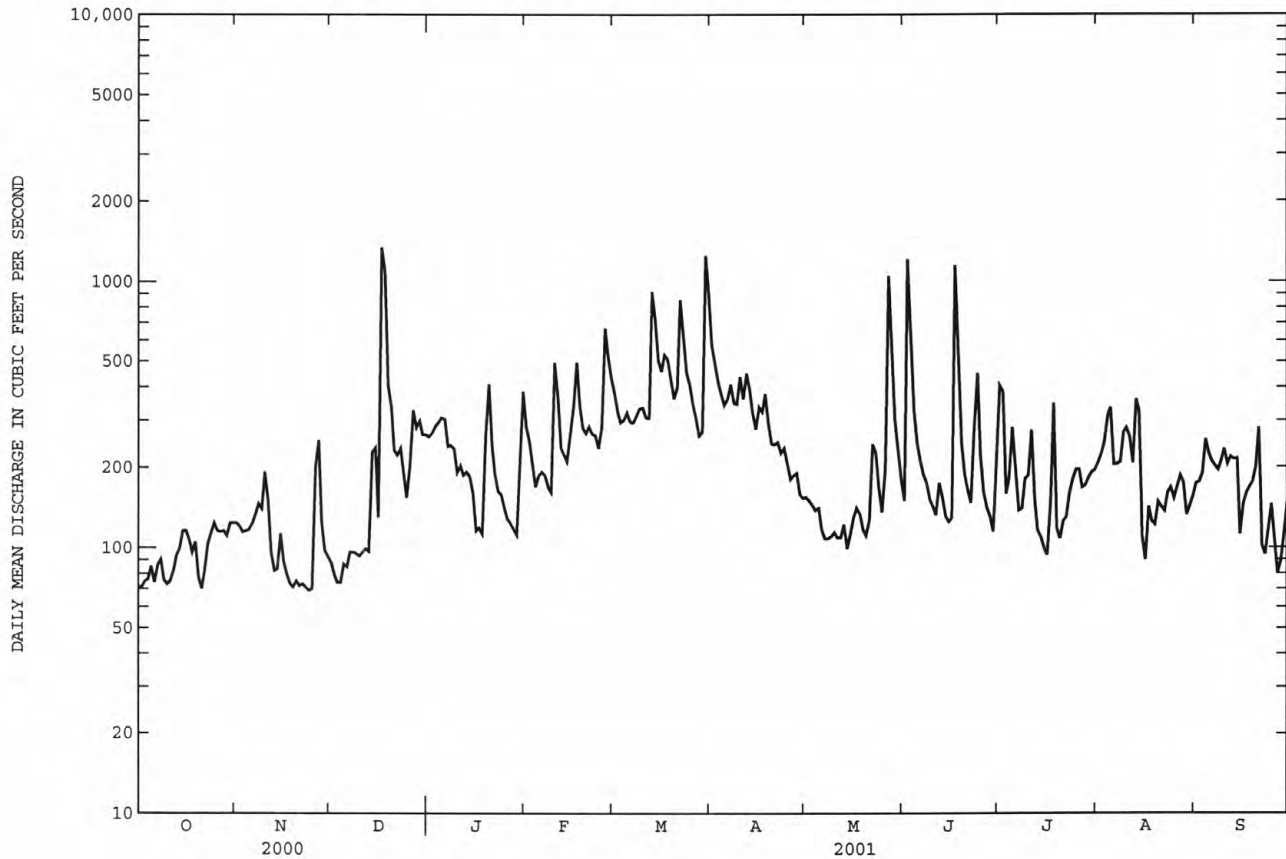
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
MEAN	163	202	263	287	316	400	373	271	193	178	164	164
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 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1904 - 2001	
ANNUAL TOTAL	69668		83798		248	
ANNUAL MEAN	190		230		413	
HIGHEST ANNUAL MEAN					95.0	
LOWEST ANNUAL MEAN					8060	
HIGHEST DAILY MEAN	1340	Dec 17	1340	Dec 17	12	Aug 19 1955
LOWEST DAILY MEAN	63	Apr 13	69	Nov 24	25	Oct 18 1963
ANNUAL SEVEN-DAY MINIMUM	72	Nov 19	72	Nov 19	15.22	Sep 4 1957
MAXIMUM PEAK FLOW			2510	Dec 17	18000a	Aug 19 1955
MAXIMUM PEAK STAGE			6.60	Dec 17	1.4	Aug 19 1955
INSTANTANEOUS LOW FLOW			1.4	Jul 3	1.4	Jul 3 2001
10 PERCENT EXCEEDS	345		399		486	
50 PERCENT EXCEEDS	140		185		166	
90 PERCENT EXCEEDS	79		92		64	

a From rating curve above 6,400 ft<sup>3</sup>/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.



## 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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records good except for estimated discharges, which are poor. 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1300	*e3,760	c	Aug 12	2330	e1,710	c

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	1.3	13	9.1	105	64	99	8.5	31	66	1.6	1.5
2	7.4	1.4	11	8.4	79	68	69	7.8	342	38	1.3	1.2
3	6.9	1.3	8.8	7.8	53	35	52	7.2	71	15	1.2	1.1
4	6.6	1.2	8.2	7.8	37	27	42	6.9	40	45	2.1	3.1
5	12	1.1	8.2	7.9	80	30	35	6.3	27	102	4.1	2.4
6	7.5	1.0	7.3	8.4	103	28	55	5.4	20	23	1.9	1.2
7	6.2	.96	6.5	7.7	97	57	45	5.0	16	15	1.4	1.0
8	5.6	.93	6.5	8.1	72	64	39	5.1	13	14	1.2	.92
9	5.3	.84	5.3	12	67	87	41	4.8	11	13	.96	.90
10	5.1	19	5.1	8.7	430	62	64	4.5	9.0	10	5.8	1.2
11	4.7	6.7	5.4	7.3	102	41	57	4.3	8.1	11	5.4	2.1
12	4.2	4.2	5.9	7.1	58	34	109	4.2	7.4	7.4	e167	1.0
13	4.0	3.7	4.6	6.6	54	303	63	4.1	6.7	6.2	e228	.77
14	3.7	6.2	99	6.5	49	106	46	3.3	6.0	5.6	66	42
15	3.3	6.7	40	15	60	71	39	3.1	5.7	4.9	15	5.8
16	3.3	5.1	35	25	57	59	43	2.9	17	4.3	9.4	2.9
17	3.3	4.3	e1260	33	101	97	37	2.9	399	4.0	7.0	2.2
18	8.1	3.8	128	26	45	73	36	3.1	58	13	5.7	1.7
19	6.5	3.5	61	226	36	53	25	3.3	28	5.0	5.4	1.5
20	3.7	3.3	45	222	35	47	21	2.8	19	3.9	5.4	6.5
21	3.3	3.3	31	89	35	154	20	7.1	21	3.2	4.3	26
22	3.0	2.9	27	52	27	195	19	80	15	3.0	3.5	5.6
23	2.5	2.8	19	40	30	90	17	23	154	2.6	4.8	3.5
24	2.4	2.6	18	34	24	68	15	11	133	2.3	5.3	2.8
25	2.4	2.6	14	28	75	51	13	7.8	44	2.2	3.3	12
26	2.2	84	12	23	142	43	13	74	28	4.1	2.4	5.2
27	2.1	41	11	22	66	34	12	281	20	2.5	2.3	3.5
28	1.9	21	11	19	63	28	11	68	15	2.1	2.2	2.8
29	1.6	16	11	16	---	25	9.6	38	12	2.0	1.7	2.5
30	1.4	19	9.9	217	---	593	8.9	24	11	2.1	1.5	2.2
31	1.4	---	11	160	---	158	---	16	---	1.8	1.5	---
TOTAL	139.8	271.73	1938.7	1360.4	2182	2845	1155.5	725.4	1587.9	434.2	568.66	147.09
MEAN	4.51	9.06	62.5	43.9	77.9	91.8	38.5	23.4	52.9	14.0	18.3	4.90
MAX	12	84	1260	226	430	593	109	281	399	102	228	42
MIN	1.4	.84	4.6	6.5	24	25	8.9	2.8	5.7	1.8	.96	.77
CFSM	.18	.35	2.43	1.71	3.03	3.57	1.50	.91	2.06	.54	.71	.19
IN.	.20	.39	2.81	1.97	3.16	4.12	1.67	1.05	2.30	.63	.82	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2001, BY WATER YEAR (WY)

	MEAN	15.2	33.4	48.9	57.2	59.1	76.9	55.2	33.2	21.5	18.3	18.0	18.7
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	.67	.90	1.42	1.14	3.92	15.2	7.20	3.78	1.11	.066	.44	.47	
(WY)	1965	1966	1999	1981	1934	1985	1985	1963	1965	1999	1964	1965	

01398000 NESHANIC RIVER AT REAVILLE, NJ--Continued

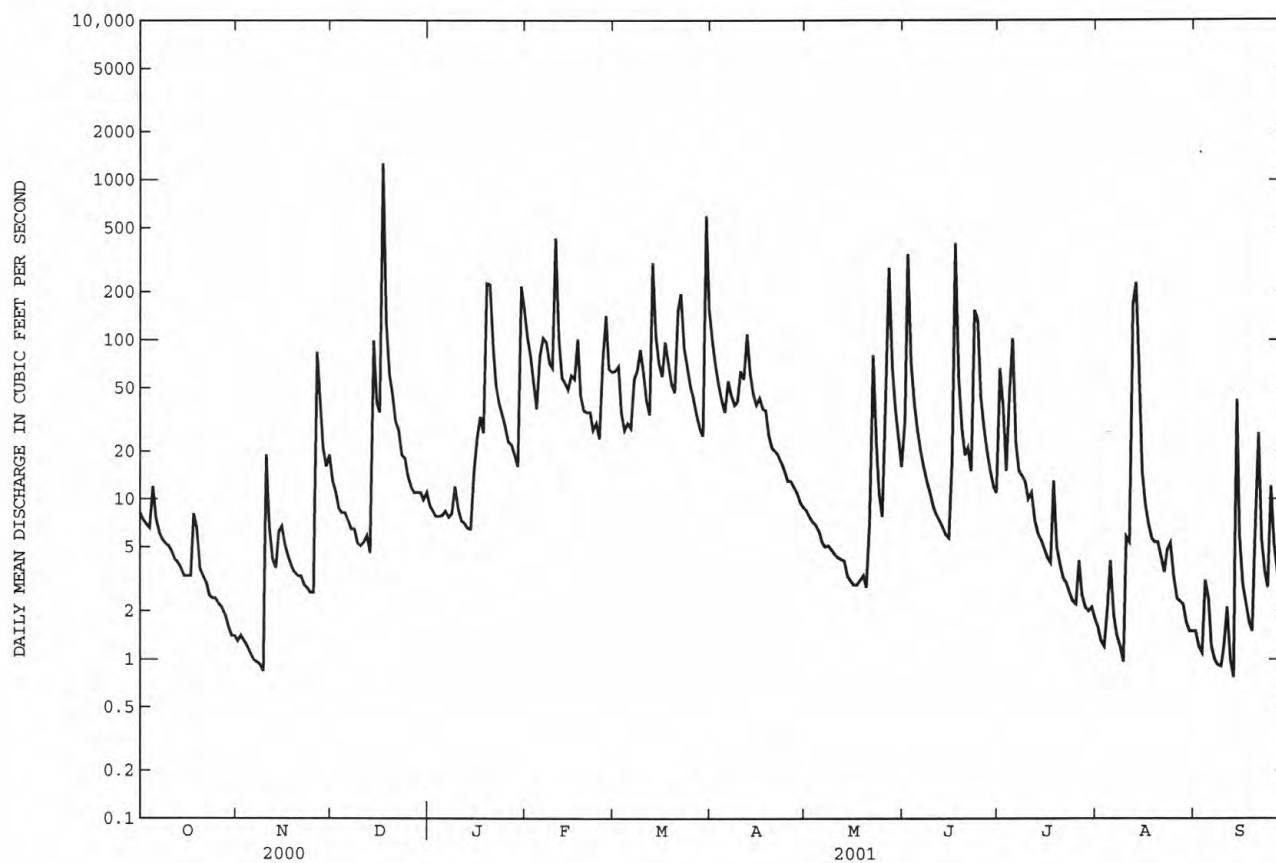
SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1931 - 2001	
ANNUAL TOTAL	10202.72		13356.38		37.9	
ANNUAL MEAN	27.9		36.6		70.8	
HIGHEST ANNUAL MEAN					14.5	
LOWEST ANNUAL MEAN					7000	
HIGHEST DAILY MEAN	1260	Dec 17	1260	Dec 17		Sep 16 1999
LOWEST DAILY MEAN	.84	Nov 9	.77	Sep 13	.00	Jul 29 1965
ANNUAL SEVEN-DAY MINIMUM	1.0	Nov 3	1.0	Nov 3	.00	Aug 4 1966
MAXIMUM PEAK FLOW			e3760	Dec 17	23100	Sep 16 1999
MAXIMUM PEAK STAGE			c	Dec 17	15.33	Sep 16 1999
INSTANTANEOUS LOW FLOW			.39	Nov 22	.00	Jul 29 1965
ANNUAL RUNOFF (CFSM)	1.08		1.42		1.47	
ANNUAL RUNOFF (INCHES)	14.77		19.33		20.03	
10 PERCENT EXCEEDS	66		80		76	
50 PERCENT EXCEEDS	11		10		12	
90 PERCENT EXCEEDS	2.6		2.0		1.3	

a From rating curve extended above 1,700 ft<sup>3</sup>/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.

c Peak gage height not recorded for this day.

e Estimated



LOCATION.--Lat 40°42'30", long 74°38'11", Somerset County, Hydrologic Unit 02030105, on left bank 75 ft upstream from Ravine Lake Dam, 1.6 mi north of Far Hills, and 2.3 mi upstream from Peapack Brook.

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.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

No peak greater than base discharge.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	e9.0	e13	e18	e41	e52	e88	e36	e46	32	9.2	10
2	12	e9.0	e12	e17	e39	e52	e83	e36	e230	42	9.0	8.9
3	12	e8.5	e11	e19	e32	e49	e76	e34	e120	28	11	7.9
4	11	e8.5	e12	e16	e28	e52	e72	e33	e95	28	32	8.2
5	13	e8.5	e12	e16	e29	e51	e68	e31	e68	56	26	8.5
6	13	e8.0	e12	e16	e35	e50	e67	e29	e57	31	17	7.8
7	14	e9.0	e11	e16	e31	e50	e76	e28	e52	25	14	7.3
8	13	e8.8	e11	e16	e30	e52	e68	e29	e20	28	10	7.2
9	11	e10	e11	e18	e32	e52	e69	e28	e5.0	30	8.8	7.7
10	11	e37	e11	e16	e64	e52	e104	e27	e30	28	12	8.0
11	11	e17	e11	e17	e52	e50	e78	e25	e35	26	25	9.2
12	11	e12	e12	e16	e34	e59	e85	e25	e35	24	17	9.5
13	e80	e10	e12	e16	e36	e157	e74	e24	36	23	29	9.3
14	e11	e12	e44	e16	e27	e96	e64	e22	32	22	32	25
15	e11	e14	e27	e22	e46	e75	e61	e22	28	21	17	22
16	e10	e10	e22	e22	e51	e78	e72	e22	33	15	15	14
17	e10	e9.5	e218	e21	e62	e97	e64	e22	125	14	12	11
18	e15	e9.5	e87	e21	e43	e87	e71	e24	47	16	10	10
19	e19	e9.0	e36	e37	e40	e74	e58	e25	35	14	9.8	10
20	e11	e8.5	e28	e52	e40	e72	e54	e22	30	12	12	14
21	e11	e8.5	e24	e30	e45	e90	e53	e26	28	11	17	62
22	e12	e8.5	e23	e25	e40	e174	e53	e94	29	10	12	21
23	e11	e8.5	e20	e24	e39	e93	e51	e58	124	10	14	16
24	e10	e8.5	e20	e26	e38	e82	e48	e39	94	10	29	14
25	e10	e9.5	e23	e22	e57	e78	e80	e34	45	10	15	31
26	e10	e41	e20	e20	e109	e73	e45	e66	37	17	12	23
27	e10	e30	e18	e22	e68	e69	e43	e203	34	15	11	15
28	e9.5	e15	e17	e21	e59	e66	e40	e79	30	11	10	12
29	e9.5	e14	e15	e20	---	e70	e38	e50	27	11	9.3	10
30	e9.0	e14	e15	e44	---	e240	e38	e52	27	9.6	8.7	9.3
31	e9.0	---	e17	e62	---	e126	---	e41	---	9.3	8.7	---
TOTAL	422.0	385.3	825	724	1247	2518	1941	1286	1634.0	638.9	474.5	428.8
MEAN	13.6	12.8	26.6	23.4	44.5	81.2	64.7	41.5	54.5	20.6	15.3	14.3
MAX	80	41	218	62	109	240	104	203	230	56	32	62
MIN	9.0	8.0	11	16	27	49	38	22	5.0	9.3	8.7	7.2
CFSM	.52	.49	1.02	.89	1.70	3.10	2.47	1.58	2.08	.79	.58	.55
IN.	.60	.55	1.17	1.03	1.77	3.58	2.76	1.83	2.32	.91	.67	.66

MEAN	26.3	42.2	49.2	54.3	59.0	81.7	81.8	59.2	38.9	30.3	27.6	27.0
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	9.22	7.93	6.76	22.1	22.8	26.8	20.0	10.5	4.41	4.55	3.61
(WY)	1954	1965	1999	1981	1934	1981	1985	1965	1965	1966	1965	1964



RARITAN RIVER BASIN

115

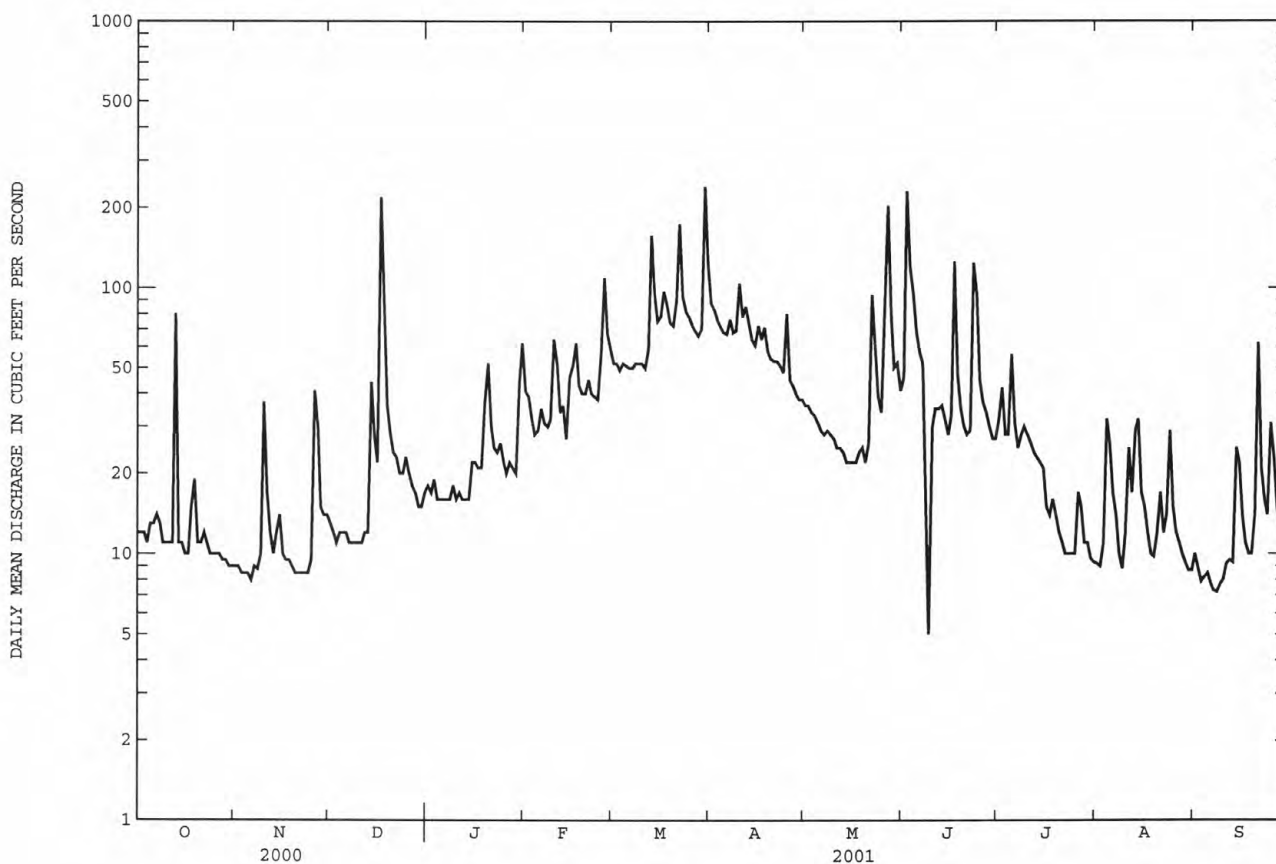
01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001	
ANNUAL TOTAL	13197.3		12524.5		48.1	
ANNUAL MEAN	36.1		34.3		89.7	
HIGHEST ANNUAL MEAN					17.7	
LOWEST ANNUAL MEAN					1928	
HIGHEST DAILY MEAN	226	Feb 14	240e	Mar 30	1770	Oct 19 1996
LOWEST DAILY MEAN	8.0	Nov 6	5.0e	Jun 9	.20	Oct 22 1953
ANNUAL SEVEN-DAY MINIMUM	8.6	Nov 2	7.8	Sep 3	.20	Oct 22 1953
MAXIMUM PEAK FLOW			400e	Jun 2	6390a	Aug 28 1971
MAXIMUM PEAK STAGE			2.99	Jun 23	7.28	Aug 28 1971
INSTANTANEOUS LOW FLOW			.10e	Jun 8	.00b	Jan 1 1900
ANNUAL RUNOFF (CFSM)	1.38		1.31		1.83	
ANNUAL RUNOFF (INCHES)	18.74		17.78		24.92	
10 PERCENT EXCEEDS	60		73		94	
50 PERCENT EXCEEDS	28		24		33	
90 PERCENT EXCEEDS	11		9.4		10	

a From rating curve extended above 2000 ft<sup>3</sup>/s on basis of flow over dam computation of peak flow.

b Several times when lake was filling.

e Estimated



LOCATION.--Lat 40°43'39", long 74°43'50", Morris County, Hydrologic Unit 02030105, on right bank 1.1 mi upstream from bridge on State Highway 512, 1.2 mi northwest of Pottersville, and 5.5 mi upstream from Cold Brook.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October and November 1921, published in WSP 1302. Prior to October 1952, published as "Black River near Pottersville".

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft<sup>3</sup>/s and maximum (\*):

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

MEAN	34.1	49.2	59.7	64.9	70.2	90.1	88.1	66.7	46.0	36.3	32.7	32.5
MAX	116	163	207	225	144	230	239	169	191	165	126	123
(WY)	1956	1928	1997	1979	1973	1936	1984	1989	1972	1984	1928	1971
MIN	5.69	11.2	15.4	11.7	28.0	32.0	25.9	19.0	10.1	5.48	5.61	3.76
(WY)	1931	1965	1981	1981	1934	1981	1985	1965	1965	1965	1966	1964

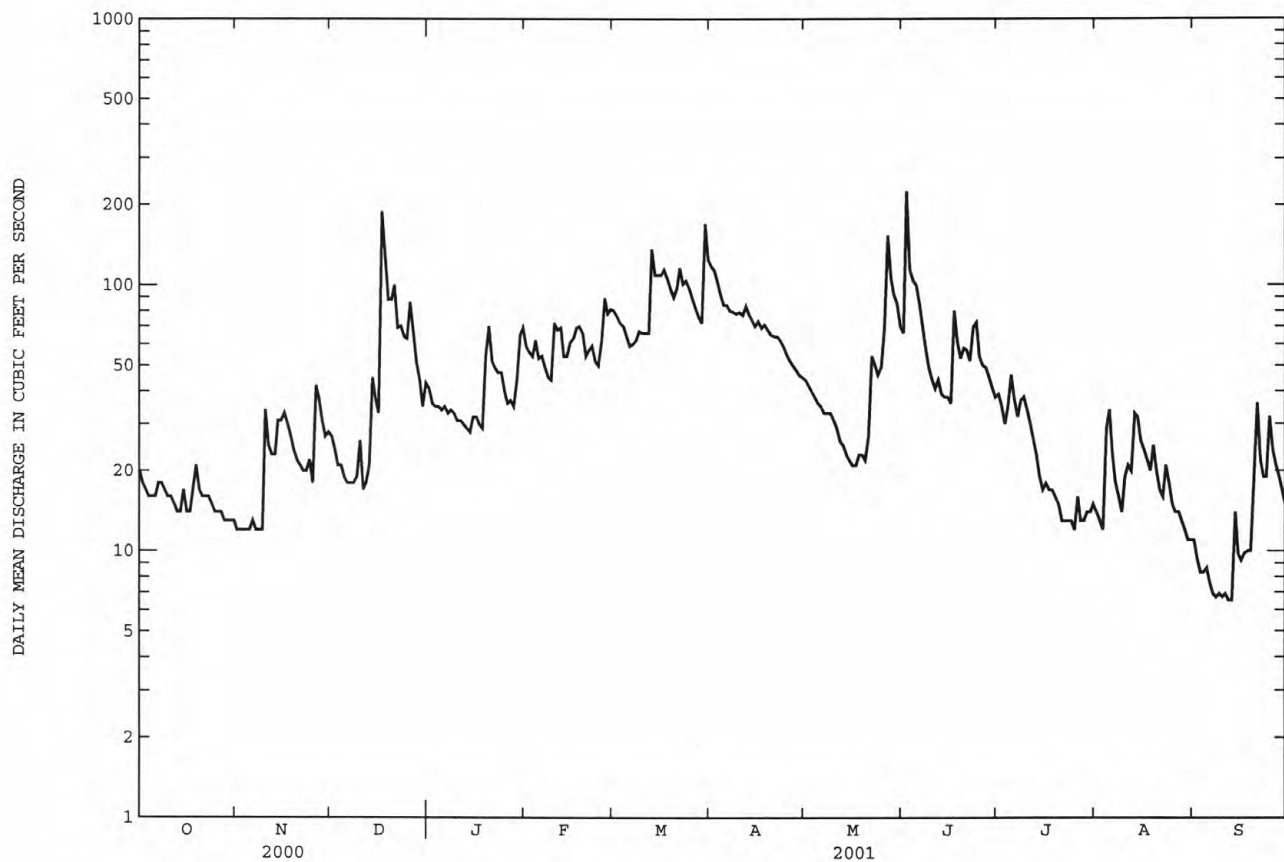
01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001	
ANNUAL TOTAL	17262		15700.0		55.8	
ANNUAL MEAN	47.2		43.0		104	
HIGHEST ANNUAL MEAN					20.5	
LOWEST ANNUAL MEAN					905	
HIGHEST DAILY MEAN	188	Dec 17	224	Jun 2	1.5	Jan 25 1979
LOWEST DAILY MEAN	12	Nov 1	6.5	Sep 12	2.4	Oct 4 1930
ANNUAL SEVEN-DAY MINIMUM	12	Nov 1	6.7	Sep 7	3460a	Sep 22 1964
MAXIMUM PEAK FLOW			373	Jun 2	5.94b	Jul 7 1984
MAXIMUM PEAK STAGE			2.91	Jun 2	1.3	Oct 4 1930
INSTANTANEOUS LOW FLOW			6.5	Sep 7	1.70	
ANNUAL RUNOFF (CFSM)	1.44		1.31		23.11	
ANNUAL RUNOFF (INCHES)	19.58		17.81		112	
10 PERCENT EXCEEDS	88		84		42	
50 PERCENT EXCEEDS	38		34		14	
90 PERCENT EXCEEDS	17		13			

a From rating curve extended above 380 ft<sup>3</sup>/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 mi<sup>2</sup>.

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 mi<sup>2</sup>.

REVISED RECORDS.--WDR NJ-88-1: 1987. WDR NJ-90-1: 1988.

GAGE.--Water-stage recorder. Datum of gage is 121.5 ft above sea level.

REMARKS.--Records good except for daily discharges below 5.0 ft<sup>3</sup>/s, which are fair. Releases from Round Valley Reservoir enter stream directly upstream from station (see Raritan River basin, reservoirs in and diversions from). Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

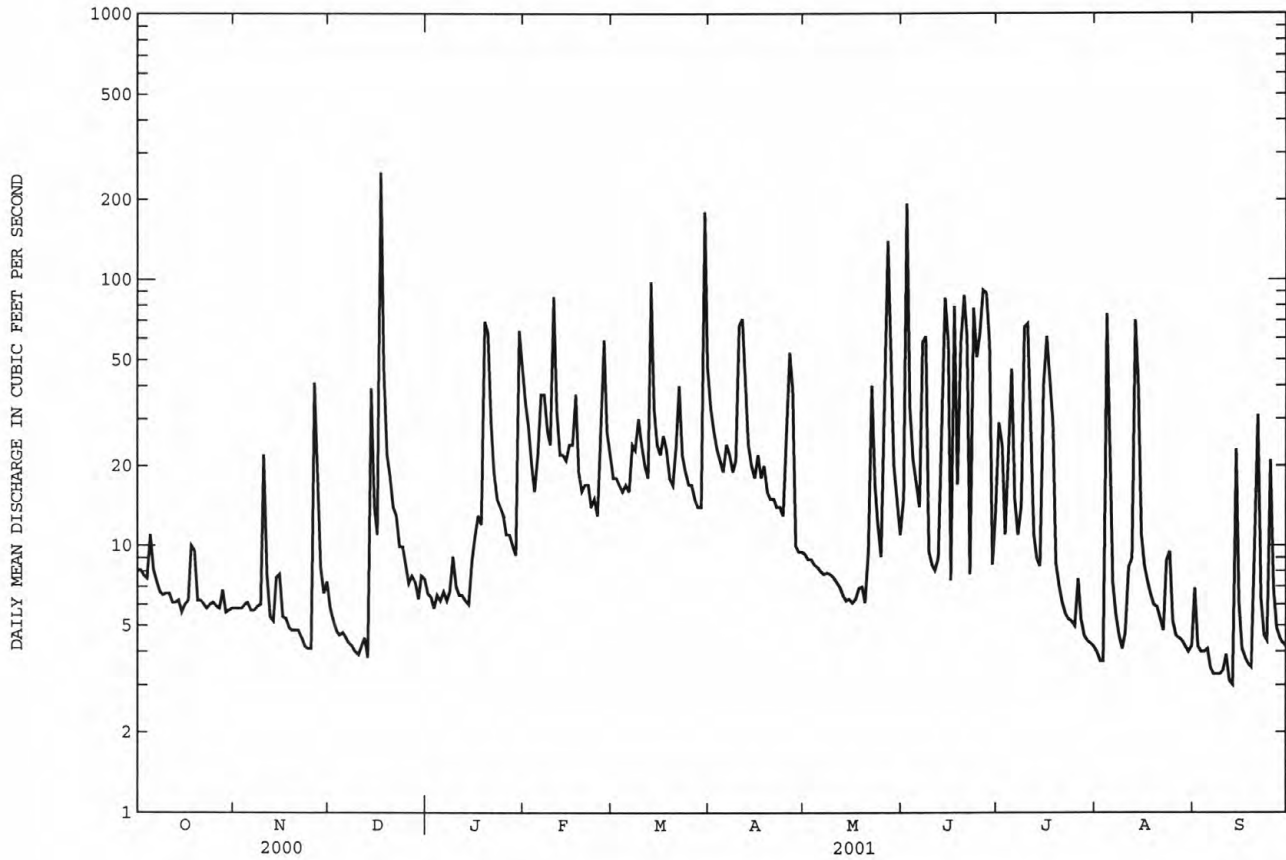
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	5.8	5.8	6.6	35	18	33	9.3	15	29	4.0	6.9
2	8.1	5.8	5.2	6.4	28	18	27	8.9	193	24	3.7	4.2
3	7.7	5.8	4.8	5.8	20	17	23	8.9	33	11	3.7	4.0
4	7.5	6.0	4.6	6.5	16	16	21	8.5	21	20	74	4.0
5	11	6.1	4.7	6.2	22	17	19	8.3	17	46	28	4.1
6	8.1	5.7	4.5	6.7	37	16	24	8.0	14	15	7.3	3.5
7	7.3	5.7	4.3	6.2	37	24	22	7.8	58	11	5.5	3.3
8	6.7	5.9	4.2	6.7	27	23	19	7.9	61	14	4.6	3.3
9	6.5	6.0	4.0	9.1	24	30	21	7.8	9.5	66	4.1	3.3
10	6.6	22	3.9	7.0	86	24	67	7.6	8.5	68	4.7	3.4
11	6.6	7.8	4.2	6.5	32	20	71	7.3	8.1	25	8.3	3.9
12	6.1	5.4	4.5	6.5	22	18	39	7.0	9.0	11	8.9	3.1
13	6.1	5.2	3.8	6.2	22	98	24	6.5	37	9.0	70	3.0
14	6.2	7.6	39	6.0	21	33	20	6.2	85	8.4	42	23
15	5.6	7.8	14	8.8	24	24	18	6.3	58	40	11	6.1
16	6.0	5.4	11	11	24	22	22	6.1	7.4	61	8.4	4.1
17	6.2	5.3	253	13	37	26	18	6.3	79	43	7.3	3.8
18	10	4.9	46	12	19	23	20	6.9	17	29	6.5	3.6
19	9.6	4.8	22	69	16	18	16	7.0	58	8.6	6.0	3.5
20	6.2	4.8	18	63	17	17	15	6.1	87	7.1	5.9	10
21	6.2	4.8	14	29	17	24	15	9.6	60	6.1	5.3	31
22	6.0	4.5	13	19	14	40	14	40	7.8	5.6	4.8	6.3
23	5.8	4.2	9.9	15	15	22	14	17	78	5.3	8.8	4.6
24	6.0	4.1	9.9	14	13	19	13	12	51	5.2	9.5	4.4
25	6.1	4.1	8.5	13	28	17	30	9.1	62	5.0	5.2	21
26	5.9	41	7.2	11	59	17	53	35	91	7.5	4.6	6.9
27	5.8	17	7.7	11	27	15	39	139	89	5.3	4.5	4.9
28	6.8	8.3	7.3	10	22	14	10	50	57	4.6	4.4	4.5
29	5.6	6.6	6.3	9.2	---	14	9.5	20	8.5	4.4	4.2	4.3
30	5.7	7.3	7.7	64	---	180	9.5	15	13	4.3	4.0	4.2
31	5.8	---	7.5	48	---	47	---	11	---	4.2	4.2	---
TOTAL	211.9	235.7	560.5	512.4	761	911	746.0	506.4	1392.8	603.6	373.4	196.2
MEAN	6.84	7.86	18.1	16.5	27.2	29.4	24.9	16.3	46.4	19.5	12.0	6.54
MAX	11	41	253	69	86	180	71	139	193	68	74	31
MIN	5.6	4.1	3.8	5.8	13	14	9.5	6.1	7.4	4.2	3.7	3.0

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2001, BY WATER YEAR (WY)

MEAN	26.7	26.5	33.3	32.7	26.0	32.8	30.6	24.7	19.4	28.9	29.4	27.7
MAX	116	88.9	91.6	93.3	51.1	74.5	85.0	60.5	46.4	245	128	146
(WY)	1981	1999	1981	1981	1979	1994	1983	1989	2001	1999	1980	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 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1977 - 2001	
ANNUAL TOTAL	5835.5		7010.9		28.5	
ANNUAL MEAN	15.9		19.2		66.0	
HIGHEST ANNUAL MEAN					11.1	
LOWEST ANNUAL MEAN					11.1	
HIGHEST DAILY MEAN	253	Dec 17	253	Dec 17	885	Sep 16 1999
LOWEST DAILY MEAN	2.0	Jul 12	3.0	Sep 13	.07	Nov 12 1994
ANNUAL SEVEN-DAY MINIMUM	2.2	Jul 8	3.3	Sep 7	.09	Aug 5 1995
MAXIMUM PEAK FLOW			603	Dec 17	2620	Sep 16 1999
MAXIMUM PEAK STAGE			5.60	Dec 17	10.68	Sep 16 1999
INSTANTANEOUS LOW FLOW			2.9	Sep 12	.00	Feb 2 1993
10 PERCENT EXCEEDS	31		46		66	
50 PERCENT EXCEEDS	8.7		9.2		14	
90 PERCENT EXCEEDS	4.5		4.4		4.7	





## RARITAN RIVER BASIN

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, NJ

LOCATION.--Lat 40°34'16", long 74°40'46" (revised), Somerset County, Hydrologic Unit 02030105, on right bank, 400 ft upstream from U.S. Highway 202, 1.4 mi upstream from confluence with South Branch, and 2.7 mi west of Raritan.

DRAINAGE AREA.--190 mi<sup>2</sup>.

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 sea level. Prior to Oct. 17, 1936, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--Records good, except those above 2,000 ft<sup>3</sup>/s, which are fair and estimated daily discharges which are poor. 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. National Weather Service gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft<sup>3</sup>/s and maximum (\*):

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	68	131	e125	580	308	541	165	206	282	61	51
2	86	68	105	e120	479	331	474	157	2220	310	57	41
3	86	68	90	e120	343	284	401	149	656	155	52	33
4	82	68	83	e110	259	270	357	141	429	193	175	33
5	97	67	92	e110	314	279	324	138	377	433	317	36
6	86	66	82	e110	468	327	348	131	266	185	106	31
7	80	66	76	e105	491	334	394	124	251	146	84	28
8	73	66	79	e105	382	355	325	123	245	155	74	27
9	71	67	74	e105	317	453	344	124	159	217	66	28
10	71	269	67	e105	1000	351	792	121	152	214	60	28
11	71	138	81	e110	499	327	427	113	195	222	109	32
12	70	95	98	e110	312	294	563	112	188	129	114	27
13	92	88	73	e110	299	1380	403	106	161	113	288	24
14	78	106	528	111	296	650	334	103	215	104	376	222
15	74	136	277	132	352	415	303	101	210	106	118	93
16	73	107	197	160	357	466	449	86	151	136	87	50
17	77	99	2160	186	586	423	285	82	1100	130	79	42
18	101	88	891	176	311	393	329	90	353	189	70	39
19	120	96	370	689	284	444	258	95	232	105	66	37
20	85	94	298	1070	251	344	239	91	251	89	69	44
21	81	91	240	443	268	346	237	108	254	81	66	342
22	79	80	221	299	232	872	239	480	175	75	57	118
23	77	91	174	299	240	403	233	279	620	72	52	82
24	77	93	182	277	217	372	224	191	910	72	138	70
25	76	90	e150	220	376	339	270	157	310	69	68	142
26	72	476	e150	232	1040	326	233	572	286	91	54	115
27	70	321	e140	195	533	302	227	1380	255	84	48	83
28	69	158	e140	160	425	275	184	692	226	71	48	73
29	67	147	e135	147	---	347	174	331	150	68	42	66
30	68	158	e130	605	---	1920	171	271	192	66	39	61
31	68	---	e125	753	---	779	---	219	---	63	39	---
TOTAL	2464	3625	7639	7599	11511	14709	10082	7032	11395	4425	3079	2098
MEAN	79.5	121	246	245	411	474	336	227	380	143	99.3	69.9
MAX	120	476	2160	1070	1040	1920	792	1380	2220	433	376	342
MIN	67	66	67	105	217	270	171	82	150	63	39	24

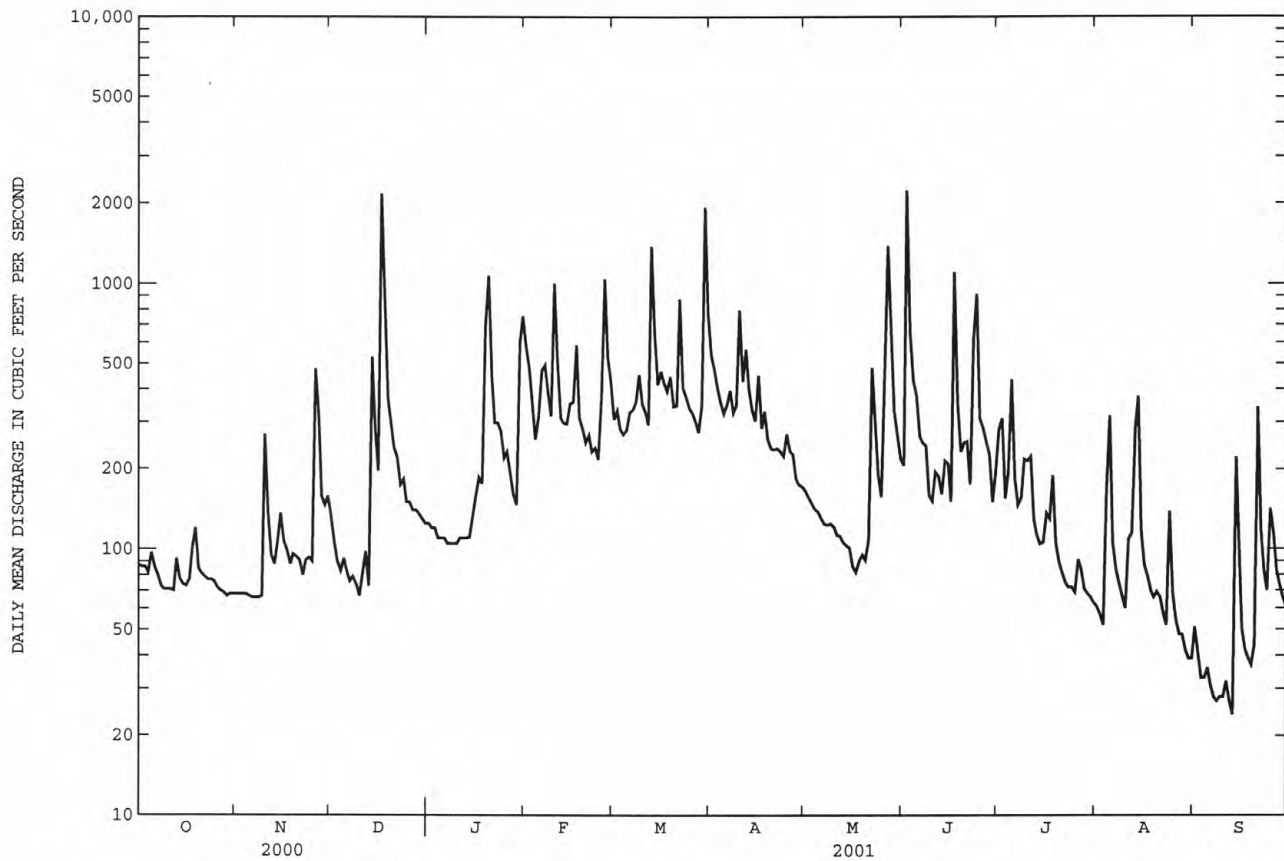
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001, BY WATER YEAR (WY)

MEAN	176	279	351	394	431	521	471	341	225	184	186	172
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	109	163	117	84.1	46.4	25.5	22.3	14.8
(WY)	1931	1965	1966	1940	1934	1981	1985	1926	1965	1966	1932	1964

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001	
ANNUAL TOTAL	91312		85658		310	
ANNUAL MEAN	249		235		605	
HIGHEST ANNUAL MEAN					120	
LOWEST ANNUAL MEAN					15300	
HIGHEST DAILY MEAN	2160	Dec 17	2220	Jun 2	7.5	Jul 7 1984
LOWEST DAILY MEAN	66	Nov 6	24	Sep 13	8.9	Sep 26 1964
ANNUAL SEVEN-DAY MINIMUM	67	Nov 3	28	Sep 7	29100	Sep 22 1964
MAXIMUM PEAK FLOW			4300	Dec 17	18.98	Oct 19 1996
MAXIMUM PEAK STAGE			7.49	Dec 17	3.0a	Sep 16 1999
INSTANTANEOUS LOW FLOW			24	Sep 13		Nov 28 1930
10 PERCENT EXCEEDS	478		458		620	
50 PERCENT EXCEEDS	170		147		185	
90 PERCENT EXCEEDS	79		66		57	

a About, result of freezeup.  
e Estimated



## 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 mi<sup>2</sup>.

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).

GAGE.--Water-stage recorder. Datum of gage is 20.61 ft above sea level. Prior to Aug. 15, 1923, nonrecording gage on downstream side of highway bridge at same site and datum. From Oct. 1, 1952 to Sept. 30, 1966, water-stage recorder at station at Bound Brook, above Calco Dam (station 01403000) used as auxiliary gage when stage is above 5.0 ft. In Oct. 1, 1966, water-stage recorder at station at Bound Brook, used as auxiliary gage, was moved downstream to present site (station 01403060). Between June 9, 1978 and June 7, 1979, gage temporarily relocated at site 1.4 mi downstream, just upstream from Millstone River, because of reconstruction of highway bridge.

REMARKS.--Records good except for records over 5,000 ft<sup>3</sup>/s and estimated days which are fair. 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. National Weather Service gage-height telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan 19	2400	*12,000	*12.19	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	187	324	e780	1580	874	2030	384	514	547	300	257
2	223	185	273	e765	1270	796	1400	373	4740	1350	309	255
3	216	184	235	e720	918	710	1160	357	2320	528	312	251
4	218	181	214	e725	658	669	1020	342	1210	522	556	269
5	259	180	233	e705	766	711	920	333	896	1100	849	397
6	236	179	236	e710	1090	732	917	320	709	594	376	277
7	213	183	220	e655	1240	705	1110	289	614	446	317	276
8	209	194	220	e620	1030	932	926	286	577	396	292	261
9	198	204	213	e690	787	986	946	285	449	496	318	265
10	184	559	206	e605	2890	971	1530	285	401	494	360	292
11	180	420	214	e505	1730	780	1100	279	429	683	408	290
12	178	249	229	e445	919	761	1490	270	433	412	428	276
13	183	205	199	e400	781	3380	1210	275	422	335	1550	278
14	222	220	1070	e385	749	2190	1010	262	433	297	1490	786
15	202	277	870	e440	810	1280	854	244	425	279	466	374
16	209	254	516	e515	888	1140	981	252	376	304	306	244
17	209	216	4110	e580	1450	1260	863	260	3540	301	280	244
18	237	195	3870	e605	936	1200	857	274	2120	803	291	254
19	280	194	1370	e1630	743	1040	781	272	907	347	255	256
20	213	189	912	3640	671	894	641	250	666	275	269	276
21	180	189	681	1600	680	861	612	281	731	258	271	1050
22	172	176	590	877	618	2640	604	1050	512	245	249	410
23	180	176	e550	662	595	1550	584	820	814	256	250	245
24	191	181	e510	741	563	1130	551	498	2620	288	371	233
25	202	177	e435	530	697	946	592	394	993	306	282	345
26	198	1000	e465	465	2230	830	496	927	733	350	264	347
27	192	1100	e600	442	1420	752	483	3260	594	319	269	233
28	191	474	e640	394	1070	656	443	1990	516	276	290	204
29	180	376	e655	345	---	685	418	1010	405	282	241	203
30	181	380	e705	1150	---	4590	387	753	505	298	218	218
31	187	---	e800	2320	---	3530	---	588	---	292	233	---
TOTAL	6353	8884	22365	25646	29779	40181	26916	17463	30604	13679	12670	9566
MEAN	205	296	721	827	1064	1296	897	563	1020	441	409	319
MAX	280	1100	4110	3640	2890	4590	2030	3260	4740	1350	1550	1050
MIN	172	176	199	345	563	656	387	244	376	245	218	203

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
458	667	883	998	1066	1356
2433	2460	2877	3856	2406	3260
1904	1933	1997	1979	1925	1936
64.8	87.5	148	188	265	354
1942	1932	1966	1966	1934	1981
1151	804	531	471	462	472
2707	2581	2542	2552	2068	1971
1989	1972	1975	1955	1911	1971
212	88.8	65.1	50.5	51.2	1941
1926	1965	1955	1932	1941	

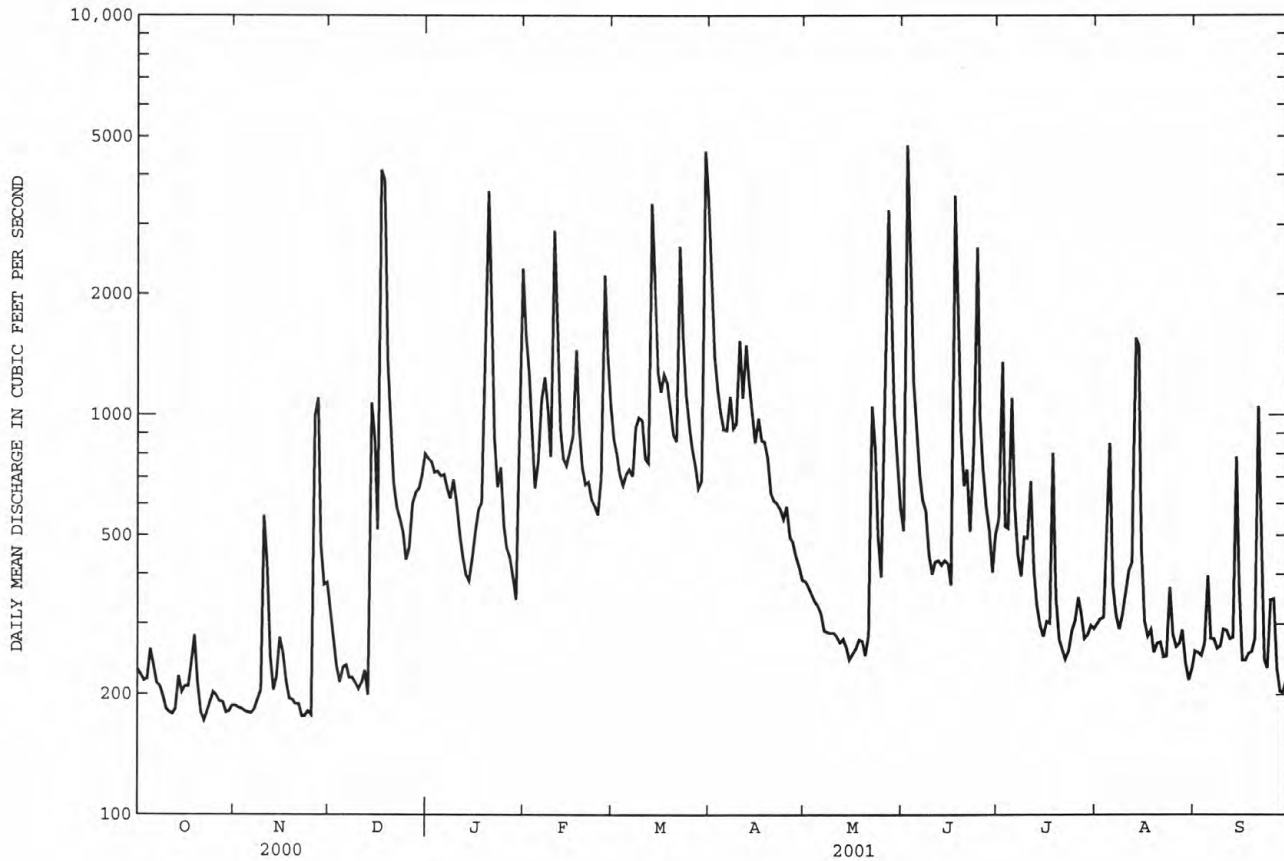
## 01400500 RARITAN RIVER AT MANVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1904 - 2001	
ANNUAL TOTAL	215885		244106		775	
ANNUAL MEAN	590		669		1365	
HIGHEST ANNUAL MEAN					309	
LOWEST ANNUAL MEAN					17a	
HIGHEST DAILY MEAN	4110	Dec 17	4740	Jun 2	30700	Sep 17 1999
LOWEST DAILY MEAN	172	Oct 22	172	Oct 22	29	Sep 19 1964
ANNUAL SEVEN-DAY MINIMUM	183	Nov 1	183	Nov 1	29	Aug 27 1944
MAXIMUM PEAK FLOW			12000	Jan 19	77600b	Sep 16 1999
MAXIMUM PEAK STAGE			12.19	Jan 19	27.49	Sep 17 1999
INSTANTANEOUS LOW FLOW			119	Jul 22		
10 PERCENT EXCEEDS	1080		1250		1580	
50 PERCENT EXCEEDS	432		442		440	
90 PERCENT EXCEEDS	206		204		142	

a Does not include water diverted to Johns-Manville plant.

b From rating curve extended above 14,000 ft<sup>3</sup>/sec on basis of slope-area measurements at gage heights 14.9, 20.42, and 27.49 ft.

e Estimated



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.

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

REMARKS.--Records fair, except for estimated daily discharges, which for poor. 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.

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1530	1,840	5.49	Jun 2	0530	2,670	6.66
Jan 20	0015	2,700	6.70	Jun 17	1415	2,820	6.86
Mar 30	1415	*3,050	*7.18				

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	5.5	34	21	e170	61	197	20	33	13	2.6	2.0
2	13	5.5	28	19	e130	55	135	19	1070	50	2.5	1.8
3	12	5.6	21	17	e105	50	103	15	179	17	2.3	1.6
4	18	5.9	18	17	76	46	84	14	89	10	9.2	1.9
5	74	7.2	20	17	155	60	69	12	60	10	38	2.1
6	21	5.4	17	20	e180	55	73	9.9	44	9.2	8.2	1.3
7	14	5.1	16	20	e165	70	117	8.7	35	7.5	5.0	1.1
8	11	5.1	15	19	e150	132	93	8.2	28	6.4	3.8	.98
9	9.8	5.8	13	28	135	176	105	7.9	24	6.6	3.3	1.0
10	9.4	82	13	25	573	137	189	7.8	20	6.7	5.6	1.2
11	9.2	43	13	21	176	82	106	7.7	17	5.9	60	1.4
12	8.6	16	13	19	93	67	248	7.0	15	5.4	65	.99
13	8.2	11	12	17	85	598	144	6.5	11	4.8	284	.93
14	7.9	11	264	16	87	197	96	6.2	9.6	4.4	136	15
15	7.6	18	117	24	97	118	75	5.5	8.8	3.9	24	13
16	7.3	14	64	42	87	120	91	5.3	13	3.5	11	5.4
17	7.5	11	830	75	186	229	81	5.2	1070	4.3	8.0	3.8
18	9.7	9.6	267	62	e72	152	72	5.6	158	90	6.7	3.2
19	15	8.4	99	557	e50	96	62	6.2	58	16	5.3	2.9
20	11	7.7	e56	1250	e54	77	49	5.6	38	7.4	4.6	3.5
21	8.9	9.6	e44	e175	e54	177	45	5.8	33	5.5	4.1	143
22	7.8	7.7	e33	e78	e40	500	43	173	34	4.4	3.5	27
23	7.0	7.3	e30	e57	e44	185	39	78	29	3.9	3.1	8.7
24	6.6	6.8	e31	e52	43	110	35	31	215	3.7	3.1	5.8
25	6.6	6.4	e24	e46	75	84	31	20	45	3.5	2.9	9.0
26	6.6	381	e19	e39	278	76	27	176	27	3.8	2.4	9.3
27	6.4	167	e21	e42	98	70	25	545	21	3.7	2.9	6.0
28	5.9	60	e21	e36	74	59	24	137	15	3.4	2.5	5.0
29	5.9	39	e17	e32	---	53	21	70	12	3.1	2.0	4.3
30	8.0	44	e18	352	---	1360	20	55	9.8	2.8	1.8	3.8
31	5.6	---	24	e300	---	342	---	32	---	2.7	1.8	---
TOTAL	364.5	1011.6	2212	3495	3532	5594	2499	1506.1	3421.2	322.5	715.2	287.00
MEAN	11.8	33.7	71.4	113	126	180	83.3	48.6	114	10.4	23.1	9.57
MAX	74	381	830	1250	573	1360	248	545	1070	90	284	143
MIN	5.6	5.1	12	16	40	46	20	5.2	8.8	2.7	1.8	.93
CFSM	.26	.76	1.60	2.53	2.83	4.06	1.87	1.09	2.56	.23	.52	.21
IN.	.30	.85	1.85	2.92	2.95	4.68	2.09	1.26	2.86	.27	.60	.21

MEAN	28.1	51.4	89.8	98.0	106	133	104	63.7	34.0	31.7	30.5	30.6
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	19.7	31.3	20.9	8.95	2.67	.56	.14	1.31
(WY)	1958	1966	1999	1981	1978	1985	1985	1963	1957	1957	1966	1970

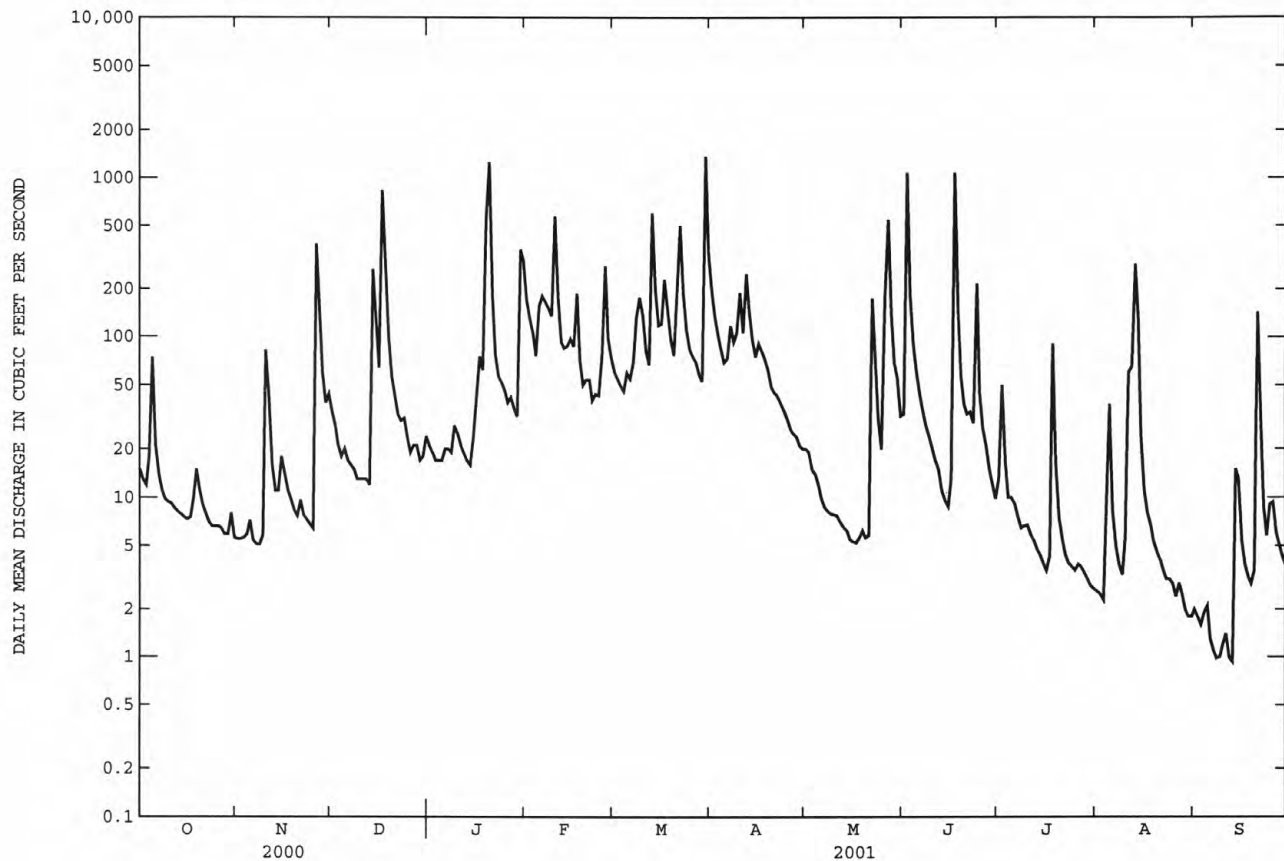


01401000 STONY BROOK AT PRINCETON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1954 - 2001	
ANNUAL TOTAL	21415.2		24960.10		66.6	
ANNUAL MEAN	58.5		68.4		118	
HIGHEST ANNUAL MEAN					28.5	
LOWEST ANNUAL MEAN					3730	
HIGHEST DAILY MEAN	830	Dec 17	1360	Mar 30		Sep 16 1999
LOWEST DAILY MEAN	4.3	Jul 13	.93	Sep 13	.00	Aug 5 1966
ANNUAL SEVEN-DAY MINIMUM	4.9	Jul 8	1.1	Sep 7	.00	Aug 5 1966
MAXIMUM PEAK FLOW			3050	Mar 30	8960a	Aug 28 1971
MAXIMUM PEAK STAGE			7.18	Mar 30	14.26	Aug 28 1971
INSTANTANEOUS LOW FLOW			.93	Sep 8	.00	Jan 1 1966
ANNUAL RUNOFF (CFSM)	1.31		1.54		1.50	
ANNUAL RUNOFF (INCHES)	17.90		20.87		20.35	
10 PERCENT EXCEEDS	157		166		142	
50 PERCENT EXCEEDS	23		19		22	
90 PERCENT EXCEEDS	6.8		3.6		2.1	

a From rating extended above 4,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow.

e Estimated



01401650 PIKE RUN AT BELLE MEAD, NJ

LOCATION.--Lat 40°28'05", long 74°38'57", Somerset County, Hydrologic Unit 02030105, on right bank 20 ft upstream from bridge on Township Line Road, 0.7 mi east of Belle Mead, 0.8 mi upstream from Crusier Brook, and 1.0 mi downstream from bridge on U.S. Route 206.

DRAINAGE AREA.--5.36 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1980 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete parking-block control. Datum of gage is 58.85 ft above sea level.

REMARKS.--Records fair, except estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Some regulation during summer months, possibly from irrigation. Rain-gage and gage-height radio telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1810, 13.5 ft, Aug. 28, 1971, from floodmark, present datum.

REVISIONS.--Peak discharges and annual maximums (\*) for water years 1994, 1996, 1997, and 1999 have been revised as shown in the following table. They supercede the peak flows published in the annual water data reports for those water years.

Discharge Gage Height Date Time (ft<sup>2</sup>/s) (ft)

Jan 28, 1994 ---- \*1,240 \*9.40 Jan 19, 1996 ---- \*1,790 \*10.85 Oct 19, 1996 1445 \*2,560 \*12.17 Dec 02, 1996 0645 \*721 \*7.42 Dec 14, 1996 0845 \*473 \*6.28 Mar 22, 1999 0430 872 8.04 Sep 16, 1999 1500 \*4,120 \*13.61

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 30	1130	503	6.42	Jun 17	1145	577	6.77
Jun 2	0300	*749	*7.54				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	e.50	2.5	1.3	19	4.8	11	1.9	10	4.9	.04	.00
2	.83	e.60	2.0	1.2	13	4.5	7.8	1.9	208	3.0	.01	.00
3	.87	e.60	1.6	1.4	8.5	4.1	6.0	1.9	11	1.2	.00	.00
4	.84	e.60	1.4	1.4	5.7	3.8	4.9	2.1	5.2	3.2	.49	.00
5	1.9	e.60	1.4	1.4	9.0	4.6	4.3	1.9	3.3	11	.88	.16
6	1.2	e.50	1.2	1.4	19	4.7	6.9	1.1	2.5	1.9	.26	.00
7	1.1	e.50	1.1	1.2	21	11	7.0	1.0	2.1	1.2	.14	.00
8	.97	e.50	1.0	1.3	12	9.0	5.6	1.0	1.7	1.1	.06	.00
9	.92	e.50	.86	2.5	13	10	5.9	.99	1.4	1.1	.00	.00
10	.90	14	.81	2.1	57	7.4	10	.94	1.3	.96	.39	.00
11	.83	2.8	.93	1.8	9.8	5.5	7.8	.92	1.2	1.2	1.4	.00
12	.75	1.4	1.2	1.7	6.8	4.7	19	.92	1.2	.80	2.5	.00
13	.75	.94	1.1	1.7	5.9	78	8.5	.89	1.2	.69	6.1	.00
14	.71	1.3	42	1.7	6.0	12	5.7	.84	1.1	.66	2.9	6.2
15	.69	2.2	7.7	3.2	7.4	7.1	4.7	.87	1.1	.57	.79	1.2
16	.69	1.2	6.0	7.3	6.9	6.3	5.2	.84	1.2	.49	.45	.29
17	.82	.94	108	9.7	14	14	4.5	.84	136	.48	.35	.07
18	2.0	.79	15	7.2	6.1	9.7	4.8	.89	7.2	.72	.30	.01
19	1.9	.72	6.4	92	5.8	6.0	3.7	.92	2.9	.53	.25	.00
20	.92	.69	5.0	67	4.5	4.9	3.3	.86	2.0	.43	.25	.22
21	.84	.69	3.6	15	4.6	22	3.3	1.3	2.0	.38	.19	30
22	e.80	.69	3.4	e9.0	3.4	26	3.1	27	1.8	.33	.13	2.6
23	e.70	.57	5.0	e6.0	3.7	9.4	2.8	5.9	2.7	.30	.10	1.1
24	e.70	.50	2.4	e5.5	4.2	6.4	2.6	3.1	7.6	.24	.20	.77
25	e.70	.47	e2.2	4.7	18	5.2	2.3	2.1	2.1	.21	.11	1.8
26	e.70	79	e2.1	e4.0	24	4.8	2.2	48	1.5	.21	.04	1.1
27	e.70	10	e1.9	3.7	7.9	4.4	2.1	51	1.1	.20	.00	.66
28	e.60	4.3	e1.7	3.3	5.9	3.8	2.1	9.0	.97	.14	.00	.47
29	e.60	3.1	e1.5	3.9	---	3.7	1.9	5.1	.83	.10	.00	.36
30	e.60	3.7	2.0	49	---	215	1.8	4.4	.76	.09	.00	.38
31	e.60	---	1.7	36	---	20	---	2.7	---	.06	.00	---
TOTAL	27.94	134.90	234.70	348.6	322.1	532.8	160.8	183.12	422.96	38.39	18.33	47.39
MEAN	.90	4.50	7.57	11.2	11.5	17.2	5.36	5.91	14.1	1.24	.59	1.58
MAX	2.0	.79	108	92	57	215	19	51	208	11	6.1	30
MIN	.60	.47	.81	1.2	3.4	3.7	1.8	.84	.76	.06	.00	.00
CFSM	.17	.84	1.41	2.10	2.15	3.21	1.00	1.10	2.63	.23	.11	.29
IN.	.19	.94	1.63	2.42	2.24	3.70	1.12	1.27	2.94	.27	.13	.33

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2001, BY WATER YEAR (WY)

MEAN	5.27	7.87	11.0	13.9	12.7	14.7	12.5	8.93	4.93	5.93	3.28	5.20
MAX	40.1	22.3	35.5	43.3	27.5	38.8	43.1	26.2	20.9	26.1	9.94	56.9
(WY)	1997	1989	1997	1996	1994	1994	1983	1989	1989	1984	1990	1999
MIN	.55	.28	.12	.043	4.74	3.05	2.18	1.89	.37	.000	.17	.51
(WY)	1995	1999	1999	1981	1992	1981	1985	1986	1995	1999	1980	1983

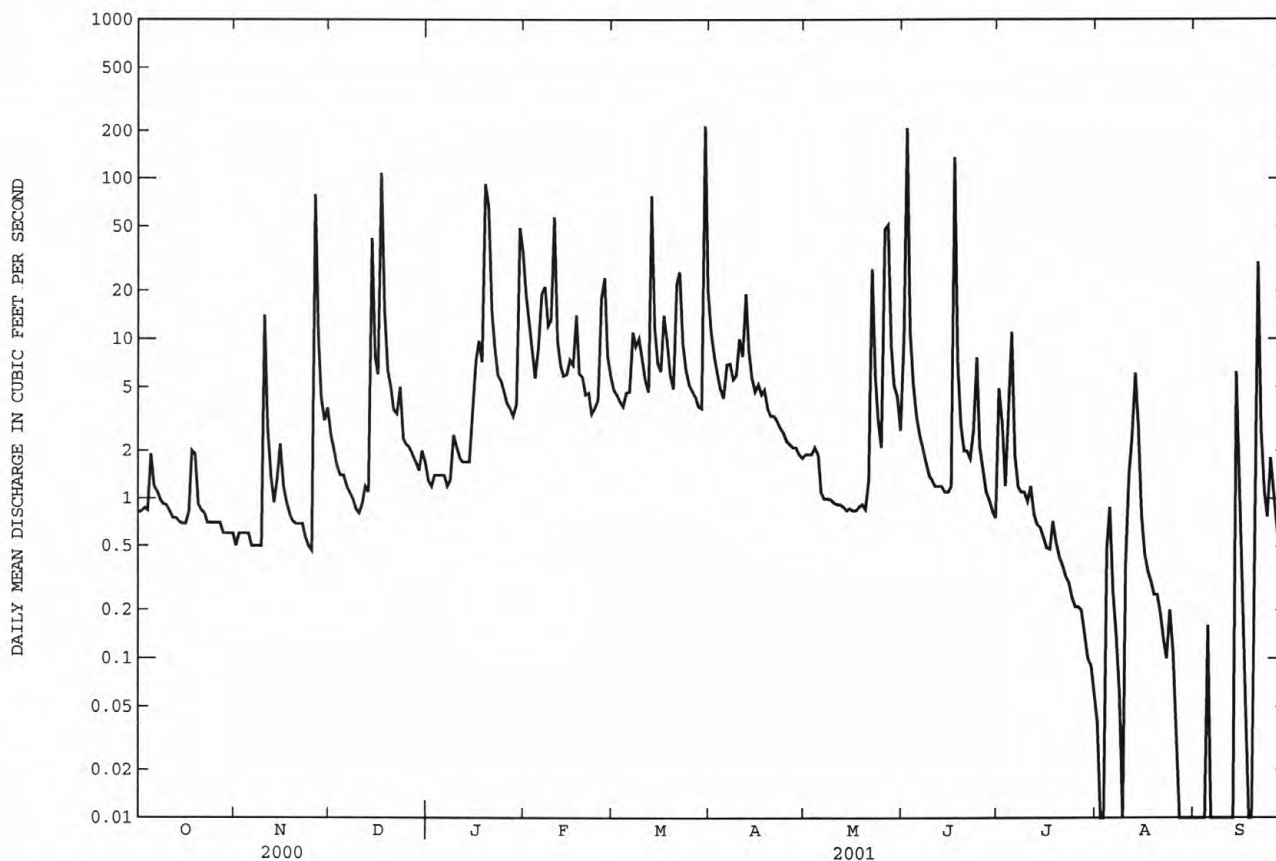
## 01401650 PIKE RUN AT BELLE MEAD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1980 - 2001
ANNUAL TOTAL	2095.61	2472.03	
ANNUAL MEAN	5.73	6.77	8.89
HIGHEST ANNUAL MEAN			14.3
LOWEST ANNUAL MEAN			3.79
HIGHEST DAILY MEAN	113 Feb 14	215 Mar 30	1590 Sep 16 1999
LOWEST DAILY MEAN	.03 Jul 13	.00 Aug 3	.00 Aug 20 1980
ANNUAL SEVEN-DAY MINIMUM	.09 Jul 8	.00 Aug 27	.00 Aug 20 1980
MAXIMUM PEAK FLOW		749 Jun 2	8200a Sep 16 1999
MAXIMUM PEAK STAGE		7.54 Jun 2	13.61b Sep 16 1999
INSTANTANEOUS LOW FLOW			.00 Aug 20 1980
ANNUAL RUNOFF (CFSM)	1.07	1.26	1.66
ANNUAL RUNOFF (INCHES)	14.54	17.16	22.53
10 PERCENT EXCEEDS	11	11	15
50 PERCENT EXCEEDS	2.2	1.7	2.6
90 PERCENT EXCEEDS	.60	.20	.26

a From rating curve extended above 790 ft<sup>3</sup>/s on basis of step-backwater computation.

b From high-water mark in gage

e Estimated



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.

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.

GAGE.--Water-stage recorder. Concrete control since Nov. 18, 1933. Datum of gage is 26.97 ft above sea level. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and maximum (\*):

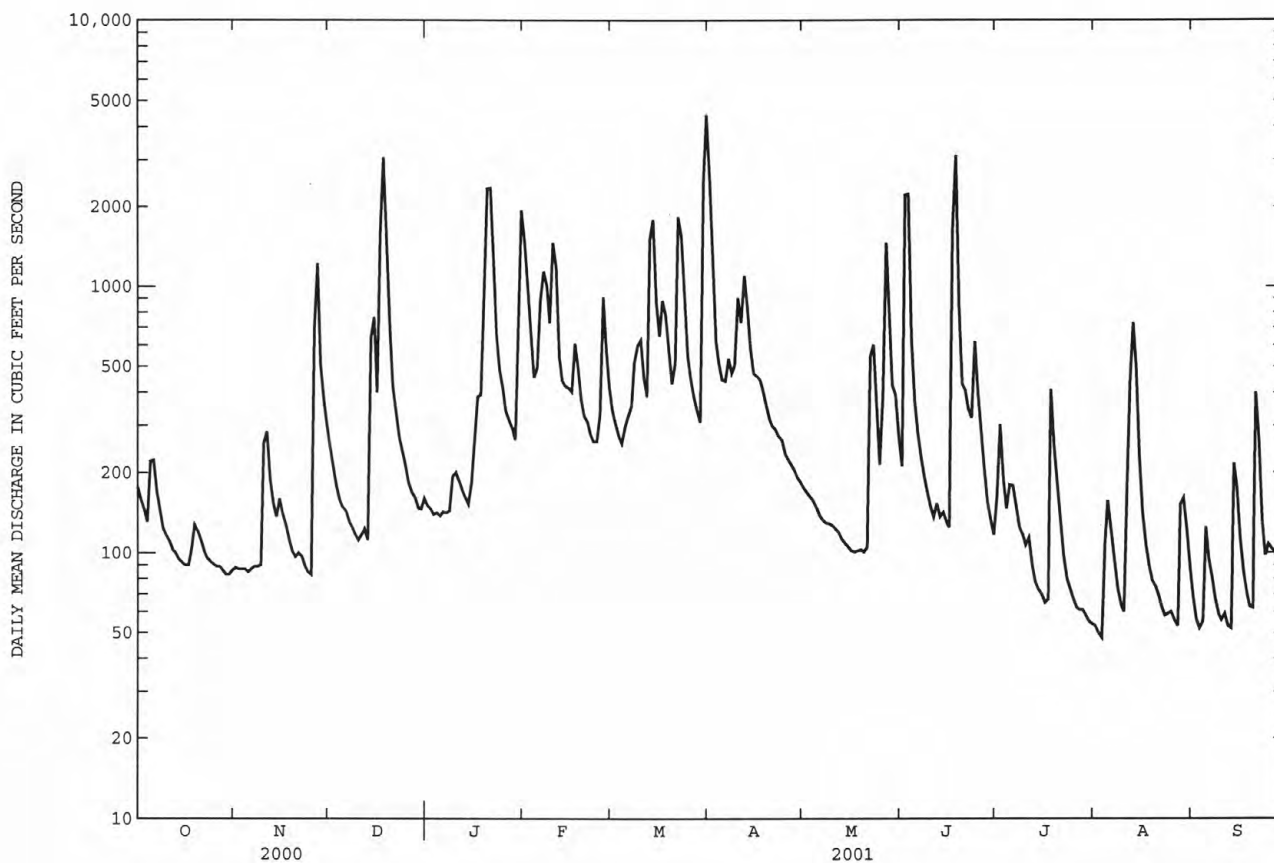
Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 18	0645	3,250	7.71	Jun 18	0100	3,820	8.40
Mar 31	0300	*5,050	*9.71				

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	88	249	151	1470	340	2580	175	212	164	53	68
2	158	87	210	147	938	303	1110	169	2210	302	50	56
3	145	87	179	140	637	277	625	163	2230	188	48	52
4	131	87	159	142	456	258	515	157	639	147	107	55
5	221	85	149	138	492	296	446	148	372	180	157	125
6	223	87	144	143	890	327	440	139	280	179	121	95
7	170	89	133	142	1140	355	534	133	232	148	94	81
8	143	89	126	144	1010	518	473	130	196	125	74	67
9	124	90	118	194	731	598	505	129	169	118	64	59
10	117	258	112	201	1460	626	905	127	149	107	60	56
11	111	285	117	187	1190	452	732	123	137	114	159	59
12	103	189	123	174	544	385	1100	120	153	90	436	53
13	100	153	112	163	444	1510	845	113	137	78	728	52
14	95	137	643	153	423	1790	586	109	142	73	500	216
15	92	160	764	184	415	877	471	106	131	70	233	177
16	90	140	399	274	402	652	461	102	125	65	141	113
17	90	127	1590	384	609	883	445	101	1650	67	107	85
18	103	112	3060	392	502	783	406	102	3110	410	89	71
19	128	102	1690	800	378	586	358	103	844	252	79	63
20	121	97	685	2340	326	432	319	101	431	183	75	62
21	112	100	419	2350	311	513	298	105	410	134	69	400
22	102	97	338	1180	280	1830	291	545	346	98	62	268
23	96	90	272	661	262	1550	274	602	320	80	58	132
24	93	85	239	484	262	883	265	340	619	73	59	98
25	91	83	214	415	331	548	236	215	407	67	60	108
26	89	694	183	341	912	453	224	389	300	62	56	104
27	89	1220	170	316	591	385	215	1460	207	61	53	101
28	86	512	162	296	418	343	205	814	155	61	152	92
29	83	379	148	266	---	310	192	424	132	58	160	77
30	83	302	147	697	---	2500	184	392	117	55	122	68
31	86	---	161	1940	---	4420	---	272	---	54	87	---
TOTAL	3651	6111	13215	15539	17824	25983	16240	8108	16562	3863	4313	3113
MEAN	118	204	426	501	637	838	541	262	552	125	139	104
MAX	223	1220	3060	2350	1470	4420	2580	1460	3110	410	728	400
MIN	83	83	112	138	262	258	184	101	117	54	48	52
CFSM	.46	.79	1.65	1.94	2.47	3.25	2.10	1.01	2.14	.48	.54	.40
IN.	.53	.88	1.91	2.24	2.57	3.75	2.34	1.17	2.39	.56	.62	.45

MEAN	198	328	464	518	569	693	539	362	240	243	217	229
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 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001	
ANNUAL TOTAL	110386		134522		382	
ANNUAL MEAN	302		369		690	
HIGHEST ANNUAL MEAN					165	
LOWEST ANNUAL MEAN					1975	
HIGHEST DAILY MEAN	3060	Dec 18	4420	Mar 31	22000	Sep 17 1999
LOWEST DAILY MEAN	55	Jul 14	48	Aug 3	5.0	Sep 16 1923
ANNUAL SEVEN-DAY MINIMUM	62	Jul 8	54	Jul 28	6.3	Aug 7 1966
MAXIMUM PEAK FLOW			5050	Mar 31	26200	Sep 17 1999
MAXIMUM PEAK STAGE			9.71	Mar 31	21.01	Sep 17 1999
INSTANTANEOUS LOW FLOW			42	Aug 4	5.0	Sep 16 1923
ANNUAL RUNOFF (CFSM)	1.17		1.43		1.48	
ANNUAL RUNOFF (INCHES)	15.92		19.40		20.14	
10 PERCENT EXCEEDS	705		826		822	
50 PERCENT EXCEEDS	185		170		198	
90 PERCENT EXCEEDS	89		72		59	





## RARITAN RIVER BASIN

01403060 RARITAN RIVER BELOW CALCO DAM, AT BOUND BROOK, NJ

LOCATION.--Lat 40°33'05", long 74°32'54", Somerset County, Hydrologic Unit 02030105, on right bank 1,000 ft downstream from Calco Dam and Cuckold Brook, 1,400 ft upstream from bridge on Interstate 287, 1.2 mi downstream from Millstone River, and 1.2 mi southwest of Bound Brook.

DRAINAGE AREA.--785 mi<sup>2</sup> (includes 11 mi<sup>2</sup> 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 sea level. 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 for estimated daily 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. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 30	1930	*13,600	*25.59	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	287	163	520	e715	3590	1350	5190	435	616	512	130	136
2	259	155	419	e695	2670	1190	2940	371	8910	1670	116	142
3	238	150	338	e659	1850	1060	1980	338	5260	554	109	127
4	227	155	285	e668	1260	968	1620	309	2090	524	419	123
5	339	152	299	e658	1390	1060	1390	295	1230	1260	923	316
6	350	144	280	e690	2270	1130	1370	272	928	624	295	184
7	271	147	257	e657	2780	1110	1780	238	730	437	183	163
8	240	158	261	e639	2370	1640	1410	243	637	370	123	144
9	206	171	234	e743	1750	1770	1490	229	458	437	125	132
10	178	836	221	e704	4540	1860	2810	220	364	433	179	146
11	174	679	241	e584	3600	1370	2000	190	378	632	357	177
12	161	348	262	e515	1730	1240	2930	181	442	338	571	149
13	161	263	230	e462	1370	4230	2310	193	376	231	2470	144
14	188	259	1870	e447	1300	4720	1700	162	387	179	2240	869
15	176	342	1900	e512	1350	2620	1330	141	367	158	606	454
16	179	298	973	e582	1450	2060	1450	136	331	163	300	206
17	191	245	5600	e700	2420	2470	1300	156	5880	169	225	164
18	241	211	8300	e724	1680	2360	1220	181	5600	1040	220	150
19	308	197	3600	e2110	1220	1860	1100	177	1920	435	172	149
20	224	181	1890	5880	1040	1500	873	139	939	260	168	170
21	180	184	1250	4310	1040	1400	815	197	920	199	172	1530
22	152	167	991	2370	923	4280	786	1690	633	144	142	604
23	157	167	e770	1440	856	3640	752	1520	852	131	134	253
24	163	172	e643	1140	833	2370	685	794	3690	140	268	176
25	174	167	e492	999	1040	1730	700	505	1320	149	182	296
26	168	1640	e465	764	3720	1430	580	1350	863	207	154	329
27	152	2690	e580	729	2470	1240	547	5610	600	187	141	190
28	169	1060	e607	652	1750	1050	503	3390	470	139	211	146
29	148	742	e600	549	---	1010	452	1470	335	147	205	141
30	145	653	e633	1470	---	8280	403	1120	423	148	153	132
31	154	---	e723	4650	---	9050	---	784	---	136	136	---
TOTAL	6360	12896	35734	38417	54262	73048	44416	23036	47949	12153	11829	8042
MEAN	205	430	1153	1239	1938	2356	1481	743	1598	392	382	268
MAX	350	2690	8300	5880	4540	9050	5190	5610	8910	1670	2470	1530
MIN	145	144	221	447	833	968	403	136	331	131	109	123

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1903	666	2953	1904	113	1958
1904	1016	3684	1905	138	1966
1905	1460	4615	1906	165	1999
1906	1606	5825	1907	179	1981
1907	1691	3232	1908	485	1980
1908	2144	5093	1909	454	1985
1909	1752	5326	1910	230	1985
1910	1263	3862	1911	329	1992
1911	771	3883	1912	117	1965
1912	669	4624	1913	84.7	1955
1913	656	3576	1914	69.9	1957
1914	682	3358	1915	76.1	1957

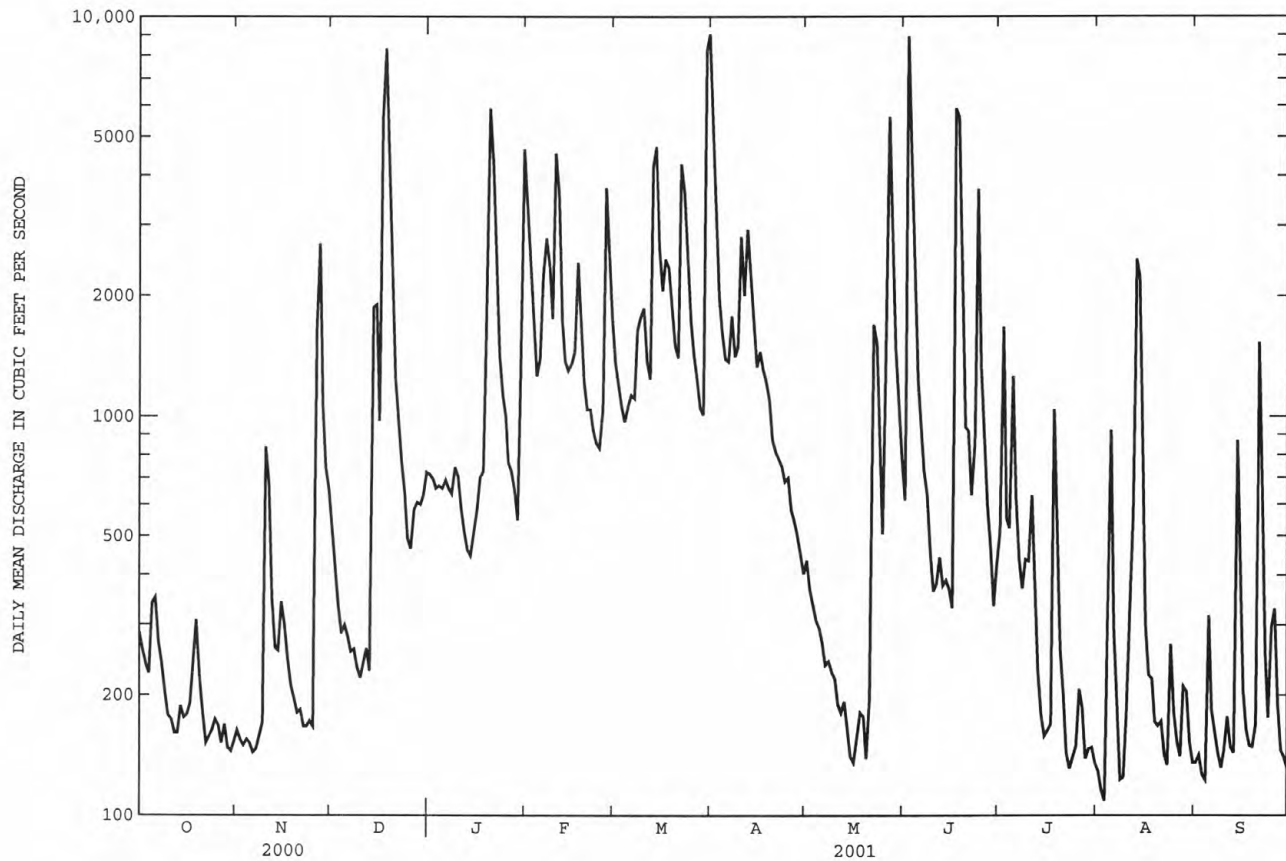
01403060 RARITAN RIVER BELOW CALCO DAM, AT BOUND BROOK, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	304685		368142		1195	
ANNUAL MEAN	832		1009		2046	
HIGHEST ANNUAL MEAN					480	
LOWEST ANNUAL MEAN					1975	
HIGHEST DAILY MEAN	8300	Dec 18	9050	Mar 31	61000	Sep 17 1999
LOWEST DAILY MEAN	133	Jul 8	109	Aug 3	37	Sep 6 1964
ANNUAL SEVEN-DAY MINIMUM	147	Jul 7	132	Jul 28	46	Sep 4 1957
MAXIMUM PEAK FLOW			13600	Mar 30	82900a	Sep 17 1999
MAXIMUM PEAK STAGE			25.59	Mar 30	42.13b	Sep 17 1999
INSTANTANEOUS LOW FLOW			67	Aug 3		
10 PERCENT EXCEEDS	1960		2370		2590	
50 PERCENT EXCEEDS	485		512		626	
90 PERCENT EXCEEDS	173		149		168	

a From rating extended above 46,000 ft<sup>3</sup>/s on basis of indirect computation of peak flow downstream at Fieldville Dam.

b From floodmark, highest since 1700.

e Estimated



LOCATION.--Lat 40°36'44", long 74°35'28", Somerset County, Hydrologic Unit 02030105, on left bank 150 ft upstream from bridge on Crim Road, 1.4 mi northwest of Martinsville, and 1.8 mi upstream from confluence with East Branch Middle Brook.

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

REVISED RECORDS.--WDR NJ-91-1: 1990. WDR NJ-96-1: 1980-94 (P), WDR NJ-99-1: 1990 (M), 1997 (M).

GAGE.--Water-stage recorder. Datum of gage is 240.48 ft above sea level (levels by Somerset County).

REMARKS.--Records fair, except for the period of estimated data and flows below 1 ft<sup>3</sup>/s, which are poor. Several measurements of water temperature were made during the year. Rain-gage radio telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jun 1	2400	*350	*5.40	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	e.40	.60	.41	7.2	2.0	e3.8	e.80	18	6.5	.09	.09
2	.37	e.45	.51	.41	5.6	2.0	e2.7	e.80	38	.98	.09	.07
3	.38	e.50	.42	.41	3.0	1.8	e2.5	e.70	3.1	.35	.09	.07
4	.49	e.48	.40	.41	1.7	1.7	e3.0	e.60	1.3	3.1	.76	.07
5	.70	e.40	.39	.42	2.6	1.8	e1.7	.52	.72	2.1	.16	.07
6	.51	e.38	.38	.42	5.8	1.9	e2.0	.44	.54	.45	.10	.07
7	e.30	e.32	.36	.41	5.4	5.2	e2.6	.40	.45	.32	.09	.07
8	e.28	e.30	.33	.51	3.2	3.7	e6.5	.39	.38	.42	.09	.06
9	e.27	e.50	.31	.84	4.4	6.7	e4.2	.38	.35	.33	.08	.06
10	e.29	e4.5	.31	.62	24	3.2	e2.8	.38	.31	.29	.08	.06
11	e.30	.99	.36	.56	4.2	2.4	e4.2	.38	.38	.40	.09	.06
12	e.30	.72	.70	.54	2.1	1.9	e2.5	.38	.87	.25	1.7	.06
13	e.35	.64	.79	.50	2.5	28	e2.2	.37	.31	.21	4.4	.06
14	.54	1.5	18	.49	2.7	4.5	e1.9	.36	.31	.18	.52	5.1
15	.54	1.0	2.2	1.3	5.7	2.6	e2.3	.36	.31	.16	.14	.15
16	.58	.69	3.1	2.0	5.9	2.1	e2.0	.35	.34	.15	.11	.09
17	.66	.60	31	2.0	6.8	4.4	e2.0	.33	8.7	.67	.10	.08
18	e1.0	.51	3.6	1.6	2.3	3.2	e1.7	.33	.64	.73	.09	.07
19	e.80	.49	1.7	20	1.7	1.9	e1.6	.33	.38	.17	.09	.07
20	e.60	.46	1.2	14	2.2	1.6	e1.6	.30	.31	.14	.09	.71
21	e.50	.44	.80	4.4	2.3	e10	e1.6	.92	2.6	.14	.09	3.7
22	e.52	.48	.79	2.4	1.4	e7.0	e1.5	9.4	.51	.12	.08	.18
23	e.51	.50	.66	1.6	1.6	e3.1	e1.3	1.1	9.5	.11	.09	.11
24	e.48	.45	.60	1.4	1.4	e2.8	e1.1	.56	3.0	.11	.10	.11
25	e.35	.44	.52	1.2	12	e2.3	e1.0	.43	.72	.11	.08	.46
26	e.38	22	.43	.92	11	e2.2	e1.0	18	.47	.14	.08	.20
27	e.35	2.0	.43	.94	3.7	e2.0	e.90	11	.38	.11	.08	.14
28	e.25	.93	.43	.79	2.6	e1.4	e.90	2.1	.34	.11	.08	.14
29	e.27	.68	.39	.76	---	e2.1	e.80	.85	.88	.10	.07	.14
30	e.28	.96	.48	12	---	e6.3	e.80	.59	.58	.10	.07	.14
31	e.29	---	.44	9.5	---	e4.8	---	.48	---	.09	.07	---
TOTAL	13.80	44.71	72.63	83.76	135.0	183.3	64.70	54.33	94.68	19.14	9.85	12.46
MEAN	.45	1.49	2.34	2.70	4.82	5.91	2.16	1.75	3.16	.62	.32	.42
MAX	1.0	22	31	20	24	63	6.5	18	38	6.5	4.4	5.1
MIN	.25	.30	.31	.41	1.4	1.4	.80	.30	.31	.09	.07	.06
CF5M	.22	.75	1.18	1.36	2.42	2.97	1.08	.88	1.59	.31	.16	.21
IN.	.26	.84	1.36	1.57	2.52	3.43	1.21	1.02	1.77	.36	.18	.23

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2001, BY WATER YEAR (WY)

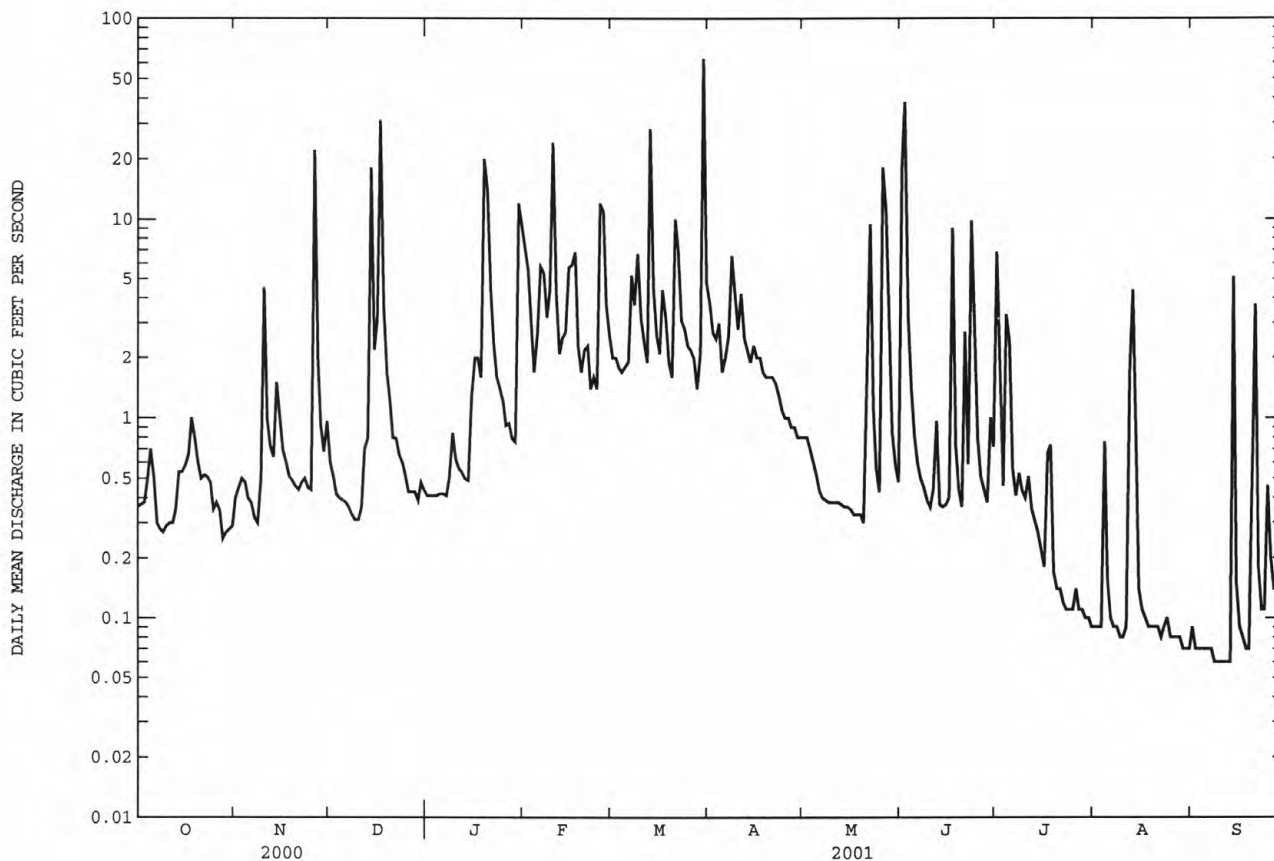
MEAN	2.28	3.44	4.30	4.57	4.20	6.28	5.45	4.49	2.13	1.98	1.24	1.96
MAX	9.28	10.5	11.5	11.9	9.02	21.4	11.6	19.4	6.88	6.40	6.46	11.7
(WY)	1990	1989	1984	1996	1988	1994	1983	1989	1989	1984	2000	1999
MIN	.22	.41	.13	.12	.92	1.64	.74	.76	.27	.083	.12	.11
(WY)	1987	1999	1999	1981	1980	1985	1985	1986	1999	1980	1980	1980

01403150 WEST BRANCH MIDDLE BROOK NEAR MARTINSVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1979 - 2001	
ANNUAL TOTAL	832.94		787.97		3.53	
ANNUAL MEAN	2.28		2.16		5.48	
HIGHEST ANNUAL MEAN					1.88	
LOWEST ANNUAL MEAN					1981	
HIGHEST DAILY MEAN	93	Aug 12	63e	Mar 30	318	Sep 16 1999
LOWEST DAILY MEAN	.15	Sep 12	.06	many days	.00	Sep 19 1980
ANNUAL SEVEN-DAY MINIMUM	.17	Jul 8	.06	Sep 7	.00	Sep 19 1980
MAXIMUM PEAK FLOW			350	Jun 1	1490a	Sep 16 1999
MAXIMUM PEAK STAGE			5.40	Jun 1	9.30	Sep 16 1999
INSTANTANEOUS LOW FLOW			.06	many days	.00	Sep 19 1980
ANNUAL RUNOFF (CFSM)	1.14		1.08		1.77	
ANNUAL RUNOFF (INCHES)	15.57		14.73		24.09	
10 PERCENT EXCEEDS	3.6		4.4		6.0	
50 PERCENT EXCEEDS	.75		.54		.86	
90 PERCENT EXCEEDS	.30		.09		.14	

a From rating curve extended above 400 ft<sup>3</sup>/s on basis of indirect computation of peak flow.

e Estimated



## RARITAN RIVER BASIN

01403400 GREEN BROOK AT SEELEY MILLS, NJ

LOCATION.--Lat 40°39'58", long 74°24'13", revised, Somerset County, Hydrologic Unit 02030105, on right bank at Seeley Mills, 250 ft downstream from Blue Brook, 300 ft downstream from bridge on Diamond Hill Road, and 0.5 mi northwest of Scotch Plains.

DRAINAGE AREA.--6.23 mi<sup>2</sup>.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959-64, 1969: annual maximum, water years 1969-79. June 1979 to current year. Fragmentary records 1944-53 in the files of the U.S. Geological Survey. Crest-stage data 1927-38, 1958-68 in files of Union County Park Commission.

REVISED RECORDS.--WDR-NJ 81-1: 1979 (M). WDR-NJ 87-1: 1971 (M), 1973 (M), 1975 (M).

GAGE.--Water-stage recorder. Datum of gage is 184.44 ft above sea level. From 1944 to 1953, water-stage recorder and masonry dam about 400 ft downstream, above lower Seeley Mills dam at different datum. From July 1969 to May 1979, crest-stage gage about 450 ft downstream below lower Seeley Mills dam (washed out May 29, 1968) at different datum.

REMARKS.--Records poor. Several measurements of water temperature were made during the year. Satellite gage height telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 23, 1938 reached an elevation of 196.5 ft, New Jersey Geological Survey datum, above lower Seeley Mills dam, discharge, 5,840 ft<sup>3</sup>/s, computed by State Water Policy Commission.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jun 17	0400	*288	*2.82	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.2	4.2	2.5	20	8.3	21	3.0	9.4	14	1.3	2.3
2	2.6	2.2	4.1	2.4	18	7.9	16	2.7	70	11	1.3	1.4
3	2.4	2.2	3.9	2.8	13	7.2	14	2.3	18	4.5	1.3	1.2
4	2.4	2.2	3.8	2.4	9.5	6.7	12	2.2	8.8	10	1.3	.83
5	3.0	2.2	3.8	2.4	9.9	8.2	10	2.2	5.3	15	1.3	1.0
6	2.4	2.2	3.8	2.6	14	7.6	12	2.2	4.7	5.1	1.3	.82
7	2.4	2.2	3.7	2.4	13	10	12	2.3	4.0	3.4	1.3	.71
8	2.4	2.2	3.6	2.8	11	9.4	11	2.4	3.3	4.5	1.3	.71
9	2.4	2.9	3.6	3.3	12	21	18	2.3	2.9	3.6	1.1	.71
10	2.2	23	3.5	2.7	43	14	22	2.2	2.7	2.8	7.6	.84
11	2.0	5.0	3.6	2.6	20	11	14	2.1	2.6	2.4	3.1	.99
12	2.0	3.8	3.5	2.6	12	8.6	19	2.0	2.9	2.2	9.1	.71
13	2.0	3.5	3.3	2.4	11	57	14	2.0	2.0	1.9	16	.71
14	2.0	8.6	27	2.4	11	22	11	1.8	2.3	1.8	4.7	22
15	2.0	4.4	11	4.4	16	15	9.2	1.7	2.2	1.6	2.2	1.9
16	2.0	3.6	9.2	5.0	15	12	12	1.5	3.4	1.5	1.9	1.1
17	2.0	3.2	83	4.9	19	15	9.7	1.4	86	5.6	1.8	1.0
18	4.5	2.9	28	4.4	10	13	9.2	1.4	19	7.1	1.8	1.1
19	3.0	2.8	12	27	8.2	9.4	7.5	1.4	7.6	2.3	1.7	1.0
20	2.2	2.6	8.0	34	8.3	7.9	6.9	1.4	9.3	2.1	1.7	4.5
21	2.0	2.6	5.7	17	8.7	34	6.6	3.3	36	2.0	1.5	17
22	2.1	2.4	5.0	10	6.3	43	6.4	21	15	1.8	1.4	2.3
23	2.2	2.4	3.6	7.6	7.0	22	6.0	5.7	19	1.7	2.7	1.7
24	2.2	2.4	3.6	7.0	5.5	16	5.4	3.3	17	1.7	2.1	1.6
25	2.2	2.4	3.2	6.0	21	13	4.7	2.3	8.5	1.7	1.5	8.8
26	2.2	38	3.2	5.0	29	12	4.4	6.3	6.2	1.9	1.5	1.8
27	2.3	15	2.8	5.0	14	10	4.1	13	5.1	1.5	1.5	1.5
28	2.2	7.0	2.7	4.3	9.4	8.9	3.6	6.4	4.3	1.4	1.4	1.5
29	2.2	5.1	2.6	3.8	---	8.3	3.2	9.6	4.4	1.4	1.3	1.0
30	2.2	5.7	7.2	24	---	93	3.1	6.3	4.5	1.5	1.3	1.6
31	2.2	---	3.5	27	---	35	---	3.2	---	1.3	1.3	---
TOTAL	72.5	166.9	269.7	232.7	394.8	566.4	308.0	120.9	386.4	120.3	80.6	84.33
MEAN	2.34	5.56	8.70	7.51	14.1	18.3	10.3	3.90	12.9	3.88	2.60	2.81
MAX	4.5	38	83	34	43	93	22	21	86	15	16	22
MIN	2.0	2.2	2.6	2.4	5.5	6.7	3.1	1.4	2.0	1.3	1.1	.71
CFSM	.38	.89	1.40	1.20	2.26	2.93	1.65	.63	2.07	.62	.42	.45
IN.	.43	1.00	1.61	1.39	2.36	3.38	1.84	.72	2.31	.72	.48	.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2001, BY WATER YEAR (WY)

	7.06	9.25	11.7	12.0	11.9	17.3	17.6	13.0	7.29	6.54	4.82	9.33
MEAN	7.06	9.25	11.7	12.0	11.9	17.3	17.6	13.0	7.29	6.54	4.82	9.33
MAX	31.9	22.4	46.9	27.1	22.3	40.9	41.1	42.0	23.4	18.9	16.1	97.1
(WY)	1997	1986	1984	1996	1998	1994	1983	1989	1992	1984	1990	1999
MIN	1.21	1.48	1.62	1.67	2.95	5.11	3.50	2.44	.35	.32	1.33	1.68
(WY)	1995	1999	1999	1981	1980	1985	1985	1999	1999	1999	1981	1994

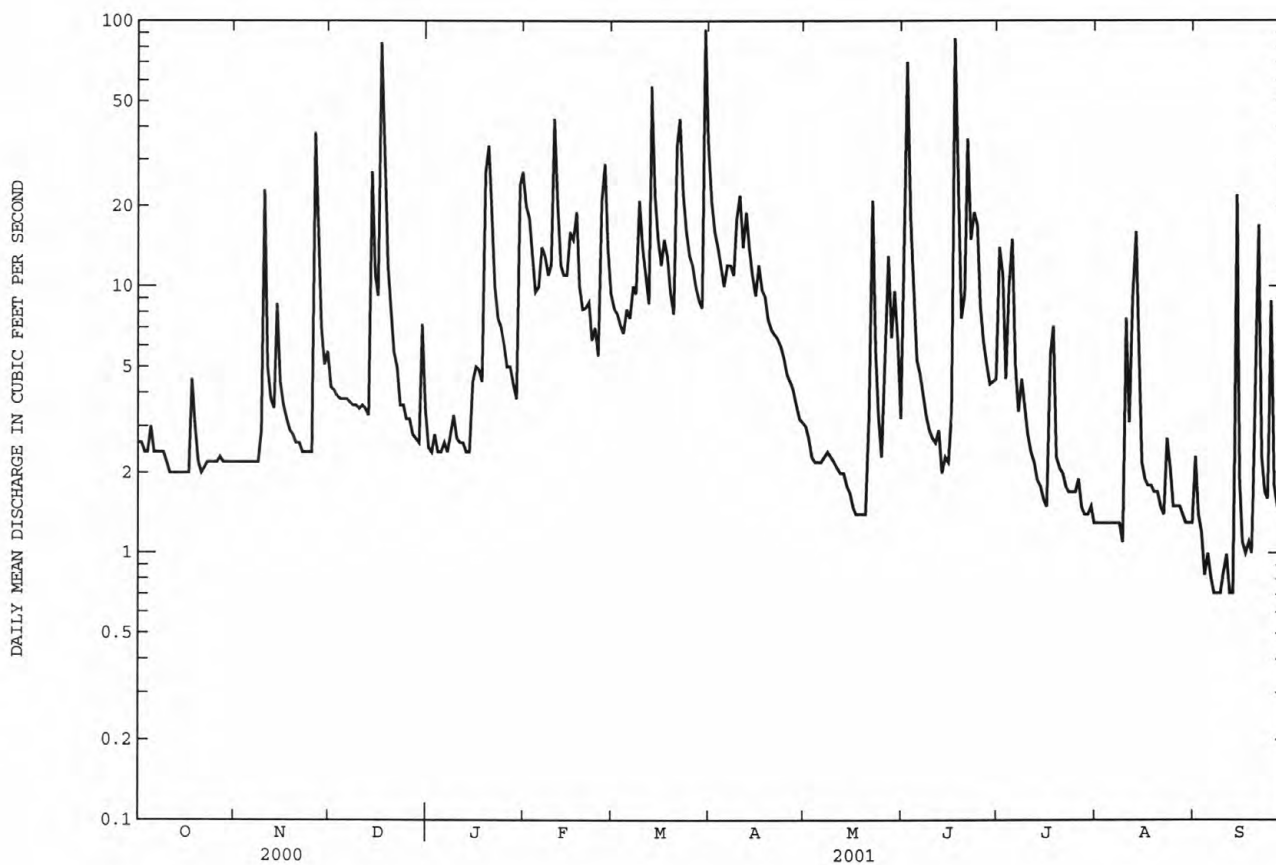


01403400 GREEN BROOK AT SEELEY MILLS, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1979 - 2001	
ANNUAL TOTAL	3618.2		2803.53		10.6	
ANNUAL MEAN	9.89		7.68		18.2	
HIGHEST ANNUAL MEAN					5.16	
LOWEST ANNUAL MEAN					1470	
HIGHEST DAILY MEAN	119	May 19	93	Mar 30	Sep 16 1999	
LOWEST DAILY MEAN	1.0	Jul 14	.71	Sep 7	Sep 11 1981	
ANNUAL SEVEN-DAY MINIMUM	1.1	Jul 8	.77	Sep 7	Sep 24 1981	
MAXIMUM PEAK FLOW			288	Jun 17	6240a Aug 2 1973	
MAXIMUM PEAK STAGE			2.82	Jun 17	16.10b Aug 2 1973	
INSTANTANEOUS LOW FLOW			.71	Sep 7	.00 Sep 11 1981	
ANNUAL RUNOFF (CFSM)	1.59		1.23		1.71	
ANNUAL RUNOFF (INCHES)	21.60		16.74		23.22	
10 PERCENT EXCEEDS	23		17		21	
50 PERCENT EXCEEDS	4.0		3.6		4.8	
90 PERCENT EXCEEDS	2.2		1.4		1.5	

a From rating curve extended above 600 ft<sup>3</sup>/s on basis of slope area measurement of peak flow.

b Site and datum then in use.



## RARITAN RIVER BASIN

01403540 STONY BROOK AT WATCHUNG, NJ

LOCATION.--Lat 40°38'12", long 74°27'06", Somerset County, Hydrologic Unit 02030105, on right bank at Watchung Borough Administration Building in Watchung, 150 ft downstream from bridge on Mountain Boulevard, 400 ft downstream from East Branch Stony Brook, and 2.9 mi upstream from confluence with Green Brook.

DRAINAGE AREA.--5.51 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR NJ-86-1: 1973 (P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 162.24 ft above sea level. Prior to Oct. 1, 1996, at datum 10.00 ft higher.

REMARKS.--Records good. Occasional regulation from Watchung and Best Lakes directly upstream from station and other small lakes. Several measurements of water temperature were made during the year. Gage-height radio telemetry at station. Channel significantly enlarged and modified in 1991, and modified again in 1997 when the right wall was replaced.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 2, 1973, reached a stage of 24.5 ft, from floodmark, corrected to current datum, discharge, 10,500 ft<sup>3</sup>/s, from slope-area measurements of peak flow.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	0915	*706	*12.94	Mar 30	0915	486	12.50
Dec 17	1245	443	12.40	Jun 2	0015	459	12.44

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	.98	3.2	3.7	20	10	19	3.7	15	15	1.1	1.8
2	2.4	1.5	1.5	3.4	17	9.3	15	3.7	89	8.6	1.1	1.2
3	3.7	2.1	1.4	3.3	14	8.9	14	3.6	14	4.9	1.1	1.0
4	5.9	2.1	1.6	3.3	11	8.3	16	3.4	9.5	10	2.0	.88
5	6.2	1.8	2.9	3.2	12	8.6	8.8	3.0	6.7	14	3.3	.87
6	3.1	1.6	3.3	3.3	13	8.3	9.2	2.5	5.5	5.4	1.7	.75
7	1.5	1.5	3.2	3.2	14	10	12	2.4	5.1	4.4	1.3	.65
8	1.3	1.5	3.2	3.3	13	12	11	2.4	4.6	4.5	1.1	.66
9	1.3	1.7	3.1	3.9	12	23	28	2.4	4.0	4.0	.99	.66
10	1.3	25	3.0	3.5	65	15	22	2.4	3.6	3.4	3.3	.87
11	1.3	6.1	3.0	3.2	19	12	14	2.2	3.6	3.1	2.8	.91
12	1.3	3.6	2.3	3.2	14	15	20	2.1	8.7	2.6	8.6	.75
13	1.7	7.7	2.3	3.2	13	68	14	1.9	3.9	2.4	18	.68
14	2.1	10	38	3.1	13	26	12	1.8	3.2	2.2	8.1	21
15	2.1	7.8	10	4.4	17	13	10	1.7	3.1	2.0	3.1	3.8
16	2.6	7.5	8.7	5.5	17	7.1	11	1.5	3.1	1.8	2.3	1.9
17	3.0	4.3	143	6.7	21	11	9.7	1.6	56	6.5	2.0	1.5
18	3.7	1.7	20	6.4	13	14	9.2	1.8	9.4	10	1.7	1.4
19	3.6	1.5	13	38	11	11	8.0	1.7	5.9	3.3	1.5	1.4
20	3.2	1.4	10	33	10	9.8	7.8	1.7	5.3	2.5	1.4	2.1
21	2.5	1.6	8.3	16	11	46	7.7	3.0	32	2.1	1.4	15
22	2.4	1.4	7.9	12	9.2	37	7.5	26	9.3	1.6	1.4	3.4
23	2.3	1.2	6.6	9.6	8.8	16	7.0	8.1	17	1.5	1.4	2.2
24	2.1	1.6	6.0	8.9	8.2	14	6.1	5.1	16	1.5	1.6	1.7
25	1.7	1.9	5.4	8.1	26	12	5.3	3.8	8.0	1.4	1.4	4.2
26	1.2	58	4.7	7.6	27	11	4.9	6.5	6.6	1.5	1.2	2.6
27	1.1	10	4.6	7.5	14	10	4.7	15	5.3	1.4	1.1	1.9
28	1.0	18	4.4	6.9	12	7.5	4.3	10	4.4	1.3	1.1	1.7
29	1.0	9.6	4.2	6.2	---	7.8	4.0	6.9	4.7	1.2	.94	1.6
30	1.0	3.9	4.6	28	---	141	3.8	5.5	6.8	1.2	.88	1.6
31	1.0	---	4.3	25	---	27	---	4.3	---	1.2	.97	---
TOTAL	71.1	198.58	337.7	276.6	455.2	629.6	326.0	141.7	369.3	126.5	79.88	80.68
MEAN	2.29	6.62	10.9	8.92	16.3	20.3	10.9	4.57	12.3	4.08	2.58	2.69
MAX	6.2	58	143	38	65	141	28	26	89	15	18	21
MIN	1.0	.98	1.4	3.1	8.2	7.1	3.8	1.5	3.1	1.2	.88	.65
CFSM	.42	1.20	1.98	1.62	2.95	3.69	1.97	.83	2.23	.74	.47	.49
IN.	.48	1.34	2.28	1.87	3.07	4.25	2.20	.96	2.49	.85	.54	.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2001, BY WATER YEAR (WY)

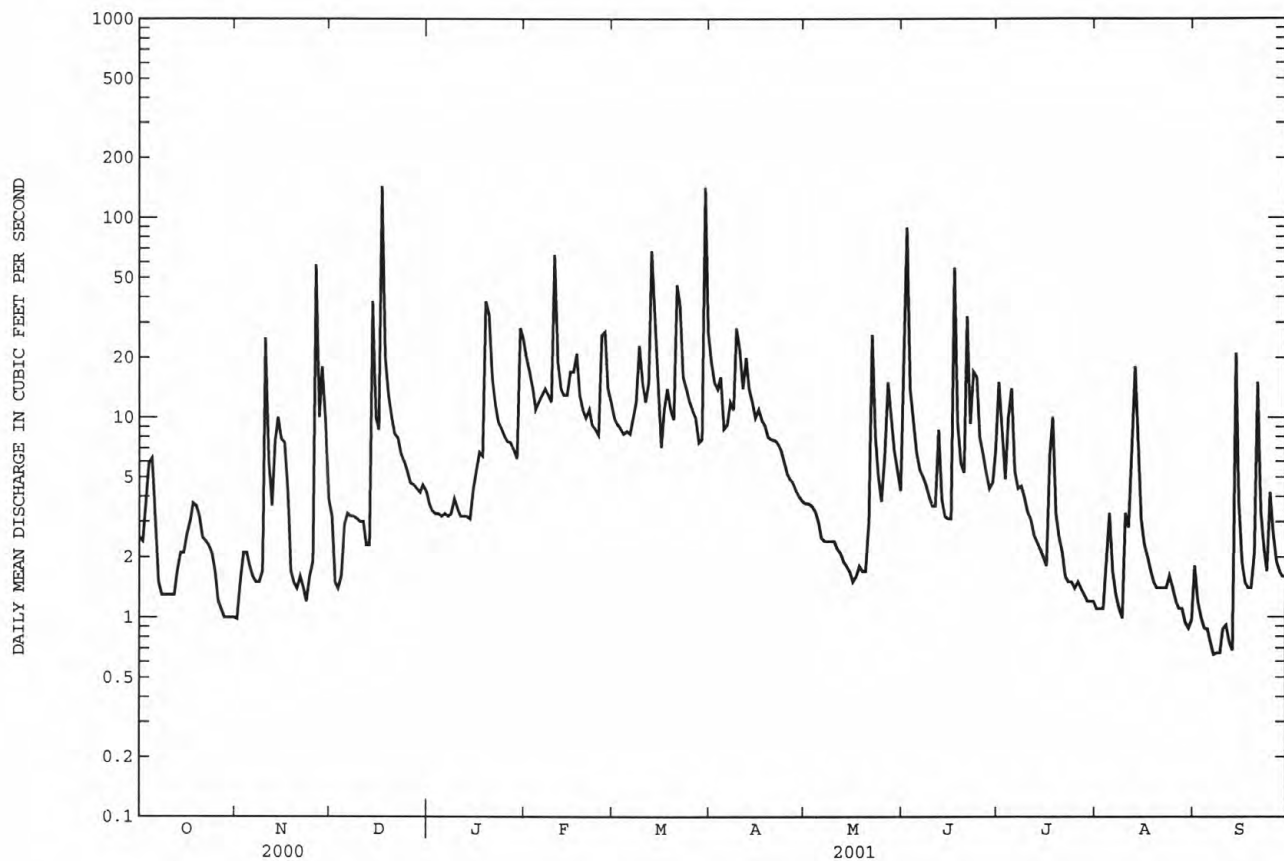
	5.83	9.03	11.9	13.9	12.3	17.4	15.6	11.8	6.56	6.07	4.05	5.58
MEAN	5.83	9.03	11.9	13.9	12.3	17.4	15.6	11.8	6.56	6.07	4.05	5.58
MAX	24.6	25.6	37.1	37.5	20.1	45.0	38.3	37.8	20.1	32.1	18.4	30.8
(WY)	1997	1996	1984	1979	1988	1994	1983	1989	1992	1975	2000	1999
MIN	.81	1.94	1.21	1.08	3.60	5.60	3.89	3.42	1.79	.55	.75	.87
(WY)	1995	1977	1999	1981	1980	1985	1985	1986	1999	1999	1998	1983

01403540 STONY BROOK AT WATCHUNG, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1975 - 2001	
ANNUAL TOTAL	3114.24		3092.84		9.98	
ANNUAL MEAN	8.51		8.47		16.0	
HIGHEST ANNUAL MEAN					5.43	
LOWEST ANNUAL MEAN					1984	
HIGHEST DAILY MEAN	176	Aug 12	143	Dec 17	814	Sep 16 1999
LOWEST DAILY MEAN	.98	Jul 13	.65	Sep 7	.00	Sep 18 1982
ANNUAL SEVEN-DAY MINIMUM	1.0	Oct 26	.74	Sep 7	.06	Sep 13 1982
MAXIMUM PEAK FLOW			706	Dec 17	5380a	Sep 16 1999
MAXIMUM PEAK STAGE			12.94	Dec 17	20.40b	Jul 14 1975
INSTANTANEOUS LOW FLOW			.64	Sep 6	.00	Sep 13 1982
ANNUAL RUNOFF (CFSM)	1.54		1.54		1.81	
ANNUAL RUNOFF (INCHES)	21.03		20.88		24.62	
10 PERCENT EXCEEDS	14		17		20	
50 PERCENT EXCEEDS	4.9		4.2		4.6	
90 PERCENT EXCEEDS	1.7		1.3		1.1	

a From rating curve extended above 500 ft<sup>3</sup>/s on basis of slope area measurement of peak flow.

b Corrected to 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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records fair. 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 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.7	36	22	105	36	128	24	64	24	24	16
2	10	7.6	27	20	74	34	79	26	295	38	17	17
3	10	9.2	23	16	58	32	61	25	96	20	16	17
4	11	10	11	18	46	30	51	25	50	19	22	17
5	14	10	.05	20	72	46	48	24	42	28	29	15
6	14	10	.44	21	117	45	73	20	42	12	23	15
7	13	11	.28	21	138	47	78	8.9	36	17	21	15
8	12	11	12	24	91	58	60	8.8	31	17	19	15
9	7.8	11	20	40	64	77	74	4.1	31	21	19	14
10	12	14	21	32	99	66	166	12	30	24	28	14
11	8.4	13	20	26	64	48	81	14	38	25	37	14
12	11	14	19	26	47	38	119	22	95	26	48	13
13	9.5	14	18	24	41	379	76	24	59	24	44	13
14	10	14	134	23	40	152	56	22	60	26	29	21
15	10	15	72	44	40	74	48	22	53	27	18	17
16	9.1	14	41	53	42	63	54	21	37	25	16	13
17	9.0	14	578	56	73	109	47	18	305	24	16	13
18	10	14	290	52	45	85	46	13	27	26	16	11
19	9.9	12	82	216	35	56	41	15	19	25	17	10
20	10	14	56	409	36	45	36	13	31	25	16	11
21	11	13	41	182	34	169	37	17	29	26	14	12
22	11	14	32	88	31	404	39	141	27	25	12	12
23	9.8	13	22	63	36	139	32	36	69	24	14	12
24	10	13	18	52	33	71	33	25	47	24	14	11
25	9.3	12	16	46	63	54	29	25	26	24	15	12
26	9.9	125	8.3	39	96	46	30	33	14	25	15	12
27	8.9	107	3.4	39	55	39	30	35	11	25	15	12
28	9.8	43	4.5	37	44	38	30	39	20	25	15	11
29	9.5	45	10	35	---	37	29	29	14	25	14	12
30	9.0	46	19	158	---	853	28	30	22	23	20	12
31	8.6	---	26	211	---	265	---	41	---	24	15	---
TOTAL	319.5	671.5	1660.97	2113	1719	3635	1739	812.8	1720	743	638	409
MEAN	10.3	22.4	53.6	68.2	61.4	117	58.0	26.2	57.3	24.0	20.6	13.6
MAX	14	125	578	409	138	853	166	141	305	38	48	21
MIN	7.8	7.6	.05	16	31	30	28	4.1	11	12	12	10

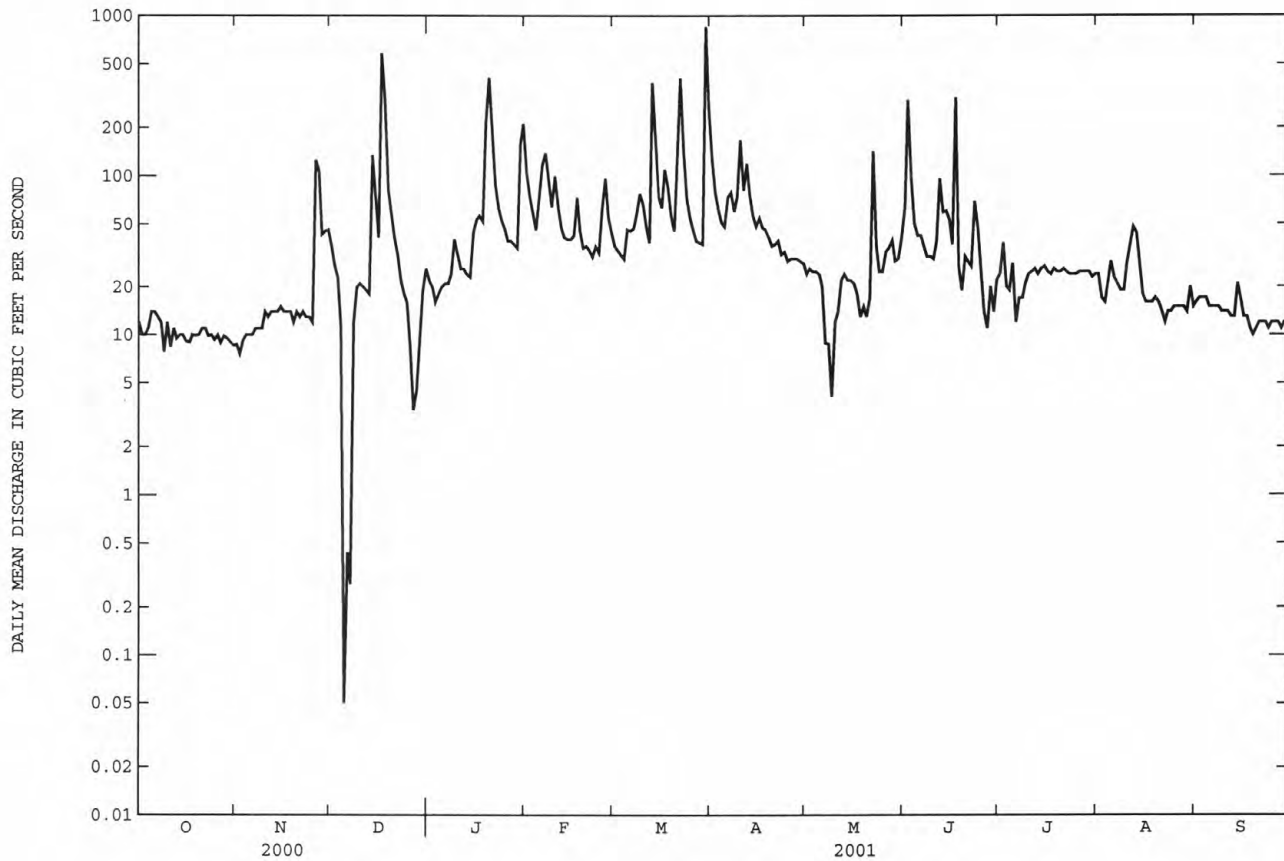
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2001, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	34.6	33.9	61.9	67.1	55.3	82.9	69.3	63.0	43.8	37.7	42.5	43.6	
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	10.3	1.33	5.57	24.2	21.3	44.7	27.4	24.9	3.91	2.70	7.32	13.6	
(WY)	2001	1999	1999	2000	1992	1992	1995	1995	1999	1999	1995	2001	

01405030 LAWRENCE BROOK AT WESTONS MILLS, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1989 - 2001
ANNUAL TOTAL	13099.97	16180.77	
ANNUAL MEAN	35.8	44.3	50.9
HIGHEST ANNUAL MEAN			69.1 1998
LOWEST ANNUAL MEAN			30.6 1995
HIGHEST DAILY MEAN	578 Dec 17	853 Mar 30	2200 Sep 21 1989
LOWEST DAILY MEAN	.05 Dec 5	.05 Dec 5	.00 Aug 19 1995
ANNUAL SEVEN-DAY MINIMUM	8.2 Jul 5	8.9 Oct 27	.00 Aug 19 1995
MAXIMUM PEAK FLOW		1430a Mar 30	4850a Sep 21 1989
MAXIMUM PEAK STAGE		17.41 Mar 30	19.20 Sep 21 1989
INSTANTANEOUS LOW FLOW		.05 many days	.00 Sep 29 1989
10 PERCENT EXCEEDS	73	80	98
50 PERCENT EXCEEDS	21	25	29
90 PERCENT EXCEEDS	9.8	10	8.0

a From rating curve extended above 1,000 ft<sup>3</sup>/s.





## 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 mi<sup>2</sup>.

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 sea level (levels by Duhermal Water System). January 1957 to September 1966 at datum 17.72 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Discharge given herein includes flow through sluice gate when open. Gate open January 23 to March 9 and April 2-3. Some regulation by Lake Manalapan, Helmetta Pond, and DeVoe Lake. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	21	54	35	e100	e60	e360	39	40	26	19	17
2	31	21	43	34	e80	e56	e150	36	159	38	18	17
3	29	21	38	30	e70	e55	103	35	143	24	17	17
4	29	21	34	32	e62	e54	60	34	96	23	20	17
5	46	21	32	33	e135	e53	73	32	32	33	28	17
6	48	21	32	34	e110	e52	86	30	29	38	19	17
7	37	21	31	35	e90	e52	87	28	27	28	18	17
8	31	21	30	36	e80	e54	73	30	25	25	18	17
9	26	21	30	50	e76	e80	79	30	25	23	17	16
10	25	49	28	56	e74	86	155	30	25	22	55	15
11	25	81	30	46	e73	65	139	27	25	21	62	15
12	24	55	33	41	e72	52	160	25	39	21	34	14
13	23	38	32	38	e71	160	126	27	29	21	30	14
14	22	35	64	36	e71	242	69	34	25	20	27	22
15	21	40	103	43	e70	127	73	34	25	20	23	19
16	21	37	84	63	e68	104	75	32	26	20	20	17
17	21	32	164	76	e85	113	75	32	137	19	20	16
18	24	30	260	71	e70	105	67	31	145	45	18	16
19	27	30	143	103	e62	80	60	24	30	75	19	15
20	26	29	84	257	e56	80	56	22	51	40	19	18
21	25	29	61	301	e54	146	62	24	47	26	18	20
22	24	28	50	139	e53	260	59	89	43	21	17	17
23	23	28	42	e90	e52	358	55	99	53	20	19	16
24	23	28	41	e75	e50	183	51	68	65	20	20	16
25	23	28	36	e60	e60	106	46	46	54	19	17	28
26	23	85	31	e50	e120	81	45	43	38	20	17	19
27	24	220	32	e40	e80	71	44	65	31	20	28	17
28	23	133	31	e36	e70	61	42	78	26	19	39	16
29	21	70	29	e36	---	79	40	40	24	19	21	15
30	21	61	34	e100	---	243	39	48	22	19	18	16
31	21	---	32	e140	---	405	---	42	---	19	18	---
TOTAL	821	1355	1768	2216	2114	3723	2609	1254	1536	804	733	513
MEAN	26.5	45.2	57.0	71.5	75.5	120	87.0	40.5	51.2	25.9	23.6	17.1
MAX	48	220	260	301	135	405	360	99	159	75	62	28
MIN	21	21	28	30	50	52	39	22	22	19	17	14
CFSM	.65	1.11	1.40	1.76	1.86	2.95	2.14	.99	1.26	.64	.58	.42
IN.	.75	1.24	1.62	2.03	1.93	3.40	2.38	1.15	1.40	.73	.67	.47

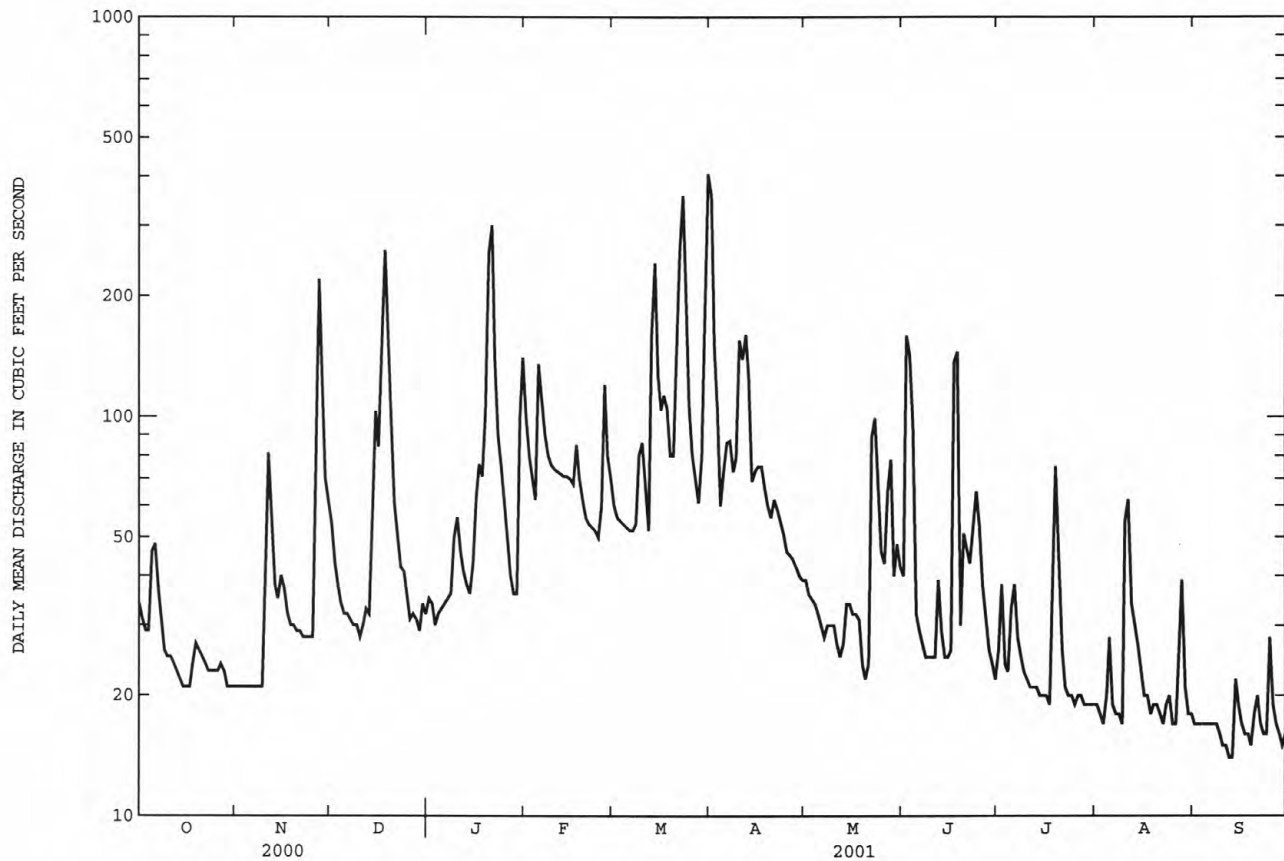
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2001, BY WATER YEAR (WY)

	MEAN	40.1	55.8	73.5	78.8	76.8	91.3	84.3	66.8	46.4	42.3	42.3	40.5
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	21.3	21.4	21.1	29.8	36.3	31.1	26.5	14.8	4.40	5.56	11.6	
(WY)	1983	1999	1999	1981	1992	2000	1985	1977	1999	1966	1966	1965	

01405400 MANALAPAN BROOK AT SPOTSWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1957 - 2001	
ANNUAL TOTAL	15526		19446		61.8	
ANNUAL MEAN	42.4		53.3		101	
HIGHEST ANNUAL MEAN					34.3	
LOWEST ANNUAL MEAN					1390	
HIGHEST DAILY MEAN	260	Dec 18	405	Mar 31	.00	May 30 1968
LOWEST DAILY MEAN	15	Jul 11	14	Sep 12	.64	Jun 16 1957
ANNUAL SEVEN-DAY MINIMUM	16	Jul 19	15	Sep 7	.00	Sep 24 1999
MAXIMUM PEAK FLOW			482	Mar 31	1700	Sep 20 1989
MAXIMUM PEAK STAGE			18.81	Mar 31	20.50	Sep 20 1989
INSTANTANEOUS LOW FLOW			13	many days	.00	Jun 16 1957
ANNUAL RUNOFF (CFSM)	1.04		1.31		1.52	
ANNUAL RUNOFF (INCHES)	14.19		17.77		20.63	
10 PERCENT EXCEEDS	81		103		117	
50 PERCENT EXCEEDS	31		34		44	
90 PERCENT EXCEEDS	19		18		18	

e Estimated



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 mi<sup>2</sup>.

PERIOD OF RECORD.--Miscellaneous measurements made in Water Year 2000. October 1, 2000 to September 30, 2001.

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

REMARKS.--Records fair, except for estimated daily discharges which are poor. 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 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e15	3.4	e45	9.1	43	16	59	14	9.0	6.6	.60	.71
2	e9.0	3.4	e24	9.1	34	15	45	13	47	43	.55	.54
3	e7.0	3.5	e35	9.2	25	14	37	12	32	16	.47	.37
4	e9.0	3.6	e20	9.5	19	13	32	11	17	8.8	.75	.16
5	e50	3.4	e12	9.4	27	21	27	10	11	25	9.1	.16
6	e15	3.4	e8.0	9.4	51	25	27	9.4	8.6	16	3.2	.15
7	e8.0	3.4	7.4	9.6	54	21	34	9.0	7.0	7.4	1.4	.15
8	e8.0	3.4	7.2	10	42	29	30	9.3	5.7	6.5	.81	.14
9	e6.0	3.5	6.7	21	33	33	37	9.6	4.7	7.2	.55	.13
10	e8.0	29	6.4	21	39	35	78	9.8	4.1	4.8	13	.13
11	e8.0	31	7.0	15	31	23	50	9.3	3.7	3.7	24	.12
12	e9.0	15	7.8	13	20	18	54	8.6	14	2.7	10	.12
13	e9.0	10	6.6	12	19	75	46	7.6	8.4	2.2	8.6	.12
14	e8.0	9.7	30	11	18	65	38	6.8	4.7	1.8	8.9	.23
15	e7.0	14	41	19	15	39	32	6.2	4.0	1.6	4.8	5.3
16	e6.0	11	23	34	17	43	37	5.9	4.0	1.6	2.5	3.5
17	e4.0	8.8	55	38	33	45	34	6.1	52	1.8	1.7	1.7
18	e5.5	7.4	75	32	e24	40	31	6.8	44	24	1.3	1.1
19	e9.0	6.5	38	56	e11	29	27	7.2	18	11	1.2	.81
20	e9.0	e6.0	33	117	8.6	22	23	6.6	9.5	4.8	1.2	1.2
21	e7.0	e9.0	24	71	15	36	22	6.8	6.2	3.1	2.0	9.2
22	e8.0	e10	19	44	13	340	22	41	4.8	2.2	1.1	6.5
23	e9.0	e9.0	e16	31	13	116	21	45	30	1.8	1.0	3.2
24	e3.5	e8.0	e17	25	14	53	20	27	53	1.5	8.5	2.0
25	e3.5	e6.0	e16	21	19	41	19	14	23	1.2	3.4	6.4
26	e4.0	e70	e9.0	18	43	33	17	12	12	1.2	1.4	6.4
27	e4.0	e120	9.1	16	27	28	17	19	7.1	1.5	1.2	3.1
28	e3.0	e35	9.1	16	20	23	15	46	3.6	1.5	8.9	1.9
29	e3.0	e35	8.1	14	---	21	14	24	1.3	1.0	4.1	1.5
30	1.8	e30	8.4	34	---	196	14	26	.51	.79	1.6	1.4
31	3.2	---	9.0	65	---	191	---	13	---	.68	1.0	---
TOTAL	259.5	511.4	632.8	819.3	727.6	1699	959	452.0	449.91	212.97	128.83	58.44
MEAN	8.37	17.0	20.4	26.4	26.0	54.8	32.0	14.6	15.0	6.87	4.16	1.95
MAX	50	120	75	117	54	340	78	46	53	43	24	9.2
MIN	1.8	3.4	6.4	9.1	8.6	13	14	5.9	.51	.68	.47	.12

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2001, BY WATER YEAR (WY)

[illegible]

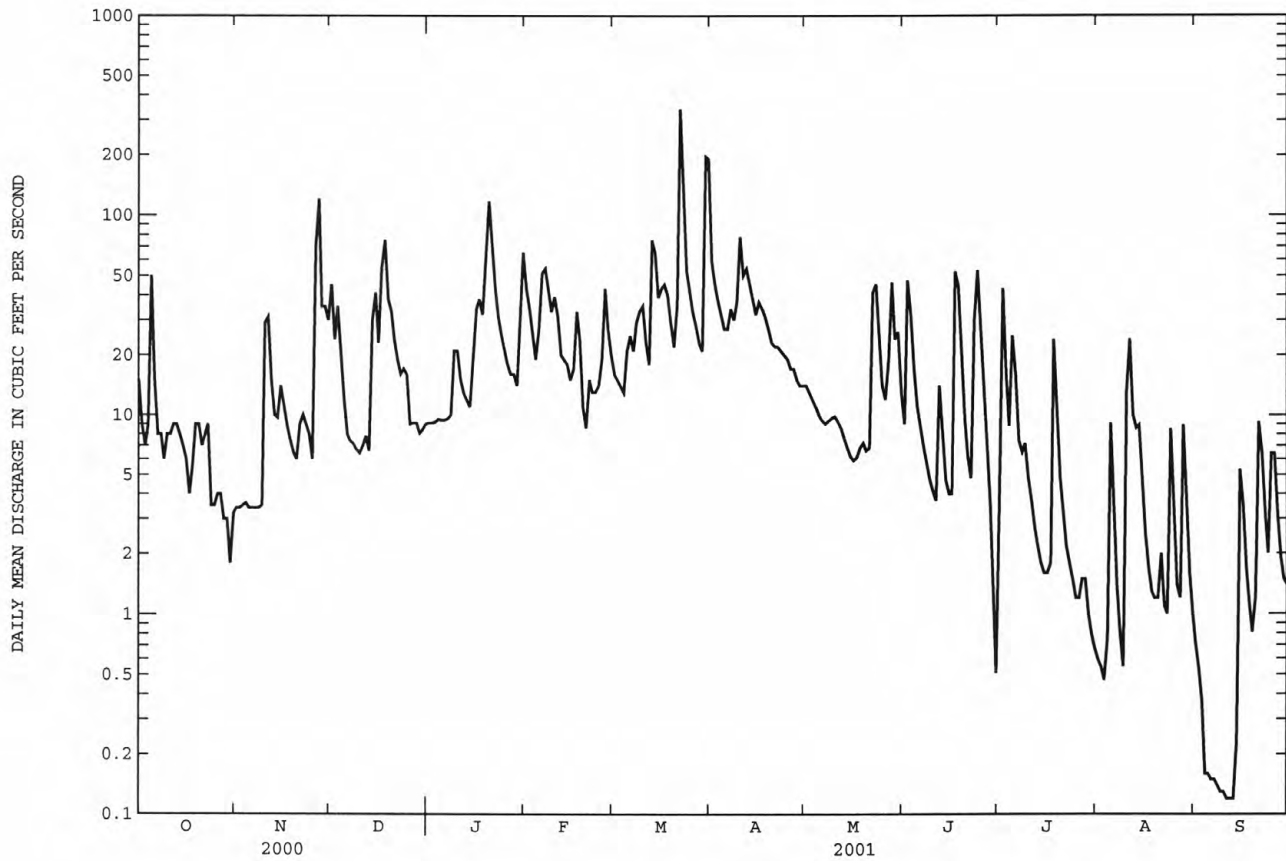
01406050 DEEP RUN AT OLD BRIDGE, NJ--Continued

SUMMARY STATISTICS

FOR 2001 WATER YEAR

ANNUAL TOTAL	6910.75	
ANNUAL MEAN	18.9	
HIGHEST DAILY MEAN	340	Mar 22
LOWEST DAILY MEAN	.12	Sep 11
ANNUAL SEVEN-DAY MINIMUM	.13	Sep 7
MAXIMUM PEAK FLOW	576	Mar 22
MAXIMUM PEAK STAGE	7.68	Mar 22
INSTANTANEOUS LOW FLOW	.12	Sep 11
10 PERCENT EXCEEDS	43	
50 PERCENT EXCEEDS	9.6	
90 PERCENT EXCEEDS	1.3	

e Estimated



## 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 mi<sup>2</sup>.

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) elevation, add 0.99 ft. To determine elevations to Mean Lower Low Water Datum elevation, based on data from National Ocean Service station 8531232, add 3.18 ft.

REMARKS.--Record effected by frozen well, Dec.23 to Jan. 5. 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, 5.08 ft (NAVD of 1988), Sept. 26, 2000; minimum recorded, -5.26 ft (NAVD of 1988), Feb. 6, 2001, 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, 4.90 ft (NAVD of 1988), Nov. 26; minimum recorded, -5.26 ft (NAVD of 1988), Feb. 6.

Summaries of tide elevations during the 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	3.80	4.90	4.03	3.87	3.96	4.90	3.88	3.91	4.17	4.14	4.14	4.16
high tide	Date	16	26	14	9	9	7	7	23	22	19	19	30
Minimum	Elevation	-4.37	-5.22	-5.25	-4.59	-5.26	-4.95	-4.09	-3.90	-3.71	-3.79	-3.76	-3.57
low tide	Date	11	23	12	11	6	12	6	4	21	24	18, 21	18
Mean high tide		2.42	2.41	---	2.34	1.92	2.44	2.43	2.55	2.57	2.58	2.56	2.74
Mean water level		-.07	-.09	---	-.07	-.61	-.05	-.13	.07	.00	.06	.04	.26
Mean low tide		-2.64	-2.63	---	---	-3.35	-2.69	-2.83	-2.60	-2.70	-2.59	-2.58	-2.35



## 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 mi<sup>2</sup>. PERIOD OF RECORD, November 1963 to current year. GAGE, water-stage recorder. Datum of gage is sea level.

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, 11,170,000,000 gal, June 2, elevation, 273.31 ft; minimum observed, 7,070,000,000 gal, Sep. 30, elevation, 262.43 ft.

REVISED RECORDS.--WDR NJ-84-1: (M). WDR NJ-85-1: 1984.

01397050 ROUND VALLEY RESERVOIR.--Lat 40°36'39", long 74°50'42", Hunterdon County, Hydrologic Unit 02030105, at main dam on Prescott Brook, 1.8 mi south of Lebanon, 3.2 mi upstream from mouth, and 4.5 mi west of Whitehouse. DRAINAGE AREA, 5.7 mi<sup>2</sup>. PERIOD OF RECORD, March 1966 to current year. Nonrecording gage read daily. Datum of gage is sea level.

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, 55,360,000,000 gal, June 4, elevation, 385.41 ft; minimum observed, 54,260,000,000 gal, Dec. 13, elevation, 384.06 ft.

REVISED RECORDS.--WDR NJ-85-1: 1984.

## MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01396790 SPRUCE RUN RESERVOIR				01397050 ROUND VALLEY RESERVOIR		
Sept. 30.....	272.98	11,000	--	384.66	54,680	--
Oct. 31.....	271.82	10,490	-25.5	384.34	54,440	-12.0
Nov. 30.....	271.44	10,330	-8.3	384.21	54,360	-4.1
Dec. 31.....	271.83	10,490	+8.0	384.24	54,370	+5
CAL YR 2000			+2.1			+47.7
Jan. 31.....	271.31	10,270	-11.0	384.41	54,510	+7.0
Feb. 28.....	273.09	11,060	+43.6	384.62	54,660	+8.3
Mar. 31.....	273.20	11,120	+3.0	385.02	55,020	+18.0
Apr. 30.....	272.98	11,000	-6.2	385.01	55,010	-5
May 31.....	272.97	11,000	0	385.25	55,250	+12.0
June 30.....	273.03	11,020	+1.0	385.11	55,110	-7.2
July 31.....	271.15	10,200	-40.9	384.94	54,940	-8.5
Aug. 31.....	267.20	8,730	-73.4	385.03	55,030	+4.5
Sept. 30.....	262.43	7,070	-85.6	384.91	55,410	+19.6
WTR YR 2001			-16.6			+3.1

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01397050 ROUND VALLEY RESERVOIR			
Sept. 30.....	379.51a	50,910a	--
Oct. 31.....	380.07a	51,240a	+16.5a
Nov. 30.....	380.19a	51,300a	+3.1a
Dec. 31.....	380.15a	51,280a	-1.0a
CAL YR 1995			-7.9a
Jan. 31.....	380.78a	51,740a	+23.0a
Feb. 28.....	381.02a	51,910a	+9.4a
Mar. 31.....	381.40a	52,100a	+9.5a
Apr. 30.....	382.04a	52,620a	+26.8a
May 31.....	382.34a	52,840a	+11.0a
June 30.....	382.56a	53,060a	+11.3a
July 31.....	382.98a	53,380a	+16.0a
Aug. 31.....	382.84a	53,240a	-7.0a
Sept. 30.....	382.86a	53,260a	+1.0a
WTR YR 1996			+9.9a

a Corrected figures for water year 1996.

† 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 ft<sup>3</sup>/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 2000 TO SEPTEMBER 2001

MONTH	01396920 Hamden pumping station	01399669 Whitehouse Release	01400509 Raritan and Millstone Rivers	01400836 Carnegie Lake	01402910 Ten Mile Lock diversion	01405029 Westons Mills	01460570 Delaware and Raritan Canal
October .....	0	0	192	0	-40.5	2.92	0
November .....	0	0	185	0	-41.0	2.41	0
December .....	0	0	188	0	-44.4	8.33	0
CAL YR 2000	42.6	.79	195	0	-30.2	3.88	.37
January .....	0	0	193	0	-36.0	2.34	0
February .....	0	0	190	0	-40.2	2.76	0
March .....	0	0	187	0	-41.7	2.50	0
April .....	0	6.29	191	0	-42.0	3.26	0
May .....	0	0	204	0	-18.0	10.9	27.9
June .....	0	22.5	182	0	-13.4	8.35	45.9
July .....	0	6.44	192	0	0	8.76	46.9
August .....	0	0	215	0	-3.1	4.29	35.8
September ...	0	0	189	0	-1.4	4.22	37.1
WTR YR 2001	0	2.91	192	0	-26.8	5.10	16.2

## WAACKAACK CREEK BASIN

147

01407080 WAACKAACK CREEK AT KEANSBURG, NJ

LOCATION.--Lat 40°26'55", long 74°08'52", Monmouth County, Hydrologic Unit 02030104, on left bank at Bayshore Flood Control Station in Keansburg, 200 ft upstream from tide gate, and 0.3 mi downstream from bridge on Laurel Avenue.

DRAINAGE AREA.--8.03 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1997 to January 1999 (unpublished fragmentary gage-height record), February 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 corresponding National Geodetic Vertical Datum of 1929 (NGVD of 1929) elevation, add 1.18 ft.

REMARKS.--No gage height record for portions of December 23 to January 13. Gage cannot measure a tide level of less than -2.62 ft (NAVD of 1988). Monthly minimum elevations, monthly mean low tides, and monthly mean water levels are undetermined for this period. Some regulation by tide gate and pumps at Bayshore Flood Control Station. 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 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, 3.44 ft (NAVD of 1988), Sept. 20, 2001.

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 CURRENT YEAR.--Maximum elevation recorded, 3.44 ft (NAVD of 1988), Sept. 20. Minimum elevation recorded, -2.82 ft (NAVD of 1988) Apr. 9, 10 and June 25.

Summaries of tide elevations during the 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	3.25	3.41	3.18	---	3.23	2.78	3.13	3.14	3.16	3.14	3.18	3.44
high tide	Date	28	12	---	---	9	12	7	26	24	20	21	20
Minimum	Elevation	---	---	---	---	---	---	---	---	---	---	---	---
low tide	Date	---	---	---	---	---	---	---	---	---	---	---	---
Mean high tide		2.35	2.25	---	---	1.78	---	2.20	2.33	2.36	2.38	2.36	1.21
Mean water level		.01	-.03	---	---	-.51	---	-.13	.02	-.06	.01	.01	.19
Mean low tide		-2.26	-2.18	---	---	-2.51	---	-2.40	-2.46	-2.44	-2.36	-2.32	-2.11

## 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 mi<sup>2</sup>.

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 sea level. Prior to Jan. 19, 1962, at site 800 ft upstream at datum 17.67 ft lower. Jan. 19 to Mar. 30, 1962, nonrecording gage, 700 ft upstream at datum 13.87 ft lower.

REMARKS.--Records good above 200 ft<sup>3</sup>/s, and fair below 200 ft<sup>3</sup>/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 ft<sup>3</sup>/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	.00	27	11	65	31	165	33	18	1.7	.05	.05
2	16	.00	21	9.3	44	30	119	34	95	8.7	.05	.05
3	15	.00	18	8.1	39	28	102	30	72	7.4	.05	.05
4	13	.00	15	7.7	32	27	90	23	36	5.6	.05	.05
5	28	.00	14	7.5	81	59	78	21	25	76	.05	.05
6	32	.00	13	7.4	122	60	82	18	19	43	.05	.05
7	23	.00	12	6.9	98	43	89	17	17	21	.05	.05
8	17	.00	11	7.1	69	46	94	16	13	18	.05	.05
9	14	.00	10	14	56	56	102	16	9.2	20	.05	.05
10	11	1.7	8.7	18	60	50	262	15	5.5	17	.05	.05
11	9.2	8.8	9.0	17	43	35	118	13	3.3	12	.05	.05
12	7.5	10	9.2	16	35	28	142	11	3.3	7.7	.05	.05
13	6.3	9.9	7.3	15	37	253	106	8.6	2.6	4.5	.05	.05
14	4.9	11	24	14	37	126	80	6.2	2.0	2.4	.05	.05
15	3.8	15	48	16	38	62	69	4.5	1.6	1.1	.05	.05
16	3.0	14	38	24	37	78	85	3.3	1.6	.25	.05	.05
17	2.6	13	205	37	65	73	74	3.1	198	.09	.05	.05
18	2.8	11	207	37	39	60	68	3.1	167	213	.05	.05
19	3.8	9.0	62	158	30	42	59	3.3	41	68	.05	.05
20	3.1	7.7	45	357	26	36	53	2.2	25	26	.05	.05
21	2.3	7.8	33	150	28	216	59	2.4	18	15	.05	.05
22	1.4	6.5	33	63	26	1140	60	17	18	8.7	.05	.05
23	.78	4.9	22	45	31	359	52	54	24	4.3	.05	.05
24	.46	3.8	18	39	31	130	51	48	48	1.8	.05	.05
25	.23	3.0	16	36	38	85	44	39	32	.46	.05	.05
26	.12	78	13	32	67	74	44	38	20	.06	.05	.05
27	.02	135	11	32	42	66	47	38	15	.05	.05	.05
28	.00	52	9.9	28	34	60	43	38	9.5	.05	.05	.05
29	.00	36	8.3	23	---	58	37	29	5.1	.05	.05	.05
30	.00	36	11	95	---	1080	35	34	2.6	.05	.05	.05
31	.00	---	12	149	---	423	---	21	---	.05	.05	---
TOTAL	240.31	474.10	991.4	1480.0	1350	4914	2509	639.7	947.3	584.01	1.55	1.50
MEAN	7.75	15.8	32.0	47.7	48.2	159	83.6	20.6	31.6	18.8	.050	.050
MAX	32	135	207	357	122	1140	262	54	198	213	.05	.05
MIN	.00	.00	7.3	6.9	26	27	35	2.2	1.6	.05	.05	.05

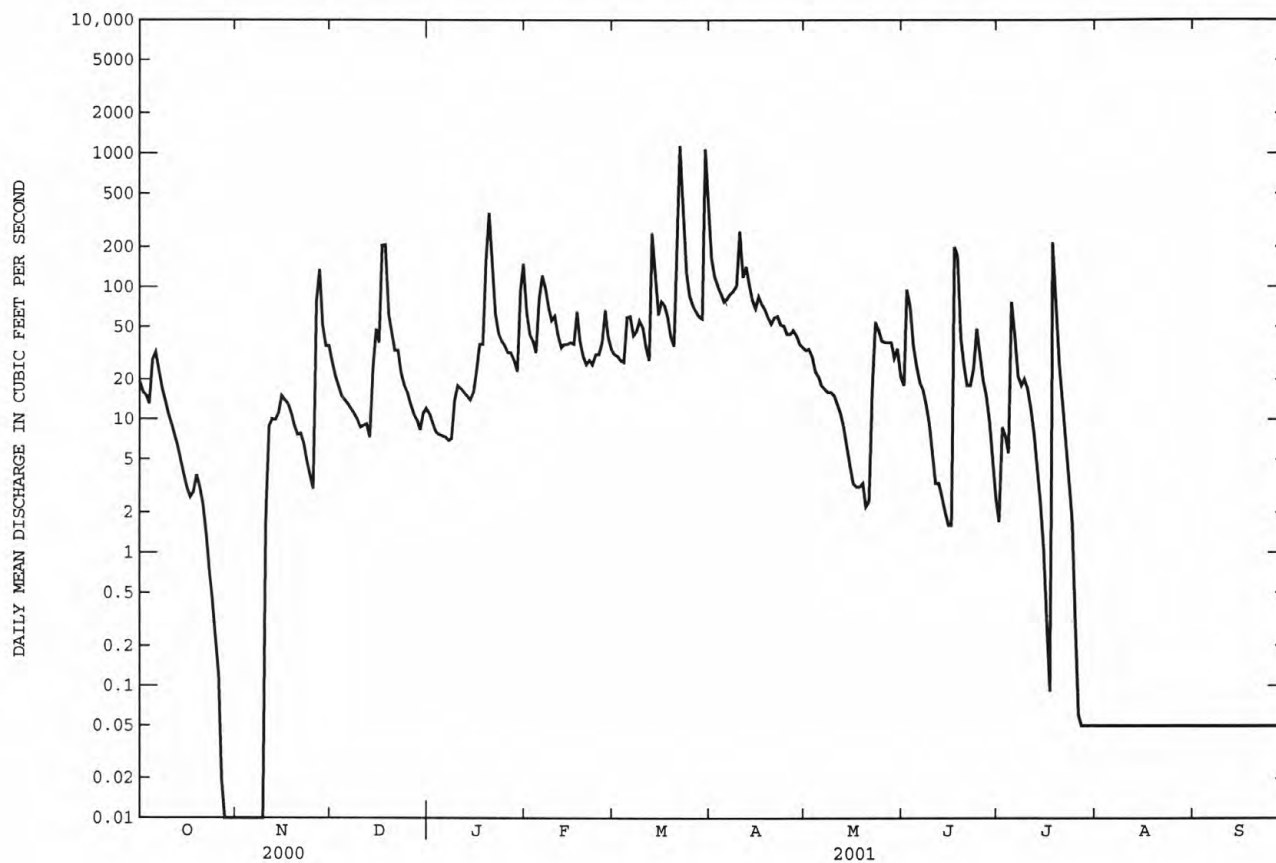
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

	MEAN	37.7	53.1	66.6	78.7	90.0	103	90.8	69.4	46.6	38.4	36.9	36.8
MAX	163	208	196	248	201	216	209	227	135	187	128	210	
(WY)	1944	1973	1978	1978	1979	1994	1980	1998	1972	1938	1955	1938	
MIN	.000	.000	.000	.000	1.19	18.1	2.93	4.07	.000	.000	.000	.000	
(WY)	1971	1981	1981	1981	1989	1985	1962	1985	1985	1966	1957	1980	

01407500 SWIMMING RIVER NEAR RED BANK, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1922 - 2001
ANNUAL TOTAL	10556.60	14132.87	
ANNUAL MEAN	28.8	38.7	62.2
HIGHEST ANNUAL MEAN			123
LOWEST ANNUAL MEAN			9.76
HIGHEST DAILY MEAN	352 Apr 22	1140 Mar 22	3050 Oct 27 1943
LOWEST DAILY MEAN	.00 Jul 1	.00 Oct 28	.00 Jun 22 1923
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 1	.00 Oct 28	.00 Jul 16 1955
MAXIMUM PEAK FLOW		2020 Mar 30	8910a Oct 27 1943
MAXIMUM PEAK STAGE		6.34 Mar 30	8.96 Oct 27 1943
10 PERCENT EXCEEDS	58	81	120
50 PERCENT EXCEEDS	16	15	44
90 PERCENT EXCEEDS	.00	.05	.30

a From rating curve extended above 1,000 ft<sup>3</sup>/s on basis of weir formula, site and datum then in use.





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.

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 1.20 ft. To determine approximate elevations to Mean Lower Low Water datum elevation, based on data from National Ocean Service station 8531804, add 2.01 ft.

REMARKS.--No gage height record for portions of December 23 to January 6. Gage cannot measure a tide level of less than -1.92 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 dash (---) lines. Satellite stage telemetry at station.

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.

Summaries of tide elevations during the year are as follows:

[illegible]

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ

LOCATION.--Lat 40°11'56", long 74°04'14", Monmouth County, Hydrologic Unit 02030104, on left bank 100 ft upstream from bridge on Remsen Mill Road, 0.3 mi downstream from Robins Swamp Brook, and 1.7 mi west of Neptune City.

DRAINAGE AREA.--9.96 mi<sup>2</sup>.

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

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

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversion above station by New Jersey-American Water Co. for municipal supply (see Atlantic Coastal Basins, diversions from) and by farmers for irrigation. Entire flow from 0.34 mi<sup>2</sup> of drainage area, subsequent to November 1962, controlled by Glendola Reservoir (capacity 1,000 million gal) on Robins Swamp Brook, 0.6 mi southwest of gage. Water also pumped into Glendola Reservoir from Manasquan River or Reservoir subsequent to July 1990 (see Atlantic Coastal Basins, diversions from). Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by New Jersey-American Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	5.0	10	4.6	14	10	36	7.4	5.6	10	3.2	5.0
2	9.1	5.2	5.8	4.6	11	9.8	20	7.1	46	6.7	3.1	2.9
3	8.4	3.4	5.1	4.5	9.3	9.1	17	6.2	22	3.9	3.3	2.6
4	9.0	4.4	4.5	4.3	7.7	9.4	15	5.2	5.9	4.3	2.2	3.3
5	24	4.4	8.0	3.9	45	23	14	4.7	3.3	22	2.6	3.4
6	13	6.0	5.8	4.2	52	16	15	4.1	5.1	4.4	2.5	2.9
7	9.1	6.8	5.6	4.2	31	15	15	4.2	5.4	3.3	3.9	2.7
8	6.3	2.9	5.4	8.5	16	14	15	4.0	5.4	6.0	3.4	2.6
9	6.0	2.0	4.9	20	13	16	17	4.3	5.8	4.1	3.2	2.5
10	6.3	97	4.5	11	13	15	37	4.0	5.6	2.6	3.9	3.4
11	7.1	24	5.8	7.4	11	13	18	3.3	4.4	2.3	5.1	3.6
12	6.9	13	4.6	6.0	11	11	30	4.1	4.0	3.1	6.9	2.5
13	6.2	7.3	3.3	5.5	12	63	17	5.0	3.7	3.8	14	2.9
14	4.2	9.8	23	5.1	11	23	15	4.7	4.5	3.2	17	6.1
15	4.0	9.4	6.5	13	11	15	13	4.4	4.6	4.7	4.0	2.3
16	4.0	3.6	5.8	11	12	18	15	5.7	7.9	5.5	3.0	4.0
17	4.5	2.9	32	8.9	18	15	15	5.1	392	5.6	2.6	3.6
18	5.2	3.0	31	5.1	12	14	19	5.8	96	43	3.3	3.2
19	5.6	5.1	9.1	54	11	13	16	4.1	16	5.9	5.3	3.2
20	3.9	7.2	5.1	92	11	12	15	4.2	8.3	5.2	31	4.3
21	4.6	5.6	2.9	44	10	52	15	4.3	5.4	3.9	4.8	7.9
22	5.0	5.1	2.7	16	9.2	236	15	30	4.7	3.6	3.7	3.9
23	4.8	4.7	3.7	11	10	107	12	12	4.5	4.3	3.4	5.7
24	5.0	6.7	6.0	11	9.8	31	10	6.3	7.3	3.9	3.5	3.7
25	3.1	5.9	5.5	10	16	17	10	4.9	4.6	3.5	4.5	8.8
26	4.0	87	4.2	8.8	16	15	9.3	9.1	4.7	4.1	3.1	4.6
27	3.8	47	5.0	9.0	13	14	9.2	8.3	4.4	3.1	4.3	2.9
28	4.7	12	4.5	8.7	11	13	8.6	12	3.9	2.9	3.6	3.3
29	4.7	6.8	4.0	7.8	---	13	7.8	8.1	4.8	5.2	3.6	4.6
30	3.8	18	5.1	37	---	369	7.3	6.7	4.7	2.9	5.0	4.4
31	4.8	---	4.8	25	---	98	---	5.1	---	3.4	5.2	---
TOTAL	200.9	421.2	234.2	466.1	427.0	1299.3	478.2	204.4	700.5	190.4	168.2	116.8
MEAN	6.48	14.0	7.55	15.0	15.2	41.9	15.9	6.59	23.4	6.14	5.43	3.89
MAX	24	97	32	92	52	369	37	30	392	43	31	8.8
MIN	3.1	2.0	2.7	3.9	7.7	9.1	7.3	3.3	3.3	2.3	2.2	2.3

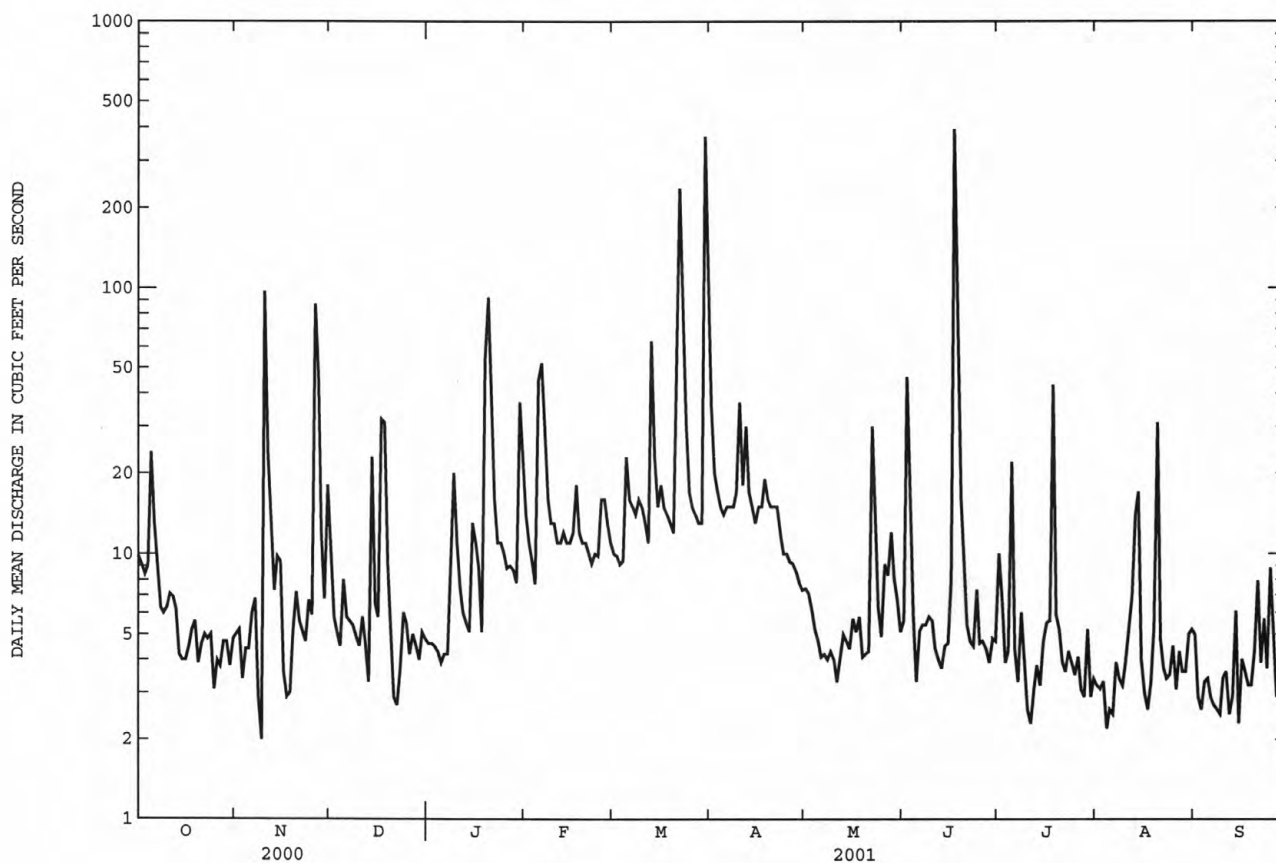
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

MEAN	9.86	12.8	16.4	18.2	16.4	22.5	19.6	16.3	9.45	9.77	10.8	9.04
MAX	34.0	31.7	44.2	41.1	42.4	56.3	48.3	50.9	23.4	30.1	29.2	22.6
(WY)	1990	1978	1970	1978	1998	1993	1983	1998	2001	1984	1992	1989
MIN	2.81	1.73	4.07	3.57	3.79	6.53	6.39	3.51	2.13	3.47	3.11	1.28
(WY)	1982	1982	1999	1981	1974	1986	1985	1986	1986	1985	1995	1988

## SHARK RIVER BASIN

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1967 - 2001	
ANNUAL TOTAL	4014.0		4907.2		14.3	
ANNUAL MEAN	11.0		13.4		24.9	1984
HIGHEST ANNUAL MEAN					6.80	1995
LOWEST ANNUAL MEAN					560	Dec 26 1969
HIGHEST DAILY MEAN	142	Jul 26	392	Jun 17	.00	Sep 20 1981
LOWEST DAILY MEAN	2.0	Nov 9	2.0	Nov 9	.70	Sep 26 1988
ANNUAL SEVEN-DAY MINIMUM	2.4	Mar 4	2.9	Sep 3	1170	Aug 18 1992
MAXIMUM PEAK FLOW			1150	Jun 17	6.59	Aug 18 1992
MAXIMUM PEAK STAGE			6.55	Jun 17	.00	Aug 20 1978
INSTANTANEOUS LOW FLOW			.39	Jul 27	28	
10 PERCENT EXCEEDS	21		21		8.0	
50 PERCENT EXCEEDS	6.2		5.8		2.6	
90 PERCENT EXCEEDS	3.6		3.3			



## SHARK RIVER BASIN

153

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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records good except those above 300 ft<sup>3</sup>/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 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	2.8	5.2	3.4	7.5	4.5	17	4.4	4.1	8.3	1.6	2.6
2	3.9	2.6	4.2	3.4	5.9	4.5	13	4.2	50	10	1.5	2.0
3	3.9	2.4	3.9	3.3	5.0	4.3	10	3.8	28	3.5	1.5	1.8
4	6.7	2.7	3.8	3.3	4.6	4.6	8.9	3.9	7.2	3.1	1.5	1.8
5	22	2.7	3.7	3.3	33	22	8.1	3.8	5.4	26	1.8	1.9
6	6.2	2.6	3.6	3.6	28	12	9.3	3.7	4.5	5.2	1.5	1.7
7	4.6	2.4	3.5	3.6	15	7.8	9.1	3.7	4.2	3.3	2.1	1.6
8	4.0	2.6	3.3	6.7	8.3	7.1	11	3.5	3.6	6.7	1.2	1.4
9	3.7	2.5	3.3	14	6.7	11	13	3.5	2.8	4.8	1.2	1.5
10	3.6	85	3.4	6.5	6.4	7.6	23	3.6	2.7	3.3	1.9	2.2
11	3.8	11	4.4	4.7	5.4	5.5	11	3.1	2.9	2.7	2.6	7.6
12	3.4	5.4	3.7	4.4	4.8	4.8	19	3.2	2.6	2.3	7.3	2.3
13	2.9	4.3	3.2	4.0	5.6	45	10	3.2	2.3	2.2	19	1.8
14	3.0	5.9	18	3.9	5.0	11	8.1	2.8	2.6	2.0	17	7.8
15	2.9	6.8	7.9	11	4.8	9.7	7.3	2.8	2.3	1.8	4.1	4.4
16	2.9	4.5	6.5	10	6.8	13	9.3	2.8	5.9	1.8	2.6	2.4
17	3.0	3.9	20	8.1	13	8.2	7.4	3.1	274	2.1	2.2	2.1
18	4.0	3.6	13	6.3	5.9	7.0	12	3.1	40	53	2.1	1.9
19	4.2	3.4	5.8	40	4.8	5.7	7.8	3.3	11	7.9	2.0	1.7
20	3.2	3.4	5.1	50	4.7	5.5	7.0	2.9	7.5	3.9	37	3.1
21	3.1	4.1	4.2	19	4.3	48	6.6	4.4	5.7	2.9	7.6	13
22	3.0	3.4	4.4	8.9	4.6	195	6.5	36	4.7	2.5	3.2	5.2
23	2.9	3.2	4.0	6.8	5.2	39	6.1	17	4.1	2.1	2.9	5.9
24	2.9	3.0	3.7	5.9	5.1	14	6.0	8.6	6.6	1.9	5.4	2.9
25	2.9	3.0	3.5	5.5	11	10	8.1	5.8	4.3	1.9	2.7	6.8
26	2.9	63	3.2	5.1	12	9.6	5.2	4.7	3.4	4.6	2.1	3.4
27	3.1	17	3.3	5.0	5.9	8.2	5.0	4.2	2.9	3.2	4.2	2.4
28	3.1	6.8	3.3	5.0	5.0	7.2	4.9	5.9	2.5	2.2	3.3	2.2
29	2.9	5.6	3.1	4.5	---	7.0	4.7	4.8	2.3	2.1	2.2	2.3
30	2.9	8.6	3.6	28	---	329	4.6	3.9	2.4	1.8	2.1	5.7
31	2.7	---	3.6	16	---	37	---	3.3	---	1.7	3.1	---
TOTAL	128.5	278.2	165.4	303.2	234.3	904.8	279.0	167.0	502.5	180.8	150.5	103.4
MEAN	4.15	9.27	5.34	9.78	8.37	29.2	9.30	5.39	16.8	5.83	4.85	3.45
MAX	22	85	20	50	33	329	23	36	274	53	37	13
MIN	2.7	2.4	3.1	3.3	4.3	4.3	4.6	2.8	2.3	1.7	1.2	1.4

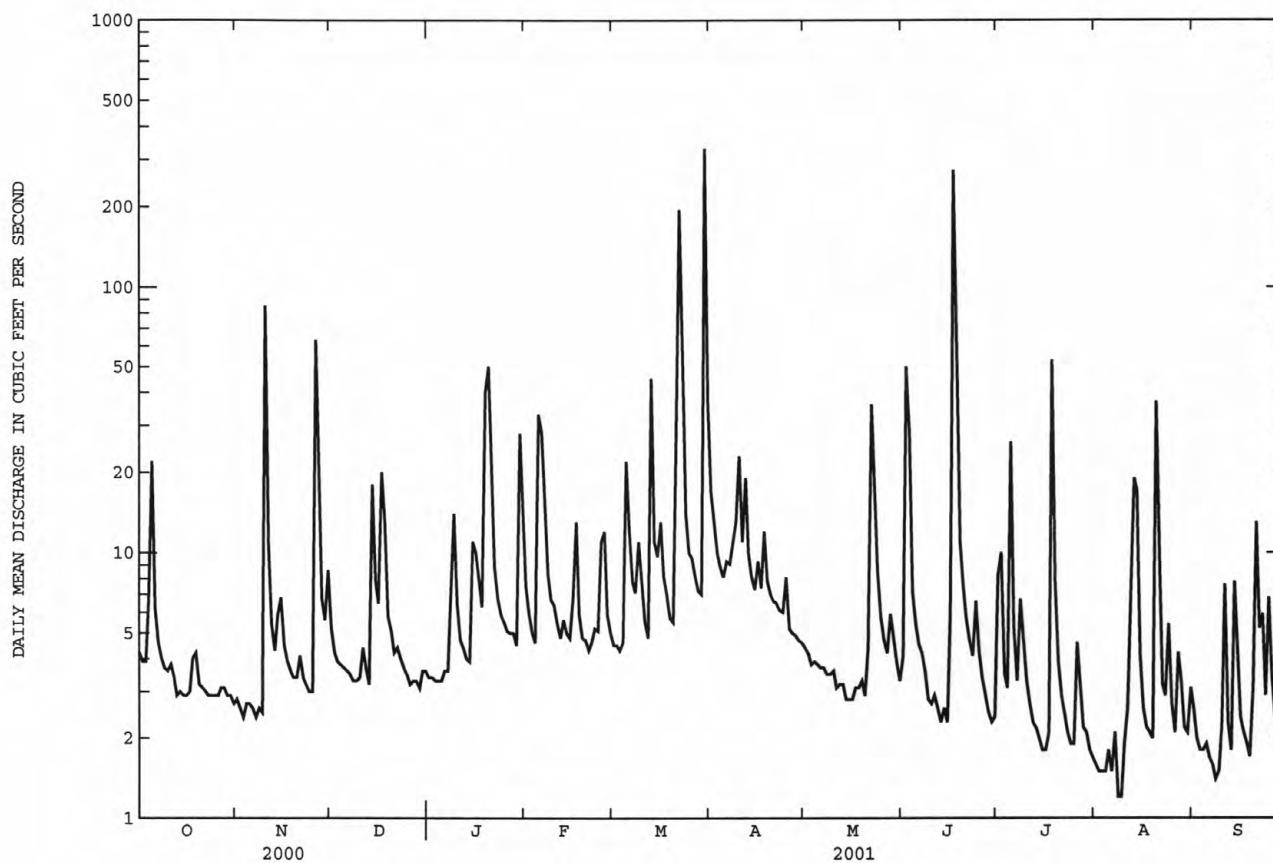
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

	6.94	8.74	10.4	12.6	11.6	14.6	13.8	12.2	7.18	7.22	7.48	6.92
MEAN	6.94	8.74	10.4	12.6	11.6	14.6	13.8	12.2	7.18	7.22	7.48	6.92
MAX	34.5	47.3	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	3.53	3.86	3.29	2.08	2.11	2.44	1.52	1.25
(WY)	1982	1982	1981	1981	1968	1985	1985	1977	1986	1988	1982	1982

## SHARK RIVER BASIN

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1967 - 2001
ANNUAL TOTAL	3000.0	3397.6	
ANNUAL MEAN	8.20	9.31	9.97
HIGHEST ANNUAL MEAN			20.4
LOWEST ANNUAL MEAN			4.05
HIGHEST DAILY MEAN	230 Jul 26	329 Mar 30	954 Jan 21 1979
LOWEST DAILY MEAN	1.0 Jul 12	1.2 Aug 8	.12 Sep 15 1981
ANNUAL SEVEN-DAY MINIMUM	1.3 Jul 7	1.5 Aug 3	.51 Oct 7 1966
MAXIMUM PEAK FLOW		724 Jun 17	1830a Sep 12 1971
MAXIMUM PEAK STAGE		7.09 Jun 17	7.43 Aug 18 1992
INSTANTANEOUS LOW FLOW		.87 Aug 8	.00 Jun 7 1971
10 PERCENT EXCEEDS	15	14	18
50 PERCENT EXCEEDS	4.0	4.3	4.9
90 PERCENT EXCEEDS	2.6	2.2	2.0

a From rating curve extended above 150 ft<sup>3</sup>/s.



## MANASQUAN RIVER BASIN

155

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 mi<sup>2</sup>.

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 sea level. 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 ft<sup>3</sup>/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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 22	0900	998	7.19	Jun 17	1700	781	6.40
Mar 30	2145	*1,320	*8.27				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	28	52	39	88	66	173	57	33	33	22	21
2	47	28	47	38	74	63	132	56	102	62	21	19
3	45	28	43	35	67	61	115	52	61	31	20	19
4	43	28	40	37	60	59	105	50	43	30	21	19
5	100	28	39	37	111	62	99	49	36	93	34	22
6	57	28	38	38	147	71	94	47	33	41	22	19
7	47	27	37	38	125	74	98	44	32	33	20	18
8	42	28	36	38	97	75	93	43	30	32	19	18
9	40	28	35	76	82	75	93	42	28	34	18	18
10	39	131	34	55	82	80	151	42	27	29	19	18
11	38	64	39	46	73	78	106	41	25	27	35	37
12	36	43	38	44	68	73	132	39	26	26	27	19
13	35	39	34	42	66	191	111	38	24	25	60	18
14	35	41	83	40	66	120	104	36	24	23	56	35
15	34	52	67	50	65	88	94	35	24	23	27	31
16	32	36	48	69	63	110	91	34	30	22	24	20
17	32	33	164	72	99	95	90	33	383	22	23	20
18	34	31	177	64	71	87	87	33	184	225	22	19
19	41	29	84	139	62	75	82	33	64	66	22	19
20	33	29	69	284	60	71	78	33	48	41	52	19
21	32	33	59	142	59	144	75	34	43	34	26	45
22	31	30	56	97	56	834	73	75	39	31	23	28
23	30	29	50	79	56	321	72	68	55	28	22	25
24	31	28	47	71	56	153	70	48	64	27	25	21
25	31	28	45	68	59	120	69	42	40	26	21	30
26	30	180	40	64	101	106	66	41	35	31	20	24
27	30	121	41	62	79	95	64	42	31	31	24	21
28	30	68	40	60	69	87	63	44	28	25	47	20
29	28	55	38	57	---	82	61	39	26	24	23	20
30	28	68	39	113	---	796	59	42	26	23	21	20
31	28	---	41	135	---	497	---	34	---	23	24	---
TOTAL	1189	1419	1700	2229	2161	4909	2800	1346	1644	1221	840	682
MEAN	38.4	47.3	54.8	71.9	77.2	158	93.3	43.4	54.8	39.4	27.1	22.7
MAX	100	180	177	284	147	834	173	75	383	225	60	45
MIN	28	27	34	35	56	59	59	33	24	22	18	18
CFSM	.87	1.07	1.25	1.63	1.75	3.60	2.12	.99	1.25	.90	.62	.52
IN.	1.01	1.20	1.44	1.88	1.83	4.15	2.37	1.14	1.39	1.03	.71	.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2001, BY WATER YEAR (WY)

	MEAN	50.5	68.6	80.7	89.8	95.7	113	99.6	79.3	57.1	51.6	50.8	51.4
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	22.1	22.3	24.5	30.7	37.8	47.2	38.6	38.8	26.6	19.9	16.7	16.7	
(WY)	1964	1966	1999	1981	1992	1985	1995	1955	1957	1966	1932	1932	

## MANASQUAN RIVER BASIN

01408000 MANASQUAN RIVER AT SQUANKUM, NJ--Continued

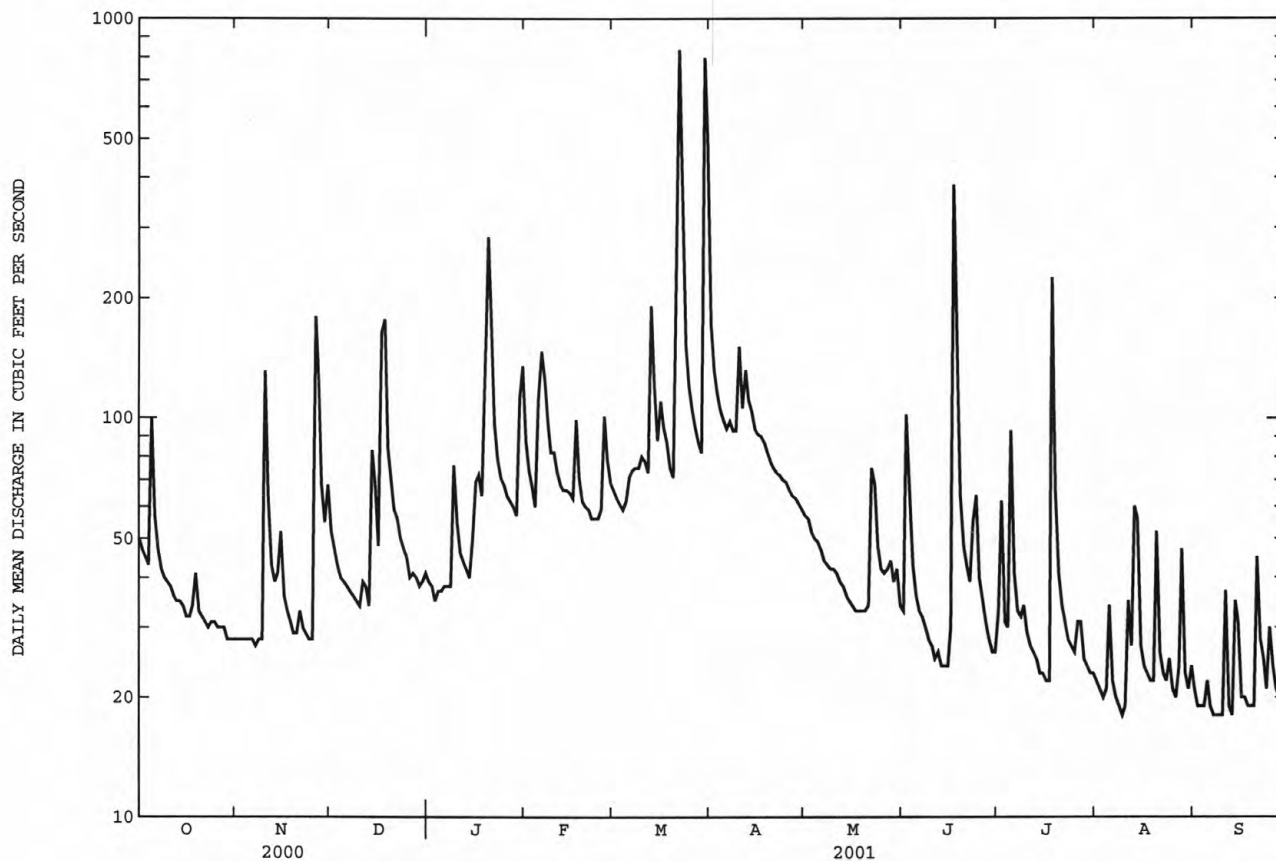
## SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1932 - 2001

ANNUAL TOTAL	19507	22140	73.9	
ANNUAL MEAN	53.3	60.7	131	1978
HIGHEST ANNUAL MEAN			40.2	1995
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	261	834	1720	Nov 8 1977
LOWEST DAILY MEAN	16	18	10	Dec 5 1998
ANNUAL SEVEN-DAY MINIMUM	18	19	13	Sep 7 1995
MAXIMUM PEAK FLOW		1320	2940	Sep 21 1938
MAXIMUM PEAK STAGE		8.27	12.45	Sep 21 1938
INSTANTANEOUS LOW FLOW		17	8.1	Aug 6 1981
ANNUAL RUNOFF (CFSM)	1.21	1.38	1.68	
ANNUAL RUNOFF (INCHES)	16.49	18.72	22.82	
10 PERCENT EXCEEDS	88	103	130	
50 PERCENT EXCEEDS	42	41	54	
90 PERCENT EXCEEDS	28	22	26	



## MANASQUAN RIVER BASIN

157

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 mi<sup>2</sup>.

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 sea level (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 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	18	49	60	98	62	332	65	27	28	12	13
2	43	19	50	59	95	60	225	59	98	78	13	12
3	40	18	44	56	80	58	170	57	70	24	13	13
4	38	20	43	56	68	58	143	50	46	18	12	15
5	125	20	38	54	168	118	129	48	41	122	16	15
6	66	19	52	53	281	117	123	44	32	47	12	14
7	48	18	49	53	192	90	131	43	27	24	13	13
8	38	20	41	51	143	89	124	43	23	22	16	13
9	34	19	32	96	109	100	126	43	20	25	14	14
10	32	241	31	55	107	98	246	43	19	17	13	14
11	30	97	46	38	87	75	158	39	17	13	14	18
12	28	30	44	34	74	66	202	37	17	14	15	13
13	27	35	52	13	77	305	158	35	15	14	60	14
14	26	39	111	14	74	201	128	31	15	14	65	19
15	26	54	84	56	74	119	113	31	15	15	16	17
16	25	63	23	67	65	157	125	28	21	13	14	15
17	33	52	167	66	99	123	111	33	542	14	13	14
18	35	33	324	62	50	107	111	30	527	295	13	15
19	34	30	117	178	53	86	99	31	114	61	13	14
20	26	29	89	429	57	76	91	29	58	32	66	15
21	25	33	64	194	67	169	89	33	45	21	22	26
22	24	29	59	129	59	1320	88	108	40	16	13	14
23	22	27	62	106	62	736	84	88	47	13	12	13
24	22	25	72	90	61	266	81	42	67	13	12	14
25	23	25	68	83	80	176	79	32	37	13	12	16
26	22	213	62	74	138	141	72	40	28	15	13	12
27	22	247	62	70	87	121	68	41	23	15	13	14
28	22	88	61	68	70	107	66	47	17	12	39	15
29	19	58	58	62	---	99	60	38	13	13	27	14
30	21	76	62	153	---	1190	63	39	13	12	13	14
31	21	---	63	229	---	1050	---	30	---	14	20	---
TOTAL	1044	1695	2179	2808	2675	7540	3795	1357	2074	1047	619	442
MEAN	33.7	56.5	70.3	90.6	95.5	243	126	43.8	69.1	33.8	20.0	14.7
MAX	125	247	324	429	281	1320	332	108	542	295	66	26
MIN	19	18	23	13	50	58	60	28	13	12	12	12

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

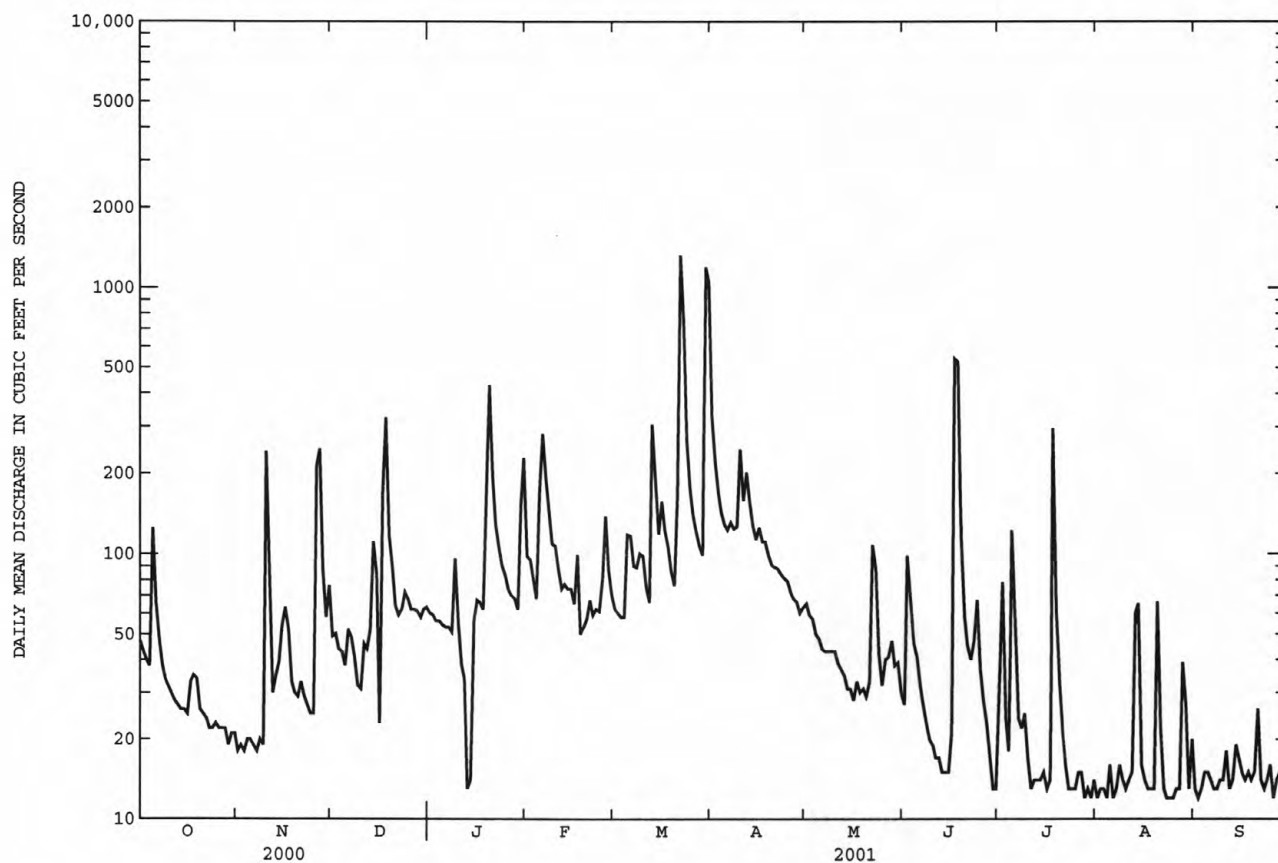
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	47.1	55.6	91.8	127	104	169	116	82.8	50.1	37.3	54.9	45.9
MAX	152	129	227	218	270	319	180	312	124	66.4	131	89.9
(WY)	1997	1996	1997	1996	1998	1993	1997	1998	1998	1990	1990	2000
MIN	19.2	20.5	17.3	54.4	35.8	44.5	28.0	31.2	17.0	15.0	20.0	14.7
(WY)	1995	1999	1999	2000	1992	1992	1992	1992	1999	1999	2001	2001

## MANASQUAN RIVER BASIN

01408029 MANASQUAN RIVER NEAR ALLENWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1990 - 2001	
ANNUAL TOTAL	21523		27275		81.0	
ANNUAL MEAN	58.8		74.7		133	
HIGHEST ANNUAL MEAN					39.4	
LOWEST ANNUAL MEAN					1930	
HIGHEST DAILY MEAN	428	Apr 22	1320	Mar 22	12	Dec 12 1992
LOWEST DAILY MEAN	12	Jul 5	12	Jul 28	12	Jun 23 1990
ANNUAL SEVEN-DAY MINIMUM	13	Jul 5	13	Jul 28	13	Jul 28 2001
MAXIMUM PEAK FLOW			2100	Mar 30	2580	Mar 9 1999
MAXIMUM PEAK STAGE			15.09	Mar 30	15.87	Mar 9 1999
INSTANTANEOUS LOW FLOW			.15a	Sep 16	.00a	Jun 24 1993
10 PERCENT EXCEEDS	113		139		160	
50 PERCENT EXCEEDS	42		43		44	
90 PERCENT EXCEEDS	16		14		15	

a Results of pumping to Manasquan Reservoir.



METEDECONK RIVER BASIN

159

01408120 NORTH BRANCH METEDECONK RIVER NEAR LAKEWOOD, NJ

LOCATION.--Lat 40°05'30", long 74°09'10", Ocean County, Hydrologic Unit 02040301, on upstream right bank at bridge on County Route 549 (Lanes Mill Road) at Lanes Mills, 1.0 mi upstream from confluence with South Branch Metedeconk River, and 2.3 mi east of Lakewood.

DRAINAGE AREA.--34.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.89 ft above sea level. Prior to Nov. 17, 1977, gage located on upstream left side of bridge. Nov. 17, 1977 to Dec. 19, 1984, gage located on the downstream side of bridge.

REMARKS.--Records good, except for estimated daily discharges, which are poor. 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 250 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 22	1630	468	7.18	Jun 17	2100	*740	*8.00
Mar 30	1500	476	7.21				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	30	55	e35	90	51	273	42	29	26	18	23
2	37	34	48	e31	75	48	182	42	72	76	17	19
3	35	34	42	e30	61	46	109	40	92	65	16	18
4	34	30	39	e30	54	47	81	39	48	31	18	18
5	62	30	38	e33	90	75	71	37	35	92	33	21
6	53	29	37	36	154	78	68	36	30	91	21	19
7	43	29	37	37	138	67	70	35	28	38	18	17
8	37	29	36	41	104	61	71	35	26	32	17	17
9	33	29	35	67	85	67	70	35	24	33	16	17
10	33	161	34	60	71	68	103	35	23	28	19	16
11	32	138	38	51	65	60	95	33	23	26	22	17
12	30	78	39	46	57	53	105	32	23	24	24	17
13	30	54	41	42	56	110	93	31	23	22	98	16
14	29	46	58	40	55	106	80	29	23	22	102	27
15	28	54	68	61	54	93	67	29	23	21	41	32
16	28	46	60	66	55	94	72	28	27	20	25	21
17	29	41	76	62	83	76	68	29	312	21	22	18
18	30	37	131	58	72	66	70	30	365	95	20	17
19	38	35	120	93	60	57	62	30	152	86	19	17
20	33	34	88	184	55	50	56	29	61	50	95	18
21	31	37	60	196	52	93	55	31	39	29	53	38
22	30	35	51	142	49	402	54	63	35	25	25	27
23	29	33	46	101	51	355	53	66	33	23	22	21
24	29	31	43	70	51	217	51	48	43	22	25	21
25	29	31	40	60	59	134	49	38	39	20	23	26
26	30	105	38	56	81	82	47	37	32	20	20	23
27	30	161	37	53	68	66	46	37	28	22	20	20
28	30	110	38	52	58	61	45	47	26	19	31	19
29	29	78	35	49	---	58	43	38	24	19	32	18
30	29	64	37	72	---	326	43	33	23	19	22	20
31	29	---	38	102	---	402	---	30	---	19	23	---
TOTAL	1038	1683	1583	2056	2003	3569	2352	1144	1761	1136	957	618
MEAN	33.5	56.1	51.1	66.3	71.5	115	78.4	36.9	58.7	36.6	30.9	20.6
MAX	62	161	131	196	154	402	273	66	365	95	102	38
MIN	28	29	34	30	49	46	43	28	23	19	16	16
CFSM	.96	1.61	1.46	1.90	2.05	3.30	2.25	1.06	1.68	1.05	.88	.59
IN.	1.11	1.79	1.69	2.19	2.14	3.80	2.51	1.22	1.88	1.21	1.02	.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2001, BY WATER YEAR (WY)

	MEAN	43.6	57.8	69.6	76.1	71.3	84.7	81.3	65.4	48.0	42.9	42.7	39.3
MAX	92.6	141	129	153	153	160	153	160	89.6	107	88.8	80.9	
(WY)	1990	1973	1978	1979	1979	1984	1984	1998	1984	1984	1990	1989	
MIN	23.5	26.1	22.7	25.2	33.0	38.8	32.9	27.1	25.7	20.4	15.2	17.8	
(WY)	1999	1982	1999	1981	1992	1981	1995	1977	1999	1999	1981	1988	



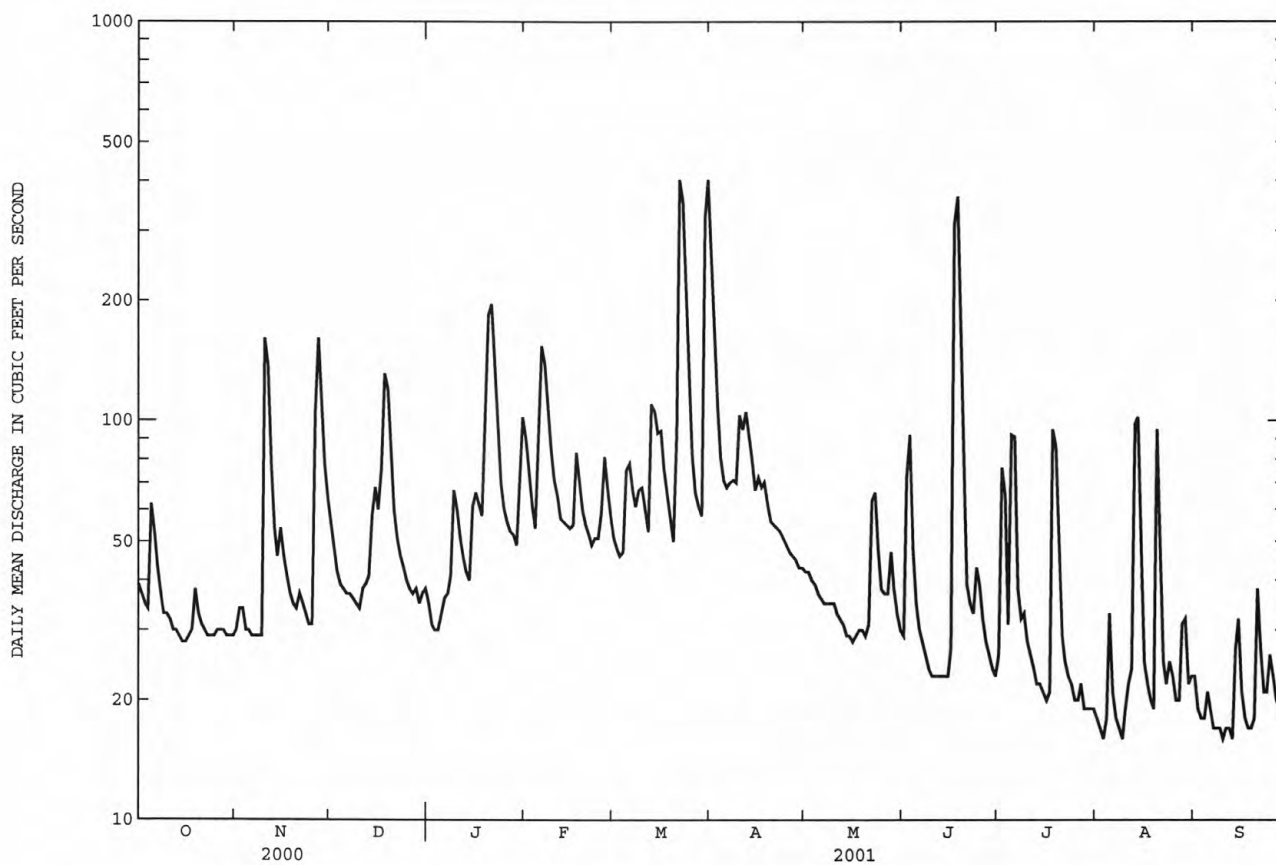
## METEDECONK RIVER BASIN

01408120 NORTH BRANCH METEDECONK RIVER NEAR LAKEWOOD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1973 - 2001	
ANNUAL TOTAL	18380		19900		60.2	
ANNUAL MEAN	50.2		54.5		91.5	
HIGHEST ANNUAL MEAN					34.7	
LOWEST ANNUAL MEAN					1984	
HIGHEST DAILY MEAN	253	Jul 27	402	Mar 22	838	Feb 25 1979
LOWEST DAILY MEAN	15	Jul 12	16	Aug 3	10	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	16	Jul 7	17	Sep 7	11	Sep 2 1995
MAXIMUM PEAK FLOW			740	Jun 17	1370a	Nov 8 1977
MAXIMUM PEAK STAGE			8.00	Jun 17	9.28	Nov 8 1977
INSTANTANEOUS LOW FLOW			15	Aug 9	10	Sep 8 1995
ANNUAL RUNOFF (CFSM)	1.44		1.56		1.72	
ANNUAL RUNOFF (INCHES)	19.59		21.21		23.42	
10 PERCENT EXCEEDS	86		94		110	
50 PERCENT EXCEEDS	39		38		45	
90 PERCENT EXCEEDS	24		20		22	

a From rating curve extended above 600 ft<sup>3</sup>/s.

e Estimated



## 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 mi<sup>2</sup>. PERIOD OF RECORD, August 1922 to current year. REVISED RECORDS.--WDR NJ-00-1: 1999 (elevation, contents). GAGE, water-stage recorder above concrete dam. Datum of gage is sea level.

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 2,890,000,000 gal, Mar. 30, elevation, 36.34 ft; minimum, 1,630,000,000 gal, Nov. 9, elevation, 29.56 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 mi<sup>2</sup> (revised). PERIOD OF RECORD, March 1990 to current year. GAGE, water-stage recorder. Datum of gage is sea level.

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), 3,531,000,000 gal, Feb. 26, 1992, elevation 97.7 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents 4,690,000,000 gal, Mar. 31, elevation, 103.14 ft; minimum, 3,630,000,000 gal, Sep. 30, elevation, 98.20 ft.

## MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft <sup>3</sup> /s)
01407500 SWIMMING RIVER RESERVOIR				01407965 MANASQUAN RESERVOIR		
Sept.30.....	30.41	1,770	--	102.00	4,440	--
Oct. 31.....	29.74	1,660	-5.5	102.00	4,440	0
Nov. 30.....	35.16	2,640	+50.5	101.49	4,310	-6.7
Dec. 31.....	35.00	2,610	-1.5	101.90	4,420	+5.5
CAL YR 2000			+1			+1.5
Jan. 31.....	35.28	2,670	+3.0	101.23	4,260	-8.0
Feb. 28.....	35.18	2,650	-1.1	102.30	4,500	+13.3
Mar. 31.....	35.40	2,690	+2.0	102.75	4,600	+5.0
Apr. 30.....	35.17	2,650	-2.1	103.07	4,670	+3.6
May 31.....	35.09	2,630	-1.0	102.69	4,570	-5.0
June 30.....	34.75	2,560	-3.6	102.23	4,480	-4.6
July 31.....	34.15	2,440	-6.0	102.54	4,550	+3.5
Aug. 31.....	32.07	2,050	-19.5	101.69	4,350	-10.0
Sept.30.....	31.08	1,880	-8.8	100.25	4,050	-15.5
WTR YR 2001			-5			-1.6

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

\* Elevation at 0600 on the first day of the following month.

## ATLANTIC COASTAL BASINS

## 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.

01407759 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 0.7 mi downstream 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 2000 TO SEPTEMBER 2001

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 .....	41.8	2.61	0	24.5	17.0	12.9
November .....	37.7	2.61	0	28.3	17.1	4.09
December .....	39.2	4.24	0	17.4	16.8	4.42
CAL YR 2000	39.0	5.91	0	29.1	17.5	9.77
January .....	39.7	4.21	0	32.5	17.0	5.19
February .....	36.8	2.82	0	30.8	17.1	8.94
March .....	37.3	1.11	0	23.5	17.1	8.30
April .....	38.1	1.74	0	23.1	17.0	12.3
May .....	48.8	3.05	0	27.2	17.1	16.5
June .....	48.5	3.77	0	31.9	17.5	15.1
July .....	49.9	3.94	0	30.1	22.9	7.74
August .....	48.8	3.30	0	27.0	27.3	8.26
September .....	44.7	3.75	0	23.2	27.7	5.30
WTR YR 2001	42.5	3.09	0	26.5	19.3	9.07

BARNEGAT BAY

163

01408168 BARNEGAT BAY AT MANTOLOKING, NJ

LOCATION.--Lat. 40°02'24", long 74°03'25", Ocean County, Hydrologic Unit 02040301, at east end of Downer Avenue in Mantoloking and 0.1 mi south of bridge on State Route 528.

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). This past data can be adjusted to NAVD of 1988 by subtracting 1.12 ft.

REMARKS.--No gage-height record for portions of October 26, December 23 to January 7, 10-11, March 22, May 6-7, 30, June 17, July 12, and August 27-28. 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 known, 3.81 ft., Oct. 11, 1992, from crest-stage gage (adjusted to NAVD of 1988); minimum recorded, -1.55 ft., Oct. 8, 1996 (adjusted to NAVD of 1988).

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 1.91 ft.(NAVD of 1988), Mar. 8; minimum recorded, -1.52 ft.(NAVD of 1988), Feb. 12.

Summaries of tide elevations during the 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	0.85	1.78	1.77	0.68	0.84	1.91	0.91	1.03	1.25	0.95	1.17	1.51
high tide	Date	18	10	17	30	10	8	2	24	23	22	27	30
Minimum	Elevation	-.91	-1.04	-1.31	-.85	-1.52	-1.42	-.77	-.68	-.56	-.67	-.53	-.77
low tide	Date	22	23	18	18	12	21	23	1	17	2	14	14
Mean high tide		.26	.37	---	---	-.19	.17	.25	.37	.39	.45	.52	.62
Mean water level		.01	.14	---	---	-.45	-.09	.01	.11	.16	.21	.26	.32
Mean low tide		-.24	-.11	---	---	-.73	-.35	-.25	-.14	-.11	-.06	.16	.05

## BARNEGAT BAY

01408200 BARNEGAT BAY AT BAY SHORE, NJ

LOCATION.--Lat 39°56'56", long 74°06'52", Ocean County, Hydrologic Unit 02040301, at 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 current year.

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

REMARKS.--No gage-height or partial record, October 2 to July 27. 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, 3.13 ft, Mar. 7; minimum recorded, 0.64 ft, Sept. 30, 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 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.09	2.85	2.67	e2.00	1.94	3.13	2.11	2.27	2.32	2.22	2.23	2.91
high tide	Date	18	10	17	9	10	7	2	24	24	22	31	30
Minimum	Elevation	---	---	---	---	---	---	---	---	---	---	.69	.64
low tide	Date	---	---	---	---	---	---	---	---	---	---	14	11
Mean high tide		1.56	1.71	---	---	---	-1.54	1.53	-1.63	1.65	1.74	1.72	1.83
Mean water level		---	---	---	---	---	---	---	---	---	---	1.42	1.51
Mean low tide		---	---	---	---	---	---	---	---	---	---	1.59	1.17

e Estimated



## TOMS RIVER BASIN

165

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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records good. Diversions by Ciba-Geigy Inc., 800 ft. upstream July 1966 through an unknown date; 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan 22	0930	457	6.12	Apr 1	0645	*998	*8.90
Mar 24	1000	593	6.96				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	117	230	154	265	226	954	178	141	103	85	93
2	199	129	204	152	297	212	744	174	153	125	83	87
3	180	136	179	143	284	171	591	170	192	144	65	82
4	167	135	166	146	248	165	475	166	194	142	46	86
5	169	129	157	145	251	170	384	163	163	154	110	135
6	176	123	155	146	294	193	333	159	148	186	130	120
7	175	121	157	145	334	240	309	155	140	183	107	94
8	165	116	170	151	376	237	300	153	132	170	95	85
9	157	116	156	183	366	255	299	152	124	150	87	81
10	153	205	140	197	326	250	310	150	117	130	82	89
11	147	209	138	198	290	242	310	147	110	117	85	90
12	142	207	139	187	263	239	352	142	99	109	95	78
13	136	208	149	176	242	258	354	137	96	103	179	74
14	133	181	156	165	228	275	355	133	98	100	182	81
15	130	170	176	176	221	262	328	130	98	98	152	95
16	127	166	194	197	218	320	305	128	99	96	136	90
17	126	156	208	207	238	301	289	126	167	95	119	83
18	127	146	242	210	244	288	287	126	308	174	103	78
19	131	137	285	223	251	268	269	127	352	220	94	75
20	131	130	315	281	238	246	252	128	359	193	131	75
21	129	127	294	352	209	269	242	128	244	160	129	115
22	126	124	252	450	203	425	235	143	209	138	112	111
23	124	121	224	427	205	504	227	166	183	118	103	99
24	123	117	201	360	204	583	227	177	160	106	102	91
25	126	115	181	286	206	522	233	163	161	103	100	93
26	132	171	161	258	227	410	227	157	146	100	91	92
27	132	223	161	238	237	322	218	156	130	100	93	89
28	124	256	154	221	241	282	204	162	118	97	120	85
29	120	296	148	209	---	260	191	163	110	92	128	81
30	118	279	149	215	---	444	184	155	104	90	108	83
31	116	---	153	243	---	657	---	147	---	89	100	---
TOTAL	4476	4866	5794	6841	7206	9496	9988	4661	4855	3985	3352	2710
MEAN	144	162	187	221	257	306	333	150	162	129	108	90.3
MAX	235	296	315	450	376	657	954	178	359	220	182	135
MIN	116	115	138	143	203	165	184	126	96	89	46	74
CFSM	1.17	1.32	1.52	1.79	2.09	2.49	2.71	1.22	1.32	1.05	.88	.73
IN.	1.35	1.47	1.75	2.07	2.18	2.87	3.02	1.41	1.47	1.21	1.01	.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
MEAN	155	197	222	246	252	291	281	243	185	155	159	151
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	85.5	93.6	104	128	143	120	118	96.8	71.0	57.9	63.0
(WY)	1942	1966	1999	1981	1992	1985	1985	1992	1977	1999	1966	1995

## TOMS RIVER BASIN

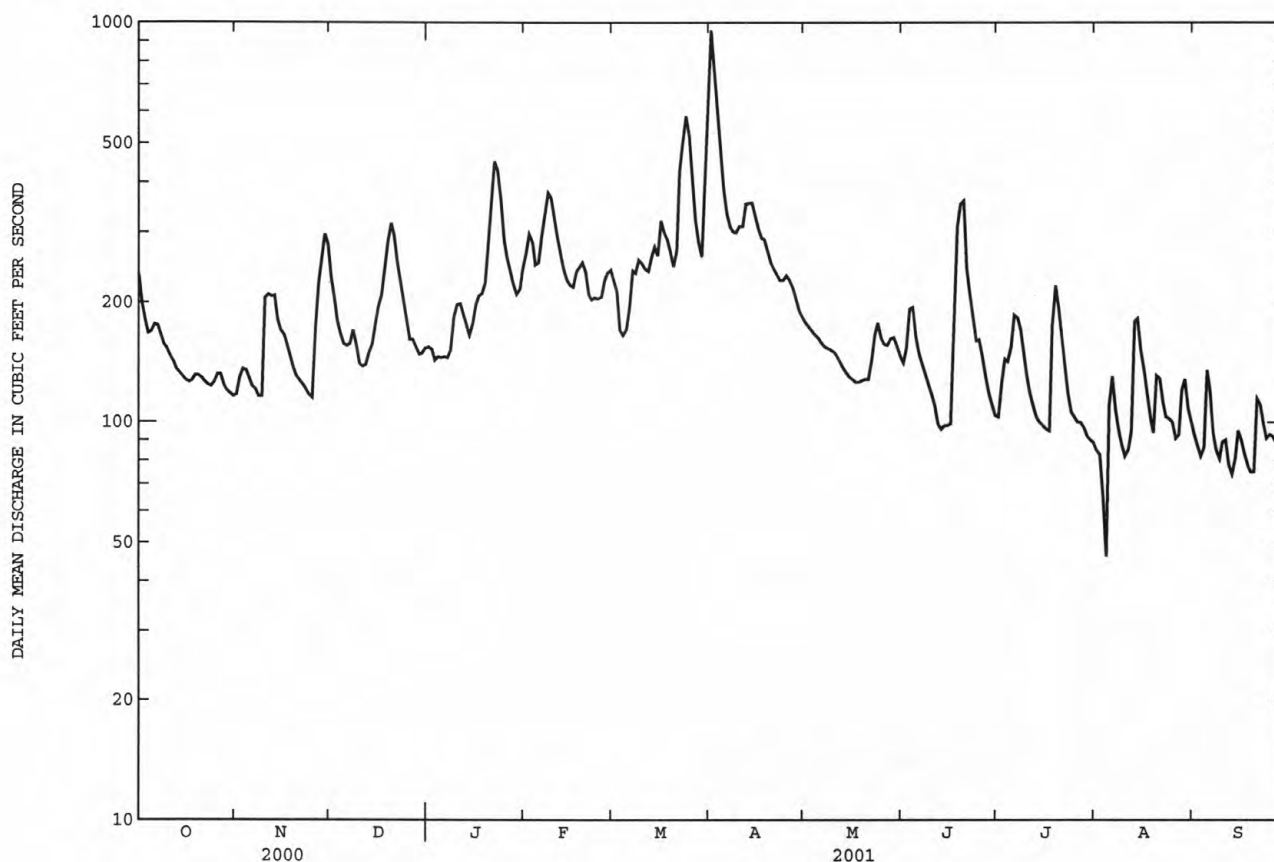
01408500 TOMS RIVER NEAR TOMS RIVER, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1929 - 2001	
ANNUAL TOTAL	63708		68230		211	
ANNUAL MEAN	174		187		335	
HIGHEST ANNUAL MEAN					128	
LOWEST ANNUAL MEAN					1910	
HIGHEST DAILY MEAN	432	Sep 29	954	Apr 1	43	Sep 23 1938
LOWEST DAILY MEAN	80	Jul 13	46	Aug 4	44	Sep 11 1995
ANNUAL SEVEN-DAY MINIMUM	83	Jul 7	79	Jul 29	2000a	Sep 10 1995
MAXIMUM PEAK FLOW			998	Apr 1	12.50b	Sep 23 1938
MAXIMUM PEAK STAGE			8.90	Apr 1	37c	Sep 23 1938
INSTANTANEOUS LOW FLOW			37	Aug 4	1.72	Aug 4 2001
ANNUAL RUNOFF (CFSM)	1.42		1.52		23.33	
ANNUAL RUNOFF (INCHES)	19.27		20.64		352	
10 PERCENT EXCEEDS	252		300		183	
50 PERCENT EXCEEDS	164		157		97	
90 PERCENT EXCEEDS	104		94			

a From rating curve extended above 1,500 ft<sup>3</sup>/s.

b From floodmark.

c From temporary regulation from unknown source.



## 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, 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 elevation, based on data from National Ocean Service station 8533135, add 0.28 ft.

REMARKS.--No gage height record for portions of December 23 through January 6, and January 8 and 14. 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, 2.08 ft (NAVD of 1988), Mar. 8; minimum elevation recorded, -1.73 ft (NAVD of 1988), Feb. 12.

Summaries of tide elevations during the 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	1.05	1.82	1.63	.90	.91	2.08	1.06	1.14	1.16	1.05	1.13	1.35
high tide	Date	18	10	17	9	10	8	2	24	24	22	31	20
Minimum	Elevation	-.79	-1.02	-1.29	-.81	-1.73	-.98	-.69	-.70	-.57	-.64	-.48	-.56
low tide	Date	12	23	19	18	12	19	23	1	21	2	14	11
Mean high tide		.51	.60	---	---	.03	.44	.46	.45	.49	.56	.60	.66
Mean water level		.20	.28	---	---	-.30	.12	.17	.17	.19	.25	.30	.38
Mean low tide		-.14	-.04	---	---	-.58	-.21	-.16	-.16	-.14	-.07	-.02	-.04

## BARNEGAT BAY

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 dash (--) 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, 2.09 ft (NAVD of 1988) Sep. 30; minimum recorded, -1.64 ft (NAVD of 1988) Feb. 12, 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 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	0.93	1.57	1.27	0.89	0.51	1.88	0.87	1.02	1.02	1.00	0.97	2.09
high tide	Date	28	10	17	21	5	8	2,16	23	24	19	21	30
Minimum	Elevation	-.86	-1.16	-1.39	-.88	-1.64	-.97	-.73	-.66	-.52	-.57	-.62	-.41
low tide	Date	11	23	18	17	12	18	23	1	20	3	3	11
Mean high tide		.35	.40	---	.15	-.19	---	.25	.42	.36	.43	.44	.65
Mean water level		.10	.14	---	-.10	-.44	---	.00	.15	.11	.18	.18	.36
Mean low tide		-.16	-.13	---	-.37	-.70	---	-.28	-.10	-.17	-.96	-.09	.08

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 current year.

GAGE.--Water-stage recorder. Datum of gage is 10.00 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 adjust data to North American Vertical Datum of 1988 (NAVD of 1988) elevation, subtract 1.26 ft.

REMARKS.--No gage-height record, December 12 to February 13. 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, 3.90 ft, Sep. 30; minimum recorded, 0.47 ft, Nov. 23, 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 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	2.80	3.27	---	---	---	3.61	2.54	2.66	2.63	2.66	2.62	3.90
high tide	Date	28	10	---	---	---	8	2	23	24	19	21	30
Minimum	Elevation	.68	.47	---	---	---	.77	.81	.90	.89	.82	.80	1.18
low tide	Date	11	23	---	---	---	12	20	1	20	3	3	10
Mean high tide		2.02	2.13	---	---	---	2.13	1.97	2.10	2.04	2.12	2.11	2.33
Mean water level		1.68	1.79	---	---	---	1.79	1.66	1.78	1.72	1.79	1.78	1.99
Mean low tide		1.37	1.44	---	---	---	1.47	1.35	1.48	1.41	1.48	1.46	1.68



## 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 mi<sup>2</sup>.

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 sea level.

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan 21	0530	294	2.91	Mar 23	0700	333	3.12
Feb 7	0630	306	2.98	Apr 3	0630	*343	*3.17

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	38	90	76	154	84	272	85	92	42	21	41
2	114	38	94	63	152	104	300	82	100	42	21	33
3	99	37	100	60	143	124	334	80	94	40	20	30
4	96	37	93	61	141	130	296	79	90	41	19	28
5	97	37	86	60	160	140	259	76	87	44	20	33
6	92	37	80	60	270	147	204	73	80	42	20	34
7	89	38	66	60	302	147	172	70	61	40	21	32
8	75	40	59	63	287	135	155	69	54	35	16	31
9	65	38	56	73	274	128	144	53	53	34	13	31
10	64	70	55	71	254	131	144	45	52	32	12	30
11	64	72	57	73	224	127	144	43	50	31	15	30
12	61	69	57	76	196	120	158	42	51	29	16	28
13	60	70	53	74	178	139	164	43	49	28	17	28
14	63	74	63	73	133	165	159	50	46	27	23	28
15	64	74	68	86	100	160	153	48	45	27	26	26
16	64	57	71	95	108	168	153	47	44	26	26	27
17	62	56	90	114	131	194	149	48	74	26	27	17
18	60	54	109	124	139	197	145	49	121	28	22	16
19	59	53	114	136	130	175	139	50	132	27	19	16
20	57	53	120	213	123	160	134	50	95	26	20	16
21	57	51	137	287	132	168	130	56	96	26	21	e35
22	56	49	137	262	131	294	125	78	93	26	23	e26
23	55	47	119	267	127	325	120	107	88	24	23	e23
24	54	48	116	248	123	279	113	97	88	21	22	e20
25	51	46	110	223	119	250	101	63	78	21	21	26
26	44	77	107	193	127	231	96	61	72	23	20	23
27	43	93	101	182	115	210	96	64	52	27	21	20
28	52	90	98	162	89	188	100	79	46	25	35	19
29	51	86	89	149	---	173	103	92	47	24	41	18
30	43	87	80	130	---	235	94	97	44	23	42	19
31	40	---	73	140	---	285	---	96	---	22	42	---
TOTAL	2132	1716	2748	3954	4562	5513	4856	2072	2174	929	705	784
MEAN	68.8	57.2	88.6	128	163	178	162	66.8	72.5	30.0	22.7	26.1
MAX	181	93	137	287	302	325	334	107	132	44	42	41
MIN	40	37	53	60	89	84	94	42	44	21	12	16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2001, BY WATER YEAR (WY)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
MEAN	67.8	85.9	118	139	141	162	151	121	75.8	68.9	73.1	60.9
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	64.4	59.1	50.3	53.3	32.3	21.9	19.8	17.6
(WY)	1966	1966	1999	1981	1992	1985	1985	1992	1977	1977	1995	1995

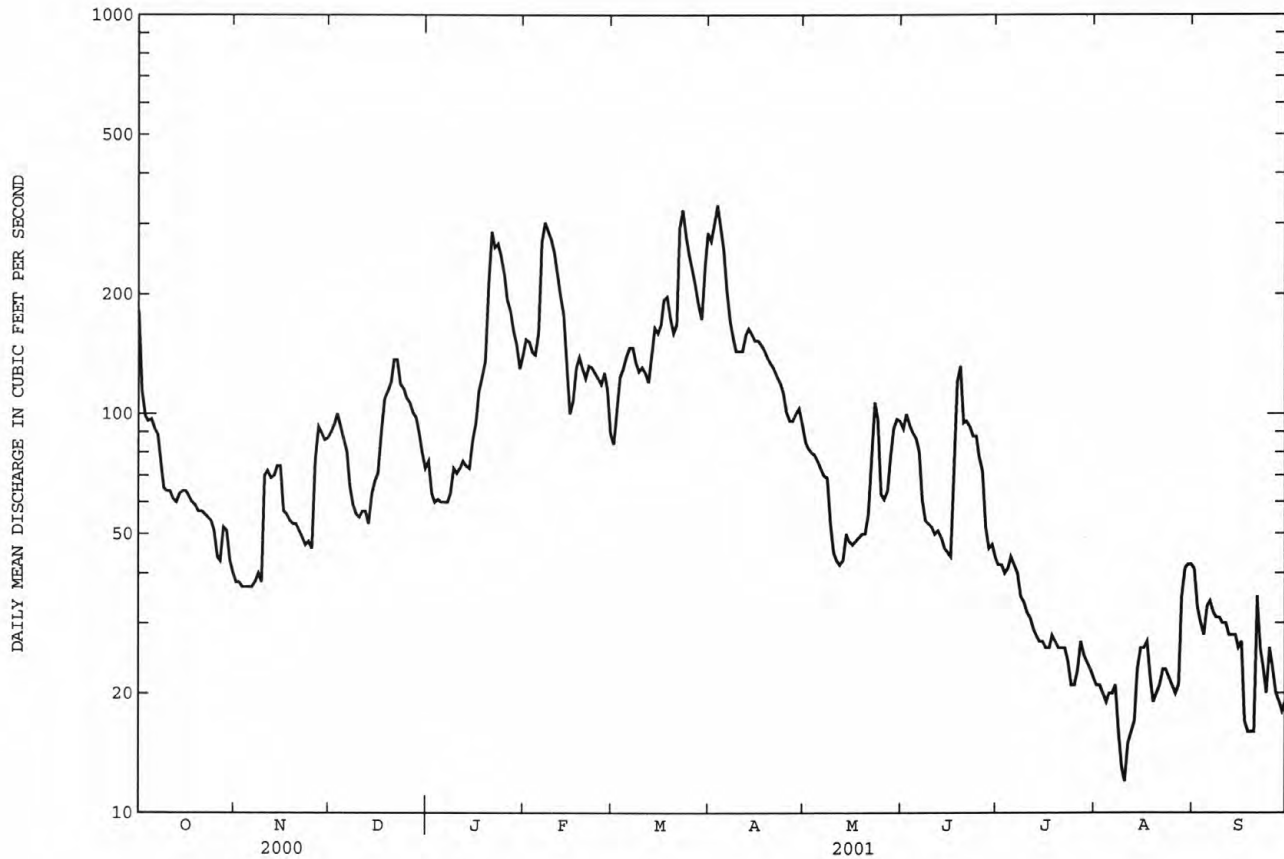
## MULLICA RIVER BASIN

171

01409400 MULLICA RIVER NEAR BATSTO, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1957 - 2001
ANNUAL TOTAL	30869	32145	105
ANNUAL MEAN	84.3	88.1	168
HIGHEST ANNUAL MEAN			50.4
LOWEST ANNUAL MEAN			1973
HIGHEST DAILY MEAN	322 Mar 25	334 Apr 3	1630 Feb 26 1979
LOWEST DAILY MEAN	27 Jul 10	12 Aug 10	5.1 Sep 16 1995
ANNUAL SEVEN-DAY MINIMUM	28 Jul 9	16 Aug 7	6.4 Sep 10 1995
MAXIMUM PEAK FLOW		343 Apr 3	1840 Feb 26 1979
MAXIMUM PEAK STAGE		3.17 Apr 3	6.14 Feb 26 1979
INSTANTANEOUS LOW FLOW		12 Aug 9	4.9 Sep 16 1995
10 PERCENT EXCEEDS	141	172	200
50 PERCENT EXCEEDS	73	70	85
90 PERCENT EXCEEDS	42	23	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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records fair, except for 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 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	62	129	79	e175	97	253	105	87	60	46	48
2	171	62	119	79	e190	125	306	102	94	57	45	44
3	141	63	108	e79	e180	138	285	82	104	58	45	46
4	120	63	99	e79	e162	126	258	68	100	59	44	45
5	107	64	93	79	e190	125	234	53	91	65	45	44
6	109	63	88	78	194	129	206	54	83	63	44	43
7	120	63	85	79	277	133	171	56	79	58	44	42
8	120	64	83	e79	301	150	157	155	76	57	45	42
9	113	65	83	81	272	149	147	79	73	58	44	40
10	104	86	81	87	231	144	136	79	71	51	44	40
11	99	89	81	88	195	141	136	78	67	55	45	40
12	92	91	81	87	172	136	145	82	67	54	46	40
13	86	87	81	86	158	137	e155	89	36	54	46	40
14	84	86	122	84	146	139	e180	89	59	53	54	41
15	82	86	94	88	141	151	e170	84	58	52	53	44
16	79	78	99	96	138	163	162	78	59	51	49	44
17	78	77	113	102	144	181	149	73	96	51	47	42
18	75	76	120	106	146	178	145	72	113	54	46	41
19	74	74	144	117	150	170	127	71	102	56	45	41
20	70	72	155	156	143	167	116	70	92	59	45	41
21	69	71	149	263	137	154	119	73	104	54	45	46
22	68	70	139	330	96	177	119	86	57	51	45	51
23	67	68	124	303	100	198	118	99	72	49	45	46
24	66	68	107	247	176	288	114	98	94	49	44	44
25	66	67	94	202	126	257	113	93	86	48	44	49
26	67	94	88	167	132	219	111	89	79	49	44	50
27	66	109	83	150	137	191	108	92	74	53	44	48
28	65	129	80	136	108	180	108	103	76	50	55	45
29	63	138	e80	129	---	187	108	103	65	48	62	42
30	63	137	e80	130	---	215	107	99	62	48	54	51
31	63	---	79	139	---	214	---	93	---	47	49	---
TOTAL	2864	2422	3161	4005	4717	5159	4763	2647	2376	1671	1453	1320
MEAN	92.4	80.7	102	129	168	166	159	85.4	79.2	53.9	46.9	44.0
MAX	217	138	155	330	301	288	306	155	113	65	62	51
MIN	63	62	79	78	96	97	107	53	36	47	44	40
CFSM	1.36	1.19	1.50	1.91	2.48	2.45	2.34	1.26	1.17	.80	.69	.65
IN.	1.57	1.33	1.73	2.20	2.59	2.83	2.61	1.45	1.30	.92	.80	.72

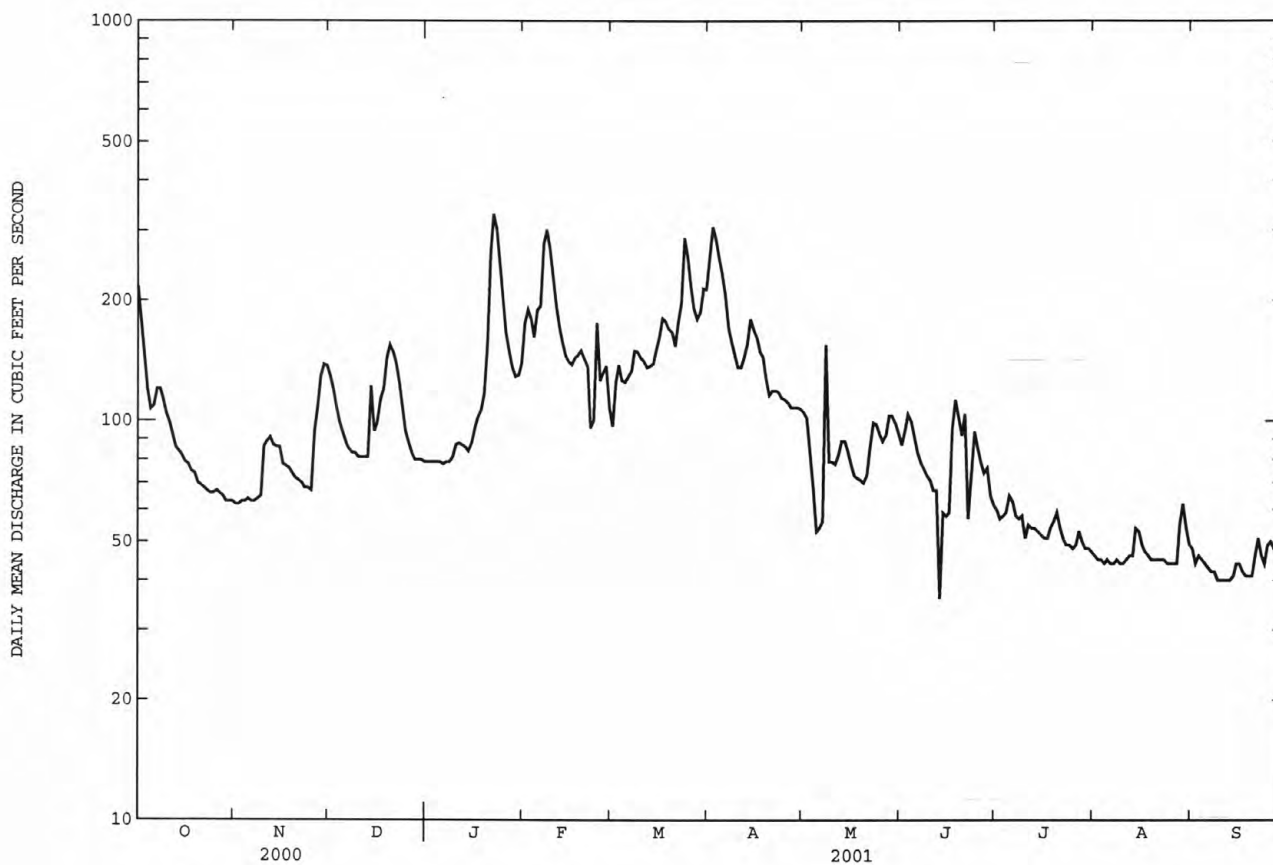
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2001, BY WATER YEAR (WY)

	MEAN	87.4	110	124	140	148	170	156	142	101	90.4	101	91.3
MAX	241	307	302	280	361	353	322	285	242	257	332	242	242
(WY)	1959	1973	1973	1949	1939	1958	1970	1998	1948	1938	1958	1960	1960
MIN	43.9	43.4	46.0	55.6	75.9	79.5	71.8	65.1	50.9	40.6	42.0	40.5	40.5
(WY)	1966	1966	1999	1966	1931	1981	1985	1977	1977	1977	1957	1995	1995

01409500 BATSTO RIVER AT BATSTO, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1928 - 2001	
ANNUAL TOTAL	34655		36558		121	
ANNUAL MEAN	94.7		100		193	
HIGHEST ANNUAL MEAN					66.2	
LOWEST ANNUAL MEAN					2000	
HIGHEST DAILY MEAN	365	Sep 29	330	Jan 22	5.7	Aug 20 1939
LOWEST DAILY MEAN	47	Jul 13	36	Jun 13	35	Oct 4 1959
ANNUAL SEVEN-DAY MINIMUM	49	Jul 13	40	Sep 8	2000	Sep 5 1995
MAXIMUM PEAK FLOW			375	May 8	2000	Aug 20 1939
MAXIMUM PEAK STAGE			3.54	May 8	8.70a	Aug 20 1939
INSTANTANEOUS LOW FLOW			5.1	Jun 13	.99	Sep 9 1909
ANNUAL RUNOFF (CFSM)	1.40		1.48		1.78	
ANNUAL RUNOFF (INCHES)	19.01		20.06		24.25	
10 PERCENT EXCEEDS	135		173		204	
50 PERCENT EXCEEDS	86		84		102	
90 PERCENT EXCEEDS	62		45		56	

a From floodmark  
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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1958 to current year. Annual maximum only published for 1958 to 1965.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 8.6 ft below sea level. Gage-height record converted to elevation above or below (-) sea level for publication.

REMARKS.--No gage-height or doubtful record, December 3 to January 16 and April 14-17. 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, 7.2 ft, Mar. 7, 1962; minimum recorded (after 1965), -0.67 ft, Jan. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 4.43 ft, Mar. 5; minimum recorded, 0.11 ft, June 13.

Summaries of tide elevations during the 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	3.54	4.05	3.86	3.67	3.38	4.43	3.50	3.56	3.52	3.79	3.44	4.08
high tide	Date	17	26	30	9	5	5	2	24	23	20	20	30
Minimum	Elevation	.62	.50	.57	.54	.25	.53	.49	.15	.11	.46	.53	.51
low tide	Date	25	23	13	14	28	1	30	5	13	1	3	28
Mean high tide		2.85	2.79	---	2.94	2.54	2.91	2.86	2.93	2.90	2.89	2.85	2.99
Mean water level		1.84	1.79	---	1.80	1.63	2.02	1.85	1.80	1.80	1.76	1.70	1.89
Mean low tide		.88	.82	---	---	.92	1.17	.88	.57	.68	.66	.66	.74



## MULLICA RIVER BASIN

175

01410000 OSWEGO RIVER AT HARRISVILLE, NJ

LOCATION.--Lat 39°39'48", long 74°31'28" (revised), Burlington County, Hydrologic Unit 02040301, on right bank 50 ft downstream from bridge on County Highway Spur 563 at Harrisville, and 0.3 mi upstream from confluence with West Branch Wading River.

DRAINAGE AREA.--72.5 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records good, except estimated discharges, which are fair. Figures given herein represent flow over main spillway and through bypass channel. Flow regulated by Harrisville Pond, 200 ft above station, capacity, about 30,000,000 gal and by ponds and cranberry bogs 5 to 10 mi upstream. 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 310 ft<sup>3</sup>/s, June 18, 19, gage height, 3.87 ft; minimum discharge, 32 ft<sup>3</sup>/s, on many days, gage height, 2.79 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	40	70	56	115	e82	273	51	45	48	33	33
2	100	40	64	56	106	e93	235	48	56	65	33	32
3	81	40	59	54	e101	e93	178	47	67	74	33	32
4	69	41	55	54	e92	e84	148	46	65	50	33	32
5	67	47	53	54	e118	e99	131	46	58	53	33	33
6	73	43	50	53	e187	e102	106	44	53	54	33	36
7	70	44	47	52	e202	e107	95	43	49	52	33	34
8	60	44	46	54	e174	e105	86	43	46	50	33	32
9	56	52	46	64	e144	e103	89	43	46	49	33	32
10	54	113	47	66	e124	e100	99	42	44	47	32	32
11	57	110	49	65	e116	e98	101	41	41	46	33	35
12	57	93	48	64	e106	e85	116	41	40	44	33	32
13	53	80	46	63	e98	113	117	40	40	43	36	32
14	51	70	55	62	e94	134	108	44	40	42	39	34
15	50	71	63	69	e88	130	101	46	40	41	36	35
16	50	75	61	79	e87	139	96	43	40	40	34	33
17	52	61	76	80	e103	122	91	40	151	40	33	32
18	53	56	95	78	e106	109	87	40	292	40	33	32
19	52	52	93	100	e98	102	81	40	261	35	32	32
20	50	50	85	222	e94	86	76	40	170	33	38	32
21	50	51	80	303	e81	107	74	52	149	33	35	33
22	49	51	74	275	e72	215	82	68	227	33	33	32
23	47	47	69	205	e92	236	94	64	160	35	33	32
24	46	46	66	155	e97	190	73	58	140	33	32	32
25	47	41	61	130	e86	155	63	52	117	32	32	35
26	46	85	57	114	e99	141	60	51	94	36	32	33
27	45	116	55	103	e90	126	56	50	76	40	32	32
28	43	117	54	94	e79	109	54	57	61	36	40	32
29	41	108	54	89	---	100	52	59	55	35	37	32
30	40	91	58	99	---	208	52	55	51	35	35	33
31	40	---	58	116	---	299	---	49	---	35	34	---
TOTAL	1765	1975	1894	3128	3049	3972	3074	1483	2774	1329	1051	983
MEAN	56.9	65.8	61.1	101	109	128	102	47.8	92.5	42.9	33.9	32.8
MAX	116	117	95	303	202	299	273	68	292	74	40	36
MIN	40	40	46	52	72	82	52	40	40	32	32	32
CFSM	.79	.91	.84	1.39	1.50	1.77	1.41	.66	1.28	.59	.47	.45
IN.	.91	1.01	.97	1.60	1.56	2.04	1.58	.76	1.42	.68	.54	.50

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2001, BY WATER YEAR (WY)

MEAN	63.7	81.2	83.6	101	103	119	113	97.5	71.5	66.4	76.1	62.2
MAX	176	234	200	242	210	255	253	261	162	201	207	163
(WY)	1959	1973	1973	1979	1939	1998	1970	1998	1998	1938	1933	1938
MIN	28.6	30.8	27.1	33.9	53.2	51.9	41.3	43.9	33.7	24.2	23.9	24.4
(WY)	1966	1966	1966	1966	1931	1985	1985	1942	1966	1977	1957	1951

## MULLICA RIVER BASIN

01410000 OSWEGO RIVER AT HARRISVILLE, NJ--Continued

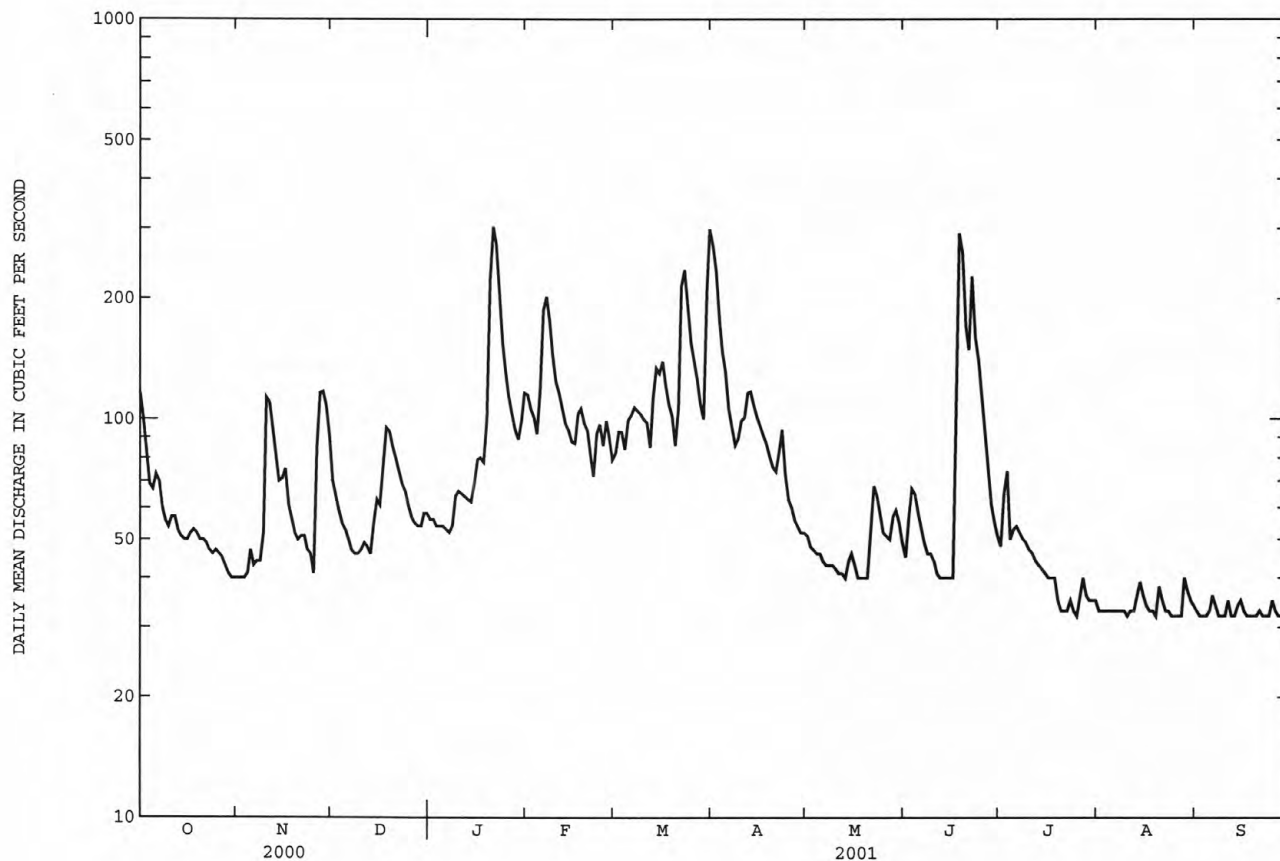
SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1931 - 2001	
ANNUAL TOTAL	26287		26477		86.5	
ANNUAL MEAN	71.8		72.5		138	
HIGHEST ANNUAL MEAN					41.4	
LOWEST ANNUAL MEAN					1220	
HIGHEST DAILY MEAN	588	Aug 14	303	Jan 21	4.0	Aug 20 1939
LOWEST DAILY MEAN	35	Jul 13	32	Jul 25	14	Jun 23 1967
ANNUAL SEVEN-DAY MINIMUM	38	Jul 8	32	Sep 17	1390a	Sep 7 1966
MAXIMUM PEAK FLOW			310	Jun 18	9.54b	Aug 20 1939
MAXIMUM PEAK STAGE			3.87	Jun 18	.00c	Aug 20 1939
INSTANTANEOUS LOW FLOW			32	Aug 9	1.19	Oct 26 1932
ANNUAL RUNOFF (CFSM)	.99		1.00		16.21	
ANNUAL RUNOFF (INCHES)	13.49		13.59		150	
10 PERCENT EXCEEDS	96		120		71	
50 PERCENT EXCEEDS	60		54		37	
90 PERCENT EXCEEDS	46		33			

a From rating curve extended above 840 ft<sup>3</sup>/sec extended by logarithmic plotting.

b From high-water mark in gage house.

c While pond filling.

e Estimated.



## 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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records good, except for estimated discharges and gage height record above 200 ft<sup>3</sup>/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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jun 17	2215	*71	*5.17	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	15	17	14	21	17	31	16	12	12	11	11
2	21	15	16	14	19	17	26	15	14	12	11	11
3	20	15	16	14	18	17	24	15	16	12	11	11
4	20	15	16	14	17	17	23	15	14	13	11	11
5	19	e15	16	14	25	22	22	15	13	15	11	11
6	19	e13	15	14	36	21	21	15	12	14	11	11
7	21	e14	15	14	29	20	21	14	12	13	11	11
8	20	e13	15	14	23	18	21	14	12	12	11	10
9	18	e14	15	16	21	18	21	14	11	12	12	10
10	18	e23	15	15	20	19	23	14	11	12	11	10
11	18	e21	16	15	20	18	23	14	11	12	12	10
12	18	e17	16	14	19	17	28	14	11	11	16	10
13	17	e18	15	14	19	25	26	14	11	11	15	10
14	17	e17	17	14	19	26	22	13	11	11	14	11
15	17	e18	19	15	19	22	20	13	11	11	13	11
16	17	e16	17	17	19	22	21	13	11	11	12	11
17	17	e15	18	16	24	22	21	13	39	11	11	11
18	17	e15	17	15	22	20	20	13	55	11	11	10
19	17	e15	16	19	19	19	19	13	28	12	11	10
20	16	e15	16	38	18	18	18	13	18	12	12	10
21	16	e15	15	40	18	22	18	14	15	11	12	11
22	16	e14	15	28	17	37	18	17	15	11	11	11
23	16	e14	15	22	18	33	18	17	14	11	11	10
24	16	e14	15	20	18	26	17	15	16	11	11	10
25	16	e14	14	20	18	23	17	14	15	11	11	11
26	16	e23	14	19	21	22	17	13	14	11	11	11
27	16	e27	14	19	19	21	16	13	13	13	11	10
28	16	e22	14	18	18	20	16	15	12	12	12	10
29	15	18	14	18	---	20	16	14	12	11	12	10
30	15	18	15	20	---	41	16	13	12	11	11	11
31	15	---	15	24	---	43	---	13	---	11	11	---
TOTAL	542	498	483	568	574	703	620	438	471	364	362	316
MEAN	17.5	16.6	15.6	18.3	20.5	22.7	20.7	14.1	15.7	11.7	11.7	10.5
MAX	22	27	19	40	36	43	31	17	55	15	16	11
MIN	15	13	14	14	17	17	16	13	11	11	11	10
CFSM	2.16	2.05	1.92	2.26	2.53	2.80	2.55	1.74	1.94	1.45	1.44	1.30
IN.	2.49	2.28	2.22	2.61	2.63	3.22	2.84	2.01	2.16	1.67	1.66	1.44

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2001, BY WATER YEAR (WY)

MEAN	12.7	14.0	15.5	18.6	18.4	21.2	21.4	19.4	15.7	13.8	15.4	12.8
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	11.2	10.5	9.06	8.95	8.11	7.80	6.54	6.77
(WY)	1983	1982	1986	1981	1992	1981	1985	1985	1986	1985	1995	1995

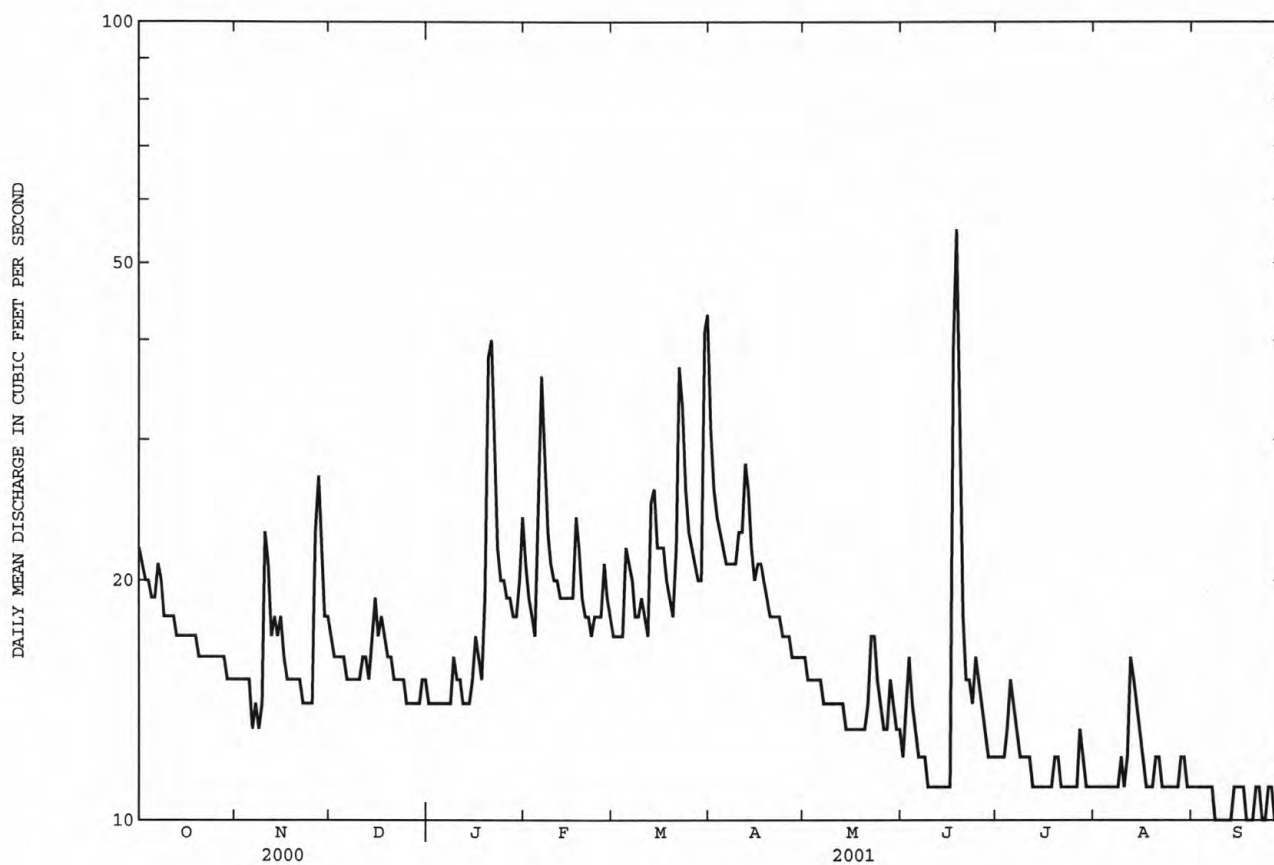
## MULLICA RIVER BASIN

01410150 EAST BRANCH BASS RIVER NEAR NEW GRETN, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1978 - 2001	
ANNUAL TOTAL	6726		5939		16.3	
ANNUAL MEAN	18.4		16.3		25.3	1998
HIGHEST ANNUAL MEAN					9.60	1985
LOWEST ANNUAL MEAN					533	Aug 21 1997
HIGHEST DAILY MEAN	235	Aug 13	55	Jun 18	4.8	Sep 15 1995
LOWEST DAILY MEAN	11	Jul 8	10	Sep 8	5.0	Sep 10 1995
ANNUAL SEVEN-DAY MINIMUM	11	Jul 8	10	Sep 7	1130a	Aug 21 1997
MAXIMUM PEAK FLOW			71	Jun 17	7.28	Aug 21 1997
MAXIMUM PEAK STAGE			5.17	Jun 17	4.7	Sep 15 1995
INSTANTANEOUS LOW FLOW			10	Sep 13	2.01	
ANNUAL RUNOFF (CFSM)	2.27		2.01		27.33	
ANNUAL RUNOFF (INCHES)	30.85		27.24		27	
10 PERCENT EXCEEDS	23		22		14	
50 PERCENT EXCEEDS	16		15		8.8	
90 PERCENT EXCEEDS	13		11			

a From rating curve extended above 200 ft<sup>3</sup>/sec extended by logarithmic plotting.

e Estimated



## GREAT EGG HARBOR RIVER BASIN

179

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, NJ

LOCATION.--Lat 39°35'42", long 74°51'06", Atlantic County, Hydrologic Unit 02040302, on left bank 25 ft upstream from bridge on State Highway 54, 1.0 mi south of Folsom, and 2.0 mi upstream from Pennypot Stream.

DRAINAGE AREA.--57.1 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1925 to current year. Prior to October 1947, published as "Great Egg River at Folsom".

REVISED RECORDS.--WSP 1432: 1928(M), 1933. WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Nov. 26, 1934. Datum of gage is 53.32 ft above sea level. Prior to Mar. 6, 1941, water-stage recorder at site 100 ft downstream at same datum. Mar. 6 to Oct. 5, 1941, nonrecording gage at site 145 ft downstream at datum 0.25 ft higher.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Satellite rain-gage and gage-height telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	43	77	66	123	95	253	74	85	44	30	34
2	91	43	72	64	124	90	241	72	89	43	29	31
3	77	43	68	63	114	87	195	69	97	42	28	30
4	69	43	63	62	102	85	156	68	100	42	27	29
5	65	42	61	63	103	95	131	65	97	44	26	33
6	65	41	60	64	126	105	116	63	85	46	24	32
7	68	41	58	63	162	109	107	61	77	42	23	29
8	66	41	57	63	179	106	102	58	69	41	23	27
9	63	41	56	70	160	100	99	57	63	39	23	25
10	60	59	55	73	140	98	101	56	58	38	21	26
11	57	69	56	72	122	94	108	54	52	38	23	32
12	55	64	56	72	108	90	117	52	54	37	28	28
13	54	59	55	70	100	101	127	51	60	36	40	25
14	51	56	63	68	96	119	128	51	51	35	49	26
15	50	57	80	72	93	138	118	48	48	35	50	27
16	50	55	87	82	92	140	111	47	48	34	41	26
17	48	53	91	84	101	135	109	45	81	34	37	25
18	48	52	103	82	109	127	108	45	107	34	34	24
19	48	51	141	87	110	116	106	47	111	34	32	24
20	47	49	205	113	102	107	102	47	100	34	40	24
21	47	48	180	150	96	106	98	54	88	33	46	33
22	46	48	145	183	90	144	96	76	96	31	37	38
23	45	46	120	168	88	206	93	88	87	30	34	32
24	45	45	100	141	87	226	90	88	100	30	31	30
25	45	45	89	121	88	190	87	83	95	30	31	30
26	44	66	80	107	97	153	84	78	80	30	28	31
27	44	86	74	98	104	130	82	87	69	33	27	29
28	43	92	71	93	102	115	80	101	58	31	36	27
29	43	91	68	90	---	106	78	109	51	30	45	27
30	43	83	67	91	---	120	76	114	47	30	40	26
31	43	---	67	108	---	173	---	100	---	30	38	---
TOTAL	1732	1652	2625	2803	3118	3806	3499	2108	2303	1110	1021	860
MEAN	55.9	55.1	84.7	90.4	111	123	117	68.0	76.8	35.8	32.9	28.7
MAX	112	92	205	183	179	226	253	114	111	46	50	38
MIN	43	41	55	62	87	85	76	45	47	30	21	24
CFSM	.98	.96	1.48	1.58	1.95	2.15	2.04	1.19	1.34	.63	.58	.50
IN.	1.13	1.08	1.71	1.83	2.03	2.48	2.28	1.37	1.50	.72	.67	.56

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2001, BY WATER YEAR (WY)

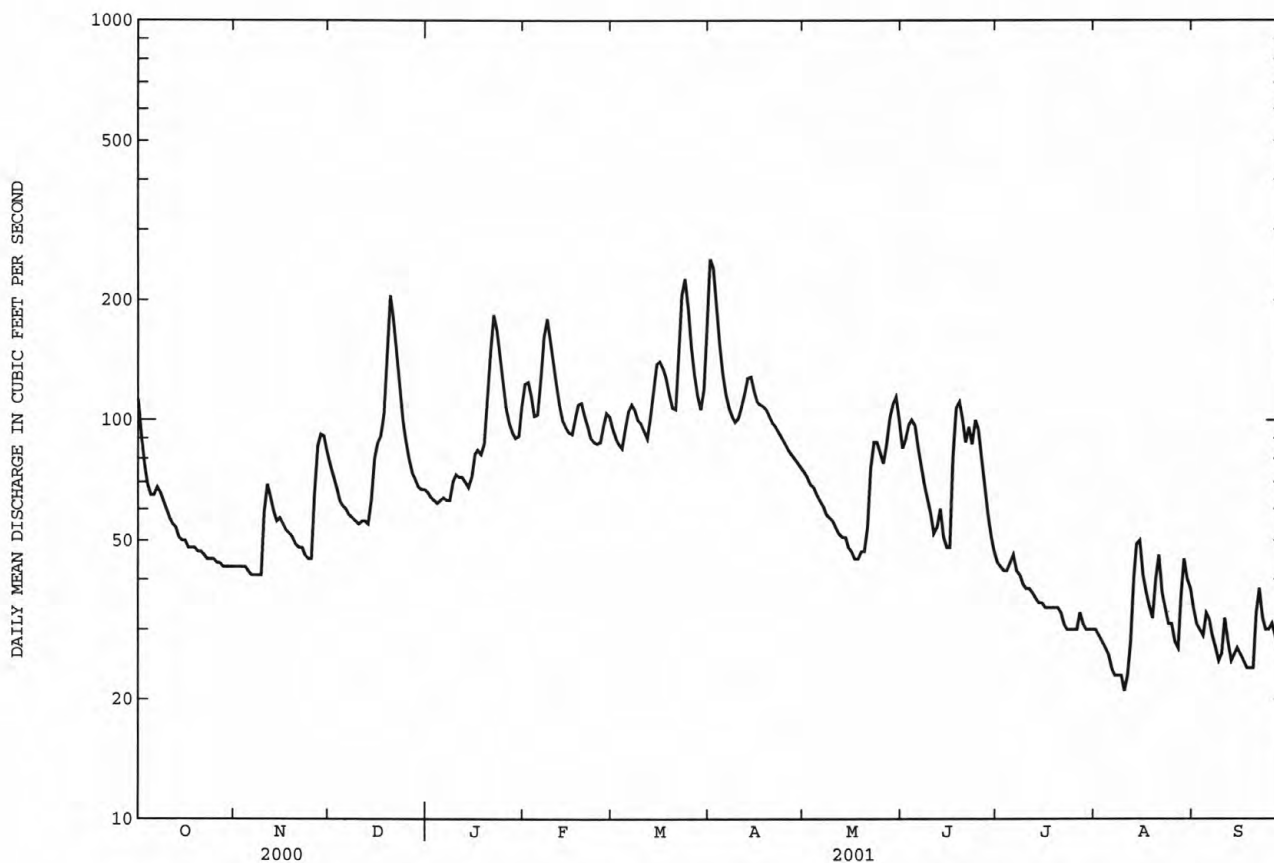
	MEAN	60.4	77.2	92.2	103	106	122	114	95.0	71.1	62.0	63.5	60.1
MAX	148	213	212	203	228	229	234	199	149	187	182	215	
(WY)	1939	1973	1973	1936	1958	1983	1958	1948	1938	1967	1940		
MIN	27.8	30.1	35.1	39.3	50.7	60.1	53.9	47.1	34.4	22.1	19.3	25.6	
(WY)	1931	1966	1966	1981	1931	1981	1985	1955	1977	1966	1966	1964	



## GREAT EGG HARBOR RIVER BASIN

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1925 - 2001	
ANNUAL TOTAL	26648		26637		85.4	
ANNUAL MEAN	72.8		73.0		133	
HIGHEST ANNUAL MEAN					44.4	
LOWEST ANNUAL MEAN					1300	
HIGHEST DAILY MEAN	385	Mar 24	253	Apr 1	15	Sep 3 1940
LOWEST DAILY MEAN	36	Jul 14	21	Aug 10	16	Aug 29 1966
ANNUAL SEVEN-DAY MINIMUM	39	Jul 9	23	Aug 5	1440	Aug 26 1966
MAXIMUM PEAK FLOW			263	Apr 1	9.09	Sep 3 1940
MAXIMUM PEAK STAGE			5.03	Apr 1	15	Sep 6 1957
INSTANTANEOUS LOW FLOW			21	Aug 10	1.50	
ANNUAL RUNOFF (CFM)	1.28		1.28		20.33	
ANNUAL RUNOFF (INCHES)	17.36		17.35		147	
10 PERCENT EXCEEDS	103		120		73	
50 PERCENT EXCEEDS	65		64		36	
90 PERCENT EXCEEDS	44		30			



## TUCKAHOE RIVER BASIN

181

01411300 TUCKAHOE RIVER AT HEAD OF RIVER, NJ

LOCATION.--Lat 39°18'25", long 74°49'15". Cape May County, Hydrologic Unit 02040302, on right bank at highway bridge on State Route 49, 0.2 mi upstream from McNeals Branch, 0.4 mi southeast of Head of River, and 3.7 mi west of Tuckahoe.

DRAINAGE AREA.--30.8 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1969 to current year.

REVISED RECORDS.--WDR NJ-78-1: 1975(M), 1976(M). WDR NJ-89-1: (M). WDR NJ-91-1: 1990. WRD NJ-97-1: 1971(M), 1978(M), 1979 (M), 1983 (P), 1994(P).

GAGE.--Water-stage recorder, wooden control, and downstream tidal crest-stage gage. Datum of gage is sea level.

REMARKS.--Records good, except for estimated discharges which are fair. Occasional regulation by ponds above station. There is a fish gate in the left weir which was open this year. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e48	19	33	25	40	44	120	34	27	23	16	13
2	e35	19	31	25	36	41	91	33	30	22	15	13
3	e28	19	29	25	34	39	74	32	37	20	14	13
4	27	19	27	24	32	39	62	30	36	28	14	13
5	26	19	26	24	52	55	55	29	32	38	14	13
6	26	19	26	24	104	49	51	29	29	35	14	12
7	24	19	25	24	90	46	49	28	28	31	14	12
8	23	19	25	25	66	42	48	28	27	30	13	12
9	22	19	24	29	52	42	48	28	26	28	13	11
10	22	31	24	27	46	42	50	27	25	24	12	11
11	22	29	25	26	42	40	51	27	24	21	38	11
12	21	27	25	27	39	38	63	26	28	20	55	11
13	21	25	24	26	41	56	65	25	27	19	36	11
14	20	25	30	26	40	70	59	25	25	19	30	11
15	20	27	32	29	40	62	52	24	24	18	25	13
16	20	25	30	31	41	62	54	24	24	17	21	11
17	20	24	40	31	65	60	55	24	64	16	18	11
18	20	23	54	30	70	54	52	24	139	19	17	11
19	20	22	47	38	57	47	48	24	114	22	16	11
20	20	22	39	80	48	43	46	24	74	20	18	11
21	19	21	35	112	44	60	45	31	49	18	18	12
22	19	21	33	85	41	146	45	35	37	17	17	11
23	19	20	31	60	40	130	43	35	37	16	16	11
24	19	20	29	48	41	94	40	33	49	15	17	11
25	19	20	27	43	43	72	39	31	40	15	16	14
26	19	44	26	39	58	60	38	30	35	16	15	14
27	19	54	26	37	56	55	37	31	32	22	14	13
28	19	47	26	35	49	50	36	30	29	20	16	12
29	19	38	25	34	---	48	35	30	27	19	15	12
30	19	35	26	37	---	107	34	29	24	19	14	e14
31	19	---	25	41	---	148	---	27	---	18	14	---
TOTAL	694	771	925	1167	1407	1941	1585	887	1199	665	585	359
MEAN	22.4	25.7	29.8	37.6	50.2	62.6	52.8	28.6	40.0	21.5	18.9	12.0
MAX	48	54	54	112	104	148	120	35	139	38	55	14
MIN	19	19	24	24	32	38	34	24	24	15	12	11
CFSM	.73	.83	.97	1.22	1.63	2.03	1.72	.93	1.30	.70	.61	.39
IN.	.84	.93	1.12	1.41	1.70	2.34	1.91	1.07	1.45	.80	.71	.43

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2001, BY WATER YEAR (WY)

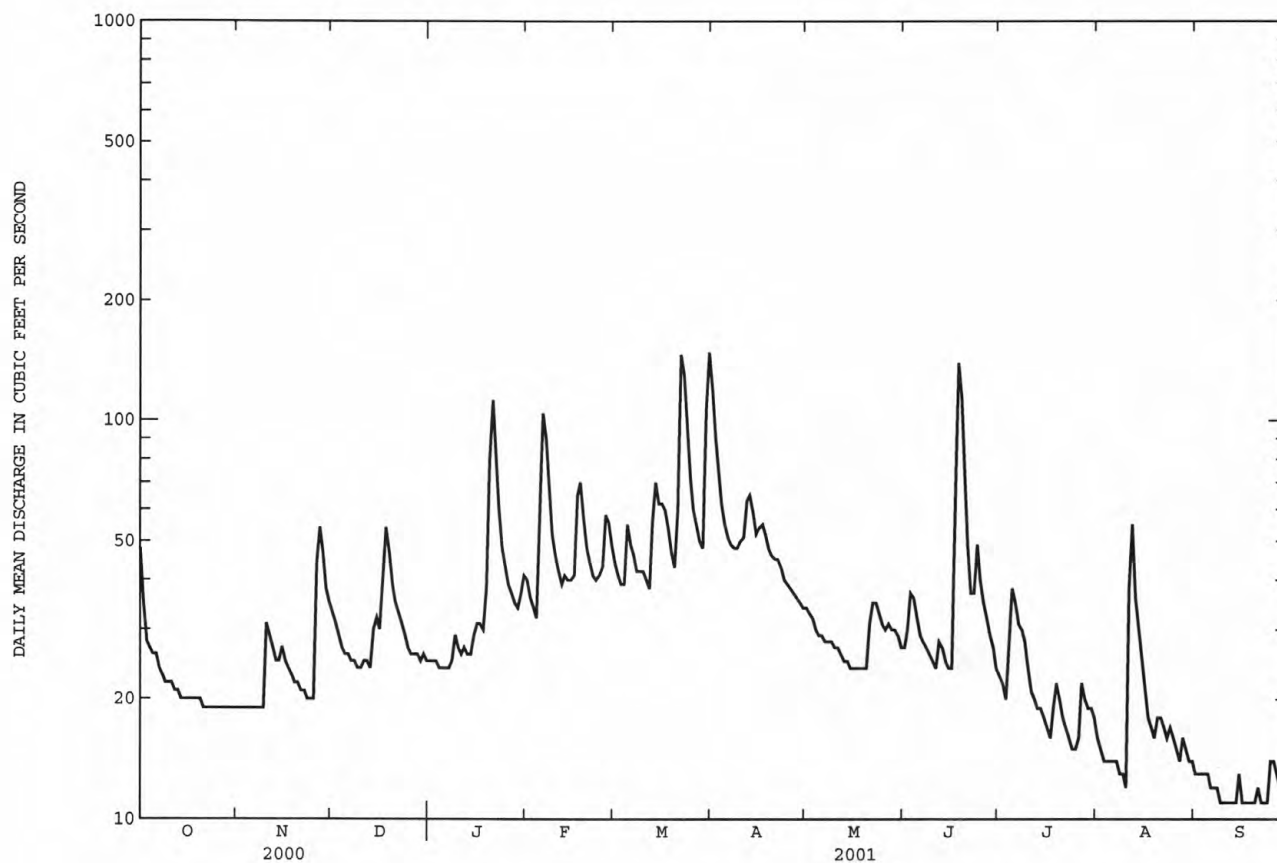
MEAN	26.6	33.4	41.6	51.6	54.4	69.7	69.2	54.1	37.4	27.0	27.5	22.8
MAX	59.9	81.4	97.0	101	101	162	174	123	83.7	55.8	99.3	64.7
(WY)	1997	1973	1997	1978	1973	1998	1983	1998	1984	1996	1997	1989
MIN	15.1	16.8	19.4	16.0	24.4	26.4	21.3	20.0	14.8	11.7	10.6	7.04
(WY)	1978	1992	1981	1981	1995	1995	1985	1977	1977	1999	1988	1980

## TUCKAHOE RIVER BASIN

01411300 TUCKAHOE RIVER AT HEAD OF RIVER, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1970 - 2001	
ANNUAL TOTAL	12298		12185		42.8	
ANNUAL MEAN	33.6		33.4		66.0	
HIGHEST ANNUAL MEAN					21.7	
LOWEST ANNUAL MEAN					1.3	
HIGHEST DAILY MEAN	305	Mar 23	148	Mar 31	920	Aug 21 1997
LOWEST DAILY MEAN	13	Jul 13	11	Sep 9	1.3	Sep 3 1980
ANNUAL SEVEN-DAY MINIMUM	14	Jul 13	11	Sep 8	1.9	Sep 9 1980
MAXIMUM PEAK FLOW			155	Mar 22	1340	Aug 21 1997
MAXIMUM PEAK STAGE			4.89	Mar 22	9.09	Aug 22 1997
INSTANTANEOUS LOW FLOW			10	Sep 13	5.7	Aug 13 1999
ANNUAL RUNOFF (CFSM)	1.09		1.08		1.39	
ANNUAL RUNOFF (INCHES)	14.85		14.72		18.88	
10 PERCENT EXCEEDS	52		55		83	
50 PERCENT EXCEEDS	26		27		32	
90 PERCENT EXCEEDS	19		14		15	

e Estimated.



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.--April 2000 to current year. June 1997 to March 2000 (unpublished fragmentary gage-height record).

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 1.30 ft.

REMARKS.--No gage height record for portions of October 26, December 23-26, March 30, April 10, May 6, and June 18. 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, 4.38 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, 4.38 ft (NAVD of 1988), Sept. 30; minimum recorded, -4.63 ft (NAVD of 1988), Feb. 11.

Summaries of tide elevations during the 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	2.88	3.47	3.14	3.25	2.69	4.03	2.96	3.35	3.36	3.77	3.31	4.38
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	-3.12	-2.75	-2.66	-2.89	-2.62	-2.23
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	1.78	1.86	2.11	2.10	2.14	2.10	2.39
Mean water level		-.08	-.11	-.68	-.43	-.70	-.16	-.11	.18	.08	.19	.14	.46
Mean low tide		-2.06	-2.08	-2.66	-2.41	-2.74	-2.11	-2.11	-1.80	-1.91	-1.81	-1.82	-1.50

LOCATION.--Lat 39°09'27", long 74°41'53", revised, Cape May County, Hydrologic Unit 02040302, on bulkhead at Sea Isle City Municipal Marina in Sea Isle City, 700 ft southeast of east side of bridge on John F. Kennedy Boulevard (County Route 625) over Ludlam Thorofare, and 0.9 mi south of Ludlam Bay.

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 1.27 ft. From May 1975 to May 1978, water-stage recorder at NGVD of 1929 located 800 ft southwest of current station. From October 1978 to September 1984, crest-stage gage at NGVD of 1929 located 800 ft southwest of current station.

EXTREMES FOR PERIOD OF PUBLISHED RECORD.--Maximum elevation recorded, 6.34 ft (adjusted to NAVD 0f 1988), March 29, 1984, from tidal crest-stage gage.

Summaries of tide elevations during the year are as follows:

[illegible]



## GREAT CHANNEL

185

01411360 GREAT CHANNEL AT STONE HARBOR, NJ

LOCATION.--Lat 39°03'24", long 74°45'52" (revised), 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.--October 1964 to September 1999 (annual maximum elevation only), October 1977 to May 1978, May 1997 to February 2000 (unpublished fragmentary gage-height record), March 2000 to present 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) elevation, add 1.30 ft. To determine approximate elevations to Mean Lower Low Water Datum elevation, 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 NGVD 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 dash (---) lines. Gage-height satellite telemeter 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, 4.14 ft (NAVD of 1988), Sept. 30; minimum elevation recorded, -4.82 ft (NAVD of 1988), Feb. 11.

Summaries of tide elevations during the 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	3.14	3.55	3.12	3.28	2.70	4.07	2.84	3.15	3.13	3.71	3.09	4.14
high tide	Date	17	12	12	9	9	7	26	23	22	19	19	30
Minimum	Elevation	-4.08	-4.35	-4.52	-4.11	-4.82	-4.01	-3.62	-3.22	-3.13	-3.31	-2.99	-2.62
low tide	Date	11	23	13	10	11	12	23	4	21	25	18	17,18
Mean high tide		1.94	1.87	1.29	1.60	1.35	1.83	1.74	1.90	1.85	1.91	1.86	2.15
Mean water level		-.05	-.12	---	-.38	-.75	-.19	-.33	-.12	-.22	-.09	-.16	.18
Mean low tide		-2.16	-2.21	-2.84	-2.61	-2.93	-2.29	-2.49	-2.24	-2.39	-2.21	-2.25	-1.89

## GRASSY SOUND CHANNEL

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 pump house at Lighthouse Point 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) elevation, add 1.30 ft. To determine approximate elevations to Mean Lower Low Water Datum elevation, based on data from National Ocean Service station 8535838, add 3.03 ft.

REMARKS.--No gage-height record for portions of December 23 to January 4. 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, 4.26 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, 4.26 ft, Mar. 7; minimum recorded, -5.17 ft, Feb. 11.

Summaries of tide elevations during the 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	3.28	3.84	3.39	3.53	2.94	4.26	3.01	3.30	3.38	3.90	3.32	4.09
high tide	Date	17	12	12	9	9	7	26	23	22	19	19	30
Minimum	Elevation	-4.32	-4.65	-5.04	-4.40	-5.17	-4.41	-3.95	-3.52	-3.41	-3.55	-3.43	-3.17
low tide	Date	11	22	12	10	11	12	22	4,5	21	25	20	17
Mean high tide		2.13	2.02	---	1.94	1.51	1.93	1.87	2.05	2.00	2.06	2.00	2.29
Mean water level		-.05	-.14	---	-.19	-.72	-.26	-.38	-.14	-.23	-.11	-.18	-.15
Mean low tide		-2.38	-2.47	---	-2.72	-3.13	-2.57	-2.37	-2.45	-2.57	-2.46	-2.48	-2.17

## 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 mi<sup>2</sup>.

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) elevation, 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 dash (---) 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, -5.51 ft (NAVD of 1988), Dec. 13, 2000.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 5.6 ft (adjusted to NAVD of 1988), Dec. 11, 1992, from high-water mark near Reeds Beach, 4.5 mi southwest of station.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 3.51 ft (NAVD of 1988), March 7; minimum recorded, -5.51 ft (NAVD of 1988), Dec. 13.

Summaries of tide elevations during the 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	2.95	3.23	3.41	3.16	2.83	3.51	2.92	3.07	3.13	3.28	3.07	3.23
high tide	Date	17	12	12	9	9	7	27	24	23	19	20	15
Minimum	Elevation	-4.65	-4.83	-5.51	e-4.6	-5.45	-5.14	-4.7	-4.45	-4.27	-4.14	-4.42	-3.82
low tide	Date	11	23	13	10	11	12	23	5	21	25	18	17
Mean high tide		2.33	2.30	---	---	1.98	2.26	2.28	2.37	2.37	2.39	2.36	2.45
Mean water level		.18	.24	---	---	-.43	.07	-.02	.18	.14	.22	.19	.45
Mean low tide		-3.18	-3.00	---	---	-3.78	-3.28	-3.53	-3.24	-3.35	-3.20	-3.22	-2.81

e Estimated

## 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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records good, 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	e2.1	9.9	4.4	17	12	37	5.7	12	2.5	.67	.69
2	4.4	e2.2	7.9	4.4	15	11	29	5.2	21	2.4	.63	.63
3	3.5	e2.1	6.4	4.3	14	9.4	22	4.9	25	2.0	.63	.63
4	2.9	e2.3	5.3	4.1	12	9.4	18	4.5	24	2.0	.63	.77
5	2.7	e2.4	4.6	3.9	16	14	15	4.2	18	2.3	.63	.81
6	2.6	e2.4	3.9	3.9	26	15	13	3.9	13	2.7	.60	.63
7	2.9	e2.3	3.6	3.9	28	14	12	3.7	9.6	2.2	.58	.55
8	2.5	e2.3	3.4	4.3	25	13	11	3.5	7.1	1.9	.55	.55
9	2.3	e2.6	3.2	6.4	20	12	11	3.3	5.5	1.9	.55	.51
10	2.2	e4.8	3.0	6.8	17	12	16	3.2	4.5	1.7	.60	.47
11	2.1	e5.4	3.1	6.7	15	11	18	3.0	3.7	1.7	.73	.47
12	2.1	e4.8	3.3	6.6	13	9.9	25	2.9	5.7	1.5	1.1	.47
13	2.0	e4.4	3.2	6.3	12	17	24	2.9	4.9	1.3	1.1	.47
14	1.9	e4.2	8.1	5.6	11	20	21	2.7	4.2	1.2	1.1	.47
15	1.9	e4.4	12	8.1	11	19	18	2.5	3.7	1.2	.89	.47
16	1.9	e4.1	11	11	11	19	18	2.3	3.7	1.1	.78	.47
17	e1.9	e3.9	25	11	16	17	18	2.2	15	1.1	.72	.45
18	e2.0	e4.2	42	11	15	16	17	2.2	24	1.1	.68	.42
19	e2.1	e3.5	37	14	14	14	16	2.3	22	1.1	.73	.41
20	e2.0	e3.7	30	28	13	12	15	2.2	16	1.0	1.0	.48
21	e2.1	e3.8	22	32	12	16	13	3.8	10	.96	.83	.61
22	e2.1	e4.1	17	27	10	30	13	8.3	7.9	.91	.72	.55
23	e2.1	e3.9	14	20	8.9	30	12	11	8.9	.91	.72	.55
24	e2.1	e3.9	11	16	9.2	25	11	11	15	.91	.69	.55
25	e2.1	e4.2	9.1	14	11	20	9.7	9.8	13	.91	.63	.63
26	e2.1	e10	7.2	12	15	16	8.7	8.8	10	.81	.63	.63
27	e2.1	16	6.0	11	15	14	7.8	19	6.8	.81	.79	.63
28	e2.1	14	5.3	10	14	13	7.3	26	4.8	.81	1.1	.59
29	e2.2	12	4.7	9.2	---	12	6.6	26	3.7	.75	.81	.60
30	e2.2	11	4.5	12	---	29	6.1	21	3.0	.80	.72	.65
31	e2.2	---	4.4	17	---	40	---	15	---	.72	.72	---
TOTAL	75.3	151.0	331.1	334.9	416.1	521.7	469.2	227.0	325.7	43.20	23.26	16.81
MEAN	2.43	5.03	10.7	10.8	14.9	16.8	15.6	7.32	10.9	1.39	.75	.56
MAX	6.0	16	42	32	28	40	37	26	25	2.7	1.1	.81
MIN	1.9	2.1	3.0	3.9	8.9	9.4	6.1	2.2	3.0	.72	.55	.41
CFSM	.25	.52	1.09	1.11	1.52	1.72	1.60	.75	1.11	.14	.08	.06
IN.	.29	.57	1.26	1.28	1.58	1.99	1.79	.86	1.24	.16	.09	.06

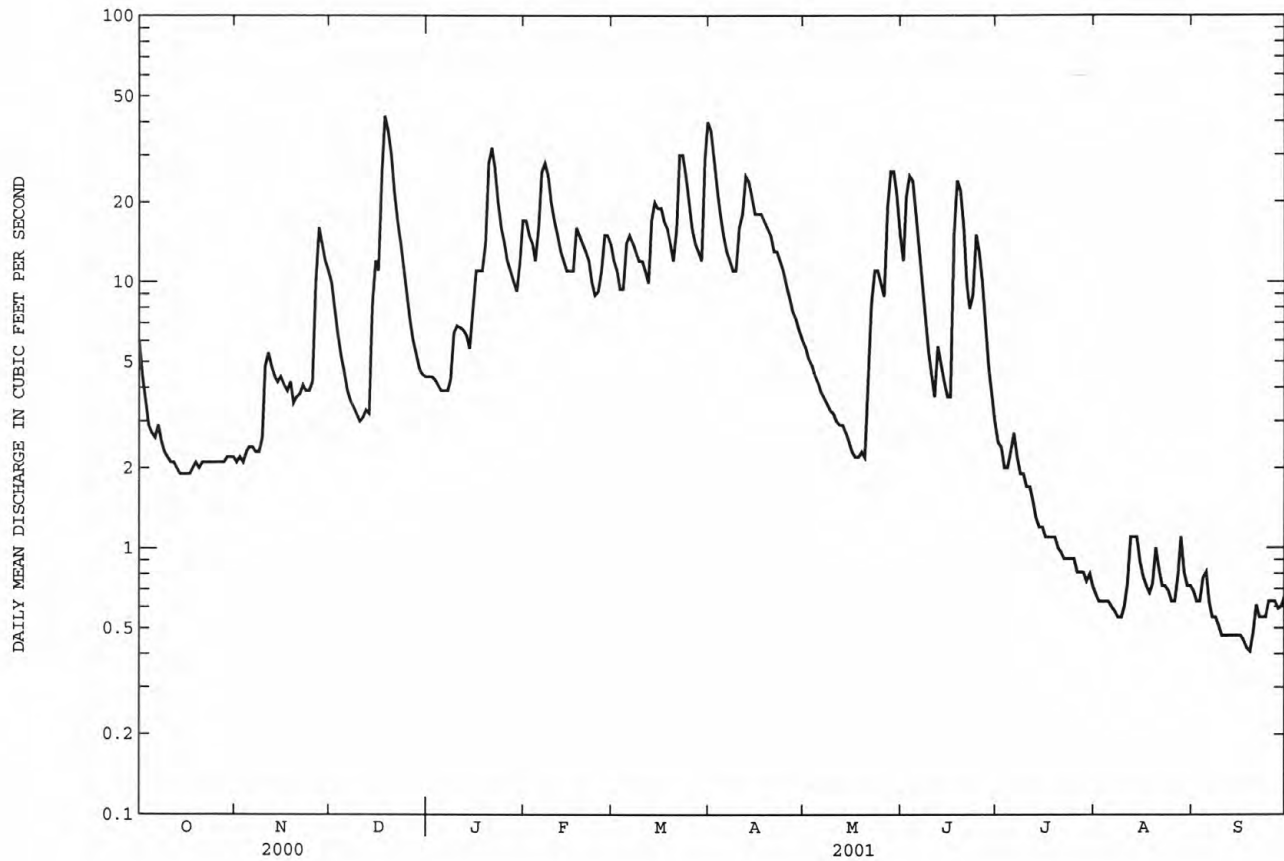
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2001, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	5.52	7.33	11.9	14.5	14.5	20.4	16.9	11.7	6.50	4.49	4.76	4.38		
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	1.24	3.75	2.08	6.65	6.37	9.91	5.65	4.45	1.38	.85	.75	.56		
(WY)	1999	1999	1999	2000	1992	1992	1992	1999	1999	1999	2001	2001		

01411456 LITTLE EASE RUN NEAR CLAYTON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1988 - 2001	
ANNUAL TOTAL	3031.8		2935.27		10.4	
ANNUAL MEAN	8.28		8.04		14.3	
HIGHEST ANNUAL MEAN					5.70	1997
LOWEST ANNUAL MEAN					111	1995
HIGHEST DAILY MEAN	104	Mar 23	42	Dec 18	Sep 20	1989
LOWEST DAILY MEAN	1.1	Jul 12	.41	Sep 19	Aug 16	1988
ANNUAL SEVEN-DAY MINIMUM	1.2	Jul 8	.45	Sep 13	Sep 13	2001
MAXIMUM PEAK FLOW			43	Dec 18	Sep 20	1989
MAXIMUM PEAK STAGE			3.36	Dec 18	Mar 22	2000
INSTANTANEOUS LOW FLOW			.41	Sep 17	Aug 15	1988
ANNUAL RUNOFF (CFSM)	.85		.82		1.06	
ANNUAL RUNOFF (INCHES)	11.54		11.18		14.40	
10 PERCENT EXCEEDS	17		19		23	
50 PERCENT EXCEEDS	4.7		4.4		7.0	
90 PERCENT EXCEEDS	1.8		.63		1.4	

e Estimated





## MAURICE RIVER BASIN

01411500 MAURICE RIVER AT NORMA, NJ

LOCATION.--Lat 39°29'44", long 75°04'38" (revised), Salem County, Hydrologic Unit 02040206, on right bank just upstream from bridge on Almond Road (County Route 540) at Norma, 0.8 mi downstream from Blackwater Branch, and 2.9 mi west of Vineland.

DRAINAGE AREA.--112 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1932 to current year. Monthly discharge only for December 1933, published in WSP 1302.

REVISED RECORDS.--WSP 1382: 1933. WDR NJ-79-1: 1967(P). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Dec. 27, 1937. Datum of gage is 46.94 ft above sea level.

REMARKS.--Records good. Occasional regulation 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 ft<sup>3</sup>/s and maximum (\*):

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	67	140	127	197	186	373	142	190	101	61	58
2	114	66	129	123	196	179	362	139	196	94	60	55
3	110	65	119	121	189	172	330	137	192	84	59	54
4	102	66	112	119	179	169	284	134	182	91	58	54
5	97	67	106	117	195	181	256	131	182	100	58	62
6	94	67	103	117	246	186	230	127	178	101	57	58
7	97	65	99	117	251	189	219	124	162	95	55	57
8	95	65	98	118	256	186	214	122	145	93	53	57
9	92	66	98	126	248	184	213	121	131	93	52	55
10	89	96	94	127	235	179	211	119	122	88	51	55
11	87	102	97	127	220	172	214	116	114	89	52	58
12	85	94	99	125	203	167	233	110	134	86	54	55
13	84	90	98	123	193	200	239	108	122	84	62	53
14	82	88	111	120	185	217	245	106	113	82	77	53
15	80	89	125	128	181	221	238	104	108	79	73	53
16	79	85	136	135	180	233	238	102	106	60	69	50
17	78	83	182	140	204	234	231	100	148	60	66	49
18	77	84	244	139	205	226	223	100	190	69	62	48
19	76	80	261	158	202	213	214	102	195	80	61	48
20	75	78	274	223	196	196	206	103	199	74	73	48
21	75	77	259	256	188	202	199	119	182	70	68	56
22	75	80	238	260	180	268	194	145	157	67	66	56
23	75	81	213	247	176	276	188	166	149	65	63	56
24	73	79	189	228	173	274	180	177	165	62	60	55
25	73	73	169	209	173	260	145	171	165	62	57	57
26	72	119	152	191	183	242	150	165	172	63	55	57
27	71	153	141	176	186	228	151	178	164	64	54	55
28	72	153	134	166	190	214	150	207	141	62	59	54
29	70	154	129	158	---	203	148	229	111	62	58	52
30	68	150	128	168	---	257	145	230	106	63	58	52
31	67	---	129	196	---	317	---	212	---	62	59	---
TOTAL	2627	2682	4606	4885	5610	6631	6623	4346	4621	2405	1870	1630
MEAN	84.7	89.4	149	158	200	214	221	140	154	77.6	60.3	54.3
MAX	143	154	274	260	256	317	373	230	199	101	77	62
MIN	67	65	94	117	173	167	145	100	106	60	51	48
CFSM	.76	.80	1.33	1.41	1.79	1.91	1.97	1.25	1.38	.69	.54	.49
IN.	.87	.89	1.53	1.62	1.86	2.20	2.20	1.44	1.53	.80	.62	.54

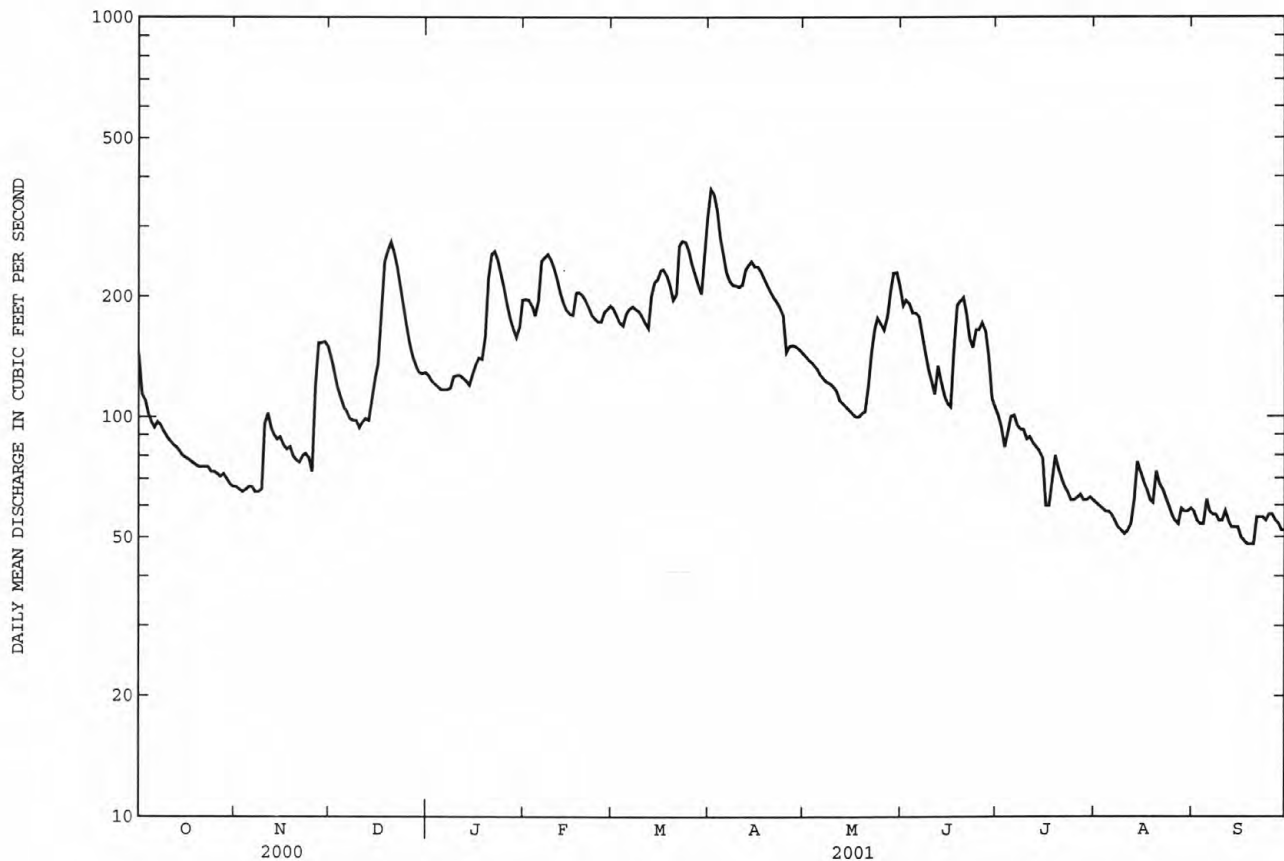
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2001, BY WATER YEAR (WY)

	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
MEAN	112	137	166	189	200	231	226	189	146	122	123	120
MAX	266	330	385	380	418	427	437	387	291	333	327	591
(WY)	1990	1973	1973	1936	1939	1979	1984	1958	1979	1975	1958	1940
MIN	48.6	46.7	57.1	64.7	95.7	97.2	90.9	79.5	57.7	35.6	34.6	40.6
(WY)	1966	1966	1966	1966	1981	1981	1966	1977	1966	1966	1966	1965

01411500 MAURICE RIVER AT NORMA, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1933 - 2001	
ANNUAL TOTAL	50824		48536		163	
ANNUAL MEAN	139		133		253	1973
HIGHEST ANNUAL MEAN					67.4	1966
LOWEST ANNUAL MEAN					5260	Sep 2 1940
HIGHEST DAILY MEAN	812	Mar 24	373	Apr 1	23	Sep 8 1964
LOWEST DAILY MEAN	65	Nov 3	48	Sep 18	23	Sep 7 1966
ANNUAL SEVEN-DAY MINIMUM	66	Nov 2	50	Sep 14	7360a	Sep 2 1940
MAXIMUM PEAK FLOW			374	Apr 1	8.72	Sep 2 1940
MAXIMUM PEAK STAGE			3.41	Apr 1	23	Sep 8 1964
INSTANTANEOUS LOW FLOW			46	Sep 19	1.46	
ANNUAL RUNOFF (CFSM)	1.24		1.19		19.79	
ANNUAL RUNOFF (INCHES)	16.88		16.12		281	
10 PERCENT EXCEEDS	216		228		142	
50 PERCENT EXCEEDS	124		119		68	
90 PERCENT EXCEEDS	77		58			

a From rating curve extended above 3,000 ft<sup>3</sup>/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 1999 (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) elevation, add 1.20 ft. To determine elevations to Mean Lower Low Water Datum elevation, 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.--No gage height record portions of December 23 to January 5. 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, 6.91 ft (adjusted to NAVD of 1988), Oct. 25, 1980, from tidal crest-stage gage; minimum recorded, -4.95 ft (NAVD of 1988), Feb. 10, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 4.66 ft (NAVD of 1988), Mar. 8; minimum recorded, -4.95 ft (NAVD of 1988), Feb. 10.

Summaries of tide elevations during the 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	3.84	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	-4.92	-4.95	-3.84	-4.95	-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	---	---	-.40	-.09	-.14	.06	.03	-.10	-.06	-.30
Mean low tide		-2.83	-2.82	---	---	-3.38	-3.03	-3.13	-2.80	-2.96	-2.84	-2.85	-2.53

## 01434000 DELAWARE RIVER AT PORT JERVIS, NY

LOCATION.--Lat 41°22'14", long 74°41'52", Pike County, PA, Hydrologic Unit 02040104, on right bank 250 ft downstream from bridge (on U.S. Highways 6 and 209) between Port Jervis, N.Y. and Matamoras, PA, 1.2 mi upstream from Neversink River, and 6.5 mi downstream from Mongaup River.

DRAINAGE AREA.--3,070 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1904 to current year.

REVISED RECORDS.--WSP 1031: 1905-36. WDR NY-71-1: 1970. WDR NY-82-1: Drainage area. WDR NY-86-1: 1979-80.

GAGE.--Water-stage recorder. Datum of gage is 415.35 ft above sea level. October 1904 to August 13, 1928, non-recording gage at bridge 250 ft upstream at present datum; operated by U.S. Weather Service prior to June 20, 1914.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Wallenpaupack and by Toronto, Cliff Lake, and Swinging Bridge Reservoirs (see Reservoirs in Delaware River Basin) and smaller reservoirs. Large diurnal fluctuations at medium and low flows caused by powerplants on tributary streams. Subsequent to September 1954, entire flow from 371 mi<sup>2</sup> of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi<sup>2</sup> of drainage area controlled by Cannonsville Reservoir (see Reservoirs in Delaware River Basin). Part of flow from these reservoirs diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Satellite and telephone gage-height telemeters and National Weather Service telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to current degree of regulation, 233,000 ft<sup>3</sup>/s, Aug. 19, 1955, gage height, 23.91 ft, from floodmarks in gage house, from rating curve extended above 89,000 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; maximum discharge since current degree of regulation, 134,000 ft<sup>3</sup>/s, Jan. 20, 1996, gage height, 18.37 ft; maximum gage height, 26.6 ft, Feb. 12, 1981 (ice jam), from floodmarks; minimum observed discharge, 175 ft<sup>3</sup>/s, Sept. 23, 1908, gage height, 0.6 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--The U.S. Weather Bureau reported a discharge of 205,000 ft<sup>3</sup>/s, Oct. 10, 1903, gage height, 23.1 ft, from rating curve extended above 70,000 ft<sup>3</sup>/s, by velocity-area studies; maximum gage height, 25.5 ft, Mar. 8, 1904 (ice jam).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 57,700 ft<sup>3</sup>/s, Dec. 18, gage height, 11.76 ft, result of ice jam release; minimum, 989 ft<sup>3</sup>/s, Sept. 30, gage height, 1.94 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2210	1640	2530	4420	2530	3170	16800	3110	2330	2080	1870	1880
2	1890	1680	2350	3890	3200	2990	13300	3010	3280	1950	1860	1940
3	2060	1690	2050	3510	3080	2820	11800	2990	6230	2560	1800	1790
4	2110	1690	1680	3270	2430	2690	11500	2780	6680	2070	1790	1670
5	2150	1670	1610	3560	2400	2890	12300	2420	5380	1420	1830	1850
6	2670	1540	1750	3350	2480	2900	13900	1830	4230	1730	1640	1770
7	4170	1520	1670	2890	2430	2960	14800	1810	3570	1900	2060	2240
8	2840	1570	1750	2690	2470	2950	18400	1790	3110	1520	2190	1940
9	2170	1560	1590	2710	2270	2980	21100	1780	2520	1630	2390	1840
10	1960	1490	1470	2600	2440	2670	32600	1540	2270	2110	2470	1810
11	1720	3870	1620	2240	3950	2300	32300	1490	2060	2000	1900	1770
12	1650	3820	1760	2200	4390	2250	26600	1420	2710	1990	1770	1800
13	1670	3040	1990	2160	3550	2910	23400	1430	2670	1830	1700	1680
14	1610	2630	1880	1960	3440	3840	19800	1210	2340	1670	1580	1770
15	1700	2930	1880	1810	3780	3970	15800	1120	2250	1430	1600	1940
16	1650	3180	1900	1870	4740	3920	13800	1120	2310	1590	1610	1780
17	1610	2820	13300	1920	4470	3930	12900	1260	4490	1750	1700	1630
18	1940	2550	41400	1860	4000	4080	11300	1320	5690	1740	1850	1730
19	6510	2370	18700	1940	3630	4640	9930	1500	4180	1760	1700	1680
20	5520	2260	13200	1890	3260	4870	8480	1510	3320	1700	1500	1740
21	4100	2170	10400	1710	3680	5780	6810	1470	3190	1740	1530	2210
22	3400	2080	9100	1790	3900	10500	6160	1540	2860	1640	1680	2130
23	2860	1900	7780	1790	3350	14700	6130	2010	2680	1700	1680	1470
24	2450	1590	6740	2000	3090	13400	6030	2360	2590	1910	1700	1340
25	2390	1500	6380	1840	3010	11000	5220	2140	2600	1970	1760	1420
26	2300	1790	6170	2040	3550	9450	4840	1870	2390	1900	1670	2220
27	2010	2810	5360	1790	3820	8220	4330	2660	2350	1980	1620	2400
28	1960	2920	5290	1520	3660	7360	3620	3660	2380	2150	1680	1750
29	1780	2660	5250	1460	---	6990	2890	4080	2400	1880	1680	1370
30	1810	2540	4490	1710	---	12100	3040	3240	2200	1690	1730	1260
31	1680	---	4270	1910	---	24000	---	2560	---	1840	1770	---
TOTAL	76550	67480	187310	72300	93000	189230	389880	64030	97260	56830	55310	53820
MEAN	2469	2249	6042	2332	3321	6104	13000	2065	3242	1833	1784	1794
MAX	6510	3870	41400	4420	4740	24000	32600	4080	6680	2560	2470	2400
MIN	1610	1490	1470	1460	2270	2250	2890	1120	2060	1420	1500	1260

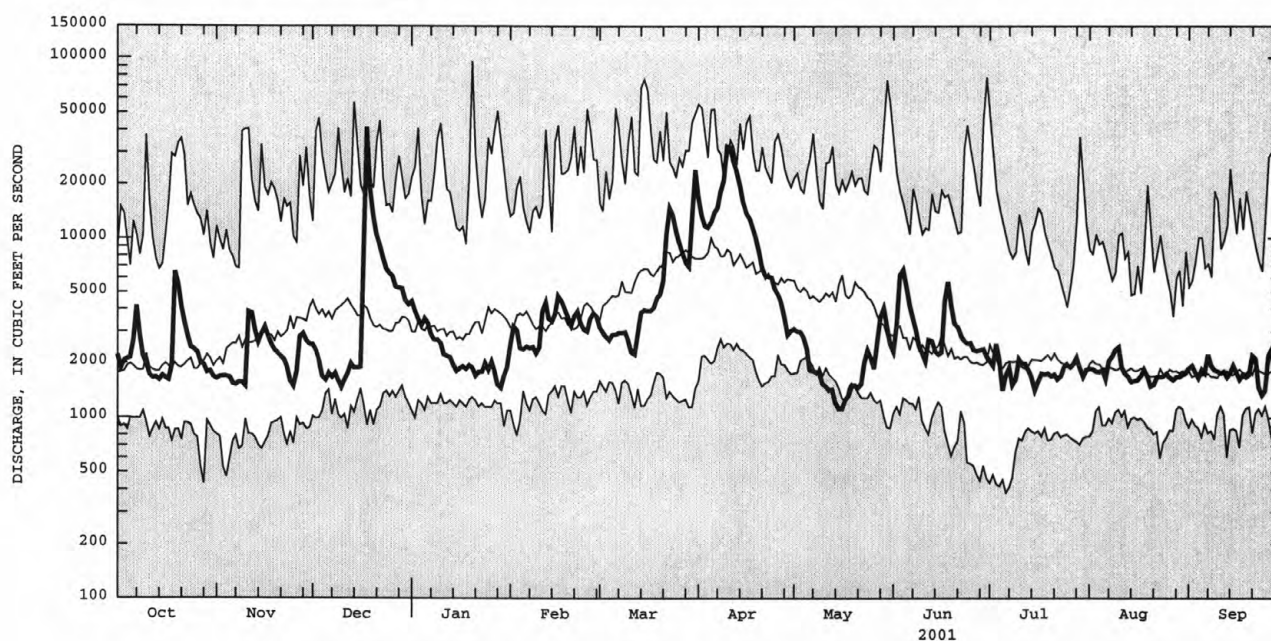
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001, BY WATER YEAR (WY)

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
MEAN	2964	4052	5149	4796	5112	8039	9524	6074	3882	2693	2229	2399
MAX	10440	10310	17280	12980	13730	17520	23650	12670	12650	6680	4513	7928
(WY)	1978	1973	1997	1996	1976	1977	1993	1984	1972	1973	1969	1987
MIN	1001	884	1475	1216	1601	2583	2954	1890	993	699	963	1144
(WY)	1965	1965	1999	1981	1980	1981	1985	1995	1965	1965	1965	1965

## DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1964 - 2001	
ANNUAL TOTAL	2051040		1403000		4738	
ANNUAL MEAN	5604		3844		7216	
HIGHEST ANNUAL MEAN					2028	
LOWEST ANNUAL MEAN					1973	
HIGHEST DAILY MEAN	41400	Dec 18	41400	Dec 18	95200	Jan 20 1996
LOWEST DAILY MEAN	1470	Dec 10	1120	May 15	385	Jul 6 1965
ANNUAL SEVEN-DAY MINIMUM	1580	Nov 4	1270	May 12	432	Jul 1 1965
10 PERCENT EXCEEDS	12500		7140		10300	
50 PERCENT EXCEEDS	3250		2250		2830	
90 PERCENT EXCEEDS	1750		1600		1510	



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

LOCATION.--Lat 41°26'28", long 74°36'08", Orange County, Hydrologic Unit 02040104, on right bank just upstream from highway bridge on Graham Road, 0.5 mi downstream from Basher Kill, 0.8 mi southeast of Godeffroy, 1.7 mi south of Cuddebackville, and 8.5 mi upstream from mouth.

DRAINAGE AREA.--307 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1937 to current year. Gage heights and discharge measurements, August to October 1903 and August 1909 to April 1914, and twice-daily figures of discharge for January 1911 to December 1912 (which do not represent daily mean discharges because of diurnal fluctuation) are published in WSP 97, 261, 321, 351, and 381. August to October 1903, published as "Navesink River at Godeffroy, NY."

REVISED RECORDS.--WSP 1502: 1951(M). WDR NY-82-1: Drainage area. WDR NY-87-1: 1986.

GAGE.--Water-stage recorder. Datum of gage is 459.66 ft above sea level (levels by Corps of Engineers). Prior to Apr. 30, 1914, nonrecording gages at same site (August to October 1903 at datum 0.98 ft higher).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Prior to 1949, diurnal fluctuation at low and medium flow caused by powerplant at Cuddebackville. Subsequent to June 1953, entire flow from 92.5 mi<sup>2</sup> of drainage area controlled by Neversink Reservoir (see Reservoirs in Delaware River Basin). Part of flow diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill), impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to regulation, 24,500 ft<sup>3</sup>/s, Nov. 26, 1950, gage height, 11.79 ft; maximum discharge since regulation, 33,000 ft<sup>3</sup>/s, Aug. 19, 1955, gage height, 12.49 ft, from rating curve extended above 11,000 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; minimum discharge observed, no flow July 21, 22, 28, 1911, result of regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,290 ft<sup>3</sup>/s, Dec. 17, gage height, 7.42 ft; minimum, 75 ft<sup>3</sup>/s, Sept. 9, 10, gage height, 3.30 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	124	372	e280	264	e290	1550	253	265	212	120	93
2	206	169	345	e270	254	e290	1330	256	614	227	138	88
3	178	163	e260	e260	231	288	1200	250	783	186	159	85
4	164	171	e250	e250	232	281	1240	241	736	160	237	87
5	165	e170	e250	e240	232	280	1380	231	555	164	264	94
6	207	e170	e240	e240	235	294	1520	223	476	166	178	86
7	263	173	e240	e230	239	295	1490	224	411	156	154	83
8	210	e160	243	e230	222	278	1680	208	354	161	160	82
9	199	e160	250	e220	226	277	1820	201	298	170	151	79
10	199	434	e220	e220	301	273	4280	195	272	170	144	82
11	191	574	e210	e210	e280	259	3630	178	260	251	138	90
12	185	405	e210	e200	e270	256	2850	174	270	210	169	83
13	173	341	e220	e200	e270	338	2930	170	244	168	143	80
14	190	339	e230	206	e280	438	2930	164	221	156	129	98
15	179	481	e250	210	341	405	2110	162	219	150	125	105
16	196	406	279	214	346	415	1710	160	233	146	116	85
17	208	367	2430	214	e330	492	1420	159	632	147	118	82
18	263	345	2650	207	e290	499	1230	161	511	146	133	80
19	408	330	1720	209	e290	486	1050	163	302	141	127	79
20	331	315	1370	215	e300	509	878	152	340	144	128	90
21	292	306	1050	206	e290	598	768	150	318	155	129	261
22	269	291	869	e200	e290	1170	871	205	261	158	123	186
23	262	252	705	e200	e280	1290	787	303	246	157	124	125
24	262	219	608	e200	e270	1290	748	332	307	157	124	109
25	249	255	e500	199	289	1130	713	266	263	154	103	338
26	212	340	e440	189	361	984	560	253	240	166	98	299
27	204	497	e380	189	e310	832	424	607	221	164	97	185
28	196	429	e360	183	e290	748	358	585	212	132	96	151
29	199	385	e340	179	---	700	317	408	222	124	100	142
30	173	375	e310	188	---	1540	269	343	218	121	94	133
31	156	---	e300	233	---	1930	---	292	---	120	97	---
TOTAL	6811	9146	18101	6691	7813	19155	44043	7669	10504	5039	4216	3660
MEAN	220	305	584	216	279	618	1468	247	350	163	136	122
MAX	408	574	2650	280	361	1930	4280	607	783	251	264	338
MIN	156	124	210	179	222	256	269	150	212	120	94	79

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2001, BY WATER YEAR (WY)

	MEAN	296	379	440	374	412	689	843	542	386	239	223	220
MAX	2033	1094	1227	1053	981	1370	2080	1392	1722	652	1327	705	
(WY)	1956	1956	1974	1979	1976	1977	1993	1989	1972	1972	1955	1960	
MIN	91.8	86.3	86.8	72.6	118	297	248	180	111	54.2	76.0	71.1	
(WY)	1998	1966	1999	1981	1980	1981	1985	1962	1957	1966	1968	1972	

## SUMMARY STATISTICS

## FOR 2000 CALENDAR YEAR

## FOR 2001 WATER YEAR

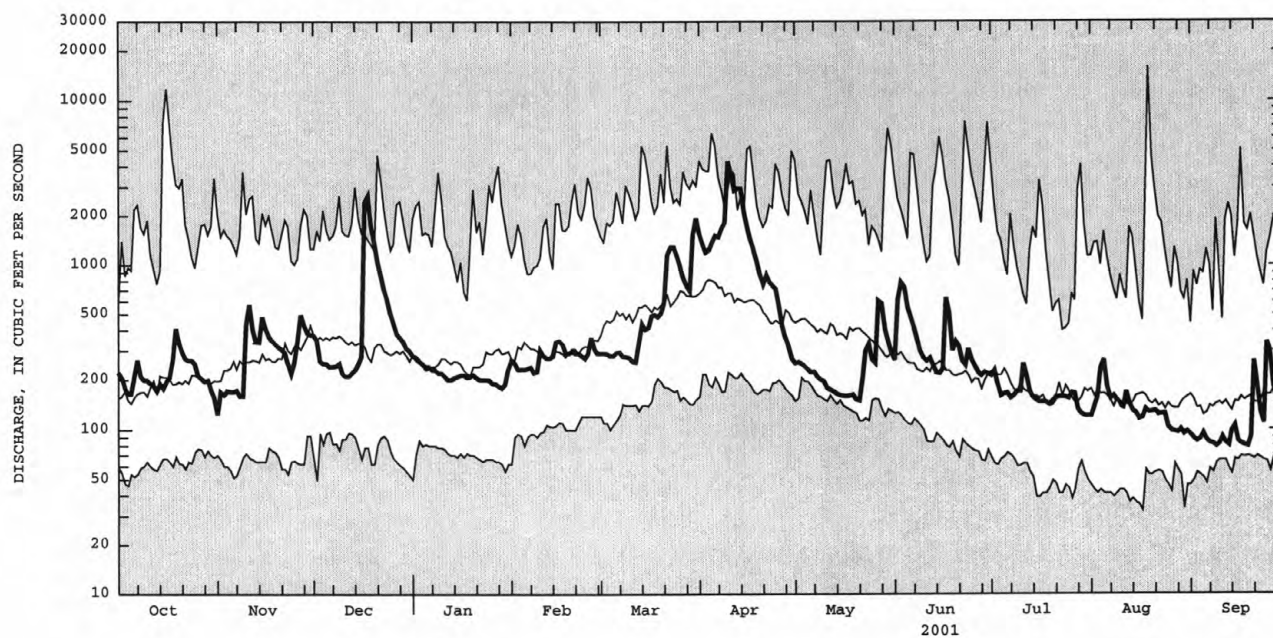
## WATER YEARS 1954 - 2001

ANNUAL TOTAL	187200	142848	
ANNUAL MEAN	511	391	420
HIGHEST ANNUAL MEAN			704
LOWEST ANNUAL MEAN			215
HIGHEST DAILY MEAN	4690	4280	15900
LOWEST DAILY MEAN	124	79	32
ANNUAL SEVEN-DAY MINIMUM	160	83	38
10 PERCENT EXCEEDS	940	785	872
50 PERCENT EXCEEDS	360	240	272
90 PERCENT EXCEEDS	200	124	107

e Estimated

## DELAWARE RIVER BASIN

01437500 NEVERSINK RIVER AT GODEFFROY, 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.

## DELAWARE RIVER BASIN

197

01438500 DELAWARE RIVER AT MONTAGUE, NJ

LOCATION.--Lat 41°18'33", long 74°47'44", Pike County, PA, Hydrologic Unit 02040104, on right bank 1,500 ft upstream from toll bridge (on U.S. Route 206) between Montague, NJ and Milford, PA, 0.8 mi downstream from Sawkill Creek, and at river mile 246.3.

DRAINAGE AREA.--3,480 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1936 to September 1939 (gage heights only, published as "at Milford, PA"). October 1939 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR-NJ-81-2: 1980.

GAGE.--Water-stage recorder. Datum of gage is 369.93 ft above sea level. Prior to Feb. 9, 1940, nonrecording gage on upstream side of left span of subsequently dismantled bridge at present site at datum 70 ft lower.

REMARKS.--Records good except for estimated daily discharges which are fair. Diurnal fluctuation at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack, Cliff Lake, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, and Neversink Reservoirs (see Delaware River basin, diversions). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2440	1960	2900	4690	e2900	3810	19300	3700	2880	2280	1830	1950
2	2120	1930	2740	e4200	e3400	3680	15300	3490	3630	2030	1900	2000
3	2310	1980	2440	e3900	e3500	3480	13600	3430	6650	2650	1850	1850
4	2320	2010	2080	e3600	e2800	3350	13100	3300	7490	2330	1840	1790
5	2350	1980	1960	e3800	e2700	3390	13800	3020	6220	1590	1960	1860
6	2600	1900	2130	e3800	e2900	3520	15400	2330	5020	1900	1700	1820
7	4190	1800	e2100	e3300	e2800	3580	16300	2290	4310	2080	2040	2270
8	3190	1850	e2100	e3100	e2800	3580	19500	2300	3760	1680	2220	2010
9	2430	1900	e1900	e3100	e2700	3600	22400	2240	3250	1750	2410	1910
10	2140	1910	e1800	e3100	e2800	3440	34700	2060	2900	2280	2470	1890
11	1890	3940	1990	e2700	4150	2920	35800	1910	2630	2150	1970	1890
12	1800	4220	2180	e2500	e4700	2730	29400	1920	3240	2220	1850	1880
13	1760	3410	2170	e2600	e4000	3510	26000	1840	3190	2000	1830	1760
14	1780	3020	e2100	e2300	e3800	4540	23000	1680	2920	1830	1680	1850
15	1800	3300	2330	e2300	e4100	4740	18500	1520	2760	1530	1640	2020
16	1710	3520	2230	e2200	5110	4680	15700	1500	2800	1730	1650	1840
17	1690	3240	11600	e2300	5030	4880	14600	1630	4550	1890	1720	1760
18	2040	2950	46300	e2300	4570	4990	12700	1710	6310	1830	1870	1830
19	5950	2730	21400	e2400	4210	5390	11200	1870	4770	1840	1820	1790
20	5770	2620	14900	e2300	3930	5710	9730	1940	3760	1760	1640	1820
21	4390	2490	11800	e2100	4220	6610	8030	1890	3730	1830	1590	2420
22	3700	2430	10300	e2200	4210	10700	7210	2090	3290	1690	1770	2380
23	3210	2260	8830	e2100	e3700	16100	7010	2600	3180	1800	1780	1770
24	2770	1920	7770	e2400	3580	15200	6920	3090	3060	1970	1780	1450
25	2680	1800	6940	e2200	3640	12800	6090	2880	2860	1950	1840	1670
26	2600	2110	6080	e2400	4110	11100	5510	2590	2750	2000	1770	2220
27	2330	3070	5390	e2200	4510	9790	4990	3450	2690	2000	1700	2740
28	2240	3350	5290	e1900	4320	8680	4340	4740	2560	2080	1750	2000
29	2070	3080	5440	e1800	---	8210	3500	4880	2650	1890	1750	1580
30	2070	2920	4370	e2100	---	12100	3480	3980	2480	1750	1790	1340
31	1930	---	4020	e2200	---	25700	---	3220	---	1840	1820	---
TOTAL	82270	77600	205580	84090	105190	216510	437110	81090	112290	60150	57230	57360
MEAN	2654	2587	6632	2713	3757	6984	14570	2616	3743	1940	1846	1912
MAX	5950	4220	46300	4690	5110	25700	35800	4880	7490	2650	2470	2740
MIN	1690	1800	1800	1800	2700	2730	3480	1500	2480	1530	1590	1340

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2001, BY WATER YEAR (WY)

	3301	5044	6152	5825	5955	9958	11910	7356	4430	3055	2590	2648
MEAN	3301	5044	6152	5825	5955	9958	11910	7356	4430	3055	2590	2648
MAX	15690	11760	18830	15600	15120	24480	31560	16090	15200	11220	14230	9167
(WY)	1956	1952	1997	1996	1976	1945	1940	1943	1972	1945	1955	1960
MIN	807	995	1665	1318	1748	3191	3322	2215	1214	864	715	892
(WY)	1942	1965	1999	1981	1980	1981	1985	1965	1965	1954	1954	1941

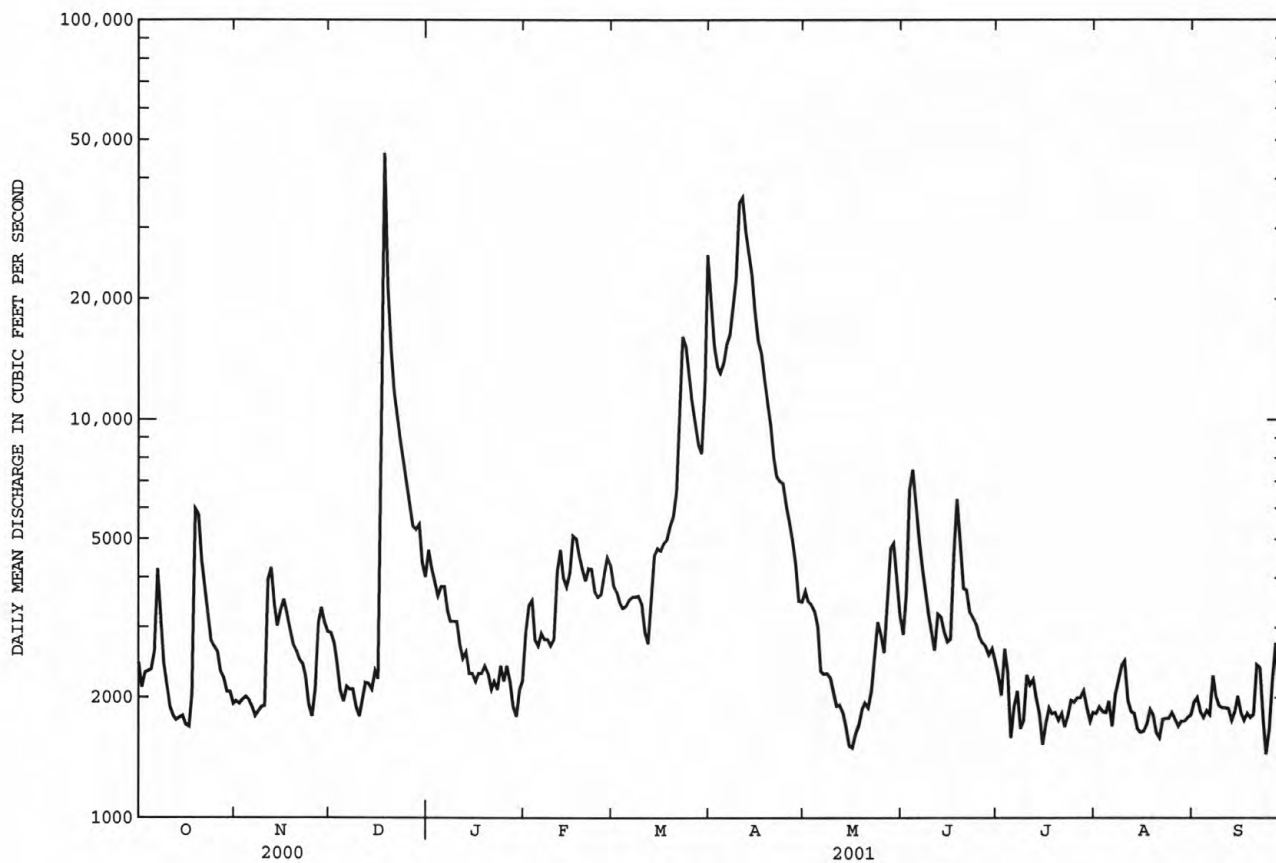
## DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1940 - 2001	
ANNUAL TOTAL	2351440		1576470		5680	
ANNUAL MEAN	6425		4319		8621	
HIGHEST ANNUAL MEAN					2309	
LOWEST ANNUAL MEAN					1952	
HIGHEST DAILY MEAN	46300	Dec 18	46300	Dec 18	187000	Aug 19 1955
LOWEST DAILY MEAN	1690	Oct 17	1340	Sep 30	412	Aug 23 1954
ANNUAL SEVEN-DAY MINIMUM	1780	Oct 11	1680	May 13	565	Jul 1 1965
MAXIMUM PEAK FLOW			58800	Dec 18	250000a	Aug 19 1955
MAXIMUM PEAK STAGE			17.08	Dec 18	35.15	Aug 19 1955
INSTANTANEOUS LOW FLOW			1140	Sep 30	382	Aug 24 1954
10 PERCENT EXCEEDS	13600		8400		12000	
50 PERCENT EXCEEDS	3960		2600		3410	
90 PERCENT EXCEEDS	2080		1780		1600	

a From rating curve extended above 90,000 ft<sup>3</sup>/s on basis of flood-routing study.

e Estimated.



## DELAWARE RIVER BASIN

199

01440000 FLAT BROOK NEAR FLATBROOKVILLE, NJ

LOCATION.--Lat 41°06'24", long 74°57'09", Sussex County, Hydrologic Unit 02040104, on right bank 1.0 mi upstream from Flatbrookville, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--64.0 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1923 to current year

REVISED RECORDS.--WSP 1432: 1924(M), 1928(M), 1929, 1930(M), 1932, 1933(M), 1936, 1938(M), 1939-40, 1949(M), 1952-53(M).  
WDR-NJ-80-2: 1970(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Aug. 19, 1929. Datum of gage is 347.73 ft above sea level. Prior to Jan. 6, 1926, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow occasionally regulated 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 650 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 18	0430	*2,170	*6.30	Mar 30	2315	886	4.16
Mar 22	1645	655	3.70				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	23	49	e95	131	137	415	80	103	44	22	12
2	30	22	44	e100	129	128	327	77	198	48	17	11
3	29	22	39	e105	116	122	279	74	186	43	15	10
4	28	22	40	e90	99	122	247	71	134	40	15	10
5	28	22	38	e85	87	123	225	67	110	39	15	10
6	28	22	37	79	116	121	214	63	97	38	15	9.9
7	28	22	35	76	100	116	217	59	89	36	15	9.4
8	27	22	34	77	86	114	200	57	78	47	15	9.0
9	25	22	34	75	83	114	196	57	70	63	14	8.8
10	25	36	34	71	111	113	381	56	66	48	14	8.7
11	24	76	34	e70	149	108	268	52	62	44	14	10
12	23	50	34	e70	118	106	227	51	64	41	14	11
13	23	41	32	e70	119	180	208	48	63	36	16	9.8
14	22	40	39	e65	110	254	180	45	57	33	24	12
15	22	67	52	62	113	213	162	44	53	30	18	16
16	22	58	47	60	122	207	157	42	49	29	15	13
17	23	49	496	62	133	256	153	41	160	29	15	11
18	32	44	1440	63	111	273	158	42	121	28	14	10
19	79	40	483	66	105	253	144	42	79	26	14	9.8
20	49	38	309	90	105	257	131	42	65	25	13	11
21	39	36	219	86	108	279	125	40	65	24	13	46
22	34	35	195	80	97	545	135	109	61	23	14	36
23	31	34	e150	e80	101	567	127	199	76	21	14	22
24	29	35	e130	e80	96	483	117	132	125	20	15	17
25	28	33	e130	e70	101	375	107	92	87	20	14	70
26	27	37	e125	e65	166	308	100	84	67	20	13	56
27	27	65	e120	66	170	255	96	297	58	20	12	36
28	27	60	123	62	157	225	92	330	52	19	12	27
29	25	51	123	70	---	208	85	211	47	18	12	23
30	23	52	91	68	---	508	82	157	45	17	12	21
31	23	---	e95	123	---	690	---	123	---	17	12	---
TOTAL	911	1176	4851	2381	3239	7760	5555	2884	2587	986	457	566.4
MEAN	29.4	39.2	156	76.8	116	250	185	93.0	86.2	31.8	14.7	18.9
MAX	79	76	1440	123	170	690	415	330	198	63	24	70
MIN	22	22	32	60	83	106	82	40	45	17	12	8.7
CFSM	.46	.61	2.45	1.20	1.81	3.91	2.89	1.45	1.35	.50	.23	.30
IN.	.53	.68	2.82	1.38	1.88	4.51	3.23	1.68	1.50	.57	.27	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
55.9	96.6	122	122	135	206
306	292	412	367	275	513
1956	1928	1997	1979	1951	1936
9.57	12.2	16.7	24.5	37.3	82.0
1964	1965	1999	1981	1940	1985
206	206	142	88.2	56.3	50.8
372	334	333	386	258	18.9
1983	1989	1972	1928	1955	1933
65.9	44.0	23.7	11.1	8.96	7.01
1946	1941	1965	1999	1999	1964



## DELAWARE RIVER BASIN

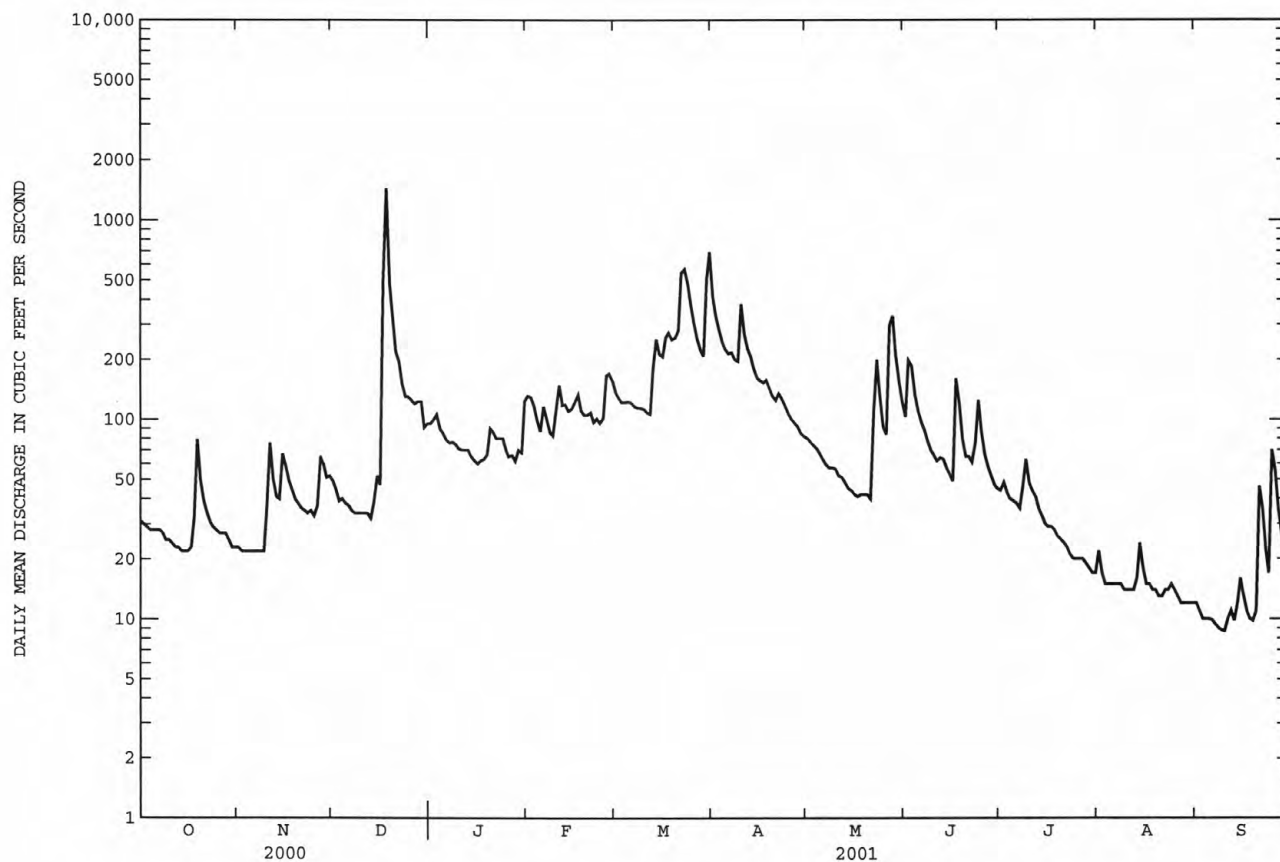
01440000 FLAT BROOK NEAR FLATBROOKVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001	
ANNUAL TOTAL	42981		33353.4		110	
ANNUAL MEAN	117		91.4		210	1928
HIGHEST ANNUAL MEAN					43.4	1965
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	1440	Dec 18	1440	Dec 18	6310	Aug 19 1955
LOWEST DAILY MEAN	22	Oct 14	8.7	Sep 10	4.1	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	22	Nov 2	9.4	Sep 4	5.3	Sep 6 1995
MAXIMUM PEAK FLOW			2170	Dec 18	9560a	Aug 19 1955
MAXIMUM PEAK STAGE			6.30	Dec 18	12.58b	Aug 19 1955
INSTANTANEOUS LOW FLOW			8.4	Sep 9	3.6	Sep 25 1964
ANNUAL RUNOFF (CFSM)	1.83		1.43		1.73	
ANNUAL RUNOFF (INCHES)	24.98		19.39		23.46	
10 PERCENT EXCEEDS	223		207		236	
50 PERCENT EXCEEDS	78		58		71	
90 PERCENT EXCEEDS	32		15		17	

a From rating curve extended above 2,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.

b From high-water mark in gage house.

e Estimated



## DELAWARE RIVER BASIN

201

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 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1992 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 555.40 ft above sea level (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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 18	0030	*179	*5.00	Apr 10	1415	98	4.09
Mar 31	0230	84	3.88	May 28	0745	88	3.94

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	11	e16	21	28	55	17	20	12	8.9	7.7
2	11	10	11	e16	21	26	45	17	36	13	8.8	7.3
3	10	10	10	e16	20	25	39	17	33	15	8.4	7.1
4	10	13	10	e16	18	24	35	16	25	13	9.0	7.2
5	11	9.4	9.9	e17	17	25	32	16	20	13	9.0	8.1
6	12	9.1	9.6	e16	19	26	31	15	24	13	8.9	6.2
7	11	9.2	10	e16	18	26	32	15	20	12	8.7	6.4
8	11	9.9	11	e16	17	26	30	15	15	14	9.0	6.5
9	11	10	11	e16	16	26	32	15	13	15	8.2	6.6
10	10	14	10	e16	21	25	80	14	13	13	8.4	6.6
11	11	14	11	e15	24	25	63	13	13	14	8.5	6.0
12	9.9	12	11	e14	21	26	49	13	16	15	8.6	7.6
13	9.5	12	11	e14	20	44	43	13	15	13	8.4	5.7
14	9.5	13	14	e13	19	52	36	12	13	12	8.2	5.9
15	11	14	16	13	21	45	33	12	12	11	8.7	6.3
16	9.8	12	15	13	22	42	32	13	13	11	7.4	5.7
17	9.7	11	83	14	24	44	31	13	25	13	7.9	5.6
18	12	11	142	13	21	48	31	12	26	11	8.0	5.2
19	15	11	e76	16	19	44	28	13	17	9.7	7.9	5.4
20	18	10	47	20	19	40	26	12	15	10	7.9	5.5
21	16	10	e34	19	20	40	26	13	14	10	7.8	8.5
22	13	10	e31	18	18	62	27	29	14	10	7.7	6.7
23	12	9.7	e27	16	18	59	25	34	14	9.9	7.9	6.0
24	11	9.7	e26	16	18	47	23	22	18	9.5	8.4	6.0
25	11	9.6	e22	15	22	43	22	18	15	9.2	7.7	9.0
26	11	11	e18	14	35	38	21	21	14	9.8	7.8	10
27	11	13	e19	14	36	36	20	54	13	9.6	7.8	7.2
28	11	12	e19	13	31	33	20	82	11	9.3	7.8	4.5
29	11	13	e17	13	---	31	19	45	11	9.3	7.4	5.3
30	11	12	e17	15	---	56	18	28	11	9.0	7.7	6.0
31	11	---	e16	20	---	76	---	22	---	8.9	7.6	---
TOTAL	352.4	335.6	775.5	479	596	1188	1004	651	519	357.2	254.4	197.8
MEAN	11.4	11.2	25.0	15.5	21.3	38.3	33.5	21.0	17.3	11.5	8.21	6.59
MAX	18	14	142	20	36	76	80	82	36	15	9.0	10
MIN	9.5	9.1	9.6	13	16	24	18	12	11	8.9	7.4	4.5
CFSM	.88	.86	1.93	1.19	1.64	2.95	2.58	1.62	1.33	.89	.63	.51
IN.	1.01	.96	2.22	1.37	1.71	3.40	2.88	1.86	1.49	1.02	.73	.57

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2001, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	15.7	17.8	24.0	24.8	24.2	38.4	37.4	25.1	17.5	12.2
MAX	33.2	34.3	63.4	41.1	32.5	58.5	64.3	48.8	36.4	19.3
(WY)	1997	1996	1997	1996	1996	1993	1993	1998	1996	2000
MIN	8.52	10.4	8.55	14.5	17.4	25.5	17.5	14.3	8.27	6.68
(WY)	1993	1999	1999	2000	1995	1997	1995	1995	1999	1999

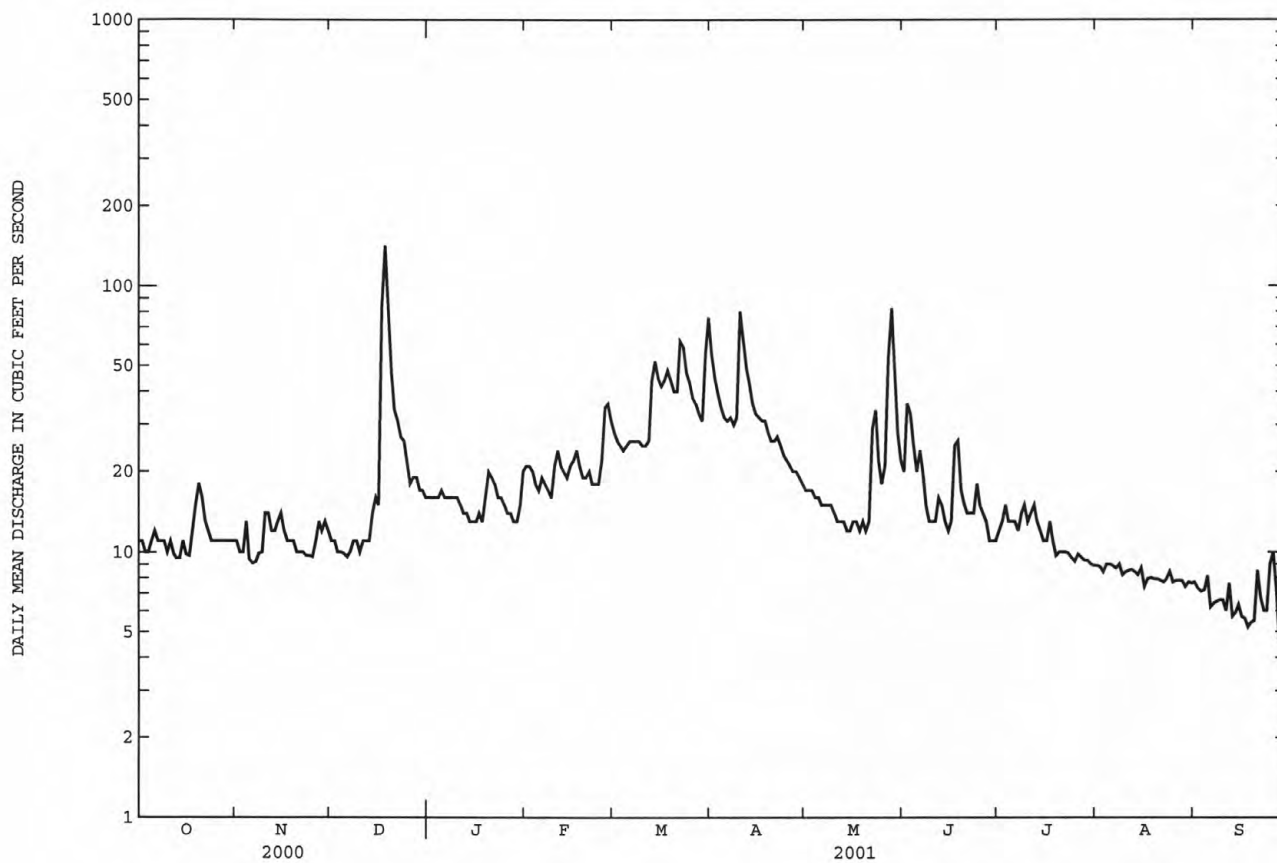
## DELAWARE RIVER BASIN

01443280 EAST BRANCH PAULINS KILL NEAR LAFAYETTE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1992 - 2001	
ANNUAL TOTAL	7960.5		6709.9		21.9	
ANNUAL MEAN	21.8		18.4		27.2	
HIGHEST ANNUAL MEAN					15.6	
LOWEST ANNUAL MEAN					210	
HIGHEST DAILY MEAN	210	Aug 13	142	Dec 18	210	Aug 13 2000
LOWEST DAILY MEAN	9.1	Nov 6	4.5	Sep 28	4.3	Nov 10 1998
ANNUAL SEVEN-DAY MINIMUM	10	Nov 19	5.7	Sep 14	5.7	Sep 14 2001
MAXIMUM PEAK FLOW			179	Dec 18	275	Jan 20 1996
MAXIMUM PEAK STAGE			5.00	Dec 18	5.81a	Jan 20 1996
INSTANTANEOUS LOW FLOW			3.9	Sep 28	2.9	Sep 29 1998
ANNUAL RUNOFF (CFSM)	1.67		1.42		1.68	
ANNUAL RUNOFF (INCHES)	22.80		19.22		22.87	
10 PERCENT EXCEEDS	34		34		41	
50 PERCENT EXCEEDS	17		14		16	
90 PERCENT EXCEEDS	11		7.9		8.1	

a From crest-stage gage.

e Estimated



## DELAWARE RIVER BASIN

203

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 mi<sup>2</sup>.

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 and concrete control (Aug. 1, 1931, to Aug. 3, 1941, concrete control at site 280 ft, downstream). Datum of gage is 335.86 ft above sea level. Prior to May 24, 1922, nonrecording gage and May 24, 1922 to July 31, 1931, water-stage recorder, at site of former highway bridge 1,300 ft downstream at different datum. Aug. 1, 1931 to July 28, 1939, water-stage recorder at site 100 ft downstream at present datum.

REMARKS.--Records good, except for those above 200 ft<sup>3</sup>/s and estimated daily discharges which are poor. Diurnal fluctuations caused by unknown source and flow regulated slightly by Swartswood Lake. Pumpage from limestone quarry enters tributary upstream from gage for decades. Several measurements of water temperature were made during the year. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 18	0530	*2,010	*5.80	Mar 30	2200	1,240	4.09

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	42	77	e140	243	333	768	144	222	78	32	25
2	79	42	53	e140	248	306	614	137	354	102	31	23
3	84	39	67	e135	238	290	526	133	360	81	31	20
4	79	40	65	e130	210	289	457	129	280	75	31	18
5	79	79	64	138	209	294	382	125	230	74	33	19
6	79	165	62	133	219	284	347	117	199	69	31	18
7	77	151	49	128	222	268	352	109	180	63	29	18
8	72	124	46	126	196	267	332	103	154	73	30	16
9	68	58	46	125	183	267	331	100	135	91	30	17
10	63	77	46	121	208	270	713	99	121	76	28	19
11	59	83	47	114	270	261	575	95	116	82	30	24
12	55	81	48	112	233	261	512	90	131	78	35	22
13	53	87	56	106	225	459	472	87	123	70	37	20
14	50	90	73	104	220	601	405	81	111	63	39	31
15	51	94	80	107	229	556	351	78	102	56	35	32
16	54	91	78	107	244	535	338	74	96	52	30	28
17	57	114	881	113	270	596	318	74	252	51	27	25
18	68	91	1730	115	247	630	329	79	228	54	27	24
19	89	66	1100	132	225	582	290	80	166	50	26	23
20	79	61	714	191	216	549	262	78	133	48	26	25
21	73	60	513	189	226	546	248	80	124	46	24	52
22	70	58	418	164	216	823	256	185	112	41	22	49
23	61	56	e340	159	208	811	244	290	117	39	23	38
24	56	54	e285	150	204	676	219	228	161	37	29	32
25	53	45	e260	144	229	569	204	172	132	37	27	57
26	52	58	e225	130	370	499	187	161	106	44	22	53
27	50	88	e200	129	403	439	174	451	96	45	22	44
28	49	87	e180	123	378	388	165	604	86	39	28	39
29	44	84	e160	116	---	346	152	473	74	35	24	33
30	43	84	e150	136	---	819	145	334	69	35	22	31
31	43	---	e145	221	---	1030	---	261	---	32	22	---
TOTAL	1966	2349	8258	4178	6789	14844	10668	5251	4770	1816	883	875
MEAN	63.4	78.3	266	135	242	479	356	169	159	58.6	28.5	29.2
MAX	89	165	1730	221	403	1030	768	604	360	102	39	57
MIN	43	39	46	104	183	261	145	74	69	32	22	16
CFSM	.50	.62	2.11	1.07	1.92	3.80	2.82	1.34	1.26	.46	.23	.23
IN.	.58	.69	2.44	1.23	2.00	4.38	3.15	1.55	1.41	.54	.26	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
MEAN	108	165	214	222	249	373	338	223	153	114	104	105
MAX	634	479	862	712	516	963	930	650	690	527	663	626
(WY)	1956	1933	1997	1979	1951	1936	1983	1989	1972	1945	1955	1933
MIN	20.5	22.1	35.5	50.5	67.4	139	106	54.6	41.0	19.4	19.6	18.2
(WY)	1964	1965	1999	1981	1940	1965	1985	1941	1965	1955	1932	1964

## DELAWARE RIVER BASIN

01443500 PAULINS KILL AT BLAIRSTOWN, NJ--Continued

## SUMMARY STATISTICS

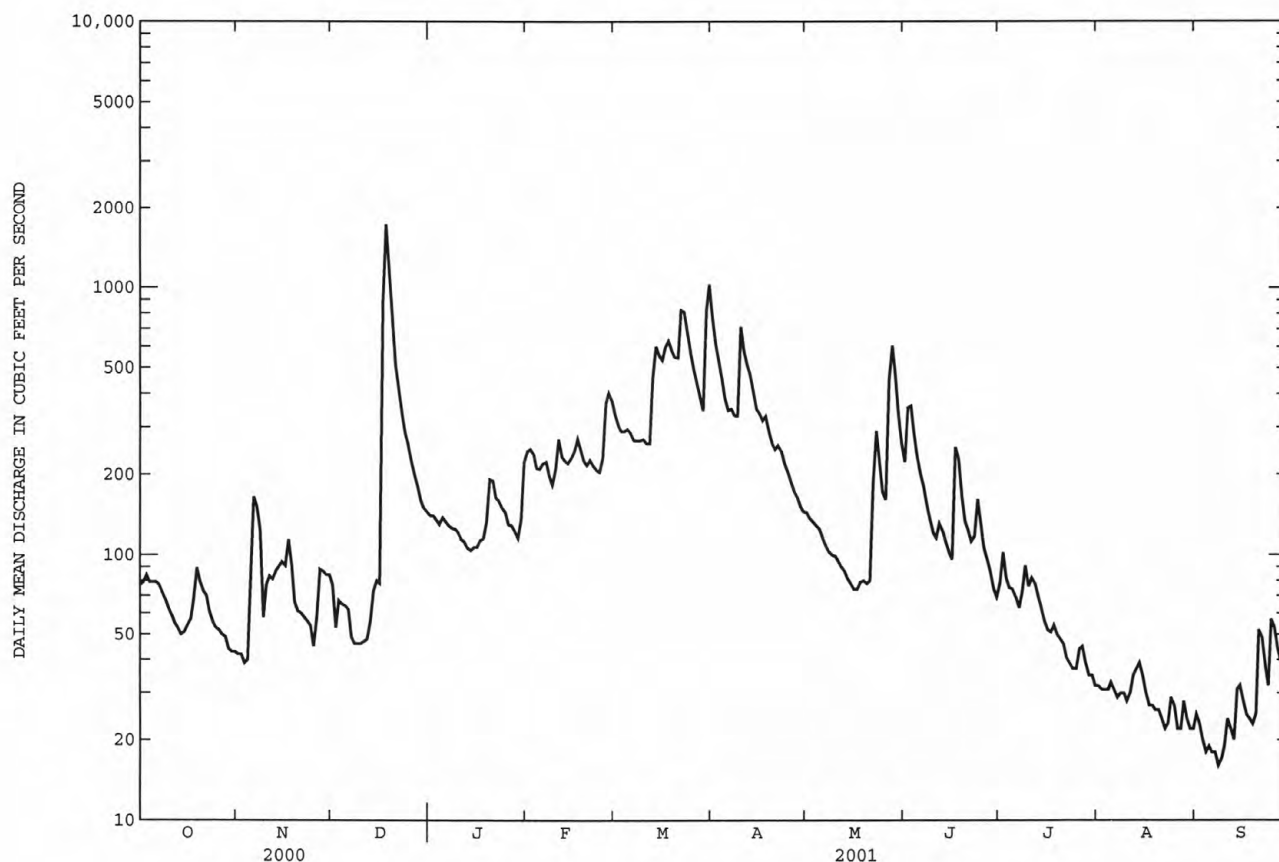
FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1922 - 2001

ANNUAL TOTAL	74017		62647		
ANNUAL MEAN	202		172		197
HIGHEST ANNUAL MEAN					362
LOWEST ANNUAL MEAN					67.4
HIGHEST DAILY MEAN	1730	Dec 18	1730	Dec 18	5950
LOWEST DAILY MEAN	39	Nov 3	16	Sep 8	5.0
ANNUAL SEVEN-DAY MINIMUM	42	Oct 29	18	Sep 4	11
MAXIMUM PEAK FLOW			2010	Dec 18	8750
MAXIMUM PEAK STAGE			5.80	Dec 18	11.12
INSTANTANEOUS LOW FLOW			15	Sep 8	2.8
ANNUAL RUNOFF (CFSM)	1.61		1.36		1.56
ANNUAL RUNOFF (INCHES)	21.85		18.50		21.23
10 PERCENT EXCEEDS	394		394		412
50 PERCENT EXCEEDS	140		102		132
90 PERCENT EXCEEDS	61		30		35

e Estimated





## DELAWARE RIVER BASIN

205

01443900 YARDS CREEK NEAR BLAIRSTOWN, NJ

LOCATION.--Lat 40°58'51", long 75°02'25", Warren County, Hydrologic Unit 02040105, on left bank 100 ft upstream from bridge on Hainesburg-Mount Vernon Road, 1.4 mi downstream from Yards Creek Reservoir, 2.2 mi northeast of Hainesburg, 4.2 mi west of Blairstown, and 2.4 mi upstream from mouth.

DRAINAGE AREA.--5.34 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR NJ-77-2: 1976. WDR NJ-79-2: 1977(m). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 606.8 ft above sea level.

REMARKS.--Records good, except for estimated daily discharges which are poor. Flow regulated by GPU Generation Corp., at Yards Creek Reservoir 1.4 mi above station. Several measurements of water temperature made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	3.0	3.3	e7.0	9.8	16	54	3.9	10	7.1	2.8	1.9
2	2.6	2.9	3.3	e7.0	9.8	16	51	4.0	16	4.5	2.9	1.9
3	2.6	2.6	3.8	e6.5	9.3	15	45	4.1	11	3.5	2.9	2.0
4	2.5	2.5	3.3	e6.5	9.7	14	19	4.1	16	3.5	3.1	1.8
5	2.8	2.4	3.2	e7.0	9.2	19	13	4.4	21	3.3	3.3	2.1
6	2.9	2.5	3.5	e6.9	9.4	24	14	3.5	21	3.1	3.1	2.0
7	2.7	2.8	3.8	e6.6	11	21	14	3.8	21	2.9	3.0	1.9
8	2.6	2.7	3.1	e6.7	17	14	14	4.3	21	3.5	3.3	2.0
9	2.6	2.9	2.9	e6.7	24	14	16	3.8	21	4.1	3.1	2.1
10	3.0	6.0	3.5	e6.7	26	14	17	4.3	21	2.9	3.5	2.1
11	3.0	3.1	2.9	e7.3	36	13	15	2.9	16	5.2	4.2	2.1
12	2.5	2.9	3.1	e6.7	47	14	15	3.5	13	3.3	4.0	2.0
13	2.7	2.6	3.3	e6.7	20	28	15	4.0	9.8	3.0	5.3	2.2
14	2.5	3.5	5.2	e6.6	14	30	14	3.1	9.8	3.0	3.8	3.5
15	2.1	3.2	3.9	e7.3	15	28	13	3.2	8.3	2.9	3.2	2.4
16	2.3	2.8	4.1	e7.5	14	28	14	3.9	7.9	3.2	2.8	2.0
17	2.5	2.7	42	e7.5	13	27	14	3.2	10	2.9	3.0	1.9
18	4.2	2.8	26	e7.3	20	26	15	3.5	7.7	2.8	3.3	1.6
19	3.1	2.7	28	e9.2	14	26	14	3.5	7.5	2.7	3.3	1.6
20	2.8	2.7	24	e8.9	12	37	14	3.5	7.1	2.7	5.4	3.1
21	2.5	2.8	25	e9.2	11	52	14	3.6	7.5	2.5	2.9	4.0
22	2.3	2.8	23	e15	16	51	14	7.7	6.5	2.5	5.7	2.0
23	2.1	2.7	e16	e13	13	44	13	5.6	7.8	2.3	3.9	1.9
24	2.4	2.4	e15	e9.1	13	24	13	4.5	5.1	2.3	4.4	1.7
25	2.6	2.5	e12	e7.8	14	23	11	4.2	3.9	2.7	4.3	4.9
26	2.5	4.2	e11	11	17	23	8.7	6.7	3.4	3.2	2.6	2.1
27	2.4	3.5	e11	7.6	18	20	9.0	16	3.2	2.5	2.8	2.1
28	2.6	3.2	e9.5	7.4	17	13	8.8	13	3.0	3.2	2.7	2.0
29	2.7	3.3	e8.0	9.7	---	11	8.6	9.9	3.0	4.3	2.8	2.0
30	2.6	3.6	e7.5	10	---	28	7.2	16	3.0	1.2	1.7	1.9
31	2.9	---	e7.0	9.7	---	47	---	16	---	1.4	1.8	---
TOTAL	82.2	90.3	321.2	252.1	459.2	760	507.3	177.7	322.5	98.2	104.9	66.8
MEAN	2.65	3.01	10.4	8.13	16.4	24.5	16.9	5.73	10.8	3.17	3.38	2.23
MAX	4.2	6.0	42	15	47	52	54	16	21	7.1	5.7	4.9
MIN	2.1	2.4	2.9	6.5	9.2	11	7.2	2.9	3.0	1.2	1.7	1.6

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

MEAN	5.89	7.98	13.9	14.1	14.7	18.5	17.9	13.5	8.73	4.79	4.51	4.42
MAX	33.6	26.3	48.4	51.0	36.4	50.1	55.3	33.7	35.2	19.9	21.6	27.0
(WY)	1990	1996	1997	1979	1977	1983	1989	1972	1984	1969	1987	1987
MIN	.97	1.20	.91	1.66	2.24	6.99	4.43	1.58	1.00	.89	.65	.58
(WY)	1981	1967	1981	1981	1985	1973	1981	1970	1980	1980	1980	1980

## DELAWARE RIVER BASIN

01443900 YARDS CREEK NEAR BLAIRSTOWN, NJ--Continued

## SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

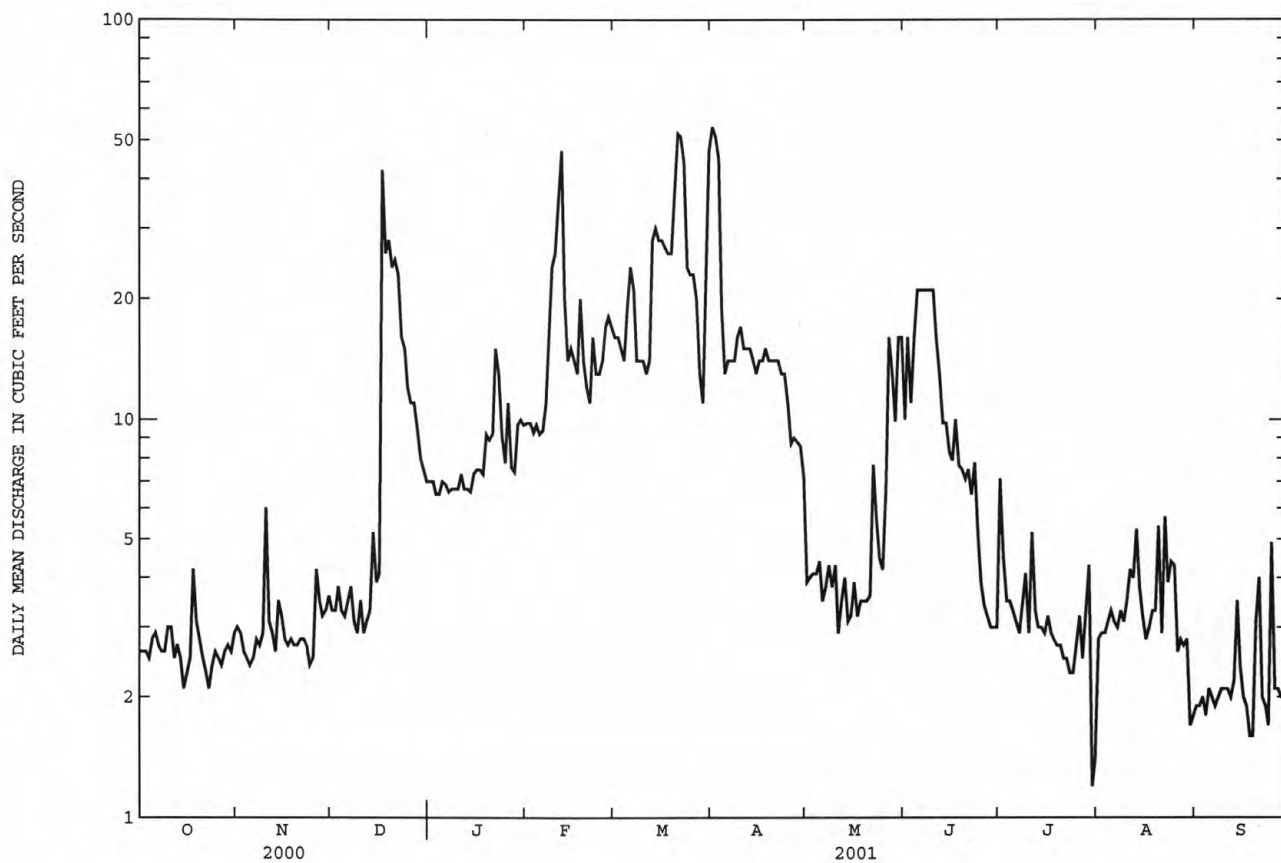
FOR 2001 WATER YEAR

WATER YEARS 1967 - 2001

ANNUAL TOTAL	3591.5	3242.4	10.7	
ANNUAL MEAN	9.81	8.88	16.1	1996
HIGHEST ANNUAL MEAN			3.17	1985
LOWEST ANNUAL MEAN			225	Jan 18 1977
HIGHEST DAILY MEAN	49 Mar 2	54 Apr 1	.02	Jun 19 1970
LOWEST DAILY MEAN	1.9 Sep 8	1.2 Jul 30	.46	Oct 7 1980
ANNUAL SEVEN-DAY MINIMUM	2.1 Sep 6	1.9 Aug 30	583	Feb 24 1977
MAXIMUM PEAK FLOW		141 Dec 17	3.92	Feb 24 1977
MAXIMUM PEAK STAGE		3.53a Dec 29	.00	Sep 12 1971
INSTANTANEOUS LOW FLOW		.49 Jul 30	24	
10 PERCENT EXCEEDS	26	21	4.8	
50 PERCENT EXCEEDS	4.2	4.3	1.3	
90 PERCENT EXCEEDS	2.5	2.4		

a Result of an ice jam

e Estimated



## DELAWARE RIVER BASIN

207

01445500 PEQUEST RIVER AT PEQUEST, NJ

LOCATION.--Lat 40°49'50", long 74°58'43", Warren County, Hydrologic Unit 02040105, on right bank at Pequest, 100 ft upstream from abandoned Lehigh and Hudson River Railway bridge, and 300 ft downstream from Furnace Brook.

DRAINAGE AREA.--106 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1902: 1940(M), 1945, 1955(M), 1957, 1959(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 29, 1929. Datum of gage is 398.78 ft above sea level. Prior to June 22, 1926, nonrecording gage at site 10 ft upstream at same datum.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. Some regulation from unknown sources upstream. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1815	*1,400	*4.72	Mar 30	1615	724	3.30

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	52	92	104	202	241	477	133	146	e80	38	33
2	64	50	66	104	203	225	404	128	246	e99	36	32
3	62	48	58	104	181	225	355	124	227	e83	35	31
4	61	48	50	104	160	227	319	121	182	e82	35	32
5	62	48	58	104	141	224	286	115	156	e86	40	31
6	67	48	52	105	151	221	273	109	139	e82	36	29
7	67	48	51	109	175	215	279	105	129	e79	34	29
8	63	50	53	117	154	217	275	126	124	e79	33	29
9	58	48	51	116	148	226	263	116	112	e89	32	28
10	56	71	47	112	225	240	322	99	104	e82	38	28
11	55	86	55	107	244	234	395	100	95	e81	56	29
12	60	75	52	107	190	229	394	96	120	e74	43	29
13	58	65	49	100	180	447	335	84	100	e65	47	28
14	54	64	91	99	179	420	293	85	96	e59	43	41
15	53	77	110	106	209	368	267	81	95	e51	41	39
16	52	69	89	110	216	346	265	79	86	e47	39	33
17	52	64	878	109	249	377	250	76	240	e47	36	30
18	63	62	1170	106	207	396	246	77	180	e47	35	28
19	78	60	857	129	180	365	228	77	128	e46	35	28
20	73	58	564	185	179	339	215	74	e106	e45	39	29
21	66	56	385	163	212	342	201	76	e102	45	34	52
22	63	56	327	131	196	489	195	150	e102	45	32	42
23	58	54	232	120	188	478	189	180	e107	42	32	37
24	60	51	224	132	179	427	182	158	e160	41	36	33
25	60	51	181	130	205	373	169	130	e130	40	34	44
26	58	62	133	111	335	338	162	137	e100	53	32	50
27	55	86	172	117	302	309	157	326	e94	52	31	43
28	54	77	161	112	274	289	150	360	e91	46	31	39
29	52	71	125	104	---	269	142	265	e84	42	33	37
30	51	94	121	132	---	551	137	207	e82	41	33	35
31	50	---	103	202	---	552	---	168	---	39	32	---
TOTAL	1851	1849	6657	3691	5664	10199	7825	4162	3863	1882	1131	1028
MEAN	59.7	61.6	215	119	202	329	261	134	129	60.7	36.5	34.3
MAX	78	94	1170	202	335	552	477	360	246	99	56	52
MIN	50	48	47	99	141	215	137	74	82	39	31	28
CFSM	.56	.58	2.03	1.12	1.91	3.10	2.46	1.27	1.21	.57	.34	.32
IN.	.65	.65	2.34	1.30	1.99	3.58	2.75	1.46	1.36	.66	.40	.36

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

	MEAN	87.9	127	164	171	198	279	264	187	129	103	90.1	88.1
MAX	391	409	714	627	372	750	720	430	556	487	409	354	
(WY)	1990	1928	1997	1979	1939	1936	1983	1989	1972	1945	1928	1989	
MIN	18.0	21.4	27.0	33.9	60.8	93.8	76.9	55.7	35.0	19.0	15.1	16.6	
(WY)	1965	1966	1966	1966	1940	1965	1985	1965	1965	1965	1965	1964	

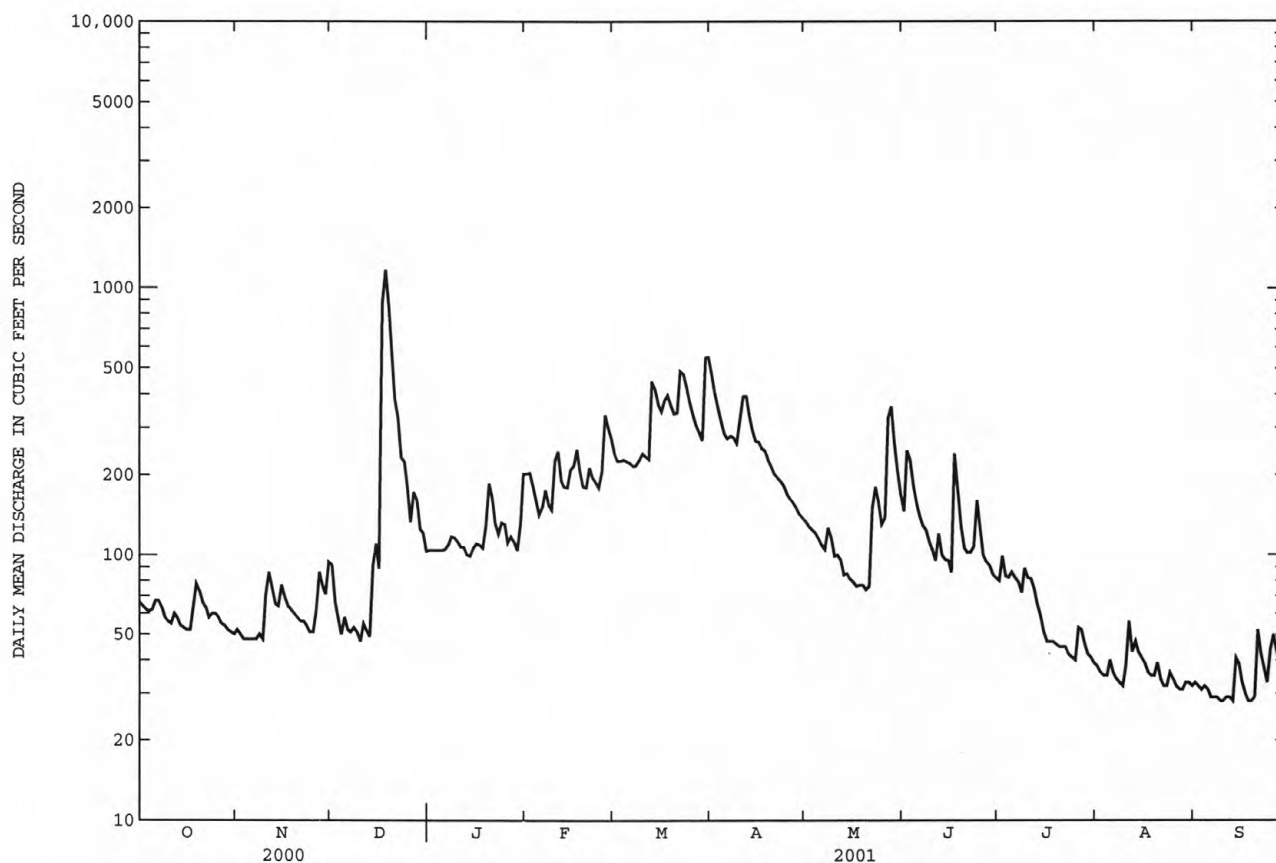
## DELAWARE RIVER BASIN

01445500 PEQUEST RIVER AT PEQUEST, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001	
ANNUAL TOTAL	59846		49802		157	
ANNUAL MEAN	164		136		285	1952
HIGHEST ANNUAL MEAN					45.8	1965
LOWEST ANNUAL MEAN					2040	Jan 25 1979
HIGHEST DAILY MEAN	1170	Dec 18	1170	Dec 18	12	Aug 18 1965
LOWEST DAILY MEAN	47	Dec 10	28	many days	13	Aug 15 1965
ANNUAL SEVEN-DAY MINIMUM	48	Nov 3	29	Sep 7	2130	Jan 25 1979
MAXIMUM PEAK FLOW			1400	Dec 17	5.97a	Jan 25 1979
MAXIMUM PEAK STAGE			4.72	Dec 17	12	Sep 17 1965
INSTANTANEOUS LOW FLOW			28	many days	1.48	
ANNUAL RUNOFF (CFSM)	1.54		1.29		20.13	
ANNUAL RUNOFF (INCHES)	21.00		17.48		329	
10 PERCENT EXCEEDS	303		291		112	
50 PERCENT EXCEEDS	126		95		36	
90 PERCENT EXCEEDS	58		35			

a From high-water mark.

e Estimated



## DELAWARE RIVER BASIN

209

01446500 DELAWARE RIVER AT BELVIDERE, NJ

LOCATION.--Lat 40°49'36", long 75°05'02", Warren County, Hydrologic Unit 02040105, on left bank at Belvidere, 800 ft downstream from Pequest River, and at river mile 197.7.

DRAINAGE AREA.--4,535 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 781: 1933(M). WSP 951: 1940-41, Drainage area. WSP 1432: 1923, 1924(M).

GAGE.--Water-stage recorder. Datum of gage 226.43 ft above sea level. Prior to Jan. 1, 1929, nonrecording gage at site 200 ft upstream at same datum.

REMARKS.--Records good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by lakes Wallenpaupack and Cliff, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, and Neversink Reservoirs (see Delaware River basin, reservoirs in) and smaller reservoirs. Diversions from Pepacton, Cannonsville, and Neversink Reservoirs (see Delaware River basin, diversions). Satellite telemetry and National Weather Service gage-height telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 10, 1903, reached a stage of 28.6 ft, from floodmark, discharge, 220,000 ft<sup>3</sup>/s, from rating curve extended above 170,000 ft<sup>3</sup>/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3080	2250	3740	4870	4350	6810	30400	5210	5080	3480	2150	2090
2	2860	2220	3640	5000	4630	6210	23000	5050	6230	3490	2130	2170
3	2600	2230	3380	4530	4650	6080	20100	4910	8620	3230	2160	2210
4	2720	2260	2970	4650	4500	5850	18200	4790	10800	3590	2150	2120
5	2750	2270	2670	4620	4370	5760	18100	4510	9790	3140	2260	2070
6	2820	2350	2530	4730	3710	5870	19300	3970	8020	2480	2320	2110
7	3540	2250	2440	4830	5020	5800	20800	3380	6790	2670	2030	2080
8	4410	2180	2470	4460	4770	5810	22300	3300	5940	2870	2390	2450
9	3370	2170	2480	4500	4600	5800	26900	3260	5260	2800	2540	2220
10	2780	2580	2200	4270	4660	5880	35100	3180	4500	2760	2750	2130
11	2550	2970	2310	3970	5370	5290	46200	2920	4100	3220	2980	2190
12	2320	5240	2480	3680	5740	4970	38500	2800	4220	3150	2460	2120
13	2240	4610	2510	3580	6570	6410	32700	2670	4520	2940	2390	2070
14	2220	4000	2770	3640	6010	8190	29500	2590	4310	2670	2330	2160
15	2180	3790	3150	3570	6120	8750	24500	2350	3890	2440	2080	2180
16	2240	4140	3090	3490	6750	8560	20200	2190	3740	2130	1990	2270
17	2190	4200	11000	3490	7700	9000	19100	2150	7060	2270	1950	2080
18	2390	3780	59900	3490	6740	9400	17400	2310	9100	2420	2040	1960
19	3620	3450	39100	3580	5930	9370	15300	2400	7970	2360	2160	2010
20	7550	3230	23500	4070	6130	9900	13400	2540	5960	2310	2080	2040
21	5810	3100	18300	3830	6040	10400	11700	2580	5420	2190	1880	4120
22	4740	2970	15100	3030	6130	14200	9930	3350	5160	2230	1820	3650
23	4090	2860	12600	2990	5860	22900	9630	4480	5090	2080	1990	3050
24	3560	2620	10400	3040	5630	22800	9440	4650	5470	2140	2070	2240
25	3150	2290	9000	3320	5720	19900	8870	4480	4890	2400	2040	3580
26	3070	2410	7140	3080	6710	16900	7970	4220	4490	2800	2080	3490
27	2960	3450	7030	3340	7520	15200	7290	6070	4100	2510	1990	3690
28	2670	4290	6530	3220	7310	13100	6680	8710	3830	2460	1960	3400
29	2570	4200	5870	2720	---	12200	5690	8240	3710	2530	2020	2730
30	2400	3900	5730	3090	---	15800	5030	7400	3670	2270	1990	2240
31	2390	---	4640	3980	---	33500	---	6030	---	2090	2030	---
TOTAL	97840	94260	280670	118660	159240	336610	573230	126690	171730	82120	67210	74920
MEAN	3156	3142	9054	3828	5687	10860	19110	4087	5724	2649	2168	2497
MAX	7550	5240	59900	5000	7700	33500	46200	8710	10800	3590	2980	4120
MIN	2180	2170	2200	2720	3710	4970	5030	2150	3670	2080	1820	1960

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2001, BY WATER YEAR (WY)

	MEAN	4597	7108	8421	8025	8346	13970	15850	9867	5983	4314	3634	3757
MAX	19570	21140	27730	21020	19930	42520	40720	21470	22280	16840	19260	13940	
(WY)	1956	1928	1997	1996	1976	1936	1940	1989	1972	1928	1955	1938	
MIN	1055	1226	1481	1683	2452	5243	4512	3261	1590	1017	881	1199	
(WY)	1942	1965	1923	1981	1980	1981	1985	1965	1965	1965	1954	1941	



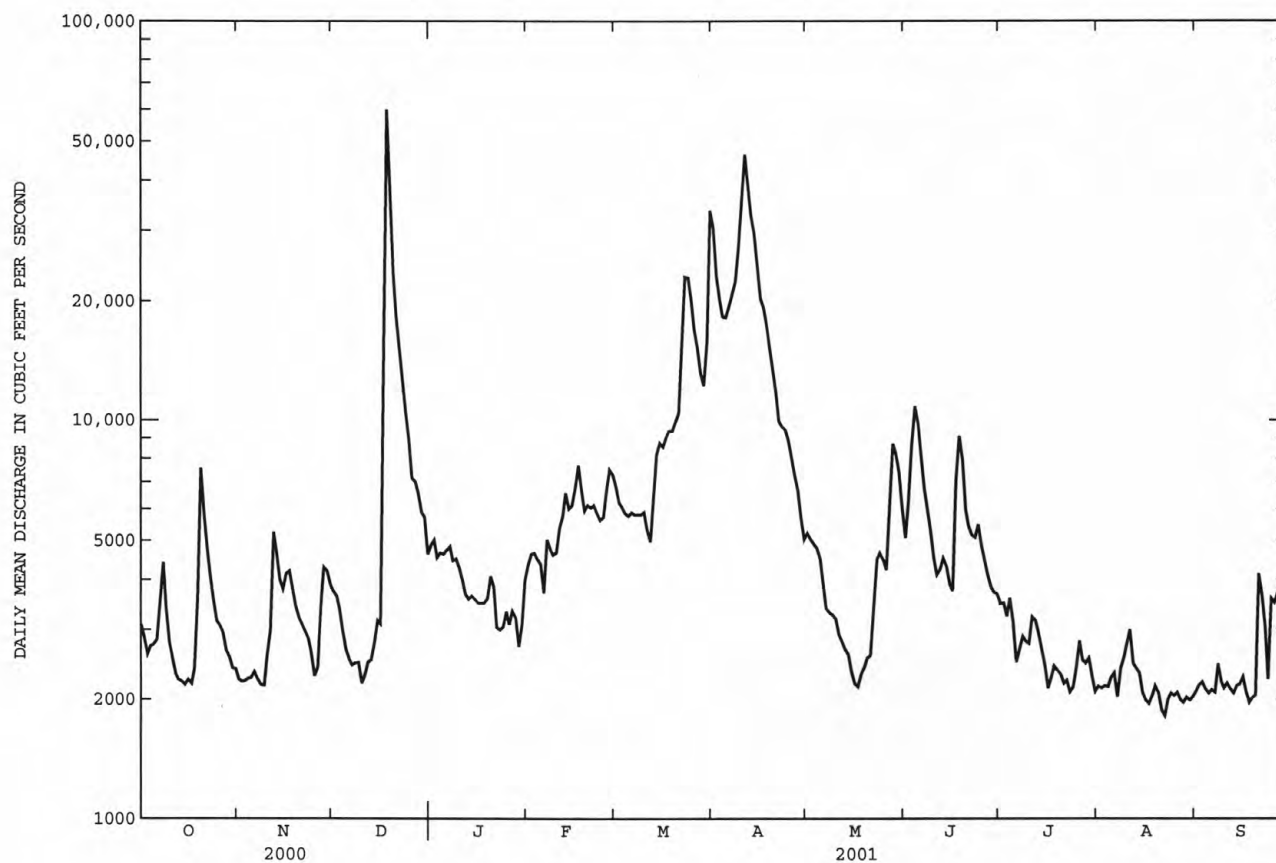
## DELAWARE RIVER BASIN

01446500 DELAWARE RIVER AT BELVIDERE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1923 - 2001	
ANNUAL TOTAL	3110400		2183180		7814	
ANNUAL MEAN	8498		5981		14130	
HIGHEST ANNUAL MEAN					1928	
LOWEST ANNUAL MEAN					2990	
HIGHEST DAILY MEAN	59900	Dec 18	59900	Dec 18	184000	Aug 19 1955
LOWEST DAILY MEAN	2170	Nov 9	1820	Aug 22	610	Aug 25 1954
ANNUAL SEVEN-DAY MINIMUM	2240	Nov 3	1980	Aug 21	782	Aug 14 1954
MAXIMUM PEAK FLOW			73500	Dec 18	273000a	Aug 19 1955
MAXIMUM PEAK STAGE			15.28	Dec 18	30.21b	Aug 19 1955
INSTANTANEOUS LOW FLOW			1720	Aug 22	609	Sep 28 1943
10 PERCENT EXCEEDS	18100		11900		16600	
50 PERCENT EXCEEDS	5520		3650		5000	
90 PERCENT EXCEEDS	2670		2150		1950	

a From rating curve extended above 170,000 ft<sup>3</sup>/s on basis of flood-routing study.

b From high-water mark in gage house.



## DELAWARE RIVER BASIN

211

01454700 LEHIGH RIVER AT GLENDON, PA  
(National Water-Quality Assessment 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 mi<sup>2</sup>.

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 sea level.

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 ft<sup>3</sup>/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 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	827	779	1130	1990	2560	2960	6180	2020	2060	2100	887	971
2	823	762	1070	1930	2540	2790	5610	1990	2690	1970	852	945
3	824	762	962	1740	2420	2700	5580	1950	2380	1550	819	789
4	837	781	893	1820	2160	2630	5080	1810	2560	1540	1500	768
5	1030	765	958	1650	2240	2730	4840	1680	2680	1740	1780	781
6	947	755	851	1630	2220	2600	4680	1750	2410	1770	1440	850
7	899	761	850	1670	2120	2540	4860	1710	2110	1460	1110	813
8	894	759	864	1610	1990	2580	4550	1600	1740	1610	877	768
9	833	766	834	1580	1900	2550	4460	1480	1700	1660	809	696
10	824	1100	793	1430	2270	2480	5030	1390	1840	1360	1030	679
11	831	1180	833	1400	2740	2380	5260	1380	1660	1520	2220	697
12	850	959	863	1430	2500	2380	5260	1340	1370	1550	2640	680
13	849	878	841	1360	2620	3840	4810	1340	1980	1460	2030	662
14	795	945	1290	1370	2670	4430	3670	1290	1430	1380	1630	1000
15	745	1120	1370	1440	2800	4280	3240	1270	1310	1420	1440	780
16	735	1070	1230	1430	2840	4110	3530	1230	1410	1140	1250	806
17	795	1010	10000	1440	3010	4170	3620	1150	3900	1110	1080	734
18	1080	962	13500	1360	2670	4170	4090	1140	3480	1180	1020	682
19	1310	827	9110	1580	2520	3880	3780	1160	2880	1090	983	640
20	1100	836	7940	2210	2500	3730	3460	1140	2600	1030	959	932
21	1030	840	5560	1860	2490	4070	3220	1300	2470	984	924	1860
22	1310	800	4410	1460	2380	5490	3130	2450	3450	975	895	1180
23	931	733	3440	1410	2310	5870	3050	2120	6470	959	949	964
24	894	704	3200	1400	2340	5640	2910	1720	3970	880	918	888
25	887	709	e2950	1480	2430	5340	2710	1590	2970	909	895	3660
26	880	1070	e2700	1300	3010	5020	2580	2120	2410	1890	875	3250
27	873	1430	e2650	1380	3190	4440	2440	3390	2080	1330	864	2490
28	836	1270	e2600	1310	3110	3910	2230	2850	1870	967	910	2010
29	796	1390	e2500	1200	---	3510	2100	2660	1750	896	837	1550
30	781	1330	e2350	1640	---	6400	2060	2480	1600	886	824	1290
31	781	---	2160	2380	---	7090	---	2230	---	906	777	---
TOTAL	27827	28053	90702	48890	70550	120710	118020	54730	73230	41222	36024	34815
MEAN	898	935	2926	1577	2520	3894	3934	1765	2441	1330	1162	1160
MAX	1310	1430	13500	2380	3190	7090	6180	3390	6470	2100	2640	3660
MIN	735	704	793	1200	1900	2380	2060	1140	1310	880	777	640

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

MEAN	1951	2660	3410	3090	3254	4319	4455	3391	2531	1835	1479	1658
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	798	633	405	1278	1805	1639	1502	906	630	607	660
(WY)	1981	1999	1981	1981	1980	1981	1985	1995	1999	1999	1999	1983

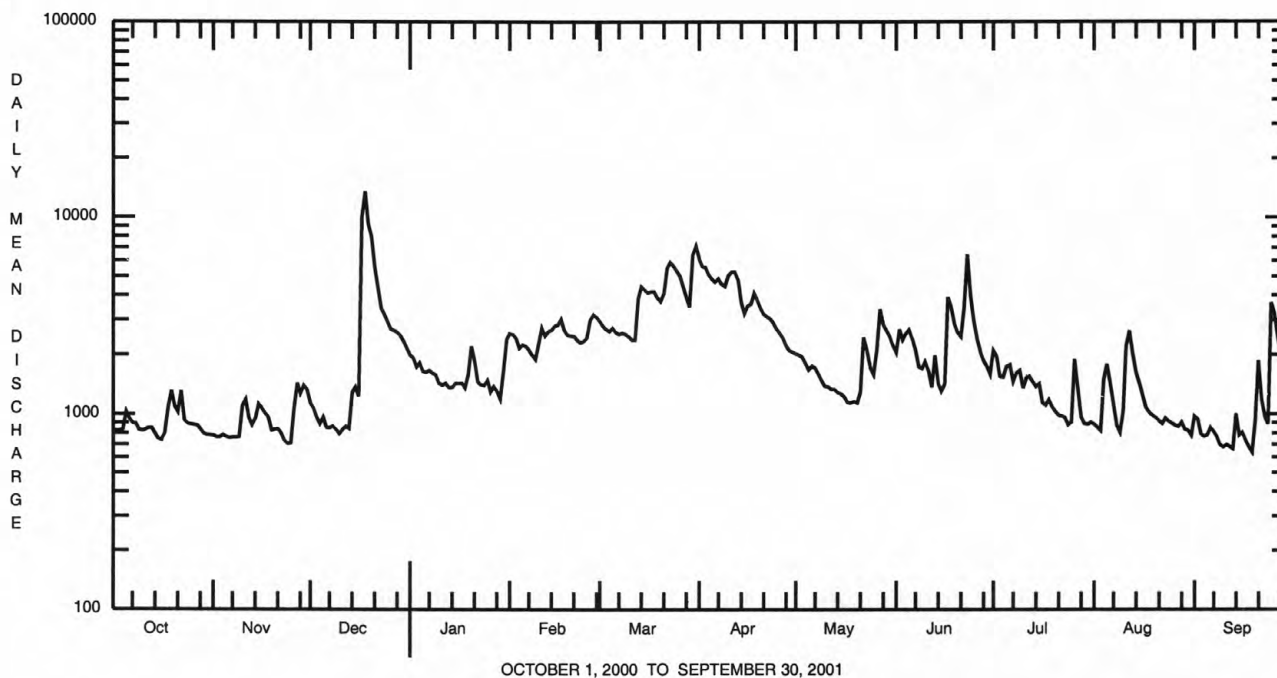
• Estimated.

## LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, PA--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1967 - 2001	
ANNUAL TOTAL	906192		744773		2833	
ANNUAL MEAN	2476		2040		3997	
HIGHEST ANNUAL MEAN					1594	
LOWEST ANNUAL MEAN					44300	
HIGHEST DAILY MEAN	13500	Dec 18	13500	Dec 18	330	Jun 23 1972
LOWEST DAILY MEAN	704	Nov 24	640	Sep 19	349	Jan 31 1981a
ANNUAL SEVEN-DAY MINIMUM	764	Nov 2	714	Sep 7	349	Jan 26 1981
MAXIMUM PEAK FLOW			22100	Dec 17	b60600	Jun 23 1972
MAXIMUM PEAK STAGE			16.14	Dec 17	24.86	Jun 23 1972
10 PERCENT EXCEEDS	4760		3930		5570	
50 PERCENT EXCEEDS	1860		1540		2070	
90 PERCENT EXCEEDS	839		808		864	

a Also Feb. 1, 1981.

b From rating curve extended above 36,000 ft<sup>3</sup>/s.

## DELAWARE RIVER BASIN

213

01457000 MUSCONETCONG RIVER NEAR BLOOMSBURY, NJ

LOCATION.--Lat 40°40'20", long 75°03'40", Warren County, Hydrologic Unit 02040105, on right bank just downstream from bridge on Limekiln Road (Person Road), 1.5 mi southwest of Bloomsbury, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--141 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1903 to March 1907, July 1921 to current year.

REVISED RECORDS.--WSP 1051: 1944-45. WSP 1382: 1904-06, 1922, 1923-29(M), 1931(M), 1933-34(M), 1936(M), 1940, 1942(M), 1944-45(M), 1951-52(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Sept. 29, 1932. Datum of gage is 274.83 ft above sea level. July 1903 to Mar. 31, 1907, nonrecording gage at bridge 15 ft upstream at different datum. July 26 to Sept. 12, 1921, nonrecording gage at bridge at present datum.

REMARKS.--Records good, except for estimated discharges which are poor. Flow occasionally regulated by Lake Hopatcong (see Delaware River basin, reservoirs in). Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	0930	*2,830	*5.74	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	88	162	e230	237	320	426	188	215	164	89	80
2	129	84	162	e210	236	317	373	179	387	167	86	77
3	126	83	157	e205	224	306	357	178	361	152	83	72
4	125	83	156	e200	209	308	339	170	299	142	92	76
5	117	78	148	e200	210	319	310	167	268	151	122	78
6	119	82	133	e200	246	314	313	164	250	143	88	72
7	118	75	108	e215	238	306	316	158	235	135	85	71
8	114	75	101	211	217	299	299	152	219	138	81	69
9	105	75	93	200	215	307	291	149	204	149	78	66
10	109	117	75	163	305	304	310	140	192	137	117	64
11	102	184	70	150	326	298	325	138	180	129	160	69
12	100	171	70	145	283	295	340	139	198	125	135	71
13	97	157	65	142	279	473	337	138	177	122	166	74
14	93	162	134	139	275	465	321	137	166	116	194	107
15	92	185	141	153	287	414	314	134	160	111	110	107
16	89	166	123	164	298	388	327	129	156	108	98	90
17	89	147	1390	161	336	414	314	131	301	107	93	77
18	105	150	843	156	296	429	318	132	264	109	86	72
19	121	145	547	191	279	405	293	135	215	108	89	72
20	107	147	440	254	274	382	272	135	187	103	94	79
21	100	139	391	e225	281	387	266	139	170	95	91	150
22	113	150	356	e190	271	478	259	254	163	92	88	109
23	141	141	318	e185	270	461	254	243	162	91	89	88
24	134	137	e295	e195	259	406	248	193	202	89	98	79
25	126	135	e270	194	287	373	228	165	207	88	95	130
26	123	192	e260	180	398	349	223	186	181	117	88	130
27	116	210	e250	183	363	336	217	414	167	115	80	105
28	119	165	e240	165	338	319	212	370	154	103	80	91
29	115	151	e240	150	---	305	202	298	152	94	82	87
30	113	173	e220	168	---	532	192	267	139	93	80	82
31	92	---	e250	227	---	528	---	234	---	91	78	---
TOTAL	3476	4047	8208	5751	7737	11537	8796	5756	6331	3684	3095	2594
MEAN	112	135	265	186	276	372	293	186	211	119	99.8	86.5
MAX	141	210	1390	254	398	532	426	414	387	167	194	150
MIN	89	75	65	139	209	295	192	129	139	88	78	64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
MEAN	176	228	269	265	278	347	354	276	199	160	151	157
MAX	770	701	980	924	582	935	1027	680	843	659	583	454
(WY)	1904	1928	1997	1979	1973	1936	1983	1989	1972	1975	1928	1960
MIN	41.2	61.2	57.3	73.7	99.4	127	103	98.1	56.8	38.1	38.5	37.3
(WY)	1964	1966	1966	1977	1923	1965	1985	1965	1965	1965	1965	1965

## DELAWARE RIVER BASIN

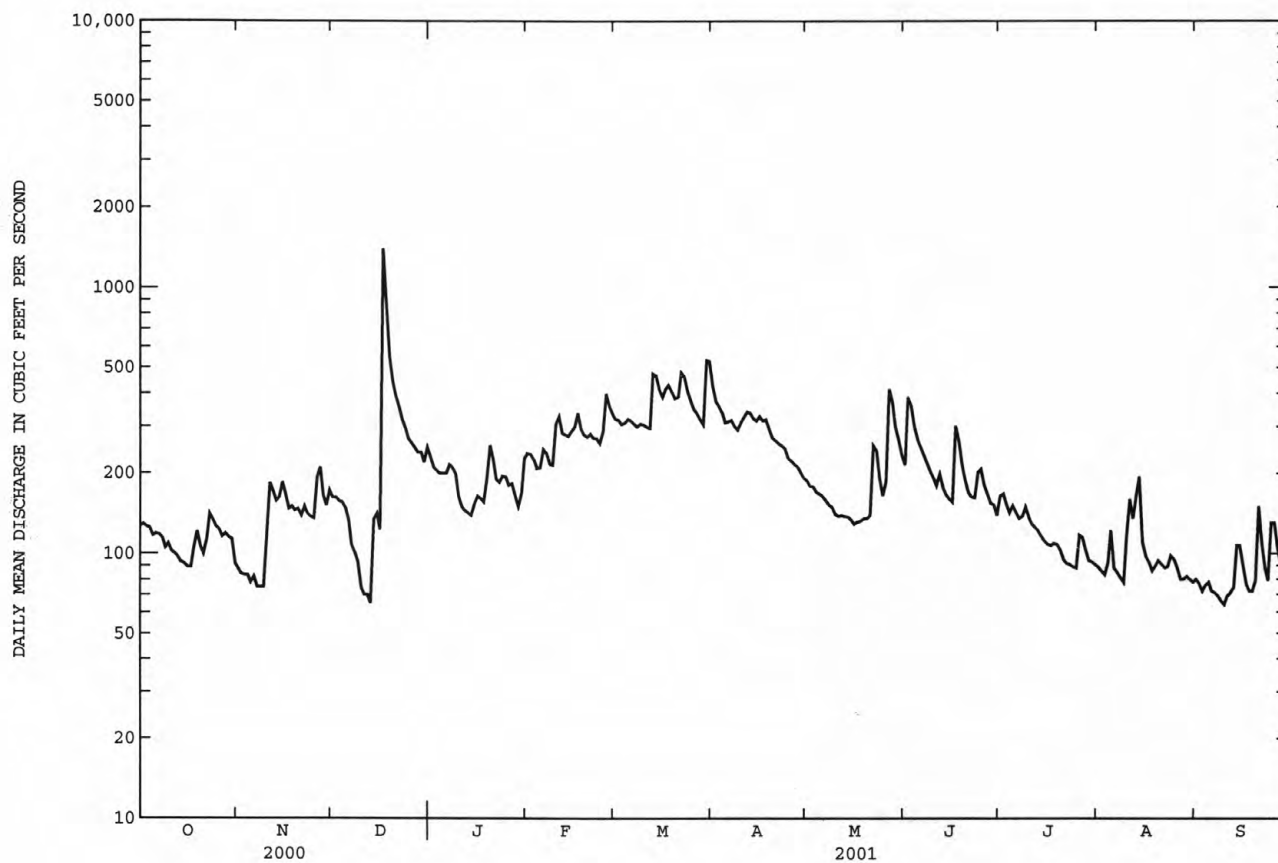
01457000 MUSCONETCONG RIVER NEAR BLOOMSBURY, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1904 - 2001	
ANNUAL TOTAL	91735		71012		239	
ANNUAL MEAN	251		195		425	
HIGHEST ANNUAL MEAN					82.6	
LOWEST ANNUAL MEAN					1928	
HIGHEST DAILY MEAN	1930	Aug 15	1390	Dec 17	5850	Oct 10 1903
LOWEST DAILY MEAN	65	Dec 13	64	Sep 10	27	Sep 8 1966
ANNUAL SEVEN-DAY MINIMUM	79	Nov 3	69	Sep 6	32	Aug 28 1966
MAXIMUM PEAK FLOW			2830	Dec 17	7200a	Jan 25 1979
MAXIMUM PEAK STAGE			5.74	Dec 17	8.50b	Jan 25 1979
INSTANTANEOUS LOW FLOW			63	Sep 9	8.1	Aug 2 1955
10 PERCENT EXCEEDS	402		336		457	
50 PERCENT EXCEEDS	221		162		182	
90 PERCENT EXCEEDS	118		83		77	

a From rating curve extended 1,800 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 6.95 ft.

b From floodmark.

e Estimated.





## DELAWARE RIVER BASIN

215

## 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 sea level.

REMARKS.--Records fair except for estimated daily discharges, 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 telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	137	132	151	117	122	112	131	142	155	163	149
2	135	137	134	152	117	123	119	127	91	157	162	153
3	136	140	134	154	120	125	121	123	135	155	166	154
4	136	140	133	150	121	127	124	122	141	166	174	156
5	131	138	e130	150	122	132	122	125	143	160	176	153
6	132	139	e132	151	108	121	120	128	144	159	170	152
7	132	136	e133	150	111	123	117	132	144	158	168	150
8	133	139	135	149	117	118	121	130	143	157	164	153
9	133	139	134	145	119	119	120	132	142	164	161	151
10	135	129	135	140	117	121	107	132	142	157	162	152
11	137	126	134	140	119	121	118	130	141	157	149	151
12	138	123	132	140	120	125	107	129	142	156	153	151
13	137	98	136	141	118	92	116	131	137	156	155	154
14	137	83	138	143	121	111	119	129	131	156	156	154
15	138	125	137	145	125	124	121	133	133	155	161	157
16	139	131	135	138	126	118	121	133	145	141	157	156
17	138	134	62	133	117	114	120	133	96	159	155	157
18	137	134	96	135	119	114	122	135	148	161	156	157
19	136	134	130	115	118	122	122	141	160	156	155	158
20	135	133	128	92	120	124	127	140	154	156	157	157
21	136	134	129	124	122	113	128	141	157	153	154	163
22	136	136	131	131	125	94	123	136	160	152	155	156
23	136	139	139	131	122	111	120	138	158	140	151	150
24	135	141	144	133	125	118	118	140	160	134	148	151
25	139	142	143	136	118	121	124	139	161	151	145	151
26	136	124	147	135	117	122	126	138	158	151	146	151
27	140	131	147	137	120	122	123	126	158	156	147	151
28	138	139	146	132	124	122	123	126	158	154	139	157
29	135	136	148	130	---	126	123	138	158	156	142	158
30	141	141	148	109	---	21	125	138	156	158	138	163
31	140	---	151	102	---	94	---	141	---	161	143	---
TOTAL	4223	3958	4133	4214	3345	3560	3609	4117	4338	4807	4828	4626
MEAN	136	132	133	136	119	115	120	133	145	155	156	154
MAX	141	142	151	154	126	132	128	141	161	166	176	163
MIN	131	83	62	92	108	21	107	122	91	134	138	149

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

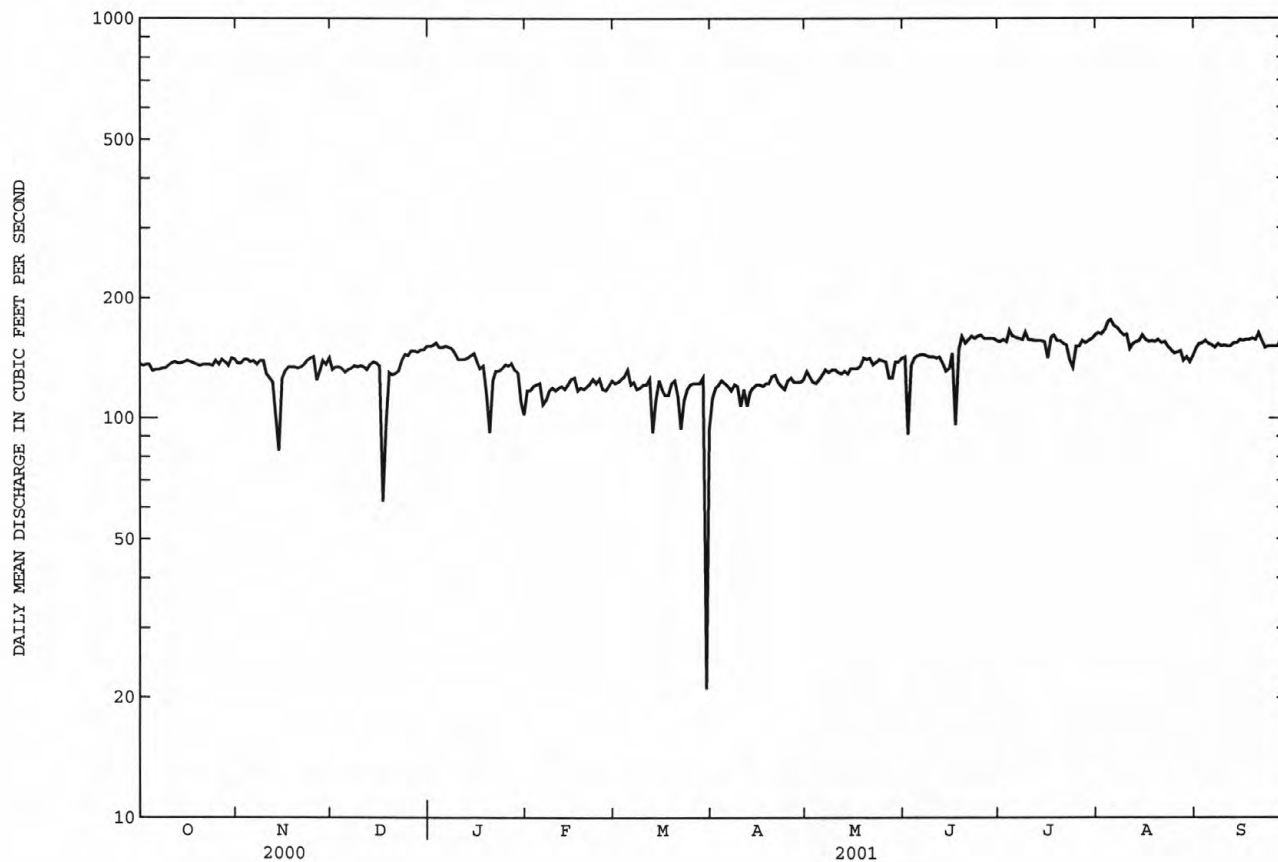
MEAN	137	134	127	125	128	123	131	141	143	147	144	141
MAX	159	154	143	143	143	148	147	152	159	163	156	155
(WY)	1999	1999	1996	1997	1995	1997	1997	1999	1999	1999	2001	1992
MIN	115	108	103	102	99.5	91.4	95.8	127	120	123	114	112
(WY)	1992	1992	1992	1999	1992	1992	1992	1998	1996	1996	1996	1999

## DELAWARE RIVER BASIN

01460440 DELAWARE AND RARITAN CANAL AT PORT MERCER, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1990 - 2001	
ANNUAL TOTAL	49602		49758		135	
ANNUAL MEAN	136		136		143	
HIGHEST ANNUAL MEAN					120	
LOWEST ANNUAL MEAN					222	
HIGHEST DAILY MEAN	151	Apr 15	176	Aug 5	222	Aug 22 1990
LOWEST DAILY MEAN	62	Dec 17	21	Mar 30	-280	Sep 17 1999
ANNUAL SEVEN-DAY MINIMUM	109	Feb 14	102	Mar 30	4.9	Sep 15 1999
MAXIMUM PEAK STAGE			55.82	Mar 30	61.19	Sep 16 1999
10 PERCENT EXCEEDS	146		157		154	
50 PERCENT EXCEEDS	137		136		140	
90 PERCENT EXCEEDS	124		118		108	

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 mi<sup>2</sup>.

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 sea level. Prior to Sept. 30, 1965, at datum 7.77 ft higher. Feb. 24, 1913 to Oct. 2, 1928, nonrecording gage on downstream side of highway bridge at site 450 ft downstream.

REMARKS.--Records good except for estimated daily discharge, which are fair. 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 sea level, discharge estimated, 295,000 ft<sup>3</sup>/s. Maximum elevation known, 30.6 ft above sea level, Mar. 8, 1904, from floodmark, due to ice jam.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 19	0115	*80,100	*16.45	Apr 11	1400	53,900	14.44

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4390	3300	5650	e7900	9320	12000	43300	7760	8960	6050	3140	3030
2	4190	3180	5300	e7800	9550	11000	33700	7920	12600	7770	3120	3270
3	3970	3120	5070	e7600	9660	10400	28700	7620	12000	6040	3110	3320
4	3740	3170	4670	e7400	9060	10200	25800	7390	13800	5550	3230	3210
5	4210	3500	4190	e7500	8540	10100	24300	7060	14500	6180	4730	3110
6	4160	3400	3910	e7300	8250	9770	24600	6690	12800	5530	4350	3130
7	4100	3180	3630	7450	7940	9690	26900	6050	10800	4690	3910	3120
8	4930	3120	3500	7010	8710	10200	27300	5500	9250	4580	3310	3060
9	5420	3030	3510	6660	8010	10500	30700	5280	8130	5020	3450	3390
10	4440	3350	3490	6460	11600	10700	35000	5110	7500	4780	3630	3140
11	3870	4140	3210	6110	11500	10100	50200	4920	6730	4710	5270	2960
12	3600	4560	3340	5730	10300	9190	48300	4590	6130	4970	6420	3010
13	3380	6540	3430	5440	10300	12900	40900	4390	6570	4950	7450	3040
14	3260	5790	4230	5340	10700	15800	36400	4210	6670	4600	5730	3240
15	3190	5470	5680	5440	10500	15500	31600	3990	6110	4290	4570	3540
16	3120	5310	5510	5570	11200	15100	27300	3760	5780	4010	3980	3220
17	3150	5550	19800	5510	13000	15500	24700	3570	13500	3530	3630	3250
18	3240	5490	61600	5660	12500	16000	23800	3490	14500	4030	3340	3020
19	3960	5010	64400	6330	10700	15500	21800	3630	13500	3880	3300	2860
20	6170	4560	37900	10400	9820	15100	19100	3730	11100	3710	3380	2840
21	8470	4330	28700	9080	9850	15800	17000	3930	9120	3580	3320	4280
22	6980	4120	22500	7140	9880	21600	15300	5430	8490	3360	3080	6780
23	6020	3950	19000	5650	9700	26900	14100	8060	12600	3370	2950	5120
24	5210	3770	15900	5410	9350	30900	13600	7600	12800	3190	3220	4350
25	4640	3540	14400	5400	9110	28600	13200	7040	9940	3190	3300	4070
26	4220	4100	11600	5520	12000	24900	12100	7140	8310	4410	3200	8830
27	4190	5020	11200	5100	12800	21800	11200	13200	7350	5020	3210	6980
28	3990	5540	11300	5380	12800	19300	10300	15000	6560	4060	3120	6640
29	3640	6220	e10000	5040	---	17300	9450	13700	6100	3680	3090	5650
30	3500	6130	e10000	5360	---	25300	8290	12200	5940	3620	3100	4590
31	3360	---	e8400	8960	---	37100	---	10400	---	3320	2980	---
TOTAL	134710	131490	415020	202650	286650	514750	748940	210360	288140	139670	117620	120050
MEAN	4345	4383	13390	6537	10240	16600	24960	6786	9605	4505	3794	4002
MAX	8470	6540	64400	10400	13000	37100	50200	15000	14500	7770	7450	8830
MIN	3120	3030	3210	5040	7940	9190	8290	3490	5780	3190	2950	2840

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2001, BY WATER YEAR (WY)

	MEAN	6834	10390	12620	12450	12820	20620	22300	14110	9094	7013	5885	5751
MAX	28710	27340	42860	34950	27550	60840	52680	31690	33460	25720	30290	22490	
(WY)	1956	1928	1997	1979	1951	1936	1940	1989	1972	1928	1955	1933	
MIN	1632	1868	2037	2539	3500	7715	6828	5074	2572	1548	1808	1762	
(WY)	1942	1915	1923	1981	1920	1981	1985	1995	1965	1965	1965	1932	

## DELAWARE RIVER BASIN

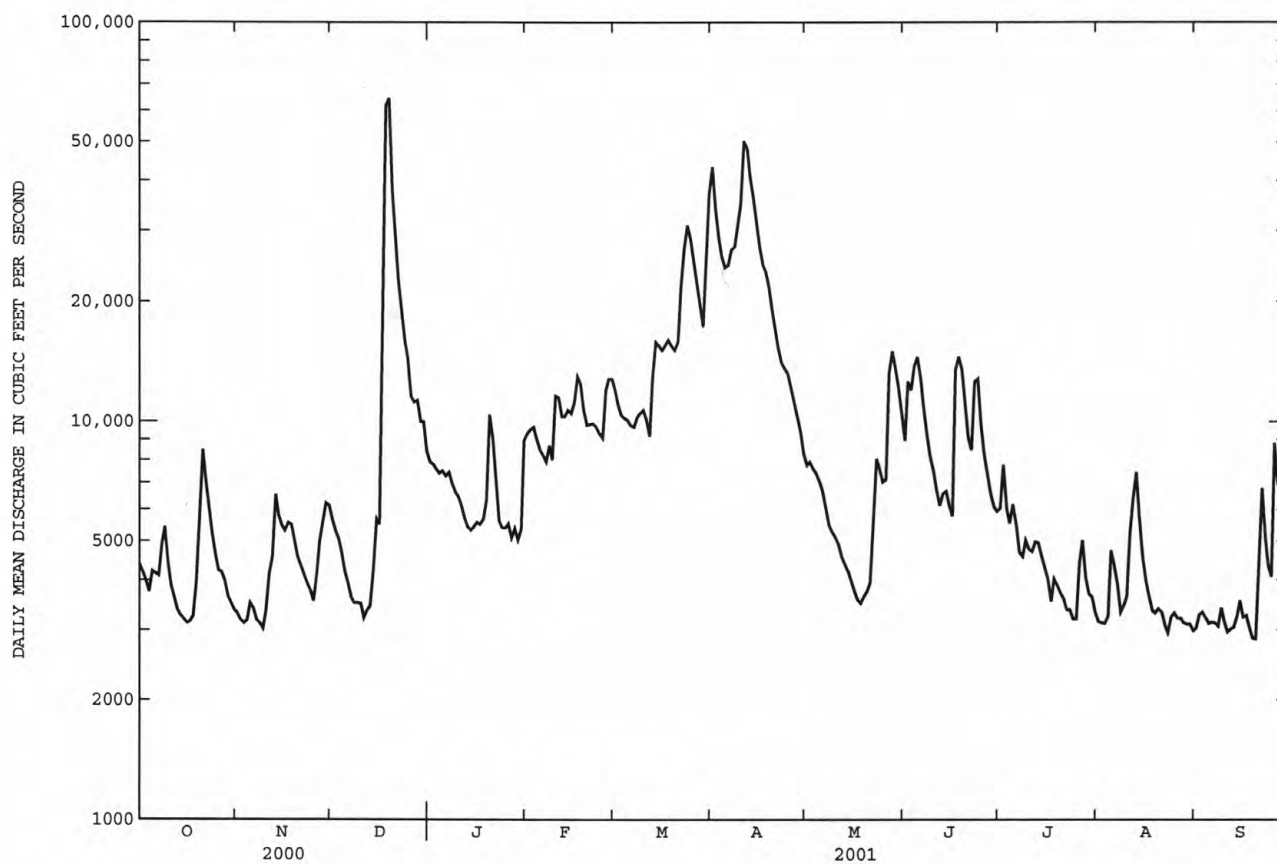
01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1913 - 2001	
ANNUAL TOTAL	4386760		3310050		11650	
ANNUAL MEAN	11990		9069		19810	
HIGHEST ANNUAL MEAN					4708	
LOWEST ANNUAL MEAN					1928	
HIGHEST DAILY MEAN	64400	Dec 19	64400	Dec 19	279000	Aug 20 1955
LOWEST DAILY MEAN	3030	Nov 9	2840	Sep 20	1240	Oct 31 1914
ANNUAL SEVEN-DAY MINIMUM	3220	Nov 3	3100	Sep 7	1310	Oct 31 1914
MAXIMUM PEAK FLOW			80100	Dec 19	329000a	Aug 20 1955
MAXIMUM PEAK STAGE			16.45	Dec 19	28.60b	Aug 20 1955
INSTANTANEOUS LOW FLOW			2680	Sep 20	1180	Oct 31 1963
10 PERCENT EXCEEDS	24000		18000		24500	
50 PERCENT EXCEEDS	8510		5790		7890	
90 PERCENT EXCEEDS	3960		3220		3020	

a From rating curve extended above 230,000 ft<sup>3</sup>/s, maximum flow since 1692.

b From high-water mark in gage house, current datum.

e Estimated



## DELAWARE RIVER BASIN

219

01463620 ASSUNPINK CREEK NEAR CLARKSVILLE, NJ

LOCATION.--Lat 40°16'11", long 74°40'20", Mercer County, Hydrologic Unit 02040105, on left bank 250 ft upstream from bridge on Quaker Bridge Road, 0.7 mi downstream from dam at Lake Mercer, 1.9 mi south of Clarksville, 2.0 mi upstream from Shipetaukin Creek, and 7.6 mi upstream from mouth.

DRAINAGE AREA.--34.3 mi<sup>2</sup>.

PERIOD OF RECORD.--Occasional low-flow measurements water years 1963-67. October 1972 to September 1981, March 1992 to September 1995, growing season only, April to October, 1996-current year.

GAGE.--Water-stage recorder. Datum of gage is 49.28 ft above sea level.

REMARKS.--Records fair, except estimated daily discharges which are poor. Regulation from flood-control dams and ponds upstream. Diversions for irrigation upstream from station.  
Several measurements of water temperature made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 28, 1971, reached a stage of 10.9 ft, discharge, 1,500 ft<sup>3</sup>/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	15	54	e29	118	47	277	27	42	e21	6.4	9.9
2	43	14	47	e27	101	43	263	26	67	e24	5.9	8.7
3	38	14	43	e26	86	40	185	24	111	e21	5.3	7.7
4	34	15	38	e25	71	38	117	22	103	e19	5.1	6.9
5	34	16	36	e24	67	40	92	21	63	e21	5.8	6.2
6	34	15	35	e23	88	43	77	20	50	e20	6.2	5.3
7	33	15	33	24	110	47	74	18	43	e18	7.7	4.8
8	31	15	32	23	112	52	69	17	40	e15	9.6	4.5
9	29	15	32	25	99	56	68	16	e28	e19	10	4.3
10	27	25	31	26	90	60	77	14	e23	e17	11	4.4
11	24	31	29	26	80	56	79	14	e19	e14	25	4.6
12	23	34	27	26	70	49	92	12	e16	12	39	4.3
13	23	34	27	26	58	90	93	11	e14	12	39	4.1
14	22	34	35	26	56	122	82	10	e13	11	33	5.1
15	22	34	47	27	54	110	71	9.9	e12	9.9	29	5.6
16	21	34	50	32	51	105	66	9.8	e18	8.5	24	5.3
17	21	33	127	40	61	105	62	9.4	43	7.6	20	5.2
18	21	32	286	45	63	99	57	8.9	136	12	17	4.9
19	21	31	e240	67	58	84	50	8.4	165	13	16	4.7
20	21	30	e149	166	51	70	46	9.0	140	13	13	4.8
21	21	30	e103	e210	47	70	44	9.5	107	13	9.5	5.5
22	21	30	e81	e175	44	133	41	15	e83	13	8.6	5.5
23	21	30	e74	e136	42	141	40	26	e66	13	8.4	5.6
24	21	28	e64	e98	39	117	37	29	e64	12	8.3	5.6
25	21	25	e57	e78	40	94	34	27	e59	11	8.3	6.2
26	21	37	e49	e66	52	77	32	37	e49	11	7.6	6.2
27	21	66	e42	e56	54	66	31	107	e38	11	7.4	6.1
28	19	72	e35	e48	51	58	30	109	e31	9.6	8.4	6.1
29	16	67	e31	45	---	53	30	87	e26	8.3	8.3	6.0
30	15	61	e29	55	---	187	28	65	e22	7.7	8.5	6.0
31	15	---	e28	111	---	286	---	50	---	7.1	10	---
TOTAL	784	932	1991	1811	1913	2638	2344	868.9	1691	424.7	421.3	170.1
MEAN	25.3	31.1	64.2	58.4	68.3	85.1	78.1	28.0	56.4	13.7	13.6	5.67
MAX	50	72	286	210	118	286	277	109	165	24	39	9.9
MIN	15	14	27	23	39	38	28	8.4	12	7.1	5.1	4.1

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2001, BY WATER YEAR (WY)

MEAN	35.4	42.3	78.9	77.2	70.6	84.0	65.5	46.5	39.4	28.4	29.3	33.1
MAX	93.8	112	151	151	136	204	115	115	90.9	142	77.4	126
(WY)	1997	1973	1997	1979	1994	1994	1973	1998	1996	1975	1994	1999
MIN	9.70	19.2	20.9	12.9	30.7	33.8	23.7	16.0	9.24	4.39	11.0	5.67
(WY)	1998	1995	1981	1981	1980	1981	1995	1992	1999	1999	1995	2001

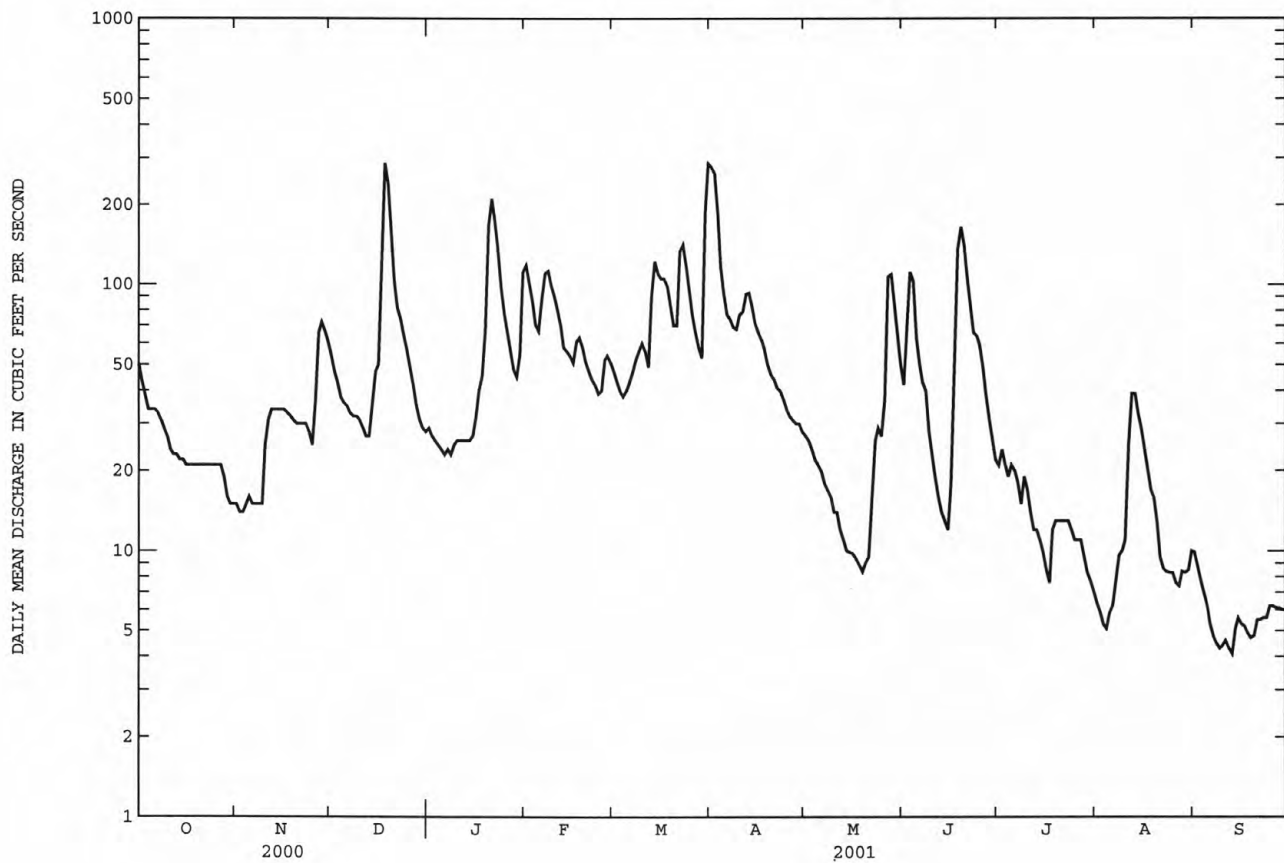


## DELAWARE RIVER BASIN

01463620 ASSUNPINK CREEK NEAR CLARKSVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1973 - 2001	
ANNUAL TOTAL	10704.0		15989.0		50.4a	
ANNUAL MEAN	38.9		43.8		74.7a	
HIGHEST ANNUAL MEAN					24.6a	
LOWEST ANNUAL MEAN					832a	
HIGHEST DAILY MEAN	286	Dec 18	286	Dec 18	1.0a	Feb 26 1979
LOWEST DAILY MEAN	4.4	Jul 14	4.1	Sep 13	1.2a	Sep 6 1995
ANNUAL SEVEN-DAY MINIMUM	5.4	Jul 8	4.4	Sep 7	1050a	Jul 21 1975
MAXIMUM PEAK FLOW			294	Dec 18	9.36a	Jul 21 1975
MAXIMUM PEAK STAGE			6.27	Dec 18	1.0a	Sep 6 1995
INSTANTANEOUS LOW FLOW			3.7	Sep 14		
10 PERCENT EXCEEDS	81		99			
50 PERCENT EXCEEDS	29		30			
90 PERCENT EXCEEDS	10		7.6			

a Not all monthly record is included see Period of Record section.  
e Estimated



## DELAWARE RIVER BASIN

221

## 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 mi<sup>2</sup>.

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 sea level (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 Assunpink 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 ft<sup>3</sup>/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 telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	1215	1,600	8.19	Mar 30	1245	*2,010	*9.16
Jan 19	2000	914	6.42	Jun 2	0230	1,040	6.76
Jan 30	1745	928	6.46	Jun 17	1415	1,760	8.58
Mar 13	0730	1,050	6.78	Aug 11	1700	1,710	7.80
Mar 21	2200	1,070	6.85	Aug 13	0045	1,060	6.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	41	119	85	436	182	618	72	119	97	24	41
2	97	40	98	82	354	167	527	72	571	100	22	37
3	85	41	83	79	295	155	408	71	242	56	22	36
4	105	40	77	78	246	161	301	68	156	67	101	36
5	140	39	71	75	403	230	249	64	116	94	106	37
6	90	39	67	77	527	217	251	56	96	61	35	36
7	78	39	68	76	511	232	230	49	81	53	31	37
8	68	39	59	88	439	258	226	51	67	48	29	34
9	66	42	55	127	365	301	216	48	58	149	28	33
10	63	204	54	109	398	269	274	49	49	61	168	33
11	58	99	54	104	315	227	269	44	44	50	671	31
12	55	81	53	101	254	199	371	43	42	44	447	27
13	53	80	52	97	243	734	282	39	41	38	440	26
14	51	97	263	92	226	499	230	36	43	35	212	164
15	49	83	162	165	220	406	197	34	43	33	118	54
16	47	78	153	183	228	435	232	32	142	32	89	39
17	48	65	869	214	324	519	190	31	815	53	72	34
18	74	58	741	206	245	399	182	32	368	269	63	33
19	58	54	558	557	208	309	152	32	218	66	56	31
20	50	53	381	816	190	258	137	31	168	52	55	40
21	48	56	259	685	177	456	128	45	136	43	49	69
22	46	50	203	505	161	677	121	269	113	39	44	50
23	46	47	161	403	172	528	115	140	122	37	42	41
24	47	46	146	324	158	414	108	91	148	34	47	39
25	46	45	124	269	221	324	97	72	108	32	36	65
26	42	359	108	229	299	281	90	272	93	43	33	48
27	42	241	102	207	249	245	85	351	81	36	92	43
28	41	183	96	187	210	218	80	274	72	29	85	40
29	37	156	86	168	---	211	72	141	66	27	51	38
30	37	163	90	507	---	1320	70	105	59	28	44	40
31	38	---	92	545	---	800	---	78	---	26	55	---
TOTAL	1916	2658	5504	7440	8074	11631	6508	2792	4477	1832	3367	1312
MEAN	61.8	88.6	178	240	288	375	217	90.1	149	59.1	109	43.7
MAX	140	359	869	816	527	1320	618	351	815	269	671	164
MIN	37	39	52	75	158	155	70	31	41	26	22	26
(I)	13.0	12.4	14.0	17.0	20.7	22.6	20.9	14.3	16.2	12.6	13.6	11.9

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001, BY WATER YEAR (WY)

	MEAN	80.5	113	148	169	186	214	181	132	100	99.2	93.6	94.0
MAX	328	331	501	498	395	554	494	340	371	545	355	395	
(WY)	1997	1973	1997	1979	1939	1994	1983	1989	1996	1975	1971	1999	
MIN	19.1	27.6	32.0	44.2	52.0	76.7	65.2	40.0	25.9	17.2	17.3	15.8	
(WY)	1931	1932	1999	1981	1934	1985	1963	1941	1942	1955	1966	1943	

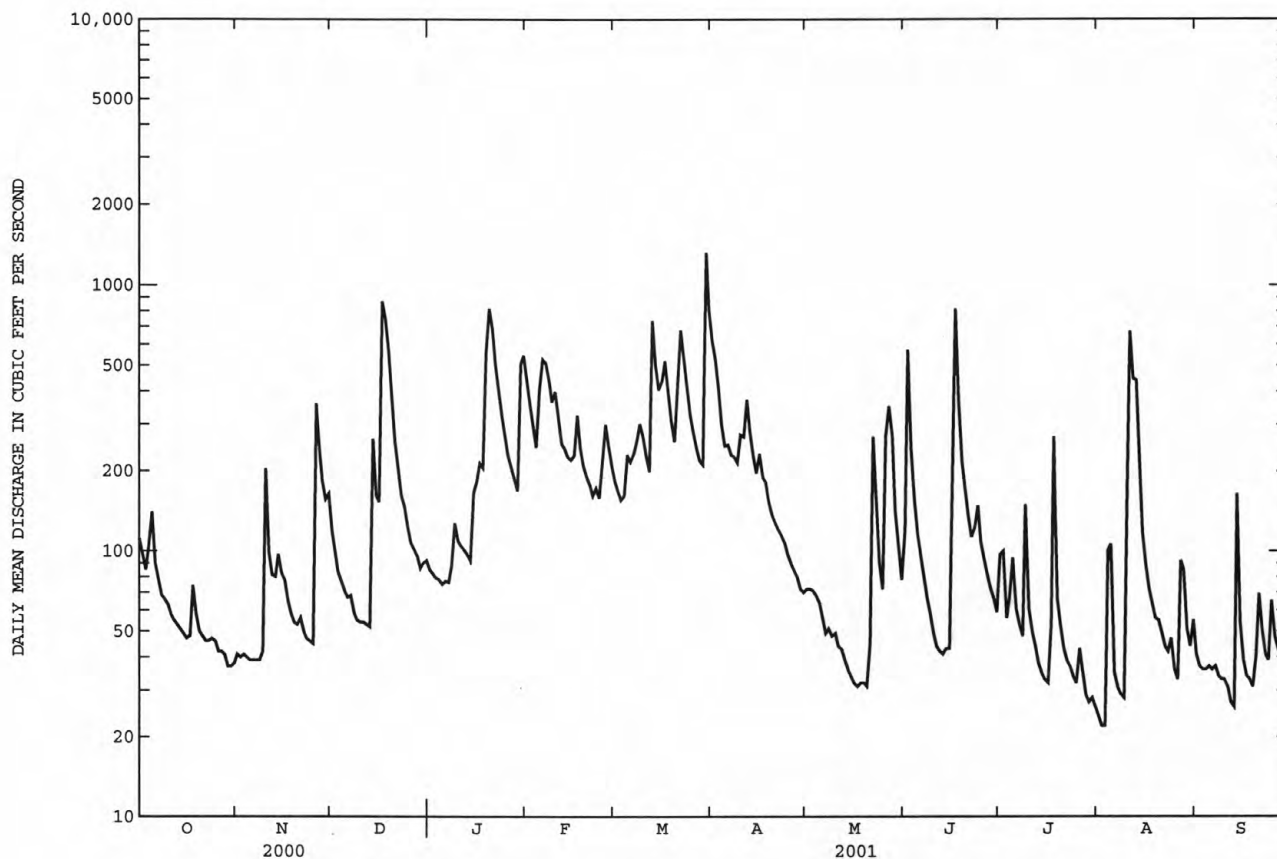
## DELAWARE RIVER BASIN

01464000 ASSUNPINK CREEK AT TRENTON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001	
ANNUAL TOTAL	51534		57511			
ANNUAL MEAN	141		158		134	
(I)	14.8		15.7			
HIGHEST ANNUAL MEAN					233	1984
LOWEST ANNUAL MEAN					69.2	1931
HIGHEST DAILY MEAN	869	Dec 17	1320	Mar 30	4050	Jul 21 1975
LOWEST DAILY MEAN	25	Jul 12	22	Aug 2,3	4.0	Jul 21 1929
ANNUAL SEVEN-DAY MINIMUM	27	Jul 7	25	Jul 28	9.6	Aug 25 1944
MAXIMUM PEAK FLOW			2010	Mar 30	5450	Jul 21 1975
MAXIMUM PEAK STAGE			9.16	Mar 30	14.61a	Jul 21 1975
INSTANTANEOUS LOW FLOW			14	Aug 4	1.0	Aug 21 1931
10 PERCENT EXCEEDS	319		388		275	
50 PERCENT EXCEEDS	84		86		87	
90 PERCENT EXCEEDS	42		36		33	

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

223

01464500 CROSSWICKS CREEK AT EXTONVILLE, NJ

LOCATION.--Lat 40°08'14", long 74°36'01", revised, 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 mi<sup>2</sup>.

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 sea level.

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan 20	2000	902	7.61	Mar 31	0130	*1,980	*10.14
Mar 22	1845	800	7.19				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	42	134	93	266	111	639	60	e48	e46	26	36
2	88	43	100	86	188	100	323	59	e119	e70	23	33
3	83	43	83	80	151	93	227	56	e175	e61	21	30
4	78	43	74	82	124	90	181	54	e92	e47	87	29
5	110	43	70	73	182	160	156	53	e66	e69	418	33
6	99	42	67	80	449	195	146	49	e51	e79	87	33
7	77	41	65	77	472	171	150	47	e48	e59	54	28
8	69	42	63	81	341	172	143	46	e43	e44	43	28
9	60	44	61	162	229	171	147	46	e38	e54	36	27
10	56	187	59	161	220	179	185	46	e36	e62	34	27
11	54	226	64	134	177	135	173	44	e33	e41	41	30
12	51	120	68	121	135	113	269	42	e31	e38	42	26
13	52	86	62	106	130	358	231	40	e30	e33	69	23
14	51	77	111	94	128	413	176	37	e33	e31	214	33
15	48	99	203	98	124	214	145	36	e34	e32	99	47
16	48	77	132	153	117	238	158	34	e52	e30	61	33
17	48	69	312	191	239	239	157	36	e199	e35	50	30
18	50	63	647	164	196	211	139	38	e429	e105	43	29
19	61	59	320	250	141	160	121	40	e234	185	39	28
20	54	57	192	778	124	133	107	40	e164	93	45	31
21	52	59	144	729	115	171	100	41	e109	70	46	56
22	50	57	119	364	97	684	96	87	e83	54	38	46
23	47	55	e105	227	100	561	91	105	e74	44	35	39
24	47	53	e91	167	103	295	86	77	e89	39	46	34
25	46	52	e82	146	114	195	79	65	e92	35	43	70
26	46	205	e75	129	244	154	75	67	e71	32	35	65
27	46	564	e72	116	169	135	73	80	e62	38	62	43
28	47	279	e73	110	134	119	68	84	e51	32	70	36
29	45	165	72	99	---	110	64	77	e45	29	49	35
30	44	154	76	191	---	870	61	64	e42	29	42	33
31	42	---	110	495	---	1470	---	54	---	29	39	---
TOTAL	1846	3146	3906	5837	5209	8420	4766	1704	2673	1645	2037	1071
MEAN	59.5	105	126	188	186	272	159	55.0	89.1	53.1	65.7	35.7
MAX	110	564	647	778	472	1470	639	105	429	185	418	70
MIN	42	41	59	73	97	90	61	34	30	29	21	23
CFSM	.73	1.29	1.55	2.31	2.28	3.33	1.95	.67	1.09	.65	.81	.44
IN.	.84	1.44	1.78	2.66	2.38	3.84	2.18	.78	1.22	.75	.93	.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2001, BY WATER YEAR (WY)

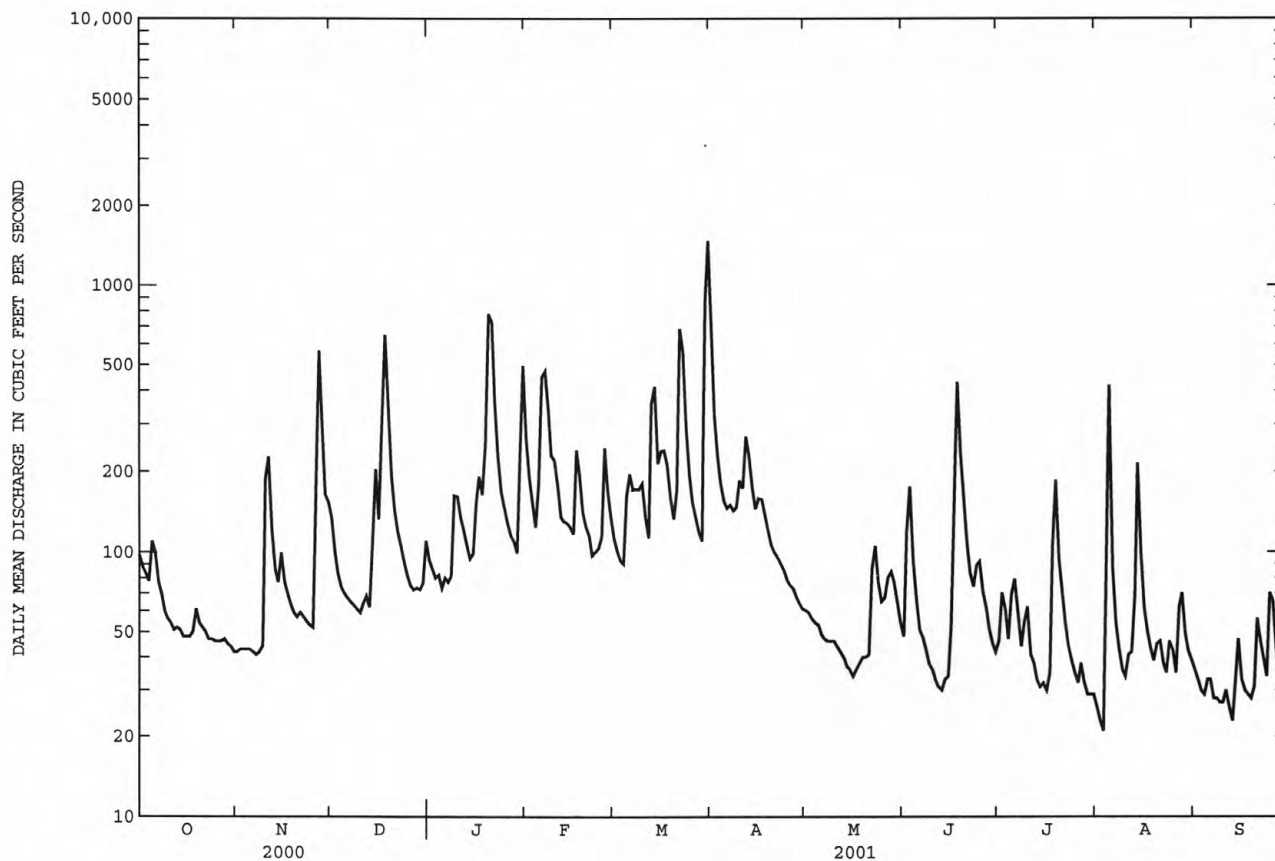
	MEAN	MAX	(WY)	MIN	(WY)
MEAN	88.4	126	160	177	179
MAX	231	406	392	452	416
(WY)	1997	1973	1997	1978	1979
MIN	32.9	36.7	42.6	62.1	82.9
(WY)	1966	1966	1999	1981	1992

## DELAWARE RIVER BASIN

01464500 CROSSWICKS CREEK AT EXTONVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1940 - 2001	
ANNUAL TOTAL	40941		42260		134	
ANNUAL MEAN	112		116		225	1978
HIGHEST ANNUAL MEAN					69.9	1995
LOWEST ANNUAL MEAN					3930	Aug 28 1971
HIGHEST DAILY MEAN	759	Aug 4	1470	Mar 31	8.7	Aug 4 1999
LOWEST DAILY MEAN	19	Jul 13	21	Aug 3	10	Aug 1 1999
ANNUAL SEVEN-DAY MINIMUM	22	Jul 8	27	Jul 28	4860	Sep 1 1978
MAXIMUM PEAK FLOW			1980	Mar 31	14.18	Sep 1 1978
MAXIMUM PEAK STAGE			10.14	Mar 31	7.3	Aug 4 1999
INSTANTANEOUS LOW FLOW			19	Aug 3	1.65	
ANNUAL RUNOFF (CFSM)	1.37		1.42		22.37	
ANNUAL RUNOFF (INCHES)	18.69		19.29		250	
10 PERCENT EXCEEDS	208		222		93	
50 PERCENT EXCEEDS	83		73		40	
90 PERCENT EXCEEDS	44		34			

e Estimated





## 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 mi<sup>2</sup>.

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.--No gage height record portions of December 25 to January 10. Many low-tides October 2000 through September 2001 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, 7.22 ft (NGVD of 1929), Dec. 17; 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 2000 TO SEPTEMBER 2001

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	5.97	6.43	7.22	5.53	5.76	6.81	6.49	6.31	6.61	6.62	6.40	6.48
high tide	Date	17	26	17	30	6	8	2	27,28	23	20	19	16
Minimum	Elevation	---	---	---	---	---	---	---	---	---	---	---	---
low tide	Date	---	---	---	---	---	---	---	---	---	---	---	---
Mean high tide		4.90	4.78	---	---	4.61	5.07	5.44	5.18	5.37	5.24	5.20	5.28
Mean water level		1.4e	1.3e	1.1e	---	1.1e	1.6e	1.8e	1.6e	1.7e	1.5e	1.5e	1.7e
Mean low tide		---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

## DELAWARE RIVER BASIN

01465850 SOUTH BRANCH RANOCAS 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 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1961 to October 1975, October 1999 to current year. Operated as a crest-stage partial-record station 1976-95.

GAGE.--Water-stage recorder. Datum of gage is 13.17 ft above sea level. Prior to Oct. 30, 1961, at site 150 ft upstream at same datum. Satellite telemetry at station.

REMARKS.--Records good except for estimated daily discharges, which are poor. Occasional regulation by lakes and ponds above station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	2315	458	5.39	Mar 22	0815	403	5.12
Jan 20	1415	433	5.27	Mar 30	1815	*771	*6.62

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	53	115	67	154	116	305	82	58	33	12	15
2	104	47	86	65	136	100	240	77	90	44	11	14
3	85	44	77	74	128	92	203	71	102	44	11	13
4	79	47	73	65	115	92	169	59	80	38	12	12
5	224	49	69	65	161	131	141	53	70	46	14	12
6	172	55	68	64	290	148	124	49	61	44	14	11
7	120	54	63	63	290	130	116	45	53	38	13	12
8	94	53	57	65	217	115	107	43	46	33	11	12
9	83	51	56	81	194	103	104	44	40	32	12	16
10	75	86	56	84	177	101	123	46	38	30	12	13
11	70	96	59	81	151	95	131	46	37	27	14	16
12	65	85	60	81	128	88	154	44	37	25	14	15
13	63	100	60	78	118	190	147	42	37	24	26	14
14	61	113	87	74	111	197	126	39	35	22	41	15
15	58	105	107	85	104	155	111	37	33	22	34	19
16	61	80	92	113	100	165	109	38	37	21	31	15
17	60	71	229	120	146	172	108	37	51	19	27	14
18	64	68	345	108	127	153	102	37	73	19	23	16
19	64	65	192	168	111	128	95	37	65	18	20	16
20	63	64	148	401	104	112	89	39	60	17	24	17
21	58	71	125	330	98	136	85	41	53	15	34	22
22	58	73	109	245	91	361	82	54	49	15	30	22
23	55	65	e97	216	90	248	75	59	49	14	e26	20
24	55	62	e82	185	92	179	70	56	52	13	e25	20
25	65	60	e80	159	102	156	68	53	50	13	e23	23
26	57	140	e73	133	151	139	67	54	46	14	18	24
27	58	234	70	116	142	125	65	67	42	14	16	22
28	60	164	67	107	136	111	66	82	39	12	18	21
29	58	137	64	97	---	92	102	78	36	12	18	20
30	59	133	64	143	---	480	97	79	34	13	18	19
31	56	---	69	210	---	514	---	68	---	12	16	---
TOTAL	2441	2525	2999	3943	3964	5124	3581	1656	1553	743	618	500
MEAN	78.7	84.2	96.7	127	142	165	119	53.4	51.8	24.0	19.9	16.7
MAX	224	234	345	401	290	514	305	82	102	46	41	24
MIN	55	44	56	63	90	88	65	37	33	12	11	11
CFSM	1.22	1.30	1.50	1.97	2.19	2.56	1.85	.83	.80	.37	.31	.26
IN.	1.41	1.46	1.73	2.27	2.29	2.96	2.07	.96	.90	.43	.36	.29

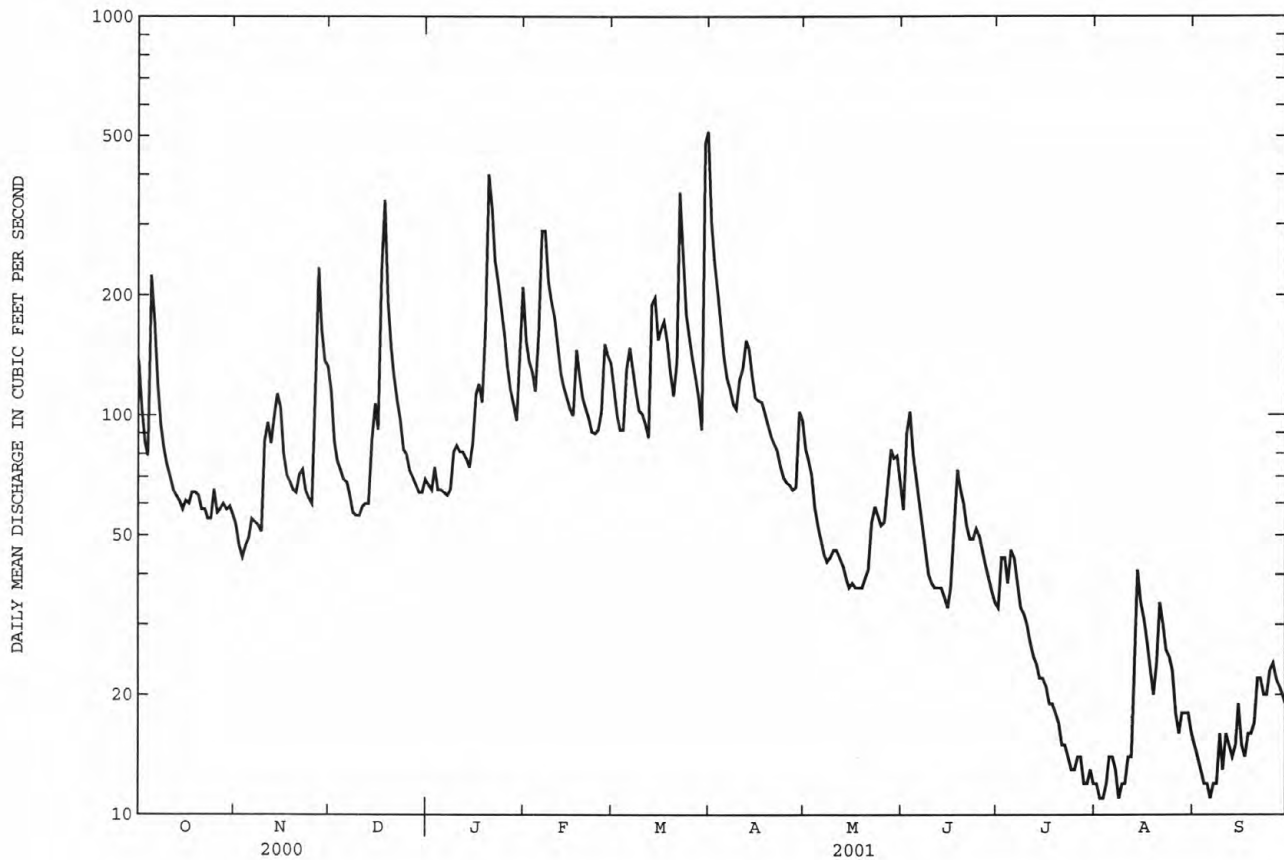
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2001, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)
1961	67.9	155	1976	18.7
1962	96.0	325	1973	20.2
1963	130	291	1973	22.4
1964	118	177	1964	31.4
1965	127	238	1973	77.3
1966	139	200	1962	74.0
1967	125	243	1970	57.7
1968	86.1	184	1972	38.0
1969	62.5	165	1968	16.6
1970	56.6	139	1975	14.1
1971	65.3	169	1967	14.0
1972	62.6	155	1975	13.9
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				

## 01465850 SOUTH BRANCH RANOCAS CREEK AT VINCENTOWN, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1961 - 2001	
ANNUAL TOTAL	29662		29647		94.1	
ANNUAL MEAN	81.0		81.2		157	
HIGHEST ANNUAL MEAN					47.3	
LOWEST ANNUAL MEAN					981	
HIGHEST DAILY MEAN	475	Sep 27	514	Mar 31	3.1	Nov 9 1972
LOWEST DAILY MEAN	11	Jul 14	11	many days	7.7	Aug 9 1966
ANNUAL SEVEN-DAY MINIMUM	14	Jul 8	12	Jul 28	7.7	Sep 7 1966
MAXIMUM PEAK FLOW			771	Mar 30	1320	Aug 28 1978
MAXIMUM PEAK STAGE			6.62	Mar 30	7.98	Aug 28 1978
INSTANTANEOUS LOW FLOW			11	many days	2.8	Jul 17 1966
ANNUAL RUNOFF (CFSM)	1.26		1.26		1.46	
ANNUAL RUNOFF (INCHES)	17.11		17.10		19.82	
10 PERCENT EXCEEDS	138		154		186	
50 PERCENT EXCEEDS	68		65		72	
90 PERCENT EXCEEDS	33		15		20	

e Estimated



LOCATION.--Lat 39°53'06" (revised), long 74°30'20", Burlington County, Hydrologic Unit 02040202, on right bank, 25 ft upstream from Butterworth Road Bridge in Lebanon State Forest, 3.4 mi upstream from confluence with Cooper Branch, and 7.0 mi southeast of Browns Mills.

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1962, published as "McDonald Branch in Lebanon State Forest".

GAGE.--Water-stage recorder and concrete control. Datum of gage is 117.73 ft above sea level (levels from New Jersey Geological Survey bench mark).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7.0 ft<sup>3</sup>/s and maximum (\*):

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

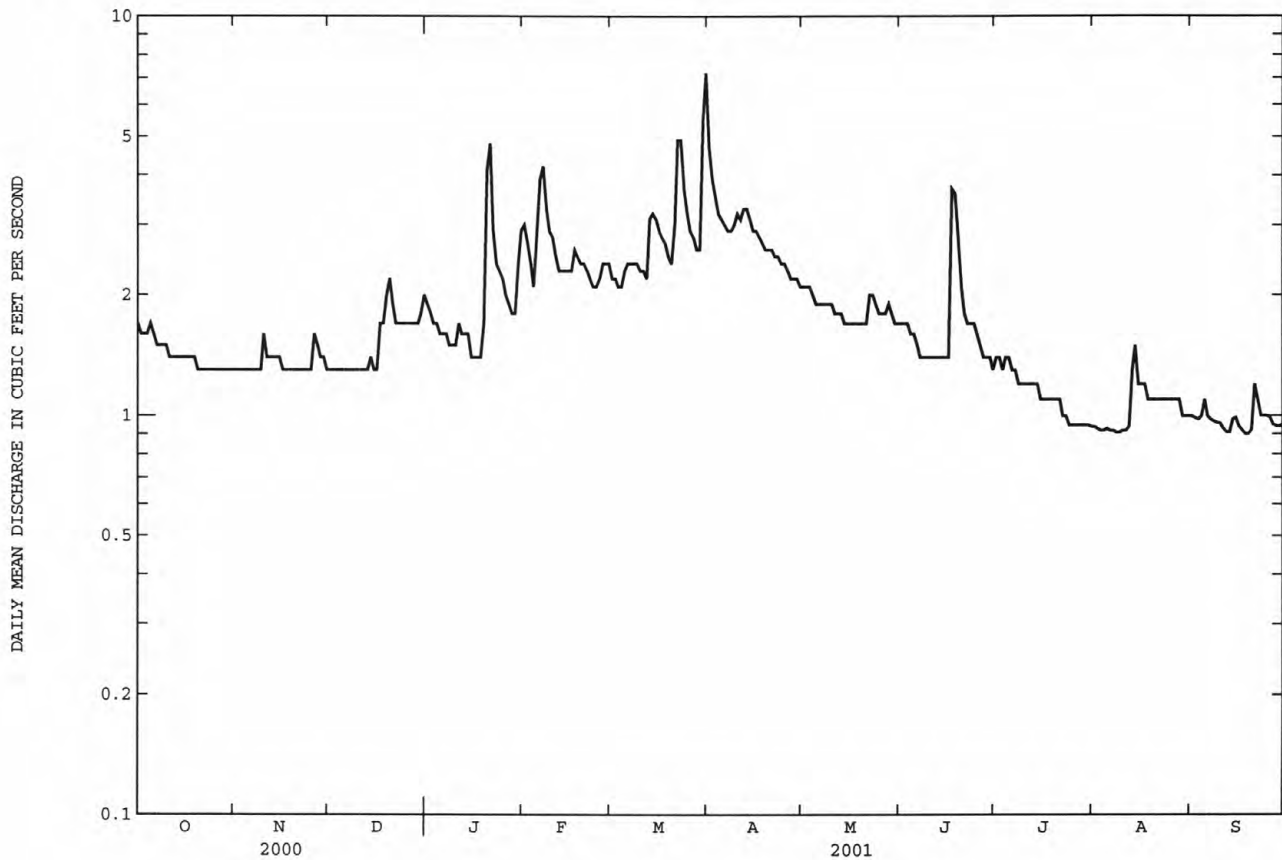
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2001, BY WATER YEAR (WY)

MEAN	1.56	1.71	2.04	2.27	2.41	2.88	2.90	2.64	2.16	1.83	1.80	1.63
MAX	4.45	4.82	5.75	4.78	5.69	5.67	5.74	6.86	5.35	4.15	5.65	4.31
(WY)	1959	1973	1973	1973	1973	1979	1984	1998	1979	1958	1958	1958
MIN	.80	.95	.98	.98	1.13	1.25	1.24	1.17	1.05	1.00	.91	.71
(WY)	1996	1986	1999	1981	1989	1966	1985	1995	1995	1977	1995	1995

01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ--Continued  
(Hydrologic bench-mark station)

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1954 - 2001	
ANNUAL TOTAL	553.1		651.18		2.15	
ANNUAL MEAN	1.51		1.78		3.85	
HIGHEST ANNUAL MEAN					1.17	
LOWEST ANNUAL MEAN					20	
HIGHEST DAILY MEAN	3.1	Sep 27	7.2	Mar 31	.50	Feb 28 1958
LOWEST DAILY MEAN	1.0	Jul 8	.90	Sep 18	.58	Oct 13 1995
ANNUAL SEVEN-DAY MINIMUM	1.0	Jul 8	.92	Aug 3	.49	Oct 8 1995
MAXIMUM PEAK FLOW			8.4	Mar 31	.35	Aug 25 1958
MAXIMUM PEAK STAGE			1.75	Mar 31	.23	Aug 25 1958
INSTANTANEOUS LOW FLOW			.84	Aug 9	.49	Oct 13 1995
ANNUAL RUNOFF (CFSM)	.64		.76		.92	
ANNUAL RUNOFF (INCHES)	8.76		10.31		12.44	
10 PERCENT EXCEEDS	1.9		2.9		3.6	
50 PERCENT EXCEEDS	1.5		1.5		1.8	
90 PERCENT EXCEEDS	1.1		.98		1.1	

e Estimated





## 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 New Lisbon, 0.5 mi upstream from mouth, and 3.1 mi east of Pemberton.

DRAINAGE AREA.--77.9 mi<sup>2</sup>.

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 sea level (from topographic map).

REMARKS.--Records good. 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 rain-gage and gage-height telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	50	103	81	146	110	324	78	64	48	30	32
2	106	53	94	79	139	102	234	78	74	63	30	30
3	97	52	79	77	130	87	183	77	80	61	29	29
4	91	52	72	78	124	85	171	75	74	55	29	29
5	99	52	68	78	125	97	158	74	68	69	32	34
6	109	51	67	76	153	112	140	73	63	76	31	31
7	112	49	65	75	181	124	131	70	59	69	29	29
8	100	48	63	75	181	127	132	65	57	61	29	28
9	89	49	62	83	169	120	129	62	54	56	28	27
10	80	66	61	87	156	118	128	62	51	52	27	27
11	71	83	64	86	141	114	127	71	49	48	29	33
12	69	90	70	85	131	109	134	92	47	42	31	33
13	67	97	69	83	125	115	140	73	49	39	52	29
14	65	107	71	81	119	129	138	61	47	38	66	36
15	64	90	82	84	115	144	133	58	45	36	74	46
16	65	78	84	92	113	145	134	57	45	35	70	37
17	72	74	88	98	118	143	141	56	67	34	60	32
18	76	70	102	101	124	142	141	56	103	41	57	29
19	73	65	115	107	124	136	131	59	139	43	51	28
20	69	63	129	134	118	130	130	63	141	41	65	29
21	69	62	128	209	113	125	123	66	116	40	73	36
22	66	61	121	213	109	143	117	76	97	38	67	36
23	61	60	114	179	108	188	114	85	85	35	51	34
24	58	58	102	162	105	200	109	87	84	34	45	33
25	58	58	93	147	104	177	107	78	84	33	40	42
26	58	75	87	133	112	161	102	75	84	34	36	40
27	59	97	81	121	116	151	93	78	76	36	35	36
28	58	106	77	112	115	142	89	80	64	34	44	35
29	56	112	75	106	---	130	83	81	56	33	41	33
30	54	107	76	106	---	174	80	82	51	35	36	32
31	55	---	80	119	---	353	---	72	---	34	33	---
TOTAL	2346	2135	2642	3347	3614	4333	4096	2220	2173	1393	1350	985
MEAN	75.7	71.2	85.2	108	129	140	137	71.6	72.4	44.9	43.5	32.8
MAX	120	112	129	213	181	353	324	92	141	76	74	46
MIN	54	48	61	75	104	85	80	56	45	33	27	27

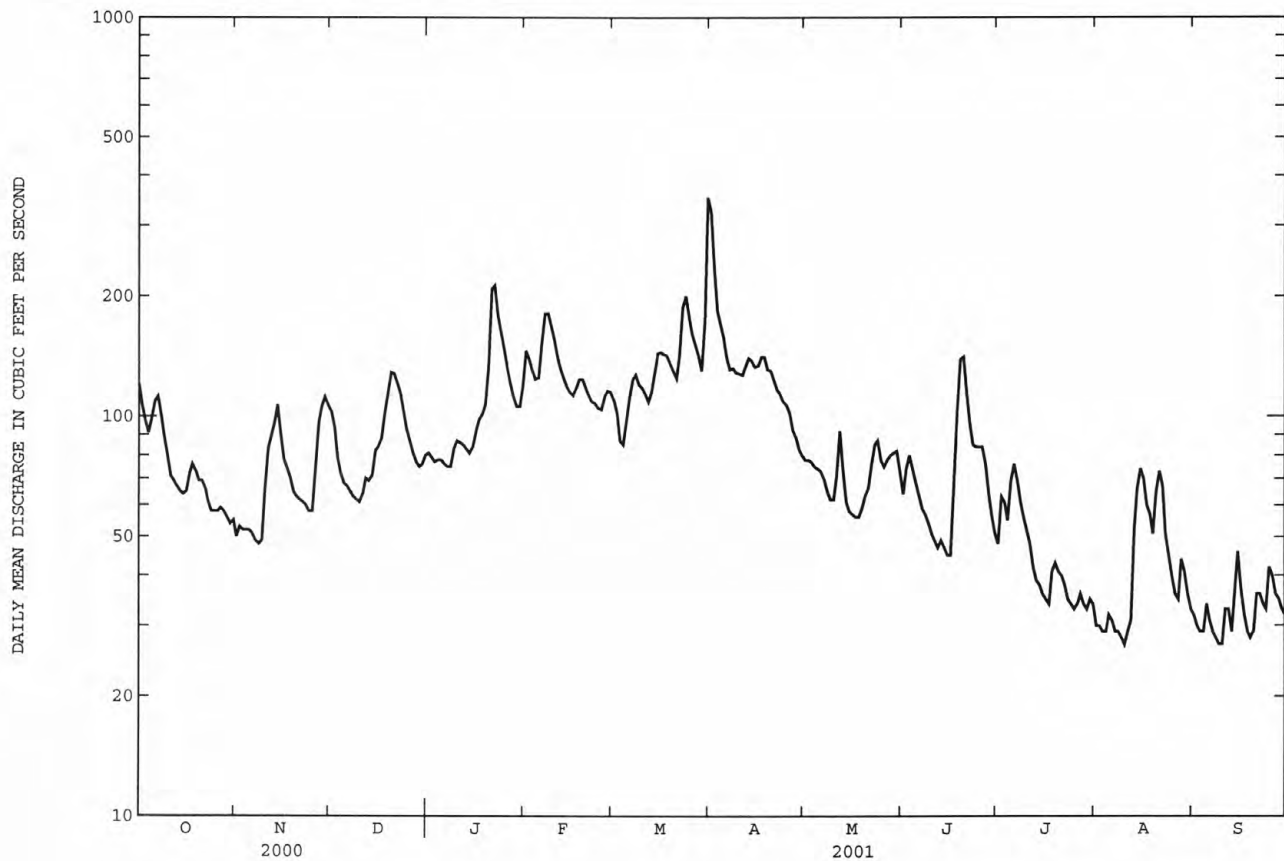
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2001, BY WATER YEAR (WY)

	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
MEAN	66.8	62.8	70.9	101	110	116	109	74.2	64.0	41.5	51.4	69.1
MAX	89.7	82.6	98.3	108	129	140	137	80.8	96.6	48.7	71.8	121
(WY)	2000	2000	2000	2001	2001	2001	2001	2000	1998	1998	2000	1999
MIN	35.1	34.6	29.3	86.5	100	90.4	93.1	70.2	39.0	29.5	39.3	31.3
(WY)	1999	1999	1999	2000	1999	2000	2000	1999	1999	1999	1998	1998

01466900 GREENWOOD BRANCH AT NEW LISBON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1998 - 2001	
ANNUAL TOTAL	28591		30634			
ANNUAL MEAN	78.1		83.9		78.2	
HIGHEST ANNUAL MEAN					83.9	
LOWEST ANNUAL MEAN					69.2	
HIGHEST DAILY MEAN	199	Sep 28	353	Mar 31	940	May 11 1998
LOWEST DAILY MEAN	23	Jul 13	27	Aug 10	17	Aug 4 1999
ANNUAL SEVEN-DAY MINIMUM	27	Jul 8	29	many days	19	Aug 4 1999
MAXIMUM PEAK FLOW			379	Mar 31	940a	May 11 1998
MAXIMUM PEAK STAGE			4.60	Mar 31	7.78a	May 11 1998
INSTANTANEOUS LOW FLOW			26	many days	17	Aug 4 1999
10 PERCENT EXCEEDS	109		139		125	
50 PERCENT EXCEEDS	78		75		74	
90 PERCENT EXCEEDS	42		34		31	

a Observed by field personnel before gage established.



LOCATION.--Lat 39°58'12" (revised), long 74°41'05", Burlington County, Hydrologic Unit 02040202, on right bank at downstream side of bridge on Hanover Street (County Route 616) in Pemberton, 12 mi upstream from confluence with South Branch Rancocas Creek.

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

REVISED RECORDS.--WSP 1302: 1922-23. WSP 1382: 1933. WDR NJ-82-2: Drainage area.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Flow regulated occasionally by cranberry bogs and ponds above station. Water diverted for water supply at Fort Dix army base upstream from gage. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 31	1515	*695	*2.57	No other peak greater than base discharge.			

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	83	184	120	276	192	606	129	94	69	44	41
2	193	82	165	120	254	177	480	127	118	82	43	38
3	174	85	137	115	223	153	396	124	139	85	41	36
4	159	81	120	113	205	152	350	120	126	78	39	e37
5	199	80	112	116	252	192	313	118	107	93	45	e45
6	207	80	108	113	360	217	272	114	95	109	46	e42
7	201	80	103	111	402	233	251	109	87	103	44	e40
8	175	79	100	116	383	236	244	101	79	90	42	e38
9	152	77	96	146	338	228	238	95	73	82	39	e36
10	138	126	95	145	304	220	250	95	69	77	39	e35
11	122	148	98	139	258	204	250	106	66	70	39	e52
12	93	146	104	134	225	189	284	129	64	64	43	55
13	106	145	103	129	213	278	289	109	64	59	56	51
14	102	160	130	122	202	299	272	90	63	55	79	58
15	99	164	148	138	192	301	250	84	61	53	92	72
16	101	141	143	162	190	310	256	81	64	49	91	61
17	107	122	209	169	226	303	263	80	99	47	77	54
18	115	108	239	169	224	290	258	82	180	67	53	49
19	116	99	234	224	210	265	232	86	204	96	45	45
20	109	94	236	353	196	242	225	87	214	88	49	43
21	104	95	218	434	185	267	213	91	183	74	67	50
22	101	90	199	419	174	382	200	114	146	63	75	52
23	94	88	180	359	175	424	194	130	124	57	64	48
24	91	88	160	308	168	423	185	132	126	52	53	46
25	91	85	143	270	176	369	179	117	128	49	46	57
26	91	154	132	231	206	320	169	114	120	47	41	63
27	92	226	122	204	213	291	152	120	110	50	38	53
28	93	218	117	186	207	262	145	133	94	48	48	47
29	89	205	112	171	---	236	135	128	81	46	52	42
30	85	201	118	202	---	470	129	126	73	46	51	41
31	88	---	124	244	---	668	---	109	---	46	45	---
TOTAL	3914	3630	4489	5982	6637	8793	7680	3380	3251	2094	1626	1427
MEAN	126	121	145	193	237	284	256	109	108	67.5	52.5	47.6
MAX	227	226	239	434	402	668	606	133	214	109	92	72
MIN	85	77	95	111	168	152	129	80	61	46	38	35
CFSM	1.07	1.03	1.23	1.64	2.01	2.40	2.17	.92	.92	.57	.44	.40
IN.	1.23	1.14	1.42	1.89	2.09	2.77	2.42	1.07	1.02	.66	.51	.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2001, BY WATER YEAR (WY)

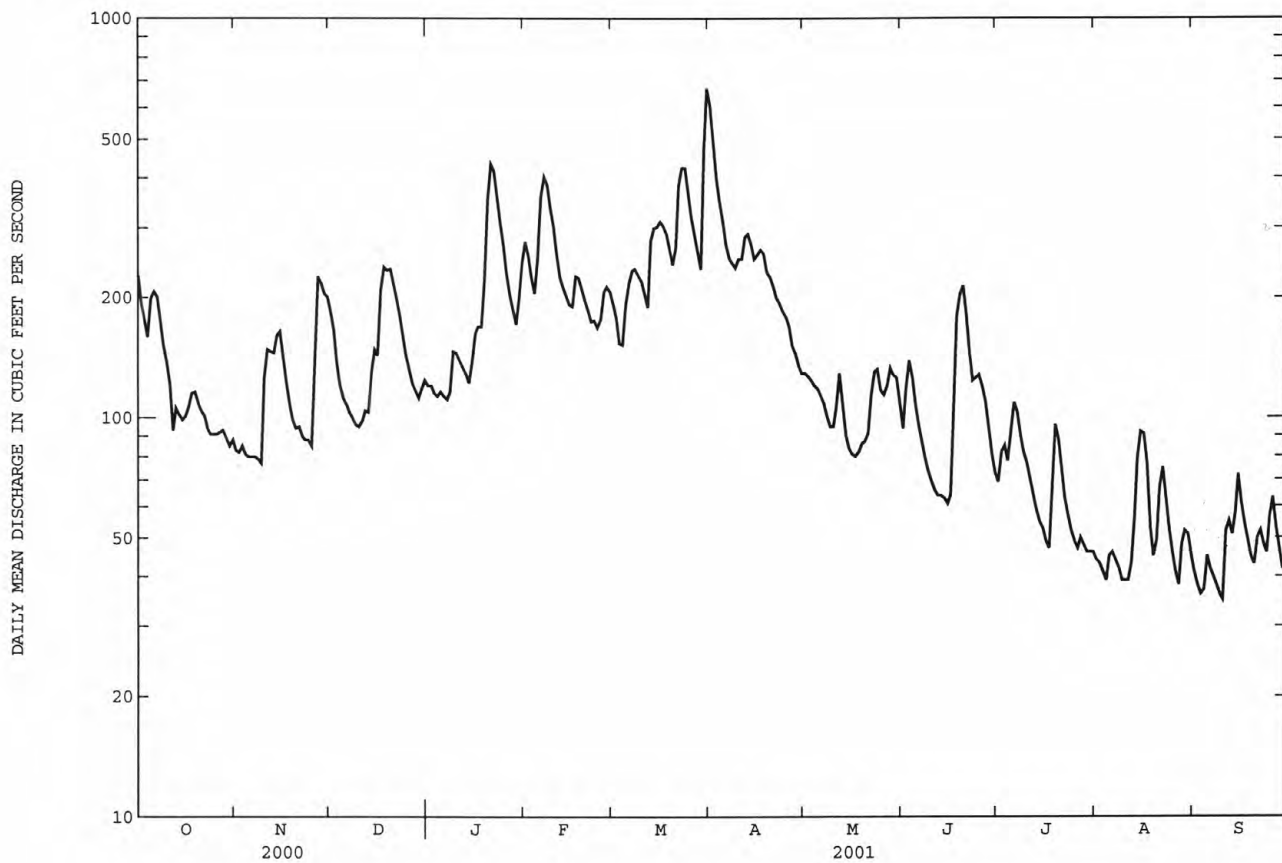
MEAN	118	150	172	200	215	248	238	195	141	120	130	117
MAX	365	430	434	479	445	472	475	475	297	401	426	341
(WY)	1928	1973	1973	1979	1939	1994	1984	1998	1968	1938	1958	1971
MIN	38.7	45.7	47.1	62.1	92.2	105	85.4	72.0	54.1	36.6	35.6	36.5
(WY)	1923	1923	1999	1981	1931	1985	1985	1992	1995	1999	1995	1995

## 01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1922 - 2001	
ANNUAL TOTAL	52395		52903		170	
ANNUAL MEAN	143		145		286	1978
HIGHEST ANNUAL MEAN					92.3	1995
LOWEST ANNUAL MEAN					1690	Aug 21 1939
HIGHEST DAILY MEAN	461	Sep 28	668	Mar 31	9.0	Sep 29 1932
LOWEST DAILY MEAN	45	Jul 11	35	Sep 10	27	Oct 2 1922
ANNUAL SEVEN-DAY MINIMUM	52	Jul 8	39	Sep 4	1730	Aug 21 1939
MAXIMUM PEAK FLOW			695	Mar 31	10.77a	Aug 21 1939
MAXIMUM PEAK STAGE			2.57	Mar 31	9.0	Sep 29 1932
INSTANTANEOUS LOW FLOW			34	Sep 4	1.44	
ANNUAL RUNOFF (CFSM)	1.21		1.23		19.59	
ANNUAL RUNOFF (INCHES)	16.52		16.68		310	
10 PERCENT EXCEEDS	221		266		140	
50 PERCENT EXCEEDS	130		117		61	
90 PERCENT EXCEEDS	74		47			

a From high-water mark, site and datum then in use.

e Estimated



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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 17	2015	382	7.85	Mar 30	1315	*517	*8.65
Mar 21	2015	322	7.42	Jun 17	0945	306	7.26

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	4.7	8.1	6.5	16	13	21	7.3	20	12	3.6	3.8
2	7.8	4.8	6.9	6.1	13	12	18	7.2	90	36	3.4	4.4
3	7.1	4.8	6.5	7.0	12	12	15	7.0	15	13	3.4	3.2
4	9.1	4.4	6.5	6.1	11	26	13	6.8	10	8.1	6.3	3.2
5	91	3.9	6.2	6.0	88	57	12	6.4	8.6	44	30	3.4
6	44	3.7	5.5	6.3	68	27	13	6.2	7.3	25	14	3.3
7	23	3.6	5.4	6.6	34	21	12	6.2	6.9	14	7.4	3.2
8	12	3.5	5.2	13	20	17	12	5.9	6.7	8.7	5.1	3.2
9	8.4	4.6	5.0	29	17	26	12	5.8	5.9	8.3	4.3	3.0
10	6.4	59	5.0	12	19	18	26	5.8	5.5	6.6	6.4	3.2
11	5.3	19	5.5	8.4	15	15	23	5.6	5.6	5.2	22	11
12	4.5	15	5.5	9.6	13	14	36	5.4	26	4.8	11	3.4
13	4.0	15	5.2	7.6	21	68	16	5.1	6.9	4.5	20	3.5
14	3.5	26	61	7.1	15	17	13	4.9	5.7	4.3	61	15
15	3.5	9.9	14	27	14	15	11	5.0	6.8	4.2	7.3	5.2
16	3.5	5.9	12	19	26	28	27	4.9	25	4.1	4.9	3.7
17	4.1	5.5	200	12	50	35	19	5.2	157	4.0	4.3	3.5
18	11	5.1	53	10	18	16	25	4.8	20	4.5	3.9	3.8
19	9.1	5.1	16	78	14	10	18	11	9.7	5.0	4.2	3.2
20	4.3	5.4	13	89	14	9.1	13	5.5	7.3	4.2	6.1	6.1
21	3.5	7.5	9.7	47	14	104	11	30	6.6	3.9	4.0	7.4
22	3.2	5.1	9.3	21	12	98	9.7	34	6.6	3.8	3.7	3.5
23	3.3	4.8	8.5	15	18	23	9.1	17	38	3.7	7.3	3.3
24	3.4	4.7	7.5	13	19	15	8.8	6.8	28	3.7	9.0	3.3
25	3.8	4.8	7.3	13	41	13	8.2	5.6	9.0	3.7	4.0	16
26	3.4	97	7.8	11	33	15	7.8	60	6.4	3.9	3.4	4.6
27	2.8	20	7.2	11	17	12	7.6	54	5.9	4.2	3.7	3.6
28	2.3	9.1	6.7	10	14	9.8	7.5	22	5.5	3.6	3.9	3.5
29	3.1	9.0	7.0	9.2	---	10	7.4	9.2	5.3	3.5	3.3	3.2
30	4.1	19	7.2	68	---	313	7.3	7.5	7.0	3.6	3.2	5.5
31	4.5	---	7.3	29	---	39	---	5.6	---	3.6	9.5	---
TOTAL	306.2	389.9	531.0	613.5	666	1107.9	439.4	373.7	564.2	261.7	283.6	146.2
MEAN	9.88	13.0	17.1	19.8	23.8	35.7	14.6	12.1	18.8	8.44	9.15	4.87
MAX	91	97	200	89	88	313	36	60	157	44	61	16
MIN	2.3	3.5	5.0	6.0	11	9.1	7.3	4.8	5.3	3.5	3.2	3.0
CFSM	1.10	1.45	1.91	2.20	2.65	3.98	1.63	1.34	2.09	.94	1.02	.54
IN.	1.27	1.62	2.20	2.54	2.76	4.59	1.82	1.55	2.34	1.08	1.17	.6

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2001, BY WATER YEAR (WY)

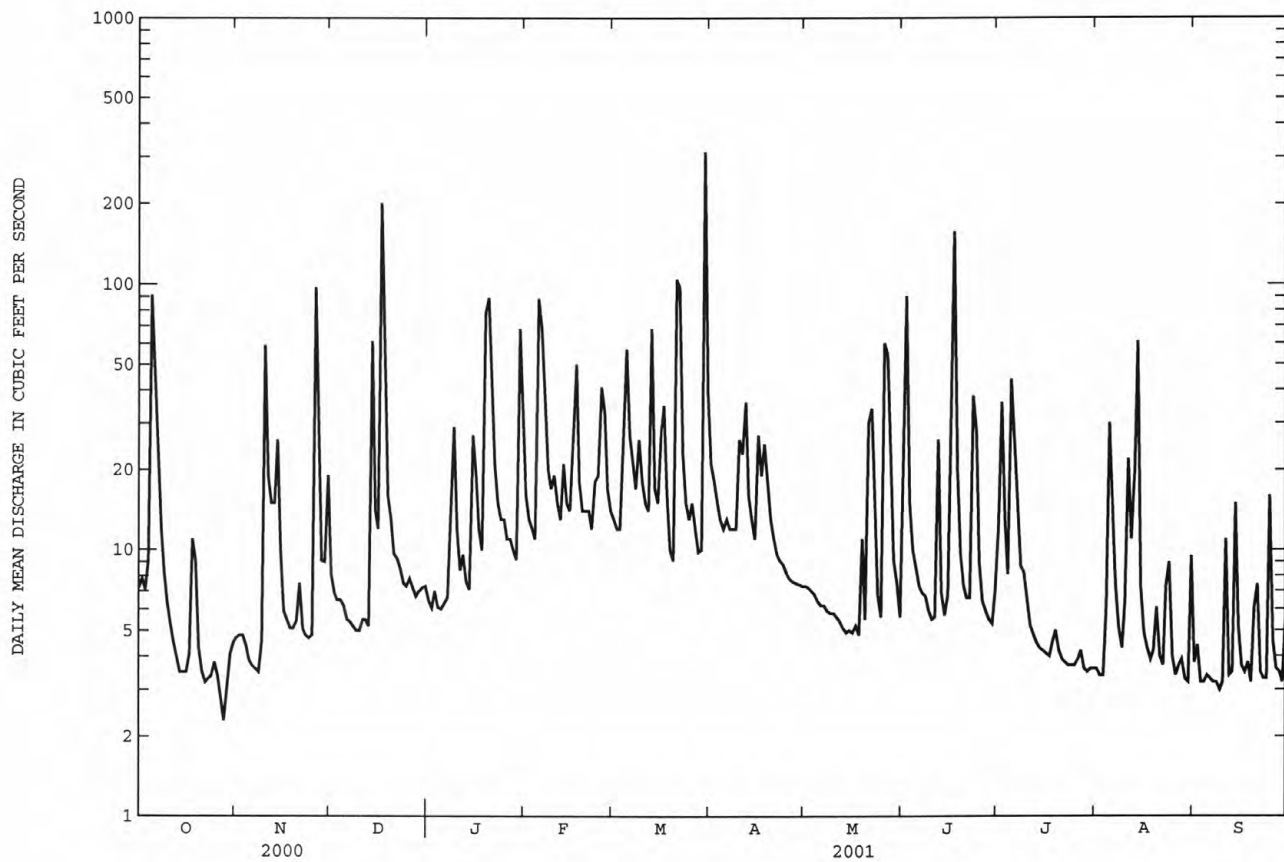
MEAN	13.3	16.9	21.9	22.5	20.1	24.3	21.5	18.7	14.8	16.9	15.9	14.2
MAX	26.0	48.8	60.4	50.5	44.7	46.5	49.8	47.0	33.4	46.5	58.2	38.8
(WY)	1990	1973	1997	1979	1979	1994	1983	1989	1989	1989	1978	1975
MIN	5.83	6.01	6.38	6.55	9.19	9.29	8.08	8.24	6.50	6.30	4.17	4.71
(WY)	1995	1999	1999	1981	1968	1985	1985	1993	1995	1999	1995	1968



01467081 SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1968 - 2001	
ANNUAL TOTAL	5740.4		5683.3		18.5	
ANNUAL MEAN	15.7		15.6		27.3	
HIGHEST ANNUAL MEAN					11.6	
LOWEST ANNUAL MEAN					11.6	
HIGHEST DAILY MEAN	260	Mar 22	313	Mar 30	551	Jul 5 1989
LOWEST DAILY MEAN	2.3	Oct 28	2.3	Oct 28	2.2	Nov 14 1998
ANNUAL SEVEN-DAY MINIMUM	3.2	Oct 23	3.2	Oct 23	2.5	Aug 30 1995
MAXIMUM PEAK FLOW			517	Mar 30	1500	Jul 14 1994
MAXIMUM PEAK STAGE			8.65	Mar 30	11.63a	Jul 14 1994
INSTANTANEOUS LOW FLOW			2.3	Oct 28	1.1	Aug 7 1999
ANNUAL RUNOFF (CFSM)	1.75		1.73		2.06	
ANNUAL RUNOFF (INCHES)	23.78		23.54		27.97	
10 PERCENT EXCEEDS	35		29		35	
50 PERCENT EXCEEDS	7.8		7.5		9.5	
90 PERCENT EXCEEDS	4.7		3.6		4.9	

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 mi<sup>2</sup>.

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 sea level.

REMARKS.--Records good. Bypass gates were installed on both ends of the dam in August 1987. 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 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct 5	0145	504	2.72	Mar 30	0900	*840	*3.21
Dec 17	1600	634	2.92	Jun 17	1145	600	2.87
Mar 21	2115	567	2.82				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	9.3	16	13	24	15	34	12	33	27	6.3	7.9
2	14	8.8	13	13	18	16	26	12	162	29	6.4	6.9
3	13	7.7	12	13	16	15	21	11	37	11	6.5	6.1
4	35	8.6	11	12	15	40	20	12	21	9.1	25	4.3
5	155	8.9	12	12	158	80	20	12	16	88	24	4.5
6	24	9.1	12	13	107	34	21	11	14	20	6.8	3.5
7	13	9.7	11	13	45	25	19	11	13	11	6.6	3.2
8	9.1	11	12	21	28	20	25	11	13	9.4	6.6	3.0
9	8.3	13	11	31	22	29	24	10	13	17	6.4	3.3
10	7.6	63	11	18	23	21	68	10	12	9.6	62	3.4
11	7.3	24	12	15	17	17	52	10	12	8.7	23	5.9
12	7.4	15	12	16	16	15	62	10	33	7.0	79	3.5
13	7.5	13	11	14	22	121	29	9.8	13	6.5	68	3.4
14	7.8	26	77	14	17	35	24	9.6	11	6.3	85	13
15	8.0	20	32	32	16	27	23	9.8	15	6.1	15	6.1
16	7.8	16	22	24	27	46	39	9.9	58	5.8	9.3	4.5
17	8.1	14	300	18	56	56	27	9.2	322	6.2	7.8	4.5
18	12	14	118	18	22	28	38	9.5	65	6.7	7.2	4.4
19	10	13	35	110	17	20	26	9.8	22	6.1	7.8	4.1
20	8.2	14	25	135	18	19	22	9.7	15	5.4	12	6.4
21	7.9	15	19	70	16	174	20	63	13	5.3	7.8	8.6
22	7.8	12	19	33	16	163	20	68	14	5.3	7.1	4.5
23	7.4	11	17	24	22	35	20	32	72	5.1	7.5	4.8
24	8.0	12	16	20	21	24	19	16	40	5.0	7.4	4.6
25	9.2	11	15	19	49	20	15	11	17	5.1	6.1	19
26	9.1	124	14	17	41	23	14	90	12	5.2	5.2	6.9
27	9.5	43	13	16	24	19	14	109	11	6.3	5.1	5.6
28	8.7	21	13	17	19	17	13	51	9.5	5.3	5.5	4.8
29	8.0	17	12	17	---	18	13	25	8.5	5.7	6.6	4.6
30	8.6	28	13	93	---	477	12	20	8.0	6.7	6.5	4.9
31	9.0	---	14	45	---	87	---	13	---	6.6	12	---
TOTAL	471.3	612.1	930	926	892	1736	780	707.3	1105.0	357.5	547.5	170.2
MEAN	15.2	20.4	30.0	29.9	31.9	56.0	26.0	22.8	36.8	11.5	17.7	5.67
MAX	155	124	300	135	158	477	68	109	322	88	85	19
MIN	7.3	7.7	11	12	15	15	12	9.2	8.0	5.0	5.1	3.0
CFSM	.89	1.20	1.76	1.76	1.87	3.29	1.53	1.34	2.17	.68	1.04	.33
IN.	1.03	1.34	2.04	2.03	1.95	3.80	1.71	1.55	2.42	.78	1.20	.37

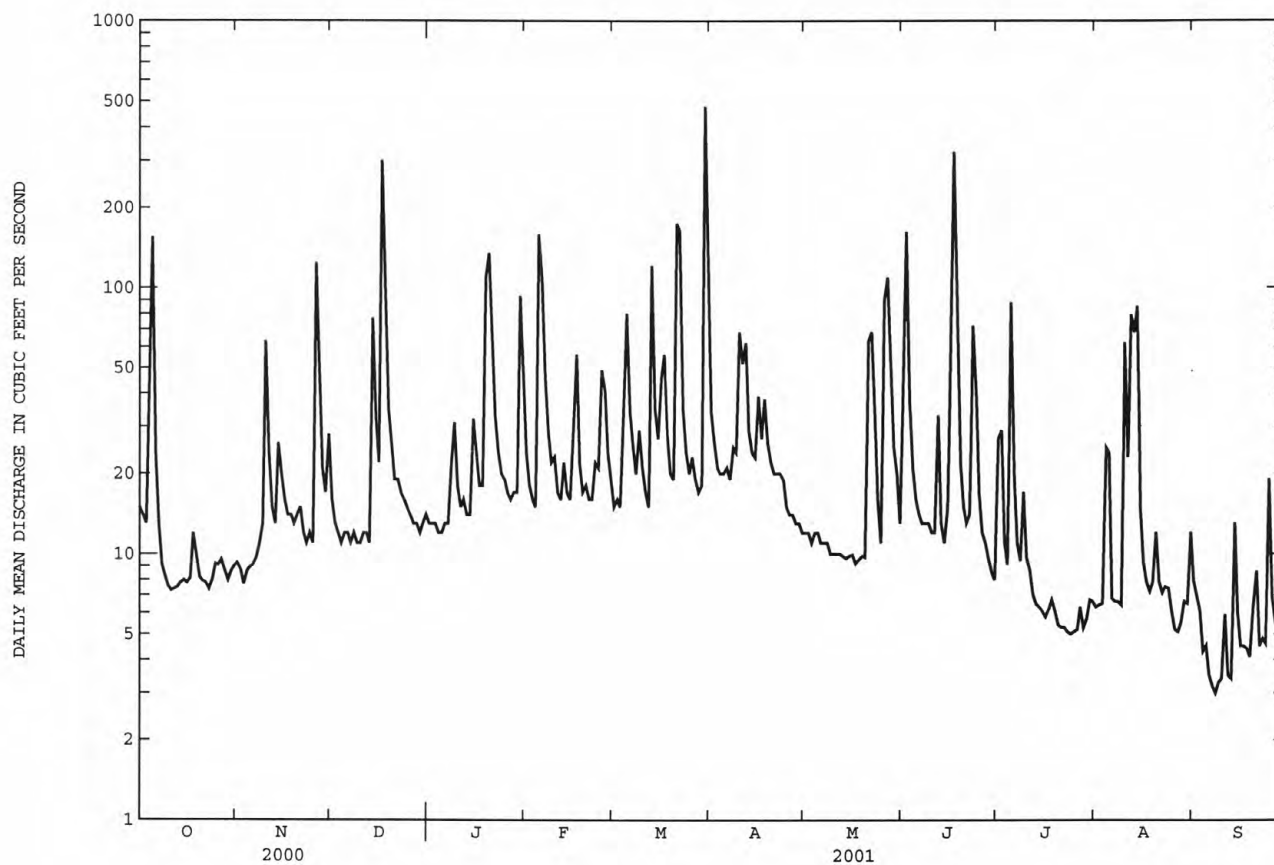
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001, BY WATER YEAR (WY)

	25.7	30.1	37.1	38.4	36.4	42.6	39.9	35.2	28.4	30.1	28.8	26.3
MEAN	25.7	30.1	37.1	38.4	36.4	42.6	39.9	35.2	28.4	30.1	28.8	26.3
MAX	46.8	79.6	85.3	97.8	76.1	78.9	99.4	66.7	54.9	66.8	97.6	65.8
(WY)	1976	1973	1997	1978	1979	1984	1983	1983	1972	1975	1971	1975
MIN	9.26	9.00	8.21	14.6	18.9	23.2	15.1	14.2	10.9	10.5	7.79	5.67
(WY)	1966	1999	1999	1992	1992	1981	1992	1965	1988	1999	1966	2001

01467150 COOPER RIVER AT HADDONFIELD, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1964 - 2001
ANNUAL TOTAL	9931.9	9234.9	
ANNUAL MEAN	27.1	25.3	33.3
HIGHEST ANNUAL MEAN			50.6
LOWEST ANNUAL MEAN			19.2
HIGHEST DAILY MEAN	429 Mar 22	477 Mar 30	1510 Aug 28 1971
LOWEST DAILY MEAN	6.2 Jul 13	3.0 Sep 8	1.2 Jun 27 1964
ANNUAL SEVEN-DAY MINIMUM	7.6 Oct 10	3.6 Sep 4	3.6 Sep 4 2001
MAXIMUM PEAK FLOW		840 Mar 30	3300 Aug 28 1971
MAXIMUM PEAK STAGE		3.21 Mar 30	5.46 Aug 28 1971
INSTANTANEOUS LOW FLOW		3.0 Sep 7	.80a Nov 13 1972
ANNUAL RUNOFF (CFSM)	1.60	1.49	1.96
ANNUAL RUNOFF (INCHES)	21.73	20.21	26.58
10 PERCENT EXCEEDS	53	54	58
50 PERCENT EXCEEDS	14	14	22
90 PERCENT EXCEEDS	9.0	6.1	11

a Regulation from unknown source



01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA  
(National Water-Quality Assessment Station)

LOCATION.--Lat 39°58'04", long 75°11'20", Philadelphia County, Hydrologic Unit 02040203, on right bank 150 ft upstream from Fairmount Dam, 1,500 ft upstream from bridge on Spring Garden Street in Philadelphia, and 8.7 mi upstream from mouth.

DRAINAGE AREA.--1,893 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1931 to current year. Records for January 1898 to December 1912, published in WSP 35, 48, 65, 82, 97, 125, 166, 202, 214, 261, 301, and 381 have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1936(M). WSP 1432: 1945. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 5.74 ft above sea level. Prior to Nov. 25, 1956, water-stage recorder at site on right bank just upstream from Fairmount Dam at same datum. Nov. 26, 1956, to Oct. 6, 1966, water-stage recorder at site on left bank 40 ft upstream from Fairmount Dam at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Still Creek Reservoir (station 01469200) since February 1933, Blue Marsh Lake (station 01470870) since April 1979, Green Lane Reservoir (station 01472200) since December 1956 and to some extent by Lake Ontelaunee. Daily mean discharges do not include diversion above station by city of Philadelphia for municipal water supply. Satellite and landline telemetry at station.

COOPERATION.--Records of diversion provided by Philadelphia Water Department.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 4, 1869 reached a stage of 17.0 ft, discharge, about 135,000 ft<sup>3</sup>/s. Flood of Mar. 1, 1902 reached a stage of 14.8 ft, discharge, about 98,000 ft<sup>3</sup>/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,000 ft<sup>3</sup>/s and maximum (\*):

Discharge			Gage Height	Discharge			Gage Height
Date	Time	ft <sup>3</sup> /s	(ft)	Date	Time	ft <sup>3</sup> /s	(ft)
Dec. 17	1730	*38,300	*10.68	Mar. 30	1630	19,000	8.72

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1150	736	1380	1490	5400	3230	7580	2220	2190	1620	755	498
2	1120	713	1270	1580	4790	2950	6210	2060	4510	3880	676	639
3	1050	685	1090	1260	4260	2870	5320	2000	3530	2130	569	530
4	1200	707	1020	1340	3570	2810	4660	1840	2610	1500	574	530
5	3830	681	974	1340	4180	3250	4220	1700	2210	1620	890	715
6	2520	716	951	1350	4240	3110	3790	1600	1800	1500	941	755
7	2020	687	933	1380	4310	2890	4600	1560	1630	1640	786	583
8	1660	683	899	1390	4040	3780	4200	1470	1440	1320	619	474
9	1490	749	898	1370	3490	3710	4290	1430	1310	1290	536	432
10	1380	1190	867	1280	8160	3680	4730	1350	1240	1650	531	468
11	1290	1490	881	1150	6770	3170	4310	1260	1200	1270	1140	436
12	1170	1320	846	1040	4520	2980	4990	1270	1160	1050	2430	509
13	1070	1070	829	1090	3940	6960	4570	1200	1200	986	5300	436
14	1020	1030	2620	1080	3890	6540	4030	1210	1250	870	1550	589
15	994	1190	3600	1220	4090	5530	3710	1120	1170	833	1090	523
16	1010	1120	2440	1460	4200	5170	4460	1080	2890	840	867	495
17	939	961	21400	1400	5260	5930	4940	1100	11500	765	695	521
18	942	858	23000	1380	4320	5340	4860	1070	3560	1110	637	429
19	1560	854	11300	2900	3500	4630	5260	1120	2200	1100	627	409
20	1390	838	7920	8310	3250	4020	4260	1070	1750	892	707	452
21	1150	811	6340	5070	3140	4870	3900	1540	1530	739	603	2290
22	1010	773	4660	3310	3000	9380	3780	3950	1460	709	551	1510
23	974	723	3510	2530	2700	5970	3580	4150	7650	715	530	1050
24	888	731	2950	2320	2660	4840	3280	2750	5960	642	480	765
25	864	705	2590	2230	2690	4330	2950	1860	3600	585	496	2120
26	817	1840	2190	1980	4370	3990	2740	2830	2630	2240	524	4180
27	788	2810	2130	1850	4240	3560	2600	10100	2260	3410	591	2370
28	815	1880	2000	1690	3560	3100	2530	5740	1960	1690	501	1580
29	781	1580	1660	1610	---	2920	2420	3540	1650	1120	476	1260
30	804	1500	1620	3050	---	12200	2350	2790	1430	1020	474	1070
31	772	---	1570	6630	---	10300	---	2380	---	889	466	---
TOTAL	38468	31631	116338	67080	116540	148010	125120	70360	80480	41625	27612	28618
MEAN	1241	1054	3753	2164	4162	4775	4171	2270	2683	1343	891	954
MAX	3830	2810	23000	8310	8160	12200	7580	10100	11500	3880	5300	4180
MIN	772	681	829	1040	2660	2810	2350	1070	1160	585	466	409
(t)	196	177	189	208	199	199	184	181	197	206	220	209

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2001, BY WATER YEAR (WY)

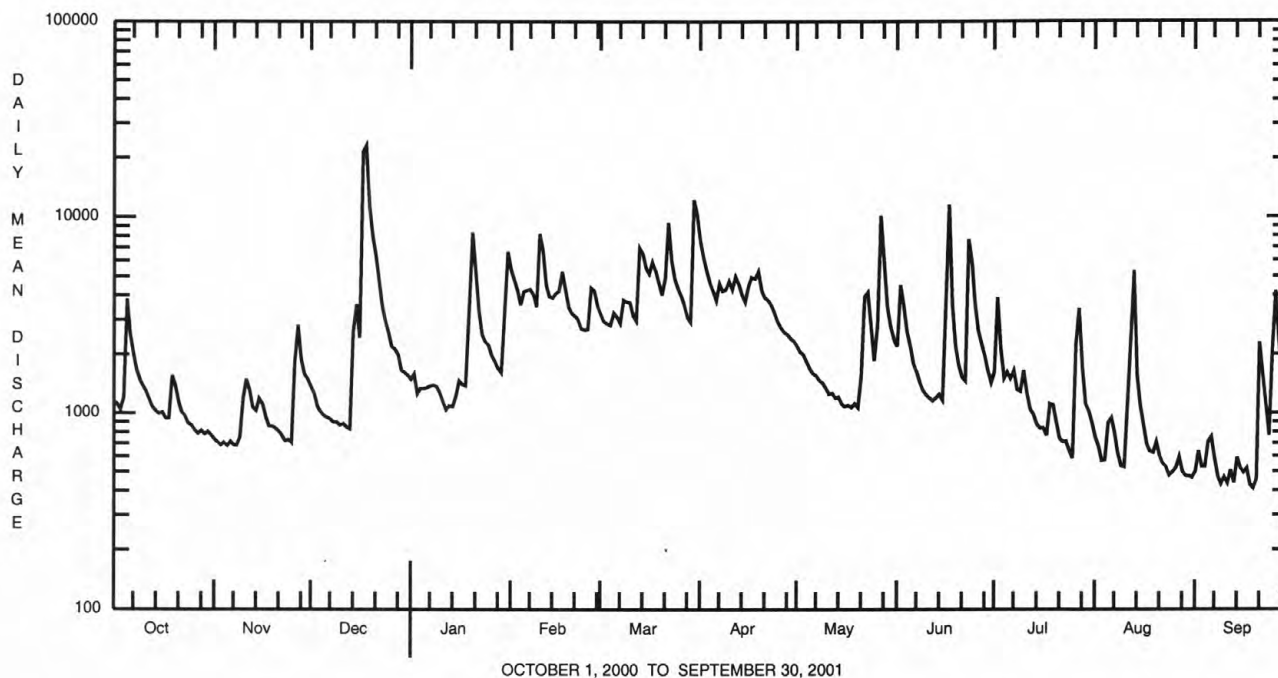
MEAN	1408	2309	3176	3362	3648	4880	4259	3110	2119	1622	1380	1436
MAX	5624	6272	11150	11400	8136	13320	11620	9943	11640	6434	7980	5300
(WY)	1997	1973	1997	1979	1939	1936	1983	1989	1972	1984	1933	1999
MIN	89.4	223	444	340	647	1552	1237	693	261	116	140	117
(WY)	1942	1932	1981	1981	1934	1981	1985	1965	1965	1966	1966	1932

† Diversion for municipal supply of City of Philadelphia, equivalent in cubic feet per second.

## 01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1932 - 2001	
ANNUAL TOTAL	1046151		891882		2721	
ANNUAL MEAN	2858		2444		4791	
HIGHEST ANNUAL MEAN					1014	
LOWEST ANNUAL MEAN					1984	
HIGHEST DAILY MEAN	35500	Mar 22	23000	Dec 18	93400	Jun 23 1972
LOWEST DAILY MEAN	681	Nov 5	409	Sep 19	.60	Sep 2 1966
ANNUAL SEVEN-DAY MINIMUM	696	Nov 2	477	Sep 7	24	Sep 28 1941
MAXIMUM PEAK FLOW			38300	Dec 17	a103000	Jun 23 1972
MAXIMUM PEAK STAGE			10.68	Dec 17	14.65	Jun 23 1972
INSTANTANEOUS LOW FLOW			242	Sep 20	.00	Sep 2 1966
10 PERCENT EXCEEDS	5400		4850		5820	
50 PERCENT EXCEEDS	1900		1550		1670	
90 PERCENT EXCEEDS	912		638		439	

a From rating curve extended above 92,000 ft<sup>3</sup>/s.





## DELAWARE RIVER BASIN

01477120 RACCOON CREEK NEAR SWEDESBORO, NJ

LOCATION.--Lat 39°44'26", long 75°15'34" (revised), Gloucester County, Hydrologic Unit 02040202, on right bank 25 ft downstream from bridge on County Route 607 (Tomlin Station Road), 1.8 mi west of Mullica Hill, and 2.8 mi east of Swedesboro.

DRAINAGE AREA.--26.9 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is sea level. Prior to July 28, 1969, at datum 7.96 ft higher. July 28, 1969 to Sept. 30, 1969, at datum 5.96 ft higher.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 30	1415	*787	*13.11	Jun 17	1800	525	12.19

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	16	23	20	35	29	71	27	35	21	12	12
2	17	17	20	18	29	29	57	26	146	21	11	12
3	16	16	18	23	25	27	46	25	71	20	10	11
4	16	17	17	16	23	35	41	25	40	20	11	17
5	24	16	18	19	111	80	41	23	31	34	11	28
6	18	16	17	16	158	54	38	22	28	23	11	15
7	18	16	17	16	83	39	39	21	26	20	10	13
8	16	16	17	20	49	33	37	21	24	20	9.8	12
9	16	16	17	31	44	37	38	21	23	20	9.3	11
10	16	42	17	23	42	34	65	21	22	19	11	11
11	16	29	20	19	36	30	59	20	21	19	13	11
12	16	21	20	20	30	28	90	21	37	17	14	11
13	16	19	18	18	31	102	55	24	25	16	20	11
14	16	23	62	17	31	56	44	19	22	16	19	14
15	15	25	46	28	31	40	40	18	20	16	13	14
16	16	20	34	31	32	49	55	17	29	15	12	12
17	16	19	137	26	68	43	47	18	291	14	11	11
18	17	18	136	23	52	38	41	18	121	14	11	11
19	17	17	49	75	44	33	38	19	49	15	12	11
20	16	18	39	137	42	30	36	19	33	15	16	22
21	16	18	32	95	36	81	35	41	46	14	15	23
22	16	17	30	46	34	129	35	78	82	13	13	14
23	16	16	27	33	33	49	34	50	39	12	12	12
24	16	16	26	29	33	41	32	29	40	12	11	12
25	16	16	25	28	47	35	30	23	32	12	11	17
26	16	60	24	25	67	35	29	101	27	12	11	15
27	16	47	18	25	39	33	29	171	24	14	11	13
28	17	27	19	25	32	31	29	119	22	13	17	12
29	17	22	17	23	---	31	27	52	21	12	14	12
30	18	30	19	80	---	497	27	34	21	13	12	12
31	16	---	21	65	---	183	---	28	---	13	12	---
TOTAL	516	666	1000	1070	1317	1991	1285	1151	1448	515	386.1	412
MEAN	16.6	22.2	32.3	34.5	47.0	64.2	42.8	37.1	48.3	16.6	12.5	13.7
MAX	24	60	137	137	158	497	90	171	291	34	20	28
MIN	15	16	17	16	23	27	27	17	20	12	9.3	11
CFSM	.62	.83	1.20	1.28	1.75	2.39	1.59	1.38	1.79	.62	.46	.51
IN.	.71	.92	1.38	1.48	1.82	2.75	1.78	1.59	2.00	.71	.53	.57

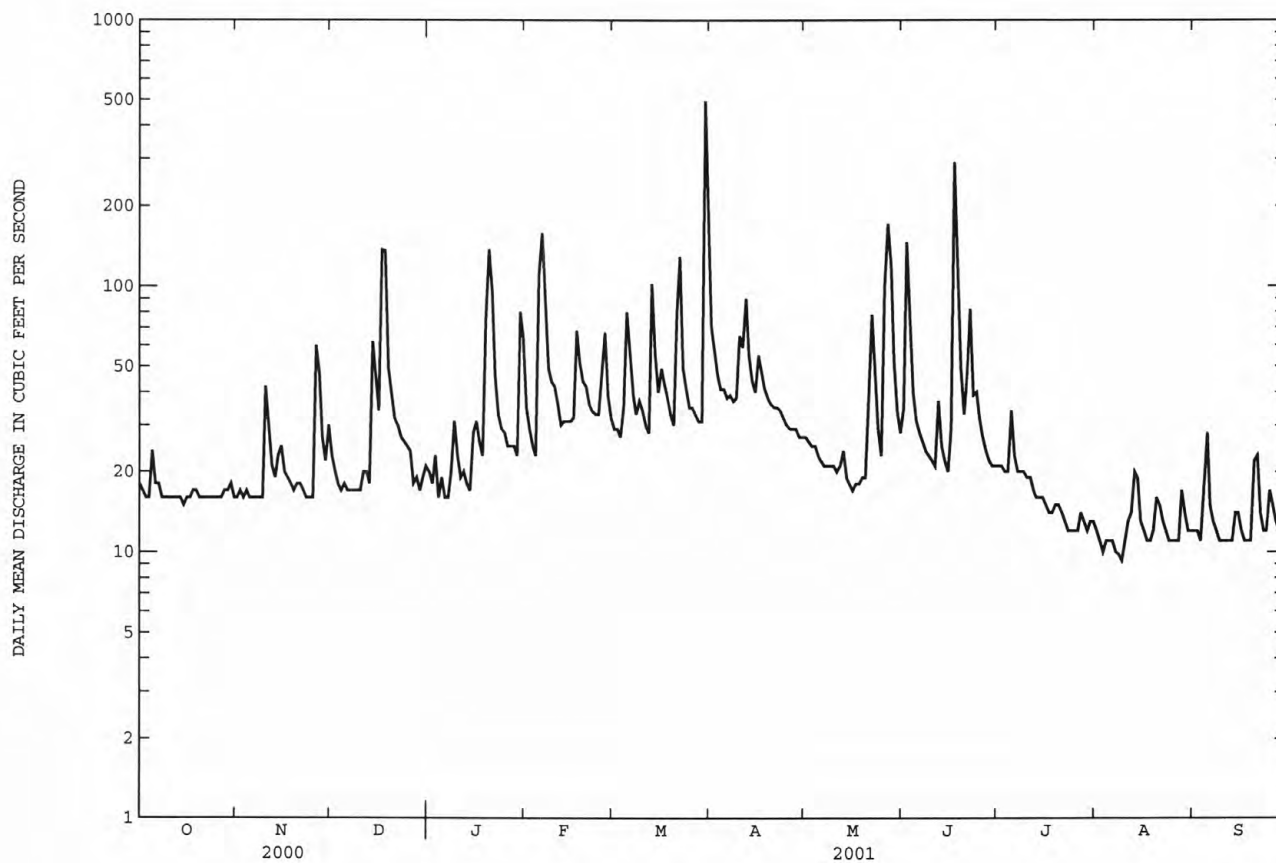
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2001, BY WATER YEAR (WY)

	MEAN	27.7	33.5	45.4	50.1	49.0	56.1	51.7	40.6	33.6	30.4	28.1	25.8
MAX	65.2	93.9	144	123	115	132	134	72.6	77.7	112	121	71.9	
(WY)	1990	1973	1997	1978	1979	1994	1983	1989	1975	1975	1967	1971	
MIN	13.0	15.3	16.3	20.7	23.6	22.7	21.3	15.9	10.7	6.01	5.89	11.7	
(WY)	1993	1999	1999	1981	1992	1981	1985	1977	1966	1966	1966	1968	

01477120 RACCOON CREEK NEAR SWEDESBORO, NJ--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1966 - 2001	
ANNUAL TOTAL	12276		11757.1			
ANNUAL MEAN	33.5		32.2		39.6	
HIGHEST ANNUAL MEAN					64.7	1973
LOWEST ANNUAL MEAN					22.5	1981
HIGHEST DAILY MEAN	901	Mar 22	497	Mar 30	1260	Aug 28 1971
LOWEST DAILY MEAN	12	Jul 13	9.3	Aug 9	2.9	Jul 14 1966
ANNUAL SEVEN-DAY MINIMUM	14	Jul 7	10	Aug 3	3.3	Aug 25 1966
MAXIMUM PEAK FLOW			787	Mar 30	3530	Aug 10 1967
MAXIMUM PEAK STAGE			13.11	Mar 30	17.44a	Aug 10 1967
INSTANTANEOUS LOW FLOW			11	Aug 9	2.9	Jul 14 1966
ANNUAL RUNOFF (CFSM)	1.25		1.20		1.47	
ANNUAL RUNOFF (INCHES)	16.98		16.26		20.00	
10 PERCENT EXCEEDS	52		55		65	
50 PERCENT EXCEEDS	24		21		28	
90 PERCENT EXCEEDS	16		12		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 mi<sup>2</sup>. PERIOD OF RECORD, September 1954 to current year. REVISED RECORDS, WDR NY-90-1: Drainage area. GAGE, water-stage recorder. Datum of gage is sea level (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, 151,392 mil gal, June 8, elevation, 1,280.86 ft; minimum observed, 102,422 mil gal, Feb. 25, elevation, 1,251.54 ft.
- 01424997 CANNONSVILLE RESERVOIR.--Lat 42°03'46", long 75°22'29", Delaware County, NY, Hydrologic Unit 02040101, in emergency gate tower at Cannonville Dam on West Branch Delaware River, and 1.8 mi southeast of Stilesville. DRAINAGE AREA, 454 mi<sup>2</sup>. PERIOD OF RECORD, October 1963 to current year. REVISED RECORDS, WDR NY-71-1: 1966. GAGE, water-stage recorder. Datum of gage is sea level (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), 11,901 mil gal, Nov. 7, 1968, elevation, 1,066.24 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 103,285 mil gal, Apr. 5, elevation, 1,152.90 ft; minimum observed, 44,119 mil gal, Oct. 1, elevation, 1,107.84 ft.
- 01428900 PROMPTON RESERVOIR.--Lat 41°35'18", long 75°19'39", Wayne County, PA, 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 mi<sup>2</sup>. 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, 4,850 acre-ft, Dec. 17, elevation, 1,129.82 ft; minimum contents, 2,840 acre-ft, Aug. 26, elevation, 1,122.66 ft.
- 01429400 GENERAL EDGAR JADWIN RESERVOIR.--Lat 41°36'44", long 75°15'55", Wayne County, PA, 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 mi<sup>2</sup>. 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 NGVD 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, 1,470 acre-ft, Dec. 18, elevation, 997.15 ft; minimum contents, no storage many times.
- 01431700 LAKE WALLENPAUPACK.--Lat 41°27'35", long 75°11'10", Wayne County, PA, Hydrologic Unit 02040103, at dam on Wallenpaupack Creek at Wilsonville, 1.2 mi south of Hawley, and 1.5 mi upstream from mouth. DRAINAGE AREA, 228 mi<sup>2</sup>. PERIOD OF RECORD, January 1926 to current year. GAGE, vertical staff. Datum of gage is sea level (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, 92,960 acre-ft, June 9-11, elevation, 1,187.4 ft; minimum contents, 20,200 acre-ft, Oct. 9-17, elevation 1,173.9 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 mi<sup>2</sup>, 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 sea level (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 ft<sup>3</sup> 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 ft<sup>3</sup>. 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 ft<sup>3</sup>, Mar. 14, 1977, elevation, 1,071.8 ft; minimum observed (after first filling), -141.4 mil ft<sup>3</sup>, Dec. 2, 1938, elevation, 987.5 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,383.3 mil ft<sup>3</sup>, Mar. 3, elevation, 1,069.9 ft; minimum observed, 693.3 mil ft<sup>3</sup>, Oct. 1, elevation, 1,050.0 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 mi<sup>2</sup>. 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 sea level (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 ft<sup>3</sup> 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 ft<sup>3</sup>. 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 ft<sup>3</sup>, July 20, 1945, elevation, 1,222.0 ft; minimum observed (after first filling), -26.8 mil ft<sup>3</sup>, Nov. 15, 1928, elevation, 1,144.5 ft.
- EXTREMES OF CURRENT YEAR.--Maximum contents observed, 961.4 mil ft<sup>3</sup>, Aug. 4, elevation, 1,216.0 ft; minimum observed, 28.4 mil ft<sup>3</sup>, Oct. 1, elevation, 1,170.6 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 mi<sup>2</sup>, 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 sea level (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 ft<sup>3</sup> 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 ft<sup>3</sup>. 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 ft<sup>3</sup>, July 30, 31, 1945, elevation, 1,073.1 ft; minimum observed (after first filling), about -6.54 mil ft<sup>3</sup>, Mar. 16, 1963, elevation, 1,038.0 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 131.08 mil ft<sup>3</sup>, Aug. 14, elevation, 1,071.4 ft; minimum observed, 47.92 mil ft<sup>3</sup>, Oct. 1, 4, 8, elevation, 1,058.8 ft.
- 01435900 NEVERSINK RESERVOIR.--Lat 41°49'27", long 74°38'20", Sullivan County, NY, Hydrologic Unit 02040104, at a gatehouse at Neversink Dam on Neversink River, and 2 mi southwest of Neversink. DRAINAGE AREA, 92.5 mi<sup>2</sup>. 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 sea level (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, 37,634 mil gal, July 16, elevation, 1,440.98 ft; minimum observed, 13,360 mil gal, Oct. 21, elevation, 1,377.57 ft.
- 01447780 FRANCIS E. WALTER RESERVOIR (formerly published as Bear Creek Reservoir).--Lat 41°06'45", long 75°43'15", Luzerne County, PA, 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 mi<sup>2</sup>. 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, 11,470 acre-ft, Dec. 18, elevation, 1,349.77 ft; minimum contents, 1,510 acre-ft, Feb. 6, elevation, 1,296.22 ft.
- 01449400 PENN FOREST RESERVOIR.--Lat 40°55'45", long 75°33'45", Carbon County, PA, 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 mi<sup>2</sup>. PERIOD OF RECORD, October 1958 to current year. GAGE, water-stage recorder. Datum of gage is sea level (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, 18,760 acre-ft, Mar. 31, elevation, 1,001.08 ft; minimum contents, 17,260 acre-ft, Sept. 20, elevation, 997.66 ft.
- 01449700 WILD CREEK RESERVOIR.--Lat 40°53'50", long 75°33'50", Carbon County, PA, 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 mi<sup>2</sup>. PERIOD OF RECORD, January 1941 to current year. GAGE, nonrecording gage. Datum of gage is sea level (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, 12,180 acre-ft, Mar. 31, elevation, 820.61 ft; minimum contents, 9,300 acre-ft, Dec. 16, elevation 809.91 ft.



## RESERVOIRS IN DELAWARE RIVER BASIN--Continued

- 01449790 BELTZVILLE LAKE.--Lat 40°50'56", long 75°38'19", Carbon County, PA, 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 mi<sup>2</sup>. 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, 42,340 acre-ft, Dec. 18, elevation, 629.14 ft; minimum contents, 39,910 acre-ft, Dec. 12-14, elevation, 626.59 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 mi<sup>2</sup>. PERIOD OF RECORD, March 1988 to current year. GAGE, measurement from reference point. Datum of gage is sea level.  
 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 ft<sup>3</sup>/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), 14,076,000,000 gal, Jan. 23, 1992, elevation 910.40 ft.  
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,281,000,000 gal, April 20, elevation 920.89 ft; minimum, 14,999,000,000 gal, Sep. 20, elevation 919.60 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 mi<sup>2</sup>. 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 sea level.  
 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, 7,846,000,000 gal, June 3, gage height, 9.46 ft; minimum, 5,120,000,000 gal, Dec. 11, 12, 13, gage height, 6.84 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 mi<sup>2</sup>. PERIOD OF RECORD.--December 1973 to September 2000. GAGE.--Water stage recorder. Datum of gage is sea level (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, PA, 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 mi<sup>2</sup>. PERIOD OF RECORD, January 1933 to current year. GAGE, nonrecording gage. Datum of gage is sea level (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. 31, elevation, 1,182.2 ft; minimum contents, 8,150 acre-ft, Sept. 22, elevation, 1,181.5 ft.
- 01470870 BLUE MARSH LAKE.--Lat 40°22'45", long 76°01'59", Berks County, PA, 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 mi<sup>2</sup>. 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, 23,760 acre-ft, May 29, elevation, 290.74 ft; minimum contents, 16,790 acre-ft, Dec. 26, elevation, 284.12 ft.



## RESERVOIRS IN DELAWARE RIVER BASIN--Continued

01472200 GREEN LANE RESERVOIR.--Lat 40°20'30", long 75°28'45", Montgomery County, PA, 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 mi<sup>2</sup>. PERIOD OF RECORD, December 1956 to current year. GAGE, water-stage recorder. Datum of gage is sea level (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, 14,470 acre-ft, Dec. 17, elevation, 287.17 ft; minimum contents, 11,980 acre-ft, Sept. 20 elevation, 284.28 ft.

01480399 CHAMBERS LAKE.--40°01'40", long 75°51'03", Chester County, PA, 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 mi<sup>2</sup>. 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 sea level (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, 1,213 acre-ft, Mar. 23, Apr. 17, elevation, 580.4 ft; minimum contents, 1,110 acre-ft, Sept. 20, elevation, 579.0 ft.

01480684 MARSH CREEK LAKE.--Lat 40°03'24", long 75°43'06", Chester County, PA, 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 mi<sup>2</sup>. PERIOD OF RECORD, November 1973 to current year. GAGE, Water-stage recorder. Datum of gage is sea level (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, 14,965 acre-ft, May 27, elevation, 360.92 ft; minimum contents, 13,354 acre-ft, Feb. 24, elevation, 357.89 ft.

## MONTH-END ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)††	Contents (million gallons)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)††	Contents (million gallons)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)
01416900 Pepacton Reservoir				01424997 Cannonsville Reservoir			01428900 Prompton Reservoir		
Sept. 30.....	1,257.73	111,867	--	1,107.84	44,119	--	1,124.63	3,400	---
Oct. 31.....	1,257.71	111,836	-1.55	1,116.09	53,221	+454	1,124.94	3,480	+1.3
Nov. 30.....	1,256.69	110,245	-82.1	1,124.60	63,400	+525	1,125.26	3,570	+1.5
Dec. 31.....	1,256.26	109,579	-33.2	1,131.84	72,693	+464	1,125.08	3,520	-0.8
CAL YR 2000	-	-	+117	-	-	+223	--	--	0
Jan. 31.....	1,253.18	104,876	-235	1,137.07	79,739	+352	1,125.00	3,500	-0.3
Feb. 28.....	1,259.81	115,151	+ 548	1,150.73	99,793	+1,070	1,125.39	3,610	+2.0
Mar. 31.....	1,273.94	138,862	+1,183	1,151.69	101,338	+77.1	1,127.56	4,220	+9.9
Apr. 30.....	1,280.28	150,317	+591	1,151.24	100,613	-37.4	1,124.85	3,460	+12.8
May 31.....	1,280.33	150,410	+ 4.64	1,151.17	100,501	-5.60	1,125.16	3,540	+1.3
June 30.....	1,279.92	149,652	-39.1	1,150.30	99,101	-72.2	1,124.19	3,270	-4.5
July 31.....	1,279.08	148,107	-77.1	1,148.44	96,245	-143	1,122.95	2,930	-5.5
Aug. 31.....	1,277.87	145,899	-110	1,144.96	90,954	-264	1,123.03	2,950	+0.3
Sept. 30.....	1,272.41	136,177	-501	1,139.66	83,317	-394	1,123.35	3,040	+1.5
WTR YR 2001	-	-	+103	-	-	+166	--	--	-0.5

## DELAWARE RIVER BASIN

## RESERVOIRS IN DELAWARE RIVER BASIN--Continued

## MONTH-END ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)*	Contents (million ft <sup>3</sup> )	Change in contents (equiv- alent in ft <sup>3</sup> /s)
01429400 General Edgar Jadwin Reservoir				01431700 Lake Wallenpaupack			01433000 Swinging Bridge Reservoir		
Sept. 30.....	--	0	---	1,176.2	30,720	---	1,064.2	1,161.4	
Oct. 31.....	--	0	0	1,174.3	22,270	-137	1,059.5	993.1	-62.8
Nov. 30.....	--	0	0	1,175.8	29,020	+113	1,058.0	942.1	-19.7
Dec. 31.....	--	0	0	1,179.5	49,080	+326	1,066.0	1,229.3	+107
CAL YR 2000	--	--	0	--	--	-38.6	--	--	+1.0
Jan. 31.....	--	0	0	1,180.1	53,150	+66.2	1,060.1	1,013.8	-80.5
Feb. 28.....	--	0	0	1,181.3	58,810	+102	1,057.7	932.1	-33.8
Mar. 31.....	--	0	0	1,183.1	68,440	+157	1,064.9	1,187.6	+95.4
Apr. 30.....	--	0	0	1,185.2	81,290	+216	1,066.9	1,264.0	+29.5
May 31.....	--	0	0	1,186.5	88,000	+109	1,063.4	1,131.8	-49.4
June 30.....	--	0	0	1,185.7	83,810	-70.4	1,067.3	1,279.7	+57.1
July 31.....	--	0	0	1,182.8	66,740	-278	1,064.7	1,180.1	-37.2
Aug. 31.....	--	0	0	1,181.4	59,310	-121	1,061.7	1,070.2	-41.0
Sept. 30.....	--	0	0	1,179.3	47,710	-195	1,061.3	1,056.0	-5.5
WTR YR 2001	--	--	0	--	--	+23.5	--	--	-3.3
Date	Elevation (feet)*	Contents (million ft <sup>3</sup> )	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)*	Contents (million ft <sup>3</sup> )	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)††	Contents (million gallons)	Change in contents (equiv- alent in ft <sup>3</sup> /s)
01433100 Toronto Reservoir				01433200 Cliff Lake			01435900 Neversink Reservoir		
Sept. 30.....	1,205.8	665.8	---	1,065.1	84.32	---	1,432.29	33,453	
Oct. 31.....	1,205.0	644.5	- 8.0	1,059.5	51.41	-12.3	1,425.31	30,310	-157
Nov. 30.....	1,198.5	480.0	-63.5	1,063.3	72.92	+ 8.3	1,414.75	25,890	-228
Dec. 31.....	1,199.9	513.9	+12.6	1,067.4	100.04	+10.1	1,428.98	31,938	+302
CAL YR 2000	--	--	+12.7	--	--	+ 0.5	--	--	+ 58.2
Jan. 31.....	1,192.7	351.2	-60.7	1,061.1	59.93	-15.0	1,431.81	33,231	+ 64.5
Feb. 28.....	1,194.8	395.7	+18.4	1,057.5	41.96	- 7.4	1,433.42	33,980	+ 41.4
Mar. 31.....	1,202.0	566.5	+63.8	1,065.2	84.98	+16.1	1,437.68	36,009	+101
Apr. 30.....	1,208.9	750.0	+70.8	1,066.9	96.47	+ 4.4	1,439.44	36,870	+ 44.4
May 31.....	1,209.2	758.4	+ 3.1	1,063.3	72.92	- 8.8	1,434.39	34,437	-121
June 30.....	1,211.2	815.1	+21.9	1,067.4	100.04	+10.5	1,433.95	34,228	- 10.8
July 31.....	1,208.3	733.5	-30.4	1,068.2	105.86	+ 2.2	1,424.59	29,997	-211
Aug. 31.....	1,201.3	548.8	-69.0	1,061.6	62.78	-16.1	1,412.48	24,988	-250
Sept. 30.....	1,197.9	465.8	-32.0	1,061.2	60.50	- 0.9	1,401.15	20,749	-219
WTR YR 2000	--	--	- 6.3	--	--	- 0.8	--	--	- 53.9
Date	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)
01447780 Francis E. Walter Lake				01449400 Penn Forest Reservoir			01449700 Wild Creek Reservoir		
Sept. 30.....	1,300.56	1,840	---	1,000.35	18,400	--	816.62	11,150	---
Oct. 31.....	1,300.03	1,800	-0.7	999.80	18,170	-3.7	813.75	10,360	-12.8
Nov. 30.....	1,300.16	1,810	+0.2	999.13	17,890	-4.7	811.41	9,710	-10.9
Dec. 31.....	1,307.16	2,480	+10.9	1,000.60	18,510	+10.1	814.14	10,470	+12.4
CAL YR 2000	--	--	+0.5	--	--	+10.4	--	--	+3.1
Jan. 31.....	1,300.67	1,850	-10.2	1,000.65	18,540	+0.5	815.14	10,740	+4.4
Feb. 28.....	1,300.73	1,860	+0.2	1,000.70	18,560	+0.4	816.66	11,160	+7.6
Mar. 31.....	1,324.65	5,000	+51.1	1,001.08	18,760	+3.3	820.61	12,180	+16.6
Apr. 30.....	1,301.80	1,960	-51.1	1,000.75	18,590	-2.9	820.20	12,060	-2.0
May 31.....	1,303.09	2,070	+1.8	1,000.73	18,580	-0.2	820.19	12,060	0
June 30.....	1,301.11	1,890	-3.0	1,000.58	18,500	-1.3	819.96	11,990	-1.2
July 31.....	1,300.55	1,840	-0.8	1,000.41	18,430	-1.1	818.26	11,600	-6.3
Aug. 31.....	1,301.64	1,940	+1.6	1,000.23	18,350	-1.3	816.68	11,160	-7.2
Sept. 30.....	1,304.81	2,230	+4.9	998.30	17,530	-13.8	817.80	11,470	+5.2
WTR YR 2001	--	--	+0.5	--	--	-1.2	--	--	+0.4

## RESERVOIRS IN DELAWARE RIVER BASIN--Continued

MONTH-END ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)**	Contents (million gallons)	Change in contents (equiv- alent in ft <sup>3</sup> /s)
01449790 Beltzville Lake				01455221 Merrill Creek Reservoir			01455400 Lake Hopatcong		
Sept. 30.....	627.97	41,220	--	921.44	15,370	--	9.00	7,459	--
Oct. 31.....	627.35	40,630	-9.6	920.81	15,241	-6.4	8.68	7,194	-13.2
Nov. 30.....	626.92	40,220	-7.1	920.21	15,120	-6.2	7.30	6,072	-57.9
Dec. 31.....	627.35	40,630	+6.7	920.24	15,120	0	7.24	6,025	-2.3
CAL YR 2000	--	--	-1.0			-1.1			+1.1
Jan. 31.....	627.56	40,830	+3.3	920.11	15,100	-1.0	7.14	5,945	-4.0
Feb. 28.....	628.18	41,420	+10.6	920.21	15,120	+1.1	7.02	5,850	-5.2
Mar. 31.....	628.35	41,580	+2.6	920.71	15,220	+5.0	8.54	7,078	+61.3
Apr. 30.....	628.09	41,340	-4.0	920.77	15,241	+1.1	9.18	7,610	+27.4
May 31.....	628.19	41,430	+1.5	920.70	15,220	-1.0	9.26	7,677	+3.3
June 30.....	628.00	41,250	-3.0	920.55	15,200	-1.0	9.22	7,644	-1.7
July 31.....	627.81	41,070	-2.9	920.58	15,200	0	8.76	7,260	-19.2
Aug. 31.....	627.85	41,110	+0.7	920.02	15,080	-6.0	8.32	6,897	-18.1
Sept. 30.....	627.96	41,210	+1.7	919.61	14,999	-4.2	8.08	6,702	-10.1
WTR YR 2001	--	--	0			-1.6			-3.2
Date	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)
01459350 Nockamixon Reservoir				01469200 Still Creek Reservoir			01470870 Blue Marsh Lake		
Sept. 30.....	a	a		1,182.0	8,290	--	289.96	22,850	--
Oct. 31.....	a	a		1,181.9	8,260	-0.5	284.94	17,560	-86.0
Nov. 30.....	a	a		1,182.0	8,290	+0.5	285.05	17,670	+1.8
Dec. 31.....	a	a		1,182.1	8,320	+0.5	285.11	17,730	+1.0
CAL YR 2000	a	a	--	--	--	0	--	--	+0.1
Jan. 31.....	a	a		1,182.0	8,290	-0.5	285.36	17,970	+3.9
Feb. 28.....	a	a		1,182.1	8,320	+0.5	284.95	17,570	-7.2
Mar. 31.....	a	a		1,182.2	8,340	+0.3	286.72	19,330	+28.6
Apr. 30.....	a	a		1,182.1	8,320	-0.3	290.01	22,910	+60.2
May 31.....	a	a		1,182.1	8,320	0	290.30	23,240	+5.4
June 30.....	a	a		1,182.0	8,290	-0.5	289.97	22,860	-6.4
July 31.....	a	a		1,182.0	8,290	0	289.93	22,820	-0.6
Aug. 31.....	a	a		1,181.8	8,230	-1.0	289.90	22,780	-0.6
Sept. 30.....	a	a		1,182.0	8,290	+1.0	289.56	22,390	-6.6
WTR YR 2001	--	--	0	--	--	0	--	--	-0.6
Date	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equiv- alent in ft <sup>3</sup> /s)
01472200 Green Lane Reservoir				01480399 Chambers Lake			01480684 Marsh Creek Lake		
Sept. 30.....	185.95	13,390	--	579.50	1,142	---	360.22	14,580	---
Oct. 31.....	285.67	13,140	-4.1	580.00	1,175	+ .65	359.36	14,110	-7.6
Nov. 30.....	285.90	13,340	+3.4	580.00	1,175	0	358.81	13,810	-5.0
Dec. 31.....	286.00	13,430	+1.5	580.20	1,194	+ .16	358.29	13,550	-4.2
CAL YR 2000	--	--	0	--	--	+ .01	--	--	0.3
Jan. 31.....	286.28	13,680	+4.1	580.30	1,203	+ .16	358.75	13,780	+3.7
Feb. 28.....	286.15	13,570	-2.0	580.30	1,203	0	358.25	13,530	-4.5
Mar. 31.....	286.40	13,790	+3.6	580.30	1,203	0	360.50	14,730	+19.5
Apr. 30.....	286.03	13,460	-5.6	580.25	1,199	0	359.76	14,330	-6.7
May 31.....	286.07	13,500	+1.0	580.20	1,194	- .16	360.37	14,660	+5.4
June 30.....	285.90	13,340	-2.7	580.20	1,194	0	359.95	14,430	-3.9
July 31.....	285.94	13,380	+1.0	579.40	1,136	- .81	359.44	14,150	-4.6
Aug. 31.....	285.33	12,840	-8.8	579.64	1,152	+ .16	359.63	14,260	+1.8
Sept. 30.....	285.05	12,590	-4.2	579.50	1,142	- .17	358.76	13,790	-7.9
WTR YR 2001	--	--	-1.1	--	--	0	--	--	-1.1

\* 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 water 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, 1999; 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 2000 TO SEPTEMBER 2001

MONTH	WITHDRAWALS BY CITY OF NEW YORK		
	01415200 Pepacton Reservoir	01423900 Cannonsville Reservoir	01435800 Neversink Reservoir
October .....	669	24.5	267
November .....	693	9.0	356
December .....	660	0.0	51.8
CAL YR 2000	546	190	170
January .....	686	602	14.8
February .....	693	539	41.9
March .....	462	394	34.2
April .....	376	133	125
May .....	716	292	221
June .....	205	248	231
July .....	694	240	233
August .....	694	307	217
September .....	743	286	258
WTR YR 2001	608	255	171

## MISCELLANEOUS WITHDRAWALS FROM BASIN, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

MONTH	01437360 Bear Swamp Reservoir	01447750 Bear Creek	01448830 Hazle Creek	01460440 Delaware and Raritan Canal
October .....	0	0	8.80	136
November .....	0	0	7.07	132
December .....	0	0	6.14	133
CAL YR 2000	0	2.13	5.68	136
January .....	0	0	6.16	136
February .....	0	0	6.24	119
March .....	0	0	6.14	115
April .....	0	0	6.69	120
May .....	0	0	5.97	133
June .....	0	0	7.49	145
July .....	0	0	7.33	155
August .....	0	0	7.77	156
September .....	0	0	7.72	154
WTR YR 2001	0	0	6.94	136



## 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 ft<sup>3</sup>/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: 1999.
- 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: 1999.
- 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.
- 01472618 DISTRIBUTARY FROM BRADSHAW RESERVOIR.--Lat 40°24'50", long 75°13'13", Bucks County, Hydrologic Unit 02040203, about 0.5 mi upstream from station 01472620, East Branch Perkiomen Creek near Dublin, Pa. PERIOD OF RECORD, October 1994 to current year.  
REMARKS.--Water from the Delaware River near Point Pleasant is diverted to Bradshaw Reservoir located in Geddes Run Basin on Tohickon Creek, a tributary to the Delaware River, for consumptive use by the Philadelphia Electric Company. Figures in this table represent the equivalent monthly mean streamflow, in cubic feet per second, diverted from Bradshaw Reservoir to the East Branch Perkiomen Creek. COOPERATION.--Records provided by Philadelphia Electric Company.
- 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 2000 TO SEPTEMBER 2001

MONTH	01446572 Merrill Creek Reservoir	01459005 Point Pleasant	01463480 Borough of Morrisville	01463490 City of Trenton
October.....	0	76.8	3.68	44.8
November.....	0	54.7	3.57	46.9
December.....	0	30.6	3.72	44.9
CAL YR 2000	.89	52.5	3.88	44.6
January.....	0	14.8	3.65	46.3
February.....	0	12.0	3.34	45.5
March.....	0	11.4	3.67	38.6
April.....	0	18.6	3.86	40.2
May.....	0	85.2	3.98	43.7
June.....	0	67.7	3.99	46.2
July.....	0	88.5	4.22	52.6
August.....	0	87.7	4.20	50.4
September.....	0	81.7	3.85	45.9
WTR YR 2001	0	52.6	3.80	45.4

## WITHDRAWALS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001--Continued

MONTH	City of Philadelphia				
	01466899 Greenwood Branch	01467030 Delaware River Torresdale	01472618 Distributary from Bradshaw Reservoir	01474500 Schuylkill River	
				Belmont	Queen Lane
October.....	1.11	246	59.6	73.2	123
November.....	2.04	259	52.9	73.2	103
December.....	2.30	263	29.5	74.0	115
CAL YR 2000	1.82	268	42.4	74.3	125
January.....	2.63	263	14.2	74.7	133
February.....	2.22	254	11.4	73.2	126
March.....	2.22	248	10.9	75.2	124
April.....	2.12	248	17.9	75.3	108
May.....	2.56	266	59.6	73.8	107
June.....	2.60	269	59.7	75.1	122
July.....	2.42	268	61.0	74.0	132
August.....	2.48	262	59.9	77.7	142
September.....	2.31	247	61.6	73.2	127
WTR YR 2001	2.24	257	41.6	74.2	122



## 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 2000 TO SEPTEMBER 2001--Continued

MONTH	OCTORARO CREEK		
	01367630 Morris Lake	01578420 Coatesville Water Authority	01578450 Chester Water Authority
October .....	0a	1.99	51.6
November .....	0a	2.05	52.8
December .....	0a	1.62	51.5
CAL YR 2000	.94	1.70	55.5
January .....	0a	1.76	52.7
February .....	0a	1.84	53.8
March .....	0a	1.57	51.2
April .....	0a	1.79	51.4
May .....	0a	1.91	55.2
June .....	0a	1.88	56.5
July .....	0a	1.91	59.1
August .....	0a	1.93	59.4
September .....	0a	1.74	57.7
WTR YR 2001	0	1.83	54.3

- a Flood on August 12-14, 2000, damaged the pipeline from Morris Lake to Newton. An average flow of one mgd from wells in Sparta Township (Hudson River Basin) was used to supplement Newton wells.

## 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. The gage heights are heights on the upstream side of the bridge, above the dam or at the discontinued continuous-record gaging station unless otherwise noted. 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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
HACKENSACK RIVER BASIN								
Pascack Brook at Montvale, NJ (01377360)	Lat 40°02'24", long 74°01'58"(revised), Bergen County, Hydrologic Unit 02030103, 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 <sup>2</sup> . Radio stage telemetry at station.	1998-2001	3-30-01 @0925	1.55	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 <sup>2</sup> .	1998-2001	6-17-01	6.25	588	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 sea level. Drainage area is 19.4 mi <sup>2</sup> . Radio stage telemetry at station.	1998-2001	6-21-01 @0355	94.2	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 sea level. Drainage area is 19.4 mi <sup>2</sup> . Radio stage telemetry at station.	1998-2001	8-18-00 3-30-01	7.60r 4.85	a 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 <sup>2</sup> .	1998-2001	5-10-98 7-30-00 3-30-01	10.80 7.36 9.05	1,800 r 412 r 950	9-16-99	15.48	7,610

## 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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
HACKENSACK RIVER BASIN--Continued								
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 Pros- pect 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 <sup>2</sup> ), and 1.0 mi upstream from mouth. Drain- age area is 6.59 mi <sup>2</sup> . Radio stage teleme- try at station	1966-86, 1998-2001	9-19-00 6-17-01 @1855	3.40r 5.72	a a	9-16-99	7.83	465r
Tenakill Brook at Closter, NJ *(01378385)	Lat 40°58'29", long 73°58'06, Bergen County, Hydrologic Unit 02030103, at downstream left wingwall bridge on High Street in Closter, 0.7 mi upstream from mouth. Datum of gage is 23.85 ft above sea level. Drainage area is 8.56 mi <sup>2</sup> .	1965-2001	3-30-01	1.46b	358	9-16-99	6.30b	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 cul- vert on Oradell Avenue (County Route 6), 3.3 mi west of Dumont, and 4.0 mi upstream of mouth. Drainage area is 0.37mi <sup>2</sup> .	2001	6-17-01	3.68b	a	6.17-01	3.68b	a
Metzler Brook at Engle- wood, NJ *(01378590)	Lat 40°54'29", long 73°59'13", Bergen County, Hydrologic Unit 02030103, at bridge on Lantana Avenue in Engle- wood, and 1.6 mi upstream from mouth. Datum of gage is 43.10 ft above sea level. Drainage area is 1.54 mi <sup>2</sup> .	1965-2001	8-13-01	2.35b	250	9-22-66 9-16-99	3.47b 2.91bd	205 534
PASSAIC RIVER BASIN								
Passaic River near Bernards- ville, 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 Ber- nardsville, and 3.0 mi upstream from Great Brook. Datum of gage is 238.07 ft above sea level. Drainage area is 8.83 mi <sup>2</sup> .	1968-76†, 1977-2001	6-02-01	12.77b	216	8-28-71	18.56b	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 sea level, from topo- graphic map. Drainage area is 0.19 mi <sup>2</sup> .	1999-2001	6-17-01	5.64	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 upstream left wingwall of bridge on Pas- saic 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 sea level, from topographic map. Drain- age area is 0.27 mi <sup>2</sup> .	1999-2001	6-02-01	6.99	250	9-16-99	7.75	300

# CREST-STAGE PARTIAL-RECORD STATIONS

253

Maximum discharge at crest-stage partial-record stations (Continued)

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
PASSAIC RIVER BASIN--Continued								
Cub Brook at Northfield, NJ (01379520)	Lat 40°46'16", long 74°18'39", Essex County, Hydrologic Unit 02030103, on upstream left wingwall of bridge 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 sea level from topographic map. Drainage area is 0.48 mi <sup>2</sup> .	1999-2001	6-17-01	8.61	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 bridge on Dean Street in Madison, 0.2 mi downstream of bridge on Main Street (State Route 124), 0.2 mi southeast of the high school in Madison, and 1.5 mi northwest of Chatham, and 2.5 mi upstream of mouth. Drainage area is 1.20 mi <sup>2</sup> .	2000-01	6-17-01	1.88	a	6-17-01	1.88	a
North Branch Foulerton Brook at Roseland, NJ (01379590)	Lat 40°49'11", long 74°17'22", Essex County, Hydrologic Unit 02030103, at bridge 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 sea level, from topographic map. Drainage area is 0.42 mi <sup>2</sup> .	1999-2001	6-17-01	3.98	a	9-16-99	6.11	130
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 sea level. Drainage area is 52.1 mi <sup>2</sup> .	1981-94, 1999-2001	3-30-01	3.96	539	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, at 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 sea level, from topographic map. Drainage area is 0.06 mi <sup>2</sup> .	1999-2001	6-02-01	5.56	29	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 sea level. Drainage area is 12.3 mi <sup>2</sup> . Satellite stage telemetry at station.	1959-95†, 1996-2001	6-23-01 @1915	5.83	a	11-08-77	9.91	1,840
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 <sup>2</sup> .	2001	6-23-01	7.48	a	6-23-01	7.48	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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
PASSAIC RIVER BASIN--Continued								
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 sea level. Drainage area is 6.76 mi <sup>2</sup> .	1968-71, 1976-2001	12-17-00	1.95	345	9-16-99	7.83	1,680
Passaic River below Pompton River, at Two Bridges, NJ (01389005)	Lat40°53'47", long 74°16'10", Passaic County, Hydrologic Unit 02030103, on right bank, at Two Bridges and 400 ft downstream from the Pompton River. Datum of gage is 155.00 ft above sea level. Drainage area is 734 mi <sup>2</sup> . Satellite stage telemetry at station.	1989-2001	3-23-01 @2100	8.12	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, at bridge on Ratzer Road, 1.0 mi north of Preakness, and 2.0 mi upstream from Naachpunkt Brook. Datum of gage is 230.8 ft above sea level. Drainage area is 3.24 mi <sup>2</sup> .	1979-2001	6.23-01	4.19b	616	9-16-99	7.91b	1,920
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, 600 ft upstream from bridge on Union Boulevard and 1.5 mi upstream from Peckman River. Datum of gage is 150.00 ft above sea level. Drainage area is 762 mi <sup>2</sup> .	1984, 1991-2001†	3-23-01 @1345	10.41	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, at bridge on Ozone Avenue in Verona, 4.0 mi west of Clifton and 1.0 mi southwest of Cedar Grove Reservoir. Datum of gage is 300.08 ft above sea level. Drainage area is 4.45 mi <sup>2</sup> . Radio stage telemetry at station.	1945, 1979-2001	6-17-01 @0330	4.68	1,350	7-23-45	---	3,800s
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 <sup>2</sup> . Radio stage telemetry at station.	2001	12-17-00	3.38	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, at bridge 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 sea level. Drainage area is 3.89 mi <sup>2</sup> . Radio stage telemetry at station.	1945, 1979-2001	6-17-01	6.33	467	7-23-45	---	3,100f



# CREST-STAGE PARTIAL-RECORD STATIONS

255

Maximum discharge at crest-stage partial-record stations (Continued)

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
PASSAIC RIVER BASIN--Continued								
Fleischer Brook at Market Street, at Elmwood Park, NJ (01389900)	Lat 40°53'57", long 74°06'54", Bergen County, Hydrologic Unit 02030103, at culvert on Market Street in Elmwood Park (formerly East Paterson), and 2.0 mi upstream from mouth. Datum of gage is 33.83 ft above sea level. Prior to 1995 at datum 1.48 ft higher. Drainage area is 1.37 mi <sup>2</sup> .	1967-2001	8-14-01	3.80	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 culvert on Lake Street in Upper Saddle River, and 1.3 mi downstream from Pine Brook. Datum of gage is 186.11 ft above sea level. Drainage area is 10.9 mi <sup>2</sup> .	1966-2001	6-17-01	4.45	1,710	9-16-99	5.64b	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 sea level. Drainage area is 9.11 mi <sup>2</sup> .	1969-2001	6-17-01	6.61	716	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 bridge on Brookside Avenue in Allendale and 0.6 mi upstream from Hohokus Brook. Datum of gage is 270.79 ft above sea level. Drainage area is 2.55 mi <sup>2</sup> .	1975-2001	6-17-01	3.55b	307	9-16-99	5.41b	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 sea level. Drainage area is 16.4 mi <sup>2</sup> . Satellite stage telemetry at station.	1954-73†, 1977-96†, 1997-2001	6-23-01	3.34	1,420	9-16-99	7.32	4,670
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 on Grove Street in Clifton, 1.2 mi east of Great Notch Reservoir, and 2.9 mi south of Paterson. Drainage area is 0.71 mi <sup>2</sup> .	2001	12-17-00	4.74	a	12-17-00	4.74	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 148 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 <sup>2</sup> . Radio stage telemetry at station.	1988-2001	4-09-01 @2210	4.88b	574	9-16-99	9.97b	2,670

## 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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
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 sea level. Drainage area is 5.11 mi <sup>2</sup> . Radio stage telemetry at station.	1998-2001	6-02-01 @0920	5.92b	852	9-16-99	10.08br	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 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 sea level. Drainage area is 7.09 mi <sup>2</sup> . Radio stage telemetry at station.	1998-2001	6-02-01 @0115	6.62b	a	9-16-99	11.36b	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 sea level. Drainage area is 7.10 mi <sup>2</sup> . Radio stage telemetry at station.	1940-50†, 1973, 1998-2001	6-14-98 12-17-00 @1405	2.13 2.70	266 a	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 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 mean sea level (levels by Killam Associates). Drainage area is 7.74 mi <sup>2</sup> .	1999-2001	12-17-00	12.56	a	9-16-99	19.6b	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 sea level. Drainage area is 25.5 mi <sup>2</sup> .	1999-2001	12-17-00	12.07	a	9-17-99	16.6	a
Rahway River at Kenilworth, NJ (01394620)	Lat 40°40'59", long 74°22'23", 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 <sup>2</sup> . Telephone stage telemetry at station.	1999-2001	12-17-01 @1435	9.15	a	9-17-99	13.3	a

## CREST-STAGE PARTIAL-RECORD STATIONS

257

Maximum discharge at crest-stage partial-record stations (Continued)

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
RAHWAY RIVER BASIN--Continued								
Robinsons Branch at Rahway, NJ (01396000)	Lat 40°36'20", long 74°17'57", Union County, Hydrologic Unit 02030104, on right bank of 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 sea level. Drainage area is 21.6 mi <sup>2</sup> . Telephone stage telemetry at station.	1937-96†, 1999-2001	3-30-01 @1010	5.14	1,080	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. Drain- age area is 0.68 mi <sup>2</sup> .	2001	8-13-01	8.38	a	8-13-01	8.38	a
RARITAN RIVER BASIN								
Alpaugh Brook at Hampton, NJ (01396570)	Lat 40°42'13", long 74°56'52", Hunterdon County, Hydrologic Unit 02030105, at 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 <sup>2</sup> .	1995-2001	12-17-00	1.72	62	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, 1.2 mi northwest of Flemington, and 2.3 mi upstream from mouth. Datum of gage is 267.33 ft above sea level. Drainage area is 2.24 mi <sup>2</sup> .	1936-61†, 1963-2001	12-17-00	2.95	386	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 sea level. Drain- age area is 1.98 mi <sup>2</sup> .	1978-88†, 1989-2001	6-02-01	3.11	555	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, at bridge on Studdiford Drive (South Branch Road) at village of South Branch, and 2.0 mi north of Flagtown. Drainage area is 265 mi <sup>2</sup> . Radio stage telemetry at station.	1998-2001	12-17-00 @2145	9.80	a	9-16-99	20.29	a
Holland Brook at Reading- ton, 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 <sup>2</sup> .	1978-96†, 1999-2001	8-12-01	4.66	474	9-16-99	10.67	4,150
Lamington (Black) River at Succa- sunna, NJ *(01399190)	Lat 40°51'03", long 74°38'02", Morris County, Hydrologic Unit 02030105, on bridge on Righter Road, 0.7 mi south of Succasunna, and 0.4 mi upstream from Succasunna Brook. Drainage area is 7.37 mi <sup>2</sup> .	1977-87a, 1988-2001	8-12-00	4.91	150	1-24-79	5.20	176

## 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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
RARITAN RIVER BASIN--Continued								
Lamington (Black) River near Ironia, NJ *(01399200)	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. Drainage area is 10.9 mi <sup>2</sup> .	1964-72, 1976-87a, 1988-2001	8-12-00	4.86	228	7-07-84	5.15	389
Upper Cold Brook near Pottersville, NJ (01399510)	Lat 40°43'16", long 74°45'09", Hunterdon County, Hydrologic Unit 02030105, on right bank along a private dirt road, 400 ft downstream from the former Pottersville Reservoir, and 1.5 mi west of Pottersville. Drainage area is 2.18 mi <sup>2</sup> .	1972-96, 1999	9-16-99	2.70	700	7-14-84	3.91	2,000x
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 sea level. Drainage area is 1.22 mi <sup>2</sup> .	1977-88†, 1989-2001	6-02-01	2.99	204	9-16-99	6.32	960
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 southwest of Far Hills. Drainage area is 100 mi <sup>2</sup> . Radio stage telemetry at station.	1964, 1973, 1975-78, 1981-2001	12-17-00	8.80	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 sea level. Drainage area is 174 mi <sup>2</sup> . Radio stage telemetry at station.	1977-81†, 1982-95, 1997-2001	8-12-00r 12-17-00	11.40 9.76	5,990 4,230	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 sea level. Drainage area is 190 mi <sup>2</sup> . Radio stage telemetry at station.	1993-2001	12-17-00 @1845	7.86	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 sea level. Drainage area is 7.37 mi <sup>2</sup> . Radio stage and rainfall telemetry at station.	1991-2001	3-30-01	6.50	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, at bridge on State Route 31, 0.8 mi north of Pennington, and 0.9 mi upstream from Baldwin Lake dam. Datum of gage is 161.69 ft above sea level. Drainage area is 1.99 mi <sup>2</sup> .	1960-2001	6-02-01	4.93	336	9-16-99	8.95	1,430

# CREST-STAGE PARTIAL-RECORD STATIONS

259

Maximum discharge at crest-stage partial-record stations (Continued)

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
RARITAN RIVER BASIN--Continued								
Hart Brook near Pennington, NJ (01400950)	Lat 40°19'17", long 74°45'38", Mercer County, Hydrologic Unit 02030105, at culvert on Federal City Road, 1.6 mi upstream of mouth, and 1.7 mi southeast of Pennington. Datum of gage after July 1, 1975 is 163.32 ft above sea level. Drainage area is 0.57 mi <sup>2</sup> .	1968-2001	6-02-01	3.16	93	7-14-87	5.27d	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 sea level. Drainage area is 159 mi <sup>2</sup> .	1971, 1973-74†, 1977-87, 1988-89†, 1990-2001	3-30-01	4.51	4,490	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, at bridge on Burnt Hill Road, 0.7 mi upstream from mouth, 1.0 mi northeast of Blawenburg, and 2.8 mi northwest of Rocky Hill. Datum of gage is 63.45 ft above sea level. Drainage area is 9.03 mi <sup>2</sup> .	1967-2001	6-02-01	5.78b	1,700	8-28-71	10.00b	4,530
Beden Brook near Rocky Hill, NJ *(01401600)	Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 206, 0.7 mi upstream from Pike Run, 1.2 mi northwest of Rocky Hill, and 4.6 mi north of Princeton. Datum of gage is 38.09 ft above sea level. Drainage area is 27.0 mi <sup>2</sup> , revised.	1967-2001	8-12-01	8.79b	2,890	9-16-99	18.61b	15,300
Millstone River at Griggstown, NJ (01401750)	Lat 40°26'20", long 74°37'06", Somerset County, Hydrologic Unit 02030105, at bridge at Griggstown, 200 ft upstream from Simonson Brook, and 300 ft downstream from Griggstown Causeway. Datum of gage is 26.52 ft above sea level. Drainage area is 229 mi <sup>2</sup> . Radio stage telemetry at station.	1938, 1960-61, 1971, 1997, 1999-2001	3-30-01 @2210	5.02	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, at bridge on South Middlebush Road, 1.6 mi upstream from mouth, and 2.1 mi south of Middlebush. Datum of gage is 39.91 ft above sea level. Drainage area is 10.7 mi <sup>2</sup> .	1966-2001	3-30-01	7.02	692	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 sea level. Drainage area is 264 mi <sup>2</sup> . Radio stage telemetry at station.	1903-04†, 1999-2001	3-31-01 @0500	9.67	a	9-17-99	22.30	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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
RARITAN RIVER BASIN--Continued								
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 sea level. Drainage area is 271 mi <sup>2</sup> . Radio stage telemetry at station.	1999-2001	3-30-01 @1400	8.76	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, at 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 sea level, from topographic map. Drainage area is 0.32 mi <sup>2</sup> .	1999-2001	6-01-01	7.94	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, at 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 sea level. Drainage area is 17.2 mi <sup>2</sup> . Radio stage and rainfall telemetry at station.	1993-2001	6-02-01 @0110	8.46	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 Mountainside, and 4.5 mi southeast of Berkeley Heights. Datum of gage is 202.05 ft above sea level. Drainage area is 3.59 mi <sup>2</sup> .	1927, 1969, 1973, 1981-2001	6-17-01	6.26	a	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 bank at bridge on Sycamore Avenue in Plainfield and 1.0 mi upstream from Stony Brook. Datum of gage is 70.37 ft above sea level. Drainage area is 9.75 mi <sup>2</sup> .	1938-84†, 1985-2001	6-02-01	3.10b	659	7-23-38	5.82b	2,890
Stony Brook at North Plainfield, NJ (01403570)	Lat 40°37'19", long 74°26'11", Somerset County, Hydrologic Unit 02030105, at 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 sea level. Drainage area is 6.88 mi <sup>2</sup> . Radio stage and rainfall telemetry at station.	1938, 1975-83, 1991-2001	12-17-00 @0935	4.35	720	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, at 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 sea level. Drainage area is 18.2 mi <sup>2</sup> . Radio stage and rainfall telemetry at station.	1972-79, 1992-2001	3-30-01	7.37	a	8-02-73 10-19-96 9-16-99	10.65b 11.40b 12.17b	10,400 a a

# CREST-STAGE PARTIAL-RECORD STATIONS

261

Maximum discharge at crest-stage partial-record stations (Continued)

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
RARITAN RIVER BASIN--Continued								
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 sea level. Drainage area is 48.4 mi <sup>2</sup> . Radio stage and rainfall telemetry at station.	1972-77†, 1992-95, 1996-2001†	6-02-01	7.06	1,360	9-17-99r	13.54	7,840
Sawmill Brook at South River, NJ (01405010)	Lat 40°26'02", long 74°24'02", Middlesex County, Hydrologic Unit 02030105, 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 <sup>2</sup> .	1998-2001	6-17-01	1.75	87	9-16-99	2.15	130
Manalapan Brook tributary at Smithburg, NJ (01405304)	Lat 40°12'37", long 74°21'17", Monmouth County, Hydrologic Unit 02030105, at bridge 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 sea level, from topographic map. Drainage area is 0.47 mi <sup>2</sup> .	1999-2001	3-30-01	3.25	70	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, at bridge 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 sea level, from topographic map. Drainage area is 0.59 mi <sup>2</sup> .	1999-2001	6-17-01	4.86	a	9-16-99	5.23	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 sea level. Drainage area is 0.26 mi <sup>2</sup> .	1999-2001	3-30-01	5.92u	a	3-30-01	5.92u	a
SHREWSBURY RIVER BASIN								
Big Brook near Marlboro, NJ (01407290)	Lat 40°19'10", long 74°12'52", Monmouth County, Hydrologic Unit 02030104, downstream side of bridge on Hillsdale Road, 1.7 mi east of Marlboro, and 3.0 mi northwest of Colts Neck. Drainage area is 6.42 mi <sup>2</sup> .	1980-2001	3-30-01	5.95b	637	09-20-89	10.16b	1,370

## 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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
MANASQUAN RIVER BASIN								
Mingamahone Brook at Farmingdale, NJ (01408015)	Lat 40°11'38", long 74°09'42", Monmouth County, Hydrologic Unit 02040301, at bridge on Belmar Road, 0.3 mi east of Farmingdale, and 3.0 mi upstream from mouth. Datum of gage is 48.64 ft above sea level. Drainage area is 6.20 mi <sup>2</sup> .	1969-2001	3-30-01	5.56	214	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 bridge on Monmouth Road (County Route 537), at Charleston Springs, 0.8 mi southwest of Smithburg, and just downstream of unnamed pond. Datum of gage is 188 ft above sea level, from topographic map. Drainage area is 0.10 mi <sup>2</sup> .	1999-2001	8-13-01	6.34	2.6	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, at bridge 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 sea level, from topographic map. Drainage area is 0.67 mi <sup>2</sup> .	1999-2001	3-30-01	2.24	a	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, at 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 sea level, from topographic map. Drainage area is 13.6 mi <sup>2</sup> .	1998-2001	9-16-99 9-28-00 3-30-01	3.50b 2.67b 3.22b	202r 122 172	5-10-98	3.58b	210r
Wrangel Brook at Mule Road, near Toms River, NJ *(01408592)	Lat 39°57'39", long 74°13'42", Ocean County, Hydrologic Unit 02040301, at 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 sea level, from topographic map. Drainage area is 19.5 mi <sup>2</sup> .	1998-2001	1-05-99 9-28-00 6-17-01	7.13b 7.40b 5.94b	309 340 182	9-28-00	7.40b	340
OYSTER CREEK BASIN								
Oyster Creek tributary at Brookville, NJ (01409088)	Lat 39°46'58", long 74°18'10" (revised), Ocean County, Hydrologic Unit 02040301, at 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 sea level, from topographic map. Drainage area is 0.25 mi <sup>2</sup> .	1999-2001	3-30-01	<5.16	a	9-16-99	4.92	10

# CREST-STAGE PARTIAL-RECORD STATIONS

263

Maximum discharge at crest-stage partial-record stations (Continued)

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
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 <sup>2</sup> .	1997-2001	6-18-01	2.45b	14	8-23-97	2.83b	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 <sup>2</sup> .	1997-2001	6-18-01	2.78	58	8-23-97	4.18	300r
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 sea level. Drainage area is 2.58 mi <sup>2</sup> .	1952-67†, 1968-2001	6-17-01	3.42	138	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, at 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 sea level, from topographic map. Drainage area is 0.23 mi <sup>2</sup> .	1999-2001	12-18-00	2.63	a	12-18-00	2.63	a
Paulins Kill tributary at Ross Corner, NJ (01443305)	Lat 41°07'02, long 74°42'39", Sussex County, Hydrologic Unit 02040105, at 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 sea level, from topographic map. Drainage area is 0.35 mi <sup>2</sup> .	1999-2001	12-18-00	7.06	34	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, at bridge 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 <sup>2</sup> .	1995-2001	6-17-01	5.38	118	1-19-96	8.10	285
Pohatcong Creek tributary near Washington, NJ (01455130)	Lat 40°46'47", long 75°04'20", Warren County, Hydrologic Unit 02040105, at 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 sea level, from topographic map. Drainage area is 0.55 mi <sup>2</sup> .	1999-2001	12-17-00	3.22	a	9-16-99	3.32	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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN--Continued								
Delaware River at Riegels- ville, NJ (01457500)	Lat 40°35'36", long 75°11'17", Warren County, Hydrologic Unit 02040105, just upstream of suspension bridge at Rie- gelsville, 600 ft upstream from Mus- conetcong River (flow of which is included in the records for this station since Oct. 1, 1931). Datum of gage is 125.12 ft above sea level. Drainage area is 6,328 mi <sup>2</sup> . Satellite stage telemetry at station.	1906-71†, 1972-2001	12-18-00 @1930	17.84	79,800	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 culvert on State Route 29, south of Byram, 0.1 mi east of the Delaware River, and 0.9 mi north of Bulls Island. Datum of gage is 69.7 ft above sea level. Drainage area is 1.23 mi <sup>2</sup> .	1945, 1955, 1995-2001	12-17-00	9.03	283	7-09-45 8-20-55	18.4 28.37k	2,900 a
Moores Creek tributary at Valley Road, near Lam- bertville, 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 <sup>2</sup> .	1989, 1995-2001	9-20-01	3.19	352	8-15-89	--	1,150j
Shabakunk Creek tribu- tary at Texas Avenue, near Lawrence- ville, NJ (01463812)	Lat 40°15'36", long 74°43'38", Mercer County, Hydrologic Unit 02040105, at bridge 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 <sup>2</sup> .	1995-2001	12-17-00	3.74b	168	9-16-99	5.13b	1,780
Stony Ford Brook at New Egypt, NJ (01464405)	Lat 40°04'21", long 74°31'00", Ocean County, Hydrologic Unit 02040201, at bridge on Lakewood Road, 0.7 mi north- west of New Egypt, and 0.9 mi upstream from mouth. Drainage area is 0.99 mi <sup>2</sup> .	1979, 1995-2001	1-20-96 10-19-96 1-24-98 9-16-99 9-15-00 3-30-01 8-13-01	5.78r 5.05r 4.48r 6.67r 5.27r 4.63 5.36	81 r 58 r 40 r 109 r 65 r 45 au	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, at bridge on Coach Road (County Routes 524 and 571), 0.2 mi north of Clarks- burg, 2.2 mi upstream of Red Valley Lake, and 2.4 mi southeast of Roosevelt. Datum of gage is 194 ft above sea level. Drainage area is 0.25 mi <sup>2</sup> .	1999-2001	4-10-01	1.74	16	9-16-99	2.02	53
Crosswicks Creek tribu- tary at U.S. Route 206, near Borden- town, NJ (01464524)	Lat 40°10'15", long 74°41'59", Burlington County, Hydrologic Unit 02040201, at 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 <sup>2</sup> .	1995-2001	3-30-01	4.26	107	3-30-01	4.26	107



# CREST-STAGE PARTIAL-RECORD STATIONS

265

Maximum discharge at crest-stage partial-record stations (Continued)

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN--Continued								
Thorton Creek at Borden-town, NJ (01464525)	Lat 40°08'50", long 74°41'46", Burlington County, Hydrologic Unit 02040201, upstream side of abandoned dam, 50 ft upstream of Thorton 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 <sup>2</sup> .	1976-77†, 1995-2001	9-16-99 9-26-00 3-30-01	4.21r 2.69r 2.22	310 r 149 r 109	9-16-99	4.21	310 r
Crafts Creek at Route 68, at Georgetown, NJ (01464533)	Lat 40°04'37", long 74°39'48", Burlington County, Hydrologic Unit 02040201, at 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 <sup>2</sup> .	1995-2001	3-30-01	3.96	39	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, at bridge 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 sea level. Drainage area is 5.38 mi <sup>2</sup> .	1978-2001	3-30-01	---	372	7-06-89	10.25b	880
Newton Creek at Colling-wood, 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 sea level. Drainage area is 1.33 mi <sup>2</sup> .	1964-2001	6-17-01	4.03	202	7-14-94	6.82	328
South Branch Newton Creek at Had-don 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 Colling-wood. Datum of gage is 23.34 ft above sea level. Drainage area is 0.63 mi <sup>2</sup> .	1964-2001	6-17-01	3.13	133	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 bank at culvert, on War-wick Road 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 <sup>2</sup> .	1997-2001	12-17-00	3.21	90	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 <sup>2</sup> .	1997-2001	12-18-00	3.13	33	9-16-99	5.99	100
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 intersec-tion 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 mean sea level. Drainage area is 0.71 mi <sup>2</sup> .	1997-2001	12-18-00	1.85	26	9-16-99	2.60	47

## 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 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN--Continued								
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 <sup>2</sup> .	1997-2001	3-30-00	1.62b	36	9-16-99	2.44b	91
Raccoon Creek at Mullica Hill, NJ *(01477110)	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 from Mullica Hill Pond, and 5.5 mi west of Pitman. Datum of gage is 21.91 ft above sea level. Drainage area is 15.6 mi <sup>2</sup> .	1940, 1978-95, 1999	1-26-78 2-25-79 4-01-80 8-08-81 6-14-82 4-16-83 4-05-84 9-27-85 12-25-86 7-05-89 3-10-94 9-16-99	5.27 3.84 1.70 1.86 1.75h 5.38 3.14 3.38 2.93 5.53 5.39 7.21	810r 550r 185r 210r 190i 840r 435r 440r 320r 870r 840r 1,200r	9-01-40	---	2,900
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 <sup>2</sup> .	1997-2001	3-30-01	1.18b	19.0	5-24-99	1.33b	21r

\* Also a low-flow partial-record station.

† Operated as a continuous-record gaging station.

a Discharge not determined.

b Downstream side of bridge.

c Recorded at previous site.

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 mi<sup>2</sup>), adjusted for change in drainage area.

k Due to backwater from Delaware River.

m Due to backwater from Raritan River.

n Estimated.

p Elevation above mean sea level.

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 ft<sup>3</sup>/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 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
HUDSON RIVER BASIN						
01367620	Wallkill River at outflow of Lake Mohawk at Sparta, NJ	Lat 41°01'59, long 74°38'36", Sussex County, Hydrologic Unit 02020007, at bridge on West Shore Trail, at Sparta, 200 ft downstream from outflow of Lake Mohawk, and 1.2 mi southwest of Sparta Station.	4.38	1979-86, 2001	6-29-01	6.7
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, 1987-2001	5-17-01 6-29-01 8-14-01 9-06-01	34 40 12 1.7
01367775	Clove Brook at Unionville Road at Colesville, NJ	Lat 41°15'44", long 74°37'50", 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	11-28-00 2-22-01 5-21-01 8-20-01	8.0 14 3.5 .38
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 Pellettown, and 4.5 miles above West Branch.	15.8	1959-64, 1999-2001	11-16-00 2-14-01 5-17-01 8-14-01	13 30 5.5 2.6
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	11-30-00 2-13-01 5-22-01 7-10-01	7.1 20 18 3.2
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	3-20-01 5-24-01 8-22-01	78 43 2.8
HACKENSACK RIVER BASIN						
01378560	Coles Brook at Hackensack, NJ	Lat 40°44'55", long 74°20'14", Bergen County, Hydrologic Unit 02030103, at bridge on Main Street in Hackensack, 0.8 miles upstream from mouth and 1.9 miles northwest of Teaneck.	7.00	1965-72, 1999-2001	11-01-00 2-13-01 5-03-01 8-13-01	1.3 5.5 4.3 4.1
PASSAIC RIVER BASIN						
01378690	Passaic River near Bernardsville, NJ	Lat 40°44'03", long 74°32'26", Somerset County, Hydrologic Unit 02030103, at bridge on U.S. Route 202, 1.8 mi northeast of Bernardsville, and 3.0 mi upstream of Great Brook.	8.83	1968-76a, 1977-96	3-30-01	140
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 miles south of Millington, and 4.2 miles south of Basking Ridge.	20.8	1961-67, 1973-75, 1986-89, 1999-2001	2-26-01 5-23-01 7-23-01 8-30-01	170 51 7.5 5.5

Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
PASSAIC RIVER BASIN--Continued						
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	1989-2001	5-16-01 9-10-01	.47 .10
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, 2000-01	12-12-00 2-01-01 4-26-01 7-17-01 8-16-01	28 317 157 36 30
01381550	Malapardis Brook at Whippany, NJ	Lat 40°49'22", long 74°25'08", Morris County, Hydrologic Unit 02030103, at bridge on Parsippany Road at Whippany, 400 ft upstream from mouth, and 2.2 mi south of Parsippany.	5.07	1989-2001	5-16-01 9-07-01	.94 .87
01381600	Whippany River near Whippany, NJ	Lat 40°48'46", 74°23'38", Morris County, Hydrologic Unit 02030103, at bridge on State Route 10, 0.2 mi downstream of Black Brook, and 1.5 mi southeast of Whippany.	48.5	1963-66, 1973, 2001	7-17-01	29
01382550	Pequannock River tributary 1 at Kinnelon, NJ	Lat 41°00'12", long 74°22'08", Morris County, Hydrologic Unit 02030103, at culvert on Kinnelon Road, at Kinnelon, 300 ft upstream of Maple Lake, and 1.0 mi west of Butler.	1.18	1992-99, 2001	11-13-00 7-16-01	.27 .33
01382700	Stone House Brook at Kinnelon, NJ	Lat 40°59'17", long 74°23'10", Morris County, Hydrologic Unit 02030103, at culvert on Kinnelon Road at Kinnelon, 200 ft from dam on unnamed pond, and 0.3 mi upstream of Butler Reservoir.	3.45	1992-98, 2001	11-13-00 7-17-01	1.7 .92
01387490	Masonicus Brook at West Mahwah, NJ	Lat 41°05'53", long 74°08'57", Bergen County, Hydrologic Unit 02030103, at bridge on Eastview Avenue, at West Mahwah, 0.3 mi downstream from Winters Pond and 0.4 mi upstream from mouth.	3.84	1982-83, 1992-2001	7-17-01 9-07-01	3.9 1.6
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	11-13-00 7-17-01	6.2 3.6
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, 1986-2001	7-17-01 7-18-01 7-31-01 9-06-01	20 19 20 18
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	1996-2001	7-31-01 9-06-01	127 89
01389140	Deepavaal Brook at Two Bridges, NJ	Lat 40°53'14", long 74°16'00", Essex County, Hydrologic Unit 02030103, at bridge on Little Falls Road, 400 ft upstream of Passaic River, 0.8 mi southeast of Two Bridges, and 1.5 mi west of Little Falls.	7.59	1970, 1983-84, 1988-99, 2001	7-31-01 9-06-01	0 0
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	1998-2001	1-20-01 7-05-01 7-31-01 9-06-01	29 6.3 4.9 4.7



Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
PASSAIC RIVER BASIN--Continued						
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, 1994, 2001	7-17-01	14
01389738	Molly Ann Brook tributary near Franklin Lakes, NJ	Lat 40°58'52", 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	11-17-00 3-22-01 6-17-01	.13 5.0 1.5
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	1998-2001	1-07-01 9-06-01 9-27-01	1.0 .64 3.0
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	6-20-01	2.9
01390900	Ramsey Brook at Allendale, NJ	Lat 41°01'44", long 74°08'07", Bergen County, Hydrologic Unit 02030103, at bridge on Brookside Avenue in Allendale and 0.6 mi upstream from Hohokus Brook.	2.55	1998-2001	7-17-01 7-31-01	.63 .69
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	1998-2001	5-16-01 6-17-01 9-10-01 9-13-01	3.8 188 2.3 2.0
01394000	West Branch Rahway River at Millburn, NJ	Lat 40°43'51", long 74°18'26", 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, 1998-2001	9-10-01 9-27-01	.66 .93
01394400	Van Winkle Brook at Springfield, NJ	Lat 40°42'12", long 74°18'15", Union County, Hydrologic Unit 02030104, at railroad bridge in Springfield, 0.4 mi upstream from bridge on Mountain Avenue, and 2.3 mi west of Union.	4.85	1989-2001	5-16-01 9-10-01 9-19-01	.88 4.3 .56
01394600	Nomahegan Brook near Mountainside, NJ	Lat 40°40'42", long 74°19'54", Union County, Hydrologic Unit 02030104, at bridge on Springfield Avenue, 0.2 mi downstream from Echo Lake, 1.1 mi upstream from mouth, and 1.4 mi northeast of Mountainside.	3.76	1989-2001	5-16-01 9-19-01	.10 2.6
RARITAN RIVER BASIN						
01396240	Electric Brook at Long Valley, NJ	Lat 40°47'23", long 74°46'36", Morris County, Hydrologic Unit 02030105, at bridge on Fairview Avenue at Long Valley, 0.3 mi upstream from mouth, and 0.8 mi downstream from Camp Washington Pond	3.17	1991-2001	10-30-00 9-06-01	.73 .45
01396350	South Branch Raritan River at Califon, NJ	Lat 40°43'08", long 74°50'31", Hunterdon County, Hydrologic Unit 02040105, 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	10-03-00 1-23-01 4-24-01 8-24-01	29 44 88 12



Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
RARITAN RIVER BASIN--Continued						
01396865	Sidney Brook at Grandin, NJ	Lat 40°37'10", long 74°56'15", Hunterdon County, Hydrologic Unit 02030105, at bridge on State 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	6-11-01	4.2
					9-05-01	4.1
01398260	North Branch Raritan River near Chester, NJ	Lat 40°46'16", long 74°37'34", Morris County, Hydrologic Unit 02030105, at bridge on State Route 24, 0.8 mi upstream of Burnett Brook, and 3.8 mi east of Chester.	7.57	1964-67, 1980-92, 2001	7-23-01	3.8
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, 1988-2001	10-23-00	4.9
					5-16-01	3.1
					6-11-01	9.4
					8-20-01	3.6
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, 1988-2001	10-23-00	6.9
					5-16-01	5.1
					6-11-01	13
					7-23-01	5.8
					8-20-01	4.4
01399295	Tanners Brook near Milltown, NJ	Lat 40°47'17", long 74°43'33", Morris County, Hydrologic Unit 02030105, at bridge on Tanners Brook Road, 0.2 mi upstream from mouth, 0.6 mi north of Milltown, and 1.5 mi west of Chester.	2.78	1991-2001	10-23-00	1.6
					6-11-01	3.4
01399300	Lamington River at Milltown, NJ	Lat 40°47'13", long 74°43'13", Morris County, Hydrologic Unit 02030105, at bridge on New Furnace Road, 0.1 mi downstream from Tanners Brook, and 0.6 mi north of Milltown.	23.2	1988-2001	10-23-00	7.4
					6-11-01	29
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, 1998-2001	12-13-00	34
					2-28-01	68
					6-12-01	24
					8-07-01	16
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, 2001	5-18-01	5.1
					8-24-01	3.4
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	5-22-01	31
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, 1998-2001	12-13-00	1.8
					2-28-01	10
					6-12-01	12
					8-07-01	1.7
POLLY POND BROOK BASIN						
01401600	Beden Brook near Rocky Hill, NJ	Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 206, 0.7 mi upstream of Pike Run, 1.2 mi northwest of Rocky Hill, and 4.6 mi north of Princeton.	10.7	1967-96, 2001	7-10-01	5.3
01401700	Pike Run near Rocky Hill, NJ	Lat 40°25'12", long 74°38'28", Somerset County, Hydrologic Unit 02040105, 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	10-10-00	4.5
					1-18-01	32
					4-16-01	39
					7-05-01	26

Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
POLLY POND BROOK BASIN--Continued						
01401900	Six Mile Run at Blackwells Mills, NJ	Lat 40°28'22", long 74°34'16", Somerset County, Hydrologic Unit 02040105, 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	10-10-00	3.8
					1-18-01	25
					4-16-01	34
					7-05-01	11
01405290	Matchaponix Brook at Texas, NJ	Lat 40°21'35", long 74°22'05", Middlesex County, Hydrologic Unit 02040105, 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	10-12-00	27
					1-16-01	88
					9-11-01	48
01406040	Deep Run at Route 516 near Old Bridge, NJ	Lat 40°24'34", long 74°20'47", Middlesex County, Hydrologic Unit 02040105, 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	2000-01	10-12-00	5.6
					1-16-01	38
					4010-01	131
					7-30-01	0
01407065	Mahoras Brook at Hendrickson Corners, NJ	Lat 40°24'40", long 74°08'20", 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	11-02-00	2.0
					1-09-01	5.3
					4-05-01	7.8
					7-16-01	2.1
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	5-15-01	2.6
					7-13-01	1.4
01407780	Polly Pond Brook at South Belmar, NJ	Lat 40°10'00", long 74°01'41", Monmouth County, Hydrologic Unit 02030104, at culvert on F Street at South Belmar, 50 ft upstream from Lake Como, and 0.6 mi upstream from mouth.	.99	1989-2001	10-13-00	.84
					5-15-01	1.2
WRECK POND BROOK BASIN						
01407806	Hannabrand Brook at Old Mill Road, near Spring Lake Heights, NJ	Lat 40°06'35", long 74°13'10", 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 miles above Muddy Ford Brook.	3.13	1989-2001	10-13-00	2.8
					10-31-00	2.4
					1-11-01	2.6
					4-25-01	3.6
					5-15-01	3.4
					7-17-01	2.7
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, 1999-2001	11-14-00	19
					2-07-01	68
					5-01-01	20
					8-14-01	33
TOMS RIVER BASIN						
01408592	Wrangel Brook at Mule Road, near Toms River, NJ	Lat 39°57'39", long 74°13'42", Ocean County, Hydrologic Unit 02040301, at bridge on Mule Road in Berkeley Township, 0.5 mi upstream from mouth, and 1.7 mi west of Toms River.	19.5	1993-2001	3-22-01	110
					5-15-01	24
					7-18-01	56
					8-03-01	20
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	1977, 1999, 2001	10-23-00	3.3
					8-03-01	2.2

Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
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, 1991-2001	11-06-00 2-23-01 6-07-01 9-18-01	.44 2.5 1.1 .23
01409387	Mullica River at outlet of Atsion Lake, at Atsion, NJ	Lat 39°44'25", long 74°43'37", Burlington County, Hydrologic Unit 20240301, 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, 1985-89, 2000-2001	11-28-00 2-07-01 5-02-01 5-07-01 8-15-01	32 104 38 30 12
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, 1991-2001	11-06-00 2-22-01 6-07-01 9-18-01	1.6 3.7 2.8 1.9
0140940250	Cooper Branch near Chesilhurst, NJ	Lat 39°44'44", long 74°50'25", Camden County, Hydrologic Unit 02040301, at bridge on Burnt Mill Road, 700 ft upstream from mouth, 1.6 mi northeast of Waterford Works and 2.8 mi southeast of Atco	1.93	1991-2001	2-22-01 6-07-01 9-18-01	2.1 .91 .34
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	1991-2001	11-06-00 2-22-01 6-07-01 9-18-01	1.2 2.2 2.0 .61
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.	---	1991-2001	11-06-00 2-22-01 6-07-01 9-18-01	0 1.9 .83 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	1991-2001	11-06-00 2-22-01 6-07-01 9-18-01	11 18 13 8.4
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	1991-2001	11-06-00 2-22-01 6-07-01 9-18-01	.21 6.2 2.4 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	1991-2001	11-06-00 2-22-01 6-07-01 9-18-01	2.7 9.3 17 5.0
0140940950	Blue Anchor Brook at Elm, NJ	Lat 39°40'11", 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	1991-2001	11-06-00 11-27-00 2-20-01 2-22-01 5-07-01 6-07-01 8-20-01 9-18-01	1.6 5.2 3.5 3.2 2.9 2.3 1.5 .65
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	1991-2001	11-06-00 2-22-01 6-07-01 9-18-01	12 20 20 8.9

Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
MULLICA RIVER BASIN--Continued						
0140941050	Great Swamp Branch at Elm, NJ	Lat 39°40'18", long 74°49'33", Camden County, Hydrologic Unit 02040301, at bridge on U.S. Route 30, 0.5 mi southeast of Elm, 1.5 mi north of Rosedale, and 2.4 mi northeast of Winslow.	2.83	1991-2001	11-01-00	.34
					2-22-01	1.2
					7-07-01	.67
					9-18-01	.13
01410803	Fourmile Branch at Winslow Crossing, NJ	Lat 39°42'07", long 74°58'11", Camden County, Hydrologic Unit 02040301, at bridge on Andrews Road in Winslow Crossing, 1.4 mi northeast of Williamstown, and 2.1 mi upstream of Great Egg Harbor.	6.22	1972-80, 1990-95; 2001	6-11-01	2.8
					9-04-01	2.0
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, 1990-95, 2001	6-11-01	.85
					9-04-01	.21
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	1990-95, 2001	11-15-00	1.6
					2-20-01	4.6
					5-09-01	3.0
					6-11-01	2.6
					8-22-01	1.4
9-04-01	.41					
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	1990-95, 2001	6-11-01	3.8
					9-04-01	2.2
01411170	Great Egg Harbor River at Mays Landing, NJ	Lat 39°27'13", long 74°44'04", Atlantic County, Hydrologic Unit 02040302, at bridge on County Route 559, at outlet of Lake Lenape, and 0.4 mi west of intersection of County Route 50 with U.S. Route 40 in Mays Landing.	205	1988-93, 1995-98, 2001	8-28-01	62
					9-13-01	64
01411220	South River near Belcoville, NJ	Lat 39°26'25", long 74°45'21", Atlantic County, Hydrologic Unit 02040302, at bridge on Walkers Forge Road, 1.1 mi west of Belcoville, and 3.7 mi upstream of mouth.	20.4	1994-95, 1999, 2001	5-16-01	19
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 miles northwest of Rio Grande.	2.29	1965-72, 1990-92, 1999-2001	11-15-00	4.0
					2-27-01	3.8
					5-23-01	2.2
					8-27-01	.05
DELAWARE 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	1994-95, 1999, 2001	5-16-01	4.0
					6-15-01	3.2
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	1994-95, 1999, 2001	5-16-01	4.6
					6-15-01	1.5
01438090	Clove Brook at N.J. Route 23 at Duttonville	Lat 41°22'06", 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	11-28-00	13
					2-22-01	18
					5-21-01	5.0
					9-10-01	1.2



Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN--Continued						
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, 1978-79, 1981, 2001	11-27-00 2-14-01 5-17-01 8-15-01	33 46 8.8 4.0
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	11-27-00 2-14-01 5-17-01 8-15-01	14 18 7.4 3.1
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	11-21-00 2-14-01 5-15-01 9-25-01	2.2 17 .84 1.5
01443510	Blair Creek at Blairstown, NJ	Lat 40°59'12", long 74°57'35", Warren County, Hydrologic Unit 02040105, at bridge on Mill Brook Road, at Blairstown, 300 ft upstream of Blair Lake, 0.4 mi upstream of mouth, and 1.2 mi east of Jacksonburg.	13.1	1989-98, 2001	6-13-01 9-06-01	13 1.4
01445200	Bear Creek near Johnsonburg, NJ	Lat 40°56'35", long 74°52'31", Warren County, Hydrologic Unit 02040105, at bridge on Bear Creek Road, 1.8 mi upstream of Trout Brook, and 1.5 mi south of Johnsonburg.	12.9	1940-42, 1987-98, 2001	6-13-01 9-06-01	11 1.9
01445490	Furnace Brook at Oxford, NJ	Lat 40°48'15", long 74°59'42", Warren County, Hydrologic Unit 02040105, at bridge on State Route 31 in Oxford, 2.4 mi upstream from mouth, and 3.2 mi north of Washington.	4.29	1965-69b, 1971-72b, 1994-2001	6-13-01 9-06-01	2.8 1.5
01445520	Mountain Lake Brook near Pequest, NJ	Lat 40°51'11", long 74°59'09", Warren County, Hydrologic Unit 02040105, at bridge on Lake Drive South, at outlet of Mountain Lake, 1.5 mi north of Pequest and 1.7 mi upstream from mouth.	4.35	1991-2001	10-12-00 9-05-01	.55 .47
01446520	Pophandusing Brook at Belvidere, NJ	Lat 40°49'14", long 75°04'37", Warren County, Hydrologic Unit 02040105, at bridge on Knowlton Street at Belvidere, 0.5 mi upstream from mouth, and 1.8 mi west of Hazen.	5.36	1991-2001	6-13-01 9-06-01	1.2 .43
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	1991-2001	11-13-00 2-20-01 5-07-01 6-13-01 7-31-01 9-06-01	2.0 5.0 4.2 2.7 1.6 .64
01455100	Lopatcong Creek at Phillipsburg, NJ	Lat 40°40'38", long 75°10'13", Warren County, Hydrologic Unit 02040105, at bridge on Alternate U.S. Route 22 in Phillipsburg, 100 ft upstream from railroad bridge of CONRAIL, and 3,000 ft above mouth.	14.2	1958-64, 1991-2001	10-12-00 5-18-01	6.8 9.6
01455135	Pohatcong Creek at Tunnel Hill Road near Washington, NJ	Lat 40°47'05", long 74°57'42", 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	2000-01	11-14-00 2-21-01 5-08-01 8-23-01	3.4 14 6.9 .91
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	1960-69, 1970-95, 1999-2001	11-13-00 2-20-01 5-07-01 7-31-01	12 32 25 8.9



Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN--Continued						
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	11-20-00 2-07-01 5-14-01 8-28-01	9.5 34 7.6 1.2
01456080	Mine Brook near Hackettstown, NJ	Lat 40°49'58", long 74°49'23", Morris County, Hydrologic Unit 02040105, at bridge on County Route 517 (Schooleys Mountain Road), 600 ft upstream from mouth, and 1.0 mi south of Hackettstown.	4.96	1991-2001	10-12-00 9-05-01	.38 .03
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	1991-2001	9-06-01	.96
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 miles west of Allentown and 0.8 miles downstream from Conines Mill Pond.	17.2	1966, 1968-72, 1991-92, 1999-2001	11-21-00 2-15-01 5-14-01 8-13-01	11 27 7.3 15
01465847	Jade Run at Vincentown, NJ	Lat 39°56'10", long 74°44'36", Burlington County, Hydrologic Unit 02040202, at bridge on U.S. Route 206, 0.4 mi east of Vincentown, and 0.8 mi upstream of mouth.	11.3	2001	10-26-00 1-04-01 4-02-01 7-09-01	4.5 6.1 36 .88
01465865	Barton Run at Tuckerton Road, near Medford, NJ	Lat 39°52'44", long 74°51'37", 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	10-23-00 1-08-01 4-09-01 7-12-01	7.0 12 22 3.7
01465900	Southwest Branch Rancocas at Eayerstown, 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 Eayerstown.	76.0	1959-61, 1999, 2001	9-06-01 9-18-01	27 28
01465965	Ong Run at Browns Mills, NJ	Lat 39°58'35", long 74°34'38", 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	10-30-00 1-03-01 4-04-01 7-03-01	1.5 1.2 2.6 1.6
0146700260	Indian Run at Birmingham, NJ	Lat 39°58'51", long 74°42'39", 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	1-03-01 4-04-01 7-03-01	7.6 10 3.4
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	1964-96, 2001	3-30-01	3.0
01467330	South Branch Big Timber Creek at Blackwood, NJ	Lat 39°48'17", long 75°04'33", Camden County, Hydrologic Unit 02040202, at bridge on Lower Landing Road at Blackwood, 3.1 mi southwest of Lindenwold and 3.0 mi from mouth.	19.1	1964-72, 1994-2001	5-11-01 7-24-01	23 14
01475020	Mantua Creek at Sewell, NJ	Lat 39°46'22", long 75°08'10", Gloucester County, Hydrologic Unit 02040202, at bridge on Wenonah-Pitman Road, 0.5 mi below Bees Branch, and 0.6 mi east of Sewell.	14.7	1966-72, 1994-99, 2001	5-11-01 7-24-01	12 6.1

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 2001

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN--Continued						
01476640	Pargey Creek at Swedesboro Avenue at Repaupo, NJ	Lat 39°47'34", long 75°17'12", 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	10-19-00	4.0
					1-08-01	3.9
					4-09-01	6.4
					7-12-01	1.9
01477130	Basgalore Creek at Russell Mill Road, near Swedesboro, NJ	Lat 39°44'14", 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, 1994-2001	10-30-00	2.6
					5-11-01	3.4
					6-15-01	3.4
01482510	Nichomus Run near Woodstown, NJ	Lat 39°38'22", long 75°20'59" Salem County, Hydrologic Unit 02040206, at bridge on State Route 45, 1.4 mi southwest of Woodstown, and 1.7 mi above mouth.	3.76	1966-74, 1994-2001	5-11-01	.64
					6-15-01	.15
01482900	Cool Run near Alloway, NJ	Lat 39°34'43", long 75°18'36", Salem County, Hydrologic Unit 02040206, at highway bridge on Stockton-Pleasant Hill Road, 0.5 mi above mouth, 3.0 mi northeast of Alloway, and 3.3 mi southwest of Daretown.	4.92	1959-63, 1994-99, 2001	5-10-01	3.5
					6-15-01	3.5
01482950	Cedar Brook near Alloway, NJ	Lat 39°33'31", long 75°20'22", Salem County, Hydrologic Unit 02040206, at highway bridge on secondary road, 400 ft downstream from outlet of Sycamore Lake (at Remsterville), 1.3 mi east of Alloway, and 5.3 mi southwest of Daretown.	3.76	1959-63, 1994-99, 2001	5-10-01	2.6
					6-15-01	2.3

\* 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.

d Not previously published.

e Estimated.

## 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 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
HUDSON RIVER BASIN						
01367625 Wallkill River	Rondout Creek	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	1998-2000	11-16-00	6.5
					2-14-01	15
					5-17-01	3.0
					8-08-01	1.1
01367715 Wallkill River	Rondout Creek	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	11-30-00	35
					2-13-01	83
					5-22-01	55
					7-10-01	28
01367735 Wallkill River	Rondout Creek	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	---	12-04-00	26
					3-14-01	273
					5-24-01	80
					8-22-01	9.8
01367860 Papakating Creek	Wallkill River	Lat 41°11'39", long 74°37'17", Sussex County, Hydrologic Unit 02020007, at bridge on County Route 565 (Sussex Road) in Lewisburg, 0.9 mi upstream from Clove Brook, 1.5 mi southwest of Sussex, and 3.5 mi northwest of Hamburg.	36.7	1998	6-13-01	19
01367910 Papakating Creek	Wallkill River	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	11-30-00	44
					2-13-01	133
					5-22-01	88
					7-10-01	18
01368000 Wallkill River	Rondout Creek	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, 1991-97	2-14-01	280
					5-17-01	65
					8-27-01	16
01368820 Double Kill	Wawayanda Creek	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	1998-2000	11-16-00	4.1
					2-14-01	11
					5-24-01	7.3
					8-08-01	.03
01368900 Wawayanda Creek	Pochuck Creek	Lat 41°13'34", 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	---	12-04-00	39
					3-14-01	232
					5-24-01	66
					8-22-01	5.3
HACKENSACK RIVER BASIN						
01378550 Van Saun Mill Brook	Coles Brook	Lat 40°57'21", long 74°02'19", Bergen County, Hydrologic Unit 02030103, at culvert on Oradell Avenue (County Route 6) in Oradell, 3.3 mi west of Dumont, and 4.0 mi upstream of mouth.	.37	---	11-15-00 8-09-01	.20 0
PASSAIC RIVER BASIN						
01378708 Penns Brook tributary	Penns Brook	Lat 40°42'30", long 74°32'53", Somerset County, Hydrologic Unit 02030103, at culvert on North Maple Avenue in Basking Ridge, 0.3 mi upstream of mouth, and 1.2 mi west of Passaic River.	.19	1999-2000	3-22-01	1.4
					3-30-01	2.9
					5-22-01	.76

Discharge measurements made at miscellaneous sites during water year 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
PASSAIC RIVER BASIN--Continued						
01378780 Primrose Brook	Great Brook	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	1998-2000	11-16-00	.63
					2-26-01	2.6
					5-08-01	1.5
					8-21-01	.64
01379010 Passaic River	Newark Bay	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 down- stream of Black Brook.	55.9	---	12-18-00	324
					1-29-01	71
					5-03-01	33
					9-04-01	5.7
01379490 Passaic River tributary	Passaic River	Lat 40°42'59", long 74°23'03", Union County, Hydrologic Unit 02030103, at bridge on Passaic Avenue in Summit, 0.3 mi north of intersection of Passaic Avenue and Spring- field Avenue, and 0.4 mi upstream of mouth.	.27	1999-2000	3-22-01	2.9
					3-30-01	5.4
01379530 Canoe Brook	Passaic River	Lat 40°44'41", long 74°21'04", Essex County, Hydrologic Unit 02030103, at bridge within New Jersey-American Water Company property, just downstream of pumping sta- tion, 0.5 mi upstream of mouth, and 2.0 mi north of Summit.	11.0	1933-60b, 1961-2000c	11-13-00	2.0
					1-03-01	1.0
					2-08-01	15
					4-04-01	9.7
					5-29-01	3.3
					7-17-01	.58
					8-29-01	.47
01379580 Passaic River	Newark Bay	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	1983-85	12-12-00	56
					2-01-01	412
					4-26-01	98
					8-16-01	79
01379680 Rockaway River	Passaic River	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	12-14-00	27
					1-30-01	23
					5-02-01	30
					8-30-01	3.0
01380100 Beaver Brook	Rockaway River	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, 1999-2000	11-13-00	12
					2-12-01	63
					5-02-01	19
					8-22-01	4.8
01381330 Whippany River	Rockaway River	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	12-18-00	21
					1-29-01	12
					5-03-01	12
					9-04-01	3.6
01382170 Pequanock River	Pompton River	Lat 41°04'41", long 74°29'21", 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	---	12-11-00	5.5
					2-27-01	36
					6-04-01	40
					8-08-01	.66
01382800 Pequanock River	Pompton River	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, 1993-98	12-07-00	17
					2-26-01	122
					5-29-01	52
					8-29-01	8.5
01384495 Ringwood Creek	Wanaque River	Lat 41°08'29", long 74°14'56", 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	---	12-05-00	8.6
					3-12-01	28
					5-31-01	15
					8-06-01	2.1

Discharge measurements made at miscellaneous sites during water year 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
PASSAIC RIVER BASIN--Continued						
01385000 Cupsaw Brook	Wanaque River	Lat 41°06'32", long 74°15'16", Passaic County, Hydrologic Unit 02030103, at bridge on Carletondale Road, just upstream from Wanaque Reservoir, 0.3 mi down- stream from Cupsaw Lake, and 5 mi north of Wanaque.	4.38	1934-58a	6-15-01	1.6
01387010 Wanaque River	Pequannock River	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 Reser- voir.	96.4	---	12-05-00 3-12-01 5-31-01 8-06-01	21 32 21 16
01387480 Mahwah River	Ramapo River	Lat 41°06'54", long 74°08'46", Rockland County, NY, Hydrologic Unit 02030103, at bridge on State Highway 59 (Lafayette Boulevard) at Suffern, and 1.0 mi upstream from mouth.	20.8	1959-62a, 1982, 1998-2000	10-26-00 10-31-00	2.3 2.4
01388100 Ramapo River	Pompton River	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 Pomp- ton Lake.	160	1998	12-07-00 2-26-01 5-29-01	90 486 252
01388720 Beaver Dam Brook	Pompton River	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	---	12-13-00 2-21-01 5-03-01 8-23-01	4.0 24 8.7 1.3
01388910 Pompton River	Passaic River	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	2-27-01 6-04-01 8-08-01	791 1150 84
01389802 Passaic River	Newark Bay	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 Peck- man River. Note--flow over falls only, not through hydroelectric plant.	779	1987-89, 1991-95, 1997-98	9-26-01	260
01389862 Henderson Brook	Passaic River	Lat 40°56'52", long 74°07'30", Bergen County, Hydrologic Unit 02030103, at Conrail rail- road bridge in Fair Lawn, 1.4 mi upstream of mouth, and 2.3 mi southwest of Ridge- wood.	.44	2000	6-20-01	.18
01389863 Henderson Brook	Passaic River	Lat 40°56'48", 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	6-20-01	.49
01389865 Henderson Brook	Passaic River	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	6-20-01	.86
01389870 Passaic River	Newark Bay	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 Gof- fle Brook.	797	1970	12-21-00 2-28-01 6-05-01 9-06-01	2560 1490 2370 68



## Discharge measurements made at miscellaneous sites during water year 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
PASSAIC RIVER BASIN--Continued						
01389873 Lyncrest Brook	Passaic River	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.	0.45	2000	6-20-01	0.11
01391100 Hohokus Brook	Passaic River	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	7-18-01	29
01391109 Jordan Brook	Saddle River	Lat 40°56'53", 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	6-20-01	.72
01391250 Beaver Dam Brook	Saddle River	Lat 40°55'47", long 74°05'44", 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	6-20-01	.19
RARITAN RIVER BASIN						
01396550 Spruce Run	South Branch Raritan River	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.	15.5	1998-2000	11-02-00 2-08-01 5-07-01 8-09-01	1.9 9.5 3.8 1.3
01397400 South Branch Raritan River	Raritan River	Lat 40°31'01", long 74°48'12", Hunterdon County, Hydrologic Unit 02030105, at bridge on Main Street in Three Bridges, 0.4 mi northeast 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	10-05-00 1-22-01 4-17-01 7-23-01	99 275 406 153
01398065 Neshanic River	South Branch Raritan River	Lat 40°29'36", 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	10-05-00 1-22-01 4-17-01 7-23-01	33 149 72 4.0
01398110 Holland Brook	South Branch Raritan River	Lat 40°33'12", long 74°42'02", 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	10-04-00 1-25-01 4-19-01 7-24-01	5.5 18 17 3.8
01398900 North Branch Raritan River	Raritan River	Lat 40°40'57", long 74°38'21", 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	10-03-00 1-23-01 4-24-01 8-02-01	18 72 64 16
01399120 North Branch Raritan River	Raritan River	Lat 40°38'09", long 74°40'56", Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Mills Road, 0.1 mi upstream from Lamington River, 0.3 mi east of Burnt Mills, and 4.0 mi southwest of Far Hills.	63.8	1964, 1975-78, 1981-83, 1985-97	7-16-01	40
01399320 Lamington River	North Branch Raritan River	Lat 40°46'45", long 74°38'21", 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	---	10-03-00 1-23-01 4-24-01 8-02-01	8.9 26 41 6.7

Discharge measurements made at miscellaneous sites during water year 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
RARITAN RIVER BASIN--Continued						
01399545 Lamington River	North Branch Raritan River	Lat 40°39'38", long 74°43'46", Somerset County, Hydrologic Unit 02030105, at bridge on State Route 523 in Lamington, 0.4 mi downstream from Cold Brook, and 3.8 mi south of Potterstown.	53.6	---	10-04-00	25
					1-25-01	48
					4-19-01	93
					7-24-01	20
01399720 Rockaway Creek	Lamington River	Lat 40°37'24", long 74°43'24". 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	10-04-00	18
					1-25-01	62
					4-19-01	58
					7-24-01	18
01400690 Cranbury Brook	Millstone River	Lat 40°18'18", long 74°28'25", 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	---	10-16-00	3.0
					1-17-01	16
					4-11-01	20
					7-19-01	3.3
01403300 Raritan River	Raritan Bay	Lat 40°33'34", long 74°31'41", Somerset County, Hydrologic Unit 02030105, at Queens Bridge on Main Street in Bound Brook, 1.7 mi upstream from Fieldsville Dam.	804	1964-69, 1971-73, 1978, 1981-2000	7-16-01	174
01403385 Bound Brook	Raritan River	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 Mid- dlesex, 2.4 mi west of the intersection of State Route 28 and Washington Avenue in Dunellen.	23.9	1998-2000	11-13-00	7.8
					2-12-01	19
					5-21-01	4.5
					8-15-01	14
01405003 Lawrence Brook	Raritan River	Lat 40°26'56", long 74°26'46", 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	---	10-11-00	7.5
					1-11-01	21
					4-25-01	18
					7-17-01	18
01405302 Matchaponix Brook	South River	Lat 40°23'22", long 74°22'55", Middlesex County, Hydrologic Unit 02030105, at bridge on Mundy Avenue in Spotswood, 0.2 mi upstream of mouth, 0.5 mi east of DeVoe Lake Dam, and 3.4 mi southeast of Tanners Corners.	44.1	1979-80, 1982, 1986-88, 1990-91, 1993-97	6-07-01	34
01405303 Manalapan Brook	South River	Lat 40°12'04", long 74°22'39", 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	---	10-16-00	1.0
					1-17-01	2.1
					4-11-01	2.9
					7-19-01	1.8
01405340 Manalapan Brook	South River	Lat 40°17'46", long 74°23'53", Middlesex County, Hydrologic Unit 02030105, at bridge on Federal Road, 2.0 mi west of Englishtown, 2.6 mi north of Manalapan, and 3.0 mi downstream from Still House Brook.	20.9	1969,1971, 1979-80, 1986-96, 1998-2000	11-21-00	16
					2-15-01	30
					5-21-01	13
					8-21-01	5.2
01405390 Manalapan Brook	South River	Lat 40°22'29", long 74°24'57", 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	---	10-12-00	26
					1-16-01	54
					4-10-01	119
					7-30-01	18
01405435 Cedar Brook	Manalapan Brook	Lat 40°23'26", long 74°23'31", Middlesex County, Hydrologic Unit 02030105, 50 ft upstream from mouth in Spotswood, and 4.3 mi south of South River.	3.85	1943, 1949-50, 1957-87d, 1987, 1989-91, 1993-2000	5-31-01	7.5
					7-17-01	2.5
					9-10-01	2.2

Discharge measurements made at miscellaneous sites during water year 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
NAVESINK RIVER BASIN						
01407320 Big Brook	Swimming River	Lat 40° 19' 24", long 74° 10' 26", 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 Van- denburg.	9.81	---	11-02-00	5.5
					1-09-01	6.2
					4-05-01	21
					7-16-01	5.4
01407460 Yellow Brook	Swimming River	Lat 40° 17' 58", 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	---	11-02-00	14
					1-09-01	18
					4-05-01	38
					7-16-01	13
MANASQUAN RIVER BASIN						
01407871 Manasquan River	Atlantic Ocean	Lat 40° 12' 15", long 74° 15' 24", 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, 1974	3-15-01	42
					4-25-01	20
					7-17-01	7.5
01408009 Mingamahone Brook	Manasquan River	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	1998-99	11-14-00	3.0
					2-08-01	10
					5-01-01	4.5
					8-13-01	2.5
CEDAR CREEK BASIN						
01408830 Cedar Creek	Barnegat Bay	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	1977-78, 1998-2000	11-02-00	30
					5-09-01	45
					8-15-01	47
MULLICA RIVER BASIN						
0140940200 Hays Mill Creek	Sleeper Branch	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	1974-77, 1999-2000	11-06-00	5.9
					2-22-01	11
					6-07-01	9.1
					9-18-01	4.3
01409414 Hammonton Creek	Mullica River	Lat 39°37'57", long 74°45'39", Atlantic County, Hydrologic Unit 02040301, at bridge on 8th Street, 0.6 mi downstream from Hammonton Lake, and 2.3 mi east of Hammonton.	---	1974	5-02-01	5.2
01409416 Hammonton Creek	Mullica River	Lat 39°38'02", long 74°43'05", Atlantic County, Hydrologic Unit 02040301, at bridge on Chestnut Road, 0.4mi south of Wescoatville, and 1.6 mi upstream from Norton Branch.	9.57	1974, 1978-81, 1983, 1985-2000	11-27-00	34
					2-08-01	26
					5-02-01	12
					5-30-01	16
					8-20-01	7.4
01409815 West Branch Wading River	Wading River	Lat 39°40'30", long 74°32'28", Burlington County, Hydrologic Unit 02040301, at bridge on County Highway 563 in Max- well, 1.6 mi southeast of Washington, 1.8 mi southwest of Jenkins, and 2.2 mi upstream from mouth.	85.9	1976-93, 1998-2000	11-28-00	114
					2-08-01	351
					5-30-01	101
					8-23-01	53
GREAT EGG HARBOR RIVER BASIN						
01410810 Fourmile Branch	Great Egg Harbor River	Lat 39°41'47", long 74°56'24", 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	1973-79a, 1989-97	6-11-01	5.3
					9-04-01	3.2

## Discharge measurements made at miscellaneous sites during water year 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
GREAT EGG HARBOR RIVER BASIN-- Continued						
01411110 Great Egg Harbor River	Great Egg Harbor Bay	Lat 39°30'50", long 74°46'47", Atlantic County, Hydrologic Unit 02040302, at bridge on U.S. Route 322 in Weymouth, 0.5 mi upstream of Deep Run, and 8.5 mi east of Landisville.	154	1978-81, 1985-2000	11-20-00	112
					4-25-01	224
					5-08-01	145
					9-05-01	75
01411196 Babcock Creek	Great Egg Harbor River	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	1965, 1998-2000	11-20-00	8.1
					2-21-01	16
					5-08-01	12
					8-29-01	3.9
WEST CREEK BASIN						
01411444 West Creek	Delaware Bay	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	1999-2000	10-18-00	.50
					11-15-00	14
					2-27-01	6.7
					5-23-01	16
MAURICE RIVER BASIN						
01411466 Indian Branch	Scotland Run	Lat 39°35'27", long 75°03'36", Gloucester County, Hydrologic Unit 02040206, at bridge on U.S. Route 47 (Delsea Drive), 0.4 mi upstream from Malaga Lake, and 1.4 mi north of Malaga.	6.50	1957, 1998-2000	11-15-00	4.9
					2-20-01	9.1
					5-09-01	1.6
01411955 Gravelly Run	Buckshutem Creek	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	1998-2000	11-20-00	.68
					2-26-01	3.7
					5-10-01	.93
					8-27-01	.92
COHANSEY RIVER BASIN						
01412800 Cohansey River	Delaware Bay	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, 1989-2000	11-23-00	34
					2-26-01	37
					5-22-01	48
					8-29-01	29
DELAWARE RIVER BASIN						
01442760 Dunnfield Creek	Delaware River	Lat 40°58'14", long 75°07'35", Warren County, Hydrologic Unit 02040104, at foot bridge on Appalacian Trail/Dunnfield Rest Area in Dunnfield, 1,300 ft upstream from mouth, and 3.5 mi northwest of Columbia.	3.56	1998-2000	11-01-00	.99
					2-07-01	8.8
					5-02-01	4.9
					8-08-01	.43
01443401 Paulins Kill	Delaware River	Lat 41° 06' 14", long 74° 45' 30", 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	---	11-21-00	29
					2-06-01	119
					5-15-01	21
					8-07-01	9.3
01445000 Pequest River	Delaware River	Lat 40° 58' 52", long 74° 46' 36", Sussex County, Hydrologic Unit 02040105, at bridge on Pequest Road in Huntsville, 0.4 mi downstream from East Branch, and 0.7 mi west of Brighton.	31.0	1940-62a, 1963-95, 1999-2000	11-20-00	12
					2-07-01	51
					5-14-01	20
					8-28-01	3.6
01445160 Bear Brook	Bear Creek	Lat 40°58'30", long 74°50'57", Warren County, Hydrologic Unit 02040105, at bridge on Dark Moon Road 1.3 mi north- east of Johnsonburg, and 0.4 mi northwest of Francis Lake.	5.10	---	11-29-00	1.0
					2-07-01	7.2
					5-22-01	7.6
					8-09-01	.62



## Discharge measurements made at miscellaneous sites during water year 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN--Continued						
01446000 Beaver Brook	Pequest River	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	1922-61, 1963-95	11-16-00	14
					2-08-01	46
					5-09-01	22
					7-26-01	5.4
01446400 Pequest River	Delaware River	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 of mouth, and 2.8 mi west of Bridgeville.	157	1950-53, 1974, 1977-82, 1984-2000	10-11-00	66
					11-02-00	61
					1-12-01	152
					2-13-01	115
					4-23-01	278
					7-27-01	65
01455080 Lopatcong Creek	Delaware River	Lat 40° 42' 08", long 75° 08' 15", 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	---	11-13-00	1.8
					2-20-01	5.5
					5-07-01	4.4
					7-31-01	1.9
01456200 Musconetcong River	Delaware River	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	11-14-00	134
					2-21-01	198
					5-08-01	81
					8-23-01	50
01456590 Musconetcong River	Delaware River	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	---	11-14-00	146
					2-21-01	265
					5-08-01	113
					8-23-01	62
01457400 Musconnect- cong River	Delaware River	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, 1988-2000	11-08-00	97
					5-16-01	145
					7-11-01	155
					8-23-01	109
01458570 Nishisakawick Creek	Delaware River	Lat 40°32'32", long 75°02'49", Hunterdon County, Hydrologic Unit 02040105, site along Creek Road, 1.3 mi north of French- town, 2.1 mi upstream from mouth, and 3.1 mi southeast of Milford.	10.1	1988, 1998-2000	11-08-00	1.4
					2-12-01	26
					5-30-01	15
					8-09-01	5.3
01463610 Assunpink Creek	Delaware River	Lat 40°15'28", long 74°37'05", Mercer County, Hydrologic Unit 02040105, at bridge on Old Trenton Road (County Route 535), 0.1 mi west of Edinburg, 0.1 mi upstream from Bridegroom Run and 3.0 mi north of Robbinsville.	25.0	1979-85	11-02-00	11
01463850 Miry Run	Assunpink Creek	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 Rob- binsville.	10.7	1998-2000	11-13-00	2.3
					2-15-01	7.7
					5-16-01	.78
					8-13-01	2.9
01464020 Assunpink Creek	Delaware River	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, 1966, 1998-2000	11-13-00	74
					5-21-01	40
					8-06-01	39
01464504 Crosswicks Creek	Delaware River	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, 1998-2000	3-08-01	194
					5-21-01	52
					8-30-01	51



## Discharge measurements made at miscellaneous sites during water year 2001

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN--Continued						
01464527 Black Creek	Delaware River	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	---	12-21-00 2-22-01 5-14-01 8-16-01	12 9.7 5.0 4.9
01465835 South Branch Rancocas Creek	Rancocas Creek	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	10-26-00 1-04-01 4-02-01 7-09-01	31 46 190 26
01465873 Haynes Creek	Southwest Branch Rancocas Creek	Lat 39°51'58", long 74°50'55", Burlington County, Hydrologic Unit 02040202, at bridge on Falls Road in Lake Pine, 2.1 mi southeast of Pine Grove, and 3.0 mi upstream of mouth.	15.2	--	6-13-01	12
01465882 Southwest Branch Rancocas Creek	South Branch Rancocas Creek	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	1975-81	10-26-00 1-04-01 4-02-01 7-09-01	69 52 140 30
01465893 Little Creek	Southwest Branch Rancocas Creek	Lat 39°53'54", 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	1998-2000	11-20-00 2-07-01 5-15-01 8-15-01	4.7 28 2.8 1.4
01467003 North Branch Rancocas Creek	Rancocas Creek	Lat 39°58'55", long 74°44'11", Burlington County, Hydrologic Unit 02040202, at bridge on U.S. Route 206 in Ewansville, 0.2 mi upstream of Powells Run, and 2.9 mi southeast of Mount Holly.	132	1973	10-30-00 1-03-01 4-04-01 7-03-01	91 130 409 107
01467005 North Branch Rancocas Creek	Rancocas Creek	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	2000	12-11-00 3-08-01 5-22-01 8-15-01	121 280 153 124
01467027 Swede Run	Delaware River	Lat 40°00'53", long 74°57'23", 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 Har- bor.	5.54	---	10-24-00 1-08-01 4-09-01 7-12-01	2.1 3.4 5.2 1.6
01467359 North Branch Big Timber Creek	Big Timber Creek	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 Glen- dora, 1.8 mi upstream from South Branch Big Timber Creek, and 2.5 mi north of Blackwood.	18.8	1998-2000	12-11-00 5-23-01	18 156
01482500 Salem River	Delaware River	Lat 39°38'36", long 75°19'52", Salem County, Hydrologic Unit 02040206, at bridge on Mill Street in Woodstown, downstream from Memorial Lake Dam, and 2.0 mi southeast of Sharptown.	14.6	1940-85a, 1986-88, 1989a, 1990-98	5-22-01 8-16-01	34 4.4

\* 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 Duhermal Water Company.

f Revised.

g Flow from spring drainage area cannot be determined.

## ELEVATIONS AT TIDAL CREST-STAGE STATIONS

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 and elevations are above mean sea level 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 2001 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.	1997-2001	3-30-01	9.34	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.	1997-2001	3-07-01	5.95	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 bank downstream wingwall bridge on Passaic Street at Garfield, 0.3 mi west of intersection of Midland Avenue and Passaic Street.	1997-2001	3-07-01	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 concrete right wingwall, upstream of bridge on Atlantic Avenue in Linden, just east of Mattano Park, and 0.8 mi east of Bayway Circle.	1997-2001	3-07-01	5.19	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.	1997-2001	3-07-01	6.23	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.	1997-2001	11-26-00	6.69	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†, 1980-2001	11-26-00	6.18	12-11-92	10.4
Luppataatong 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, 1980-2001	9-26-00 3-07-01	6.89r 6.57	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.	1997-2001	3-07-01	4.86	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.	1997-2001	3-07-01	4.41b	2-24-98	5.11b

Maximum elevation at tidal crest-stage partial-record stations--Continued

Station name and number	Location	Period of record	Water year 2001 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.	1997-2001	3-08-01	3.40	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.	1997-2001	3-08-01	3.35	10-19-96	3.87
Manahawkin Bay near Manahawkin, NJ (01409145)	Lat 39°40'13", long 74°12'54", 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.	1965-2001	9-30-01	4.19	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.	1979-2001	9-30-01	4.66	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.	1958-2001†	3-05-01	4.43	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, 1965-2001	9-30-01	4.38	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†, 1985-2001	9-30-01	5.15	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†, 1969-2001	9-30-01	5.52	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 Faragut Road, in Mays Landing, 0.1 mi downstream of bridge on U.S. Route 40.	1997-2001	9-30-01	4.82	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.	1979-2001†	3-05-01	4.54	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, 1997-2001	9-30-01	5.54	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.	1965-2001	9-30-01	5.68	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 2001 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.	1997-2001	1-25-00 3-07-01	4.50b 4.13b	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.	1997-2001	9-30-01	4.49b	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†, 1997-2001	9-30-01	5.65	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.	1997-2001	3-08-01	3.88b	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.	1997-2001	3-08-01	5.59	2-05-98r	6.38r
Cohansey River at Greenwich, NJ (01413038)	Lat 39°23'02", long 75°20'58", Cumberland County, Hydrologic Unit 02040206, at Greenwich Pier, 0.7 mi southwest of Greenwich, and 5.8 mi southwest of Shiloh. Satellite stage telemetry at gage.	1951, 1979-2001	3-08-01	5.36	11-25-50	8.8
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 Lamberton Road, approx. 0.2 mi south of the intersection with State Route 29.	1921-46†, 1951-55†, 1957-92†, 1997-2001	12-17-00	6.77b	8-20-55	16.8b
Delaware River at Chester, PA (01477050)	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, 1997-2001	3-08-01	5.87	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.	1997-2001	3-08-01	4.49	2-05-98	5.53
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, 1997-2001	3-08-01	4.93	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.

c height indicated.

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.

r Revised.



Page	Page
Absecon Creek at Absecon.....287	Belcoville, South River near.....273
Absecon, Absecon Creek at.....287	Belle Mead, Pike Run at.....126
Access to USGS Water Data.....20	Beltville Lake Reservoir.....244
Accuracy of the Records.....15	Belvidere, Delaware River at.....209
Acre-foot, definition of.....21	Belvidere, Pophandusing Brook at.....274
Albertson Branch near Elm.....272	Berkeley Heights, Blue Brook at Seeleys Pond Dam, near.....260
Allendale, Hohokus Brook at.....255	Bernardsville, Passaic River near.....252,267
Allendale, Ramsey Brook at.....255,269	Big Brook near Marlboro.....261
Allentown, Doctors Creek at.....275	Big Flat Brook at Tuttle's Corner.....274
Allenwood, Manasquan River near.....157	Birmingham, Indian Run at.....275
Alloway, Cedar Brook near.....276	Bivalve, Maurice River at.....192
Alloway, Cool Run near.....276	Black Creek near Vernon.....267
Alloway Creek at Hancocks Bridge.....288	Blackwells Mills, Millstone River at.....128
Alpaugh Brook at Hampton.....257	Blackwells Mills, Six Mile Run at.....271
Annual 7-day minimum, definition of.....21	Blackwood, South Branch Big Timber Creek at.....275
Annual runoff, definition of.....21	Blair Creek at Blairstown.....274
Assunpink Creek at Trenton.....221	Blairstown, Blair Creek at.....274
Assunpink Creek near Clarksville.....219	Blairstown, Paulins Kill at.....203
Atco, Hays Mill Creek at.....272	Blairstown, Yards Creek near.....205
Atco, Mullica River near.....272	Blawenburg, Rock Brook near.....259
Atlantic City, Beach Thorofare at.....287	Bloomfield, Third River at.....255
Atlantic Coastal Basins:	Bloomsbury, Musconetcong River near.....213
diversions.....162	Blue Anchor Brook at Elm.....272
reservoirs, in.....161	Blue Brook at Seeleys Pond Dam, near Berkeley Heights.....260
Atlantic Highlands, Many Mind Creek at.....261	Blue Marsh Lake Reservoir.....244
Atsion, Clark Branch near.....272	Boonton, Rockaway River above reservoir, at.....55
Atsion, Mullica River at outlet of Atsion Lake, at.....272	Boonton, Rockaway River below reservoir, at.....57
Atsion, Sleeper Branch Diversion (Saltars Ditch) near.....272	Bordentown, Crosswicks Creek tributary at U.S. Route 206, near.....264
Atsion, Sleeper Branch near.....272	Bordentown, Thorton Creek at.....265
Awosting, Wanaque River at.....69	Bound Brook at Middlesex.....261
Axle Brook near Pottersville.....258	Bound Brook, Middle Brook at.....260
	Bound Brook, Raritan River below Calco Dam, at.....130
Back Brook tributary near Ringoes.....257	Branchport Creek at Oceanport.....286
Baldwins Creek at Pennington.....258,270	Branchville, Dry Brook at Mill Road at.....274
Barnegat Bay at Bayshore.....164	Bridgeton, Cohansey River at.....288
Barnegat Bay at Loveladies.....169	Brookville, Oyster Creek tributary at.....262
Barnegat Bay at Mantoloking.....163	Browns Mills, Ong Run at.....275
Barnegat Bay at Seaside Heights.....167	Buckhorn Creek at Hutchinson Road, at Hutchinson.....274
Barnegat Bay at Waretown.....168	Burlington, Delaware River at.....225
Barton Run at Tuckerton Road, near Medford.....275	Burnt Mills, Lamington River at.....258
Base discharge (for peak discharge), definition of.....21	Byram, Delaware River tributary at.....264
Base flow, definition of.....21	
Basgalore Creek at Russell Mill Road, near Swedesboro.....276	Califon, South Branch Raritan River at.....269
Basking Ridge, Penns Brook tributary at.....252	Cannonsville Reservoir.....242
Batsto River at Batsto.....172	Canoe Brook near Millburn.....268
Batsto River at Pleasant Mills.....174,287	Cecil, Hospitality Branch at Blue Bell Road near.....273
Batsto, Batsto River at.....172	Cecil, Whitehall Branch below Victory Lakes near.....273
Batsto, Mullica River near.....170	Cedar Brook near Alloway.....276
Bayshore, Barnegat Bay at.....164	Cedar Creek Basin:
Beach Haven, Little Egg Harbor at.....287	discharge measurements at miscellaneous sites.....282
Beach Thorofare at Atlantic City.....287	Cedar Knolls, Whippany River tributary no. 5, at Boulevard Road, at.....253
Beach Thorofare at Margate.....183	Centerville, East Creek at NJ Route 35, at.....261
Bear Brook at Park Ridge.....251	Cfs-day (see "Cubic foot per second-day").....21
Bear Creek near Johnsonburg.....274	Chambers Lake.....245
Beattystown, Hances Brook near.....275	Chatham, Passaic River near.....47
Beaver Dam Brook at Lincoln Park.....268	Cherry Hill, South Branch Pennsauken Creek at.....234
Beden Brook near Rocky Hill.....259,270	Chesilhurst, Cooper Branch near.....272
Bees Branch at Hurffville.....265	
Beesleys Point, Great Egg Harbor Bay at.....287	



	Page		Page
Chesilhurst, Wildcat Branch near .....	272	Delaware River at Belvidere.....	209
Chester, Delaware River at .....	288	Delaware River at Burlington.....	225
Chester, North Branch Raritan River near .....	270	Delaware River at Chester.....	288
Clark Branch near Atsion .....	272	Delaware River at Marine Terminal, at Trenton.....	288
Clarksburg, Doctors Creek at.....	264	Delaware River at Montague.....	197
Clarksville, Assunpink Creek near .....	219	Delaware River at Port Jervis .....	193
Clayton, Little Ease Run near .....	188	Delaware River at Riegelsville .....	264
Cliff Lake Reservoir .....	243	Delaware River at Trenton.....	217
Clifton, Weasel Brook at Garden State Parkway at .....	255	Delaware River Basin:	
Clinton, Spruce Run at.....	108	crest-stage partial-record stations in .....	263
Closter, Tenakill Brook at .....	252	discharge measurement at low-flow partial-record	
Clove Brook at N.J. Route 23 at Duttonville.....	273	stations in .....	273
Clove Brook at Unionville Road at Colesville .....	267	discharge measurements at miscellaneous sites .....	283
Cohansey River at Bridgeton.....	288	diversions and withdrawals.....	248
Cohansey River at Greenwich .....	288	reservoirs in .....	242
Cohansey River Basin:		Delaware River tributary at Byram.....	264
crest-stage partial-record stations in .....	263	Diamond Brook at Fair Lawn .....	269
discharge measurements at miscellaneous sites.....	283	Diatom, definition of .....	21
Coles Brook at Hackensack .....	267	Diel, definition of.....	21
Colesville, Clove Brook at Unionville Road at .....	267	Discharge, definition of .....	22
Collingswood, Newton Creek at.....	265	Discontinued crest-stage partial-record stations .....	xiii
Columbus, Crafts Creek at.....	265	Discontinued low-flow stations .....	xv
Contents, definition of .....	21	Discontinued surface-water discharge stations.....	x
Continuous-record station, definition of.....	21	Discontinued tidal crest-stage and tidal gaging stations.....	xxiv
Control structure, definition of .....	21	Doctors Creek at Allentown .....	275
Control, definition of .....	21	Doctors Creek at Clarksburg .....	264
Cool Run near Alloway .....	276	Dover, Rockaway River at Warren Street, at.....	253
Cooper Branch near Chesilhurst .....	272	Dover Forge, Davenport Branch near.....	271
Cooper River at Haddonfield.....	236	Downstream Order System.....	10
Cooperation.....	1	Drainage area, definition of .....	22
Crafts Creek at Columbus.....	265	Drainage basin, definition of .....	22
Crafts Creek at Route 68, at Georgetown .....	265	Dry Brook at Mill Road at Branchville .....	274
Cranbury Brook at Plainsboro .....	270	Duttonville, Clove Brook at N.J. Route 23 at .....	273
Crosswicks Creek at Extonville .....	223		
Crosswicks Creek tributary at U.S. Route 206, near		East Branch Bass River near New Gretna .....	177
Bordentown .....	264	East Branch Paulins Kill near Lafayette.....	201
Cub Brook at Northfield .....	253	East Branch Rahway River at Maplewood.....	256,269
Cubic foot per second per square mile, definition of.....	21	East Branch Rahway River at Millburn Avenue, at Millburn.....	256
Cubic foot per second, definition of .....	21	East Creek at NJ Route 35, at Centerville .....	261
Cubic foot per second-day, definition of.....	21	East Creek Basin:	
Cuckels Brook at U.S. Route 22, near Somerville.....	260	crest-stage partial-record stations in .....	261
Current Water Resources Projects .....	15	Eayerstown, Southwest Branch Rancocas at .....	275
		Electric Brook at Long Valley .....	269
Daily-record station, definition of .....	21	Elizabeth River at Linden .....	286
Data Collection and Computation.....	11	Elizabeth River at Ursino Lake, at Elizabeth.....	94
Data Collection Platform, definition of .....	21	Elizabeth, Elizabeth River at Ursino Lake, at.....	94
Data logger, definition of .....	21	Elm, Albertson Branch near .....	272
Data Presentation .....	12	Elm, Blue Anchor Brook at .....	272
Data table of daily mean values .....	13	Elm, Great Swamp Branch at .....	273
Datum, definition of.....	21	Elmer, Muddy Run near.....	273
Davenport Branch near Dover Forge.....	271	Elmwood Park, Fleischer Brook at Market Street, at .....	255
Dead River near Millington .....	267	Englewood, Metzler Brook at.....	252
Deepavaal Brook at Two Bridges .....	268	Ewan, Miery Run near .....	266
Deep Run at Old Bridge.....	142	Explanation of the records.....	10
Deep Run at Route 516 near Old Bridge .....	271	Extonville, Crosswicks Creek at.....	223
Deep Run at U.S. Route 40, at Landisville .....	263		
Deep Run tributary at NJ Route 54, at Landisville.....	263	Fair Lawn, Diamond Brook at .....	269
Definition of terms.....	21	Far Hills, North Branch Raritan River at.....	114
Delaware and Raritan Canal at Port Mercer .....	215	Farmingdale, Mingamahone Brook at .....	262

Page	Page
Fishing Creek at Rio Grande .....273	Hackensack River Basin:
Fishing Creek Basin:	crest-stage partial-record stations in .....251
discharge measurement at low-flow partial-record	discharge measurement at low-flow partial-record
stations in .....273	stations in .....267
Flat Brook near Flatbrookville.....199	discharge measurements at miscellaneous sites .....277
Flatbrookville, Flat Brook near.....199	diversions into and from .....44
Fleischer Brook at Market Street, at Elmwood Park .....255	reservoir and lake elevations .....43
Flemington, Walnut Brook near.....257	Hackensack, Coles Brook at .....267
Flow-duration percentiles, definition of .....22	Hackettstown, Mine Brook near .....275
Folsom, Great Egg Harbor River at .....179	Haddon Heights, South Branch Newton Creek at .....265,275
Four Bridges, South Branch Raritan River at .....100	Haddonfield, Cooper River at .....236
Fourmile Branch at Winslow Crossing .....273	Hampton, Alpaugh Brook at .....257
Francis E. Walter Reservoir .....243	Hances Brook near Beattystown.....275
Franklin Lakes, Molly Ann Brook tributary near .....254,269	Hancocks Bridge, Alloway Creek at .....288
Furnace Brook at Oxford .....274	Hannabrand Brook at Old Mill Road, near Spring Lake
	Heights.....271
Gage datum, definition of .....22	Harrisville, Oswego River at .....175
Gage height, definition of .....22	Hart Brook near Pennington .....259
Gage values, definition of .....22	Hays Mill Creek at Atco .....272
Gaging station, definition of .....22	Head of River, Tuckahoe River at .....181,287
Garfield, Passaic River at.....286	Heathcote Brook at Kingston.....270
General Edgar Jadwin Reservoir .....242	High Bridge, South Branch Raritan River near .....102
Georgetown, Crafts Creek at Route 68, at .....265	High tide, definition of .....22
Glassboro, Plank Run at.....265	Hillsdale, Pascack Brook at .....251
Glendon, Lehigh River at .....211	Hillsdale, Pascack Brook at Woodcliff Lake outlet, at .....251
Glen Gardner, Spruce Run at .....104	Hillsdale, Woodcliff Lake at .....251
Godeffroy, Neversink River at .....195	Hohokus Brook at Allendale .....255
Grandin, 'Sidney Brook at .....270	Hohokus Brook at Ho-Ho-Kus .....255
Grassy Sound Channel at Nummy Island, near North	Ho-Ho-Kus, Hohokus Brook at .....255
Wildwood.....288	Holland Brook at Readington .....257
Grassy Sound Channel at Wildwood .....186	Horizontal datum (See "Datum") .....22
Gravelly Run at Somerdale.....265	Hospitality Branch at Blue Bell Road near Cecil .....273
Great Channel at Stone Harbor .....185	Hudson River Basin:
Great Egg Harbor Bay at Beesleys Point.....287	discharge measurement at low-flow partial-record
Great Egg Harbor Bay at Ocean City .....287	stations in .....267
Great Egg Harbor River at Folsom .....179	discharge measurements at miscellaneous sites .....277
Great Egg Harbor River at Mays Landing .....273	Hurffville, Bees Branch at .....265
Great Egg Harbor River at U.S. 40, at Mays Landing.....287	Hutchinson, Buckhorn Creek at Hutchinson Road, at .....274
Great Egg Harbor River Basin:	Hydrologic Benchmark Network.....10
crest-stage partial-record stations in .....263	Hydrologic benchmark station, definition of .....22
discharge measurements at miscellaneous sites.....282	Hydrologic index station, definition of.....22
Great Swamp Branch at Elm .....273	Hydrologic unit, definition of .....22
Green Brook at Plainfield .....260	
Green Brook at Rock Avenue, at Plainfield.....260	Identifying Estimated Daily Discharge .....15
Green Brook at Seeley Mills.....134	Inch, definition of .....22
Green Lane Reservoir .....245	Indian Run at Birmingham .....275
Green Pond Brook at Picatinny Arsenal .....49	Instantaneous discharge, definition of .....22
Green Pond Brook at Wharton.....53	Introduction.....1
Green Pond Brook below Picatinny Lake, at Picatinny Arsenal...51	Ironia, Lamington (Black) River near .....258,270
Greenwich, Cohansey River at .....288	
Greenwood Branch at New Lisbon.....230	Jade Run at Vincentown .....275
Griggstown, Millstone River at .....259	Johnsonburg, Bear Creek near .....274
Grovers Mill, Millstone River near.....270	Jumping Brook near Neptune City .....153
	Jumping Brook above reservoir, near Neptune City.....271
Hackensack River at New Milford .....41,286	
Hackensack River at NJ Route 3 near Lynhurst .....286	Keansburg, Waackaack Creek at .....147
Hackensack River at Rivervale.....37	Kenilworth, Rahway River at .....256
Hackensack River at West Nyack .....36	Keswick Grove, Michaels Branch tributary at .....262
Hackensack River below dam at New Milford.....286	Keyport, Luppataong Creek at .....286

	Page		Page
Kingston, Heathcote Brook at .....	270	Latitude-Longitude System .....	11
Kinnelon, Pequannock River tributary 1 at .....	268	Laurelton, Metedeconk River at .....	287
Kinnelon, Stone House Brook at .....	268	Lawrence Brook at Westons Mills .....	138
Lafayette, East Branch Paulins Kill near .....	201	Lawrenceville, Shabakunk Creek tributary at Texas Avenue, near .....	264
Lake Hopatcong Reservoir .....	244	Lebanon State Forest, McDonalds Branch in .....	228
Lake Wallenpaupack .....	242	Lehigh River at Glendon .....	211
Lakes and reservoirs:		Lincoln Park, Beaver Dam Brook at .....	268
Beltzville Lake, PA .....	244	Linden, Elizabeth River at .....	286
Blue Marsh Lake, PA .....	244	Little Ease Run near Clayton .....	188
Boonton Reservoir .....	89	Little Egg Harbor at Beach Haven .....	287
Canistear Reservoir .....	89	Little Falls, Passaic River above Beatties Dam, at .....	254
Cannonsville Reservoir, NY .....	242	Little Falls, Passaic River at .....	82
Chambers Lake Reservoir .....	245	Little Flat Brook at Peters Valley .....	274
Charlotteburg Reservoir .....	89	Lockwood, Lubbers Run at .....	275
Cliff Lake, NY .....	243	Lodi, Saddle River at .....	86
Clinton Reservoir .....	89	Long Valley, Electric Brook at .....	269
De Forest Lake .....	43	Lopatcong Creek at Phillipsburg .....	274
Echo Lake .....	89	Loveladies, Barnegat Bay at .....	169
Green Lane Reservoir, PA .....	245	Low flow, 7-day 10-year, definition of .....	23
Greenwood Lake .....	90	Low tide, definition of .....	22
Hopatcong, Lake .....	244	Lubbers Run at Lockwood .....	275
Jadwin, General Edgar, Reservoir, PA .....	242	Ludlam Thorofare at Sea Isle City .....	184
Merrill Creek Reservoir .....	244	Luppatacong Creek at Keyport .....	286
Manasquan Reservoir .....	161	Lynhurst, Hackensack River at NJ Route 3 near .....	286
Marsh Creek Lake, PA .....	245		
Monksville Reservoir .....	90	Macopin Intake Dam, Pequannock River at .....	67
Neversink Reservoir, NY .....	243	Madison, Spring Garden Brook at .....	253
Nockamixon Reservoir, PA .....	244	Mahoras Brook above reservoir, near Neptune City .....	271
Oak Ridge Reservoir .....	89	Mahwah River near Suffern .....	253
Oradell Reservoir .....	43	Mahwah, Ramapo River near .....	76
Penn Forest Reservoir, PA .....	243	Malapardis Brook at Whippany .....	268
Pepacton Reservoir, NY .....	242	Manahawkin Bay near Manahawkin .....	287
Prompton Reservoir, PA .....	242	Manahawkin, Manahawkin Bay near .....	287
Round Valley Reservoir .....	145	Manalapan Brook at Spotswood .....	140
Splitrock Reservoir .....	89	Manalapan Brook tributary at Smithburg .....	261
Spruce Run Reservoir .....	145	Manasquan Reservoir .....	161
Still Creek Reservoir, PA .....	244	Manasquan River at Squankum .....	155
Swimming River Reservoir .....	161	Manasquan River Basin:	
Swinging Bridge Reservoir, NY .....	242	crest-stage partial-record stations in .....	262
Tappan, Lake .....	43	discharge measurements at miscellaneous sites .....	282
Toronto Reservoir, NY .....	243	Manasquan River near Allenwood .....	157
Wallenpaupack, Lake, PA .....	242	Mantoloking, Barnegat Bay at .....	163
Walter, Francis E., Reservoir, PA .....	243	Mantua Creek at Sewell .....	275
Wanaque Reservoir .....	90	Manville, Raritan River at .....	122
Wild Creek Reservoir, PA .....	243	Many Mind Creek at Atlantic Highlands .....	261
Woodcliff Lake .....	43	Many Mind Creek Basin:	
Lakes Bay at Pleasantville .....	288	crest-stage partial-record stations in .....	261
Lakewood, North Branch Metedeconk River at .....	271	Maplewood, East Branch Rahway River at .....	256,269
Lakewood, North Branch Metedeconk River near .....	159	Margate, Beach Thorogare at .....	183
Lambertville, Moores Creek tributary at Valley Road, near .....	264	Marlboro, Big Brook near .....	261
Lamington (Black) River at Succasunna .....	257,270	Marsh Creek Lake .....	245
Lamington (Black) River near Ironia .....	258,270	Martinsville, West Branch Middle Brook near .....	132
Lamington River at Burnt Mills .....	258	Masonicus Brook at West Mahwah .....	268
Lamington River at Milltown .....	270	Masonicus Brook at Ramsey .....	253
Lamington River near Pottersville .....	116	Matchaponix Brook at Texas .....	271
Landisville, Deep Run at U.S. Route 40, at .....	263	Maurice River at Bivalve .....	192
Landisville, Deep Run tributary at NJ Route 54, at .....	263	Maurice River at Millville .....	288
Lapahannock Creek at Ridge Road, at Roxburg .....	263	Maurice River at Norma .....	190



Page	Page
Maurice River Basin:	Mullica River Basin:
discharge measurements at miscellaneous sites.....283	discharge measurement at low-flow partial-record
Mays Landing, Great Egg Harbor River at.....273	stations in.....272
Mays Landing, Great Egg Harbor River at U.S. 40, at.....287	discharge measurements at miscellaneous sites .....282
McCoys Corner, West Branch Papakating Creek at .....267	Mullica River near Atco .....272
McDonalds Branch in Lebanon State Forest .....228	Mullica River near Batsto .....170
Mean discharge, definition of .....22	Mullica River near Port Republic .....287
Mean high tide, definition of .....22	Musconetcong River near Bloomsbury .....213
Mean low tide, definition of .....22	Musquapsink Brook at Westwood .....252
Mean sea level, definition of.....22	
Medford, Barton Run at Tuckerton Road, near .....275	National Atmospheric Deposition Program/National Trends
Merrill Creek Reservoir .....244	Network .....10
Metedeconk River at Laurelton .....287	National Geodetic Vertical Datum of 1929, definition of.....23
Metedeconk River Basin:	National Stream-Quality Accounting Network .....10
crest-stage partial-record stations in .....262	National Water-Quality Assessment .....10
discharge measurement at low-flow partial-record	Navesink River at Red Bank.....286
stations in.....271	Navesink River Basin:
Metzler Brook at Englewood.....252	discharge measurements at miscellaneous sites .....282
Michaels Branch tributary at Keswick Grove.....262	Neptune City, Jumping Brook above reservoir, near.....271
Middle Brook at Bound Brook .....260	Neptune City, Jumping Brook near .....153
Middlebush, Six Mile Run near .....259	Neptune City, Mahoras Brook above reservoir, near.....271
Middlesex, Bound Brook at.....261	Neptune City, Shark River near .....151
Miery Run near Ewan.....266	Neshanic River at Reaville .....112
Millburn, Canoe Brook near .....268	Neversink Reservoir .....243
Millburn, East Branch Rahway River at Millburn Avenue, at.....256	Neversink River at Godeffroy.....195
Millburn, West Branch Rahway River at.....256,269	Newark, Passaic River at .....88
Millburn, West Branch Rahway River at Millburn Avenue, at.....256	New Brunswick, Raritan River at State Route 18 at .....286
Millington, Dead River near .....267	New Egypt, Stony Ford Brook at .....264
Millington, Passaic River near.....45	New Gretna, East Branch Bass River near .....177
Millstone River at Blackwells Mills .....128	New Lisbon, Greenwood Branch at.....230
Millstone River at Carnegie Lake, at Princeton.....259	New Milford, Hackensack River at .....41
Millstone River at Griggstown .....259	New Milford, Hackensack River below dam at.....286
Millstone River at Millstone .....259	New Village, Pohatcong Creek at.....274
Millstone River at Weston .....260	Newton Creek at Collingswood.....265
Millstone River near Grovers Mill.....270	NGVD of 1929 (see "National Geodetic Vertical Datum of
Millstone, Millstone River at .....259	1929") .....23
Milltown, Lamington River at .....270	Nichomus Run near Woodstown .....276
Milltown, Tanners Brook near .....270	Nockamixon Reservoir .....244
Millville, Maurice River at .....288	Nomahegan Brook near Mountainside .....269
Mine Brook near Hackettstown .....275	Norma, Maurice River at .....190
Mingamahone Brook at Farmingdale .....262	North American Vertical Datum of 1988 (NAVD 1988),
Miscellaneous site, definition of .....22	definition of .....23
Molly Ann Brook at North Haledon.....254,269	North Branch Foulerton Brook at Roseland .....253
Molly Ann Brook tributary near Franklin Lakes.....254,269	North Branch Metedeconk River at Lakewood.....271
Montague, Delaware River at .....197	North Branch Metedeconk River at Smithburg.....262
Montague, White Brook tributary at.....263	North Branch Metedeconk River near Lakewood.....159
Montvale, Pascack Brook at .....251	North Branch Rancocas Creek at Pemberton .....232
Moore Creek tributary at Valley Road, near Lambertville.....264	North Branch Raritan River at North Branch .....258
Morristown, Whippany River at .....61	North Branch Raritan River at South Branch .....258
Morristown, Whippany River near .....59	North Branch Raritan River near Far Hills.....114
Mountain Lake Brook near Pequest.....274	North Branch Raritan River near Chester.....270
Mountainside, Nomahegan Brook near .....269	North Branch Raritan River near Raritan .....120
Muddy Run near Elmer.....273	North Branch, North Branch Raritan River at .....258
Mulhockaway Creek at Van Syckel .....106	North Haledon, Molly Ann Brook at.....254,269
Mullica Hill, Raccoon Creek at .....266	North Plainfield, Stony Brook at .....260
Mullica Hill, Raccoon Creek tributary no. 3 near.....266	North Wildwood, Grassy Sound Channel at Nummy Island,
Mullica River at outlet of Atsion Lake at Atsion.....272	near .....288
	Northfield, Cub Brook at .....253

	Page		Page
Oakland, Pond Brook at .....	254	Pequest, Pequest River at .....	207
Ocean City, Great Egg Harbor Bay at .....	287	Periodic-record station, definition of .....	23
Oceanport, Branchport Creek at .....	286	Perth Amboy, Raritan River at .....	286
Old Bridge, Deep Run at .....	142	Perth Amboy, Spa Spring Creek at .....	257
Old Bridge, Deep Run at Route 516 near .....	271	Peters Brook at Mercer Street, at Somerville .....	258
Ong Run at Browns Mills .....	275	Peters Valley, Little Flat Brook at .....	274
Oradell, Van Saun Mill Brook at .....	252	Philadelphia, PA, Schuylkill River at .....	238
Oswego River at Harrisville .....	175	Phillipsburg, Lopatcong Creek at .....	274
Other Records Available .....	15	Picatinny Arsenal, Green Pond Brook at .....	49
Oxford, Furnace Brook at .....	274	Picatinny Arsenal, Green Pond Brook below Picatinny Lake, at .....	51
Oyster Creek Basin:		Pike Run at Belle Mead .....	126
crest-stage partial-record stations in .....	262	Pike Run near Rocky Hill .....	270
Oyster Creek tributary at Brookville .....	262	Pine Brook, Passaic River at .....	65
Palatine Branch at Palatine .....	273	Pine Brook, Rockaway River at .....	268
Palatine, Palatine Branch at .....	273	Pine Brook, Whippany River near .....	63
Papakating Creek at Pelletstown .....	267	Plainfield, Green Brook at .....	260
Pargey Creek at Swedesboro Avenue at Repaupo .....	276	Plainfield, Green Brook at Rock Avenue, at .....	260
Park Ridge, Bear Brook at .....	251	Plainsboro, Cranbury Brook at .....	270
Partial-record station, definition of .....	23	Plank Run at Glassboro .....	265
Pascack Brook at Hillsdale .....	251	Pleasant Mills, Batsto River at .....	174,287
Pascack Brook at Montvale .....	251	Pleasantville, Lakes Bay at .....	288
Pascack Brook at Westwood .....	39	Pohatcong Creek at New Village .....	274
Pascack Brook at Woodcliff Lake outlet, at Hillsdale .....	251	Pohatcong Creek at Tunnel Hill Road near Washington .....	274
Passaic River above Beatties Dam, at Little Falls .....	254	Pohatcong Creek tributary near Washington .....	263
Passaic River at Garfield .....	286	Polly Pond Brook at South Belmar .....	271
Passaic River at Little Falls .....	82	Polly Pond Brook Basin:	
Passaic River at Newark .....	88	discharge measurement at low-flow partial-record	
Passaic River at Pine Brook .....	65	stations in .....	270
Passaic River at Route 46, at Singac .....	268	Pompton Lakes, Ramapo River at .....	78
Passaic River below Pompton River, at Two Bridges .....	254	Pompton Plains, Pompton River at .....	80
Passaic River near Bernardsville .....	252,267	Pompton River at Pompton Plains .....	80
Passaic River near Chatham .....	47	Pond Brook at Oakland .....	254
Passaic River near Millington .....	45	Pophandusing Brook at Belvidere .....	274
Passaic River Basin:		Port Jervis, Delaware River at .....	193
crest-stage partial-record stations in .....	252	Port Mercer, Delaware and Raritan Canal at .....	215
discharge measurement at low-flow partial-record		Port Republic, Mullica River near .....	287
stations in .....	267	Pottersville, Axle Brook near .....	258
discharge measurements at miscellaneous sites .....	277	Pottersville, Lamington River near .....	116
diversions in .....	92	Pottersville, Upper Cold Brook near .....	258
reservoirs in .....	89	Preakness (Singac) Brook near Preakness .....	254
Passaic River tributary at Summit .....	252	Precipitation and Reservoir Contents .....	2
Paulins Kill at Blairstown .....	203	Princeton, Millstone River at Carnegie Lake, at .....	259
Paulins Kill tributary at Ross Corner .....	263	Princeton, Stony Brook at .....	124
Peak flow (peak stage), definition of .....	23	Prompton Reservoir .....	242
Peckman River at Ozone Avenue, at Verona .....	254,268	Pump Branch near Waterford Works .....	272
Peckman River at West Paterson .....	269	Raccoon Creek at Mullica Hill .....	266
Pelletstown, Papakating Creek at .....	267	Raccoon Creek near Swedesboro .....	240
Pemberton, North Branch Rancocas Creek at .....	232	Raccoon Creek tributary no. 3 near Mullica Hill .....	266
Penn Forest Reservoir .....	243	Rahway River at Kenilworth .....	256
Pennington, Baldwins Creek at .....	258,270	Rahway River at Morris Avenue, at Springfield .....	256
Pennington, Hart Brook near .....	259	Rahway River at Rahway .....	98
Penns Brook tributary at Basking Ridge .....	252	Rahway River at U.S. Route 1, at Rahway .....	286
Pepacton Reservoir .....	242	Rahway River near Springfield .....	96
Pequannock River at Macopin Intake Dam .....	67	Rahway River Basin:	
Pequannock River tributary 1 at Kinnelon .....	268	crest-stage partial-record stations in .....	256
Pequest River at Pequest .....	207	discharge measurement at low-flow partial-record	
Pequest, Mountain Lake Brook near .....	274	stations in .....	269



Page	Page
Rahway, Rahway River at.....	98
Rahway, Rahway River at U.S. Route 1, at.....	286
Rahway, Robinsons Branch at.....	257
Ramapo River at Pompton Lakes.....	78
Ramapo River at Suffern.....	75
Ramapo River near Mahwah.....	76
Ramsey Brook at Allendale.....	255,269
Ramsey, Masonicus Brook at.....	253
Raritan River at Manville.....	122
Raritan River at Perth Amboy.....	286
Raritan River at State Route 18 at New Brunswick.....	286
Raritan River at South Amboy.....	144
Raritan River below Calco Dam, at Bound Brook.....	130
Raritan River Basin:	
crest-stage partial-record stations in.....	257
discharge measurement at low-flow partial-record stations in.....	269
discharge measurements at miscellaneous sites.....	280
diversions and withdrawals in.....	146
reservoirs in.....	145
Raritan, North Branch Raritan River near.....	120
Readington, Holland Brook at.....	257
Reaville, Neshanic River at.....	112
Records of Stage and Water Discharge.....	11
Recurrence interval, definition of.....	23
Red Bank, Navesink River at.....	286
Red Bank, Swimming River near.....	148
Repaupo, Pargey Creek at Swedesboro Avenue at.....	276
Reservoirs (SEE Lakes and Reservoirs)	
Reservoirs in Atlantic Coastal Basins.....	161
Ridgewood, Saddle River at.....	84
Riegelsville, Delaware River at.....	264
Ringoes, Back Brook tributary near.....	257
Ringwood Creek near Wanaque.....	71
Rio Grande, Fishing Creek at.....	273
River mileage, definition of.....	23
Rivervale, Hackensack River at.....	37
Robinsons Branch at Rahway.....	257
Rock Brook near Blawenburg.....	259
Rockaway River at Pine Brook.....	268
Rockaway River above reservoir, at Boonton.....	55
Rockaway River at Warren Street, at Dover.....	253
Rockaway River below reservoir, at Boonton.....	57
Rocky Hill, Beden Brook near.....	259,270
Rocky Hill, Pike Run near.....	270
Roseland, North Branch Foulerton Brook at.....	253
Ross Corner, Paulins Kill tributary at.....	263
Round Valley Reservoir.....	145
Roxburg, Lapahannock Creek at Ridge Road, at.....	263
Runoff, definition of.....	23
Saddle River at Lodi.....	86
Saddle River at Ridgewood.....	84
Saddle River at Upper Saddle River.....	255
Salem River at Salem.....	288
Salem, Salem River at.....	288
Sawmill Brook at South River.....	261
Schuylkill River at Philadelphia, PA.....	238
Sea Bright, Shrewsbury River at.....	150
Sea Isle City, Ludlam Thorofare at.....	184
Sea level, definition of.....	23
Seaside Heights, Barnegat Bay at.....	167
Seeley Mills, Green Brook at.....	134
Seeley, West Branch Cohansey River at.....	263
Selected References.....	24
Seven-day 10-year low flow, definition of.....	23
Sewell, Mantua Creek at.....	275
Shabakunk Creek tributary at Texas Avenue, near Lawrenceville.....	264
Shark River near Neptune City.....	151
Shrewsbury River at Sea Bright.....	150
Shrewsbury River Basin:	
crest-stage partial-record stations in.....	261
Sidney Brook at Grandin.....	270
Singac Brook at Singac.....	268
Singac, Passaic River at Route 46, at.....	268
Singac, Singac Brook at.....	268
Six Mile Run at Blackwells Mills.....	271
Six Mile Run near Middlebush.....	259
Sleeper Branch Diversion (Saltars Ditch) near Atsion.....	272
Sleeper Branch near Atsion.....	272
Sluice Creek near South Dennis.....	187
Smithburg, Manalapan Brook tributary at.....	261
Smithburg, North Branch Metedeconk River at.....	262
Somerdale, Gravelly Run at.....	265
Somerville, Cuckels Brook at U.S. Route 22, near.....	260
Somerville, Peters Brook at Mercer Street, at.....	258
South Amboy, Raritan River at.....	144
South Belmar, Polly Pond Brook at.....	271
South Branch Big Timber Creek at Blackwood.....	275
South Branch Newton Creek at Haddon Heights.....	265,275
South Branch Pennsauken Creek at Cherry Hill.....	234
South Branch Rancocas Creek at Vincentown.....	226
South Branch Raritan River at Califon.....	269
South Branch Raritan River at Four Bridges.....	100
South Branch Raritan River at South Branch.....	257
South Branch Raritan River at Stanton.....	110
South Branch Raritan River near High Bridge.....	102
South Branch Rockaway Creek at Whitehouse Station.....	118
South Branch, North Branch Raritan River at.....	258
South Branch, South Branch Raritan River at.....	257
South Dennis, Sluice Creek near.....	187
South River near Belcoville.....	273
South River, Sawmill Brook at.....	261
Southwest Branch Rancocas at Eayerstown.....	275
Sparta, Walkill River at outflow of Lake Mohawk at.....	267
Spa Spring Creek at Perth Amboy.....	257
Special networks and programs.....	10
Spotswood, Manalapan Brook at.....	140
Spring Lake Heights, Hannabrand Brook at Old Mill Road, near.....	271
Springfield, Rahway River at Morris Avenue, at.....	256
Springfield, Rahway River near.....	96
Springfield, Van Winkle Brook at.....	269
Spring Garden Brook at Madison.....	253
Spruce Run at Clinton.....	108
Spruce Run at Glen Gardner.....	104
Spruce Run Reservoir.....	145

	Page		Page
Squankum, Manasquan River at .....	155	Upper Cold Brook near Pottersville .....	258
Squankum Branch at Malaga Road, near Williamstown .....	273	Upper Saddle River, Saddle River at .....	255
Stage (see Gage height) .....	23		
Stage-discharge relation, definition of .....	23	Van Saun Mill Brook at Oradell .....	252
Stanton, South Branch Raritan River at .....	110	Van Syckel, Mulhockaway Creek .....	106
Station Identification Numbers .....	10	Van Winkle Brook at Springfield .....	269
Station manuscript .....	12	Vernon, Black Creek near .....	267
Statistics of monthly mean data .....	13	Verona, Peckman River at Ozone .....	254,268
Still Creek Reservoir .....	244	Vertical datum (see "Datum") .....	24
Stone Harbor, Great Channel at .....	185	Vincetown, Jade Run at .....	275
Stone House Brook at Kinnelon .....	268	Vincetown, South Branch Rancocas Creek at .....	226
Stony Brook at North Plainfield .....	260		
Stony Brook at Princeton .....	124	Waackaack Creek at Keansburg .....	147
Stony Brook at Watchung .....	136	Wallkill River at outflow of Lake Mohawk at Sparta .....	267
Stony Ford Brook at New Egypt .....	264	Wallkill River near Sussex .....	267
Strathmere Bay at Strathmere .....	288	Walnut Brook near Flemington .....	257
Strathmere, Strathmere Bay at .....	288	Wanaque River at Awosting .....	69
Streamflow .....	5	Wanaque River at Wanaque .....	73
Streamflow, definition of .....	23	Wanaque, Ringwood Creek near .....	71
Succasunna, Lamington (Black) River at .....	257,270	Wanaque, Wanaque River at .....	73
Suffern, Mahwah River near .....	253	Waretown, Barnegat Bay at .....	168
Suffern, Ramapo River at .....	75	Washington, Pohatcong Creek at Tunnel Hill Road near .....	274
Summary of Hydrologic Conditions .....	2	Washington, Pohatcong Creek tributary near .....	263
Summary statistics .....	14	Watchung, Stony Brook at .....	136
Summit, Passaic River tributary at .....	252	Water related articles .....	19
Surface area of a lake, definition of .....	23	Water related fact sheets .....	20
Sussex, Wallkill River near .....	267	Water related reports .....	16
Swedesboro, Basgalore Creek at Russell Mill Road, near .....	276	Water Temperature .....	15
Swedesboro, Raccoon Creek near .....	240	Water year, definition of .....	24
Swimming River near Red Bank .....	148	Waterford Works, Pump Branch near .....	272
Swimming River Reservoir .....	161	WDR, definition of .....	24
Swinging Bridge Reservoir .....	242	Weasel Brook at Garden State Parkway at Clifton .....	255
Synoptic studies, definition of .....	23	Weighted average, definition of .....	24
		West Branch Cohansey River at Seeley .....	263
Tanners Brook near Milltown .....	270	West Branch Mille Brook near Martinsville .....	132
Techniques of Water-Resources Investigations, publications on .....	25	West Branch Papakating Creek at McCoys Corner .....	267
Tenakill Brook at Closter .....	252	West Branch Rahway River at Millburn .....	256,269
Texas, Matchaponix Brook at .....	271	West Branch Rahway River at Millburn Avenue, at Millburn .....	256
Third River at Bloomfield .....	255	West Creek Basin:	
Thorton Creek at Bordentown .....	265	discharge measurements at miscellaneous sites .....	283
Toms River at Toms River .....	287	West Mahwah, Masonicus Brook at .....	268
Toms River near Toms River .....	165	West Nyack, Hackensack River at .....	36
Toms River Basin:		West Paterson, Peckman River at .....	269
crest-stage partial-record stations in .....	262	Weston, Millstone River at .....	260
discharge measurement at low-flow partial-record		Westons Mills, Lawrence Brook at .....	138
stations in .....	271	Westwood, Musquapsink Brook at .....	252
Toms River, Toms River at .....	287	Westwood, Pascack Brook at .....	39
Toms River, Wrangel Brook at Bimini Drive, near .....	262	Wharton, Green Pond Brook at .....	53
Toms River, Wrangel Brook at Mule Road, near .....	262,271	Whippany River at Morristown .....	61
Toronto Reservoir .....	243	Whippany River near Morristown .....	59
Trenton, Assunpink Creek at .....	221	Whippany River near Pine Brook .....	63
Trenton, Delaware River at .....	217	Whippany River near Whippany .....	268
Trenton, Delaware River at Marine Terminal at .....	288	Whippany River tributary no. 5, at Boulevard Road, at Cedar	
Tuckahoe River at Head of River .....	181,287	Knolls .....	253
Tuttles Corner, Big Flat Brook at .....	274	Whippany, Malapardis Brook at .....	268
Two Bridges, Deepavaal Brook at .....	268	Whippany, Whippany River near .....	268
Two Bridges, Passaic River below Pompton River, at .....	254		

# INDEX

297

	Page		Page
White Brook tributary at Montague .....	263	Woodstown, Nichomus Run near .....	276
Whitehall Branch below Victory Lakes near Cecil.....	273	Wrangel Brook at Bimini Drive, near Toms River .....	262
Whitehouse Station, South Branch Rockaway Creek at.....	118	Wrangel Brook at Mule Road near Toms River .....	271
Wild Creek Reservoir.....	243	Wrangel Brook at Mule Road, near Toms River .....	262
Wildcat Branch near Chesilhurst .....	272	Wreck Pond Brook Basin:	
Wildwood, Grassy Sound Channel at .....	186	discharge measurement at low-flow partial-record	
Williamstown, Squankum Branch at Malaga Road, near .....	273	stations in .....	271
Winslow Crossing, Fourmile Branch at .....	273	WSP, definition of.....	24
Woodbridge Creek Basin:			
crest-stage partial-record stations in .....	257	Yards Creek near Blairstown .....	205
Woodcliff Lake at Hillsdale .....	251		



## CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
----------	----	-----------

### *Length*

inch (in.)	$2.54 \times 10^1$	millimeter
	$2.54 \times 10^{-2}$	meter
foot (ft)	$3.048 \times 10^{-1}$	meter
mile (mi)	$1.609 \times 10^0$	kilometer

### *Area*

acre	$4.047 \times 10^3$	square meter
	$4.047 \times 10^{-1}$	square hectometer
	$4.047 \times 10^{-3}$	square kilometer
square mile (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometer

### *Volume*

gallon (gal)	$3.785 \times 10^0$	liter
	$3.785 \times 10^0$	cubic decimeter
	$3.785 \times 10^{-3}$	cubic meter
million gallons (Mgal)	$3.785 \times 10^3$	cubic meter
	$3.785 \times 10^{-3}$	cubic hectometer
cubic foot (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeter
	$2.832 \times 10^{-2}$	cubic meter
cubic-foot-per-second day [(ft <sup>3</sup> /s) d]	$2.447 \times 10^3$	cubic meter
	$2.447 \times 10^{-3}$	cubic hectometer
acre-foot (acre-ft)	$1.233 \times 10^3$	cubic meter
	$1.233 \times 10^{-3}$	cubic hectometer
	$1.233 \times 10^{-6}$	cubic kilometer

### *Flow*

cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liter per second
	$2.832 \times 10^1$	cubic decimeter per second
	$2.832 \times 10^{-2}$	cubic meter per second
gallon per minute (gal/min)	$6.309 \times 10^{-2}$	liter per second
	$6.309 \times 10^{-2}$	cubic decimeter per second
	$6.309 \times 10^{-5}$	cubic meter per second
million gallons per day (Mgal/d)	$4.381 \times 10^1$	cubic decimeter per second
	$4.381 \times 10^{-2}$	cubic meter per second

### *Mass*

ton (short)	$9.072 \times 10^{-1}$	megagram or metric ton
-------------	------------------------	------------------------

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.





**U.S. DEPARTMENT OF THE INTERIOR**  
**U.S. Geological Survey**  
**810 Bear Tavern Road, Suite 206**  
**West Trenton, NJ 08628-1099**

