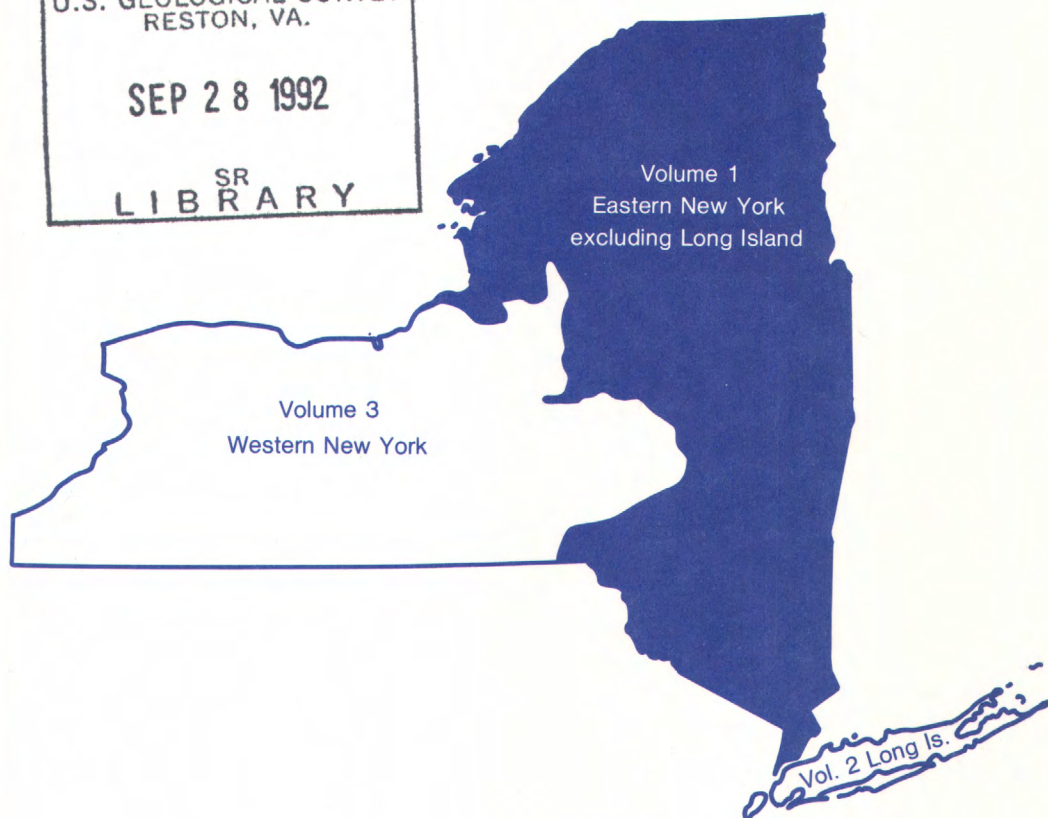
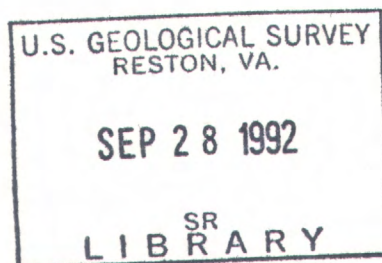


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Water Resources Data New York Water Year 1991

Volume 1. Eastern New York excluding Long Island



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-91-1
Prepared in cooperation with the State of New York
and with other agencies

CALENDAR FOR WATER YEAR 1991

1990

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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7	8	9	10	11	12	13														
14	15	16	17	18	19	20	4	5	6	7	8	9	10	2	3	4	5	6	7	8
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28	29	30	31				18	19	20	21	22	23	24	16	17	18	19	20	21	22
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1991

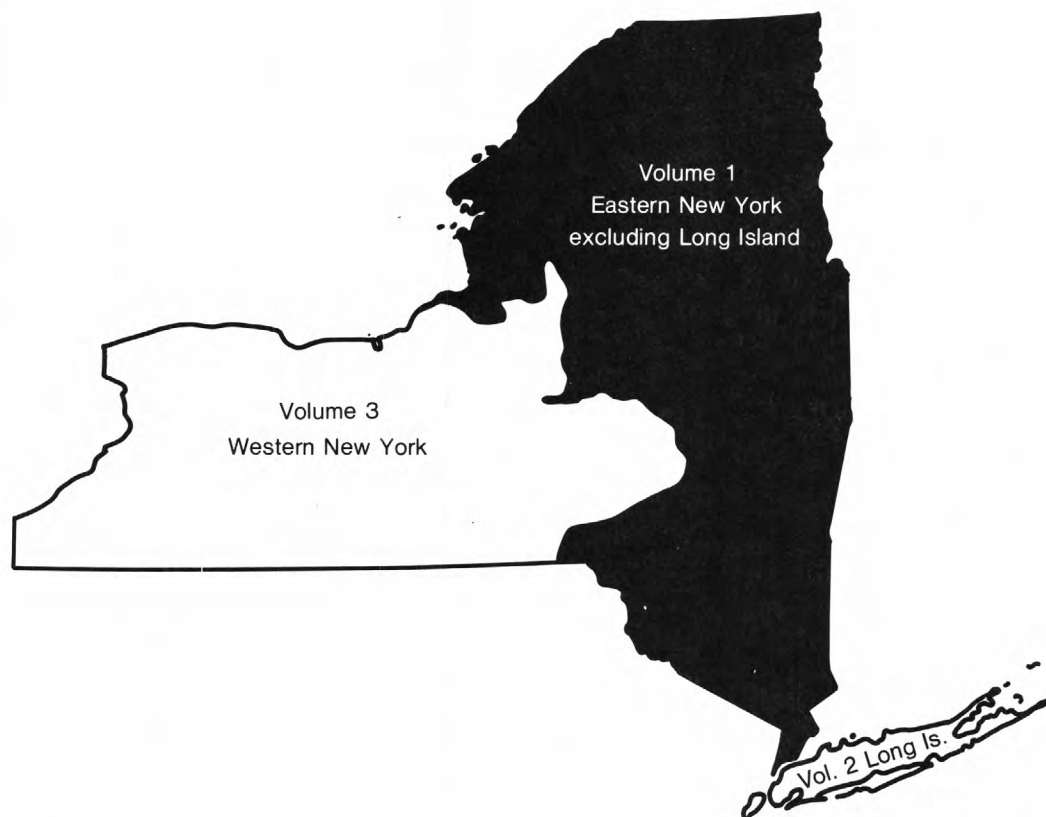
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20	21	22	23	24	25	26	10	11	12	13	14	15	16	17	18	19	20	21	22	23
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							25	26	27	28	29	30	31							



Water Resources Data New York Water Year 1991

Volume 1. Eastern New York excluding Long Island

by Gary D. Firda, Richard Lumia, and Patricia M. Murray



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-91-1
Prepared in cooperation with the State of New York
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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U.S. Geological Survey
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P.O. Box 1669
Albany, New York 12201

PREFACE

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

- Volume 1. Eastern New York excluding Long Island
- Volume 2. Long Island
- Volume 3. Western New York

In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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This report was prepared in cooperation with the State of New York and with other agencies under the general supervision of L. G. Moore, District Chief, New York.

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16. Abstract (Limit: 200 words) Water resources data for the 1991 water year for New York consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and ground-water levels. This volume contains records for water discharge at 110 gaging stations; stage only at 4 gaging stations; stage and contents at 4 gaging stations, and 19 other lakes and reservoirs; water quality at 36 gaging stations; and water levels at 22 observations wells. Locations of these sites are shown on figures 8A and 8B. Also included are data for 37 crest-stage partial-record stations. Additional water data were collected at various sites not in the systematic data-collection program and are published as miscellaneous measurements. These data, together with the the data in volumes 2 and 3, represent that part of the National Water Data system collected by the U.S. Geological Survey and cooperating State and Federal agencies in New York.			
17. Document Analysis a. Descriptors *New York, *Hydrologic, *Surface Water, *Ground Water, *Water Quality, *Streamflow, Flow rates, Gaging stations, Lakes, Reservoirs, Chemical analysis, Sediments, Water analysis, Water temperatures, Water levels, Water wells, Data collection sites b. Identifiers/Open-Ended Terms c. COSATI Field/Group			
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NOTE.--Data for partial-record stations and miscellaneous sites are published in separate sections of the data report. See reference at the end of this list for page numbers for these sections.

[Letter after station name designates type of data: (d) discharge, (e) elevation, (g) gage height, (v) contents, (c) chemical, (b) biological, (s) sediment, (m) minor element, (n) nutrient, (o) organic, (r) radiochemical, (t) water temperature]

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* * * * *

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in eastern New York excluding Long Island have been discontinued. Daily streamflow or stage 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 a crest-stage partial-record station.

[Letters after station name designate type of data collected:
(d) discharge, (e) elevation, (g) gage height]

Station number	Station name	Drainage area (mi ²)	Period of record
Housatonic River Basin			
01199420	Tenmile River near Wassaic, NY (d)	120	1959-60
01199490	Swamp River near Dover Plains, NY (d)	46.6	1961-68
01199500	Tenmile River at Dover Plains, NY (d)	189	1902-03
Blind Brook Basin			
01300000	Blind Brook at Rye, NY (d)	9.20	1944-89
Beaver Swamp Brook Basin			
01300500	Beaver Swamp Brook at Mamaroneck, NY (d)	4.59	1947-89
Mamaroneck River Basin			
01301000	Mamaroneck River at Mamaroneck, NY (d)	23.1	1944-53 1955-89
Hutchinson River Basin			
01301500	Hutchinson River at Pelham, NY (d)	5.76	1944-89
Bronx River Basin			
01302000	Bronx River at Bronxville, NY (d)	26.5	1944-89
Hudson River Basin			
01312000	Hudson River near Newcomb, NY (d)	192	1932-87
01313500	Cedar River below Chain Lakes near Indian Lake, NY (d)	160	1931-61
01314000	Hudson River at Gooley near Indian Lake, NY (d)	419	1917-68
01317000*	Schroon River at Riverbank, NY (d)	527	1926-70
01319000	East Branch Sacandaga River at Griffin, NY (d)	114	1960-78
01326500	Hudson River at Spier Falls, NY (d)	2,779	1913-23
01327000	Glens Falls Feeder at Glens Falls, NY (d)		1920 1928-63
01327500	Glens Falls Feeder at Dunham Basin, NY (d)		1946-79
01328000	Bond Creek at Dunham Basin, NY (d)	14.7	1948-82
01329500*	Batten Kill at Battenville, NY (d)	394	1923-68
01335500	Hudson River at Mechanicville, NY (d)	4,500	1912-56
01342730	Steele Creek at Ilion, NY (d)	26.2	1967-68
01342800*	West Canada Creek at Nobleboro, NY (d)	193	1967-68
01344000	West Canada Creek at Hinckley, NY (d)	375	1920-59
01344500	Ninemile Feeder near Holland Patent, NY (d)		1920-68
01347500	East Canada Creek at Dolgeville, NY (d)	258	1928-46
01349000	Otsquago Creek at Fort Plain, NY (d)	61.0	1950-89
01349858	Silver Lake Outlet at Hensonville, NY (d)	6.66	1977
01350200	West Kill at North Blenheim, NY (d)	44.6	1976-87
01350500	Schoharie Creek at Middleburg, NY (d)	532	1939
01351000	Fox Creek at West Berne, NY (d)	67.2	1963-68
01355000	Alplaus Kill near Charlton, NY (d)	23.7	1914-16
01356000	Mohawk River at Vischer Ferry Dam, NY (d)	3,380	1899-1910 1914-19
01358500	Poesten Kill near Troy, NY (d)	89.4	1924-68
01359150	Mill Creek near East Greenbush, NY (d)	9.74	1975-77
01359513	Hunger Kill at Guilderland, NY (d)	8.16	1968-77
01359519	Normans Kill near Westmere, NY (d)	131	1968-79
01359528*	Normans Kill at Albany, NY (d)	168	1980-83
01359902	Coeymans Creek near Selkirk, NY (d)	35.1	1968-77
01359918	Silver Creek at Dormansville, NY (d)	2.90	1979-81
01359924	Hannicrois Creek near New Baltimore, NY (d)	61.6	1968-77
01361000*	Kinderhook Creek at Rossmann, NY (d)	329	1929-68
01361200	Claverack Creek at Claverack, NY (d)	60.6	1960-68
01361500*	Catskill Creek at Oak Hill, NY (d)	98.0	1911-77
01361570	Tenmile Creek at Oak Hill, NY (d)	35.3	1969-78
01362100*	Roeliff Jansen Kill near Hillsdale, NY (d)	27.5	1958-60
01363500	Esopus Creek near Olivebridge, NY (d)	239	1907-13

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS
(continued)

xi

Station number	Station name	Drainage area (mi ²)	Period of record
Hudson River Basin--continued			
01364800	Saw Kill at Red Hook, NY (d)	20.9	1960-65
01365500	Chestnut Creek at Grahamsville, NY (d)	20.9	1939-87
01366500	Rondout Creek near Lackawack, NY (d)	100	1932-66
01366650	Sandburg Creek at Ellenville, NY (d)	56.7	1958-77
01368000*	Wallkill River near Unionville, NY (d)	140	1950-81
01368500*	Rutgers Creek at Gardnerville, NY (d)	59.7	1949-68
01369000	Pochuck Creek near Pine Island, NY (d)	98.0	1938-77
01369500	Quaker Creek at Florida, NY (d)	9.69	1950-79
01370000*	Wallkill River at Pellets Island, NY (d)	380	1938-68
01370500*	Wallkill River near Phillipsburg, NY (d)	406	1938-59
01370600	Crystal Brook near Middletown, NY (d)	8.41	1965-68
01372040	Crum Elbow Creek at Hyde Park, NY (d)	17.3	1960-62
01372065	Casper Creek near Wappingers Falls, NY (d)	10.1	1969-75
01372100	East Branch Wappinger Creek near Clinton Corners, NY (d)	33.6	1959-63
01372200	Wappinger Creek near Clinton Corners, NY (d)	92.4	1956-76
01372300	Little Wappinger Creek at Salt Point, NY (d)	32.9	1959-75
01372400	Great Spring Creek at Pleasant Valley, NY (d)	15.5	1961-65
01372800*	Fishkill Creek at Hopewell Junction, NY (d)	57.3	1958-75
01372850	Whortlekill Creek at Hopewell Junction, NY (d)	7.37	1960-68
01373500	Fishkill Creek at Beacon, NY (d)	190	1945-68
01373600	Seely Brook near Chester, NY (d)	12.8	1965-68
01373690	Woodbury Creek near Highland Mills, NY (d)	11.2	1966-68
01374420	Lake Tiorati Brook at Cedar Flats, NY (d)	10.6	1960-63
01374440	Cedar Pond Brook at Stony Point, NY (d)	17.3	1960-62
01374480	Minisceongo Creek at Thiells, NY (d)	15.1	1960-63
01375500	Bird Brook near Croton, NY (d)	0.40	1934-38
			1940-41
01376270	Sparkill Creek at Tappan, NY (d)	4.71	1960-63
			1966
01376275	Sparkill Creek at Tappan Station, NY (d)	9.42	1966
01376280	Sparkill Creek at Sparkill, NY (d)	10.7	1960-63
			1965-68
			1975-79
01376500	Saw Mill River at Yonkers, NY (d)	25.6	1944-78
			1981-89
Hackensack River Basin			
01376600	Hackensack River at Brookside Park, NY (d)	13.2	1960-63
01376850	Nauraushaun Brook at Nauraushaun, NY (d)	5.89	1960-63
01376900	Hackensack River at Nauraushaun, NY (d)	44.6	1960-62
01377200	Pascack Brook Tributary at Spring Valley, NY (d)	4.19	1960-62
01377300	Pascack Brook at Pearl River, NY (d)	9.83	1960-63
Passaic River Basin			
01387250	Ramapo River at Sloatsburg, NY (d)	60.1	1960-63
01387300	Stony Brook at Sloatsburg, NY (d)	18.2	1960-62
01387480	Mahwah River at Suffern, NY (d)	20.8	1960-62
01390200	Saddle River near Spring Valley, NY (d)	2.10	1961-63
01390300	Pine Brook near Spring Valley, NY (d)	2.28	1960-62
Delaware River Basin			
01414000	Platte Kill at Dunraven, NY (d)	35.0	1942-62
01415500	Terry Clove Kill near Pepacton, NY (d)	13.6	1941-62
01416500	Coles Clove Kill near Pepacton, NY (d)	28.0	1945-53
01418000	Beaver Kill near Turnwood, NY (d)	40.8	1949-59
01418500	Beaver Kill at Craigie Clair, NY (d)	81.9	1938-70
01419000	Willowemoc Creek at DeBruce, NY (d)	41.2	1949-52
01419500	Willowemoc Creek near Livingston Manor, NY (d)	62.6	1938-70
01420000	Little Beaver Kill near Livingston Manor, NY (d)	20.1	1940-81
01422000	West Branch Delaware River at Delhi, NY (d)	142	1937-70
01422500	Little Delaware River near Delhi, NY (d)	49.7	1940-70
01422700	West Branch Delaware River near Hamden, NY (d)	256	1960-67
01423500	Dryden Creek near Granton, NY (d)	8.10	1953-67
01424000	Trout Creek near Rockroyal, NY (d)	20.0	1953-67
01424500	Trout Creek at Cannonsville, NY (d)	49.5	1941-63
01425500	Cold Spring Brook at China, NY (d)	1.49	1935-68
01425642	Butler Brook at Deposit, NY (d)	8.46	1976-77
01425675	Oquaga Creek near North Sanford, NY (d)	4.69	1970-81
01426000	Oquaga Creek at Deposit, NY (d)	67.6	1941-73
01427405	Delaware River near Callicoon, NY (d)	1,708	1968-75

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS
(continued)

Station number	Station name	Drainage area (mi ²)	Period of record
Delaware River Basin--continued			
01427500*	Callicoon Creek at Callicoon, NY (d)	110	1941-82
01428000	Tenmile River at Tusten, NY (d)	45.6	1947-73
01434500	Neversink River at Claryville, NY (d)	62.0	1950-51
01435500	Neversink River at Halls Mills near Curry, NY (d)	68.7	1938-49
01437000	Neversink River at Oakland Valley, NY (d)	223	1929-73
Streams tributary to Lake Ontario			
04249910	Beaverdam Brook at Altmar, NY (d)	16.9	1974-76
04251000	Forestport Feeder near Boonville, NY (d)		1916-33
04251500	Mill Creek Sluiceway at Boonville, NY (d)		1934-40
04252000	Black River Canal (flowing south) near Boonville, NY (d)		1916-80
04253000	Sugar River at Talcottville, NY (d)	43.1	1968
04253275	Panther Lake Outlet near Old Forge, NY (d)	0.46	1978-81
04253500	Middle Branch Moose River at Old Forge, NY (d)	55.0	1966-73
04254000	Middle Branch Moose River near McKeever, NY (d)	151	1926-68
04254500*	Moose River at McKeever, NY (d)	363	1923-70
04255000	Otter Creek near Glenfield, NY (d)	64.5	1925-33
04256460	Cranberry Pond Outlet near Big Moose, NY (d)	0.58	1984-86
04256480	Woods Lake Tributary near Big Moose, NY (d)	0.13	1980-81
			1985-86
04256484	Woods Lake near Big Moose, NY (g)	0.80	1979-81
04257500	Beaver River at Eagle Falls near Number Four, NY (d)	225	1922-25
04258500	Deer River at Copenhagen, NY (d)	86.6	1930-56
04258700*	Deer River at Deer River, NY (d)	94.8	1957-68
St. Lawrence River Basin			
04261000	Oswegatchie River at Cranberry Lake, NY (d)	140	1939-82
04264050	St. Lawrence River near Waddington, NY (e)	298,500	1976
			1978-86
04264300	Brandy Brook near Waddington, NY (d)	27.0	1959-63
04264700	North Branch Grass River near Clare, NY (d)	46.3	1959-63
04265000	Grass River at Pyrites, NY (d)	333	1925-77
04265100*	Elm Creek near Hermon, NY (d)	32.6	1959-68
0426545290	Lost Brook near Raquette Lake, NY (d)	17.0	1978-80
0426545295	Sagamore Lake Outlet near Raquette Lake, NY (d)	19.1	1978-81
04265605	Little Simon Pond Outlet near Tupper Lake, NY (d)	2.95	1984-88
04266000	Bog River at mouth near Tupper Lake, NY (d)	132	1910-12
04267700	Parkhurst Brook near Potsdam, NY (d)	16.8	1959-63
04267800	Trout Brook at Allen Corners, NY (d)	54.2	1959-63
04268200*	Plum Brook near Grantville, NY (d)	43.9	1959-63
04268300	Squeak Brook near Massena, NY (d)	39.1	1959
04268390	St. Regis River near Paul Smiths, NY (d)	22.0	1973-75
04268600	East Branch St. Regis River near Meacham Lake, NY (d)	52.2	1959-68
04268700	St. Regis River at St. Regis Falls, NY (d)	234	1959-68
04269043	Deer River at North Lawrence, NY (d)	78.0	1973-78
04269500	Deer River at Brasher Iron Works, NY (d)	182	1959-68
04270500	Chateaugay River near Chateaugay, NY (d)	112	1927-66
04270700*	Trout River at Trout River, NY (d)	107	1960-66
04270800	English River near Mooers Forks, NY (d)	40.8	1960-68
04273000	Saranac River at Saranac, NY (d)	521	1931-43
04273900	Lake Placid at Lake Placid, NY (e)	20.1	1960-82
04274000*	West Branch Ausable River near Lake Placid, NY (d)	116	1928-68
04274500	Black Brook at Black Brook, NY (d)	49.4	1937-61
04276895	West Brook at Lake George, NY (d)	8.38	1981-83
04276920	English Brook at Lake George, NY (d)	7.84	1981-83
04279000	La Chute at Ticonderoga, NY (d)	234	1943-79

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DISCONTINUED SURFACE-WATER-QUALITY STATIONS

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The following continuous-record surface-water-quality stations in eastern New York excluding Long Island have been discontinued. Daily records of suspended-sediment discharge, temperature, or specific conductance were collected and published for the period of record shown for each station. Those stations with an asterisk (*) after the station number are currently operated as a surface-water-quality station (intermittent record).

[Type of record: Temp. (temperature), S.C. (specific conductance),
S.S. (suspended-sediment discharge)]

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
Hudson River Basin				
Hudson River at Glens Falls, NY	01327600	2,807	S.S.	1977
Hudson River at Rogers Island at Fort Edward, NY	01327755*	2,817	S.S.	1978-79
Hudson River at Schuylerville, NY	01329650	3,440	S.S.	1977-79
Glowegee Creek near West Milton, NY	01329995	21.5	Temp.	1967-73
			S.C.	1967-73
Glowegee Creek at West Milton, NY	01330000	26.0	Temp.	1954-73
			S.C.	1965-73
Kayaderosseras Creek near West Milton, NY	01330500	90.0	Temp.	1953-78
Hudson River at Mechanicville, NY	01335500	4,500	Temp.	1960-61
Mohawk River below Delta Dam, near Rome, NY	01336000	152	Temp.	1967-72
				1974-78
Schoharie Creek at North Blenheim, NY	01350180	358	Temp.	1972-85
Schoharie Creek at Breakabeen, NY	01350355	444	Temp.	1976
Mohawk River at Cohoes, NY	01357500*	3,450	S.S.	1954-59
				1977-79
Mill Creek near East Greenbush, NY	01359150	9.74	S.S.	1975-76
Crystal Brook near Middletown, NY	01370600	8.41	Temp.	1966-68
Hudson River at Poughkeepsie, NY	01372055	1,732	Temp.	1967-69
			S.C.	1967-69
Hudson River near Beacon, NY	01372560		Temp.	1966-68
			S.C.	1966-68
Fishkill Creek at Hopewell Junction, NY	01372800	57.3	Temp.	1964-75
Whortlekill Creek at Hopewell Junction, NY	01372850	7.37	Temp.	1963-68
Seely Brook near Chester, NY	01373600	12.8	Temp.	1964-69
Hudson River at West Point, NY	01374020		Temp.	1969
			S.C.	1969
Hudson River at Peekskill, NY	01374310		Temp.	1968-69
			S.C.	1968-69
Delaware River Basin				
Oquaga Creek near North Sanford, NY	01425675	4.69	Temp.	1971-81
Delaware River near Callicoon, NY	01427405	1,708	Temp.	1968-75
Delaware River at Skinners Falls, NY	01427705	1,897	Temp.	1968-71
				1974-79
Delaware River at Port Jervis, NY	01434000*	3,070	S.C.	1973
			S.S.	1960
				1972-76
Streams tributary to Lake Ontario				
Sandy Creek near Adams, NY	04250750*	128	Temp.	1981-84
			S.C.	1981-84
Independence River at Donnattsburg, NY	04256000	88.7	Temp.	1960-61
				1964-78
St. Lawrence River Basin				
West Brook at Lake George, NY	04276895	8.38	S.S.	1981
English Brook at Lake George, NY	04276920	7.84	S.S.	1981

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WATER RESOURCES DATA FOR NEW YORK, 1991
Volume 1.--Eastern New York excluding Long Island

INTRODUCTION

Water resources data for the 1991 water year for New York consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and ground-water levels. This volume contains records for water discharge at 110 gaging stations; stage only at 4 gaging stations; stage and contents at 4 gaging stations, and 19 other lakes and reservoirs; water quality at 36 gaging stations; and water levels at 22 observation wells. Also included are data for 37 crest-stage partial-record stations. Additional water data were collected at various sites not involved in the systematic data-collection program, and are published as miscellaneous measurements in this volume. These data together with the data in Volumes 2 and 3 represent that part of the National Water Data System operated by the U.S. Geological Survey in cooperation with State, Municipal, and Federal agencies in New York.

Records of discharge and stage of streams, and contents and stage of lakes and reservoirs, were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities and universities in the United States or may be purchased from the U.S. Geological Survey, Branch of Distribution, 604 South Pickett Street, Alexandria, VA 22304.

Since the 1961 water year, streamflow data and since the 1964 water year, water-quality data have been released by the Geological Survey in annual reports on a State-boundary basis. These reports provided rapid release of water data in each state shortly after the end of the water year. Through 1970 the data were also released in the water-supply paper series mentioned above.

Streamflow and water-quality data beginning with the 1971 water year, and ground-water data beginning with the 1975 water year are published only in reports on a State-boundary basis. Beginning with the 1975 water year, these Survey reports carry 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 NY-91-1." Water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including current prices for ordering specific reports, may be obtained from the District Office at the address given on the back of the title page or by telephone (518) 472-3107. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

COOPERATION

The U.S. Geological Survey and organizations of the State of New York and other agencies have had cooperative agreements for the systematic collection of water records since 1900. Organizations that assisted in collecting data included in Volume 1, water year 1991, through cooperative agreement with the Survey are:

New York State Department of Environmental Conservation
New York State Department of Transportation
County of Ulster, County Legislature
City of New York, Department of Environmental Protection
Village of Nyack
Board of Hudson River-Black River Regulating District
New York Power Authority
Essex County Planning Department
Orange County Water Authority
State University of New York

Assistance in the form of funds for collecting records at gaging stations published in this report was also given by the U.S. Army Corps of Engineers and the Environmental Protection Agency.

The following municipalities and organizations aided in collecting records:

Plattsburgh, Tarrytown, and Yonkers; Indian River Co.; New York State Electric and Gas Corp.; Niagara Mohawk Power Corp.; Orange and Rockland Utilities, Inc.; Oswegatchie River-Cranberry Reservoir Commission; Spring Valley Water Co.; and Utica Board of Water Supply.

Organizations that supplied data are acknowledged in station descriptions.

WATER RESOURCES DATA FOR NEW YORK, 1991

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Streamflows over eastern New York during water year 1991 generally were much above average during October to December, average through the winter and early spring, and much below average in most areas the last 6 months of the year. Because of the extremely dry conditions during the summer months, a drought alert was declared by New York State for several counties in southeastern New York. Average month-end reservoir contents of the New York City reservoir system are plotted with month-end contents during 1991 in figure 1A, and 1991 month-end storage in Great Sacandaga Lake at Conklingville (in the upper Hudson River basin) is plotted with the average month-end storage for the period of record (1931-90) in Figure 1B. Storage in both reservoir systems remained above average to average through April 1991 and gradually declined to much below average by the end of the water year. The distribution of annual runoff in relation to average runoff for 1960-89 (fig. 2) indicates that runoff in most of northern New York was greater than the annual average and in southeastern parts of the State was below average.

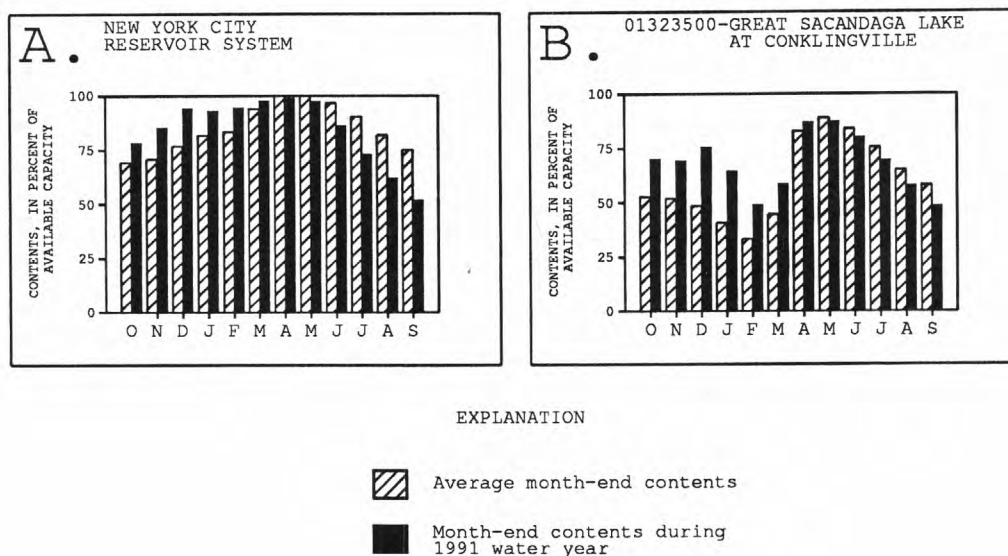


Figure 1.--Comparison of average month-end reservoir contents and month-end contents during 1991 water year for two selected reservoir systems in eastern New York.

The 1991 monthly runoff at selected stations in eastern New York is compared with each site's 1960-89 average monthly runoff in figure 3. Streamflows from October through December 1990 ranged from average to much above average in most of eastern New York. October was the wettest October since 1959, statewide, primarily as a result of steady, soaking rains throughout the month, particularly October 22-24, when 2 to 4 inches fell throughout eastern New York. Boonville (southwestern Adirondack Mountain region) received 10.2 inches of rain during the month (6 inches above normal). Many streams in eastern New York, particularly throughout the upper Hudson River and Lake Champlain basins, had their maximum discharge for the year on October 24. The October mean flow for East Branch Ausable River at Au Sable Forks was the third largest in 67 years of record. The level of Lake Champlain was 3 feet above average by the end of October. Heavy rains (as much as 6 inches at Manorkill in the Catskill Mountain region) throughout southeastern New York on November 10-11 resulted in above average monthly streamflows in these areas. Above-normal December precipitation and temperature, combined with saturated conditions, caused above-average to much-above-average streamflows, particularly in southeastern parts of New York. Annual peak discharges were recorded on several streams throughout northern New York on December 30-31.

January and February 1991 in eastern New York were relatively warm and dry even though northern New York received above-normal snowfall during January. Air temperature from December through February was about 5°F above normal, statewide, and resulted in the sixth-warmest winter in 96 years of record. Streamflows during January and February remained nearly average despite much below-normal precipitation during February. The Lake Champlain region received only 50 percent of its normal precipitation for the month. A few very cold periods in early and late January and mid-February caused significant icing of streams, particularly throughout northern New York.

The unusually warm conditions continued into the spring. March brought above-normal precipitation to areas west and north of the Adirondacks and parts of southeastern New York that resulted in some minor flooding in Jefferson, Lewis, Ulster, and Westchester Counties. These conditions were primarily the result of a storm during March 3-4. Above-normal precipitation throughout northern New York during April caused annual maximum streamflows on several streams on April 10 and 22, whereas much-below-normal April rainfalls throughout southeastern New York resulted in below-average streamflows. May was fairly uneventful and was the eighth consecutive month of above-average temperatures. October 1990 through May 1991 was the warmest October-to-May period on record (96 years), statewide. May streamflows were generally below average throughout eastern New York.

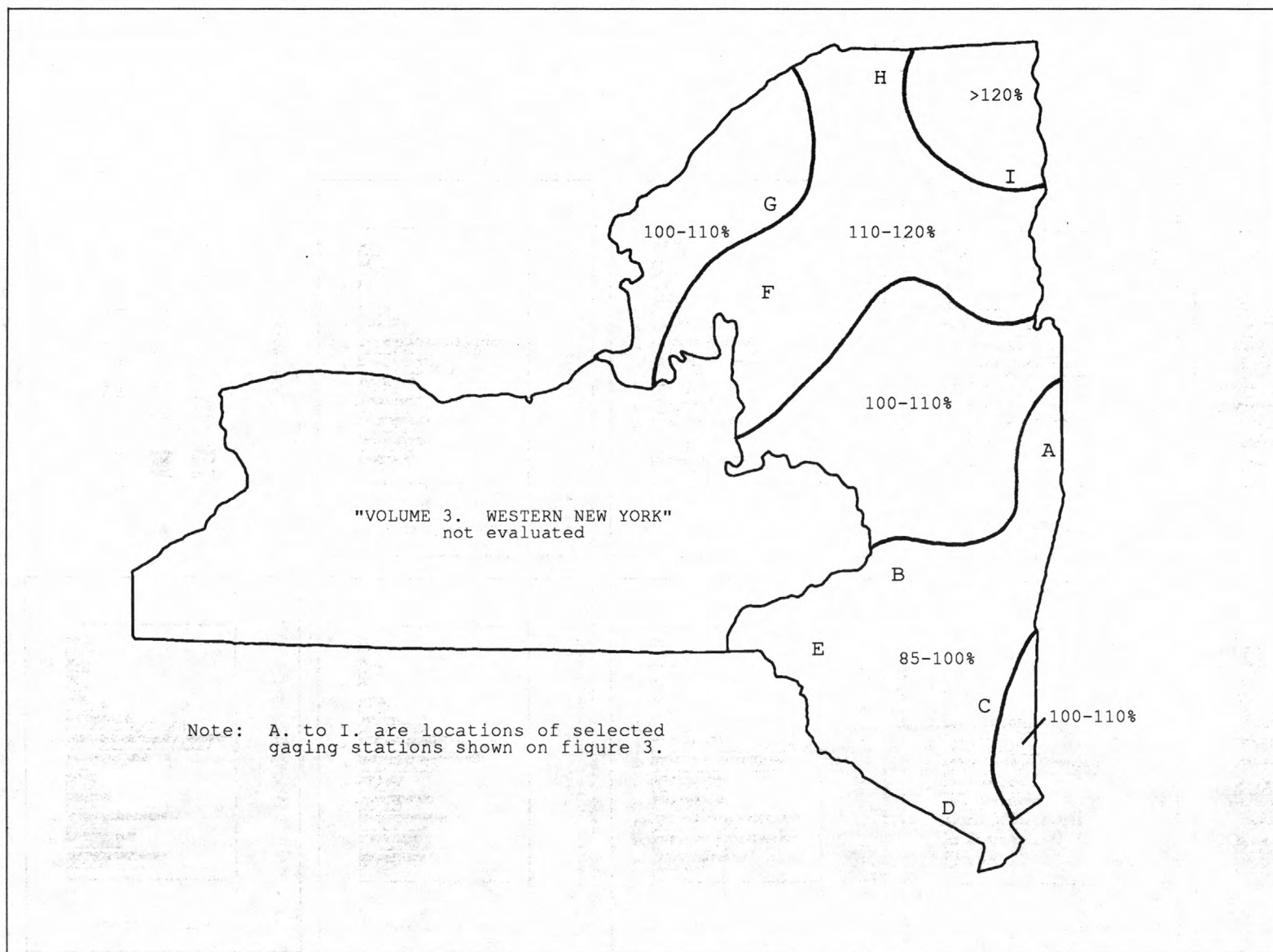


Figure 2.--1991 water year runoff as a percentage of the average annual runoff for 1960-89 for eastern New York excluding Long Island.

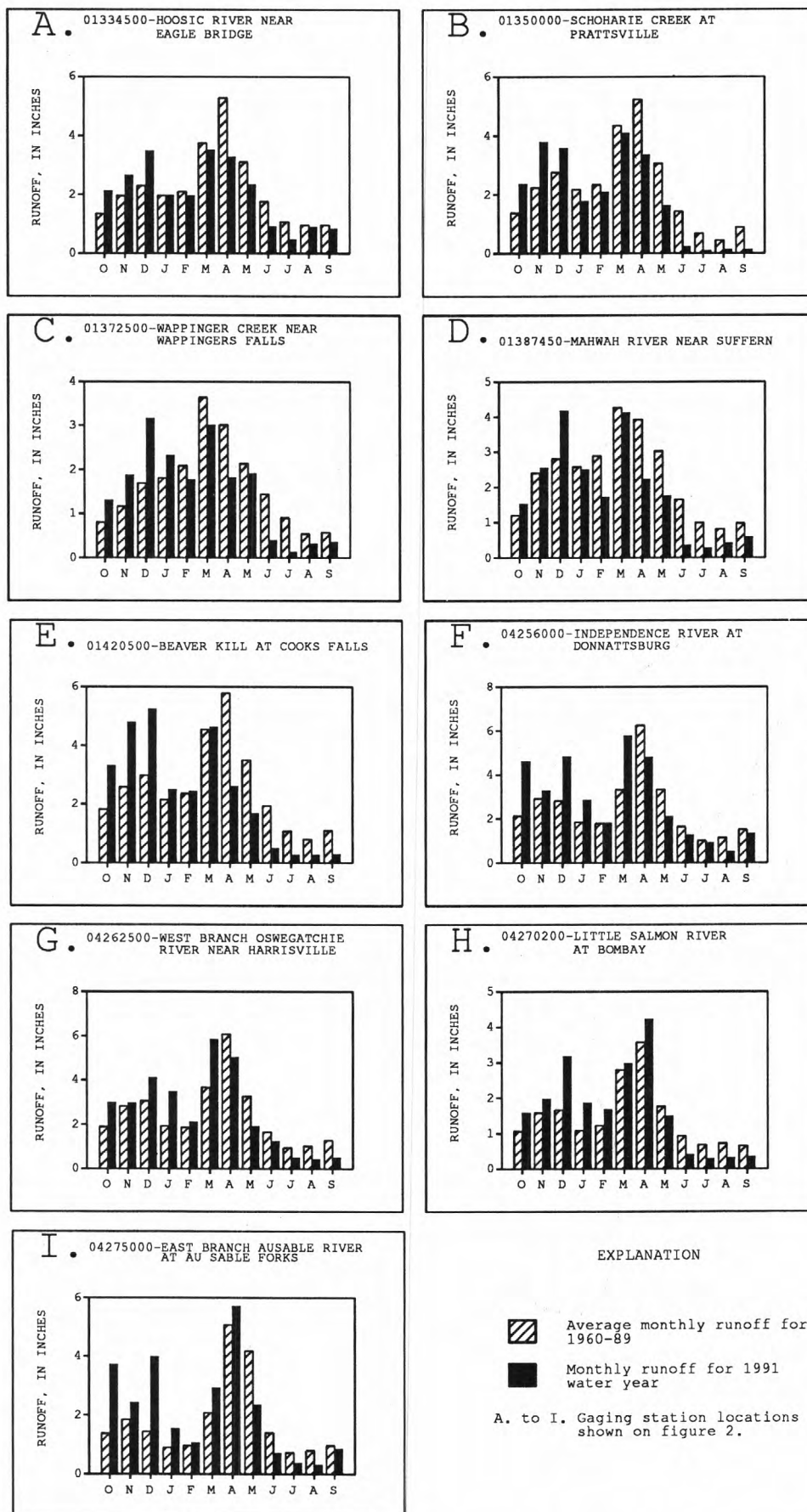


Figure 3.--Comparison of monthly runoff for 1991 water year and average monthly runoff for 1960-89 for selected gaging stations in eastern New York (site locations are shown on figure 2).

June 1991 was the warmest June since 1976 and precipitation was much below normal (43 percent of normal), statewide. June rainfalls in the St. Lawrence River and Lake Champlain basins were about 30 percent of normal, and streamflows generally receded throughout June and were much below average. Some streams in southeastern New York had as little as 25 percent of their normal flows for June and by the end of June, the level of Lake Champlain fell to 1.5 feet below average. The hot, dry weather continued through July (sixth driest July on record), and streamflows continued to decrease. The Beaver Kill at Cooks Falls had its third-lowest July flow in 78 years. August rainfalls brought some relief from the extremely dry conditions, but most streamflows remained below average. Extreme southeastern New York received rainfall associated with Hurricane Bob on August 19-20, and flow in Wappinger Creek near Wappingers Falls increased from 30 percent of normal for July to 131 percent of normal for August as a result.

September rainfalls were near normal throughout eastern New York, and some parts of the Mohawk Valley and northern New York received above normal precipitation. Storms on September 19 and 25-26 were the main contributors to total monthly rainfalls. Streamflows were generally average to below average during September. The New York City reservoir system was at 52 percent of capacity at the end of September, as compared to an average storage of 75 percent at this time (fig. 1A). These conditions prompted New York State to declare a drought alert that called for voluntary water conservation in the five boroughs of New York City and 11 counties in southeastern New York.

The general recession of streamflows from April through September 1991 at two representative stations, and their relation to long-term flows, are shown in figures 4 and 5. The 1991 daily streamflows indicate generally below-normal conditions from April through September. The following table shows ranked, cumulative runoff from April through September at several gaging stations in eastern New York during 1929-91.

Ranked cumulative runoff from April through September
[Locations of gaging stations are shown in fig. 8]

	Hudson River at Hadley 01318500		Schoharie Creek at Prattsville 01350000		Hudson River at Green Island 01358000		Beaver Kill at Cooks Falls 01420500		West Branch Oswegatchie River near Harrisville 04262500		East Branch Ausable River at Au Sable Forks 04275000	
	Runoff (in.)	Year	Runoff (in.)	Year	Runoff (in.)	Year	Runoff (in.)	Year	Runoff (in.)	Year	Runoff (in.)	Year
Minimum	7.2	1965	4.5	1966	5.7	1965	5.6	1991	8.0	1946	7.0	1941
	7.6	1941	4.8	1964	6.2	1985	7.8	1930	8.3	1966	7.6	1965
	8.3	1957	5.4	1985	6.3	1949	7.9	1941	8.9	1941	7.9	1946
	8.7	1949	5.6	1991	6.5	1957	8.0	1964	9.2	1968	8.1	1957
	8.7	1981	5.9	1949	6.7	1964	8.0	1965	9.2	1949	8.3	1949
	8.8	1988	5.9	1936	6.8	1988	8.7	1985	9.6	1965	9.4	1988
	9.3	1991	6.0	1963	6.9	1981	8.8	1966	9.7	1991	9.5	1936
	9.4	1946	6.4	1939	7.5	1991	8.9	1957	9.9	1988	9.5	1968
	9.5	1964	6.9	1957	7.8	1966	9.1	1988	10.0	1953	9.5	1966
	9.6	1985	7.1	1930	7.9	1980	9.3	1949	10.1	1964	9.9	1950
	.	.	.	.	.	.	.	.	.	.	10.2	1964
	.	.	.	.	.	.	.	.	.	.	10.4	1991
	.	.	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.	.	.
Maximum	24.2	1947	21.4	1940	19.7	1972	24.4	1938	25.7	1947	24.2	1947
Percentiles												
25th	11.9		8.2		9.1		10.5		11.1		10.8	
50th	13.8		11.5		11.0		14.1		13.6		13.0	
75th	15.5		14.7		13.0		17.2		15.8		14.9	

NOTE: Values are based on data from 1929-91 water years except 01358000, which are based on 1946-91.

As indicated, sites in the Catskill Mountain region (01350000 and 01420500) show very low cumulative runoffs from April to September 1991, and Beaver Kill at Cooks Falls (01420500) had its lowest April through September cumulative runoff in 1991. Also noteworthy is the Hudson River at Green Island (01358000) gaging station which has recorded 5 of its lowest 10 cumulative April through September runoffs since 1980 (period of record is 1946-91). The minimum, maximum, and selected percentiles of the April through September runoffs (1929-91) are also included in the table and show that the 1991 April through September cumulative runoffs for the selected stations were all less than the 25th-percentile values, and most were significantly less.

Surface-Water Quality

Water-quality data from the Hydrologic Benchmark station and the seven NASQAN stations in eastern upstate New York (locations shown on fig. 8) generally were within the historic extremes of the individual station's period of record. Significant new extremes were noted at four sites during the year. A few other new extremes were measured, but represented only minor changes.

At Sandy Creek near Adams, the previous maximums of 48 NTU (nephelometric turbidity units) of turbidity, 184 mg/L (milligrams per liter) of suspended sediment, and 1,120 T/Day (tons per day) of suspended-sediment discharge were exceeded on March 7 with measurements of 87 NTU of turbidity, 254 mg/L of suspended sediment, and 1,620 T/Day of suspended-sediment discharge.

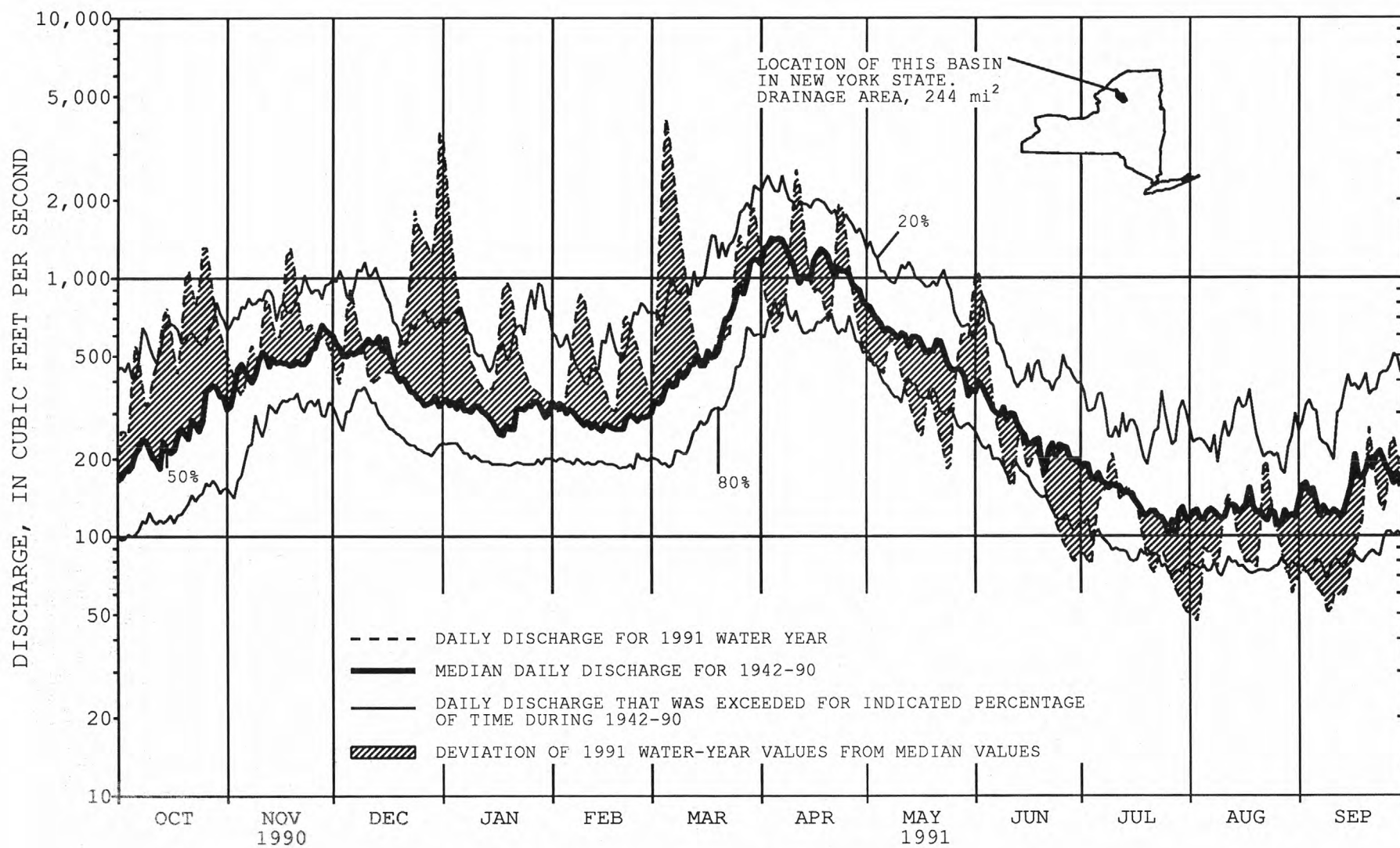


Figure 4.--Hydrographic comparisons, West Branch Oswegatchie River near Harrisville, N.Y.

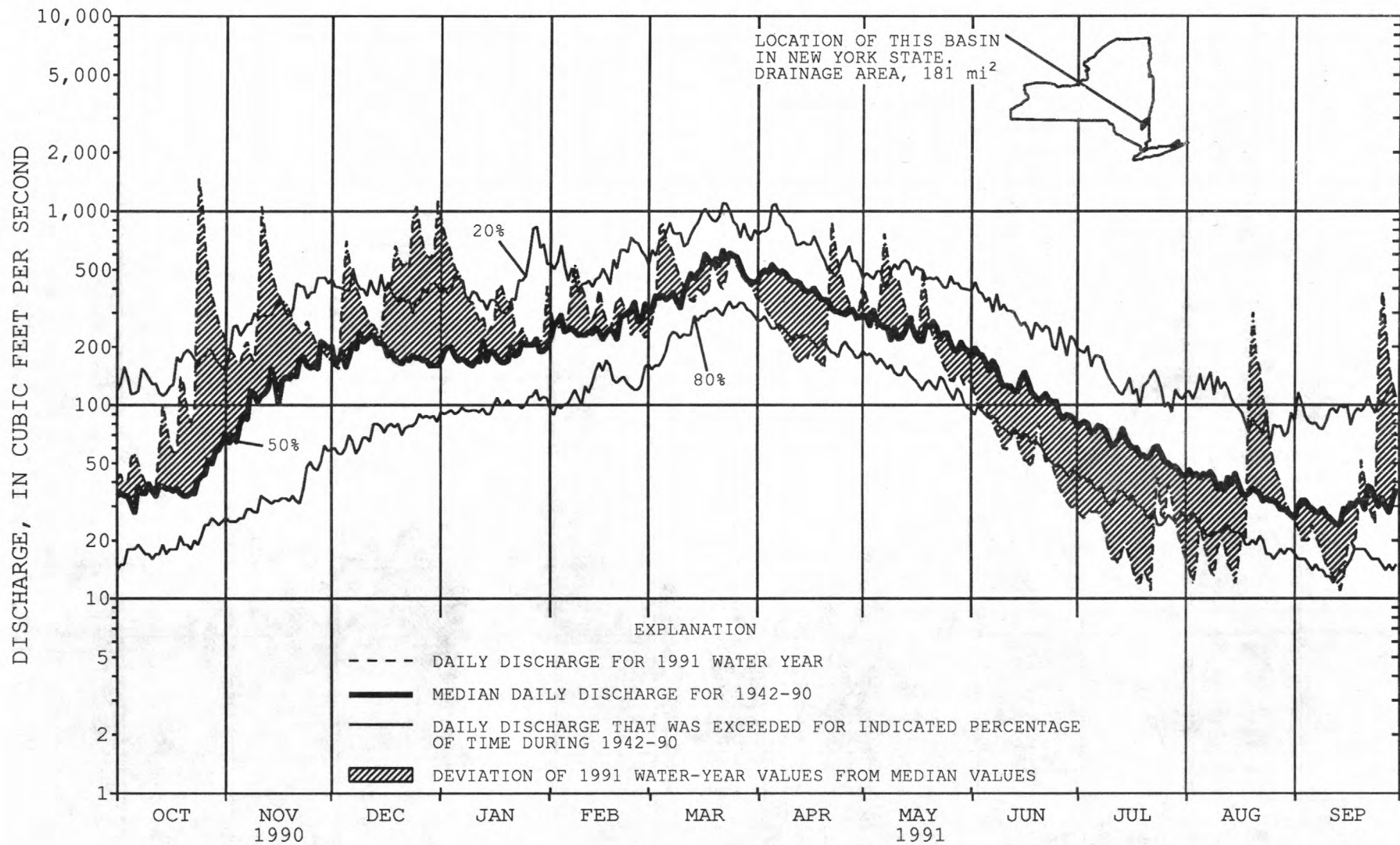


Figure 5.--Hydrographic comparisons, Wappinger Creek near Wappingers Falls, N.Y.

At Black River at Watertown, the previous maximum of 70 µg/L (micrograms per liter) of dissolved zinc was exceeded on October 30 with a concentration of 190 µg/L and on May 21 with a concentration of 180 µg/L.

At St. Lawrence River at Cornwall, Ontario, near Massena, the previous maximum of 90 µg/L of total manganese was exceeded on April 16 with a concentration of 120 µg/L and on June 18 with a concentration of 230 µg/L.

At Raquette River at Raymondville, the previous maximum of 65 µg/L of dissolved zinc was exceeded on March 6 with a concentration of 130 µg/L and on May 14 with a concentration of 120 µg/L.

Water-quality data from 15 additional sites in eastern upstate New York (locations shown on fig. 8) are included in this report. These sites are part of a statewide network. Water-quality data are periodically collected at additional sites and are generally published in project reports.

Ground Water

Ground-water levels in shallow, unconfined aquifers in eastern New York typically show uniform patterns of seasonal change during the water year. Recharge to aquifers varies locally throughout the year and is influenced by the timing and amount of precipitation, season (because evapotranspiration declines during the nongrowing season), soil moisture, and air temperature (because frozen soil prevents recharge, and high temperatures increase evaporation). Water levels generally rise during the fall, when the growing season ends and evapotranspiration decreases, and decline during the winter, when frozen ground prevents infiltration of water, and precipitation is in the form of snow. Water levels rise in early spring, before and during the onset of the growing season, when recharge is significant and often supplemented by snowmelt. The water-level increases that occur during the spring usually exceed those that occur in the fall. Water levels decline during the summer, when plant growth and warm temperatures increase the rate of evapotranspiration. Storms, if of sufficient intensity and duration, can cause minor recharge to shallow aquifers during summer.

The hydrographs in figure 6 show the minimum, maximum, and average long-term monthly water levels and water levels at selected wells during the 1991 water-year. The hydrographs for well St-40 in St. Lawrence County (extreme northern New York) and well Re-700 in Rensselaer County (east-central New York) illustrate a typical ground-water-level cycle under natural (nonpumping) conditions in shallow, unconfined sand aquifers. The hydrograph for well Du-321 in Dutchess County (southern New York) illustrates the water-level cycle under natural (nonpumping) conditions in a deep, confined shale aquifer.

Ground-water levels in most of eastern New York were above average throughout the first half of the 1991 water year and were below average in the last half of the year. Water levels in wells were average to above-average from October through March. Water levels rose during November and December, declined during January, and then began to rise during February and March. Water levels ranged from below average to above average during April and May but were consistently below average from June through September. Water levels generally peaked in April, and then declined during the remainder of the water year.

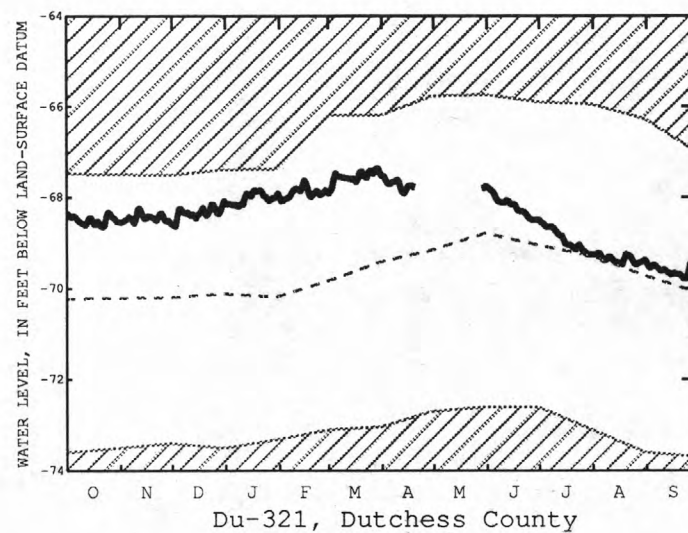
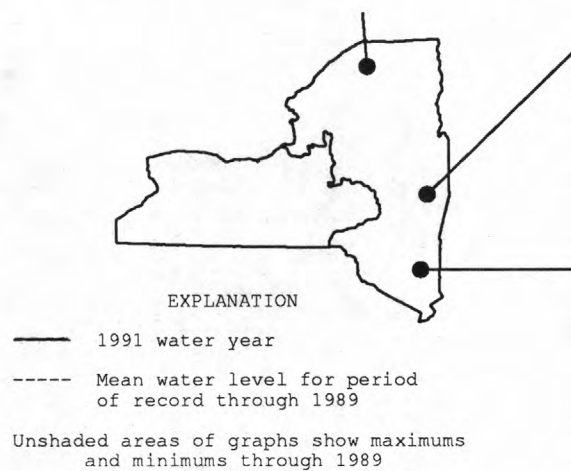
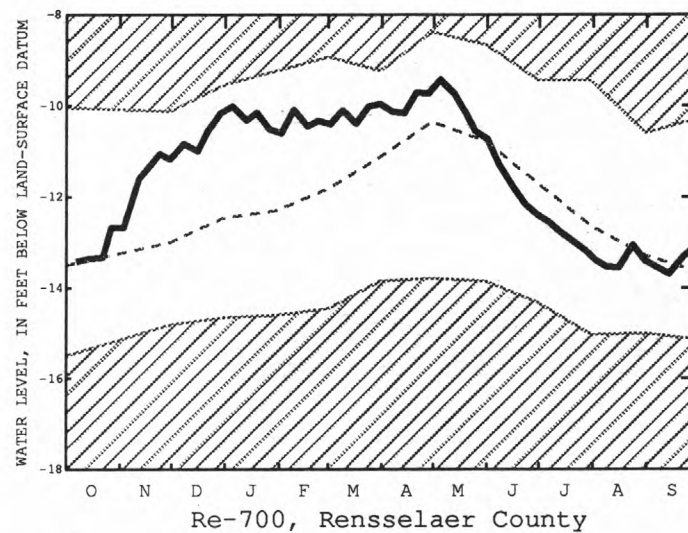
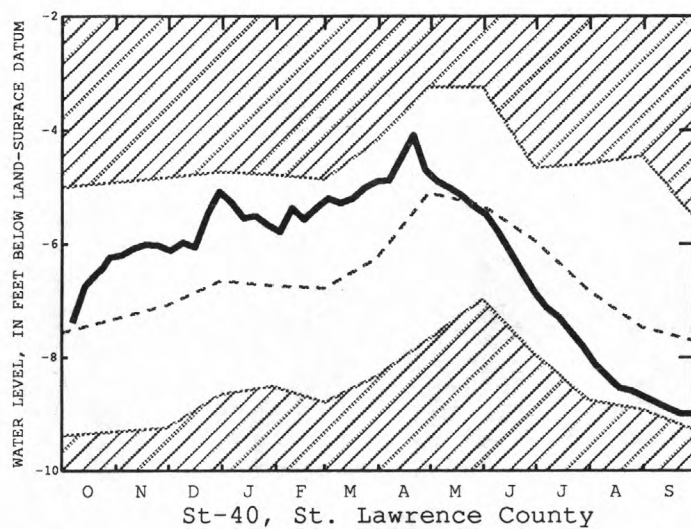


Figure 6.--Hydrographic comparisons, ground-water levels at selected observation wells.

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SPECIAL NETWORKS AND PROGRAMS

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

National Stream Quality Accounting Network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

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

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1991 water year that began October 1, 1990, and ended September 30, 1991. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface water, and ground-water level data. The locations of the stations and wells where the data were collected are shown in figures 8A and B. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

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

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show 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, miscellaneous sites, and other stations; therefore, the station number for a partial-record station or a miscellaneous site indicates downstream-order position in a list made up of all 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 8-digit number for each station, such as 01300500, includes the 2-digit part number "01" plus the 6-digit downstream-order number "300500". The Part number designates the major river basin. In a few instances where no gaps were left in the 8-digit numbering sequence, one or two digits were added (making a 9- or 10-digit station number) and (or) a latitude-longitude number was used for identification.

Latitude-Longitude System

The identification numbers for wells are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the

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last 2 digits (assigned sequentially) identify the wells within a 1-second grid. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure 7 below.)

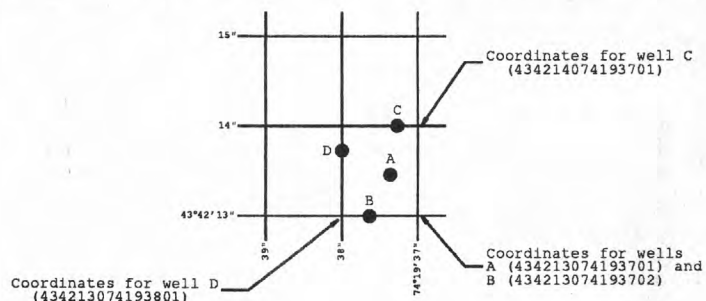


Figure 7. System for numbering wells (latitude and longitude)

Records of Stage and Water Discharge

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

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

Data Collection and Computation

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow-over-dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily figures. 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 computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by hydrographers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method. 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.

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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.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed. If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment. 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, prior and subsequent record, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise, daily contents may be estimated from operator's log, prior and subsequent records, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

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

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for some stations, were determined and used by the U.S. Army Corps of Engineers or other agencies.

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

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

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

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see 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 record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

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

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

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

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

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

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

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

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

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage 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 are called measurements at miscellaneous sites. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record 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.

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Accuracy of the Records

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

The degree of accuracy of the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good," within 10 percent; and "fair," within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy. Different accuracies may be attributed to different parts of a given record.

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

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, 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 of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge-measurement notes, gage-height records, and rating tables is on file in the district office. Also, most gaging-station records are available in computer-usable form and many statistical analyses have been made. Information on the availability of unpublished data or statistical analyses of the published records may be obtained from the district office.

Records of Surface-Water Quality

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

Historical and current dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

Classification of Records

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

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

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, unless otherwise footnoted under "REMARKS". Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites. Data for precipitation-quality stations appear next. The table of ground-water quality data follow the ground-water level records. Data for quality of ground water are listed alphabetically by County, and are identified by well number.

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On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the District office.

Water Temperature

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

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

Sediment

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

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

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

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

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Laboratory Measurements

Samples for indicator bacteria and daily samples for specific conductance are analyzed locally. Sediment samples are analyzed in the Geological Survey laboratory in Harrisburg, Pa. All other samples are analyzed in the Geological Survey laboratories in Arvada, Colo., or Doraville, Ga. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

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

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

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

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

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

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

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

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

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

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

The surface-water-quality records for miscellaneous sampling sites are published in a separate table following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Categories of Water-Quality Data

There is a broad range of water-quality parameters available for most stations whose record exceeds more than a few years operation. Sampling schedules are often intermittent for certain types of data, with analyses available for some but not all years within a station's period of record. An accurate description of the variety of data available is shown by grouping similar parameters into a few general categories, which are listed in the "PERIOD OF RECORD" paragraph. Each category of data is followed by a notation of the water year(s) for which data is available and a letter code describing the frequency of sampling (see following section, "Frequency-of-Sampling Notation"). Thus, "CHEMICAL DATA: 1972-74(c), 1977-81(a).", shows there are at least six analyses each year for the first three years of record, no data for this category in 1975 and 1976, and 1 or 2 samples for each year, 1977-81.

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The "PERIOD OF RECORD" paragraph lists the following categories of data to describe information available.

CHEMICAL DATA: Usually includes most of the "major ions", and may often include some of the following physical properties: specific conductance, pH, temperature, color, turbidity, dissolved oxygen.

MINOR ELEMENT DATA: Comprises the "heavy metals" and some of the "alkaline earth" groups. Determinations often include some but not all of the following: Al, As, Ba, Cd, Cr, Co, Cu, Hg, Li, Ni, Pb, Se, Sn, Sr, Zn.

RADIOCHEMICAL DATA: The determinations of the concentration of individual radioactive elements, such as radium 226, cobalt 60, strontium 90, and tritium. This category also includes the gross measurement of radioactivity (alpha, beta, gamma) without regard to the radiochemical species that produce the radioactivity.

PESTICIDE DATA: The organic compounds (insecticides and herbicides) used to control insects and plants. Routinely, the analyses searches for traces of between 12 to 22 compounds.

ORGANIC DATA: Organic data (other than pesticides) such as, OC, PCB, PCN.

NUTRIENT DATA: Constituents containing nitrogen or phosphorus. Results usually include several of the following: nitrate plus nitrite, phosphorus, ammonia nitrogen, organic nitrogen, ammonia nitrogen plus organic nitrogen (Kjeldahl nitrogen).

BIOLOGICAL DATA: The identification and concentration of microscopic plant organisms (phytoplankton, periphyton), or enteric bacteria (total coliform, fecal coliform, or fecal streptococcal) living in aquatic habitats.

SEDIMENT DATA: Suspended-sediment concentration, suspended-sediment discharge, and particle-size data for discrete samples.

Frequency-of-Sampling Notation

The categories of data given in the "PERIOD OF RECORD" paragraph are followed by the water year(s) for which that kind of data was collected. The amount of data available is specified by the following letter codes:

- | | |
|------------------------------|------------------------------------|
| (a) 1 or 2 samples per year. | (d) 10 to 20 samples per year. |
| (b) 3 to 5 samples per year. | (e) more than 20 samples per year. |
| (c) 6 to 9 samples per year. | |

Records of Ground-Water Levels

Ground-water level data consist of water-level measurements made in observation wells. Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. (See figure 7.)

Data Collection and Computation

Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to land-surface datum (lstd). Land-surface datum is a datum plane that is approximately at land surface at each well; National Geodetic Vertical Datum of 1929 is the datum plane on which the national network of precise levels is based. If known, the elevation of the land-surface datum above National Geodetic Vertical Datum of 1929 is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported as mean daily values, and the extremes are instantaneous values selected from the digital record. Water levels in wells not equipped with recording gages are read periodically or measured periodically with a weighted tape by U.S. Geological Survey personnel and/or an observer.

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

Data Presentation

Each well record consists of three parts, the station description, the data table of water levels observed during the water year, and the 10-year hydrograph. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

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

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

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

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

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

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

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

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed for wells without recorders. The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the table for wells with recorders. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

A hydrograph of water levels follows the data table for each well. The current year and the previous 9 years of record are plotted in feet below land-surface datum. If the period of record is less than 10 years, the water levels for the entire record are plotted.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as part of a special study in a specific area. Consequently, a number of chemical analyses are presented for one county, but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

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Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National WATER Data STORAGE and RETRIEVAL System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

- * Station Header File - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.
- * Daily Values File - Contains more than 220 million daily values of stream flows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.
- * Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.
- * Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.
- * Ground-Water Site Inventory Data Base - Contains inventory data for more than 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U. S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on CD-ROM discs. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. 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's District offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

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DEFINITION OF TERMS

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

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

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

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

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

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

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C $\pm$ 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

Bed material See Bottom material.

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

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

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

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

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

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Bottom material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

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

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

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

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

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

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

Colloid is any substance with particles in such a fine state of subdivision dispersed in a medium, for example water, that they do not settle out; but not in so fine a state of subdivision that they can be said to be truly dissolved.

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

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table (it can also be above ground level). Formerly called artesian aquifer.

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

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

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

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT³/S, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute.

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

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

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

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

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

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

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

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

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

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

High tide is the maximum tidal peak reached each day.

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

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

Low tide is the minimum tidal trough reached each day.

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

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

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram ($\mu\text{g/g}$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

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

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

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

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Organic carbon (OC) is a measure of the organic matter present in aqueous solution and (or) suspension. May be reported in any of three categories (DOC, dissolved organic carbon; SOC, suspended organic carbon; TOC, total organic carbon).

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

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

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

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

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

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material. Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in distilled water (chemically dispersed).

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

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

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. The sample is subjected to mechanical and chemical dispersion in distilled water before analysis.

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

Periphyton is the assemblage of algae, fungi, and bacteria which are attached to or live upon submerged objects in lakes and rivers.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

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

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

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

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

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

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

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Fire algae (Pyrrhophyta) are free-swimming unicells characterized by a red spot.

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

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

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

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

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

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

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

Milligrams of oxygen per area or volume per unit time [$\text{mg O}_2/(\text{m}^2 \cdot \text{time})$] for periphyton and macrophytes and [$\text{mg O}_2/(\text{m}^3 \cdot \text{time})$] for phytoplankton are units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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

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

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

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

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

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

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

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

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Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lived.

Natural substrates refers to any naturally occurring emerged or submersed solid surface, as a rock or tree, upon which an organism lived.

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

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

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

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

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

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

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

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

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

```

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

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

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

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Total (as used in tables of chemical analyses):

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

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

Water table is the surface of a ground-water body at which the water is at atmospheric pressure. It is defined by the levels at which water stands in wells that penetrate the water body just far enough to hold standing water.

Water-table aquifer is an unconfined aquifer whose upper boundary is the water table.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1980, is called the "1980 water year".

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

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

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by 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 "U.S. Geological Survey Techniques of Water-Resources Investigations."

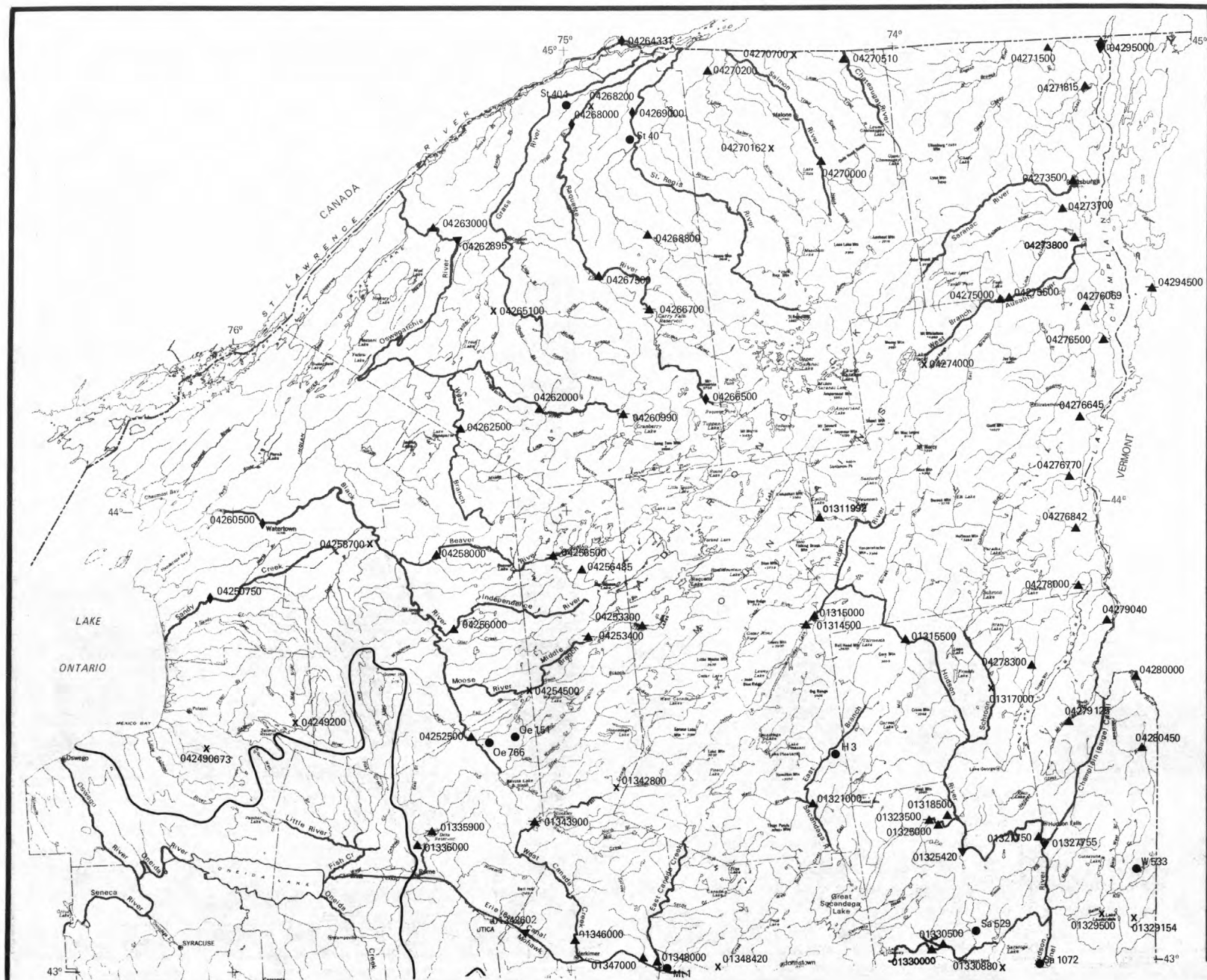
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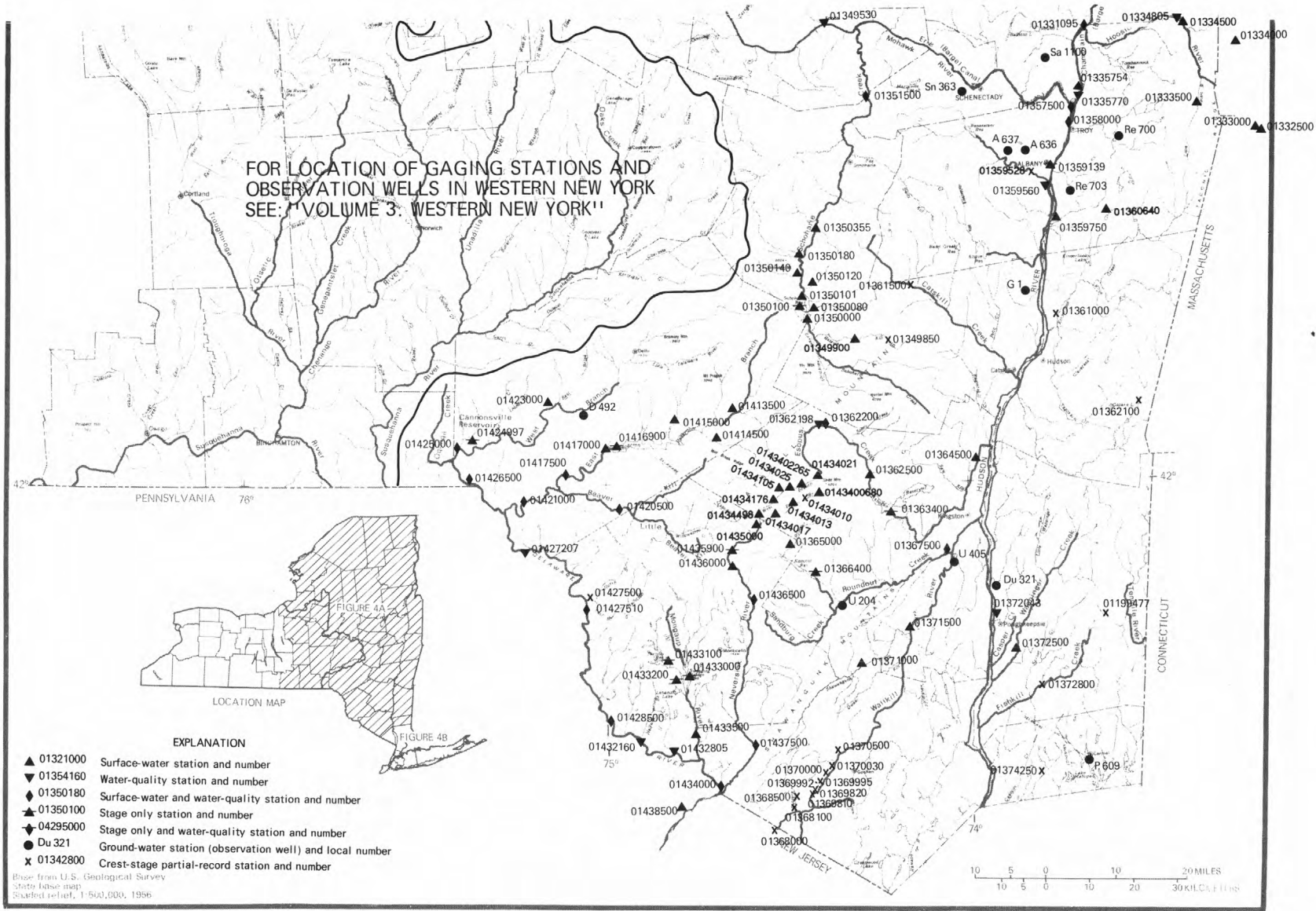


FIGURE 8A -- LOCATION OF GAGING STATIONS AND OBSERVATION WELLS

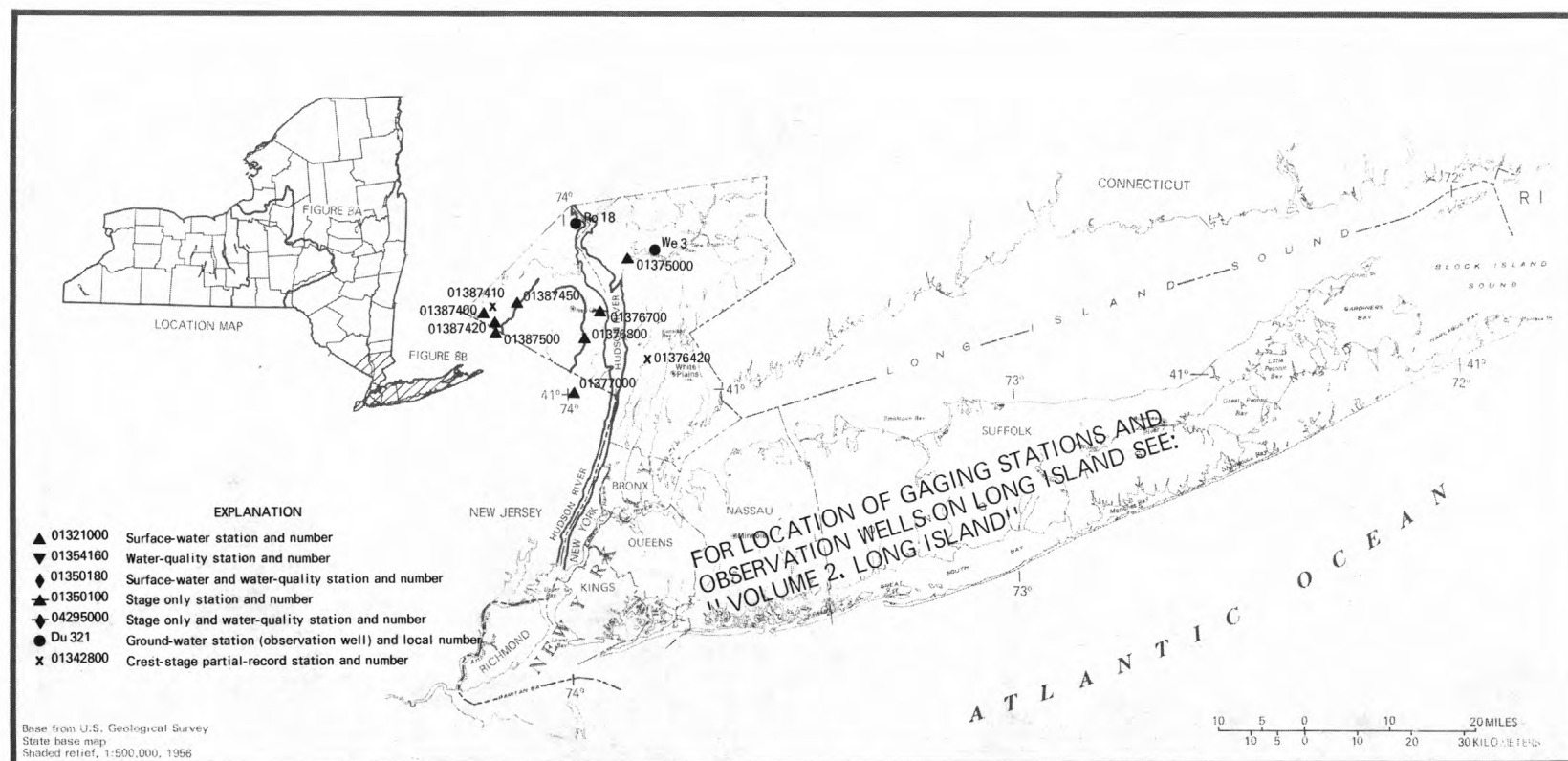


FIGURE 8B -- LOCATION OF GAGING STATIONS AND OBSERVATION WELLS

HUDSON RIVER BASIN

01311992 ARBUTUS POND OUTLET NEAR NEWCOMB, NY

LOCATION.--Lat 44°58'56", long 74°14'09", Essex County, Hydrologic Unit 02020001, on right bank at outlet of Arbutus Pond, 3.7 mi northwest of Newcomb, and 0.4 mi upstream from mouth at Fishing Brook.

DRAINAGE AREA.--1.22 mi².

PERIOD OF RECORD.--December 1990 to September 1991.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is about 1,680 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges and those for periods below 0.50 ft³/s, which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period December 1990 to September 1991, 14 ft³/s, Dec. 31, gage height, 1.74 ft; minimum daily, no flow June 30, July 4-7, result of beaver dams upstream from gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	2.5	11	1.6	1.4	4.1	3.1	.30	.62	.18	.013
2	---	---	2.3	8.9	1.5	1.6	3.8	2.9	.19	.43	.15	.005
3	---	---	2.4	7.4	1.4	2.5	3.5	2.8	.10	.034	.12	.003
4	---	---	3.7	6.2	1.3	6.8	3.4	2.6	.14	.000	.15	.065
5	---	---	4.1	5.3	1.3	11	3.6	2.3	2.3	.000	.19	.14
6	---	---	3.9	4.6	1.4	9.7	4.2	2.3	2.7	.000	.17	.12
7	---	---	3.5	4.1	1.8	9.0	6.4	2.7	1.2	.000	.16	.099
8	---	---	3.2	3.7	2.2	8.1	9.0	3.0	.63	.94	.15	.034
9	---	---	2.9	3.3	2.3	6.8	11	3.5	.24	2.2	.18	.041
10	---	---	2.7	3.1	2.2	5.8	12	3.1	1.5	1.9	.30	.053
11	---	---	2.4	2.9	2.2	4.9	12	2.8	1.8	2.0	.31	.031
12	---	---	2.3	e3.0	2.1	4.2	9.4	2.6	1.6	1.6	.31	.016
13	---	---	2.1	e2.9	1.9	3.7	7.7	2.2	1.6	1.3	.28	.002
14	---	---	2.1	e2.8	2.0	3.3	6.5	1.8	.94	1.2	.25	.002
15	---	---	2.0	2.7	2.0	3.1	5.8	1.3	.35	.93	.21	.024
16	---	---	2.2	2.9	1.9	2.8	5.8	.67	.14	.70	.21	.037
17	---	---	2.0	3.5	1.7	2.6	5.4	.60	.14	.91	.19	.028
18	---	---	2.0	3.8	1.6	2.5	4.9	.61	.10	1.1	.20	.025
19	---	---	2.4	3.6	1.6	2.5	4.5	.39	.089	.93	.14	.39
20	---	---	2.5	3.3	1.7	2.5	4.2	.26	.055	.81	.057	.29
21	---	---	2.4	3.0	1.8	2.4	4.5	1.4	1.2	.71	.076	.062
22	---	---	2.8	2.8	1.8	2.6	6.4	1.8	1.9	.63	.11	.038
23	---	---	5.1	2.5	1.9	2.7	6.6	1.3	1.3	.71	.17	.038
24	---	---	10	2.4	1.8	3.0	6.0	.78	.51	.61	.21	.37
25	---	---	10	2.3	1.7	2.9	5.4	.47	.13	.50	.16	1.3
26	---	---	8.7	2.1	1.6	2.9	4.6	.34	.065	.42	.12	1.5
27	---	---	7.3	2.0	1.5	2.9	4.2	.76	.050	.37	.068	1.7
28	---	---	6.2	1.9	1.5	3.8	3.5	.66	.047	.31	.025	1.4
29	---	---	5.9	1.8	---	4.7	3.0	.45	.030	.26	.003	.69
30	---	---	8.9	1.7	---	4.7	2.8	.40	.000	.22	.006	.78
31	---	---	13	1.7	---	4.4	---	.40	---	.20	.034	---
TOTAL	---	---	133.5	113.2	49.3	131.8	174.2	50.29	21.346	22.544	4.889	9.296
MEAN	---	---	4.31	3.65	1.76	4.25	5.81	1.62	.71	.73	.16	.31
MAX	---	---	13	11	2.3	11	12	3.5	2.7	2.2	.31	1.7
MIN	---	---	2.0	1.7	1.3	1.4	2.8	.26	.000	.000	.003	.002
CFSM	---	---	3.53	2.99	1.44	3.48	4.76	1.33	.58	.60	.13	.25
IN.	---	---	4.07	3.45	1.50	4.02	5.31	1.53	.65	.69	.15	.28

e Estimated

HUDSON RIVER BASIN

01314500 INDIAN LAKE NEAR INDIAN LAKE, NY

LOCATION.--Lat 43°45'20", long 74°16'35", Hamilton County, Hydrologic Unit 02020001, at Indian Lake Dam on Indian River, and 2.0 mi south of village of Indian Lake.

DRAINAGE AREA.--131 mi².

PERIOD OF RECORD.--July 1900 to current year. Prior to October 1956, published as "Indian Lake Reservoir near Indian Lake."

GAGE.--Nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by masonry dam, completed in 1898. Usable capacity, about 4.668 bil ft³ (corrected) at elevation, 1,651.29 ft (crest of spillway). Sills of double sluice gates at lowest outlet at elevation 1,615.50 ft. Dead storage unknown. Water is used for power development, for improvement of navigation in lower Hudson River, and to compensate for flow diverted from Hudson River at Glens Falls into Champlain (Barge) Canal.

COOPERATION.--Gage-height record provided by Indian River Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 1,656.71 ft, Mar. 28, 1913, contents, 5.781 bil ft³; minimum observed, 1,616.81 ft, estimated, Feb. 13, 1948, contents, 0.20 bil ft³.

EXTREMES FOR CURRENT YEAR.--Maximum elevation observed, 1,649.69 ft, June 27, contents, 4.364 bil ft³; minimum observed, 1,638.65 ft, Mar. 3, contents, 2.519 bil ft³.

Capacity table, current water year
(elevation, in feet and capacity, in billions of cubic feet)

1,635.0	1.958	1,643.0	3.221
1,636.0	2.110	1,648.0	4.068
1,638.0	2.417	1,653.0	5.007

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1646.11	1648.76	1645.51	1646.33	1641.36	1638.80	1640.76	1648.21	1649.16	1649.68	1647.83	1645.31
2	1646.11	1648.51	1645.26	1646.51	1641.26	1638.70	1640.74	1648.26	1649.26	1649.66	1647.70	1645.31
3	1646.15	1648.38	1645.06	1646.44	1641.26	1638.65	1640.71	1648.21	1649.31	1649.62	1647.57	1645.26
4	1646.16	1648.11	1644.96	1646.26	1640.96	1638.96	1640.74	1648.26	1649.36	1649.58	1647.46	1645.24
5	1646.21	1647.91	1645.01	1646.06	1640.81	1639.71	1640.91	1648.21	1649.32	1649.56	1647.36	1645.16
6	1646.58	1647.73	1644.96	1645.91	1640.76	1640.28	1641.16	1648.16	1649.36	1649.61	1647.26	1645.14
7	1646.53	1647.61	1644.96	1645.56	1640.71	1640.51	1641.76	1648.26	1649.41	1649.57	1647.16	1645.06
8	1646.48	1647.43	1644.81	1645.26	1640.73	1641.83	1642.64	1648.29	1649.42	1649.55	1647.06	1645.01
9	1646.46	1647.21	1644.66	1644.91	1640.76	1641.16	1643.66	1648.32	1649.43	1649.64	1646.96	1644.97
10	1646.54	1647.06	1644.51	1644.76	1640.72	1641.16	1644.66	1648.31	1649.44	1649.57	1647.06	1644.93
11	1646.65	1647.36	1644.31	1644.46	1640.61	1641.14	1645.51	1648.36	1649.46	1649.53	1646.99	1644.91
12	1646.81	1647.46	1644.11	1644.26	1640.51	1641.12	1646.13	1648.41	1649.46	1649.48	1646.91	1644.89
13	1647.26	1647.48	1644.01	1644.06	1640.42	1641.06	1646.47	1648.41	1649.51	1649.46	1646.81	1644.77
14	1647.86	1647.31	1643.86	1643.71	1640.35	1640.98	1646.56	1648.33	1649.49	1649.37	1646.71	1644.66
15	1648.10	1647.21	1643.56	1643.46	1640.25	1640.90	1646.75	1648.28	1649.47	1649.35	1646.61	1644.58
16	1648.21	1647.11	1643.31	1643.16	1640.15	1640.80	1646.84	1648.28	1649.59	1649.28	1646.53	1644.53
17	1648.28	1647.14	1643.11	1643.16	1640.07	1640.66	1647.01	1648.36	1649.63	1649.21	1646.43	1644.59
18	1648.21	1647.11	1643.06	1643.15	1639.96	1640.57	1647.11	1648.26	1649.66	1649.11	1646.35	1644.54
19	1648.41	1647.18	1642.93	1643.11	1639.81	1640.51	1647.16	1648.16	1649.67	1649.05	1646.31	1644.41
20	1648.56	1647.09	1642.81	1643.10	1639.71	1640.40	1647.21	1648.16	1649.68	1648.94	1646.21	1644.36
21	1648.65	1646.93	1642.66	1643.08	1639.61	1640.40	1647.26	1648.18	1649.68	1648.89	1646.12	1644.31
22	1648.68	1646.86	1642.56	1643.06	1639.51	1640.28	1647.64	1648.16	1649.66	1648.76	1646.01	1644.21
23	1648.61	1646.71	1642.71	1642.84	1639.43	1640.28	1648.06	1648.11	1649.66	1648.66	1645.92	1644.14
24	1648.93	1646.61	1643.66	1642.58	1639.33	1640.29	1648.28	1648.13	1649.67	1648.61	1645.81	1644.04
25	1649.43	1646.43	1644.41	1642.43	1639.21	1640.16	1648.33	1648.16	1649.67	1648.49	1645.71	1644.06
26	1649.61	1646.28	1644.61	1642.30	1639.13	1640.16	1648.38	1648.16	1649.68	1648.36	1645.61	1644.19
27	1649.56	1646.16	1644.71	1642.16	1639.01	1640.11	1648.34	1648.46	1649.69	1648.28	1645.51	1644.26
28	1649.51	1646.00	1644.78	1641.93	1638.92	1640.17	1648.29	1648.61	1649.68	1648.17	1645.47	1644.16
29	1649.38	1645.86	1644.56	1641.76	---	1640.41	1648.26	1648.71	1649.68	1648.06	1645.41	1644.11
30	1649.16	1645.66	1644.81	1641.64	---	1640.61	1648.16	1648.81	1649.68	1647.96	1645.39	1644.01
31	1648.98	---	1645.71	1641.51	---	1640.71	---	1649.01	---	1647.91	1645.38	---
MEAN	1647.81	1647.16	1644.19	1643.84	1640.19	1640.37	1645.52	1648.32	1649.53	1649.06	1646.50	1644.64
MAX	1649.61	1648.76	1645.71	1646.51	1641.36	1641.83	1648.38	1649.01	1649.69	1649.68	1647.83	1645.31
MIN	1646.11	1645.66	1642.56	1641.51	1638.92	1638.65	1640.71	1648.11	1649.16	1647.91	1645.38	1644.01
+	4.210	3.659	3.744	2.961	2.544	2.848	4.105	4.262	4.367	4.036	3.609	3.373
++	+174	-213	+31.7	-292	-172	+113	+485	+58.6	+40.5	-124	-159	-91.0
CAL YR 1990	MEAN 1646.71	MAX 1652.14	MIN 1639.76	++ +33.5								
WTR YR 1991	MEAN 1645.63	MAX 1649.69	MIN 1638.65	++ -11.8								

+ Contents, in billions of cubic feet, at 2400 hours on last day of month, by interpolation.

++ Change in contents, equivalent in cubic feet per second.

HUDSON RIVER BASIN

01315000 INDIAN RIVER NEAR INDIAN LAKE, NY

LOCATION.--Lat 43°45'30", long 74°16'05", Hamilton County, Hydrologic Unit 02020001, on right bank 0.8 mi downstream from Indian Lake Dam, 1.0 mi upstream from Big Brook, and 2.0 mi south of village of Indian Lake.

DRAINAGE AREA.--132 mi².

PERIOD OF RECORD.--July 1912 to June 1914, June 1915 to current year. Monthly discharge only for some periods published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 1,604.23 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 30, 1916, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated by Indian Lake (see station 01314500).

AVERAGE DISCHARGE.--77 years (water years 1913, 1916-91), 296 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,460 ft³/s, Mar. 28, 1913, gage height, 7.8 ft; minimum, frequently less than 1 ft³/s, when entire flow of river is being stored in Indian Lake.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 773 ft³/s, part of each day Jan. 2-6, gage height, 3.52 ft; minimum, 36 ft³/s, part or all of each day June 23-30, July 1, gage height, 0.89 ft; minimum daily discharge, 36 ft³/s, June 24-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	700	593	599	399	372	385	356	47	80	211	97
2	202	690	591	660	398	374	384	356	46	140	209	97
3	200	634	590	771	398	374	297	355	46	139	209	97
4	204	630	594	770	395	384	187	354	46	139	209	98
5	202	627	590	772	395	385	187	353	46	141	209	97
6	202	627	588	769	395	385	191	357	46	140	209	97
7	202	624	587	768	397	386	196	356	45	138	209	97
8	202	621	587	766	396	385	201	269	44	142	210	97
9	202	619	584	763	395	385	204	233	44	148	216	96
10	204	624	582	757	395	385	97	233	44	148	215	97
11	202	625	580	756	394	384	43	233	44	148	214	96
12	205	622	580	753	393	382	150	231	45	149	214	152
13	209	622	576	751	391	382	202	230	44	149	214	204
14	207	621	572	748	391	381	202	230	44	149	213	203
15	206	619	572	743	389	380	203	188	44	149	212	203
16	206	621	571	615	388	379	205	125	45	180	212	203
17	357	619	569	463	388	378	204	124	49	214	212	202
18	450	619	569	460	385	378	204	e360	51	214	212	202
19	451	618	563	460	385	378	204	e440	51	214	212	202
20	447	617	558	460	383	377	204	e200	51	214	212	202
21	449	615	557	457	382	376	212	e125	51	214	212	200
22	452	614	557	456	381	375	275	e125	51	214	212	199
23	577	613	569	456	381	376	442	e125	43	214	211	199
24	656	611	579	455	380	375	442	e65	36	214	210	199
25	646	607	580	489	378	375	442	e45	36	214	209	205
26	647	602	580	510	378	375	442	e52	36	213	209	200
27	648	601	580	507	377	376	442	e45	36	212	158	199
28	648	599	580	504	374	383	442	e45	36	212	97	199
29	645	597	581	461	---	382	442	e45	36	212	97	199
30	645	596	597	401	---	382	385	e50	37	212	97	197
31	655	---	598	400	---	382	---	48	---	212	99	---
TOTAL	11630	18654	17954	18700	10881	11771	8116	6353	1320	5478	6044	4835
MEAN	375	622	579	603	389	380	271	205	44.0	177	195	161
MAX	656	700	598	772	399	386	442	440	51	214	216	205
MIN	200	596	557	400	374	372	43	45	36	80	97	96

ADJUSTED FOR CHANGE IN CONTENTS OF INDIAN LAKE

MEAN	549	409	611	311	217	493	756	264	84.5	53.0	36.0	70.0
CFSM	4.16	3.10	4.63	2.36	1.64	3.73	5.73	2.00	0.64	0.40	0.27	0.53
IN	4.79	3.46	5.34	2.72	1.71	4.31	6.39	2.31	0.71	0.46	0.31	0.59

OBSERVED

ADJUSTED

CAL YR 1990	TOTAL	145529	MEAN	399	MAX	1000	MIN	39	MEAN	432	CFSM	3.27	IN	44.42
WTR YR 1991	TOTAL	121736	MEAN	334	MAX	772	MIN	36	MEAN	322	CFSM	2.44	IN	33.11

e Estimated

HUDSON RIVER BASIN

01315500 HUDSON RIVER AT NORTH CREEK, NY

LOCATION.--Lat 43°42'03", long 73°59'02", Warren County, Hydrologic Unit 02020001, on left bank 125 ft upstream from bridge on State Highway 28N in village of North Creek, 500 ft upstream from North Creek, and 26 mi downstream from Indian Lake.

DRAINAGE AREA.--792 mi².

PERIOD OF RECORD.--September 1907 to current year.

REVISED RECORDS.--WSP 621: Drainage area. WSP 1432: 1908-18, 1920, 1922. WDR NY-78-1: 1977.

GAGE.--Water-stage recorder. Datum of gage is 987.51 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1930, nonrecording gages at sites 80 ft and 125 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Appreciable regulation by Indian Lake (see station 01314500) and other reservoirs upstream from station. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--84 years, 1,571 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,900 ft³/s, Dec. 31, 1948, gage height, 12.14 ft; minimum, 112 ft³/s, July 26, 1934, gage height, 1.96 ft; minimum daily, 114 ft³/s, July 26, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,600 ft³/s, Apr. 10, gage height, 8.19 ft; minimum, 217 ft³/s, Sept. 9, 10, gage height, 2.28 ft; minimum daily, 226 ft³/s, Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	729	2010	1970	7520	e1000	1020	2450	2410	2320	271	352	394
2	969	1900	1830	5360	e1000	1120	2090	2590	1930	283	348	336
3	939	1770	1740	4120	e1000	1830	1940	2480	1420	301	343	308
4	907	1670	2050	3420	e1000	4400	1860	2260	1130	319	353	295
5	1210	1600	2920	2970	e1200	6490	2260	2040	980	388	363	282
6	1550	1680	2860	2610	e1400	5650	3400	1900	862	566	377	276
7	1320	1790	2460	2250	e1600	4980	6310	2330	789	591	374	298
8	1100	1740	2180	1820	1740	4260	8540	2490	635	684	369	278
9	863	1640	2020	e1900	1720	3540	9580	1920	562	960	393	230
10	1310	2060	1920	e1900	1710	2880	10000	1800	503	903	538	226
11	2110	3780	1830	e1800	e1600	2460	8650	1560	465	766	602	246
12	2740	3600	1740	e1800	e1300	2100	5820	1420	487	672	572	272
13	4110	2680	1730	e1900	e1300	1790	4390	1290	651	579	522	307
14	4760	2520	1680	e1800	e1200	1500	3380	1280	658	561	474	412
15	3470	2360	1630	e1900	e1200	1540	2740	1200	594	531	447	391
16	2580	2710	1660	e1800	e1100	1460	3040	1080	734	487	448	444
17	2110	3950	1600	2020	e1100	1410	2870	945	869	473	439	635
18	1770	4050	1510	2090	e1100	1430	2580	1120	1010	466	428	682
19	3470	3440	1710	e1800	1090	1430	2410	1300	914	450	421	690
20	3680	2890	1840	e1700	1100	1530	2230	1190	767	435	412	832
21	2960	2510	1770	e1500	1180	1500	2550	926	634	426	406	929
22	2440	2250	2210	e1400	1240	1460	5410	816	543	414	414	740
23	2470	2210	5030	e1300	1230	1440	5740	762	463	421	428	593
24	7420	2310	8710	e1300	1200	1430	4370	686	415	414	411	553
25	7590	2230	7580	e1200	1180	1520	3630	617	386	406	394	902
26	5620	2070	5550	e1200	1130	1530	2990	602	362	397	379	1820
27	4070	1960	4100	e1200	1080	1630	2720	1370	328	387	368	1550
28	3280	2040	3300	e1200	1050	2480	2520	2280	305	378	294	1210
29	2760	2110	2990	e1100	---	3760	2330	1970	285	369	261	1060
30	2350	2130	5540	e1000	---	3300	2160	1600	275	359	249	943
31	2160	---	9400	e1000	---	2820	---	2150	---	357	345	---
TOTAL	84817	71660	95060	65880	34750	75690	120960	48384	22276	15014	12524	18134
MEAN	2736	2389	3066	2125	1241	2442	4032	1561	743	484	404	604
MAX	7590	4050	9400	7520	1740	6490	10000	2590	2320	960	602	1820
MIN	729	1600	1510	1000	1000	1020	1860	602	275	271	249	226

CAL YR 1990 TOTAL 849904 MEAN 2329 MAX 13900 MIN 335
WTR YR 1991 TOTAL 665149 MEAN 1822 MAX 10000 MIN 226

e Estimated

HUDSON RIVER BASIN

01318500 HUDSON RIVER AT HADLEY, NY

LOCATION.--Lat 43°19'08", long 73°50'41", Saratoga County, Hydrologic Unit 02020001, on right bank at Hadley, 400 ft downstream from outlet of Lake Luzerne, and 0.3 mi upstream from Sacandaga River.

DRAINAGE AREA.--1,664 mi².

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

REVISED RECORDS.--WSP 561: 1921-22. WSP 756: Drainage area. WSP 1432: 1931 (m).

GAGE.--Water-stage recorder. Datum of gage is 563.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some diurnal fluctuation caused by powerplant on Schroon River. Flow regulated by Indian Lake (see station 01314500) and other reservoirs upstream from station. Telephone gage-height telemeter and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--70 years, 2,925 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,700 ft³/s, Jan. 1, 1949, gage height, 21.21 ft; minimum, 264 ft³/s, Sept. 11, 1991, gage height, 1.02 ft; minimum gage height, 0.94 ft, Sept. 3, 1934; minimum daily discharge, 282 ft³/s, Sept. 11, 1991.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge for the flood of March 27, 1913, was about 49,000 ft³/s, based on peak runoff comparison with a station 12.7 mi upstream (drainage area 1,533 mi²).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	2000	*16,200	*10.35	No other peak greater than base discharge.			
Minimum discharge, 264 ft ³ /s, Sept. 11, gage height, 1.02 ft; minimum daily, 282 ft ³ /s, Sept. 11.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	4870	3790	e9400	e1900	e2000	5330	5110	3350	493	446	438
2	1260	4510	3580	e7400	e1800	2210	4860	5210	3100	456	415	457
3	1340	4150	3400	e6400	2040	3400	4400	5100	2620	455	430	416
4	1280	3840	3970	e5600	2090	6510	4310	4660	2170	465	422	396
5	1500	3570	5390	e5000	2180	e10000	4560	4280	1970	494	438	391
6	1890	3680	5170	e4300	2600	e9600	5440	4160	1740	626	439	363
7	1940	3890	4730	e3800	3020	e9200	8450	4590	1510	813	443	348
8	1660	3640	4310	e3500	3610	8750	11700	5040	1400	845	435	353
9	1470	3470	4030	e3100	3630	7280	13300	4250	1210	1030	465	350
10	1580	4670	3790	e3000	3560	6220	14200	3980	1150	1190	666	341
11	2460	10100	3510	e3000	e3000	5400	13900	3610	990	1090	711	282
12	3520	8540	3470	e3100	e2300	4820	10900	3320	910	953	764	301
13	5300	7080	3260	e3300	e2200	4340	8680	3080	937	906	706	354
14	8040	5930	3140	e3400	e2200	3870	7330	2870	1070	887	662	354
15	6760	5830	2970	3540	2780	3690	6060	2690	1020	818	594	476
16	5260	5670	3010	3730	e2200	3470	6100	2470	1090	742	573	501
17	4750	6990	3000	4370	e2100	3310	5890	2240	1280	675	512	610
18	4100	7650	2930	4400	e2100	3310	5390	2210	1420	653	504	764
19	6020	6940	3180	4120	e2200	3370	5010	2310	1430	632	546	849
20	6930	6110	3350	e3000	2360	3530	4680	2350	1270	604	553	950
21	5920	5490	3190	e2500	2400	3430	4840	2080	1090	592	536	1040
22	5230	4990	3760	e2100	2500	3270	10100	1830	957	582	525	1040
23	4830	4870	7160	e2000	e2300	3160	10700	1660	858	568	530	864
24	12900	4870	13400	e2000	e2100	3170	8840	1570	764	561	529	730
25	14200	4650	13300	e2100	e2000	3310	7480	1430	698	535	503	924
26	11700	4360	10700	e2200	e2000	3360	6630	1360	648	529	459	1950
27	9280	4110	e8400	e2300	e1900	3580	5810	1550	603	530	456	2170
28	7830	4050	e7000	e2400	e1900	5330	5360	3000	554	500	436	1680
29	6760	4020	e6200	2490	---	7260	5150	3100	512	478	389	1450
30	5820	3960	7690	2340	---	6680	4640	2600	528	472	344	1370
31	5320	---	13300	2120	---	5760	---	2840	---	451	316	---
TOTAL	157970	156500	168080	112010	66970	152590	220040	96550	38849	20625	15747	22512
MEAN	5096	5217	5422	3613	2392	4922	7335	3115	1295	665	508	750
MAX	14200	10100	13400	9400	3630	10000	14200	5210	3350	1190	764	2170
MIN	1120	3470	2930	2000	1800	2000	4310	1360	512	451	316	282

CAL YR 1990 TOTAL 1613718 MEAN 4421 MAX 22700 MIN 672
WTR YR 1991 TOTAL 1228443 MEAN 3366 MAX 14200 MIN 282

e Estimated

HUDSON RIVER BASIN

01321000 SACANDAGA RIVER NEAR HOPE, NY

LOCATION.--Lat 43°21'10", long 74°16'15", Hamilton County, Hydrologic Unit 02020002, on left bank 1.5 mi downstream from West Branch Sacandaga River, on State Highway 30, and 4.5 mi upstream from Hope.

DRAINAGE AREA.--491 mi².

PERIOD OF RECORD.--September 1911 to current year.

GAGE.--Water-stage recorder. Datum of gage is 881.31 ft above National Geodetic Vertical Datum of 1929. Prior to July 24, 1929, nonrecording gage at site 300 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some seasonal regulation at Piseco Lake Outlet and, since 1959, intermittent regulation by Lake Algonquin at Wells, 4 mi upstream. Infrequent minor fluctuations by mill upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--80 years, 1,102 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,000 ft³/s, Mar. 27, 1913, gage height, 11.0 ft, from floodmarks at site then in use; maximum gage height, 13.32 ft, Mar. 1, 1955 (ice jam); minimum discharge, about 16 ft³/s, Sept. 30, 1913, gage height, 1.17 ft; minimum daily discharge, 18 ft³/s, Sept. 20, 1913.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	2130	10,200	6.82	Dec. 23	1430	*10,700	*6.94

Minimum discharge, 37 ft³/s, Sept. 14, 15, gage height, 1.24 ft; minimum daily discharge, 38 ft³/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	543	1080	839	3220	e500	501	2050	1460	725	160	64	48
2	496	969	803	2760	e500	713	1750	1440	608	140	59	55
3	317	857	752	2380	e520	2110	1560	1340	508	113	55	59
4	416	845	1500	e1700	e560	5830	1600	1200	462	88	58	49
5	1130	717	2160	e1400	671	5560	1970	1070	415	102	57	50
6	811	1060	1670	e1300	935	3580	2860	1220	302	159	52	47
7	694	1160	1440	e1000	1360	4440	4490	1710	318	243	51	44
8	635	983	1240	e800	1540	3530	4880	1490	288	321	47	42
9	587	905	1110	e800	1380	2710	5460	1270	259	235	71	39
10	1160	3060	991	e780	1240	2220	5090	1170	236	147	217	41
11	1040	6030	760	e760	e940	1780	4270	1010	226	133	181	51
12	1750	3480	841	e760	e760	1510	3210	904	214	115	135	45
13	4170	2490	808	e780	e700	1270	2750	796	222	151	110	39
14	4450	2060	643	e800	e640	1130	2340	718	181	280	95	38
15	2670	1850	603	e900	e600	1000	2050	656	163	192	87	49
16	2200	1990	683	e1000	e540	906	2060	585	250	157	84	98
17	1700	2460	763	e2000	e500	874	1830	566	251	117	95	243
18	1520	2140	721	e1800	e500	922	1630	666	214	109	88	172
19	3960	1770	1100	e1400	e520	1030	1450	562	200	98	82	225
20	2730	1600	975	e1200	689	1190	1320	499	210	92	81	360
21	2060	1180	1050	e1000	767	1070	1600	462	154	98	84	200
22	1810	1270	2310	e700	728	981	4650	420	123	101	81	171
23	1730	1320	6620	e600	658	915	3700	319	113	111	79	145
24	6310	1280	7370	e580	e600	963	3000	237	106	104	71	132
25	3960	1130	4870	e600	e580	1100	2500	253	98	90	63	601
26	2960	1030	3390	e600	e540	1110	2060	275	91	85	59	779
27	2380	1030	e2400	e640	535	1530	1750	500	85	84	55	521
28	1960	1100	e2000	e680	505	4150	1470	522	80	77	51	415
29	1680	981	2000	e640	---	3960	1250	396	74	70	47	347
30	1420	973	3440	e560	---	2970	1190	376	107	64	45	308
31	1250	---	4980	e500	---	2400	---	764	---	61	46	---
TOTAL	60499	48800	60832	34640	20508	63955	77790	24856	7283	4097	2450	5413
MEAN	1952	1627	1962	1117	732	2063	2593	802	243	132	79.0	180
MAX	6310	6030	7370	3220	1540	5830	5460	1710	725	321	217	779
MIN	317	717	603	500	500	501	1190	237	74	61	45	38

CAL YR 1990 TOTAL 551501 MEAN 1511 MAX 10800 MIN 98
WTR YR 1991 TOTAL 411123 MEAN 1126 MAX 7370 MIN 38

e Estimated

HUDSON RIVER BASIN

01323500 GREAT SACANDAGA LAKE AT CONKLINGVILLE, NY

LOCATION.--Lat 43°18'57", long 73°55'39", Saratoga County, Hydrologic Unit 02020002, 800 ft upstream from right end of Conklingville Dam on Sacandaga River at Conklingville.

DRAINAGE AREA.--1,044 mi².

PERIOD OF RECORD.--January 1930 to current year. Prior to October 1969, published as "Sacandaga Reservoir at Conklingville."

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum, adjustment of 1912. Prior to Apr. 23, 1930, nonrecording gage at same datum in outlet channel 800 ft downstream.

REMARKS.--Reservoir is formed by earth and concrete dam; storage began in March 1930; dam completed in 1930. Usable capacity for stream regulation, 29.670 bil ft³ between elevations 735.0 ft and 768.0 ft. Between elevations 768.0 ft and 771.0 ft (spillway crest) an additional 3.450 bil ft³ is available exclusively for flood storage. Elevation of inverts of three Dow valves is 699.0 ft. Capacity of 4.600 bil ft³ below elevation 735.0 ft is considered dead storage, except for extraordinary emergencies or for necessary inspection of structures. Purpose of reservoir is to provide flood control and low-water stream regulation for sanitary improvement, navigation, and power, as required by the public welfare, including public health and safety. Area of water surface of reservoir filled to capacity, elevation, 771.0 ft, is 41.7 mi². Discharge over spillway May 1-10, 1983, May 18-25, 1990 (only spillage since dam completion in 1930). Satellite gage-height telemeter at station.

COOPERATION.--Records provided by Board of Hudson River-Black River Regulating District.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 773.29 ft, May 4, 1983, contents, 40.418 bil ft³; minimum since first filling, 729.55 ft, Mar. 30, 1940, contents, 2.100 bil ft³.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 767.34 ft, May 11, contents, 33.534 bil ft³; minimum, 752.24 ft, Mar. 3, contents, 17.996 bil ft³.

Capacity table, current water year
(elevation, in feet, and contents, in billions of cubic feet)

738	6.43	760	25.61
740	7.80	764	29.85
745	11.64	768	34.27
750	15.94	771	37.72
755	20.61	774	41.26

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	757.67	760.71	760.46	762.94	758.53	752.62	756.62	766.73	766.76	764.11	760.60	756.20
2	757.57	760.55	760.29	763.32	758.26	752.37	756.78	766.84	766.79	764.10	760.45	756.10
3	757.41	760.40	760.08	763.48	758.02	752.31	756.86	766.87	766.72	763.93	760.24	755.97
4	757.29	760.17	760.12	763.43	757.74	752.83	756.93	766.86	766.67	763.85	760.10	755.80
5	757.27	759.85	760.27	763.29	757.50	753.94	757.05	766.86	766.65	763.75	759.96	755.60
6	757.20	759.80	760.23	763.16	757.29	754.69	757.25	766.90	766.61	763.65	759.77	755.45
7	757.10	759.56	760.13	763.00	757.21	755.16	757.73	767.10	766.57	763.60	759.60	755.25
8	756.96	759.57	760.00	762.78	757.23	755.55	758.40	767.18	766.36	763.59	759.46	755.10
9	756.88	759.58	759.88	762.57	757.20	755.68	759.26	767.21	766.23	763.45	759.32	754.97
10	756.82	759.59	759.75	762.38	757.12	755.71	760.05	767.21	766.28	763.36	759.35	754.77
11	756.85	761.06	759.51	762.15	756.98	755.65	760.74	767.24	766.23	763.24	759.26	754.63
12	756.90	761.94	759.27	762.01	756.79	755.55	761.14	767.21	766.20	763.14	759.04	754.49
13	757.18	762.27	759.12	761.81	756.53	755.42	761.50	767.17	766.09	763.05	758.93	754.30
14	757.92	762.25	758.87	761.58	756.33	755.32	761.82	767.11	766.00	763.02	758.79	754.15
15	758.49	762.20	758.78	761.35	756.15	755.28	762.10	767.08	765.90	762.96	758.62	754.00
16	758.55	762.12	758.66	761.17	755.87	755.13	762.42	767.01	765.85	762.89	758.47	753.91
17	758.40	762.10	758.44	761.17	755.57	754.94	762.65	766.93	765.72	762.75	758.31	753.77
18	758.27	762.07	758.24	761.22	755.28	754.75	762.87	766.93	765.65	762.58	758.18	753.58
19	758.53	762.04	758.14	761.13	755.03	754.63	763.07	766.99	765.62	762.40	758.03	753.50
20	758.59	761.96	757.97	761.03	754.82	754.50	763.24	766.95	765.56	762.26	757.94	753.38
21	758.58	761.81	757.83	760.87	754.59	754.35	763.37	766.93	765.40	762.11	757.84	753.25
22	758.48	761.66	757.80	760.71	754.40	754.23	764.16	766.86	765.25	761.94	757.74	753.13
23	758.33	761.57	758.16	760.51	754.16	754.32	764.91	766.83	765.14	761.92	757.55	753.00
24	759.23	761.53	759.43	760.43	753.91	754.38	765.35	766.80	765.00	761.76	757.37	752.86
25	760.26	761.43	760.40	760.20	753.64	754.43	765.71	766.75	764.96	761.58	757.23	752.82
26	760.75	761.23	760.99	759.95	753.41	754.49	766.03	766.67	764.85	761.46	757.12	752.90
27	761.19	761.05	761.27	759.71	753.19	754.60	766.27	766.67	764.73	761.33	756.98	752.92
28	761.28	760.91	761.57	759.48	752.90	755.08	766.46	766.67	764.63	761.18	756.83	752.85
29	761.19	760.79	761.76	759.23	---	755.80	766.61	766.64	764.42	761.03	756.66	752.76
30	761.05	760.57	761.82	758.98	---	756.20	766.62	766.58	764.32	760.88	756.52	752.60
31	760.90	---	762.43	758.79	---	756.48	---	766.78	---	760.75	756.39	---
MEAN	758.49	761.08	759.73	761.41	755.92	754.72	761.80	766.92	765.77	762.63	758.47	754.13
MAX	761.28	762.27	762.43	763.48	758.53	756.48	766.62	767.24	766.79	764.11	760.60	756.20
MIN	756.82	759.56	757.80	758.79	752.90	752.31	756.62	766.58	764.32	760.75	756.39	752.60
‡	26.42	26.10	28.48	24.31	18.48	22.10	32.78	32.95	30.14	26.25	21.84	18.28
‡‡	+1,157	-123	+889	-1,557	-2,410	+1,352	+4,120	+64	-1,084	-1,452	-1,646	-1,373
CAL YR 1990	MEAN	760.90	MAX	772.05	MIN	748.27	‡‡	+304				
WTR YR 1991	MEAN	760.12	MAX	767.24	MIN	752.31	‡‡	-160				

‡ Contents, in billions of cubic feet, at 2400 hours on last day of month.

‡‡ Change in contents, equivalent in cubic feet per second.

HUDSON RIVER BASIN

01325000 SACANDAGA RIVER AT STEWARTS BRIDGE, NEAR HADLEY, NY

LOCATION.--Lat 43°18'41", long 73°52'04", Saratoga County, Hydrologic Unit 02020002, on left bank 1.0 mi downstream from Stewarts Bridge, 1.1 mi west of Hadley, 1.4 mi upstream from mouth, and 1.5 mi downstream from Stewarts Bridge hydroelectric plant.

DRAINAGE AREA.--1,055 mi².

PERIOD OF RECORD.--September 1907 to current year. Published as "near Hadley" 1907-1910, "at Hadley" 1911-32 and "at Conklingville" 1932-52. Records published for both sites October 1951 to September 1952.

REVISED RECORDS.--WSP 1302: 1908. WSP 1432: 1910-12, 1916-21, WDR NY-83-1: 1968(M), 1971-72(M), 1976-77(M), 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 582.00 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1911, nonrecording gage at site about 1 mi upstream at different datum. Jan. 1, 1911 to Sept. 30, 1932, water-stage recorder at site 0.8 mi downstream at datum 8.82 ft lower than present datum. Oct. 1, 1932 to Sept. 30, 1952, water-stage recorder at site 3.6 mi upstream at datum 85.47 ft higher than present datum.

REMARKS.--No estimated daily discharges. Records good except for those below about 50 ft³/s, which are fair. Flow regulated by Great Sacandaga Lake since Mar. 27, 1930 (see station 01323500); discharge over spillway May 1-10, 1983, May 18-25, 1990 (only spillage since completion of Conklingville Dam in 1930). Extensive diurnal fluctuation caused by release of water from Great Sacandaga Lake, through Elmer J. West hydroelectric station as directed by Board of Hudson River-Black River Regulating District and through Stewarts Bridge hydroelectric station. Satellite gage-height telemeter at station.

COOPERATION.--From Oct. 1, 1932, to Dec. 4, 1979, discharge computed by Board of Hudson River-Black River Regulating District from rating developed by Geological Survey. Since Dec. 4, 1979, discharge computed by U.S. Geological Survey.

AVERAGE DISCHARGE.--84 years, 2,149 ft³/s, adjusted for storage since 1930.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 35,500 ft³/s, Mar. 28, 1913, gage height, 12.36 ft, site and datum then in use; minimum, 4.2 ft³/s, May 4, 1985; minimum daily, 4.7 ft³/s, Apr. 28 to May 5, 1985. Maximum discharge since construction of Conklingville Dam in 1930, 13,300 ft³/s, May 4, 1983, gage height, 9.68 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,750 ft³/s, Feb. 5, gage height, 5.78 ft; minimum, 18.0 ft³/s, Oct. 27, 28; minimum daily, 22 ft³/s, Oct. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2240	4060	2540	136	4080	4080	2070	1940	984	1820	1900	1700
2	2140	4010	4010	279	4040	4110	2080	2070	971	1270	1870	1680
3	2080	4040	3200	3800	3940	4100	2070	1970	1040	1590	1850	1860
4	2380	4020	4100	3990	4060	4090	2060	1920	986	1610	1850	1870
5	2140	4000	4100	4010	4170	1550	2070	2010	968	1520	1910	1890
6	2020	4040	4080	4040	4170	1900	1670	2020	1060	1540	1870	1910
7	2020	4080	4020	4070	4100	4090	334	2010	1290	1500	1870	1870
8	2000	159	4020	4080	3950	4070	67	1970	3770	1550	1850	1870
9	1990	3270	4010	4100	3960	4070	67	1990	46	1600	1840	1880
10	1970	3850	4010	4090	3930	4080	65	2010	1040	1490	1830	1880
11	1980	41	4140	4090	3910	4060	80	2030	910	1330	1860	1860
12	1930	26	4060	4050	3990	4030	1970	1910	1550	1380	1890	1890
13	2070	2660	4120	4040	4070	3130	1030	1960	1520	1420	1860	1940
14	23	4060	3780	4010	4130	4090	26	1710	1540	1320	1830	1930
15	1630	4080	1570	4000	4170	2350	275	1930	1510	2150	1870	1960
16	3160	4060	4110	4050	4120	4050	23	1690	1580	1330	1900	2070
17	3990	4040	4090	4050	4100	4030	23	1660	1520	1840	1840	2090
18	3990	4080	4030	4030	4080	4070	23	135	1210	1860	1850	2130
19	4020	4110	4020	4020	4090	4060	23	1500	1480	1870	1830	2030
20	3970	4020	4090	4030	4030	4060	23	1640	1490	1900	1840	1700
21	4000	4000	4040	4070	4020	4040	23	1050	1480	1900	1860	1670
22	3880	3960	4100	4020	4020	2220	23	1050	1480	1850	1880	1680
23	3950	3960	3610	3210	4080	2060	23	1060	1470	1740	1840	1730
24	1320	3970	160	3050	4070	2010	23	1050	1430	1810	1920	1740
25	24	3980	56	4160	4140	2150	23	1050	1430	1930	1850	1710
26	57	3650	425	4050	3450	2160	23	1080	1790	1910	2000	1710
27	22	4050	23	4050	4080	2050	23	1100	1760	1890	2000	1330
28	3870	3780	79	4080	4080	2100	23	1270	1780	1910	1780	1340
29	4030	4040	3190	4100	---	2110	23	1030	1760	1860	1780	1530
30	4080	4060	3480	4080	---	2080	1950	1010	1770	1820	1700	1370
31	4050	---	139	4080	---	2050	---	1010	---	1800	1670	---
TOTAL	77026	106156	95402	115915	113030	99100	18206	47835	42615	52310	57490	53820
MEAN	2485	3539	3077	3739	4037	3197	607	1543	1420	1687	1855	1794
MAX	4080	4110	4140	4160	4170	4110	2080	2070	3770	2150	2000	2130
MIN	22	26	23	136	3450	1550	23	135	46	1270	1670	1330

Adjusted for change in contents in Great Sacandaga Lake and Stewarts Bridge Pool

	MEAN	3643	3413	3969	2180	1730	4548	4721	1610	339	238	204	423
CFSM	3.45	3.24	3.76	2.07	1.64	4.31	4.47	1.53	0.32	0.23	0.19	0.40	0.40
IN.	3.98	3.61	4.34	2.38	1.71	4.97	4.99	1.76	0.36	0.26	0.22	0.45	0.45

OBSERVED

ADJUSTED

CAL YR 1990	TOTAL 1032617	MEAN 2829	MAX 12100	MIN 22	MEAN 3126	CFSM 2.96	IN. 40.22
WTR YR 1991	TOTAL 878905	MEAN 2408	MAX 4170	MIN 22	MEAN 2256	CFSM 2.14	IN. 29.02

HUDSON RIVER BASIN

01325420 HUDSON RIVER AT CORINTH, NY

LOCATION.--Lat 43°14'55", long 73°49'57", Saratoga County, Hydrologic Unit 0202003, at River Street bridge.

DRAINAGE AREA.--2,755 mi².

PERIOD OF RECORD.--Water years 1969-75, 1986 to current year.

CHEMICAL DATA: 1969 (c), 1970-74 (d), 1975 (c), 1986 (b), 1987 (e), 1988-89 (c), 1990-91 (b).

MINOR ELEMENTS DATA: 1969 (c), 1970-74 (d), 1975 (c), 1986 (b), 1987 (e), 1988-89 (c), 1990-91 (b).

PESTICIDE DATA: 1987-89 (c), 1990 (b).

NUTRIENT DATA: 1969 (c), 1970-74 (d), 1975 (c), 1987 (b), 1988-89 (c), 1990 (b).

SEDIMENT DATA: 1988 (b), 1989 (c), 1990-91 (b).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories. Water-discharge data based on records obtained for Hudson River at Hadley (station 01318500) and Sacandaga River at Stewarts Bridge, near Hadley (station 01325000).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
OCT 29...	1000	11000	65	--	9.0	751	11.1	98
APR 22...	1000	9720	70	7.8	6.5	735	12.2	102
JUN 26...	1000	3970	69	7.3	21.5	751	8.7	100
AUG 28...	1000	496	54	6.3	23.5	752	8.1	97

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
OCT 29...	<1	7	180	1	20	<0.10	<1	<10
APR 22...	1	9	350	6	30	<0.10	2	20
JUN 26...	<1	4	90	7	30	<0.10	5	<10
AUG 28...	<1	5	130	1	40	<0.10	<1	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 29...	1000	11000	1	30
APR 22...	1000	9720	11	289
JUN 26...	1000	3970	2	21
AUG 28...	1000	496	2	2.7

HUDSON RIVER BASIN

01327750 HUDSON RIVER AT FORT EDWARD, NY

LOCATION.--Lat 43°16'10", long 73°35'47", Washington County, Hydrologic Unit 02020003, on left bank 40 ft upstream from Scott Paper Mill, 150 ft south of River Street in Fort Edward, and 0.4 mi upstream from bridge on State Highway 197.

DRAINAGE AREA.--2,817 mi².

PERIOD OF RECORD.--January 1899 to December 1908, December 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.00 ft above National Geodetic Vertical Datum of 1929. Prior to December 1976, nonrecording gage at different site and datum.

REMARKS.--Records fair. Flow regulated appreciably by Great Sacandaga Lake since March 1930 (see station 01323500) and Indian Lake since 1898 (see station 01314500). Diurnal fluctuation caused by powerplants upstream from station. Water is diverted into St. Lawrence River basin through Glens Falls feeder, Bond Creek, and Champlain (Barge) Canal, and occasionally may be received from that basin through summit level of Champlain (Barge) Canal at Dunham Basin. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--14 years (1978-91), 5,242 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,200 ft³/s, May 3, 1983, gage height, 28.34 ft; maximum gage height, 28.71 ft, Jan. 11, 1978, ice jam; maximum daily discharge, about 43,900 ft³/s, Apr. 23, 1900; minimum discharge, 234 ft³/s, July 25, 1983; minimum gage height, 19.33 ft, Sept. 4, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 89,100 ft³/s, Mar. 28, 1913, at site about 14 mi upstream (drainage area, 2,779 mi²).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,900 ft³/s, Oct. 24, gage height, 24.89 ft; minimum, 625 ft³/s, June 30, gage height, 20.00 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3630	8740	6820	13000	5990	6440	7330	6420	3980	2200	2170	2120
2	2800	8470	6910	10900	6430	5720	7200	6820	4420	2190	1890	1900
3	3190	7880	6760	10900	5700	6720	6440	6820	3430	2020	2230	2020
4	3090	7820	7460	11000	5920	8980	5930	6530	3100	1690	2190	2120
5	3810	7600	8750	9830	6050	13800	6240	6050	2650	1960	2170	2170
6	3170	7330	9340	9420	6430	11400	6670	6050	3490	1780	2040	2180
7	3930	7510	8570	9100	6860	14100	8140	6180	2900	2280	2320	1910
8	3930	5620	8240	8240	7100	13500	10700	6560	3690	2320	2110	2030
9	3180	4540	7940	7510	7300	11400	12900	6300	1220	2210	2130	2110
10	3680	7880	7370	7890	7270	10500	14300	5430	2130	2710	2330	2920
11	3360	11500	7280	8870	7250	9070	14300	5410	1960	2590	2470	2890
12	4240	9300	7570	7350	6320	8700	12900	5450	2070	2240	2440	1830
13	6320	8390	6980	7090	6260	8340	10600	5120	2710	2080	2490	1970
14	8030	9760	7500	7900	6510	6900	7660	4650	2210	2200	2640	1660
15	7800	9710	4470	7170	6300	6880	6670	4280	2240	2550	2470	1980
16	7420	9460	5810	7070	6440	6640	6120	4280	2430	2380	2410	2250
17	8440	10200	6920	7930	6280	7070	5990	4000	2870	2050	2560	2050
18	7580	11900	6880	8320	6310	7070	5110	2880	2740	2480	2370	3230
19	9470	11100	6980	7870	6190	7190	4750	2850	2770	2260	1780	2940
20	11000	10000	7030	7390	5870	7290	4810	3730	2810	2380	2410	2420
21	10200	9400	7010	7660	6280	7520	4750	3650	2450	2330	2290	2280
22	8270	8610	7360	e6600	6280	7170	7570	2730	2250	2310	2450	2210
23	8240	8620	9700	e5600	6290	3960	10800	2830	2130	2570	2210	2600
24	13700	8590	13800	e5400	6080	5430	9150	2450	1980	1880	2380	2220
25	16000	8540	14900	e6600	5910	5220	7530	2540	2340	2210	2130	2710
26	12500	8330	11000	e6400	5830	5400	6670	2170	2020	2490	1950	3520
27	10300	7390	9470	e6400	5650	5400	5920	2160	2080	2440	2380	3070
28	9680	7830	7940	6410	6030	7000	5430	3440	2420	2180	2200	2910
29	10700	7390	8480	6390	---	8610	5160	4330	1810	2360	1960	2790
30	10000	7750	10900	6470	---	9250	6050	3910	1960	1980	2050	2520
31	8660	---	12600	5990	---	7990	---	3310	---	1990	1850	---
TOTAL	226320	257160	258740	244670	177130	250660	233790	139330	77260	69310	69470	71530
MEAN	7301	8572	8346	7893	6326	8086	7793	4495	2575	2236	2241	2384
MAX	16000	11900	14900	13000	7300	14100	14300	6820	4420	2710	2640	3520
MIN	2800	4540	4470	5400	5650	3960	4750	2160	1220	1690	1780	1660

CAL YR 1990 TOTAL 2621920 MEAN 7183 MAX 26500 MIN 1650
WTR YR 1991 TOTAL 2075370 MEAN 5686 MAX 16000 MIN 1220

e Estimated

HUDSON RIVER BASIN

01327755 HUDSON RIVER AT ROGERS ISLAND AT FORT EDWARD, NY

LOCATION.--Lat 43°15'52", long 73°35'28", Saratoga-Washington Counties, Hydrologic Unit 02020003, at bridges on State Highway 197 over Rogers Island in Fort Edward, 0.4 mi downstream from discharge station (01327750, Hudson River at Fort Edward), and 0.6 mi upstream from Champlain Canal.

DRAINAGE AREA.--2,817 mi², at gage.

PERIOD OF RECORD.--Water years 1975 to current year.

CHEMICAL DATA: 1975-76 (a), 1980 (b), 1981 (d), 1982-84 (e), 1985 (d), 1986-87 (e), 1988 (a).

MINOR ELEMENT DATA: 1975 (b), 1976-77 (a), 1978-79 (e), 1980 (d), 1986 (b), 1987 (e), 1988 (a).

PESTICIDE DATA: 1975, 1977 (a), 1978-79 (e), 1980 (a).

ORGANIC DATA: OC--1975 (a).

PCB--1975, 1977 (a), 1978-84 (e), 1985 (d), 1986 (e), 1987 (d), 1988-89 (e), 1991 (d).

PCN--1977 (a), 1978-79 (e), 1980 (a).

NUTRIENT DATA: 1975-77 (a), 1978 (e).

SEDIMENT DATA: 1975 (b), 1980-84 (e), 1985 (d), 1986-89, 1991 (e).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: March 1978 to September 1979.

REMARKS.--Water-discharge data is that for Hudson River at Fort Edward (station 01327750). Samples for PCB analysis are collected from both the navigation canal (east channel) and river (west channel). Composite samples are from both the river channel and the navigation canal, composited in proportion to discharge.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	STREAM- FLOW INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	PCB, TOTAL (UG/L)	IDENTIFIED AROCLO(S)	LOCATION
OCT							
24...	1645	18600	25	1260	0.50	1248	COMPOSITE
					0.05	1254	
31...	1140	8620	2	47	0.02	1248	COMPOSITE
NOV							
27...	1440	7130	1	19	<0.01	1248	COMPOSITE
JAN							
02...	1020	9870	3	80	<0.01	1248	COMPOSITE
MAR							
04...	1210	8760	2	47	<0.01	1248	COMPOSITE
05...	1640	14100	8	305	0.02	1248	COMPOSITE
21...	1000	7540	2	41	<0.01	1248	COMPOSITE
APR							
02...	0935	7330	2	40	<0.01	1248	COMPOSITE
09...	1005	12300	4	133	0.01	1248	COMPOSITE
16...	1025	5990	1	16	0.01	1248	COMPOSITE
25...	1455	7330	3	59	<0.01	1248	COMPOSITE
MAY							
10...	1035	4880	2	26	0.01	1248	COMPOSITE
JUN							
28...	1450	2950	1	8.0	0.03	1248	COMPOSITE
JUL							
25...	1145	2550	2	14	0.02	1248	COMPOSITE
AUG							
20...	1230	2550	2	14	0.05	1248	COMPOSITE
					0.01	1254	
30...	1255	2550	4	28	0.04	1248	CANAL
					0.01	1254	
30...	1325	2550	2	14	0.03	1248	COMPOSITE
					0.01	1254	
30...	1350	2550	1	6.9	0.04	1248	RIVER
					0.01	1254	
SEP							
20...	1135	2710	1	7.3	0.60	1242	COMPOSITE
					0.20	1254	

< Actual value is known to be less than the value shown

HUDSON RIVER BASIN

01330000 GLOWEGEE CREEK AT WEST MILTON, NY

LOCATION.--Lat 43°01'50", long 73°55'40", Saratoga County, Hydrologic Unit 02020003, on left bank at upstream side of highway bridge, 1.5 mi upstream from mouth, 4.0 mi northwest of Ballston Spa, and 0.5 mi south of West Milton.

DRAINAGE AREA.--26.0 mi².

PERIOD OF RECORD.--April 1948 to June 1963, October 1990 to current year.

GAGE.--Water-stage recorder. Concrete control since June 20, 1952. Datum of gage is 407.22 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 27, 1948, nonrecording gage at highway bridge at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Since May 1955, an indeterminate diversion from Kayaderosseras Creek basin by the Knolls Atomic Power Laboratory, West Milton site, enters Glowegee Creek upstream from station.

AVERAGE DISCHARGE.--15 years (water years 1949-62, 1991), 36.1 ft³/s, 18.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,670 ft³/s, Dec. 31, 1948, gage height, 7.04 ft; minimum, 0.37 ft³/s, Aug. 10, 11, 1949, gage height, 0.67 ft.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0900	*1,060	*6.62	Nov. 11	0030	724	6.48

Minimum discharge, 3.3 ft³/s, July 30, Aug. 3, gage height, 2.90 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	28	26	e54	e25	e24	51	99	21	10	6.2	8.0
2	11	26	26	e45	e24	e62	48	75	14	9.3	5.8	6.6
3	9.3	24	25	e40	e23	118	47	50	11	8.7	7.0	6.7
4	9.2	23	101	e25	e32	280	42	41	11	8.5	7.0	4.9
5	13	24	99	e20	55	162	43	34	11	8.8	6.9	9.2
6	11	46	56	e20	89	e92	51	69	9.5	9.4	6.5	7.1
7	9.6	41	43	e18	181	150	70	119	9.4	11	7.0	6.2
8	8.5	34	41	e17	155	e82	56	62	8.1	12	5.7	7.2
9	8.1	28	e38	e17	107	e54	154	45	7.1	9.0	9.3	6.9
10	25	207	e35	e17	88	e43	126	39	7.0	8.3	37	5.3
11	21	365	e32	e17	e54	e37	77	33	9.0	7.6	13	5.2
12	27	122	e28	e17	e34	e36	57	27	25	8.0	9.0	5.4
13	63	77	e25	e18	e32	e35	45	25	24	12	7.9	5.0
14	89	59	e22	e19	e31	e35	41	23	14	19	7.5	5.0
15	38	53	e20	e35	e30	e37	46	24	9.5	12	6.9	6.6
16	24	53	e31	e86	e28	e41	68	19	21	9.4	6.8	9.9
17	18	66	38	e80	e27	e50	46	28	19	6.8	7.1	8.2
18	29	64	71	e70	e27	57	44	48	13	5.8	6.2	6.4
19	134	47	124	e40	e28	70	39	27	11	5.2	27	6.9
20	51	40	e70	e25	e52	66	34	22	10	7.0	34	9.0
21	30	36	e60	e20	e60	50	103	19	9.5	8.9	16	7.3
22	22	33	e100	e17	e64	44	253	16	9.1	7.4	16	6.4
23	41	84	e110	e15	e52	58	108	14	9.1	12	11	6.5
24	533	66	e100	e15	e35	109	65	13	9.0	9.0	10	5.7
25	133	46	e70	e15	e31	118	53	13	8.3	7.0	7.2	27
26	71	37	e40	e15	e28	90	46	17	8.1	7.0	9.4	22
27	49	34	e29	e16	e26	89	42	15	7.6	9.7	7.0	13
28	40	33	e27	e16	e25	128	36	15	7.9	8.5	6.9	9.5
29	36	32	e38	e18	---	95	33	13	7.0	7.1	6.9	7.6
30	33	30	e110	e24	---	70	65	17	9.9	5.2	6.6	7.8
31	30	---	e100	e27	---	58	---	39	---	6.6	6.4	---
TOTAL	1628.7	1858	1735	878	1443	2440	1989	1100	350.1	276.2	327.2	248.5
MEAN	52.5	61.9	56.0	28.3	51.5	78.7	66.3	35.5	11.7	8.91	10.6	8.28
MAX	533	365	124	86	181	280	253	119	25	19	37	27
MIN	8.1	23	20	15	23	24	33	13	7.0	5.2	5.7	4.9

WTR YR 1991 TOTAL 14273.7 MEAN 39.1 MAX 533 MIN 4.9

e Estimated

HUDSON RIVER BASIN

01330500 KAYADEROSSERAS CREEK NEAR WEST MILTON, NY

LOCATION.--Lat 43°02'18", long 73°54'35", Saratoga County, Hydrologic Unit 02020003, on left bank 600 ft downstream from Glowegee Creek, 1.0 mi east of West Milton, and 3.5 mi northwest of Ballston Spa.

DRAINAGE AREA.--90.0 mi².

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

REVISED RECORDS.--WSP 741: Drainage area. WSP 1202: 1935-40.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 376.06 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Slight occasional diurnal fluctuation at low flow caused by mills upstream from station.

AVERAGE DISCHARGE.--64 years, 138 ft³/s, 20.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,710 ft³/s, Mar. 18, 1936, gage height, 10.78 ft, from floodmarks; maximum gage height, 11.20 ft, Mar. 14, 1977, from floodmarks; minimum discharge, 6.1 ft³/s, Aug. 23, 1927, gage height, 0.86 ft; minimum daily discharge, 12 ft³/s, Aug. 5-9, Sept. 8, 1964.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1130	*1,680	*6.09	Nov. 11	0245	1,660	6.05

Minimum discharge, 14 ft³/s, Aug. 3; minimum daily, 19 ft³/s, Aug. 2-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	125	117	e180	e86	112	201	317	93	44	21	33
2	50	119	115	e140	e86	181	187	283	80	35	19	26
3	43	113	114	e120	e100	360	177	202	66	33	19	24
4	41	123	297	e110	e130	679	165	162	62	34	24	21
5	54	117	381	e100	e190	597	165	139	58	33	23	28
6	48	165	244	e110	e250	e350	179	210	51	38	20	25
7	43	174	184	e100	e460	501	222	368	50	45	28	22
8	40	139	165	e90	e400	403	196	224	45	50	25	23
9	41	122	e150	e80	e250	e220	379	172	46	37	30	23
10	78	460	e140	e90	e160	e180	353	151	43	32	145	21
11	71	1220	e130	e86	e100	e160	254	131	50	29	58	25
12	98	517	e120	e82	e96	e150	197	115	103	27	40	25
13	193	319	e110	e80	e100	e140	171	105	95	40	33	23
14	361	231	e105	e78	e94	e140	160	97	60	78	28	22
15	186	199	e100	e120	e100	e145	164	98	47	49	26	30
16	109	194	e115	e200	e90	e150	213	87	88	34	29	43
17	87	224	e130	e160	e90	e170	169	90	73	26	27	43
18	99	229	206	e130	e100	190	163	136	58	24	24	30
19	447	182	371	e120	e120	236	153	92	53	22	61	35
20	246	158	e250	e140	e150	244	140	85	49	21	92	47
21	146	147	e210	e120	e170	195	248	76	42	22	55	35
22	115	137	387	e100	e170	176	613	68	38	20	50	29
23	144	251	492	e90	e150	200	424	62	38	44	38	29
24	1260	221	568	e84	e130	295	268	59	36	43	36	31
25	635	170	e300	e80	e120	345	219	58	33	28	28	93
26	330	146	e140	e78	e110	288	175	62	31	27	29	95
27	225	135	e110	e88	e100	291	174	61	30	36	26	57
28	181	132	e140	e110	e100	437	158	61	29	29	25	49
29	159	129	e250	e98	---	386	139	55	27	24	24	40
30	146	123	472	e90	---	287	197	73	40	21	22	36
31	132	---	278	e88	---	230	---	157	---	21	25	---
TOTAL	5864	6721	6891	3342	4202	8438	6623	4056	1614	1046	1130	1063
MEAN	189	224	222	108	150	272	221	131	53.8	33.7	36.5	35.4
MAX	1260	1220	568	200	460	679	613	368	103	78	145	95
MIN	40	113	100	78	86	112	139	55	27	20	19	21
CFSM	2.10	2.49	2.47	1.20	1.67	3.02	2.45	1.45	.60	.37	.41	.39
IN.	2.42	2.78	2.85	1.38	1.74	3.49	2.74	1.68	.67	.43	.47	.44

CAL YR 1990 TOTAL 75111 MEAN 206 MAX 1540 MIN 32 CFSM 2.29 IN. 31.05
WTR YR 1991 TOTAL 50990 MEAN 140 MAX 1260 MIN 19 CFSM 1.55 IN. 21.08

e Estimated

HUDSON RIVER BASIN

01331095 HUDSON RIVER AT STILLWATER, NY

LOCATION.--Lat 42°56'08", long 73°39'08", Rensselaer County, Hydrologic Unit 02020003, on left bank at dam, 0.15 mi downstream from bridge on State Highway 67 in Stillwater, and 0.75 mi upstream from Hoosic River. Water-quality sampling site at bridge on State Highway 67, 0.15 mi upstream from discharge station.

DRAINAGE AREA.--3,773 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1977 to December 1977 (discharge measurements and fragmentary gage-height record), January 1978 to current year. Daily discharge records prior to October 1981 are unpublished and available in files of the Geological Survey.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 78.99 ft above National Geodetic Vertical Datum of 1929. Prior to January 1978, nonrecording gages in upper pool of Champlain (Barge) Canal lock 4, at Barge Canal datum.

REMARKS.--Records good except those for estimated daily discharges and those for periods below 3,000 ft³/s, which are fair. Flow regulated appreciably by Great Sacandaga Lake (see station 01323500) and Indian Lake (see station 01314500). Diurnal fluctuation caused by powerplants upstream from station. Water is diverted into St. Lawrence River basin through Glens Falls feeder, Bond Creek, and Champlain (Barge) Canal, and occasionally may be received from that basin through summit level of Champlain (Barge) Canal at Dunham Basin.

AVERAGE DISCHARGE.--14 years, 6,564 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,600 ft³/s, May 4, 1983, gage height, 8.69 ft; minimum daily, 900 ft³/s, July 25, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,300 ft³/s, Oct. 24, gage height, 7.04 ft; minimum daily, 1,970 ft³/s, Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4490	11100	9280	16400	7950	8060	9790	9300	4830	2490	2730	1970
2	4010	11000	8530	14400	7160	7780	9760	10100	5690	2780	2030	2230
3	4280	10400	8790	13500	7120	9830	8810	9740	4640	2430	2640	2320
4	4130	10100	10000	13900	7350	12700	8080	9140	4010	2170	2560	2480
5	4750	9860	12400	12300	8000	18200	8300	8530	3620	2550	2560	2470
6	4530	9870	12300	12000	8630	15400	8740	8220	4010	2380	2290	2590
7	4870	10100	11600	11400	10300	17500	10000	9260	3970	2510	2810	2220
8	5000	9160	10700	10300	10700	17700	12800	8930	4010	2910	2600	2340
9	4520	5560	10500	9330	10500	14900	15700	8670	2710	2820	2400	2260
10	4440	11900	9790	10200	10200	13400	17300	7670	2120	3120	2880	2950
11	4270	20100	9580	12100	9780	12100	17100	7300	2580	3030	3120	3570
12	4870	16300	9550	e9700	8520	11000	15200	7150	2370	2810	3190	2380
13	6970	13300	9160	e9300	8000	10800	13600	6530	3140	2720	3190	2040
14	9820	13500	9530	e10000	8470	9210	10500	6260	3060	2610	3170	2020
15	9600	13300	6990	e9400	8350	9190	8990	5460	2760	2780	2930	2170
16	9370	13000	6840	e9300	8320	8580	8370	5520	3060	3120	2930	2700
17	9990	13100	8740	11100	7820	8940	8060	5370	3680	2590	2980	2150
18	9310	14900	9080	12200	7840	9060	7650	4540	3460	2760	2930	3510
19	11100	14300	11000	11000	8020	9580	6340	3290	3240	2680	2480	3700
20	13100	13000	10800	10100	8020	9500	6560	4640	3320	2640	2720	3280
21	12700	12300	10000	9640	8870	9540	7290	4940	3010	2970	2810	2850
22	10700	11300	12200	8470	8690	9340	10800	3610	2780	2480	2860	2720
23	10400	11600	13700	7630	8590	6500	14100	3770	2480	3200	3020	2920
24	18300	11500	17900	7510	7790	7970	12400	3200	2150	2320	2720	2710
25	21900	11200	20300	8010	7720	8590	10300	3310	2800	2670	2530	3190
26	17400	10800	16500	7760	7450	8360	9020	2800	2500	2810	2220	4730
27	14600	9930	12300	7910	7240	8210	8210	2890	2270	2910	2430	4690
28	13000	10000	11000	7850	7280	10100	7530	3640	2760	2860	2780	3970
29	13800	10100	11100	7930	---	11300	7210	5260	2060	2610	2230	3470
30	13300	9680	14300	7880	---	12500	7970	5240	2180	2720	2160	3170
31	11500	---	16400	7900	---	11200	---	4260	---	2160	2250	---
TOTAL	291020	352260	350860	316420	234680	337040	306480	188540	95270	83610	83150	85770
MEAN	9388	11740	11320	10210	8381	10870	10220	6082	3176	2697	2682	2859
MAX	21900	20100	20300	16400	10700	18200	17300	10100	5690	3200	3190	4730
MIN	4010	5560	6840	7510	7120	6500	6340	2800	2060	2160	2030	1970

CAL YR 1990 TOTAL 3395420 MEAN 9303 MAX 31900 MIN 2410
WTR YR 1991 TOTAL 2725100 MEAN 7466 MAX 21900 MIN 1970

e Estimated

HUDSON RIVER BASIN

01331095 HUDSON RIVER AT STILLWATER, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to 1975, 1977 to current year.

CHEMICAL DATA: 1969 (c), 1970-74 (d), 1975 (c), 1980 (b), 1981 (c), 1982-85 (e), 1986-88 (d).

MINOR ELEMENTS DATA: 1972 (b), 1973-75 (a), 1977-79 (e), 1980 (c).

PESTICIDE DATA: 1977-79 (e), 1980 (a).

ORGANIC DATA: OC--1974 (a), 1975 (c).

PCB--1977-85 (e), 1986-88 (d), 1989 (e), 1991 (d).

PCN--1977-79 (e), 1980 (a).

NUTRIENT DATA: 1969 (c), 1970-74 (d), 1975 (c), 1977-78 (e).

SEDIMENT DATA: 1977 (d), 1978 (a), 1981-91 (e).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: March 1977 to current year.

REMARKS.--Interruptions of sediment record were due to problems with observer, or ice conditions at sampling location.

EXTREMES FOR PERIOD OF DAILY RECORD (Water years 1977-91).--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 202 mg/L, Dec. 14, 1983; minimum daily mean, <1 mg/L on several days during the 1991 water year.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 14,800 tons, Dec. 14, 1983, Apr. 1, 1987; minimum daily, 4.0 tons, Sept. 7, 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	STREAM- FLOW INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	PCB, TOTAL (UG/L)	IDENTIFIED AROCLO(S)
OCT						
24...	1415	18700	119	6000	0.04	1248
					0.01	1254
31...	1633	11300	4	122	0.02	1248
NOV						
26...	1341	10800	4	117	0.01	1248
JAN						
02...	1352	13900	5	188	0.01	1248
MAR						
04...	1450	13100	46	1630	0.02	1248
21...	1354	9550	6	155	0.01	1242
APR						
02...	1315	9770	4	106	0.01	1248
09...	1210	15500	10	418	0.03	1248
16...	1300	8400	2	45	0.04	1248
					0.02	1254
25...	1310	10300	5	139	0.02	1248
					0.05	1254
MAY						
10...	1210	7710	4	83	0.02	1248
JUN						
28...	1200	2460	1	6.6	0.05	1248
JUL						
25...	1405	2340	1	6.3	0.05	1248
AUG						
20...	1500	2890	1	7.8	0.04	1248
					0.01	1254
30...	1515	1860	4	20	0.05	1248
					0.01	1254
SEP						
20...	1325	3160	<1	--	0.50	1242
					0.07	1254

HUDSON RIVER BASIN

01331095 HUDSON RIVER AT STILLWATER, NY--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	e2	---	3	90	3	75	14	620	1	21	3	65
2	2	22	4	119	2	46	5	194	1	19	3	63
3	e2	23	3	84	2	47	17	620	1	19	12	318
4	2	22	6	164	25	675	5	188	1	20	46	1580
5	e2	26	e8	213	19	636	4	133	---	---	69	3390
6	3	37	9	240	7	232	4	130	8	186	18	748
7	e3	39	6	164	e5	157	5	154	---	---	43	2030
8	2	27	5	124	2	58	4	111	---	---	19	908
9	---	---	2	30	---	---	5	126	15	425	15	603
10	27	324	---	---	---	---	6	165	---	---	9	326
11	---	---	117	6350	12	310	4	131	12	317	7	229
12	---	---	25	1100	17	438	e5	131	e8	184	12	356
13	---	---	9	323	1	25	9	226	4	86	---	---
14	13	345	5	182	---	---	4	108	e4	91	41	1020
15	---	---	5	180	---	---	<1	25	4	90	5	124
16	---	---	6	211	---	---	1	25	e4	90	4	93
17	9	243	6	212	<1	24	12	360	4	84	4	97
18	5	126	7	282	2	49	10	329	e4	85	e4	98
19	75	2250	7	270	9	267	7	208	4	87	5	129
20	16	566	5	175	8	233	2	55	e4	87	6	154
21	12	411	5	166	2	54	2	52	---	---	5	129
22	4	116	4	122	13	428	e2	46	---	---	3	76
23	5	140	5	157	12	444	1	21	13	302	3	53
24	90	4450	7	217	---	---	1	20	---	---	20	430
25	55	3250	8	242	---	---	1.	22	5	104	18	417
26	21	987	3	87	7	312	<1	21	e5	101	11	248
27	---	---	2	54	3	100	1	21	5	98	7	155
28	---	---	3	81	2	59	1	21	9	177	11	300
29	---	---	3	82	3	90	1	21	---	---	11	336
30	---	---	3	78	4	154	<1	21	---	---	68	2290
31	4	124	---	---	---	---	<1	21	---	---	5	151
DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4	106	4	100	2	26	2	13	2	15	1	5.3
2	4	105	8	218	4	61	2	15	3	16	2	12
3	4	95	6	158	1	13	3	20	3	21	1	6.3
4	e3	65	3	74	2	22	e3	18	3	21	3	20
5	2	45	3	69	1	9.8	1	6.9	4	28	1	6.7
6	2	47	3	67	2	22	2	13	3	19	2	14
7	2	54	---	---	1	11	3	20	4	30	2	12
8	6	207	6	145	1	11	3	24	3	21	1	6.3
9	20	848	3	70	1	7.3	1	7.6	3	19	1	6.1
10	14	654	3	62	1	5.7	1	8.4	4	31	<1	8.0
11	10	462	2	39	1	7.0	1	8.2	3	25	1	9.6
12	e9	369	3	58	3	19	1	7.6	3	26	e1	6.4
13	7	257	2	35	4	34	<1	7.3	e3	26	<1	5.5
14	4	113	2	34	e4	33	<1	7.0	e3	26	1	5.5
15	3	73	3	44	3	22	2	15	e2	16	<1	5.9
16	3	68	3	45	e3	25	e2	17	e2	16	<1	7.3
17	2	44	3	43	5	50	2	14	1	8.0	<1	5.8
18	2	41	5	61	1	9.3	2	15	1	7.9	1	9.5
19	2	34	5	44	2	17	1	7.2	1	6.7	1	10
20	3	53	4	50	2	18	1	7.1	1	7.3	1	8.9
21	4	79	2	27	2	16	3	24	<1	7.6	1	7.7
22	48	1400	3	29	2	15	4	27	e1	7.7	<1	7.3
23	44	1680	3	31	4	27	2	17	1	8.2	3	24
24	14	469	2	17	3	17	1	6.3	1	7.3	2	15
25	5	139	4	36	2	15	3	22	1	6.8	<1	8.6
26	3	73	5	38	2	13	6	46	1	6.0	3	38
27	3	67	3	23	2	12	4	31	<1	6.6	2	25
28	4	81	2	20	3	22	1	7.7	<1	7.5	2	21
29	4	78	2	28	1	5.6	1	7.0	1	6.0	2	19
30	3	65	2	28	2	12	2	15	1	5.8	e2	17
31	---	---	6	69	---	---	2	12	<1	6.1	---	---

e Estimated

< Actual value is known to be less than the value shown

HUDSON RIVER BASIN

01333000 GREEN RIVER AT WILLIAMSTOWN, MA

LOCATION.--Lat 42°42'32", long 73°11'50", Berkshire County, Hydrologic Unit 02020003, on left bank 0.1 mi upstream from bridge on State Highway 2, at Williamstown, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--42.6 mi².

PERIOD OF RECORD.--Discharge: September 1949 to current year.
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WDR MA-RI-84-1: 1977-78(P), 1979, 1980-83(P).

GAGE.--Water-stage recorder. Elevation of gage is 615 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Slight diurnal fluctuation at times caused by mill upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 31, 1948, reached a stage of about 7.5 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	74	44	143	58	57	110	209	45	16	6.1	22
2	21	67	43	127	62	85	103	199	39	13	7.8	18
3	20	62	41	115	63	102	93	153	36	13	7.5	16
4	25	58	146	103	67	272	85	131	36	12	11	16
5	43	55	107	93	73	189	82	115	39	11	8.9	19
6	28	76	90	90	89	133	84	148	35	12	6.6	15
7	25	61	84	79	242	250	84	161	32	14	6.4	14
8	24	60	78	56	184	153	82	125	29	12	5.7	13
9	23	56	72	68	140	125	113	115	27	10	7.5	13
10	22	392	66	68	121	113	114	115	25	8.8	24	13
11	22	358	55	57	107	101	99	104	27	8.3	11	14
12	22	202	54	67	77	94	88	93	39	9.0	8.6	12
13	52	145	53	64	91	85	81	82	33	13	7.9	11
14	67	118	49	73	97	80	77	77	25	18	8.1	13
15	46	107	49	62	101	77	79	70	23	11	27	15
16	38	101	61	87	66	72	78	62	26	9.0	24	19
17	35	98	52	121	71	73	71	113	24	7.8	13	14
18	39	90	106	80	67	101	92	112	21	6.9	20	12
19	115	83	143	65	89	116	76	82	20	6.6	257	43
20	66	76	102	61	145	98	71	71	19	6.5	105	35
21	56	70	142	54	94	86	146	64	16	6.7	112	23
22	51	64	184	42	89	98	176	59	16	6.4	96	20
23	75	72	154	50	72	101	142	54	16	12	59	19
24	515	67	459	60	66	146	120	49	14	7.3	46	21
25	256	59	267	47	69	148	108	47	14	6.4	37	230
26	172	53	184	50	63	126	98	44	13	7.8	32	162
27	134	50	138	62	60	129	89	43	12	11	27	98
28	121	50	122	54	55	183	80	50	12	7.0	24	70
29	108	48	121	45	---	149	74	39	11	6.4	21	58
30	92	46	193	79	---	128	146	53	24	6.2	19	50
31	82	---	212	121	---	117	---	69	---	5.9	28	---
TOTAL	2424	2918	3671	2343	2578	3787	2941	2908	748	301.0	1074.1	1098
MEAN	78.2	97.3	118	75.6	92.1	122	98.0	93.8	24.9	9.71	34.6	36.6
MAX	515	392	459	143	242	272	176	209	45	18	257	230
MIN	20	46	41	42	55	57	71	39	11	5.9	5.7	11
CFSM	1.84	2.28	2.78	1.77	2.16	2.87	2.30	2.20	.59	.23	.81	.86
IN.	2.12	2.55	3.21	2.05	2.25	3.31	2.57	2.54	.65	.26	.94	.96

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1991, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1949	45.3	222	1978	5.33	1965
1950	77.1	171	1956	6.71	1965
1951	91.9	259	1974	24.8	1965
1952	76.9	219	1979	11.0	1981
1953	84.8	239	1984	14.6	1980
1954	146	376	1979	33.6	1965
1955	207	390	1969	72.2	1985
1956	113	251	1984	32.4	1987
1957	63.7	256	1972	18.2	1965
1958	31.3	112	1975	9.13	1955
1959	27.7	147	1975	5.61	1964
1960	29.6	158	1960	4.09	1964

SUMMARY STATISTICS

FOR 1990 CALENDAR YEAR

FOR 1991 WATER YEAR

WATER YEARS 1949 - 1991

ANNUAL TOTAL	42062.7	26791.1	
ANNUAL MEAN	115	73.4	82.7
HIGHEST ANNUAL MEAN			126
LOWEST ANNUAL MEAN			31.7
HIGHEST DAILY MEAN	640	Mar 18	2200
LOWEST DAILY MEAN	8.4	Aug 5	3.2
ANNUAL SEVEN-DAY MINIMUM	10	Jul 30	3.4
INSTANTANEOUS PEAK FLOW			1260
INSTANTANEOUS PEAK STAGE			4.12
INSTANTANEOUS LOW FLOW			5.2
ANNUAL RUNOFF (CFSM)	2.71	1.72	1.94
ANNUAL RUNOFF (INCHES)	36.73	23.40	26.37
10 PERCENT EXCEEDS	273	145	185
50 PERCENT EXCEEDS	77	62	48
90 PERCENT EXCEEDS	23	12	11

a Stage of instantaneous peak discharge was 5.68 ft in well, stage in river unknown.

b From floodmarks, stage in well not known.

HUDSON RIVER BASIN

01333500 LITTLE HOOSIC RIVER AT PETERSBURG, NY

LOCATION.--Lat 42°45'50", long 73°20'16", Rensselaer County, Hydrologic Unit 02020003, on left bank 100 ft downstream from highway bridge on dirt road, 1.0 mi downstream from Petersburg, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--56.1 mi².

PERIOD OF RECORD.--July 1951 to current year.

REVISED RECORDS.--WSP 1702: 1959.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 587.40 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--40 years, 95.1 ft³/s, 23.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s, June 30, 1973, gage height, 9.20 ft; minimum, 1.9 ft³/s, Sept. 11, 12, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 31, 1948, reached a stage of 9.4 ft, from floodmarks, discharge, 7,470 ft³/s, from contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	1915	*1,320	*5.53	No other peak greater than base discharge.			

Minimum discharge, 5.9 ft³/s, July 20, 31, Aug. 1, 3, 8, 9, 14, 15, gage height, 1.29 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	82	58	e220	e56	73	146	280	34	13	6.0	13
2	17	76	55	e190	e54	113	133	308	29	10	6.5	10
3	16	70	52	e150	e56	114	118	255	26	10	6.8	9.3
4	22	66	167	e120	e70	308	108	231	25	9.7	8.2	8.9
5	41	61	128	e100	88	263	101	195	24	9.4	7.6	9.2
6	25	80	103	e80	115	211	99	220	23	9.3	6.6	8.2
7	21	69	97	e74	306	323	96	257	21	10	6.4	7.8
8	19	68	92	e68	e260	e220	92	205	19	10	6.1	7.6
9	19	63	86	e62	e180	e180	170	179	18	8.6	6.4	7.2
10	19	444	e80	e60	e130	e150	178	175	17	7.7	10	7.0
11	18	576	e68	e58	e100	e130	151	148	20	7.4	7.8	9.9
12	17	369	e62	e56	e86	e120	134	128	31	7.3	7.1	7.4
13	36	274	e60	e56	e78	111	122	110	25	11	6.5	7.0
14	48	219	e56	e56	e72	103	112	99	18	14	6.1	7.6
15	35	185	e56	e54	e68	98	113	89	17	8.8	9.4	8.4
16	30	165	e58	e76	e66	92	112	76	19	7.9	14	11
17	27	158	e68	161	e64	96	99	111	20	7.3	7.9	8.3
18	30	145	166	113	e70	129	187	122	16	6.9	7.3	7.5
19	102	120	270	e90	e110	160	139	85	15	6.7	85	41
20	64	107	185	e80	212	131	128	74	14	6.4	50	36
21	56	97	194	e70	e130	113	267	66	13	6.6	50	21
22	51	89	290	e60	e120	120	336	59	12	6.4	62	16
23	65	101	271	e58	101	130	281	52	12	11	34	14
24	552	95	573	e56	89	224	243	47	11	7.7	24	14
25	320	85	e360	e52	92	254	209	43	10	6.8	20	94
26	220	77	e270	e50	e80	213	174	41	10	8.2	16	97
27	167	73	e210	e48	e74	208	151	36	9.7	9.5	14	65
28	138	71	e190	e46	70	221	131	36	9.2	7.1	13	48
29	120	67	e200	e45	---	203	117	31	8.9	6.7	11	39
30	103	62	e330	e56	---	186	191	34	16	6.4	10	33
31	91	---	e300	e90	---	161	---	54	---	6.1	15	---
TOTAL	2509	4214	5155	2555	2997	5158	4638	3846	542.8	263.9	540.7	673.3
MEAN	80.9	140	166	82.4	107	166	155	124	18.1	8.51	17.4	22.4
MAX	552	576	573	220	306	323	336	308	34	14	85	97
MIN	16	61	52	45	54	73	92	31	8.9	6.1	6.0	7.0
CFSM	1.44	2.50	2.96	1.47	1.91	2.97	2.76	2.21	.32	.15	.31	.40
IN.	1.66	2.79	3.42	1.69	1.99	3.42	3.08	2.55	.36	.17	.36	.45

CAL YR 1990 TOTAL 52659.2 MEAN 144 MAX 1150 MIN 9.1 CFSM 2.57 IN. 34.92
WTR YR 1991 TOTAL 33092.7 MEAN 90.7 MAX 576 MIN 6.0 CFSM 1.62 IN. 21.94

e Estimated

HUDSON RIVER BASIN

01334000 WALLOOMSAC RIVER NEAR NORTH BENNINGTON, VT

LOCATION.--Lat 42°54'47", long 73°15'25", Bennington County, Hydrologic Unit 02020003, on left bank 0.6 mi downstream from Paran Creek and 1.4 mi south of North Bennington.

DRAINAGE AREA.--111 mi².

PERIOD OF RECORD.--Discharge: June 1931 to current year.
Water-quality records: Water years 1953-54.

REVISED RECORDS.--WSP 781: 1933(M).

GAGE.--Water-stage recorder. Elevation of gage is 525 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional diurnal fluctuation at low flow caused by mills upstream; diurnal fluctuation greater prior to 1960. Diversion upstream for municipal supply of Bennington and North Bennington since 1961. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--60 years, 222 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,450 ft³/s, Sept. 21, 1938, gage height, 12.04 ft, from rating curve extended above 2,800 ft³/s on basis of contracted-opening measurements at gage heights 10.13 ft, 10.49 ft, 11.50 ft, and 12.04 ft and slope-area measurement and computation of flow over dam at gage height 12.04 ft; minimum, 4 ft³/s, Sept. 27, 1932; minimum daily, 21 ft³/s, Sept. 22-23, 1964, July 12, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	2145	*2,340	*6.05	No other peak greater than base discharge.			
Minimum discharge, 36 ft ³ /s, Aug. 9.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	182	188	137	e410	e155	137	264	491	143	111	45	98
2	123	176	135	e335	e140	244	258	451	112	80	52	71
3	108	165	131	e280	e140	398	253	346	95	71	49	61
4	118	156	329	e245	e140	705	249	311	90	67	56	61
5	237	148	322	e210	e155	595	280	271	92	63	53	66
6	154	235	212	e210	e200	382	410	322	91	65	46	57
7	126	211	187	e175	363	571	586	402	85	71	43	52
8	113	185	175	e150	353	409	535	300	80	72	39	49
9	108	162	168	e145	257	297	1350	261	82	59	48	46
10	128	724	160	e150	e200	251	924	242	75	52	152	45
11	115	943	137	e155	e155	225	544	226	81	50	94	47
12	110	437	e130	e155	e140	212	407	210	142	50	69	44
13	232	323	e125	e150	e135	198	347	191	137	63	56	45
14	303	277	e120	e155	e135	192	304	182	95	111	47	48
15	200	255	e120	e155	e130	187	302	176	121	70	98	56
16	162	248	e140	e200	e135	178	323	159	937	56	167	81
17	144	252	175	e400	e135	182	273	211	369	50	121	62
18	147	243	318	310	e140	188	302	268	212	46	75	53
19	356	213	626	e210	e155	223	268	186	153	43	604	243
20	228	194	334	e170	299	200	236	161	122	41	504	234
21	184	185	318	e140	237	179	418	146	104	40	382	120
22	165	176	e450	e115	197	175	555	135	92	40	358	87
23	191	213	517	e140	173	180	403	122	88	151	199	75
24	1000	209	1220	e140	145	262	314	115	79	84	136	75
25	487	188	e600	e130	e150	355	277	123	73	58	107	417
26	332	171	e400	e140	e140	270	250	122	68	73	91	378
27	267	161	e300	e135	e135	274	244	111	64	108	80	221
28	238	156	e280	e135	132	502	223	109	60	67	72	152
29	233	153	e290	137	---	446	207	110	59	53	66	126
30	209	145	e600	164	---	350	420	149	149	48	60	110
31	202	---	e700	237	---	285	---	209	---	44	107	---
TOTAL	6902	7492	9856	5983	4971	9252	11726	6818	4150	2057	4076	3280
MEAN	223	250	318	193	178	298	391	220	138	66.4	131	109
MAX	1000	943	1220	410	363	705	1350	491	937	151	604	417
MIN	108	145	120	115	130	137	207	109	59	40	39	44

CAL YR 1990 TOTAL 97727 MEAN 268 MAX 2110 MIN 45
WTR YR 1991 TOTAL 76563 MEAN 210 MAX 1350 MIN 39

e Estimated

HUDSON RIVER BASIN

01334500 HOOSIC RIVER NEAR EAGLE BRIDGE, NY

LOCATION.--Lat 42°56'19", long 73°22'39", Rensselaer County, Hydrologic Unit 02020003, on right bank 0.5 mi upstream from Case Brook, 1.2 mi downstream from Walloomsac River, and 1.2 mi southeast of Eagle Bridge.

DRAINAGE AREA.--510 mi².

PERIOD OF RECORD.--August 1910 to March 1922, July 1923 to current year.

REVISED RECORDS.--WSP 741: Drainage area. WSP 756: 1913(M). WSP 1302: 1922(M). WSP 1432: 1913 (minimum gage height). WSP 1502: 1911-12, 1914, 1920-21, 1928(M), 1936(M).

GAGE.--Water-stage recorder. Datum of gage is 355.41 ft above National Geodetic Vertical Datum of 1929. Prior to March 1922, nonrecording gage and July 24, 1923 to July 18, 1936, water-stage recorder, at site 0.2 mi upstream at different datums.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation at medium and low flow caused by powerplants upstream from station. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--79 years (water years 1911-21, 1924-91), 949 ft³/s, 25.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,400 ft³/s, Dec. 31, 1948, gage height, 21.15 ft, from highwater mark in gage house, from rating curve extended above 13,000 ft³/s on basis of peak flow over downstream dams and contracted-opening measurements at gage heights 17.8 ft and 21.15 ft; minimum discharge, 24 ft³/s, Sept. 14, 1913; minimum daily, 30 ft³/s, Sept. 14, 1913.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1300	7,720	8.90	Dec. 24	1515	8,020	9.04
Nov. 11	0130	*10,900	*10.26				

Minimum discharge, 64 ft³/s, July 22, Sept. 13; minimum daily, 130 ft³/s, July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	445	821	592	2140	850	611	1440	2490	533	378	140	333
2	393	758	575	1810	704	886	1360	2260	450	256	167	227
3	328	703	541	1590	711	1590	1280	1800	378	219	149	223
4	335	649	1220	1330	772	3140	1210	1560	352	217	178	193
5	675	607	1720	1130	866	3090	1200	1350	353	209	171	202
6	514	770	1080	e900	1060	1990	1400	1370	375	197	167	206
7	447	845	932	e800	1990	2770	1700	2170	345	220	144	185
8	373	725	859	e720	2240	2190	1630	1590	326	239	135	168
9	326	655	806	e680	1590	1650	2870	1340	306	195	140	158
10	320	2340	761	e660	1360	1440	2760	1230	278	184	299	158
11	335	6430	672	e640	1150	1260	1960	1150	277	170	288	173
12	349	2750	643	e620	e780	1170	1550	1030	417	164	203	167
13	546	1930	634	e600	e760	1070	1320	928	534	159	175	155
14	1330	1530	597	e600	e740	1030	1190	844	351	318	160	156
15	839	1360	505	e640	e720	996	1110	820	300	238	155	162
16	629	1270	716	785	e660	926	1270	731	1940	206	388	245
17	528	1220	737	1820	e640	943	1070	719	1060	167	286	212
18	490	1200	1060	1370	e660	994	1300	1290	627	166	204	180
19	1290	1040	2730	988	791	1460	1170	854	479	153	1060	413
20	989	935	1660	896	1440	1270	1030	717	368	143	2160	738
21	748	857	1460	e720	1200	1090	1470	644	347	153	1130	422
22	629	794	2730	e540	986	1050	2940	591	290	130	1290	305
23	650	894	2330	e530	e780	1170	2070	538	272	279	711	261
24	5060	907	5440	e520	e660	1470	1610	479	264	269	478	256
25	3150	819	3640	e500	778	2110	1380	483	237	173	396	1130
26	1900	749	2360	e490	686	1660	1200	469	226	178	333	1770
27	1440	710	1700	e480	651	1660	1110	430	234	271	309	1020
28	1210	690	1520	e470	596	2120	1010	451	198	233	263	659
29	1120	668	1500	e460	---	2230	923	412	203	185	227	533
30	981	627	2520	e540	---	1830	1390	416	310	167	227	453
31	899	---	3630	1160	---	1570	---	772	---	154	243	---
TOTAL	29268	36253	47870	27129	26821	48436	44923	31928	12630	6390	12376	11463
MEAN	944	1208	1544	875	958	1562	1497	1030	421	206	399	382
MAX	5060	6430	5440	2140	2240	3140	2940	2490	1940	378	2160	1770
MIN	320	607	505	460	596	611	923	412	198	130	135	155
CFSM	1.85	2.37	3.03	1.72	1.88	3.06	2.94	2.02	.83	.40	.78	.75
IN.	2.13	2.64	3.49	1.98	1.96	3.53	3.28	2.33	.92	.47	.90	.84

CAL YR 1990 TOTAL 495490 MEAN 1358 MAX 10300 MIN 149 CFSM 2.66 IN. 36.14
WTR YR 1991 TOTAL 335487 MEAN 919 MAX 6430 MIN 130 CFSM 1.80 IN. 24.47

e Estimated

HUDSON RIVER BASIN

01334805 HOOSIC RIVER AT EAGLE BRIDGE, NY

LOCATION.--Lat 42°57'05", long 73°23'28", Rensselaer County, Hydrologic Unit 02020003, at Route 67 bridge in Eagle Bridge, 2 mi east of Buskirk.

DRAINAGE AREA.--571 mi².

PERIOD OF RECORD.--April 1987 to current year. Records prior to October 1988 are unpublished and available in files of the Geological Survey.

CHEMICAL DATA: 1987 (b), 1988-89 (c), 1990-91 (b).

MINOR ELEMENTS DATA: 1987 (b), 1988-89 (c), 1990-91 (b).

PESTICIDE DATA: 1987 (b), 1988-89 (c), 1990 (b).

NUTRIENT DATA: 1987 (b), 1988-89 (c), 1990 (b).

SEDIMENT DATA: 1988 (b), 1989 (c), 1990-91 (b).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories. Water-discharge data based on records obtained for Hoosic River near Eagle Bridge (station 01334500).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT 29...	1200	1250	186	--	7.0	1	11.5	0
APR 22...	1300	3290	133	7.9	6.5	735	11.8	100
JUN 26...	1200	253	275	8.5	23.0	757	10.4	122
AUG 28...	1200	294	282	8.1	23.5	758	10.5	124

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
OCT 29...	230	<1	4	390	2	30	<0.10	<1	<10
APR 22...	1300	<1	5	3100	7	200	<0.10	4	20
JUN 26...	140	<1	6	290	10	40	<0.10	12	<10
AUG 28...	120	<1	8	160	1	10	<0.10	<1	20

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 29...	1200	1250	10	34
APR 22...	1300	3290	76	675
JUN 26...	1200	253	6	4.1
AUG 28...	1200	294	6	4.8

HUDSON RIVER BASIN

01335754 HUDSON RIVER ABOVE LOCK 1 NEAR WATERFORD, NY

LOCATION.--Lat 42°49'45", long 73°40'00", Saratoga County, Hydrologic Unit 02020003, 0.4 mi upstream from dam at Lock 1c, 3.4 mi downstream from dam at Lock 2c Champlain (Barge) Canal, and 2.8 mi northeast of Waterford.

DRAINAGE AREA.--4,611 mi².

PERIOD OF RECORD.--October 1976 to current year. Prior to October 1981 published as 01335770 Hudson River at Waterford, NY.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to February 1978, nonrecording gage 200 ft downstream of this site.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated appreciably by Great Sacandaga Lake (see station 01323500) and Indian Lake (see station 01314500). Diurnal fluctuation caused by powerplants upstream from station. Water is diverted into St. Lawrence River basin through Glens Falls feeder, Bond Creek, and Champlain (Barge) Canal, and occasionally may be received from that basin through summit level of Champlain (Barge) Canal at Dunham Basin.

AVERAGE DISCHARGE.--15 years, 8,173 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft³/s, Mar. 15, 1977; maximum gage height, 36.38 ft, May 30, 31, 1984; minimum daily discharge, 1,170 ft³/s, July 25, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,600 ft³/s, Nov. 11, gage height, 33.70 ft; minimum daily, 2,100 ft³/s, Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5280	13500	11000	24400	8900	8670	12200	13400	5960	3030	2780	2300
2	4880	13300	9960	20600	8630	8370	12000	14300	6660	3320	2230	2680
3	5240	12400	10100	18300	8070	11600	10500	13500	5390	2690	2770	2730
4	4930	12100	11500	18300	8160	18400	9420	12400	4700	2760	2630	2960
5	5700	11500	15700	15600	8970	28000	9490	11400	4340	2850	2760	2930
6	5340	10200	14500	14400	10100	23300	10100	11000	4390	2760	2390	2920
7	5680	9660	13400	13600	14100	25300	11900	12900	4750	2930	2870	2590
8	6090	9040	11700	11700	17000	26200	15000	12000	4340	3350	2760	2610
9	5680	5570	11600	9950	15000	21400	20200	11500	3830	3140	2420	e2500
10	5480	14000	10900	10800	13600	18300	e22600	10200	2580	3320	3080	e3200
11	5500	31200	9920	10900	12400	15800	e21800	9500	3010	3260	3570	e3800
12	5950	22700	9200	9750	10100	13300	e18700	9050	2800	3040	3480	2750
13	7890	18000	9110	9740	8970	13000	e16500	8420	3830	3060	3360	2100
14	11400	17100	9630	9970	9760	10800	e12800	7900	3860	2650	3320	2320
15	11600	16700	7480	10200	9730	10600	e11000	6930	3380	2810	3090	2350
16	11200	16200	6710	10400	9840	9590	e10400	7010	4480	3500	3240	3040
17	11300	16200	9040	13000	8920	10200	e9960	6760	5630	2790	3400	2420
18	10700	17900	9770	16700	8680	10200	10000	5870	5040	2750	3450	3740
19	13000	17300	15500	13800	9050	11100	8500	4750	4370	2840	3010	4340
20	15500	15600	14700	11800	9660	11300	8590	6090	4000	2790	5170	4040
21	15400	15000	12200	11000	11400	11100	9450	6370	3470	3070	4820	3520
22	13300	13900	17100	10100	10500	10800	15900	4820	3270	2590	4820	3240
23	12600	14000	19500	9470	10200	8000	19000	4630	2970	3350	3870	3340
24	23800	14100	26500	9810	8920	9510	16800	4140	2470	2830	3570	3270
25	28400	13700	29900	8870	8730	12200	14100	4220	3070	2840	3380	3670
26	22100	13100	24200	9340	8140	11400	12000	3430	3000	3000	2910	6590
27	18400	12100	16600	9330	7930	10600	10900	3740	2590	3050	2730	6440
28	16100	12000	13700	8750	7860	13400	9910	4030	3170	3050	3390	5130
29	16600	12200	13300	9250	---	16000	8900	6070	2450	2770	2680	4500
30	16100	11300	20000	8380	---	17600	10100	6000	2480	2910	2480	3910
31	14300	---	25900	8680	---	15100	---	5360	---	2280	2630	---
TOTAL	355440	431570	440320	376890	283320	441140	388720	247690	116280	91380	99060	101930
MEAN	11470	14390	14200	12160	10120	14230	12960	7990	3876	2948	3195	3398
MAX	28400	31200	29900	24400	17000	28000	22600	14300	6660	3500	5170	6590
MIN	4880	5570	6710	8380	7860	8000	8500	3430	2450	2280	2230	2100

CAL YR 1990 TOTAL 4290550 MEAN 11750 MAX 43700 MIN 2360
WTR YR 1991 TOTAL 3373740 MEAN 9243 MAX 31200 MIN 2100

e Estimated

HUDSON RIVER BASIN

01335770 HUDSON RIVER AT WATERFORD, NY

LOCATION.--Lat 42°47'19", long 73°40'28", at Saratoga-Rensselaer County line, Hydrologic Unit 02020003, at bridge on U.S. Highway 4 in Waterford, 0.4 mi upstream from first branch of Mohawk River, and 2.8 mi downstream from dam at lock 1 of the Champlain (Barge) Canal.

DRAINAGE AREA.--4,620 mi².

PERIOD OF RECORD.--Water years 1952, 1969 to current year.

CHEMICAL DATA: 1952 (a), 1969 (d), 1970-71 (e), 1972-76 (d), 1977 (c), 1978-79 (d), 1980-84 (e), 1985 (c), 1986-87 (e), 1988-89 (c), 1990-91 (b).

MINOR ELEMENTS DATA: 1952 (a), 1969 (d), 1970-71 (e), 1972-76 (d), 1977-79 (e), 1980-81 (d), 1982 (a), 1983 (b), 1987-89(c), 1990-91 (b).

PESTICIDE DATA: 1975 (b), 1976 (d), 1977-79 (e), 1980, 1982 (a), 1987-89 (c), 1990 (b).

ORGANIC DATA: OC--1975-77 (c), 1978 (d), 1979 (c).

PCB--1975 (b), 1976 (d), 1977-84 (e), 1985 (c), 1986-87 (e), 1988 (d), 1989 (e), 1991 (d).

PCN--1977-79 (e), 1980, 1982 (a).

NUTRIENT DATA: 1952 (a), 1969 (d), 1970-71 (e), 1972-76 (d), 1977-78 (e), 1979-81 (d), 1987-89 (c), 1990 (b).

BIOLOGICAL DATA: Bacteria--1977 (c), 1978 (d), 1979 (e), 1980-81 (d).

SEDIMENT DATA: 1975 (b), 1976-77 (e), 1978 (a), 1979 (b), 1980 (c), 1981-91 (e).

PERIOD OF DAILY RECORD.--SUSPENDED-SEDIMENT DISCHARGE: October 1976 to current year.

REMARKS.--Water discharge data based on records obtained above Lock 1 near Waterford (station 01335754), 3.2 mi upstream. PCB samples were collected and analyzed by USGS; all other samples were collected by personnel of the New York State Department of Environmental Conservation and were analyzed in USGS laboratories.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean (water years 1977-91), 810 mg/L March 14, 1977; minimum daily mean, <1 mg/L, July 28, Aug. 2, 1991.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily (water years 1977-91), 119,000 tons March 14, 1977; minimum daily, 3.9 tons Sept. 7, 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
OCT 29...	1400	16700	124	--	8.0	766	11.4	96	230
APR 22...	1400	16900	171	7.9	8.5	744	11.5	100	2300
JUN 26...	1300	2650	158	7.8	25.0	767	8.4	101	120
AUG 28...	1400	3080	164	7.5	25.0	764	8.8	107	60

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
OCT 29...	<1	4	370	2	40	<0.10	1	<10
APR 22...	<1	5	3400	5	120	<0.10	4	20
JUN 26...	<1	7	320	14	40	<0.10	8	<10
AUG 28...	<1	4	140	1	10	<0.10	1	<10

HUDSON RIVER BASIN

01335770 HUDSON RIVER AT WATERFORD, NY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	STREAM- FLOW INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	PCB, TOTAL (UG/L)	IDENTIFIED AROCLO(S)
OCT						
24...	1210	22400	96	5800	0.03	1248
31...	1739	14000	6	227	0.02	1248
NOV						
26...	1005	12700	5	171	0.01	1248
JAN						
02...	1507	19500	6	316	0.01	1248
MAR						
04...	1615	20900	56	3160	0.01	1248
05...	1157	28500	86	6620	0.04	1248
					0.01	1254
21...	1500	11100	6	180	0.01	1248
APR						
02...	1415	12000	4	130	0.01	1248
09...	1340	20300	14	767	0.02	1248
16...	1425	E10400	2	56	0.01	1248
25...	1110	13800	8	298	0.01	1248
MAY						
10...	1310	10000	6	162	0.02	1248
JUN						
25...	1215	2810	2	15	0.04	1248
JUL						
25...	1515	2500	2	14	0.04	1248
AUG						
20...	1600	4730	5	64	0.03	1248
					0.01	1254
30...	1630	1920	4	21	0.02	1248
SEP						
20...	1445	4010	2	22	0.30	1242
					0.03	1254

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT				
29...	1400	16700	8	361
APR				
22...	1400	16900	84	3830
JUN				
26...	1300	2650	7	50
AUG				
28...	1400	3080	5	42

E Estimated daily discharge.

HUDSON RIVER BASIN

01335770 HUDSON RIVER AT WATERFORD, NY--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3	43	6	219	3	89	---	---	---	---	---	---
2	e3	40	e10	359	1	27	---	---	---	---	---	---
3	11	156	13	435	---	---	---	---	---	---	---	---
4	e6	80	e10	327	---	---	---	---	---	---	56	2780
5	3	46	7	217	---	---	---	---	---	---	86	6500
6	e10	144	---	---	9	352	6	233	---	---	---	---
7	18	276	---	---	9	326	---	---	---	---	---	---
8	e18	296	---	---	e7	221	---	---	---	---	---	---
9	18	276	---	---	3	94	---	---	---	---	---	---
10	e12	178	---	---	e4	118	---	---	---	---	---	---
11	14	208	---	---	4	107	---	---	---	---	---	---
12	e14	225	---	---	e4	99	---	---	---	---	---	---
13	10	213	---	---	4	98	---	---	---	---	---	---
14	---	---	---	---	e4	104	---	---	---	---	---	---
15	---	---	---	---	2	40	---	---	---	---	---	---
16	---	---	6	262	e2	36	---	---	---	---	---	---
17	---	---	8	350	2	49	---	---	---	---	---	---
18	---	---	6	290	e2	53	---	---	---	---	---	---
19	---	---	7	327	4	167	---	---	---	---	---	---
20	---	---	6	253	---	---	---	---	---	---	---	---
21	---	---	4	162	---	---	---	---	---	---	6	180
22	---	---	4	150	---	---	---	---	---	---	---	---
23	---	---	3	113	32	1680	---	---	---	---	---	---
24	96	6170	e3	114	---	---	---	---	---	---	---	---
25	58	4450	e4	148	---	---	---	---	---	---	---	---
26	54	3220	5	177	---	---	---	---	---	---	---	---
27	28	1390	e4	131	---	---	---	---	---	---	---	---
28	27	1170	e3	97	31	1150	---	---	---	---	---	---
29	7	314	3	99	---	---	---	---	---	---	---	---
30	7	304	3	92	---	---	---	---	---	---	---	---
31	5	193	---	---	---	---	---	---	---	---	---	---
DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	3	25	3	23	1	6.2
2	4	130	---	---	---	---	3	27	<1	6.0	1	7.2
3	---	---	---	---	---	---	2	15	2	15	1	7.4
4	---	---	---	---	---	---	3	22	7	50	1	8.0
5	---	---	---	---	---	---	3	23	4	30	1	7.9
6	---	---	6	178	---	---	4	30	3	19	2	16
7	---	---	8	279	7	90	3	24	2	15	e2	14
8	---	---	9	292	5	59	3	27	2	15	e2	14
9	14	764	7	217	4	41	3	25	3	20	2	13
10	---	---	6	165	12	84	3	27	4	33	2	17
11	---	---	6	154	e10	81	5	44	4	39	3	31
12	---	---	5	122	e8	60	3	25	3	28	3	22
13	---	---	4	91	4	41	3	25	4	36	4	23
14	---	---	6	128	5	52	2	14	5	45	2	13
15	---	---	5	94	4	37	3	23	3	25	2	13
16	2	56	4	76	4	48	3	28	3	26	1	8.2
17	---	---	4	73	9	137	3	23	6	55	2	13
18	---	---	e5	79	12	163	3	22	5	47	3	30
19	---	---	6	77	4	47	2	15	5	41	4	47
20	---	---	---	---	5	54	2	15	5	70	2	22
21	---	---	---	---	4	37	e2	17	6	78	3	29
22	---	---	---	---	4	35	2	14	4	52	4	35
23	---	---	---	---	4	32	4	36	4	42	4	36
24	---	---	---	---	4	27	3	23	4	39	5	44
25	8	305	---	---	3	25	2	15	4	37	6	59
26	---	---	---	---	4	32	e2	16	2	16	8	142
27	---	---	---	---	3	21	1	8.2	2	15	4	70
28	---	---	---	---	3	26	<1	8.2	2	18	4	55
29	---	---	---	---	4	26	3	22	1	7.2	4	49
30	---	---	---	---	3	20	1	7.9	3	20	4	42
31	---	---	---	---	---	---	1	6.2	1	7.1	---	---

e Estimated

< Actual value is known to be less than the value shown

HUDSON RIVER BASIN

01336000 MOHAWK RIVER BELOW DELTA DAM, NEAR ROME, NY

LOCATION.--Lat 43°15'52", long 75°26'12", Oneida County, Hydrologic Unit 02020004, on right bank at Rome Fish Hatchery, 1.0 mi downstream from Delta Dam, and 4.0 mi north of Rome.

DRAINAGE AREA.--152 mi².

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

REVISED RECORDS.--WDR NY-85-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 472.85 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 24, 1937, nonrecording gage at site 200 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. During canal navigation season, water is diverted from Black River through Forestport feeder and Black River Canal (flowing south) into basin above Delta Reservoir. Flow regulated by Delta Reservoir (usable capacity, 2,800 mil ft³). Small quantity of water diverted from Delta Reservoir for fish hatchery use and later returned to river, part upstream and part downstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--70 years, 375 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,560 ft³/s, Oct. 2, 1945, gage height, 11.18 ft, from rating curve extended above 5,200 ft³/s on basis of flow-over-dam measurement of peak flow; minimum discharge, 18 ft³/s, July 21, 27, Oct. 24, 25, 1983, minimum gage height, 0.63 ft, Oct. 24, 25, 1983; minimum daily discharge, 45 ft³/s, Jan. 17, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,100 ft³/s, Dec. 31, gage height, 8.02 ft; minimum, 170 ft³/s, Nov. 5, gage height, 1.77 ft; minimum daily discharge, 179 ft³/s, Nov. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	246	307	1350	483	471	590	398	220	213	205	198
2	181	218	278	825	483	501	513	371	219	213	203	198
3	181	196	270	593	483	525	457	320	219	212	203	198
4	183	179	534	444	481	618	420	272	217	211	203	198
5	188	255	792	363	479	356	429	236	217	212	201	198
6	184	458	633	335	485	420	492	304	216	212	201	198
7	184	544	502	557	507	662	578	465	216	213	200	196
8	183	474	417	514	501	779	583	400	216	211	199	196
9	184	382	363	478	488	593	920	319	216	211	201	196
10	186	624	332	478	483	549	1030	271	216	211	200	197
11	186	1200	286	482	479	448	859	234	217	211	200	198
12	203	937	372	483	471	480	615	376	225	211	198	198
13	214	650	401	483	470	422	471	383	220	211	198	196
14	199	481	451	486	471	446	410	416	219	210	197	196
15	194	403	478	479	472	415	390	447	218	208	196	198
16	192	445	477	483	472	371	521	446	219	208	196	200
17	191	785	477	505	472	365	463	451	217	208	196	200
18	207	745	507	501	472	408	379	450	216	207	196	198
19	218	541	522	498	470	536	320	446	216	206	196	207
20	196	421	492	494	497	679	389	435	215	206	196	201
21	193	353	537	493	489	626	659	335	215	206	222	198
22	192	312	982	490	485	556	1300	216	213	206	206	196
23	241	426	1550	487	479	473	1230	216	213	206	201	194
24	560	445	2180	485	474	670	834	216	213	206	201	193
25	752	395	1470	483	471	998	584	216	213	206	199	221
26	592	339	940	483	472	891	439	217	213	206	198	203
27	439	357	670	483	472	975	363	232	213	206	198	198
28	366	447	550	482	470	1820	307	221	213	206	198	196
29	382	404	535	481	---	1660	266	219	213	205	198	195
30	338	350	2190	482	---	1060	287	221	214	204	198	193
31	289	---	2860	483	---	733	---	224	---	205	198	---
TOTAL	8182	14012	23355	16163	13431	20506	17098	9973	6487	6467	6202	5952
MEAN	264	467	753	521	480	661	570	322	216	209	200	198
MAX	752	1200	2860	1350	507	1820	1300	465	225	213	222	221
MIN	181	179	270	335	470	356	266	216	213	204	196	193

CAL YR 1990 TOTAL 159708 MEAN 438 MAX 2860 MIN 140
WTR YR 1991 TOTAL 147828 MEAN 405 MAX 2860 MIN 179

HUDSON RIVER BASIN

01342602 MOHAWK RIVER NEAR UTICA, NY

LOCATION.--Lat 43°05'26", long 75°09'27", Herkimer County, Hydrologic Unit 02020004, at bridge on Upper Dyke Road, 2.0 mi east of city line of Utica.

DRAINAGE AREA.--553 mi².

PERIOD OF RECORD.--Water years 1972-73, April 1988 to current year.

CHEMICAL DATA: 1988 (b), 1989 (c), 1990 (d), 1991 (c).

MINOR ELEMENTS DATA: 1972-73, 1988 (b), 1989 (c), 1990 (d), 1991 (c).

PESTICIDE DATA: 1988 (b), 1989 (c), 1990 (d).

NUTRIENT DATA: 1988 (b), 1989 (c), 1990 (d).

SEDIMENT DATA: 1989 (c), 1990 (d), 1991 (c).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED CENT SATUR- ATION	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
OCT									
02...	1300	557	422	7.7	14.5	751	8.2	82	250
NOV									
06...	1300	1490	370	7.7	9.0	746	10.0	89	390
APR									
23...	1200	4020	257	7.7	7.5	746	10.2	87	820
MAY									
20...	1200	915	343	7.9	16.0	760	9.0	92	440
JUN									
24...	1200	508	391	7.7	22.0	760	7.2	83	1400
AUG									
27...	1200	441	404	7.3	23.0	756	7.5	88	360

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT									
02...	20	<1	<1.0	2	8	3	690	10	2
NOV									
06...	--	<1	--	--	14	--	1100	--	4
APR									
23...	--	<1	--	--	8	--	1600	--	5
MAY									
20...	--	<1	--	--	15	--	930	--	7
JUN									
24...	--	<1	--	--	20	--	3100	--	33
AUG									
27...	--	<1	--	--	20	--	930	--	5

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT								
02...	<1	100	47	<0.10	2	1	10	5
NOV								
06...	--	110	--	--	3	--	<10	--
APR								
23...	--	60	--	<0.10	3	--	10	--
MAY								
20...	--	100	--	<0.10	8	--	<10	--
JUN								
24...	--	140	--	<0.10	15	--	20	--
AUG								
27...	--	80	--	<0.10	1	--	20	--

HUDSON RIVER BASIN

01342602 MOHAWK RIVER NEAR UTICA, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT				
02...	1300	557	23	35
NOV				
06...	1300	1490	32	129
APR				
23...	1200	4020	42	456
MAY				
20...	1200	915	25	62
JUN				
24...	1200	508	106	145
AUG				
27...	1200	441	27	32

HUDSON RIVER BASIN

01346000 WEST CANADA CREEK AT KAST BRIDGE, NY

LOCATION.--Lat 43°04'08", long 74°59'19", Herkimer County, Hydrologic Unit 02020004, on right bank 600 ft downstream from bridge on old State Highway 28 at Kast Bridge, 1.2 mi downstream from North Creek, 2.2 mi north of Herkimer, and 4.0 mi upstream from mouth. Prior to Oct. 23, 1985, at site on left bank.

DRAINAGE AREA.--560 mi².

PERIOD OF RECORD.--January 1907, April to December 1907, March 1908 to December 1909, April 1910 to December 1913, April to December 1914, April 1915 to January 1917, April to November 1917, April to June 1918, October 1920 to current year. Monthly discharge only for some periods, published in WSP 1302. Gage height and discharge measurements only, May 1905 to December 1906.

REVISED RECORDS.--WDR NY-85-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 438.99 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 18, 1920, nonrecording gage at former highway bridge 500 ft upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Since March 1914, flow regulated by Hinckley Reservoir, 31 mi upstream from station (usable capacity, 3,320 mil ft³). Diurnal fluctuation at low and medium flow caused by powerplants upstream from station. Diversion at Trenton Falls, 26 mi upstream from station, by Ninemile feeder since 1915 during canal navigation season. Diversion from Hinckley Reservoir for Utica water supply returned to Mohawk River.

AVERAGE DISCHARGE.--71 years (water years 1921-91), 1,320 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,300 ft³/s, Mar. 26, 1913, from reports of State Engineer and Surveyor; maximum gage height, 10.47 ft, probably Feb. 17, 1943, from floodmark in gage well (ice jam); minimum discharge, 20 ft³/s, Sept. 3, 1929, gage height, 0.90 ft; minimum daily, 59 ft³/s, Sept. 2, 1929.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,800 ft³/s, Dec. 31, gage height, 5.41 ft; minimum, 244 ft³/s, Aug. 20; minimum daily, 418 ft³/s, Sept. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	1660	1780	5950	e1100	1430	1940	2250	805	478	445	446
2	802	1650	1770	3970	e1100	2160	1950	1960	688	463	443	445
3	759	1320	1740	2860	e1000	2660	1920	1760	652	455	458	444
4	798	1310	2970	2320	e1000	4650	1870	1650	652	463	456	455
5	1210	1340	2290	1860	e1000	3440	1880	1520	648	512	467	430
6	937	1820	1970	1800	e1300	2640	2060	1780	626	519	438	436
7	859	1590	1890	e1700	e2000	3790	2080	2070	619	508	429	432
8	854	1510	1860	e1600	1680	2880	2050	1700	616	509	438	418
9	870	1430	1840	e1600	1360	2540	3070	1630	617	468	604	422
10	1130	4000	1830	e1700	1210	2370	3330	1510	602	460	630	465
11	1030	3400	1750	e1500	1100	1800	4750	1290	555	461	484	529
12	1560	2310	1350	e1300	e960	1780	4110	1260	655	458	466	455
13	2160	2000	1270	e1600	e1000	1770	3010	1230	613	483	444	432
14	1570	1890	1550	e1500	1050	1780	2650	1400	538	489	424	431
15	1250	1920	1330	e1500	1030	1790	2350	1250	516	433	421	525
16	1190	2090	1330	1860	e1100	1830	2380	1350	738	449	440	625
17	1250	2490	1420	2690	e1200	1780	2330	1090	575	449	471	713
18	1620	2010	1730	2190	e1200	1980	2250	1190	541	431	458	508
19	2490	2000	2500	1960	1280	2290	2160	930	512	443	455	702
20	1850	2120	1690	1910	2260	2110	2520	934	499	431	440	688
21	1710	1910	2070	1810	1690	1920	3600	951	488	425	496	506
22	1670	1790	3090	e1700	1660	1770	4560	961	460	423	570	491
23	2680	2390	2780	e1800	e1500	1710	3270	907	452	597	487	487
24	4620	1980	4480	e1600	e1300	2680	3110	780	449	444	451	502
25	2750	1860	4150	e1500	e1200	2550	2710	733	445	435	429	1050
26	2380	1800	3850	e1500	1370	2040	2410	727	435	424	456	863
27	2190	2030	2880	e1500	1330	2640	2300	837	435	429	460	604
28	2170	2170	2360	e1400	1180	3510	2210	1020	443	427	453	556
29	2200	1870	2500	e1200	---	2460	2100	668	442	423	437	558
30	2100	1810	5260	e1200	---	2090	2060	652	484	424	440	510
31	1700	---	6940	e1100	---	1950	---	903	---	450	451	---
TOTAL	51379	59470	76220	59680	36160	72790	78990	38893	16800	14263	14441	16128
MEAN	1657	1982	2459	1925	1291	2348	2633	1255	560	460	466	538
MAX	4620	4000	6940	5950	2260	4650	4750	2250	805	597	630	1050
MIN	759	1310	1270	1100	960	1430	1870	652	435	423	421	418

CAL YR 1990 TOTAL 651234 MEAN 1784 MAX 10700 MIN 438
WTR YR 1991 TOTAL 535214 MEAN 1466 MAX 6940 MIN 418

e Estimated

01347000 MOHAWK RIVER NEAR LITTLE FALLS, NY

LOCATION.--Lat 43°00'53", long 74°46'47", Herkimer County, Hydrologic Unit 02020004, on left bank 1,800 ft downstream from Fivemile Dam, 2.0 mi upstream from East Canada Creek, and 4.5 mi southeast of city of Little Falls.

DRAINAGE AREA.--1,342 mi².

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

REVISED RECORDS.--WSP 741: 1929(M). WSP 1302: 1901, 1932(M). WSP 1432: 1928-30. WDR NY-85-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 308.84 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Records of daily discharge do not include diversion at Fivemile Dam into Erie (Barge) Canal for lockages at lock 16, near St. Johnsville. Monthly and annual figures of diversion at Fivemile Dam are published separately below. During canal navigation season, water is received from Black River basin through Black River Canal flowing south, and from Chenango River basin through Oriskany Creek feeder. Water is diverted into (or may occasionally be received from) Oswego River basin through summit level of Erie (Barge) Canal between New London and Utica. Diurnal fluctuation caused by powerplants and locks and dams on Erie (Barge) Canal. Regulation by Delta and Hinckley Reservoirs (combined usable capacity, 6,120 mil ft³) (see Reservoirs in Hudson River Basin). Telephone gage-height telemeter at station.

COOPERATION.--Figures of diversions at Fivemile Dam into Erie (Barge) Canal provided by New York State Department of Transportation.

AVERAGE DISCHARGE.--64 years, 2,812 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (river channel only), 33,100 ft³/s, Mar. 14, 1977, gage height, 19.17 ft, from floodmark in gage house; minimum discharge (river channel only), 214 ft³/s, Aug. 18, 1949, gage height, 3.75 ft; minimum daily discharge (including canal), probably not less than 463 ft³/s, Sept. 2, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0515	*19,600	*14.81	Nov. 10	2015	18,200	14.31

Minimum discharge (river channel only), 521 ft³/s, Aug. 9, gage height, 4.49 ft; minimum daily (river channel only), 726 ft³/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1930	2870	3720	13200	e2200	2680	4560	5030	1600	964	823	935
2	1590	2690	3490	10300	e2300	3850	4190	4220	1340	867	773	834
3	1330	2360	3980	7470	e2300	6260	3990	3620	1200	811	798	770
4	1260	2250	6410	5200	2330	10500	3720	3190	1190	861	887	797
5	2040	2170	7260	3860	2480	9640	3560	2870	1220	932	863	869
6	1790	3230	6320	3540	3470	7730	3730	3020	1160	1120	809	844
7	1470	4080	5100	e3300	5970	7810	4510	4330	1130	1100	833	808
8	1290	3520	4310	e3000	6310	6630	4230	3690	1120	1110	813	761
9	1330	3190	3940	e3100	5340	5490	5660	3110	1080	949	934	728
10	1880	9300	3780	e3200	4110	4700	6450	2870	1020	878	1710	782
11	1940	12000	3510	e3600	3430	3660	7810	2460	1020	869	1240	1080
12	2850	10100	2850	e3000	2770	3330	6990	2240	1270	797	956	992
13	6640	8290	2780	e3200	e2600	3210	5910	2220	1410	988	931	818
14	5920	6130	3150	e3000	e2500	3200	4620	2390	1150	1030	837	726
15	3570	4160	2780	3010	e2600	3250	3940	2270	1020	878	830	928
16	2710	4530	2890	3330	e2100	3320	4090	2300	1400	846	831	1460
17	2270	5440	3070	5860	e2300	3310	4100	2000	1360	797	887	1490
18	2400	5410	3580	5600	e2300	3530	3820	2330	1140	807	866	1280
19	7700	4490	7340	4600	e2500	4520	3100	1960	1040	818	810	1440
20	5230	4150	6820	4080	5220	4740	3480	1810	965	785	801	2290
21	3660	3590	6060	e3800	5740	4150	6490	1780	941	801	1060	1540
22	2410	3230	8430	e3500	5020	3660	12300	1710	858	738	2350	1210
23	4160	4740	8670	e3200	4280	3740	10400	1510	867	1400	1760	1060
24	14300	4920	11500	e3100	e3300	5710	9500	1430	837	1210	1210	1020
25	9260	4020	10900	e2900	e2900	7420	7150	1300	833	891	946	1730
26	7630	3510	10600	e2800	e2800	6660	5010	1300	830	839	889	2660
27	5640	3530	7870	e2800	e2600	6420	4290	1390	817	795	867	1730
28	4340	4670	5460	e2800	e2400	9000	3880	1710	848	771	842	1340
29	3720	4140	4840	e2400	---	7980	2960	1380	838	758	798	1210
30	3700	4090	10100	e2400	---	7120	3500	1240	972	742	783	1070
31	3120	---	13400	e2300	---	5810	---	1570	---	777	982	---
TOTAL	119080	140800	184910	127450	94170	169030	157940	74250	32476	27929	30719	35202
MEAN	3841	4693	5965	4111	3363	5453	5265	2395	1083	901	991	1173
MAX	14300	12000	13400	13200	6310	10500	12300	5030	1600	1400	2350	2660
MIN	1260	2170	2780	2300	2100	2680	2960	1240	817	738	773	726
†	12.6	2.8	0.1	0	0	0	0.1	21.7	23.1	26.4	22.3	25.6

CAL YR 1990 TOTAL 1454760 MEAN 3986 MAX 16300 MIN 720 † 11.1
WTR YR 1991 TOTAL 1193956 MEAN 3271 MAX 14300 MIN 726 † 11.3

e Estimated

† Diversion, equivalent in cubic feet per second, at Fivemile Dam into Erie (Barge) Canal for lockages at Lock 16.

HUDSON RIVER BASIN

01348000 EAST CANADA CREEK AT EAST CREEK, NY

LOCATION.--Lat 43°01'00", long 74°44'28", Herkimer County, Hydrologic Unit 0202004, on right bank at village of East Creek, 0.2 mi downstream from Niagara Mohawk Power Corp. Beardslee powerplant, 1.2 mi upstream from mouth, and 3.5 mi northwest of St. Johnsville.

DRAINAGE AREA.--289 mi².

PERIOD OF RECORD.--December 1945 to current year.

REVISED RECORDS.--WDR NY-85-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 335.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Extensive diurnal fluctuation and slight regulation caused by powerplants upstream from station. City of Little Falls diverts about 5 ft³/s for municipal supply.

AVERAGE DISCHARGE.--45 years (water years 1947-91), 681 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s, Dec. 29, 1984, gage height, 7.68 ft; minimum, 0.05 ft³/s, July 9, 1978, gage height, 0.47 ft; minimum gage height, 0.44 ft, July 29, 1977; minimum daily discharge, 0.22 ft³/s, July 9, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 2, 1945, reached a stage of 9.0 ft, from floodmarks (discharge, 24,000 ft³/s, from slope-area measurement of peak flow), result of dam failure.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 4	2015	*6,130	*5.78				

Minimum discharge, 12 ft³/s, Feb. 20, gage height, 0.96 ft; minimum daily discharge, 37 ft³/s, Sept. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	820	391	425	1990	278	452	1310	1030	445	48	54	51
2	653	324	376	1430	313	704	987	1150	202	48	53	57
3	89	413	562	1060	397	1400	828	956	311	49	49	68
4	588	494	979	799	341	3840	961	658	510	47	52	51
5	753	479	1430	695	446	4540	1020	1100	205	47	46	51
6	752	430	975	744	393	2540	1300	770	150	45	62	51
7	751	474	726	500	918	3010	3060	1030	137	133	45	54
8	381	654	689	370	1460	2510	3230	969	80	50	52	37
9	133	612	619	294	1030	1820	3480	900	50	397	190	51
10	499	1410	555	385	793	1120	3460	876	111	381	411	55
11	757	4450	380	345	576	1030	2540	575	75	47	54	51
12	755	2410	389	243	456	1000	1750	445	77	170	58	50
13	2140	1440	375	338	436	695	1200	310	232	52	204	52
14	2540	1050	415	334	548	613	1030	339	138	48	84	51
15	1650	935	354	291	448	511	886	390	200	47	159	129
16	818	801	368	425	333	679	930	321	503	154	119	287
17	812	1030	529	1060	259	520	1010	321	356	44	82	447
18	656	1170	637	1100	647	717	857	550	185	47	52	534
19	2530	910	1030	856	721	825	763	357	267	43	176	335
20	2040	691	919	853	555	693	631	331	136	43	49	402
21	1250	577	778	479	857	984	1090	181	150	40	190	203
22	786	639	1590	279	673	758	2360	498	100	50	100	190
23	1030	821	3070	338	531	834	2320	51	47	366	180	439
24	3980	873	4470	433	456	868	1670	56	85	53	79	148
25	2730	795	2740	427	390	1080	1040	52	51	44	51	734
26	1660	489	1650	271	445	1010	849	48	46	49	77	744
27	1040	451	1070	348	537	1190	908	68	48	47	43	409
28	851	867	771	375	289	3240	437	175	52	54	50	669
29	859	653	934	515	---	3500	627	579	48	104	53	485
30	619	540	2500	350	---	2170	595	122	43	131	45	147
31	689	---	3890	331	---	1230	---	363	---	72	43	---
TOTAL	35611	27273	36195	18258	15526	46083	43129	15571	5040	2950	2962	7032
MEAN	1149	909	1168	589	554	1487	1438	502	168	95.2	95.5	234
MAX	3980	4450	4470	1990	1460	4540	3480	1150	510	397	411	744
MIN	89	324	354	243	259	452	437	48	43	40	43	37

CAL YR 1990 TOTAL 332511 MEAN 911 MAX 7150 MIN 17
WTR YR 1991 TOTAL 255630 MEAN 700 MAX 4540 MIN 37

HUDSON RIVER BASIN

01349530 MOHAWK RIVER AT FONDA, NY

LOCATION.--Lat 42°57'01", long 74°22'10", Montgomery County, Hydrologic Unit 02020004, at highway 30A bridge, at Fonda.

DRAINAGE AREA.--2,124 mi².

PERIOD OF RECORD.--May 1988 to current year.

CHEMICAL DATA: 1988 (a), 1989 (c), 1990-91 (d).

MINOR ELEMENTS DATA: 1988 (a), 1989 (c), 1990-91 (d).

PESTICIDE DATA: 1988 (a), 1989 (c), 1990 (d).

NUTRIENT DATA: 1988 (a), 1989 (c), 1990 (d).

SEDIMENT DATA: 1989 (c), 1990-91 (d).

REVISED RECORDS.--WDR NY-90-1: Drainage area.

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 03...	1100	302	8.0	15.0	763	9.8	96	200	20
NOV 05...	1000	270	7.9	9.0	755	11.7	102	180	--
APR 23...	0900	213	7.8	7.0	747	12.4	104	1600	--
MAY 20...	1000	257	8.3	18.5	765	10.3	109	170	--
JUN 24...	1000	270	8.8	23.0	763	9.8	115	190	--
AUG 27...	1000	279	8.5	24.0	761	11.4	135	130	--

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT 03...	<1	1.0	1	5	6	410	14	1
NOV 05...	<1	--	--	6	--	380	--	1
APR 23...	<1	--	--	8	--	3200	--	5
MAY 20...	<1	--	--	6	--	240	--	3
JUN 24...	<1	--	--	5	--	230	--	6
AUG 27...	<1	--	--	8	--	200	--	2

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 03...	<1	50	5	<0.10	2	1	20	22
NOV 05...	--	50	--	<0.10	1	--	<10	--
APR 23...	--	110	--	<0.10	6	--	20	--
MAY 20...	--	30	--	<0.10	3	--	<10	--
JUN 24...	--	50	--	<0.10	8	--	<10	--
AUG 27...	--	40	--	<0.10	<1	--	10	--

HUDSON RIVER BASIN

01349530 MOHAWK RIVER AT FONDA, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SEDI- MENT, SUS- PENDED (MG/L)
OCT		
03...	1100	13
NOV		
05...	1000	7
APR		
23...	0900	99
MAY		
20...	1000	7
JUN		
24...	1000	9
AUG		
27...	1000	9

HUDSON RIVER BASIN

01349900 BATAVIA KILL NEAR ASHLAND, NY

LOCATION.--Lat 42°17'36", long 74°18'22", Greene County, Hydrologic Unit 02020005, on right bank 40 ft upstream from bridge on County Route 17, 0.2 mi south of State Highway 23, and 1.6 mi southeast of Ashland.

DRAINAGE AREA.--51.2 mi².

PERIOD OF RECORD.--August to September 1991.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated to some extent at high flows by three flood-retardation reservoirs, combined drainage area of 19.2 mi².

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 12,700 ft³/s, Apr. 4, 1987, gage height, 14.82 ft, from floodmarks, from rating curve extended above 100 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period August to September, 15 ft³/s, Aug. 19, gage height, 4.89 ft; minimum, 1.0 ft³/s, Sept. 14, gage height, 4.39 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

[illegible]

HUDSON RIVER BASIN

01350000 SCHOHARIE CREEK AT PRATTSVILLE, NY

LOCATION.--Lat 42°19'10", long 74°26'13", Greene County, Hydrologic Unit 02020005, on left bank 100 ft upstream from bridge on State Highway 23 in Prattsville, 0.2 mi upstream from Schoharie Reservoir, 0.2 mi downstream from Huntersfield Creek, and 1.6 mi downstream from Batavia Kill.

DRAINAGE AREA.--237 mi².

PERIOD OF RECORD.--November 1902 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1937-38. WDR NY-87-1: 1956(M), 1972(M), 1974-76(M), 1978(P), 1979(M), 1980(P), 1981(M), 1984(M). WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,131.57 ft (corrected) above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1915, nonrecording gage, and Oct. 1, 1915 to July 17, 1936, water-stage recorder, at old highway bridge 80 ft upstream, and July 18, 1936 to July 15, 1954, water-stage recorder at site 0.2 mi downstream, all at datum 1.56 ft lower than present datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--88 years, 461 ft³/s, 26.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,600 ft³/s, Oct. 16, 1955, gage height, 19.14 ft, from rating curve extended above 17,800 ft³/s on basis of contracted-opening measurements of peak flow at gage heights 18.37 ft and 19.14 ft; maximum gage height, 19.57 ft, Mar. 5, 1979 (ice jam); minimum daily discharge, 4.8 ft³/s, Sept. 22, 1964.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0515	9,610	8.85	Mar. 4	0545	7,390	7.97
Nov. 10	2000	*17,000	*11.19	Apr. 22	0145	6,240	7.46
Dec. 4	1245	5,720	7.21				

Minimum discharge, 9.1 ft³/s, Sept. 14, 15; minimum daily discharge, 9.6 ft³/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	300	221	e980	e350	268	598	655	92	23	12	16
2	45	273	218	e800	e290	464	545	959	78	21	12	15
3	41	248	203	e620	e290	715	488	680	73	22	13	14
4	42	228	2740	e500	e350	4920	432	559	80	22	15	13
5	62	213	1650	e400	e450	2430	404	482	75	23	16	14
6	62	341	934	e460	e600	1340	409	469	72	23	15	14
7	50	334	725	e380	e900	1530	427	646	64	27	14	14
8	45	280	603	e270	e940	e940	431	502	57	27	12	13
9	43	243	527	e250	e700	e640	531	431	52	23	15	12
10	45	4670	e460	e290	e560	e540	550	544	48	19	28	11
11	45	5360	e370	e250	e450	e450	486	497	46	18	31	12
12	56	2080	e350	e230	e430	e400	416	414	70	16	24	11
13	101	1270	e330	e220	e420	e360	375	367	83	25	20	10
14	586	903	e310	e220	e460	e350	361	327	60	32	17	9.6
15	229	767	e290	e260	e540	e330	352	300	54	25	17	14
16	157	704	344	e320	e450	e320	352	259	48	21	20	24
17	127	719	310	e680	e420	335	308	244	43	18	21	21
18	122	698	398	e500	e400	398	295	297	42	16	20	19
19	1140	555	600	e380	e410	517	277	225	39	15	71	62
20	481	487	428	e360	e880	504	255	196	37	14	113	76
21	324	444	419	e350	e600	431	1570	175	34	15	78	54
22	258	402	652	e220	e500	428	4290	157	33	19	56	40
23	293	441	663	e210	e390	552	1900	142	32	19	44	32
24	5430	417	1960	e280	e340	763	1250	128	30	18	36	29
25	1720	364	1240	e230	e360	908	1090	117	27	16	30	37
26	987	324	e820	e200	307	706	805	107	26	16	26	62
27	700	296	e600	e220	282	765	671	101	24	17	24	59
28	549	282	e580	e250	262	1220	564	137	23	15	21	47
29	459	269	e600	e210	---	1090	489	108	21	14	20	40
30	385	236	1440	e250	---	837	513	93	21	13	18	35
31	339	---	1760	e500	---	676	---	95	---	12	17	---
TOTAL	14971	24148	22745	11290	13331	26127	21434	10413	1484	604	876	829.6
MEAN	483	805	734	364	476	843	714	336	49.5	19.5	28.3	27.7
MAX	5430	5360	2740	980	940	4920	4290	959	92	32	113	76
MIN	41	213	203	200	262	268	255	93	21	12	12	9.6
CFSM	2.04	3.40	3.10	1.54	2.01	3.56	3.01	1.42	.21	.08	.12	.12
IN.	2.35	3.79	3.57	1.77	2.09	4.10	3.36	1.63	.23	.09	.14	.13

CAL YR 1990 TOTAL 200806 MEAN 550 MAX 5430 MIN 36 CFSM 2.32 IN. 31.52
WTR YR 1991 TOTAL 148252.6 MEAN 406 MAX 5430 MIN 9.6 CFSM 1.71 IN. 23.27

e Estimated

HUDSON RIVER BASIN

01350080 MANOR KILL AT WEST CONESVILLE NEAR GILBOA, NY

LOCATION.--Lat 42°22'37", long 74°24'48", Schoharie County, Hydrologic Unit 02020005, on right bank 50 ft south of County Highway 3, 0.5 mi east of West Conesville, 2.2 mi southeast of Gilboa, and 1.2 mi upstream from mouth.

DRAINAGE AREA.--32.4 mi².

PERIOD OF RECORD.--July 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,255.95 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--5 years, 45.0 ft³/s, 18.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,680 ft³/s, Apr. 4, 1987, gage height, 9.76 ft in gage well, 10.9 ft from floodmarks, from rating curve extended above 970 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 1.2 ft³/s, Aug. 8, 9, 1991.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	2000	*1,410	*5.06	No other peak greater than base discharge.			
Minimum discharge, 1.2 ft ³ /s, Aug. 8, 9.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	25	31	84	e27	e31	77	99	9.6	3.4	2.0	3.1
2	4.1	24	29	73	e26	52	72	109	8.4	2.9	2.1	2.9
3	3.7	22	27	67	e25	57	66	82	8.3	3.5	2.5	2.7
4	3.8	20	96	e52	e25	243	60	71	9.1	3.4	3.4	2.8
5	4.8	19	70	e47	e32	134	58	63	9.1	3.8	2.5	3.1
6	4.0	30	54	e42	59	94	61	63	8.1	3.7	2.1	2.7
7	4.0	26	50	e38	124	98	59	70	7.3	3.8	2.0	2.4
8	3.7	23	46	e35	96	e68	57	57	7.0	4.0	1.8	2.3
9	3.6	21	44	e33	73	e60	91	52	6.5	2.8	2.9	2.3
10	4.0	379	42	e34	65	e50	87	64	6.3	2.5	5.0	2.1
11	4.1	360	e35	e35	e50	e45	68	55	6.1	2.4	3.7	2.3
12	3.9	182	e33	e31	e37	e40	60	47	6.3	2.2	2.8	2.0
13	5.8	132	e31	e28	e45	e38	57	42	6.3	4.8	2.4	1.9
14	8.0	100	e29	e27	e41	e36	56	38	5.8	5.3	2.1	1.7
15	6.0	94	e29	e26	e36	e35	54	35	5.4	4.1	3.4	2.9
16	5.3	90	e37	35	e30	e35	52	29	5.9	3.2	4.3	4.3
17	4.8	102	37	56	e32	e39	46	29	5.5	2.6	3.7	2.8
18	7.1	91	53	e37	e37	e48	43	36	5.2	2.4	3.1	2.4
19	43	74	73	e30	56	63	40	26	5.1	2.2	17	13
20	18	67	51	e27	112	63	36	23	4.7	2.1	19	10
21	13	61	50	e25	62	54	201	20	4.4	2.6	12	5.8
22	11	56	59	e24	57	55	368	18	4.6	3.7	8.2	4.7
23	20	67	57	e23	43	61	193	16	4.6	4.4	6.4	4.4
24	235	59	121	e26	e40	97	140	14	4.2	6.0	5.5	4.1
25	86	51	84	e24	e36	109	175	13	4.0	4.2	5.1	5.8
26	63	45	e64	e23	e30	97	116	12	3.7	4.0	4.7	6.4
27	51	41	e58	e23	e32	127	97	11	3.4	3.9	4.5	5.5
28	42	39	e52	e24	e31	169	83	11	3.0	3.0	4.2	4.8
29	36	37	73	e23	---	121	72	10	2.7	2.7	4.0	4.6
30	32	33	129	e27	---	100	76	9.4	3.5	2.4	3.7	4.4
31	28	---	123	e30	---	84	---	11	---	2.2	3.5	---
TOTAL	764.3	2370	1767	1109	1359	2403	2721	1235.4	174.1	104.2	149.6	120.2
MEAN	24.7	79.0	57.0	35.8	48.5	77.5	90.7	39.9	5.80	3.36	4.83	4.01
MAX	235	379	129	84	124	243	368	109	9.6	6.0	19	13
MIN	3.6	19	27	23	25	31	36	9.4	2.7	2.1	1.8	1.7
CFSM	.76	2.44	1.76	1.10	1.50	2.39	2.80	1.23	.18	.10	.15	.12
IN.	.88	2.72	2.03	1.27	1.56	2.76	3.12	1.42	.20	.12	.17	.14

CAL YR 1990 TOTAL 18632.1 MEAN 51.0 MAX 379 MIN 2.2 CFSM 1.58 IN. 21.39
WTR YR 1991 TOTAL 14276.8 MEAN 39.1 MAX 379 MIN 1.7 CFSM 1.21 IN. 16.39

e Estimated

HUDSON RIVER BASIN

01350100 SCHOHARIE RESERVOIR NEAR GRAND GORGE, NY

LOCATION.--Lat 42°21'21", long 74°26'42", Schoharie County, Hydrologic Unit 02020005, in Shandaken Tunnel intake house on Intake Road, 1.6 mi north of junction of Intake Road and State Highway 23, 2.5 mi upstream from Gilboa Dam, and 2.6 mi east of Grand Gorge.

DRAINAGE AREA.--315 mi².

PERIOD OF RECORD.--January 1973 to current year. Monthly contents only published as "at Gilboa" for September 1928 to December 1972.

REVISED RECORDS.--WDR NY-86-1: 1956 (maximum elevation). WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder. Supplementary nonrecording gage used for periods when reservoir elevation is below 1,072.50 ft. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York).

REMARKS.--Reservoir is formed by masonry and earth dam. Storage began July 24, 1926. Usable capacity 19,583 mil gal between minimum operating level, elevation, 1,050.00 ft, and crest of spillway, elevation, 1,130.00 ft. Dead storage below elevation 1,050.00, 1,968 mil gal. Figures given herein represent usable contents. Reservoir impounds water except for periods of spilling, for diversion through Shandaken Tunnel into Esopus Creek to Ashokan Reservoir, for New York City water supply.

COOPERATION.--Capacity table and once-daily nonrecording gage readings provided by Department of Environmental Protection, City of New York.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 1,136.26 ft, Oct. 16, 1955, contents, 22,058 mil gal; minimum observed (after initial filling), 1,062.00 ft, Aug. 20, 1970, contents, 1,520 mil gal.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,131.28 ft, Apr. 22, contents, 20,081 mil gal; minimum elevation, 1,080.86 ft, Sept. 30, contents, 5,174 mil gal.

Capacity table (elevation, in feet, and usable contents in million gallons)

1,063.0	1,670	1,120.0	16,100
1,080.0	4,970	1,133.0	20,700

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1119.64	1130.11	1130.17	1130.41	1130.11	1129.68	1130.31	1130.36	1128.56	1118.37	1102.95	1090.39
2	1119.39	1130.07	1130.16	1130.36	1130.06	1129.65	1130.33	1130.41	1127.74	1117.97	1102.56	1089.92
3	1119.07	1130.04	1130.16	1130.33	1130.06	1130.09	1130.30	1130.35	1127.00	1117.59	1102.18	1089.46
4	1118.78	1130.02	1130.35	1130.35	1130.09	1130.98	1130.26	1130.26	1126.77	1117.18	1101.83	1089.01
5	1118.51	1130.01	1130.91	1130.33	1130.12	1130.72	1130.23	1130.21	1126.56	1116.79	1101.45	1088.57
6	1118.26	1130.06	1130.79	1130.31	1130.22	1130.46	1130.23	1130.24	1126.35	1116.42	1101.07	1088.12
7	1118.01	1130.11	1130.70	1130.28	1130.36	1130.50	1130.26	1130.33	1126.10	1116.05	1100.67	1087.64
8	1117.76	1130.14	1130.66	1130.19	1130.35	1130.42	1130.28	1130.29	1125.84	1115.69	1100.27	1087.16
9	1117.50	1130.10	1130.63	1130.16	1130.21	1130.31	1130.35	1130.23	1125.57	1115.29	1099.87	1086.69
10	1117.20	1130.11	1130.58	1130.18	1130.18	1130.27	1130.37	1130.26	1125.28	1114.88	1099.55	1086.21
11	1116.90	1130.34	1130.47	1130.11	1130.13	1130.25	1130.30	1130.27	1124.99	1114.46	1099.17	1085.74
12	1116.72	1130.59	1130.18	1130.10	1130.01	1130.24	1130.24	1130.23	1124.72	1114.05	1098.80	1085.26
13	1116.86	1130.73	1130.15	1130.09	1129.99	1130.21	1130.21	1130.22	1124.48	1113.69	1098.41	1084.54
14	1117.02	1130.53	1130.15	1130.06	1130.06	1130.23	1130.20	1130.20	1124.23	1113.37	1098.00	1084.13
15	1117.20	1130.42	1130.13	1130.05	1130.10	1130.22	1130.25	1130.18	1123.95	1112.99	1097.60	1083.73
16	1117.37	1130.40	1130.18	1130.07	1129.97	1130.17	1130.28	1130.13	1123.71	1112.56	1097.16	1083.33
17	1117.26	1130.37	1130.17	1130.26	1129.83	1130.18	1130.23	1130.11	1123.42	1112.12	1096.27	1082.92
18	1117.25	1130.34	1130.18	1130.18	1129.71	1130.21	1130.18	1130.13	1123.11	1111.69	1095.27	1082.46
19	1117.82	1130.32	1130.29	1130.10	1129.64	1130.26	1130.14	1130.09	1122.78	1111.13	1094.83	1082.32
20	1118.58	1130.30	1130.22	1130.09	1130.24	1130.26	1130.09	1130.05	1122.45	1109.75	1094.82	1082.47
21	1119.35	1130.30	1130.16	1130.09	1130.25	1130.24	1130.33	1130.03	1122.10	1108.22	1094.68	1082.36
22	1119.99	1130.24	1130.22	1130.00	1130.13	1130.23	1131.09	1129.99	1121.75	1106.92	1094.44	1082.22
23	1121.32	1130.21	1130.22	1129.98	1130.09	1130.28	1130.65	1129.88	1121.39	1106.41	1094.13	1082.06
24	1126.24	1130.21	1130.51	1130.05	1129.98	1130.33	1130.49	1129.94	1121.01	1106.08	1093.77	1081.85
25	1130.24	1130.22	1130.38	1130.01	1130.01	1130.41	1130.46	1129.89	1120.65	1105.71	1093.38	1081.62
26	1130.43	1130.22	1130.31	1129.94	1130.00	1130.33	1130.37	1129.80	1120.27	1105.33	1092.99	1081.54
27	1130.39	1130.20	1130.26	1129.97	1129.95	1130.32	1130.33	1129.69	1119.90	1104.96	1092.59	1081.45
28	1130.37	1130.14	1130.26	1129.99	1129.81	1130.43	1130.29	1129.62	1119.52	1104.56	1092.17	1081.32
29	1130.33	1130.13	1130.29	1129.98	---	1130.41	1130.27	1129.56	1119.14	1104.16	1091.74	1081.15
30	1130.25	1130.17	1130.46	1130.01	---	1130.35	1130.31	1129.45	1118.75	1103.76	1091.30	1080.97
31	1130.19	---	1130.58	1130.18	---	1130.31	---	1129.40	---	1103.35	1090.85	---
MEAN	1121.17	1130.24	1130.35	1130.14	1130.06	1130.29	1130.32	1130.06	1123.60	1111.34	1096.93	1084.55
MAX	1130.43	1130.73	1130.91	1130.41	1130.36	1130.98	1131.09	1130.41	1128.56	1118.37	1102.95	1090.39
MIN	1116.72	1130.01	1130.13	1129.94	1129.64	1129.65	1130.09	1129.40	1118.75	1103.35	1090.85	1080.97
+	19637	19649	19770	19661	19493	19703	19719	19202	15636	10968	7569	5174
++	+180	+0.62	+6.04	-5.44	-9.28	+10.5	+0.83	-25.8	-184	-233	-170	-124
CAL YR 1990	MEAN	1125.59	MAX	1131.14	MIN	1104.48	++	+19.9				
WTR YR 1991	MEAN	1120.72	MAX	1131.09	MIN	1080.97	++	-46.0				

+ Contents, in million gallons, at 2400 hours on last day of month.

++ Change in contents, equivalent in cubic feet per second.

NOTE: Mean elevations for Oct. 1 to Dec. 11, Jan. 4-12, Sept. 13-26, computed based on observations at 0800 hours.

HUDSON RIVER BASIN

01350101 SCHOHARIE CREEK AT GILBOA, NY

LOCATION.--Lat 42°23'50", long 74°27'03", Schoharie County, Hydrologic Unit 02020005, on left bank, 200 ft upstream from bridge on State Highway 990V, 0.2 mi west of village of Gilboa, 0.4 mi downstream from dam on Schoharie Reservoir, and 0.8 mi upstream from the Platter Kill.

DRAINAGE AREA.--316 mi².

PERIOD OF RECORD.--October 1975 to current year (since October 1983, discharges only for days of Schoharie Reservoir spill and since October 1989, discharges only for days of mean flow exceeding 10 ft³/s).

REVISED RECORDS.--WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 939.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Entire flow, runoff from 315 mi², except for periods of spill, diverted from Schoharie Reservoir through Shandaken Tunnel into Esopus Creek upstream from Ashokan Reservoir for water supply of city of New York.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,400 ft³/s, Apr. 4, 1987, gage height, 30.2 ft, from floodmarks, from rating curve extended above 14,000 ft³/s on basis of flow-over-dam measurement of peak flow; minimum daily discharge, 0.04 ft³/s on many days, June to October 1976, and Sept. 11-13, 1980, but may have been lower since October 1983 (see PERIOD OF RECORD).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 65,000 ft³/s, Oct. 16, 1955, by computation of flow over dam; flood of Mar. 18, 1936, reached a discharge of 32,000 ft³/s, from information furnished by Bureau of Water Resources Development, City of New York.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,700 ft³/s, Nov. 10, gage height, 19.85 ft, 20.68 ft from crest-stage gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	133	129	1420	261	---	901	963	---	---	---	---
2	---	102	119	1150	167	---	840	1270	---	---	---	---
3	---	71	144	981	171	299	757	948	---	---	---	---
4	---	50	2380	786	249	4870	676	673	---	---	---	---
5	---	39	2110	610	354	3010	626	571	---	---	---	---
6	---	99	1250	664	594	1790	630	540	---	---	---	---
7	---	186	984	521	1090	1880	647	740	---	---	---	---
8	---	116	822	236	1040	1410	655	592	---	---	---	---
9	---	74	724	271	575	994	870	493	---	---	---	---
10	---	3780	648	322	408	840	876	613	---	---	---	---
11	---	6760	535	140	245	659	694	612	---	---	---	---
12	---	2650	459	e130	60	616	506	471	---	---	---	---
13	---	1750	367	e120	35	555	447	409	---	---	---	---
14	---	1300	306	e110	100	559	428	337	---	---	---	---
15	---	1100	240	153	146	543	404	260	---	---	---	---
16	---	1010	352	194	29	475	398	209	---	---	---	---
17	---	929	312	723	---	490	329	160	---	---	---	---
18	---	936	416	513	---	577	269	207	---	---	---	---
19	---	717	723	324	---	743	257	138	---	---	---	---
20	---	601	490	286	560	747	217	87	---	---	---	---
21	---	504	430	256	487	630	1150	56	---	---	---	---
22	---	442	712	e90	277	616	5150	37	---	---	---	---
23	---	503	755	e70	168	822	2500	25	---	---	---	---
24	18	475	2000	e140	53	1030	1760	---	---	---	---	---
25	1810	398	1540	e100	56	1370	1650	---	---	---	---	---
26	1320	332	983	e50	26	1070	1230	---	---	---	---	---
27	936	298	674	e80	---	1130	1010	---	---	---	---	---
28	722	262	750	114	---	1610	861	---	---	---	---	---
29	599	194	938	75	---	1560	728	---	---	---	---	---
30	427	156	1760	100	---	1250	740	---	---	---	---	---
31	196	---	2180	463	---	1020	---	---	---	---	---	---
TOTAL	---	25967	26232	11192	---	---	28206	---	---	---	---	---
MEAN	---	866	846	361	---	---	940	---	---	---	---	---
MAX	---	6760	2380	1420	---	---	5150	---	---	---	---	---
MIN	---	39	119	50	---	---	217	---	---	---	---	---

e Estimated

HUDSON RIVER BASIN

01350120 PLATTER KILL AT GILBOA, NY

LOCATION.--Lat 42°24'22", long 74°26'51", Schoharie County, Hydrologic Unit 02020005, on right bank, 0.2 mi downstream from County Highway 17, and 0.6 mi northwest of Gilboa.

DRAINAGE AREA.--10.9 mi².

PERIOD OF RECORD.--January 1975 to current year. Occasional discharge measurements, water years 1969-73.

REVISED RECORDS.--WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,080 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1, 1990, at site 0.2 mi upstream at datum about 30 ft higher.

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

AVERAGE DISCHARGE.--16 years, 14.6 ft³/s, 18.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,210 ft³/s, Apr. 4, 1987, gage height, 5.24 ft in gage well, about 6.2 ft, from floodmarks, site and datum then in use, 6.4 ft, from floodmarks, present site and datum, from rating curve extended above 280 ft³/s on basis of flow-through-culvert measurement of peak flow; minimum discharge, 0.32 ft³/s, Nov. 18, 1980 (result of freezeup).

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	2230	*160	*3.40	No other peak greater than base discharge.			

Minimum discharge, 1.2 ft³/s, part or all of each day July 19-21, Aug. 1, Sept. 8-10, 13-15, gage height, 1.78 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	7.1	10	e19	e7.8	11	28	28	4.2	1.7	1.5	1.4
2	1.6	6.5	8.8	e18	e7.4	16	27	28	4.3	1.6	1.6	1.4
3	1.6	5.6	8.7	e17	e7.6	18	25	25	4.2	1.9	1.9	1.3
4	1.8	4.5	19	15	e9.6	42	21	22	4.3	1.7	2.1	1.4
5	2.0	3.8	17	e14	e11	31	16	19	4.1	2.2	1.6	1.4
6	1.8	6.9	15	e13	e15	24	18	20	3.8	1.7	1.5	1.3
7	1.5	4.8	14	e12	e34	e23	18	22	3.6	2.8	1.5	1.3
8	1.5	6.2	14	e11	34	e21	14	16	3.4	1.8	1.4	1.3
9	1.5	4.6	14	e10	22	e19	21	13	3.0	1.6	3.1	1.3
10	2.2	54	e13	e11	19	e17	19	19	2.9	1.4	3.0	1.4
11	1.7	72	e11	e10	e18	e15	13	16	2.9	1.4	1.7	1.9
12	1.6	42	e10	e9.8	e18	e14	12	16	3.6	1.4	1.6	1.3
13	2.6	32	e9.4	e9.8	e18	e13	12	15	3.1	4.0	1.4	1.2
14	2.4	20	e8.6	e9.6	17	e13	12	13	2.6	2.7	1.4	1.2
15	2.0	17	e9.0	9.8	17	e13	12	11	2.7	1.7	2.9	3.0
16	1.9	17	12	10	e16	e14	12	9.3	3.4	1.5	2.2	2.0
17	1.8	20	9.6	12	e15	e15	15	9.7	2.7	1.4	2.6	1.4
18	4.0	19	13	11	14	e17	14	11	2.4	1.4	1.7	1.4
19	4.6	17	16	e9.2	16	e19	13	8.3	2.3	1.4	8.6	5.6
20	3.1	18	14	e8.4	31	21	11	7.8	2.1	1.3	4.7	3.0
21	2.9	17	15	e7.6	e18	17	38	8.1	2.0	1.6	4.5	1.8
22	2.6	16	15	e7.2	e17	19	78	8.2	2.1	1.5	3.4	1.4
23	6.4	17	15	e6.8	e16	25	51	7.6	2.0	5.6	2.3	1.3
24	68	16	21	e7.6	e15	26	38	6.6	1.8	3.2	1.9	1.3
25	22	14	e17	e7.0	e14	29	39	5.6	1.8	1.8	1.8	3.0
26	16	14	e15	e6.8	13	29	27	4.4	1.7	2.0	1.7	2.2
27	11	14	e14	e6.8	12	32	27	4.5	1.6	1.9	1.6	1.6
28	9.8	13	e15	e7.2	11	38	25	4.6	1.6	1.6	1.5	1.4
29	9.3	12	e16	e6.8	---	31	22	4.2	1.6	1.5	1.5	1.3
30	8.6	13	26	e7.2	---	30	24	4.4	1.9	1.6	1.4	1.3
31	7.7	---	28	e8.0	---	29	---	4.1	---	1.3	1.5	---
TOTAL	207.5	524.0	443.1	318.6	463.4	681	702	391.4	83.7	60.2	71.1	52.1
MEAN	6.69	17.5	14.3	10.3	16.5	22.0	23.4	12.6	2.79	1.94	2.29	1.74
MAX	68	72	28	19	34	42	78	28	4.3	5.6	8.6	5.6
MIN	1.5	3.8	8.6	6.8	7.4	11	11	4.1	1.6	1.3	1.4	1.2
CFSM	.61	1.60	1.31	.94	1.52	2.02	2.15	1.16	.26	.18	.21	.16
IN.	.71	1.79	1.51	1.09	1.58	2.32	2.40	1.34	.29	.21	.24	.18

CAL YR 1990 TOTAL 5946.0 MEAN 16.3 MAX 112 MIN 1.5 CFSM 1.49 IN. 20.29
WTR YR 1991 TOTAL 3998.1 MEAN 11.0 MAX 78 MIN 1.2 CFSM 1.00 IN. 13.64

e Estimated

HUDSON RIVER BASIN

01350140 MINE KILL NEAR NORTH BLENHEIM, NY

LOCATION.--Lat 42°25'44", long 74°28'24", Schoharie County, Hydrologic Unit 02020005, on left bank 200 ft upstream from bridge on State Highway 30, 0.6 mi upstream from mouth, and 3.0 mi southwest of North Blenheim.

DRAINAGE AREA.--16.2 mi².

PERIOD OF RECORD.--December 1974 to current year. Occasional discharge measurements, water years 1969-74.

REVISED RECORDS.--WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Sept. 23, 1975. Elevation of gage is 1,060 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--16 years (water years 1976-91), 23.6 ft³/s, 19.78 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,320 ft³/s, May 29, 1984, gage height, 3.81 ft; minimum, 0.10 ft³/s, Aug. 27, 28, 29, 30, 1980, gage height, 0.49 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	Unknown	a*600	b*3.7	No other peak greater than base discharge.			
	a	Estimated.					
	b	From floodmark.					

Minimum discharge, 0.25 ft³/s, Sept. 8, 9, 10, gage height, 0.52 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	3.8	11	e35	e15	e23	35	35	1.3	.60	.49	.66
2	.59	3.5	11	e27	e13	e29	34	34	1.1	.47	.53	.48
3	.55	3.1	9.0	e23	e12	45	32	27	.88	.57	.58	.41
4	.63	3.0	77	e21	e15	100	29	23	.91	.65	1.2	.40
5	1.0	2.8	51	e18	e20	69	28	20	1.1	.95	.84	.43
6	1.0	9.7	37	e16	e30	50	29	24	1.1	1.1	.59	.40
7	.75	7.9	34	e14	e100	55	30	30	.99	1.1	.50	.37
8	.71	5.9	28	e13	72	e40	26	21	.89	.99	.48	.32
9	.73	5.7	25	e12	56	e32	43	18	.77	.58	3.1	.30
10	2.0	e130	24	e13	e42	e27	34	28	.96	.43	6.6	.35
11	1.5	e50	e17	e14	e33	e24	28	22	.72	.37	2.2	.80
12	1.2	36	e15	e14	e28	e23	24	18	1.4	.33	1.4	.59
13	1.7	28	e15	e15	e27	e21	23	16	1.9	3.0	1.0	.42
14	3.0	25	e14	e16	e27	e19	23	13	1.0	3.9	.78	.35
15	1.3	27	e20	e16	e27	e18	23	12	.77	1.2	2.0	1.9
16	.92	26	25	e14	e26	e19	23	10	2.4	.70	3.1	2.4
17	.81	31	18	e35	e24	e23	18	10	1.8	.55	1.7	1.1
18	4.0	26	43	55	e24	e25	17	14	1.2	.45	1.1	.98
19	15	22	59	31	e42	35	15	9.6	.94	.39	15	9.7
20	4.3	22	e32	23	e80	33	16	8.0	.87	.33	10	6.0
21	2.4	19	e26	18	e40	26	55	6.7	.66	.35	5.6	2.8
22	1.9	16	e27	e16	e30	31	105	5.8	.62	1.0	5.9	1.7
23	8.6	26	e42	e14	e25	36	76	5.2	.65	6.6	2.8	1.3
24	85	23	72	e12	e30	60	60	4.8	.59	4.9	1.6	1.3
25	18	18	e39	e11	e22	61	51	3.4	.50	1.3	1.1	3.4
26	12	16	e27	e9.2	e23	49	40	1.9	.46	.94	.93	4.1
27	8.4	14	e26	e9.2	e24	63	34	1.6	.41	1.2	.88	1.8
28	6.6	14	e27	e11	e23	62	29	1.7	.37	.82	.81	1.1
29	6.0	13	e44	e9.6	---	49	26	1.4	.33	1.0	.68	.90
30	5.0	11	78	e11	---	45	32	1.2	.41	.75	.58	.78
31	4.2	---	68	e20	---	39	---	1.3	---	.60	.61	---
TOTAL	200.34	638.4	1041.0	566.0	930	1231	1038	427.6	28.00	38.12	74.68	47.54
MEAN	6.46	21.3	33.6	18.3	33.2	39.7	34.6	13.8	.93	1.23	2.41	1.58
MAX	85	130	78	55	100	100	105	35	2.4	6.6	15	9.7
MIN	.55	2.8	9.0	9.2	12	18	15	1.2	.33	.33	.48	.30
CFSM	.40	1.31	2.07	1.13	2.05	2.45	2.14	.85	.06	.08	.15	.10
IN.	.46	1.47	2.39	1.30	2.14	2.83	2.38	.98	.06	.09	.17	.11

CAL YR 1990 TOTAL 9392.70 MEAN 25.7 MAX 304 MIN .48 CFSM 1.59 IN. 21.57
WTR YR 1991 TOTAL 6260.68 MEAN 17.2 MAX 130 MIN .30 CFSM 1.06 IN. 14.38

e Estimated

HUDSON RIVER BASIN

01350180 SCHOHARIE CREEK AT NORTH BLENHEIM, NY

LOCATION.--Lat 42°27'57", long 74°27'45", Schoharie County, Hydrologic Unit 02020005, on left bank 2,300 ft upstream from West Kill, and 1.2 mi upstream from bridge on State Highway 30 in North Blenheim.

DRAINAGE AREA.--358 mi².

PERIOD OF RECORD.--October 1970 to current year. Occasional measurements, water years 1969-70.

REVISED RECORDS.--WDR NY-87-1: 1984(M). WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 800 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1971, at datum 1.00 ft higher.

REMARKS.--Records good below 300 ft³/s and poor above except those for estimated daily discharges below 300 ft³/s, which are fair. Regulation of flow by Blenheim-Gilboa Pumped Storage Project immediately upstream from gage. Entire flow, runoff from 315 mi², except for periods of spill, diverted from Schoharie Reservoir through Shandaken Tunnel into Esopus Creek upstream from Ashokan Reservoir for water supply of City of New York. For periods of spill see station 01350101. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 420 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,200 ft³/s, Apr. 4, 1987, gage height, 16.70 ft, from floodmarks, from rating curve extended above 12,000 ft³/s on basis of computation of peak flow through radial gates; minimum discharge, no flow, Oct. 21-28, 1972, Sept. 12-14, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,400 ft³/s, Nov. 10, gage height, 11.04 ft, minimum, 3.6 ft³/s, Sept. 23, 24, gage height, 0.86 ft; minimum daily discharge, 3.7 ft³/s, Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	130	123	1320	345	52	886	910	9.2	7.2	6.7	7.0
2	7.5	112	120	1080	164	64	782	1140	8.2	7.3	7.0	6.7
3	7.8	76	178	899	170	333	763	839	8.2	7.4	7.8	7.1
4	8.7	81	2260	789	275	4210	678	568	9.8	7.9	6.9	7.2
5	8.9	61	1950	574	441	2840	568	533	16	7.8	6.8	7.3
6	8.6	143	1110	678	696	1660	641	580	9.0	7.6	6.4	7.3
7	7.7	203	866	612	1270	1740	633	660	9.3	7.7	6.5	7.3
8	7.3	129	743	e190	1060	1290	809	559	8.4	7.6	6.5	6.5
9	7.2	109	634	285	644	924	903	448	7.6	6.9	7.8	5.6
10	7.4	3260	643	444	441	784	786	623	8.1	6.9	7.4	4.4
11	6.9	6140	508	149	360	723	611	578	8.4	7.4	6.5	4.2
12	7.3	2500	442	161	e93	635	567	461	8.3	7.5	6.5	4.0
13	8.1	1540	410	186	72	568	407	453	7.9	9.3	6.6	4.1
14	7.0	1110	347	e200	147	627	436	325	11	7.3	6.6	4.3
15	6.5	876	252	219	213	558	477	295	8.5	6.9	8.5	4.6
16	6.8	901	346	222	e46	494	393	215	7.6	7.0	7.2	4.6
17	7.4	780	366	699	38	513	406	169	7.4	7.2	7.4	4.3
18	9.1	817	464	548	46	670	310	238	7.5	7.6	6.6	6.4
19	8.8	675	795	383	101	736	286	181	7.6	8.1	10	5.5
20	8.4	554	523	330	693	799	248	81	7.5	8.7	10	4.5
21	7.5	517	428	257	586	653	1000	69	7.8	8.0	9.6	4.4
22	7.5	453	732	e120	365	658	4820	63	8.1	7.2	8.9	4.0
23	11	509	736	e18	248	857	2410	43	7.2	8.9	8.5	3.7
24	318	435	1990	158	72	926	1570	26	7.2	7.5	8.6	3.8
25	1260	420	1420	e79	68	1380	1550	11	7.6	7.3	7.3	4.5
26	913	338	982	e31	107	1040	1050	10	7.5	7.8	6.9	4.2
27	738	333	586	85	53	1070	871	9.8	7.2	7.7	7.0	4.1
28	545	305	760	94	53	1420	700	11	7.5	6.8	7.0	4.3
29	500	207	926	95	---	1410	717	9.9	8.0	6.8	7.5	4.1
30	412	183	1720	125	---	1120	686	10	7.5	7.0	7.6	4.9
31	142	---	2150	468	---	886	---	9.9	---	6.6	8.0	---
TOTAL	5008.5	23897	25510	11498	8867	31640	26964	10128.6	251.1	232.9	232.6	154.9
MEAN	162	797	823	371	317	1021	899	327	8.37	7.51	7.50	5.16
MAX	1260	6140	2260	1320	1270	4210	4820	1140	16	9.3	10	7.3
MIN	6.5	61	120	18	38	52	248	9.8	7.2	6.6	6.4	3.7

CAL YR 1990 TOTAL 167030.5 MEAN 458 MAX 6140 MIN 6.5
WTR YR 1991 TOTAL 144384.6 MEAN 396 MAX 6140 MIN 3.7

e Estimated

HUDSON RIVER BASIN

01350355 SCHOHARIE CREEK AT BREAKABEEN, NY

LOCATION.--Lat 42°32'13", long 74°24'39", Schoharie County, Hydrologic Unit 02020005, on left bank 100 ft downstream from bridge on State Highway 30, 0.9 mi north of Breakabeen, and 1.1 mi downstream from Keyser Kill.

DRAINAGE AREA.--444 mi².

PERIOD OF RECORD.--July 1975 to current year.

REVISED RECORDS.--WDR NY-81-1: 1980(M). WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 686.79 ft above National Geodetic Vertical Datum of 1929 (Soil Conservation Service Benchmark).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Regulation of flow by Blenheim-Gilboa Pumped Storage Project. Entire flow, runoff from 315 mi², except for periods of spill, diverted from Schoharie Reservoir through Shandaken Tunnel into Esopus Creek upstream from Ashokan Reservoir for water supply of City of New York. For periods of spill see station 01350101.

AVERAGE DISCHARGE.--16 years, 534 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,200 ft³/s, Apr. 5, 1987, gage height, about 19.5 ft, from reconstructed graph, 20.0 ft, from floodmarks, from rating curve extended above 20,000 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 1.7 ft³/s, Oct. 14, 1980; minimum gage height, 0.25 ft, Sept. 26, 1985; minimum daily discharge, 5.8 ft³/s, Sept. 13, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,000 ft³/s, Nov. 11, gage height, 11.87 ft; minimum, 6.8 ft³/s, Sept. 14, 15, gage height, 0.74 ft; minimum gage height, 0.73 ft, Oct. 1, 2, 3, 4, 9; minimum daily discharge, 7.0 ft³/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	170	214	1940	486	152	1350	1540	33	12	10	11
2	17	143	194	1640	257	219	1190	1760	28	11	10	10
3	16	111	224	1370	250	535	1140	1340	25	12	11	10
4	17	115	2730	1180	362	5010	988	923	24	12	14	10
5	19	97	2840	820	599	3840	807	817	31	14	12	10
6	19	150	1740	940	1050	2350	891	869	26	15	12	10
7	18	279	1380	858	1900	2360	908	1080	24	15	11	10
8	17	196	1160	330	1870	1850	982	865	21	15	10	9.9
9	17	149	962	355	1180	1350	1270	650	19	13	12	9.2
10	20	3610	966	562	811	1130	1260	936	17	12	26	8.3
11	20	9120	761	e270	634	1000	936	901	17	10	20	8.2
12	19	3520	630	e230	e190	869	823	654	22	11	15	7.6
13	22	2360	588	e210	e130	791	590	636	25	18	14	7.1
14	36	1770	469	e200	e250	793	598	457	22	26	13	7.0
15	28	1450	384	e230	384	759	649	396	20	17	13	8.1
16	23	1520	466	e290	e140	639	574	317	19	14	18	12
17	21	1290	533	987	e120	663	550	248	18	13	15	12
18	23	1380	695	792	e120	881	422	344	17	12	14	9.9
19	76	1090	1380	523	e210	1020	389	270	16	12	38	19
20	45	865	874	457	1210	1130	355	155	15	12	40	24
21	34	777	676	371	1050	886	1200	117	13	12	26	16
22	29	653	1140	e200	654	919	6500	106	13	11	25	13
23	36	820	1210	e70	483	1240	3460	84	13	12	20	11
24	823	680	2590	e200	223	1350	2350	65	12	29	17	9.9
25	1790	633	2100	e110	194	2060	2270	48	12	18	15	12
26	1500	495	1500	e80	240	1590	1700	42	12	15	13	16
27	1180	476	956	e120	158	1690	1440	39	11	16	12	15
28	792	418	1070	e150	144	2180	1150	39	11	15	12	12
29	680	338	1350	e170	---	2170	1100	35	11	13	11	11
30	580	278	2440	174	---	1730	1160	32	11	12	11	10
31	242	---	2990	577	---	1400	---	35	---	11	11	---
TOTAL	8176	34953	37212	16406	15299	44556	39002	15800	558	440	501	339.2
MEAN	264	1165	1200	529	546	1437	1300	510	18.6	14.2	16.2	11.3
MAX	1790	9120	2990	1940	1900	5010	6500	1760	33	29	40	24
MIN	16	97	194	70	120	152	355	32	11	10	10	7.0

CAL YR 1990 TOTAL 251011 MEAN 688 MAX 9120 MIN 13
WTR YR 1991 TOTAL 213242.2 MEAN 584 MAX 9120 MIN 7.0

e Estimated

HUDSON RIVER BASIN

01351500 SCHOHARIE CREEK AT BURTONSVILLE, NY

LOCATION.--Lat 42°48'00", long 74°15'48", Schenectady County, Hydrologic Unit 02020005, on right bank 0.4 mi south of Burtonsville, 2.7 mi north of Esperance, and 13.5 mi upstream from mouth.

DRAINAGE AREA.--886 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NY-82-1: 1981(average discharge). WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 507.98 ft above National Geodetic Vertical Datum of 1929, unadjusted.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Regulation of flow by Blenheim-Gilboa Pumped Storage Project. Entire flow, runoff from 315 mi², except for periods of spill, diverted from Schoharie Reservoir through Shandaken Tunnel into Esopus Creek upstream from Ashokan Reservoir for water supply of City of New York. For periods of spill see station 01350101. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 1,013 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,500 ft³/s, Oct. 16, 1955, gage height, 12.39 ft; minimum, 2.4 ft³/s, Sept. 24, 25, 1964, gage height, 0.30 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of March 1936 and September 1938 reached stages of 10.5 and 10.2 ft, respectively, from information provided by local resident. However, flood of October 1903 is known to have reached a higher stage than the 1936 or 1938 flood.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,000 ft³/s, Nov. 11, gage height, 6.71 ft; minimum, 18 ft³/s, Sept. 9, 10, 12, gage height, 0.58 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	428	753	3120	1660	e480	2050	3640	458	39	24	26
2	36	397	625	2430	1200	e700	1930	3260	294	36	22	25
3	36	359	602	2080	e1100	1390	1790	2790	216	36	23	24
4	45	304	2610	1790	e1400	5940	1570	2160	178	35	25	23
5	57	285	5370	1420	e2100	6960	1450	1690	165	38	29	22
6	59	325	2820	1370	e2700	3780	1320	1540	177	43	29	21
7	58	595	2230	e1200	e3800	3450	1500	2220	163	47	27	21
8	55	515	1890	e800	4150	3210	1330	1800	131	45	24	20
9	54	402	1670	e640	2650	2080	2080	1400	113	40	27	19
10	62	3280	1500	e700	e1800	1760	2680	1420	99	36	32	19
11	64	19500	1360	e640	e1300	1450	1990	1660	91	33	35	20
12	72	6870	1170	e560	e700	1280	1540	1230	94	30	41	19
13	91	4090	1110	e520	e500	1220	1280	1030	132	34	37	20
14	163	2910	1030	e480	e700	1160	1110	998	130	69	32	20
15	170	2360	847	e520	e980	1220	1080	843	105	92	30	23
16	129	2440	913	e660	e500	1060	1190	764	90	67	30	29
17	99	2190	1090	e1700	e360	1120	991	607	86	47	26	36
18	94	2270	1210	e1800	e400	1390	922	782	82	38	27	30
19	342	1860	2930	e1300	e600	1870	842	697	75	33	44	33
20	407	1630	2130	e1000	2980	2290	769	513	68	30	168	36
21	251	1460	1560	e800	2830	1740	1980	375	60	28	165	45
22	193	1260	1950	e560	1840	1580	13700	330	52	26	132	46
23	196	1610	2090	e260	1470	1940	7360	290	46	27	104	40
24	3970	1650	3160	e430	e900	2500	4290	248	44	26	76	34
25	2510	1370	e3400	e390	e600	4070	3830	220	42	22	55	39
26	2320	1160	e2000	e290	e700	3160	2980	193	39	29	45	47
27	1750	1070	e1400	e360	e500	2900	2400	173	36	39	38	50
28	1300	991	e1200	e450	e470	3610	2000	161	33	36	34	46
29	1040	949	e1300	e520	---	3470	1660	147	31	31	30	42
30	993	786	e3000	e500	---	2840	2080	159	36	28	28	35
31	781	---	4860	e880	---	2340	---	902	---	26	30	---
TOTAL	17435	65316	59780	30170	40890	73960	71694	34242	3366	1186	1469	910
MEAN	562	2177	1928	973	1460	2386	2390	1105	112	38.3	47.4	30.3
MAX	3970	19500	5370	3120	4150	6960	13700	3640	458	92	168	50
MIN	36	285	602	260	360	480	769	147	31	22	22	19

CAL YR 1990 TOTAL 521264 MEAN 1428 MAX 19500 MIN 36
WTR YR 1991 TOTAL 400418 MEAN 1097 MAX 19500 MIN 19

e Estimated

HUDSON RIVER BASIN

01351500 SCHOHARIE CREEK AT BURTONSVILLE, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960, 1963-64, 1972, May 1988 to current year.

CHEMICAL DATA: 1960 (e), 1963-64, 1972 (a), 1988 (b), 1989 (c), 1990 (d), 1991 (c).

MINOR ELEMENTS DATA: 1960 (e), 1963 (b), 1964, 1972 (a), 1988 (b), 1989 (c), 1990 (d), 1991 (c).

PESTICIDE DATA: 1988 (b), 1989 (c), 1990 (d).

NUTRIENT DATA: 1960, 1963-64, 1972 (a), 1988 (b), 1989 (c), 1990 (d).

SEDIMENT DATA: 1989 (c), 1990 (d), 1991 (c).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED OF (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
OCT									
01...	1200	37	292	8.2	16.5	750	9.8	101	90
NOV									
07...	1000	537	233	8.2	8.0	750	11.8	102	220
APR									
24...	1000	4260	141	8.0	9.0	744	10.8	96	910
MAY									
21...	1000	374	186	8.0	16.5	75	9.5	1200	70
JUN									
27...	1200	36	260	8.2	25.5	754	8.3	103	180
AUG									
26...	1200	44	292	8.0	23.0	757	9.6	114	230

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT									
01...	<10	<1	<1.0	<1	2	2	170	4	1
NOV									
07...	--	<1	--	--	6	--	450	--	1
APR									
24...	--	<1	--	--	7	--	1800	--	6
MAY									
21...	--	<1	--	--	4	--	240	--	4
JUN									
27...	--	<1	--	--	6	--	340	--	11
AUG									
26...	--	<1	--	--	3	--	360	--	1

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT								
01...	<1	30	5	<0.10	<1	1	<10	10
NOV								
07...	--	30	--	<0.10	2	--	<10	--
APR								
24...	--	100	--	<0.10	3	--	20	--
MAY								
21...	--	60	--	<0.10	2	--	<10	--
JUN								
27...	--	40	--	<0.10	10	--	10	--
AUG								
26...	--	60	--	<0.10	<1	--	<10	--

HUDSON RIVER BASIN

01351500 SCHOHARIE CREEK AT BURTONSVILLE, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT				
01...	1200	37	4	0.40
NOV				
07...	1000	537	10	14
APR				
24...	1000	4260	39	449
MAY				
21...	1000	374	9	9.1
JUN				
27...	1200	36	8	0.77
AUG				
26...	1200	44	12	1.4

HUDSON RIVER BASIN

01357500 MOHAWK RIVER AT COHOES, NY

LOCATION.--Lat 42°47'07", long 73°42'29", Albany County, Hydrologic Unit 02020004, on right bank at Niagara Mohawk Power Corp. School Street powerplant in Cohoes, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--3,450 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1917 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to July 17, 1925, published as "at Crescent Dam".

REVISED RECORDS.--WSP 1302: 1919-23 (M). WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 49.13 ft above National Geodetic Vertical Datum of 1929. Dec. 1, 1917, to July 16, 1925, water-stage recorder at site 1.7 mi upstream at Crescent Dam at datum 130.87 ft higher. July 17 to Oct. 19, 1925, powerplant gage at present site.

REMARKS.--No estimated daily discharges. Records good except those below 1,000 ft³/s after June 1, which are fair. Total flow of Mohawk river equals flow published at Cohoes which includes small diversion for Cohoes water supply, plus flow diverted at Crescent Dam to Barge Canal through Lock 6. Prior to 1926 records published as total flow. See Diversions in Hudson River Basin for regulation and diversions upstream from this station. Telephone gage-height telemeter at station.

COOPERATION.--Diversions through Barge Canal at Lock 6 provided by New York State Department of Transportation.

AVERAGE DISCHARGE.--7 years (water years 1919-25), 5,820 ft³/s, includes diversion at Lock 6; 66 years (water years 1926-91), 5,673 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft³/s, Mar. 6, 1964, result of release from ice jam, gage height, 23.15 ft, from rating curve extended above 110,000 ft³/s; minimum discharge, 6 ft³/s, Sept. 18, 1941, gage height, 3.40 ft; minimum daily, 23 ft³/s, Aug. 24, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--An extreme flood occurred sometime from 1860-65 with a depth of 12 ft on the Cohoes dam and a peak discharge estimated to be at least 200,000 ft³/s (from New York State Museum Bulletin 85).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 41,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1445	41,200	17.05	Apr. 22	1800	45,000	17.41
Nov. 11	0830	*57,400	*18.42				

Minimum discharge not determined; minimum gage height, 4.74 ft, Aug. 9, Sept. 13, 14, 15; minimum daily discharge, 318 ft³/s, July 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2120	3760	5870	22100	3670	4000	9770	9480	3080	954	895	529
2	3260	2490	5500	17200	3630	4080	8510	12200	2300	771	885	808
3	1930	2960	5770	14000	3550	8560	7540	8990	2080	778	344	1120
4	1600	3190	9890	10500	3400	18900	6840	5720	1510	857	563	778
5	1180	3740	19300	7790	4130	30100	6540	5970	2090	859	973	862
6	2640	3830	14800	6260	6650	19700	6420	5180	1380	822	862	933
7	2590	4370	11000	5730	13000	16200	7310	8090	917	861	796	573
8	2450	4960	9490	5220	19300	16600	9270	7910	1250	1580	824	379
9	1920	4640	7910	4040	15700	12500	11800	5780	1320	1110	858	980
10	1470	12300	6780	4040	11700	9920	15000	5080	1020	1190	772	927
11	2490	53400	7020	4460	8730	7910	14300	5220	995	1190	1730	823
12	2730	28500	5460	3260	6220	6460	12700	4960	1330	885	1910	920
13	7680	16000	4930	3050	4960	5800	10300	3840	1250	608	839	814
14	10800	12100	4640	3620	4760	5420	8520	3260	1630	1060	1020	481
15	6470	10400	4590	4200	4460	5350	7060	3190	1610	1180	1170	425
16	3460	7360	4370	4850	4140	5410	5140	2200	1320	1110	743	1250
17	3480	8230	4520	5750	3350	5630	4140	3340	1840	965	333	1660
18	2860	11200	5270	9950	3250	5940	2860	3450	2180	1050	860	1760
19	11500	8870	10600	9720	3990	7150	3580	3500	1420	912	1940	2080
20	8630	7050	14300	7280	5470	8860	6460	3310	951	347	1150	2050
21	6430	6250	10800	6510	14500	8760	5470	3040	1160	490	1180	2140
22	3480	5180	12000	5130	11600	7160	30300	2430	820	809	1570	1360
23	4340	8360	15400	4140	10200	6760	30600	2070	827	1430	2360	1920
24	30000	9570	18700	4260	6970	8550	18000	2080	1120	1190	1720	1590
25	20500	7430	21500	4110	5330	14700	13800	1680	915	1570	838	1770
26	13500	6030	17000	3570	5010	14000	11200	1410	759	1180	1300	3170
27	10600	5260	13100	3750	4680	12300	8110	1540	701	318	1100	3130
28	7040	6720	10200	4070	4380	14600	7190	1560	658	707	886	665
29	5030	8760	8530	4170	---	18100	6270	1620	404	965	936	1840
30	4600	6080	11100	4340	---	15400	5160	2090	626	775	830	1930
31	4550	---	24300	3990	---	12500	---	2650	---	743	371	---
TOTAL	191330	278990	324640	201060	196730	337320	300160	132840	39463	29266	32558	39667
MEAN	6172	9300	10470	6486	7026	10880	10010	4285	1315	944	1050	1322
MAX	30000	53400	24300	22100	19300	30100	30600	12200	3080	1580	2360	3170
MIN	1180	2490	4370	3050	3250	4000	2860	1410	404	318	333	379

CAL YR 1990 TOTAL 2751746 MEAN 7539 MAX 53400 MIN 570
WTR YR 1991 TOTAL 2104024 MEAN 5764 MAX 53400 MIN 318

HUDSON RIVER BASIN

01357500 MOHAWK RIVER AT COHOES, NY--Continued

(01357499) Diversion, in cubic feet per second, from Mohawk River at Crescent Dam, NY, through Barge Canal at lock 6, water year October 1990 to September 1991

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	110	92	3.0	3.0	3.0	3.0	75	169	144	156	156
2	110	116	92	3.0	3.0	3.0	3.0	63	145	138	150	139
3	140	104	92	3.0	3.0	3.0	3.0	121	145	138	144	145
4	122	104	98	3.0	3.0	3.0	3.0	121	139	168	156	127
5	128	110	98	3.0	3.0	3.0	3.0	121	132	144	138	157
6	152	98	46	3.0	3.0	3.0	3.0	144	138	132	156	151
7	164	92	3.0	3.0	3.0	3.0	3.0	156	144	144	132	145
8	134	104	3.0	3.0	3.0	3.0	3.0	138	132	138	132	151
9	116	104	3.0	3.0	3.0	3.0	3.0	144	144	168	156	127
10	134	104	3.0	3.0	3.0	3.0	3.0	138	132	144	132	133
11	128	92	3.0	3.0	3.0	3.0	3.0	144	144	168	138	115
12	122	92	3.0	3.0	3.0	3.0	3.0	132	138	144	132	133
13	122	98	3.0	3.0	3.0	3.0	3.0	144	138	132	144	133
14	116	116	3.0	3.0	3.0	3.0	3.0	138	132	138	150	133
15	122	104	3.0	3.0	3.0	3.0	3.0	144	144	132	132	145
16	122	98	3.0	3.0	3.0	3.0	3.0	144	150	156	144	133
17	98	92	3.0	3.0	3.0	3.0	3.0	126	132	150	126	127
18	116	98	3.0	3.0	3.0	3.0	3.0	138	132	144	138	121
19	104	104	3.0	3.0	3.0	3.0	3.0	144	150	144	120	139
20	140	98	3.0	3.0	3.0	3.0	3.0	144	138	168	150	121
21	128	98	3.0	3.0	3.0	3.0	3.0	150	138	144	132	133
22	128	98	3.0	3.0	3.0	3.0	3.0	157	156	150	132	139
23	116	98	3.0	3.0	3.0	3.0	3.0	157	150	150	150	133
24	92	98	3.0	3.0	3.0	3.0	3.0	145	138	156	162	133
25	110	104	3.0	3.0	3.0	3.0	3.0	145	138	150	156	139
26	104	116	3.0	3.0	3.0	3.0	3.0	145	168	174	138	139
27	122	92	3.0	3.0	3.0	3.0	3.0	169	138	150	138	127
28	98	98	3.0	3.0	3.0	3.0	3.0	139	144	138	144	133
29	98	98	3.0	3.0	---	3.0	3.0	169	162	150	144	133
30	98	98	3.0	3.0	---	3.0	46	127	132	138	144	133
31	104	---	3.0	3.0	---	3.0	---	145	---	138	150	---
TOTAL	3740	3036	593.0	93.0	84.0	93.0	133.0	4267	4282	4572	4416	4073
MEAN	121	101	19.1	3.00	3.00	3.00	4.43	138	143	147	142	136
MAX	164	116	98	3.0	3.0	3.0	46	169	169	174	162	157
MIN	92	92	3.0	3.0	3.0	3.0	3.0	63	132	132	120	115

CAL YR 1990 TOTAL 30606.0 MEAN 83.9 MAX 364 MIN 3.0
WTR YR 1991 TOTAL 29382.0 MEAN 80.5 MAX 174 MIN 3.0

01357500 MOHAWK RIVER AT COHOES, NY

REGULATION
(see Reservoirs in Hudson River Basin)

Delta Dam.
Hinckley Reservoir.
Schoharie Reservoir.

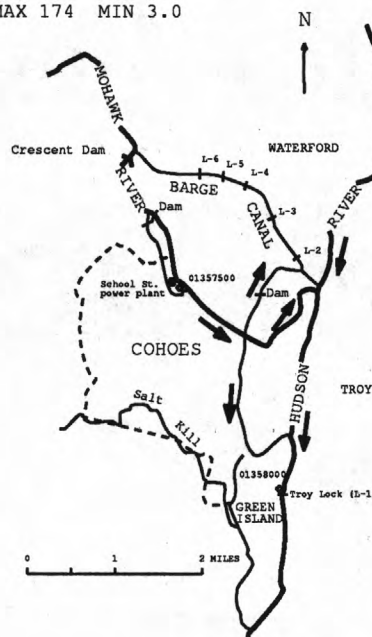
DIVERSIONS
(see Reservoirs in Hudson River Basin)

From Chenango River basin through
Oriskany Creek Feeder.

From (and occasionally into) Oswego
River basin through summit level of
Erie (Barge) Canal between New London
and Utica.

From Black River basin through Black
River Canal during navigation period.

Into Esopus Creek from Schoharie
Reservoir through Shandaken Tunnel
for New York City water supply.



01358000 HUDSON RIVER AT GREEN ISLAND, NY

REGULATION

Great Sacandaga Lake at Conklingville
(see station 01323500).
Indian Lake near Indian Lake (see
station 01314500).
Mohawk River regulation listed
under Mohawk River at Cohoes.

DIVERSIONS

Mohawk River diversions listed
under Mohawk River at Cohoes.

Into St. Lawrence River basin through:
Glens Falls feeder at Dunham Basin.
Bond Creek at Dunham Basin.
Champlain (Barge) Canal.

From St. Lawrence River basin through
summit level of Champlain (Barge)
Canal at Dunham Basin.

Figure 9.--Gaging stations and diversions near mouth of Mohawk River.

HUDSON RIVER BASIN

01357500 MOHAWK RIVER AT COHOES, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-52, 1955, 1955-59, 1963-64, 1970, 1976-79, June 1988 to current year.

CHEMICAL DATA: 1951-52 (a), 1958-59 (b), 1963-64, 1970, 1976 (a), 1977 (c), 1979 (d), 1988 (a), 1989 (c), 1990-91 (d).

MINOR ELEMENTS DATA: 1952, 1955 (a), 1958-59 (b), 1963-64, 1970, 1976 (a), 1977 (c), 1979 (d), 1988 (a), 1989 (c), 1990 (d), 1991 (c).

ORGANIC DATA: 1976 (a), 1977 (c), 1979 (d).

PESTICIDE DATA: 1988 (a), 1989 (c), 1990 (d).

NUTRIENT DATA: 1951-52, 1955 (a), 1958-59 (b), 1963-64, 1970, 1976 (a), 1977 (c), 1979 (d), 1988 (a), 1989 (c), 1990 (d).

BIOLOGICAL DATA: 1979 (d).

SEDIMENT DATA: 1976-77 (e), 1978 (a), 1979 (e), 1988 (a), 1989 (c), 1990 (d), 1991 (c).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
OCT 01...	1400	2880	335	8.5	18.0	761	10.5	112	280
NOV 07...	1100	4680	255	7.9	8.5	765	11.6	98	250
APR 24...	1100	18800	205	7.9	9.0	757	12.0	104	1400
MAY 21...	1100	2930	247	8.8	20.0	767	11.1	121	70
JUN 27...	1000	706	310	7.9	25.0	766	7.2	86	140
AUG 26...	1000	1590	342	7.0	23.0	771	5.7	65	160

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT 01...	10	<1	<1.0	2	4	2	580	4	1
NOV 07...	--	<1	--	--	5	--	510	--	2
APR 24...	--	<1	--	--	6	--	2700	--	5
MAY 21...	--	<1	--	--	4	--	110	--	4
JUN 27...	--	<1	--	--	15	--	240	--	34
AUG 26...	--	<1	--	--	6	--	270	--	2

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 01...	1	90	5	<0.10	<1	1	10	9
NOV 07...	--	50	--	<0.10	1	--	<10	--
APR 24...	--	90	--	<0.10	3	--	20	--
MAY 21...	--	40	--	<0.10	3	--	<10	--
JUN 27...	--	70	--	<0.10	10	--	20	--
AUG 26...	--	70	--	<0.10	<1	--	<10	--

HUDSON RIVER BASIN

01357500 MOHAWK RIVER AT COHOES, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT				
01...	1400	2880	15	117
NOV				
07...	1100	4680	13	164
APR				
24...	1100	18800	75	3810
MAY				
21...	1100	2930	16	127
JUN				
27...	1000	706	5	9.5
AUG				
26...	1000	1590	9	39

HUDSON RIVER BASIN

01358000 HUDSON RIVER AT GREEN ISLAND, NY

(National stream-quality accounting network station)
(National radiochemical network station)

LOCATION.--Lat 42°45'08", long 73°41'22", Albany County, Hydrologic Unit 02020006, on right bank at Green Island, just upstream from Troy lock and dam, and 0.5 mi downstream from 5th branch Mohawk River. Water-quality sampling site at bridge on State Highway 7, 1.7 mi downstream from discharge station.

DRAINAGE AREA.--8,090 mi², approximately (including that above site of former auxiliary gage).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 0.31 ft below National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). From July 1, 1946 to Mar. 12, 1962 auxiliary water-stage recorder on bypass channel at datum 10.59 ft higher. Totalizing flowmeter on each turbine in powerplant.

REMARKS.--Records fair above 10,000 ft³/s and poor below. Records include flow over spillway, estimates of flow through lock, and flow through powerplant. Powerplant, located on right bank just downstream from gage, was inoperative from Nov. 20, 1960 to Feb. 23, 1971. See Diversions in Hudson River Basin for regulation and diversions upstream from this station. Satellite gage-height and flowmeter telemeter readings at station.

COOPERATION.--Turbine flowmeter readings provided by Niagara Mohawk Power Corporation.

AVERAGE DISCHARGE.--45 years, 13,800 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181,000 ft³/s, Dec. 31, 1948, gage height, 27.05 ft, from high-water mark in gage well; maximum daily discharge, 152,000 ft³/s, Mar. 14, 1977; minimum daily, 882 ft³/s, Sept. 2, 1968; minimum gage height, 13.68 ft, July 6, 1981, when pool was lowered for inspection of flashboards.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 19, 1936, reached a stage of 29.48 ft at gage on opposite bank, from information by Corps of Engineers (discharge, 215,000 ft³/s). Flood of Mar. 28, 1913, prior to construction of Sacandaga Reservoir and Troy lock and dam, reached a stage about 0.2 ft higher upstream from former dam near same site. Downstream from dams, flood in 1913 was about 3.3 ft higher than flood in 1936, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 88,900 ft³/s, Nov. 11, gage height, 21.96 ft; minimum daily, 2,920 ft³/s, Sept. 15; minimum gage height, 13.96 ft, Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6710	17400	16600	43400	12700	13400	22300	21900	8810	3930	3940	e2980
2	8150	15100	15200	35300	12200	13100	21100	26300	8840	4150	3650	e3630
3	e7310	14600	15600	30500	11900	19600	19200	22900	7390	3620	3480	e4000
4	e6650	14000	20100	27200	12100	34200	17700	18200	6080	3710	3540	e3860
5	6140	14100	34600	22500	13600	54100	17400	17900	6450	3850	3920	e3950
6	7240	14900	30900	18800	17300	39800	17700	16400	5850	3710	3740	e4000
7	7930	15500	24800	19000	26000	37500	19700	20800	5510	3820	3940	e3310
8	8040	16100	21000	17300	34500	39400	23200	20600	5220	4940	3890	e3140
9	7110	11100	20200	14300	29800	31500	30400	17700	5180	4710	3570	e3610
10	6410	22400	18600	15300	25200	26700	37600	16000	3220	4380	4210	e4260
11	7530	82500	18300	15500	21500	23400	36200	15200	4090	4650	5340	e4740
12	8320	53600	16000	13400	17700	20100	31900	14500	4140	4060	e5520	e3800
13	14300	34300	15100	12900	15000	19300	27300	12600	5050	3730	e4340	e3050
14	22000	28700	15300	13000	15300	17200	22300	10900	5380	3750	e4490	e2930
15	17700	26700	13100	14600	14800	16700	18800	10500	4870	4130	e4390	e2920
16	14000	22800	12000	15200	14700	15900	16400	8550	5190	4690	e4130	e4420
17	13800	23100	14700	18000	12800	16700	14600	9700	7220	4030	e3860	e4210
18	12500	26300	16000	24500	12500	17000	12800	9390	7230	3880	e4450	e5620
19	23400	24600	24900	22900	13700	18800	11700	8100	5830	4070	e5070	e6560
20	21600	22000	28800	19400	15700	20600	15500	9200	4950	3070	e6470	e6210
21	19600	20700	23500	17800	25400	20400	15000	9320	4720	3580	e6130	e5790
22	15800	17700	27400	15500	22500	19000	43500	7410	4130	3640	e6520	e4740
23	15800	20900	32600	12200	21300	15900	50300	6610	3920	4720	e6380	e5390
24	50900	23300	41800	13000	17100	18600	34800	6070	3680	4270	e5450	e6560
25	50000	20300	49300	12600	15300	26700	28100	5870	3980	4540	e4370	e5580
26	34900	18300	38400	12300	14200	25800	23400	4910	3850	4430	e4350	e9900
27	28200	16700	28900	12700	13600	23300	19200	5000	3500	3800	e3970	e9700
28	22800	17500	23800	13100	13200	27200	17100	5280	3750	3930	e4420	e5930
29	22000	20700	21700	13500	---	32900	15500	7200	3120	3640	e3760	e6470
30	20800	17200	28100	13300	---	31500	15200	7760	3460	3950	e3450	e5970
31	19100	---	46800	13100	---	27000	---	7640	---	3470	e3150	---
TOTAL	526740	693100	754100	562100	491600	763300	695900	380410	154610	124850	137890	147230
MEAN	16990	23100	24330	18130	17560	24620	23200	12270	5154	4027	4448	4908
MAX	50900	82500	49300	43400	34500	54100	50300	26300	8840	4940	6520	9900
MIN	6140	11100	12000	12200	11900	13100	11700	4910	3120	3070	3150	2920

CAL YR 1990 TOTAL 7085820 MEAN 19410 MAX 82500 MIN 3470
WTR YR 1991 TOTAL 5431830 MEAN 14880 MAX 82500 MIN 2920

e Estimated

HUDSON RIVER BASIN

01358000 HUDSON RIVER AT GREEN ISLAND, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955 to current year.

CHEMICAL DATA: 1963 (a), 1964-65 (e), 1966-77 (d), 1978 (c), 1979-82 (d), 1983-86 (b), 1987 (a), 1988-91 (b).

MINOR ELEMENTS DATA: 1970-71 (a); 1972-73, 1975-79 (b), 1980-85 (b), 1986-87 (a), 1988-91 (b).

RADIOCHEMICAL DATA: 1968-71 (c), 1973-75 (a), 1976 (d), 1977 (a), 1978 (b), 1979-80 (a), 1981 (b), 1982-85, 1988-91 (a).

PESTICIDE DATA: 1976-77 (b), 1978 (a), 1979 (c), 1980, 1982 (a).

ORGANIC DATA: OC--1974 (a), 1975 (c), 1976-77 (b), 1978 (a), 1979 (c), 1980-81 (d).

PCB--1978 (a), 1979 (b), 1980 (a).

NUTRIENT DATA: 1968 (b), 1969-76 (d), 1977-79 (c), 1980-82 (d), 1983-86 (b), 1987 (a), 1988-91 (b).

BIOLOGICAL DATA:

Bacteria--1971 (a), 1973-74 (d), 1975 (a), 1976-78 (c), 1979-81 (d), 1983-86, 1988, 1990-91 (b).

Phytoplankton--1975 (a), 1976-77 (c), 1978 (b), 1979-81 (c).

Periphyton--1976-77 (b), 1978 (a), 1979-80 (b).

SEDIMENT DATA: 1975 (b), 1976 (d), 1977 (b), 1978 (c), 1979-82 (d), 1983-86, 1988-91 (b).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1964 to September 1965, once-daily measurements, unpublished.

pH: October 1964 to September 1965, once-daily measurements, unpublished.

WATER TEMPERATURES: April 1947 to September 1954, once-daily measurements, unpublished; October 1954 to September 1981.

REMARKS.--Prior to October 1968 sampling site at old bridge on State Highway 7 about 100 ft upstream, and between April 1971 and September 1973 sampling site at former bridge on road between Green Island and Troy at Starbuck Island.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	*DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV												
07...	0845	15500	173	7.8	8.5	6.6	770	10.8	91	510	200	
FEB												
25...	1315	15300	242	8.1	0.5	8.5	765	14.7	102	210	160	
MAY												
08...	1000	20600	268	8.1	13.5	10	775	9.7	92	150	26	
AUG												
21...	0930	E6130	246	8.0	23.0	1.5	765	8.4	98	550	120	

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV											
07...	59	18	3.3	6.1	0.90	41	51	12	12	<0.10	5.0
FEB											
25...	72	22	4.0	9.9	1.2	53	64	14	16	<0.10	5.4
MAY											
08...	75	23	4.2	7.6	0.90	60	73	12	13	<0.10	4.2
AUG											
21...	74	22	4.5	10	1.1	53	64	18	17	<0.10	2.7

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHOR- THO, DIS- SOLVED (MG/L AS P)
NOV										
07...	90	84	--	0.400	0.070	0.070	0.50	0.020	0.020	<0.010
FEB										
25...	103	108	0.690	0.700	0.130	0.130	0.40	0.050	0.020	0.020
MAY										
08...	112	104	0.520	0.540	0.090	0.100	0.50	0.040	0.020	0.010
AUG										
21...	118	109	0.310	0.330	0.090	0.080	0.60	0.060	0.030	0.020

* Daily discharge.

E Estimated.

HUDSON RIVER BASIN

01358000 HUDSON RIVER AT GREEN ISLAND, NY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 07...	30	<1	14	<0.5	<1.0	<1	<3	6	70	1
FEB 25...	50	<1	15	0.9	2.0	<1	<3	3	64	1
MAY 08...	30	<1	17	<0.5	2.0	<1	<3	3	47	1
AUG 21...	20	<1	20	<0.5	4.0	<1	<3	5	32	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 07...	<4	25	<0.1	<10	1	<1	<1.0	82	<6	8
FEB 25...	<4	21	0.1	<10	2	<1	<1.0	120	<6	26
MAY 08...	<4	25	<0.1	<10	2	<1	<1.0	130	<6	5
AUG 21...	<4	10	<0.1	<10	<1	<1	<1.0	100	<6	12

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	*DIS- CHARGE, IN CUBIC FEET PER SECOND	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
FEB 25...	1315	15300	<0.6	1.2	2.0	1.7	1.1	1.0	0.04	0.11
AUG 21...	0930	E6130	1.1	<0.6	0.6	<0.6	0.7	0.7	0.03	0.14

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	*DIS- CHARGE, IN CUBIC FEET PER SECOND	SEDI- MENT, DIS- SOLVED SUS- PENDE (MG/L)	SEDI- MENT, DIS- SOLVED SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 07...	0845	15500	15	624	89
FEB 25...	1315	15300	11	451	98
MAY 08...	1000	20600	17	946	97
AUG 21...	0930	E6130	7	--	79

* Daily discharge.
E Estimated.

HUDSON RIVER BASIN

01359139 HUDSON RIVER AT ALBANY, NY

LOCATION.--Lat 42°38'53", long 73°44'50", Albany County, Hydrologic Unit 02020006, on right bank 0.3 mi upstream from bridge on U.S. Highways 9 and 20 in Albany, and 0.5 mi downstream from the Conrail railroad bridge.

DRAINAGE AREA.--8,288 mi².

PERIOD OF RECORD.--October 1972 to September 1976, April 1981 to current year.

REVISED RECORDS.--WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 10.00 ft below National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Gage-height record converted to elevation above or below (-) mean sea level for publication.

REMARKS.--Records good. Telephone gage-height telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 28, 1913, reached a stage of 21.45 ft, discharge, 240,000 ft³/s (estimated, tide affected) from information provided by Board of Hudson River-Black River Regulating District.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation recorded, 10.05 ft, May 31, 1984; minimum recorded, -4.50 ft, Mar. 8, 1986.

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
<u>Maximum high tide</u>												
Elevation	6.17	7.33	7.22	6.44	5.84	6.59	6.87	5.80	5.07	5.15	5.45	4.96
Date	24	10	4	1	14	4	22	2	12	13	10	25
<u>Minimum low tide</u>												
Elevation	-2.51	-2.12	-2.68	-1.92	-2.59	-1.36	-1.48	-2.58	-2.74	-2.25	-2.35	-2.47
Date	2	14	14	25	1	1	3	25	14	18	7	1
Mean high tide	4.72	4.89	4.79	4.39	4.26	5.03	4.98	4.63	4.52	4.40	4.31	4.21
Mean water level	1.98	2.08	2.14	1.94	1.63	2.48	2.31	1.70	1.43	1.41	1.31	1.30
Mean low tide	-1.00	-0.86	-0.68	-0.66	-1.12	-0.15	-0.47	-1.38	-1.78	-1.76	-1.80	-1.76

HUDSON RIVER BASIN

01359560 HUDSON RIVER AT GLENMONT, NY

LOCATION.--Lat 42°35'43", long 73°45'43", Albany County, Hydrologic Unit 02020006, at Niagara Mohawk Glenmont Power Station (intake), 0.2 mi downstream from lower mouth of Normans Kill, and 0.8 mi southeast of Glenmont.

DRAINAGE AREA.--8,476 mi².

PERIOD OF RECORD.--Water years 1969-79, May 1988 to current year.

CHEMICAL DATA: 1969 (d), 1970-74 (e), 1975 (d), 1976-77 (c), 1978-79 (d), 1988-90 (b), 1991 (c).

MINOR ELEMENTS DATA: 1969 (d), 1970-74 (e), 1975 (d), 1976-77 (c), 1978-79 (d), 1988-90 (b), 1991 (c).

PESTICIDE DATA: 1988-90 (b).

NUTRIENT DATA: 1969 (d), 1970-74 (e), 1975 (d), 1976-77 (c), 1978-79 (d), 1988-90 (b).

BIOLOGICAL DATA:

Bacteria--1977 (c), 1978-79 (d).

Phytoplankton--1974 (a), 1975 (b), 1976-77 (c), 1978-79 (d).

SEDIMENT DATA: 1988-90 (b), 1991 (c).

REVISED RECORDS.--WDR NY-90-1: Drainage area.

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
OCT 30...	1500	160	--	8.5	765	11.0	93	710
MAR 18...	1200	205	7.0	4.0	758	13.0	100	160
APR 10...	1400	181	6.5	12.5	752	10.3	98	350
18...	1200	197	7.3	9.0	767	10.9	94	200
24...	1300	184	7.7	9.5	757	11.5	101	1000
MAY 14...	1200	215	8.1	17.5	757	8.2	86	350
21...	1200	219	7.8	19.5	768	7.7	83	280
JUN 17...	1300	238	7.5	23.5	763	6.3	74	330
JUL 31...	1100	226	8.0	26.0	764	7.0	86	150

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 30...	<1	7	1300	100	80	<0.10	3	<10
MAR 18...	<1	4	280	2	40	<0.10	2	<10
APR 10...	<1	4	600	3	50	<0.10	1	<10
18...	<1	5	380	4	50	<0.10	1	10
24...	<1	4	1800	3	60	<0.10	3	10
MAY 14...	<1	4	650	2	60	<0.10	5	<10
21...	<1	7	450	7	50	<0.10	10	<10
JUN 17...	<1	9	600	4	40	<0.10	1	20
JUL 31...	<1	3	650	4	70	<0.10	3	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SEDIMENT, SUSPENDED (MG/L)
OCT 30...	1500	34
MAR 18...	1200	6
APR 10...	1400	16
18...	1200	8
24...	1300	43
MAY 14...	1200	15
21...	1200	8
JUN 17...	1300	16
JUL 31...	1100	15

HUDSON RIVER BASIN

01359750 MOORDENER KILL AT CASTLETON-ON-HUDSON, NY

LOCATION.--Lat 42°32'02", long 73°44'15", Rensselaer County, Hydrologic Unit 02020006, on left bank 800 ft downstream from bridge on State Highway 150, 0.2 mi east of village of Castleton-on-Hudson, 0.5 mi downstream from unnamed tributary, and 1.2 mi upstream from mouth.

DRAINAGE AREA.--32.6 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 98.72 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 25, 1957, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Slight diurnal fluctuation of low flow by mills upstream.

AVERAGE DISCHARGE.--34 years, 38.4 ft³/s, 16.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft³/s, Mar. 15, 1986, gage height, 4.25 ft; minimum, 0.30 ft³/s, Aug. 9, 10, 1964, gage height, 0.25 ft; minimum daily, 1.0 ft³/s, Sept. 6, 1964.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 11	0300	*586	a*2.62	Apr. 22	0130	405	b2.26

a Recorded in well; outside gage height was 2.92 ft, from crest-stage gage.

b Recorded in well; outside gage height was 2.47 ft, from crest-stage gage.

Minimum discharge, 3.3 ft³/s, Aug. 2, gage height, 0.60 ft; minimum daily, 4.0 ft³/s, Aug. 1-2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	24	25	e70	e23	e23	48	218	30	8.7	4.0	5.8
2	7.1	23	25	e56	e21	e30	45	170	20	6.9	4.0	5.3
3	6.3	28	23	e50	e21	54	41	112	16	7.1	6.0	5.1
4	8.7	20	134	e41	e24	234	37	86	14	6.7	6.3	5.5
5	22	18	135	e36	e35	194	35	69	14	6.7	5.6	5.5
6	15	29	78	e33	e50	105	35	69	13	6.7	5.5	5.4
7	10	29	61	e30	162	116	35	110	12	6.8	4.9	5.1
8	8.3	25	52	e28	155	e80	33	73	11	6.9	4.7	4.8
9	7.6	23	46	e25	87	e58	53	58	9.9	5.8	6.3	5.1
10	7.6	198	41	e23	e60	e50	57	59	9.6	5.5	7.8	5.0
11	7.6	409	35	e23	e45	e45	43	54	9.6	5.2	6.8	5.8
12	7.5	172	33	e24	e40	e41	35	44	11	5.0	6.1	5.1
13	15	107	e31	e24	e31	e40	31	38	11	8.9	5.5	4.9
14	23	78	e29	e24	e29	e39	31	39	9.8	9.6	5.1	5.4
15	16	64	e28	e24	e28	e38	30	37	9.0	7.0	5.4	7.1
16	12	56	e28	e26	e27	e37	37	31	9.0	5.8	5.3	7.3
17	11	58	e30	e50	e25	e39	31	30	11	5.4	6.0	6.8
18	12	57	e50	e47	e25	43	60	45	9.6	5.0	5.5	6.2
19	30	46	121	e40	e30	51	49	31	8.6	4.8	19	24
20	27	41	73	e31	e80	47	38	25	8.4	4.6	21	31
21	19	37	67	e29	e54	39	157	22	7.6	4.9	19	18
22	16	34	108	e27	e45	43	329	20	7.3	5.1	29	11
23	24	51	82	e24	e35	69	176	18	7.2	5.3	16	9.0
24	236	49	206	e22	e30	135	116	16	6.7	4.7	11	8.4
25	127	40	144	e21	e27	129	89	16	6.5	4.4	7.7	30
26	70	34	e80	e20	e25	94	71	15	6.1	5.1	6.7	43
27	48	31	e54	e19	e23	81	62	14	5.9	5.2	5.8	28
28	38	30	e49	e18	e22	83	53	14	5.8	4.6	5.6	17
29	33	29	e56	e18	---	66	47	13	5.7	4.4	5.2	12
30	29	27	100	e22	---	59	121	39	9.0	4.2	5.0	8.8
31	26	---	e130	e26	---	53	---	73	---	4.2	6.2	---
TOTAL	926.8	1867	2154	951	1259	2215	2025	1658	314.3	181.2	258.0	341.4
MEAN	29.9	62.2	69.5	30.7	45.0	71.5	67.5	53.5	10.5	5.85	8.32	11.4
MAX	236	409	206	70	162	234	329	218	30	9.6	29	43
MIN	6.3	18	23	18	21	23	30	13	5.7	4.2	4.0	4.8
CFSM	.92	1.91	2.13	.94	1.38	2.19	2.07	1.64	.32	.18	.26	.35
IN.	1.06	2.13	2.46	1.09	1.44	2.53	2.31	1.89	.36	.21	.29	.39

CAL YR 1990 TOTAL 20654.0 MEAN 56.6 MAX 587 MIN 5.6 CFSM 1.74 IN. 23.57
WTR YR 1991 TOTAL 14150.7 MEAN 38.8 MAX 409 MIN 4.0 CFSM 1.19 IN. 16.15

e Estimated

HUDSON RIVER BASIN

01360640 VALATIE KILL NEAR NASSAU, NY

LOCATION.--Lat 42°33'07", long 73°35'31", Rensselaer County, Hydrologic Unit 02020006, on left bank about 200 ft upstream from bridge on Hoags Corners Road, and 2.7 mi northeast of Nassau.

DRAINAGE AREA.--9.48 mi².

PERIOD OF RECORD.--October 1990 to September 1991.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 450 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 360 ft³/s, Nov. 10, 1990, gage height, 4.37 ft; minimum, 0.09 ft³/s, Aug. 1, 2, 3, 1991, gage height, 0.80 ft; minimum daily, 0.10 ft³/s, Aug. 2, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0615	204	3.64	Nov. 10	Unknown	*360	*4.37

Minimum discharge, 0.09 ft³/s, Aug. 1, 2, 3, gage height, 0.80 ft; minimum daily, 0.10 ft³/s, Aug. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.2	8.2	6.9	e35	e7.0	e6.6	14	51	8.7	.77	.12	.57
2	e1.3	e7.8	6.7	e19	e6.0	e11	14	40	4.5	.42	.10	.42
3	e1.2	e9.6	6.0	e14	e6.4	17	12	26	3.2	.41	.28	.27
4	3.5	e6.8	44	e11	7.5	87	11	20	2.7	.38	.43	.24
5	e13	e8.0	39	e9.6	9.0	57	10	16	2.6	.34	.43	.23
6	e7.0	e9.8	24	e8.6	13	31	10	17	2.1	.30	.32	.23
7	e3.5	e9.8	18	e7.8	50	37	10	30	1.9	.52	.23	.23
8	e2.5	e8.6	15	e7.2	44	28	9.4	20	1.7	.56	.17	.22
9	e2.1	e7.8	13	e6.6	24	24	17	16	1.2	.35	.18	.19
10	e1.8	e7.0	12	e6.2	e20	e15	16	17	1.1	.24	.44	.18
11	e1.7	e17.0	10	e6.0	e15	e13	12	15	1.0	.14	.39	.19
12	1.7	e8.0	e9.2	e6.0	e10	e10	9.3	13	1.4	.19	.27	.19
13	5.8	e33	e8.6	e5.8	e9.0	e9.4	8.3	10	1.5	.67	.21	.19
14	18	e23	e7.8	e5.8	e8.0	e8.8	8.0	9.0	1.3	1.0	.19	.19
15	11	e18	7.2	e6.2	e7.2	e8.6	7.9	8.5	.82	.62	.69	.47
16	6.4	e16	8.4	e7.0	e6.8	e9.0	10	7.0	.97	.37	1.1	1.1
17	e4.0	e17	9.6	21	e6.4	e10	8.3	7.2	1.4	.29	.54	.68
18	e3.5	e16	27	e15	e6.2	12	15	11	1.0	.21	.41	.48
19	14	e13	58	e11	e10	17	12	7.2	.83	.20	7.8	4.5
20	9.2	e12	31	e8.6	21	16	9.4	5.7	.67	.15	8.9	6.4
21	e5.4	e11	29	e6.6	e15	13	46	4.7	.56	.14	9.5	3.9
22	e4.5	e10	40	e5.2	e11	16	75	4.0	.49	.15	14	2.3
23	e5.2	e14	29	e4.5	e9.0	24	38	3.4	.49	.13	6.1	1.7
24	130	e13	81	e4.0	e8.0	48	24	2.9	.40	.13	3.3	1.7
25	e50	e11	e40	e3.7	e7.4	50	18	2.7	.31	.12	2.4	12
26	e28	e9.6	e25	e3.5	e6.8	33	15	2.3	.31	.16	1.7	17
27	e17	8.9	e17	e3.4	e6.6	27	13	2.2	.31	.20	1.1	10
28	e12	8.9	e13	e3.4	e6.4	26	11	2.2	.24	.20	.83	5.8
29	e10	8.2	e13	e3.5	---	21	10	1.9	.21	.19	.64	3.8
30	e9.0	7.6	e25	e5.2	---	19	27	15	.88	.16	.50	2.8
31	8.3	---	48	e9.4	---	16	---	22	---	.13	.50	---
TOTAL	391.8	646.6	721.4	269.8	356.7	720.4	500.6	409.9	44.79	9.84	63.77	78.17
MEAN	12.6	21.6	23.3	8.70	12.7	23.2	16.7	13.2	1.49	.32	2.06	2.61
MAX	130	170	81	35	50	87	75	51	8.7	1.0	14	17
MIN	1.2	6.8	6.0	3.4	6.0	6.6	7.9	1.9	.21	.12	.10	.18
CFSM	1.33	2.27	2.45	.92	1.34	2.45	1.76	1.39	.16	.03	.22	.27
IN.	1.54	2.54	2.83	1.06	1.40	2.83	1.96	1.61	.18	.04	.25	.31

WTR YR 1991 TOTAL 4213.77 MEAN 11.5 MAX 170 MIN .10 CFSM 1.22 IN. 16.54

e Estimated

HUDSON RIVER BASIN

01362198 ESOPUS CREEK AT SHANDAKEN, NY
(Hydrologic bench-mark station)

LOCATION.--Lat 42°06'59", long 74°23'20", Ulster County, Hydrologic Unit 02020006, on right bank 2,400 ft downstream from bridge on State Highway 28, at Shandaken, 0.5 mi downstream from Bushnellville Creek, 0.5 mi upstream from Fox Hollow Creek, and 5.2 mi northwest of Phoenicia.

DRAINAGE AREA.--59.5 mi².

PERIOD OF RECORD.--Water years 1963 to current year. Published as Esopus Creek at Allaben, October 1988 to September 1989.

CHEMICAL DATA: 1963-65 (a), 1966-67 (b), 1968-82 (d), 1983-84 (b), 1985 (c), 1986 (b), 1987 (a), 1988-91 (b).

MINOR ELEMENT DATA: 1964-65, 1967-73, 1975-76 (a), 1977 (b), 1978-87 (a), 1988-91 (b).

RADIOCHEMICAL DATA: 1967-77, 1979-85, 1988-91 (a).

PESTICIDE DATA: 1967-72, 1974-77, 1979-82 (a).

ORGANIC DATA: OC--1979 (a), 1981 (c).

PCB--1974-77, 1979-82 (a).

PCN--1977, 1979-82 (a).

NUTRIENT DATA: 1968 (a), 1969-71 (d), 1972 (c), 1974 (a), 1975-82 (d), 1983-84 (b), 1985 (c), 1986-87 (a), 1988-91 (b).

BIOLOGICAL DATA:

Bacteria--1968-69 (d), 1970-72 (c), 1973-82 (d), 1983-85 (b), 1986-88 (a), 1990-91 (b).

SEDIMENT DATA: 1969-71 (c), 1972-75, 1977-82 (d), 1983-86, 1988-91 (b).

REMARKS.--Water discharge data based on records obtained at Allaben (station 01362200).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 06...	1300	122	38	7.5	9.0	1.5	765	10.8	93	16	27	
FEB 26...	0900	155	39	7.7	1.5	1.0	740	13.4	98	110	0	
MAY 07...	1300	168	31	7.6	9.5	1.5	740	10.5	95	2	2	
AUG 20...	1300	29	71	7.6	18.0	3.5	740	10.4	113	200	110	

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 06...	18	5.3	1.1	2.5	0.50	12	15	7.2	3.6	<0.10	2.8
FEB 26...	17	4.9	1.1	2.8	0.30	8	9	6.8	4.4	<0.10	2.7
MAY 07...	16	4.7	1.1	2.4	0.40	11	14	6.7	3.1	<0.10	2.6
AUG 20...	28	8.4	1.7	5.3	0.50	19	23	7.8	7.7	<0.10	3.2

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHOPHOS- PHATE DIS- SOLVED (MG/L AS P)
NOV 06...	28	32	--	0.400	<0.010	0.010	0.30	<0.010	0.030	<0.010
FEB 26...	28	30	--	0.540	0.010	0.020	<0.20	<0.010	<0.010	<0.010
MAY 07...	20	30	0.380	0.390	0.010	0.010	<0.20	<0.010	<0.010	<0.010
AUG 20...	52	47	--	0.240	<0.010	<0.010	<0.20	0.020	0.020	<0.010

HUDSON RIVER BASIN

01362198 ESOPUS CREEK AT SHANDAKEN, NY--Continued
(Hydrologic bench-mark station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 06...	<10	<1	10	<0.5	<1.0	<1	<3	2	9	<1
FEB 26...	<10	<1	11	0.9	2.0	<1	<3	1	4	<1
MAY 07...	<10	<1	10	<0.5	<1.0	<1	<3	2	7	1
AUG 20...	<10	<1	14	<0.5	1.0	<1	<3	2	5	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 06...	<4	5	<0.1	<10	1	<1	<1.0	18	<6	10
FEB 26...	<4	2	<0.1	<10	1	<1	<1.0	17	<6	8
MAY 07...	<4	3	<0.1	<10	3	<1	<1.0	17	<6	15
AUG 20...	<4	6	<0.1	<10	<1	<1	<1.0	27	<6	6

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 06...	1300	122	4	1.3	67
FEB 26...	0900	155	1	0.42	100
MAY 07...	1300	168	2	0.91	82
AUG 20...	1300	29	5	0.39	96

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
FEB 26...	0900	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	0.02	0.02
AUG 20...	1300	<0.6	<0.6	1.6	1.5	<0.6	<0.6	0.02	0.02

HUDSON RIVER BASIN

01362200 ESOPUS CREEK AT ALLABEN, NY
(Hydrologic bench-mark station)

LOCATION.--Lat 42°07'01", long 74°22'50", Ulster County, Hydrologic Unit 02020006, on right bank, 20 ft downstream from bridge on Fox Hollow Road, 0.5 mi west of Allaben, 200 ft downstream from Fox Hollow Creek, and 600 ft upstream from Peck Hollow Creek. Water-quality sampling site at discharge station.

DRAINAGE AREA.--63.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to current year. Prior to October 1988, published as Esopus Creek at Shandaken.

GAGE.--Water-stage recorder. Datum of gage is 998.04 ft above National Geodetic Vertical Datum of 1929. Prior to November 22, 1988, at site 0.5 mi upstream at datum 19.23 ft higher.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor. Occasional slight regulation when filling or draining swimming pools or small ponds upstream from station. Satellite gage-height and temperature telemeter at station.

AVERAGE DISCHARGE.--28 years, 137 ft³/s, 29.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft³/s, Apr. 4, 1987, gage height, 13.70 ft, from floodmarks, site and datum then in use, from rating curve extended above 3,000 ft³/s, on basis of slope-area measurement at gage height 13.70 ft, at site 0.5 mi upstream, not adjusted for undetermined amount of flow bypassing gage; minimum discharge, 2.1 ft³/s, Sept. 16, 1983 (result of slight regulation upstream from station).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 30, 1951 reached a stage of about 15.1 ft, at previous site and datum, from information supplied by local residents.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0200	1,260	6.51	Mar. 4	0330	1,390	6.68
Nov. 10	1915	*2,650	*8.18				

Minimum discharge, 5.1 ft³/s, Sept. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	106	78	480	e82	127	226	177	43	15	8.7	7.1
2	16	96	74	406	e80	168	208	193	39	14	8.3	6.9
3	16	87	75	337	e86	250	183	170	38	16	8.8	6.7
4	17	82	444	279	93	1160	167	162	36	15	9.5	7.3
5	23	77	435	235	105	820	156	154	34	15	8.3	8.0
6	19	107	359	209	135	570	151	165	32	15	7.3	6.5
7	16	90	297	180	235	555	153	172	30	14	6.9	6.1
8	15	88	253	e150	279	418	154	156	28	13	6.3	5.8
9	15	84	217	143	284	342	165	150	26	12	11	5.6
10	16	886	192	129	266	287	169	159	24	11	15	5.7
11	18	1240	165	e110	234	e240	160	147	28	11	10	6.1
12	22	679	147	e110	e180	e200	148	138	33	10	11	5.5
13	34	448	137	e100	e170	e170	140	129	29	13	9.7	5.4
14	66	332	124	e90	e170	e160	132	127	24	12	8.8	5.2
15	46	278	117	e82	e150	156	133	119	23	9.6	11	9.5
16	40	248	116	e78	e130	138	126	107	23	9.0	10	9.6
17	37	230	105	142	e110	129	119	110	21	8.5	9.8	7.4
18	53	201	130	123	e100	139	113	112	20	8.4	10	6.9
19	155	182	156	e110	117	139	105	94	19	8.5	32	20
20	106	164	139	e100	186	128	101	88	18	8.2	32	15
21	91	151	175	e90	175	122	189	83	18	7.9	24	12
22	82	140	301	e80	183	e120	513	78	21	7.2	19	11
23	126	139	334	e74	177	e130	456	72	22	14	15	9.9
24	853	128	684	e74	169	176	389	68	20	12	13	9.2
25	441	118	566	e70	163	201	328	64	19	13	12	14
26	311	108	426	e64	154	208	276	60	17	15	11	16
27	237	100	331	e66	144	232	239	58	16	15	9.7	14
28	194	95	286	e68	133	306	210	55	15	12	9.0	13
29	161	90	258	e64	---	325	186	49	14	11	8.9	12
30	136	83	405	e74	---	291	177	46	16	11	8.1	11
31	119	---	567	e100	---	251	---	46	---	9.7	7.6	---
TOTAL	3499	6857	8093	4417	4490	8658	5972	3508	746	366.0	371.7	278.4
MEAN	113	229	261	142	160	279	199	113	24.9	11.8	12.0	9.28
MAX	853	1240	684	480	284	1160	513	193	43	16	32	20
MIN	15	77	74	64	80	120	101	46	14	7.2	6.3	5.2
CFSM	1.77	3.59	4.10	2.24	2.52	4.38	3.13	1.78	.39	.19	.19	.15
IN.	2.04	4.00	4.73	2.58	2.62	5.06	3.49	2.05	.44	.21	.22	.16

CAL YR 1990 TOTAL 59509 MEAN 163 MAX 1240 MIN 15 CFSM 2.56 IN. 34.75
WTR YR 1991 TOTAL 47256.1 MEAN 129 MAX 1240 MIN 5.2 CFSM 2.03 IN. 27.60

e Estimated

HUDSON RIVER BASIN

01362200 ESOPUS CREEK AT ALLABEN, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1963 to July 1968, January 1970 to current year. Prior to October 1988, published as Esopus Creek at Shandaken.

INSTRUMENTATION.--Water-temperature satellite telemeter since June 1989, provides 15-minute-interval readings. Prior to June 1989, water-temperature digital recorder provided one-hour-interval punches, and prior to November 1981, water-temperature recorder provided continuous recordings.

REMARKS.--Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1963-76, 1978-80, 1982, 1985-86, 1989-91), 28.5°C Aug. 16, 1965, Aug. 9, 1980; minimum, 0.0°C on many days during winter periods except water years 1967 and 1976.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.0°C, July 20; minimum, 0.0°C on several days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.5	11.5	13.0	9.5	6.0	7.5	5.0	2.0	3.5	3.0	1.5	2.5
2	12.5	10.5	11.5	10.0	7.0	8.5	6.0	4.0	5.0	4.0	2.5	3.0
3	13.5	9.0	11.0	11.5	9.0	10.0	4.0	.5	2.5	3.5	2.5	3.0
4	13.0	10.5	12.0	11.0	9.0	10.0	5.0	2.5	4.0	2.5	1.0	2.0
5	14.0	10.5	12.0	10.5	9.0	9.5	4.0	3.5	3.5	2.5	1.0	1.5
6	16.0	11.0	13.5	9.5	6.5	8.5	4.5	3.0	4.0	3.5	2.5	3.0
7	16.5	12.5	14.5	8.0	6.0	7.0	5.0	4.0	4.5	3.0	.5	2.0
8	16.5	14.0	15.0	7.0	5.0	6.5	5.0	3.5	4.0	---	---	---
9	16.0	14.5	15.5	6.0	4.0	5.0	5.0	4.0	4.5	2.5	.0	1.0
10	16.5	15.5	16.0	7.0	6.0	6.5	5.0	2.5	4.0	2.5	.5	2.0
11	16.5	15.0	16.0	6.5	---	---	3.0	1.5	2.5	---	---	---
12	18.5	16.0	17.0	6.0	---	---	4.0	3.0	3.5	---	---	---
13	18.0	16.5	17.0	5.0	4.0	4.5	6.0	3.0	4.5	1.0	---	---
14	16.5	15.0	16.0	5.5	3.5	4.5	3.5	1.0	2.0	1.0	---	---
15	15.0	13.0	14.0	8.0	4.5	6.0	3.0	1.0	1.5	3.0	1.0	2.5
16	13.5	10.5	12.0	9.0	6.0	7.5	4.0	3.0	3.5	2.5	1.5	2.0
17	---	---	---	8.0	5.5	7.5	4.0	3.0	3.5	3.5	2.0	3.0
18	---	---	---	5.5	4.0	4.5	4.5	3.0	4.0	2.5	1.5	2.0
19	---	---	---	5.0	3.0	4.0	4.5	3.5	4.5	3.5	1.0	2.0
20	---	---	---	5.5	3.5	4.5	3.5	2.0	2.5	3.0	2.0	2.5
21	---	---	---	6.0	4.0	5.0	5.5	3.0	4.0	3.0	---	---
22	---	---	---	6.5	4.0	5.0	8.0	5.5	6.5	---	---	---
23	---	---	---	7.0	6.0	6.5	8.5	6.5	7.5	---	---	---
24	---	---	---	6.0	4.5	5.5	6.5	3.5	5.5	.0	.0	.0
25	---	---	---	7.0	4.5	5.5	3.5	2.5	3.0	---	---	---
26	---	---	---	6.0	4.0	5.0	3.0	1.5	2.5	---	---	---
27	---	---	---	7.0	4.0	5.5	2.5	1.0	1.5	---	---	---
28	---	---	---	10.0	6.0	8.0	3.0	---	---	.5	.0	.5
29	---	---	---	10.0	4.5	7.0	4.5	3.0	4.0	1.0	.0	.5
30	9.0	5.5	7.0	4.5	3.0	4.0	6.0	4.5	5.5	2.0	.5	1.5
31	9.5	6.5	8.0	---	---	---	6.0	2.0	3.5	1.5	.0	1.0
MONTH	---	---	---	11.5	---	---	8.5	---	---	---	---	---

HUDSON RIVER BASIN

01362200 ESOPUS CREEK AT ALLABEN, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	---	6.0	1.5	3.5	5.0	2.5	3.5	14.5	9.0	11.5
2	1.0	.0	---	7.5	3.5	5.5	5.5	3.0	4.0	10.5	8.0	9.5
3	3.5	.5	2.0	8.0	4.5	6.0	8.5	3.0	5.0	9.5	7.0	8.0
4	4.0	1.0	2.5	5.5	3.5	4.5	10.0	2.5	6.0	13.5	6.5	9.5
5	4.5	1.5	3.0	5.0	3.0	3.5	8.5	4.5	6.5	14.5	6.5	10.0
6	5.0	3.0	4.0	5.5	2.5	4.0	12.5	6.5	9.0	10.0	9.0	9.5
7	4.0	3.0	3.5	5.0	2.5	4.0	14.5	7.0	10.0	11.5	8.5	9.5
8	4.5	2.5	3.5	4.0	1.0	2.0	13.0	7.5	10.0	12.5	7.5	9.5
9	5.0	2.5	3.5	4.5	.5	2.0	13.0	9.0	10.5	10.0	7.0	8.5
10	4.0	2.0	3.5	3.5	.5	2.0	13.5	8.0	10.5	13.5	8.5	10.0
11	2.0	.0	1.5	---	---	---	10.5	5.0	---	15.5	7.5	11.0
12	.5	.0	.0	4.0	.5	1.5	10.0	3.5	6.5	15.0	9.0	12.0
13	2.5	.0	1.0	5.5	.5	2.5	6.0	4.5	5.5	17.5	10.0	13.5
14	2.5	.5	1.5	3.0	2.0	2.5	11.0	4.5	7.0	14.5	10.5	12.5
15	3.0	---	---	4.0	2.0	2.5	7.0	5.5	6.0	17.5	10.5	13.5
16	---	---	---	6.0	1.0	3.0	12.5	5.5	8.5	18.0	10.5	14.0
17	---	---	---	7.5	1.5	4.0	10.0	6.0	8.0	18.0	12.0	14.5
18	1.0	.0	.5	4.0	3.0	3.5	8.0	6.5	7.0	16.0	11.0	13.5
19	2.5	1.0	2.0	6.0	3.5	4.5	12.5	6.0	8.5	16.5	8.5	12.0
20	4.0	2.0	3.0	7.0	3.0	4.5	8.0	6.0	6.5	17.0	9.5	13.0
21	4.5	1.5	2.5	4.0	2.0	3.0	6.5	6.0	6.5	18.0	9.5	13.5
22	5.0	2.0	3.5	4.0	2.5	3.5	7.0	5.5	6.0	18.0	11.5	14.5
23	---	---	---	3.5	.5	2.0	10.5	5.0	7.0	19.0	12.0	15.0
24	2.5	---	---	4.5	2.0	3.5	8.5	5.5	7.0	18.0	12.5	15.0
25	3.5	1.0	2.0	5.0	3.0	4.0	12.0	6.0	8.5	19.5	13.0	16.0
26	3.5	1.5	2.0	8.0	3.5	5.0	12.0	5.5	---	18.5	13.5	15.5
27	3.0	.5	1.5	6.0	4.5	5.0	13.5	8.0	10.0	19.0	14.0	16.0
28	3.5	.0	1.5	10.0	5.0	7.0	12.5	7.5	9.5	21.0	14.5	17.0
29	---	---	---	7.0	4.0	5.5	10.5	8.0	9.0	21.0	14.0	17.5
30	---	---	---	6.0	2.5	4.0	12.0	8.5	10.0	19.0	15.0	17.0
31	---	---	---	7.0	1.5	3.5	---	---	---	19.0	15.0	16.5
MONTH	---	---	---	---	---	---	14.5	2.5	---	21.0	6.5	13.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	20.5	15.0	17.5	23.5	15.5	19.0	26.0	17.5	21.5	21.5	16.0	18.5
2	19.0	13.5	16.0	20.5	16.5	18.5	25.0	19.0	22.0	20.5	13.5	16.5
3	18.0	13.0	15.5	18.0	17.0	17.5	21.0	19.0	19.5	21.5	13.5	17.5
4	16.5	13.5	15.0	19.0	16.5	17.5	23.5	18.0	20.5	18.5	16.0	17.5
5	16.5	12.5	14.0	17.5	16.0	16.5	23.0	18.0	20.0	22.0	16.0	18.5
6	18.0	11.5	14.5	24.0	16.0	19.5	20.5	16.5	18.5	20.5	15.0	17.5
7	19.0	11.5	15.0	23.0	18.5	20.5	23.5	16.0	19.0	21.0	15.0	17.5
8	20.5	12.5	16.5	24.0	18.5	21.0	23.5	17.0	20.0	21.0	15.5	18.0
9	21.5	13.5	17.5	25.0	18.0	21.0	20.0	17.5	18.5	22.0	16.0	18.5
10	21.5	13.5	17.5	25.0	16.0	20.0	22.0	17.0	19.0	22.5	17.5	19.5
11	20.5	15.5	17.5	21.5	17.0	19.5	21.0	17.0	18.5	22.5	17.0	19.5
12	21.0	15.0	17.0	23.0	15.5	19.5	21.5	16.5	19.0	20.5	14.5	17.0
13	20.0	12.0	16.0	19.5	17.5	18.0	23.5	17.5	20.0	20.0	13.5	16.0
14	20.5	12.5	16.5	23.5	17.0	19.5	24.0	17.5	20.5	21.0	15.0	17.5
15	22.0	14.0	17.5	23.5	16.5	20.0	21.0	19.0	20.0	17.5	16.5	17.0
16	21.5	16.5	19.0	25.5	16.5	20.5	25.0	17.5	21.0	22.0	16.0	18.5
17	21.0	17.0	19.0	26.0	17.5	21.5	24.0	19.0	21.5	23.0	18.5	20.5
18	20.5	17.5	19.0	26.5	19.0	22.5	23.0	19.5	21.0	21.5	17.0	19.0
19	23.0	17.0	19.5	27.0	20.5	23.0	20.5	18.0	19.0	19.0	15.0	17.5
20	24.5	17.0	20.5	28.0	20.0	23.5	18.0	17.0	18.0	16.0	13.0	14.5
21	24.5	16.5	20.5	26.5	21.0	23.5	20.5	17.5	18.5	16.0	11.5	13.5
22	19.5	17.0	18.5	25.5	20.5	23.0	23.5	17.5	20.0	15.0	10.0	12.5
23	21.0	15.5	18.0	26.5	21.5	23.5	23.0	17.5	20.0	13.0	11.5	12.5
24	21.5	14.0	17.5	26.5	19.5	22.5	23.0	17.5	20.0	16.0	11.5	13.5
25	23.5	14.5	18.5	22.5	19.0	20.5	22.0	18.0	19.5	14.5	13.0	13.5
26	23.5	16.0	19.5	20.5	19.0	20.0	22.5	17.0	19.5	16.5	13.0	14.5
27	24.5	16.5	20.5	23.5	17.0	20.0	24.5	17.5	21.0	14.0	11.0	12.5
28	26.0	17.5	21.5	24.0	16.5	20.0	25.0	18.5	21.5	13.0	9.0	11.0
29	27.0	20.0	23.0	22.0	17.5	19.5	24.5	19.0	21.5	12.5	8.0	10.0
30	22.0	17.5	20.0	23.0	17.0	20.0	25.5	19.5	22.0	12.0	7.5	10.0
31	---	---	---	25.0	18.5	21.0	24.0	19.0	21.5	---	---	---
MONTH	27.0	11.5	18.0	28.0	15.5	20.5	26.0	16.0	20.0	23.0	7.5	16.0

HUDSON RIVER BASIN

01362500 ESOPUS CREEK AT COLDBROOK, NY

LOCATION.--Lat 42°00'51", long 74°16'16", Ulster County, Hydrologic Unit 02020006, on left bank at downstream side of bridge on Coldbrook Road in Coldbrook, 0.3 mi downstream from Little Beaver Kill, 1.5 mi upstream from Ashokan Reservoir, and 2.5 mi south of Mount Tremper.

DRAINAGE AREA.--192 mi².

PERIOD OF RECORD.--January 1914 to current year. Monthly discharge only for January 1914 through September 1925 furnished by State engineer and surveyor of New York and October 1925 through September 1931 furnished by Board of Water Supply, City of New York, published in WSP 1302.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 621.54 ft above National Geodetic Vertical Datum of 1929. Prior to June 15, 1916, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Since 1924, water diverted from Schoharie Reservoir through Shandaken Tunnel (see Reservoirs in Hudson River Basin) enters Esopus Creek 10.5 mi upstream from station and is included in records of daily discharge. Slight diversion from Beaver Kill into Cooper Lake for water supply of Kingston. Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,300 ft³/s, Mar. 21, 1980, gage height 21.94 ft, from rating curve extended above 13,000 ft³/s, on basis of slope-area measurements at gage heights 12.39 ft, 15.15 ft, and 20.70 ft; minimum daily, 8 ft³/s, Oct. 14, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,600 ft³/s, Nov. 10, gage height, 11.39 ft; minimum, 137 ft³/s, Sept. 24, 30, gage height, 3.86 ft; minimum daily, 139 ft³/s, Sept. 24, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	621	399	1370	463	854	620	515	687	246	194	207
2	223	586	388	1140	455	1000	569	554	672	242	191	204
3	219	554	393	955	463	1190	504	482	575	253	192	201
4	220	532	2440	788	512	4540	459	549	324	253	194	203
5	249	513	1600	665	586	2530	425	522	317	255	188	211
6	230	774	1160	597	698	1640	402	567	313	254	186	203
7	223	641	923	539	1160	1760	399	619	304	249	194	211
8	216	611	769	522	1430	1280	395	545	298	246	193	207
9	218	584	660	515	1360	1030	409	531	291	240	242	204
10	223	3990	585	499	1270	863	421	560	287	238	264	202
11	262	3950	505	497	1160	722	431	526	296	236	225	202
12	274	1970	470	509	1040	635	491	500	321	234	217	197
13	453	1340	536	495	1010	570	472	471	305	249	211	193
14	630	1020	515	448	1030	522	459	464	288	244	208	207
15	434	833	496	443	990	478	459	490	283	241	218	219
16	376	742	529	622	855	426	439	458	281	249	263	217
17	345	752	492	802	851	398	421	484	275	245	494	202
18	496	671	574	663	818	470	442	534	276	241	484	191
19	1100	607	678	604	821	515	432	463	284	356	329	186
20	706	563	613	589	1060	441	413	439	278	753	301	151
21	601	555	723	574	1060	387	881	422	271	752	268	149
22	542	513	1080	462	1080	382	1960	406	268	590	249	144
23	1080	511	1160	487	1050	468	1340	391	267	258	234	141
24	4190	482	2470	537	977	632	1080	380	260	210	227	139
25	1650	447	1820	448	962	690	907	376	257	202	221	172
26	1120	417	1400	426	926	646	770	363	255	210	216	163
27	834	398	1110	466	894	686	675	355	251	218	213	152
28	677	395	885	455	865	849	596	354	248	208	218	146
29	559	426	748	424	---	890	531	338	245	204	215	142
30	529	411	1330	446	---	791	515	331	246	201	212	139
31	667	---	1790	562	---	686	---	419	---	197	213	---
TOTAL	19776	26409	29241	18549	25846	28971	18317	14408	9523	8774	7474	5505
MEAN	638	880	943	598	923	935	611	465	317	283	241	183
MAX	4190	3990	2470	1370	1430	4540	1960	619	687	753	494	219
MIN	216	395	388	424	455	382	395	331	245	197	186	139

CAL YR 1990 TOTAL 273362 MEAN 749 MAX 4190 MIN 208
WTR YR 1991 TOTAL 212793 MEAN 583 MAX 4540 MIN 139

HUDSON RIVER BASIN

01364500 ESOPUS CREEK AT MOUNT MARION, NY

LOCATION.--Lat 42°02'16", long 73°58'21", Ulster County, Hydrologic Unit 02020006, on left bank at downstream side of bridge on Glasco Turnpike, 0.8 mi east of Mount Marion, 1.6 mi downstream from Plattekill Creek, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--419 mi².

PERIOD OF RECORD.--March 1970 to current year. Monthly discharge only May 1907 to March 1918, published in WSP 1302. Occasional miscellaneous measurements, 1902, 1951, 1956, 1966, 1967, 1969.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 40.16 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 12, 1970, nonrecording gage at same site (at different datum May 1907 to March 1918, and at present datum June 9, 1966 to Aug. 12, 1970).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow from 256 mi² of drainage area regulated by Ashokan Reservoir since Sept. 9, 1913. Water diverted from Schoharie Creek through Shandaken Tunnel (see Reservoirs in Hudson River Basin) since Feb. 3, 1924, enters Esopus Creek about 12.2 mi upstream from Ashokan Reservoir. Diversion from Plattekill Creek for water supply of village of Saugerties. Slight diversion at headwaters into Cooper Lake for water supply of Kingston. Diversions upstream during summer months for irrigation purposes. Diversions for water supply of city of New York made from Ashokan Reservoir (see Reservoirs in Hudson River Basin). Discharge records for this station now represent the natural flow from 112 mi², together with spillage during high stages from the upstream reservoirs.

AVERAGE DISCHARGE.--21 years (water years 1971-91), 478 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 28,000 ft³/s, Apr. 26, 1910, gage height, 25.10 ft, datum then in use; maximum discharge since March 1970, 22,500 ft³/s, Apr. 5, 1987, gage height, 24.78 ft; minimum discharge, 9.7 ft³/s, Sept. 16, 17, 1980, gage height, 11.79 ft; minimum gage height, 11.77 ft, July 12, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,080 ft³/s, Oct. 24, gage height, 18.86 ft; minimum, 10 ft³/s, July 12, gage height, 11.77 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	192	134	758	e240	240	500	369	68	16	14	17
2	41	176	129	604	e210	273	444	327	63	15	13	17
3	38	162	128	502	e200	378	408	264	59	15	12	16
4	39	149	2830	415	e210	2560	323	259	57	15	13	15
5	49	137	2240	342	e260	4060	271	205	55	16	18	18
6	49	198	1100	320	367	3910	238	212	55	17	16	19
7	43	223	722	293	725	3300	218	329	50	18	14	17
8	39	192	542	e300	982	2650	200	290	47	17	13	16
9	37	169	441	e275	746	1850	186	248	43	15	22	14
10	37	1180	373	e275	583	1320	176	239	39	13	95	14
11	40	2670	317	e285	468	1010	158	230	37	11	67	13
12	43	1220	283	e250	358	762	146	198	39	10	51	12
13	114	743	262	e300	315	574	144	176	44	12	38	12
14	856	531	237	e270	341	431	143	160	40	16	28	11
15	299	424	219	e245	426	406	142	156	36	16	22	14
16	191	361	245	e240	e320	371	153	139	34	16	e20	26
17	146	325	274	e500	e260	338	147	130	32	13	e20	23
18	133	303	315	e490	e250	315	143	169	31	12	e23	17
19	381	267	432	e380	e260	438	135	143	34	11	e76	100
20	273	239	386	e340	371	451	126	122	36	15	e140	88
21	205	217	418	e340	489	397	174	111	32	15	e93	58
22	170	201	827	e290	471	325	577	101	28	15	e74	44
23	254	201	730	e260	453	379	503	94	25	17	e57	35
24	3370	205	1620	e220	353	498	385	84	24	28	e49	32
25	1190	190	1230	e190	335	566	382	78	23	22	e43	102
26	660	175	795	e170	307	531	687	74	22	22	e35	159
27	448	162	571	182	283	506	608	84	20	27	e31	130
28	350	156	477	180	247	561	489	118	19	22	e27	93
29	288	149	446	169	---	578	380	96	17	19	e26	70
30	244	140	531	174	---	566	335	84	16	17	e22	55
31	215	---	911	281	---	595	---	74	---	15	20	---
TOTAL	10284	11657	20165	9840	10830	31139	8921	5363	1125	508	1192	1257
MEAN	332	389	650	317	387	1004	297	173	37.5	16.4	38.5	41.9
MAX	3370	2670	2830	758	982	4060	687	369	68	28	140	159
MIN	37	137	128	169	200	240	126	74	16	10	12	11

CAL YR 1990 TOTAL 164741 MEAN 451 MAX 3540 MIN 37
WTR YR 1991 TOTAL 112281 MEAN 308 MAX 4060 MIN 10

e Estimated

HUDSON RIVER BASIN

01365000 RONDOUT CREEK NEAR LOWES CORNERS, NY

LOCATION.--Lat 41°52'00", long 74°29'12", Sullivan County, Hydrologic Unit 02020007, on left bank 100 ft downstream from small tributary, 350 ft upstream from bridge on county road, 1.1 mi upstream from Sugarloaf Brook, 1.1 mi east of Lowes Corners, and 1.5 mi southwest of Sundown.

DRAINAGE AREA.--38.3 mi².

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

REVISED RECORDS.--WSP 1702: 1952. WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 874.44 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1938, nonrecording gage at highway bridge 350 ft downstream at datum 847.00 ft above NGVD (levels by Board of Water Supply, City of New York). Oct. 4, 1938 to July 5, 1951, water-stage recorder at site 1.2 mi downstream; Oct. 4, 1938 to July 3, 1949, datum 847.00 ft above NGVD and July 4, 1949 to July 5, 1951, datum 846.00 ft above NGVD (levels by Board of Water Supply, City of New York).

REMARKS.--Records poor.

AVERAGE DISCHARGE.--54 years, 97.9 ft³/s, 34.71 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 7,600 ft³/s, July 22, 1938, from rating curve extended above 2,600 ft³/s; maximum gage height, 10.6 ft, Apr. 4, 1987, from floodmarks; minimum discharge, 3.3 ft³/s, Sept. 16, 17, Oct. 17, 18, 1980.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0045	1,750	6.09	Nov. 10	1715	*1,900	*6.22

Minimum recorded discharge, 5.6 ft³/s, Aug. 8, Sept. 14, but may have been less during period of no gage-height record, June 8 to Aug. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	89	60	272	e64	90	137	114	38	e10	e7.4	7.1
2	22	83	58	230	e60	124	126	114	34	e10	e6.8	6.9
3	21	78	58	193	65	135	114	101	33	e10	e6.6	6.8
4	25	74	337	161	71	512	107	96	34	e11	e7.4	7.0
5	35	71	200	141	83	319	103	91	31	e11	e7.2	8.2
6	24	123	159	131	96	240	99	130	30	e12	e6.4	7.8
7	22	88	137	118	174	316	95	135	28	e11	6.1	7.1
8	21	81	124	e98	164	226	92	109	e26	e10	6.0	6.8
9	21	76	115	e92	149	188	89	105	e23	e9.0	29	6.6
10	21	632	107	e86	138	164	88	106	e21	e8.6	43	6.5
11	30	539	97	e78	125	144	82	98	e20	e8.2	17	6.3
12	33	323	92	e80	e98	132	78	93	e24	e8.0	13	6.1
13	47	240	87	e76	e90	122	77	87	e26	e9.0	11	6.1
14	61	186	81	e72	e94	117	75	85	e20	e9.8	9.4	5.9
15	42	159	81	e70	e100	110	82	79	e18	e8.6	11	8.0
16	37	142	93	107	e88	105	79	73	e17	e7.6	14	11
17	34	133	83	119	e82	103	72	73	e17	e7.2	9.8	8.6
18	70	119	124	93	e78	124	69	72	e17	e6.8	8.5	7.6
19	129	109	143	85	91	131	66	63	e17	e6.8	25	18
20	77	100	112	83	160	117	64	60	e16	e6.2	27	18
21	70	93	206	81	130	108	139	56	e15	e6.6	19	12
22	67	87	327	e60	e120	107	215	53	e14	e6.4	22	9.0
23	228	94	314	e63	e110	115	160	50	e15	e24	15	8.4
24	732	86	526	e58	106	138	145	47	e14	e14	12	8.7
25	301	79	335	e56	104	143	134	45	e13	e11	11	30
26	212	74	252	e52	99	137	123	44	e12	e10	9.8	24
27	162	71	197	e50	95	154	116	51	e11	e11	9.2	16
28	138	69	176	e46	89	182	109	52	e11	e10	8.6	12
29	120	66	170	e44	---	171	102	41	e10	e9.0	8.2	11
30	108	62	334	e52	---	157	123	42	e10	e8.2	7.8	9.8
31	97	---	401	e86	---	143	---	45	---	e7.6	7.6	---
TOTAL	3032	4226	5586	3033	2923	5074	3160	2410	615	298.6	401.8	307.3
MEAN	97.8	141	180	97.8	104	164	105	77.7	20.5	9.63	13.0	10.2
MAX	732	632	526	272	174	512	215	135	38	24	43	30
MIN	21	62	58	44	60	90	64	41	10	6.2	6.0	5.9
CFSM	2.55	3.68	4.70	2.55	2.73	4.27	2.75	2.03	.54	.25	.34	.27
IN.	2.94	4.10	5.43	2.95	2.84	4.93	3.07	2.34	.60	.29	.39	.30

CAL YR 1990 TOTAL 43857 MEAN 120 MAX 732 MIN 21 CFSM 3.14 IN. 42.60
WTR YR 1991 TOTAL 31066.7 MEAN 85.1 MAX 732 MIN 5.9 CFSM 2.22 IN. 30.17

e Estimated

HUDSON RIVER BASIN

01367500 RONDOUT CREEK AT ROSENDALE, NY

LOCATION.--Lat 41°50'35", long 74°05'11", Ulster County, Hydrologic Unit 02020007, on left bank 30 ft upstream from bridge on James Street in Rosendale, and 3 mi upstream from Wallkill River.

DRAINAGE AREA.--383 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--July 1901 to November 1903, October 1905 to January 1919, August 1926 to current year. Monthly discharge only for some periods, published in WSP 1302, and WDR NY-70-1.

REVISED RECORDS.--WSP 756: 1933. WDR NY-90-1: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 32.83 ft above National Geodetic Vertical Datum of 1929. Prior to January 1919, nonrecording gage at site 150 ft downstream at datum 38.83 ft above NGVD. Aug. 3, 1926 to Sept. 10, 1969, at present site at datum 42.83 ft above NGVD. Sept. 11, 1969 to Feb. 3, 1970, water-stage recorder, and June 9, 1970 to Jan. 18, 1971, nonrecording gage at site 0.2 mi upstream at datum 44.03 ft above NGVD.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional regulation from hydroelectric plant upstream from station. Diversion from Rondout Creek through the emergency connection to the Delaware Aqueduct at Lackawack for New York City water supply during period April 1944 to May 1951. Since October 1950, flow regulated by Rondout Reservoir (see Reservoirs in Hudson River Basin). Subsequent to May 1951, entire flow except for period of spilling, diverted from Rondout Reservoir for New York City water supply. Discharge records for this station now represent the natural flow from 288 mi², together with spillage during high flow from Rondout Reservoir. Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,800 ft³/s, Oct. 16, 1955, gage height, 36.8 ft, present datum, from floodmarks, from rating curve extended above 17,500 ft³/s, on basis of contracted-opening measurement at gage height 33.93 ft, present datum; minimum discharge, 2.2 ft³/s, July 16, 1965; minimum daily, 3.0 ft³/s, July 16, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,900 ft³/s, Dec. 4, gage height, 17.04 ft; minimum, 37 ft³/s, Sept. 13, 14, 15, gage height, 8.68 ft; minimum daily, 38 ft³/s, Sept. 13-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	330	283	1550	e740	464	607	595	439	59	54	61
2	96	311	275	1170	e580	560	582	516	304	58	53	58
3	91	276	275	970	e540	736	532	458	208	59	52	59
4	92	247	6390	807	e700	4890	463	404	186	62	69	61
5	106	235	3480	674	831	3180	433	365	186	65	84	64
6	118	564	1890	649	1020	1940	416	480	172	70	61	65
7	103	604	1340	604	1780	1990	398	1060	156	70	57	56
8	95	442	1040	e480	1860	1500	378	656	139	68	56	53
9	91	469	837	e460	1380	1110	356	507	129	63	76	50
10	90	2850	723	e480	1120	895	335	468	121	57	238	49
11	99	5590	599	e470	923	766	296	421	116	54	147	46
12	143	2330	525	e440	714	686	283	369	135	54	89	40
13	203	1470	483	e580	659	630	270	341	138	56	72	38
14	613	1070	445	e550	731	624	285	315	126	59	63	38
15	340	810	407	509	841	696	311	296	108	59	58	42
16	208	673	501	483	e540	679	453	259	102	55	60	54
17	160	616	606	1170	e470	649	390	248	97	52	59	54
18	162	608	885	943	e460	816	340	443	90	49	56	48
19	851	515	1620	703	486	1300	299	257	95	47	286	174
20	538	464	1100	634	897	1070	279	223	106	45	400	272
21	311	428	1000	657	1050	789	607	197	94	44	194	145
22	250	403	1510	e500	865	724	2650	182	83	45	156	97
23	447	445	1220	e470	808	999	1570	177	78	65	115	78
24	4530	481	2570	e450	641	1230	995	164	77	74	94	75
25	1880	417	1900	e430	639	1260	787	156	72	57	83	369
26	1110	377	1310	e410	586	1030	624	146	68	56	75	567
27	778	349	1010	e400	540	896	536	140	65	93	71	306
28	562	330	e820	e390	463	919	496	338	63	91	65	187
29	467	329	e800	e380	---	779	460	256	63	67	65	139
30	403	305	1150	388	---	705	522	188	61	60	65	117
31	367	---	2540	988	---	654	---	308	---	57	65	---
TOTAL	15401	24338	39534	19789	22864	35166	16953	10933	3877	1870	3138	3462
MEAN	497	811	1275	638	817	1134	565	353	129	60.3	101	115
MAX	4530	5590	6390	1550	1860	4890	2650	1060	439	93	400	567
MIN	90	235	275	380	460	464	270	140	61	44	52	38

CAL YR 1990 TOTAL 269452 MEAN 738 MAX 6390 MIN 90
WTR YR 1991 TOTAL 197325 MEAN 541 MAX 6390 MIN 38

e Estimated

HUDSON RIVER BASIN

01367500 RONDOUT CREEK AT ROSENDALE, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-64, 1971-72, June 1988 to current year.

CHEMICAL DATA: 1963 (c), 1964, 1971-72, 1988 (a), 1989-90 (b), 1991 (c).

MINOR ELEMENTS DATA: 1963 (c), 1964, 1988 (a), 1989-90 (b), 1991 (c).

PESTICIDE DATA: 1988 (a), 1989-90 (b).

NUTRIENT DATA: 1963 (c), 1964, 1971-72, 1988 (a), 1989-90 (b).

SEDIMENT DATA: 1989-90 (b), 1991 (c).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM HG)	OXYGEN, DIS- SOLVED OF (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
NOV 08...	0900	446	93	7.4	8.5	763	11.4	96	110
MAR 19...	1300	1310	111	7.5	5.0	748	12.6	101	310
APR 04...	1200	463	111	8.3	8.5	772	12.4	104	70
16...	1300	486	130	7.8	11.5	757	10.8	99	90
MAY 16...	1000	261	120	7.6	19.5	764	8.5	93	80
JUN 18...	1000	91	144	8.2	24.0	767	8.4	99	80
JUL 10...	1000	57	161	8.1	23.0	758	8.6	101	70
29...	1700	66	165	9.0	24.0	765	10.0	119	70

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
NOV 08...	<1	4	260	3	20	<0.10	3	<10
MAR 19...	<1	3	410	2	40	<0.10	8	<10
APR 04...	<1	5	120	5	20	<0.10	3	<10
16...	<1	4	240	2	40	<0.10	1	<10
MAY 16...	<1	5	170	1	40	<0.10	5	<10
JUN 18...	<1	5	110	1	10	<0.10	<1	<10
JUL 10...	<1	5	200	18	40	<0.10	16	<10
29...	<1	3	160	3	50	<0.10	1	<10

HUDSON RIVER BASIN

01367500 RONDOUT CREEK AT ROSENDALE, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV 08...	0900	446	4	4.8
MAR 19...	1300	1310	14	50
APR 04...	1200	463	4	5.0
16...	1300	486	7	9.2
MAY 16...	1000	261	6	4.2
JUN 18...	1000	91	4	0.98
JUL 10...	1000	57	1	0.15
29...	1700	66	4	0.71

ANALYSIS OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ALUM- INUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	NICKEL, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS NI)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
JUL 29...	1700	5400	0	6	11000	8	190	<0.04	10	70

HUDSON RIVER BASIN

01371000 SHAWANGUNK KILL AT PINE BUSH, NY

LOCATION.--Lat 41°37'05", long 74°17'40", Ulster County, Hydrologic Unit 02020007, on left bank, 50 ft downstream from Hardenburg Bridge, 0.5 mi northeast of Pine Bush, 2.3 mi downstream from Pakanasink Creek, and 11.0 mi upstream from mouth at Ganahgote.

DRAINAGE AREA.--102 mi².

PERIOD OF RECORD.--September 1924 to September 1932, June 1957 to September 1971, December 1988 to current year.

REVISED RECORDS.--WSP 1502: Drainage area, 1925-26(M), 1927-29, 1930-31(M).

GAGE.--Water-stage recorder. Datum of gage is 302.06 ft above National Geodetic Vertical Datum of 1929. Prior to July 1, 1957, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Slight regulation at low flow by dam upstream from station. Some diversions upstream for city of Middletown water supply.

AVERAGE DISCHARGE.--24 years (1925-32, 1958-71, 1990-91), 141 ft³/s, 18.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,350 ft³/s, Sept. 1, 1927, gage height, 10.5 ft, from graph based on gage readings, from rating curve extended above 2,300 ft³/s on basis of slope-area measurement at gage height 8.07 ft, and estimated discharges for floods in 1952 and 1955 as mentioned below; minimum discharge, 1.3 ft³/s, Sept. 9, 1991; minimum gage height, 0.37 ft, Aug. 5, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Aug. 19 and Oct. 16, 1955 reached a stage of about 12.5 ft, from floodmarks (discharge, 9,700 ft³/s, based on indirect measurements at Ganahgote for each flood). Flood of June 1, 1952 reached a stage of about 11.0 ft, from floodmarks (discharge, 7,200 ft³/s, based on indirect measurements at Winterton and Ganahgote).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0330	2,740	6.28	Dec. 4	1100	*4,450	*7.86
Nov. 10	2030	2,870	6.41	Mar. 4	0515	2,320	5.83

Minimum discharge, 1.3 ft³/s, Sept. 9, gage height, 0.52 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e29	88	90	428	e230	118	141	144	217	15	11	8.9
2	e29	84	86	282	e160	156	139	144	90	14	8.9	11
3	e30	80	88	238	e155	207	126	128	58	7.6	7.7	11
4	e26	76	2880	e190	e180	1800	117	108	50	17	8.1	11
5	e29	73	1230	e165	e220	925	115	96	48	18	8.5	15
6	e37	197	516	159	276	452	112	232	45	19	8.3	16
7	e32	170	336	158	719	479	107	401	39	32	7.2	13
8	e33	119	257	e130	548	327	102	193	35	28	6.8	11
9	e29	99	213	e125	329	241	96	142	32	19	12	4.3
10	e26	886	187	e120	250	206	92	127	28	15	49	15
11	e31	1200	159	e115	201	175	81	115	28	13	24	10
12	e44	448	145	e110	e135	155	73	100	37	12	14	9.3
13	e120	267	139	e105	e130	148	72	88	49	13	13	8.7
14	351	197	128	e125	164	150	89	80	34	14	10	8.4
15	113	166	119	e140	248	193	109	80	28	14	9.4	9.9
16	e65	149	203	e210	e150	226	160	68	26	12	9.6	14
17	53	151	238	e540	e130	195	118	62	24	10	10	13
18	54	167	432	427	e115	261	118	65	24	10	9.3	11
19	347	136	607	274	157	357	106	56	33	11	385	55
20	147	123	311	249	406	226	93	52	37	24	300	57
21	92	114	267	e250	393	173	359	49	29	17	113	32
22	72	107	376	e160	273	158	1040	47	25	13	68	22
23	235	153	296	e140	209	232	468	45	40	12	44	18
24	1560	167	822	e120	e140	395	275	41	36	17	33	19
25	429	131	540	e100	e135	307	302	39	27	14	26	135
26	236	115	297	e96	138	225	217	37	23	14	12	136
27	164	105	224	e100	135	200	174	37	21	24	20	77
28	133	100	185	e110	118	213	148	51	19	19	21	48
29	117	98	220	e120	---	171	129	39	15	14	17	35
30	103	92	302	e130	---	161	141	58	16	12	14	29
31	94	---	819	e390	---	157	---	327	---	11	13	---
TOTAL	4860	6058	12712	6006	6444	9389	5419	3251	1213	484.6	1292.8	863.5
MEAN	157	202	410	194	230	303	181	105	40.4	15.6	41.7	28.8
MAX	1560	1200	2880	540	719	1800	1040	401	217	32	385	136
MIN	26	73	86	96	115	118	72	37	15	7.6	6.8	4.3
CFSM	1.54	1.98	4.02	1.90	2.26	2.97	1.77	1.03	.40	.15	.41	.28
IN.	1.77	2.21	4.64	2.19	2.35	3.42	1.98	1.19	.44	.18	.47	.31

CAL YR 1990 TOTAL 75717 MEAN 207 MAX 2880 MIN 16 CFSM 2.03 IN. 27.61
WTR YR 1991 TOTAL 57992.9 MEAN 159 MAX 2880 MIN 4.3 CFSM 1.56 IN. 21.15

e Estimated

HUDSON RIVER BASIN

01371500 WALLKILL RIVER AT GARDINER, NY

LOCATION.--Lat 41°41'10", long 74°09'56", Ulster County, Hydrologic Unit 02020007, on left bank 400 ft upstream from bridge on U.S. Highway 44, 500 ft downstream from Shawangunk Kill, and 0.7 mi northwest of Gardiner.

DRAINAGE AREA.--695 mi².

PERIOD OF RECORD.--September 1924 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 185.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Regulation at low flows by dams upstream and some diversions for municipalities and irrigational purposes. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--67 years, 1,064 ft³/s, 20.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,800 ft³/s, Oct. 16, 1955, gage height, 19.81 ft; minimum, 9.5 ft³/s, Sept. 28, 1964; minimum gage height, 1.59 ft, Aug. 14, 15, 16, 19, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 4	1800	*9,110	*9.04	Mar. 4	1530	7,670	8.17

Minimum discharge, 45 ft³/s, Sept. 14, 15, gage height, 1.86 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	505	473	3250	1680	824	1090	1270	899	92	88	80
2	194	462	471	2460	1180	866	1020	1220	437	112	72	64
3	188	431	434	2060	1010	1220	1030	1130	310	90	80	66
4	177	409	6550	1710	1140	6190	850	962	254	87	81	66
5	179	391	6150	1390	1310	6320	773	847	231	92	70	69
6	193	564	4190	1230	1470	4260	766	1400	273	105	61	66
7	210	638	3080	1190	2770	3570	736	2980	259	143	73	67
8	187	545	2420	1010	2970	2870	690	2130	234	148	53	77
9	173	459	1860	852	2180	2240	664	1630	188	120	73	74
10	158	1590	1520	e780	1700	1850	642	1240	172	90	116	67
11	175	4910	1220	e760	1380	1570	559	1040	159	88	118	67
12	195	3140	1050	e740	1050	1350	526	1020	178	84	73	58
13	246	2280	922	e720	852	1220	480	757	195	81	78	56
14	826	1720	854	e700	900	1190	513	701	178	78	67	48
15	522	1290	755	e760	1390	1420	694	658	152	73	77	53
16	415	1080	1030	e1300	1220	1720	901	626	129	71	77	57
17	309	950	1640	e2400	859	1610	834	592	152	67	73	54
18	238	930	2100	e2600	875	1690	778	553	132	63	64	52
19	838	826	3260	2140	902	2320	859	470	178	62	1630	157
20	958	736	2360	1890	1720	1920	677	518	594	70	1900	266
21	654	663	1870	1980	2360	1560	1120	403	483	75	815	185
22	457	618	2140	e1400	1990	1370	5010	387	301	89	524	98
23	543	661	1980	1030	1590	1550	4210	360	295	107	311	117
24	4500	861	4020	e900	1160	2360	3190	314	185	148	195	95
25	2710	791	3940	e800	941	2250	3050	313	223	176	146	752
26	1790	682	2820	e700	961	1870	2510	292	189	159	154	1140
27	1190	590	2230	e720	951	1600	2060	355	142	108	111	778
28	866	560	1710	e760	847	1570	1680	287	136	182	117	457
29	744	523	1700	e780	---	1370	1400	269	115	206	111	259
30	588	538	2010	859	---	1220	1280	236	110	153	105	219
31	549	---	4250	1850	---	1170	---	808	---	90	96	---
TOTAL	21163	30343	71009	41721	39358	64110	40592	25768	7483	3309	7609	5664
MEAN	683	1011	2291	1346	1406	2068	1353	831	249	107	245	189
MAX	4500	4910	6550	3250	2970	6320	5010	2980	899	206	1900	1140
MIN	158	391	434	700	847	824	480	236	110	62	53	48
CFSM	.98	1.46	3.30	1.94	2.02	2.98	1.95	1.20	.36	.15	.35	.27
IN.	1.13	1.62	3.80	2.23	2.11	3.43	2.17	1.38	.40	.18	.41	.30

CAL YR 1990 TOTAL 481465 MEAN 1319 MAX 8000 MIN 136 CFSM 1.90 IN. 25.77
WTR YR 1991 TOTAL 358129 MEAN 981 MAX 6550 MIN 48 CFSM 1.41 IN. 19.17

e Estimated

HUDSON RIVER BASIN

01372043 HUDSON RIVER NEAR POUGHKEEPSIE, NY

LOCATION.--Lat 41°43'18", long 73°56'28", Dutchess County, Hydrologic Unit 02020008, at city pumping station on east bank, adjacent (north) to Marist College, 0.5 mi north of Poughkeepsie, and 1.3 mi upstream from Mid-Hudson Bridge.

DRAINAGE AREA.--11,700 mi².

PERIOD OF RECORD.--Water years 1969-75, 1981, June 1988 to current year.

CHEMICAL DATA: 1969 (c), 1970-71 (d), 1972 (b), 1973-75 (e), 1988 (a), 1989-90 (b), 1991 (c).

MINOR ELEMENTS DATA: 1969 (c), 1970-71 (d), 1972 (b), 1973-75 (d), 1988 (a), 1989-90 (b), 1991 (c).

RADIOCHEMICAL DATA: 1974 (a), 1975 (d).

PESTICIDE DATA: 1988 (a), 1989-90 (b).

ORGANIC DATA: 1975 (a), 1981 (b).

NUTRIENT DATA: 1969 (c), 1970-71 (d), 1972 (b), 1973-75 (d), 1988 (a), 1989-90 (b).

BIOLOGICAL DATA: 1973-75 (d).

SEDIMENT DATA: 1973 (a), 1974 (b), 1975, 1988 (a), 1989-90 (b), 1991 (c).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (PERCENT SATURATION)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
OCT 30...	1200	176	--	12.5	768	9.2	86	570
MAR 21...	1200	180	7.2	5.0	762	12.4	98	700
APR 09...	1300	226	7.7	10.5	755	9.5	86	1000
17...	1300	194	7.8	12.0	760	10.2	95	1100
25...	1300	180	7.7	11.5	765	10.1	92	280
MAY 15...	1200	205	7.7	17.0	762	8.7	90	3100
22...	1300	204	7.8	19.5	765	8.5	93	2200
JUN 19...	1300	215	6.7	23.5	768	6.2	72	2100
JUL 29...	1300	238	7.7	25.5	769	6.9	84	1300

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 30...	<1	12	1100	2	50	<0.10	1	<10
MAR 21...	<1	9	1300	3	60	<0.10	8	20
APR 09...	<1	9	1800	3	80	<0.10	2	<10
17...	<1	10	1800	4	110	<0.10	1	10
25...	<1	7	550	3	40	<0.10	2	<10
MAY 15...	<1	20	4600	12	290	<0.10	7	10
22...	<1	14	3300	8	200	<0.10	7	20
JUN 19...	<1	19	3200	10	200	<0.10	5	20
JUL 29...	<1	21	2300	--	180	<0.10	5	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SEDIMENT, SUSPENDED (MG/L)
OCT 30...	1200	24
MAR 21...	1200	41
APR 09...	1300	25
17...	1300	52
25...	1300	12
MAY 15...	1200	144
22...	1300	96
JUN 19...	1300	92

HUDSON RIVER BASIN

01372500 WAPPINGER CREEK NEAR WAPPINGERS FALLS, NY

LOCATION.--Lat 41°39'11", long 73°52'23", Dutchess County, Hydrologic Unit 02020008, on left bank 700 ft downstream from Red Oak Mill dam, and 4.5 mi northeast of village of Wappingers Falls.

DRAINAGE AREA.--181 mi².

PERIOD OF RECORD.--May 1903 to June 1905 (gage heights only during some winter months), August 1928 to current year.

REVISED RECORDS.--WSP 741: 1932. WSP 1902: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 114.37 ft above National Geodetic Vertical Datum of 1929, (levels by Corps of Engineers). May 1903 to June 1905 staff gage at site 2.5 mi downstream at different datum. Aug. 7, 1928 to Sept. 25, 1931, water-stage recorder at site 2 mi downstream at different datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--63 years (water years 1929-91), 255 ft³/s, 19.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,600 ft³/s, Aug. 19, 1955, gage height, 19.60 ft, from floodmarks in gage shelter, from rating curve extended above 6,000 ft³/s on basis of flow-over-dam and contracted-opening measurement at gage height 18.02 ft and contracted-opening and flow-over-road measurement at gage height 19.60 ft; minimum discharge, 0.90 ft³/s, Sept. 20, 21, 1964, gage height, 2.05 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1745	*2,010	*6.62	No other peak greater than base discharge.			
Minimum discharge, 10 ft ³ /s, July 22, 23, gage height, 2.29 ft.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	211	165	919	e310	231	349	424	128	29	16	25
2	44	196	159	757	e260	275	341	359	114	27	14	23
3	39	183	154	671	250	334	324	311	99	26	12	20
4	40	171	377	583	255	817	299	273	92	28	15	20
5	53	162	702	500	262	870	276	248	96	28	26	20
6	57	199	544	478	284	702	267	381	88	28	19	24
7	50	212	463	451	425	668	250	766	80	28	17	21
8	44	182	403	370	533	597	230	579	74	26	14	19
9	40	164	356	345	455	505	217	470	66	22	13	17
10	38	303	324	338	401	457	207	451	60	18	18	15
11	37	1060	289	e300	357	404	187	439	59	16	20	14
12	38	764	265	e270	e285	373	172	372	66	16	19	13
13	60	582	258	e290	275	347	167	319	73	15	15	12
14	101	477	241	e230	304	341	169	286	66	18	14	11
15	80	410	220	e250	403	396	170	287	56	19	12	13
16	64	369	371	266	e315	387	191	240	52	16	16	18
17	57	340	420	416	e270	367	174	240	51	14	22	20
18	57	346	431	418	e245	389	171	515	47	12	19	18
19	141	303	662	362	281	582	166	362	61	12	137	26
20	126	273	582	341	356	493	152	266	81	14	301	52
21	94	251	520	e340	358	423	279	223	62	13	176	41
22	81	237	554	e240	323	395	892	196	51	11	153	31
23	92	249	521	e230	296	462	674	179	52	25	110	27
24	1480	271	952	e250	e230	580	522	162	49	42	84	24
25	1120	243	1060	e230	244	571	452	148	42	27	63	214
26	640	220	799	e195	239	527	378	134	37	26	50	392
27	460	200	660	e200	239	490	339	133	34	39	43	246
28	360	191	586	e210	223	496	304	145	32	33	39	158
29	304	185	573	214	---	438	273	140	30	25	33	121
30	260	175	618	217	---	405	316	127	29	21	30	101
31	239	---	1130	415	---	377	---	132	---	18	27	---
TOTAL	6339	9129	15359	11296	8678	14699	8908	9307	1927	692	1547	1756
MEAN	204	304	495	364	310	474	297	300	64.2	22.3	49.9	58.5
MAX	1480	1060	1130	919	533	870	892	766	128	42	301	392
MIN	37	162	154	195	223	231	152	127	29	11	12	11
CFSM	1.13	1.68	2.74	2.01	1.71	2.62	1.64	1.66	.35	.12	.28	.32
IN.	1.30	1.88	3.16	2.32	1.78	3.02	1.83	1.91	.40	.14	.32	.36

CAL YR 1990 TOTAL 122538 MEAN 336 MAX 1980 MIN 23 CFSM 1.85 IN. 25.18
WTR YR 1991 TOTAL 89637 MEAN 246 MAX 1480 MIN 11 CFSM 1.36 IN. 18.42

e Estimated

HUDSON RIVER BASIN

01375000 CROTON RIVER AT NEW CROTON DAM, NEAR CROTON-ON-HUDSON, NY

LOCATION.--Lat 41°13'30", long 73°51'35", Westchester County, Hydrologic Unit 02030101, on left bank 1,000 ft downstream from New Croton Dam, and 1.8 mi northeast of Croton-On-Hudson.

DRAINAGE AREA.--378 mi².

PERIOD OF RECORD.--August 1933 to current year. Prior to Oct. 1, 1941, published as "at Quaker Bridge," (low-flow records at this site are not equivalent owing to well pumpage upstream). Fragmentary records published during August 1933 to September 1941 for "at Cornell Dam near Croton" and "at New Croton near Croton" are equivalent. Oct. 1, 1941 to Sept. 30, 1955 published as "at New Croton Dam near Croton".

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1941, supplementary water-stage recorder and concrete control at site 1.1 mi downstream at Quaker Bridge.

REMARKS.--No estimated daily discharges. Records good above 300 ft³/s and poor below. Entire flow, except for periods of spilling and releases to augment Croton-on-Hudson water supply, diverted from New Croton Reservoir for municipal supply of City of New York.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,400 ft³/s, Oct. 16, 1955, gage height, 18.44 ft, from floodmarks, from rating curve extended above 9,700 ft³/s, on basis of slope-area measurements of peak flow; minimum daily discharge, 0.1 ft³/s, Mar. 14, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,490 ft³/s, Nov. 11, gage height, 5.01 ft; minimum daily, 18 ft³/s July 30 to Aug. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	518	296	1260	485	319	422	722	228	22	18	22
2	34	492	268	1070	408	405	420	547	122	22	18	22
3	28	474	289	945	376	561	394	427	59	22	18	22
4	59	457	1320	820	368	1740	381	371	74	22	19	22
5	106	448	1730	709	360	1540	357	295	57	20	20	22
6	82	501	1330	659	369	1210	318	734	34	21	20	21
7	59	484	1190	637	496	1240	260	1680	24	21	20	21
8	57	426	1040	556	541	1090	233	1230	23	21	20	21
9	172	385	880	521	472	858	216	958	24	21	20	21
10	187	922	758	560	422	742	187	853	23	20	21	21
11	152	2230	647	534	373	673	169	733	23	20	22	21
12	125	1590	520	567	313	528	152	621	22	20	21	21
13	418	1270	453	495	277	449	120	542	22	20	22	21
14	587	1100	420	417	348	461	134	456	22	20	22	22
15	376	1020	412	376	446	550	171	556	22	20	22	22
16	355	941	787	518	403	552	275	395	22	20	22	21
17	315	860	783	1260	328	485	303	322	22	20	22	21
18	253	868	871	1200	309	554	303	373	23	20	21	21
19	469	719	1110	954	377	898	242	335	23	20	23	22
20	429	642	921	828	505	742	202	300	22	20	23	21
21	350	619	814	863	515	609	698	262	22	20	24	22
22	329	576	915	714	460	540	1680	198	22	20	23	20
23	431	626	915	539	439	574	1330	157	23	20	23	21
24	1760	717	1570	514	342	665	1170	103	22	20	23	20
25	1540	648	1600	473	326	652	1240	83	22	19	23	245
26	1250	559	1290	387	339	597	963	77	22	20	22	888
27	939	457	1130	352	372	542	779	47	22	20	22	521
28	798	434	1140	366	339	501	671	94	22	19	22	284
29	721	447	1000	360	---	478	573	69	22	19	21	178
30	613	356	1040	339	---	496	690	65	22	18	22	122
31	569	---	1390	500	---	454	---	254	---	18	22	---
TOTAL	13608	21786	28829	20293	11108	21705	15053	13859	1112	625	661	2749
MEAN	439	726	930	655	397	700	502	447	37.1	20.2	21.3	91.6
MAX	1760	2230	1730	1260	541	1740	1680	1680	228	22	24	888
MIN	28	356	268	339	277	319	120	47	22	18	18	20

CAL YR 1990 TOTAL 248083 MEAN 680 MAX 5190 MIN 28
WTR YR 1991 TOTAL 151388 MEAN 415 MAX 2230 MIN 18

HUDSON RIVER BASIN

RESERVOIRS IN HUDSON RIVER BASIN

01335900 DELTA RESERVOIR.--Lat 43°16'29", long 75°25'43", Oneida County, Hydrologic Unit 02020004, on superstructure of gatehouse at Delta Dam on Mohawk River, and 4 mi upstream from Rome. DRAINAGE AREA, 148 mi². PERIOD OF RECORD, May 1913 to current year. REVISED RECORDS, WDR NY-85-1: Drainage area. GAGE, nonrecording gage read daily at 0800. Datum of gage is Barge Canal datum.

Dam completed Aug. 3, 1912, and controlled storage for which records are available began May 1, 1913. Usable capacity 2,800 mil ft³ at crest of spillway, elevation 550.0 ft. Reservoir is used for navigation in Barge Canal. Records provided by New York State Department of Transportation.

EXTREMES FOR PERIOD OF RECORD (1951-91).--Maximum contents observed, 3,136 mil ft³, June 22, 1972, elevation, 552.8 ft; minimum observed, 2.0 mil ft³, Jan. 10, 13, 16-21, Feb. 7-15, Feb. 22 to Mar. 2, 1959, elevation, 492.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,064 mil ft³, Dec. 31, elevation, 552.2 ft; minimum observed, 1,410 mil ft³, Sept. 19, 24, elevation, 536.0 ft.

01343900 HINCKLEY RESERVOIR.--Lat 43°18'41", long 75°06'30", Oneida County, Hydrologic Unit 02020004, on south side of north gatehouse at Hinckley Dam on West Canada Creek at Hinckley, and 2.2 mi east of Prospect. DRAINAGE AREA, 372 mi². PERIOD OF RECORD, March 1914 to current year. REVISED RECORDS, WDR NY-85-1: Drainage area. GAGE, nonrecording gage read daily at 0800. Datum of gage is Barge Canal datum.

Reservoir is formed by earth and concrete dam; storage began March 1914. Usable capacity 3,320 mil ft³ between elevation 1,173.5 and 1,225.0 ft. Elevation of inverts of four 60-inch discharge pipes at north end of spillway is 1,169.5 ft, and elevation of inverts of two 42-inch pipes at south end for diverting water to city of Utica is 1,164.25 ft. Crest of Ogee spillway is at elevation 1,225.0 ft. Length of spillway is 400 ft. Area of water surface at crest elevation is 4.46 mi². Telephone gage-height telemeter at station. Records provided by New York State Department of Transportation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 4,041 mil ft³, Oct. 2, 1945, elevation, 1,230.2 ft; minimum observed (after initial filling), not determined.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,639 mil ft³, Dec. 31, elevation, 1,227.4 ft; minimum observed, 955 mil ft³, Sept. 16, elevation, 1,197.8 ft.

01350100 SCHOHARIE RESERVOIR (see station for mean daily elevations, skeleton capacity table, monthly contents and change in contents).

01363400 ASHOKAN RESERVOIR.--Lat 41°57'01", long 74°12'30", Ulster County, Hydrologic Unit 02020006, at gatehouse located at Dividing Weir Dyke, and 1.6 mi south of Shokan. DRAINAGE AREA, 256 mi². PERIOD OF RECORD, September 1913 to current year. REVISED RECORDS, WDR NY-72-1: 1968. WDR NY-83-1: (M)(m). GAGE, nonrecording gage read daily at 0900. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York).

The reservoir is formed by the masonry Olive Bridge Dam across Esopus Creek and a series of earth embankments between hills. The reservoir is divided into two basins separated by a weir containing a gatehouse. Storage began Sept. 9, 1913. Usable capacity of West basin 47,180 mil gal between minimum operating level elevation 495.50 ft and crest of spillway to East basin, elevation 590.00 ft; dead storage below minimum operating level 2,237 mil gal. Usable capacity of East basin 80,678 mil gal between elevation 500.00 ft and crest of spillway, elevation 587.10 ft; no dead storage. Figures given herein represent total contents for each basin. Reservoir impounds water for diversion into Catskill Aqueduct for New York City water supply (see elsewhere in this section). Any flood spillage enters the Esopus Creek channel below Olive Bridge Dam. Records provided by Department of Environmental Protection, City of New York.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, in West basin, 54,001 mil gal, Mar. 31, 1951, elevation, 594.33 ft, in East basin, 89,411 mil gal, Mar. 31, 1951, elevation, 592.23 ft; minimum observed, in West basin, 9,098 mil gal, Oct. 24, 1926, elevation, 530.56 ft, in East basin, 8,394 mil gal, Oct. 24, 1926, elevation, 525.91 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, in West basin, 50,794 mil gal, Mar. 4, elevation, 591.30 ft, in East basin, 82,372 mil gal, Mar. 5, elevation, 588.11 ft; minimum observed, in West basin, 31,261 mil gal, Sept. 24, elevation, 569.90 ft, in East basin, 45,852 mil gal, Sept. 30, elevation, 563.75 ft.

01366400 RONDOUT RESERVOIR.--Lat 41°47'57", long 74°25'48", Ulster County, Hydrologic Unit 02020007, at release chamber at Merriman Dam on Rondout Creek, 1.1 mi upstream from Brandy Brook, and 1.3 mi northwest of Lackawack. DRAINAGE AREA, 95.4 mi². PERIOD OF RECORD, May 1951 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York).

Reservoir is formed by an earthfill rockfaced dam; storage began May 10, 1951. Initial filling (to crest of spillway) Mar. 28, 1955. Usable capacity 50,048 mil gal between minimum operating level, elevation, 720.00 ft and crest of spillway, elevation, 840.00 ft. Dead storage below elevation 720.00 ft, 2,387 mil gal. Figures given herein represent total contents. Reservoir impounds water from Rondout Creek; water diverted from Cannonsville Reservoir in the Delaware River basin through West Delaware Tunnel; water diverted from Pepacton Reservoir through East Delaware Tunnel; and water diverted from Neversink Reservoir through Neversink-Grahamsville Tunnel. Water is diverted from Rondout Reservoir for New York City water supply through West Branch Tunnel of Delaware Aqueduct (see elsewhere in this section). Records provided by Bureau of Water Resources Development, City of New York.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 53,458 mil gal, Apr. 5, 1987, elevation, 841.49 ft; minimum observed (after initial filling), 8,335 mil gal, Oct. 15, 1957, elevation, 748.75 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 52,319 mil gal, May 13, elevation, 839.83 ft; minimum observed, 31,142 mil gal, Sept. 30, elevation, 804.78 ft.

HUDSON RIVER BASIN

RESERVOIRS IN HUDSON RIVER BASIN--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet) †	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) †	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)
	01335900 Delta Reservoir			01343900 Hinckley Reservoir		
Sept. 30	541.9	1,930		1,208.0	1,670	
Oct. 31	550.4	2,848	+343	1,222.4	3,016	+503
Nov. 30	550.3	2,836	- 4.63	1,221.2	2,882	- 51.7
Dec. 31	551.9	3,028	+ 71.7	1,226.9	3,571	+257
CAL YR 1990	-	-	+ 35.1	-	-	+ 56.7
Jan. 31	546.7	2,427	-224	1,212.4	2,031	-575
Feb. 28	543.3	2,070	-148	1,204.4	1,397	-262
Mar. 31	550.7	2,884	+304	1,214.6	2,225	+309
Apr. 30	550.6	2,872	- 4.63	1,222.7	3,050	+318
May 31	548.5	2,625	- 92.2	1,220.0	2,750	-112
June 30	545.6	2,306	-123	1,216.6	2,410	-131
July 31	541.3	1,870	-163	1,210.2	1,846	-211
Aug. 31	538.9	1,651	- 81.8	1,202.8	1,285	-209
Sept. 30	537.1	1,498	- 59.0	1,200.4	1,123	- 62.5
WTR YR 1991	-	-	- 13.7	-	-	- 17.3

Date	Elevation (feet) ††	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) ††	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) †††	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
	01363398 Ashokan Reservoir West Basin			01363399 Ashokan Reservoir East Basin			01366400 Rondout Reservoir		
Sept. 30	578.97	38,901		576.72	64,028		827.44	44,209	
Oct. 31	586.12	45,554	+332	571.47	56,292	-386	825.71	43,129	- 53.9
Nov. 30	579.70	39,538	-310	578.82	67,266	+566	826.73	43,764	+ 32.8
Dec. 31	586.32	45,753	+310	582.81	73,620	+317	833.80	48,288	+226
CAL YR 1990	-	-	+ 42.9	-	-	+ 21.1	-	-	+ 19.7
Jan. 31	585.53	44,966	- 39.3	584.64	76,574	+147	835.62	49,488	+ 59.9
Feb. 28	590.45	49,894	+272	586.00	78,833	+125	833.34	47,987	- 82.9
Mar. 31	590.43	49,873	- 1.05	587.35	81,097	+113	834.85	48,979	+ 49.5
Apr. 30	590.38	49,820	- 2.73	587.26	80,947	- 7.74	835.26	49,250	+ 14.0
May 31	590.22	49,651	- 8.44	586.34	79,403	- 77.1	838.75	51,585	+117
June 30	590.16	49,587	- 3.30	578.96	67,481	-615	829.37	45,429	-317
July 31	582.24	41,878	-385	575.70	62,455	-251	822.36	41,071	-218
Aug. 31	580.18	39,966	- 95.4	568.06	51,565	-544	816.18	37,395	-183
Sept. 30	570.55	31,789	-422	563.75	45,852	-295	804.33	30,909	-335
WTR YR 1991	-	-	- 30.1	-	-	- 77.0	-	-	- 56.4

† Elevation at 2400 hours by interpolation.

†† Elevation at 0800 hours on last day of month.

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

HUDSON RIVER BASIN

DIVERSIONS IN HUDSON RIVER BASIN

Undetermined diversion at Solsville from Chenango River in Susquehanna River basin into Oriskany Creek in Mohawk River Basin through Oriskany Creek Feeder.

Undetermined diversion from (and occasionally into) Oswego River, tributary to Lake Ontario, through Summit level of Erie (Barge) Canal.

Undetermined diversion from Black River tributary into Lake Ontario through Black River canal into Mohawk River in Hudson River basin.

Undetermined diversion from Hudson River basin to summit level of Champlain (Barge) Canal.

01343899 Diversion from Hinckley Reservoir (see preceding pages) for municipal supply of Utica. Diversion began prior to 1921. Records provided by Utica Board of Water Supply.

Diversion from Schoharie Reservoir (see preceding pages) on Schoharie Creek through Shandaken Tunnel to Esopus Creek at, 01362230 Lat 42°06'52", long 74°21'51", near Phoenicia, Ulster County. No diversion prior to 1924. Records provided by Department of Environmental Protection, City of New York.

01363401 Diversion from Ashokan Reservoir (see preceding pages) on Esopus Creek through the Catskill Aqueduct for municipal supply of New York City. Completed in 1917. Records provided by Department of Environmental Protection, City of New York.

01366399 Diversion from Rondout Reservoir. Total diversion from Rondout Reservoir to Delaware Aqueduct for municipal supply of City of New York. Rondout Reservoir is a collection basin for diversion from: Cannonsville Reservoir, Pepacton Reservoir, and Neversink Reservoir in the Delaware River basin and the Rondout Creek in the Hudson River basin. Diversion began April 1944 by means of temporary emergency connection to aqueduct. Records provided by Bureau of Water Resources Development, City of New York.

01367630 Diversion from Morris Lake, tributary to Wallkill River, by Newtown Water and Sewer Authority for municipal use in New Jersey. After use the water is released into the Paulins Kill (Delaware River basin). Records available from the Delaware River Basin Commission.

DIVERSION, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Month	01343899 <u>Hinckley Reservoir</u>	01362230 <u>Schoharie Reservoir</u>	01363401 <u>Ashokan Reservoir</u>	01366399 <u>Rondout Reservoir</u>
October.....	31.0	202	835	1,388
November.....	31.4	155	805	1,387
December.....	30.7	94.2	569	1,367
CAL YR 1990	31.4	264	781	1,296
January.....	29.8	142	626	1,330
February.....	30.7	490	639	1,352
March.....	31.8	51.6	661	1,216
April.....	32.1	54.7	656	1,166
May.....	32.3	157	584	1,380
June.....	35.4	281	897	1,460
July.....	35.4	304	894	1,453
August.....	34.9	274	893	1,448
September.....	34.5	186	895	1,426
WTR YR 1991	32.5	197	746	1,365

HACKENSACK RIVER BASIN

01376800 HACKENSACK RIVER AT WEST NYACK, NY

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

DRAINAGE AREA.--30.7 mi².

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

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

GAGE.--Water-stage recorder, stop-log control, and crest-stage gage. Datum of gage is 53.50 ft above National Geodetic Vertical Datum of 1929 (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, 1,550 ft³/s, Feb. 3, 1973, gage height, 9.38 ft, from floodmarks, from rating curve extended above 840 ft³/s; maximum gage height, 10.52 ft, May 30, 1984; minimum daily discharge, 2.6 ft³/s, June 12, 1965, Sept. 25, 26, 30, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 779 ft³/s, Mar. 4, gage height, 8.41 ft; minimum daily, 19 ft³/s, Sept. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	22	21	93	57	34	46	48	23	21	33	29
2	21	21	21	79	50	37	46	46	21	20	31	28
3	21	21	26	69	45	42	41	42	20	21	35	35
4	23	21	367	62	43	e500	38	37	23	20	43	30
5	23	27	214	54	41	e300	37	30	21	21	41	32
6	21	25	99	51	42	e150	36	93	21	21	36	28
7	22	25	80	51	58	113	35	177	22	22	45	32
8	21	23	71	46	63	96	33	86	21	21	48	31
9	30	48	61	59	56	79	32	66	22	20	63	31
10	23	443	55	70	50	71	30	56	21	20	58	30
11	35	128	47	67	46	63	31	44	20	20	49	28
12	22	80	41	77	40	52	28	37	21	20	48	27
13	34	62	40	66	34	45	22	33	21	21	47	29
14	30	45	37	56	45	51	27	30	21	21	46	30
15	21	43	41	50	56	60	33	44	21	20	47	29
16	21	38	90	89	53	56	37	33	23	20	48	29
17	21	43	80	227	43	50	41	27	21	21	45	30
18	25	56	93	148	40	84	e52	29	21	20	44	30
19	35	31	105	99	49	165	e48	22	26	20	61	31
20	23	24	85	88	60	93	e43	22	21	20	36	28
21	21	23	72	97	56	74	e130	22	20	20	36	30
22	21	21	82	80	52	65	e250	21	21	20	25	30
23	37	25	81	66	52	69	e130	21	21	23	40	30
24	419	31	192	60	37	78	91	21	20	25	55	29
25	136	29	130	54	36	79	e93	21	20	30	43	87
26	92	28	85	47	37	70	81	21	20	42	45	25
27	48	26	73	44	38	64	69	24	20	35	49	19
28	36	25	78	46	35	59	61	30	20	39	43	21
29	35	28	71	46	---	53	50	21	20	41	29	26
30	27	24	79	45	---	63	50	21	20	39	28	24
31	27	---	109	63	---	48	---	26	---	35	29	---
TOTAL	1392	1486	2726	2249	1314	2863	1741	1251	633	759	1326	918
MEAN	44.9	49.5	87.9	72.5	46.9	92.4	58.0	40.4	21.1	24.5	42.8	30.6
MAX	419	443	367	227	63	500	250	177	26	42	63	87
MIN	21	21	21	44	34	34	22	21	20	20	25	19

CAL YR 1990 TOTAL 21578 MEAN 59.1 MAX 443 MIN 20
WTR YR 1991 TOTAL 18658 MEAN 51.1 MAX 500 MIN 19

e Estimated

HACKENSACK RIVER BASIN

01377000 HACKENSACK RIVER AT RIVERVALE, NJ

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

DRAINAGE AREA.--58.0 mi².

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

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

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

REMARKS.--No estimated daily discharges. Records good except those above 500 ft³/s, which are fair. Flow regulated by De Forest Lake (since Feb. 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). Water occasionally diverted from Oradell Reservoir to Lake Tappan. Several measurements of water temperature were made during the year. Hackensack Water Company gage-height telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	37	45	169	96	64	87	85	83	167	26	27
2	74	36	44	142	86	67	86	85	82	154	60	27
3	72	36	49	122	81	78	78	100	82	105	27	27
4	73	36	500	106	77	863	71	85	57	41	26	27
5	80	36	584	94	74	624	67	84	41	84	26	39
6	75	39	204	88	74	206	69	168	75	48	37	29
7	74	37	147	85	96	195	65	315	74	39	57	28
8	74	37	121	80	101	174	62	201	74	31	73	29
9	98	37	103	97	94	141	60	134	73	30	93	28
10	45	102	93	139	87	122	58	110	72	70	49	27
11	60	410	81	130	80	106	54	92	80	92	28	28
12	43	346	74	144	72	91	67	80	82	92	27	28
13	48	190	69	127	64	82	104	79	75	96	27	28
14	62	149	64	107	80	84	117	97	73	92	27	28
15	40	121	70	93	89	101	105	93	72	90	29	29
16	39	99	134	198	85	101	47	52	80	90	28	60
17	38	83	134	577	74	90	44	49	89	88	27	135
18	39	78	166	324	71	126	52	49	88	88	27	148
19	60	76	187	194	87	311	52	42	86	90	93	140
20	39	73	154	162	104	207	58	40	35	90	53	57
21	39	66	132	168	97	145	167	39	33	88	54	29
22	39	61	145	145	90	122	580	62	33	86	32	29
23	46	56	137	122	84	115	290	94	40	92	32	85
24	109	57	329	105	73	133	164	102	90	87	33	76
25	41	57	279	94	67	131	163	116	90	88	30	157
26	38	55	163	84	66	120	143	123	90	93	29	61
27	37	52	130	78	72	110	122	136	88	43	29	37
28	37	49	135	79	66	102	109	122	99	24	29	36
29	37	53	124	79	---	92	92	59	128	24	29	34
30	37	49	138	78	---	102	88	83	145	24	28	34
31	37	---	197	106	---	96	---	84	---	24	28	---
TOTAL	1704	2613	4932	4316	2287	5101	3321	3060	2309	2350	1193	1547
MEAN	55.0	87.1	159	139	81.7	165	111	98.7	77.0	75.8	38.5	51.6
MAX	109	410	584	577	104	863	580	315	145	167	93	157
MIN	37	36	44	78	64	64	44	39	33	24	26	27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1991, BY WATER YEAR (WY)

	MEAN	59.5	74.3	81.6	89.9	94.4	137	141	106	74.5	78.1	71.5	63.7
MAX	312	240	202	251	221	379	438	310	319	339	197	177	
(WY)	1956	1956	1973	1949	1951	1953	1983	1989	1972	1945	1955	1975	
MIN	12.1	17.7	12.6	22.6	23.0	11.2	14.5	20.4	13.4	11.6	11.3	7.87	
(WY)	1942	1950	1981	1982	1967	1981	1981	1981	1957	1954	1944	1953	

SUMMARY STATISTICS

FOR 1990 CALENDAR YEAR

FOR 1991 WATER YEAR

WATER YEARS 1942 - 1991

ANNUAL TOTAL	40996	34733	
ANNUAL MEAN	112	95.2	
HIGHEST ANNUAL MEAN			89.2
LOWEST ANNUAL MEAN			156
HIGHEST DAILY MEAN	881	Aug 12	2190
LOWEST DAILY MEAN	36	Nov 2	5.8
ANNUAL SEVEN-DAY MINIMUM	36	Oct 30	6.3
INSTANTANEOUS PEAK FLOW			2530
INSTANTANEOUS PEAK STAGE		4.42	8.08
INSTANTANEOUS LOW FLOW			.00
10 PERCENT EXCEEDS	183	155	174
50 PERCENT EXCEEDS	87	80	60
90 PERCENT EXCEEDS	43	29	21

HACKENSACK RIVER BASIN

RESERVOIRS IN HACKENSACK RIVER BASIN

01376700 DE FOREST LAKE.--Lat 41°06'23", long 73°58'01", Rockland County, NY, Hydrologic Unit 02030103, at dam on Hackensack River, 0.8 mi north of West Nyack, NY. DRAINAGE AREA, 27.5 mi². PERIOD OF RECORD, February 1956 to current year. REVISED RECORDS.--WDR NJ-84-1: Drainage area. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. REMARKS.--Reservoir is formed by earthfill dam with sheet piling cutoff and concrete spillway; dam completed and storage began in February 1956. Crest of dam topped by two 50 ft Bascule Gates, 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 Hackensack Water Co., for municipal water supply. COOPERATION.--Records provided by Hackensack Water Company.

01376950 LAKE TAPPAN.--Lat 41°01'05", long 74°00'05", Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River, 0.5 mi north of Old Tappan. DRAINAGE AREA, about 49.0 mi². PERIOD OF RECORD, October 1966 to current year. REVISED RECORDS, WDR NJ-89-1: Capacity. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. REMARKS.--Reservoir is formed by earthfill dam, completed in 1966. Capacity, 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) by Hackensack Water Co. and Haworth, for municipal water supply. COOPERATION.--Records provided by Hackensack Water Company.

01377450 WOODCLIFF LAKE.--Lat 41°01', long 74°03', Bergen County, Hydrologic Unit 02030103, at dam on Pascack Brook, 0.7 mi north of Hillsdale. DRAINAGE AREA, 19.4 mi². PERIOD OF RECORD, December 1929 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722. REVISED RECORDS, WDR NJ-89-1: Capacity. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. REMARKS.--Reservoir is formed by earthfill dam, completed about 1905. The dam was modified in 1984, which increased capacity, 871,000,000 gal, elevation, 95.00 ft at top of Bascule gates. Flow is regulated by two Bascule gates 85 ft long and 6 ft high each and one 24-inch Ball valve. Water is released for diversion at New Milford (diversion discontinued May 1990) by Hackensack Water Co. and Haworth, for municipal supply. COOPERATION.--Records provided by Hackensack Water Company.

01378480 ORADELL RESERVOIR.--Lat 40°57', long 74°02', Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River at Oradell. DRAINAGE AREA, 113 mi². PERIOD OF RECORD, December 1922 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722. REVISED RECORDS.--WDR NJ-84-1: Spillway elevation, WDR NJ-89-1: Capacity. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. REMARKS.--Reservoir is formed by hollow concrete dam, completed in 1922. Capacity at spillway level, 3,507,000,000 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 Hackensack Water Co., 1 mi downstream from dam for municipal supply. COOPERATION.--Records provided by Hackensack Water Company.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
01376700 DE FOREST LAKE				01376950 LAKE TAPPAN		
Sept. 30.....	84.45	5,491	-	51.40	2,633	-
Oct. 31.....	85.04	5,683	+9.6	54.52	3,680	+52.2
Nov. 30.....	85.02	5,676	-4	55.08	3,881	+10.4
Dec. 31.....	85.35	5,785	+5.4	55.40	3,997	+5.8
CAL YR 1990			+3			+3.1
Jan. 31.....	85.22	5,742	-2.1	55.23	3,935	-3.1
Feb. 28.....	85.11	5,706	-2.0	55.14	3,902	-1.8
Mar. 31.....	85.17	5,726	+1.0	55.21	3,928	+1.3
Apr. 30.....	85.20	5,736	+5	55.20	3,924	-2
May 31.....	84.66	5,559	-8.8	54.10	3,532	-19.5
June 30.....	82.99	5,027	-27.4	51.44	2,645	-45.8
July 31.....	80.59	4,293	-36.6	48.69	1,834	-40.5
Aug. 31.....	78.70	3,733	-27.9	51.58	2,690	+42.7
Sept. 30.....	77.42	3,362	-19.1	52.12	2,864	+9.0
WTR YR 1991	-	-	-9.0	-	-	+1.0

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
01377450 WOODCLIFF LAKE				01378480 ORADELL RESERVOIR		
Sept. 30.....	90.79	641	-	22.11	3,226	-
Oct. 31.....	90.80	642	+0.05	20.87	2,912	-15.7
Nov. 30.....	91.00	652	+5	21.02	2,949	+1.9
Dec. 31.....	91.36	671	+9	22.01	3,200	+12.5
CAL YR 1990			+2			+1.2
Jan. 31.....	91.30	668	-2	22.00	3,198	-1
Feb. 28.....	91.18	662	-3	21.87	3,164	-1.9
Mar. 31.....	91.08	656	-3	22.03	3,205	+2.0
Apr. 30.....	91.10	657	+0.5	21.04	2,954	-12.9
May 31.....	92.28	720	+3.1	20.69	2,868	-4.3
June 30.....	90.68	635	-4.4	20.57	2,838	-1.6
July 31.....	91.24	665	+1.5	20.85	2,907	+3.4
Aug. 31.....	94.30	832	+8.3	20.62	2,850	-2.8
Sept. 30.....	94.03	816	-8	21.28	3,014	+8.5
WTR YR 1991	-	-	+7	-	-	-9

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

HACKENSACK RIVER BASIN

DIVERSIONS INTO AND FROM HACKENSACK RIVER BASIN

- 01376272 Hackensack Water Co., 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 of Sparkill Brook. Water is diverted into Oradell Reservoir on the Hackensack River, for municipal supply. Records provided by Hackensack Water Co.
- 01376699 Spring Valley Water Co., diverts water from De Forest Lake for municipal supply in Rockland County, NY. Records provided by Spring Valley Water Co.
- 01376810 Village of Nyack, NY, diverts water from Hackensack River 100 ft downstream from gaging station on Hackensack River at West Nyack, NY (station 01376800, measured flow includes diversions) for municipal supply. Records provided by Board of Water Commissioners of Nyack, NY.
- 01378490 Hackensack Water Co., diverts water for municipal supply from Oradell Reservoir at Haworth pumping station (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 about 50 ft above 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 Hackensack Water Co.
- 01378520 Hackensack Water Co., diverts water from Hirshfeld Brook, a tributary of the Hackensack River, below the gaging station on Hackensack River at New Milford, NJ, for municipal supply. Records provided by Hackensack Water Co.
- 01388981 Hackensack Water Co., 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. Formerly diversion was from the Ramapo River (see station 01387991). Records provided by Hackensack Water Company.
- 01391210 Hackensack Water Co., diverts water from Saddle River (Passaic River basin) just north of bridge on State Route 4 at Arcola. Water is diverted into Oradell Reservoir on the Hackensack River, for municipal supply. Records provided by Hackensack Water Co.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

MONTH	01376699 SPRING VALLEY WATER CO.	01376810 WEST NYACK, NY	01378490 HACKENSACK WATER CO.
October.....	7.23	2.45	144
November.....	7.18	2.36	151
December.....	.45	2.30	147
CAL YR 1990.....	5.36	2.58	155
January.....	0	2.39	144
February.....	0	2.38	144
March.....	0	2.33	145
April.....	0	2.38	150
May.....	9.45	2.69	172
June.....	18.0	2.75	190
July.....	21.3	2.92	190
August.....	17.8	2.86	184
September.....	16.1	2.74	172
WTR YR 1991.....	8.17	2.55	161

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

MONTH	01376272 SPARKILL CREEK (HUDSON RIVER BASIN)	01378520 HIRSHFELD BROOK (HACKENSACK RIVER BASIN)	01388981 POMPTON RIVER (PASSAIC RIVER BASIN)	01391210 SADDLE RIVER (PASSAIC RIVER BASIN)	WELLS TO SURFACE SUPPLY
October.....	0	0	11.8	0	0.39
November.....	0	0	0	0	.12
December.....	0	0	0	0	.07
CAL YR 1990	0	0	6.55	0	.26
January.....	0	0	0	0	.02
February.....	0	0	0	0	.04
March.....	0	0	0	0	.06
April.....	0	0	0	0	.26
May.....	0	0	20.5	.02	.48
June.....	0	1.70	61.0	0	.52
July.....	.28	2.51	60.6	1.80	.71
August.....	.65	1.63	49.4	1.84	1.59
September.....	.16	2.37	27.5	15.7	.50
WTR YR 1991	.09	.69	19.2	1.60	.40

PASSAIC RIVER BASIN

01387400 RAMAPO RIVER AT RAMAPO, NY

LOCATION.--Lat 41°08'25", long 74°10'08", Rockland County, Hydrologic Unit 02030103, on right bank, 105 ft downstream from highway bridge on New York State Thruway at Ramapo, 500 ft upstream from local bridge, and 0.3 mi upstream from Torne Brook.

DRAINAGE AREA.--86.9 mi².

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

REVISED RECORDS.--WDR NY-81-1: 1980(m). WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 297.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Occasional regulation by Lake Sebago.

AVERAGE DISCHARGE.--12 years, 166 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s, Apr. 5, 1984, gage height, 13.82 ft, from rating curve extended above 3,600 ft³/s on basis of runoff comparison with station 1.5 mi downstream; minimum discharge, 5.3 ft³/s, Aug. 7, 1983, gage height, 1.27 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 6,100 ft³/s, Mar. 12, 1936, by computation of flow over dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,050 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 11	0245	1,340	4.78	Mar. 4	1830	1,440	5.16
Dec. 4	1915	*2,100	*6.07				

Minimum discharge, 12 ft³/s, July 19, 20-22, 23, Sept. 15, 16-18, 19; minimum gage height, 1.46 ft, July 21-22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	87	104	e360	154	106	161	188	55	16	29	17
2	27	81	100	e310	126	114	152	176	43	15	25	17
3	26	77	109	e260	117	153	133	152	34	15	23	16
4	27	71	1540	e230	114	1230	117	130	35	15	22	15
5	35	64	1390	205	114	955	109	117	37	15	20	15
6	33	79	643	193	116	529	105	231	33	14	19	15
7	28	85	438	182	174	501	102	453	29	18	18	15
8	26	76	336	158	203	407	98	295	27	20	17	14
9	25	69	276	144	170	328	92	233	24	16	21	14
10	25	493	242	156	149	277	86	208	23	15	43	14
11	33	1190	215	146	134	237	77	186	22	14	30	14
12	48	639	188	161	115	202	69	158	21	14	23	13
13	100	427	170	150	105	175	66	139	21	14	21	13
14	117	300	152	130	130	165	81	124	22	14	19	13
15	82	242	145	118	180	192	93	186	20	14	18	13
16	67	200	245	173	152	194	122	132	19	14	17	12
17	55	197	234	354	129	195	118	105	28	13	16	12
18	48	174	269	338	120	227	122	91	27	13	16	12
19	105	149	356	284	136	344	103	78	43	13	39	16
20	79	136	277	252	184	282	89	68	61	12	96	32
21	56	127	252	255	191	233	273	63	38	12	84	23
22	45	129	281	224	169	208	885	58	30	12	97	17
23	91	159	265	202	147	211	555	55	28	13	62	16
24	688	146	522	178	125	254	401	49	26	77	59	16
25	431	130	569	158	121	255	396	44	23	30	45	324
26	236	119	388	139	119	226	303	41	22	57	33	444
27	164	113	297	128	119	207	256	38	20	259	28	222
28	133	114	279	125	112	195	227	41	20	137	25	127
29	120	117	267	126	---	169	198	39	19	67	23	89
30	104	106	276	121	---	162	190	36	17	50	21	72
31	95	---	443	178	---	161	---	42	---	37	20	---
TOTAL	3176	6096	11268	6138	3925	9094	5779	3956	867	1045	1029	1652
MEAN	102	203	363	198	140	293	193	128	28.9	33.7	33.2	55.1
MAX	688	1190	1540	360	203	1230	885	453	61	259	97	444
MIN	25	64	100	118	105	106	66	36	17	12	16	12

CAL YR 1990 TOTAL 72483 MEAN 199 MAX 1540 MIN 25
WTR YR 1991 TOTAL 54025 MEAN 148 MAX 1540 MIN 12

e Estimated

PASSAIC RIVER BASIN

01387420 RAMAPO RIVER AT SUFFERN, NY

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

DRAINAGE AREA.--93.0 mi².

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

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

REMARKS.--Records fair. Flow affected by diversion from Spring Valley Water Company well field upstream from station and by occasional regulation by Lake Sebago.

AVERAGE DISCHARGE.--12 years, 172 ft³/s, unadjusted.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft³/s, Apr. 5, 1984, gage height, 15.38 ft, from rating curve extended above 5,400 ft³/s; minimum discharge, 2.6 ft³/s, Sept. 30, 1981, gage height, 1.23 ft.

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

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 11	0700	1,620	6.65	Mar. 4	1500	1,390	6.37
Dec. 4	1745	*2,040	*7.48				

Minimum discharge, 4.0 ft³/s, Sept. 13, gage height, 1.31 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	83	104	375	150	104	168	193	45	9.1	24	10
2	22	76	98	303	123	118	155	177	35	8.6	20	9.6
3	20	70	111	265	115	166	136	154	29	8.5	18	9.0
4	21	64	1550	237	116	1230	120	132	29	8.7	16	8.6
5	30	59	1370	207	116	943	111	116	31	8.7	13	8.7
6	28	74	666	193	119	553	108	238	28	9.7	12	8.9
7	23	77	454	181	183	528	102	449	24	14	10	8.5
8	20	66	356	154	208	417	96	306	22	18	9.8	8.5
9	21	60	297	152	169	346	90	242	18	13	16	8.7
10	19	627	258	159	147	295	85	217	17	10	34	8.0
11	27	1430	225	144	133	253	77	189	16	9.3	25	6.8
12	37	729	195	160	113	215	68	160	15	8.9	17	6.0
13	89	441	178	145	102	185	65	140	17	9.5	14	5.9
14	110	317	157	123	136	176	84	123	15	10	13	6.8
15	69	259	150	113	185	210	97	192	13	10	12	6.8
16	57	233	260	185	151	207	125	133	12	9.4	11	6.8
17	48	214	245	371	129	209	120	103	21	9.2	10	6.8
18	40	213	283	354	116	246	126	89	23	8.4	10	6.8
19	95	189	371	300	141	357	106	74	35	8.3	34	9.6
20	71	160	299	267	191	299	91	63	53	9.2	79	25
21	49	142	273	270	193	246	294	56	33	8.7	69	17
22	40	129	308	240	168	221	844	51	27	7.3	80	9.6
23	103	154	286	208	146	227	e560	47	25	8.9	51	8.5
24	783	178	541	182	122	270	404	41	23	55	48	8.5
25	501	150	591	160	118	270	399	37	18	26	37	353
26	254	129	396	137	117	237	318	35	15	58	28	472
27	175	115	316	128	118	217	270	33	13	258	24	225
28	139	114	300	130	108	203	237	34	12	130	20	123
29	122	120	286	127	---	172	207	32	11	57	17	87
30	102	109	295	121	---	169	197	29	9.5	42	15	67
31	92	---	456	186	---	166	---	33	---	31	12	---
TOTAL	3229	6781	11675	6277	3933	9455	5860	3918	684.5	882.4	798.8	1546.4
MEAN	104	226	377	202	140	305	195	126	22.8	28.5	25.8	51.5
MAX	783	1430	1550	375	208	1230	844	449	53	258	80	472
MIN	19	59	98	113	102	104	65	29	9.5	7.3	9.8	5.9
‡	14	14	14	14	14	14	14	14	13	5.1	8.9	8.7

CAL YR 1990 TOTAL 76278 MEAN 209 MAX 1580 MIN 19 ‡ 13
WTR YR 1991 TOTAL 55040.1 MEAN 151 MAX 1550 MIN 5.9 ‡ 12

e Estimated

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

PASSAIC RIVER BASIN

01387450 MAHWAH RIVER NEAR SUFFERN, NY

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

DRAINAGE AREA.--12.3 mi².

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

REVISED RECORDS.--WDR NY-79-1: 1977(P). WDR NY-87-1: 1986.

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

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional regulation from unknown source. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--33 years, 24.6 ft³/s, 27.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft³/s, Nov. 8, 1977, gage height, 9.91 ft, from rating curve extended above 850 ft³/s on basis of contracted-opening measurement at gage height 9.91 ft; minimum discharge, 0.05 ft³/s, Oct. 20, 21, 1970, result of temporary pumping from gage pool.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	1915	516	5.02	Mar. 4	0330	*539	*5.09
Dec. 4	0930	326	4.33				

Minimum discharge, 0.49 ft³/s, Aug. 8, 9, gage height, 1.30 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	13	14	40	20	16	17	22	8.7	1.1	1.3	1.7
2	4.6	12	14	35	18	19	16	20	6.2	.97	1.2	1.4
3	4.4	11	16	32	18	25	15	18	5.3	.95	1.0	1.3
4	4.8	11	231	28	18	301	15	16	7.3	.97	1.1	1.2
5	9.1	11	124	25	18	124	14	15	5.6	1.0	.91	1.5
6	4.8	14	65	e24	19	76	14	58	5.4	2.1	.67	1.5
7	4.4	12	47	e22	29	76	13	54	5.0	9.1	.60	1.3
8	4.3	11	38	e20	26	55	13	35	4.3	3.3	.56	1.1
9	9.7	10	33	e22	22	44	11	28	3.8	2.3	5.0	.99
10	6.1	156	29	24	20	38	10	26	3.4	1.8	12	.94
11	15	139	26	21	19	33	10	23	3.1	1.5	2.6	.89
12	7.2	61	24	e20	16	29	13	21	3.1	1.3	1.6	.72
13	16	41	23	e18	16	27	15	19	3.1	1.3	1.2	.70
14	21	32	21	e17	23	26	16	17	2.7	1.4	.98	.74
15	11	28	22	e16	27	29	e16	34	2.5	1.2	1.0	.82
16	8.8	25	35	33	e19	26	e15	22	2.6	1.0	1.1	.91
17	7.8	24	26	58	18	24	e14	18	5.0	.92	.86	.91
18	7.9	23	37	45	17	42	19	15	3.9	.84	.74	.91
19	18	20	38	36	23	47	14	13	8.1	.92	33	2.7
20	9.2	18	30	34	28	34	13	12	6.1	.94	11	5.7
21	7.9	17	30	e32	25	29	68	11	3.6	.89	17	3.9
22	7.4	16	40	e27	22	26	98	11	3.0	.88	7.2	2.8
23	28	20	36	24	20	29	58	9.9	3.2	1.5	4.8	2.4
24	123	20	81	24	18	34	48	9.1	2.6	4.1	7.3	2.4
25	45	17	59	22	18	e28	46	8.1	2.2	1.6	5.5	84
26	29	16	45	19	18	25	35	7.5	2.0	21	4.3	33
27	22	15	37	19	17	22	31	6.9	1.7	17	3.5	16
28	19	15	35	20	16	23	27	7.6	1.5	4.1	2.9	10
29	16	17	33	19	---	21	24	6.2	1.3	2.7	2.4	7.4
30	15	15	37	20	---	20	24	5.7	1.2	2.2	2.2	5.8
31	14	---	55	30	---	19	---	8.2	---	1.7	2.1	---
TOTAL	505.1	840	1381	826	568	1367	742	577.2	117.5	92.58	137.62	195.63
MEAN	16.3	28.0	44.5	26.6	20.3	44.1	24.7	18.6	3.92	2.99	4.44	6.52
MAX	123	156	231	58	29	301	98	58	8.7	21	33	84
MIN	4.3	10	14	16	16	16	10	5.7	1.2	.84	.56	.70
CFSM	1.32	2.28	3.62	2.17	1.65	3.59	2.01	1.51	.32	.24	.36	.53
IN.	1.53	2.54	4.18	2.50	1.72	4.13	2.24	1.75	.36	.28	.42	.59

CAL YR 1990 TOTAL 10284.2 MEAN 28.2 MAX 252 MIN 4.1 CFSM 2.29 IN. 31.10
WTR YR 1991 TOTAL 7349.63 MEAN 20.1 MAX 301 MIN .56 CFSM 1.64 IN. 22.23

e Estimated

PASSAIC RIVER BASIN

01387500 RAMAPO RIVER NEAR MAHWAH, NJ

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

DRAINAGE AREA.--120 mi².

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

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

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

REMARKS.--No estimated daily discharges. Records fair. Flow affected by diversion from Spring Valley (NY) Water Company well field upstream from station (see station 01387420). Occasional regulation from lakes and ponds upstream from the station. Several measurements of water temperature were made during the year. Satellite telemeter at station.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 11	0530	2,030	7.03	Mar. 4	1415	1,970	6.97
Dec. 4	2115	*2,570	*7.55				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	107	131	494	217	154	241	256	65	19	32	19
2	32	99	131	401	182	180	229	244	50	18	27	18
3	31	91	150	352	172	267	208	221	43	19	24	18
4	42	84	1910	311	174	1790	191	196	55	19	24	18
5	49	83	1730	272	174	1190	180	174	48	22	22	21
6	37	101	816	260	181	718	175	389	43	24	20	19
7	31	99	571	248	265	680	165	584	37	38	19	18
8	30	85	464	220	280	541	154	396	34	30	18	18
9	58	84	390	239	234	451	144	315	30	23	70	17
10	40	810	340	241	209	394	135	280	29	20	72	17
11	53	1720	294	216	191	343	121	255	27	19	36	16
12	54	786	260	230	166	300	109	228	30	18	27	16
13	171	503	241	211	158	271	112	207	29	25	23	16
14	194	383	219	185	211	258	146	191	27	21	21	16
15	99	319	225	178	258	292	160	284	25	19	20	16
16	77	285	375	289	213	283	194	206	23	18	20	16
17	63	266	328	526	189	276	181	164	31	17	22	16
18	67	256	387	479	178	354	196	140	36	17	20	15
19	150	221	485	400	212	472	168	117	68	16	133	22
20	93	194	395	356	258	390	140	101	77	17	145	43
21	63	177	358	364	255	324	441	91	45	20	114	26
22	52	164	418	308	229	293	1030	83	36	18	103	19
23	197	200	390	263	205	309	691	76	35	38	67	19
24	919	217	705	246	178	366	514	66	32	75	65	23
25	567	186	721	222	173	355	508	59	28	42	47	606
26	320	163	517	196	172	310	410	55	25	139	36	577
27	221	147	420	188	172	287	352	62	23	346	30	285
28	179	147	396	194	159	273	309	77	22	175	27	159
29	155	154	380	195	---	252	274	50	21	79	25	108
30	133	137	401	186	---	248	266	50	20	52	23	86
31	118	---	581	261	---	241	---	51	---	40	21	---
TOTAL	4328	8268	15129	8731	5665	12862	8144	5668	1094	1443	1353	2283
MEAN	140	276	488	282	202	415	271	183	36.5	46.5	43.6	76.1
MAX	919	1720	1910	526	280	1790	1030	584	77	346	145	606
MIN	30	83	131	178	158	154	109	50	20	16	18	15
CFSM	1.16	2.30	4.07	2.35	1.69	3.46	2.26	1.52	.30	.39	.36	.63
IN.	1.34	2.56	4.69	2.71	1.76	3.99	2.52	1.76	.34	.45	.42	.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1991, BY WATER YEAR (WY)

MEAN	146	224	272	261	283	442	404	263	153	99.9	105	112
MAX	954	736	873	877	701	1151	1055	994	735	602	755	478
(WY)	1904	1978	1984	1979	1970	1936	1984	1989	1972	1945	1955	1927
MIN	13.8	24.4	43.4	16.5	70.8	144	88.4	79.5	36.5	21.9	13.5	11.1
(WY)	1942	1965	1981	1981	1980	1985	1985	1905	1991	1957	1981	1964

a Unpublished peak discharges above base for water years 1988-90 are available from the U.S. Geological Survey, West Trenton, New Jersey.

PASSAIC RIVER BASIN

01387500 RAMAPO RIVER NEAR MAHWAH, NJ--Continued

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1903 - 1991	
ANNUAL TOTAL	98845		74968		230	
ANNUAL MEAN	271		205		461	1903
HIGHEST ANNUAL MEAN					99.5	1985
LOWEST ANNUAL MEAN					8920	Oct 9 1903
HIGHEST DAILY MEAN	1930	Aug 7	1910	Dec 4	6.1b	Sep 30 1981
LOWEST DAILY MEAN	30	Jul 10	15	Sep 18	15500c	Apr 5 1984
INSTANTANEOUS PEAK FLOW			2570	Dec 4	13.35	Apr 5 1984
INSTANTANEOUS PEAK STAGE			7.55	Dec 4	4.6	Sep 30 1981
INSTANTANEOUS LOW FLOW			14	Sep 13	8.7c	Sep 1 1981
ANNUAL SEVEN-DAY MINIMUM	35	Sep 27	16	Sep 12	1.92	
ANNUAL RUNOFF (CFSM)	2.26		1.71		26.05	
ANNUAL RUNOFF (INCHES)	30.64		23.24		510	
10 PERCENT EXCEEDS	533		413		139	
50 PERCENT EXCEEDS	202		163		28	
90 PERCENT EXCEEDS	53		20			

b Possible regulation.

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

DELAWARE RIVER BASIN

01413500 EAST BRANCH DELAWARE RIVER AT MARGARETVILLE, NY

LOCATION.--Lat 42°08'41", long 74°39'14", Delaware County, Hydrologic Unit 02040102, on right bank at downstream side of bridge on Fair Street at intersection with Main Street at Margaretville, 0.2 mi upstream from unnamed tributary, and 1.6 mi downstream from Dry Brook.

DRAINAGE AREA.--163 mi².

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

REVISED RECORDS.--WDR NY-87-1: 1948(M), 1951(P), 1953(M), 1955-56(M), 1974-75(M), 1977(M), 1978(P), 1980-81(M), 1986(M).

GAGE.--Water-stage recorder. Datum of gage is 1,302.38 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 9, 1937, nonrecording gage and Sept. 9, 1937 to Aug. 17, 1944, water-stage recorder, at same site at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--54 years, 304 ft³/s, 25.33 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,600 ft³/s, Nov. 25, 1950, gage height, 13.84 ft, from rating curve extended above 8,700 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow at gage height 12.88 ft and does not include undetermined amount of flow bypassing gaging station; minimum discharge, 5.0 ft³/s, Aug. 5, 1964; minimum gage height, 0.89 ft, Sept. 30, Oct. 1, 1943, present datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	2015	*7,040	*10.15	No other peak greater than base discharge.			
Minimum discharge, 10 ft ³ /s, Sept. 15, gage height, 1.69 ft.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	228	192	846	e200	e250	429	480	92	27	16	16
2	35	208	183	743	e185	384	413	530	81	25	16	16
3	31	191	177	638	202	479	382	433	76	26	17	15
4	37	177	1040	531	236	1520	351	389	77	28	18	15
5	71	166	726	441	260	1040	327	354	80	30	19	16
6	46	264	583	416	319	797	321	372	77	31	17	15
7	38	216	506	363	668	868	335	435	68	27	16	14
8	34	203	445	292	630	e630	327	344	61	29	16	14
9	32	189	394	293	568	e490	447	316	57	25	18	14
10	38	2440	353	278	515	e440	450	390	53	22	65	13
11	41	3040	301	224	e420	e360	409	343	59	20	42	13
12	54	1580	278	241	e320	e340	375	304	95	19	31	13
13	112	1060	266	231	e310	e320	352	285	90	28	26	12
14	181	782	237	206	e290	316	336	270	63	38	22	12
15	116	672	215	208	e300	302	352	249	55	29	27	16
16	94	601	243	260	e240	e260	339	220	56	24	28	31
17	83	613	223	393	e230	276	297	232	51	21	28	24
18	101	536	406	290	e220	302	277	281	48	19	25	20
19	355	463	564	251	291	311	260	201	45	18	107	127
20	205	417	389	242	704	297	246	180	43	17	122	116
21	169	376	481	e200	441	262	446	165	38	16	71	66
22	151	339	670	e150	413	270	1160	152	36	16	54	47
23	201	400	681	e160	e340	333	932	140	36	30	43	39
24	1550	343	1300	e165	e300	424	838	130	33	30	35	35
25	851	300	960	e160	e290	457	928	123	32	23	30	47
26	619	268	768	e150	e280	414	690	114	30	22	26	64
27	482	247	600	e160	e265	472	598	117	29	23	24	51
28	398	236	552	e165	e240	584	512	128	27	21	23	43
29	341	224	545	e155	---	561	444	101	25	19	21	38
30	289	206	976	e180	---	526	449	93	25	18	20	35
31	255	---	1190	365	---	466	---	98	---	17	18	---
TOTAL	7053	16985	16444	9397	9677	14751	14022	7969	1638	738	1041	997
MEAN	228	566	530	303	346	476	467	257	54.6	23.8	33.6	33.2
MAX	1550	3040	1300	846	704	1520	1160	530	95	38	122	127
MIN	31	166	177	150	185	250	246	93	25	16	16	12
CFSM	1.40	3.47	3.25	1.86	2.12	2.92	2.87	1.58	.33	.15	.21	.20
IN.	1.61	3.88	3.75	2.14	2.21	3.37	3.20	1.82	.37	.17	.24	.23

CAL YR 1990 TOTAL 133270 MEAN 365 MAX 3040 MIN 29 CFSM 2.24 IN. 30.41
WTR YR 1991 TOTAL 100712 MEAN 276 MAX 3040 MIN 12 CFSM 1.69 IN. 22.98

e Estimated

DELAWARE RIVER BASIN

01414500 MILL BROOK NEAR DUNRAVEN, NY

LOCATION.--Lat 42°06'22", long 74°43'51", Delaware County, Hydrologic Unit 02040102, on left bank 0.4 mi upstream from bridge on New York City Road 9 and Pepacton Reservoir, and 2.7 mi southwest of Dunraven.

DRAINAGE AREA.--25.2 mi².

PERIOD OF RECORD.--February 1937 to current year. Published as "at Arena" 1937-67.

REVISED RECORDS.--WSP 1432: 1937. WDR NY-82-1: Drainage area. WDR NY-84-1: 1979-83.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,298.54 ft Board of Water Supply, City of New York datum. Prior to Oct. 17, 1939, nonrecording gage at site 0.2 mi downstream at different datum. Oct. 17 to Dec. 8, 1939, nonrecording gage at present site at different datum.

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

AVERAGE DISCHARGE.--54 years, 54.8 ft³/s, 29.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft³/s, Sept. 21, 1938, from rating curve extended above 960 ft³/s on basis of velocity-area study; maximum gage height, 9.92 ft, Nov. 25, 1950; minimum discharge observed, 1.2 ft³/s, Sept. 25, 26, 1939.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 740 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	1830	*1,840	*8.65	No other peak greater than base discharge.			
Minimum discharge, 2.5 ft ³ /s, Aug. 7, 8, 9, Sept. 6.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	46	41	179	e37	e44	70	60	18	4.3	3.0	3.0
2	6.9	43	40	136	e36	72	66	67	15	4.3	3.0	2.8
3	6.6	40	40	111	e35	126	60	58	14	4.3	3.0	2.8
4	8.4	39	311	90	e36	404	56	56	15	4.3	3.0	2.9
5	12	36	187	77	e39	258	54	53	14	4.5	3.0	3.0
6	9.1	64	121	69	46	167	54	58	14	4.5	2.8	2.7
7	8.1	51	96	60	104	209	54	63	12	4.5	2.7	2.8
8	7.7	49	78	e47	97	144	55	56	11	4.3	2.5	2.8
9	7.6	45	69	e44	86	119	67	54	9.6	4.3	3.3	2.8
10	8.2	602	62	e45	78	102	68	60	10	4.1	4.9	2.9
11	9.9	554	55	e43	e66	87	62	55	12	3.9	3.5	3.2
12	18	292	51	e41	e52	79	56	51	16	3.7	3.7	2.8
13	98	170	48	e40	e48	74	53	49	13	4.4	3.5	2.8
14	113	128	44	e38	e45	70	50	47	9.2	4.1	3.3	2.8
15	63	112	43	e37	e49	66	50	43	8.8	4.1	4.3	3.6
16	44	101	44	e52	e40	60	48	40	7.6	3.9	3.8	3.3
17	37	107	41	71	e37	59	45	53	7.6	3.5	3.5	3.0
18	67	92	59	55	e36	69	43	54	7.0	3.7	3.4	3.1
19	107	82	77	e45	e50	72	41	44	6.6	3.5	8.4	18
20	72	76	61	e40	93	59	40	42	6.6	3.3	11	12
21	59	69	77	e35	73	46	66	40	6.0	3.3	8.9	8.0
22	52	64	119	e28	70	50	136	38	5.7	3.3	6.3	6.3
23	75	68	139	e30	e56	60	121	36	5.5	4.1	5.3	5.7
24	267	63	322	e32	e52	76	105	33	5.2	3.8	4.7	5.4
25	144	55	220	e32	e48	81	92	30	5.2	3.7	4.3	6.5
26	107	51	147	e30	e46	75	79	26	5.0	3.9	3.9	7.0
27	86	48	110	e32	e43	84	71	29	4.7	3.9	3.7	7.3
28	72	46	97	e34	e41	118	63	27	4.5	3.5	3.5	6.9
29	63	44	98	e31	---	109	57	23	4.3	3.5	3.4	6.4
30	56	42	196	e36	---	91	56	20	4.5	3.3	3.1	5.9
31	51	---	281	73	---	76	---	20	---	3.1	3.1	---
TOTAL	1743.7	3279	3374	1713	1539	3206	1938	1385	277.6	120.9	129.8	148.5
MEAN	56.2	109	109	55.3	55.0	103	64.6	44.7	9.25	3.90	4.19	4.95
MAX	267	602	322	179	104	404	136	67	18	4.5	11	18
MIN	6.6	36	40	28	35	44	40	20	4.3	3.1	2.5	2.7
CFSM	2.23	4.34	4.32	2.19	2.18	4.10	2.56	1.77	.37	.15	.17	.20
IN.	2.57	4.84	4.98	2.53	2.27	4.73	2.86	2.04	.41	.18	.19	.22

CAL YR 1990 TOTAL 23749.7 MEAN 65.1 MAX 602 MIN 6.3 CFSM 2.58 IN. 35.06
WTR YR 1991 TOTAL 18854.5 MEAN 51.7 MAX 602 MIN 2.5 CFSM 2.05 IN. 27.83

e Estimated

DELAWARE RIVER BASIN

01415000 TREMPER KILL NEAR ANDES, NY

LOCATION.--Lat 42°07'12", long 74°49'08", Delaware County, Hydrologic Unit 02040102, on right bank 500 ft upstream from bridge on County Highway 1, about 1,700 ft upstream from Pepacton Reservoir, and 5 mi south of Andes.

DRAINAGE AREA.--33.2 mi².

PERIOD OF RECORD.--February 1937 to current year. Published as "near Shavertown" 1937-67.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Nov. 1937. Datum of gage is 1,285.87 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 5, 1937, nonrecording gage at site 500 ft downstream at different datum. Aug. 5 to Sept. 28, 1937, nonrecording gage at site 0.25 mi downstream at different datum.

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

AVERAGE DISCHARGE.--54 years, 58.7 ft³/s, 24.01 in/yr. The figure published in the 1990 report was in error; the correct figure is 53 years, 58.9 ft³/s, 24.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft³/s, Sept. 21, 1938, gage height, 7.12 ft, from rating curve extended above 1,500 ft³/s; maximum gage height, 7.92 ft, Jan. 26, 1976 (ice jam); minimum discharge, 0.5 ft³/s, Sept. 17, 21, 22, 1964.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	1815	*1,000	*4.80	No other peak greater than base discharge.			

Minimum not determined, occurred during period of backwater from beaver dam, Sept. 2-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	42	37	167	e38	50	79	75	17	3.8	2.1	2.1
2	6.7	38	36	143	e33	99	79	75	12	3.5	2.7	e2.1
3	6.0	34	38	118	e33	103	74	65	11	4.7	2.6	e2.0
4	8.0	31	236	e88	e39	246	69	58	11	4.8	3.4	e2.0
5	12	29	163	e74	53	176	65	52	11	6.0	2.7	e2.1
6	7.7	56	134	74	80	142	66	71	11	6.0	2.3	e2.0
7	6.6	42	110	e60	209	e130	67	88	9.8	4.8	2.1	e1.9
8	6.8	41	95	e52	176	e100	65	69	9.4	4.3	2.0	e1.9
9	6.0	38	81	e47	145	e88	91	67	8.3	3.4	4.0	e1.9
10	11	401	72	e42	120	e76	81	82	7.7	2.9	14	e1.8
11	11	437	62	e40	e90	e66	73	69	16	2.6	7.5	e1.7
12	16	258	57	e37	e78	e58	68	63	29	2.4	5.5	e1.7
13	31	180	55	e36	e70	e52	64	57	22	7.1	4.4	e1.6
14	27	138	e42	e33	e72	56	61	52	12	7.2	3.6	e1.6
15	20	119	e40	34	e68	53	70	46	9.8	4.9	3.0	e2.1
16	16	105	e39	54	e54	e44	64	40	10	3.6	2.9	e4.0
17	15	110	43	80	e45	e45	55	49	9.0	2.7	5.6	e3.3
18	34	94	106	55	e40	58	52	55	8.3	2.2	4.3	e2.7
19	90	79	144	48	73	64	48	37	8.1	2.3	14	e17
20	50	73	106	e40	166	59	47	32	7.4	2.1	10	e16
21	42	67	130	e34	96	51	85	28	6.6	2.0	12	e9.4
22	37	62	135	e28	93	56	180	25	6.0	2.1	15	e6.2
23	76	76	165	e27	e74	75	152	23	5.7	12	8.5	e5.2
24	214	64	285	e28	e62	95	141	20	5.1	8.9	6.4	e4.8
25	138	56	214	e26	e54	97	138	19	4.9	5.5	5.2	e6.0
26	109	50	161	e26	e47	93	109	17	4.6	5.1	4.6	e8.4
27	87	47	e120	e27	e45	108	96	21	4.2	5.5	3.7	e6.4
28	72	44	107	e28	e45	111	82	20	3.9	4.1	3.0	e5.8
29	64	42	102	e27	---	100	71	15	3.5	3.3	2.6	e5.4
30	54	40	199	e32	---	96	74	14	3.7	2.7	2.8	e5.2
31	47	---	228	81	---	84	---	17	---	2.4	2.3	---
TOTAL	1330.8	2893	3542	1686	2198	2731	2466	1421	288.0	134.9	164.8	134.3
MEAN	42.9	96.4	114	54.4	78.5	88.1	82.2	45.8	9.60	4.35	5.32	4.48
MAX	214	437	285	167	209	246	180	88	29	12	15	17
MIN	6.0	29	36	26	33	44	47	14	3.5	2.0	2.0	1.6
CFSM	1.29	2.90	3.44	1.64	2.36	2.65	2.48	1.38	.29	.13	.16	.13
IN.	1.49	3.24	3.97	1.89	2.46	3.06	2.76	1.59	.32	.15	.18	.15

CAL YR 1990 TOTAL 25544.4 MEAN 70.0 MAX 437 MIN 5.0 CFSM 2.11 IN. 28.62
WTR YR 1991 TOTAL 18989.8 MEAN 52.0 MAX 437 MIN 1.6 CFSM 1.57 IN. 21.28

e Estimated

DELAWARE RIVER BASIN

01417000 EAST BRANCH DELAWARE RIVER AT DOWNSVILLE, NY

LOCATION.--Lat 42°04'30", long 74°58'36", Delaware County, Hydrologic Unit 02040102, on left bank 0.5 mi downstream from Downs ville Dam, at downstream end of outlet channel of Pepacton Reservoir, and 1.0 mi east of Downs ville.

DRAINAGE AREA.--372 mi².

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

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,094.92 ft, Board of Water Supply, City of New York datum. Prior to Sept. 26, 1941, nonrecording gage, and Sept. 26, 1941, to June 27, 1955, water-stage recorder, at site 0.8 mi downstream at datum 7.03 ft lower.

REMARKS.--No estimated daily discharges. Records good. Subsequent to September 1954, entire flow from drainage area controlled by Pepacton Reservoir (see Reservoirs in Delaware River Basin). Part of flow diverted for New York City municipal supply (see Reservoirs in Delaware River Basin). 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. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,900 ft³/s, Nov. 26, 1950, gage height, 14.52 ft, site and datum then in use, from rating curve extended above 12,000 ft³/s; minimum discharge, 0.3 ft³/s, Oct. 11, 1954; minimum daily, 0.6 ft³/s, Oct. 10, 1954; minimum gage height, 1.39 ft, Jan. 17, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 9, 1903, reached a stage of about 16 ft (at former datum).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 730 ft³/s, Sept. 6, 7, 8, 9, 10, gage height, 3.91 ft; minimum, 18 ft³/s, Sept. 24, 25, gage height, 2.39 ft; minimum daily, 42 ft³/s, Sept. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	64	59	57	58	58	64	160	69	102	74	328
2	68	59	59	58	57	58	67	257	69	78	97	328
3	67	59	58	57	58	58	67	252	69	65	110	411
4	67	59	59	56	57	58	67	215	69	78	109	492
5	67	59	59	56	56	58	67	176	69	90	96	492
6	67	60	59	56	55	57	67	182	67	87	74	604
7	67	59	59	56	56	57	67	282	68	100	63	721
8	67	60	59	56	57	57	67	251	69	100	64	717
9	67	59	59	57	56	56	67	260	81	76	63	717
10	68	63	59	56	56	56	67	310	93	65	63	717
11	68	62	59	56	56	56	67	275	91	74	63	715
12	70	62	59	56	56	56	67	187	79	84	63	714
13	70	62	59	56	56	56	67	134	65	85	63	712
14	70	63	59	56	56	56	67	94	66	85	74	511
15	70	63	59	56	56	56	68	74	79	84	85	320
16	71	63	59	56	56	56	68	67	93	84	84	294
17	71	62	59	56	54	56	68	67	93	98	84	247
18	71	63	59	56	54	56	68	69	93	112	84	223
19	70	63	59	56	57	56	68	68	93	111	84	315
20	71	63	59	56	57	56	68	67	93	111	74	495
21	71	62	59	56	58	56	69	67	91	111	73	356
22	71	61	59	56	57	56	69	67	91	99	136	170
23	71	61	59	55	58	56	69	67	91	80	239	124
24	71	61	60	56	57	57	69	82	79	64	269	42
25	71	60	60	56	58	57	69	95	67	63	268	68
26	71	60	60	53	58	57	69	96	80	63	267	397
27	71	59	59	52	58	57	69	96	99	63	268	688
28	72	59	58	54	58	57	70	94	116	63	266	556
29	71	59	58	56	---	57	70	94	119	63	298	450
30	71	59	59	57	---	57	79	94	119	64	330	396
31	71	---	59	58	---	57	---	81	---	63	328	---
TOTAL	2158	1828	1829	1734	1586	1757	2045	4380	2520	2565	4313	13320
MEAN	69.6	60.9	59.0	55.9	56.6	56.7	68.2	141	84.0	82.7	139	444
MAX	72	64	60	58	58	58	79	310	119	112	330	721
MIN	67	59	58	52	54	56	64	67	65	63	63	42

CAL YR 1990 TOTAL 76050 MEAN 208 MAX 2820 MIN 55
WTR YR 1991 TOTAL 40035 MEAN 110 MAX 721 MIN 42

DELAWARE RIVER

01417500 EAST BRANCH DELAWARE RIVER AT HARVARD, NY

LOCATION.--Lat 42°01'29", long 75°07'13", Delaware County, Hydrologic Unit 02040102, on right bank 800 ft downstream from Baxter Brook, and 1,100 ft downstream from highway bridge at Harvard. Water-quality sampling site at discharge station.

DRAINAGE AREA.--458 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to June 1967, November 1977 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area. WDR NY-84-1: 1978-81(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,007.41 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 12, 1958, water-stage recorder 1,100 ft upstream at datum 0.65 ft higher, and from Aug. 12, 1958, to June 30, 1967, water-stage recorder at site 200 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton 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. Satellite gage-height and temperature telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,400 ft³/s, Sept. 22, 1938, gage height, 16.93 ft, site and datum then in use, from rating curve extended above 10,000 ft³/s, on basis of slope-area measurement at gage height 15.58 ft; minimum discharge, 7.2 ft³/s, Oct. 13, 1954, gage height, 1.63 ft, site and datum then in use; minimum daily discharge, 7.6 ft³/s, Oct. 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,580 ft³/s, Nov. 10, gage height, 6.96 ft; minimum, 58 ft³/s, Sept. 25, gage height, 1.89 ft; minimum daily, 70 ft³/s, Sept. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	197	142	708	e160	194	321	286	147	134	79	334
2	88	176	138	563	e150	267	309	387	124	114	98	334
3	86	163	140	460	155	383	281	408	117	96	123	357
4	89	153	883	372	163	746	259	367	120	90	127	499
5	104	146	844	309	172	700	244	321	115	113	126	501
6	95	199	603	282	199	563	238	330	114	114	105	537
7	91	184	457	245	487	550	248	506	110	110	85	715
8	88	177	367	e185	607	440	247	486	106	129	80	717
9	88	171	308	e180	530	372	299	453	105	110	89	716
10	98	1230	265	e190	442	327	303	526	119	89	110	716
11	105	1970	228	e140	361	e260	286	494	124	84	94	720
12	155	928	206	e150	e260	e240	264	385	154	100	87	716
13	212	609	196	e160	e230	e225	247	300	142	112	83	713
14	279	452	181	e165	e210	221	235	235	115	110	81	647
15	221	367	168	166	e190	209	235	198	108	106	98	336
16	190	320	173	183	e185	192	234	170	123	105	102	334
17	171	300	167	262	e180	189	211	163	125	103	101	261
18	340	273	258	225	e190	203	201	174	124	126	101	244
19	1070	237	475	207	207	217	195	154	123	130	103	346
20	579	218	409	202	337	219	189	143	121	128	102	505
21	404	203	412	e180	326	205	225	137	118	127	95	522
22	318	190	494	e140	312	204	438	133	117	130	101	186
23	378	205	557	e130	e270	237	444	129	116	142	209	193
24	1020	194	894	e130	e240	262	423	126	115	102	262	104
25	795	181	796	e130	e230	329	403	144	98	86	264	70
26	570	170	609	e130	e220	319	340	140	93	89	266	200
27	428	162	462	e140	e200	355	303	143	108	92	266	683
28	349	158	397	e140	e190	433	268	149	125	85	265	658
29	298	154	346	e150	---	425	240	137	133	83	272	459
30	251	147	490	151	---	396	240	142	134	81	332	484
31	221	---	860	204	---	349	---	173	---	81	334	---
TOTAL	9277	10234	12925	6979	7403	10231	8370	8039	3593	3301	4640	13807
MEAN	299	341	417	225	264	330	279	259	120	106	150	460
MAX	1070	1970	894	708	607	746	444	526	154	142	334	720
MIN	86	146	138	130	150	189	189	126	93	81	79	70

CAL YR 1990 TOTAL 147479 MEAN 404 MAX 3390 MIN 85
WTR YR 1991 TOTAL 98799 MEAN 271 MAX 1970 MIN 70

e Estimated

DELAWARE RIVER BASIN

01417500 EAST BRANCH DELAWARE RIVER AT HARVARD, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.0	.0	4.5	1.0	2.5	4.0	3.5	4.0	16.0	11.0	13.5
2	.5	.0	.0	7.5	3.5	5.5	5.5	3.0	4.0	13.5	9.5	11.5
3	1.0	.0	.5	7.5	5.5	6.5	8.5	3.5	5.5	9.0	7.5	8.5
4	1.5	.0	.5	6.5	4.5	5.5	10.0	4.0	7.0	13.0	7.0	9.5
5	1.5	.5	1.0	4.5	3.0	4.0	8.5	6.0	7.5	14.0	9.0	11.5
6	3.0	1.5	2.0	5.0	2.5	4.0	12.5	7.0	10.0	12.5	10.5	11.5
7	3.0	2.0	2.5	5.0	3.0	4.5	15.5	10.0	12.5	11.5	9.5	10.5
8	3.5	2.0	2.5	3.5	1.0	2.0	14.5	10.5	12.5	12.5	8.5	10.5
9	3.5	2.0	2.5	3.5	.5	2.0	14.0	11.5	12.5	10.5	9.0	9.5
10	3.0	2.0	2.5	4.0	1.0	2.0	14.0	10.0	12.0	13.5	8.5	11.0
11	2.0	.0	1.0	2.0	.0	1.0	11.0	7.5	9.0	15.5	10.0	12.5
12	.5	.0	.0	2.5	.0	1.0	10.5	5.0	7.5	16.0	12.0	14.0
13	.5	.0	.0	4.5	.5	2.5	8.0	6.0	6.5	18.5	13.0	15.5
14	1.0	.0	.5	3.5	2.5	3.0	10.5	5.0	7.5	17.5	14.0	15.5
15	2.0	.0	1.0	3.5	2.0	2.5	9.0	7.0	7.5	20.0	14.0	16.5
16	.5	.0	.0	6.0	1.0	3.5	10.5	5.5	8.0	20.5	14.0	17.0
17	.0	.0	.0	7.0	2.0	4.5	11.0	8.0	9.5	19.5	15.5	17.5
18	.0	.0	.0	5.5	3.5	4.5	9.5	8.0	9.0	19.0	15.0	17.0
19	.5	.0	.5	6.5	3.5	4.5	13.0	7.0	9.5	18.5	13.0	15.5
20	2.5	.5	1.5	8.0	4.0	5.5	10.5	8.0	9.0	19.5	13.0	16.0
21	3.5	1.5	2.0	5.5	3.5	4.5	8.0	6.5	7.0	20.5	13.5	17.0
22	3.5	1.5	2.5	4.5	3.0	4.0	6.5	5.5	6.5	21.5	15.5	18.5
23	2.0	.5	1.0	4.0	2.0	3.0	11.5	5.5	8.0	22.5	17.0	20.0
24	.5	.0	.5	4.0	2.5	3.5	10.0	7.5	9.0	22.0	18.0	20.0
25	2.5	.5	1.5	4.5	3.5	4.0	13.0	8.0	10.0	22.5	18.0	20.0
26	2.5	1.0	2.0	8.0	3.5	5.5	13.0	8.0	10.5	20.5	17.5	19.5
27	2.0	.5	1.5	6.5	5.5	6.0	15.5	10.0	12.5	21.5	17.5	19.5
28	2.0	.0	1.0	10.5	5.5	7.5	13.0	11.0	12.0	22.0	17.0	19.5
29	---	---	---	7.5	5.5	6.5	11.5	10.0	11.0	22.5	17.0	20.0
30	---	---	---	6.0	3.5	4.5	12.5	10.0	11.0	20.5	18.0	19.0
31	---	---	---	6.5	2.0	4.0	---	---	---	19.5	16.0	17.5
MONTH	3.5	0.0	1.0	10.5	0.0	4.0	15.5	3.0	9.0	22.5	7.0	15.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	21.5	16.0	18.5	20.0	14.5	17.5	24.5	19.0	22.0	12.0	9.0	10.5
2	21.0	17.0	19.0	18.0	15.5	17.0	24.5	20.5	23.0	11.5	8.0	10.0
3	20.5	16.0	18.5	17.0	15.5	16.0	23.0	17.5	19.5	12.0	8.0	10.0
4	19.5	16.5	18.0	17.5	15.0	16.0	18.0	15.0	16.5	10.5	8.0	8.5
5	18.0	15.0	16.5	17.0	15.0	15.5	17.5	15.0	16.5	11.0	7.0	9.0
6	20.0	14.5	17.0	19.0	14.0	16.0	18.5	14.0	16.5	10.5	7.0	9.0
7	20.5	15.0	18.0	20.5	16.5	18.0	21.5	15.5	18.0	10.0	6.5	8.5
8	22.0	16.0	19.0	21.0	17.0	19.0	22.0	17.5	19.5	10.0	6.5	8.5
9	23.5	17.5	20.5	22.0	16.5	19.0	21.0	17.5	18.5	9.5	7.0	8.5
10	23.0	17.5	20.5	22.5	16.5	19.5	19.0	16.5	17.5	9.5	7.0	8.5
11	21.0	18.0	19.5	21.5	17.5	20.0	18.0	16.5	17.0	10.5	7.5	9.0
12	19.5	16.5	18.0	22.5	17.0	19.5	20.0	16.0	17.5	10.0	6.5	8.0
13	19.5	14.0	16.5	20.5	17.0	18.0	22.5	17.0	19.5	9.5	6.0	8.0
14	21.5	14.5	18.0	20.5	15.5	18.0	23.0	18.5	20.5	10.0	7.0	8.5
15	22.5	16.5	19.5	21.5	15.5	18.5	22.0	18.5	19.5	9.5	8.5	9.0
16	22.5	19.0	20.5	23.0	16.5	19.5	21.5	16.5	19.0	12.5	8.5	10.0
17	21.0	18.5	19.5	23.5	17.5	20.5	22.0	18.0	20.0	12.5	11.0	11.5
18	20.0	17.0	18.5	22.0	18.5	20.5	20.5	18.0	19.0	12.5	10.0	11.5
19	20.0	17.0	18.5	21.0	17.5	19.5	18.5	16.5	17.5	14.0	10.5	12.0
20	22.5	16.5	19.5	22.5	16.5	19.5	16.5	15.0	15.5	10.0	8.0	9.0
21	23.5	17.0	20.5	21.0	17.5	19.5	18.0	14.5	16.0	9.5	6.5	8.0
22	21.0	18.0	19.0	20.0	17.0	19.0	21.0	15.5	18.0	12.0	7.5	9.5
23	20.5	15.5	18.0	19.5	17.0	18.5	19.5	13.5	16.5	10.5	8.5	9.0
24	21.0	15.0	18.5	23.0	17.0	19.5	13.5	11.0	12.5	13.0	8.5	10.5
25	22.0	16.0	19.0	21.5	18.5	20.0	13.0	10.5	11.5	12.5	12.0	12.0
26	23.0	17.5	20.5	21.0	18.0	19.5	13.5	10.0	11.5	14.5	11.0	12.5
27	23.5	18.5	21.0	21.5	16.0	18.5	14.0	11.0	12.5	10.0	6.5	8.0
28	23.5	18.5	21.0	22.0	17.0	19.5	14.0	11.0	12.5	8.0	5.5	7.0
29	24.0	18.5	21.5	21.5	18.0	20.0	13.5	11.0	12.0	7.5	6.0	7.0
30	22.0	18.0	20.0	22.5	17.5	20.0	13.0	10.0	11.5	8.5	5.5	7.0
31	---	---	---	24.0	19.5	21.5	12.5	10.0	11.0	---	---	---
MONTH	24.0	14.0	19.0	24.0	14.0	19.0	24.5	10.0	16.5	14.5	5.5	9.5

DELAWARE RIVER BASIN

01420500 BEAVER KILL AT COOKS FALLS, NY

LOCATION.--Lat 41°56'47", long 74°58'48", Delaware County, Hydrologic Unit 02040102, on left bank 125 ft downstream from highway bridge in Cooks Falls, and 5.5 mi downstream from Willowemoc Creek.

DRAINAGE AREA.--241 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1913 to current year.

REVISED RECORDS.--WSP 521: Drainage area. WSP 781: 1933(M). WSP 891: 1936-39(M). WSP 1202: 1950. WSP 1232: 1950(M).

GAGE.--Water-stage recorder. Datum of gage is 1,151.70 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1933, nonrecording gage at site 125 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Telephone gage-height telemeter and satellite gage-height, temperature, and rain-gage telemeter at station.

AVERAGE DISCHARGE.--77 years (water years 1915-91), 554 ft³/s, 31.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,600 ft³/s, Mar. 31, 1951, gage height, 16.02 ft, from rating curve extended above 13,000 ft³/s on basis of slope-area measurement at gage height 15.52 ft; maximum gage height, 17.8 ft, Aug. 24, 1930, from floodmark at site then in use; minimum discharge, 16 ft³/s, Nov. 22, 23, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	2115	*19,600	*13.15	Mar. 4	0600	5,340	7.90
Dec. 4	1430	5,040	7.73				

Minimum discharge, 28 ft³/s, Sept. 14, 15, gage height, 0.55 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	486	312	e1750	382	381	714	511	219	59	41	35
2	116	443	303	e1310	340	755	674	554	169	59	40	33
3	105	412	298	1060	338	1300	609	487	149	64	40	33
4	110	379	2720	859	346	3940	559	446	154	67	45	34
5	182	361	2170	689	365	2250	541	412	150	68	44	39
6	152	824	1290	646	460	1470	537	494	139	72	41	36
7	132	667	979	564	1330	1950	543	747	128	66	38	34
8	122	558	802	437	1370	1360	524	554	118	61	37	32
9	115	495	683	468	1030	1040	555	497	111	56	56	31
10	116	5940	603	458	852	866	555	501	107	51	159	31
11	158	6470	522	362	694	698	509	470	104	49	93	33
12	341	2470	480	399	e460	619	463	438	131	48	67	33
13	929	1600	456	398	e490	558	442	405	156	53	57	32
14	1650	1170	e410	298	565	529	437	375	117	60	49	29
15	823	957	e365	e350	578	502	478	360	102	54	49	35
16	569	854	e415	472	e400	459	513	329	97	48	50	62
17	465	805	384	775	e385	445	442	304	95	44	44	52
18	495	721	575	569	406	488	407	333	91	43	42	44
19	1450	614	1080	471	415	560	383	288	93	43	81	197
20	893	554	759	434	697	570	362	266	92	43	147	168
21	695	512	851	410	684	498	444	242	82	41	104	104
22	604	476	1950	e240	599	466	1150	232	77	42	86	78
23	971	520	1730	e230	e500	554	946	224	78	142	67	67
24	3410	500	3000	e300	468	815	768	203	74	87	58	64
25	1840	450	2060	e280	e450	1040	675	192	69	63	51	94
26	1290	412	1410	e235	436	885	585	187	68	58	48	149
27	988	380	1040	310	e400	1010	540	182	66	62	45	108
28	818	368	917	315	e360	1240	515	176	64	55	43	85
29	698	353	824	e275	---	1110	485	162	61	48	41	72
30	597	330	1490	e290	---	932	488	161	58	45	40	66
31	538	---	3140	521	---	786	---	247	---	43	38	---
TOTAL	21498	31081	34018	16175	15800	30076	16843	10979	3219	1794	1841	1910
MEAN	693	1036	1097	522	564	970	561	354	107	57.9	59.4	63.7
MAX	3410	6470	3140	1750	1370	3940	1150	747	219	142	159	197
MIN	105	330	298	230	338	381	362	161	58	41	37	29
CFSM	2.88	4.30	4.55	2.17	2.34	4.03	2.33	1.47	.45	.24	.25	.26
IN.	3.32	4.80	5.25	2.50	2.44	4.64	2.60	1.69	.50	.28	.28	.29

CAL YR 1990 TOTAL 256155 MEAN 702 MAX 6470 MIN 90 CFSM 2.91 IN. 39.54
WTR YR 1991 TOTAL 185234 MEAN 507 MAX 6470 MIN 29 CFSM 2.11 IN. 28.59

e Estimated

DELAWARE RIVER BASIN

01420500 BEAVER KILL AT COOKS FALLS, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1987 to current year.

INSTRUMENTATION.--Water-temperature satellite and telephone telemeter since June 1986, provides 15-minute-interval readings.

REMARKS.--Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Minimum, 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 29.5°C, July 20; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.0	12.0	13.5	8.0	5.5	7.0	2.5	1.0	1.5	1.0	.0	.5
2	13.0	10.5	11.5	8.5	6.5	7.5	3.5	2.0	2.5	2.0	.5	1.5
3	13.5	9.5	11.0	10.0	7.0	8.5	2.5	1.0	2.0	2.0	1.0	1.5
4	12.5	11.0	11.5	9.5	---	---	4.0	1.5	3.5	1.5	.0	.5
5	14.0	10.5	12.0	9.5	8.0	9.0	3.0	1.5	2.0	.5	.0	.0
6	15.0	10.5	13.0	9.5	6.5	8.0	2.5	1.0	1.5	2.0	.5	1.5
7	16.0	12.0	13.5	6.5	5.5	6.0	3.5	2.5	3.0	2.0	.0	1.0
8	15.0	13.0	14.0	6.0	4.0	5.0	3.0	2.0	2.5	.0	.0	.0
9	15.0	13.5	14.5	4.5	2.5	4.0	3.5	2.5	3.0	.0	.0	.0
10	17.5	14.0	16.0	6.0	4.5	5.0	3.5	2.0	2.5	.5	.0	.0
11	16.5	16.0	16.5	5.5	4.5	5.0	1.5	.5	1.0	---	.0	---
12	17.5	16.0	16.5	---	3.0	---	2.5	1.0	1.5	---	---	---
13	17.0	15.5	16.5	3.0	2.0	2.5	3.0	2.0	2.5	---	.0	---
14	16.0	14.5	15.0	3.0	1.5	2.5	2.5	.0	1.0	.0	.0	.0
15	14.5	12.5	13.5	5.0	2.5	3.5	.5	.0	.0	.5	.0	.0
16	12.5	10.0	11.0	6.0	3.5	5.0	2.0	.5	1.0	.5	.0	.5
17	12.0	8.5	10.5	6.0	4.5	6.0	2.5	1.5	2.0	1.5	1.0	1.0
18	13.5	11.0	12.0	4.5	2.0	3.0	2.5	2.0	---	1.0	.5	1.0
19	12.5	8.5	10.0	2.5	1.0	2.0	3.5	2.5	3.0	2.0	.5	1.0
20	9.5	7.0	8.5	3.5	1.5	2.5	2.5	1.0	1.5	2.0	1.0	1.5
21	9.5	7.0	8.5	4.5	3.0	3.5	3.5	1.5	2.5	2.0	.0	1.0
22	10.5	8.5	9.5	4.5	3.0	3.5	5.5	3.5	4.5	.0	.0	.0
23	11.5	10.5	11.0	5.5	4.5	5.0	7.0	5.5	6.5	.0	.0	.0
24	11.5	9.5	11.0	5.0	3.5	4.5	6.5	2.5	5.0	.0	.0	.0
25	10.0	8.5	9.0	5.0	3.0	4.0	2.0	.5	1.0	.0	.0	.0
26	9.5	6.5	8.0	4.5	3.0	4.0	1.0	.0	.5	.5	.0	.0
27	7.0	5.0	6.0	5.0	3.0	4.0	.5	.0	.0	.5	.0	.0
28	7.0	5.5	6.5	7.5	4.5	5.5	1.5	.0	.5	.0	.0	.0
29	6.5	5.0	5.5	8.0	4.0	6.5	3.0	1.5	2.0	.0	.0	.0
30	6.5	4.0	5.5	4.0	2.0	3.0	3.5	3.0	3.0	.0	.0	.0
31	8.0	6.0	7.0	---	---	---	3.0	.5	2.0	.5	.0	.0
MONTH	17.5	4.0	11.0	---	---	---	7.0	0.0	---	---	---	---

DELAWARE RIVER BASIN

01420500 BEAVER KILL AT COOKS FALLS, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	4.0	.0	2.0	4.0	2.5	3.0	15.5	11.0	13.0
2	.0	.0	.0	5.5	3.0	4.0	5.0	2.5	4.0	14.0	10.0	11.5
3	.5	.0	.0	6.0	3.5	4.5	7.5	3.0	5.0	10.0	8.0	9.0
4	1.0	.0	.0	5.5	2.5	3.5	8.5	3.0	6.0	13.5	7.5	10.5
5	1.0	.0	.5	3.5	2.0	2.5	7.5	5.5	6.5	15.0	9.0	12.0
6	2.0	.5	1.0	4.5	1.5	3.0	11.5	6.5	9.0	13.5	11.0	12.0
7	2.0	1.5	1.5	4.5	2.0	4.0	14.0	9.5	11.5	12.0	10.0	11.0
8	3.0	2.0	2.5	2.5	.0	1.5	13.5	10.0	12.0	13.5	9.0	11.0
9	3.0	1.0	2.0	2.5	.0	1.0	13.0	11.5	12.0	11.5	9.5	10.0
10	2.5	1.5	2.0	3.0	.0	1.0	13.5	10.5	12.0	14.5	9.5	11.5
11	1.5	.0	.5	1.5	.0	.5	10.5	7.0	8.5	16.0	10.0	13.0
12	.0	.0	.0	2.0	.0	.5	9.5	5.0	7.0	17.0	12.0	14.5
13	.5	.0	.0	3.5	.0	1.5	7.5	5.5	6.0	19.0	13.5	16.0
14	1.0	.0	.5	3.0	2.0	2.5	10.0	4.5	7.0	18.0	14.0	16.0
15	1.5	.0	.5	2.5	1.5	2.0	8.5	6.0	7.0	19.5	14.5	17.0
16	.0	.0	.0	5.0	.5	2.5	10.5	5.5	8.0	20.0	14.0	17.0
17	.0	.0	.0	6.0	1.5	3.5	10.0	8.0	9.0	19.5	15.5	17.5
18	.0	.0	.0	4.5	2.5	3.0	9.0	7.5	8.0	19.0	15.0	17.0
19	.5	.0	.5	5.5	2.5	3.5	11.5	6.0	8.5	17.5	12.5	15.0
20	2.0	.5	1.5	6.5	3.0	4.5	10.0	7.5	8.0	18.5	12.5	15.5
21	2.5	.5	1.5	4.0	2.5	3.5	7.5	6.5	6.5	19.0	13.0	16.0
22	3.0	1.0	2.0	3.5	2.5	3.0	6.5	5.5	6.0	20.5	15.0	17.5
23	1.5	.0	.5	3.5	1.5	2.5	10.5	5.5	8.0	22.0	16.5	19.0
24	1.0	.0	.0	3.5	1.5	2.5	9.5	7.0	8.5	21.0	16.5	19.0
25	2.5	.0	1.0	3.5	2.5	3.0	12.5	7.5	10.0	23.0	17.5	20.0
26	2.5	.5	1.5	6.5	3.0	4.5	12.5	7.5	10.5	21.5	18.5	20.0
27	2.0	.0	1.0	6.0	4.5	5.0	15.0	10.0	12.5	23.0	18.5	20.5
28	1.5	.0	.5	9.0	4.5	6.5	13.0	10.5	11.5	24.0	19.0	21.0
29	---	---	---	6.5	4.0	5.5	11.0	9.5	10.5	23.5	18.5	21.0
30	---	---	---	5.0	3.0	4.0	12.0	10.0	10.5	22.0	19.5	20.5
31	---	---	---	5.5	1.0	3.5	---	---	---	22.0	18.5	20.0
MONTH	3.0	0.0	1.0	9.0	0.0	3.0	15.0	2.5	8.5	24.0	7.5	15.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	22.5	18.5	20.5	25.5	18.5	22.0	27.5	19.5	23.0	23.0	16.5	19.5
2	22.0	18.0	20.0	21.5	19.0	20.5	27.0	21.5	24.0	22.5	14.5	18.0
3	21.5	16.5	19.0	19.5	18.5	19.0	23.5	21.0	22.0	23.0	14.5	18.5
4	19.5	17.0	18.0	21.5	18.0	19.5	25.0	20.0	22.0	19.0	17.0	18.0
5	18.5	15.0	16.5	20.0	17.5	18.5	23.0	19.5	21.0	23.5	17.0	19.5
6	20.0	14.5	17.0	23.5	17.5	20.0	22.5	17.0	20.0	23.5	16.0	19.0
7	20.5	15.0	18.0	25.0	20.0	22.0	26.0	18.0	21.5	23.0	16.5	19.5
8	22.5	16.0	19.0	26.0	20.5	23.0	26.0	18.5	22.0	23.0	16.5	19.5
9	23.5	16.5	20.0	26.5	19.5	22.5	22.5	19.0	20.5	23.0	17.5	20.0
10	23.5	17.0	20.5	25.5	18.0	21.5	21.5	18.0	19.5	22.5	18.5	20.5
11	23.0	19.0	20.5	24.5	18.5	21.5	20.0	18.5	19.0	22.5	18.0	20.0
12	22.5	18.5	20.0	26.0	17.0	21.5	22.5	17.0	19.5	21.5	15.0	18.0
13	20.0	15.0	17.5	22.0	19.5	20.5	25.0	18.5	21.5	21.5	14.5	17.5
14	22.0	15.0	18.5	24.5	19.0	21.5	25.0	19.5	22.0	23.0	16.5	19.0
15	23.5	16.5	20.0	26.0	18.5	22.0	22.5	20.5	21.5	19.5	18.0	18.5
16	25.0	19.5	22.0	27.5	18.5	22.5	27.0	19.0	22.5	23.5	17.5	20.0
17	25.0	20.5	22.5	28.0	19.0	23.5	27.0	21.0	23.5	24.5	20.0	22.0
18	23.5	21.0	22.0	27.5	21.0	24.0	25.0	21.5	22.5	23.5	18.5	20.5
19	24.0	19.5	21.5	28.5	22.0	24.5	22.5	20.0	21.0	21.0	15.5	18.5
20	27.0	20.5	23.0	29.5	22.5	25.5	20.0	18.5	19.0	16.0	13.5	14.5
21	26.5	19.5	23.0	28.5	23.5	25.5	21.5	18.5	19.5	15.5	12.0	13.5
22	23.0	19.5	21.0	27.5	23.0	25.0	24.0	18.5	21.0	16.0	11.0	13.0
23	24.0	18.0	20.5	25.0	23.0	24.0	23.5	19.5	21.5	13.5	12.0	12.5
24	24.5	17.0	20.5	26.5	21.0	23.5	25.0	19.5	22.0	16.0	12.0	14.0
25	24.5	17.5	21.0	24.0	20.5	22.0	24.0	20.0	21.5	15.0	14.0	14.5
26	26.0	18.5	22.0	22.0	20.0	21.0	25.0	18.0	21.0	16.0	13.0	14.5
27	26.5	19.0	22.5	25.0	18.0	21.0	27.0	20.0	22.5	14.5	12.0	13.0
28	28.0	20.5	24.0	25.5	18.5	21.5	27.0	20.5	23.5	13.0	10.0	11.5
29	29.0	22.5	25.5	24.0	19.5	21.0	27.5	21.0	24.0	11.5	8.5	10.0
30	25.5	21.0	23.5	25.0	18.5	21.5	28.0	21.5	24.5	12.5	7.5	10.0
31	---	---	---	27.0	21.0	23.5	26.0	20.5	23.5	---	---	---
MONTH	29.0	14.5	20.5	29.5	17.0	22.0	28.0	17.0	21.5	24.5	7.5	17.0

DELAWARE RIVER BASIN

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY

LOCATION.--Lat 41°58'23", long 75°10'28", Delaware County, Hydrologic Unit 02040102, on left bank 3,000 ft upstream from bridge on County Highway 28 at Fishs Eddy, 0.6 mi upstream from Fish Creek, 4.2 mi downstream from Beaver Kill, and 11 mi upstream from the confluence of East and West Branches near Hancock. Water-quality sampling site at discharge station.

DRAINAGE AREA.--784 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1912 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.96 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 27, 1928, nonrecording gage and Sept. 28, 1928 to Nov. 1, 1967, water-stage recorder at site 3,000 ft downstream at datum 5.0 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton 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. Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,300 ft³/s, Aug. 24, 1933, gage height, 20.60 ft, at former site and datum, from rating curve extended above 22,000 ft³/s; minimum discharge, 52 ft³/s, July 23, 1964, gage height, 1.16 ft, at former site and datum; minimum daily discharge, 68 ft³/s, Aug. 29, 1949.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 9, 1903, reached a stage of 23.6 ft, at former site and datum, from description obtained in April 1939, from local residents who had experienced the flood (discharge, about 70,000 ft³/s, from rating curve extended above 22,000 ft³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,600 ft³/s, Nov. 10, gage height, 12.05 ft; minimum not determined; minimum daily, about 115 ft³/s, Aug. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	920	544	3410	e690	709	1350	1010	465	196	e120	394
2	249	824	525	2630	e600	1120	1280	1160	351	e175	e140	391
3	233	760	529	2110	e620	2070	1160	1120	309	e170	e160	404
4	238	700	4780	1700	e640	5180	1060	1000	314	e165	e170	544
5	312	660	4190	e1250	e660	3840	1000	910	301	e185	e165	556
6	295	1220	2700	e1150	e800	2700	981	987	286	197	e145	561
7	262	1130	2030	e1000	e2150	3020	993	1590	265	e180	e120	734
8	245	969	1610	e740	2720	2360	971	1360	247	e190	e115	738
9	237	885	1350	e790	2180	1850	1080	1220	234	e165	e160	735
10	249	7430	1160	e800	1790	1560	1110	1280	239	e140	289	735
11	275	10500	999	e580	e1400	e1180	1020	1220	247	e135	223	737
12	532	4550	895	e550	e940	e1050	929	1050	308	e150	e160	734
13	915	3020	835	e520	e940	e980	875	908	344	e165	e145	731
14	2430	2240	752	e390	e1000	959	851	792	266	e175	e135	710
15	1300	1800	618	e540	e1000	904	882	722	230	e160	e145	410
16	948	1570	735	e640	e740	817	941	638	232	e150	e155	432
17	789	1450	683	1330	e700	790	823	587	234	e145	e145	363
18	1010	1310	983	1080	e660	855	762	627	229	e155	e140	330
19	3340	1120	2100	904	e750	946	722	548	227	e160	e170	551
20	2050	1000	1660	836	1200	1000	684	501	224	e155	257	727
21	1500	914	1560	e740	1350	892	794	460	211	e155	244	695
22	1250	846	2990	e450	1180	841	1970	434	204	e160	215	326
23	1530	909	2910	e440	e1050	986	1900	420	203	295	278	305
24	5350	881	4840	e500	e860	1210	1630	390	196	227	353	206
25	3570	799	3930	e500	e900	1740	1480	386	e175	e155	354	178
26	2580	727	2820	e450	850	1520	1260	379	e170	e150	350	287
27	1970	670	2070	e510	788	1670	1130	373	e175	e160	345	762
28	1610	644	1760	e530	e700	2110	1040	373	189	e145	341	762
29	1370	615	1580	e500	---	2000	958	342	199	e135	339	538
30	1160	577	2280	e520	---	1740	942	350	196	e130	396	569
31	1030	---	5190	e860	---	1490	---	505	---	e125	398	---
TOTAL	39089	51640	61608	28950	29858	50089	32578	23642	7470	5150	6872	16145
MEAN	1261	1721	1987	934	1066	1616	1086	763	249	166	222	538
MAX	5350	10500	5190	3410	2720	5180	1970	1590	465	295	398	762
MIN	233	577	525	390	600	709	684	342	170	125	115	178

CAL YR 1990 TOTAL 507252 MEAN 1390 MAX 10500 MIN 230
WTR YR 1991 TOTAL 353091 MEAN 967 MAX 10500 MIN 115

e Estimated

DELAWARE RIVER BASIN

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-59, 1968 to current year.

CHEMICAL DATA: 1958-59 (d), 1970 (b), 1971-74 (d), 1975 (c).

MINOR ELEMENTS DATA: 1971-74 (a).

ORGANIC DATA: OC--1974 (a), 1975 (c).

NUTRIENT DATA: 1971-75 (d).

BIOLOGICAL DATA:

Bacteria--1971 (c), 1973-75 (c).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1967 to current year.

INSTRUMENTATION.--Water-temperature digital recorder since October 1975, provides one-hour-interval punches. Prior to October 1975, water-temperature recorder provided continuous recordings.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1968-75, 1978, 1980-82, 1984, 1986-91), 31.5°C, Aug. 2, 1975; minimum (water years 1968-76, 1978-79, 1981-91), 0.0°C on many days during winter periods, except 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.5°C, June 29; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.5	13.5	15.0	9.0	6.5	7.5	3.5	2.0	2.5	1.5	.5	1.0
2	14.5	12.0	13.5	9.5	7.5	8.5	3.5	2.5	3.0	2.0	1.0	1.5
3	15.0	11.0	13.0	11.0	8.5	9.5	3.0	1.5	2.0	2.0	2.0	2.0
4	13.5	12.5	13.0	10.5	9.0	10.0	4.0	2.0	4.0	2.0	.5	1.0
5	15.0	11.5	13.0	10.5	9.0	10.0	4.0	2.5	3.0	.5	.5	.5
6	17.0	12.0	14.5	10.5	8.0	9.5	2.5	2.0	2.5	1.5	.5	1.0
7	18.0	13.5	15.5	7.5	6.5	7.0	3.5	2.5	3.0	1.5	.5	1.5
8	16.5	15.0	16.0	7.0	5.0	6.0	3.5	3.0	3.5	.5	.0	.5
9	17.0	15.5	16.0	5.0	4.0	4.5	4.0	3.5	3.5	.0	.0	.0
10	19.0	16.0	17.5	6.0	4.5	5.5	3.5	2.0	3.0	.5	.0	.5
11	18.0	17.5	18.0	6.0	5.5	6.0	2.0	1.0	1.5	.0	.0	.0
12	19.0	16.5	18.0	5.5	4.0	4.5	2.5	1.0	2.0	.0	.0	.0
13	18.0	17.0	17.5	4.0	3.0	3.5	3.0	2.0	2.5	.0	.0	.0
14	17.0	15.5	16.0	3.5	2.5	3.5	2.5	.5	1.5	.0	.0	.0
15	15.0	13.5	14.5	5.0	3.5	4.5	.5	.0	.5	1.0	.0	.5
16	13.5	11.5	12.5	6.5	4.5	5.5	1.5	.5	1.0	.0	.0	.0
17	13.0	9.5	11.5	6.5	5.0	6.5	2.5	1.5	2.0	1.0	.0	1.0
18	14.5	12.0	13.0	5.0	3.0	4.0	3.0	2.5	2.5	1.0	1.0	1.0
19	12.5	9.0	11.0	3.0	2.0	2.5	3.5	3.0	3.5	2.0	.5	1.5
20	10.5	8.5	9.5	3.5	2.5	3.0	3.0	2.0	2.5	2.0	1.5	1.5
21	10.5	8.0	9.5	5.0	3.5	4.0	4.5	2.5	3.0	2.0	.5	1.5
22	11.0	9.0	10.0	5.0	4.0	4.5	6.0	4.5	5.5	.5	.0	.0
23	12.0	11.0	11.5	6.0	5.0	5.5	7.5	6.0	7.0	.0	.0	.0
24	12.0	10.5	11.5	6.0	4.5	5.0	7.0	3.0	5.5	.0	.0	.0
25	10.5	9.5	10.0	5.5	4.0	4.5	3.0	1.5	2.0	.0	.0	.0
26	10.0	7.5	9.0	5.0	3.5	4.5	1.5	.5	1.0	.0	.0	.0
27	7.5	6.0	7.0	5.5	4.0	4.5	.5	.5	.5	.0	.0	.0
28	7.5	7.0	7.0	8.0	5.0	6.5	1.0	.5	.5	.0	.0	.0
29	7.5	6.0	6.5	8.0	5.0	7.0	2.5	1.0	2.0	.0	.0	.0
30	7.0	5.0	6.0	5.0	3.0	4.0	3.5	2.5	3.0	.0	.0	.0
31	9.0	6.5	7.5	---	---	---	3.5	1.5	2.5	.0	.0	.0
MONTH	19.0	5.0	12.5	11.0	2.0	5.5	7.5	0.0	2.5	2.0	0.0	0.5

DELAWARE RIVER BASIN

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	4.0	1.0	2.5	4.0	3.0	3.5	16.0	11.5	13.5
2	.0	.0	.0	6.5	3.5	5.0	5.0	3.0	4.0	14.0	10.5	12.0
3	.0	.0	.0	6.5	4.5	5.5	7.5	3.5	5.5	10.0	8.5	9.0
4	.0	.0	.0	6.0	3.5	4.5	9.5	4.0	6.5	13.5	7.5	10.0
5	.0	.0	.0	3.5	2.5	3.0	7.5	6.5	7.0	15.5	9.5	12.5
6	1.0	.0	.5	4.5	2.0	3.5	12.0	7.0	9.5	13.5	11.5	12.5
7	2.0	1.0	1.5	4.5	2.5	4.0	15.0	10.0	12.5	12.0	10.5	11.0
8	3.0	2.0	2.5	2.5	.5	1.5	14.5	11.0	13.0	13.0	9.5	11.0
9	3.0	2.0	2.5	3.0	.0	1.5	14.0	12.0	13.0	11.5	10.0	10.5
10	2.5	2.0	2.5	3.0	.5	1.5	13.5	10.0	12.5	14.0	9.5	11.5
11	2.0	.0	1.0	1.0	.0	.5	10.5	7.5	9.0	16.0	11.0	13.5
12	.0	.0	.0	1.5	.0	.5	9.5	5.5	7.5	17.5	12.5	15.0
13	.5	.0	.0	3.5	.0	2.0	7.5	6.0	6.5	19.5	14.0	16.5
14	.5	.0	.5	3.0	2.0	2.5	10.0	5.5	7.5	18.5	15.0	16.5
15	1.5	.0	.5	3.0	2.0	2.5	8.5	7.0	7.5	20.5	15.0	17.5
16	.0	.0	.0	5.0	1.0	3.0	10.5	6.0	8.5	21.0	15.5	18.5
17	.0	.0	.0	6.5	2.0	4.0	10.5	8.0	9.5	20.5	16.5	18.5
18	.0	.0	.0	5.0	3.5	4.0	9.5	8.5	9.0	20.0	16.0	18.0
19	.5	.0	.0	5.5	2.5	4.0	12.5	7.5	9.5	19.5	14.0	16.5
20	2.0	.5	1.0	7.0	4.0	5.0	10.0	8.0	8.5	20.0	14.0	17.0
21	2.5	1.0	1.5	4.5	3.0	4.0	8.0	6.5	7.5	21.0	14.5	18.0
22	3.0	1.5	2.0	3.5	3.0	3.5	6.5	6.0	6.0	22.5	16.5	19.5
23	2.0	.0	.5	3.5	2.0	3.0	10.5	5.5	8.0	24.0	18.5	21.0
24	.5	.0	.5	3.5	2.0	2.5	9.5	8.0	9.0	23.5	19.5	21.5
25	2.0	.0	1.0	3.5	3.5	3.5	13.0	7.5	10.0	24.5	19.5	22.0
26	2.5	1.0	2.0	7.0	3.5	5.0	13.0	8.5	10.5	23.0	20.5	21.5
27	1.5	.5	1.0	6.0	5.5	5.5	15.5	10.5	13.0	24.5	19.5	22.0
28	1.0	.0	.5	9.5	5.0	7.0	13.0	11.5	12.5	25.5	20.5	22.5
29	---	---	---	7.0	5.5	6.0	11.5	10.0	11.0	25.0	20.0	22.5
30	---	---	---	5.5	3.5	4.5	13.0	10.5	11.5	23.0	20.5	22.0
31	---	---	---	6.0	2.0	4.0	---	---	---	23.0	19.0	21.0
MONTH	3.0	0.0	1.0	9.5	0.0	3.5	15.5	3.0	9.0	25.5	7.5	16.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	24.0	19.5	21.5	25.0	19.5	22.0	26.5	20.5	24.0	17.0	12.0	14.0
2	23.5	19.0	21.5	21.5	19.5	20.5	27.0	22.5	25.0	16.0	11.0	13.5
3	23.0	18.0	20.5	19.5	18.5	19.0	24.5	22.0	22.5	17.0	11.0	13.5
4	21.5	18.5	20.0	20.5	18.0	19.5	24.5	20.5	22.0	13.5	10.5	12.0
5	20.0	16.5	18.5	19.5	18.0	18.5	22.0	19.5	20.5	14.5	10.0	12.0
6	21.5	16.0	19.0	23.0	17.5	20.0	21.5	17.0	19.5	14.5	11.0	12.5
7	23.0	16.5	20.0	24.0	20.0	22.0	24.0	18.0	21.0	12.5	10.0	11.0
8	24.5	18.0	21.0	25.0	21.0	22.5	24.5	19.5	22.0	12.0	9.5	11.0
9	25.5	19.0	22.0	26.0	20.0	22.5	22.5	19.5	21.0	12.5	10.0	11.0
10	25.0	19.5	22.5	24.5	19.0	22.0	22.5	18.5	20.0	11.5	9.5	10.5
11	24.0	21.0	22.5	24.5	20.0	22.0	20.5	18.5	19.5	13.0	10.5	11.5
12	23.0	19.5	21.0	25.0	19.0	22.5	22.5	18.0	20.0	12.0	8.5	10.5
13	21.5	16.0	18.5	22.5	20.0	21.0	25.0	19.5	22.0	11.5	9.0	10.0
14	23.0	16.0	19.5	24.5	19.0	21.5	25.5	20.5	23.0	12.5	9.5	11.0
15	24.5	18.0	21.5	25.0	19.0	22.0	23.5	21.5	22.5	11.5	11.0	11.5
16	26.0	21.5	23.5	26.0	19.5	22.5	26.0	20.0	23.0	16.0	11.0	13.0
17	24.0	21.5	23.0	27.0	20.5	24.0	26.0	21.5	24.0	18.0	14.5	15.5
18	23.5	21.0	22.0	26.0	22.0	24.0	24.0	22.0	22.5	17.0	13.5	15.0
19	24.5	20.5	22.0	27.5	22.0	24.5	22.5	20.5	21.5	16.0	13.5	15.0
20	27.0	21.0	23.5	27.5	22.0	25.0	20.0	19.0	19.5	13.0	10.5	12.0
21	27.0	21.0	24.0	26.5	22.5	24.5	21.5	18.5	20.0	11.5	9.0	10.0
22	23.5	20.5	22.0	26.0	22.0	24.0	24.5	18.5	21.5	14.0	9.0	11.5
23	24.5	19.0	21.5	25.0	21.5	23.5	23.5	20.0	21.5	11.5	10.5	11.0
24	24.0	18.5	21.5	26.5	20.5	23.5	20.0	17.5	19.0	15.0	10.5	12.5
25	24.5	19.0	22.0	25.0	21.0	23.0	18.5	15.5	17.0	13.5	13.0	13.5
26	25.5	20.0	22.5	23.0	20.0	21.5	19.0	14.5	16.5	16.0	12.5	14.0
27	26.5	20.5	23.5	24.5	19.0	21.5	20.5	15.0	17.5	14.0	8.5	10.5
28	27.5	21.5	24.5	25.5	19.5	22.5	20.5	15.5	18.0	9.0	7.5	8.0
29	28.5	23.0	25.5	24.5	20.5	22.0	20.0	15.5	17.5	9.0	7.0	8.0
30	25.0	21.5	23.5	24.5	19.5	22.0	19.0	15.0	17.0	9.5	6.5	8.0
31	---	---	---	26.5	21.5	23.5	18.0	14.5	16.0	---	---	---
MONTH	28.5	16.0	22.0	27.5	17.5	22.0	27.0	14.5	20.5	18.0	6.5	12.0

DELAWARE RIVER BASIN

01423000 WEST BRANCH DELAWARE RIVER AT WALTON, NY

LOCATION.--Lat 42°09'58", long 75°08'25", Delaware County, Hydrologic Unit 02040101, on left bank at west end of fairgrounds at Walton, and 100 ft downstream from West Brook.

DRAINAGE AREA.--332 mi².

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,190.30 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--41 years, 578 ft³/s, 23.64 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s, Mar. 15, 1986, gage height, 14.84 ft, from floodmark in gage well; minimum discharge, 12 ft³/s, Sept. 15, Nov. 22, 1964; minimum gage height, 1.86 ft, Nov. 22, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 11	0200	*7,110	*10.19	No other peak greater than base discharge.			
Minimum discharge, 19 ft ³ /s, Sept. 10, gage height, 2.24 ft.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	430	380	1410	e360	473	783	965	225	49	30	27
2	48	385	358	1260	e340	773	769	928	180	49	31	25
3	45	348	345	1110	e350	1080	738	811	166	49	33	24
4	48	315	1980	917	e410	2400	712	719	165	50	36	25
5	67	291	1660	735	e470	1950	633	641	165	53	41	25
6	65	452	1260	e700	e660	1500	632	707	158	58	37	24
7	55	421	1080	e600	1520	1640	666	1060	144	56	33	23
8	48	363	934	e420	1540	1240	620	799	128	69	30	22
9	47	341	821	e400	1280	999	997	743	117	60	39	21
10	92	2470	725	e390	1110	e860	1080	878	106	49	80	23
11	101	5540	609	e340	e780	e690	918	854	121	43	82	46
12	136	2620	550	e350	e600	e640	816	709	206	40	60	28
13	234	1820	525	e360	e520	e580	743	652	236	57	48	24
14	342	1380	478	e320	e470	570	693	594	151	82	41	23
15	234	1180	399	371	e440	536	716	551	122	76	37	35
16	184	1150	509	475	e420	475	705	476	116	57	38	61
17	157	1130	486	1060	e410	493	578	474	130	47	51	62
18	448	1050	750	690	e400	562	521	654	112	43	53	56
19	1680	866	1560	544	637	642	478	452	100	42	51	297
20	790	790	1020	514	1940	614	450	381	92	38	80	296
21	573	722	1080	e350	1050	512	643	339	84	39	91	157
22	466	651	1400	e300	e900	514	2040	308	79	35	117	107
23	615	790	1520	e290	e780	682	1680	282	75	54	92	86
24	2810	710	2410	e290	e630	845	1470	260	70	53	67	76
25	1610	605	1810	e290	e600	959	1880	253	66	43	54	91
26	1200	539	e1400	e290	593	894	1360	230	62	49	47	117
27	939	489	e1050	e330	538	976	1190	226	59	56	42	103
28	780	465	e990	e340	473	1140	1020	243	56	47	37	83
29	680	449	e960	e330	---	962	890	204	53	39	34	74
30	572	414	1740	340	---	917	862	207	49	35	31	67
31	494	---	2080	533	---	836	---	235	---	32	29	---
TOTAL	15606	29176	32869	16649	20221	27954	27283	16835	3593	1549	1572	2128
MEAN	503	973	1060	537	722	902	909	543	120	50.0	50.7	70.9
MAX	2810	5540	2410	1410	1940	2400	2040	1060	236	82	117	297
MIN	45	291	345	290	340	473	450	204	49	32	29	21
CFSM	1.52	2.93	3.19	1.62	2.18	2.72	2.74	1.64	.36	.15	.15	.21
IN.	1.75	3.27	3.68	1.87	2.27	3.13	3.06	1.89	.40	.17	.18	.24

CAL YR 1990 TOTAL 262802 MEAN 720 MAX 5540 MIN 45 CFSM 2.17 IN. 29.45
WTR YR 1991 TOTAL 195435 MEAN 535 MAX 5540 MIN 21 CFSM 1.61 IN. 21.90

e Estimated

DELAWARE RIVER BASIN

01425000 WEST BRANCH DELAWARE RIVER AT STILESVILLE, NY

LOCATION.--Lat 42°04'29", long 75°23'47", Delaware County, Hydrologic Unit 02040101, on right bank at Stilesville, 0.5 mi upstream from Cold Spring Creek, 1.4 mi downstream from Cannonsville Dam, and 2.0 mi northeast of Deposit. Water-quality sampling site at discharge station.

DRAINAGE AREA.--456 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 992.23 ft above National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York). Prior to Oct. 1, 1964, at site 600 ft downstream at datum 1.37 ft higher.

REMARKS.--Records good except those below 300 ft³/s and those for estimated daily discharges, which are poor. Subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonsville Reservoir (see Reservoirs in Delaware River Basin). Part of flow diverted for New York City municipal supply (see Reservoirs in Delaware River Basin). Remainder of flow (except for conservation releases and spill) impounded for release during period of low flow in the lower Delaware River basin, as directed by the Delaware River Master.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s, Mar. 16, 1986, gage height, 13.07 ft; minimum daily, 7.2 ft³/s, Feb. 8, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,620 ft³/s, Mar. 5, gage height, 9.30 ft; minimum daily, 38 ft³/s, Nov. 7-8, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	985	45	42	2150	358	781	1360	751	335	1140	1250	963
2	1000	40	42	1920	381	721	1310	633	335	1350	1210	989
3	932	e40	43	1680	406	950	1240	505	335	1280	1220	995
4	686	e40	54	1430	435	1640	1170	391	401	1320	1240	869
5	735	e40	50	1180	414	2530	1100	302	269	1250	1180	856
6	854	40	47	999	428	2550	1050	254	273	1100	1290	933
7	827	38	46	884	693	2450	1040	332	586	954	1120	723
8	561	38	45	819	1260	2170	1020	352	704	907	1310	477
9	392	40	45	745	1570	1760	1130	323	609	1090	1100	471
10	517	55	44	726	1650	1440	1400	307	670	1370	981	457
11	278	60	44	682	1560	1220	1460	329	855	1410	293	472
12	169	43	44	628	1360	1130	1410	293	878	1390	291	498
13	e50	40	44	605	1180	1060	1320	258	974	1380	289	713
14	e50	40	44	541	1150	976	1230	260	877	1190	790	701
15	e49	40	45	514	1040	941	1140	249	843	1420	636	290
16	e49	39	46	551	845	870	942	214	664	1300	1200	274
17	e63	40	46	812	626	819	766	175	821	1060	1120	272
18	e50	40	52	975	513	820	602	159	791	1030	963	275
19	e50	42	79	933	487	856	477	117	820	1340	547	276
20	e50	42	348	878	943	883	394	75	1030	1240	473	272
21	e50	42	570	840	1310	861	389	53	1030	552	250	274
22	e50	42	935	730	1270	835	932	214	1090	507	60	96
23	e50	44	1190	592	1250	883	1510	329	954	518	234	49
24	e50	43	1800	568	1160	1000	1640	305	953	413	419	46
25	52	42	2290	545	1070	1190	1820	335	986	727	571	41
26	50	42	2150	485	923	1270	1750	358	900	1210	672	45
27	50	42	1820	468	884	1340	1520	571	1110	964	762	230
28	51	42	1560	455	835	1520	1310	458	1210	666	804	301
29	50	42	1350	367	---	1550	1090	396	1050	643	957	89
30	50	42	1450	315	---	1510	911	376	962	1190	949	38
31	51	---	2130	324	---	1440	---	392	---	1260	952	---
TOTAL	8901	1265	18495	25341	26001	39966	34433	10066	23315	33171	25133	12985
MEAN	287	42.2	597	817	929	1289	1148	325	777	1070	811	433
MAX	1000	60	2290	2150	1650	2550	1820	751	1210	1420	1310	995
MIN	49	38	42	315	358	721	389	53	269	413	60	38

CAL YR 1990 TOTAL 262373 MEAN 719 MAX 3480 MIN 38
WTR YR 1991 TOTAL 259072 MEAN 710 MAX 2550 MIN 38

e Estimated

DELAWARE RIVER BASIN

01425000 WEST BRANCH DELAWARE RIVER AT STILESVILLE, NY--Continued

WATER-QUALITY RECORDS

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

CHEMICAL DATA: 1959-60 (a) unpublished, 1969 (a), 1970 (a) unpublished, 1971, 1973 (b), 1974 (d), 1975 (b).

MINOR ELEMENTS DATA: 1971 (b).

NUTRIENT DATA: 1970 (a) unpublished, 1971, 1973 (b), 1974 (d), 1975 (b).

BIOLOGICAL DATA:

Bacteria--1973 (b), 1974 (d), 1975 (b).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1962 to current year.

INSTRUMENTATION.--Water-temperature digital recorder since October 1962, provides one-hour-interval punches. Prior to October 1962, water-temperature recorder provided continuous recordings.

REMARKS.--Water temperature is affected by release of water from upstream reservoir. Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1963-78, 1980-82, 1984-86, 1988, 1990-91), 30.5°C July 2, 1963; minimum, 0.0°C on many days during winter periods, except 1969, 1973, 1986-87, 1990-91.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 21.5°C, Aug. 22, but may have been higher during period of instrument malfunction; minimum, 1.0°C, Jan. 24, 25, 26, 31, Feb. 1.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.0	7.5	8.5	---	---	---	6.0	4.5	5.0	5.0	4.5	4.5
2	9.0	8.0	9.0	---	---	---	6.5	5.0	5.5	5.0	4.5	4.5
3	9.5	7.5	8.5	---	---	---	5.0	3.0	4.0	4.5	4.5	4.5
4	9.0	8.0	8.5	---	---	---	6.0	4.5	5.5	4.5	4.0	4.5
5	9.5	8.0	8.5	---	---	---	4.5	3.0	3.5	4.5	4.0	4.0
6	10.5	8.0	9.0	---	---	---	4.5	4.0	4.0	4.5	4.0	4.5
7	10.0	8.0	9.0	---	---	---	5.0	4.5	5.0	4.0	3.5	4.0
8	10.5	8.5	9.0	---	---	---	6.0	4.5	5.0	4.0	3.5	3.5
9	10.0	8.0	9.0	---	---	---	6.0	5.0	5.5	3.5	3.5	3.5
10	11.0	8.5	9.5	---	---	---	6.0	3.5	5.0	3.0	2.5	3.0
11	10.0	9.0	9.5	---	---	---	4.5	4.0	4.5	2.5	1.5	2.0
12	12.5	9.0	10.5	---	---	---	5.5	4.5	5.0	3.5	2.0	3.0
13	10.0	8.5	9.5	---	---	---	6.5	4.5	5.5	3.0	2.0	2.5
14	10.5	10.0	10.5	---	---	---	5.0	3.5	4.5	3.0	2.0	2.5
15	11.0	9.5	10.0	---	---	---	5.0	3.5	4.0	3.5	2.5	3.0
16	10.5	8.0	9.5	---	---	---	5.0	4.5	4.5	3.0	2.5	3.0
17	11.5	7.5	9.5	---	---	---	5.0	4.0	4.5	3.0	2.5	3.0
18	12.5	9.5	11.0	---	---	---	5.0	4.5	5.0	3.5	3.0	3.5
19	10.5	6.5	8.0	---	---	---	5.5	4.0	5.0	4.0	3.0	3.5
20	11.5	6.0	8.0	---	---	---	6.0	5.0	5.5	3.5	3.0	3.0
21	11.0	6.5	8.5	8.0	4.0	5.5	6.5	5.5	6.0	3.0	2.0	2.5
22	10.5	8.0	9.0	7.0	4.5	5.5	6.5	6.0	6.5	2.0	1.5	2.0
23	10.5	9.0	10.0	7.0	6.0	6.5	6.5	6.0	6.5	2.5	1.5	2.0
24	11.0	9.0	10.0	6.5	4.5	5.5	6.0	5.0	5.5	2.0	1.0	1.5
25	9.5	8.0	9.0	7.5	4.0	5.5	5.5	5.0	5.5	2.0	1.0	1.5
26	---	---	---	7.0	4.0	5.5	5.5	5.0	5.0	2.0	1.0	1.5
27	---	---	---	7.0	5.0	6.0	5.0	5.0	5.0	2.5	1.5	2.0
28	---	---	---	10.0	5.5	7.5	5.0	4.5	5.0	3.0	1.5	2.0
29	---	---	---	9.0	4.5	7.0	5.0	5.0	5.0	2.5	1.5	2.0
30	---	---	---	5.5	4.0	4.5	5.5	5.0	5.0	2.5	2.0	2.0
31	---	---	---	---	---	---	5.0	4.5	5.0	2.0	1.0	1.5
MONTH	---	---	---	---	---	---	6.5	3.0	5.0	5.0	1.0	3.0

DELAWARE RIVER BASIN

01425000 WEST BRANCH DELAWARE RIVER AT STILESVILLE, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.5	1.0	1.5	3.5	2.5	3.0	3.5	3.5	3.5	12.5	7.5	10.5
2	3.0	1.5	2.0	4.0	3.0	3.5	4.0	3.5	3.5	9.5	6.0	8.0
3	3.5	1.5	2.5	4.0	3.0	3.5	4.5	3.5	4.0	9.5	6.5	8.0
4	3.0	2.0	2.5	3.5	3.0	3.0	5.0	3.5	4.0	11.0	8.0	9.5
5	3.0	2.0	2.5	3.5	3.0	3.0	4.5	4.0	4.0	13.5	9.0	11.0
6	3.0	2.5	2.5	3.5	3.0	3.0	5.5	4.0	4.5	12.0	10.5	11.0
7	2.5	2.5	2.5	3.0	2.5	3.0	6.0	4.0	4.5	11.5	9.0	10.5
8	3.0	2.5	2.5	3.5	2.5	3.0	5.5	4.0	4.5	11.5	8.5	10.0
9	3.0	2.5	2.5	3.5	2.5	3.0	5.5	4.5	5.0	10.5	9.5	10.5
10	2.5	2.5	2.5	3.5	2.5	3.0	5.0	4.0	4.5	13.5	10.0	11.5
11	2.5	2.0	2.5	3.5	2.5	3.0	5.0	4.0	4.0	15.0	10.5	12.5
12	2.5	2.0	2.5	3.5	2.5	3.0	5.5	4.0	5.0	14.5	11.0	12.5
13	3.0	2.0	2.5	3.5	2.5	3.0	5.0	4.5	5.0	16.5	11.5	13.5
14	2.5	2.5	2.5	3.0	2.5	3.0	7.0	4.5	6.0	16.0	12.0	13.5
15	2.5	2.0	2.5	3.0	2.5	3.0	6.0	5.0	6.0	18.0	14.0	15.5
16	2.5	1.5	2.0	4.0	2.5	3.0	6.5	5.0	6.0	19.5	14.5	16.5
17	2.5	2.0	2.5	4.0	2.5	3.0	7.0	5.0	6.0	17.5	12.5	14.5
18	2.5	2.0	2.5	3.0	3.0	3.0	7.5	6.0	6.5	17.0	12.0	14.5
19	3.0	2.5	2.5	4.0	3.0	3.5	9.5	6.5	7.5	17.5	11.5	13.5
20	3.0	2.5	3.0	4.0	3.0	3.5	7.5	6.5	7.0	17.0	9.0	12.5
21	3.0	2.5	2.5	3.5	2.5	3.0	7.0	7.0	7.0	17.0	8.0	12.0
22	3.0	2.5	2.5	3.5	3.0	3.0	7.0	6.5	7.0	11.0	6.5	8.5
23	3.0	2.0	2.5	3.0	3.0	3.0	7.5	6.0	6.5	9.5	6.0	7.5
24	3.0	2.0	2.5	3.5	3.0	3.5	7.5	6.0	6.5	8.5	6.0	7.5
25	3.0	2.5	2.5	3.5	3.0	3.5	8.5	6.0	7.5	9.0	6.0	7.5
26	3.0	2.5	2.5	4.0	3.0	3.5	9.0	7.0	8.0	10.0	6.5	7.5
27	3.0	2.5	2.5	3.5	3.5	3.5	9.0	7.5	8.0	8.5	6.5	7.0
28	3.0	2.5	2.5	4.5	3.5	4.0	10.0	8.5	9.5	9.0	6.5	7.5
29	---	---	---	4.0	3.5	3.5	10.5	9.5	10.0	9.0	6.0	7.5
30	---	---	---	4.0	3.0	3.5	11.5	10.0	10.5	8.0	6.5	7.0
31	---	---	---	4.5	3.0	3.5	---	---	---	8.5	6.5	7.0
MONTH	3.5	1.0	2.5	4.5	2.5	3.0	11.5	3.5	6.0	19.5	6.0	10.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	9.0	6.5	7.5	8.5	6.5	7.5	11.0	9.5	10.0	---	---	---
2	9.0	6.0	7.5	7.5	7.0	7.5	10.5	10.0	10.0	---	---	---
3	9.0	6.0	7.0	7.5	7.0	7.0	10.5	10.0	10.5	---	---	---
4	8.0	6.5	7.0	8.0	7.0	7.5	10.5	10.0	10.5	---	---	---
5	9.0	6.0	7.5	7.5	7.0	7.5	11.0	10.0	10.5	---	---	---
6	9.0	6.5	8.0	8.5	7.0	7.5	11.5	10.5	10.5	---	---	---
7	8.5	6.0	7.0	8.5	7.0	7.5	12.0	10.5	11.0	---	---	---
8	8.5	6.5	7.0	8.5	7.0	7.5	12.0	10.5	11.0	---	---	---
9	8.5	6.5	7.5	8.5	7.0	8.0	11.5	10.5	11.0	---	---	---
10	8.5	6.5	7.5	9.0	7.0	8.0	12.0	11.0	11.5	---	---	---
11	8.0	6.5	7.0	8.5	7.5	8.0	12.0	10.5	11.0	---	---	---
12	8.0	6.5	7.0	9.0	7.0	8.0	12.5	10.5	11.5	---	---	---
13	8.0	6.5	7.0	8.0	7.5	7.5	13.5	10.5	11.5	---	---	---
14	8.5	6.5	7.0	9.0	7.5	8.0	13.0	10.5	11.5	---	---	---
15	9.0	7.0	7.5	9.0	7.5	8.0	12.0	11.0	11.5	---	---	---
16	8.5	6.5	7.5	9.5	7.5	8.5	13.0	11.5	12.0	---	---	---
17	7.5	7.0	7.0	9.5	8.0	8.5	13.5	12.0	12.5	---	---	---
18	8.0	7.0	7.5	9.5	8.0	8.5	13.0	12.0	12.5	---	---	---
19	8.0	6.5	7.0	9.5	8.0	8.5	13.0	12.0	12.5	---	---	---
20	8.0	6.5	7.0	9.5	8.0	9.0	13.0	11.5	12.5	---	---	---
21	8.5	7.0	7.5	9.5	8.0	9.0	15.5	12.0	13.5	---	---	---
22	8.0	6.5	7.5	9.5	8.0	9.0	21.5	13.5	17.0	---	---	---
23	8.5	6.5	7.5	10.0	8.5	9.0	17.5	12.0	13.5	---	---	---
24	9.0	6.5	7.5	10.5	8.0	9.0	14.5	12.0	13.0	---	---	---
25	8.0	6.5	7.5	10.5	8.0	9.0	14.0	12.5	13.0	---	---	---
26	8.5	7.0	7.5	9.5	8.5	9.0	---	12.5	---	---	---	---
27	8.5	7.0	7.5	10.5	9.0	9.5	---	---	---	---	---	---
28	8.0	7.0	7.5	10.5	9.0	9.5	---	---	---	---	---	---
29	8.5	7.0	7.5	10.0	9.0	9.5	---	---	---	---	---	---
30	8.0	7.0	7.5	10.5	9.0	10.0	---	---	---	---	---	---
31	---	---	---	10.5	9.5	10.0	---	---	---	---	---	---
MONTH	9.0	6.0	7.5	10.5	6.5	8.5	---	---	---	---	---	---

DELAWARE RIVER BASIN

01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, NY

LOCATION.--Lat 42°00'11", long 75°23'02", Delaware County, Hydrologic Unit 02040101, on left bank at downstream side of bridge on County Highway 56 in Hale Eddy, and 9 mi upstream from confluence of East and West Branches near Hancock. Water-quality sampling site at discharge station.

DRAINAGE AREA.--595 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1912 to current year.

REVISED RECORDS.--WSP 871: 1916. WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 946.46 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 8, 1928, nonrecording gage.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to October 1963, entire flow from 454 mi² drainage area controlled by Cannonsville 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. Satellite gage-height and temperature telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,900 ft³/s, Mar. 22, 1948, gage height, 15.69 ft; maximum gage height, 15.8 ft, Sept. 30, 1924, from graph based on gage readings; minimum discharge, 17 ft³/s, Oct. 20, 1963; minimum gage height, 1.03 ft, Aug. 4, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 10, 1903, reached a stage of 20.3 ft, from floodmarks, discharge, about 46,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,730 ft³/s, Oct. 24, gage height, 7.18 ft; minimum, 60 ft³/s, Sept. 30, gage height, 1.32 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	866	220	164	2800	e460	938	1640	959	460	1030	1190	929
2	956	194	157	2400	e480	1050	1610	874	426	1280	1140	997
3	837	174	158	2070	516	1670	1510	721	419	1220	1170	960
4	662	162	1200	1750	572	3110	1410	580	495	1240	1170	894
5	635	155	839	1440	573	3360	1330	466	415	1230	1120	831
6	819	256	586	1260	658	3080	1270	501	294	1050	1230	893
7	699	222	456	1100	1320	2930	1270	795	586	941	1080	779
8	584	215	373	e920	1770	2520	1230	699	712	824	1220	537
9	321	192	316	e860	1960	2060	1570	626	685	1010	1130	488
10	492	1740	276	e840	1960	1720	1870	592	659	1260	1070	450
11	301	1850	239	e780	1810	1440	1820	572	812	1370	312	514
12	173	961	221	e760	1540	1320	1700	507	913	1270	301	480
13	567	640	210	e700	1370	1240	1570	436	1020	1310	299	659
14	420	475	189	e640	1330	1150	1460	413	851	1190	705	715
15	256	395	200	645	1230	1110	1400	388	881	1280	601	355
16	188	349	221	765	985	1020	1210	342	662	1270	1090	290
17	175	372	209	1220	771	982	991	295	776	1030	1120	290
18	252	335	538	1250	663	1020	811	350	782	994	960	301
19	749	281	1060	1180	665	1110	676	247	764	1220	646	398
20	373	261	947	1100	1470	1130	587	182	919	1200	480	344
21	284	239	1140	1040	1710	1080	802	139	1020	622	1550	311
22	235	222	1460	e840	1630	1050	1870	280	1040	468	524	182
23	737	302	1780	e740	1550	1190	2230	415	927	557	358	84
24	3300	269	2750	e700	1400	1380	2170	341	855	420	478	69
25	1250	241	2910	e640	1310	1620	2240	411	961	641	612	80
26	721	217	2590	e580	1140	1640	2080	412	813	1080	691	83
27	505	204	2150	e560	1060	1850	1810	603	1030	1030	793	194
28	404	198	1870	e540	983	2030	1570	620	1130	622	784	339
29	354	189	1640	e470	---	1960	1320	484	1000	558	920	179
30	296	175	2140	440	---	1870	1140	493	901	1130	943	73
31	253	---	3250	488	---	1740	---	636	---	1180	965	---
TOTAL	18664	11705	32239	31518	32886	51370	44167	15379	23208	31527	26652	13698
MEAN	602	390	1040	1017	1174	1657	1472	496	774	1017	860	457
MAX	3300	1850	3250	2800	1960	3360	2240	959	1130	1370	1550	997
MIN	173	155	157	440	460	938	587	139	294	420	299	69

CAL YR 1990 TOTAL 348752 MEAN 955 MAX 4210 MIN 65
WTR YR 1991 TOTAL 333013 MEAN 912 MAX 3360 MIN 69

e Estimated

DELAWARE RIVER BASIN

01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-59, 1968 to current year.

CHEMICAL DATA: 1958-59 (d), 1970 (b), 1971-74 (d), 1975 (c).

MINOR ELEMENTS DATA: 1971-74 (a).

ORGANIC DATA: OC--1974 (a), 1975 (c).

NUTRIENT DATA: 1971-74 (d), 1975 (c).

BIOLOGICAL DATA:

Bacteria--1971, 1973 (c); 1974 (d); 1975 (c).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1967 to current year (no winter record for water years 1969-77).

INSTRUMENTATION.--Water-temperature digital recorder since October 1976, provides one-hour-interval punches. Also, water-temperature satellite telemeter since May 1985, provides one-hour-interval readings. Prior to October 1976, water-temperature recorder provided continuous recordings.

REMARKS.--Water temperature is affected by release of water from upstream reservoir. Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1968-77, 1979-83, 1985, 1988-91), 30.5°C, July 22, 23, 1972, June 16, 1981; minimum (water years 1968, 1978-91), 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 23.5°C, May 21, 22; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.0	7.0	8.5	10.0	6.5	8.0	4.0	1.0	2.5	4.0	3.0	3.5
2	10.0	7.5	8.5	11.0	7.5	9.0	4.5	3.0	3.5	4.5	3.0	3.5
3	11.0	7.0	8.5	12.5	8.0	10.5	2.5	.5	1.5	4.0	3.0	3.5
4	10.0	7.5	9.0	11.5	9.5	10.5	5.0	2.0	4.0	4.0	2.5	3.0
5	12.0	7.5	9.5	11.5	9.5	10.5	3.5	2.0	2.5	3.5	2.0	2.5
6	12.5	7.5	10.0	10.5	7.5	9.5	2.5	1.0	1.5	4.0	3.0	3.5
7	12.5	8.0	9.5	7.5	6.0	7.0	3.5	2.5	3.0	3.0	1.5	3.0
8	11.0	8.5	9.5	7.0	5.0	6.0	4.0	2.5	3.0	2.5	1.0	1.5
9	12.0	9.5	11.0	6.0	3.5	5.0	4.5	3.0	3.5	2.5	1.5	2.0
10	14.0	9.0	11.5	6.0	5.0	5.5	3.5	1.5	2.5	3.0	1.5	2.5
11	13.5	12.0	12.5	6.0	5.5	6.0	1.0	.0	.5	1.0	.0	.5
12	17.0	12.5	15.0	5.0	3.5	4.5	3.0	.5	1.5	2.5	.0	1.5
13	16.5	12.5	15.0	3.5	2.5	3.0	4.0	2.5	3.0	2.0	.5	1.5
14	15.5	14.5	15.0	5.0	2.0	3.5	2.5	.0	1.0	2.0	.0	1.0
15	16.5	12.5	14.5	6.5	3.0	4.5	.0	.0	.0	4.0	2.0	2.5
16	14.5	10.0	12.0	7.5	4.5	6.0	2.0	.0	1.0	2.5	1.5	2.0
17	14.5	8.5	11.5	8.0	5.0	7.0	3.0	1.0	2.0	2.0	2.0	2.0
18	15.0	12.0	13.5	4.5	2.5	3.5	2.5	2.0	2.5	3.0	2.0	2.5
19	13.5	9.0	11.0	3.0	1.0	2.0	3.5	2.5	3.0	4.0	2.0	3.0
20	12.0	7.5	9.5	4.0	2.0	3.0	3.0	1.5	2.5	3.5	2.5	3.0
21	11.5	7.5	9.5	6.0	3.5	4.5	5.0	3.0	4.0	2.5	.0	1.5
22	11.0	8.5	10.0	6.0	3.5	5.0	6.5	5.0	6.0	1.0	.0	.5
23	12.5	11.0	12.0	6.5	5.5	6.0	7.0	5.5	6.5	1.0	.0	.5
24	12.5	11.0	12.0	5.5	4.0	5.0	5.5	3.5	5.0	1.5	.0	1.0
25	10.5	9.5	10.0	6.0	3.5	4.5	4.0	3.5	3.5	1.5	.0	.5
26	10.0	7.0	8.5	6.0	3.5	4.5	4.0	3.0	3.5	1.0	.0	.5
27	8.5	5.5	7.0	6.0	3.5	5.0	4.0	3.0	3.5	2.0	.0	1.0
28	7.5	6.5	7.0	10.0	5.0	7.5	4.0	2.5	3.0	3.5	1.0	2.0
29	7.5	5.5	6.5	10.0	4.5	7.5	4.5	3.5	4.0	3.0	.0	1.5
30	8.0	4.0	6.0	4.5	2.5	3.5	4.5	3.5	4.0	2.5	1.5	2.0
31	10.5	6.0	8.0	---	---	---	3.5	3.0	3.5	2.0	.0	1.0
MONTH	17.0	4.0	10.5	12.5	1.0	6.0	7.0	0.0	3.0	4.5	0.0	2.0

DELAWARE RIVER BASIN

01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.5	.0	.5	5.0	2.0	3.5	4.0	3.0	3.5	16.0	11.0	13.0
2	3.5	.0	1.5	5.5	3.0	4.5	5.0	3.5	4.0	11.0	8.0	9.5
3	4.5	.5	2.0	5.5	3.0	4.0	7.0	3.5	5.0	9.5	7.5	8.5
4	4.0	1.0	2.0	4.5	2.5	3.5	8.0	3.0	5.0	14.5	7.0	10.5
5	3.5	1.0	2.5	4.0	2.5	3.0	6.0	4.0	5.0	16.5	8.5	12.5
6	3.5	2.5	3.0	4.0	2.5	3.0	9.0	4.5	6.5	14.0	12.0	12.5
7	2.5	2.0	2.5	3.5	2.5	3.0	10.0	5.5	7.5	13.5	10.5	12.0
8	3.0	2.0	2.5	4.0	2.0	2.5	9.0	5.0	7.0	14.0	8.5	11.0
9	3.5	2.0	2.5	4.5	2.0	3.0	8.5	6.5	7.5	11.5	9.5	10.5
10	3.0	2.0	2.5	4.5	2.0	3.0	8.5	5.5	7.0	16.5	10.0	13.0
11	2.5	1.0	2.0	4.0	1.0	2.5	7.5	4.5	5.5	18.0	11.0	14.5
12	2.5	.5	1.5	4.0	1.5	2.5	8.0	4.0	5.5	18.0	12.0	15.0
13	3.0	1.5	2.0	5.0	1.5	3.0	6.0	4.5	5.0	21.0	13.0	17.0
14	2.5	1.5	2.0	3.0	2.5	2.5	9.0	4.5	6.5	19.5	14.0	16.5
15	3.0	.5	2.0	4.0	2.5	3.0	6.5	5.5	6.0	22.0	14.5	18.0
16	1.5	.0	.5	6.0	1.5	3.5	9.5	5.5	7.5	22.5	15.5	19.0
17	3.0	.5	1.5	6.5	2.0	4.0	8.5	5.5	7.0	21.0	17.0	19.0
18	2.0	1.5	1.5	3.5	2.5	3.0	8.5	6.0	7.5	20.0	15.0	17.5
19	3.0	1.5	2.5	6.0	3.0	4.0	12.0	6.5	9.0	21.0	13.5	17.0
20	3.0	2.0	2.5	6.5	3.0	4.0	9.0	7.0	7.5	22.5	14.5	18.0
21	3.5	1.5	2.5	4.5	2.0	3.5	7.0	6.5	7.0	23.5	14.5	19.0
22	3.5	2.0	2.5	4.0	2.5	3.5	7.0	6.0	6.5	23.5	14.0	18.5
23	3.5	.5	2.0	3.5	2.5	3.0	10.0	6.0	7.5	15.5	11.0	13.5
24	3.0	1.0	2.0	4.0	3.0	3.5	8.5	6.5	7.5	15.5	12.5	14.0
25	3.5	2.0	2.5	4.0	3.0	3.5	10.5	6.5	8.5	17.0	9.5	13.0
26	4.0	2.0	2.5	6.0	3.0	4.5	11.0	7.0	8.5	16.0	9.5	13.0
27	3.5	1.5	2.0	4.5	4.0	4.0	12.0	8.0	9.5	14.0	9.0	11.5
28	3.5	1.5	2.5	7.5	4.0	5.5	11.5	8.5	10.0	16.5	8.5	11.5
29	---	---	---	5.5	3.5	4.0	11.0	9.5	10.5	15.5	8.0	11.5
30	---	---	---	5.0	3.0	3.5	13.5	10.0	11.5	13.0	9.5	11.5
31	---	---	---	6.0	2.5	4.0	---	---	---	15.5	10.0	12.5
MONTH	4.5	0.0	2.0	7.5	1.0	3.5	13.5	3.0	7.0	23.5	7.0	14.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	16.5	10.5	13.5	13.0	7.0	9.5	14.5	9.0	11.5	18.5	13.5	15.0
2	16.0	9.5	12.5	9.0	7.5	8.0	14.5	10.0	11.5	18.5	13.5	15.5
3	---	9.0	---	9.0	7.5	8.0	11.0	10.0	10.5	19.0	13.5	16.0
4	---	---	---	10.0	8.0	8.5	13.0	10.0	11.0	16.5	15.0	15.5
5	---	---	---	9.0	8.0	8.5	13.5	10.0	11.5	19.5	15.5	17.0
6	---	---	---	12.0	8.0	9.5	13.0	9.5	11.0	20.0	15.0	17.0
7	14.0	---	---	12.0	8.0	9.5	15.5	10.0	12.0	20.5	15.5	18.0
8	14.5	7.0	10.0	13.5	8.0	10.5	14.5	10.0	12.0	21.0	15.5	18.0
9	14.5	7.0	10.0	13.0	7.5	10.0	12.0	10.5	11.5	20.5	16.0	18.5
10	14.0	7.0	10.5	12.5	7.5	9.5	14.0	10.5	12.0	20.5	16.5	18.5
11	12.0	7.0	9.5	12.0	7.5	9.5	14.5	12.0	13.0	20.5	17.5	18.5
12	11.0	7.5	9.0	12.5	7.5	9.5	17.5	11.5	14.0	20.5	15.0	18.0
13	12.5	6.5	9.0	9.5	8.5	9.0	18.5	12.5	15.5	21.0	15.5	18.0
14	13.5	6.5	9.5	13.0	8.5	10.0	16.0	12.0	14.0	22.0	17.0	19.0
15	13.5	7.0	9.5	13.0	8.0	10.0	13.5	11.5	12.5	18.5	17.5	18.0
16	14.5	7.5	10.5	13.5	8.0	10.0	15.5	11.0	13.0	23.0	18.0	20.0
17	11.0	7.5	9.0	14.5	8.0	10.5	16.0	12.0	13.5	22.5	19.5	21.0
18	11.0	7.5	9.0	13.0	8.5	10.5	14.0	12.0	13.0	21.0	18.0	20.0
19	12.0	7.5	9.5	12.5	9.0	10.0	14.0	12.0	13.0	20.5	16.5	18.0
20	13.5	7.5	9.5	13.5	9.0	10.5	14.0	12.5	13.0	17.5	15.0	16.5
21	13.5	7.0	9.5	14.0	9.0	11.5	18.0	13.0	15.5	17.5	14.5	16.0
22	9.5	7.5	8.5	14.5	10.0	12.0	22.0	16.5	19.0	19.0	14.5	16.5
23	12.5	7.0	9.5	14.0	9.5	12.0	19.5	17.5	19.0	15.5	14.0	14.5
24	13.5	6.5	9.5	17.5	9.5	13.5	18.5	14.0	16.5	17.5	13.0	15.0
25	12.0	7.0	9.0	14.5	9.5	12.0	---	16.0	16.0	15.5	14.5	15.0
26	12.5	7.0	9.5	11.0	9.0	10.0	17.5	---	---	17.0	13.5	15.0
27	12.5	7.0	9.5	15.0	9.5	11.5	18.0	13.0	15.0	15.5	12.0	14.0
28	13.0	7.0	9.5	15.5	9.0	12.0	18.0	13.5	15.5	16.5	13.0	14.5
29	13.5	7.5	10.0	16.0	9.5	12.0	17.5	13.5	15.0	15.0	12.5	14.0
30	12.0	7.5	9.5	13.5	9.0	11.0	18.5	14.5	15.5	15.5	10.5	13.0
31	---	---	---	14.0	9.5	11.0	18.0	14.0	16.0	---	---	---
MONTH	---	---	---	17.5	7.0	10.5	---	---	---	23.0	10.5	17.0

DELAWARE RIVER BASIN

01427207 DELAWARE RIVER AT LORDVILLE, NY

LOCATION.--Lat 41°52'02", long 75°12'51", Wayne County, Pa., Hydrologic Unit 02040101, on right bank at site of former Lordville-Equinunk Interstate Bridge at Lordville, 9.7 mi southeast of Hancock.

DRAINAGE AREA.--1,590 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1967 to August 1971, June 1973 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

INSTRUMENTATION.--Water-temperature satellite telemeter since June 1989, provides 15-minute-interval readings. From June 1987 to June 1989, water-temperature satellite telemeter provided one-hour-interval readings. From June 1973 to November 1989, water-temperature digital recorder provided one-hour-interval readings. Prior to August 1971, water-temperature recorder provided continuous recordings.

REMARKS.--Interruptions of record were due to malfunction of recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1968-70, 1973, 1975-86, 1989, 1991) 30.5°C, June 16, 1976, July 10, 1981; minimum (water years 1968-71, 1974, 1977-78, 1980-91), 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 25.0°C, May 23; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.5	12.0	13.0	8.5	7.0	8.0	3.5	2.5	3.0	2.0	1.0	1.5
2	12.5	11.0	12.0	9.5	8.0	---	3.5	2.5	3.0	2.5	1.0	2.0
3	12.5	10.5	11.5	---	8.5	---	3.0	.5	1.5	2.5	2.0	2.5
4	12.0	11.5	12.0	---	---	---	4.0	.5	3.0	2.5	1.0	2.0
5	13.5	11.0	12.0	11.0	9.5	---	3.5	2.0	3.0	1.5	.0	.5
6	14.5	12.0	13.0	10.5	8.5	10.0	2.0	1.5	2.0	2.0	1.0	1.5
7	15.5	13.0	14.0	8.5	7.0	7.5	3.0	2.5	2.5	2.0	.5	1.5
8	15.0	14.0	14.0	7.0	5.5	6.5	3.0	2.5	3.0	.5	.0	.0
9	15.0	13.5	14.0	5.5	4.5	5.0	3.5	3.0	3.0	.0	.0	.0
10	17.0	15.0	16.0	6.5	5.0	5.5	3.0	2.0	2.5	1.0	.0	.5
11	17.0	16.5	17.0	6.5	---	---	2.0	1.0	1.0	.5	.0	.0
12	18.5	16.5	17.5	5.5	---	---	1.5	.5	1.0	.0	.0	.0
13	18.5	18.0	18.0	3.5	2.5	3.0	2.5	1.5	2.0	.0	.0	.0
14	18.0	16.0	17.0	3.5	2.0	2.5	2.0	.5	1.0	.5	.0	.0
15	16.5	15.0	15.5	4.5	2.5	3.5	.5	.0	.0	.0	.0	.0
16	15.0	13.0	14.0	6.0	4.0	5.0	1.0	.0	.5	1.0	.0	.5
17	14.0	11.5	12.5	6.5	5.5	6.0	1.5	1.0	1.0	1.5	1.0	1.0
18	14.5	13.0	13.5	5.0	3.0	4.0	2.5	1.5	2.0	1.5	.5	1.0
19	14.0	10.0	12.0	3.0	1.5	2.0	3.5	2.5	3.0	2.5	1.0	1.5
20	10.5	9.0	10.0	3.0	1.5	2.5	3.0	2.0	2.0	2.5	2.0	2.0
21	10.5	8.5	9.5	4.0	3.0	3.5	3.5	2.0	2.5	2.5	.0	1.5
22	11.0	9.5	10.0	5.0	3.5	4.0	6.0	3.5	5.0	.5	.0	.0
23	12.5	11.0	11.5	5.5	5.0	5.0	7.0	6.0	6.5	.5	.0	.0
24	12.5	11.5	12.0	5.5	4.5	5.0	6.5	3.5	5.5	.5	.0	.0
25	11.0	10.0	10.5	5.0	4.0	4.5	3.5	2.0	2.5	.5	.0	.0
26	10.0	8.0	9.0	5.0	3.5	4.5	2.0	1.0	1.5	.5	.0	---
27	8.0	6.5	7.0	5.0	4.0	4.5	1.5	.5	1.0	.0	.0	.0
28	7.5	7.0	7.0	7.5	4.5	5.5	1.5	.0	.5	.0	.0	.0
29	7.0	6.0	6.5	8.0	6.0	7.0	3.0	1.5	2.0	.0	.0	.0
30	7.0	5.0	6.0	5.5	3.5	4.5	3.5	3.0	3.0	.0	.0	.0
31	8.5	6.5	7.5	---	---	---	3.0	1.5	2.5	.0	.0	.0
MONTH	18.5	5.0	12.0	---	---	---	7.0	0.0	2.5	---	---	---

DELAWARE RIVER BASIN

01427207 DELAWARE RIVER AT LORDVILLE, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	4.0	1.0	2.5	5.0	3.5	4.0	16.0	13.0	14.0
2	.0	.0	.0	5.5	3.5	4.5	5.0	3.5	4.0	15.5	11.5	13.5
3	.0	.0	.0	6.0	5.0	5.5	7.0	3.5	5.5	11.5	9.0	10.0
4	.0	.0	.0	6.0	3.5	4.5	8.0	4.5	6.5	13.0	8.0	10.5
5	.0	.0	.0	3.5	2.5	3.0	8.0	6.5	7.0	15.5	11.0	13.0
6	1.5	.0	.5	4.5	2.5	3.5	10.5	7.0	8.5	15.0	13.0	14.0
7	1.5	1.0	1.5	4.5	3.0	4.0	12.5	9.0	11.0	13.0	11.5	12.5
8	2.5	.0	1.5	3.0	1.5	2.5	13.0	10.5	12.0	14.0	10.5	12.0
9	3.0	1.5	2.5	3.0	1.0	2.0	13.0	11.5	12.0	13.0	11.5	12.0
10	3.0	2.0	2.5	3.0	1.5	2.0	12.0	10.5	11.5	14.5	10.5	12.5
11	2.0	.5	1.5	2.0	.0	1.5	10.5	7.0	8.5	17.0	12.5	14.5
12	.5	.0	.0	2.5	.0	1.5	8.5	5.0	7.0	17.5	15.0	16.5
13	1.0	.0	.5	3.5	1.0	2.0	8.0	6.0	6.5	20.0	16.0	18.0
14	1.0	.5	.5	3.5	2.5	3.0	9.0	5.5	7.0	20.0	17.5	19.0
15	1.5	.5	1.0	3.0	2.0	2.5	9.0	6.5	7.5	21.0	17.5	19.5
16	.5	.0	.0	4.5	2.0	3.5	10.0	6.5	8.0	22.0	18.0	20.0
17	.0	.0	.0	5.5	3.0	4.5	10.0	8.5	9.0	21.5	19.5	20.5
18	.5	.0	.0	5.5	3.5	4.0	9.5	8.5	9.0	21.0	18.5	19.5
19	1.0	.5	.5	5.5	3.5	4.5	11.5	8.0	9.5	20.0	16.5	18.5
20	2.0	1.0	1.5	6.5	4.0	5.0	11.0	8.5	9.5	21.0	17.0	19.0
21	2.0	.5	1.5	5.5	4.0	4.5	8.5	7.0	8.0	22.0	17.5	19.5
22	3.0	1.5	2.0	4.0	3.5	3.5	7.0	6.5	6.5	23.5	19.5	21.5
23	2.0	.0	1.0	4.0	2.5	3.0	10.0	6.5	8.0	25.0	21.0	23.0
24	1.5	.0	.5	3.5	2.5	3.0	10.0	8.0	9.0	23.0	20.0	22.0
25	2.5	1.0	1.5	4.0	3.5	4.0	11.5	7.5	9.5	24.0	21.0	22.5
26	2.5	1.5	2.0	6.5	3.5	5.0	12.0	---	---	22.5	21.0	22.0
27	2.0	1.0	1.5	6.0	5.0	5.5	13.5	10.5	12.0	22.5	20.5	21.5
28	1.5	.5	1.0	8.5	5.0	7.0	13.5	11.0	12.5	21.5	19.0	20.5
29	---	---	---	7.5	5.5	6.0	12.5	11.0	11.5	23.0	19.0	21.0
30	---	---	---	5.5	4.0	4.5	13.0	10.5	11.5	22.0	20.0	21.0
31	---	---	---	5.5	2.5	4.0	---	---	---	21.0	18.0	19.5
MONTH	3.0	0.0	1.0	8.5	0.0	3.5	13.5	---	---	25.0	8.0	17.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	23.0	20.0	21.0	17.5	14.5	16.0	18.0	15.0	16.5	19.0	16.0	17.5
2	23.0	19.5	21.0	16.5	12.5	14.5	19.0	16.5	17.5	18.0	15.0	16.5
3	21.5	19.0	20.5	12.5	11.5	12.0	18.0	14.5	16.0	18.5	15.5	17.0
4	20.5	18.5	19.5	13.5	12.0	12.5	17.5	14.5	15.5	18.0	16.5	17.0
5	18.5	16.0	17.0	13.5	12.0	12.5	16.5	15.0	16.0	18.5	15.5	17.0
6	20.0	16.0	18.0	16.0	12.0	---	16.5	14.5	15.5	18.5	16.0	17.5
7	21.0	17.5	19.5	17.0	15.0	16.0	18.0	14.0	16.0	19.0	16.5	18.0
8	20.0	16.5	18.5	---	---	---	17.5	16.0	17.0	18.5	16.5	17.5
9	20.0	16.5	18.5	---	---	---	17.0	14.5	15.5	18.5	16.5	17.5
10	20.5	17.0	18.5	17.0	15.0	16.0	17.5	14.0	15.5	18.0	16.5	17.5
11	19.5	17.5	18.5	16.0	13.0	14.5	18.5	16.5	17.5	18.5	16.5	17.5
12	17.5	15.5	16.5	16.0	13.0	14.5	20.5	16.0	18.5	17.5	15.0	16.5
13	16.0	13.5	15.0	15.5	12.5	14.0	23.0	18.5	20.5	17.0	14.5	16.0
14	17.5	13.5	15.5	16.5	12.0	14.0	23.5	20.0	22.0	18.5	16.0	17.0
15	17.0	15.5	16.5	17.0	14.5	16.0	22.0	18.0	18.5	18.0	17.0	17.5
16	20.5	16.0	18.0	17.0	13.5	15.5	20.0	17.0	18.5	19.5	16.0	17.5
17	19.5	17.0	18.5	18.5	15.0	17.0	19.5	17.5	18.5	22.0	19.5	20.5
18	17.0	16.0	16.5	19.0	17.0	18.0	19.0	17.5	18.0	21.0	19.0	20.0
19	18.5	15.5	17.0	18.5	16.5	17.0	17.5	17.0	17.5	20.5	16.5	19.0
20	20.0	16.0	18.0	18.0	15.5	16.5	17.5	15.5	17.0	16.5	14.0	15.5
21	19.0	16.0	17.5	19.0	17.0	18.0	19.5	17.0	18.0	15.0	13.0	14.0
22	17.5	13.5	16.0	22.0	19.0	20.5	22.0	17.5	19.5	15.5	11.5	13.5
23	16.5	12.5	14.5	---	20.5	---	23.5	20.5	22.0	14.0	13.0	13.0
24	18.5	14.5	16.5	---	---	---	24.0	21.0	22.5	16.0	12.5	14.0
25	17.5	15.0	16.5	---	---	---	22.5	20.0	21.0	15.0	13.5	14.0
26	18.0	15.0	16.5	---	14.0	---	21.0	17.5	19.5	17.0	13.5	14.5
27	17.5	15.5	16.5	17.0	13.0	15.0	21.5	18.5	20.0	15.0	13.5	14.0
28	17.5	15.5	16.5	20.5	16.0	18.0	22.0	19.5	20.5	13.5	11.0	12.0
29	19.0	16.5	17.5	19.5	17.5	18.5	21.5	19.0	20.5	11.5	9.5	10.5
30	18.5	16.5	17.5	18.0	16.5	17.5	21.0	19.0	20.5	12.0	8.5	10.0
31	---	---	---	18.0	16.0	17.0	21.0	19.0	20.0	---	---	---
MONTH	23.0	12.5	17.5	---	---	---	24.0	14.0	18.5	22.0	8.5	16.0

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, NY

LOCATION.--Lat 41°45'24", long 75°03'28", Wayne County, Pennsylvania, Hydrologic Unit 02040101, on right bank, 0.5 mi downstream from Callicoon Creek, 0.5 mi downstream from Interstate Bridge 7, and 0.8 mi southeast of Callicoon. Water-quality sampling site at discharge station.

DRAINAGE AREA.--1,820 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1975 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area. WDR NY-86-1: 1975-84 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 734.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir (see Reservoirs in Delaware River Basin), and subsequent to October 1963, entire flow from 454 mi² 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 period of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Satellite gage-height and temperature telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,000 ft³/s, Mar. 15, 1986, gage-height, 13.42 ft; maximum gage height, 14.83 ft, Jan. 9, 1979 (ice jam); minimum discharge, 307 ft³/s, Aug. 23, 1985; minimum gage height, 2.20 ft, Sept. 13, 1977, Aug. 23, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 37,000 ft³/s, Nov. 11, gage height, 9.81 ft; minimum, 355 ft³/s, Sept. 26, 27, gage height, 2.38 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1180	1670	1120	9120	e1850	2070	3970	2600	1430	1140	1310	1270
2	1250	1500	1080	7190	e1600	2600	3900	2580	1120	1340	1290	1350
3	1160	1360	1060	5990	e1500	4800	3630	2490	958	1480	1300	1300
4	1140	1260	10600	4990	e1650	10600	3270	2160	939	1430	1340	1400
5	1040	1170	10300	4000	e1800	10300	3030	1900	984	1480	1370	1390
6	1160	1680	6100	3600	2130	7910	2910	1940	828	1420	1310	1390
7	1110	2250	4460	3090	5530	7660	2870	3410	759	1290	1350	1500
8	1100	1810	3510	e2500	e7300	6780	2790	3060	1020	1130	1200	1390
9	844	1630	2880	e2400	6320	5420	3030	2620	1070	1160	1410	1230
10	735	8970	2460	2380	5550	4520	3550	2490	969	1280	1400	1220
11	828	24700	2100	e2000	4730	3720	3500	2440	1030	1540	1140	1230
12	834	9860	1870	e1700	e3600	3250	3190	2190	1270	1440	607	1200
13	1270	6350	1720	e1600	e3200	2940	2940	1910	1420	1490	539	1240
14	3130	4620	1590	e1400	3270	2750	2770	1680	1340	1550	503	1420
15	2330	3660	1430	e1600	3290	2660	2700	1530	1240	1360	934	1290
16	1590	3090	1460	e2000	e2500	2480	2800	1360	1080	1540	893	757
17	1250	2820	1520	3740	e1950	2370	2400	1210	1000	1350	1320	744
18	1230	2710	2200	3720	e1900	2520	2060	1190	1110	1160	1200	671
19	6430	2280	5380	3000	1950	3050	1830	1150	1070	1240	1100	931
20	4250	2020	4510	2720	3140	3250	1650	984	1100	1480	762	1150
21	2810	1840	4200	2620	4770	2890	1830	879	1300	1250	1010	1080
22	2190	1690	5710	e2000	4100	2700	5400	807	1240	758	1960	968
23	2680	1750	6100	e1500	3930	3160	6010	892	1260	748	724	557
24	12100	1890	9730	e1700	e3200	4010	5380	973	1120	881	712	459
25	8530	1680	9680	e1650	3100	5050	5120	903	1170	704	900	409
26	5530	1520	7510	e1450	2750	4710	4630	925	1100	961	1000	375
27	4010	1390	5970	e1550	2460	4570	4070	936	1100	1480	1080	458
28	3090	1330	5110	e1500	2200	5560	3520	1180	1270	1020	1100	1020
29	2590	1280	4550	e1400	---	5310	3050	1030	1310	831	1170	1050
30	2180	1190	5060	e1400	---	4840	2750	1070	1200	879	1300	722
31	1900	---	12300	e2000	---	4410	---	1920	---	1250	1340	---
TOTAL	81471	100970	143270	87510	91270	138860	100550	52409	33807	38062	34574	31171
MEAN	2628	3366	4622	2823	3260	4479	3352	1691	1127	1228	1115	1039
MAX	12100	24700	12300	9120	7300	10600	6010	3410	1430	1550	1960	1500
MIN	735	1170	1060	1400	1500	2070	1650	807	759	704	503	375

CAL YR 1990 TOTAL 1187944 MEAN 3255 MAX 24700 MIN 579
WTR YR 1991 TOTAL 933924 MEAN 2559 MAX 24700 MIN 375

e Estimated

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1975 to current year.

INSTRUMENTATION.--Water-temperature satellite telemeter since May 1989, provides 15-minute-interval readings. Prior to May 1989, water-temperature digital recorder provided one-hour-interval punches.

REMARKS.--Interruptions of record were due to malfunctions of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, (water years 1976-91), 30.5°C, July 12, 1987; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 26.5°C, May 25, but may have been higher during period of instrument malfunction;
minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

[illegible]

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	---	---	---	4.5	3.5	4.5	17.0	12.0	14.5
2	.5	.0	.0	---	---	---	5.0	3.5	4.0	15.0	13.0	14.5
3	1.0	.0	.5	---	---	---	7.0	4.0	5.5	13.0	10.0	11.5
4	1.0	.0	.5	---	---	---	9.0	5.0	7.0	14.0	9.0	11.5
5	1.0	.0	.5	3.5	---	---	8.5	7.0	7.5	16.5	10.5	13.5
6	---	.0	---	4.0	3.0	3.5	11.5	7.0	9.0	---	13.5	---
7	---	.0	---	4.5	3.5	4.0	14.5	10.0	12.0	14.0	---	---
8	---	.5	---	3.5	2.0	2.5	15.0	11.5	13.5	15.0	11.5	13.0
9	---	1.5	---	---	---	---	---	---	---	13.5	12.0	12.5
10	---	---	---	---	---	---	14.5	11.0	---	15.5	11.5	13.5
11	2.0	.0	---	2.5	---	---	11.0	8.0	10.0	18.0	12.5	15.0
12	.0	.0	.0	2.5	.0	---	10.0	7.0	8.5	19.5	15.0	17.0
13	.5	.0	.0	---	---	---	8.0	6.5	7.5	21.5	16.5	19.0
14	.5	.0	.0	---	---	---	10.0	6.0	7.5	22.0	18.0	19.5
15	1.5	.0	.5	---	---	---	8.0	7.5	8.0	23.0	18.0	20.5
16	.0	.0	.0	---	---	---	11.0	7.0	8.5	24.0	18.0	21.0
17	.0	.0	.0	---	---	---	11.0	9.0	9.5	24.0	19.5	21.5
18	.0	.0	.0	---	---	---	10.5	9.0	9.5	23.0	18.5	20.5
19	.5	.0	.0	5.5	3.5	4.0	13.0	8.5	10.5	21.5	17.0	19.5
20	2.0	.5	1.0	6.5	4.0	5.0	10.5	9.5	10.0	22.5	16.5	19.5
21	1.5	1.0	1.0	5.5	4.0	5.0	9.5	7.5	8.5	23.5	17.0	20.5
22	3.0	1.5	2.0	4.5	3.5	4.0	7.5	7.0	7.0	25.0	19.0	22.0
23	2.0	.0	1.0	4.0	2.5	3.0	9.5	6.5	8.0	26.0	20.5	23.5
24	1.0	.0	.5	3.5	2.5	3.0	10.5	9.0	9.5	26.0	21.5	24.0
25	2.5	.0	1.0	4.0	3.0	3.5	11.5	8.5	10.0	26.5	22.0	24.5
26	2.5	1.5	2.0	6.5	3.5	5.0	---	10.0	---	---	22.5	---
27	2.5	.5	1.5	6.0	5.5	6.0	15.0	11.5	13.0	---	---	---
28	2.0	.0	1.0	8.5	5.5	7.0	15.0	13.0	13.5	---	22.5	---
29	---	---	---	7.5	6.0	7.0	13.5	11.5	12.5	25.5	---	---
30	---	---	---	6.0	4.0	5.5	13.0	11.5	12.0	24.5	22.0	23.5
31	---	---	---	6.0	3.5	4.5	---	---	---	24.0	20.5	22.0
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	25.0	20.5	23.0	22.5	19.0	21.0	23.0	18.5	21.0	21.5	18.5	20.0
2	25.5	20.5	23.0	20.5	17.5	19.0	23.5	19.0	21.5	20.5	16.0	18.5
3	25.0	20.0	23.0	17.5	14.5	16.0	21.5	19.5	20.0	21.0	16.0	18.5
4	23.0	20.5	22.0	16.5	14.0	15.5	20.5	18.0	19.0	19.5	17.5	18.5
5	21.5	18.5	20.0	15.5	14.5	15.0	20.0	17.5	18.5	21.0	17.5	19.0
6	21.5	17.5	20.0	18.5	14.0	16.0	20.5	16.0	18.5	21.0	17.0	19.0
7	23.5	17.5	20.5	21.0	16.5	18.5	21.0	16.5	19.0	21.5	17.5	19.5
8	24.0	19.0	22.0	22.0	18.0	20.0	22.5	17.0	20.0	21.5	18.0	19.5
9	24.5	19.0	22.0	23.5	18.5	21.0	21.0	17.5	19.0	21.5	18.0	20.0
10	24.0	19.0	22.0	22.5	18.0	20.5	20.5	16.5	18.5	20.5	18.5	19.5
11	23.5	20.5	22.0	20.5	17.5	19.0	19.0	17.0	18.0	20.5	18.5	19.5
12	22.5	19.5	21.0	21.0	15.5	18.0	21.0	17.0	19.0	19.5	16.0	18.0
13	20.5	16.5	18.5	19.0	16.5	17.5	23.5	19.0	21.5	19.5	15.5	17.5
14	21.5	15.5	18.5	19.5	15.5	17.5	24.5	21.0	23.0	20.0	16.5	18.5
15	22.5	17.0	20.0	21.5	15.0	18.5	24.0	22.5	23.0	19.0	18.0	18.5
16	23.0	19.0	21.0	22.0	17.0	19.5	24.5	20.5	22.5	---	18.0	---
17	25.5	20.5	23.0	22.5	17.0	20.0	24.0	20.5	22.5	---	---	---
18	23.5	20.5	22.0	23.0	19.0	21.0	22.0	20.0	21.0	23.0	---	---
19	22.0	19.0	20.5	23.5	20.0	22.0	21.0	19.5	20.0	22.5	17.5	20.0
20	24.5	19.5	22.0	23.0	19.5	21.0	19.5	18.5	19.0	18.0	15.5	17.0
21	24.5	20.0	22.5	22.5	19.5	21.0	20.5	18.5	19.5	16.5	13.5	15.0
22	22.5	18.5	20.0	23.5	20.0	22.0	22.0	18.5	20.0	16.5	12.5	14.5
23	20.5	17.5	18.5	25.0	22.0	23.5	23.0	19.5	21.5	15.0	13.0	13.5
24	21.5	16.0	19.0	25.0	21.5	23.5	25.0	20.5	22.5	16.5	13.5	14.5
25	22.5	17.5	20.0	23.5	21.0	22.5	24.0	21.5	23.0	16.0	15.0	15.5
26	22.5	18.0	20.5	23.5	21.0	22.0	24.5	20.0	22.5	17.0	14.5	15.5
27	23.5	18.5	21.0	21.0	18.5	20.0	25.0	20.5	22.5	16.0	14.0	15.0
28	23.5	19.0	21.5	22.0	16.5	19.5	25.0	21.0	23.0	15.0	12.0	13.5
29	23.5	20.0	22.0	21.5	19.0	20.5	25.5	21.0	23.5	13.0	11.0	12.0
30	23.5	20.5	22.0	23.0	18.5	21.0	25.5	22.0	23.5	13.0	9.0	11.0
31	---	---	---	23.0	20.0	21.5	24.0	21.5	22.5	---	---	---
MONTH	25.5	15.5	21.0	25.0	14.0	20.0	25.5	16.0	21.0	---	---	---

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY

LOCATION.--Lat 41°30'32", long 74°59'10", Sullivan County, Hydrologic Unit 02040101, on left bank, 1.6 mi upstream from Lackawaxen River, and 4.6 mi northwest of Barryville. Water-quality sampling site at discharge station.

DRAINAGE AREA.--2,020 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 600.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonsville Reservoir (see Reservoirs in Delaware River Basin). Part of flow of 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. Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft³/s, Aug. 19, 1955, gage height, 26.40 ft, from floodmarks in gage house, from rating curve extended above 55,000 ft³/s, on basis of slope-area measurement at gage height 23.19 ft; minimum discharge, 122 ft³/s, Sept. 5, 1953, gage height, 1.11 ft; minimum daily, 126 ft³/s, Sept. 4, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,400 ft³/s, Nov. 11, gage height, 13.10 ft; minimum daily discharge, 427 ft³/s, Sept. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	1980	1430	10700	e2000	2540	4310	3010	1820	1240	1390	1420
2	1340	1790	1370	8030	e1850	2750	4210	2960	1430	1340	1410	1370
3	1410	1640	1350	6550	e1700	4800	3960	2910	1190	1590	1360	1450
4	1290	1530	8900	5420	e1800	11400	3610	2580	1130	1530	1450	1420
5	1250	1430	13200	4370	e2000	12600	3370	2290	1150	1540	1460	1510
6	1210	1780	7160	3920	2540	9290	3230	2240	1110	1570	1400	1450
7	1390	2510	5100	3490	e5400	8400	3170	3760	874	1420	1460	1500
8	1180	2160	4030	e2700	e9000	7850	3100	3670	1050	1300	1310	1560
9	1170	1950	3390	e2500	7390	6070	3100	3120	1190	1160	1430	1370
10	851	7250	2940	e2600	6310	5060	3590	2890	1190	1310	1530	1310
11	989	30400	2570	e2200	5390	4220	3690	2830	1120	1500	1500	1270
12	893	12700	2270	e1750	e4200	e3600	3420	2640	1330	1590	838	1330
13	1160	7620	2110	e1800	e3500	3380	3190	2350	1540	1540	653	1270
14	2640	5370	1980	e1650	3690	3180	3040	2090	1610	1620	589	1420
15	2870	4210	1710	e1750	e3600	3130	2970	1910	1360	1500	782	1480
16	1940	3590	1760	e2200	e2800	2950	3140	1730	1370	1550	922	1030
17	1520	3300	1940	3710	e2200	2830	2820	1560	1120	1530	1260	813
18	1340	3220	2340	e4400	e2100	2980	2460	1450	1210	1300	1350	786
19	5160	2800	5600	e3700	e2200	3630	2200	1480	1250	1280	1390	873
20	4870	2460	5220	3200	3080	3780	2000	1290	1210	1490	1140	1160
21	3170	2270	4460	3080	5490	3410	2110	1150	1300	1490	881	1230
22	2480	2090	5770	e2400	4630	3150	5570	1050	1420	1070	1950	1130
23	2370	2120	6410	e1650	4480	3480	6660	1000	1420	802	1130	862
24	11400	2330	9680	e1800	e3650	4760	5910	1180	1330	983	734	563
25	10400	2110	11300	e1800	3530	5710	5580	1070	1210	870	905	564
26	6180	1920	8410	e1650	3270	5340	5090	1100	1310	886	1060	474
27	4400	1760	6520	e1700	2950	4980	4460	1100	1150	1360	1150	427
28	3450	1660	5500	e1800	2680	5780	3920	1270	1320	1400	1230	754
29	2940	1610	4930	e1800	---	5660	3460	1340	1440	923	1200	1200
30	2530	1520	4700	e1900	---	5230	3170	1170	1350	828	1320	947
31	2220	---	12800	e2200	---	4770	---	1930	---	1290	1410	---
TOTAL	87243	119080	156850	98420	103430	156710	110510	62120	38504	40802	37594	33943
MEAN	2814	3969	5060	3175	3694	5055	3684	2004	1283	1316	1213	1131
MAX	11400	30400	13200	10700	9000	12600	6660	3760	1820	1620	1950	1560
MIN	851	1430	1350	1650	1700	2540	2000	1000	874	802	589	427

CAL YR 1990 TOTAL 1321331 MEAN 3620 MAX 30400 MIN 634
WTR YR 1991 TOTAL 1045206 MEAN 2864 MAX 30400 MIN 427

e Estimated

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

CHEMICAL DATA: 1971-73 (a).

NUTRIENT DATA: 1971 (a).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1967 to current year (no winter record for water years 1969-76).

INSTRUMENTATION.--Water-temperature digital recorder since October 1975, provides one-hour-interval punches.
Prior to October 1975, water-temperature recorder provided continuous recordings.

REMARKS.--Interruption of record was due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1968-75, 1980-81, 1983, 1985-91), 32.0°C, Aug. 2, 3, 1975, July 10, 1981, July 12, 1987; minimum (water years 1968, 1977-91), 0.0°C, on many days during winter periods, each year except water years 1980-82.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 29.0°C, July 24; minimum, 0.0°C on several days during January.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	5.5	3.5	4.5	2.0	1.0	1.5
2	---	---	---	---	---	---	4.5	3.5	4.0	1.5	1.0	1.0
3	---	---	---	---	---	---	3.5	2.0	3.0	2.0	1.0	1.5
4	---	---	---	---	---	---	4.5	3.0	3.5	2.0	1.5	1.5
5	---	---	---	---	---	---	3.5	3.0	3.5	1.5	.5	1.0
6	---	---	---	---	---	---	3.0	2.5	2.5	1.0	.5	1.0
7	---	---	---	---	---	---	2.5	2.0	2.5	1.5	1.0	1.0
8	---	---	---	---	---	---	3.0	2.5	3.0	1.0	.0	.5
9	---	---	---	---	---	---	3.5	3.0	3.0	.0	.0	.0
10	---	---	---	---	---	---	3.5	2.5	3.0	1.0	.0	.5
11	---	---	---	---	---	---	2.5	1.5	2.0	.0	.0	.0
12	---	---	---	---	---	---	2.0	1.5	2.0	.0	.0	.0
13	---	---	---	---	---	---	2.5	1.5	2.0	.0	.0	.0
14	---	---	---	---	---	---	2.0	.5	1.5	.0	.0	.0
15	---	---	---	---	---	---	.5	.5	.5	.5	.0	.5
16	---	---	---	---	---	---	1.5	.5	1.0	.5	.5	.5
17	---	---	---	---	---	---	1.5	.5	1.0	.5	.5	.5
18	---	---	---	---	---	---	2.0	1.0	1.5	.5	.5	.5
19	---	---	---	4.0	---	---	3.0	2.0	2.5	1.0	.5	.5
20	---	---	---	4.0	3.0	3.5	3.0	2.5	3.0	1.5	.5	1.0
21	---	---	---	4.5	3.0	3.5	3.0	2.5	2.5	1.5	.0	1.0
22	---	---	---	5.0	3.5	4.0	5.0	3.0	4.0	.0	.0	.0
23	---	---	---	5.5	4.5	5.0	7.0	5.0	6.5	.0	.0	.0
24	---	---	---	6.0	5.0	5.5	7.0	5.0	6.5	.0	.0	.0
25	---	---	---	6.0	5.0	5.5	5.0	2.0	3.5	.5	.0	.5
26	---	---	---	6.0	4.5	5.5	2.0	1.0	1.5	.5	.5	.5
27	---	---	---	5.5	4.5	5.0	1.0	.5	.5	.5	.5	.5
28	---	---	---	7.5	5.0	6.0	.5	.5	.5	1.0	.5	.5
29	---	---	---	7.5	6.0	7.0	1.5	.5	.5	1.0	.5	.5
30	---	---	---	6.0	4.5	5.5	3.0	1.5	2.5	.5	.5	.5
31	---	---	---	---	---	---	3.0	2.0	3.0	.5	.5	.5
MONTH	---	---	---	---	---	---	7.0	0.5	2.5	2.0	0.0	0.5

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.5	.5	3.5	1.0	2.0	5.0	4.5	4.5	16.0	13.0	14.5
2	1.0	.5	.5	5.0	2.5	4.0	5.0	4.0	4.5	16.0	14.0	15.5
3	2.0	.5	1.0	7.0	4.5	5.5	6.5	4.0	5.5	14.0	12.5	13.5
4	1.5	.5	1.0	7.0	5.0	6.0	8.0	6.0	7.0	14.5	11.5	13.0
5	1.0	.5	1.0	5.0	3.5	4.0	8.5	7.5	8.0	16.5	12.0	14.0
6	1.0	.5	1.0	4.0	3.0	3.5	11.0	8.5	9.5	15.0	14.0	14.5
7	1.0	.5	.5	4.5	4.0	4.5	13.5	10.5	12.0	14.5	14.0	14.0
8	1.0	.5	.5	4.0	2.5	3.0	15.0	13.0	14.0	15.5	13.5	14.5
9	2.5	1.0	1.5	3.0	1.5	2.5	16.0	14.5	15.0	14.5	14.0	14.0
10	3.0	2.0	2.5	3.0	1.5	2.5	15.5	13.5	14.5	16.0	13.5	14.5
11	2.5	1.5	2.0	2.5	1.0	2.0	13.5	10.5	12.0	17.5	14.0	16.0
12	1.0	.5	.5	2.0	1.0	1.5	10.5	9.0	10.0	19.5	16.0	17.5
13	1.0	.5	.5	2.5	1.5	2.0	9.0	7.5	8.5	22.0	18.0	20.0
14	.5	.5	.5	2.5	2.0	2.5	9.5	7.5	8.5	22.5	19.5	21.0
15	.5	.5	.5	3.5	2.5	3.0	8.5	8.0	8.5	23.5	19.5	21.5
16	.5	.5	.5	4.5	2.5	3.5	11.0	8.0	9.5	24.5	20.0	22.0
17	.5	.5	.5	6.0	3.5	4.5	10.5	10.0	10.0	24.5	20.5	22.5
18	.5	.5	.5	5.0	4.5	5.0	10.5	9.5	10.0	24.0	20.5	22.0
19	1.0	.5	.5	5.5	4.0	5.0	12.0	9.0	10.5	23.0	19.0	21.0
20	1.5	.5	1.0	6.5	5.0	5.5	11.0	10.0	10.5	23.5	18.5	21.0
21	1.5	.5	1.0	5.5	5.0	5.5	10.0	9.0	9.5	24.5	18.5	21.5
22	2.0	1.0	1.5	5.0	4.5	5.0	9.0	7.5	8.0	26.5	20.5	23.0
23	2.0	1.0	1.5	4.5	3.5	4.0	9.5	7.0	8.5	27.5	22.0	24.5
24	1.0	.5	.5	3.5	3.0	3.5	10.0	9.0	9.5	27.0	23.0	25.0
25	1.5	.5	1.0	4.0	3.5	3.5	12.0	9.5	10.5	28.5	23.5	26.0
26	2.0	1.0	1.5	6.0	4.0	5.0	13.0	10.5	12.0	26.5	24.5	25.5
27	2.5	1.5	2.0	6.0	5.5	6.0	14.5	12.5	13.5	28.0	23.5	25.5
28	2.0	1.0	1.5	8.5	6.0	7.0	15.0	14.0	14.5	28.5	24.0	26.0
29	---	---	---	8.0	7.5	7.5	14.5	13.0	14.0	28.5	24.0	26.0
30	---	---	---	7.5	5.5	6.5	14.0	13.0	13.5	28.0	25.0	26.0
31	---	---	---	5.5	4.5	5.0	---	---	---	25.5	24.0	25.0
MONTH	3.0	0.5	1.0	8.5	1.0	4.0	16.0	4.0	10.0	28.5	11.5	20.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	26.0	23.0	24.5	27.5	22.0	24.5	27.5	22.5	25.0	25.0	21.0	23.0
2	27.0	22.0	24.5	24.0	22.0	23.0	27.0	23.0	25.0	23.5	19.0	21.0
3	27.5	22.0	25.0	22.0	20.0	21.0	25.0	23.5	24.0	23.0	18.5	20.5
4	25.5	22.0	24.0	20.5	19.0	20.0	25.0	22.0	23.5	20.5	19.0	20.0
5	24.5	20.5	22.0	18.5	17.5	18.0	23.5	21.0	22.0	23.0	19.0	21.0
6	24.0	19.5	21.5	21.0	17.0	19.0	24.0	19.5	22.0	23.5	19.0	21.0
7	25.5	19.5	22.5	23.0	19.5	21.0	24.0	19.5	22.0	23.0	19.0	21.0
8	27.0	20.5	23.5	25.5	20.5	22.5	25.5	20.0	22.5	22.5	19.5	21.0
9	27.5	21.5	24.5	27.0	21.0	24.0	23.0	21.5	22.0	23.0	19.5	21.5
10	27.5	22.0	25.0	26.0	21.0	23.5	23.5	20.5	22.0	22.0	20.5	21.5
11	27.0	23.0	24.5	25.5	21.0	23.5	21.5	20.0	21.0	23.5	20.5	21.5
12	26.5	23.0	24.0	24.0	20.5	22.5	23.5	19.0	21.5	22.5	18.5	20.5
13	24.0	20.0	22.0	22.5	21.0	21.5	25.0	20.5	23.0	22.0	17.5	20.0
14	23.5	18.5	21.0	23.5	20.0	21.5	26.0	22.0	24.0	22.0	18.5	20.5
15	25.5	19.5	22.5	24.0	19.0	21.5	25.0	23.5	24.0	20.5	19.5	20.0
16	26.0	22.0	24.0	25.0	20.0	22.5	28.0	22.5	25.0	24.5	19.0	21.5
17	28.5	23.0	25.5	26.0	21.5	23.5	27.5	24.0	25.5	25.5	21.5	23.0
18	25.0	23.5	24.5	27.0	22.0	24.5	25.5	23.5	24.5	24.5	21.0	23.0
19	25.0	23.0	23.5	27.5	23.0	25.0	24.5	22.0	23.5	23.0	19.0	21.0
20	27.5	22.0	24.5	28.0	24.0	26.0	22.0	21.0	21.5	21.0	17.5	19.0
21	28.5	22.5	25.5	27.0	24.0	25.5	25.0	21.0	22.5	19.5	15.5	17.5
22	25.5	22.5	23.5	27.0	24.0	25.5	23.0	20.5	22.0	19.0	14.0	16.5
23	24.0	21.0	22.5	28.5	24.5	26.0	24.0	20.5	22.5	15.5	14.5	15.0
24	25.5	20.0	23.0	29.0	23.5	26.0	25.5	21.0	23.0	18.0	14.5	16.0
25	26.0	20.5	23.0	26.0	24.0	25.0	26.0	22.5	24.0	16.5	16.0	16.0
26	26.5	21.0	23.5	25.0	23.5	24.5	26.5	21.5	24.0	19.5	15.5	17.0
27	27.0	21.5	24.5	26.0	22.5	24.0	27.5	22.0	24.5	18.0	14.5	16.0
28	28.0	22.5	25.5	26.0	22.0	24.0	27.5	23.0	25.0	18.0	13.0	15.0
29	28.0	24.0	26.0	25.0	21.5	23.0	27.5	23.0	25.5	15.0	12.5	14.0
30	28.0	24.5	26.0	26.0	21.0	23.5	28.0	24.5	26.0	16.0	11.5	13.5
31	---	---	---	27.0	23.0	24.5	27.0	23.5	25.5	---	---	---
MONTH	28.5	18.5	24.0	29.0	17.0	23.0	28.0	19.0	23.5	25.5	11.5	19.5

DELAWARE RIVER BASIN

01432160 DELAWARE RIVER AT BARRYVILLE, NY

LOCATION.--Lat 41°28'31", long 74°54'46", Pike County, Pa., Hydrologic Unit 02040104, at Shohola-Barryville Bridge at Barryville, just upstream from Halfway Brook, and 1,000 ft upstream from Shohola Creek.

DRAINAGE AREA.--2,659 mi².

PERIOD OF RECORD.--Water years 1958, 1968 to current year.

CHEMICAL DATA: 1958 (d), 1969 (a), 1973 (b), 1974 (d), 1975 (b).

NUTRIENT DATA: 1973 (b), 1974 (d), 1975 (b).

BIOLOGICAL DATA:

Bacteria.--1973 (b), 1974 (d), 1975 (b).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1967 to September 1973, March 1975 to current year.

INSTRUMENTATION.--Water-temperature digital recorder since March 1975, provides one-hour-interval punches. Prior to September 1973, water-temperature recorder provided continuous recordings.

REMARKS.--Unpublished records of daily temperatures for May to September 1964-66 are available in files of the Geological Survey. Temperature probe may be influenced by solar radiation during periods of low flow. Interruption of record was due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1968-73, 1976-78, 1980-82, 1986-88, 1990-91), 32.0°C, July 20, 21, 1980; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.0°C, July 23; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.0	15.5	16.5	8.5	7.0	8.0	5.0	3.5	4.0	---	---	---
2	16.0	14.5	15.5	9.5	7.5	8.5	4.0	3.0	3.5	---	---	---
3	15.5	13.5	14.5	10.0	8.5	9.5	4.0	2.0	3.0	---	---	---
4	15.0	14.0	14.5	10.5	9.5	10.0	5.0	3.5	4.5	---	---	---
5	15.0	13.0	14.5	11.0	10.0	10.5	3.5	3.0	3.5	---	---	---
6	16.0	14.0	15.0	11.0	10.0	10.5	3.0	1.5	2.5	---	---	---
7	17.0	15.0	16.0	9.5	8.5	9.0	3.5	2.0	3.0	---	---	---
8	17.5	16.0	17.0	8.5	6.5	7.5	3.0	2.0	2.5	.0	.0	---
9	18.0	17.0	17.5	6.5	5.0	6.0	3.0	2.5	2.5	.5	.0	.0
10	20.5	18.0	19.0	8.0	6.0	7.0	3.5	2.5	3.0	.5	.0	.0
11	20.0	18.5	19.0	6.5	6.0	6.5	3.0	1.5	2.0	.0	.0	.0
12	21.0	18.5	19.5	6.5	5.0	5.5	3.0	1.5	2.0	.0	.0	.0
13	21.0	19.5	20.0	5.5	4.0	4.5	3.5	2.0	2.5	.0	.0	.0
14	20.5	19.0	20.0	4.5	2.5	3.5	3.0	1.0	2.0	.0	.0	.0
15	19.0	17.0	18.0	5.5	3.0	4.0	1.5	.0	.5	.5	.0	.0
16	16.5	15.0	15.5	7.0	4.5	5.5	1.0	.5	1.0	1.0	.0	.5
17	15.0	13.5	14.5	7.0	6.0	6.5	2.5	1.0	1.5	1.0	.5	.5
18	16.0	14.5	15.0	6.0	4.5	5.0	3.0	1.5	2.5	1.0	.0	.5
19	14.5	12.5	13.5	5.0	3.0	3.5	3.0	2.5	2.5	1.0	.0	.5
20	12.0	11.0	11.5	5.5	3.5	4.5	2.5	1.5	2.5	1.5	.0	.5
21	11.0	10.0	11.0	5.5	3.5	4.5	3.0	2.0	2.5	1.5	.0	1.0
22	11.5	10.5	11.0	5.0	4.0	4.5	4.0	3.0	3.5	.0	.0	.0
23	12.5	11.5	12.0	6.0	4.5	5.0	6.5	4.5	5.5	.0	.0	.0
24	12.5	12.0	12.5	5.5	4.5	5.0	6.0	4.0	5.5	.5	.0	.0
25	12.0	11.0	11.5	5.0	4.0	4.5	4.0	1.5	2.5	.0	.0	.0
26	11.5	9.0	10.5	5.5	4.0	4.5	1.5	.5	1.0	.0	.0	.0
27	9.0	8.0	8.5	6.0	4.0	5.0	1.0	.0	.5	.0	.0	.0
28	8.0	7.5	8.0	7.5	5.0	6.0	.5	.0	.0	1.5	.0	.5
29	7.5	7.0	7.0	7.5	6.0	7.0	1.5	.5	1.0	1.5	.0	.5
30	7.5	6.0	6.5	6.0	4.5	5.0	---	1.0	---	1.5	.5	1.0
31	8.5	6.5	7.5	---	---	---	---	---	---	1.5	.0	.5
MONTH	21.0	6.0	14.0	11.0	2.5	6.0	---	---	---	---	---	---

DELAWARE RIVER BASIN

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01432160 DELAWARE RIVER AT BARRYVILLE, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.0	.0	4.0	1.5	2.5	5.5	5.0	5.0	16.0	13.0	14.5
2	.5	.0	.0	5.0	3.0	4.0	6.0	4.5	5.0	15.5	14.5	15.0
3	1.0	.0	.5	6.5	4.5	5.5	7.0	4.5	5.5	14.0	12.5	13.5
4	1.0	.0	.5	6.5	4.5	6.0	8.5	5.5	7.0	14.5	11.0	13.0
5	2.0	.0	1.0	4.5	3.5	4.0	9.0	7.5	8.5	16.0	12.0	14.0
6	2.0	1.0	1.5	4.0	3.0	3.5	11.5	8.5	10.0	15.5	13.5	14.0
7	1.5	1.0	1.5	4.5	3.5	4.5	14.5	11.0	12.5	14.5	12.5	13.5
8	1.5	.5	1.0	3.5	2.5	3.0	15.0	13.0	14.0	15.5	13.0	14.0
9	2.0	.5	1.5	3.0	1.5	2.5	16.5	13.5	15.0	14.5	13.5	14.0
10	2.5	1.5	2.0	3.0	1.5	2.5	16.0	13.5	14.5	16.0	13.5	14.5
11	2.0	1.0	1.5	2.5	1.0	2.0	13.5	11.0	12.5	17.5	14.0	15.5
12	1.0	.0	.5	3.0	1.0	1.5	11.0	9.5	10.5	19.5	16.0	17.5
13	1.5	.0	.5	3.0	1.5	2.0	9.5	7.5	8.5	21.5	17.5	19.5
14	1.5	.0	1.0	3.0	2.5	2.5	10.0	7.5	8.5	21.0	18.0	19.5
15	1.5	.5	1.0	3.5	2.5	3.0	9.5	8.5	9.0	22.5	19.5	21.0
16	.5	.0	.5	4.5	2.0	3.0	11.0	8.0	9.5	23.5	20.0	22.0
17	.0	.0	.0	5.5	3.0	4.5	11.0	10.0	10.5	23.0	21.0	22.0
18	1.5	.0	.5	5.0	4.0	4.5	10.5	9.5	10.0	23.0	21.0	22.0
19	2.0	1.0	1.5	5.5	4.0	4.5	11.5	9.0	10.5	21.5	19.5	20.5
20	2.5	1.5	2.0	6.0	4.5	5.0	11.0	10.0	10.5	22.0	18.5	20.5
21	2.0	.5	1.5	5.0	4.5	5.0	10.5	9.0	9.5	22.5	18.5	21.0
22	3.0	1.0	2.0	5.0	4.0	4.5	9.0	7.5	8.0	24.5	20.5	22.5
23	2.5	1.0	1.5	4.5	3.5	4.0	10.5	7.0	8.5	26.5	22.0	24.0
24	1.0	.0	.5	4.0	3.5	3.5	10.0	9.5	10.0	26.0	23.0	24.5
25	2.5	1.0	1.5	4.0	3.5	4.0	12.0	9.5	10.5	27.0	23.5	25.5
26	2.5	1.5	2.0	6.0	4.0	5.0	13.0	10.5	12.0	25.5	24.0	25.0
27	2.5	1.5	2.0	6.0	5.5	6.0	15.0	12.5	13.5	26.5	23.5	25.0
28	2.5	1.0	2.0	8.5	6.0	7.0	15.5	13.5	14.5	26.5	24.5	25.5
29	---	---	---	8.0	7.5	7.5	14.5	13.0	14.0	26.5	23.0	25.0
30	---	---	---	7.5	6.0	6.5	14.5	12.5	13.0	26.5	23.0	25.5
31	---	---	---	6.0	5.0	5.5	---	---	---	25.0	22.5	24.0
MONTH	3.0	0.0	1.0	8.5	1.0	4.0	16.5	4.5	10.5	27.0	11.0	19.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	25.0	22.5	24.0	26.5	23.0	25.0	25.5	22.5	24.0	23.5	21.5	22.5
2	25.5	22.5	24.0	24.5	22.5	23.5	25.5	23.5	24.5	22.0	20.0	21.0
3	26.0	23.0	24.5	22.5	20.5	21.5	24.5	23.0	24.0	21.5	19.5	20.5
4	24.5	22.5	24.0	21.0	20.0	20.5	23.5	22.5	23.0	20.5	19.5	20.5
5	23.0	21.0	22.0	20.0	18.5	19.0	23.0	21.0	22.0	21.5	19.5	20.5
6	23.0	20.5	21.5	20.5	18.0	19.5	23.0	20.5	21.5	22.0	19.5	21.0
7	24.5	19.5	22.0	22.5	20.0	21.0	23.0	20.0	21.5	21.5	20.0	21.0
8	25.5	20.5	23.0	24.5	21.0	22.5	23.5	20.5	22.0	22.0	20.0	21.0
9	25.5	22.0	24.0	26.0	21.5	23.5	22.0	21.0	21.5	22.5	20.5	21.5
10	26.0	22.5	24.5	25.0	21.0	23.5	22.5	20.5	21.5	22.0	21.0	21.5
11	25.5	23.5	24.5	24.0	21.5	23.0	21.5	20.5	21.0	22.5	20.5	21.5
12	25.5	23.0	24.0	23.5	21.0	22.5	23.0	19.0	21.0	21.0	19.0	20.0
13	23.0	21.0	22.0	22.5	21.0	22.0	26.5	19.0	22.0	20.5	18.5	19.5
14	22.5	19.5	21.5	22.5	20.5	21.5	25.0	19.5	22.0	21.5	19.5	20.5
15	24.5	21.0	22.5	23.0	19.5	21.5	23.0	21.0	22.0	21.0	20.0	20.5
16	25.5	22.5	24.0	23.5	20.5	22.0	26.5	21.0	23.5	23.0	19.5	21.0
17	26.5	23.5	25.0	24.5	21.5	23.5	26.0	22.0	24.0	25.0	21.0	22.5
18	25.5	23.5	24.5	26.0	22.5	24.5	25.0	23.5	24.5	24.0	20.5	22.0
19	24.5	22.5	23.5	26.5	23.0	25.0	24.0	22.5	23.0	22.0	19.0	20.5
20	26.5	22.5	24.5	26.5	22.5	24.5	22.5	21.0	21.5	19.5	17.5	18.5
21	27.0	23.5	25.5	26.0	25.0	25.5	25.5	20.5	22.0	18.0	16.5	17.0
22	26.0	22.5	24.0	27.0	23.5	25.0	22.5	20.5	22.0	17.5	15.0	16.0
23	23.5	21.5	22.5	28.0	22.5	25.0	23.0	21.0	22.0	16.5	15.0	15.5
24	24.5	21.0	22.5	27.5	22.0	24.5	26.0	20.5	23.0	21.0	16.0	17.5
25	26.0	21.5	23.5	24.0	22.5	23.5	25.0	22.0	23.0	18.0	17.0	17.0
26	25.5	22.0	23.5	23.5	21.5	22.5	25.5	21.0	23.0	21.5	16.5	18.0
27	27.0	22.0	24.5	24.5	21.0	22.5	26.0	22.0	24.0	18.0	15.0	16.5
28	27.5	23.0	25.0	25.0	22.0	23.5	26.0	23.0	24.5	18.0	14.0	15.5
29	27.0	24.5	26.0	24.0	21.5	22.5	27.0	23.5	25.0	14.5	13.0	14.0
30	27.0	25.0	26.0	25.0	20.0	22.0	27.0	24.5	26.0	15.0	12.0	13.5
31	---	---	---	25.0	21.0	23.0	26.0	24.0	25.5	---	---	---
MONTH	27.5	19.5	24.0	28.0	18.0	23.0	27.0	19.0	23.0	25.0	12.0	19.5

DELAWARE RIVER BASIN

01432805 DELAWARE RIVER AT POND EDDY, NY

LOCATION.--Lat 41°26'20", long 74°49'11", Pike County, Pa., Hydrologic Unit 02040104, at interstate bridge at Pond Eddy, 450 ft downstream from Mill Brook, and 4.5 mi upstream from Mongaup River.

DRAINAGE AREA.--2,820 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1973 to current year.

INSTRUMENTATION.--Water-temperature digital recorder since October 1973, provides one-hour-interval punches.

REMARKS.--Interruptions of record were due to malfunctions of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1976, 1978, 1980-81, 1983-84, 1986, 1989-90) 31.0°C, July 21, 1980; minimum (water years 1974, 1977-78, 1980, 1983-91), 0.0°C on many days during winter periods, except 1978, 1980, and 1985.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 28.5°C, June 29, Aug. 30, but may have been higher during periods of instrument malfunction; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.0	16.0	17.0	8.0	7.5	8.0	5.0	3.5	4.5	2.0	1.0	1.0
2	17.0	15.0	16.0	9.0	8.0	8.5	4.5	3.5	4.0	1.5	.5	1.0
3	16.5	14.0	15.0	10.5	9.0	9.5	3.5	2.5	3.0	1.5	1.0	1.5
4	15.0	14.5	15.0	10.5	9.5	10.0	5.5	3.0	4.5	1.5	1.0	1.5
5	16.0	13.5	14.5	11.0	10.0	10.5	3.5	3.0	3.5	1.0	.5	1.0
6	17.5	14.0	15.5	11.5	10.0	10.5	3.0	2.0	2.5	1.0	1.0	1.0
7	18.0	15.5	16.5	9.5	9.0	9.5	3.0	2.5	3.0	1.5	1.0	1.5
8	18.5	16.5	17.5	9.0	7.0	8.0	3.0	2.5	3.0	1.0	.0	.5
9	19.0	17.0	18.0	7.0	5.5	6.0	3.0	2.5	3.0	.5	.0	.0
10	20.0	18.0	19.0	7.5	6.0	6.5	3.5	2.5	3.0	1.0	.5	.5
11	20.0	19.0	19.5	6.5	6.0	6.5	3.0	2.0	2.5	.5	.0	.0
12	21.0	19.0	20.0	6.5	5.0	5.5	2.5	2.0	2.0	.0	.0	.0
13	21.0	19.5	20.5	5.0	4.0	4.5	3.0	2.5	2.5	.5	.0	.0
14	20.5	19.5	20.0	4.0	3.0	3.5	3.0	1.5	2.0	.0	.0	.0
15	19.5	17.5	18.5	4.5	3.0	3.5	1.5	.5	1.0	.5	.0	.0
16	17.5	15.0	16.0	6.0	4.5	5.0	1.5	.5	1.0	1.0	.5	.5
17	15.5	14.0	14.5	6.5	6.0	6.0	2.0	1.5	1.5	1.0	1.0	1.0
18	16.0	14.5	15.0	6.0	4.5	5.0	3.0	2.0	2.5	1.0	.5	1.0
19	15.0	13.0	13.5	4.0	3.5	4.0	3.0	3.0	3.0	1.5	.5	1.0
20	12.5	11.0	11.5	4.5	3.5	4.0	3.0	2.5	2.5	1.5	.5	1.0
21	11.0	10.0	11.0	4.5	3.5	4.0	3.0	2.5	3.0	1.5	.5	1.0
22	11.5	10.5	11.0	4.5	4.0	4.5	4.5	3.5	4.0	.5	.0	.0
23	12.0	11.5	12.0	5.5	4.5	5.0	6.5	4.5	6.0	.0	.0	.0
24	12.5	12.0	12.5	5.5	5.0	5.5	6.5	5.0	6.5	.5	.0	.0
25	12.0	11.5	12.0	5.5	4.5	5.0	5.0	2.0	3.5	.0	.0	.0
26	11.5	9.5	10.5	5.0	4.5	5.0	2.0	1.0	1.5	.5	.0	.0
27	9.0	8.0	8.5	5.0	5.0	5.0	1.0	.5	.5	.5	.0	.0
28	8.5	7.5	8.0	7.0	5.5	6.0	.5	.0	.0	.5	.0	.0
29	7.5	7.0	7.5	7.5	6.0	7.0	1.5	.5	1.0	.5	.0	.5
30	7.0	6.0	6.5	6.0	4.5	5.5	3.0	1.5	2.0	1.0	.5	1.0
31	8.0	7.0	7.5	---	---	---	3.0	2.0	2.5	1.0	.0	1.0
MONTH	21.0	6.0	14.0	11.5	3.0	6.0	6.5	0.0	2.5	2.0	0.0	0.5

DELAWARE RIVER BASIN

01432805 DELAWARE RIVER AT POND EDDY, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.0	.0	3.5	1.5	2.5	5.5	5.0	5.0	16.0	13.5	14.5
2	.5	.0	.5	5.0	3.5	4.5	5.5	4.5	5.0	16.0	15.0	15.5
3	1.0	.0	.5	7.0	5.0	6.0	6.5	4.0	5.5	15.0	13.5	14.0
4	1.5	.5	1.0	6.5	5.0	6.0	8.5	5.5	7.0	14.5	12.0	13.5
5	1.5	.5	1.0	5.0	4.0	4.5	9.5	7.5	8.5	15.5	12.5	14.0
6	2.0	1.5	1.5	4.5	3.0	4.0	11.5	8.5	10.0	15.5	14.0	14.5
7	2.0	1.0	1.5	5.0	4.0	4.5	14.0	11.0	12.5	14.5	13.5	14.0
8	1.5	.5	1.0	4.0	3.0	3.5	15.0	13.0	14.0	15.5	13.0	14.5
9	2.5	1.0	1.5	3.0	2.0	2.5	16.0	14.5	15.5	---	14.0	---
10	2.5	2.0	2.5	3.0	2.0	2.5	16.0	14.0	15.0	---	---	---
11	2.5	1.5	2.0	2.5	1.5	2.0	14.5	11.5	13.0	---	---	---
12	1.5	.0	.5	2.5	1.0	2.0	11.5	9.5	11.0	---	---	---
13	1.0	.5	.5	3.0	1.0	2.0	10.5	8.5	9.0	---	---	---
14	1.5	.5	1.0	3.0	2.5	2.5	10.0	7.5	8.5	---	---	---
15	1.5	.5	1.0	3.5	2.5	3.0	9.5	8.5	9.0	---	---	---
16	.5	.0	.0	4.5	2.0	3.5	11.0	8.0	9.5	---	---	---
17	.5	.0	.5	5.5	3.0	4.5	11.0	10.0	10.5	---	---	---
18	1.0	.0	.5	5.5	4.5	5.0	10.5	10.0	10.0	---	---	---
19	2.0	1.0	1.0	5.5	4.5	5.0	11.5	9.5	10.5	---	---	---
20	2.0	2.0	2.0	6.5	4.5	5.5	11.0	10.0	10.5	---	---	---
21	2.0	.5	1.5	5.5	4.5	5.0	10.0	9.0	9.5	---	---	---
22	2.5	1.5	2.0	5.0	4.0	5.0	9.0	8.0	8.5	---	---	---
23	2.5	1.5	1.5	5.0	4.0	4.5	10.0	7.5	8.5	---	---	---
24	1.5	.5	.5	4.0	3.5	4.0	10.0	9.5	10.0	---	---	---
25	2.0	1.0	1.5	4.0	3.5	4.0	12.0	9.5	10.5	---	---	---
26	2.5	1.5	2.0	6.0	4.0	5.0	12.5	11.0	12.0	---	---	---
27	2.5	1.5	2.0	6.5	5.5	6.0	14.5	12.5	13.5	---	---	---
28	2.5	1.0	2.0	9.0	6.0	7.5	15.0	13.5	14.5	---	---	---
29	---	---	---	8.0	7.5	8.0	14.5	13.5	14.0	---	---	---
30	---	---	---	7.5	6.5	7.0	14.0	13.0	13.5	---	---	---
31	---	---	---	6.5	5.0	6.0	---	---	---	---	---	---
MONTH	2.5	0.0	1.0	9.0	1.0	4.5	16.0	4.0	10.5	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	27.5	24.0	25.5	27.0	---	---	25.0	22.5	23.5
2	---	---	---	25.0	23.0	24.0	27.5	24.0	25.5	23.5	20.0	21.5
3	---	---	---	23.0	21.0	22.0	25.0	24.0	24.5	23.0	20.0	21.0
4	---	---	---	22.0	20.5	21.0	25.0	23.0	24.0	21.5	20.0	20.5
5	---	---	---	21.0	18.5	20.0	24.0	22.0	23.0	23.0	20.0	21.0
6	---	---	---	---	---	---	24.0	21.0	22.0	23.0	20.5	21.5
7	---	---	---	---	---	---	24.5	20.5	22.5	23.0	20.5	21.5
8	---	---	---	---	---	---	24.5	21.0	22.5	23.0	20.5	21.5
9	---	---	---	---	---	---	22.5	22.0	22.5	23.5	21.0	22.0
10	---	---	---	---	---	---	23.5	21.0	22.5	23.0	21.5	22.0
11	---	---	---	---	---	---	22.5	21.0	22.0	23.5	21.0	22.0
12	---	---	---	---	---	---	23.5	20.0	21.5	22.5	20.0	21.0
13	---	---	---	---	---	---	25.0	20.5	22.5	22.0	19.0	20.5
14	---	---	---	---	---	---	25.0	21.5	23.0	22.5	19.5	21.0
15	---	---	---	---	---	---	23.0	22.0	22.5	21.0	20.5	20.5
16	---	---	---	---	---	---	26.5	21.5	23.5	23.5	20.0	21.5
17	---	---	---	---	---	---	26.0	23.5	24.5	24.5	22.0	23.0
18	---	---	---	---	---	---	25.5	24.5	25.0	24.0	22.0	23.0
19	---	---	---	---	---	---	24.5	23.5	24.0	22.5	20.0	21.5
20	---	---	---	---	---	---	23.0	21.5	22.5	20.0	18.0	19.0
21	28.0	23.5	25.5	---	---	---	24.5	21.0	22.5	19.0	17.0	18.0
22	26.0	23.0	24.5	---	---	---	24.0	21.5	22.5	18.5	15.5	17.0
23	23.5	22.0	22.5	---	---	---	24.0	22.0	23.0	16.5	15.5	16.0
24	24.5	21.0	23.0	---	---	---	26.0	22.0	23.5	19.0	15.0	17.0
25	26.0	22.0	23.5	---	---	---	25.0	22.5	23.5	17.5	17.0	17.5
26	26.0	22.5	24.0	---	---	---	26.0	22.0	23.5	19.5	16.5	17.5
27	26.5	22.5	24.5	---	---	---	27.0	22.5	24.5	17.5	16.0	16.5
28	28.0	23.5	25.5	---	---	---	27.5	23.5	25.0	17.5	14.5	15.5
29	28.5	25.0	26.5	---	---	---	27.5	24.0	25.5	15.0	13.5	14.5
30	27.5	25.5	26.5	---	---	---	28.5	25.0	26.5	15.0	12.5	13.5
31	---	---	---	---	---	---	27.5	25.0	26.0	---	---	---
MONTH	---	---	---	---	---	---	28.5	---	---	25.0	12.5	19.5

DELAWARE RIVER BASIN

01433500 MONGAUP RIVER NEAR MONGAUP, NY

LOCATION.--Lat 41°27'41", long 74°45'33", Sullivan County, Hydrologic Unit 02040104, on right bank 300 ft downstream from Rio hydroelectric plant of Orange and Rockland Utilities, Inc., 0.5 mi downstream from Bush Kill, and 2.8 mi upstream from mouth and Mongaup.

DRAINAGE AREA.--200 mi².

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

REVISED RECORDS.--WDR NY-71-1: 1970. WDR NY-81-1: 1980. WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 625.05 ft Orange and Rockland Utilities, Inc. datum. Prior to July 6, 1956, water-stage recorders at sites 25 ft upstream on Rio Tailrace and 200 ft upstream on natural channel, at datum 4.0 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Entire flow regulated by Rio Hydroelectric plant except for runoff from about 7 mi² of drainage area downstream from Rio Dam of Orange and Rockland Utilities, Inc., and during periods of spill from Rio Reservoir. Flow also regulated by storage in Cliff Lake, Swinging Bridge, and Toronto Reservoirs (see Reservoirs in Delaware River Basin) and small reservoirs upstream from station.

AVERAGE DISCHARGE.--52 years, 342 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft³/s, Aug. 19, 1955, gage height, 15.22 ft, present datum; minimum daily, 6 ft³/s, Oct. 1, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft³/s, Nov. 11, gage height, 4.42 ft; minimum daily, 24 ft³/s, Apr. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	286	340	532	297	402	219	429	51	50	94	39
2	42	109	90	698	315	362	425	418	41	36	51	38
3	138	83	403	624	198	638	446	440	341	265	42	44
4	135	73	824	665	278	755	384	284	37	36	42	37
5	199	297	853	499	35	860	353	33	37	58	42	47
6	144	85	739	692	424	722	125	35	35	36	42	37
7	201	150	661	450	328	723	24	263	35	37	163	37
8	155	96	709	585	330	718	315	395	34	287	92	36
9	389	418	473	575	387	646	200	512	33	159	47	182
10	497	394	678	479	479	557	32	428	369	38	48	35
11	327	976	514	613	247	617	33	270	333	70	39	35
12	315	945	446	647	551	610	358	171	310	52	147	33
13	341	923	356	468	470	297	32	479	36	37	140	60
14	34	572	558	664	515	493	33	541	105	273	212	33
15	171	629	367	388	698	312	461	564	238	145	312	33
16	29	550	432	583	696	47	357	432	231	223	415	438
17	29	579	452	665	469	247	165	573	298	344	210	84
18	171	571	449	533	457	355	153	98	194	308	106	50
19	339	598	493	279	375	630	31	30	130	323	233	45
20	33	588	550	365	583	703	264	30	230	41	46	41
21	30	466	670	500	304	699	308	211	275	211	44	39
22	45	347	434	562	267	448	568	372	39	315	135	39
23	92	371	493	444	322	491	697	29	40	358	299	39
24	474	384	703	258	506	616	697	34	38	301	42	322
25	460	180	641	437	433	444	680	38	46	37	41	124
26	558	475	695	32	493	696	325	37	143	192	319	208
27	418	474	494	33	486	306	44	176	114	38	262	35
28	342	380	489	146	483	148	43	325	315	36	330	34
29	358	418	696	468	---	459	408	253	255	87	352	34
30	240	502	650	509	---	514	354	440	94	37	268	38
31	535	---	660	475	---	310	---	435	---	190	52	---
TOTAL	7325	12919	17012	14868	11426	15825	8534	8775	4477	4620	4667	2296
MEAN	236	431	549	480	408	510	284	283	149	149	151	76.5
MAX	558	976	853	698	698	860	697	573	369	358	415	438
MIN	29	73	90	32	35	47	24	29	33	36	39	33

CAL YR 1990 TOTAL 141036 MEAN 386 MAX 976 MIN 29
WTR YR 1991 TOTAL 112744 MEAN 309 MAX 976 MIN 24

DELAWARE RIVER BASIN

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. Water-quality sampling site at discharge station.

DRAINAGE AREA.--3,070 mi².

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929. October 1904 to August 13, 1928, nonrecording gage at bridge 250 ft upstream at present datum; operated by U.S. Weather Bureau 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 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² 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. Telephone gage-height telemeter and satellite gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 233,000 ft³/s, Aug. 19, 1955, gage height, 23.91 ft, from floodmarks in gage house, from rating curve extended above 89,000 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 26.6 ft, Feb. 12, 1981 (ice jam), from floodmarks; minimum observed discharge, 175 ft³/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 ft³/s, Oct. 10, 1903, gage height, 23.1 ft, from rating curve extended above 70,000 ft³/s, by velocity-area studies; maximum gage height, 25.5 ft, Mar. 8, 1904 (ice jam).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49,800 ft³/s, Nov. 11, gage height, 11.13 ft; minimum, 697 ft³/s, Sept. 27, gage height, 1.65 ft; minimum daily, 888 ft³/s, Aug. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1550	2990	3130	15200	4290	4730	5970	4620	2870	1500	1590	1550
2	1640	2640	2190	12400	3460	4410	6040	4520	2000	1560	1620	1460
3	1780	2340	2720	10300	2950	6220	5590	4500	1880	1940	1490	1580
4	1650	2160	14400	8940	3210	14700	5310	3950	1530	1780	1560	1560
5	1730	2260	22300	7420	3570	18600	4960	3310	1440	1770	1570	1710
6	1590	2280	13300	6430	4260	13900	4310	4410	1440	1800	1570	1600
7	1770	3450	9950	6140	7330	12200	4080	5830	1250	1720	1650	1610
8	1550	3230	7460	5380	14200	11900	4480	5820	1120	1790	1680	1710
9	2120	3070	5810	5120	11200	8990	4180	4940	1390	1580	1600	1730
10	2230	6850	5790	4520	9380	7320	4580	4450	1660	1410	1710	1670
11	1300	40700	5510	4800	8250	6710	4450	4170	1700	1570	1650	1610
12	1460	20800	4900	4060	7640	6240	4710	3790	1720	1820	1410	1650
13	1750	13400	4550	3710	6520	5500	3910	3680	1800	1700	1500	1620
14	2320	9470	4520	4530	6570	5380	3730	3980	1920	1960	1450	1570
15	3900	7650	3670	4100	6870	5290	4240	3280	1860	1940	1750	1600
16	2610	6850	3110	4540	6350	4480	4550	2870	1880	2040	1900	1810
17	1990	6290	4190	6230	4720	4150	4040	2780	1600	2070	1960	2000
18	1880	5600	4960	7860	4550	4780	3710	2220	1540	1780	1600	1800
19	4980	5320	9580	6380	4770	6640	3210	2020	1570	2000	1830	1940
20	7010	5280	9440	5040	5350	7010	2960	1860	1590	2100	1550	2110
21	4370	4690	7980	5860	9310	6550	3210	1800	1660	1830	1080	2100
22	3290	3960	8800	5440	8180	5820	8720	1810	1710	1870	1790	1270
23	2990	3680	9220	4700	7640	5930	10600	1440	1670	1780	1990	1200
24	12000	3800	13600	4070	6040	7440	9080	1470	1640	1900	1050	1830
25	15300	3420	15500	4620	6300	8990	8660	1520	1460	1630	888	1680
26	9350	3710	12600	3660	5940	9170	7660	1420	1600	1590	1330	1750
27	6550	3550	9860	2890	5550	7850	6340	1480	1470	1730	1460	1440
28	5100	3300	8530	3730	5150	8070	5560	1930	1660	1770	1600	1390
29	4400	3260	8120	4360	---	7860	5270	2240	1890	1470	1650	1160
30	3660	3390	7190	4080	---	7190	4800	1900	1630	1530	1670	1220
31	3510	---	17600	4430	---	6520	---	2980	---	1660	1540	---
TOTAL	117330	189390	260480	180940	179550	240540	158910	96990	50150	54590	48688	48930
MEAN	3785	6313	8403	5837	6412	7759	5297	3129	1672	1761	1571	1631
MAX	15300	40700	22300	15200	14200	18600	10600	5830	2870	2100	1990	2110
MIN	1300	2160	2190	2890	2950	4150	2960	1420	1120	1410	888	1160

CAL YR 1990 TOTAL 2033850 MEAN 5572 MAX 40700 MIN 1140
WTR YR 1991 TOTAL 1626488 MEAN 4456 MAX 40700 MIN 888

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-60, 1964 to current year.

CHEMICAL DATA: 1958-59 (e), 1964-65 (c), 1966 (a), 1967-68 (c), 1969-76 (d), 1987 (b), 1988-89 (c), 1990-91 (b).

MINOR ELEMENTS DATA: 1970 (a), 1972-73 (a), 1974-76 (c), 1987 (b), 1988-89 (c), 1990-91 (b).

PESTICIDE DATA: 1974 (a), 1987 (b), 1988-89 (c), 1990 (b).

ORGANIC DATA: OC--1974 (b), 1975 (d).

NUTRIENT DATA: 1968 (a), 1969-76 (d), 1987 (b), 1988-89 (c), 1990 (b).

BIOLOGICAL DATA:

Bacteria--1973-76 (d).

Phytoplankton--1974 (b), 1975-76 (c).

Periphyton--1976 (a).

SEDIMENT DATA: 1959 (c), 1976 (c), 1988 (b), 1989 (c), 1990-91 (b).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1973 to September 1973.

WATER TEMPERATURES: February 1957 to September 1960, January 1973 to September 1973, June 1974 to current year.

SUSPENDED-SEDIMENT DISCHARGE: February 1957 to September 1960, March 1970 to June 1976.

INSTRUMENTATION.--Water-temperature digital recorder since January 1973, provides one-hour-interval punches.

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed by USGS laboratories.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1957-59, 1973-81, 1983-84, 1988-91), 30.0°C, July 13, 1981; minimum (water years 1958-60, 1973, 1975-91), 0.0°C, on many days during winter periods, except 1984.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 27.5°C, July 23; minimum, 0.0°C, Jan. 8, 9, 10, 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
NOV 08...	1200	3480	72	7.5	8.5	756	11.7	100
APR 25...	1100	8670	83	7.4	10.0	755	10.3	92
MAY 22...	1100	1510	93	7.8	20.5	754	8.3	93
JUN 25...	1300	1420	96	8.4	23.0	756	9.1	107
AUG 29...	1100	1360	87	7.6	24.5	755	8.4	102

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
NOV 08...	<1	3	110	<1	10	<0.10	1	<10
APR 25...	<1	2	270	2	60	<0.10	1	<10
MAY 22...	<1	5	350	6	40	<0.10	4	10
JUN 25...	<1	4	140	18	40	<0.10	32	<10
AUG 29...	<1	9	1300	2	60	<0.10	1	20

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV				
08...	1200	3480	2	19
APR				
25...	1100	8670	10	234
MAY				
22...	1100	1510	<1	--
JUN				
25...	1300	1420	<1	--
AUG				
29...	1100	1360	3	11

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.0	16.5	17.0	9.0	8.0	8.5	5.0	4.0	4.5	2.0	1.0	1.5
2	16.5	15.5	16.0	9.5	8.5	9.0	4.5	4.0	4.5	1.0	1.0	1.0
3	15.5	14.0	15.0	10.5	8.5	9.5	4.0	3.0	3.5	1.5	1.0	1.0
4	15.5	14.5	15.0	11.0	9.5	10.0	5.5	3.5	4.5	1.5	1.5	1.5
5	15.5	14.0	15.0	11.5	10.0	10.5	4.0	3.5	4.0	1.5	1.0	1.0
6	16.5	14.5	15.5	11.5	10.0	11.0	3.5	3.0	3.0	1.5	1.0	1.0
7	17.5	15.5	16.5	10.0	9.0	9.5	3.0	3.0	3.0	1.5	1.0	1.5
8	18.0	16.5	17.5	9.0	7.0	8.5	3.0	3.0	3.0	1.0	.0	.5
9	18.5	17.5	18.0	7.0	6.5	7.0	3.5	3.0	3.0	.0	.0	.0
10	19.0	17.5	18.5	7.5	6.5	7.0	3.5	3.0	3.5	1.0	.0	1.0
11	19.5	18.5	19.0	7.5	6.5	6.5	3.0	2.0	2.5	.5	.5	.5
12	20.5	19.0	20.0	6.5	5.5	6.0	2.5	2.0	2.5	.5	.0	.5
13	20.5	19.5	20.0	5.5	4.0	5.0	3.0	2.0	2.5	.5	.5	.5
14	21.0	20.0	20.5	4.0	3.5	4.0	2.5	1.5	2.5	.5	.5	.5
15	20.0	17.5	19.0	4.5	3.5	4.0	1.5	1.0	1.0	.5	.5	.5
16	17.5	15.5	16.5	6.0	4.0	5.0	2.0	1.0	1.5	1.0	.5	.5
17	15.5	14.0	15.0	6.5	5.5	6.5	2.5	1.5	2.0	1.5	1.0	1.0
18	16.0	14.5	15.5	6.0	4.5	5.5	2.5	2.0	2.5	1.0	1.0	1.0
19	15.5	13.0	14.0	4.5	4.0	4.5	3.0	2.5	3.0	1.0	1.0	1.0
20	12.5	11.5	12.0	4.5	3.5	4.0	3.0	2.5	3.0	1.5	1.0	1.5
21	11.5	10.5	11.0	5.0	4.0	4.5	3.0	2.5	3.0	1.5	1.0	1.5
22	12.0	11.0	11.5	5.5	4.0	5.0	4.5	3.0	4.0	.5	.5	.5
23	12.5	11.5	12.0	5.5	5.0	5.5	6.5	4.5	5.5	.5	.5	.5
24	12.5	12.5	12.5	6.0	5.0	5.5	6.5	5.5	6.5	.5	.5	.5
25	12.5	12.0	12.0	5.5	5.0	5.0	5.5	2.5	4.0	.5	.5	.5
26	12.0	10.0	11.0	5.5	5.0	5.5	2.5	1.5	2.0	.5	.5	.5
27	10.0	8.5	9.0	6.0	5.0	5.5	1.5	.5	1.0	.5	.5	.5
28	9.0	8.0	8.5	7.5	5.5	6.5	.5	.5	.5	.5	.5	.5
29	8.5	7.5	8.0	7.5	6.5	7.0	1.0	.5	1.0	1.0	.5	.5
30	8.0	6.5	7.5	6.5	5.0	6.0	2.5	1.0	2.0	1.5	1.0	1.0
31	9.0	7.5	8.5	---	---	---	3.0	2.0	2.5	1.5	.5	1.0
MONTH	21.0	6.5	14.5	11.5	3.5	6.5	6.5	0.5	3.0	2.0	0.0	1.0

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	.5	.5	.5	3.5	2.0	3.0	5.5	5.0	5.5	16.0	13.0	14.5
2	1.0	.5	.5	5.5	3.5	4.5	6.0	4.5	5.5	15.5	14.0	15.0
3	1.5	.5	1.0	7.0	5.0	6.0	6.5	4.5	5.5	14.5	13.0	14.0
4	2.0	1.0	1.5	7.0	5.5	6.5	8.5	6.0	7.0	14.5	12.0	13.5
5	2.0	1.0	1.5	5.5	4.5	4.5	9.0	7.5	8.5	15.5	12.5	14.0
6	2.5	1.5	2.0	4.5	3.5	4.0	11.5	8.5	10.0	14.5	14.0	14.5
7	2.0	1.5	2.0	5.0	4.5	5.0	13.5	11.0	12.5	14.5	13.5	14.0
8	1.5	1.0	1.5	4.5	3.5	3.5	14.0	13.0	14.0	15.0	13.0	14.0
9	2.0	1.0	1.5	3.5	2.5	3.0	16.0	14.0	15.0	14.5	14.0	14.0
10	2.5	2.0	2.5	3.0	2.5	3.0	16.0	14.5	15.5	15.0	13.5	14.5
11	2.5	2.0	2.5	2.5	2.0	2.5	14.0	12.0	13.0	17.0	14.0	15.5
12	2.0	.5	1.0	2.5	1.5	2.0	11.5	10.5	11.0	18.5	15.5	17.0
13	1.0	.5	1.0	3.0	2.0	2.5	10.5	8.5	9.5	20.0	17.0	19.0
14	1.0	1.0	1.0	3.0	3.0	3.0	10.0	8.0	9.0	19.5	19.0	19.5
15	1.5	1.0	1.5	3.5	3.0	3.0	9.5	8.5	9.0	22.0	18.0	20.0
16	1.0	.5	.5	4.5	3.0	4.0	11.0	8.5	9.5	23.0	19.0	20.5
17	1.0	.5	.5	5.5	3.5	4.5	10.5	10.0	10.5	22.5	19.0	21.0
18	1.0	.5	.5	5.0	5.0	5.0	10.5	10.0	10.0	22.5	19.5	21.0
19	1.5	.5	1.0	5.5	4.5	5.0	11.5	9.5	10.5	21.5	19.0	20.5
20	3.0	1.5	2.0	6.5	5.0	5.5	11.0	9.5	10.5	21.5	18.0	20.0
21	2.0	1.5	1.5	6.0	5.0	5.5	9.5	9.0	9.5	21.5	18.5	20.5
22	3.0	1.5	2.5	5.0	4.5	5.0	9.0	8.0	8.5	23.0	19.0	21.0
23	2.5	1.5	2.0	5.0	4.0	4.5	9.5	7.5	8.5	24.5	19.5	22.5
24	1.5	1.0	1.5	4.5	4.0	4.0	10.0	9.0	9.5	24.5	22.5	24.0
25	2.0	1.0	1.5	4.5	4.0	4.0	12.0	9.5	10.5	26.0	23.5	25.0
26	3.0	2.0	2.5	6.0	4.0	5.0	13.0	10.5	12.0	25.5	24.0	24.5
27	2.5	2.0	2.5	6.5	6.0	6.0	15.0	12.0	13.5	26.0	23.5	25.0
28	2.5	2.0	2.0	8.5	6.0	7.5	15.0	13.5	14.5	26.5	22.5	24.5
29	---	---	---	8.5	7.5	8.0	14.5	13.5	14.0	26.5	22.5	24.5
30	---	---	---	7.5	6.5	7.0	13.5	12.5	13.0	26.0	22.5	24.0
31	---	---	---	6.5	5.5	6.0	---	---	---	25.5	22.0	23.5
MONTH	3.0	0.5	1.5	8.5	1.5	4.5	16.0	4.5	10.5	26.5	12.0	19.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	25.0	23.0	24.0	26.0	23.5	25.0	25.5	21.5	24.0	24.0	22.5	23.5
2	25.5	22.0	24.0	24.5	23.0	24.0	26.0	23.5	25.0	22.5	20.5	21.5
3	25.0	22.5	24.0	23.0	20.5	22.0	25.5	24.0	24.5	22.0	20.0	21.0
4	24.0	21.5	23.0	22.5	20.5	21.5	24.5	23.0	24.0	21.5	20.5	21.0
5	23.0	21.5	22.0	21.5	19.5	20.0	23.5	22.5	23.0	22.5	20.5	21.5
6	22.5	20.5	21.5	21.5	18.5	20.0	23.0	21.0	22.5	22.0	20.5	21.5
7	22.5	20.0	21.5	22.5	20.5	21.5	23.0	21.0	22.5	22.5	20.0	21.5
8	23.5	21.0	22.5	24.5	21.5	23.0	24.0	21.5	23.0	23.0	20.5	22.0
9	24.5	22.0	23.5	24.5	21.5	23.0	23.5	21.5	22.5	23.0	21.0	22.5
10	25.0	22.5	24.0	24.5	21.5	23.0	23.0	21.0	22.0	23.0	21.5	22.5
11	24.5	21.0	22.5	24.0	22.5	23.5	22.5	21.0	22.0	22.5	21.0	22.0
12	25.0	21.5	23.0	24.0	21.5	23.0	22.5	20.5	21.5	21.5	20.0	21.0
13	23.0	20.5	22.0	23.5	22.0	22.5	23.5	20.5	22.0	21.0	19.0	20.0
14	23.0	20.0	21.5	23.5	21.5	22.5	24.5	21.5	23.0	21.5	20.0	21.0
15	24.5	20.5	22.5	23.5	20.5	22.5	23.5	21.5	22.5	21.5	20.5	21.0
16	25.0	22.0	23.5	24.5	21.0	23.0	24.0	21.0	22.5	22.5	20.0	21.5
17	26.0	23.0	24.5	24.5	22.0	23.5	25.5	22.5	24.0	24.0	21.5	23.0
18	24.5	22.0	23.5	26.0	22.0	24.0	25.0	23.5	24.5	23.5	22.0	23.0
19	23.0	22.5	22.5	26.0	23.0	24.5	24.5	22.5	23.5	23.0	19.5	21.5
20	26.0	22.5	24.0	27.0	23.5	25.5	23.0	21.5	22.0	19.5	17.5	18.5
21	26.5	22.5	24.5	26.5	24.5	26.0	23.0	21.0	22.0	18.0	16.5	17.5
22	24.0	22.5	23.5	26.5	23.5	25.5	24.0	21.0	22.5	17.5	15.5	16.5
23	23.0	21.5	22.0	27.5	24.0	25.5	23.5	21.5	22.5	16.5	15.5	16.0
24	23.5	21.0	22.5	26.5	23.0	24.5	24.0	21.5	23.0	18.0	15.0	16.5
25	24.5	21.5	23.5	24.0	23.0	23.5	24.0	22.5	23.0	18.0	17.0	17.0
26	25.0	22.5	24.0	23.5	22.0	23.0	24.0	21.5	23.0	18.0	16.5	17.0
27	25.0	22.5	24.0	24.0	21.5	22.5	25.0	21.5	23.5	17.5	16.0	16.5
28	26.5	23.5	25.0	24.5	21.5	23.0	26.0	22.5	24.5	16.0	14.5	15.0
29	27.0	23.5	25.0	24.0	22.5	23.0	26.0	23.0	25.0	15.0	13.5	14.5
30	27.0	25.0	26.0	23.5	21.5	23.0	27.0	24.0	25.5	14.0	12.5	13.5
31	---	---	---	25.0	22.0	23.5	26.5	24.5	25.5	---	---	---
MONTH	27.0	20.0	23.5	27.5	18.5	23.0	27.0	20.5	23.0	24.0	12.5	19.5

DELAWARE RIVER BASIN

0143400680 EAST BRANCH NEVERSINK RIVER NORTHEAST OF DENNING, NY

LOCATION.--Lat 42°58'01", long 74°26'54", Ulster County, Hydrologic Unit 02040104, on right bank 0.3 mi upstream from Tray Mill Brook, and 2.3 mi northeast of Denning.

DRAINAGE AREA.--8.93 mi².

PERIOD OF RECORD.--October 1990 to September 1991. Occasional discharge measurements, water years 1988-90.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130 ft³/s, Oct. 23, 1990, gage height, 5.02 ft; minimum, 2.0 ft³/s, Aug. 7, 8, 9, 1991, gage height, 1.07 ft.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 23	2400	*1,130	*5.02	Mar. 4	0115	750	4.48
Nov. 10	unknown	820	4.60				

Minimum discharge, 2.0 ft³/s, Aug. 7, 8, 9, gage height, 1.07 ft,

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	e23	15	60	e17	e14	29	38	10	4.1	2.6	3.7
2	7.3	e22	14	48	e15	e45	28	40	9.2	3.8	2.5	3.7
3	7.1	e20	14	41	14	87	26	32	8.9	4.5	2.5	3.6
4	12	e19	128	e34	13	342	25	29	9.1	4.5	2.8	3.8
5	13	e18	51	e32	14	92	26	27	8.8	4.8	2.7	4.5
6	10	e40	34	30	17	54	32	39	8.6	4.8	2.4	3.7
7	8.7	e27	29	28	35	99	38	44	8.1	4.2	2.3	3.4
8	8.2	e23	27	e26	32	e50	38	33	7.6	3.8	2.1	3.4
9	7.9	e21	25	e24	23	e45	36	30	7.2	3.5	16	3.3
10	7.9	e240	24	e23	e19	e35	37	31	7.0	3.3	22	3.3
11	15	e180	22	e22	e18	e31	31	28	6.8	3.2	6.8	3.4
12	37	e76	21	e21	e17	e29	27	26	7.9	3.0	4.4	3.3
13	57	e50	21	e20	e16	48	25	25	7.5	3.9	3.5	3.1
14	58	39	19	e19	e15	26	24	24	6.5	4.2	3.1	3.1
15	e31	37	22	19	e18	24	26	23	6.2	3.3	12	5.7
16	e24	36	22	30	e16	23	26	22	6.0	2.9	10	5.2
17	e21	34	18	e25	e15	22	24	23	5.9	2.7	5.1	4.0
18	50	31	26	21	e15	27	22	22	5.8	2.9	4.3	3.6
19	e107	28	32	18	e16	27	21	19	6.0	2.9	34	8.2
20	e45	26	23	16	e37	23	20	19	5.7	2.7	24	6.6
21	e34	24	92	16	e24	20	85	18	5.1	2.6	14	4.5
22	32	23	154	e15	e20	21	96	17	5.3	2.6	13	3.9
23	158	25	123	e14	e19	21	51	16	5.3	15	8.4	4.0
24	e317	23	206	e13	e18	28	44	14	4.9	4.8	6.7	4.3
25	e94	21	81	e12	e17	26	37	14	4.8	3.6	5.9	17
26	e65	19	55	e12	e17	24	33	13	4.6	3.7	5.4	13
27	e47	18	e50	e11	e16	32	31	13	4.4	4.0	5.0	7.6
28	e36	18	e39	e11	e20	98	30	13	4.3	3.2	4.7	5.9
29	e32	17	38	e12	---	56	28	11	4.1	2.9	4.3	5.3
30	e29	16	111	e15	---	39	35	11	4.1	2.8	4.1	4.9
31	e25	---	130	e20	---	32	---	11	---	2.8	3.9	---
TOTAL	1404.3	1194	1666	708	533	1540	1031	725	195.7	121.0	240.5	153.0
MEAN	45.3	39.8	53.7	22.8	19.0	49.7	34.4	23.4	6.52	3.90	7.76	5.10
MAX	317	240	206	60	37	342	96	44	10	15	34	17
MIN	7.1	16	14	11	13	14	20	11	4.1	2.6	2.1	3.1
CFSM	5.07	4.46	6.02	2.56	2.13	5.56	3.85	2.62	.73	.44	.87	.57
IN.	5.85	4.97	6.94	2.95	2.22	6.42	4.29	3.02	.82	.50	1.00	.64

WTR YR 1991 TOTAL 9511.5 MEAN 26.1 MAX 342 MIN 2.1 CFSM 2.92 IN. 39.62

e Estimated

DELAWARE RIVER BASIN

01434013 EAST BRANCH NEVERSINK RIVER, EAST OF LADLETON, NY

LOCATION.--Lat 41°56'18", long 74°30'20", Ulster County, Hydrologic Unit 02040104, on right bank 150 ft downstream from bridge on New Hill Road, at intersection with Ladleton-Denning Road, and 4.0 mi northeast of Claryville.

DRAINAGE AREA.--18.6 mi².

PERIOD OF RECORD.--May to September 1991.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,060 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--May to September 1991: Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 19	1815	*122	*3.54				

Minimum discharge, 4.8 ft³/s, Aug. 2, gage height, 2.41 ft,

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	e70	22	9.0	5.2	7.6
2	---	---	---	---	---	---	---	79	20	8.3	5.1	7.3
3	---	---	---	---	---	---	---	61	19	9.1	5.2	7.2
4	---	---	---	---	---	---	---	54	19	9.0	6.0	7.3
5	---	---	---	---	---	---	---	50	17	9.7	5.9	8.7
6	---	---	---	---	---	---	---	78	17	10	5.2	7.3
7	---	---	---	---	---	---	---	89	17	8.6	5.2	7.0
8	---	---	---	---	---	---	---	64	16	8.0	5.1	6.8
9	---	---	---	---	---	---	---	58	15	7.4	33	6.8
10	---	---	---	---	---	---	---	60	14	6.8	43	6.8
11	---	---	---	---	---	---	---	55	14	6.8	15	7.0
12	---	---	---	---	---	---	---	51	15	6.5	11	6.5
13	---	---	---	---	---	---	---	47	15	7.8	8.5	6.5
14	---	---	---	---	---	---	---	47	13	8.7	7.3	6.5
15	---	---	---	---	---	---	---	43	13	7.4	17	11
16	---	---	---	---	---	---	---	40	12	6.5	20	11
17	---	---	---	---	---	---	---	41	12	6.4	11	8.5
18	---	---	---	---	---	---	---	41	12	6.2	9.3	7.7
19	---	---	---	---	---	---	---	35	12	6.2	58	17
20	---	---	---	---	---	---	---	34	12	6.2	43	15
21	---	---	---	---	---	---	---	32	11	5.9	24	9.9
22	---	---	---	---	---	---	---	30	11	6.0	22	8.7
23	---	---	---	---	---	---	---	29	11	31	17	8.5
24	---	---	---	---	---	---	---	28	10	11	14	9.3
25	---	---	---	---	---	---	---	26	9.9	8.0	13	29
26	---	---	---	---	---	---	---	25	8.9	7.7	11	22
27	---	---	---	---	---	---	---	25	8.9	8.0	10	14
28	---	---	---	---	---	---	---	25	8.6	6.4	9.7	11
29	---	---	---	---	---	---	---	23	8.4	6.2	9.3	9.6
30	---	---	---	---	---	---	---	22	8.8	6.0	9.2	9.2
31	---	---	---	---	---	---	---	25	---	5.8	8.1	---
TOTAL	---	---	---	---	---	---	---	1387	402.5	256.6	466.3	300.7
MEAN	---	---	---	---	---	---	---	44.7	13.4	8.28	15.0	10.0
MAX	---	---	---	---	---	---	---	89	22	31	58	29
MIN	---	---	---	---	---	---	---	22	8.4	5.8	5.1	6.5
CFSM	---	---	---	---	---	---	---	2.41	.72	.45	.81	.54
IN.	---	---	---	---	---	---	---	2.77	.80	.51	.93	.60

e Estimated

DELAWARE RIVER BASIN

01434017 EAST BRANCH NEVERSINK RIVER NEAR CLARYVILLE, NY

LOCATION.--Lat 41°55'31", long 74°32'26", Ulster County, Hydrologic Unit 02040104, on left bank at downstream side of bridge on Denning Road, 1.6 mi southwest of Ladleton, and 1.9 mi northeast of the village of Claryville.

DRAINAGE AREA.--22.9 mi².

PERIOD OF RECORD.--July to September 1991.

GAGE.--Water-stage recorder. Elevation of gage is 1,740 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR CURRENT YEAR.--July to September 1991: Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 19	1945	*126	*6.48				

Minimum discharge, 5.8 ft³/s, Aug. 9, gage height, 5.33 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	10	6.9	8.4
2	---	---	---	---	---	---	---	---	---	9.6	6.5	8.2
3	---	---	---	---	---	---	---	---	---	11	6.7	8.2
4	---	---	---	---	---	---	---	---	---	11	7.5	8.5
5	---	---	---	---	---	---	---	---	---	12	6.9	10
6	---	---	---	---	---	---	---	---	---	12	6.4	8.7
7	---	---	---	---	---	---	---	---	---	10	6.2	8.1
8	---	---	---	---	---	---	---	---	---	9.6	6.0	7.8
9	---	---	---	---	---	---	---	---	---	8.7	34	7.5
10	---	---	---	---	---	---	---	---	---	8.3	53	7.5
11	---	---	---	---	---	---	---	---	---	8.0	18	8.0
12	---	---	---	---	---	---	---	---	---	7.8	12	7.3
13	---	---	---	---	---	---	---	---	---	9.4	9.8	7.2
14	---	---	---	---	---	---	---	---	---	11	8.6	7.1
15	---	---	---	---	---	---	---	---	---	8.6	14	11
16	---	---	---	---	---	---	---	---	---	7.8	23	14
17	---	---	---	---	---	---	---	---	---	7.4	12	9.5
18	---	---	---	---	---	---	---	---	---	7.2	10	8.7
19	---	---	---	---	---	---	---	---	---	7.0	59	19
20	---	---	---	---	---	---	---	---	---	6.7	50	17
21	---	---	---	---	---	---	---	---	---	6.6	27	11
22	---	---	---	---	---	---	---	---	---	6.6	24	9.5
23	---	---	---	---	---	---	---	---	---	32	17	9.3
24	---	---	---	---	---	---	---	---	---	13	14	10
25	---	---	---	---	---	---	---	---	---	9.5	12	33
26	---	---	---	---	---	---	---	---	---	9.5	11	27
27	---	---	---	---	---	---	---	---	---	10	11	17
28	---	---	---	---	---	---	---	---	---	8.5	10	13
29	---	---	---	---	---	---	---	---	---	7.7	9.5	11
30	---	---	---	---	---	---	---	---	---	7.4	9.1	11
31	---	---	---	---	---	---	---	---	---	7.2	8.8	---
TOTAL	---	---	---	---	---	---	---	---	---	301.1	509.9	343.5
MEAN	---	---	---	---	---	---	---	---	---	9.71	16.4	11.4
MAX	---	---	---	---	---	---	---	---	---	32	59	33
MIN	---	---	---	---	---	---	---	---	---	6.6	6.0	7.1
CFSM	---	---	---	---	---	---	---	---	---	.42	.72	.50
IN.	---	---	---	---	---	---	---	---	---	.49	.83	.56

DELAWARE RIVER BASIN

01434021 WEST BRANCH NEVERSINK RIVER AT WINNISOOK LAKE NEAR FROST VALLEY, NY

LOCATION.--Lat 42°00'40", long 74°24'53", Ulster County, Hydrologic Unit 02040104, on right bank 0.1 mi southwest of Winnisook Lake, and 4.5 mi northeast of Frost Valley.

DRAINAGE AREA.--0.77 mi².

PERIOD OF RECORD.--January to September 1991.

GAGE.--Water-stage recorder. Elevation of gage is 2,680 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges and those above 3.0 ft³/s, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--January to September 1991: Peak discharges greater than base discharge of 35 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 4	1100	*a43	*a1.7	No other peak greater than base discharge.			

a Estimate.

Minimum discharge, 0.05 ft³/s, Aug. 6, 7, 8, gage height, 0.93 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	5.4	e1.1	e1.1	1.9	3.9	.46	.21	.09	.23
2	---	---	---	4.0	e.90	e4.9	1.8	4.3	.37	.18	.09	.22
3	---	---	---	3.1	e.76	e9.6	1.6	3.0	.45	.23	.08	.22
4	---	---	---	2.6	e.66	e28	1.6	2.6	.40	.22	.10	.24
5	---	---	---	2.4	.64	8.7	1.7	2.3	.35	.22	.09	.25
6	---	---	---	2.1	.80	4.9	3.5	2.9	.37	.21	.07	.21
7	---	---	---	1.8	1.5	9.0	6.3	3.8	.37	.17	.07	.20
8	---	---	---	e1.7	1.7	4.8	6.2	2.8	.37	.16	.07	.20
9	---	---	---	e1.5	1.3	e3.5	5.7	2.4	.42	.14	.50	.18
10	---	---	---	e1.4	1.2	e2.9	5.4	2.5	.40	.10	.51	.18
11	---	---	---	e1.3	1.1	e2.6	3.4	2.2	.44	.09	.23	.18
12	---	---	---	e1.2	e1.0	e2.3	2.5	2.2	.47	.09	.14	.15
13	---	---	---	1.1	e.90	e2.0	2.2	2.0	.36	.15	.11	.15
14	---	---	---	1.0	e.80	e1.7	2.0	1.9	.31	.13	.09	.18
15	---	---	---	1.0	e.74	e1.6	1.9	1.7	.38	.09	.43	.37
16	---	---	---	1.6	e.70	1.5	1.9	1.7	.40	.09	.52	.26
17	---	---	---	1.3	e.70	1.5	1.7	1.7	.37	.09	.21	.22
18	---	---	---	1.1	e.72	1.5	1.6	1.6	.37	.09	.18	.22
19	---	---	---	1.0	e.90	1.4	1.5	1.5	.34	.11	3.6	.66
20	---	---	---	1.0	4.2	1.2	1.4	1.4	.30	.12	3.1	.29
21	---	---	---	.89	2.1	1.1	11	1.3	.26	.11	1.9	.23
22	---	---	---	e.88	1.6	1.1	11	1.2	.25	.10	1.3	.18
23	---	---	---	e.84	e1.4	1.1	5.4	1.1	.22	.45	.83	.20
24	---	---	---	e.82	e1.2	1.4	5.1	1.0	.26	.13	.51	.20
25	---	---	---	e.78	e1.1	1.3	4.2	.94	.26	.09	.42	.95
26	---	---	---	e.74	e1.0	1.2	3.3	.87	.26	.12	.37	.92
27	---	---	---	e.72	e.96	2.5	3.0	.76	.25	.10	.37	.57
28	---	---	---	e.70	e.98	11	2.8	.72	.22	.09	.36	.44
29	---	---	---	e.70	---	5.2	2.4	.70	.22	.07	.34	.38
30	---	---	---	e.72	---	3.0	3.1	.63	.22	.08	.37	.31
31	---	---	---	e.80	---	2.2	---	.69	---	.09	.34	---
TOTAL	---	---	---	46.19	32.66	125.8	107.1	58.31	10.12	4.32	17.39	9.19
MEAN	---	---	---	1.49	1.17	4.06	3.57	1.88	.34	.14	.56	.31
MAX	---	---	---	5.4	4.2	28	11	4.3	.47	.45	3.6	.95
MIN	---	---	---	.70	.64	1.1	1.4	.63	.22	.07	.07	.15
CFSM	---	---	---	1.94	1.51	5.27	4.64	2.44	.44	.18	.73	.40
IN.	---	---	---	2.23	1.58	6.08	5.17	2.82	.49	.21	.84	.44

e Estimated

DELAWARE RIVER BASIN

01434025 BISCUIT BROOK ABOVE PIGEON BROOK AT FROST VALLEY, NY

LOCATION.--Lat 41°59'43", long 74°30'05", Ulster County, Hydrologic Unit 02040104, on right bank 0.2 mi upstream from Pigeon Brook, 0.6 mi upstream from mouth, and 0.8 mi northeast of Frost Valley.

DRAINAGE AREA.--3.72 mi², revised.

PERIOD OF RECORD.--June 1983 to current year. February to May 1983 (occasional discharge measurements).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,060 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 11, 1987, at datum 1.00 ft higher.

REMARKS.--Records fair below 400 ft³/s and poor above. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1984-1991), 10.14 ft³/s, 37.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft³/s, Apr. 4, 1987, gage height, 4.37 ft, present datum; minimum, 0.24 ft³/s, Sept. 2, 3, 1991, gage height, 0.75 ft.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	1815	*293	*3.28	No other peak greater than base discharge.			
Minimum discharge, 0.24 ft ³ /s, Sept. 2, 3, gage height, 0.75 ft.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	8.9	5.9	e26	e5.4	e6.6	14	13	3.2	.87	.41	.29
2	1.8	8.2	5.9	e19	e5.4	e22	13	15	2.9	.77	.39	.28
3	1.8	7.5	5.9	e16	e5.5	e40	12	12	3.1	1.0	.41	.27
4	4.3	7.1	7.6	e14	e5.6	110	11	11	3.1	1.0	.48	.37
5	3.7	6.8	28	e12	e7.0	44	11	10	2.8	1.1	.42	.50
6	2.3	16	17	e10	10	25	10	15	2.7	1.1	.36	.35
7	2.1	9.6	14	e10	19	43	10	14	2.4	.85	.35	.29
8	2.0	8.7	12	e9.4	16	e24	10	12	2.3	.75	.32	.27
9	2.0	7.8	11	e8.6	13	e20	10	11	2.2	.68	2.6	.28
10	2.3	103	10	e8.2	12	e15	11	12	2.0	.58	2.7	.30
11	4.8	64	9.3	e7.6	e8.4	e13	9.1	11	2.2	.55	.79	.38
12	9.6	28	8.7	e7.2	e7.0	e11	8.6	9.9	3.4	.52	.56	.33
13	30	20	8.6	e6.6	e6.4	e10	8.4	9.1	2.4	1.0	.46	.30
14	23	16	7.9	e6.2	e8.4	10	8.4	8.8	1.8	.85	.38	.32
15	11	17	8.9	e6.0	e7.6	9.6	10	8.0	1.7	.63	.49	1.1
16	8.4	16	8.5	e17	e6.8	9.5	9.6	7.2	1.5	.52	.50	.77
17	7.3	15	7.3	13	e6.4	9.1	8.5	9.2	1.4	.46	.38	.48
18	23	13	13	8.4	e6.4	9.9	8.0	8.6	1.4	.42	.51	.69
19	34	12	15	7.4	e7.0	11	7.5	6.9	1.5	.41	7.3	7.6
20	16	11	9.4	6.8	e17	9.4	7.2	6.4	1.3	.40	2.5	2.4
21	12	9.9	45	e5.6	13	8.2	26	6.0	1.1	.38	1.3	1.1
22	11	9.3	70	e5.2	e10	8.5	35	5.6	1.1	.38	.87	.86
23	35	11	52	e5.0	e9.2	11	21	5.2	1.1	2.9	.64	1.1
24	92	9.2	86	e4.8	e7.8	15	18	5.1	.99	.91	.53	1.1
25	30	8.2	35	e4.7	e7.2	13	15	4.7	.93	.55	.47	7.3
26	20	7.6	e20	e4.6	e7.0	13	13	4.2	.92	.79	.42	3.9
27	15	7.3	e18	e4.6	e6.8	18	12	4.3	.86	.81	.40	2.1
28	13	7.3	e16	e4.5	e6.6	43	11	4.1	.81	.51	.38	1.5
29	12	6.9	e14	e4.5	---	27	10	3.7	.77	.45	.39	1.2
30	11	6.2	e40	e5.8	---	18	13	3.7	.87	.44	.36	1.2
31	9.8	---	59	e10	---	15	---	3.9	---	.43	.32	---
TOTAL	452.2	478.5	737.3	278.7	247.9	641.8	371.3	260.6	54.75	23.01	28.39	38.93
MEAN	14.6	15.9	23.8	8.99	8.85	20.7	12.4	8.41	1.82	.74	.92	1.30
MAX	92	103	86	26	19	110	35	15	3.4	2.9	7.3	7.6
MIN	1.8	6.2	5.9	4.5	5.4	6.6	7.2	3.7	.77	.38	.32	.27
CFSM	3.92	4.29	6.39	2.42	2.38	5.57	3.33	2.26	.49	.20	.25	.35
IN.	4.52	4.78	7.37	2.79	2.48	6.42	3.71	2.61	.55	.23	.28	.39

CAL YR 1990 TOTAL 4857.0 MEAN 13.3 MAX 103 MIN 1.8 CFSM 3.58 IN. 48.57
WTR YR 1991 TOTAL 3613.38 MEAN 9.90 MAX 110 MIN .27 CFSM 2.66 IN. 36.13

e Estimated

DELAWARE RIVER BASIN

01434105 HIGH FALLS BROOK AT FROST VALLEY, NY

LOCATION.--Lat 41°58'33", long 74°31'19", Ulster County, Hydrologic Unit 02040104, on left bank 0.1 mi upstream from county highway bridge, and 0.9 mi southwest of Frost Valley.

DRAINAGE AREA.--2.76 mi².

PERIOD OF RECORD.--October 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,940 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 108 ft³/s, Nov. 10, 1990, gage height, 2.01 ft; minimum discharge, 0.39 ft³/s, Aug. 30, 31, Sept. 1, 1991; minimum gage height, 0.66 ft, Sept. 9, 11, 12, 1991.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	1730	*108	*2.01	No other peak greater than base discharge.			
Minimum discharge, 0.39 ft ³ /s, Aug. 30, 31, Sept. 1, gage height, 0.67 ft; minimum gage height, 0.66 ft, Sept. 9, 11, 12.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	9.7	5.8	e18	e15	e5.4	9.2	9.6	3.6	.84	.49	.41
2	1.6	9.4	5.8	e15	e6.0	e12	9.0	10	3.2	e1.0	.47	.42
3	1.5	9.1	5.8	e13	4.3	20	8.5	8.3	3.1	e1.1	.52	.44
4	3.7	8.7	38	e12	4.6	55	8.4	8.0	3.2	e.90	.55	.59
5	2.6	8.6	16	e11	5.1	25	8.1	7.6	2.9	e.80	.49	.61
6	1.8	14	12	e10	6.1	18	8.1	11	2.7	.74	.46	.51
7	1.7	9.0	11	e9.4	10	27	7.9	10	2.5	.64	.45	.48
8	1.7	8.4	10	e8.6	9.1	19	7.7	8.8	2.4	.59	.44	.47
9	1.7	7.9	9.8	e8.2	8.4	21	7.9	8.6	2.2	.55	2.5	.46
10	1.8	52	e8.8	e7.8	7.7	e17	8.4	9.8	2.1	.53	1.6	.47
11	4.4	38	9.3	e7.4	e7.0	e13	7.4	8.0	2.1	.53	.77	.50
12	7.1	21	8.0	e7.2	e5.6	e11	6.9	7.5	2.9	.51	.62	.47
13	11	16	e7.6	e7.0	e5.2	e9.0	6.9	7.4	2.3	.86	.55	.48
14	7.9	14	e7.6	e6.8	e6.6	e8.4	6.9	7.5	2.0	.62	.51	.48
15	5.6	14	e7.6	6.9	e6.0	e8.0	8.3	6.8	1.7	.54	.54	1.4
16	4.9	13	e7.8	11	e5.4	e7.8	7.7	6.4	1.7	.52	.51	.75
17	4.6	13	e8.2	9.8	e5.2	7.9	7.0	7.1	1.6	.50	.47	.61
18	9.8	11	e11	7.6	e5.2	7.9	6.8	6.4	1.6	.48	.67	1.6
19	11	11	e10	e6.6	e7.0	7.9	6.3	5.7	1.6	.48	4.2	5.3
20	7.7	10	9.2	e6.2	e9.0	7.0	6.3	5.4	1.4	.46	1.2	1.6
21	7.6	9.6	22	e5.8	e7.2	6.3	10	5.2	1.2	.47	.85	1.0
22	7.4	9.1	31	e5.6	e6.8	6.9	12	5.0	1.3	.68	.65	.88
23	21	10	26	e5.4	e6.4	7.8	9.3	4.8	1.1	2.1	.56	1.0
24	42	9.2	45	e5.2	e6.0	11	9.0	4.6	1.0	.76	.51	.97
25	20	8.4	24	e5.0	e5.8	9.4	8.7	4.4	.97	.63	.49	4.6
26	16	7.5	e18	e4.8	e5.6	9.1	8.6	4.2	.92	.85	.53	1.9
27	14	7.4	e16	e4.7	e5.6	11	8.6	4.1	.89	.72	.51	1.3
28	13	7.2	e15	e4.5	e5.4	14	7.7	4.1	.85	.57	.44	1.2
29	12	6.8	e14	e5.0	---	12	7.4	3.7	.83	.55	.43	1.1
30	11	6.3	e25	e5.8	---	10	8.8	3.8	.97	.53	.41	1.1
31	10	---	e29	e7.8	---	9.9	---	4.2	---	.52	.42	---
TOTAL	267.9	379.3	474.3	249.1	187.3	414.7	243.8	208.0	56.83	21.57	23.81	33.10
MEAN	8.64	12.6	15.3	8.04	6.69	13.4	8.13	6.71	1.89	.70	.77	1.10
MAX	42	52	45	18	15	55	12	11	3.6	2.1	4.2	5.3
MIN	1.5	6.3	5.8	4.5	4.3	5.4	6.3	3.7	.83	.46	.41	.41
CFSM	3.13	4.58	5.54	2.91	2.42	4.85	2.94	2.43	.69	.25	.28	.40
IN.	3.61	5.11	6.39	3.36	2.52	5.59	3.29	2.80	.77	.29	.32	.45

WTR YR 1991 TOTAL 2559.71 MEAN 7.01 MAX 55 MIN .41 CFSM 2.54 IN. 34.50

e Estimated

DELAWARE RIVER BASIN

01434176 WEST BRANCH NEVERSINK RIVER NEAR CLARYVILLE, NY

LOCATION.--Lat 41°57'20", long 74°32'40", Ulster County, Hydrologic Unit 02040104, on right bank 0.1 mi downstream from confluence with Flat Brook, and 2.8 mi northeast of Claryville.

DRAINAGE AREA.--25.3 mi².

PERIOD OF RECORD.--July to September 1991.

GAGE.--Water-stage recorder. Elevation of gage is 1,810 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR CURRENT YEAR.--July to September 1991: Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 19	0515	*78	*2.65				

Minimum discharge, 5.1 ft³/s, on several days during August and September, gage height, 2.00 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	8.4	5.7	5.3
2	---	---	---	---	---	---	---	---	---	7.8	5.4	5.2
3	---	---	---	---	---	---	---	---	---	8.8	5.5	5.1
4	---	---	---	---	---	---	---	---	---	9.0	6.1	5.4
5	---	---	---	---	---	---	---	---	---	9.6	6.1	6.1
6	---	---	---	---	---	---	---	---	---	9.4	5.9	5.6
7	---	---	---	---	---	---	---	---	---	8.5	5.6	5.4
8	---	---	---	---	---	---	---	---	---	8.1	5.5	5.2
9	---	---	---	---	---	---	---	---	---	7.5	14	5.1
10	---	---	---	---	---	---	---	---	---	7.1	24	5.1
11	---	---	---	---	---	---	---	---	---	6.8	9.6	5.6
12	---	---	---	---	---	---	---	---	---	6.5	7.4	5.4
13	---	---	---	---	---	---	---	---	---	8.1	6.4	5.3
14	---	---	---	---	---	---	---	---	---	8.1	5.9	5.1
15	---	---	---	---	---	---	---	---	---	7.0	5.9	8.1
16	---	---	---	---	---	---	---	---	---	6.5	6.1	8.8
17	---	---	---	---	---	---	---	---	---	6.2	6.1	7.4
18	---	---	---	---	---	---	---	---	---	6.0	6.3	7.4
19	---	---	---	---	---	---	---	---	---	5.9	33	41
20	---	---	---	---	---	---	---	---	---	6.1	27	20
21	---	---	---	---	---	---	---	---	---	6.6	15	12
22	---	---	---	---	---	---	---	---	---	6.6	11	9.4
23	---	---	---	---	---	---	---	---	---	17	9.3	9.0
24	---	---	---	---	---	---	---	---	---	8.8	8.1	9.4
25	---	---	---	---	---	---	---	---	---	7.1	7.4	35
26	---	---	---	---	---	---	---	---	---	7.4	6.8	26
27	---	---	---	---	---	---	---	---	---	7.9	6.1	16
28	---	---	---	---	---	---	---	---	---	6.9	5.9	13
29	---	---	---	---	---	---	---	---	---	6.5	5.6	12
30	---	---	---	---	---	---	---	---	---	6.1	5.4	11
31	---	---	---	---	---	---	---	---	---	5.9	5.4	---
TOTAL	---	---	---	---	---	---	---	---	---	238.2	283.5	320.4
MEAN	---	---	---	---	---	---	---	---	---	7.68	9.15	10.7
MAX	---	---	---	---	---	---	---	---	---	17	33	41
MIN	---	---	---	---	---	---	---	---	---	5.9	5.4	5.1
CFSM	---	---	---	---	---	---	---	---	---	.30	.36	.42
IN.	---	---	---	---	---	---	---	---	---	.35	.42	.47

DELAWARE RIVER BASIN

01434498 WEST BRANCH NEVERSINK RIVER AT CLARYVILLE, NY

LOCATION.--Lat 41°55'13", long 74°34'30", Sullivan County, Hydrologic Unit 02040104, on left bank about 100 ft downstream from bridge on County Highway 157 in Claryville.

DRAINAGE AREA.--33.8 mi².

PERIOD OF RECORD.--July to September 1991.

GAGE.--Water-stage recorder. Elevation of gage is 1,620 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR CURRENT YEAR.--July to September 1991: Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 19	0630	*107	*5.27				

Minimum discharge, 6.7 ft³/s, Sept. 14, 15, gage height, 4.22 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	12	8.1	7.7
2	---	---	---	---	---	---	---	---	---	12	7.9	7.7
3	---	---	---	---	---	---	---	---	---	13	8.1	7.6
4	---	---	---	---	---	---	---	---	---	13	8.8	7.9
5	---	---	---	---	---	---	---	---	---	14	8.2	9.1
6	---	---	---	---	---	---	---	---	---	14	7.7	8.3
7	---	---	---	---	---	---	---	---	---	12	7.4	7.7
8	---	---	---	---	---	---	---	---	---	11	7.2	7.5
9	---	---	---	---	---	---	---	---	---	11	19	7.3
10	---	---	---	---	---	---	---	---	---	10	37	7.3
11	---	---	---	---	---	---	---	---	---	9.8	15	7.8
12	---	---	---	---	---	---	---	---	---	9.4	12	7.2
13	---	---	---	---	---	---	---	---	---	12	10	7.0
14	---	---	---	---	---	---	---	---	---	12	9.0	6.8
15	---	---	---	---	---	---	---	---	---	10	9.0	12
16	---	---	---	---	---	---	---	---	---	9.2	9.3	13
17	---	---	---	---	---	---	---	---	---	8.8	9.1	9.9
18	---	---	---	---	---	---	---	---	---	8.6	9.7	9.7
19	---	---	---	---	---	---	---	---	---	8.3	47	60
20	---	---	---	---	---	---	---	---	---	8.3	41	30
21	---	---	---	---	---	---	---	---	---	8.9	23	18
22	---	---	---	---	---	---	---	---	---	9.0	17	14
23	---	---	---	---	---	---	---	---	---	25	14	13
24	---	---	---	---	---	---	---	---	---	13	12	13
25	---	---	---	---	---	---	---	---	---	10	11	48
26	---	---	---	---	---	---	---	---	---	11	10	39
27	---	---	---	---	---	---	---	---	---	12	9.3	24
28	---	---	---	---	---	---	---	---	---	9.9	8.7	19
29	---	---	---	---	---	---	---	---	---	9.2	8.4	16
30	---	---	---	---	---	---	---	---	---	8.8	8.2	15
31	---	---	---	---	---	---	---	---	---	8.5	8.0	---
TOTAL	---	---	---	---	---	---	---	---	---	343.7	420.1	460.5
MEAN	---	---	---	---	---	---	---	---	---	11.1	13.6	15.3
MAX	---	---	---	---	---	---	---	---	---	25	47	60
MIN	---	---	---	---	---	---	---	---	---	8.3	7.2	6.8
CFSM	---	---	---	---	---	---	---	---	---	.33	.40	.45
IN.	---	---	---	---	---	---	---	---	---	.38	.46	.51

DELAWARE RIVER BASIN

01435000 NEVERSINK RIVER NEAR CLARYVILLE, NY

LOCATION.--Lat 41°53'24", long 74°35'25", Sullivan County, Hydrologic Unit 02040104, on left bank 50 ft downstream from covered bridge, 300 ft upstream from small tributary, 2.2 mi downstream from confluence of East and West Branches, and 2.2 mi southwest of Claryville.

DRAINAGE AREA.--66.6 mi².

PERIOD OF RECORD.--July 1951 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,522.37 ft above National Geodetic Vertical Datum of 1929. Prior to October 1, 1974, at datum 6.00 ft higher. Oct. 1, 1974 to Sept. 30, 1979 at datum 5.00 ft higher.

REMARKS.--Records good below 2,000 ft³/s and fair above, except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--40 years, 186 ft³/s, 37.93 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s, Apr. 4, 1987, gage height, 13.26 ft; maximum gage height, 13.83 ft, present datum, July 10, 1952; minimum discharge, 6.8 ft³/s, Sept. 24, 25, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 25, 1950, reached a stage of about 15.0 ft, present datum, from floodmarks, discharge, 23,400 ft³/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0200	4,330	10.04	Nov. 10	1830	*5,610	*10.50

Minimum discharge, 12 ft³/s, part or all of each day Aug. 2-3, 6-9, Sept. 12-15; minimum gage height, 5.94 ft, Aug. 7, 8, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	156	116	471	125	e120	232	208	71	21	14	15
2	49	144	108	365	113	e250	215	242	61	20	13	14
3	47	134	108	303	105	e400	200	195	57	21	13	14
4	53	127	1010	257	109	1790	190	176	58	22	15	14
5	87	121	456	e240	121	724	187	165	54	24	14	17
6	60	274	292	e210	145	419	191	224	52	25	13	16
7	53	177	240	e180	286	742	198	265	49	22	12	15
8	50	154	211	e170	273	e380	197	205	44	20	12	14
9	50	140	189	e160	224	e300	194	189	38	18	42	13
10	49	1810	175	e150	197	e250	199	197	37	17	102	13
11	69	1300	159	e140	e160	e230	178	180	36	16	36	14
12	137	552	152	e150	e130	e210	163	168	43	16	25	13
13	246	380	146	e140	e120	e200	156	158	48	19	20	12
14	356	302	136	e135	e130	186	152	153	37	21	17	12
15	176	276	133	e130	e150	174	166	143	35	18	16	18
16	134	261	152	201	e130	163	167	133	33	16	32	26
17	115	243	133	234	e120	161	147	130	32	15	21	18
18	182	220	192	164	e120	185	140	144	32	14	19	17
19	575	199	264	143	e130	208	134	124	32	14	98	74
20	247	183	183	134	e220	186	130	115	31	13	104	47
21	193	172	476	128	203	166	267	105	28	14	53	29
22	168	162	1000	e110	e160	162	533	99	27	14	41	22
23	493	181	678	e100	e150	193	314	94	28	49	32	20
24	1990	164	1300	e95	e140	266	259	90	26	27	26	21
25	605	150	596	e95	e140	263	227	85	24	19	23	74
26	386	140	393	e90	e130	239	203	80	23	19	21	68
27	291	134	e280	e90	e130	295	188	79	22	21	19	41
28	245	130	e260	e85	e120	483	178	79	21	17	18	31
29	213	126	e250	e85	---	397	168	70	20	16	17	26
30	188	122	e500	e90	---	300	194	72	20	15	16	24
31	170	---	1010	e150	---	249	---	82	---	14	15	---
TOTAL	7730	8634	11298	5195	4281	10291	6067	4449	1119	597	919	752
MEAN	249	288	364	168	153	332	202	144	37.3	19.3	29.6	25.1
MAX	1990	1810	1300	471	286	1790	533	265	71	49	104	74
MIN	47	121	108	85	105	120	130	70	20	13	12	12
CFSM	3.74	4.32	5.47	2.52	2.30	4.98	3.04	2.15	.56	.29	.45	.38
IN.	4.32	4.82	6.31	2.90	2.39	5.75	3.39	2.49	.63	.33	.51	.42

CAL YR 1990 TOTAL 81603 MEAN 224 MAX 1990 MIN 39 CFSM 3.36 IN. 45.58
WTR YR 1991 TOTAL 61332 MEAN 168 MAX 1990 MIN 12 CFSM 2.52 IN. 34.26

e Estimated

DELAWARE RIVER BASIN

01436000 NEVERSINK RIVER AT NEVERSINK, NY

LOCATION.--Lat 41°49'12", long 74°38'09", Sullivan County, Hydrologic Unit 02040104, on right bank at downstream end of outlet channel, 1,650 ft downstream from Neversink Dam and State Highway 55, 2.0 mi southwest of Neversink, and 2.6 mi upstream from Wynkoop Brook.

DRAINAGE AREA.--92.6 mi².

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

REVISED RECORDS.--WDR NY-72-1: 1961 (M), 1968 (M). WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,255.24 ft Board of Water Supply, City of New York datum. Prior to Jan. 17, 1953, water-stage recorder at site 650 ft downstream at datum 0.20 ft lower. Jan. 17, 1953 to Apr. 16, 1954, water-stage recorder at present site at datum 0.41 ft higher.

REMARKS.--No estimated daily discharges. Records good. Subsequent to June 1953, entire flow from 92.5 mi² of drainage area controlled by Neversink Reservoir (see Reservoirs in Delaware River Basin). Part of flow diverted for New York City municipal supply (see Reservoirs in Delaware River Basin). Remainder of flow (except for conservation release 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, 22,300 ft³/s, Nov. 25, 1950, from rating curve extended above 2,600 ft³/s on basis of contracted-opening and critical-depth measurements of peak flow; maximum gage height, 11.65 ft, Sept. 27, 1942, site and datum then in use; minimum discharge, no flow for all or part of each day Sept. 22-24, Oct. 26-29, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 102 ft³/s, July 23, gage height, 3.47 ft; minimum, 14 ft³/s, Sept. 25, 26, gage height, 2.83 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	33	26	24	23	23	36	47	45	76	52	42
2	45	24	26	24	23	23	43	46	45	58	74	42
3	45	24	26	24	23	23	44	46	45	45	85	42
4	45	24	26	24	23	24	44	47	45	53	85	41
5	45	24	25	24	23	23	46	48	45	69	77	43
6	45	24	26	24	23	23	46	47	45	70	57	46
7	45	24	26	24	23	23	45	46	44	74	44	55
8	45	24	26	24	23	22	45	46	44	73	44	68
9	45	24	26	24	23	23	46	46	53	54	44	67
10	45	26	25	24	23	23	46	46	68	43	43	58
11	45	24	26	24	23	23	45	46	68	52	43	43
12	45	23	27	24	23	23	47	47	59	68	59	43
13	45	23	26	23	23	24	48	46	42	68	86	43
14	45	25	26	24	23	24	45	47	43	68	71	43
15	45	25	27	24	24	23	45	47	52	68	52	43
16	45	25	26	24	24	23	44	48	68	68	65	42
17	45	25	26	23	24	23	45	48	68	68	64	56
18	45	25	26	23	24	24	45	48	68	74	64	81
19	45	25	24	23	24	23	45	48	70	86	65	60
20	44	25	24	23	25	23	46	47	69	86	53	42
21	44	25	25	22	23	24	46	46	70	85	42	42
22	44	25	24	22	23	24	46	46	70	86	42	43
23	45	25	25	21	23	24	46	46	70	80	42	45
24	44	25	24	22	23	24	46	55	61	67	42	35
25	45	25	25	23	23	23	46	70	45	59	42	20
26	45	25	25	23	23	23	46	70	54	45	41	24
27	45	25	25	23	23	24	46	70	75	45	51	43
28	45	25	24	23	23	23	46	69	87	45	67	43
29	45	25	24	23	---	23	46	68	85	45	67	42
30	46	25	24	23	---	23	47	68	82	44	57	43
31	46	---	23	23	---	23	---	56	---	44	42	---
TOTAL	1393	746	784	723	651	721	1357	1601	1785	1966	1762	1380
MEAN	44.9	24.9	25.3	23.3	23.2	23.3	45.2	51.6	59.5	63.4	56.8	46.0
MAX	46	33	27	24	25	24	48	70	87	86	86	81
MIN	44	23	23	21	23	22	36	46	42	43	41	20

CAL YR 1990 TOTAL 20290 MEAN 55.6 MAX 1140 MIN 23
WTR YR 1991 TOTAL 14869 MEAN 40.7 MAX 87 MIN 20

DELAWARE RIVER BASIN

01436500 NEVERSINK RIVER AT WOODBOURNE, NY

LOCATION.--Lat 41°45'24", long 74°35'52", Sullivan County, Hydrologic Unit 02040104, on left bank 0.2 mi downstream from highway bridge at Woodbourne, 0.3 mi upstream from outlet of South Wind Lake. Water-quality sampling site at discharge station.

DRAINAGE AREA.--113 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1937 to September 1973, October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,180 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 20, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to June 1953, entire flow from 92.5 mi² of drainage area controlled by Neversink Reservoir. 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. Satellite gage-height and temperature telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s, Nov. 26, 1950, gage height, 11.19 ft, from rating curve extended above 15,000 ft³/s; maximum gage height, 11.2 ft, July 22, 1938, from floodmarks; minimum discharge, 6.7 ft³/s, June 27, 1953; minimum gage height, 0.80 ft, Aug. 25, 27, 28, 1949; minimum daily discharge, 8.2 ft³/s, June 25, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,340 ft³/s, Nov. 10, gage height, 4.28 ft; minimum, 25 ft³/s, Sept. 26, gage height, 1.25 ft; minimum daily discharge, 29 ft³/s, Sept. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	65	48	e120	e70	54	72	86	74	83	50	46
2	54	50	47	96	e60	78	82	86	62	66	72	45
3	54	49	55	84	e59	91	79	78	58	50	86	45
4	56	47	299	75	e61	315	77	74	59	52	89	45
5	61	46	115	e71	66	137	76	71	57	71	84	46
6	56	119	89	67	76	103	77	101	56	73	65	48
7	55	71	79	63	196	127	75	113	54	75	47	53
8	54	61	73	e61	130	92	73	85	53	81	46	69
9	54	56	68	e59	101	e80	71	78	56	61	52	68
10	54	459	65	58	87	e71	71	77	75	48	52	65
11	58	278	60	e56	74	e68	67	74	83	50	47	46
12	61	141	59	e57	e63	e64	66	71	85	70	52	45
13	68	107	58	e64	e58	e59	66	69	59	73	86	45
14	67	89	55	e62	e62	61	66	68	54	72	81	45
15	62	82	e56	58	68	61	72	66	57	71	59	50
16	58	77	66	74	e60	60	74	64	75	71	72	46
17	57	75	63	94	e57	61	67	65	75	71	68	50
18	71	69	133	69	e56	74	67	70	75	74	68	81
19	110	64	132	60	58	95	65	63	77	89	117	77
20	69	62	86	57	104	80	65	61	75	90	79	49
21	63	59	110	e54	87	67	139	58	75	90	56	45
22	61	58	123	e50	e80	70	175	58	75	90	51	45
23	117	72	112	e47	e71	85	112	57	75	107	48	48
24	285	62	178	e46	e64	111	94	59	71	73	47	43
25	120	56	105	e45	59	111	86	77	51	69	46	46
26	98	54	e86	e46	57	91	81	77	53	53	46	29
27	87	52	e78	e46	e53	92	78	101	75	51	49	47
28	82	52	e75	e46	e50	90	75	104	90	48	69	45
29	78	50	e76	e48	---	77	73	84	90	48	69	45
30	76	49	136	60	---	73	95	88	86	47	66	45
31	75	---	215	100	---	67	---	104	---	47	47	---
TOTAL	2376	2631	3000	1993	2087	2765	2436	2387	2060	2114	1966	1502
MEAN	76.6	87.7	96.8	64.3	74.5	89.2	81.2	77.0	68.7	68.2	63.4	50.1
MAX	285	459	299	120	196	315	175	113	90	107	117	81
MIN	54	46	47	45	50	54	65	57	51	47	46	29

CAL YR 1990 TOTAL 38012 MEAN 104 MAX 1330 MIN 45
WTR YR 1991 TOTAL 27317 MEAN 74.8 MAX 459 MIN 29

e Estimated

DELAWARE RIVER BASIN

01436500 NEVERSINK RIVER AT WOODBOURNE, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964, 1965, 1972, 1978 to current year.

CHEMICAL DATA: 1964 (b), 1965 (c), 1972 (a).

NUTRIENT DATA: 1964 (b), 1965 (c), 1972 (a).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: July and August 1978, May 1979 to current year.

INSTRUMENTATION.--Water-temperature digital recorder since July 1978, provides one-hour-interval punches. Also, water-temperature satellite telemeter since May 1985, provides one-hour-interval readings.

REMARKS.--Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1979-83, 1985, 1988, 1990-91), 26.5°C, June 16, 1981; minimum (water years 1980-91), 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 20.0°C, Sept. 17, but may have been higher during period of instrument malfunction; minimum, 0.0°C, Jan. 28, 29, Feb. 23, Mar. 11.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.0	10.5	12.0	10.0	7.5	9.0	4.5	2.0	3.0	.5	.5	.5
2	13.0	10.0	11.5	11.0	8.0	9.5	5.0	3.5	4.0	2.5	.5	1.5
3	13.5	8.5	11.0	12.0	8.5	10.0	4.0	1.5	2.5	2.5	1.0	1.5
4	11.5	10.5	11.0	11.0	9.5	10.5	4.0	2.0	3.0	1.5	.5	1.0
5	13.5	9.5	11.5	10.5	9.0	9.5	3.0	1.5	2.5	.5	.5	.5
6	15.0	10.5	12.5	10.0	7.5	9.5	3.0	1.0	2.0	2.0	.5	1.5
7	15.5	11.0	13.5	7.5	6.0	7.0	4.0	3.0	3.5	2.0	.5	1.5
8	14.0	13.0	13.5	7.5	5.5	7.0	4.0	2.5	3.0	.5	.5	.5
9	14.0	12.5	13.0	6.0	4.0	5.0	4.5	2.5	3.5	.5	.5	.5
10	15.0	13.0	14.0	7.0	6.0	6.5	4.5	2.0	3.5	1.0	.5	.5
11	14.5	14.0	14.5	6.5	5.5	6.0	2.0	.5	1.0	.5	.5	.5
12	16.5	14.0	15.5	5.5	3.5	4.5	3.5	1.5	2.5	.5	.5	.5
13	16.0	14.5	15.5	4.0	2.5	3.0	4.0	3.0	3.5	.5	.5	.5
14	16.5	14.0	15.0	4.5	2.0	3.5	3.0	.5	1.5	.5	.5	.5
15	15.0	12.5	13.5	6.5	3.5	5.5	.5	.5	.5	.5	.5	.5
16	13.5	10.0	11.5	8.0	5.0	6.5	3.0	.5	2.5	.5	.5	.5
17	13.0	9.0	11.0	7.5	5.5	7.5	4.0	2.5	3.0	1.5	.5	1.0
18	13.5	11.5	12.5	5.5	3.5	4.5	3.0	2.5	3.0	2.0	1.0	1.5
19	13.0	9.0	11.0	4.5	2.0	3.5	3.5	2.5	3.0	2.5	1.0	1.5
20	11.5	7.5	9.5	5.5	3.0	4.0	2.5	1.5	2.0	2.5	1.0	2.0
21	11.5	8.0	9.5	6.5	4.0	5.0	3.5	2.5	3.0	2.5	.5	1.5
22	12.0	9.5	11.0	6.0	4.5	5.0	6.0	3.5	5.0	.5	.5	.5
23	12.0	12.0	12.0	7.0	6.0	6.5	8.0	6.0	7.0	.5	.5	.5
24	13.0	11.0	12.5	6.5	4.5	5.5	7.0	2.5	5.5	.5	.5	.5
25	11.5	9.0	10.5	6.0	4.0	5.0	2.0	.5	1.0	.5	.5	.5
26	10.5	7.5	9.5	6.5	4.0	5.0	1.0	.5	.5	.5	.5	.5
27	9.0	5.5	7.5	5.5	4.0	5.0	.5	.5	.5	.5	.5	.5
28	8.5	7.0	8.0	9.0	5.0	7.0	.5	.5	.5	.5	.0	.5
29	8.5	6.5	7.5	9.0	5.0	7.5	2.0	.5	1.0	.5	.0	.5
30	9.5	6.0	8.0	4.5	3.0	4.0	3.0	2.0	2.5	.5	.5	.5
31	11.0	8.0	9.5	---	---	---	2.0	.5	1.5	.5	.5	.5
MONTH	16.5	5.5	11.5	12.0	2.0	6.5	8.0	0.5	2.5	2.5	0.0	1.0

DELAWARE RIVER BASIN

01436500 NEVERSINK RIVER AT WOODBOURNE, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.5	.5	4.5	.5	2.5	4.5	3.0	3.5	15.5	9.0	12.0
2	.5	.5	.5	5.0	3.0	4.0	6.0	3.0	4.0	13.5	9.5	11.0
3	.5	.5	.5	7.0	3.0	5.0	9.0	2.5	5.5	10.5	7.5	9.0
4	1.0	.5	.5	5.0	2.5	3.0	10.0	3.0	6.5	15.0	7.0	10.5
5	2.5	.5	2.0	4.5	2.0	3.0	8.0	5.5	7.0	16.0	8.0	12.0
6	3.5	1.5	2.5	5.0	1.0	3.0	13.0	6.0	9.5	14.0	10.0	11.0
7	3.0	1.5	2.0	5.0	2.0	4.0	14.5	7.5	11.0	13.5	9.0	10.5
8	4.0	1.5	2.5	3.5	.5	1.5	13.5	9.0	11.5	15.0	8.0	11.5
9	4.0	1.0	2.5	3.5	.5	1.5	14.0	10.0	12.0	12.0	9.0	10.0
10	3.0	1.5	2.5	2.5	.5	1.0	14.0	9.5	11.5	15.0	9.0	11.5
11	1.5	.5	1.0	2.5	.0	1.0	11.0	6.0	8.5	---	9.0	---
12	.5	.5	.5	3.0	.5	1.5	10.5	4.0	7.5	---	---	---
13	1.0	.5	.5	3.5	.5	2.0	8.5	5.5	6.0	---	---	---
14	.5	.5	.5	3.0	2.0	2.0	11.0	4.5	7.5	---	---	---
15	1.0	.5	.5	3.5	1.0	2.0	9.5	6.0	7.0	19.0	---	---
16	.5	.5	.5	6.0	1.0	3.5	12.5	5.5	9.0	18.5	12.0	15.0
17	.5	.5	.5	7.0	1.5	4.5	11.0	8.0	9.0	16.5	12.5	15.0
18	.5	.5	.5	5.0	2.0	3.0	8.5	7.0	7.5	18.5	13.0	15.0
19	.5	.5	.5	5.5	2.0	3.5	12.0	6.0	9.0	16.5	10.0	13.0
20	3.0	.5	1.5	7.5	2.5	4.5	10.0	7.0	7.5	17.5	10.0	13.5
21	3.5	.5	1.5	4.0	2.5	3.5	7.0	6.0	6.5	18.0	10.5	14.0
22	3.5	1.0	2.5	3.5	2.5	3.5	7.5	6.0	6.5	19.0	12.5	15.5
23	1.5	.0	1.0	3.5	1.5	2.0	12.5	5.5	8.5	19.5	13.5	16.5
24	.5	.5	.5	3.5	1.5	2.5	10.0	6.5	8.5	18.0	13.5	16.0
25	3.0	.5	1.5	5.0	2.5	4.0	14.5	7.0	10.5	18.5	11.5	15.0
26	3.5	1.0	2.5	8.5	3.0	6.0	13.5	7.0	10.5	15.5	11.5	13.5
27	3.0	.5	1.5	6.0	4.5	5.0	15.5	9.5	12.5	17.0	11.0	13.5
28	2.5	.5	1.0	11.0	4.5	7.5	13.0	9.5	11.5	19.0	13.0	15.5
29	---	---	---	7.0	5.0	6.0	11.0	9.0	10.0	17.0	11.5	14.5
30	---	---	---	7.5	3.5	5.5	10.5	8.5	9.5	15.0	11.0	13.5
31	---	---	---	7.5	1.5	4.5	---	---	---	16.0	12.0	14.0
MONTH	4.0	0.0	1.0	11.0	0.0	3.5	15.5	2.5	8.5	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	19.5	13.5	16.0	16.5	9.5	13.0	19.5	13.5	16.0	17.0	12.5	14.5
2	17.5	13.0	15.5	14.0	11.0	12.0	17.0	12.0	15.0	16.0	10.5	13.0
3	16.0	12.0	14.0	11.5	11.0	11.5	14.5	10.0	11.5	17.0	11.0	14.0
4	17.0	12.5	14.5	13.5	11.0	12.0	14.5	10.0	12.0	15.0	13.0	13.5
5	14.5	11.5	13.0	12.5	10.0	10.5	16.0	9.5	12.5	18.5	12.5	15.0
6	15.0	10.0	12.5	15.0	9.5	12.0	15.5	10.0	13.0	16.5	13.0	14.5
7	16.5	10.5	13.0	15.0	11.0	13.0	16.5	12.0	14.0	16.0	12.0	14.0
8	18.0	11.5	14.5	17.0	10.0	13.5	17.0	12.5	14.5	15.5	11.0	13.5
9	19.0	12.5	15.5	18.5	12.0	15.0	15.0	12.0	13.5	16.0	11.5	14.0
10	17.5	10.5	14.5	18.0	12.5	15.5	17.5	11.5	14.0	15.0	12.0	13.5
11	15.5	11.0	13.5	18.0	13.5	15.5	14.5	13.0	13.5	18.5	13.5	15.0
12	15.5	11.5	13.5	16.5	10.5	13.5	16.0	11.5	14.0	16.5	11.5	14.0
13	18.0	10.5	13.5	15.0	10.5	11.5	16.0	10.0	13.0	15.5	11.0	13.5
14	18.0	11.5	14.5	---	---	---	14.0	9.5	12.0	18.0	13.5	15.5
15	18.5	12.5	15.5	---	---	---	13.5	12.5	13.0	16.5	13.5	15.0
16	16.5	11.5	14.5	17.5	---	---	17.0	11.0	14.0	18.5	13.5	15.5
17	15.5	11.5	14.0	18.0	10.5	14.5	16.5	11.5	14.5	20.0	16.0	17.5
18	14.5	11.5	13.0	16.5	11.5	14.5	15.0	12.0	13.5	17.5	12.5	15.5
19	14.0	10.5	12.0	16.0	10.0	13.5	15.0	12.0	13.5	17.5	13.0	14.5
20	18.0	11.0	14.0	17.5	10.0	13.5	14.0	12.0	12.5	14.5	11.5	13.0
21	18.0	10.5	14.5	15.0	10.5	13.0	16.0	12.5	14.0	15.0	10.0	12.0
22	15.5	11.0	12.0	14.0	10.0	12.0	18.5	12.5	15.0	14.5	10.0	12.0
23	15.5	9.5	12.5	16.0	11.5	14.0	16.0	14.0	15.0	12.5	11.0	11.5
24	16.5	9.0	13.0	18.0	11.0	14.0	16.5	13.0	15.0	14.5	11.0	12.5
25	18.0	12.0	14.5	15.5	11.0	12.0	17.0	14.0	15.5	14.0	13.0	13.5
26	18.5	13.0	15.5	12.5	12.0	12.0	17.5	12.5	15.0	17.0	12.5	14.0
27	17.0	11.0	14.5	17.0	11.5	13.5	19.0	13.5	16.0	14.5	11.0	12.5
28	17.5	9.5	14.0	18.0	12.5	15.0	17.5	12.0	15.0	13.0	8.5	10.5
29	18.0	10.5	14.5	16.0	13.0	14.5	16.0	11.5	14.5	11.0	8.5	10.0
30	16.0	10.5	13.5	16.0	12.0	14.0	17.0	12.0	14.5	12.5	8.0	10.0
31	---	---	---	18.5	13.5	15.5	19.0	14.0	16.0	---	---	---
MONTH	19.5	9.0	14.0	---	---	---	19.5	9.5	14.0	20.0	8.0	13.5

DELAWARE RIVER BASIN

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to October 1903, July 1937 to current year. Gage heights and discharge measurements, August 1909 to April 1914. Twice-daily figures of discharge, January 1911 to December 1912, which do not represent daily mean discharges because of diurnal fluctuation. 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 National Geodetic Vertical Datum of 1929 (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 mi² 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, 33,000 ft³/s, Aug. 19, 1955, gage height, 12.49 ft, from rating curve extended above 11,000 ft³/s, on basis of slope-area measurement of peak flow; minimum, practically no flow several times in July 1911.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,170 ft³/s, Nov. 10, gage height, 6.80 ft; minimum, 60 ft³/s, Sept. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e165	279	319	899	e450	377	444	448	475	131	80	70
2	e159	258	316	772	e370	421	445	434	290	123	78	70
3	e149	241	320	688	e365	546	416	405	242	112	102	68
4	e152	230	2160	617	405	1750	390	375	231	101	125	68
5	e197	222	1640	e520	437	1310	373	351	212	104	119	88
6	e179	365	1170	e480	494	999	365	394	199	122	108	77
7	e165	378	987	e440	896	987	359	562	187	124	90	74
8	e162	320	878	e415	979	839	343	464	169	125	70	76
9	e172	296	753	e380	798	711	333	431	160	121	81	93
10	e179	1200	659	e400	712	637	316	389	165	100	118	93
11	e197	2530	586	e355	631	558	304	352	170	87	96	88
12	e216	1280	526	e360	533	e495	294	329	198	87	84	66
13	e240	1020	490	e370	e480	485	288	312	202	108	88	61
14	e288	846	456	e340	511	471	298	300	161	114	119	63
15	e249	727	416	e350	525	472	302	287	145	109	117	66
16	e216	653	457	420	e460	454	346	262	143	109	110	79
17	e201	603	473	614	e410	458	306	245	151	103	107	72
18	e220	576	602	553	e400	507	294	243	146	103	104	72
19	e477	518	993	482	e395	617	284	233	162	107	161	207
20	e337	480	735	462	524	597	274	219	160	122	198	163
21	e279	450	659	467	633	526	517	210	148	116	136	104
22	e262	426	772	e385	558	494	1260	202	149	117	106	94
23	320	462	721	e340	532	545	885	191	164	129	95	89
24	1120	466	1130	e330	e450	595	730	182	147	130	90	93
25	664	425	941	e320	e435	693	691	182	134	102	87	167
26	521	399	762	e320	432	594	604	187	113	116	83	206
27	457	379	e620	e315	410	560	538	185	104	128	79	141
28	408	367	e580	e310	382	562	488	309	123	101	78	130
29	e368	356	e585	e305	---	516	450	221	137	91	95	116
30	e317	330	652	341	---	494	451	219	135	90	95	108
31	293	---	1200	503	---	468	---	455	---	86	91	---
TOTAL	9329	17082	23558	13853	14607	19738	13388	9578	5322	3418	3190	2962
MEAN	301	569	760	447	522	637	446	309	177	110	103	98.7
MAX	1120	2530	2160	899	979	1750	1260	562	475	131	198	207
MIN	149	222	316	305	365	377	274	182	104	86	70	61

CAL YR 1990 TOTAL 175279 MEAN 480 MAX 2530 MIN 147

WTR YR 1991 TOTAL 136025 MEAN 373 MAX 2530 MIN 61

e Estimated

DELAWARE RIVER BASIN

01437500 NEVERSINK RIVER AT GODEFFROY, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1987 to current year. Records prior to water year 1989 are unpublished and available in files of the Geological Survey.

CHEMICAL DATA: 1987 (b), 1988-89 (c), 1990-91 (b).

MINOR ELEMENTS DATA: 1987 (b), 1988-89 (c), 1990-91 (b).

PESTICIDE DATA: 1988 (b), 1989 (c), 1990 (b).

NUTRIENT DATA: 1988 (b), 1989 (c), 1990 (b).

SEDIMENT DATA: 1988 (b), 1989 (c), 1990-91 (b).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
NOV 08...	1100	322	86	7.2	7.5	755	11.6	98	80
APR 25...	1000	698	91	7.5	9.5	753	10.7	95	100
MAY 22...	1000	204	111	7.6	18.5	754	8.7	94	240
JUN 25...	1100	140	102	7.8	19.0	756	9.5	103	20
AUG 29...	1200	96	109	8.5	24.0	754	10	120	20

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
NOV 08...	<1	6	180	1	30	<0.10	<1	<10
APR 25...	<1	4	240	6	50	<0.10	2	<10
MAY 22...	<1	9	370	3	30	<0.10	6	<10
JUN 25...	<1	3	110	9	30	<0.10	28	<10
AUG 29...	<1	3	<10	3	<10	<0.10	<1	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 08...	1100	322	3	2.6
APR 25...	1000	698	8	15
MAY 22...	1000	204	4	2.2
JUN 25...	1100	140	2	0.76
AUG 29...	1200	96	1	0.26

DELAWARE RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929. 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 periods of ice effect, Jan. 27-28, and periods of shifting control, Oct. 1-24, and June 4 to Sept. 30, which are fair. Diurnal fluctuations 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, reservoirs in) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs (see Delaware River basin, diversions). Several measurements of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 10, 1903, reached a stage of 35.5 ft, from floodmark, present datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1920	3490	3710	17300	5170	5420	6780	5420	3820	1680	1750	1640
2	1960	3140	2820	13500	4310	5240	6820	5260	2570	1680	1770	1560
3	1980	2760	2810	11400	3660	6810	6440	5200	2240	1940	1660	1600
4	1990	2560	14600	10100	3830	15700	6050	4620	2060	1920	1710	1640
5	2070	2560	26300	8640	4250	21200	5660	3980	1820	1840	1780	1770
6	1940	2740	15500	7510	4930	15500	5010	4860	1790	1900	1780	1720
7	2020	3970	11500	7110	7760	13400	4780	6620	1600	1840	1790	1690
8	1910	3890	9240	6420	15000	13000	4990	6660	1370	1800	1770	1780
9	2260	3510	7280	5910	12200	10400	4650	5710	1580	1750	1810	1710
10	2640	6380	6820	5480	10400	8600	5330	5120	1760	1510	1850	1840
11	1570	42700	6640	5410	9220	7740	4930	4780	1980	1570	1810	1730
12	1750	23900	5850	4890	8610	7280	4990	4390	1890	1810	1670	1680
13	2060	14700	5440	4610	7410	6460	4630	4240	2130	1740	1700	1700
14	2470	10700	5340	5130	7500	6260	4210	4530	2100	1920	1570	1680
15	4200	8810	4630	4940	7790	6170	4560	3780	2010	1970	1880	1650
16	3060	7930	3960	5230	7210	5600	5120	3320	2070	2080	2000	1770
17	2350	7250	4660	7010	5790	4930	4600	3190	1860	2110	2180	2220
18	2130	6530	5540	8870	5080	5480	4220	2680	1720	1900	1780	1920
19	4770	6260	10000	7350	5450	7680	3750	2370	1810	2020	2100	2160
20	7950	5960	10700	6050	6050	8080	3440	2220	1740	2200	1960	2270
21	4990	5410	9100	6600	9940	7580	3760	2060	1850	1840	1490	2390
22	3780	4890	9660	6240	9210	6740	9870	2100	2000	1930	1670	1480
23	3490	4230	10100	5370	8600	6850	11800	1850	1910	1970	2400	1380
24	11500	4580	13800	4840	7040	8380	10300	1740	1870	1950	1490	1970
25	16400	4140	17200	5200	7050	9890	9840	1820	1690	1900	1060	1980
26	10200	4090	13700	4400	6740	10200	8930	1700	1670	1650	1360	2130
27	7500	4140	11100	e3700	6340	8860	7460	1720	1690	1790	1640	1750
28	5880	3860	9500	e4100	5890	9020	6550	2240	1680	1810	1750	1600
29	5080	3780	9320	4720	---	8890	6060	2630	2050	1670	1820	1240
30	4270	3910	8200	4690	---	8130	5600	2190	1810	1650	1810	1450
31	4070	---	17100	5140	---	7500	---	3330	---	1620	1770	---
TOTAL	130160	212770	292120	207860	202430	272990	181130	112330	58140	56960	54580	53100
MEAN	4199	7092	9423	6705	7230	8806	6038	3624	1938	1837	1761	1770
MAX	16400	42700	26300	17300	15000	21200	11800	6660	3820	2200	2400	2390
MIN	1570	2560	2810	3700	3660	4930	3440	1700	1370	1510	1060	1240

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1991, BY WATER YEAR (WY)

	3402	5095	6134	5684	6112	10110	11800	7584	4446	3044	2599	2695
MEAN	3402	5095	6134	5684	6112	10110	11800	7584	4446	3044	2599	2695
MAX	15690	11760	14050	15050	15120	24480	31560	16090	15200	11220	14230	9167
(WY)	1956	1952	1974	1949	1976	1945	1940	1943	1972	1945	1955	1960
MIN	807	995	1968	1318	1748	3191	3322	2215	1214	864	715	892
(WY)	1942	1965	1965	1981	1980	1981	1985	1965	1965	1954	1954	1941

e Estimated.

DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1940 - 1991	
ANNUAL TOTAL	2286620		1834570			
ANNUAL MEAN	6265		5026		5720	
HIGHEST ANNUAL MEAN					8621 1952	
LOWEST ANNUAL MEAN					2309 1965	
HIGHEST DAILY MEAN	42700	Nov 11	42700	Nov 11	187000	Aug 19 1955
LOWEST DAILY MEAN	1440	Sep 9	1060	Aug 25	412	Aug 23 1954
ANNUAL SEVEN-DAY MINIMUM	1710	Sep 21	1560	Aug 24	565	Jul 1 1965
INSTANTANEOUS PEAK FLOW			51000	Nov 11	250000a	Aug 19 1955
INSTANTANEOUS PEAK STAGE			16.01	Nov 11	35.15	Aug 19 1955
INSTANTANEOUS LOW FLOW			936	Sep 29	382	Aug 24 1954
10 PERCENT EXCEEDS	13100		9910		12100	
50 PERCENT EXCEEDS	4390		4090		3440	
90 PERCENT EXCEEDS	2040		1690		1560	

a From rating curve extended above 90,000 ft³/s on basis of flood-routing study.

DELAWARE RIVER BASIN

RESERVOIRS IN DELAWARE RIVER BASIN

- 01416900 PEPACTON RESERVOIR.--Lat 42°04'38", long 74°58'04", Delaware County, Hydrologic Unit 02040102, near release chamber at Downsview Dam on East Branch Delaware River, and 1.6 mi east of Downsview. DRAINAGE AREA, 372 mi², revised. PERIOD OF RECORD, September 1954 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York). Reservoir is formed by an earthfill rockfaced dam. Storage began Sept. 15, 1954. Usable capacity 140,190 mil gal between minimum operating level, elevation, 1,152.0 ft and crest of spillway, elevation, 1,280.0 ft. Capacity: at crest of spillway 149,799 mil gal; at minimum operating level, 9,609 mil gal; at sill of diversion tunnel, elevation, 1,143.0 ft, 6,098 mil gal; in dead storage below release outlet, elevation, 1,126.50 ft, 1,898 mil gal. Figures given herein represent total contents. Reservoir impounds water for diversion through East Delaware Tunnel to Rondout Reservoir on Rondout Creek, in Hudson River basin (see elsewhere in this section), for water supply to City of New York; for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master; and for conservation release. No diversion prior to Jan. 6, 1955. Records provided by Bureau of Water Resources Development and Department of Environmental Protection, City of New York.
- 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, 150,559 mil gal, May 10, elevation, 1,280.41 ft; minimum observed, 84,192 mil gal, Sept. 30, elevation, 1,238.51 ft.
- 01424997 CANNONVILLE RESERVOIR.--Lat 42°03'46", long 75°22'29", Delaware County, 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 mi². PERIOD OF RECORD, October 1963 to current year. REVISED RECORDS, WDR NY-71-1: 1966. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York). Reservoir is formed by an earthfill rockfaced dam. Storage began Sept. 30, 1963. Usable capacity 95,706 mil gal between minimum operating level, elevation, 1,040.0 ft and crest of spillway, elevation, 1,150.0 ft. Capacity, at crest of spillway, 98,618 mil gal; at minimum operating level, 2,912 mil gal; at mouth of inlet channel to diversion tunnel, elevation, 1,035.0 ft, 1,892 mil gal; in dead storage below release outlet elevation, 1,020.5 ft, 328 mil gal. Figures given herein represent total contents. Impounded water is diverted for New York City water supply via West Delaware Tunnel to Rondout Reservoir in Hudson River basin (see elsewhere in this section); is released in Delaware River for downstream low flow augmentation, as directed by the Delaware River Master; and is released for conservation flow in the Delaware River. No diversion prior to January 29, 1964. Records provided by Bureau of Water Resources Development, City of New York.
- 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, 101,837 mil gal, Mar. 6, elevation, 1,152.00 ft; minimum observed, 27,129 mil gal, Sept. 18, elevation, 1,089.79 ft.
- 01433000 SWINGING BRIDGE RESERVOIR.--Lat 41°34'21", long 74°47'00", Sullivan County, Hydrologic Unit 02040104, at dam on Mongaup River, and 1.8 mi northwest of Fowlersville. DRAINAGE AREA, 116 mi², revised, 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. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,010 ft.
- Reservoir is formed by an earthfill dam. Storage began Jan. 19, 1930. Usable capacity, 1,436.6 mil ft³ between elevations 1,010.0 ft, minimum operating pool, and 1,071.2 ft, top of flashboards. Capacity below elevation 1,010.0 ft, minimum operating pool, about 212.7 mil ft³. Reservoir is used for storage of water for power. Figures given herein represent contents above 1,010.0 ft. Water is received from Cliff Lake, Lebanon Lake, and Toronto Reservoir. Records provided by Orange and Rockland Utilities, Inc.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,461.6 mil ft³, Mar. 14, 1977, elevation, 1,071.8 ft; minimum observed (after first filling), -141.4 mil ft³, Dec. 2, 1938, elevation, 987.5 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,363.1 mil ft³, Nov. 15, elevation, 1,069.4 ft; minimum observed, 989.7 mil ft³, Jan. 30-31, elevation, 1,059.4 ft.
- 01433100 TORONTO RESERVOIR.--Lat 41°37'15", long 74°49'55", Sullivan County, Hydrologic Unit 02040104, at dam on Black Lake Creek, and 2.5 mi southeast of village of Black Lake. DRAINAGE AREA, 22.9 mi², revised. 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. GAGE, nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,165.0 ft.
- Reservoir is formed by an earthfill dam completed July 24, 1926. Storage began Jan. 13, 1926. Usable capacity 1,098.2 mil ft³ between elevations 1,165.0 ft, minimum operating pool, and 1,220.0 ft, top of permanent flashboards. Capacity below elevation 1,165.0 ft, minimum operating pool, about 26.8 mil ft³. Reservoir is used for storage of water for power. Figures given herein represent contents above 1,165.0 ft. Records provided by Orange and Rockland Utilities, Inc.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,171.2 mil ft³, July 20, 1945, elevation, 1,222.0 ft; minimum observed (after first filling), -26.8 mil ft³, Nov. 15, 1928, elevation, 1,144.5 ft.
- EXTREMES OF CURRENT YEAR.--Maximum contents observed, 945.3 mil ft³, June 3, elevation, 1,215.5 ft; minimum observed, 231.4 mil ft³, Sept. 30, elevation, 1,186.2 ft.
- 01433200 CLIFF LAKE.--Lat 41°35'00", long 74°47'40", Sullivan County Hydrologic Unit 02040104, at dam on Black Lake Creek, and 2.5 mi northwest of Fowlersville. DRAINAGE AREA, 6.46 mi², excluding area above Toronto Reservoir. PERIOD OF RECORD, January 1939 to current year. REVISED RECORDS, WSP 1552: 1951-54. WDR NY-75-1: 1974 (m). WDR NY-86-1: 1985. GAGE, nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,043.3 ft.
- Reservoir is formed by a concrete gravity-type dam. Storage began Jan. 6, 1939. Usable capacity, 136.06 mil ft³ between elevations 1,043.3 ft, minimum operating pool, and 1,072.0 ft, top of permanent flashboards. Capacity below elevation 1,043.3 ft, minimum operating pool, about 6.54 mil ft³. Reservoir is used for storage of water for power. Water is received from Toronto and Lebanon Lake reservoirs and is discharged through a tunnel into Swinging Bridge Reservoir. Figures given herein represent contents above 1,043.3 ft. Records provided by Orange and Rockland Utilities, Inc.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 145.44 mil ft³, July 30, 31, 1945, elevation, 1,073.1 ft; minimum observed (after first filling), about -6.54 mil ft³, Mar. 16, 1963, elevation, 1,038.0 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 114.20 mil ft³, Nov. 14, 16, elevation, 1,069.3 ft; minimum observed, 53.45 mil ft³, Sept. 27, elevation, 1,059.9 ft.

DELAWARE RIVER BASIN

RESERVOIRS IN DELAWARE RIVER BASIN--Continued

01435900 NEVERSINK RESERVOIR.--Lat 41°49'27", long 74°38'20", Sullivan County, Hydrologic Unit 02040104, at a gatehouse at Neversink Dam on Neversink River, and 2 mi southwest of Neversink. DRAINAGE AREA, 92.5 mi². PERIOD OF RECORD, June 1953 to current year. REVISED RECORDS, WDR NY-85-1: Drainage area. GAGE, nonrecording gage read daily at 0900. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York).

Reservoir is formed by an earthfill rockfaced dam. Storage began June 2, 1953. Usable capacity 34,941 mil gal between minimum operating level, elevation, 1,319.0 ft and crest of spillway, elevation, 1,440.0 ft. Capacity at crest of spillway 37,146 mil gal; at minimum operating level, 2,205 mil gal; dead storage below diversion sill and outlet sill, elevation 1,314.0 ft, 1,680 mil gal. Figures given herein represent total contents. Reservoir impounds water for diversion through Neversink-Grahamsville Tunnel to Rondout Reservoir on Rondout Creek, in Hudson River basin, for water supply of City of New York (see elsewhere in this section); for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master; and for conservation release. No diversion prior to Dec. 3, 1953. Records provided by Bureau of Water Resources Development and Department of Environmental Protection, City of New York.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 37,978 mil gal, Apr. 25, 1961, elevation, 1,441.67 ft; minimum observed (after first filling), 1,985 mil gal, Nov. 25, 1964, elevation, 1,316.98 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 36,575 mil gal, May 27, elevation, 1,438.84 ft; minimum observed, 10,782 mil gal, Sept. 30, elevation, 1,367.63 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet) ††	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) ††	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) †	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)
<u>01416900 Pepacton Reservoir</u>				<u>01424997 Cannonsville Reservoir</u>			<u>01433000 Swinging Bridge Reservoir</u>		
Sept. 30	1,256.63	110,153		1,129.02	69,007		1,063.0	1,117	
Oct. 31	1,253.97	106,070	- 204	1,131.44	72,163	+ 158	1,063.9	1,150	+ 12.3
Nov. 30	1,260.66	116,509	+ 538	1,144.48	90,261	+ 933	1,065.3	1,203	+ 20.4
Dec. 31	1,269.09	130,447	+ 696	1,151.79	101,499	+ 561	1,067.5	1,288	+ 31.7
CAL YR 1990	-	-	+ 17.2	-	-	+ 61.1	-	-	+ 7.0
Jan. 31	1,268.27	129,053	- 69.6	1,150.44	99,326	- 108	1,059.4	990	-111
Feb. 28	1,269.42	131,011	+ 108	1,150.89	100,050	+ 40.0	1,062.8	1,110	+ 49.6
Mar. 31	1,275.11	140,936	+ 495	1,151.31	100,726	+ 33.7	1,063.3	1,128	+ 6.7
Apr. 30	1,280.15	150,077	+ 471	1,150.97	100,179	- 28.2	1,065.8	1,222	+ 36.3
May 31	1,277.62	145,446	- 231	1,147.27	94,465	- 285	1,062.7	1,106	- 43.3
June 30	1,270.55	132,951	- 644	1,134.91	76,760	- 913	1,064.0	1,154	+ 18.5
July 31	1,261.88	118,471	- 723	1,114.60	51,504	-1,261	1,062.7	1,106	- 17.9
Aug. 31	1,252.38	103,675	- 738	1,097.27	33,650	- 891	1,061.4	1,060	- 17.2
Sept. 30	1,238.02	83,549	-1,038	1,090.27	27,521	- 316	1,059.8	1,003	- 22.0
WTR YR 1991	-	-	- 113	-	-	- 176	-	-	- 3.6
Date	Elevation (feet) †	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) †	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) ††	Contents (million gallons)	Change in contents (equivalent in ft ³ /s)
<u>01433100 Toronto Reservoir</u>				<u>01433200 Cliff Lake</u>			<u>01435900 Neversink Reservoir</u>		
Sept. 30	1,197.3	452		1,066.7	95.1		1,413.15	25,253	
Oct. 31	1,192.0	337	- 42.9	1,064.6	81.1	- 5.2	1,418.17	27,282	+101
Nov. 30	1,197.0	445	+ 41.7	1,066.2	91.6	+ 4.1	1,427.55	31,297	+207
Dec. 31	1,201.6	556	+ 41.5	1,067.2	98.6	+ 2.6	1,438.12	36,223	+246
CAL YR 1990	-	-	+ 1.2	-	-	+ 1.2	-	-	+ 37.0
Jan. 31	1,204.5	631	+ 28.0	1,060.3	55.6	-16.1	1,429.51	32,178	-202
Feb. 28	1,206.3	679	+ 19.9	1,063.3	72.9	+ 7.1	1,428.98	31,938	- 13.3
Mar. 31	1,210.7	801	+ 45.5	1,063.3	72.9	0.0	1,434.45	34,465	+126
Apr. 30	1,213.0	868	+ 25.8	1,065.6	87.6	+ 5.7	1,433.78	34,149	- 16.3
May 31	1,213.1	871	+ 1.1	1,065.5	87.0	- 0.2	1,438.20	36,262	+105
June 30	1,208.5	739	- 50.9	1,066.1	91.0	+ 1.5	1,431.55	33,110	-163
July 31	1,197.7	461	-104	1,065.6	87.6	- 1.3	1,418.00	27,211	-294
Aug. 31	1,189.2	284	- 66.1	1,061.7	63.4	- 9.0	1,395.21	18,702	-425
Sept. 30	1,186.2	231	- 20.4	1,060.0	54.0	- 3.6	1,366.78	10,576	-419
WTR YR 1991	-	-	- 7.0	-	-	- 1.3	-	-	- 62.2

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

† Elevation at 2400 hours.

DELAWARE RIVER BASIN

DIVERSIONS FROM 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.

014239000 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, 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.

DIVERSION, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Month	01415200 Pepacton Reservoir	01423900 Cannonsville Reservoir	01435800 Neversink Reservoir
October.....	692	341	155
November.....	677	349	131
December.....	649	374	202
CAL YR 1990	646	258	201
January.....	703	96.8	410
February.....	698	132	226
March.....	590	64.1	288
April.....	481	252	237
May.....	694	633	23.0
June.....	699	307	142
July.....	700	308	252
August.....	683	181	416
September.....	694	0.0	413
WTR YR 1991	663	254	242

STREAMS TRIBUTARY TO LAKE ONTARIO

04250750 SANDY CREEK NEAR ADAMS, NY
(National stream-quality accounting network station)

LOCATION.--Lat 43°48'48", long 76°04'30", Jefferson County, Hydrologic Unit 04140102, on left bank 250 ft upstream from highway bridge on Liberty Street, 0.2 mi downstream from tributary, 2.5 mi downstream from Adams, and 10.0 mi upstream from mouth. Water-quality sampling site at discharge station.

DRAINAGE AREA.--128 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NY-85-1: 1963-64(M), 1976-77(M), 1980(M), 1984(M).

GAGE.--Water-stage recorder. Datum of gage is 523.71 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Moderate diurnal fluctuation at low flow caused by mills upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 274 ft³/s, 29.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,690 ft³/s, Feb. 25, 1985, gage height, 11.05 ft, from rating curve extended above 5,500 ft³/s on basis of flow-over-dam measurement of peak flow; minimum discharge, 1.5 ft³/s, Sept. 17, 18, 1963, Aug. 19, 1964; minimum daily, 2.2 ft³/s, Sept. 7, 11, 1960, Sept. 17, 1963, Aug. 16, Sept. 22, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 30	1815	*4,680	*8.44	Apr. 22	0015	3,240	6.92
Mar. 4	1645	3,270	7.53				

Minimum discharge, 4.9 ft³/s, Sept. 1, gage height, 0.86 ft; minimum daily discharge, 5.1 ft³/s, Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	299	207	992	e130	e210	329	200	326	15	8.3	5.1
2	62	258	187	661	e130	1160	325	182	160	16	7.7	8.5
3	59	214	162	450	e140	1920	317	185	108	16	7.8	8.0
4	91	192	706	359	e180	2600	280	169	101	17	8.8	7.4
5	329	199	633	e280	395	1730	284	145	82	46	22	7.3
6	143	694	428	e220	658	1240	341	141	69	91	20	7.1
7	80	550	351	e180	827	2030	342	185	62	66	15	6.9
8	60	413	301	e160	841	e1000	330	156	54	106	13	6.4
9	64	333	274	e180	617	e600	496	134	47	116	14	5.9
10	197	632	295	e170	484	e400	1500	121	42	58	27	6.5
11	172	691	233	e160	e280	e300	725	105	45	40	32	8.1
12	384	488	222	e150	e240	e280	413	92	59	31	45	8.6
13	461	340	373	e140	e220	e270	325	83	65	26	26	7.8
14	427	268	280	e150	e200	e270	289	79	49	24	15	7.3
15	259	297	e200	175	e190	266	282	70	41	23	12	9.3
16	174	452	e180	278	e170	272	409	63	40	21	12	29
17	127	914	e160	732	e160	282	318	164	45	17	13	34
18	269	535	333	e350	e150	321	268	277	42	15	13	26
19	933	345	901	e300	e250	401	233	143	38	13	13	34
20	520	288	354	e250	e1200	396	263	100	33	12	12	47
21	351	263	310	e220	1120	297	738	78	29	6.0	17	32
22	379	252	733	e200	e600	291	2210	67	27	10	40	24
23	614	429	1280	e180	e380	433	1390	60	26	14	28	20
24	966	357	e800	e170	e320	1130	762	53	24	19	21	20
25	590	364	e450	e160	e280	1050	480	61	22	14	16	28
26	470	343	e340	e160	e220	723	357	89	21	12	13	48
27	362	326	e320	e150	e200	826	302	162	19	10	12	83
28	349	373	311	e150	e190	1520	259	123	17	9.6	11	62
29	839	286	1030	e140	---	881	226	87	15	8.8	9.5	42
30	464	235	3890	e140	---	488	208	86	15	8.1	13	33
31	382	---	2090	e130	---	361	---	387	---	8.1	11	---
TOTAL	10678	11630	18334	8137	10772	23948	15001	4047	1723	888.6	528.1	672.2
MEAN	344	388	591	262	385	773	500	131	57.4	28.7	17.0	22.4
MAX	966	914	3890	992	1200	2600	2210	387	326	116	45	83
MIN	59	192	160	130	130	210	208	53	15	6.0	7.7	5.1
CFSM	2.69	3.03	4.62	2.05	3.01	6.04	3.91	1.02	.45	.22	.13	.18
IN.	3.10	3.38	5.33	2.36	3.13	6.96	4.36	1.18	.50	.26	.15	.20

CAL YR 1990 TOTAL 126117.5 MEAN 346 MAX 4970 MIN 8.8 CFMS 2.70 IN. 36.65
WTR YR 1991 TOTAL 106358.9 MEAN 291 MAX 3890 MIN 5.1 CFMS 2.28 IN. 30.91

e Estimated

STREAMS TRIBUTARY TO LAKE ONTARIO

04250750 SANDY CREEK NEAR ADAMS, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1978 to current year.

CHEMICAL DATA: 1965, 1978 (c), 1979-80 (d), 1981-91 (c).

MINOR ELEMENTS DATA: 1978-79 (b), 1980 (c), 1981-91 (b).

ORGANIC DATA: OC--1978 (c), 1979-80 (d), 1981 (c).

NUTRIENT DATA: 1978 (c), 1979-80 (d), 1981-91 (c).

BIOLOGICAL DATA:

Bacteria--1978 (c), 1979-80 (d), 1981-91 (c).

Phytoplankton--1978-80 (c), 1981 (b).

Periphyton--1978-80 (b).

SEDIMENT DATA: 1978 (c), 1979-80 (d), 1981-88 (c), 1989 (b), 1990-91 (c).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Once daily January 1978 to September 1980. Recorder July 1980 to September 1984.

WATER TEMPERATURES: Once daily January 1978 to September 1980. Recorder July 1980 to September 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1978-84): Maximum recorded, 563 microsiemens, Jan. 21, 1983; minimum recorded, 86 microsiemens, Oct. 15, 1982.

WATER TEMPERATURES: Maximum (water years 1979-80, 1983-84), 33.0°C, July 24, 1979; minimum (water years 1978-84), 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 30...	1330	436	239	7.9	5.0	1.7	755	12.4	98	110	230
JAN 23...	0930	E180	340	8.2	0.0	1.6	745	15.2	106	46	38
MAR 07...	1000	2500	131	7.9	1.5	87	735	12.9	95	370	340
MAY 21...	1230	73	310	8.7	17.5	1.0	755	11.1	117	73	3
JUN 25...	1015	22	440	8.4	19.0	0.90	760	8.0	87	250	K12
AUG 13...	0930	27	325	8.3	21.0	1.5	755	16.8	190	300	310

DATE	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CaCO3)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 30...	130	48	3.1	5.1	1.5	107	128	--	17	11	<0.10
JAN 23...	160	58	3.9	7.5	1.5	142	174	--	17	14	<0.10
MAR 07...	62	22	1.8	2.8	1.0	55	64	--	8.2	5.0	<0.10
MAY 21...	140	51	3.7	9.7	1.6	131	--	--	13	12	0.10
JUN 25...	170	61	4.9	19	2.6	156	166	12	16	19	<0.10
AUG 13...	140	49	4.4	13	2.0	119	144	--	28	10	<0.10

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT 30...	4.6	160	157	--	0.800	<0.010	0.020	0.40	0.020	<0.010	<0.010
JAN 23...	5.0	181	200	--	1.70	0.020	0.030	0.40	0.030	0.020	0.020
MAR 07...	3.2	89	79	--	0.780	0.020	0.030	0.50	0.140	<0.010	<0.010
MAY 21...	0.79	183	175	--	0.620	0.030	0.020	0.40	0.030	0.030	0.010
JUN 25...	2.4	231	225	1.37	1.40	0.040	0.030	0.50	0.040	0.020	0.020
AUG 13...	2.4	185	182	--	0.520	0.020	<0.010	0.40	0.030	0.020	<0.010

E Estimated daily discharge.

K Results based on colony count outside the acceptable range (non-ideal colony count).

STREAMS TRIBUTARY TO LAKE ONTARIO

04250750 SANDY CREEK NEAR ADAMS, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 30...	20	<1	19	<0.5	2.0	<1	<3	4	30	1
JAN 23...	<10	<1	22	<0.5	<1.0	<1	<3	1	17	1
MAR 07...	--	--	--	--	--	--	--	--	--	--
MAY 21...	10	<1	20	<0.5	<1.0	1	<3	3	11	1
JUN 25...	--	--	--	--	--	--	--	--	--	--
AUG 13...	20	<1	25	<0.5	<1.0	<1	<3	2	9	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 30...	9	5	<0.1	<10	3	<1	<1.0	89	<6	17
JAN 23...	6	5	<0.1	<10	1	<1	<1.0	110	<6	7
MAR 07...	--	--	--	--	--	--	--	--	--	--
MAY 21...	<4	6	<0.1	<10	<1	<1	<1.0	100	<6	20
JUN 25...	--	--	--	--	--	--	--	--	--	--
AUG 13...	5	6	<0.1	<10	2	<1	<1.0	110	<6	7

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 30...	1330	436	6	7.1	77
JAN 23...	0930	E180	4	--	73
MAR 07...	1000	2500	253	1710	95
MAY 21...	1230	73	1	0.20	100
JUN 25...	1015	22	8	0.48	66
AUG 13...	0930	27	6	0.44	87

E Estimated daily discharge.

STREAMS TRIBUTARY TO LAKE ONTARIO

04252500 BLACK RIVER NEAR BOONVILLE, NY

LOCATION.--Lat 43°30'42", long 75°18'25", Oneida County, Hydrologic Unit 04150101, on left bank at downstream side of bridge on Moose River Road, 0.8 mi upstream from Sugar River, and 2 mi northeast of Boonville.

DRAINAGE AREA.--304 mi².

PERIOD OF RECORD.--January 1911 to current year.

REVISED RECORDS.--WSP 784: 1934. WSP 1084: 1912(M), 1913, 1917-1919(M), 1922(M), 1924(M), 1926(M), 1928(M), 1930(M), 1933(M). WSP 1307: 1914(M). WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 935.50 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 27, 1933, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Occasional regulation by several headwater reservoirs. Forestport feeder diverts water from State Pond at Forestport 9 mi upstream. That portion of diverted water which does not pass Black River Canal (flowing south), returns to Black River downstream from station through Mill Creek sluiceway. Slight diurnal fluctuation at medium and low flow caused by mill upstream from station. Several measurements of water temperature were made during the year. Telephone gage-height telemeter and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--80 years, 709 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft³/s, Apr. 18, 1982, Dec. 30, 1984, gage heights, 11.31 ft and 11.41 ft, respectively; maximum gage height, 13.10 ft, Feb. 21, 1981 (ice jam); minimum observed discharge, about 5 ft³/s, Aug. 26, 1918, gage height, 2.40 ft; minimum daily, 7 ft³/s, Aug. 26, 1918.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 24	1315	4,850	8.98	Mar. 5	0345	4,350	8.75
Dec. 31	1315	*5,270	*9.16				

Minimum discharge, 124 ft³/s, Aug. 27, gage height, 3.68 ft; minimum daily, 135 ft³/s, Aug. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	761	719	3400	e430	469	1390	827	1140	244	144	225
2	880	707	741	2200	e420	740	1240	873	820	214	139	206
3	558	680	640	1460	e410	1640	1150	702	658	209	163	184
4	754	649	1150	1120	e500	3020	1100	674	547	201	217	180
5	1740	592	1470	e900	e600	4030	1210	657	473	300	226	190
6	1720	877	e960	e820	640	3070	1390	731	489	374	217	184
7	1260	1110	e900	e720	829	3130	1810	1050	370	363	190	168
8	771	899	838	e620	1030	2740	2180	947	292	427	185	159
9	536	761	788	e600	1010	e1500	2730	749	312	551	327	152
10	883	913	750	e600	815	e1200	3050	654	302	438	594	149
11	1070	2370	e640	e620	649	e1000	2840	562	293	276	524	252
12	1200	2120	e620	e640	536	e940	2020	543	366	227	380	255
13	1520	1520	e640	e660	e520	879	1540	529	428	235	240	210
14	1530	1140	e600	e700	e500	850	1330	475	380	266	223	195
15	1230	970	e600	e780	e490	806	1250	440	325	248	244	241
16	1050	989	e600	970	e480	754	1250	448	312	210	234	476
17	736	1510	e620	1630	536	755	1270	434	321	208	261	610
18	706	1880	841	1710	526	828	1090	514	330	190	239	414
19	2030	1380	1300	1390	541	932	837	442	301	190	235	440
20	2070	1110	1030	1110	717	1040	995	427	271	186	233	691
21	1400	970	1080	872	995	910	1260	376	245	182	388	533
22	1190	1030	2020	716	786	843	1890	406	232	199	531	433
23	1180	1270	3170	e680	580	880	2100	359	227	269	434	392
24	2840	1260	4590	e640	e520	980	1650	322	211	265	343	350
25	2900	1040	3640	e580	e500	1250	1330	261	200	187	286	870
26	1870	904	2180	e540	e480	1160	1040	342	193	182	233	1250
27	1430	902	1410	e500	e470	1260	895	1240	194	177	135	904
28	1090	988	1240	e480	457	2330	737	1640	200	177	158	612
29	964	1040	1380	e470	---	2850	681	1040	151	168	161	538
30	895	822	2840	e460	---	2120	666	885	230	179	164	483
31	814	---	4870	e440	---	1570	---	1210	---	155	196	---
TOTAL	39957	33164	44867	29028	16967	46476	43921	20759	10813	7697	8244	11946
MEAN	1289	1105	1447	936	606	1499	1464	670	360	248	266	398
MAX	2900	2370	4870	3400	1030	4030	3050	1640	1140	551	594	1250
MIN	536	592	600	440	410	469	666	261	151	155	135	149

CAL YR 1990 TOTAL 382621 MEAN 1048 MAX 6060 MIN 160
WTR YR 1991 TOTAL 313839 MEAN 860 MAX 4870 MIN 135

e Estimated

STREAMS TRIBUTARY TO LAKE ONTARIO

04256000 INDEPENDENCE RIVER AT DONNATTSBURG, NY

LOCATION.--Lat 43°44'50", long 75°20'05", Lewis County, Hydrologic Unit 04150101, on right bank at downstream side of highway bridge on Donnattsburg Road at Donnattsburg, 1.2 mi downstream from Chase Lake Outlet, 4.2 mi northeast of Glenfield, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--88.7 mi².

PERIOD OF RECORD.--July 1942 to current year.

REVISED RECORDS.--WDR NY-87-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 972.84 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 16, 1949, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite gage-height and rain-gage telemeter at station.

AVERAGE DISCHARGE.--49 years, 195 ft³/s, 29.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,420 ft³/s, Dec. 30, 1984, gage height, 13.34 ft, from rating curve extended above 4,600 ft³/s on basis of slope-area measurement of peak flow; minimum observed discharge, 18 ft³/s, Sept. 17, 1948, Aug. 4, 5, 1949, gage height, 2.85 ft.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 24	0800	1,420	6.62	Mar. 5	0245	1,780	7.14
Dec. 31	0700	*2,100	*7.56	Mar. 29	0230	1,240	6.35

Minimum discharge, 24 ft³/s, July 31, Aug. 1, 2, 3, gage height, 3.38 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	211	170	797	e120	98	304	167	434	66	24	44
2	146	189	153	457	e110	175	260	173	255	55	24	48
3	112	169	146	331	e110	586	233	180	170	44	24	38
4	109	154	280	254	e120	1240	215	174	136	41	28	37
5	322	142	538	216	128	1570	259	152	116	54	32	37
6	282	157	390	201	155	922	349	149	98	138	33	35
7	164	228	287	172	228	776	541	203	84	145	32	33
8	124	200	215	e160	346	645	647	189	74	218	29	30
9	109	167	194	e150	336	455	772	156	66	352	32	28
10	283	190	176	e150	251	323	1000	134	59	180	41	31
11	395	560	138	e140	e200	238	893	118	58	103	56	41
12	430	499	e140	e140	e170	203	536	105	107	74	48	49
13	646	321	e140	e140	e150	177	370	95	152	60	39	43
14	553	238	e150	e140	126	167	296	88	116	56	33	37
15	348	207	e150	e140	120	154	253	88	87	50	30	41
16	236	237	e150	e170	e120	147	311	83	84	45	35	108
17	182	507	144	e260	e120	147	317	83	134	41	44	150
18	165	585	146	e350	e120	166	256	150	140	38	40	122
19	780	349	e190	e400	113	188	213	134	103	36	35	232
20	806	249	e210	e290	135	236	203	101	79	35	32	347
21	413	204	e240	e230	192	209	262	85	64	33	49	193
22	289	182	285	e200	179	192	609	74	58	32	102	117
23	330	239	910	e190	e140	199	686	68	56	34	104	84
24	890	292	1260	e170	e130	346	431	62	49	33	69	70
25	916	251	683	e160	e120	498	307	62	46	32	49	125
26	487	219	401	e150	e110	411	237	73	42	31	40	350
27	334	196	294	e140	e100	419	208	390	40	29	35	263
28	259	246	246	e130	e100	879	185	523	37	29	31	193
29	261	240	287	e130	---	1080	164	255	36	28	29	144
30	231	198	1020	e130	---	593	158	187	45	26	27	114
31	223	---	1820	e120	---	377	---	520	---	25	33	---
TOTAL	10995	7826	11553	6808	4349	13816	11475	5021	3025	2163	1259	3184
MEAN	355	261	373	220	155	446	382	162	101	69.8	40.6	106
MAX	916	585	1820	797	346	1570	1000	523	434	352	104	350
MIN	109	142	138	120	100	98	158	62	36	25	24	28
CFSM	4.00	2.94	4.20	2.48	1.75	5.02	4.31	1.83	1.14	.79	.46	1.20
IN.	4.61	3.28	4.85	2.86	1.82	5.79	4.81	2.11	1.27	.91	.53	1.34

CAL YR 1990 TOTAL 98126 MEAN 269 MAX 2210 MIN 31 CFSM 3.03 IN. 41.15
WTR YR 1991 TOTAL 81474 MEAN 223 MAX 1820 MIN 24 CFSM 2.52 IN. 34.17

e Estimated

STREAMS TRIBUTARY TO LAKE ONTARIO

04256485 WOODS LAKE OUTLET NEAR BIG MOOSE, NY

LOCATION.--Lat 43°51'56", long 74°57'19", Herkimer County, Hydrologic Unit 04150101, on right bank 45 ft downstream from dam on Woods Lake.

DRAINAGE AREA.--0.80 mi².

PERIOD OF RECORD.--October 1977 to December 1981, December 1983 to September 1989, October 1990 to current year.

REVISED RECORDS.--WDR NY-81-1: 1980(M).

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 1,980 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair, except those for July to September, which are poor.

AVERAGE DISCHARGE.--10 years (water years 1978-81, 1985-89, 1991), 1.88 ft³/s, 31.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69 ft³/s, Oct. 30, 1978, from rating curve extended above 15 ft³/s; minimum daily discharge, 0.00 ft³/s Aug. 22-23, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft³/s, Dec. 30, gage height, 2.93 ft; minimum discharge, 0.26 ft³/s, Aug. 14, 30; minimum gage height, 1.59 ft, Aug. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	2.6	1.9	11	1.1	1.2	4.7	1.8	4.4	.47	.32	.41
2	.43	2.2	1.7	8.3	.99	1.5	4.2	1.8	4.2	.42	.31	.43
3	.42	2.0	1.6	6.6	.93	4.0	3.8	1.8	3.8	.41	.29	.44
4	.45	1.7	2.7	5.4	.85	9.1	3.4	1.8	3.3	.37	.29	.43
5	.60	1.5	3.2	4.5	.85	11	3.3	1.7	2.7	.37	.30	.43
6	.67	1.6	3.1	3.9	.94	9.1	4.1	1.6	2.3	.48	.28	.42
7	.65	1.8	3.0	3.2	1.3	8.1	5.7	1.8	1.9	.51	.27	.41
8	.64	1.9	3.6	2.6	1.8	7.6	6.5	1.8	1.7	.69	.27	.38
9	.65	1.6	2.9	2.1	1.9	6.5	7.7	1.7	1.4	.80	.28	.40
10	1.5	1.9	2.3	1.9	1.8	5.3	8.5	1.6	1.2	.75	.29	.39
11	2.0	2.8	2.1	1.7	1.8	4.4	8.4	1.4	1.2	.67	.29	.39
12	3.0	3.2	1.8	1.8	1.6	3.7	7.5	1.5	1.3	.67	.29	.39
13	3.8	3.0	1.8	1.7	1.5	3.1	6.4	1.2	1.3	.63	.29	.39
14	3.8	2.8	1.8	1.5	1.4	2.5	5.3	1.1	1.3	.56	.32	.39
15	3.7	2.5	1.7	1.4	1.4	2.2	4.5	.96	1.1	.57	.30	.39
16	3.5	2.7	1.7	1.5	1.4	1.9	4.3	.84	1.1	.55	.29	.39
17	2.5	4.5	1.6	2.2	1.2	1.6	4.3	.84	1.1	.56	.28	.58
18	2.6	4.7	1.6	2.8	1.2	1.5	3.9	.96	.84	.56	.29	.73
19	5.6	4.4	2.1	2.8	1.1	1.5	3.4	.93	.85	.59	.29	.73
20	5.9	3.8	2.2	2.5	1.4	1.5	3.1	.89	.75	.53	.28	.97
21	5.3	3.3	2.3	2.2	1.7	1.5	3.1	.88	.73	.51	.27	1.2
22	4.6	2.8	4.2	1.9	1.8	1.5	4.2	.88	.58	.52	.30	1.1
23	4.5	2.6	7.3	1.7	1.9	1.7	4.6	.76	.55	.48	.34	1.0
24	6.5	2.6	9.3	1.6	1.7	2.2	4.5	.68	.54	.49	.35	.96
25	6.7	2.5	8.1	1.5	1.6	2.8	4.0	.80	.54	.49	.35	.89
26	6.0	2.3	6.7	1.4	1.4	2.9	3.5	1.0	.49	.44	.35	.89
27	5.0	2.1	5.6	1.2	1.3	3.0	3.3	2.5	.49	.39	.32	.89
28	4.4	2.3	4.8	1.2	1.3	5.8	2.7	3.0	.49	.37	.31	.69
29	3.8	2.3	4.6	1.1	---	7.1	2.2	3.0	.44	.37	.28	.54
30	3.3	2.2	12	1.1	---	6.4	2.0	2.9	.46	.35	.27	.54
31	3.0	---	18	1.1	---	5.4	---	4.2	---	.33	.41	---
TOTAL	95.97	78.2	127.3	85.4	39.16	127.6	137.1	48.62	43.05	15.90	9.37	18.19
MEAN	3.10	2.61	4.11	2.75	1.40	4.12	4.57	1.57	1.43	.51	.30	.61
MAX	6.7	4.7	18	11	1.9	11	8.5	4.2	4.4	.80	.41	1.2
MIN	.42	1.5	1.6	1.1	.85	1.2	2.0	.68	.44	.33	.27	.38
CFSM	3.87	3.26	5.13	3.44	1.75	5.15	5.71	1.96	1.79	.64	.38	.76
IN.	4.46	3.64	5.92	3.97	1.82	5.93	6.38	2.26	2.00	.74	.44	.85

CAL YR 1990 TOTAL 918.28 MEAN 2.52 MAX 21 MIN .10 CFSM 3.14 IN. 42.70
WTR YR 1991 TOTAL 825.86 MEAN 2.26 MAX 18 MIN .27 CFSM 2.83 IN. 38.40

STREAMS TRIBUTARY TO LAKE ONTARIO

04256500 STILLWATER RESERVOIR NEAR BEAVER RIVER, NY

LOCATION.--Lat 43°53'50", long 75°03'05", Herkimer County, Hydrologic Unit 04150101, in gatehouse at Stillwater Dam on Beaver River, 2.5 mi upstream from Moshier Creek, and 7.5 mi west of Beaver River Post Office.

DRAINAGE AREA.--171 mi².

PERIOD OF RECORD.--May 1908 to current year. Prior to February 1925, month-end contents only, published in WSP 1307. February 1925 to September 1937, published in WSP 824.

REVISED RECORDS.--WDR NY-85-1: Drainage area.

GAGE.--Nonrecording gage read once daily and prior to reservoir gate changes. Datum of gage is National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--Reservoir originally formed about 1885; enlarged at various times and in 1924 enlarged to a usable capacity of 4,623 mil ft³ between elevations 1,650.3 ft and 1,679.3 ft (top of 24-inch flashboards in place throughout year). Elevation of gate sill of lowest outlet, 1,642.3 ft. Capacity below elevation 1,650.3 ft, 90 mil ft³, is included in records presented herein, but is not ordinarily available for release. Reservoir is used to regulate flow of Beaver and Black Rivers for flood control, power development, and general public welfare. Satellite gage-height and rain-gage telemeter at station.

COOPERATION.--Records provided by Board of Hudson River-Black River Regulating District.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed elevation, 1,680.08 ft, May 20, 1969, contents, 4,939 mil ft³; minimum observed since first filling, 1,644.80 ft, Mar. 25-27, 1949, contents, 8 mil ft³.

EXTREMES FOR CURRENT YEAR.--Maximum observed elevation, 1,678.37 ft, Apr. 17, contents, 4,447 mil ft³; minimum observed, 1,668.55 ft, Oct. 2, 4, contents, 2,144 mil ft³.

Capacity table, current year (elevation, in feet, and contents, in millions of cubic feet)

1,658.0	604	1,670.0	2,431
1,660.0	821	1,675.0	3,556
1,665.0	1,518	1,680.0	4,916

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1668.56	1673.91	1675.06	1677.12	1675.16	1670.86	1675.78	1677.70	1677.83	1676.65	1673.76	1669.97
2	1668.55	1673.97	1674.96	1677.51	1674.97	1670.71	1675.98	1677.65	1677.98	1676.63	1673.58	1669.82
3	1668.56	1673.97	1674.89	1677.67	1674.77	1670.75	1676.07	1677.55	1678.08	1676.51	1673.38	1669.65
4	1668.55	1673.99	1674.95	1677.72	1674.55	1671.05	1676.16	1677.46	1678.13	1676.39	1673.22	1669.47
5	1668.71	1674.01	1675.00	1677.74	1674.31	1671.82	1676.27	1677.36	1678.12	1676.31	1673.10	1669.42
6	1668.79	1674.05	1675.05	1677.73	1674.10	1672.27	1676.41	1677.30	1678.11	1676.33	1672.96	1669.42
7	1668.85	1674.08	1675.03	1677.70	1673.90	1672.48	1676.64	1677.30	1678.07	1676.27	1672.82	1669.38
8	1668.88	1674.14	1675.00	1677.64	1673.76	1672.74	1677.02	1677.30	1678.04	1676.20	1672.64	1669.30
9	1668.91	1674.16	1674.93	1677.56	1673.64	1672.94	1677.36	1677.32	1677.98	1676.26	1672.43	1669.19
10	1669.01	1674.15	1674.85	1677.50	1673.51	1673.08	1677.75	1677.31	1677.93	1676.20	1672.34	1669.09
11	1669.17	1674.23	1674.78	1677.43	1673.36	1673.17	1678.05	1677.30	1677.86	1676.11	1672.17	1669.06
12	1669.28	1674.35	1674.67	1677.38	1673.18	1673.22	1678.23	1677.27	1677.87	1676.07	1672.02	1669.00
13	1669.57	1674.45	1674.58	1677.30	1673.00	1673.24	1678.29	1677.25	1677.85	1676.03	1671.88	1668.93
14	1669.83	1674.47	1674.53	1677.19	1672.85	1673.27	1678.31	1677.22	1677.81	1675.98	1671.77	1668.79
15	1670.02	1674.44	1674.46	1677.08	1672.74	1673.27	1678.31	1677.20	1677.77	1675.92	1671.65	1668.70
16	1670.13	1674.43	1674.42	1676.96	1672.58	1673.26	1678.32	1677.16	1677.72	1675.82	1671.53	1668.73
17	1670.23	1674.49	1674.31	1676.95	1672.42	1673.25	1678.37	1677.10	1677.71	1675.72	1671.44	1668.87
18	1670.32	1674.73	1674.16	1676.93	1672.27	1673.23	1678.35	1677.18	1677.67	1675.61	1671.33	1668.99
19	1670.58	1674.85	1674.15	1676.93	1672.10	1673.28	1678.28	1677.20	1677.63	1675.54	1671.21	1669.17
20	1671.21	1674.88	1674.13	1676.85	1671.95	1673.37	1678.19	1677.21	1677.57	1675.43	1671.08	1669.43
21	1671.40	1674.92	1674.08	1676.77	1671.89	1673.47	1678.14	1677.21	1677.49	1675.29	1670.98	1669.56
22	1671.57	1674.91	1674.07	1676.64	1671.77	1673.58	1678.15	1677.21	1677.44	1675.14	1670.90	1669.61
23	1671.77	1674.93	1674.23	1676.53	1671.68	1673.68	1678.22	1677.17	1677.36	1675.02	1670.83	1669.63
24	1672.06	1674.98	1674.69	1676.40	1671.56	1673.83	1678.25	1677.09	1677.28	1674.92	1670.75	1669.64
25	1672.58	1675.00	1675.10	1676.27	1671.40	1674.01	1678.23	1677.02	1677.22	1674.79	1670.67	1669.68
26	1672.90	1675.00	1675.22	1676.10	1671.27	1674.20	1678.17	1677.04	1677.11	1674.64	1670.57	1669.92
27	1673.13	1675.03	1675.27	1675.98	1671.13	1674.35	1678.09	1677.06	1676.99	1674.50	1670.47	1670.06
28	1673.35	1675.07	1675.28	1675.83	1671.00	1674.55	1678.01	1677.17	1676.90	1674.40	1670.37	1670.17
29	1673.47	1675.11	1675.29	1675.69	---	1675.03	1677.91	1677.26	1676.77	1674.23	1670.24	1670.23
30	1673.68	1675.11	1675.45	1675.51	---	1675.40	1677.80	1677.35	1676.77	1674.08	1670.06	1670.30
31	1673.78	---	1676.37	1675.33	---	1675.63	---	1677.57	---	1673.93	1670.00	---
MEAN	1670.56	1674.53	1674.80	1676.90	1672.89	1673.19	1677.64	1677.27	1677.64	1675.58	1671.68	1669.44
MAX	1673.78	1675.11	1676.37	1677.74	1675.16	1675.63	1678.37	1677.70	1678.13	1676.65	1673.76	1670.30
MIN	1668.55	1673.91	1674.07	1675.33	1671.00	1670.71	1675.78	1677.02	1676.77	1673.93	1670.00	1668.70
‡	3283	3576	4036	3611	2619	3740	4268	4271	3988	3271	2427	2492
‡‡	+423	+113	+172	-159	-410	+419	+204	+1.12	-109	-268	-315	+25.1
CAL YR 1990	MEAN	1673.88	MAX	1679.68	MIN	1667.83	‡‡	+45.5				
WTR YR 1991	MEAN	1674.35	MAX	1678.37	MIN	1668.55	‡‡	+10.8				

‡ Contents, in millions of cubic feet, at 2400 hours on last day of month by interpolation.

‡‡ Change in contents, equivalent in cubic feet per second.

STREAMS TRIBUTARY TO LAKE ONTARIO

04258000 BEAVER RIVER AT CROGHAN, NY

LOCATION.--Lat 43°53'50", long 75°24'16", Lewis County, Hydrologic Unit 04150101, on left bank 1,200 ft upstream from Black Creek, and 0.5 mi west of Croghan.

DRAINAGE AREA.--291 mi².

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

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 806.20 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Stillwater Reservoir (see station 04256500). Between Stillwater Dam and this station, flow is further regulated by several powerplant ponds. Diurnal fluctuation at low and medium flow.

AVERAGE DISCHARGE.--61 years, 608 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,100 ft³/s, May 21, 1969, gage height, 6.98 ft; minimum, 11 ft³/s, Jan. 22, 29, Feb. 4, 1967, gage height, 0.63 ft; minimum daily, 22 ft³/s, July 18, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,610 ft³/s, Mar. 4, gage height, 5.18 ft; minimum, 232 ft³/s, July 12, 15, gage height, 1.99 ft; minimum daily, 272 ft³/s, May 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	455	317	886	1360	914	876	407	999	451	454	612	583
2	405	298	864	1140	1020	996	325	995	368	480	817	508
3	451	327	826	1080	936	1120	515	993	427	479	719	506
4	550	386	852	941	933	2100	697	989	382	467	707	530
5	575	363	757	854	938	2260	475	938	508	548	733	761
6	548	424	824	870	968	1910	772	947	484	513	654	717
7	461	490	1110	878	1010	1630	687	920	372	568	635	521
8	343	433	1000	977	1250	1160	663	895	330	763	603	437
9	324	474	e940	949	1260	912	1090	899	277	489	534	527
10	379	649	e820	806	1190	709	1620	407	364	523	433	604
11	354	748	e860	1120	1120	663	1840	542	614	570	477	508
12	470	912	754	870	1070	905	1670	634	576	287	369	442
13	616	804	790	927	1050	849	1290	483	547	390	526	382
14	679	858	701	920	984	549	1190	451	384	425	591	330
15	495	686	651	837	983	641	1130	478	319	275	576	365
16	385	634	654	801	974	605	1130	443	312	280	529	498
17	352	809	837	989	899	605	1020	315	430	394	489	480
18	376	890	815	994	e740	613	1010	309	534	368	444	474
19	700	715	863	996	e720	417	1090	339	581	478	436	432
20	587	863	895	928	857	374	1160	342	468	552	497	365
21	608	867	931	1090	746	393	1270	325	469	566	503	286
22	554	776	1020	e1000	816	402	1620	272	506	501	464	322
23	548	775	1140	e1050	1010	466	1780	502	317	455	361	485
24	812	753	1620	1060	986	664	1500	491	434	569	515	477
25	955	864	1460	1120	938	773	1360	485	351	456	328	359
26	741	854	1210	1050	692	832	1140	476	320	553	311	402
27	420	793	1020	980	657	662	1140	834	415	441	349	308
28	352	775	1010	931	674	828	1110	985	469	394	330	305
29	436	886	1070	886	---	1260	1060	909	476	440	422	367
30	371	883	1430	927	---	1200	1030	563	466	566	465	357
31	329	---	2100	927	---	958	---	564	---	473	511	---
TOTAL	15631	20306	30710	30258	26335	28332	32791	19724	12951	14717	15940	13638
MEAN	504	677	991	976	941	914	1093	636	432	475	514	455
MAX	955	912	2100	1360	1260	2260	1840	999	614	763	817	761
MIN	324	298	651	801	657	374	325	272	277	275	311	286

CAL YR 1990 TOTAL 288953 MEAN 792 MAX 2590 MIN 255
WTR YR 1991 TOTAL 261333 MEAN 716 MAX 2260 MIN 272

e Estimated

STREAMS TRIBUTARY TO LAKE ONTARIO

04260500 BLACK RIVER AT WATERTOWN, NY
(National stream-quality accounting network station)

LOCATION.--Lat 43°59'08", long 75°55'30", Jefferson County, Hydrologic Unit 04150101, on downstream side of right abutment of Vanduzee Street Bridge at Watertown, and 3.5 mi upstream from Philomel Creek. Water-quality sampling site at discharge station.

DRAINAGE AREA.--1,864 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1920 to current year.

REVISED RECORDS.--WDR NY-77-1: 1974. WDR NY-85-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 373.88 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 3, 1921, nonrecording gage, and from Sept. 3, 1921 to Mar. 15, 1977, recording gage at same site at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Stillwater Reservoir (see station 04256500), Fulton Chain of Lakes, and other reservoirs. Extensive diurnal fluctuation at low and medium flow caused by mills and powerplants in and above Watertown. During canal season, water is diverted out of basin through Forestport feeder and Black River Canal (flowing south). Several measurements of water temperature were made during the year. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--71 years, 4,069 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,900 ft³/s, Dec. 31, 1984, gage height, 13.15 ft; minimum, 10 ft³/s, Sept. 2, 1934, gage height, 0.81 ft, present datum; minimum daily discharge, 137 ft³/s, Sept. 4, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 39,700 ft³/s, Apr. 23, 1869 (from New York State Museum Bulletin 85).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 17,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 1	1845	23,300	10.03	Mar. 6	2345	*23,700	*10.11

Minimum discharge, 110 ft³/s, July 19, gage height, 1.25 ft; minimum daily discharge, 831 ft³/s, July 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1730	4850	4740	21700	e3200	3090	10100	4160	5660	1220	972	1030
2	3280	4030	4260	19700	3270	3970	8340	4130	5230	1290	1100	1150
3	3280	3580	3960	15600	3160	8350	6920	4340	4520	1410	1230	1160
4	2700	3290	4110	12200	3190	11400	6130	4360	3670	1320	1270	1230
5	3260	3130	5980	9400	3600	17200	5580	4090	3000	1860	1220	1160
6	4950	3270	6770	7930	4160	21700	5560	3790	2440	2220	1300	1260
7	5030	4760	7010	6340	4860	22600	6350	3860	2510	2240	1230	1280
8	4420	5000	6570	4900	5740	18000	7080	4350	2030	2520	1200	1140
9	3300	4570	5830	3930	6380	16100	8440	4390	1980	2810	1180	969
10	3020	4260	5230	e3900	6410	13000	10600	3780	1660	2810	1210	1060
11	4340	5090	4920	e3900	6070	10100	12600	3080	1450	2550	1470	1150
12	5170	6500	4190	e3900	5380	8490	13800	2900	1800	2110	1620	1100
13	6160	7200	3910	e3900	4580	7160	12900	2770	1970	1320	1430	1140
14	6940	7230	4360	3900	3960	6020	11000	2600	2130	1230	1280	1040
15	7130	6530	3290	3880	3560	4870	9340	2290	1820	1280	1230	983
16	6810	6160	3680	4000	e3200	4410	8050	2180	1750	1310	1190	1070
17	5720	6800	3860	4620	e3000	4160	7240	2200	1670	1180	1130	1560
18	4540	7350	4050	5450	2960	4350	6580	2280	1810	1120	1140	2510
19	5020	7480	e4400	5640	3160	4410	5980	2420	2170	948	1140	2340
20	6580	7510	e5000	6080	4160	4920	5570	2170	2090	1120	1110	2360
21	7250	6990	e5400	6360	5220	5040	5760	2150	1650	1200	1230	2690
22	7470	6050	5990	6170	5290	4610	8880	1790	1630	1300	1970	2470
23	7040	5410	7860	5260	5150	4520	10300	1620	1480	1230	2280	1920
24	7690	5590	10200	4250	4750	5780	10500	1800	1300	1150	1750	1790
25	8410	5780	13400	3950	4190	7110	10100	1750	1070	1250	1580	1810
26	9360	5710	15400	3780	3700	7240	9060	1690	1170	1140	1280	2530
27	10100	5370	13500	3490	3240	7240	7540	2240	1080	1080	900	4200
28	9250	5210	11100	e3400	3010	8540	6230	5740	1120	1040	921	4080
29	8150	5250	10000	e3300	---	9910	5280	6420	1160	831	869	3210
30	7030	5060	13500	e3300	---	10800	4570	6480	1260	1100	889	2570
31	5790	---	18300	e3200	---	11200	---	5930	---	1010	972	---
TOTAL	180920	165010	220770	197330	118550	276290	246380	103750	64280	46199	39293	53962
MEAN	5836	5500	7122	6365	4234	8913	8213	3347	2143	1490	1268	1799
MAX	10100	7510	18300	21700	6410	22600	13800	6480	5660	2810	2280	4200
MIN	1730	3130	3290	3200	2960	3090	4570	1620	1070	831	869	969

CAL YR 1990 TOTAL 2024750 MEAN 5547 MAX 31300 MIN 1020
WTR YR 1991 TOTAL 1712734 MEAN 4692 MAX 22600 MIN 831

e Estimated

STREAMS TRIBUTARY TO LAKE ONTARIO

04260500 BLACK RIVER AT WATERTOWN, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-60, 1962 to current year.

CHEMICAL DATA: 1956 (e), 1959 (a), 1960 (b), 1965 (a), 1966-81 (d), 1982-87 (c), 1988-91 (d).

MINOR ELEMENTS DATA: 1970-71 (a), 1974-79 (b), 1980 (c), 1981-87 (b), 1988-90 (c), 1991 (d).

PESTICIDE DATA: 1975-79 (b), 1980-82 (a), 1988-90 (b).

ORGANIC DATA: OC--1973 (c), 1974 (a), 1975 (c), 1976-77 (b), 1978-81 (d).

PCB--1978-79 (b), 1980-82 (a).

NUTRIENT DATA: 1968 (b), 1969-81 (d), 1982-87 (c), 1988-91 (d).

BIOLOGICAL DATA:

Bacteria--1973-81 (d), 1982-86 (c), 1987-88 (b), 1989-91 (c).

Phytoplankton--1975-77 (d), 1978-79 (c), 1980 (b), 1981 (c).

Periphyton--1975-80 (b).

SEDIMENT DATA: 1975-76 (d), 1977 (c), 1978-81 (d), 1982-89 (c), 1990-91 (d).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1955 to September 1959, July 1962 to March 1969.

REMARKS.--Water-quality samples without turbidity analyses were collected by personnel of the New York State Department of Environmental Conservation.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI, FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
30...	1030	7140	67	7.7	5.0	3.0	760	13.2	104	210	110
31...	1030	6130	--	6.8	6.0	1.2	--	14.3	--	--	--
JAN											
23...	1115	5620	78	7.8	2.5	1.5	750	14.5	108	42	26
MAR											
07...	1300	22900	61	7.4	0.5	7.4	740	15.5	111	100	58
28...	1330	8500	--	--	--	--	--	--	--	--	--
APR											
11...	0930	12400	--	7.1	4.5	6.4	--	11.0	--	--	--
25...	1000	10100	--	7.8	11.0	2.0	--	--	--	--	--
MAY											
08...	1300	4370	--	7.8	12.0	3.2	--	--	--	--	--
21...	1015	2460	108	8.1	19.0	2.0	760	9.3	101	510	68
JUN											
11...	1245	1910	--	7.7	21.0	2.9	--	9.6	--	--	--
25...	1400	1010	97	8.0	24.0	2.1	760	6.0	72	--	--
AUG											
07...	1200	1430	107	7.3	23.0	1.9	759	9.3	109	--	--
13...	1300	1500	106	7.6	25.0	1.6	760	8.9	108	1900	470
SEP											
18...	0930	2320	--	7.9	19.0	--	--	9.2	--	--	--

[illegible]

STREAMS TRIBUTARY TO LAKE ONTARIO

04260500 BLACK RIVER AT WATERTOWN, NY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT										
30...	5.5	64	54	--	0.300	0.050	0.040	0.50	0.030	0.010
31...	--	78	--	--	--	0.070	--	0.37	0.030	--
JAN										
23...	6.6	53	58	--	0.700	0.050	0.050	0.40	0.020	<0.010
MAR										
07...	4.2	45	43	--	0.750	0.040	0.050	0.40	0.030	0.020
28...	--	68	--	--	--	0.050	--	0.16	0.020	--
APR										
11...	--	52	--	--	--	0.030	--	0.21	0.040	--
25...	--	74	--	--	--	0.020	--	0.22	0.020	--
MAY										
08...	--	57	--	--	--	0.050	--	0.19	0.020	--
21...	5.7	66	66	0.420	0.430	0.040	0.040	0.40	0.030	0.040
JUN										
11...	--	76	--	--	--	0.020	--	0.19	0.040	--
25...	6.2	78	60	0.370	0.380	0.050	0.030	0.50	0.030	0.010
AUG										
07...	--	45	--	--	--	0.020	--	0.24	0.010	--
13...	5.4	61	56	--	0.290	0.050	0.030	0.30	0.040	0.020
SEP										
18...	--	--	--	--	--	--	--	--	--	--
DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)
OCT										
30...	<0.010	--	140	<1	12	<0.5	--	2.0	<1	<3
31...	--	280	--	--	--	--	<1	--	--	--
JAN										
23...	<0.010	--	110	<1	13	<0.5	--	<1.0	<1	<3
MAR										
07...	<0.010	--	--	--	--	--	--	--	--	--
28...	0.00	270	--	--	--	--	4	--	--	--
APR										
11...	0.00	360	--	--	--	--	<1	--	--	--
25...	--	250	--	--	--	--	<1	--	--	--
MAY										
08...	0.00	210	--	--	--	--	<1	--	--	--
21...	<0.010	--	50	<1	14	<0.5	--	<1.0	1	<3
JUN										
11...	0.010	120	--	--	--	--	<1	--	--	--
25...	0.010	--	--	--	--	--	--	--	--	--
AUG										
07...	0.00	50	--	--	--	--	<1	--	--	--
13...	<0.010	--	30	<1	11	<0.5	--	<1.0	<1	<3
SEP										
18...	--	80	--	--	--	--	<1	--	--	--
DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
OCT										
30...	--	2	--	190	--	1	8	--	20	--
31...	5	--	480	--	4	--	--	40	--	<0.10
JAN										
23...	--	1	--	160	--	1	9	--	30	--
MAR										
07...	--	--	--	--	--	--	--	--	--	--
28...	2	--	440	--	1	--	--	30	--	<0.10
APR										
11...	3	--	590	--	6	--	--	40	--	<0.10
25...	3	--	340	--	4	--	--	40	--	<0.10
MAY										
08...	3	--	410	--	2	--	--	40	--	<0.10
21...	--	2	--	190	--	1	<4	--	19	--
JUN										
11...	4	--	420	--	6	--	--	40	--	<0.10
25...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	--	--	200	--	3	--	--	20	--	<0.10
13...	--	5	--	190	--	1	<4	--	10	--
SEP										
18...	3	--	420	--	<1	--	--	50	--	<0.10

STREAMS TRIBUTARY TO LAKE ONTARIO

04260500 BLACK RIVER AT WATERTOWN, NY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT										
30...	<0.1	<10	--	2	<1	<1.0	31	<6	--	190
31...	--	--	3	--	--	--	--	--	10	--
JAN										
23...	<0.1	<10	--	<1	<1	<1.0	33	<6	--	22
MAR										
07...	--	--	--	--	--	--	--	--	--	--
28...	--	--	2	--	--	--	--	--	<10	--
APR										
11...	--	--	<1	--	--	--	--	--	<10	--
25...	--	--	2	--	--	--	--	--	<10	--
MAY										
08...	--	--	2	--	--	--	--	--	<10	--
21...	0.1	<10	--	<1	<1	<1.0	41	<6	--	180
JUN										
11...	--	--	3	--	--	--	--	--	<10	--
25...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	--	--	3	--	--	--	--	--	<10	--
13...	<0.1	<10	--	1	<1	<1.0	33	<6	--	22
SEP										
18...	--	--	<1	--	--	--	--	--	<10	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
30...	1030	7140	9	174	66
31...	1030	6130	5	--	--
JAN					
23...	1115	5620	4	61	74
MAR					
07...	1300	22900	30	1850	81
28...	1330	8500	14	321	--
APR					
11...	0930	12400	20	670	--
25...	1000	10100	7	191	--
MAY					
08...	1300	4370	13	153	--
21...	1015	2460	2	13	87
JUN					
11...	1245	1910	5	26	--
25...	1400	1010	3	8.2	100
AUG					
07...	1200	1430	3	12	--
13...	1300	1500	3	12	100
SEP					
18...	0930	2320	3	19	--

STREAMS TRIBUTARY TO LAKE ONTARIO

LAKES AND RESERVOIRS IN STREAMS TRIBUTARY TO LAKE ONTARIO

04253300 SIXTH LAKE.--Lat 43°44'43", long 74°46'58", Hamilton County, Hydrologic Unit 04150101, on dam at outlet of Sixth Lake at Inlet, and 11.2 mi upstream from dam at Old Forge. DRAINAGE AREA, 18.6 mi². PERIOD OF RECORD, November 1911 to current year. GAGE, nonrecording gage read daily at 0800. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Hudson River-Black River Regulating District).

The Sixth and Seventh Lakes of Fulton Chain Lakes are partially formed and controlled by the concrete dam at Inlet, while the Eighth Lake is upstream and at approximately 5 ft higher elevation. Storage began around 1881. The present structure is a concrete dam with control gates which were installed in 1938. Usable capacity 296.6 mil ft³ between minimum operating level, elevation 1,775.1 ft and crest of spillway, elevation 1,786.0 ft; no dead storage below minimum operating level. Figures given herein represent total contents. The dam is operated, records collected, provided, and stored by Board of Hudson River-Black River Regulating District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 332 mil ft³, Oct. 3, 1945, elevation, 1,787.1 ft; minimum observed, less than 0.90 mil ft³, Nov. 18, 1943, water level below elevation 1,775.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 301.4 mil ft³, May 27, elevation, 1,786.15 ft; minimum observed, 191.3 mil ft³, Mar. 27, elevation, 1,782.65 ft.

04253400 FIRST LAKE (formerly published as "Old Forge Reservoir").--Lat 43°42'44", long 74°58'12", Herkimer County, Hydrologic Unit 04150101, at dam on Middle Branch Moose River, 100 ft downstream from bridge on State Highway 28 at Old Forge, and 11.2 mi downstream from dam on Sixth Lake outlet at Inlet. DRAINAGE AREA, 53.6 mi². PERIOD OF RECORD, November 1911 to current year. REVISED RECORDS, WDR NY-85-1: Drainage area. GAGE, nonrecording gage read daily at 0800. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Hudson River-Black River Regulating District).

The First through Fifth Lakes of Fulton Chain Lakes are partially formed and controlled by a concrete dam with 12-inch flashboards. Storage began around 1881 or 1882 with a wooden crib dam. This dam was replaced with a concrete dam in 1905 and gates were installed in 1927. Usable capacity with flashboards, 895.6 mil ft³, elevation, 1,707.0 ft. Usable capacity without flashboards, 764.3 mil ft³, elevation, 1,706.1 ft; no dead storage below minimum operating level. Figures given herein represent total contents. The dam is operated, records collected, provided, and stored by Board of Hudson River-Black River Regulating District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,019 mil ft³, June 17, 1972, elevation, 1,707.9 ft; minimum observed, 6.50 mil ft³, Nov. 3, 1939, elevation, 1,699.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 908.9 mil ft³, Sept. 25, elevation, 1,707.14 ft; minimum observed, 498.2 mil ft³, Apr. 6, elevation, 1,704.00 ft.

04256500 STILLWATER RESERVOIR NEAR BEAVER RIVER, NY (see station for daily elevation, skeleton capacity table, monthly contents, and change in contents).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet) †	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) †	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)
	04253300	Sixth Lake		04253400	First Lake	
Sept. 30	1,785.18	270.4		1,706.55	829.2	
Oct. 31	1,785.40	277.4	+ 2.61	1,706.69	848.4	+ 7.16
Nov. 30	1,785.37	276.4	- 0.39	1,706.15	776.2	-27.9
Dec. 31	1,785.47	279.6	+ 1.19	1,706.17	778.8	+ 0.97
CAL YR 1990	-	-	+ 3.91	-	-	+11.2
Jan. 31	1,783.92	230.7	-18.3	1,705.03	630.6	-55.3
Feb. 28	1,783.02	202.8	-11.5	1,704.11	512.0	-49.0
Mar. 31	1,782.90	199.1	- 1.38	1,704.24	528.0	+ 5.97
Apr. 30	1,785.73	287.9	+34.3	1,705.39	677.4	+57.6
May 31	1,785.73	287.9	0.0	1,707.07	899.8	+83.0
June 30	1,785.64	285.1	- 1.08	1,706.97	886.0	- 5.33
July 31	1,785.49	280.3	- 1.79	1,706.79	861.8	- 9.03
Aug. 31	1,785.68	286.3	+ 2.24	1,706.92	879.3	+ 6.55
Sept. 30	1,785.40	277.4	- 3.43	1,706.87	872.8	- 2.51
WTR YR 1991	-	-	+ 0.22	-	-	+ 1.38

† Elevation at 2400 hours, by interpolation.

ST. LAWRENCE RIVER BASIN

04262000 OSWEGATCHIE RIVER NEAR OSWEGATCHIE, NY

LOCATION.--Lat 44°13'21", long 75°04'29", St. Lawrence County, Hydrologic Unit 04150302, on left bank, 300 ft downstream from Niagara Mohawk Power Corporation Flat Rock powerplant, and 2.75 mi north of Oswegatchie.

DRAINAGE AREA.--259 mi².

PERIOD OF RECORD.--October 1924 to September 1968, July 1987 to current year. Prior to October 1958, published as East Branch Oswegatchie River near Oswegatchie.

REVISED RECORDS.--WDR NY-88-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,016.52 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Extensive diurnal fluctuation at low and medium flow caused by powerplant. Since 1867, flow regulated by Cranberry Lake. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years (water years 1925-68, 1988-91), 516 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,090 ft³/s, Apr. 12, 1947; maximum gage height, 7.3 ft, Apr. 26, 1926; minimum daily discharge, 1 ft³/s, July 25, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,180 ft³/s, Dec. 30, gage height, 5.44 ft; minimum, 69 ft³/s, July 23, 24, 27, 28, gage height, 1.59 ft; minimum daily, 70 ft³/s, July 24-28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	208	553	595	1560	256	331	1210	631	664	164	77	164
2	230	570	598	1330	238	477	1060	498	620	164	78	162
3	382	651	713	920	262	1070	1040	701	715	125	77	162
4	611	762	628	956	268	1510	673	689	543	75	97	162
5	606	650	759	906	235	1770	494	712	625	71	146	165
6	386	709	610	745	376	1610	380	729	676	71	136	163
7	238	846	685	671	510	1590	238	854	498	78	135	164
8	257	349	668	704	573	1400	910	774	399	215	134	213
9	309	510	719	641	408	1280	1410	741	351	222	135	243
10	468	495	726	844	373	1320	1610	681	380	245	137	285
11	522	682	786	690	411	1250	1400	362	462	191	138	235
12	439	607	784	812	246	1220	1250	226	364	160	208	164
13	499	886	843	694	328	548	973	229	238	161	164	164
14	633	1420	809	827	780	432	423	303	229	160	163	165
15	599	1250	712	717	462	317	634	257	231	160	163	231
16	584	676	834	795	504	436	694	281	176	159	163	215
17	427	1030	592	1140	409	400	720	285	163	160	237	247
18	379	682	579	913	299	238	697	311	164	160	199	243
19	871	641	804	923	463	340	547	270	164	159	164	246
20	983	550	589	886	535	305	792	357	164	159	186	253
21	703	594	925	916	1030	382	882	275	164	160	185	224
22	709	672	962	950	701	308	1420	207	205	161	162	232
23	804	598	1210	493	577	404	1300	207	216	112	163	207
24	1210	620	1540	645	565	569	1180	180	199	70	162	218
25	1180	657	1360	732	569	921	1080	164	206	70	162	273
26	1030	628	1280	736	524	742	724	164	164	70	162	406
27	835	634	980	758	628	759	803	235	165	70	141	464
28	864	646	760	793	374	1060	737	287	165	70	164	603
29	905	639	748	749	---	1260	720	248	165	73	162	581
30	837	639	1690	722	---	1250	798	263	165	77	163	530
31	556	---	1950	325	---	1220	---	519	---	77	164	---
TOTAL	19264	20846	27438	25493	12904	26719	26799	12640	9640	4069	4727	7784
MEAN	621	695	885	822	461	862	893	408	321	131	152	259
MAX	1210	1420	1950	1560	1030	1770	1610	854	715	245	237	603
MIN	208	349	579	325	235	238	238	164	163	70	77	162

CAL YR 1990 TOTAL 243707 MEAN 668 MAX 2730 MIN 114

WTR YR 1991 TOTAL 198323 MEAN 543 MAX 1950 MIN 70

ST. LAWRENCE RIVER BASIN

04262500 WEST BRANCH OSWEGATCHIE RIVER NEAR HARRISVILLE, NY

LOCATION.--Lat 44°11'08", long 75°19'52", St. Lawrence County, Hydrologic Unit 04150302, on right bank just downstream from highway bridge, 0.5 mi northeast of Geers Corners, 1.5 mi downstream from Big Creek, and 4.0 mi downstream from Harrisville.

DRAINAGE AREA.--244 mi².

PERIOD OF RECORD.--July 1916 to current year.

REVISED RECORDS.--WSP 784: 1934. WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 738.51 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 30, 1933, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since June 1985, extensive diurnal fluctuation and slight regulation caused by powerplant upstream from station. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--75 years, 521 ft³/s, 29.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,080 ft³/s, Mar. 15, 1977, gage height, 9.31 ft; maximum gage height, 9.6 ft, Jan. 9, 1930; minimum discharge prior to regulation, 25 ft³/s, Sept. 1, 1934, gage height, 0.86 ft; minimum discharge since regulation, 20 ft³/s, Aug. 11, 1985, gage height, 0.83 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 31	2030	4,090	7.05	Mar. 5	1830	*4,330	a*7.27

a Recorded in well; outside gage height was 7.50 ft, from crest-stage gage.

Minimum discharge, 46 ft³/s, Aug. 3, gage height, 1.18 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	500	474	3380	318	361	1150	504	1070	86	50	71
2	256	455	424	2410	304	522	902	476	1040	85	49	73
3	255	410	390	1580	303	1200	752	471	826	80	47	74
4	243	373	460	1130	315	2500	668	463	596	77	56	70
5	400	351	749	919	364	4140	619	437	446	105	90	66
6	558	382	916	718	473	3430	633	427	341	137	87	63
7	489	499	785	663	622	2620	706	525	276	142	86	61
8	379	549	654	e560	795	1930	832	584	236	153	78	58
9	321	504	585	e470	873	e1500	1140	535	195	187	76	51
10	338	483	515	443	826	e1200	1820	484	175	209	100	51
11	418	682	418	396	686	e940	2610	427	154	181	133	59
12	462	843	391	381	583	721	2230	373	159	138	144	59
13	575	785	e400	e370	475	589	1630	336	230	139	134	58
14	715	660	e410	e370	430	538	1220	302	250	154	112	60
15	764	588	e430	376	397	497	964	272	207	152	94	67
16	647	596	e430	412	363	473	873	245	180	149	84	77
17	504	843	433	666	326	470	906	245	194	134	79	88
18	429	1290	427	921	306	490	882	314	214	109	80	103
19	605	1300	e500	964	310	539	779	376	205	94	77	115
20	988	1090	e580	907	467	599	679	314	177	81	75	190
21	1080	862	e700	750	681	598	719	276	151	75	101	263
22	912	667	796	e540	718	571	1180	239	134	72	195	208
23	779	606	1100	496	646	586	1920	213	126	81	189	161
24	937	652	1820	442	592	830	1880	182	113	88	143	134
25	1310	661	e1600	404	532	1280	1490	189	103	82	111	124
26	1310	614	e1500	380	463	1460	1140	352	95	75	100	140
27	1080	566	e1400	368	418	1320	886	496	89	67	89	229
28	848	561	e1300	360	372	1300	721	601	84	62	73	239
29	691	576	1220	349	---	1790	615	610	80	58	72	209
30	614	534	1590	341	---	1860	543	583	82	54	60	176
31	544	---	3620	330	---	1510	---	826	---	51	65	---
TOTAL	19629	19482	27017	22796	13958	38364	33089	12677	8228	3357	2929	3397
MEAN	633	649	872	735	498	1238	1103	409	274	108	94.5	113
MAX	1310	1300	3620	3380	873	4140	2610	826	1070	209	195	263
MIN	178	351	390	330	303	361	543	182	80	51	47	51
CFSM	2.60	2.66	3.57	3.01	2.04	5.07	4.52	1.68	1.12	.44	.39	.46
IN.	2.99	2.97	4.12	3.48	2.13	5.85	5.04	1.93	1.25	.51	.45	.52

CAL YR 1990 TOTAL 243691 MEAN 668 MAX 5040 MIN 55 CFSM 2.74 IN. 37.15
WTR YR 1991 TOTAL 204923 MEAN 561 MAX 4140 MIN 47 CFSM 2.30 IN. 31.24

e Estimated

ST. LAWRENCE RIVER BASIN

04262895 OSWEGATCHIE RIVER AT RENSSELAER FALLS, NY

LOCATION.--Lat 44°35'21", long 75°19'17", St. Lawrence County, Hydrologic Unit 04150302, at State Highway 186 bridge at Rensselaer Falls.

DRAINAGE AREA.--950 mi².

PERIOD OF RECORD.--August 1989.

CHEMICAL DATA: 1989 (a), 1990 (b), 1991 (c).

MINOR ELEMENTS DATA: 1989 (a), 1990 (b), 1991 (c).

PESTICIDE DATA: 1989 (a), 1990 (b).

NUTRIENT DATA: 1989 (a), 1990 (b).

SEDIMENT DATA: 1989 (a), 1990 (b), 1991 (c).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories. Water-discharge data based on records obtained for Oswegatchie River near Heuvelton (station 04263000).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED OF (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
OCT 31...	1400	2020	--	7.0	7.0	--	4.5	--	230
MAR 19...	0700	1930	110	7.3	2.5	750	12.2	91	150
APR 03...	1000	3220	76	7.7	4.5	765	12.7	98	240
16...	1000	3260	103	7.5	8.5	765	10.0	85	230
MAY 15...	1100	902	90	6.8	17.5	760	9.5	100	90
JUN 18...	0800	577	98	7.8	21.0	760	7.5	85	90
AUG 07...	1600	171	145	7.3	24.5	760	8.7	105	70

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
OCT 31...	<1	3	550	2	50	<0.10	3	20
MAR 19...	<1	3	330	5	40	<0.10	4	10
APR 03...	1	4	280	19	40	0.10	2	40
16...	<1	6	340	6	40	<0.10	1	10
MAY 15...	<1	6	340	47	50	<0.10	4	<10
JUN 18...	<1	6	390	2	40	<0.10	2	<10
AUG 07...	<1	3	190	2	30	<0.10	--	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 31...	1400	2020	3	16
MAR 19...	0700	1930	4	21
APR 03...	1000	3220	8	70
16...	1000	3260	6	53
MAY 15...	1100	902	8	19
JUN 18...	0800	577	3	4.7

ST. LAWRENCE RIVER BASIN

04263000 OSWEGATCHIE RIVER NEAR HEUVELTON, NY

LOCATION.--Lat 44°35'58", long 75°22'45", St. Lawrence County, Hydrologic Unit 04150302, on right bank 1.5 mi downstream from Beaver Creek, and 2.5 mi upstream from Heuvelton. Water-quality sampling site at discharge station.

DRAINAGE AREA.--965 mi².

PERIOD OF RECORD.--June 1916 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 288.85 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 16, 1916, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Since 1867, seasonal flow regulated by Cranberry Lake; slight diurnal fluctuation at low flow and medium flow caused by powerplants. During high stages on Grass River, part of flow of that stream may pass through Upper Lake, Indian Creek and Lower Lake and enter Oswegatchie River at Rensselaer Falls, 4.5 mi upstream from station. In October 1973, a dike was installed on Indian Creek to prevent overflow of Grass River during high flows. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--75 years, 1,739 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,600 ft³/s, Apr. 6, 1960, gage height, 10.36 ft; minimum, 99 ft³/s, Aug. 4, 1991, gage height, 0.49 ft; minimum gage height, 0.47 ft, Aug. 17, 1949, but may have been less during period of no gage-height record Sept. 7, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,780 ft³/s, Mar. 8, gage height, 6.53 ft; maximum gage height, 6.78 ft, Dec. 28 (ice jam); minimum discharge, 99 ft³/s, Aug. 4, gage height, 0.49 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	333	1870	1610	e8500	e1200	1560	4100	2070	1640	282	165	260
2	315	1620	1520	e8100	e1100	1850	3620	1860	2010	305	128	276
3	372	1500	1440	e7200	1020	3500	3220	1680	2030	291	139	310
4	529	1340	1780	e6600	1100	4890	2970	1620	1840	309	107	234
5	772	1360	2830	e5600	1540	6050	2610	1590	1580	297	121	271
6	1020	1550	2950	e4000	2180	7110	2240	1640	1360	299	153	304
7	1190	1750	2730	e3000	2580	8100	1990	1910	1010	271	171	249
8	986	2080	2450	e2300	2960	8680	1850	2130	873	312	203	271
9	842	1910	2240	e2200	3280	8270	3010	2170	829	310	251	219
10	726	1690	2110	e1950	3250	e6600	5920	2010	765	344	301	282
11	817	1870	2010	e1800	2740	e5300	7140	1800	616	555	304	455
12	1050	2170	1860	e1700	e1900	4310	7090	1620	546	588	330	383
13	1210	2320	1760	e1750	e1600	3630	6570	1230	533	512	362	376
14	1400	2200	e1700	e1750	e1500	3040	5500	914	436	451	392	352
15	1550	2360	e1700	1860	e1400	2350	4170	877	496	406	381	276
16	1620	2620	e1700	2000	e1300	2100	3320	800	520	430	341	287
17	1620	2330	e1700	2280	e1200	1960	3210	811	554	415	316	298
18	1340	2430	e1800	3180	e1200	1910	3060	867	568	404	291	352
19	1350	2790	e1900	3780	e1200	1950	2900	893	550	397	309	383
20	1770	2680	e2100	3480	e1700	1920	2630	911	582	356	312	356
21	2250	2410	e2400	e2700	e2700	1990	2630	914	557	308	339	406
22	2370	2170	2710	e2900	e3100	1920	4420	909	479	283	385	461
23	2190	1980	3770	e2400	e3100	1920	5940	748	399	299	511	522
24	2420	1880	5210	e2000	e2400	2280	6030	611	389	271	475	502
25	2990	1900	5760	e1700	e2100	3080	5580	559	401	273	455	464
26	3360	1870	e5200	e1600	e1900	3700	4740	555	463	247	395	434
27	3200	1760	e4900	e1400	e1750	3920	3840	578	412	203	364	457
28	2690	1780	e4600	e1450	1670	3970	2980	734	338	191	298	548
29	2290	1690	e4500	e1500	---	4050	2570	924	325	181	282	777
30	2120	1660	5490	e1400	---	4370	2330	1070	275	139	293	890
31	2090	---	7440	e1300	---	4430	---	1440	---	130	271	---
TOTAL	48782	59540	91870	93380	54670	120710	118180	38445	23376	10059	9145	11655
MEAN	1574	1985	2964	3012	1952	3894	3939	1240	779	324	295	388
MAX	3360	2790	7440	8500	3280	8680	7140	2170	2030	588	511	890
MIN	315	1340	1440	1300	1020	1560	1850	555	275	130	107	219

CAL YR 1990 TOTAL 776863 MEAN 2128 MAX 10400 MIN 225
WTR YR 1991 TOTAL 679812 MEAN 1862 MAX 8680 MIN 107

e Estimated

LOCATION.--Lat 45°00'22", long 74°47'43", Stormont County, Ontario--St. Lawrence County, NY, Hydrologic Unit 04150301, at Robert Moses-Robert H. Saunders power dam on Lake St. Lawrence at the International Boundary at Cornwall, Ontario, 2.9 mi upstream from Grass River, 6.2 mi upstream from Raquette River, and 5.9 mi northeast of Massena, NY. Water-quality samples collected at power dam from taps at generators 17 and 30.

DRAINAGE AREA.--298,800 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1860 to current year. Monthly discharges only for some periods, published in WSP 1307.
Prior to October 1970 published as 04264000 "St. Lawrence River at Ogdensburg."

REVISED RECORDS.--WSP 1437: 1870, 1875, 1881, 1883, 1884, 1890.

GAGE.--There is no gage. Discharge is determined from summation of discharge through the Robert Moses-Robert H. Saunders power dam, the Long Sault Dam, the Massena Diversion, the Rasin River Diversion, the Cornwall and Massena municipal water supply, and the Cornwall and the Wiley-Dondero navigation canals. U.S.-Canada coordinated discharge figures supplied by Corps of Engineers. Prior to 1956, base gage at lock 25 at Iroquois Ont. with supplementary gages. August 1956 to June 1958, base gage at lock 24 between Iroquois and Morrisburg, Ont., and supplementary gages. Prior to Aug. 1956, these were gages of the Canadian Hydrographic Service and from August 1956 to June 1958, were gages of the Hydro-Electric Power Commission of Ontario. Discharge in the reach of river at Cornwall, Ont.--near Massena, NY is considered to be the same as discharge at Ogdensburg, NY when adjusted for storage in Lake St. Lawrence.

REMARKS.--Since July 1958, flow regulated by international agreement administered by International St. Lawrence River Board of Control under the International Joint Commission. Records do not include water diverted from Lake Michigan by Illinois and Michigan Canal during period of its operation prior to 1910 and by Chicago Sanitary and Ship Canal, which began operation in 1900. Records include water diverted into Lake Superior from Hudson Bay drainage by the Long Lake Project, which began operation in July 1939, and by the Ogoki project, which began operation is July 1943.

COOPERATION.--Records of daily discharge provided by Buffalo District, Corps of Engineers through International St. Lawrence River Board of Control.

AVERAGE DISCHARGE.--131 years (water years 1861-1991), 245,300 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 361,000 ft³/s (corrected), Jan. 3, 7, 1987; minimum daily, 139,000 ft³/s, Feb. 7, 1936; maximum monthly discharge, 350,000 ft³/s, July 1973; minimum monthly, 154,000 ft³/s, Feb. 1936.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 325,000 ft³/s, Mar. 17-28, May 11-15; minimum daily, 220,000 ft³/s, Dec. 30, Jan. 8-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254000	267000	260000	248000	260000	305000	315000	304000	280000	280000	260000	259000
2	253000	267000	260000	248000	260000	305000	315000	308000	280000	280000	260000	259000
3	254000	270000	260000	248000	260000	305000	316000	313000	280000	280000	260000	259000
4	255000	271000	255000	248000	260000	305000	315000	315000	280000	280000	260000	259000
5	253000	270000	260000	244000	260000	305000	315000	315000	280000	279000	260000	259000
6	253000	250000	260000	230000	260000	305000	305000	317000	280000	270000	260000	258000
7	253000	255000	260000	229000	260000	305000	305000	320000	280000	270000	260000	254000
8	253000	255000	270000	220000	260000	305000	305000	320000	280000	270000	260000	254000
9	253000	255000	270000	220000	271000	305000	282000	320000	280000	270000	261000	254000
10	253000	250000	270000	220000	270000	305000	244000	321000	280000	270000	260000	254000
11	253000	250000	270000	230000	270000	305000	225000	325000	280000	270000	259000	254000
12	253000	250000	270000	230000	280000	305000	225000	325000	280000	270000	261000	254000
13	257000	250000	270000	230000	280000	305000	235000	325000	280000	270000	260000	254000
14	255000	250000	270000	230000	290000	310000	250000	325000	280000	265000	260000	253000
15	256000	250000	270000	230000	290000	315000	261000	325000	280000	265000	260000	253000
16	256000	250000	265000	230000	295000	320000	275000	324000	280000	265000	260000	253000
17	257000	260000	250000	230000	295000	325000	275000	306000	280000	264000	260000	253000
18	256000	260000	250000	230000	295000	325000	275000	307000	280000	265000	260000	254000
19	256000	260000	250000	230000	295000	325000	276000	306000	280000	265000	260000	252000
20	261000	260000	250000	230000	295000	325000	283000	306000	280000	265000	260000	254000
21	261000	260000	250000	230000	295000	325000	285000	306000	280000	265000	260000	252000
22	261000	260000	230000	235000	295000	325000	273000	306000	280000	265000	260000	250000
23	261000	260000	230000	240000	305000	325000	253000	296000	280000	265000	261000	250000
24	261000	260000	230000	240000	305000	325000	250000	295000	280000	265000	260000	252000
25	261000	260000	230000	240000	305000	325000	260000	286000	280000	266000	259000	254000
26	262000	260000	230000	250000	305000	325000	271000	280000	280000	266000	260000	251000
27	267000	260000	230000	250000	305000	325000	282000	280000	280000	265000	260000	251000
28	267000	260000	230000	250000	305000	325000	291000	280000	280000	260000	260000	245000
29	267000	260000	221000	250000	---	315000	297000	280000	280000	260000	260000	244000
30	267000	260000	220000	260000	---	305000	299000	280000	280000	260000	260000	245000
31	267000	---	248000	260000	---	308000	---	280000	---	260000	259000	---
TOTAL	7996000	7750000	7789000	7360000	7926000	9738000	8358000	9496000	8400000	8310000	8060000	7597000
MEAN	257900	258300	251300	237400	283100	314100	278600	306300	280000	268100	260000	253200
MAX	267000	271000	270000	260000	305000	325000	316000	325000	280000	280000	261000	259000
MIN	253000	250000	220000	220000	260000	305000	225000	280000	280000	260000	259000	244000
CAL YR 1990	TOTAL 97143000		MEAN 266100		MAX 302000		MIN 220000					
WTR YR 1991	TOTAL 98780000		MEAN 270600		MAX 325000		MIN 220000					

ST. LAWRENCE RIVER MAIN STEM

04264331 ST. LAWRENCE RIVER AT CORNWALL, ONTARIO--NEAR MASSENA, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955, 1966 to current year. Prior to October 1970, published as "near Massena, NY".

CHEMICAL DATA: 1955 (a), 1974 (c), 1975-81 (d), 1982-86 (c), 1987 (b), 1988-89 (c), 1990 (b), 1991 (d).

MINOR ELEMENTS DATA: 1974-77 (b), 1978 (a), 1979 (b), 1980 (c), 1981-87 (b), 1988-90 (c), 1991 (d).

RADIOCHEMICAL DATA: 1974-91 (a).

PESTICIDE DATA: 1988-90 (b).

ORGANIC DATA: OC--1974 (a), 1975 (b), 1977 (b), 1978-81 (d).

NUTRIENT DATA: 1974-75 (c), 1976-81 (d), 1982-86 (c), 1987 (b), 1988-91 (c).

BIOLOGICAL DATA:

Bacteria--1974 (c), 1975-81 (d), 1982-86 (c), 1987-91 (b).

Phytoplankton--1974 (a), 1975-77 (d), 1978-81 (c).

Periphyton--1974 (a), 1975 (c), 1976-80 (b).

SEDIMENT DATA: 1975 (d), 1976-77 (c), 1978-81 (d), 1982-86 (c), 1987-90 (b), 1991 (d).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to September 1986.

WATER TEMPERATURES: October 1955 to October 1958, unpublished; January 1966 to September 1986.

REMARKS.--Temperature observations from October 1955 to October 1958 made at Aluminum Company of America Massena Canal power station and those from January 1966 to September 1986 made approximately 68 ft below normal forebay level. Water-quality samples without turbidity analyses were collected by personnel of the New York State Department of Environmental Conservation.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 400 microsiemens Aug. 7, 1978, Mar. 29, 1979; minimum daily, 250 microsiemens Dec. 21, 1978.

WATER TEMPERATURES: Maximum daily, 24.5°C on several days in August and September 1973 and August 1975; minimum daily, 0.0°C on many days during winter periods except 1972-74, 1979, 1982-85.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	*DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
22...	0900	261000	298	7.8	12.5	0.50	760	10.0	94	8	0
30...	0915	267000	--	--	10.0	0.40	--	--	--	--	--
MAR											
06...	0815	305000	297	8.1	0.0	1.7	755	14.7	102	0	0
19...	0900	325000	275	7.8	1.5	3.0	750	12.8	93	--	--
APR											
02...	0700	315000	295	7.9	3.0	9.0	765	13.4	99	--	--
16...	0800	275000	298	7.9	5.5	10	765	12.8	101	--	--
MAY											
13...	0900	325000	290	8.4	11.0	1.0	760	11.6	106	--	--
13...	0915	325000	290	8.4	11.0	1.5	760	11.6	106	1	0
JUN											
18...	1000	280000	310	7.9	17.0	1.5	765	9.8	101	--	--
JUL											
29...	1030	260000	290	8.2	23.5	1.0	770	9.2	107	2	0
AUG											
08...	0800	260000	301	7.8	22.5	--	767	9.5	109	--	--
SEP											
30...	1100	254000	311	8.2	15.5	--	--	9.5	--	--	--

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT											
22...	130	38	8.2	12	1.6	92	110	--	26	22	0.2
30...	--	--	--	--	--	--	--	--	27	27	--
MAR											
06...	130	39	8.1	12	1.5	96	116	--	30	24	<0.1
19...	--	--	--	--	--	--	--	--	--	18	--
APR											
02...	--	--	--	--	--	--	--	--	--	19	--
16...	--	--	--	--	--	--	--	--	23	20	--
MAY											
13...	--	--	--	--	--	--	--	--	--	19	--
13...	130	38	7.6	11	1.4	95	111	7	22	21	0.1
JUN											
18...	--	--	--	--	--	--	--	--	25	22	--
JUL											
29...	120	36	8.1	12	1.4	88	108	--	28	22	0.1
AUG											
08...	--	--	--	--	--	--	--	--	--	--	--
SEP											
30...	--	--	--	--	--	--	--	--	--	--	--

* Daily discharge.

ST. LAWRENCE RIVER MAIN STEM

04264331 ST. LAWRENCE RIVER AT CORNWALL, ONTARIO--NEAR MASSENA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT										
22...	0.63	173	163	--	--	--	--	--	--	--
30...	--	170	--	--	--	0.02	--	0.20	0.02	--
MAR										
06...	0.27	167	174	--	0.31	<0.01	<0.01	<0.20	<0.01	0.02
19...	--	171	--	--	--	0.04	--	0.19	0.02	--
APR										
02...	--	170	--	--	--	0.12	--	0.31	0.02	--
16...	--	140	--	--	--	0.19	--	0.21	0.01	--
MAY										
13...	--	177	--	--	--	0.00	--	0.16	0.01	--
13...	<0.01	142	164	0.28	0.30	<0.01	0.01	0.50	<0.01	<0.01
JUN										
18...	--	175	--	--	--	--	--	0.60	0.03	--
JUL										
29...	0.44	162	162	--	0.14	<0.01	<0.01	0.40	<0.01	<0.01
AUG										
08...	--	--	--	--	--	--	--	--	--	--
SEP										
30...	--	--	--	--	--	--	--	--	--	--
DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)
OCT										
22...	--	--	10	1	24	<0.5	--	<1.0	<1	<3
30...	--	80	--	--	--	--	<1	--	--	--
MAR										
06...	<0.010	--	30	<1	23	<0.5	--	<1.0	<1	<3
19...	<0.00	20	--	--	--	--	<1	--	--	--
APR										
02...	0.00	<10	--	--	--	--	<1	--	--	--
16...	0.00	20	--	--	--	--	<1	--	--	--
MAY										
13...	<0.00	70	--	--	--	--	<1	--	--	--
13...	<0.010	--	10	<1	23	<0.5	--	<1.0	<1	<3
JUN										
18...	<0.00	30	--	--	--	--	<1	--	--	--
JUL										
29...	<0.010	--	<10	<1	21	<0.5	--	<1.0	<1	<3
AUG										
08...	--	70	--	--	--	--	<1	--	--	--
SEP										
30...	--	50	--	--	--	--	<1	--	--	--
DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
OCT										
22...	--	3	--	4	--	1	5	--	3	--
30...	2	--	120	--	3	--	--	<10	--	<0.10
MAR										
06...	--	2	--	16	--	2	4	--	2	--
19...	22	--	820	--	6	--	--	20	--	<0.10
APR										
02...	27	--	1500	--	2	--	--	50	--	<0.10
16...	19	--	2400	--	5	--	--	120	--	<0.10
MAY										
13...	6	--	120	--	3	--	--	10	--	<0.10
13...	--	2	--	7	--	<1	<4	--	<1	--
JUN										
18...	13	--	810	--	3	--	--	230	--	<0.10
JUL										
29...	--	2	--	6	--	<1	5	--	2	--
AUG										
08...	--	--	100	--	--	--	--	<10	--	<0.10
SEP										
30...	4	--	80	--	4	--	--	<10	--	0.60

ST. LAWRENCE RIVER MAIN STEM

04264331 ST. LAWRENCE RIVER AT CORNWALL, ONTARIO--NEAR MASSENA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT										
22...	<0.1	<10	--	1	<1	<1.0	180	<6	--	22
30...	--	--	2	--	--	--	--	--	<10	--
MAR										
06...	<0.1	<10	--	1	<1	<1.0	180	<6	--	51
19...	--	--	3	--	--	--	--	--	130	--
APR										
02...	--	--	3	--	--	--	--	--	230	--
16...	--	--	5	--	--	--	--	--	380	--
MAY										
13...	--	--	6	--	--	--	--	--	<10	--
13...	<0.1	<10	--	1	<1	<1.0	180	<6	--	32
JUN										
18...	--	--	4	--	--	--	--	--	300	--
JUL										
29...	<0.1	10	--	2	<1	<1.0	180	<6	--	14
AUG										
08...	--	--	--	--	--	--	--	--	<10	--
SEP										
30...	--	--	2	--	--	--	--	--	<10	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	*DIS- CHARGE, IN CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
22...	0900	261000		3 2110	67
MAR					
06...	0815	305000		1 823	100
19...	0900	325000		3 2630	--
APR					
02...	0700	315000		5 4250	--
16...	0800	275000		6 4460	--
MAY					
13...	0900	325000		4 3510	--
13...	0915	325000		2 1760	95
JUN					
18...	1000	280000		4 3020	--
JUL					
29...	1030	260000		3 2110	100
AUG					
08...	0800	260000		5 3510	--
SEP					
30...	1100	254000		3 2060	--

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
MAR										
06...	0815	305000	<0.6	<0.6	3.0	2.2	<0.6	<0.6	0.04	0.31
JUL										
29...	1030	260000	<0.6	0.6	3.1	2.3	<0.6	<0.6	0.03	0.32

* Daily discharge.

ST. LAWRENCE RIVER BASIN

04266500 RAQUETTE RIVER AT PIERCEFIELD, NY

LOCATION.--Lat 44°14'05", long 74°34'20", St. Lawrence County, Hydrologic Unit 04150305, on left bank 0.5 mi downstream from powerplant at Piercefield, and 1.5 mi upstream from Dead Creek.

DRAINAGE AREA.--721 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--August 1908 to current year.

REVISED RECORDS.--WSP 604: 1924. WSP 1387: 1910, 1913, 1914(M), 1916, 1921. WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,502.12 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1911, nonrecording gage at present site at datum 2.00 ft higher and Jan. 1, 1911 to Oct. 21, 1912, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Seasonal distribution of flow modified by natural storage in lakes and ponds upstream from station and by regulation of Forked Lake, Round Lake, Lows Lake, and Raquette Pond (Tupper Lake) at Setting Pole Dam. Extensive diurnal fluctuation caused by powerplant at Piercefield.

AVERAGE DISCHARGE.--83 years, 1,314 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,360 ft³/s, May 8, 1972, gage height, 12.25 ft; minimum daily, 4.1 ft³/s, Oct. 12, 1947.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 7,000 ft³/s, May 1, 1900 (from New York State Museum Bulletin 85).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,360 ft³/s, Jan. 3, gage height, 10.16 ft; minimum daily, 137 ft³/s, Aug. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344	2500	1780	4240	1160	952	2140	2720	1210	422	149	156
2	392	2310	1780	4590	1250	958	2240	2630	1600	337	150	287
3	453	2040	1650	5280	1120	1100	2260	2530	1550	186	150	152
4	569	1910	1880	4900	1230	1300	2270	2450	1360	325	151	152
5	512	1820	1790	4730	933	1860	2190	2390	1480	441	156	155
6	735	1820	1340	4510	742	2230	2170	2330	1500	361	159	155
7	932	1780	1590	4280	836	2800	2220	2250	1300	504	318	153
8	949	1750	1690	3990	938	2910	2360	2170	1260	512	156	154
9	888	1720	1580	3650	840	2840	2630	2110	1400	527	321	153
10	946	1700	1670	3390	1010	2770	3030	2040	1190	527	363	151
11	1070	1500	1510	3160	1140	2690	3380	1900	1180	529	227	144
12	1180	1820	1630	2940	1100	2590	3750	1610	1170	525	392	272
13	1330	1720	1580	2750	1150	2500	3980	1270	1190	522	513	205
14	1410	1700	1640	2560	975	2380	4050	1300	1000	522	534	185
15	1420	1660	1610	2420	1090	2270	4040	1300	1070	528	540	166
16	1420	1670	1550	2280	1080	2170	3960	1280	1010	528	532	445
17	1400	1760	1450	2260	1030	2080	3850	1220	921	522	526	582
18	1210	1810	1440	2210	995	2000	3720	1250	734	516	330	604
19	1480	1830	1490	2150	909	1810	3570	1250	865	418	305	628
20	1520	1610	1440	2050	963	1830	3400	1220	741	444	154	1020
21	1650	1660	1460	1970	1030	1820	3240	890	885	401	318	947
22	1810	1860	1640	1910	1080	1860	3410	1010	734	453	251	916
23	1910	1960	1860	1730	1130	1760	3390	888	678	330	150	939
24	2190	2050	2180	1600	1010	1690	3390	693	782	375	150	864
25	2540	2090	2330	1540	958	1580	3310	692	763	157	137	721
26	2720	1980	2200	1360	1030	1520	3250	887	572	155	149	878
27	2790	1790	2070	1270	1080	1430	3140	962	569	155	149	900
28	2790	1820	2040	1220	973	1530	3030	965	359	154	149	801
29	2690	1760	2100	1240	---	1780	2910	992	330	150	152	772
30	2660	1750	2680	1410	---	1890	2810	1030	441	148	152	796
31	2640	---	3570	1310	---	2010	---	1070	---	149	157	---
TOTAL	46550	55150	56220	84900	28782	60910	93090	47299	29844	11823	8040	14453
MEAN	1502	1838	1814	2739	1028	1965	3103	1526	995	381	259	482
MAX	2790	2500	3570	5280	1250	2910	4050	2720	1600	529	540	1020
MIN	344	1500	1340	1220	742	952	2140	692	330	148	137	144

CAL YR 1990 TOTAL 662133 MEAN 1814 MAX 5980 MIN 155

WTR YR 1991 TOTAL 537061 MEAN 1471 MAX 5280 MIN 137

ST. LAWRENCE RIVER BASIN

04266500 RAQUETTE RIVER AT PIERCEFIELD, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955, 1970-72, April 1988 to current year.

CHEMICAL DATA: 1955, 1970-72 (a), 1988-91 (b).

MINOR ELEMENTS DATA: 1955, 1970-72 (a), 1988-91 (b).

PESTICIDE DATA: 1988-90 (b).

NUTRIENT DATA: 1970-72 (a), 1988-90 (b).

SEDIMENT DATA: 1988-91 (a).

REMARKS.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, and were analyzed in USGS laboratories.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
NOV 01...	1030	2500	--	7.5	6.5	--	3.2	120
APR 03...	0800	2190	24	6.7	3.0	765	11.2	83
17...	1000	3870	21	7.2	6.0	765	10.7	86
JUN 19...	0900	860	24	7.2	21.5	760	8.5	97

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
NOV 01...	<1	4	240	1	40	<0.10	2	<10
APR 03...	<1	8	140	39	10	0.10	3	10
17...	<1	6	130	16	20	<0.10	2	20
JUN 19...	<1	5	250	9	30	0.10	1	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 01...	1030	2500	1	6.8
APR 03...	0800	2190	5	30
17...	1000	3870	4	42
JUN 19...	0900	860	16	37

ST. LAWRENCE RIVER BASIN

04267500 RAQUETTE RIVER AT SOUTH COLTON, NY

LOCATION.--Lat 44°30'42", long 74°53'00", St. Lawrence County, Hydrologic Unit 04150305, on left bank 300 ft upstream from bridge on State Highway 56 at South Colton, 500 ft downstream from Niagara Mohawk Power Corporation powerplant, and 0.8 mi upstream from Cold Brook.

DRAINAGE AREA.--937 mi².

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

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 882.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated 16 mi upstream by Carry Falls Reservoir since 1953; considerable natural storage in large lakes upstream from Piercefield. Large diurnal fluctuation caused by five powerplants upstream from gage. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 1,800 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,720 ft³/s, May 11, 1971, gage height, 9.80 ft; minimum, 1.3 ft³/s, Feb. 1, 1962, Aug. 8, 1964; minimum gage height, 1.52 ft, Aug. 6, 1991; minimum daily discharge, 4.6 ft³/s, June 2, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,510 ft³/s, Oct. 16, gage height, 7.50 ft; minimum, 1.9 ft³/s, Aug. 6, gage height, 1.52 ft; minimum daily, 80 ft³/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	2840	2680	2950	2320	1470	2940	2510	1160	1380	518	456
2	964	2660	2730	3490	2370	1880	3150	2920	1530	1490	556	455
3	453	2840	2850	3710	2500	1690	2910	2750	1900	1490	483	850
4	609	2680	2930	3720	2550	528	2930	2940	2050	398	441	871
5	533	2710	2920	3690	2280	2570	2670	3150	2010	605	544	961
6	454	2820	2880	3810	2450	2440	2710	3150	2060	318	266	964
7	283	2900	2400	4900	2480	406	3100	3010	2140	315	494	80
8	534	3010	1400	4920	2280	2560	2980	3070	1510	1200	496	544
9	603	2300	1550	3980	2160	1950	3140	3020	1640	1330	563	355
10	627	2780	1600	4910	2180	2990	3500	3030	1460	1050	301	547
11	742	2690	1380	4180	2550	2660	4160	2340	1700	969	488	193
12	769	2640	1550	4740	2640	2810	4070	2570	1540	908	942	506
13	321	2900	1060	4630	2110	2720	3730	2250	1430	976	1190	502
14	466	2520	1520	4460	1530	2740	3670	1940	1340	924	879	378
15	1640	2730	1770	3730	1580	2790	3590	1590	1390	853	1060	843
16	1900	2600	1670	3660	1450	2710	3500	1620	1190	1130	931	899
17	1700	2730	1590	3680	1510	2770	3660	1530	1360	1020	328	667
18	1570	2650	1210	3470	1490	2690	3570	1540	1250	1000	709	477
19	1650	2850	1640	3350	1380	2610	3520	1480	1220	990	778	416
20	1590	2770	1470	3320	1550	2720	3670	1590	1350	334	863	549
21	1750	2700	1430	3070	1520	3030	3680	1510	1360	240	859	272
22	1820	2690	1350	2920	1270	3120	3710	1630	1280	996	965	693
23	1640	2810	1070	1730	914	3040	3790	1400	1290	956	830	911
24	1690	2800	1290	2080	1450	3100	3740	1710	1250	992	643	1140
25	2070	2860	1210	2330	1610	3020	3960	974	1370	971	474	1240
26	2050	2790	1620	2180	1370	2960	3780	877	1360	1020	707	1120
27	2110	2980	1380	2670	1440	3000	3680	935	1210	929	933	1620
28	2070	2810	1490	2350	1470	2990	3670	1200	957	916	942	1020
29	2300	2820	1920	2410	---	3020	3660	1230	674	611	893	1350
30	2630	2570	2630	2210	---	3000	3590	1240	264	454	832	1320
31	2790	---	2910	2560	---	2860	---	1260	---	472	494	---
TOTAL	40560	82450	57100	105810	52404	78844	104430	61966	42245	27237	21402	22199
MEAN	1308	2748	1842	3413	1872	2543	3481	1999	1408	879	690	740
MAX	2790	3010	2930	4920	2640	3120	4160	3150	2140	1490	1190	1620
MIN	232	2300	1060	1730	914	406	2670	877	264	240	266	80

CAL YR 1990 TOTAL 825896 MEAN 2263 MAX 7210 MIN 232
WTR YR 1991 TOTAL 696647 MEAN 1909 MAX 4920 MIN 80

ST. LAWRENCE RIVER BASIN

04268000 RAQUETTE RIVER AT RAYMONDVILLE, NY
(National stream-quality accounting network station)

LOCATION.--Lat 44°50'20", long 74°58'45", St. Lawrence County, Hydrologic Unit 04150305, on right bank 250 ft upstream from bridge on Grant Road at Raymondville, 0.3 mi downstream from Trout Brook, 0.4 mi downstream from Niagara Mohawk Power Corporation powerplant, and 18.0 mi upstream from mouth. Water-quality sampling site at discharge station.

DRAINAGE AREA.--1,125 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1943 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area. WDR NY-85-1: 1983-84.

GAGE.--Water-stage recorder. Datum of gage is 183.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Extensive diurnal fluctuation caused by power and industrial operations. Flow regulated since 1953 by Carry Falls Reservoir, about 46 mi upstream and by Niagara Mohawk Power Corporation powerplant, 0.4 mi upstream; considerable natural storage in large lakes upstream from Pierceland. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--47 years (water years 1945-91), 2,105 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s, Apr. 5, 1974, gage height, 8.40 ft; maximum gage height, 9.24 ft, Feb. 22, 1954 (backwater from ice); minimum discharge, 2.2 ft³/s, Sept. 18, 19, 1966; minimum gage height, 0.42 ft, July 13, 1950; minimum daily discharge, 7.0 ft³/s, Oct. 15, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,360 ft³/s, Apr. 10, gage height, 6.04 ft; minimum, 22 ft³/s, Oct. 1, 7, 8, gage height, 0.62 ft; minimum daily, 298 ft³/s, Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	625	3260	3160	4780	e3000	1760	3460	3680	1440	944	611	542
2	496	3110	3090	4270	e3100	2210	3390	2920	1560	1810	408	441
3	864	3100	3080	4130	3110	3040	3120	3130	2150	1770	652	766
4	641	3080	3440	4200	2900	2840	3150	3170	2320	684	467	983
5	560	3110	3730	e4300	3180	2210	3270	3720	2330	651	513	952
6	800	3200	3620	e4400	3390	3530	3340	3640	2250	562	594	1100
7	460	3340	3390	e4500	3340	3430	3130	4170	2250	549	471	512
8	570	3540	2080	e5200	3360	2300	3220	4020	1990	946	654	493
9	725	3460	1890	e5200	3180	3440	4900	3690	1810	1410	463	676
10	1130	3070	1770	e5400	3090	3200	6670	3540	1530	1440	679	298
11	1530	3180	e1800	e5400	e2800	3100	6010	2630	1780	971	475	685
12	1370	3270	e1700	e5400	e2500	2980	5070	2850	1770	1110	883	949
13	570	3140	e1500	e5200	e2200	2990	4780	2890	1800	1090	1220	587
14	854	3160	e1300	e5000	e2000	2980	4150	2730	1740	1040	1390	747
15	935	3170	e1500	e4600	e1900	2980	4160	2080	1430	1130	1050	498
16	1680	3180	e1600	e4100	e1900	3050	4200	1640	1490	1040	1130	577
17	1800	3220	e1700	e4200	e1900	3090	4160	1780	1490	1160	471	542
18	1770	3230	1820	e4000	e1800	3170	4070	2030	1450	1160	654	529
19	1880	3170	1960	e3900	e1800	3220	3920	2050	1410	1080	817	733
20	2180	3460	1980	e3700	e2100	3340	4240	1950	1450	585	921	463
21	2220	3140	1770	e3700	e2000	4130	4720	1920	1470	579	1260	573
22	2290	3110	2410	e3300	e1300	3440	6300	1850	1330	681	901	549
23	2500	3050	2940	e2500	e1600	3240	5490	1810	1500	1110	1150	838
24	2250	3440	3130	e2900	e1900	3820	4830	1820	1430	1150	480	1460
25	2280	3380	2310	e3100	e1900	4500	4360	1430	1520	951	611	1780
26	2370	3230	2090	e3300	e1800	3750	4560	1260	1480	1020	748	1750
27	2880	3180	e2200	e3300	e1800	3600	3960	1150	1380	1120	992	1460
28	2830	3220	e2300	e3200	e1800	4090	4060	1170	1270	963	1000	1330
29	2470	3150	2370	e3000	---	4090	4110	1390	634	908	1020	1370
30	2530	3220	5010	e3100	---	3790	4090	1420	557	690	954	1150
31	3170	---	5590	e3300	---	3620	---	1470	---	472	703	---
TOTAL	49230	96570	78230	126580	66650	100930	128890	75000	48011	30776	24342	25333
MEAN	1588	3219	2524	4083	2380	3256	4296	2419	1600	993	785	844
MAX	3170	3540	5590	5400	3390	4500	6670	4170	2330	1810	1390	1780
MIN	460	3050	1300	2500	1300	1760	3120	1150	557	472	408	298

CAL YR 1990 TOTAL 984742 MEAN 2698 MAX 7360 MIN 460
WTR YR 1991 TOTAL 850542 MEAN 2330 MAX 6670 MIN 298

e Estimated

ST. LAWRENCE RIVER BASIN

04268000 RAQUETTE RIVER AT RAYMONDVILLE, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955, 1957, 1960-61, 1969-72, 1979 to current year.

CHEMICAL DATA: 1955, 1957 (a), 1960-61 (e), 1969 (a), 1970 (d), 1971 (b), 1972 (a), 1979-80 (d), 1981-82 (c), 1983-91 (b).

MINOR ELEMENTS DATA: 1969 (a), 1970, 1979 (b), 1980 (d), 1981-91 (b).

PESTICIDE DATA: 1970 (a).

ORGANIC DATA: OC--1979-80 (d), 1981 (c).

NUTRIENT DATA: 1955, 1957 (a), 1960-61 (e), 1969 (a), 1970 (d), 1971 (b), 1972 (a), 1979-80 (d), 1981-82 (c), 1983-91 (b).

BIOLOGICAL DATA:

Bacteria--1969-71 (a), 1979-80 (d), 1981-82 (c), 1983-91 (b).

Phytoplankton--1979-80 (c), 1981 (b).

Periphyton--1979-80 (b).

SEDIMENT DATA: 1979 (c), 1980 (d), 1981-82 (c), 1983-91 (b).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 23...	0845	2590	43	6.6	11.0	1.8	760	10.9	99	84	28	
MAR 06...	1015	3670	150	7.5	0.5	2.4	750	10.8	76	23	5	
MAY 14...	1045	2670	36	7.3	16.0	1.5	760	10.1	103	37	10	
AUG 01...	0930	31	58	7.2	23.5	1.0	760	8.4	99	2	--	

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L CACO3)	BICAR- BONATE WATER DIS IT FIELD (MG/L HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 23...	23	6.2	1.7	2.4	0.60	14	16	5.8	3.1	<0.10	4.3
MAR 06...	34	8.9	2.9	3.9	0.60	25	29	7.5	5.5	<0.10	6.3
MAY 14...	17	4.7	1.3	2.2	0.40	10	13	5.6	1.8	<0.10	4.3
AUG 01...	22	5.9	1.7	2.6	0.50	13	--	6.1	2.9	<0.10	2.8

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT 23...	43	33	--	0.200	0.020	0.030	0.40	<0.010	<0.010	<0.010
MAR 06...	59	52	--	0.330	0.070	0.070	0.60	0.020	<0.010	<0.010
MAY 14...	24	29	0.350	0.360	0.030	0.040	0.40	<0.010	0.020	<0.010
AUG 01...	34	34	--	0.390	0.020	0.010	0.30	<0.010	<0.010	<0.010

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 23...	40	1	10	<0.5	<1.0	<1	<3	2	260	1
MAR 06...	90	<1	12	<0.5	<1.0	<1	<3	1	150	1
MAY 14...	70	<1	10	<0.5	<1.0	<1	<3	2	98	1
AUG 01...	20	<1	10	<0.5	<1.0	2	<3	2	110	<1

ST. LAWRENCE RIVER BASIN

04268000 RAQUETTE RIVER AT RAYMONDVILLE, NY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 23...	<4	12	<0.1	<10	<1	<1	<1.0	23	<6	41
MAR 06...	<4	15	<0.1	<10	<1	<1	<1.0	28	<6	130
MAY 14...	<4	16	<0.1	<10	<1	<1	<1.0	20	<6	120
AUG 01...	<4	9	<0.1	<10	<1	<1	<1.0	25	<6	6

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 23...	0845	2590	3	21	79
MAR 06...	1015	3670	3	30	72
MAY 14...	1045	2670	1	7.2	83
AUG 01...	0930	31	1	0.08	100

ST. LAWRENCE RIVER BASIN

04268800 WEST BRANCH ST. REGIS RIVER NEAR PARISHVILLE, NY

LOCATION.--Lat 44°35'55", long 74°44'15", St. Lawrence County, Hydrologic Unit 04150306, on right bank 25 ft upstream from highway bridge, 4.1 mi downstream from Mud Pond Outlet, 4.8 mi upstream from Niagara Mohawk Power Corp. dam, and 4.2 mi southeast of Parishville.

DRAINAGE AREA.--171 mi².

PERIOD OF RECORD.--October 1958 to September 1968, June 1991 to current year. Annual maximum, water years 1969-91.

GAGE.--Water-stage recorder. Datum of gage is 971.64 ft above National Geodetic Vertical Datum of 1929. October 1968 to May 1991, crest-stage gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--10 years (water years 1959-68), 284 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,960 ft³/s, Dec. 29, 1984, gage height, 7.37 ft; maximum gage height, 7.51 ft, Feb. 25, 1985 (ice jam); minimum recorded discharge, 50 ft³/s, Aug. 1, 2, 1965, gage height, 0.92 ft; minimum daily discharge, about 46 ft³/s, Feb. 1, 1961.

EXTREMES FOR CURRENT YEAR.--June to September 1991: Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 17	0345	*410	*2.05				

Minimum discharge, 52 ft³/s, Aug. 3, 4, gage height, 0.89 ft; minimum daily, 53 ft³/s, Aug. 3-4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	285	69	56	74
2	---	---	---	---	---	---	---	---	237	67	55	78
3	---	---	---	---	---	---	---	---	191	65	53	70
4	---	---	---	---	---	---	---	---	165	65	53	67
5	---	---	---	---	---	---	---	---	152	82	64	67
6	---	---	---	---	---	---	---	---	138	108	82	67
7	---	---	---	---	---	---	---	---	127	101	85	64
8	---	---	---	---	---	---	---	---	118	102	76	60
9	---	---	---	---	---	---	---	---	112	159	73	58
10	---	---	---	---	---	---	---	---	105	148	124	59
11	---	---	---	---	---	---	---	---	99	130	167	181
12	---	---	---	---	---	---	---	---	103	116	151	241
13	---	---	---	---	---	---	---	---	143	103	119	177
14	---	---	---	---	---	---	---	---	142	94	96	125
15	---	---	---	---	---	---	---	---	120	88	82	109
16	---	---	---	---	---	---	---	---	115	81	75	311
17	---	---	---	---	---	---	---	---	147	78	72	374
18	---	---	---	---	---	---	---	---	150	93	71	265
19	---	---	---	---	---	---	---	---	125	96	71	251
20	---	---	---	---	---	---	---	---	107	84	69	321
21	---	---	---	---	---	---	---	---	98	77	69	276
22	---	---	---	---	---	---	---	---	94	73	90	201
23	---	---	---	---	---	---	---	---	88	82	95	146
24	---	---	---	---	---	---	---	---	84	83	83	122
25	---	---	---	---	---	---	---	---	81	77	73	128
26	---	---	---	---	---	---	---	---	77	70	67	177
27	---	---	---	---	---	---	---	---	74	64	63	196
28	---	---	---	---	---	---	---	---	72	61	61	175
29	---	---	---	---	---	---	---	---	70	59	58	151
30	---	---	---	---	---	---	---	---	69	57	56	140
31	---	---	---	---	---	---	---	---	---	56	62	---
TOTAL	---	---	---	---	---	---	---	---	3688	2688	2471	4731
MEAN	---	---	---	---	---	---	---	---	123	86.7	79.7	158
MAX	---	---	---	---	---	---	---	---	285	159	167	374
MIN	---	---	---	---	---	---	---	---	69	56	53	58
CFSM	---	---	---	---	---	---	---	---	.72	.51	.47	.92
IN.	---	---	---	---	---	---	---	---	.80	.58	.54	1.03

ST. LAWRENCE RIVER BASIN

04269000 ST. REGIS RIVER AT BRASHER CENTER, NY
(National stream-quality accounting network station)

LOCATION.--Lat 44°51'49", long 74°46'45", St. Lawrence County, Hydrologic Unit 04150306, on left bank 600 ft upstream from highway bridge at Brasher Center, and 6.5 mi downstream from West Branch. Water-quality sampling site at discharge station.

DRAINAGE AREA.--612 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1910 to current year. Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 1387: 1910-16, 1917(M), WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 217.23 ft above National Geodetic Vertical Datum of 1929. Prior to June 24, 1916, nonrecording gage at site 600 ft downstream at different datum. June 24, 1916 to Nov. 10, 1917, and Jan. 1, 1919 to Aug. 13, 1920, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Slight diurnal fluctuation caused by powerplant operations upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--81 years, 1,049 ft³/s, 23.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s, Apr. 6, 1937, gage height, 12.82 ft; maximum gage height recorded, about 15.3 ft, Apr. 6, 1937 (ice jam); minimum discharge observed, about 34 ft³/s, Aug. 8, 1917, gage height, 5.25 ft; minimum daily, 37 ft³/s, Aug. 8, 1917.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,600 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 31	0130	6,670	9.67	Apr. 10	1815	*7,720	*10.06

Minimum discharge, 114 ft³/s, Aug. 4, gage height, 5.67 ft; minimum daily, 148 ft³/s, Aug. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	451	1140	966	3840	e720	e860	1770	1250	738	192	161	374
2	684	1010	887	2990	e780	e960	1630	1320	716	193	161	395
3	680	913	831	e2300	e1000	e1300	1470	1420	620	191	148	477
4	633	823	956	e2000	e1300	e2500	1380	1480	537	189	165	462
5	860	868	1280	e1700	e1600	e3500	1270	1390	474	228	177	275
6	1130	986	1580	e1500	e2000	e3000	1440	1410	452	272	224	260
7	1000	1270	1160	e1300	e2200	e2600	1660	1920	420	283	267	258
8	836	1200	e1000	e1100	e2300	e2300	1990	1860	388	306	275	237
9	746	1020	e880	e1000	e2300	2720	3830	1610	369	351	266	214
10	795	1010	e740	e920	e1700	2200	6830	1330	346	373	322	211
11	982	1350	e680	e880	e1300	1860	6380	1190	323	373	401	214
12	1080	1250	e640	e860	e1100	1590	4560	1100	282	333	458	347
13	1220	1250	e620	e840	e960	1400	3350	945	311	320	404	467
14	1440	1300	e620	e840	e880	1320	2740	857	384	299	357	378
15	1190	990	e640	e840	e800	1180	2280	788	381	284	312	379
16	999	1190	e660	e880	e760	1200	2430	686	374	269	274	416
17	859	1980	e680	e1500	e740	1240	2360	786	387	228	266	841
18	769	2480	e720	e2300	e700	1340	2190	1320	425	275	241	852
19	1160	2090	e780	e2100	e720	1550	2010	1370	410	277	233	730
20	1540	1730	e860	e1800	e1100	1670	1660	1160	371	289	226	777
21	1410	1450	e960	e1400	e1700	1460	2100	843	337	256	254	934
22	1280	1250	e1100	e1200	e1500	1300	4520	808	310	244	265	780
23	1290	1280	e1600	e1100	e1300	1180	4110	651	292	241	303	681
24	1880	1410	4340	e1000	e1200	1630	3180	616	275	237	300	488
25	2120	1430	2860	e960	e1100	1980	2530	558	261	243	276	513
26	2030	1280	2460	e900	e960	1940	2150	577	249	232	253	581
27	1960	1220	2210	e860	e900	1860	1820	676	235	219	232	577
28	1720	1080	e2200	e820	e860	2600	1610	784	226	205	222	628
29	1540	1070	e2300	e780	---	3310	1410	766	209	192	211	582
30	1360	1030	4640	e760	---	2710	1280	697	191	180	201	525
31	1250	---	5660	e720	---	2200	---	663	---	199	354	---
TOTAL	36894	38350	47510	41990	34480	58460	77940	32831	11293	7973	8209	14853
MEAN	1190	1278	1533	1355	1231	1886	2598	1059	376	257	265	495
MAX	2120	2480	5660	3840	2300	3500	6830	1920	738	373	458	934
MIN	451	823	620	720	700	860	1270	558	191	180	148	211
CFSM	1.94	2.09	2.50	2.21	2.01	3.08	4.25	1.73	.62	.42	.43	.81
IN.	2.24	2.33	2.89	2.55	2.10	3.55	4.74	2.00	.69	.48	.50	.90

CAL YR 1990 TOTAL 471168 MEAN 1291 MAX 10400 MIN 243 CFSM 2.11 IN. 28.64
WTR YR 1991 TOTAL 410783 MEAN 1125 MAX 6830 MIN 148 CFSM 1.84 IN. 24.97

e Estimated

ST. LAWRENCE RIVER BASIN

04269000 ST. REGIS RIVER AT BRASHER CENTER, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955, 1960, 1970-72, 1974 to current year.

CHEMICAL DATA: 1955 (a), 1960 (b), 1970-72 (a), 1975-81 (d), 1982 (c), 1983-90 (b), 1991 (c).

MINOR ELEMENTS DATA: 1975, 1977-79 (b), 1980 (c), 1981-90 (b), 1991 (c).

ORGANIC DATA: OC--1974 (b), 1978-81 (d).

NUTRIENT DATA: 1970-71 (a), 1975-81 (d), 1982 (c), 1983-91 (b).

BIOLOGICAL DATA:

Bacteria--1975-81 (d), 1982 (c), 1983-91 (b).

Phytoplankton--1975-77 (d), 1978-81 (c).

Periphyton--1975-80 (b).

SEDIMENT DATA: 1975 (d), 1976-77 (c), 1978-81 (d), 1982 (c), 1983-90 (b), 1991 (c).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: September 1974 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (water years 1975-81): Maximum daily, 29.0°C Aug. 4, 1975; minimum, 0.0°C on many days during winter periods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 24...	1045	1870	59	7.1	8.0	2.1	755	10.5	89	160	110	
MAR 05...	0945	E3500	47	7.2	0.0	3.6	750	13.2	92	11	5	
20...	0900	1680	47	7.3	1.0	--	760	13.9	98	--	--	
APR 01...	1100	1750	46	7.6	3.5	--	760	13.8	104	--	--	
MAY 15...	0800	799	64	7.6	14.5	--	760	9.6	94	--	--	
15...	0815	788	64	7.6	14.5	1.5	760	9.6	94	140	8	
JUL 30...	0830	168	89	7.9	22.5	1.1	760	7.9	92	50	2	
AUG 27...	0700	232	82	7.9	22.0	--	760	6.2	71	--	--	
SEP 30...	0800	530	57	7.8	8.0	--	--	9.0	--	--	--	

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 24...	32	8.2	2.7	2.3	0.80	21	--	6.5	4.1	<0.10
MAR 05...	21	5.5	1.8	2.0	0.50	17	20	5.9	2.6	<0.10
20...	--	--	--	--	--	--	--	--	--	--
APR 01...	--	--	--	--	--	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--	--
15...	28	7.4	2.4	2.7	0.60	18	22	5.2	1.9	0.10
JUL 30...	39	10	3.4	3.3	0.60	34	42	5.4	3.8	<0.10
AUG 27...	--	--	--	--	--	--	--	--	--	--
SEP 30...	--	--	--	--	--	--	--	--	--	--

E Estimated daily discharge.

ST. LAWRENCE RIVER BASIN

04269000 ST. REGIS RIVER AT BRASHER CENTER, NY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
OCT 24...	6.7	62	46	--	0.100	0.040	0.050	0.40	<0.010	0.010
MAR 05...	6.2	43	36	--	0.410	0.040	0.040	0.40	0.020	0.030
20...	--	--	--	--	--	--	--	--	--	--
APR 01...	--	--	--	--	--	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--	--
15...	4.6	38	37	0.170	0.180	0.020	0.030	0.40	<0.010	<0.010
JUL 30...	3.9	61	51	--	<0.050	0.010	0.010	<0.20	<0.010	<0.010
AUG 27...	--	--	--	--	--	--	--	--	--	--
SEP 30...	--	--	--	--	--	--	--	--	--	--

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)
OCT 24...	<0.010	--	90	<1	14	<0.5	--	<1.0	<1	<3
MAR 05...	<0.010	--	70	<1	10	<0.5	--	<1.0	<1	<3
20...	--	220	--	--	--	--	<1	--	--	--
APR 01...	--	110	--	--	--	--	<1	--	--	--
MAY 15...	--	100	--	--	--	--	<1	--	--	--
15...	<0.010	--	50	<1	13	<0.5	--	<1.0	<1	<3
JUL 30...	<0.010	--	30	<1	14	<0.5	--	<1.0	<1	<3
AUG 27...	--	40	--	--	--	--	<1	--	--	--
SEP 30...	--	80	--	--	--	--	<1	--	--	--

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
OCT 24...	--	2	--	310	--	<1	<4	--	13	--
MAR 05...	--	1	--	160	--	1	<4	--	9	--
20...	2	--	640	--	2	--	--	50	--	<0.10
APR 01...	3	--	20	--	5	--	--	10	--	<0.10
MAY 15...	4	--	370	--	8	--	--	20	--	<0.10
15...	--	2	--	240	--	2	<4	--	17	--
JUL 30...	--	1	--	260	--	<1	<4	--	19	--
AUG 27...	3	--	320	--	1	--	--	<10	--	<0.10
SEP 30...	7	--	480	--	9	--	--	20	--	0.10

ST. LAWRENCE RIVER BASIN

04269000 ST. REGIS RIVER AT BRASHER CENTER, NY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 24...	0.1	<10	--	<1	<1	<1.0	25	<6	--	29
MAR 05...	<0.1	<10	--	2	<1	<1.0	16	<6	--	21
20...	--	--	2	--	--	--	--	--	<10	--
APR 01...	--	--	2	--	--	--	--	--	<10	--
MAY 15...	--	--	5	--	--	--	--	--	<10	--
15...	<0.1	<10	--	<1	<1	<1.0	25	<6	--	120
JUL 30...	<0.1	<10	--	<1	<1	<1.0	33	<6	--	7
AUG 27...	--	--	<1	--	--	--	--	--	<10	--
SEP 30...	--	--	<1	--	--	--	--	--	<10	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 24...	1045	1870	6	30	89
MAR 05...	0945	E3500	16	--	65
20...	0900	1680	10	45	--
APR 01...	1100	1750	2	9.5	--
MAY 15...	0800	799	3	6.5	--
15...	0815	788	1	2.1	91
JUL 30...	0830	168	1	0.45	92
AUG 27...	0700	232	2	1.3	100
SEP 30...	0800	530	4	5.7	--

E Estimated daily discharge.

ST. LAWRENCE RIVER BASIN

04270000 SALMON RIVER AT CHASM FALLS, NY

LOCATION.--Lat 44°45'22", long 74°13'09", Franklin County, Hydrologic Unit 04150307, on right bank 0.1 mi downstream from Niagara Mohawk Power Corp. powerplant at Chasm Falls, and 3.0 mi downstream from Duane Stream.

DRAINAGE AREA.--132 mi².

PERIOD OF RECORD.--July 1925 to September 1982, October 1986 to current year.

REVISED RECORDS.--WSP 729: 1931 (m). WSP 759: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,011.52 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Seasonal regulation of flow by upstream reservoirs. Diurnal fluctuation at low and medium flow caused by powerplant. A small diversion from tributary upstream from station is used as water supply for village of Malone. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--62 years (water years 1926-82, 1987-91), 230 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,890 ft³/s, Apr 25, 1926, gage height, 5.0 ft; minimum, 9.8 ft³/s, Sept. 26, 27, 1963; minimum daily, 28 ft³/s, Sept. 4, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 29, 1984, reached a stage of 5.63 ft, from floodmarks, discharge, 3,700 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,480 ft³/s, Apr. 10, gage height, 3.67 ft; minimum, 32 ft³/s, June 12, gage height, 0.65 ft; minimum daily, 90 ft³/s, July 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	319	233	266	815	194	218	399	306	191	119	97	366
2	212	221	213	638	194	272	379	335	178	120	93	237
3	205	213	197	532	203	566	362	363	169	115	92	178
4	195	209	290	449	301	661	330	357	169	118	93	170
5	319	223	340	376	349	737	329	320	162	144	164	156
6	279	248	282	279	375	636	405	327	166	144	161	115
7	255	274	391	254	368	597	528	443	157	138	141	111
8	236	246	344	256	346	495	601	392	155	139	130	116
9	239	230	308	292	266	442	874	345	144	154	132	106
10	291	337	228	306	237	401	1230	316	143	131	200	116
11	277	364	219	274	199	367	1180	294	143	124	174	189
12	316	336	231	267	193	339	870	275	142	123	159	155
13	344	208	253	263	200	307	655	261	170	124	143	133
14	333	226	246	253	194	290	532	247	162	125	126	128
15	290	233	220	263	191	276	473	242	150	116	113	129
16	261	352	246	274	171	214	523	203	158	108	123	381
17	243	617	227	366	181	224	500	269	169	111	120	337
18	237	663	233	368	174	239	418	407	166	130	114	272
19	389	508	319	316	184	253	385	316	150	113	114	336
20	375	416	254	306	233	282	370	272	141	110	113	353
21	292	375	253	264	261	253	472	253	141	108	167	283
22	319	319	336	246	254	233	897	234	131	117	198	248
23	328	318	613	231	248	234	888	222	132	106	166	226
24	517	371	744	233	236	291	703	197	117	127	138	212
25	553	337	642	214	233	446	564	160	128	111	126	231
26	487	325	545	212	230	393	491	171	123	109	118	283
27	450	304	424	213	234	409	427	213	113	105	115	238
28	401	325	423	209	219	620	383	198	122	90	114	222
29	371	326	448	207	---	712	344	187	118	96	142	206
30	348	299	888	207	---	539	292	184	134	94	134	204
31	249	---	1100	200	---	434	---	196	---	94	398	---
TOTAL	9930	9656	11723	9583	6668	12380	16804	8505	4444	3663	4418	6437
MEAN	320	322	378	309	238	399	560	274	148	118	143	215
MAX	553	663	1100	815	375	737	1230	443	191	154	398	381
MIN	195	208	197	200	171	214	292	160	113	90	92	106

CAL YR 1990 TOTAL 111924 MEAN 307 MAX 2120 MIN 121
WTR YR 1991 TOTAL 104211 MEAN 286 MAX 1230 MIN 90

ST. LAWRENCE RIVER BASIN

04270200 LITTLE SALMON RIVER AT BOMBAY, NY

LOCATION.--Lat 44°56'24", long 74°33'26", Franklin County, Hydrologic Unit 04150307, on right bank 50 ft downstream from bridge on road to Fort Covington Center, 0.5 mi east of village of Bombay, and 7.2 mi upstream from mouth.

DRAINAGE AREA.--92.2 mi².

PERIOD OF RECORD.--August to November 1957, July 1958 to current year. Occasional low-flow measurements, water years 1954-55, 1957.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 173.91 ft above National Geodetic Vertical Datum of 1929. August to November 1957, at site 100 ft upstream at datum 0.72 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years (water years 1959-91), 120 ft³/s, 17.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,250 ft³/s, Apr. 4, 1974, gage height, 12.90 ft; minimum, 8.0 ft³/s, Aug. 6, 7, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 23	2045	a1,500	b8.81	Apr. 10	1600	*2,000	9.84
Dec. 30	1215	a1,900	*b11.54	Apr. 22	0900	1,520	8.51

a Estimate.

b Ice jam.

Minimum discharge, 11 ft³/s, Aug. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	106	96	e560	e68	e110	178	149	59	21	14	93
2	68	94	93	e400	e66	e200	183	182	52	20	13	54
3	57	88	e90	e300	e110	e500	182	198	46	19	14	36
4	52	85	e120	e200	e180	e330	166	168	43	19	12	29
5	151	137	e230	e140	e280	e270	160	138	42	29	15	27
6	116	205	e170	e110	e450	e230	173	193	39	44	27	25
7	74	236	e150	e92	e230	e600	193	328	37	38	27	21
8	59	158	e140	e80	e170	e350	229	205	35	32	22	18
9	58	126	e120	e100	e190	e200	977	154	33	46	20	17
10	101	182	e130	e92	e160	e160	1640	129	31	36	30	17
11	107	425	e110	e84	e110	e140	696	113	30	28	37	18
12	116	246	e100	e78	e80	e120	350	98	32	25	31	21
13	161	179	e90	e76	e84	e120	252	88	39	25	26	17
14	178	174	e100	e88	e78	e110	209	79	43	27	23	16
15	113	127	e88	e110	e72	e110	184	74	36	26	20	16
16	83	181	e80	e150	e70	e110	384	68	36	25	18	19
17	68	258	e72	e200	e68	e120	325	91	41	21	19	34
18	65	248	e76	e300	e72	e140	278	235	40	22	19	26
19	213	174	e98	e180	e96	e220	221	144	35	22	17	25
20	178	146	e80	e210	e180	e180	191	101	31	20	17	41
21	114	131	e78	e160	e300	e160	350	81	28	19	42	34
22	96	122	e250	e130	e260	e140	1160	70	27	19	55	27
23	139	149	e940	e110	e200	161	523	61	26	20	42	23
24	334	163	e700	e94	e150	370	302	56	25	20	32	19
25	246	140	e350	e80	e120	396	226	52	24	17	25	23
26	203	126	e280	e78	e94	277	183	58	23	15	21	42
27	208	116	e230	e84	e100	254	160	90	22	15	19	35
28	142	124	e210	e90	e90	415	143	80	21	14	17	32
29	123	115	e350	e82	---	376	131	63	20	14	22	31
30	113	103	e1400	e76	---	283	131	61	21	13	27	32
31	110	---	e840	e72	---	206	---	60	---	13	65	---
TOTAL	3925	4864	7861	4606	4128	7358	10480	3667	1017	724	788	868
MEAN	127	162	254	149	147	237	349	118	33.9	23.4	25.4	28.9
MAX	334	425	1400	560	450	600	1640	328	59	46	65	93
MIN	52	85	72	72	66	110	131	52	20	13	12	16
CFSM	1.37	1.76	2.75	1.61	1.60	2.57	3.79	1.28	.37	.25	.28	.31
IN.	1.58	1.96	3.17	1.86	1.67	2.97	4.23	1.48	.41	.29	.32	.35

CAL YR 1990 TOTAL 51450 MEAN 141 MAX 1400 MIN 23 CFSM 1.53 IN. 20.76
WTR YR 1991 TOTAL 50286 MEAN 138 MAX 1640 MIN 12 CFSM 1.49 IN. 20.29

e Estimated

ST. LAWRENCE RIVER BASIN

04270510 CHATEAUGAY RIVER BELOW CHATEAUGAY, NY

LOCATION.--Lat 44°57'49", long 74°07'53", Franklin County, Hydrologic Unit 04150307, on left bank 10 ft downstream from bridge on Sam Cook Road, 0.2 mi downstream from Marble River, 2.4 mi upstream from international boundary, and 4.1 mi northwest of Chateaugay.

DRAINAGE AREA.--151 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 411.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated at Forge Dam on Upper and Lower Chateaugay Lakes. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years (water years 1967-91), 249 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft³/s, Apr. 4, 1974, gage height, 7.33 ft, from rating curve extended above 1,600 ft³/s; maximum gage height, 10.99 ft, Feb. 11, 1966 (ice jam); minimum discharge, 14 ft³/s, Sept. 5, 6, 1982, Nov. 3, 1985, Aug. 28, 1987; minimum gage height, 2.32 ft, Sept. 5, 6, 1982, Aug. 28, 1987; minimum daily discharge, 37 ft³/s, Aug. 23, 26, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,240 ft³/s, Apr. 21, gage height, 6.49 ft; minimum, 66 ft³/s, Aug. 4, 8, 14, 15, gage height, 2.76 ft; minimum daily, 68 ft³/s, Aug. 4, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	394	236	245	e780	e200	e240	515	384	202	107	80	118
2	360	242	235	e620	e190	409	484	419	197	105	79	117
3	329	293	193	e520	e200	496	445	440	193	106	73	117
4	346	234	270	e450	e300	336	395	405	190	105	68	118
5	351	280	278	e380	e330	310	387	374	175	124	84	116
6	311	329	288	e330	e320	412	399	420	173	123	81	113
7	287	296	264	e300	e300	827	406	447	120	107	71	90
8	274	170	292	e250	e280	732	466	393	120	116	68	91
9	272	187	281	e240	e260	618	1010	376	119	111	74	92
10	291	287	271	e230	e250	552	1580	365	117	103	81	100
11	281	341	277	e230	e230	512	1000	345	118	102	74	110
12	304	320	344	e240	e220	471	904	319	122	101	72	100
13	305	377	290	e230	e210	445	860	280	127	102	71	99
14	302	350	292	e310	e200	421	610	256	100	102	70	99
15	292	385	e300	e340	e200	386	492	227	94	100	69	102
16	264	495	e290	e310	e190	272	501	207	109	98	70	102
17	252	421	238	e300	e180	258	343	264	128	98	76	99
18	270	368	250	e290	e200	266	300	284	131	99	105	99
19	380	509	283	e280	e220	282	259	225	133	97	103	127
20	289	480	280	e260	e320	274	271	219	136	94	103	162
21	118	380	e310	e240	e280	232	927	214	132	95	129	159
22	117	395	e360	e230	e270	229	1900	210	104	94	141	158
23	137	436	586	e230	e260	254	1150	190	96	97	131	167
24	264	422	444	e250	e280	354	994	185	98	92	129	200
25	173	414	471	e260	e300	333	918	189	97	90	128	218
26	272	383	e500	e270	e270	315	853	191	97	83	127	224
27	307	362	e540	e260	e260	353	704	221	96	81	124	221
28	338	343	e600	e250	e240	586	629	206	111	80	120	189
29	388	298	e740	e240	---	656	477	198	108	80	120	110
30	411	241	1450	e250	---	593	389	197	107	80	118	148
31	352	---	859	e230	---	558	---	219	---	82	123	---
TOTAL	9031	10274	12321	9600	6960	12982	20568	8869	3850	3054	2962	3965
MEAN	291	342	397	310	249	419	686	286	128	98.5	95.5	132
MAX	411	509	1450	780	330	827	1900	447	202	124	141	224
MIN	117	170	193	230	180	229	259	185	94	80	68	90

CAL YR 1990 TOTAL 113313 MEAN 310 MAX 1470 MIN 89
WTR YR 1991 TOTAL 104436 MEAN 286 MAX 1900 MIN 68

e Estimated

ST. LAWRENCE RIVER BASIN

04271500 GREAT CHAZY RIVER AT PERRY MILLS, NY

LOCATION.--Lat 45°00'00", long 73°30'05", Clinton County, Hydrologic Unit 02010006, on left bank 500 ft upstream from highway bridge at Perry Mills, and 7.5 mi upstream from Corbeau Creek.

DRAINAGE AREA.--247 mi².

PERIOD OF RECORD.--September 1928 to September 1968, March 1990 to current year. Annual maximum, water years 1987-89.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 164.93 ft above National Geodetic Vertical Datum of 1929. April 1987 to February 1990, crest-stage gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Records prior to October 1968 affected by diurnal fluctuation at low and medium flow by sawmill immediately upstream. Occasional regulation by Chazy Lake (usable capacity, about 765 mil ft³/s) from which the Clinton Correctional Facility at Dannemora (Saranac River basin) obtains its water supply (about 1 ft³/s). Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--41 years (water years 1928-68, 1991), 262 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,000 ft³/s, Apr. 7, 1937, gage height, 9.74 ft, from rating curve extended above 3,200 ft³/s; maximum gage height, 11.5 ft, Mar. 9, 1946, from floodmark (ice jam); minimum discharge, 0.8 ft³/s (estimated), Sept. 18, 1932; minimum gage height, 1.31 ft, Aug. 31, 1966; minimum daily discharge, 8.7 ft³/s, July 30, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 30	2245	2,800	6.86	Mar. 10	0730	3,160	7.24
Mar. 8	0630	4,340	8.35	Apr. 10	2045	3,050	7.12
Mar. 9	0745	3,830	7.89	Apr. 22	1545	*4,810	*8.73

Minimum discharge, 7.7 ft³/s, July 30, 31, gage height, 1.42 ft; minimum daily, 8.7 ft³/s, July 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	173	370	259	1220	e190	e450	550	500	217	29	13	32
2	158	337	242	e900	e180	e540	513	514	163	26	14	34
3	119	312	247	e700	e190	e1700	501	578	125	24	12	24
4	108	292	315	e600	e200	e1900	476	571	113	22	9.9	19
5	170	286	643	e540	e250	e1500	577	469	113	25	12	17
6	207	310	498	e470	e350	e1300	752	414	122	40	24	16
7	144	382	456	e420	e500	e2700	984	629	111	46	30	15
8	112	339	379	e400	e600	3550	970	525	99	45	25	14
9	115	298	329	e370	e540	2590	1460	400	75	51	21	12
10	209	351	340	e330	e450	e1900	2630	340	61	47	34	13
11	261	595	276	e330	e360	e1000	2280	300	55	35	54	23
12	347	558	260	e340	e320	e800	1170	264	53	29	39	27
13	446	406	e260	e320	e290	e600	845	232	58	26	31	25
14	431	370	e250	e310	e270	e500	698	206	60	26	24	21
15	345	346	e240	e300	e250	e500	615	193	55	25	22	19
16	256	893	e230	e310	e240	e520	894	180	55	21	40	22
17	207	1410	e220	e330	e230	e540	848	188	93	19	35	24
18	195	961	e240	e380	e220	e560	747	429	105	18	32	24
19	893	599	e290	e450	e240	e580	673	351	76	17	32	27
20	779	456	e310	e400	e540	e520	569	257	59	18	30	39
21	479	385	e280	e350	e620	e400	868	209	48	17	29	44
22	360	346	e350	e310	e780	e350	3980	176	41	16	44	31
23	342	466	1330	e270	e700	e340	3480	153	39	19	57	25
24	1670	561	1480	e270	e720	e370	1680	143	37	20	37	22
25	1710	450	e700	e260	e600	752	1040	131	34	16	27	25
26	936	385	e680	e230	e450	662	796	147	32	13	21	46
27	776	325	e520	e240	e360	744	659	183	30	11	18	62
28	607	339	e500	e230	e350	1380	570	187	30	9.8	17	42
29	522	332	e640	e230	---	1580	507	150	34	9.5	24	32
30	455	288	1920	e230	---	905	473	136	32	8.7	34	31
31	407	---	2380	e210	---	616	---	159	---	8.9	33	---
TOTAL	13939	13748	17064	12250	10990	32349	32805	9314	2225	737.9	874.9	807
MEAN	450	458	550	395	392	1044	1093	300	74.2	23.8	28.2	26.9
MAX	1710	1410	2380	1220	780	3550	3980	629	217	51	57	62
MIN	108	286	220	210	180	340	473	131	30	8.7	9.9	12

WTR YR 1991 TOTAL 147103.8 MEAN 403 MAX 3980 MIN 8.7

e Estimated

ST. LAWRENCE RIVER BASIN

04271815 LITTLE CHAZY RIVER NEAR CHAZY, NY

LOCATION.--Lat 44°54'08", long 73°24'56", Clinton County, Hydrologic Unit 02010006, on right bank at downstream side of bridge on Stetson Road, 0.2 mi upstream from abandoned dam, 1.4 mi northeast of Chazy, and 2.2 mi upstream from mouth.

DRAINAGE AREA.--52.8 mi².

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 115 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Some regulation at low flow by dams and reservoirs upstream from station. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 766 ft³/s, Mar. 17, 1990, gage height, 9.20 ft; minimum discharge, 0.42 ft³/s, Sept. 7, 8, 1991, gage height, 1.36 ft; minimum gage height, 1.36 ft, several days during August and September, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 22	2245	*694	*8.90	No other peak greater than base discharge.			
Minimum discharge, 0.42 ft ³ /s, Sept. 7, 8, gage height, 1.36 ft; minimum gage height, 1.36 ft, several days during August and September.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	65	52	274	e32	e40	e115	99	44	5.3	2.1	.48
2	26	59	50	178	e32	69	e105	98	36	4.9	2.1	.46
3	21	54	46	e130	e36	183	e96	97	27	4.4	2.0	.46
4	19	51	70	e100	e40	e270	e90	91	22	4.2	1.9	.46
5	30	46	139	e84	e70	e300	e92	79	19	5.2	1.9	.46
6	32	50	118	e70	e120	e250	e98	79	17	5.3	1.9	.46
7	26	61	109	e56	155	e270	e105	110	15	5.3	1.9	.43
8	21	58	85	e48	186	e230	e120	103	13	5.8	1.9	.43
9	21	51	76	e40	185	e120	e180	86	12	6.5	1.9	.46
10	27	66	78	e46	156	e100	365	75	10	6.5	1.9	.59
11	33	144	e66	e44	e90	e80	452	66	9.5	6.2	1.8	.75
12	50	143	e56	e41	e60	e74	295	60	9.3	5.4	1.5	.85
13	63	99	e58	e41	e56	e76	195	51	9.0	4.6	1.2	.74
14	78	92	e50	e44	e52	80	155	43	9.5	4.4	1.0	.71
15	64	88	e42	e50	e48	79	131	39	8.6	4.1	.87	.71
16	46	131	e42	61	e46	88	163	38	8.2	3.9	.71	.81
17	35	200	e44	98	e44	99	161	40	15	3.7	.64	.92
18	33	174	48	115	e43	111	135	72	17	3.3	.64	1.3
19	113	130	74	94	e43	121	122	67	13	3.2	.64	1.9
20	128	105	e58	96	71	159	101	54	10	3.0	.66	2.2
21	88	92	e47	76	79	130	133	45	8.1	2.6	.71	2.5
22	66	81	93	e50	92	110	461	38	7.5	2.5	.71	2.5
23	65	99	192	e41	103	102	611	33	7.0	2.4	.68	2.3
24	274	108	277	e44	76	e110	357	31	7.0	2.3	.64	1.7
25	395	94	e170	e39	e60	e190	236	28	6.3	2.3	.49	1.5
26	268	80	e120	e33	e52	e180	171	27	5.8	2.3	.46	2.8
27	118	70	e90	e37	e47	e180	138	27	5.3	2.3	.46	4.4
28	114	69	e80	44	e42	e250	116	29	5.3	2.0	.55	4.1
29	99	67	e100	43	---	e280	100	28	5.3	2.0	.64	2.8
30	84	58	e240	e36	---	e200	92	26	5.3	2.1	.58	2.4
31	74	---	e300	e34	---	e130	---	28	---	2.1	.52	---
TOTAL	2538	2685	3070	2187	2116	4661	5691	1787	387.0	120.1	35.60	42.58
MEAN	81.9	89.5	99.0	70.5	75.6	150	190	57.6	12.9	3.87	1.15	1.42
MAX	395	200	300	274	186	300	611	110	44	6.5	2.1	4.4
MIN	19	46	42	33	32	40	90	26	5.3	2.0	.46	.43
CFSM	1.55	1.70	1.88	1.34	1.43	2.85	3.59	1.09	.24	.07	.02	.03
IN.	1.79	1.89	2.16	1.54	1.49	3.28	4.01	1.26	.27	.08	.03	.03

WTR YR 1991 TOTAL 25320.28 MEAN 69.4 MAX 611 MIN .43 CFSM 1.31 IN. 17.84

e Estimated

ST. LAWRENCE RIVER BASIN

04273500 SARANAC RIVER AT PLATTSBURGH, NY

LOCATION.--Lat 44°40'54", long 73°28'18", Clinton County, Hydrologic Unit 02010006, on right bank at Plattsburgh, 600 ft downstream from Imperial Paper and Color Corp. dam, 3.0 mi upstream from mouth, and 5.5 mi downstream from Mead Brook.

DRAINAGE AREA.--608 mi².

PERIOD OF RECORD.--March 1903 to September 1930, October 1943 to current year. Published as "near Plattsburgh," 1903-30.

REVISED RECORDS.--WSP 345: Drainage area. WSP 384: 1909-10 (monthly discharge only). WSP 1387: 1907-8. WSP 1437: 1908 (minimum daily only).

GAGE.--Water-stage recorder. Datum of gage is 155.74 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1919, nonrecording gage, and Nov. 12, 1919 to Sept. 30, 1930, water-stage recorder, at site 1.5 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Considerable diurnal fluctuation caused by power and industrial operations. Slight regulation by storage in Upper and Lower Saranac Lakes and elsewhere. During the year, the city of Plattsburgh diverted an average of 5.56 ft³/s from Saranac River and Mead and West Brooks, tributaries upstream from station, for municipal supply. About 1 ft³/s diverted from Great Chazy River basin into Saranac River for water supply of State Institutions at Dannemora. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--75 years, 841 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s, Apr. 8, 1928, from computation of flow over dam and through waste gates and powerplant; minimum daily discharge, 3.6 ft³/s, June 26, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,530 ft³/s, Apr. 22, gage height, 7.66 ft; minimum, 91 ft³/s, Sept. 13, gage height, 2.21 ft; minimum daily, 175 ft³/s, July 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	622	1130	1200	2240	e720	768	1440	1680	982	326	210	531
2	506	955	879	2100	e680	803	1390	1200	794	298	224	353
3	548	945	1180	1900	e700	1440	1350	1690	753	270	212	296
4	570	1060	907	1620	e760	1960	1220	1630	766	236	189	272
5	731	1060	1240	1560	974	2250	1300	1430	711	283	263	273
6	690	991	1090	1500	1140	1900	1540	1470	685	458	435	258
7	739	1030	1220	1340	1120	1910	1940	1840	530	404	497	241
8	700	1000	1040	e1200	1120	1910	1920	1630	364	353	355	266
9	668	958	1100	1200	1140	1670	3040	1510	338	485	290	263
10	820	949	1120	1190	1120	1460	4300	1400	380	493	463	268
11	885	820	626	1150	963	1310	4000	1300	344	482	491	388
12	1030	691	758	993	866	1170	2950	1250	379	454	450	394
13	1040	794	777	967	757	975	2690	962	496	472	367	304
14	992	1080	548	1060	e760	920	2320	792	492	480	362	296
15	891	1010	463	971	e740	861	2060	744	495	403	240	352
16	746	1410	818	1130	e500	870	2120	741	614	313	283	724
17	687	1960	769	1160	e520	868	2010	761	681	312	265	703
18	689	1710	686	1090	681	1000	1830	1240	621	323	266	846
19	1180	1400	844	e880	586	924	1750	1100	572	333	246	1070
20	1170	1260	781	e840	969	981	1600	1050	534	323	249	1190
21	1060	1240	798	e960	1050	821	1720	738	393	294	243	1120
22	1030	1180	951	e940	991	911	4670	627	378	275	508	1030
23	1020	1300	1480	e940	815	940	3960	594	363	338	351	950
24	2650	1430	2200	e800	e740	1030	2980	483	336	276	221	905
25	2240	1340	1400	e700	e680	1410	2600	441	336	264	276	1040
26	1750	1260	e1300	e800	631	1480	2250	592	344	260	321	1230
27	1520	1200	e1200	e960	739	1450	2050	646	342	226	215	1030
28	1460	1080	1200	935	736	1820	1860	672	345	238	375	685
29	1450	1230	1320	956	---	2120	1710	705	347	236	265	459
30	1410	1070	2750	784	---	1650	1630	684	369	184	265	711
31	1370	---	3680	748	---	1460	---	1030	---	175	588	---
TOTAL	32864	34543	36325	35614	23198	41042	68200	32632	15084	10267	9985	18448
MEAN	1060	1151	1172	1149	828	1324	2273	1053	503	331	322	615
MAX	2650	1960	3680	2240	1140	2250	4670	1840	982	493	588	1230
MIN	506	691	463	700	500	768	1220	441	336	175	189	241

CAL YR 1990 TOTAL 414306 MEAN 1135 MAX 6290 MIN 223
WTR YR 1991 TOTAL 358202 MEAN 981 MAX 4670 MIN 175

e Estimated

ST. LAWRENCE RIVER BASIN

04273700 SALMON RIVER AT SOUTH PLATTSBURGH, NY

LOCATION.--Lat 44°38'24", long 73°29'43", Clinton County, Hydrologic Unit 02010004, on left bank 32 ft upstream from bridge on Salmon River Road, 0.4 mi west of State Highway 22, and 3.9 mi upstream from mouth, at South Plattsburgh.

DRAINAGE AREA.--61.9 mi².

PERIOD OF RECORD.--May 1959 to September 1968 (no winter records prior to October 1965), March 1990 to current year. Occasional low-flow measurements, water years 1954, 1957-58. Annual maximum, water years 1968-86.

GAGE.--Water-stage recorder. Datum of gage is 220.53 ft above National Geodetic Vertical Datum of 1929. October 1968 to September 1986, crest-stage gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft³/s, Dec. 14, 1983, gage height, 5.30 ft in gage well, 5.79 ft from crest-stage gage; maximum gage height, 7.31 ft, Apr. 3, 1960 (ice jam); minimum discharge, 3.0 ft³/s, Sept. 17, 1967; minimum daily, 3.6 ft³/s, Sept. 17, 1967.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1315	558	3.37	Mar. 4	2030	a*1,720	5.13
Dec. 30	2215	522	3.29	Apr. 10	1300	501	3.24
Mar. 4	1630	ice jam	b*5.61	Apr. 22	0745	959	4.12

a Result of ice jam release.

b Ice jam.

Minimum discharge, 9.3 ft³/s, July 29, 30, 31, Aug. 3, 4; minimum daily, 9.6 ft³/s, Aug. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	48	48	158	e43	e62	89	95	44	15	12	26
2	28	46	47	e130	e43	e150	87	87	35	14	10	17
3	24	43	44	e110	e50	e350	83	79	30	13	9.6	15
4	24	42	88	e100	e70	e700	81	72	30	13	14	14
5	45	39	117	e96	e100	687	93	66	29	24	29	15
6	31	49	e90	e86	e90	267	113	77	27	35	18	13
7	23	50	e62	e72	e84	260	130	117	25	28	14	13
8	22	44	e58	e68	e70	e130	140	90	23	26	13	12
9	25	41	e54	e66	e62	e100	290	74	22	27	14	11
10	47	67	e56	e64	e56	e90	418	67	21	19	36	13
11	42	120	e60	e60	e50	e76	266	61	20	17	21	20
12	57	88	e80	e58	e47	e64	157	55	22	15	18	15
13	67	68	e70	e56	e45	e68	122	50	27	16	15	13
14	76	58	e62	e54	e43	e68	103	46	22	18	13	12
15	52	67	e56	e58	e40	e58	96	43	21	15	12	14
16	38	146	e56	e66	e38	e68	143	41	28	13	12	41
17	33	184	e54	e82	e35	e76	117	68	41	12	12	28
18	33	129	e64	e74	e42	73	116	151	29	13	11	18
19	119	93	e60	e68	e34	81	103	90	23	13	12	58
20	71	76	e50	e64	e56	87	91	67	21	12	11	43
21	51	69	e54	e58	e80	e66	214	56	18	11	14	27
22	44	64	e64	e52	e70	e60	775	46	17	12	20	22
23	60	102	e130	e52	e60	62	338	41	18	15	16	20
24	442	94	e110	e58	e50	111	178	39	17	14	13	19
25	212	76	e84	e60	e40	159	134	39	17	11	11	35
26	117	64	e76	e56	e36	134	111	40	16	11	11	46
27	87	58	e78	e52	e43	138	97	54	15	11	11	29
28	72	58	e110	e50	e50	206	86	46	14	11	10	25
29	63	55	e150	e48	---	187	80	39	15	10	13	40
30	55	50	e260	e43	---	126	82	38	15	9.8	12	71
31	51	---	373	e40	---	97	---	45	---	12	44	---
TOTAL	2155	2188	2765	2159	1527	4861	4933	1979	702	485.8	481.6	745
MEAN	69.5	72.9	89.2	69.6	54.5	157	164	63.8	23.4	15.7	15.5	24.8
MAX	442	184	373	158	100	700	775	151	44	35	44	71
MIN	22	39	44	40	34	58	80	38	14	9.8	9.6	11
CFSM	1.12	1.18	1.44	1.13	.88	2.53	2.66	1.03	.38	.25	.25	.40
IN.	1.30	1.31	1.66	1.30	.92	2.92	2.96	1.19	.42	.29	.29	.45

WTR YR 1991 TOTAL 24981.4 MEAN 68.4 MAX 775 MIN 9.6 CFSM 1.11 IN. 15.01

e Estimated

ST. LAWRENCE RIVER BASIN

04275000 EAST BRANCH AUSABLE RIVER AT AU SABLE FORKS, NY

LOCATION.--Lat 44°26'20", long 73°40'55", Essex County, Hydrologic Unit 02010004, on left bank 700 ft upstream from bridge on Burt Street in Au Sable Forks, and 0.5 mi upstream from confluence with West Branch.

DRAINAGE AREA.--198 mi².

PERIOD OF RECORD.--September 1924 to current year.

REVISED RECORDS.--WSP 759: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 545.37 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 21, 1938, nonrecording gage at lower highway bridge in Au Sable Forks, 400 ft upstream from confluence with West Branch at datum 3.54 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional regulation of storage in Upper and Lower Ausable Lakes and occasional small diurnal fluctuation, cause unknown. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--67 years, 315 ft³/s, 21.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,100 ft³/s, Sept. 22, 1938, gage height, 12.91 ft, from rating curve extended above 5,800 ft³/s, on basis of velocity-area studies; maximum gage height, 13.96 ft, Feb. 23, 1990 (ice jam); minimum discharge observed, 20 ft³/s, Aug. 11, 14, 28, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,700 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1015	*5,240	*6.88	Dec. 30	2145	4,500	6.42
Dec. 23	1800	5,150	6.83	Apr. 21	2230	4,170	6.20

Minimum discharge, 38 ft³/s, Aug. 4, gage height, 0.94 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	324	251	313	1050	e160	e210	341	732	374	58	48	74
2	212	233	277	720	e170	e400	313	793	288	56	43	58
3	176	229	242	513	e210	e1400	289	652	223	54	39	51
4	151	217	413	e350	e260	e2000	278	558	195	56	43	50
5	558	203	567	e300	e400	1670	380	470	176	88	65	49
6	336	229	395	e250	e350	846	963	463	159	84	59	47
7	219	298	332	e220	e290	976	2060	802	144	72	51	46
8	164	250	295	e180	e250	e600	2210	608	129	134	46	44
9	149	217	263	e170	e210	e400	2790	467	118	126	46	43
10	670	248	269	e210	e190	e300	2500	392	107	103	84	46
11	611	342	e210	e190	e160	e250	1420	355	99	94	84	61
12	1800	316	e200	e185	e150	e230	804	338	99	83	72	66
13	1240	264	e210	e180	e170	e220	582	329	115	79	68	53
14	1230	248	e180	e190	e160	e215	465	297	109	82	60	48
15	648	295	e160	e185	e150	211	422	271	100	72	55	48
16	403	1340	e230	e220	e145	200	550	243	119	64	54	363
17	292	1760	232	e310	e140	193	529	271	153	62	54	240
18	240	962	234	e280	e150	203	531	470	157	60	51	177
19	1080	610	e360	e250	e170	208	456	356	130	55	55	231
20	681	453	e270	e270	e200	216	417	287	109	53	62	330
21	450	375	e300	e250	e250	188	1180	242	94	53	66	188
22	336	327	e980	e180	e270	188	3490	209	84	55	71	136
23	317	465	2970	e190	e250	188	1880	184	79	58	74	110
24	3240	491	2150	e200	e200	265	1250	170	75	56	60	96
25	1550	393	1050	e180	e170	351	954	179	70	51	56	456
26	849	331	668	e160	e150	318	804	234	66	47	52	642
27	566	293	439	e180	e130	355	740	522	63	48	50	329
28	430	399	399	e190	e170	1090	689	546	61	46	46	213
29	359	509	554	e185	---	847	571	360	65	43	46	159
30	305	381	3430	e180	---	519	629	282	61	41	44	132
31	278	---	2650	e170	---	373	---	459	---	45	52	---
TOTAL	19864	12929	21242	8288	5675	15630	30487	12541	3821	2078	1756	4586
MEAN	641	431	685	267	203	504	1016	405	127	67.0	56.6	153
MAX	3240	1760	3430	1050	400	2000	3490	802	374	134	84	642
MIN	149	203	160	160	130	188	278	170	61	41	39	43
CFSM	3.24	2.18	3.46	1.35	1.02	2.55	5.13	2.04	.64	.34	.29	.77
IN.	3.73	2.43	3.99	1.56	1.07	2.94	5.73	2.36	.72	.39	.33	.86

CAL YR 1990 TOTAL 176407 MEAN 483 MAX 3690 MIN 66 CFSM 2.44 IN. 33.14
WTR YR 1991 TOTAL 138897 MEAN 381 MAX 3490 MIN 39 CFSM 1.92 IN. 26.10

e Estimated

ST. LAWRENCE RIVER BASIN

04275500 AUSABLE RIVER NEAR AU SABLE FORKS, NY

LOCATION.--Lat 44°27'05", long 73°38'35", Clinton County, Hydrologic Unit 02010004, on left bank 1.8 mi downstream from confluence of East and West Branches, and 1.8 mi east of Au Sable Forks.

DRAINAGE AREA.--448 mi².

PERIOD OF RECORD.--August 1910 to September 1968, March 1990 to current year. Prior to October 1924, published as "at Au Sable Forks". Monthly discharge only for some periods, published in WSP 1307.

GAGE.--Water-stage recorder. Datum of gage is 505.65 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1924, chain gage at site 1.5 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional regulation by Fern Lake and Taylor Pond in Black Brook basin and Upper and Lower Ausable Lakes. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--59 years (water years 1911-68, 1991), 664 ft³/s, 20.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft³/s, Sept. 22, 1938, gage height, 11.65 ft, from rating curve extended above 9,100 ft³/s on basis of slope-area measurement at gage height 11.39 ft; maximum gage height, at least 14.5 ft, 200 ft upstream from gage, Mar. 13, 1990 (ice jam); practically no flow July 21, 1912, result of unusual regulation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 23, 1990 (ice jam), reached a stage of 14.5 ft, from floodmark 200 ft upstream from gage.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1130	7,560	6.84	Dec. 30	2245	*7,850	*6.96
Dec. 23	1930	7,400	6.77	Apr. 22	0345	6,370	6.31

Minimum discharge, 105 ft³/s, Aug. 3, 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	727	825	671	e2100	e400	e460	764	1520	857	138	123	204
2	497	710	606	e1500	e410	e600	697	1610	653	134	112	166
3	407	635	538	e1100	e480	e2100	647	1380	507	127	105	142
4	359	578	837	e800	e600	e3300	617	1190	442	121	117	134
5	1120	533	1310	e640	e840	e3200	759	1020	402	170	165	132
6	751	508	937	e580	e800	1840	1620	984	366	234	171	126
7	497	492	769	e500	e660	1900	3410	1640	331	213	151	121
8	376	467	642	e430	e700	e1250	3860	1260	300	209	138	116
9	338	461	604	e400	e580	e860	5290	985	275	389	141	113
10	1290	591	590	e480	e470	e700	4980	842	253	273	223	121
11	1190	541	e470	e450	e400	e580	3130	755	235	228	236	154
12	2580	482	e450	e440	e350	e540	1890	713	231	205	204	178
13	1950	482	e430	e430	e400	e500	1390	698	259	189	183	156
14	1790	e680	e410	e460	e370	e480	1100	629	258	197	160	148
15	1070	e640	e400	e450	e350	e460	974	577	238	184	143	147
16	725	2090	e540	e500	e330	e440	1220	524	262	167	138	902
17	563	3240	e530	e680	e330	e430	1220	593	350	153	135	786
18	519	2070	523	e640	e350	470	1170	1100	377	153	128	519
19	1760	1320	762	e580	e400	477	1040	834	308	143	134	750
20	1370	959	e640	e620	e470	497	940	646	255	134	141	981
21	893	802	e680	e580	e580	439	1830	539	222	130	160	564
22	680	699	e1500	e420	e600	431	5990	447	197	131	175	388
23	652	929	e4500	e440	e540	435	3790	410	182	141	174	307
24	5180	1090	4270	e480	e470	578	2560	397	174	138	149	263
25	3080	890	e2050	e440	e430	842	2010	408	163	126	134	793
26	1800	744	e1350	e400	e430	768	1710	533	152	122	129	1480
27	1290	659	e920	e430	e470	797	1550	1110	145	120	124	783
28	1120	815	e840	e440	e450	2080	1450	1210	134	117	116	517
29	1030	1080	e1100	e440	---	2010	1180	794	148	112	113	393
30	962	830	e5600	e420	---	1210	1290	624	148	109	111	330
31	896	---	e5200	e410	---	845	---	1060	---	120	142	---
TOTAL	37462	26842	40669	18680	13660	31519	60078	27032	8824	5127	4575	11914
MEAN	1208	895	1312	603	488	1017	2003	872	294	165	148	397
MAX	5180	3240	5600	2100	840	3300	5990	1640	857	389	236	1480
MIN	338	461	400	400	330	430	617	397	134	109	105	113
CFSM	2.70	2.00	2.93	1.35	1.09	2.27	4.47	1.95	.66	.37	.33	.89
IN.	3.11	2.23	3.38	1.55	1.13	2.62	4.99	2.24	.73	.43	.38	.99

WTR YR 1991 TOTAL 286382 MEAN 785 MAX 5990 MIN 105 CFSM 1.75 IN. 23.78

e Estimated

ST. LAWRENCE RIVER BASIN

04276069 HIGHLANDS FORGE LAKE OUTLET NEAR WILLSBORO, NY

LOCATION.--Lat 44°25'29", long 73°25'35", Essex County, Hydrologic Unit 02010001, on left bank 5.0 ft downstream from bridge on Highlands Road, 0.8 mi upstream from mouth, and 4.9 mi northwest of Willsboro.

DRAINAGE AREA.--10.9 mi².

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Occasional regulation from Long Pond, Highland Forge Lake, and Hadley Pond upstream from station. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 149 ft³/s, Apr. 4, 1990, gage height, 6.21 ft; maximum gage height, 6.23 ft, Jan. 9, 1991 (ice jam); minimum discharge recorded, 0.32 ft³/s, July 2, 3, 4, 1991, gage height, 4.47 ft, but may have been less during period of no gage height record, July 16 to Sept. 30, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 77 ft³/s, Apr. 8, gage height, 5.83 ft; maximum gage height, 6.23 ft, Jan. 9 (ice jam); minimum discharge recorded, 0.32 ft³/s, July 2, 3, 4, gage height, 4.47 ft, but may have been less during period of no gage height record, July 16 to Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	15	13	30	8.8	7.6	15	23	11	.43	e.29	e.52
2	2.6	8.4	13	e23	8.5	9.3	17	25	9.4	.36	e.28	e.41
3	1.5	8.8	17	e19	8.3	12	22	24	8.5	.37	e.60	e.36
4	1.5	9.0	28	e16	12	36	21	22	5.5	.37	e.90	e.34
5	1.8	8.6	24	e14	11	30	21	21	2.2	.79	e.70	e.31
6	1.4	10	20	e13	8.6	16	22	28	3.9	1.0	e.42	e.29
7	1.2	9.7	18	e16	17	37	22	31	3.5	.74	e.35	e.27
8	.97	9.8	11	e14	18	30	34	27	3.3	.93	e.41	e.26
9	1.3	9.1	11	e12	14	21	58	20	3.1	.71	e.56	e.25
10	3.3	21	12	e10	e12	e12	56	16	3.3	.49	e.60	e.28
11	3.4	35	12	e10	e12	e9.6	47	22	3.0	.46	e.52	e.35
12	3.3	26	e11	e11	e11	e8.6	35	20	3.1	.46	e.47	e.32
13	4.5	14	13	e12	e10	e9.4	31	12	3.1	.52	e.44	e.30
14	7.6	e12	12	e12	e10	e10	30	13	2.6	.53	e.41	e.30
15	12	e30	e11	e13	e10	e11	29	13	2.8	.47	e.38	e.40
16	9.6	e50	e10	14	e9.4	12	30	13	3.4	e.45	e.36	e1.0
17	8.2	e60	e11	15	e9.6	17	28	15	4.2	e.44	e.34	e.33
18	8.2	e45	e12	15	11	19	28	16	4.1	e.43	e.33	e.32
19	13	e35	13	14	9.6	18	26	15	3.8	e.42	e.39	e.80
20	11	e28	12	e13	9.8	17	25	13	3.4	e.40	e.52	e.46
21	9.5	e25	12	e12	9.6	15	35	12	2.6	e.36	e.70	e.37
22	9.1	e22	13	e12	e9.2	14	69	11	2.2	e.36	e.68	e.32
23	11	e25	26	e11	e9.2	15	53	10	1.9	e.40	e.42	e.30
24	42	e23	44	e11	9.1	17	44	7.2	1.7	e.41	e.37	e.28
25	36	e21	31	e10	8.8	18	38	5.4	1.6	e.37	e.54	e1.5
26	27	e19	19	e9.8	8.4	19	34	7.1	1.4	e.40	e.70	e.90
27	15	e18	18	e9.6	8.1	22	31	12	1.1	e.50	e.34	e.54
28	9.0	e19	18	e9.4	7.6	38	26	15	.99	e.45	e.31	e.45
29	9.6	e16	26	e9.8	---	38	19	13	.77	e.40	e.28	e.40
30	9.9	e14	38	9.2	---	30	23	12	.60	e.35	e.27	e.36
31	12	---	39	9.5	---	26	---	13	---	e.31	e.60	---
TOTAL	290.27	646.4	568	409.3	290.6	594.5	969	506.7	102.06	15.08	14.48	13.29
MEAN	9.36	21.5	18.3	13.2	10.4	19.2	32.3	16.3	3.40	.49	.47	.44
MAX	42	60	44	30	18	38	69	31	11	1.0	.90	1.5
MIN	.97	8.4	10	9.2	7.6	7.6	15	5.4	.60	.31	.27	.25

WTR YR 1991 TOTAL 4419.68 MEAN 12.1 MAX 69 MIN .25

e Estimated

ST. LAWRENCE RIVER BASIN

04276500 BOUQUET RIVER AT WILLSBORO, NY

LOCATION.--Lat 44°21'30", long 73°23'50", Essex County, Hydrologic Unit 02010004, on right bank 0.5 mi upstream from bridge on State Highway 22, 2.5 mi downstream from North Branch Bouquet River, and 3.0 mi upstream from mouth, at Willsboro.

DRAINAGE AREA.--275 mi².

PERIOD OF RECORD.--August to September 1904 (gage heights and discharge measurements only), August to November 1908, July 1923 to September 1968, March 1990 to current year. Annual maximum, water years 1987-89.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 150.88 ft above National Geodetic Vertical Datum of 1929. Prior to November 1908, staff gages at site 0.75 mi downstream at various datums. July 23 to Aug. 28, 1923, staff gage at site 600 ft downstream at present datum. May 1987 to February 1990, crest-stage gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional diurnal fluctuation at low flow caused by powerplant at Wadhams. Slight regulation by Lincoln Pond on Black River. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years (water years 1923-68, 1991), 291 ft³/s, 14.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft³/s, Oct. 1, 1924, gage height, 10.85 ft, from rating curve extended above 4,600 ft³/s; minimum discharge, 8.8 ft³/s, Sept. 20, 1957, gage height, 1.84 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 24	unknown	*3,350	a6.2	Mar. 5	0500	3,150	6.05
Mar. 4	1100	ice jam	*8.56	Apr. 22	1600	3,270	6.14

a Estimated.

Minimum discharge, 37 ft³/s, Sept. 9, 10, 14, gage height, 2.12 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	e450	319	835	e200	e260	560	633	304	75	47	48
2	180	e400	303	e500	e190	e450	552	646	241	67	45	58
3	142	e390	293	e370	e210	e900	557	582	200	65	43	49
4	116	e370	433	e310	e240	e2000	515	499	181	64	49	45
5	154	e350	793	e270	e290	2750	580	443	163	66	82	46
6	e190	e400	458	e230	e400	1230	817	436	162	84	75	45
7	e150	e480	454	e200	e560	1440	1440	767	146	100	65	42
8	e120	e400	370	e180	e700	1260	1560	617	140	100	54	41
9	e140	e380	363	e180	e600	e580	1570	498	126	149	55	40
10	e180	e470	364	e170	e500	e500	1750	440	117	118	103	40
11	e160	e640	316	e170	e420	e430	1320	397	107	87	138	45
12	e350	e580	299	e170	e350	e400	843	367	108	81	97	47
13	e500	e520	e290	e170	e320	e380	676	339	118	83	81	49
14	e560	e450	e260	e170	e290	367	594	315	116	81	59	43
15	e400	390	e240	e180	e270	358	547	295	104	87	58	48
16	e290	776	e270	e280	e250	350	636	273	110	73	59	175
17	e230	1410	e310	e450	e240	354	600	276	137	66	53	227
18	e210	965	330	e540	e220	383	575	408	135	64	56	119
19	e800	628	430	e500	e260	413	520	339	120	60	58	122
20	e600	495	348	e450	e320	461	472	284	104	58	58	197
21	e500	434	333	e370	e280	384	667	257	97	56	68	168
22	e450	389	583	e320	e250	348	2780	235	87	53	81	129
23	e400	525	1600	e300	e240	344	2070	214	82	56	71	121
24	e900	543	e2800	e350	e260	369	1180	197	82	54	59	106
25	e1600	453	1390	e400	e270	522	903	207	80	55	53	227
26	e1000	397	735	e500	e240	600	749	260	76	51	47	618
27	e840	351	471	e450	e220	623	656	310	70	51	47	291
28	e740	345	426	e410	e220	1000	604	393	68	49	46	193
29	e660	374	561	e380	---	1350	533	286	69	48	45	154
30	e580	356	1210	e330	---	826	526	233	80	47	44	139
31	e500	---	1980	e280	---	607	---	303	---	49	46	---
TOTAL	13812	15111	19332	10415	8810	22239	27352	11749	3730	2197	1942	3672
MEAN	446	504	624	336	315	717	912	379	124	70.9	62.6	122
MAX	1600	1410	2800	835	700	2750	2780	767	304	149	138	618
MIN	116	345	240	170	190	260	472	197	68	47	43	40
CFSM	1.62	1.83	2.27	1.22	1.14	2.61	3.32	1.38	.45	.26	.23	.45
IN.	1.87	2.04	2.62	1.41	1.19	3.01	3.70	1.59	.50	.30	.26	.50

WTR YR 1991 TOTAL 140361 MEAN 385 MAX 2800 MIN 40 CFSM 1.40 IN. 18.99

e Estimated

ST. LAWRENCE RIVER BASIN

04276645 HOISINGTON BROOK AT WESTPORT, NY

LOCATION.--Lat 44°11'15", long 73°27'19", Essex County, Hydrologic Unit 02010001, on right bank 30 ft downstream from Ledge Hill Road, 500 ft west of State Route 9N, and 0.1 mi west of Westport.

DRAINAGE AREA.--6.47 mi².

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 246 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges and those above 100 ft³/s, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 444 ft³/s, Aug. 13, 1990, gage height, 5.90 ft; maximum gage height, 6.15 ft, Mar. 4, 1991 (ice jam); minimum discharge, 0.26 ft³/s, July 25, 1991, gage height, 3.78 ft; minimum gage height, 3.77 ft, Sept. 9, 1991.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0400	283	5.55	Mar. 4	0515	ice jam	*6.15
Nov. 10	1700	*355	5.72				

Minimum discharge, 0.26 ft³/s, July 25, gage height, 3.78 ft; minimum gage height, 3.77 ft, Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	6.2	6.7	e18	e4.5	e5.4	14	14	4.7	1.1	.44	.96
2	2.4	5.9	6.5	e15	e4.1	e7.4	16	16	3.6	.92	.44	.71
3	2.2	5.6	6.2	e13	e4.0	e20	15	12	3.2	.85	.37	.70
4	3.0	5.4	28	e11	e4.0	e48	15	9.6	3.1	.81	6.4	.68
5	4.8	5.0	18	e10	4.3	e25	17	8.7	3.0	1.3	3.3	.77
6	3.0	9.7	12	e9.0	5.1	12	21	17	2.8	1.4	1.0	.60
7	2.6	6.7	9.3	e7.6	e11	35	25	18	2.6	1.2	.82	.62
8	2.3	6.1	8.5	e7.0	e12	e21	24	12	2.5	3.0	.86	.55
9	3.1	5.5	8.3	e6.8	e11	e18	32	10	2.2	1.8	2.2	.47
10	8.3	72	e8.0	e6.6	e10	e12	34	8.6	2.1	.95	4.5	.57
11	4.1	46	e7.4	e6.6	e8.4	e7.0	22	7.8	2.1	1.2	1.4	1.6
12	4.9	20	e7.0	e6.4	e7.0	e4.8	16	7.0	e2.3	1.0	1.1	.71
13	22	13	e6.8	e6.2	e7.0	4.1	15	6.2	e2.1	1.1	.90	.62
14	12	10	e6.6	e6.0	e7.0	3.8	13	5.6	1.8	1.3	.80	.82
15	6.3	11	e6.4	e6.0	e6.6	4.1	13	5.3	1.8	.96	.77	1.3
16	4.8	25	e6.2	e9.4	e6.2	4.2	14	5.0	2.6	.79	.79	9.5
17	4.0	30	6.0	e17	e6.0	4.8	13	8.9	2.6	.72	.70	1.6
18	16	17	7.0	e14	e5.6	5.0	12	7.3	2.1	.74	1.1	1.1
19	29	13	12	e12	e5.6	7.8	10	5.2	1.8	.70	1.2	7.3
20	8.1	11	14	e11	e6.8	e9.4	9.5	4.7	1.6	.66	1.4	2.7
21	6.1	10	11	e10	e7.2	e9.2	43	4.3	1.5	.64	1.8	1.4
22	5.3	9.2	19	e9.0	e6.2	e9.8	65	3.9	1.4	.67	1.1	1.2
23	19	15	44	e8.4	e6.0	e8.8	29	3.6	1.4	.69	.82	1.2
24	115	12	66	e8.0	e6.0	e12	19	3.4	1.3	.58	.72	1.1
25	23	11	22	e7.6	e6.0	e18	15	4.3	1.2	.36	.71	30
26	14	9.1	e20	e7.6	e6.0	e24	13	4.4	1.1	.48	.76	7.0
27	11	8.4	e18	e9.0	e6.0	25	12	8.9	1.1	.58	.71	2.9
28	9.2	8.3	e16	e10	e5.8	42	11	5.2	1.0	.49	.62	2.0
29	8.0	7.6	e17	e9.4	---	27	9.0	4.1	1.6	.41	.63	1.5
30	7.3	7.0	e20	e7.4	---	19	14	5.3	1.3	.39	.60	1.5
31	6.8	---	26	e5.2	---	15	---	5.9	---	.53	1.5	---
TOTAL	371.2	421.7	469.9	290.2	185.4	468.6	580.5	242.2	63.5	28.32	40.46	83.68
MEAN	12.0	14.1	15.2	9.36	6.62	15.1	19.3	7.81	2.12	.91	1.31	2.79
MAX	115	72	66	18	12	48	65	18	4.7	3.0	6.4	30
MIN	2.2	5.0	6.0	5.2	4.0	3.8	9.0	3.4	1.0	.36	.37	.47
CFSM	1.85	2.17	2.34	1.45	1.02	2.34	2.99	1.21	.33	.14	.20	.43
IN.	2.13	2.42	2.70	1.67	1.07	2.69	3.34	1.39	.37	.16	.23	.48

WTR YR 1991 TOTAL 3245.66 MEAN 8.89 MAX 115 MIN .36 CFSM 1.37 IN. 18.66

e Estimated

ST. LAWRENCE RIVER BASIN

04276770 MILL BROOK AT PORT HENRY, NY

LOCATION.--Lat 44°03'09", long 73°28'47", Essex County, Hydrologic Unit 02010001, on left bank 30 ft downstream from bridge on Forge Hollow Road, and 2.0 mi upstream from mouth at Port Henry.

DRAINAGE AREA.--27.0 mi².

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 850 ft³/s, Apr. 4, 1990, gage height, 3.95 ft; minimum, 2.1 ft³/s, Aug. 3, Sept. 8, 9, 10, 1991, gage height, 0.66 ft.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0700	*601	3.44	Dec. 24	0915	464	3.11
Nov. 10	2300	499	3.20	Jan. 11	2200	ice jam	*3.77

Minimum discharge, 2.1 ft³/s, Aug. 3, Sept. 8, 9, 10, gage height, 0.66 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	36	e29	103	e15	e22	63	59	26	4.7	3.0	3.7
2	11	35	e27	77	e16	e30	62	74	20	4.0	2.8	2.9
3	9.2	32	e25	62	e18	e64	59	59	17	2.9	2.4	2.6
4	11	30	e60	e50	e21	e150	60	52	16	3.5	6.8	2.7
5	19	28	69	e42	e24	165	70	47	15	5.1	9.6	2.8
6	12	46	53	e32	e30	111	87	64	14	6.5	5.7	2.6
7	9.7	38	47	e28	e40	163	96	75	14	5.8	4.6	2.4
8	8.8	34	e42	e25	e48	109	88	57	12	27	4.1	2.2
9	9.9	30	e39	e23	e45	83	87	49	11	16	7.6	2.1
10	30	172	e36	e22	e40	66	90	39	10	9.3	22	2.4
11	20	245	e33	e20	e33	56	75	33	10	7.4	10	5.4
12	25	118	e31	e21	e29	e45	63	30	13	6.3	9.9	3.5
13	76	87	e30	e22	e27	e41	56	26	13	6.3	6.6	2.8
14	80	e68	e28	e23	e26	e37	50	24	10	7.9	5.2	2.9
15	46	e58	e26	e25	e24	e35	50	22	9.7	6.6	4.2	4.6
16	35	e68	e27	e27	e23	e35	59	22	13	5.9	4.2	21
17	28	e105	e29	e43	e22	e39	51	31	13	5.2	4.1	9.2
18	41	95	e33	e41	e22	46	48	35	11	4.6	3.6	5.9
19	112	75	43	e32	e25	61	44	26	8.7	4.8	4.4	27
20	55	61	33	e27	e28	56	40	22	8.1	4.8	6.2	17
21	44	51	37	e23	e32	45	100	21	7.5	5.6	7.7	8.7
22	36	e47	79	e21	e33	43	189	19	6.5	5.3	7.6	6.3
23	67	e50	203	e20	e29	41	122	17	6.7	5.7	5.3	5.5
24	358	e48	307	e19	e27	44	88	16	6.2	5.1	4.0	5.3
25	142	e43	152	e18	e27	51	74	18	5.8	4.2	3.4	56
26	108	e39	94	e17	e31	58	63	19	5.6	5.1	3.5	27
27	86	e37	72	e16	e27	63	55	32	5.4	5.0	3.5	12
28	68	e35	61	e16	e24	152	49	25	5.2	5.5	3.2	8.1
29	55	e34	70	e17	---	121	44	20	4.8	4.9	3.1	6.3
30	47	e31	116	e16	---	91	48	27	5.0	4.1	2.8	5.4
31	41	---	126	e16	---	72	---	32	---	3.9	4.0	---
TOTAL	1706.6	1876	2057	944	786	2195	2130	1092	323.2	199.0	175.1	266.3
MEAN	55.1	62.5	66.4	30.5	28.1	70.8	71.0	35.2	10.8	6.42	5.65	8.88
MAX	358	245	307	103	48	165	189	75	26	27	22	56
MIN	8.8	28	25	16	15	22	40	16	4.8	2.9	2.4	2.1
CFSM	2.04	2.32	2.46	1.13	1.04	2.62	2.63	1.30	.40	.24	.21	.33
IN.	2.35	2.58	2.83	1.30	1.08	3.02	2.93	1.50	.45	.27	.24	.37

WTR YR 1991 TOTAL 13750.2 MEAN 37.7 MAX 358 MIN 2.1 CFSM 1.40 IN. 18.94

e Estimated

ST. LAWRENCE RIVER BASIN

04276842 PUTNAM CREEK EAST OF CROWN POINT CENTER, NY

LOCATION.--Lat 43°56'31", long 73°27'54", Essex County, Hydrologic Unit 02010001, on right bank 200 ft upstream from bridge at Fish Hatchery, 200 ft downstream from Rennie Brook, and 0.2 mi east of Crown Point Center.

DRAINAGE AREA.--51.6 mi².

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 220 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,730 ft³/s, Apr. 4, 1990, gage height, 7.01 ft; minimum, 2.4 ft³/s, Aug. 2, 3, 4, 1991, gage height, 3.90 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1515	959	a6.53	Dec. 24	0945	*1,020	b*6.58

a Recorded; outside gage height was 6.76 ft, from crest-stage gage.

b Recorded; outside gage height was 6.96 ft, from crest-stage gage.

Minimum discharge, 2.4 ft³/s, Aug. 2, 3, 4, gage height, 3.90 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	99	82	294	52	43	182	112	61	5.3	2.7	4.3
2	21	87	76	234	51	94	156	136	45	4.8	2.5	3.8
3	19	76	73	182	54	157	144	119	35	4.5	2.4	3.7
4	19	68	132	151	76	356	134	102	31	4.2	5.1	3.8
5	25	60	171	132	86	402	138	91	29	5.9	5.9	3.7
6	22	80	159	119	99	316	154	114	26	7.1	4.1	3.5
7	20	87	134	105	121	395	185	154	23	6.8	3.6	3.3
8	17	82	117	87	139	321	189	131	19	21	3.1	3.4
9	17	73	109	e80	140	237	199	109	17	22	4.5	3.2
10	36	251	103	e72	129	173	230	96	15	16	13	3.4
11	35	594	95	e66	107	135	216	85	13	13	7.1	4.3
12	40	405	89	e76	82	116	169	75	13	11	6.8	3.9
13	62	259	84	e78	e76	102	142	68	13	11	6.3	3.6
14	96	189	77	e80	e72	95	125	61	12	12	5.9	3.7
15	82	166	70	e82	e68	90	116	54	14	10	5.1	4.4
16	66	195	74	e94	e64	85	135	49	30	8.9	4.7	7.9
17	54	312	74	150	e62	86	118	52	34	7.3	4.2	6.3
18	61	305	76	142	e60	91	106	63	28	6.1	3.7	5.2
19	193	232	101	e110	e62	99	97	53	22	5.4	4.2	18
20	178	180	100	e90	e64	108	89	46	18	4.7	5.3	17
21	139	153	102	e80	e68	98	152	39	14	4.4	7.3	15
22	110	135	184	e76	e66	93	386	34	12	4.0	7.9	12
23	118	144	516	e70	e62	87	364	30	11	4.4	7.0	9.7
24	783	142	866	e66	59	94	271	26	9.5	3.8	6.0	8.4
25	657	126	599	e60	55	112	200	25	8.6	3.4	5.3	46
26	341	110	350	65	52	123	154	27	7.8	3.4	4.9	43
27	221	105	246	67	48	140	129	54	6.9	3.5	4.7	32
28	163	104	189	67	45	284	109	58	6.1	3.0	4.2	24
29	132	98	170	64	---	360	97	46	5.5	2.8	4.0	20
30	111	91	246	59	---	294	101	67	5.5	2.8	3.7	16
31	104	---	376	56	---	224	---	87	---	2.7	4.9	---
TOTAL	3963	5008	5840	3154	2119	5410	4987	2263	584.9	225.2	160.1	336.5
MEAN	128	167	188	102	75.7	175	166	73.0	19.5	7.26	5.16	11.2
MAX	783	594	866	294	140	402	386	154	61	22	13	46
MIN	17	60	70	56	45	43	89	25	5.5	2.7	2.4	3.2
CFSM	2.48	3.24	3.65	1.97	1.47	3.38	3.22	1.41	.38	.14	.10	.22
IN.	2.86	3.61	4.21	2.27	1.53	3.90	3.60	1.63	.42	.16	.12	.24

WTR YR 1991 TOTAL 34050.7 MEAN 93.3 MAX 866 MIN 2.4 CFSM 1.81 IN. 24.55

e Estimated

ST. LAWRENCE RIVER BASIN

04278000 LAKE GEORGE AT ROGERS ROCK, NY

LOCATION.--Lat 43°48'28", long 73°27'30", Essex County, Hydrologic Unit 02010001, on west shore about 500 ft north of Hooper's dock at Rogers Rock, and 0.4 mi west of Baldwin.

DRAINAGE AREA.--233 mi² at outlet at Ticonderoga.

PERIOD OF RECORD.--July 1913 to current year.

REVISED RECORDS.--WDR NY-87-1: Datum.

GAGE.--Water-stage recorder. Datum of gage is 316.06 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 4, 1929, nonrecording gages at several sites within a half mile of present site at same datum. Nov. 4, 1929 to Sept. 26, 1936, nonrecording gage at present site and datum.

REMARKS.--Elevation of lake regulated by floodgates at Ticonderoga. Prior to October 1974, lake was regulated by powerplant wheel gate and floodgates. Lake George has been controlled by a dam at its outlet for more than 100 years. Area of water surface is 44 mi². Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 5.09 ft, Apr. 9, 1936; minimum, 0.64 ft, Dec. 20, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 4.36 ft, Nov. 11; minimum, 2.67 ft, Mar. 2, 3.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.29	3.95	3.76	3.89	3.23	2.73	3.13	3.48	3.51	3.35	3.27	3.02
2	3.29	3.95	3.71	3.89	3.21	2.73	3.12	3.52	3.53	3.36	3.23	3.07
3	3.27	3.91	3.66	3.83	3.19	2.72	3.10	3.50	3.52	3.34	3.21	3.07
4	3.32	3.88	3.82	3.87	3.15	2.86	3.11	3.45	3.46	3.33	3.18	3.05
5	3.32	3.80	3.87	3.83	3.13	2.99	3.09	3.48	3.46	3.35	3.20	3.01
6	3.31	3.88	3.86	3.79	3.09	3.01	3.09	3.53	3.49	3.38	3.16	3.00
7	3.29	3.83	3.83	3.73	3.11	3.10	3.08	3.59	3.51	3.39	3.15	3.00
8	3.21	3.77	3.81	3.71	3.13	3.14	3.07	3.57	3.50	3.42	3.13	2.98
9	3.22	3.77	3.81	3.72	3.12	3.12	3.07	3.55	3.48	3.38	3.14	2.97
10	3.27	3.84	3.80	3.67	3.10	3.10	3.12	3.51	3.50	3.39	3.23	3.01
11	3.31	4.23	3.75	3.62	3.09	3.08	3.13	3.54	3.48	3.36	3.23	2.94
12	3.34	4.25	3.72	3.71	3.06	3.08	3.07	3.55	3.50	3.35	3.19	2.94
13	3.41	4.22	3.74	3.68	3.04	3.06	3.07	3.54	3.45	3.36	3.21	2.93
14	3.52	4.15	3.69	3.68	3.05	3.03	3.05	3.51	3.43	3.37	3.22	2.91
15	3.59	4.12	3.67	3.64	3.09	3.02	3.05	3.50	3.44	3.38	3.21	2.97
16	3.57	4.06	3.67	3.65	3.07	3.02	3.05	3.54	3.50	3.39	3.21	3.00
17	3.57	3.98	3.67	3.71	3.02	3.01	3.04	3.48	3.46	3.38	3.22	3.03
18	3.59	3.94	3.69	3.69	2.98	2.99	3.05	3.46	3.49	3.36	3.20	3.02
19	3.70	3.92	3.69	3.62	2.98	3.00	3.06	3.52	3.49	3.37	3.12	3.07
20	3.68	3.94	3.66	3.54	2.97	2.99	3.05	3.54	3.49	3.37	3.16	3.06
21	3.74	3.91	3.71	3.45	2.94	2.95	3.03	3.54	3.46	3.34	3.20	3.05
22	3.72	3.93	3.74	3.49	2.93	2.95	3.29	3.49	3.41	3.31	3.22	3.05
23	3.67	3.93	3.82	3.48	2.89	2.95	3.36	3.49	3.40	3.37	3.16	3.07
24	4.05	3.93	3.96	3.45	2.87	2.99	3.34	3.51	3.40	3.35	3.11	3.00
25	4.19	3.93	4.04	3.41	2.83	2.98	3.32	3.47	3.41	3.33	3.14	3.06
26	4.13	3.84	4.02	3.38	2.81	2.98	3.33	3.48	3.42	3.32	3.17	3.15
27	4.13	3.85	3.96	3.35	2.79	3.00	3.32	3.54	3.42	3.31	3.15	3.14
28	4.10	3.85	3.92	3.33	2.76	3.11	3.34	3.53	3.42	3.29	3.12	3.11
29	4.02	3.81	3.93	3.28	---	3.14	3.38	3.51	3.33	3.28	3.09	3.09
30	3.99	3.77	3.89	3.25	---	3.10	3.41	3.52	3.36	3.28	3.11	3.06
31	3.95	---	3.86	3.26	---	3.14	---	3.55	---	3.28	3.09	---
MEAN	3.61	3.94	3.80	3.60	3.02	3.00	3.16	3.52	3.46	3.35	3.18	3.03
MAX	4.19	4.25	4.04	3.89	3.23	3.14	3.41	3.59	3.53	3.42	3.27	3.15
MIN	3.21	3.77	3.66	3.25	2.76	2.72	3.03	3.45	3.33	3.28	3.09	2.91

WTR YR 1991 MEAN 3.39 MAX 4.25 MIN 2.72

ST. LAWRENCE RIVER BASIN

04278300 NORTHWEST BAY BROOK NEAR BOLTON LANDING, NY

LOCATION.--Lat 43°39'48", long 73°36'14", Warren County, Hydrologic Unit 02010001, on left bank 10 ft downstream from county bridge on Padanarum Road, 7.7 mi north of Bolton Landing.

DRAINAGE AREA.--22.0 mi².

PERIOD OF RECORD.--October 1965 to September 1968, October 1971 to current year. Annual maximum, water years 1969-71.

REVISED RECORDS.--WDR NY-90-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 423.60 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1973, at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years (water years 1966-68, 1972-91), 36.6 ft³/s, 22.59 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft³/s, Feb. 11, 1981, gage height, 6.35 ft, from rating curve extended above 590 ft³/s on basis of slope-area measurement at gage height 5.53 ft; maximum gage height, 7.14 ft, Feb. 11, 1981 (ice jam); minimum discharge, 0.28 ft³/s, Sept. 27, 28, 29, 1968, gage height, 0.18 ft, present datum.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0045	456	3.55	Nov. 10	2100	1,150	b5.22
Oct. 24	0615	*1,320	a*5.54	Dec. 23	1300	546	c3.80

a Recorded in well; outside gage height was 6.19 ft, from crest-stage gage.

b Recorded in well; outside gage height was 5.73 ft, from crest-stage gage.

c Recorded in well; outside gage height was 4.00 ft, from crest-stage gage.

Minimum discharge, 0.65 ft³/s, Aug. 2, 3, 29, 30, 31, gage height, 0.54 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	38	31	125	e17	17	57	59	12	1.8	.82	1.2
2	9.9	34	29	95	e17	46	52	72	9.6	1.6	.78	.99
3	7.9	32	28	e52	e18	105	47	53	8.3	1.6	.77	.90
4	9.3	30	108	e45	20	232	45	43	8.1	1.5	1.0	1.1
5	15	27	103	e40	21	148	48	37	7.2	2.4	1.5	1.1
6	11	53	67	e35	29	95	55	52	6.4	2.9	1.0	1.0
7	9.0	48	54	e32	56	171	58	68	5.8	3.0	.98	.88
8	7.7	39	47	e30	63	107	61	51	5.4	4.2	.88	.81
9	8.1	33	43	e27	55	84	83	41	5.0	3.2	1.6	.77
10	24	e320	e39	e26	47	64	85	36	4.2	2.2	4.2	.84
11	19	e380	e35	e25	e38	50	66	32	7.8	1.8	2.2	.88
12	21	e150	e33	e25	e33	42	52	29	9.2	1.6	2.0	.79
13	73	e100	e31	e25	e28	38	45	25	7.1	2.4	1.5	.75
14	113	76	e29	e26	e23	35	41	22	5.5	3.0	1.3	.78
15	53	67	42	e28	e20	32	41	19	6.9	2.1	1.2	1.4
16	36	72	33	e30	e19	32	49	17	14	1.7	1.2	2.0
17	28	100	29	e80	e18	34	42	20	10	1.5	1.1	2.5
18	53	79	35	e50	e17	36	39	21	7.5	1.3	1.0	1.7
19	229	62	71	e40	e17	42	35	16	6.0	1.3	1.4	5.1
20	85	53	52	e38	e17	42	32	14	5.1	1.2	1.9	4.2
21	58	48	55	e29	e18	36	78	13	4.1	1.1	1.9	2.3
22	47	43	187	e27	e19	33	185	11	3.7	.97	1.5	1.7
23	63	58	352	e26	e20	31	111	9.8	3.3	1.3	1.2	1.6
24	691	52	347	e25	e20	35	77	8.8	2.9	1.0	1.0	1.6
25	197	44	165	e24	e19	39	61	9.4	2.5	.86	.84	15
26	118	38	e90	e23	e18	45	50	10	2.3	1.0	.83	10
27	84	38	e70	e22	e17	68	44	19	2.0	1.4	.87	5.3
28	67	39	e60	e21	e17	218	37	15	1.9	1.0	.81	3.5
29	55	37	e62	e20	---	129	34	11	1.8	.89	.78	2.7
30	47	33	93	e19	---	88	47	14	2.1	.82	.70	2.5
31	42	---	135	e18	---	67	---	16	---	.88	2.0	---
TOTAL	2295.9	2223	2555	1128	721	2241	1757	864.0	177.7	53.52	40.76	75.89
MEAN	74.1	74.1	82.4	36.4	25.7	72.3	58.6	27.9	5.92	1.73	1.31	2.53
MAX	691	380	352	125	63	232	185	72	14	4.2	4.2	15
MIN	7.7	27	28	18	17	17	32	8.8	1.8	.82	.70	.75
CFSM	3.37	3.37	3.75	1.65	1.17	3.29	2.66	1.27	.27	.08	.06	.11
IN.	3.88	3.76	4.32	1.91	1.22	3.79	2.97	1.46	.30	.09	.07	.13

CAL YR 1990 TOTAL 22727.0 MEAN 62.3 MAX 691 MIN 2.0 CFSM 2.83 IN. 38.43
WTR YR 1991 TOTAL 14132.77 MEAN 38.7 MAX 691 MIN .70 CFSM 1.76 IN. 23.90

e Estimated

ST. LAWRENCE RIVER BASIN

04279040 MILL BROOK AT PUTNAM, NY

LOCATION.--Lat 43°44'01", long 73°23'20", Washington County, Hydrologic Unit 02010001, on right bank 50 ft downstream from bridge on County Highway 3 and 1.0 mi southeast of Putnam.

DRAINAGE AREA.--10.3 mi².

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 454 ft³/s, Oct. 24, 1990, gage height, 3.67 ft; minimum discharge, 0.05 ft³/s, Aug. 2, 3, 4, 1991; minimum gage height, 0.04 ft, Aug. 4, 1991.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0415	*454	*3.67	Nov. 10	1830	387	3.51

Minimum discharge, 0.05 ft³/s, Aug. 2, 3, 4; minimum gage height, 0.04 ft, Aug. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	13	10	53	e7.0	e7.0	e22	23	4.3	.28	.06	.08
2	2.6	12	9.9	34	e6.4	e25	e20	27	3.0	.17	.06	.37
3	1.6	11	9.1	28	e7.0	38	e19	21	2.6	.31	.05	.28
4	1.4	10	56	22	9.0	92	e18	15	2.5	.50	.06	.15
5	2.2	8.9	56	19	12	62	e17	13	2.9	.37	.08	.14
6	2.0	31	31	e17	15	43	e17	22	2.4	.45	.08	.14
7	1.9	22	23	e15	34	80	e18	32	1.8	.97	.09	.10
8	1.4	16	20	e12	45	51	e20	18	1.5	.81	.12	.08
9	1.0	13	19	e11	36	39	e25	14	1.3	.77	.14	.08
10	9.8	127	19	e10	e22	30	e28	13	1.1	.40	.81	.08
11	6.6	125	16	e10	e16	21	e23	12	1.1	.33	1.1	.09
12	5.2	67	15	e10	e13	18	e19	12	2.4	.30	.68	.07
13	13	44	15	e10	e11	17	e17	10	2.5	.36	.27	.07
14	27	32	14	e10	e10	15	e15	9.6	1.9	.60	.22	.08
15	12	27	11	e10	e9.4	e14	e15	8.9	1.5	.47	.17	.11
16	7.6	25	14	e15	e9.0	e13	e17	8.1	6.6	.34	.12	.15
17	5.6	33	13	e30	e9.0	e13	e16	8.4	4.5	.23	e.09	.25
18	7.8	28	15	e21	e8.6	e15	e15	11	2.8	.19	.10	.27
19	45	22	e43	e16	e9.0	e20	e14	7.2	2.1	.19	.18	1.4
20	18	19	27	e13	e11	e19	e14	5.9	1.8	.15	.25	2.4
21	12	18	e22	e10	e14	e17	e30	5.1	1.3	.11	.91	1.1
22	9.6	16	75	e7.0	e15	e15	e45	4.3	.96	.11	1.1	.73
23	16	e25	129	e7.0	e13	e15	e35	4.1	.76	.11	.75	.46
24	194	19	134	e7.0	e11	e17	e27	5.0	.65	.10	.44	.33
25	61	15	75	e7.2	e7.0	e20	e19	2.3	.64	.08	.23	10
26	35	13	51	e7.2	e6.4	e23	15	3.4	.88	.08	e.16	10
27	e26	12	36	e7.4	e6.0	e30	14	7.3	.77	.10	.14	2.5
28	22	13	30	e7.8	e6.0	e60	13	6.4	.34	.17	.13	1.2
29	19	13	35	e8.0	---	e45	12	4.3	.24	.12	.11	.87
30	16	11	e70	e8.0	---	e32	16	4.6	.21	.07	.08	.69
31	15	---	67	e8.6	---	e25	---	6.2	---	.07	.10	---
TOTAL	601.9	840.9	1160.0	451.2	377.8	931.0	595	344.1	57.35	9.31	8.88	34.27
MEAN	19.4	28.0	37.4	14.6	13.5	30.0	19.8	11.1	1.91	.30	.29	1.14
MAX	194	127	134	53	45	92	45	32	6.6	.97	1.1	10
MIN	1.0	8.9	9.1	7.0	6.0	7.0	12	2.3	.21	.07	.05	.07
CFSM	1.89	2.72	3.63	1.41	1.31	2.92	1.93	1.08	.19	.03	.03	.11
IN.	2.17	3.04	4.19	1.63	1.36	3.36	2.15	1.24	.21	.03	.03	.12

WTR YR 1991 TOTAL 5411.71 MEAN 14.8 MAX 194 MIN .05 CFSM 1.44 IN. 19.55

e Estimated

ST. LAWRENCE RIVER BASIN

04279125 MOUNT HOPE BROOK AT SOUTH BAY NEAR WHITEHALL, NY

LOCATION.--Lat 43°31'19", long 73°30'27", Washington County, Hydrologic Unit 02010001, on right bank 10 ft downstream from bridge on County Highway 16, 400 ft upstream from confluence with Spectacle Brook, and 7.5 mi north of Fort Ann.

DRAINAGE AREA.--11.6 mi².

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 485 ft³/s, Oct. 24, 1990, gage height, 6.35 ft; minimum recorded discharge, 0.02 ft³/s, Sept. 9, 1991, but may have been less during period of no gage-height record June 1 to Aug. 16, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	0515	*485	*6.35	Nov. 10	2030	371	6.01

Minimum recorded discharge, 0.02 ft³/s, Sept. 9, but may have been less during period of no gage-height record June 1 to Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	20	18	37	e10	e11	32	34	e4.8	e.11	e.06	.18
2	5.4	19	17	31	e10	31	29	38	e4.0	e.10	e.05	.11
3	4.1	18	16	27	e10	50	27	30	e3.4	e.15	e.04	.08
4	4.3	17	60	e25	e11	98	26	26	e3.2	e.20	e.06	.10
5	6.0	15	55	e23	13	80	26	24	e2.5	e.17	e.08	.10
6	4.8	33	37	e20	17	53	27	30	e2.0	e.25	e.07	.08
7	4.2	28	30	e18	25	111	27	35	e1.8	e.35	e.06	.06
8	3.7	23	26	e17	28	60	27	28	e1.5	e.30	e.05	.04
9	3.7	20	24	e16	27	41	36	25	e1.1	e.25	e.08	.04
10	11	134	22	e15	25	33	40	22	e.80	e.20	e1.2	.05
11	8.5	145	20	e15	e20	27	33	20	e.70	e.17	e.35	.08
12	10	64	18	e14	e17	24	27	18	e.90	e.15	e.25	.08
13	24	43	18	e14	e14	22	24	15	e1.1	e1.0	e.20	.06
14	44	34	17	e14	e13	21	22	13	e.90	e.25	e.15	.06
15	29	30	21	e14	e12	20	22	11	e.80	e.15	e.10	.26
16	21	29	20	e20	e11	19	25	10	e2.3	e.11	e.15	.75
17	17	37	17	e35	e10	19	23	11	e2.0	e.09	.22	1.3
18	19	33	22	e25	e10	23	22	11	e1.3	e.08	.44	.44
19	56	30	44	e19	e11	30	20	9.1	e.80	e.07	1.1	3.4
20	32	28	33	e14	e15	27	19	8.0	e.60	e.06	1.3	2.9
21	25	26	35	e11	e17	24	37	7.3	e.50	e.05	1.2	1.7
22	21	24	114	e9.0	e19	22	70	6.2	e.40	e.05	.70	.74
23	27	34	161	e9.0	e16	22	52	5.4	e.35	e.25	.39	.50
24	233	30	128	e9.0	e14	26	39	5.4	e.30	e.17	.28	.41
25	81	26	70	e9.4	e13	30	31	7.2	e.25	e.10	.22	17
26	49	22	48	e10	e12	32	27	5.9	e.40	e.20	.18	11
27	37	21	36	e11	e11	52	25	7.1	e.30	e.50	.16	5.8
28	32	21	32	e11	e11	99	22	6.2	e.20	e.10	.14	3.8
29	27	19	31	e10	---	62	21	4.9	e.15	e.09	.12	2.7
30	24	18	39	e10	---	45	28	5.4	e.12	e.08	.10	1.9
31	22	---	50	e10	---	36	---	6.1	---	e.07	.20	---
TOTAL	895.2	1041	1279	522.4	422	1250	886	485.2	39.47	5.87	9.70	55.72
MEAN	28.9	34.7	41.3	16.9	15.1	40.3	29.5	15.7	1.32	.19	.31	1.86
MAX	233	145	161	37	28	111	70	38	4.8	1.0	1.3	17
MIN	3.7	15	16	9.0	10	11	19	4.9	.12	.05	.04	.04
CFSM	2.49	2.99	3.56	1.45	1.30	3.48	2.55	1.35	.11	.02	.03	.16
IN.	2.87	3.34	4.10	1.68	1.35	4.01	2.84	1.56	.13	.02	.03	.18

WTR YR 1991 TOTAL 6891.56 MEAN 18.9 MAX 233 MIN .04 CFSM 1.63 IN. 22.10

e Estimated

ST. LAWRENCE RIVER BASIN

04280000 POULTNEY RIVER BELOW FAIR HAVEN, VT

LOCATION.--Lat 43°37'40", long 73°18'50", Rutland County, Hydrologic Unit 02010001, on right bank 0.3 mi downstream from Carver Falls, 1.9 mi upstream from Hubbardton River, and 3.2 mi northwest of Fair Haven.

DRAINAGE AREA.--187 mi².

PERIOD OF RECORD.--Discharge: October 1928 to current year.
Water-quality records: Water year 1954.

REVISED RECORDS.--WSP 1114: 1929(M), 1932-35.

GAGE.--Water-stage recorder. Elevation of gage is 105 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by powerplant upstream and Lake Bomoseen. Several observations of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--63 years, 257 ft³/s, 18.66 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s, July 20, 1945, gage height, 24.36 ft, from high-water mark in well, from rating curve extended above 2,600 ft³/s on basis of computations of flow over dam at gage heights 16.10 ft, 21.40 ft, and 24.36 ft; minimum daily discharge, 2.1 ft³/s, Aug. 8, 1965, Sept. 13, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1730	a3,750	13.53	Nov. 11	0415	*4,170	*14.19

a From rating curve extended above 2,600 ft³/s.

Minimum daily discharge, 5.8 ft³/s, July 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	225	282	573	e140	127	437	445	47	10	6.9	8.2
2	80	193	272	e480	e140	521	392	472	55	29	7.3	10
3	67	175	263	e460	e135	750	359	398	52	30	7.7	42
4	66	153	405	e390	e130	1300	329	362	37	24	8.4	7.7
5	73	141	1140	e360	e170	1560	312	325	53	24	10	7.9
6	63	262	637	e330	341	1060	313	333	58	24	9.3	7.9
7	81	292	506	e310	494	1190	314	435	54	24	9.4	8.2
8	62	254	449	e290	664	795	304	353	25	22	9.4	8.3
9	82	235	412	e270	551	602	368	304	26	18	9.1	8.3
10	107	857	382	e260	470	494	502	297	45	18	16	8.3
11	104	2990	345	e240	379	420	514	277	35	18	19	9.4
12	110	1410	308	e230	e290	375	427	264	46	16	47	10
13	238	1040	261	e220	e270	308	438	250	51	12	11	9.3
14	365	820	251	e215	e260	296	407	201	57	23	7.4	37
15	296	499	215	e210	e250	278	384	182	55	39	7.4	8.2
16	254	480	225	e230	e220	251	443	188	163	39	7.4	8.3
17	238	554	226	635	e200	245	394	179	253	29	6.9	9.4
18	183	516	219	827	e160	245	413	193	211	24	6.9	35
19	270	431	479	596	e145	298	356	182	194	24	27	25
20	254	379	531	e330	190	281	302	105	171	24	16	37
21	187	357	408	e300	241	253	400	89	63	22	7.8	16
22	184	325	1090	e320	201	244	827	105	31	18	19	42
23	237	399	1280	e330	224	248	599	57	38	8.9	20	22
24	2360	366	1550	e230	158	313	502	74	32	5.8	13	8.6
25	1770	321	1660	e215	173	448	449	53	36	7.1	8.9	102
26	1110	304	1130	e190	142	532	413	59	26	9.0	24	75
27	915	323	903	e160	143	616	381	65	41	7.5	6.9	78
28	755	318	816	e155	131	1200	330	59	36	8.3	6.9	29
29	423	308	709	e150	---	1120	283	55	26	44	6.9	35
30	324	295	513	e145	---	924	329	61	16	6.7	6.9	21
31	249	---	846	e145	---	745	---	66	---	6.5	8.3	---
TOTAL	11603	15222	18713	9796	7012	18039	12221	6488	2033	614.8	378.1	734.0
MEAN	374	507	604	316	250	582	407	209	67.8	19.8	12.2	24.5
MAX	2360	2990	1660	827	664	1560	827	472	253	44	47	102
MIN	62	141	215	145	130	127	283	53	16	5.8	6.9	7.7
CFSM	2.00	2.71	3.23	1.69	1.34	3.11	2.18	1.12	.36	.11	.07	.13
IN.	2.31	3.03	3.72	1.95	1.39	3.59	2.43	1.29	.40	.12	.08	.15

CAL YR 1990 TOTAL 141707.4 MEAN 388 MAX 2990 MIN 6.4 CFSM 2.08 IN. 28.19
WTR YR 1991 TOTAL 102853.9 MEAN 282 MAX 2990 MIN 5.8 CFSM 1.51 IN. 20.46

e Estimated

ST. LAWRENCE RIVER BASIN

04280450 METTAWEE RIVER NEAR MIDDLE GRANVILLE, NY

LOCATION.--Lat 43°27'50", long 73°17'05", Washington County, Hydrologic Unit 02010001, on right bank 110 ft downstream from bridge on County Highway 21 and 2.2 mi north of Middle Granville.

DRAINAGE AREA.--167 mi².

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 320 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,400 ft³/s, Nov. 11, 1990, gage height, 7.59 ft; minimum, 14 ft³/s, Sept. 10, 1991, gage height, 2.94 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 31, 1984, reached a discharge of 5,380 ft³/s, on basis of slope-area measurement of peak flow 2.8 mi upstream at Middle Granville (drainage area 156 mi²).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 24	1200	2,900	7.22	Nov. 11	0045	*3,400	*7.59

Minimum discharge, 14 ft³/s, Sept. 10, gage height, 2.94 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	287	230	e620	e210	179	445	401	103	46	19	41
2	90	264	219	e540	e200	553	426	460	86	35	18	30
3	75	243	210	e500	e200	653	412	396	79	31	16	26
4	72	226	664	448	e250	1090	381	369	89	31	19	25
5	118	212	678	406	317	1100	351	326	92	30	50	26
6	95	285	482	376	384	763	351	346	81	33	32	23
7	81	268	430	e330	534	966	368	424	71	58	24	21
8	72	243	394	e300	555	741	355	352	65	75	20	20
9	70	222	359	e290	480	579	627	314	64	45	19	18
10	126	867	335	e270	436	496	383	293	57	35	48	16
11	116	2010	292	e270	e350	429	509	268	53	31	39	21
12	102	1040	272	e260	e300	389	434	248	56	36	32	22
13	185	756	269	e250	e270	354	387	224	66	40	27	19
14	437	598	252	e240	e250	335	357	207	55	62	23	18
15	275	527	241	e250	e230	320	338	193	53	44	21	20
16	217	504	245	332	e220	296	370	175	155	35	22	32
17	188	559	229	662	e210	284	325	170	122	30	23	34
18	171	529	257	487	e200	294	361	196	91	27	21	27
19	319	447	606	394	e200	342	320	158	74	25	34	40
20	249	394	463	e350	350	300	292	144	64	23	84	65
21	216	366	466	e280	294	270	417	133	57	26	94	44
22	196	338	1120	e250	280	269	622	122	52	68	87	36
23	221	411	966	e240	e250	269	490	112	49	40	58	31
24	1830	370	1240	e240	e230	328	426	105	44	34	46	30
25	1080	328	983	e230	e220	421	386	100	40	27	40	103
26	725	298	e680	e230	e200	414	343	99	38	27	35	143
27	553	281	e500	e220	e180	443	333	100	34	45	32	87
28	464	271	e450	e220	e180	848	306	100	33	33	29	68
29	411	263	e450	e210	---	640	281	87	30	27	26	58
30	354	243	679	e210	---	558	350	86	38	23	23	52
31	318	---	986	e210	---	486	---	104	---	21	33	---
TOTAL	9549	13650	15647	10115	7980	15409	11946	6812	1991	1143	1094	1196
MEAN	308	455	505	326	285	497	398	220	66.4	36.9	35.3	39.9
MAX	1830	2010	1240	662	555	1100	627	460	155	75	94	143
MIN	70	212	210	210	180	179	281	86	30	21	16	16
CFSM	1.84	2.72	3.02	1.95	1.71	2.98	2.38	1.32	.40	.22	.21	.24
IN.	2.13	3.04	3.49	2.25	1.78	3.43	2.66	1.52	.44	.25	.24	.27

WTR YR 1991 TOTAL 96532 MEAN 264 MAX 2010 MIN 16 CFSM 1.58 IN. 21.50

e Estimated

(National stream-quality accounting network station)

DRAINAGE AREA.--8,277 mi².

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. March 1871 to May 1923, nonrecording gage located in Fort Montgomery and May 1923 to October 1938, nonrecording gage at present site. Prior to October 1970, at datum 93.00 ft higher.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 101.80 ft, Mar. 30, 1903; minimum observed, 92.17 f
Oct. 23, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 99.51 ft, Jan. 1; minimum, 93.79 ft, Sept. 11.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95.65	97.73	98.18	99.17	97.38	96.59	97.67	98.43	96.76	95.29	94.54	94.09
2	95.69	97.77	97.90	99.04	97.38	96.57	97.63	98.38	96.73	95.28	94.42	94.14
3	95.68	97.65	97.90	98.99	97.29	96.58	97.60	98.32	96.67	95.29	94.43	94.26
4	95.94	97.59	98.00	99.00	97.24	96.85	97.60	98.31	96.55	95.31	94.41	94.17
5	95.72	97.53	97.92	98.94	97.18	97.22	97.58	98.31	96.51	95.39	94.38	94.09
6	95.78	97.55	98.04	98.82	97.16	97.49	97.56	98.36	96.51	95.26	94.34	94.05
7	95.67	97.45	97.95	98.71	97.20	97.60	97.61	98.33	96.47	95.24	94.36	94.05
8	95.62	97.41	97.89	98.66	97.23	97.68	97.71	98.26	96.37	95.17	94.36	94.01
9	95.61	97.48	97.89	98.71	97.25	97.76	97.84	98.25	96.32	95.09	94.37	93.99
10	95.66	97.41	97.66	98.49	97.23	97.74	98.17	98.19	96.32	95.07	94.40	94.12
11	95.87	97.72	97.71	98.48	97.20	97.72	98.25	98.16	96.23	95.06	94.38	93.93
12	95.80	97.85	97.71	98.47	97.21	97.69	98.41	98.01	96.15	95.06	94.36	93.94
13	95.92	97.89	97.66	98.42	97.17	97.66	98.52	97.97	95.97	95.06	94.37	93.94
14	96.07	98.04	97.49	98.41	97.11	97.61	98.49	97.84	95.99	94.97	94.39	93.97
15	96.27	98.13	97.52	98.32	97.08	97.54	98.55	97.80	95.97	94.96	94.40	94.15
16	96.31	98.08	97.34	98.27	97.03	97.53	98.47	97.75	95.92	94.98	94.33	94.09
17	96.50	98.04	97.35	98.24	97.00	97.48	98.43	97.55	95.94	94.95	94.41	94.05
18	96.52	98.27	97.53	98.24	96.91	97.44	98.44	97.56	95.97	94.90	94.31	94.08
19	96.41	98.34	97.21	98.26	96.93	97.38	98.40	97.57	95.95	94.88	94.10	94.14
20	96.56	98.41	97.35	98.12	96.85	97.30	98.30	97.50	95.91	94.86	94.18	94.18
21	96.86	98.39	97.50	98.08	96.86	97.35	98.09	97.42	95.81	94.80	94.27	94.23
22	96.73	98.57	97.37	98.07	96.81	97.25	98.51	97.31	95.76	94.73	94.31	94.35
23	96.64	98.42	97.55	98.09	96.82	97.42	98.67	97.27	95.71	94.79	94.19	94.56
24	96.95	98.38	97.91	97.93	96.85	97.30	98.70	97.22	95.67	94.76	94.14	94.22
25	97.41	98.43	98.47	97.86	96.75	97.29	98.69	97.07	95.66	94.72	94.24	94.27
26	97.53	98.21	98.40	97.84	96.73	97.33	98.69	97.05	95.63	94.69	94.34	94.40
27	97.79	98.51	98.41	97.77	96.69	97.52	98.58	97.08	95.60	94.59	94.21	94.44
28	97.96	98.29	98.52	97.68	96.64	97.52	98.55	96.91	95.55	94.57	94.13	94.40
29	97.69	98.09	98.64	97.55	---	97.50	98.53	96.86	95.41	94.55	94.15	94.41
30	97.80	98.09	98.46	97.49	---	97.54	98.50	96.82	95.36	94.59	94.18	94.44
31	97.76	---	98.69	97.45	---	97.69	---	96.77	---	94.59	94.09	---
MEAN	96.46	97.99	97.87	98.31	97.04	97.39	98.22	97.70	96.05	94.95	94.31	94.17
MAX	97.96	98.57	98.69	99.17	97.38	97.76	98.70	98.43	96.76	95.39	94.54	94.56
MIN	95.61	97.41	97.21	97.45	96.64	96.57	97.56	96.77	95.36	94.55	94.09	93.93
CAL YR 1990	MEAN 97.32		MAX 100.11	MIN 95.39								
WTR YR 1991	MEAN 96.70		MAX 99.17	MIN 93.93								

ST. LAWRENCE RIVER BASIN

04295000 RICHELIEU RIVER (LAKE CHAMPLAIN) AT ROUSES POINT, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966-67, 1969-72, 1974 to current year.

CHEMICAL DATA: 1966-67 (a), 1969 (b), 1970 (c), 1971-72 (b), 1974-82 (c), 1983-86 (b), 1987 (c), 1988 (d), 1989 (c), 1990-91 (b).

MINOR ELEMENTS DATA: 1974-86 (b), 1987 (c), 1988 (d), 1989 (c), 1990-91 (b).

PESTICIDE DATA: 1976-79 (b), 1980 (a), 1982 (b).

ORGANIC DATA: OC--1974 (a), 1975-77 (b), 1978 (a), 1979-81 (c).

PCB--1978-79 (b), 1980 (a), 1982 (b).

NUTRIENT DATA: 1970 (c), 1971-72 (b), 1974 (b), 1975-82 (c), 1983-86 (b), 1987-89 (c), 1990-91 (b).

BIOLOGICAL DATA:

Bacteria--1974 (a), 1975-82 (c), 1983-89 (b), 1990-91 (b).

Phytoplankton--1974 (a), 1975-78 (c), 1979 (b), 1980-81 (c).

Periphyton--1975 (c), 1976-80 (b).

SEDIMENT DATA: 1975-82 (c), 1983-91 (b).

REMARKS.--Water-quality samples without turbidity analyses were collected by personnel of the New York State Department of Environmental Conservation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CaCO3)
NOV 01...	0900	143	7.1	8.0	0.60	770	10.8	90	9	2	64
APR 24...	0900	133	7.9	5.5	0.20	760	11.3	90	--	--	--
24...	0915	133	7.9	5.5	5.5	760	11.3	90	12	560	56
MAY 16...	0945	70	8.4	12.0	1.4	765	9.5	88	1	0	59
16...	1000	70	8.4	12.0	0.60	765	9.5	88	--	--	--
JUL 31...	0930	156	8.2	23.0	1.0	760	8.5	99	4	1	62

DATE	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CaCO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV 01...	19	4.1	7.0	1.2	49	60	--	7.4	7.8	<0.1
APR 24...	--	--	--	--	--	--	--	10	8.9	--
24...	16	3.8	6.4	1.4	--	55	2	10	9.5	<0.1
MAY 16...	17	3.9	7.1	1.3	49	--	--	11	8.9	<0.1
16...	--	--	--	--	--	--	--	11	9.4	--
JUL 31...	18	4.1	7.2	1.2	50	61	--	11	10	<0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
NOV 01...	0.82	93	78	--	0.20	0.02	0.02	0.12	0.02	<0.01
APR 24...	--	110	--	--	--	0.01	--	0.21	0.03	--
24...	1.6	90	79	0.22	0.24	0.02	0.02	0.50	0.06	0.01
MAY 16...	0.17	105	80	0.20	0.22	0.02	0.02	0.50	<0.01	0.02
16...	--	86	--	--	--	<0.00	--	0.16	0.01	--
JUL 31...	1.0	84	83	--	<0.05	0.01	0.01	0.40	0.01	<0.01

ST. LAWRENCE RIVER BASIN

04295000 RICHELIEU RIVER (LAKE CHAMPLAIN) AT ROUSES POINT, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)
NOV 01...	<0.00	20	<10	<1	8	<0.5	<1	<1.0	<1	<3
APR 24...	0.00	230	--	--	--	--	<1	--	--	--
24...	<0.01	--	20	<1	9	<0.5	--	<1.0	<1	<3
MAY 16...	<0.01	--	<10	<1	7	<0.5	--	<1.0	1	<3
16...	<0.00	170	--	--	--	--	<1	--	--	--
JUL 31...	<0.01	20	<10	<1	7	<0.5	<1	<1.0	<1	<3

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
NOV 01...	3	2	60	8	1	<1	5	<10	2	<0.10
APR 24...	3	--	310	--	3	--	--	20	--	<0.10
24...	--	1	--	27	--	<1	<4	--	6	--
MAY 16...	--	1	--	12	--	1	<4	--	2	--
16...	5	--	60	--	1	--	--	<10	--	<0.10
JUL 31...	4	3	40	7	3	<1	<4	10	1	<0.10

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 01...	<0.1	<10	2	1	<1	<1.0	83	<6	<10	12
APR 24...	--	--	3	--	--	--	--	--	<10	--
24...	<0.1	<10	--	<1	<1	<1.0	85	<6	--	6
MAY 16...	<0.1	<10	--	1	<1	<1.0	84	<6	--	110
16...	--	--	4	--	--	--	--	--	<10	--
JUL 31...	<0.1	<10	<1	<1	<1	<1.0	87	<6	<10	36

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SEDI- MENT, SUS- PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 01...	0900	4	56
APR 24...	0900	9	--
24...	0915	9	96
MAY 16...	0945	2	--
16...	1000	2	--
JUL 31...	0930	1	100

STREAMS TRIBUTARY TO ST. LAWRENCE RIVER

LAKES AND RESERVOIRS IN STREAMS TRIBUTARY TO ST. LAWRENCE RIVER

04260990 CRANBERRY LAKE AT CRANBERRY LAKE, NY--Lat 44°13'14", long 74°50'55", St. Lawrence County, Hydrologic Unit 04150302, on right wall at outlet structure, at village of Cranberry Lake. DRAINAGE AREA, 140 mi². PERIOD OF RECORD, April 1923 to current year. GAGE, nonrecording gage read daily at 1200 hours. Datum of gage is 1,469.75 ft above National Geodetic Vertical Datum of 1929.

Dam completed in 1867 and controlled storage for which records are available began in 1923. Usable capacity above elevation 1,475.25 ft is 2,530 mil ft³. Crest at spillway is at elevation, 1,486.43 ft. Length of spillway is 110 ft. Area of water surface at crest elevation is 10.9 mi². Records provided by Oswegatchie River-Cranberry Reservoir Commission.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 2,985 mil ft³, May 13-15, 1971, gage height, 18.5 ft; minimum observed, 70 mil ft³, Apr. 1-4, 1956, gage height, 6.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 2,470 mil ft³, Apr. 26-29, gage height, 16.8 ft; minimum observed, 1,460 mil ft³, Jan. 30 to Feb. 1, gage height, 13.0 ft.

04266700 CARRY FALLS RESERVOIR NEAR SOUTH COLTON, NY--Lat 44°26'07", long 74°44'50", St. Lawrence County, Hydrologic Unit 04150305, near center of upstream wall of dam between Carry Falls and Stark Falls Reservoirs, 2.0 mi southeast of Stark, and 8.8 mi southeast of South Colton. DRAINAGE AREA, 872 mi². PERIOD OF RECORD, October 1954 to current year. REVISED RECORDS, WDR NY-86-1: Drainage area. GAGE, nonrecording gage read daily at 0800 hours. Datum of gage is National Geodetic Vertical Datum of 1929.

Dam completed January 1953 and controlled storage for which records are available began in October 1954. Usable capacity above elevation 1,332.0 ft is 5,114.9 mil ft³. Crest at spillway is at elevation 1,386.0 ft. Length of spillway is 830 ft. Area of water surface at crest elevation is 5.16 mi² (3,300 acres). The pond has a length of 6 mi and a perimeter of 25 mi. Below crest elevation, capacity controlled by a taintor gate, 27 ft x 15 ft, and 2 sluice gates, 10 ft x 10 ft. Records provided by Niagara Mohawk Power Corporation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 5,146 mil ft³, June 1, 5, 6, 1955, elevation, 1,386.1 ft; minimum observed, 8.64 mil ft³, Mar. 27-30, 1963, Apr. 4-11, 1964, elevation, 1,331.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 4,980 mil ft³, June 2, elevation, 1,384.9 ft; minimum observed, 1,883 mil ft³, Oct. 4, elevation, 1,358.9 ft.

04278000 LAKE GEORGE AT ROGERS ROCK, NY (see station for daily mean gage heights).

04294500 LAKE CHAMPLAIN AT BURLINGTON, VT (see station for daily mean gage heights).

04295000 RICHELIEU RIVER (LAKE CHAMPLAIN) AT ROUSES POINT, NY (see station for daily mean elevations).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Gage height (feet) *	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)	Elevation (feet) *	Contents (million ft ³)	Change in contents (equivalent in ft ³ /s)
	04260990	Cranberry Lake		04266700	Carry Falls Reservoir	
Sept. 30	15.2	2,022		1,359.0	1,892.2	
Oct. 31	15.4	2,074	+ 19.4	1,374.2	3,551.0	+619
Nov. 30	14.6	1,866	- 80.2	1,365.2	2,526.3	-395
Dec. 31	14.6	1,866	0.0	1,378.3	4,082.4	+581
CAL YR 1990	-	-	+ 12.9	-	-	+ 67.3
Jan. 31	13.0	1,460	-152	1,373.4	3,452.5	-235
Feb. 28	13.1	1,484	+ 9.93	1,363.4	2,339.7	-460
Mar. 31	15.0	1,970	+181	1,370.5	3,106.1	+286
Apr. 30	16.7	2,440	+181	1,384.3	4,897.2	+691
May 31	16.7	2,440	0.0	1,384.5	4,924.8	+ 10.3
June 30	16.0	2,240	- 77.2	1,380.1	4,316.5	-235
July 31	16.0	2,240	0.0	1,372.3	3,319.5	-372
Aug. 31	15.8	2,184	- 20.9	1,365.4	2,547.1	-288
Sept. 30	14.8	1,918	-103	1,364.9	2,495.2	- 20.0
WTR YR 1991	-	-	- 3.30	-	-	+ 19.1

* Gage heights or elevations at 2400 hours, by interpolation.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are usually presented in two tables. The first is usually a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table. No discharge measurements were made at low-flow partial-record stations for the 1991 water year.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain, but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum		Period of record maximum			
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
Housatonic River basin								
Stony Brook near Dover Plains, NY (01199477)	Lat 41°42'38", long 73°37'18", Dutchess County, Hydrologic Unit 01100005, on town road, 100 ft upstream from mouth, and 2.9 mi southwest of Dover Plains. Drainage area is 1.93 mi ² .	1976-91	10-24-90	1.35	62	4-4-87	6.40	532
Hudson River basin								
Schroon River at Riverbank, NY (01317000)	Lat 43°36'34", long 73°44'17", Warren County, Hydrologic Unit 02020001, on right bank 11.8 mi downstream from Schroon Lake, and 30 ft up- stream from highway bridge at Riverbank. Drainage area is 527 mi ² .	1908-25, 1926-70†, 1987-91	10-24-90	6.68	3,690	3-21-36	12.18	12,100
Steele Brook at Shushan, NY (01329154)	Lat 43°05'35", long 73°19'38", Washington County, Hydrologic Unit 02020003, at bridge on county road, 1.1 mi upstream from mouth, and 0.8 mi east of Shushan. Drainage area is 2.85 mi ² .	1979-91	11-11-90	4.24	66	1-26-90	5.62	118
Batten Kill at Battenville, NY (01329500)	Lat 43°06'05", long 73°25'55", Washington County, Hydrologic Unit 02020003, on left bank 1.2 mi upstream from Trout Brook, and 1.0 mi southwest of Battenville. Drainage area is 394 mi ² .	1923-68†, 1987-91	11-11-90	6.61	3,770	11- 4-27	17.70	21,300
Saratoga Lake tributary near Bemis Heights, NY (01330880)	Lat 42°59'43", long 73°43'06", Saratoga County, Hydrologic Unit 02020003, at culvert on State Highway 423, 1.4 mi upstream from mouth, and 4.6 mi northwest of Bemis Heights. Drainage area is 2.98 mi ² .	1968-91	10-24-90	12.99	110	8- 7-86	19.94	448
West Canada Creek at Nobleboro, NY (01342800)	Lat 43°23'47", long 74°51'35", Herkimer County, Hydrologic Unit 02020004, at bridge on State Highway 8, 2.9 mi northeast of Wilmurt, in village of Nobleboro. Drainage area is 193 mi ² .	1958-66, 1967-68†, 1969-76, 1987-91	4-21-91	7.35	5,780	12-31-57 12-29-84	9.99 13.93	11,000 20,000

f From floodmark.

‡ Operated at a continuous-record gaging station.

q Peak outside period of record.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES
Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
Hudson River basin--Continued								
North Creek near Ephratah, NY (01348420)	Lat 43°00'28", long 74°33'54", Fulton County, Hydrologic Unit 02020004, at culvert on town road, 0.4 mi upstream from mouth, and 1.2 mi northwest of Ephratah. Drainage area is 6.52 mi ² .	1975-91	11-10-90	6.60	273	6-29-82	8.95	540
Batavia Kill at Hensonville, NY (01349850)	Lat 42°22'17", long 74°12'55", Greene County, Hydrologic Unit 02020005, on right bank at downstream side of bridge on County Highway 40, 0.7 mi upstream from Silver Lake Outlet, and 1.8 mi upstream from Nauvo Stream, at Hensonville. Drainage area is 13.5 mi ² .	1972-91	11-10-90	3.75	968	8-13-55 9-12-60 6-22-72	f7.80 f8.70 6.87	q5,000 q5,000 3,190
Kinderhook Creek at Rossman, NY (01361000)	Lat 42°19'50", long 73°44'40", Columbia County, Hydrologic Unit 02020006, on right bank 1.0 mi upstream from Claverack Creek, 2.25 mi downstream from Stuyvesant Falls, at Rossman. Drainage area is 329 mi ² .	1906-14, 1929-68†, 1988-91	11-11-90	6.88	5,010	12-31-48	f19.80	29,800
Catskill Creek at Oak Hill, NY (01361500)	Lat 42°24'16", long 74°09'07", Greene County, Hydrologic Unit 02020006, on right bank 100 ft downstream from small tributary, and downstream from highway bridge in southernmost part of Oak Hill. Drainage area is 98.0 mi ² .	1911-77†, 1987-91	11-10-90	10.56	6,300	4- 4-87	f16.6	15,400
Roeliff Jansen Kill near Hillsdale, NY (01362100)	Lat 42°09'14", long 73°31'14", Columbia County, Hydrologic Unit 02020006, at bridge on county highway off State Highway 22, 1.8 mi south of Hillsdale. Drainage area is 27.5 mi ² .	1958-60†, 1961-91	10-24-90	3.72	557	6-30-73	9.78	3,280
Wallkill River near Unionville, NY (01368000)	Lat 41°15'36", long 74°32'58", Sussex County, New Jersey, Hydrologic Unit 02020007, on right bank on downstream side of bridge on Quarryville- Milton Road, 2.0 mi south of New York-New Jersey State line, and 3.0 mi south of Unionville. Drainage area is 140 mi ² .	1938-49, 1950-81†, 1989-91	4-22-91	386.17*	926	8-19-55	392.63*	6,880
Wallkill River near Pine Island, NY (01368100)	Lat 41°18'54", long 74°29'26", Orange County, Hydrologic Unit 02020007, on left bank 15 ft downstream from bridge on County Highway 1, 0.4 mi upstream from Rutgers Creek, and 2.0 mi northwest of Pine Island. Drainage area is 162 mi ² .	1989-91	12- 4-90	378.77*	-	10-20-89	382.45*	-
Wallkill River 0.9 mi above Pellets Island, near Middletown, NY (01369810)	Lat 41°22'10", long 74°25'10", Orange County, Hydrclologic Unit 02020007, on right bank 0.9 mi upstream from bridge on County Highway 37 at Pellets Island, and 5.2 mi south of Middletown Post Office. Drainage area is 373 mi ² .	1991	3- 4-91	371.30*	-			

f From floodmark.

q Peak outside period of record.

† Operated as a continuous-record gaging station.

* Elevation, in feet, above National Geodetic Vertical Datum of 1929.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
Hudson River basin--Continued								
Wallkill River 0.8 mi above Pellets Island, near Middletown, NY (01369820)	Lat 41°22'14", long 74°25'05", Orange County, Hydrologic Unit 02020007, on right bank 0.8 mi upstream from bridge on County Highway 37 at Pellets Island, and 5.1 mi south of Middletown Post Office. Drainage area is 373 mi ² .	1990-91	3- 4-91	370.58*	-	10-20-89	373.55*	-
Wallkill River 0.45 mi above Pellets Island, near Middletown, NY (01369992)	Lat 41°22'30", long 74°24'59", Orange County, Hydrologic Unit 02020007, on right bank 0.45 mi upstream from bridge on County Highway 37 at Pellets Island, and 4.7 mi south of Middletown Post Office. Drainage area is 373 mi ² .	1989-91	3- 4-91	370.42*	-	10-20-89	373.43*	-
Wallkill River 0.35 mi above Pellets Island, near Middletown, NY (01369995)	Lat 41°22'35", long 74°24'56", Orange County, Hydrologic Unit 02020007, on right bank 0.35 mi upstream from bridge on County Highway 37 at Pellets Island, and 4.6 mi south of Middletown Post Office. Drainage area is 374 mi ² .	1989-91	3- 4-91	370.32*	-	10-20-89	373.00*	-
Wallkill River at Pellets Island, NY (01370000)	Lat 41°22'50", long 74°24'50", Orange County, Hydrologic Unit 02020007, on right bank 10 ft downstream from bridge on County Highway 37 at Pellets Island, and 4.3 mi south of Middletown Post Office. Drainage area is 380 mi ² .	1920-37, 1938-68†, 1989-91	3- 4-91	368.95*	3,240	3-16-20 3-14-36	383.13* 382.43*	8,350 12,400
Wallkill River at Denton, NY (01370030)	Lat 41°24'07", long 74°23'24", Orange County, Hydrologic Unit 02020007, on right bank 50 ft downstream from bridge on U.S. Highway 6 (State Highway 17M), and 0.7 mi southwest of Denton. Drainage area is 385 mi ² .	1989-91	3- 4-91	363.53*	-	10-20-89	365.71*	-
Wallkill River near Phillipsburg, NY (01370500)	Lat 41°25'57", long 74°22'29", Orange County, Hydrologic Unit 02020007, on left bank 0.3 mi upstream from Masonic Creek, 0.9 mi upstream from bridge on State Highway 17, 1.9 mi northeast of New Hampton, and 1.0 mi south- west of Phillipsburg. Drainage area is 406 mi ² .	1937, 1938-59†, 1989-91	3- 4-91	360.50*	4,360	8-21-55	363.94*	9,200
Peekskill Hollow Creek at Tompkins Corners, NY (01374250)	Lat 41°23'18", long 73°48'47", Putnam County, Hydrologic Unit 02030101, at bridge on Bryant Pond Road, 1.1 mi downstream from Wiccopee Brook, and 0.9 mi southwest of Tompkins Corners. Drainage area is 14.9 mi ² .	1975-91	11-10-90	3.06	328	8- 7-90	4.77	1,050
Saw Mill River at Elmsford, NY (01376420)	Lat 41°03'19", long 73°49'16", Westchester County, Hydrologic Unit 02030101, at bridge on State Highway 119, 0.6 mi upstream from Rum Brook, and 0.8 mi downstream from Mine Brook at Elmsford. Drainage area is 15.4 mi ² .	1979-91	11-10-90	8.47	433	10-15-55 4- 5-84	- 11.57	aq1,060 950

* Elevation, in feet, above National Geodetic Vertical Datum of 1929.

† Operated as a continuous-record gaging station.

a Estimated, from U.S. Army Corps of Engineers.

q Peak outside of period of record.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES
Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
Passaic River basin								
Torne Brook at Ramapo, NY (01387410)	Lat 41°08'34", long 74°09'44", Rockland County, Hydrologic Unit 02030103, 0.2 mi up- stream from mouth, and 0.5 mi east of Ramapo. Drainage area is 2.60 mi ² .	1960-91	11-10-90	5.99	365	11- 8-77	11.02	1,520
Delaware River basin								
Callicoon Creek at Callicoon, NY (01427500)	Lat 41°45'39", long 75°02'55", Sullivan County, Hydrologic Unit 02040101, on right bank 0.9 mi upstream from mouth, 1.0 mi southwest of Hortonville, and 0.7 mi southeast of Callicoon. Drainage area is 110 mi ² .	1941-82†, 1983-91	11-10-90	6.30	5,350	8-17-47	9.68	16,000
East Branch Neversink River at Denning, NY (01434010)	Lat 41°57'30", long 74°28'26", Ulster County, Hydrologic Unit 02040104, on downstream side of bridge on private road at Strauss Estate, 0.9 mi upstream from Erts Brook, 0.4 mi downstream from Riley Brook, and 1.0 mi northeast of Denning. Drainage area is 13.3 mi ² .	1984-91	10-24-90	3.99	1,610	4- 4-87	f6.39	4,460
Streams tributary to Lake Ontario								
North Branch Grindstone Creek near Altmar, NY (042490673)	Lat 43°29'31", long 76°05'41", Oswego County, Hydrologic Unit 04140102, at culvert on Hong Kong Road, 4.1 mi up- stream from confluence with South Branch Grindstone Creek, and 4.1 mi southwest of Altmar. Drainage area is 11.2 mi ² .	1976-91	12-30-90 3- 4-91	10.06 b13.77	308 -	3-13-77	15.03	482
North Branch Salmon River at Redfield, NY (04249200)	Lat 43°32'32", long 75°48'51", Oswego County, Hydrologic Unit 04140102, at bridge on Harvester Mill Road, 0.7 mi northeast of Redfield. Drainage area is 82.5 mi ² .	1962-64, 1987-91	12-30-90	15.51	4,320	12-29-84 3-17-90 12-30-90	e19.15 14.96 15.51	q13,600 4,420 4,320
Moose River at McKeever, NY (04254500)	Lat 43°36'36", long 75°06'35", Herkimer County, Hydrologic Unit 04150101, on left bank 1.9 mi downstream from con- fluence of Middle and South Branches, and 1.0 mi west of McKeever. Drainage area is 363 mi ² .	1901-22, 1923-70†, 1987-91	12-30-90	11.07	8,170	6- 3-47	f17.45	d18,700
Deer River at Deer River, NY (04258700)	Lat 43°55'49", long 75°35'27", Lewis County, Hydrologic Unit 04150101, on left bank 2.0 mi upstream from mouth, and 350 ft upstream from bridge on State Highway 26 at Deer River. Drainage area is 94.8 mi ² .	1957-68†, 1969-91	12-30-90	6.28	7,170	3- 6-79 12-29-84	b11.10 f10.63	- 12,400
St. Lawrence River basin								
Elm Creek near Hermon, NY (04265100)	Lat 44°26'15", long 75°12'49", St. Lawrence County, Hydrologic Unit 04150304, at bridge, 6.8 mi upstream from confluence with Tanner Creek, and 2.7 mi southeast of Hermon. Drainage area is 32.6 mi ² .	1959-68†, 1969-91	12-30-90	7.15	680	4- 6-74	9.07	e1,270

† Operated at a continuous-record gaging station.

f From floodmark.

b Ice jam.

e Estimated.

q Peak outside of period of record.

d Dam failure.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
St. Lawrence River basin--Continued								
Plum Brook near Grantville, NY (04268200)	Lat 44°52'46", long 74°54'54", St. Lawrence County, Hydrologic Unit 04150305, on right bank 430 ft up- stream from bridge at junc- tion of Brouse and Grant Roads, 0.7 mi downstream from unnamed tributary, 1.1 mi upstream from mouth, 2.3 mi southwest of Massena city limits, and 1.4 mi north of Grantville. Drainage area is 43.9 mi ² .	1959-63†, 1964-91	4-10-91 12-30-90	5.74 b5.74	850 -	3-30-63 3-30-63	6.94 b6.99	1,920 -
West Branch St. Regis River near Parishville, NY (04268800)	Lat 44°35'55", long 74°44'15", St. Lawrence County, Hydrologic Unit 04150306, on right bank 25 ft upstream from highway bridge, 4.1 mi downstream from Mud Pond Outlet, 4.8 mi upstream from Niagara Mohawk Power Corp. dam, and 4.2 mi southeast of Parishville. Drainage area is 171 mi ² .	1959-68†, 1969-91	4-10-91	e4.7	e2,500	12-29-84 2-25-85	7.37 b7.51	5,960 -
East Branch Little Salmon River near Skerry, NY (04270162)	Lat 44°47'13", long 74°22'12", Franklin County, Hydrologic Unit 04150307, at culvert on Adams Road, 5.7 mi upstream from mouth, 100 ft downstream from Limekiln Brook, and 1.1 mi northeast of Skerry. Drainage area is 7.11 mi ² .	1978-91	4-10-91	3.69	109	6-20-78	6.80	240
Trout River at Trout River, NY (04270700)	Lat 44°59'23", long 74°17'56", Franklin County, Hydrologic Unit 04150307, on left bank at downstream side of bridge on county highway, 0.5 mi upstream from international boundary, 1.5 mi downstream from unnamed tributary, 3.3 mi downstream from Little Trout River, and 0.2 mi east of State High- way 30, at Trout River. Drainage area is 107 mi ² .	1960-66†, 1967-91	4-10-91 12-30-90	6.00 b6.14	2,730 -	4- 5-74 3-15-89	9.10 b9.98	6,490 -
Great Chazy River at Perry Mills, NY (04271500)	Lat 45°00'00", long 73°30'05", Clinton County, Hydrologic Unit 02010006, on left bank 500 ft upstream from highway bridge, and 7.5 mi upstream from Corbeau Creek, at Perry Mills. Drainage area is 247 mi ² .	1929-68†, 1987-91	4-22-91	8.73	4,810	4- 7-37 3- 9-46	9.74 bf11.50	6,000 -
West Branch Ausable River near Lake Placid, NY (04274000)	Lat 44°18'40", long 73°55'00", Essex County, Hydrologic Unit 02010004, on right bank 4 mi downstream from Lake Placid outlet, 150 ft up- stream from Monument Falls, and 4 mi northeast of Lake Placid. Drainage area is 116 mi ² .	1917, 1920-27, 1928-68†, 1983-91	12-30-90	7.24	2,860	9-22-38	12.20	10,800
Bouquet River at Willsboro, NY (04276500)	Lat 44°21'30", long 73°23'50", Essex County, Hydrologic Unit 02010004, on right bank 0.5 mi upstream from bridge on State Highway 22, 2.5 mi downstream from North Branch Bouquet River, and 3.0 mi upstream from mouth, at Willsboro. Drainage area is 275 mi ² .	1924-68†, 1987-91	12-24-90 3- 4-91	e6.2 b8.56	3,350 -	10- 1-24	10.85	11,800

† Operated as a continuous-record gaging station.

b Ice jam.

e Estimated.

f From floodmark.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1991

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Hudson River basin						
01335827 Mohawk River	Hudson River	Lat 43°20'23", long 75°21'57", Oneida County, Hydrologic Unit 02020004, at bridge on River Road, at North Western.		1989-90	11- 7-90	352
01342602 Mohawk River	Hudson River	Lat 43°05'26", long 75°09'27", Oneida County, Hydrologic Unit 02020004, at bridge on Upper Dyke Road, 2.0 mi east of Utica, and 0.5 mi southwest of West Schuyler.	553	1988-90	4- 3-91 5- 8-91 7- 3-91	1,500 1,370 *371
01349530 Mohawk River	Hudson River	Lat 42°57'01", long 74°22'10", Montgomery County, Hydrologic Unit 02020004, at Route 30-A bridge, at Fonda.	2,118	1966-67, 1988-90	11- 6-90	*2,710
0134986580 Batavia Kill	Schoharie Creek	Lat 42°18'29", long 74°13'54", Greene County, Hydrologic Unit 02020005, at bridge on State Highway 296, 0.7 mi east of Windham.			9- 5-91	*0.86
01359525 Normans Kill	Hudson River	Lat 42°38'52", long 73°50'46", Albany County, Hydrologic Unit 02020006, at bridge on New Scotland Road in Karlsfeld, 0.1 mi downstream from Krum Kill.	163		4- 3-91 5- 7-91 7- 2-91	172 336 *26.4
01359993 Kinderhook Creek	Stockport Creek	Lat 42°32'24", long 73°23'39", Rensselaer County, Hydrologic Unit 02020006, at bridge on Presbyterian Hill Road in Garfield, 0.5 mi upstream from Black River, and . 1.0 mi southwest of Stephentown.	34.6		4- 2-91 5- 7-91 7- 2-91	87.5 162 *14.1
01362182 Roeliff- Jansen Kill	Hudson River	Lat 42°09'11", long 73°50'42", Columbia County, Hydrologic Unit 02020006, at bridge 1.3 mi south of Linlithgo, 2.2 mi upstream from mouth.			4- 2-91 5- 7-91 7- 2-91	449 654 *45.0
01365500 Chestnut Creek	Rondout Creek	Lat 41°50'42", long 74°32'27", Sullivan County, Hydrologic Unit 02020007, on right bank, 0.1 mi downstream from Red Brook, 0.6 mi upstream from bridge on State Highway 55, at Grahamsville.	20.9	1939-87†, 1988-89	4-26-91	43.1
Delaware River basin						
01421200 Cadosia Creek	East Branch Delaware River	Lat 41°58'03", long 75°15'51", Delaware County, Hydrologic Unit 02040102, at bridge on State Highway 236, 0.3 mi upstream from mouth, at Cadosia.	17.9	1949-50, 1955, 1957-71, 1973-90	5-16-91 6- 6-91 6-19-91 8- 1-91	*16.0 5.85 *3.41 *1.00
01426000 Oquaga Creek	West Branch Delaware River	Lat 42°03'31", long 75°25'42", Broome County, Hydrologic Unit 02040101, on left bank, 150 ft downstream from Bone Creek, 0.3 mi upstream from mouth, 0.1 mi upstream from Mill Street bridge, in Deposit.	67.6	1941-73†, 1975-76, 1979-90	5-16-91 6- 6-91 6-19-91 8- 1-91	*48.6 32.8 *10.8 *3.40
01428000 Tenmile River	Delaware River	Lat 41°33'51", long 75°00'56", Sullivan County, Hydrologic Unit 02040101, on left bank, 0.5 mi downstream from East Branch Tenmile River, 0.8 mi upstream from mouth, and 0.6 mi northeast of Tusten.	45.6	1946-73†, 1978-90	5-15-91 6- 5-91 6-21-91 7-24-91 8- 2-91	*36.9 16.5 6.67 3.80 *1.67
01438000 Neversink River	Delaware River	Lat 41°21'40", long 74°41'07", Orange County, Hydrologic Unit 02040104, at Tristates Bridge on East Main Street (U.S. Highway 6), 0.1 mi upstream from Clove Brook, and 0.6 mi upstream from mouth, in Port Jervis.	336	1902-03, 1943, 1945, 1960-62, 1965-90	10- 3-90 10-10-90 11- 5-90 11-20-90 12-17-90 5-23-91 6- 7-91 6-13-91 6-18-91 7- 9-91 7-23-91 7-30-91 8- 9-91 8-12-91 8-26-91	145 140 259 490 508 214 219 240 172 136 132 101 76.2 102 100

* Base flow.

† Operated as a continuous-record gaging station.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1991--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Date	Measurements Discharge (ft ³ /s)
Streams tributary to Lake Ontario						
04257000 Beaver River	Black River	Lat 43°53'56", long 75°03'08", Herkimer County, Hydrologic Unit 04150101, at logging bridge about 0.2 mi downstream from Stillwater Dam, 7.5 mi west of Beaver River Post Office, and 2.5 mi upstream from Moshier Creek.	171	1909-90	10-23-90 11-27-90 1-14-91 2-19-91 4- 2-91 4-22-91 5- 7-91 6-18-91 8- 8-91 9-10-91	49.8 378 668 642 195 894 420 300 586 268
04258010 Beaver River	Black River	Lat 43°53'00", long 75°25'39", Lewis County, Hydrologic Unit 04150101, 100 ft upstream from dam, 1.0 mi downstream from Black Creek, at bridge in the village of Beaver Falls.	315		3-27-91	747
St. Lawrence River basin						
04268230 Raquette River	St. Lawrence River	Lat 44°55'00", long 74°53'19", St. Lawrence County, Hydrologic Unit 04150305, at bridge on State Highway 420 in Massena Springs, 0.3 mi downstream from Hutchins Creek, and 16.2 mi upstream from mouth.	1,196	1905-16, 1967-68	3-18-91 4- 1-91 4-15-91 5-14-91 6-17-91 7-29-91	3,360 3,780 4,840 3,050 *1,300 *1,590
04265440 Grass River	St. Lawrence River	Lat 44°56'00", long 74°53'26", St. Lawrence County, Hydrologic Unit 04150304, 225 ft upstream from dam, 0.1 mi downstream from bridge on State Highway 37B, and 1.0 mi upstream from Massena Power Canal.	629	1955, 1960, 1967-68	4- 2-91 4-15-91 5-13-91 6-17-91 7-29-91	1,440 1,870 733 *264 *108

* Base flow.

* * * * *

HUDSON RIVER BASIN

Batavia Kill tributaries seepage investigation

A series of discharge measurements were made on September 5, 1991, on four tributaries to the Batavia Kill, to study channel gains and losses. The measurements were made during base-flow conditions. Indicated gains or losses may be substantially in error as affected by small inaccuracies in open-channel measurements.

Distance upstream from mouth (miles)	Stream	Location	Meas. disch. (ft ³ /s)	Gain or loss
0.20	Nauvo Stream	Lat 42°18'32", long 74°14'04"	0.174	
0.03	do.....		0.165	-0.009
0.24	Mad Brook	Lat 42°18'38", long 74°15'02"	0.156	
0.16	...do....		0.176	+0.020
0.09	...do....		0.084	-0.092
0.06	...do....		0.000	-0.084
0.16	unnamed tributary	Lat 42°18'10", long 74°15'21"	0.088	
0.01	do.....		0.137	+0.049
0.26	unnamed tributary	Lat 42°18'05", long 74°17'52"	0.102	
0.18	do.....		0.040	-0.062
0.11	do.....		0.053	+0.013
0.10	do.....		0.000	-0.053

ALBANY COUNTY

424114073495402. Local number, A 636.

LOCATION.--Lat 42°41'14", long 73°49'54", Hydrologic Unit 02020006, Fuller Road, Albany.

Owner: State University of New York at Albany.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 21.0 ft in August 1989, filled in from original depth of 24 ft, cased to 22 ft, 2-in. jet point (60-gauze screen 22 ft to 24 ft). Well gravel packed from original depth of 26 ft.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 260 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.40 ft above land-surface datum.

REMARKS.--Well was drilled May 1974 as a replacement for 424114073495401 (local number A 635), located 35 ft north, which has a period of record from November 1965 to May 1974 (unpublished).

PERIOD OF RECORD.--May 1974 to current year. Records prior to October 1976 are unpublished and available in files of the Geological Survey.

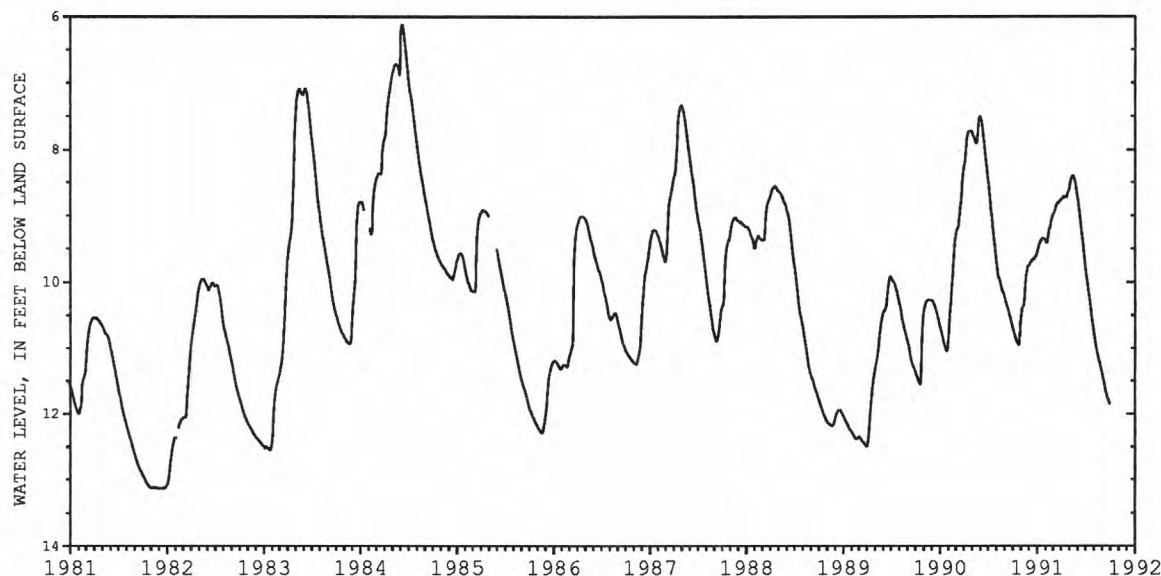
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.12 ft below land-surface datum, Apr. 12, 13, 1978, June 5, 6-7, 8, 1984; lowest, 13.13 ft below land-surface datum, Oct. 29, Nov. 25, 26-Dec. 17, 18, 20, 21-22, 23, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.68	10.51	9.74	9.55	9.37	8.99	8.76	8.57	8.72	9.79	10.76	11.39
2	10.70	10.48	9.74	9.54	9.39	8.98	8.75	8.55	8.75	9.83	10.79	11.41
3	10.71	10.45	9.74	9.52	9.39	8.97	8.75	8.52	8.77	9.87	10.82	11.43
4	10.73	10.42	9.73	9.50	9.40	8.96	8.75	8.50	8.80	9.90	10.84	11.45
5	10.74	10.41	9.72	9.49	9.41	8.95	8.74	8.49	8.83	9.93	10.87	11.47
6	10.76	10.39	9.71	9.47	9.41	8.95	8.74	8.47	8.87	9.96	10.89	11.49
7	10.77	10.38	9.71	9.45	9.41	8.93	8.73	8.45	8.90	9.98	10.92	11.51
8	10.79	10.37	9.70	9.44	9.39	8.92	8.72	8.44	8.94	10.01	10.94	11.53
9	10.81	10.37	9.70	9.43	9.36	8.91	8.72	8.43	8.98	10.04	10.97	11.55
10	10.82	10.36	9.69	9.42	9.33	8.89	8.71	8.42	9.02	10.07	10.99	11.57
11	10.83	10.34	9.68	9.42	9.30	8.88	8.71	8.41	9.06	10.11	11.01	11.59
12	10.84	10.31	9.68	9.40	9.28	8.87	8.72	8.40	9.09	10.14	11.03	11.61
13	10.86	10.26	9.67	9.39	9.25	8.85	8.73	8.39	9.13	10.17	11.05	11.63
14	10.87	10.21	9.67	9.39	9.23	8.84	8.73	8.39	9.16	10.20	11.08	11.65
15	10.88	10.15	9.67	9.38	9.20	8.84	8.73	8.39	9.19	10.23	11.10	11.66
16	10.89	10.08	9.66	9.38	9.19	8.83	8.72	8.40	9.23	10.26	11.11	11.68
17	10.90	10.02	9.66	9.37	9.19	8.83	8.72	8.40	9.26	10.29	11.13	11.69
18	10.91	9.98	9.66	9.36	9.18	8.82	8.72	8.41	9.29	10.32	11.15	11.71
19	10.92	9.94	9.65	9.36	9.17	8.80	8.72	8.43	9.33	10.36	11.17	11.73
20	10.93	9.90	9.66	9.35	9.15	8.80	8.73	8.44	9.36	10.39	11.19	11.74
21	10.94	9.88	9.66	9.34	9.12	8.80	8.72	8.46	9.40	10.42	11.20	11.76
22	10.95	9.85	9.65	9.34	9.09	8.80	8.71	8.47	9.43	10.46	11.21	11.77
23	10.95	9.83	9.64	9.34	9.08	8.81	8.69	8.49	9.47	10.49	11.22	11.78
24	10.95	9.80	9.63	9.34	9.06	8.80	8.68	8.51	9.51	10.52	11.24	11.79
25	10.94	9.79	9.63	9.34	9.04	8.79	8.67	8.53	9.55	10.55	11.26	11.80
26	10.89	9.78	9.62	9.35	9.02	8.79	8.65	8.56	9.59	10.59	11.28	11.81
27	10.82	9.77	9.62	9.35	9.01	8.79	8.64	8.59	9.63	10.61	11.29	11.82
28	10.74	9.76	9.61	9.35	9.00	8.77	8.62	8.61	9.67	10.64	11.31	11.83
29	10.66	9.75	9.59	9.36	---	8.77	8.61	8.65	9.72	10.67	11.33	11.84
30	10.60	9.75	9.58	9.36	---	8.76	8.60	8.68	9.76	10.70	11.35	11.85
31	10.55	---	9.56	9.36	---	8.76	---	8.70	---	10.73	11.37	---

WTR YEAR 1991 HIGHEST 8.39 May 13, 14, 15, 1991

LOWEST 11.85 Sept. 29, 30, 1991



GROUND-WATER LEVELS

ALBANY COUNTY

424044073535101. Local number, A 637.

LOCATION.--Lat 42°40'44", long 73°53'51", Hydrologic Unit 02020006, Dr. Shaw Road, Guilderland.

Owner: Whitfield Development Corporation.

AQUIFER.--Confined aquifer in sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 198 ft, cased to 193 ft, 30-slot plastic screen 193 ft to 198 ft.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 220 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.50 ft above land-surface datum.

REMARKS.--Water level affected by pumping from municipal well field 0.5 mi north-northwest.

PERIOD OF RECORD.--September 1976 to current year.

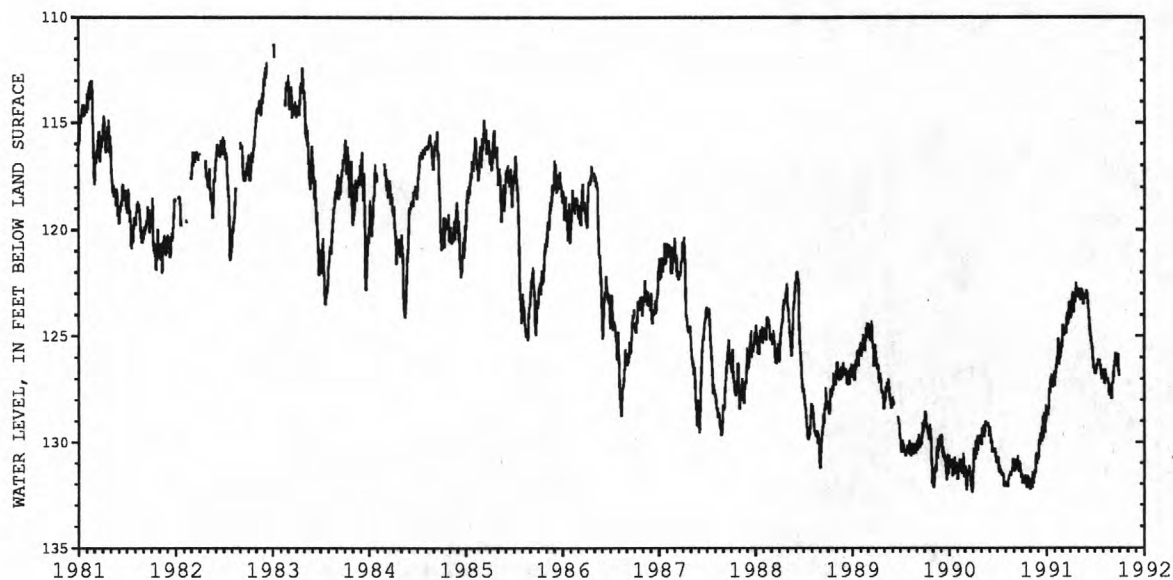
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 111.11 ft below land-surface datum, Jan. 7, 1983; lowest recorded, 132.44 ft below land-surface datum, Mar. 29, 1990.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131.57	132.25	130.69	128.93	127.32	125.48	123.82	122.80	122.94	126.62	126.58	127.79
2	131.60	132.18	130.70	128.58	127.06	124.88	123.91	122.77	123.01	126.71	126.55	127.93
3	131.95	132.12	130.73	128.55	126.80	124.92	124.16	122.82	122.96	126.72	126.66	127.61
4	131.64	131.98	129.88	128.60	126.73	124.46	123.99	123.02	123.04	126.72	126.62	127.23
5	131.67	131.95	129.96	128.53	126.66	124.84	123.61	123.14	123.35	126.70	126.88	127.21
6	131.74	131.71	129.97	128.37	126.75	124.81	123.42	122.92	123.62	126.57	127.20	127.22
7	131.84	132.02	130.12	128.57	126.51	124.47	123.26	123.05	123.73	126.47	127.18	127.14
8	131.92	132.09	129.97	128.72	126.31	124.91	123.23	123.27	123.70	126.29	126.94	127.00
9	131.83	132.17	129.81	128.28	126.10	124.97	123.02	123.33	124.02	126.39	126.68	126.88
10	131.95	131.56	129.56	128.32	126.00	124.85	122.93	123.25	124.14	126.31	126.54	126.46
11	131.96	131.43	129.91	128.40	126.04	124.86	123.40	123.19	124.25	126.29	126.73	126.35
12	131.85	131.52	129.69	127.45	126.20	124.75	123.86	122.82	124.42	126.30	126.97	126.38
13	131.60	131.66	129.30	127.52	125.83	124.64	123.88	122.78	124.80	126.08	126.97	126.29
14	131.57	131.96	129.95	127.62	125.10	124.59	123.78	122.77	125.01	126.08	126.93	126.19
15	131.61	131.73	129.56	127.67	125.16	124.70	123.37	123.02	124.86	126.29	126.96	126.09
16	131.99	131.39	129.22	127.23	125.79	124.85	123.18	123.05	124.83	126.32	127.08	125.84
17	132.04	131.33	129.42	127.01	126.00	124.79	123.28	122.92	125.05	126.14	127.07	125.78
18	131.63	131.55	128.78	127.11	126.32	124.22	123.41	123.35	125.34	126.09	127.00	125.93
19	131.66	131.33	129.20	127.16	125.92	123.89	123.42	123.50	125.37	126.20	126.97	126.00
20	132.18	131.37	129.82	126.79	125.70	124.23	123.29	123.40	125.34	126.31	127.18	126.20
21	132.09	131.44	129.42	127.02	125.74	124.42	122.73	123.23	125.38	126.36	127.17	126.35
22	131.87	131.15	129.00	127.29	125.39	124.48	122.48	123.16	125.55	126.52	127.25	126.40
23	131.75	130.65	128.71	127.11	126.01	124.33	122.78	123.26	125.76	126.34	127.39	126.20
24	131.61	130.50	128.61	127.06	125.81	123.78	122.85	123.09	125.98	126.51	127.67	126.29
25	131.76	130.56	129.14	127.39	125.55	124.09	123.09	123.03	126.15	126.70	127.79	125.88
26	131.78	131.03	129.22	127.15	125.42	124.26	123.13	123.25	126.30	126.80	127.66	125.83
27	132.05	130.90	129.55	126.88	125.34	123.85	122.95	123.13	126.47	126.88	127.51	126.22
28	131.83	130.58	129.23	126.81	125.56	123.38	123.11	123.10	126.46	126.99	127.47	126.55
29	132.04	130.71	128.73	127.01	---	123.56	123.17	123.10	126.45	126.92	127.49	126.68
30	132.13	130.83	128.24	126.62	---	123.77	122.94	122.93	126.55	126.74	127.33	126.83
31	132.23	---	128.68	126.67	---	124.12	---	122.83	---	126.65	127.28	---

WTR YEAR 1991 HIGHEST 122.34 Apr. 22, 1991

LOWEST 132.29 Nov. 1, 8, 9, 1990



DELAWARE COUNTY

420748075043101. Local number, D 492.

LOCATION.--Lat 42°07'48", long 75°04'31", Hydrologic Unit 02040102, near Walton.

Owner: New York State Department of Environmental Conservation.

AQUIFER.--Water-table aquifer in shale and sandstone of Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 199 ft, cased to 30 ft, open hole.

INSTRUMENTATION.--Weekly tape measurement by observer.

DATUM.--Elevation of land-surface datum is 2,180 ft above National Geodetic Vertical Datum of 1929, from

topographic map. Measuring point: Top of casing, 0.75 ft above land-surface datum.

REMARKS.--Water levels subject to rapid response from heavy rains or snowmelt. Pump installed in well in spring 1986 for summer campground use. Water levels may be affected by recent pumping.

PERIOD OF RECORD.--September 1977 to August 1983, October 1984 to current year. Records prior to water year 1982 are unpublished and unreliable, and should not be used.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.18 ft below land-surface datum, Mar. 31, 1986; lowest measured, 179.64 ft below land-surface datum, Aug. 20, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 08, 1990	110.00 Z	MAR 26, 1991	99.00	MAY 27, 1991	149.00	JUL 29, 1991	150.00
DEC 17	101.00 Z	APR 02	94.00	JUN 03	144.00	AUG 05	157.00
JAN 31, 1991	118.00 Z	08	94.00	10	140.00	12	156.00
FEB 05	112.00	15	96.00	17	149.00	19	152.00
11	99.00	22	109.00	24	151.00	26	154.00
20	104.00	29	129.00	JUL 01	148.00	SEP 06	156.00
27	99.00	MAY 06	125.00	08	150.00	16	157.00
MAR 04	93.00	13	134.00	15	154.00	23	153.00
11	89.00	20	139.00	22	155.00	30	154.00
19	101.00						

Z Measured by USGS personnel.

GROUND-WATER LEVELS

DUTCHESS COUNTY

414737073563301. Local number, Du 321.

LOCATION.--Lat 41°47'37", long 73°56'33", Hydrologic Unit 02020008, near Hyde Park.

Owner: U.S. National Park Service.

AQUIFER.--Confined aquifer in shale of Ordovician age.

WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in., depth 127 ft, cased to unknown depth, open hole.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 170 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of extended casing, 3.10 ft above land-surface datum.

REMARKS.--Water level responds to semidiurnal earth tides (approximately 0.05 ft).

PERIOD OF RECORD.--September 1948 to April 1950, April 1953 to current year.

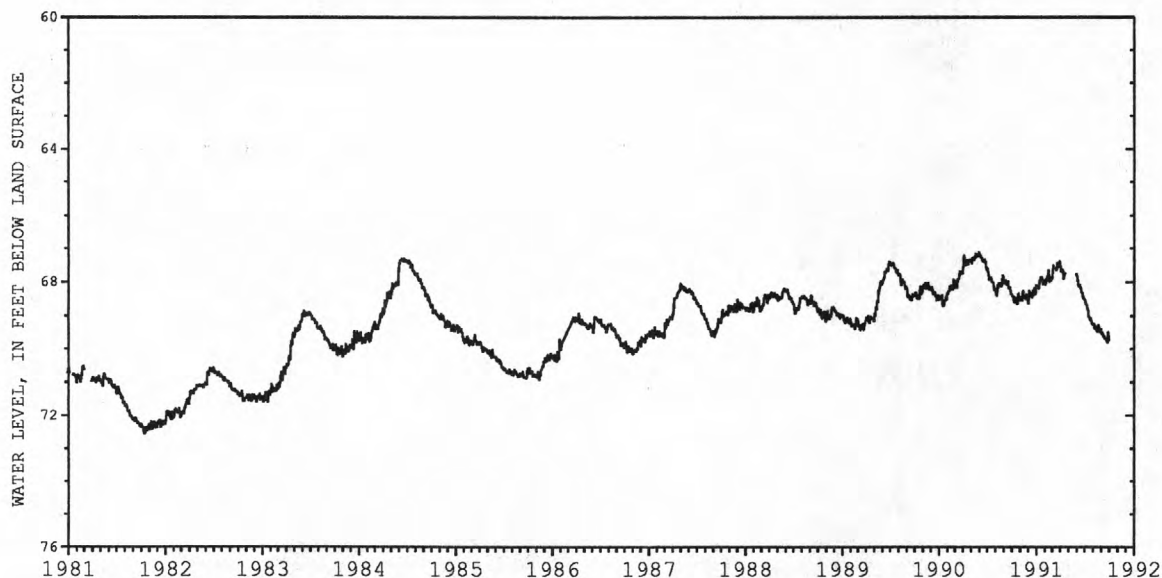
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 65.62 ft below land-surface datum, June 22, 1953; lowest, 73.85 ft below land-surface datum, Sept. 13, 1966.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68.37	68.55	68.60	68.13	67.99	67.91	67.53	---	67.77	68.51	69.26	69.44
2	68.36	68.54	68.61	68.15	68.08	67.86	67.54	---	67.81	68.55	69.25	69.53
3	68.42	68.52	68.64	68.14	68.07	67.78	67.60	---	67.84	68.57	69.26	69.56
4	68.44	68.50	68.44	68.15	68.04	67.59	67.68	---	67.87	68.61	69.23	69.53
5	68.41	68.48	68.26	68.17	68.02	67.48	67.71	---	67.93	68.65	69.24	69.49
6	68.43	68.43	68.25	68.15	68.01	67.54	67.70	---	68.01	68.65	69.31	69.51
7	68.47	68.46	68.30	68.16	67.97	---	67.67	---	68.08	68.65	69.38	69.55
8	68.52	68.50	68.34	68.20	67.90	---	67.66	---	68.10	68.65	69.39	69.59
9	68.55	68.57	68.35	68.19	67.84	---	67.64	---	68.11	68.67	69.37	69.62
10	68.57	68.49	68.33	68.14	67.81	---	67.62	---	68.12	68.72	69.31	69.62
11	68.60	68.27	68.37	68.16	67.81	---	67.67	---	68.12	68.77	69.31	69.59
12	68.61	68.24	68.40	68.02	67.85	---	67.80	---	68.07	68.82	69.36	69.62
13	68.55	68.30	68.37	67.92	67.86	---	67.89	---	68.08	68.84	69.40	69.65
14	68.46	68.40	68.41	67.93	67.75	67.60	67.91	---	68.14	68.85	69.42	69.68
15	68.45	68.47	68.46	67.97	67.63	67.59	67.85	---	68.16	68.93	69.43	69.71
16	68.52	68.46	68.38	67.97	67.68	67.62	67.77	---	68.15	69.02	69.44	69.68
17	68.60	68.41	68.36	67.86	67.81	67.66	67.74	---	68.17	69.04	69.47	69.67
18	68.60	68.42	68.30	67.84	67.95	67.60	67.74	---	68.25	69.04	69.48	69.70
19	68.52	68.43	68.23	67.87	67.99	67.46	67.77	---	68.30	69.05	69.37	69.70
20	68.57	68.45	68.33	67.86	67.94	67.43	67.78	---	68.31	69.08	69.26	69.70
21	68.64	68.49	68.40	67.84	67.91	67.50	---	---	68.31	69.11	69.27	69.73
22	68.65	68.51	68.36	67.90	67.86	67.55	---	---	68.32	69.15	69.29	69.79
23	68.61	68.44	68.28	67.97	67.88	67.57	---	---	68.36	69.08	69.33	69.80
24	68.41	68.36	68.15	67.98	67.95	67.46	---	---	68.41	69.05	69.40	69.80
25	68.33	68.35	68.16	68.03	67.93	67.42	---	---	68.46	69.11	69.47	69.65
26	68.35	68.42	68.24	68.07	67.90	67.47	---	---	68.48	69.17	69.49	69.48
27	68.42	68.51	68.34	68.05	67.85	67.48	---	---	68.50	69.19	69.47	69.49
28	68.45	68.52	68.36	68.01	67.88	67.39	---	---	68.50	69.23	69.44	69.58
29	68.48	68.51	68.30	68.02	---	67.37	---	67.81	68.49	69.26	69.43	69.67
30	68.53	68.56	68.19	68.00	---	67.38	---	67.80	68.49	69.26	69.41	69.74
31	68.54	---	68.08	67.92	---	67.49	---	67.76	---	69.26	69.38	---

WTR YEAR 1991 HIGHEST RECORDED 67.34 Mar. 29, 30, 1991

LOWEST 69.83 Sept. 23, 24, 1991



GREENE COUNTY

422319073482001. Local number, G 1.

LOCATION.--Lat 42°23'19", long 73°48'20", Hydrologic Unit 02020006, near West Cocksackie.

Owner: Harry Andrews.

AQUIFER.--Water-table aquifer in till of Pleistocene age.

WELL CHARACTERISTICS.--Dug domestic well, diameter 36 in., depth 17.3, filled in from original depth of 19 ft, tile-lined to 2 ft, stone-lined to 19 ft.

INSTRUMENTATION.--Weekly tape measurement by observer.

DATUM.--Elevation of land-surface datum is 130 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Chiseled square on top of inner step on curb, 0.18 ft below land-surface datum.

REMARKS.--The wrong measuring point value was used for water years 1984 to 1989. A +.24 ft correction should be applied to all published record from 1984 through 1989 water years.

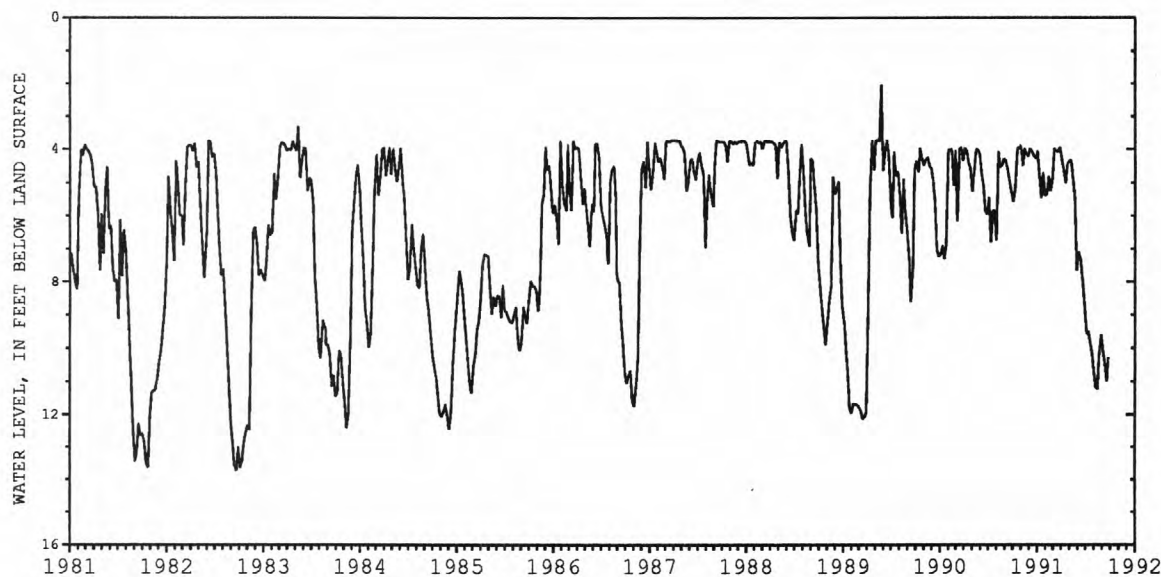
PERIOD OF RECORD.--December 1945 to current year.

EXTREMES FOR PERIOD OR RECORD.--Highest water level measured, 1.07 ft below land-surface datum, Mar. 15, 1962; lowest measured, 15.56 ft below land-surface datum, Feb. 27, 1963.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1990	5.56	DEC 29, 1990	4.28	APR 03, 1991	4.29	JUL 11, 1991	9.52
10	5.17	JAN 02, 1991	4.06	10	4.61	18	9.81
17	4.19	10	4.88	17	5.00	25	10.15
19	3.96 Z	16	5.46	24	4.43	31	10.63
24	3.98	23	4.70	MAY 01	4.36	AUG 07	11.15 Z
26	3.97 Z	30	5.38	08	4.33	14	11.21
31	3.88	FEB 06	5.35	15	4.87	21	10.15
NOV 08	4.49	13	4.81	22	5.48	28	9.60
14	3.98	20	5.24	29	7.64	SEP 05	10.13
21	4.14	27	4.88	JUN 05	7.08	11	10.44
28	4.21	MAR 06	3.98	12	7.29	18	10.98
DEC 05	3.98	13	4.06	20	7.93	23	10.29 Z
12	4.09	21	4.07	26	8.56	26	10.32
19	4.20	27	3.94	JUL 05	9.57		

Z Measured by USGS personnel.



GROUND-WATER LEVELS

HAMILTON COUNTY

432832074122201. Local number, H 3.

LOCATION.--Lat 43°28'32", long 74°12'22", Hydrologic Unit 02020002, near Griffin.

Owner: F. B. Girard.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Bored observation well, diameter 2.5 in., depth 16.2 ft in July 1991, filled in from original depth of 19 ft, cased to 16 ft, 1.25-in. well point (60-gauze screen 16 ft to 19 ft, damaged during well installation).

INSTRUMENTATION.--Tape measurement by USGS personnel every six weeks.

DATUM.--Elevation of land-surface datum is 1,290 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.55 ft above land-surface datum as of October 1984.

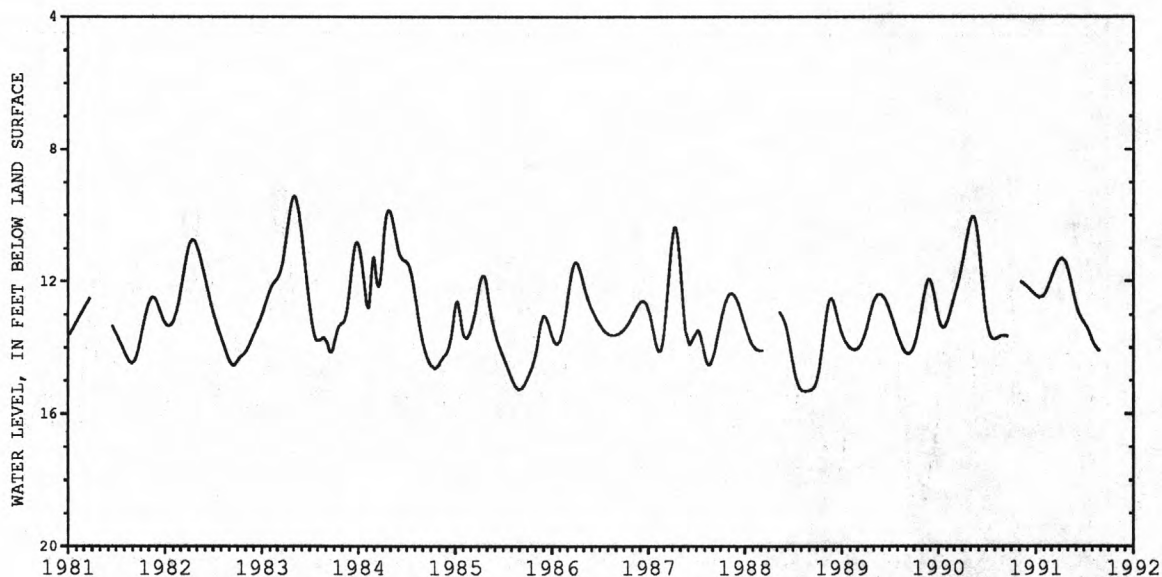
REMARKS.--Well casing believed to have settled about 0.75 ft shortly after installation. All published records prior to 1985 water year should be adjusted accordingly.

PERIOD OF RECORD.--November 1965 to current year. Records prior to October 1976 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.38 ft below land-surface datum, June 6, 1980; lowest measured, 16.19 ft below land-surface datum, Oct. 21, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07, 1990	12.01	MAR 13, 1991	11.63	JUN 04, 1991	12.76	AUG 06, 1991	13.87
DEC 18	12.30	APR 23	11.40	JUL 18	13.48	27	14.10
JAN 29, 1991	12.45						



MONTGOMERY COUNTY

430141074423501. Local number, Mt 1.

LOCATION.--Lat 43°01'41", long 74°42'35", Hydrologic Unit 02020004, near St. Johnsville.

Owner: Keith Handy.

AQUIFER.--Water-table aquifer in till of Pleistocene age.

WELL CHARACTERISTICS.--Dug unused well, diameter 24 in., depth 12.0 ft, stone-lined.

INSTRUMENTATION.--Tape gage read weekly by observer.

DATUM.--Elevation of land-surface datum is 710 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top edge of limestone slab at northeast corner of well opening, at land-surface datum.

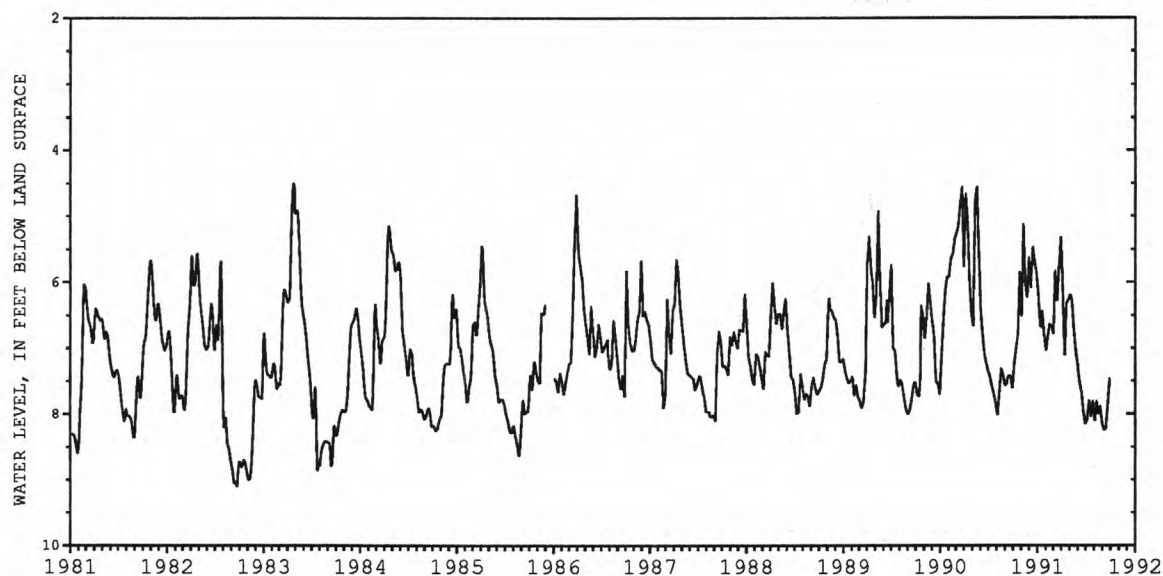
PERIOD OF RECORD.--October 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.74 ft below land-surface datum, Apr. 10, 1971; lowest measured, 9.99 ft below land-surface datum, Aug. 28, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1990	7.21	JAN 12, 1991	6.68	APR 13, 1991	7.10	JUL 13, 1991	7.79
20	6.79	19	6.43	20	6.32	20	8.04
27	5.84	26	6.79	27	6.26	27	7.80
NOV 03	6.51	FEB 02	7.03	MAY 04	6.18	AUG 03	8.10
10	5.12	09	6.81	11	6.28	05	8.08 Z
17	6.02	16	6.63	18	6.74	10	7.80
24	6.23	23	6.67	25	7.06	17	8.00
DEC 01	5.62	MAR 02	6.78	JUN 01	7.27	24	7.88
08	6.08	09	5.82	08	7.53	31	8.14
15	5.46	16	6.28	15	7.67	SEP 07	8.24
22	5.68	23	5.76	22	7.96	14	8.21
29	5.86	30	5.32	29	8.15	28	7.46
JAN 05, 1991	6.18	APR 06	6.06	JUL 06	8.08		

Z Measured by USGS personnel.



GROUND-WATER LEVELS

ONEIDA COUNTY

433112075091501. Local number, Oe 151.

LOCATION.--Lat 43°31'12", long 75°09'15", Hydrologic Unit 04150101, at Woodgate.

Owner: Henry Rubyor.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Dug domestic well, diameter 36 in., depth 31.1 ft in July 1984, stone-lined.

INSTRUMENTATION.--Tape gage read weekly by observer. Water-stage recorder installed Sept. 11, 1991--hourly punch.

DATUM.--Elevation of land-surface datum is 1,484.94 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of 2-ft square concrete well cover at midpoint of south side of rectangular opening, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1926 to August 1945, October 1948 to current year.

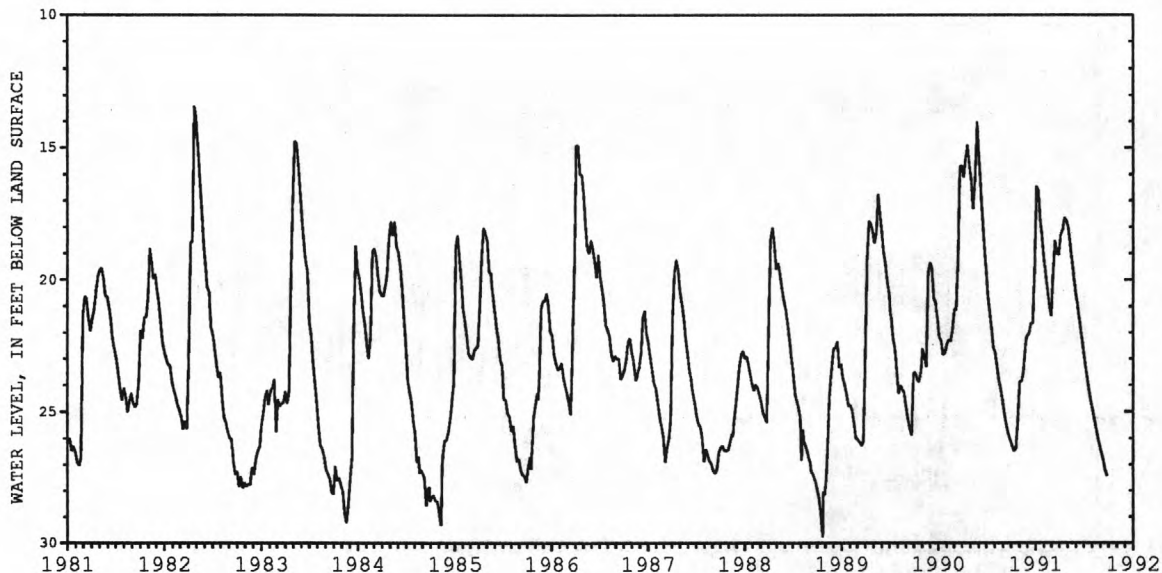
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.43 ft below land-surface datum, Apr. 3, 1976; lowest measured, 30.31 ft below land-surface datum, Feb. 25, 1961.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1990	26.28	JAN 05, 1991	16.46	APR 06, 1991	18.31	JUL 06, 1991	23.13
13	26.48	12	16.60	13	18.12	13	23.64
20	26.36	19	17.72	20	17.65	20	24.11
27	25.33	26	18.40	27	17.75	27	24.54
NOV 03	23.87	FEB 02	19.22	MAY 04	17.99	AUG 03	24.90
10	23.85	09	19.82	11	18.57	10	25.31
17	23.49	16	20.45	18	19.23	17	25.67
24	22.57	23	20.99	25	19.86	24	26.04
28	22.18 Z	MAR 02	21.35	JUN 01	20.47	SEP 07	26.62
DEC 08	22.03	09	19.73	08	20.91	11	26.78 Z
15	21.65	16	18.51	15	21.47	18	27.17 X
22	21.65	23	18.99	22	22.03	26	27.42 X
29	19.58	30	19.04	29	22.56		

Z Measured by USGS personnel.

X Reading at 0800 hours from recorder.



ONEIDA COUNTY

433012075134202. Local number, Oe 766.

LOCATION.--Lat 43°30'12", long 75°13'42", Hydrologic Unit 04150101, near Hawkinsville.

Owner: New York State Department of Environmental Conservation.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Driven-washed observation well, diameter 6 in., depth 30.8 ft in August 1989, filled in from original depth of 33 ft, cased to 33 ft, open end.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 1,190.22 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of extended casing, 2.63 ft above land-surface datum.

REMARKS.--Well was driven-washed November 1968 as a replacement for 433012075134201 (local number Oe 765), located 15 ft east, which has a period of record from November 1965 to November 1968 (unpublished).

PERIOD OF RECORD.--November 1968 to current year. Records prior to October 1976 are unpublished and available in files of the Geological Survey.

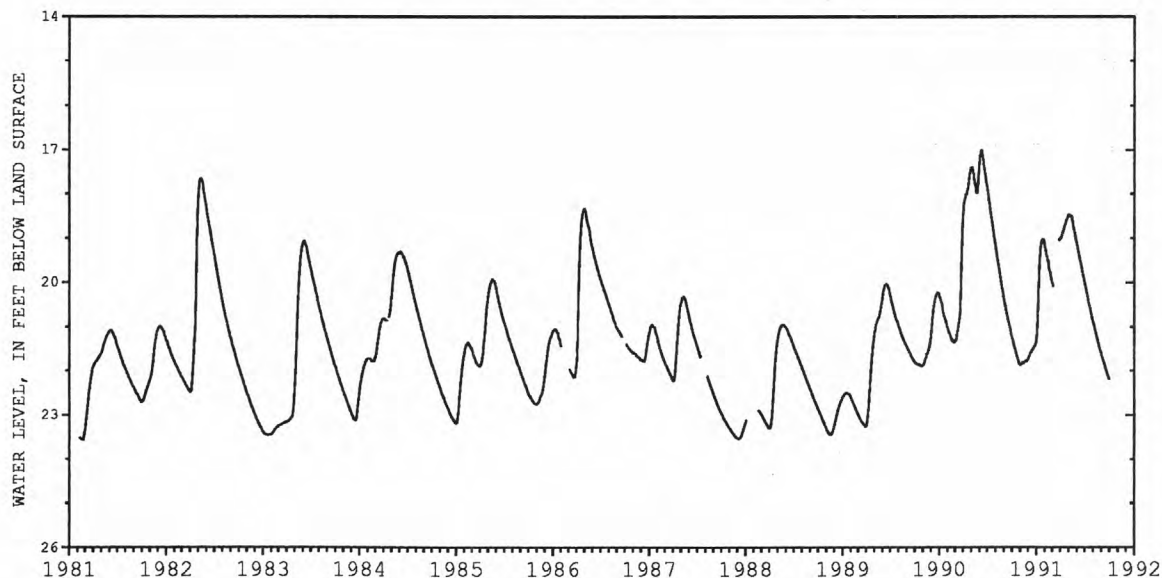
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.87 ft below land-surface datum, May 21, 1972; lowest recorded, 23.58 ft below land-surface datum, Feb. 20, 21, 22, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.21	21.86	21.73	21.31	19.17	20.00	18.99	18.48	19.11	20.01	20.86	21.62
2	21.24	21.86	21.72	21.25	19.20	20.01	18.99	18.47	19.14	20.04	20.89	21.64
3	21.27	21.86	21.71	21.18	19.21	20.04	19.00	18.47	19.17	20.07	20.91	21.65
4	21.28	21.86	21.67	21.09	19.24	20.04	18.98	18.49	19.20	20.10	20.94	21.67
5	21.31	21.85	21.66	20.96	19.27	20.09	18.95	18.49	19.24	20.12	20.97	21.70
6	21.34	21.84	21.65	20.80	19.32	---	18.94	18.47	19.27	20.15	21.00	21.72
7	21.36	21.85	21.64	20.62	19.34	---	18.91	18.48	19.31	20.18	21.03	21.74
8	21.38	21.85	21.62	20.41	19.37	---	18.90	18.51	19.33	20.21	21.05	21.76
9	21.40	21.84	21.61	20.19	19.39	---	18.87	18.52	19.37	20.24	21.07	21.78
10	21.43	21.81	21.59	20.01	19.42	---	18.84	18.52	19.39	20.27	21.09	21.80
11	21.45	21.80	21.59	19.84	19.46	---	18.84	18.52	19.41	20.30	21.12	21.82
12	21.48	21.81	21.57	19.68	19.50	---	18.83	18.50	19.44	20.33	21.15	21.84
13	21.49	21.81	21.55	19.55	19.52	---	18.81	18.51	19.48	20.35	21.18	21.86
14	21.52	21.82	21.56	19.45	19.50	---	18.78	18.52	19.51	20.39	21.20	21.89
15	21.54	21.81	21.54	19.37	19.54	---	18.75	18.57	19.53	20.43	21.22	21.91
16	21.57	21.79	21.52	19.27	19.61	---	18.73	18.60	19.55	20.46	21.25	21.93
17	21.59	21.79	21.52	19.20	19.66	---	18.71	18.61	19.59	20.48	21.27	21.95
18	21.60	21.80	21.49	19.16	19.72	---	18.70	18.68	19.63	20.50	21.30	21.97
19	21.62	21.79	21.50	19.12	19.73	---	18.69	18.73	19.66	20.53	21.32	21.99
20	21.65	21.79	21.51	19.07	19.74	---	18.67	18.76	19.69	20.56	21.34	22.01
21	21.67	21.80	21.49	19.05	19.77	---	18.63	18.77	19.72	20.58	21.36	22.03
22	21.69	21.78	21.47	19.05	19.78	---	18.60	18.80	19.75	20.61	21.39	22.05
23	21.71	21.76	21.45	19.02	19.83	---	18.60	18.84	19.78	20.63	21.42	22.07
24	21.72	21.76	21.44	19.02	19.86	---	18.58	18.87	19.81	20.66	21.44	22.09
25	21.75	21.76	21.45	19.04	19.88	---	18.58	18.89	19.84	20.69	21.46	22.10
26	21.76	21.78	21.44	19.03	19.91	---	18.56	18.94	19.87	20.72	21.48	22.12
27	21.79	21.77	21.44	19.01	19.94	19.05	18.54	18.96	19.90	20.75	21.50	22.14
28	21.80	21.75	21.41	19.03	19.98	19.01	18.52	19.00	19.92	20.77	21.53	22.16
29	21.82	21.75	21.39	19.06	---	19.01	18.51	19.03	19.95	20.80	21.55	22.18
30	21.84	21.75	21.36	19.07	---	19.00	18.49	19.05	19.98	20.82	21.57	22.20
31	21.85	---	21.35	19.08	---	19.02	---	19.07	---	20.84	21.59	---

WTR YEAR 1991 HIGHEST 18.46 May 6, 1991

LOWEST 22.21 Sept. 30, 1991



GROUND-WATER LEVELS

PUTNAM COUNTY

412450073413101. Local number, P 609.

LOCATION.--Lat 41°24'50", long 73°41'31", Hydrologic Unit 02030101, near Carmel.

Owner: New York City Board of Water Supply.

AQUIFER.--Water-table aquifer in till of Pleistocene age.

WELL CHARACTERISTICS.--Dug unused well, diameter 36 in., depth 16.2 ft in June 1984, stone-lined.

INSTRUMENTATION.--Weekly tape measurement by observer.

DATUM.--Elevation of land-surface datum is 540 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top (north side) of 3-in. coupling set in concrete well cover, at land-surface datum.

REMARKS.--Original depth measured at 17 ft. Depth measured at 16.6 ft October 1979, filled in to 16 ft September 1981.

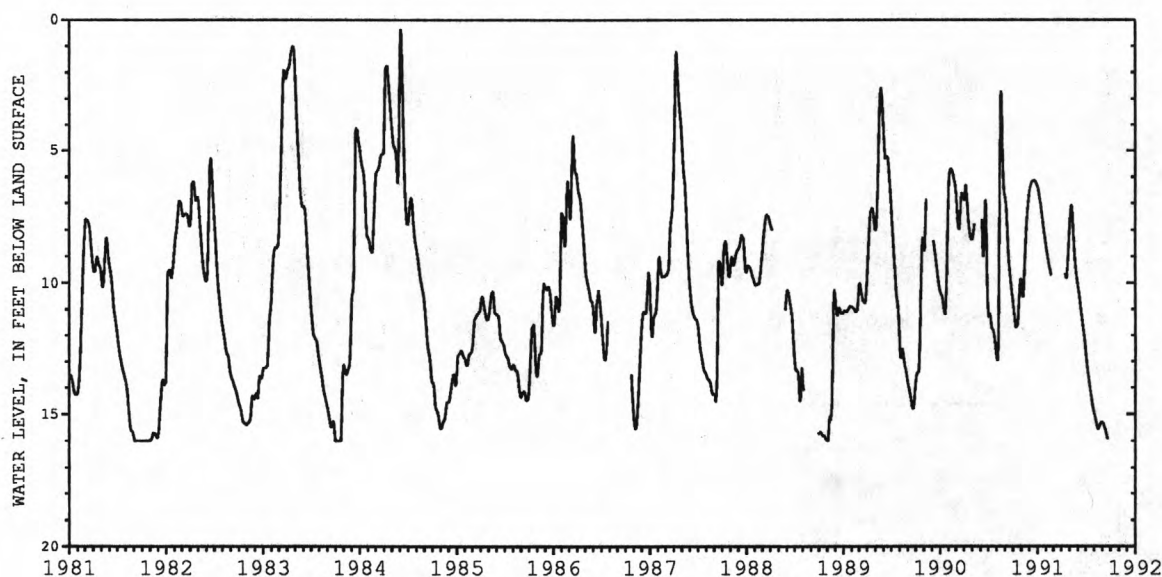
PERIOD OF RECORD.--January 1935 to September 1945, September 1950 to current year. Records prior to October 1976 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.84 ft below land-surface datum, June 2, 1984; lowest measured, dry, Nov. 1, 30, 1935, Jan. 7, 1936, Sept. 1, 1939, several days in 1953, 1957, 1964, 1966, 1978, Sept. 25, 1980, several days in 1981, 1982, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1990	11.00	JAN 03, 1991	6.43	MAY 23, 1991	9.26	JUL 19, 1991	14.16
11	11.70	31	8.46	JUN 07	10.48	26	14.66
18	11.62	FEB 21	9.69	13	11.04	AUG 09	15.31
NOV 01	9.86	APR 16	9.66 Z	20	11.66	16	15.56
08	10.53	18	9.80	27	12.23	22	15.40
15	9.12	MAY 10	7.13	JUL 04	13.00	SEP 20	15.93
DEC 13	6.16	16	8.16				

Z Measured by USGS personnel.



GROUND-WATER LEVELS

251

RENSSELAER COUNTY

423834073391001. Local number, Re 700.

LOCATION.--Lat 42°38'34", long 73°39'10", Hydrologic Unit 02020006, near Defreestville.

Owner: William P. Hofmann.

AQUIFER.--Water-table aquifer in sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug domestic well, diameter 4 ft, depth 15.9 ft in June 1988, stone-lined.

INSTRUMENTATION.--Weekly tape measurement by observer.

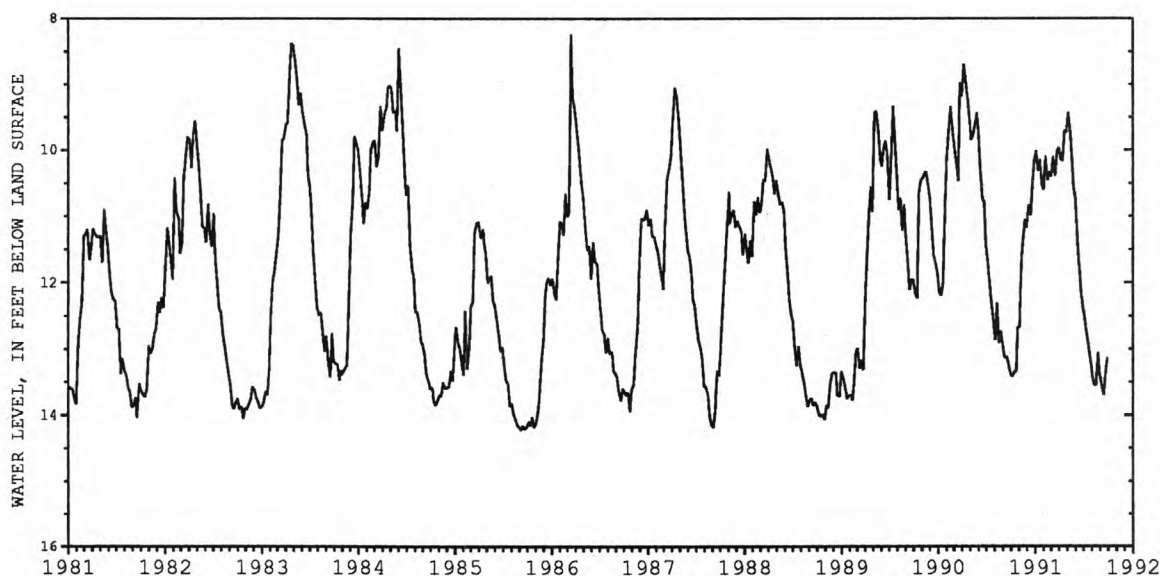
DATUM.--Elevation of land-surface datum is 405 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top edge of concrete curbing at midpoint of north side of rectangular opening, 2.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.23 ft below land-surface datum, Mar. 15, 1986; lowest measured, 15.49 ft below land-surface datum, Oct. 3, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1990	13.42	JAN 13, 1991	10.32	APR 14, 1991	10.16	JUL 13, 1991	12.77
14	13.36	19	10.15	21	9.71	20	12.96
22	13.33	26	10.51	28	9.73	28	13.19
27	12.67	FEB 02	10.60	MAY 05	9.43	AUG 03	13.40
NOV 03	12.68	09	10.09	13	9.74	09	13.54
12	11.60	17	10.45	20	10.18	16	13.55
24	11.05	23	10.33	25	10.55	24	13.06
30	11.17	MAR 02	10.40	JUN 01	10.73	31	13.40
DEC 08	10.83	09	10.10	08	11.30	SEP 08	13.57
16	10.99	17	10.39	16	11.79	14	13.69
22	10.54	24	10.02	23	12.17	22	13.32
29	10.16	31	9.96	30	12.40	28	13.13
JAN 05, 1991	10.01	APR 07	10.13	JUL 06	12.54		



GROUND-WATER LEVELS

RENSSELAER COUNTY

423534073423401. Local number, Re 703.

LOCATION.--Lat 42°35'34", long 73°42'34", Hydrologic Unit 02020006, in East Greenbush.

Owner: Town of East Greenbush.

AQUIFER.--Confined aquifer in sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 80 ft, cased to 78 ft, 50-slot plastic screen 78 ft to 80 ft.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 275 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of flange, 2.9 ft above land-surface datum.

REMARKS.--The wrong measuring point value was used from November 1982 through the 1985 water year. A -.20 ft correction should be applied to all published record prior to the 1985 water year. Well was drilled October 1982 as a replacement for 423532073423701 (local number Re 701), located about 300 ft southwest and 15.8 ft lower in land-surface datum, which has a period of record from March 1961 to May 1980. Water level may be affected by nearby pumping.

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

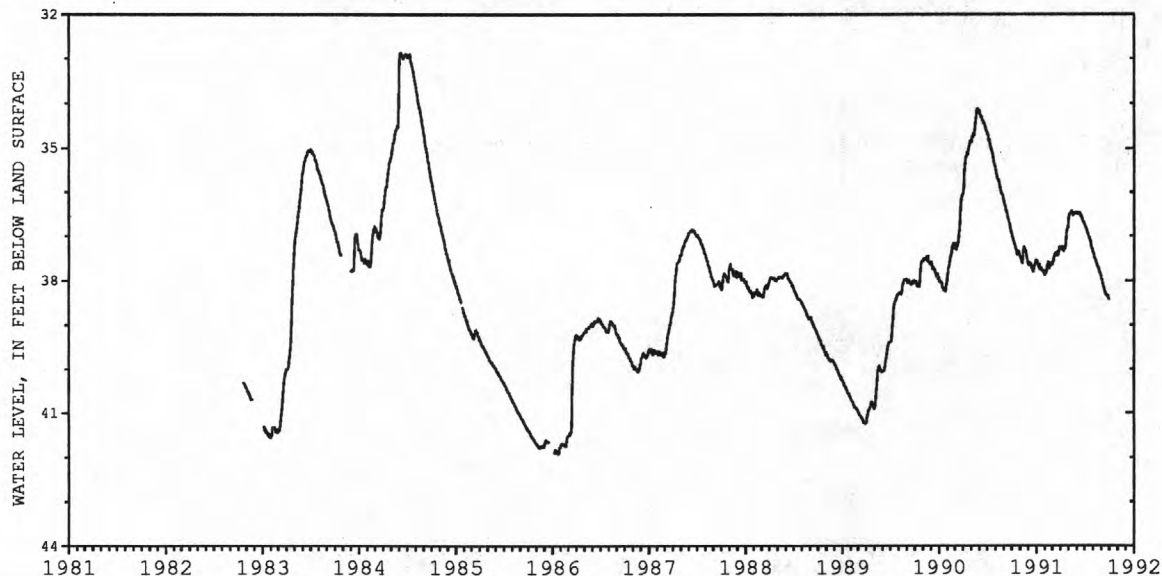
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 32.86 ft below land-surface datum, June 4, 5, 6, 7, 8, 9, July 11, 1984; lowest recorded, 41.93 ft below land-surface datum, Jan. 23, 24, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.94	37.46	37.61	37.60	37.88	37.65	37.26	36.74	36.46	36.73	37.35	37.94
2	36.97	37.47	37.64	37.55	37.84	37.59	37.28	36.65	36.46	36.75	37.37	37.96
3	37.02	37.49	37.66	37.56	37.82	37.61	37.32	36.57	36.45	36.76	37.40	37.96
4	37.00	37.50	37.59	37.58	37.82	37.56	37.30	36.54	36.46	36.79	37.40	37.97
5	37.03	37.53	37.60	37.59	37.82	37.59	37.26	36.52	36.49	36.80	37.43	38.01
6	37.06	37.53	37.60	37.60	37.84	37.54	37.25	36.49	36.51	36.81	37.47	38.05
7	37.09	37.58	37.62	37.64	37.80	37.46	37.25	36.50	36.50	36.82	37.49	38.07
8	37.12	37.60	37.61	37.68	37.75	37.47	37.26	36.50	36.47	36.83	37.50	38.10
9	37.13	37.62	37.60	37.65	37.70	37.44	37.24	36.49	36.49	36.87	37.51	38.12
10	37.16	37.57	37.59	37.69	37.66	37.42	37.23	36.48	36.48	36.88	37.52	38.13
11	37.19	37.49	37.66	37.72	37.65	37.41	37.31	36.47	36.47	36.91	37.54	38.15
12	37.20	37.37	37.65	37.62	37.66	37.40	37.35	36.43	36.46	36.93	37.57	38.18
13	37.21	37.31	37.63	37.67	37.62	37.39	37.34	36.43	36.50	36.94	37.59	38.21
14	37.23	37.31	37.72	37.72	37.57	37.39	37.32	36.44	36.52	36.96	37.60	38.23
15	37.25	37.27	37.69	37.75	37.59	37.42	37.26	36.48	36.50	37.00	37.62	38.25
16	37.30	37.24	37.68	37.72	37.68	37.44	37.25	36.48	36.49	37.01	37.65	38.26
17	37.32	37.25	37.74	37.70	37.70	37.43	37.27	36.46	36.53	37.01	37.66	38.27
18	37.30	37.29	37.68	37.74	37.74	37.36	37.30	36.53	36.57	37.03	37.68	38.29
19	37.34	37.28	37.76	37.74	37.70	37.35	37.29	36.53	36.57	37.06	37.69	38.31
20	37.40	37.32	37.81	37.70	37.66	37.41	37.26	36.51	36.56	37.08	37.70	38.30
21	37.42	37.37	37.76	37.73	37.66	37.43	37.20	36.48	36.57	37.10	37.70	38.31
22	37.42	37.37	37.70	37.78	37.61	37.45	37.13	36.48	36.60	37.12	37.71	38.32
23	37.43	37.34	37.67	37.76	37.67	37.42	37.05	36.49	36.63	37.12	37.72	38.32
24	37.40	37.37	37.66	37.76	37.64	37.34	36.96	36.47	36.65	37.16	37.76	38.35
25	37.38	37.42	37.68	37.81	37.60	37.37	36.90	36.47	36.66	37.20	37.79	38.32
26	37.34	37.51	37.63	37.79	37.60	37.36	36.86	36.50	36.68	37.23	37.80	38.32
27	37.38	37.52	37.64	37.77	37.60	37.29	36.82	36.48	36.69	37.25	37.81	38.35
28	37.35	37.52	37.60	37.78	37.65	37.24	36.83	36.48	36.69	37.28	37.83	38.38
29	37.40	37.56	37.56	37.83	---	37.25	36.83	36.48	36.70	37.30	37.85	38.40
30	37.42	37.60	37.52	37.78	---	37.27	36.80	36.46	36.72	37.31	37.87	38.42
31	37.44	---	37.58	37.80	---	37.31	---	36.45	---	37.33	37.89	---

WTR YEAR 1991 HIGHEST 36.42 May 12, 13, 14, 1991

LOWEST 38.43 Sept. 30, 1991



ST. LAWRENCE COUNTY

444904074455201. Local number, St 40.

LOCATION.--Lat 44°49'04", long 74°45'52", Hydrologic Unit 04150306, near Brasher Falls.

Owner: New York State Department of Environmental Conservation.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Dug unused well, diameter 36 in., depth 11.3 ft in October 1985, filled in from original depth of 12 ft, concrete cased to 12 ft, open end.

INSTRUMENTATION.--Tape gage read weekly by observer.

DATUM.--Elevation of land-surface datum is 300 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Chisled mark on top edge of 6-in. by 8-in. opening of concrete well cover, 0.65 ft above land-surface datum.

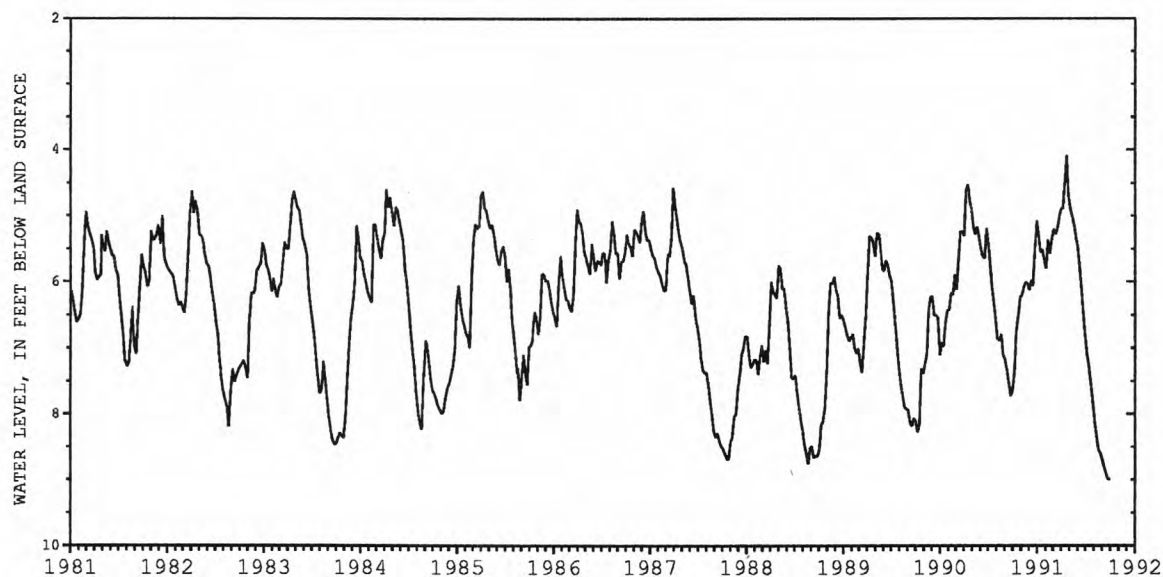
PERIOD OF RECORD.--May 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.24 ft below land-surface datum, Apr. 21, 1971; lowest measured, 9.38 ft below land-surface datum, Oct. 24, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1990	7.38	DEC 30, 1990	5.08	MAR 31, 1991	4.90	JUL 07, 1991	7.12
14	6.75	JAN 06, 1991	5.27	APR 07	4.88	14	7.29
21	6.51	13	5.55	21	4.09	21	7.55
24	6.43 Z	20	5.51	28	4.70	28	7.81
28	6.24	27	5.67	MAY 05	4.90	AUG 04	8.12
NOV 04	6.20	FEB 03	5.79	12	5.01	11	8.33
11	6.08	10	5.37	19	5.14	18	8.54
18	6.01	17	5.57	26	5.33	25	8.59
25	6.03	24	5.37	JUN 02	5.48	SEP 01	8.69
DEC 02	6.12	MAR 03	5.20	09	5.78	08	8.80
09	5.98	10	5.28	16	6.14	15	8.90
16	6.06	17	5.20	23	6.50	22	8.99
23	5.50	24	5.01	30	6.85	29	8.99

Z Measured by USGS personnel.



GROUND-WATER LEVELS

ST. LAWRENCE COUNTY

445216074593001. Local number, St 404.

LOCATION.--Lat 44°52'16", long 74°59'30", Hydrologic Unit 04150305, near Raymondville.

Owner: New York Power Authority.

AQUIFER.--Confined aquifer in Beekmantown dolomite of Cambrian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 179.6 ft, cased to 54 ft, open hole.

INSTRUMENTATION.--Monthly tape measurement by observer.

DATUM.--Elevation of land-surface datum is 247.7 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 3.90 ft above land-surface datum.

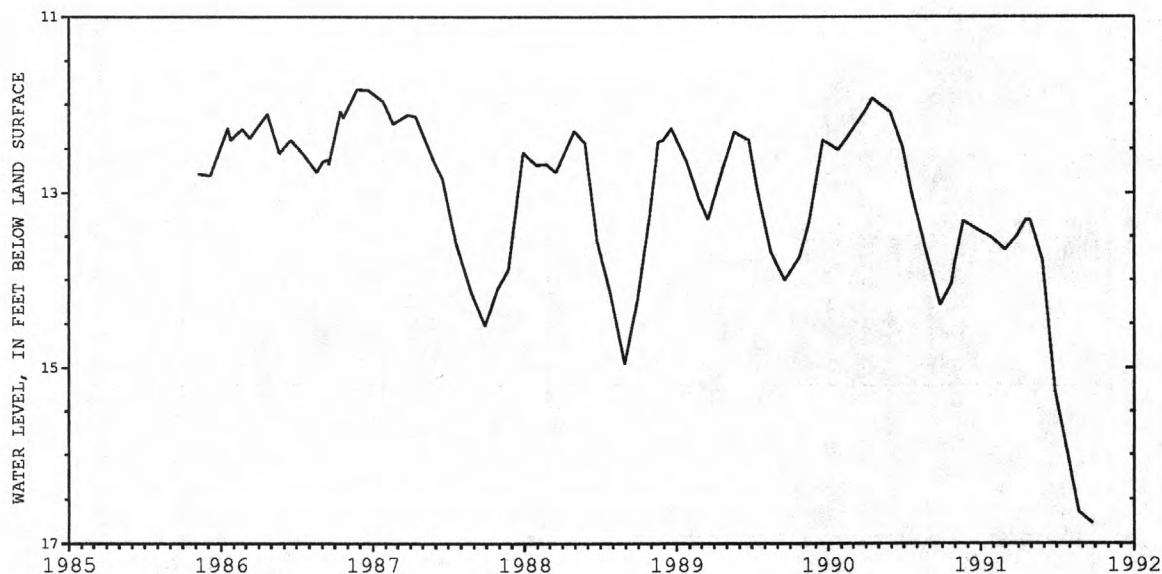
PERIOD OF RECORD.--June 1958 to November 1964, November 1985 to current year. Records prior to November 1985 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.83 ft below land-surface datum, Nov. 24, 1986; lowest measured, 16.77 ft below land-surface datum, Sept. 24, 1991.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23, 1990	14.04 Z	JAN 29, 1991	13.52	APR 29, 1991	13.31	JUL 24, 1991	15.91
29	13.84	FEB 28	13.65	MAY 28	13.77	AUG 23	16.64
NOV 20	13.32	MAR 27	13.50	JUN 28	15.28	SEP 24	16.77
DEC 28	13.43	APR 18	13.31 Z				

Z Measured by USGS personnel.



SARATOGA COUNTY

430327073475401. Local number, Sa 529.

LOCATION.--Lat 43°03'27", long 73°47'54", Hydrologic Unit 02020003, at Saratoga Springs.

Owner: Saratoga Springs Authority, New York State.

AQUIFER.--Confined aquifer in dolomite of Ordovician age.

WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in., depth 288 ft as of March 1989, filled in from original depth of 304 ft, cased to 189 ft, open hole.

INSTRUMENTATION.--Water-stage recorder--15-minute punch.

DATUM.--Elevation of land-surface datum is 305 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.38 ft above land-surface datum.

REMARKS.--Water level affected by earthquakes and distant pumping.

PERIOD OF RECORD.--May 1949 to November 1961, August 1964 to current year. Records prior to October 1976 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 39.70 ft below land-surface datum, Jan. 7, 1981; lowest, 56.20 ft below land-surface datum, July 29, 1949.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.77	45.94	43.22	42.62	42.82	42.45	42.27	41.86	42.72	43.77	44.30	45.39
2	45.43	45.57	43.28	42.44	42.79	42.17	42.25	41.85	42.74	43.80	44.29	45.38
3	45.62	45.31	43.29	42.49	42.67	42.23	42.45	41.93	42.70	43.90	44.39	45.02
4	45.57	45.05	42.76	42.59	42.61	41.91	42.43	42.13	42.69	44.02	44.39	44.72
5	45.73	44.85	42.80	42.63	42.55	42.05	42.28	42.24	42.80	44.09	44.49	44.72
6	45.99	44.62	42.88	42.59	42.63	42.09	42.25	42.06	42.92	44.08	44.64	44.76
7	46.46	44.70	43.03	42.69	42.53	41.95	42.21	42.03	42.94	44.13	44.70	44.77
8	46.38	44.60	43.00	42.75	42.44	42.23	42.15	42.14	42.91	44.08	44.67	44.77
9	46.20	44.53	42.93	42.54	42.36	42.34	41.96	42.24	43.08	44.23	44.60	44.65
10	46.32	44.06	42.80	42.62	42.36	42.34	41.92	42.33	42.95	44.29	44.51	44.36
11	46.45	43.79	42.91	42.75	42.36	42.33	42.20	42.41	42.78	44.37	44.61	44.31
12	46.58	43.74	42.84	42.24	42.42	42.24	42.47	42.33	42.73	44.44	44.70	44.37
13	46.96	43.75	42.69	---	42.27	42.21	42.48	42.32	42.85	44.35	44.72	44.37
14	47.13	43.87	43.06	---	41.92	42.26	42.43	42.33	42.92	44.45	44.77	44.41
15	46.86	43.76	42.88	42.45	41.99	42.38	42.15	42.52	42.87	44.55	44.82	44.40
16	46.65	43.57	42.66	42.27	42.41	42.51	41.98	42.61	42.88	44.59	44.93	44.26
17	46.64	43.55	42.73	42.16	42.60	42.53	41.98	42.60	42.93	44.51	44.97	44.22
18	46.52	43.66	42.37	42.30	42.77	42.20	42.10	42.87	42.98	44.55	44.95	44.28
19	46.59	43.49	42.60	42.44	42.49	41.96	42.13	43.00	43.04	44.59	44.89	44.29
20	47.02	43.46	42.98	42.29	42.39	42.18	42.10	42.93	43.09	44.55	44.92	44.39
21	47.03	43.50	42.79	42.42	42.50	42.34	41.85	42.78	43.17	44.50	44.88	44.44
22	46.88	43.35	42.56	42.50	42.35	42.41	41.67	42.79	43.33	44.50	44.91	44.49
23	46.55	43.02	42.40	42.45	42.72	42.40	41.78	42.92	43.48	44.31	44.98	44.30
24	46.40	42.97	42.27	42.48	42.67	42.11	41.82	42.90	43.49	44.40	45.16	44.19
25	46.55	43.03	42.51	42.72	42.49	42.24	41.97	42.94	43.47	44.54	45.24	43.88
26	46.65	43.28	42.57	42.65	42.33	42.32	42.03	43.16	43.49	44.61	45.12	43.85
27	47.01	43.19	42.80	42.56	42.29	42.12	41.96	43.05	43.58	44.60	45.02	44.06
28	47.24	43.03	42.66	42.52	42.46	41.92	42.09	42.93	43.60	44.58	45.04	44.26
29	47.45	43.14	42.47	42.53	---	42.10	42.09	42.86	43.62	44.49	45.06	44.34
30	46.80	43.25	42.25	42.33	---	42.26	41.93	42.75	43.71	44.38	44.97	44.32
31	46.32	---	42.48	42.39	---	42.47	---	42.68	---	44.35	44.99	---

WTR YEAR 1991 HIGHEST 41.61 Apr. 22, 1991

LOWEST 47.59 Oct. 28, 1990



GROUND-WATER LEVELS

SARATOGA COUNTY

430013073370401. Local number, Sa 1072.

LOCATION.--Lat 43°00'13", long 73°37'04", Hydrologic Unit 02020003, Saratoga National Historical Park near Stillwater.

Owner: U.S. National Park Service.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 19.8 ft, filled in from original depth of 24 ft, cased to 21 ft, 2-in. well point (30-gauze screen 21 ft to 24 ft).

INSTRUMENTATION.--Monthly tape measurement by observer.

DATUM.--Elevation of land-surface datum is 223.8 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 3.31 ft above land-surface datum.

REMARKS.--Water level affected by adjacent wells pumping.

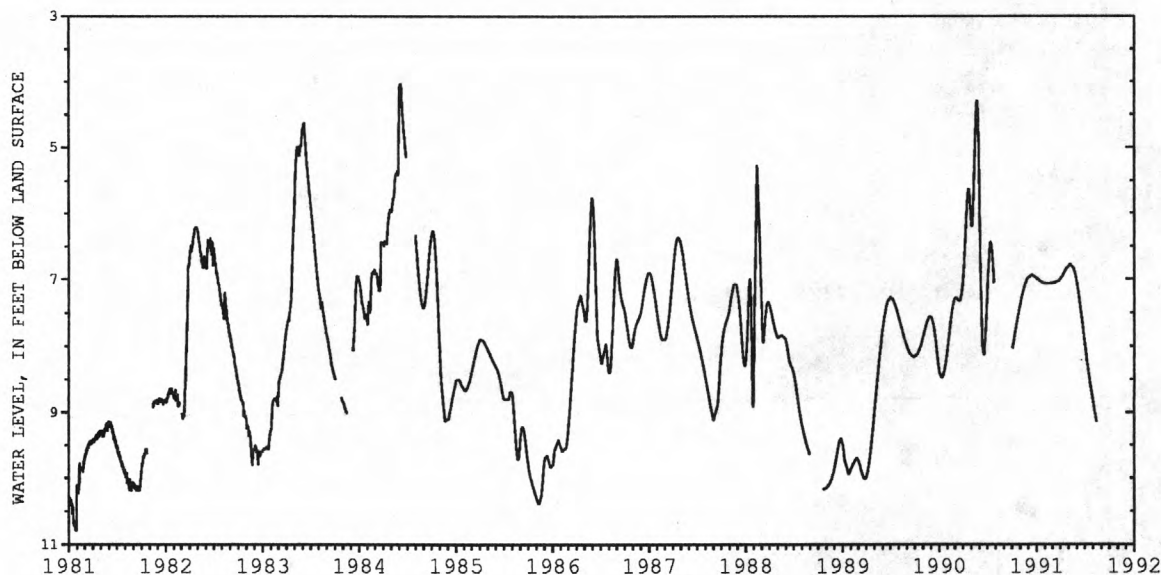
PERIOD OF RECORD.--July 1959 to current year. Records prior to October 1976 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.94 ft below land-surface datum, May 25, 1976; lowest, 11.91 ft below land-surface datum, Oct. 8, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1990	8.03 Z	JAN 14, 1991	7.03 Z	APR 09, 1991	6.95 Z	JUL 09, 1991	8.21 Z
NOV 28	6.99 Z	FEB 26	7.06 Z	MAY 21	6.84 Z	AUG 14	9.14 Z

Z Measured by USGS personnel.



SARATOGA COUNTY

425242073473201. Local number, Sa 1100.

LOCATION.--Lat 42°52'42", long 73°47'32", Hydrologic Unit 02020004, near Clifton Park.

Owner: Country Knolls Water Works.

AQUIFER.--Confined aquifer in sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in., depth 180 ft, cased to 180 ft, open end.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 248 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby public-supply well.

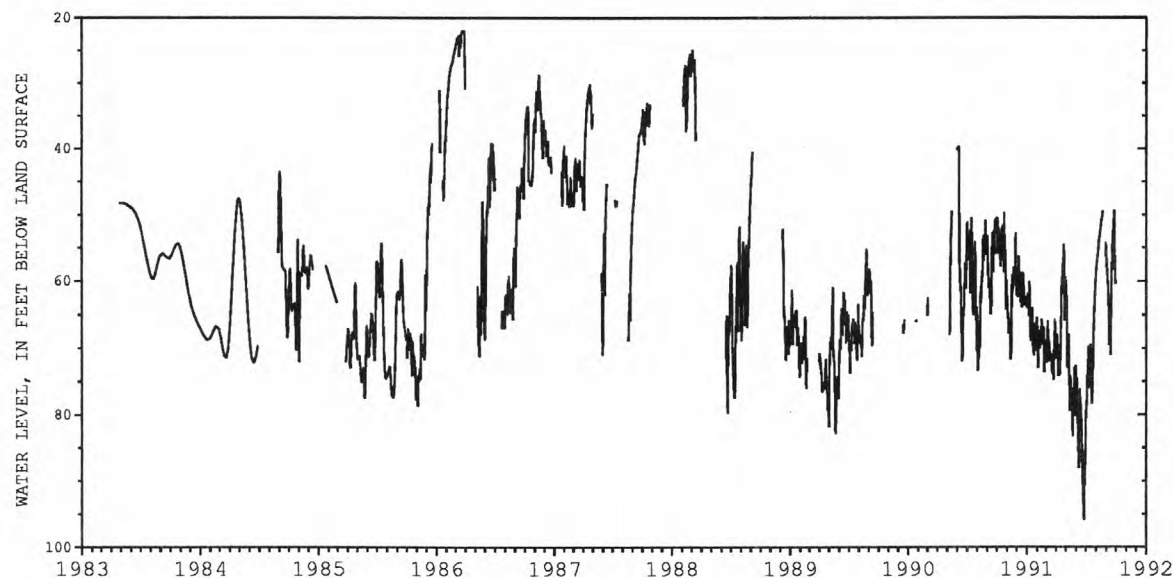
PERIOD OF RECORD.--April 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.84 ft below land-surface datum, Mar. 23, 24, 1986; lowest recorded, 96.56 ft below land-surface datum, June 26, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50.35	59.78	60.26	63.81	66.60	70.10	71.29	59.32	73.34	80.92	58.97	56.89
2	53.91	64.18	60.13	63.88	66.67	69.52	69.86	60.92	77.03	79.19	58.20	58.00
3	55.86	64.17	60.47	62.07	69.24	72.15	69.32	60.91	80.05	78.94	57.59	56.66
4	50.45	65.14	61.20	61.78	72.88	71.73	67.90	64.95	74.47	77.64	56.88	57.97
5	54.45	67.63	62.29	62.00	68.05	68.48	68.52	71.68	77.03	75.20	56.47	59.43
6	51.82	67.68	57.50	63.53	68.18	66.83	69.66	73.02	79.33	73.77	56.17	59.99
7	51.97	66.20	56.25	65.11	68.63	65.79	71.65	68.37	85.50	71.98	55.70	60.84
8	54.19	65.52	59.18	63.66	67.27	70.07	74.14	70.47	83.65	71.49	55.09	62.53
9	53.92	66.52	60.64	60.06	67.91	70.94	73.91	70.31	85.81	69.74	54.47	64.92
10	52.74	66.26	60.85	61.31	69.63	71.97	73.96	67.85	88.05	76.00	53.91	69.51
11	55.23	69.39	58.68	68.39	70.03	68.90	73.89	73.73	87.00	74.90	53.57	65.81
12	57.79	71.65	58.61	66.04	69.38	70.04	73.89	76.07	79.21	71.23	53.28	64.33
13	54.10	70.99	63.10	68.60	69.50	70.91	73.10	79.38	76.10	71.69	52.80	63.98
14	54.18	70.10	61.31	68.81	66.98	70.62	71.14	77.12	78.30	70.16	52.35	64.99
15	53.93	65.64	61.16	67.80	66.37	71.75	68.45	74.21	79.95	69.47	51.91	70.93
16	56.95	60.19	62.65	67.13	65.67	71.34	65.97	78.35	78.51	70.87	51.62	64.44
17	52.05	58.97	63.90	66.48	67.14	70.82	63.18	77.28	79.56	74.65	51.20	60.40
18	51.85	61.14	59.59	63.93	68.97	71.88	61.10	79.35	81.87	76.18	50.73	58.05
19	51.82	61.69	58.63	67.02	69.44	72.90	59.36	76.59	82.42	78.35	50.33	56.23
20	51.54	58.72	59.58	70.50	67.33	73.76	59.48	79.09	86.97	74.27	50.14	54.89
21	52.63	57.91	58.88	69.50	66.72	71.03	58.33	81.07	90.51	73.90	49.75	53.78
22	58.65	59.54	59.77	71.09	67.30	71.98	57.29	83.19	89.97	76.81	49.43	52.84
23	54.11	58.35	61.40	68.47	67.58	72.60	57.41	77.83	90.43	72.49	---	51.75
24	49.63	58.12	63.03	66.25	73.62	74.72	56.53	79.06	93.37	69.03	---	51.03
25	54.24	59.33	63.46	67.84	71.95	71.76	54.44	78.02	92.75	67.02	---	49.97
26	57.92	58.35	63.36	68.36	70.45	69.30	57.03	74.20	95.92	65.49	---	49.32
27	55.33	55.30	63.60	68.53	68.71	69.83	60.53	72.91	91.11	64.16	---	52.51
28	58.37	52.73	62.65	70.36	70.21	65.62	65.82	74.40	89.83	63.00	---	57.71
29	64.15	57.76	62.38	68.58	---	66.11	65.19	79.77	88.73	61.91	---	59.12
30	60.85	62.03	62.36	67.23	---	69.33	61.63	80.18	84.95	60.80	---	60.44
31	59.89	---	63.26	65.33	---	71.52	---	72.61	---	59.82	54.18	---

WTR YEAR 1991 HIGHEST RECORDED 49.00 Oct. 24, 1990 LOWEST 96.56 June 26, 1991



SCHENECTADY COUNTY

424910073591401. Local number, Sn 363.

LOCATION.--Lat 42°49'10", long 73°59'14", Hydrologic Unit 02020004, in Schenectady.

Owner: City of Schenectady.

AQUIFER.--Water-table aquifer in sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 54.5 ft in April 1980, filled in from original depth of 57 ft, cased to 57 ft, open end.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 228.50 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 2.47 ft above land-surface datum.

REMARKS.--Water level affected by stage of Mohawk River, and by pumping (average 17.626 Mgal/d in 1991) from adjacent municipal well field. Well was drilled June 1960 as a replacement for 424926073592201 (local number Sn 128), located 1,540 ft northwest, which has a period of record from April 1946 to March 1961.

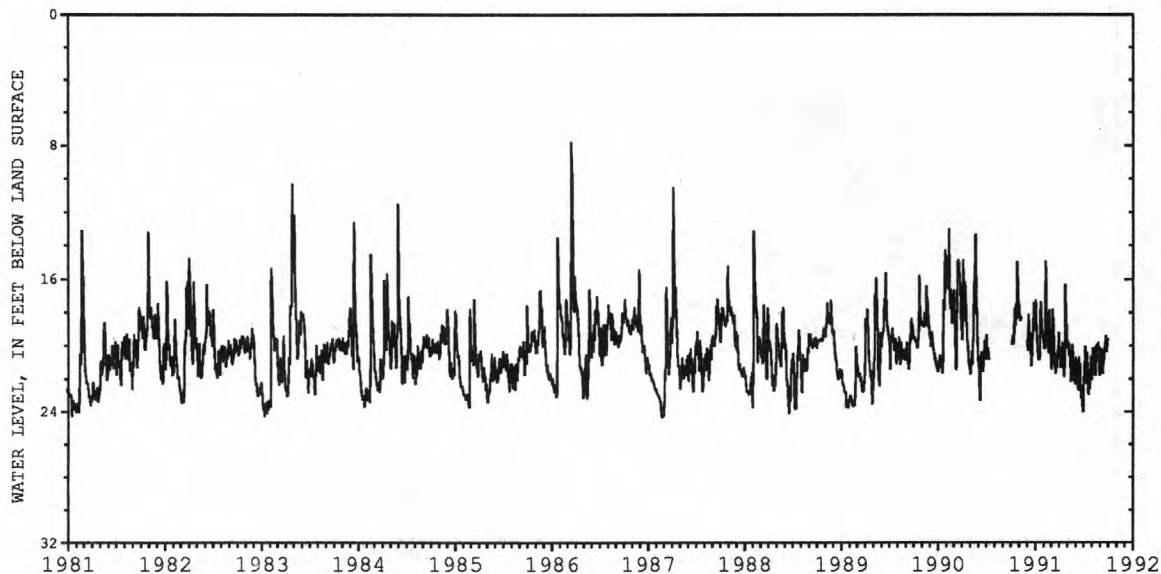
PERIOD OF RECORD.--June 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.62 ft below land-surface datum, Dec. 27, 1973; lowest, 31.27 ft below land-surface datum, Feb. 10, 1966.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	17.59	19.82	17.25	19.85	21.17	20.07	19.68	20.66	22.04	22.07	20.31
2	---	18.14	19.62	17.36	19.99	21.39	20.56	19.70	20.85	21.85	21.41	20.18
3	---	18.31	20.30	17.85	20.14	21.26	20.54	19.78	21.27	21.21	21.17	20.30
4	19.86	18.13	19.96	18.42	20.19	20.61	20.58	19.77	20.96	21.13	20.11	20.75
5	19.93	18.48	18.94	18.99	20.10	18.62	21.00	19.87	20.84	20.77	20.24	20.19
6	19.65	18.21	18.12	19.45	19.60	17.80	21.30	20.57	21.17	20.06	20.41	20.65
7	19.42	18.48	18.56	19.44	18.35	18.09	21.09	20.51	21.76	20.51	21.05	20.81
8	19.38	18.32	18.70	19.97	16.02	18.29	21.11	19.87	22.12	20.03	21.11	21.48
9	19.92	18.35	19.17	20.22	14.93	18.65	20.68	20.31	22.31	21.28	21.18	21.66
10	19.60	---	19.40	20.41	15.51	19.17	20.49	20.52	22.48	21.41	20.12	21.17
11	19.87	---	19.76	20.46	16.94	19.72	20.22	20.49	22.68	22.29	20.09	20.85
12	19.53	---	20.11	20.68	18.08	20.17	19.80	20.87	22.19	21.95	20.14	20.40
13	18.93	---	20.08	20.87	18.73	20.47	19.83	21.57	21.02	21.51	20.95	21.17
14	17.76	---	20.47	20.66	19.08	20.47	20.44	22.18	20.68	20.40	21.79	20.69
15	18.39	---	20.36	20.84	19.36	20.77	20.53	21.88	21.49	20.42	20.96	20.46
16	18.25	---	20.55	20.77	19.62	21.39	20.82	21.32	21.33	21.30	21.00	20.11
17	18.85	---	21.20	20.65	20.03	21.65	21.34	20.67	21.04	21.86	20.45	20.36
18	18.49	---	20.69	20.13	20.33	21.43	21.66	20.14	21.36	22.49	20.22	19.96
19	18.31	---	20.58	18.53	20.42	21.57	21.85	19.95	22.27	22.96	19.93	19.84
20	17.60	---	19.90	17.49	20.29	21.11	21.36	19.96	22.71	22.40	20.21	19.77
21	17.40	---	19.58	17.33	18.77	20.95	21.11	20.13	23.13	21.96	19.96	19.39
22	18.37	---	19.20	17.61	17.83	21.30	19.77	20.60	23.19	22.50	20.11	19.54
23	18.34	---	19.34	18.10	18.42	21.10	16.30	21.27	22.89	22.61	20.18	19.67
24	16.11	---	18.53	18.44	19.14	21.27	16.87	21.87	22.97	22.01	19.76	19.88
25	14.96	---	17.89	18.64	19.70	20.68	17.40	22.09	23.23	21.56	19.99	20.34
26	15.88	---	17.39	19.01	20.09	20.01	18.31	22.13	23.43	21.92	20.12	19.89
27	15.90	---	18.00	19.23	20.47	20.16	18.53	21.41	23.65	20.87	20.86	19.74
28	16.30	---	18.51	19.37	20.83	20.29	18.96	21.55	23.93	20.63	21.23	19.65
29	17.37	---	18.53	19.47	---	19.54	19.76	22.06	24.00	20.79	21.77	19.59
30	17.53	19.71	19.08	19.61	---	19.18	20.15	22.32	23.48	21.18	21.67	19.65
31	17.67	---	18.25	19.67	---	19.40	---	21.62	---	21.15	21.66	---

WTR YEAR 1991 HIGHEST RECORDED 14.34 Oct. 25, 1990 LOWEST 24.05 June 28, 1991



ULSTER COUNTY

414425074213601. Local number, U 204.

LOCATION.--Lat 41°44'25", long 74°21'36", Hydrologic Unit 02020007, near Napanoch.

Owner: New York State Department of Correction.

AQUIFER.--Water-table aquifer in deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused well, diameter 8 in., depth 45.6 ft, cased to unknown depth, filled in from original depth of 67 ft.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 300 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1954 to September 1987, January 1990 to current year. Records prior to October 1976 and intermittent records for 1988 and 1989 water years are unpublished and available in files of the Geological Survey.

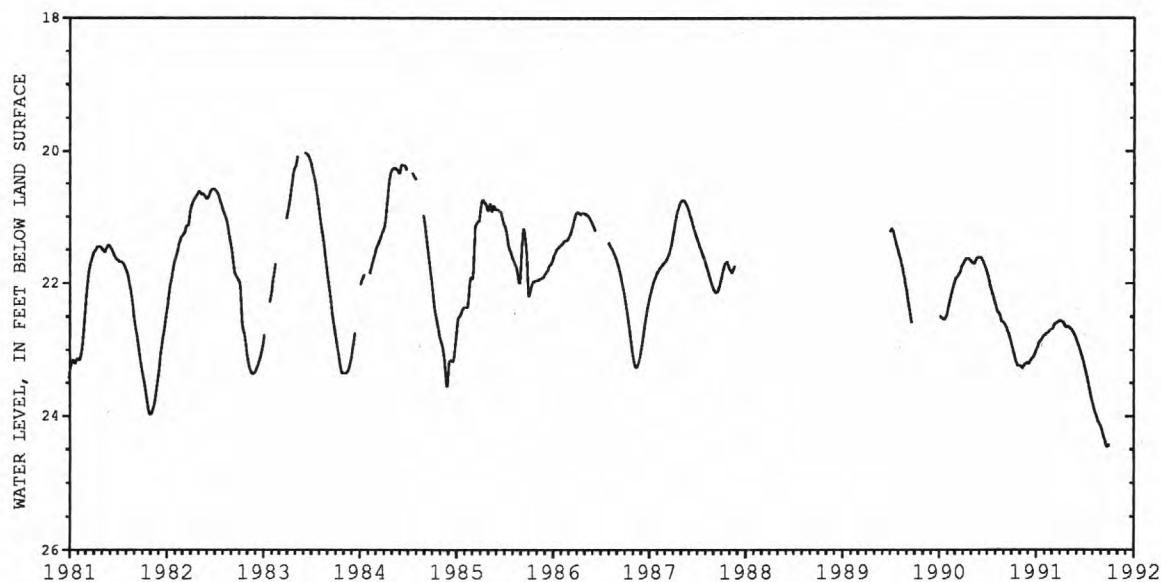
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.84 ft below land-surface datum, Mar. 24, 1955; lowest measured, 26.90 ft below land-surface datum, Dec. 29, 1964.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.92	23.24	23.20	23.01	22.78	22.69	22.57	22.66	22.84	23.23	23.80	24.15
2	22.94	23.24	23.20	22.99	22.78	22.68	22.56	22.66	22.85	23.25	23.81	24.17
3	22.95	23.24	23.20	22.98	22.77	22.68	22.57	22.66	22.86	23.27	23.83	24.18
4	22.97	23.24	23.20	22.97	22.77	22.68	22.57	22.66	22.87	23.28	23.85	24.19
5	22.99	23.25	23.20	22.96	22.77	22.68	22.57	22.66	22.89	23.30	23.86	24.21
6	23.00	23.25	23.19	22.95	22.77	22.66	22.57	22.67	22.90	23.32	23.88	24.22
7	23.02	23.25	23.18	22.95	22.76	22.65	22.57	22.67	22.91	23.34	23.89	24.24
8	23.03	23.26	23.17	22.94	22.75	22.64	22.57	22.68	22.92	23.35	23.91	24.25
9	23.05	23.26	23.16	22.92	22.75	22.64	22.58	22.67	22.93	23.37	23.93	24.27
10	23.06	23.27	23.16	22.90	22.74	22.63	22.58	22.68	22.94	23.38	23.94	24.28
11	23.08	23.27	23.15	22.90	22.74	22.62	22.58	22.68	22.95	23.40	23.95	24.30
12	23.09	23.26	23.15	22.89	22.74	22.62	22.59	22.68	22.96	23.42	23.96	24.32
13	23.11	23.25	23.14	22.88	22.74	22.61	22.59	22.69	22.98	23.44	23.97	24.33
14	23.12	23.24	23.14	22.88	22.73	22.61	22.60	22.69	22.99	23.46	23.98	24.34
15	23.14	23.24	23.13	22.87	22.73	22.60	22.61	22.70	23.00	23.48	23.99	24.36
16	23.15	23.23	23.13	22.87	22.72	22.60	22.61	22.71	23.01	23.50	24.01	24.37
17	23.17	23.23	23.12	22.86	22.72	22.60	22.62	22.71	23.03	23.52	24.02	24.39
18	23.18	23.22	23.12	22.86	22.72	22.60	22.63	22.72	23.04	23.55	24.04	24.40
19	23.19	23.22	23.11	22.85	22.72	22.59	22.64	22.72	23.06	23.57	24.05	24.42
20	23.20	23.21	23.11	22.84	22.71	22.59	22.64	22.73	23.07	23.58	24.06	24.44
21	23.21	23.21	23.10	22.84	22.71	22.59	22.65	22.74	23.08	23.60	24.07	24.44
22	23.22	23.21	23.10	22.83	22.71	22.59	22.66	22.74	23.09	23.62	24.07	24.45
23	23.23	23.20	23.09	22.83	22.70	22.58	22.66	22.75	23.11	23.64	24.08	24.45
24	23.23	23.20	23.08	22.82	22.70	22.58	22.66	22.76	23.12	23.67	24.08	24.45
25	23.23	23.20	23.07	22.81	22.70	22.58	22.65	22.77	23.14	23.69	24.10	24.45
26	23.23	23.20	23.06	22.81	22.69	22.58	22.65	22.77	23.15	23.71	24.10	24.45
27	23.23	23.20	23.06	22.80	22.69	22.57	22.65	22.79	23.16	23.73	24.11	24.44
28	23.23	23.19	23.05	22.80	22.69	22.57	22.65	22.80	23.18	23.74	24.12	24.44
29	23.23	23.19	23.04	22.79	---	22.57	22.65	22.81	23.19	23.75	24.13	24.43
30	23.23	23.20	23.03	22.79	---	22.57	22.65	22.82	23.21	23.77	24.13	24.42
31	23.24	---	23.02	22.78	---	22.57	---	22.83	---	23.78	24.14	---

WTR YEAR 1991 HIGHEST 22.56 Apr. 1, 2, 3, 1991

LOWEST 24.45 Sept. 21, 22-26, 27, 1991



GROUND-WATER LEVELS

ULSTER COUNTY

414948074035101. Local number, U 405.

LOCATION.--Lat 41°49'48", long 74°03'51", Hydrologic Unit 02020007, Grist Mill Road, Tillson.

Owner: City School District of Kingston.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Bored observation well, diameter 2.5 in., depth 33.4 ft in October 1990, cased to 34 ft, 2-in. well point (60-gauze screen 34 ft to 36 ft).

INSTRUMENTATION.--Bi-weekly tape measurement by observer.

DATUM.--Elevation of land-surface datum is 240 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.47 ft above land-surface datum.

REMARKS.--Originally a dug well, diameter 36 in., depth 21 ft, stone-lined. Well deepened by power auger, October 1965.

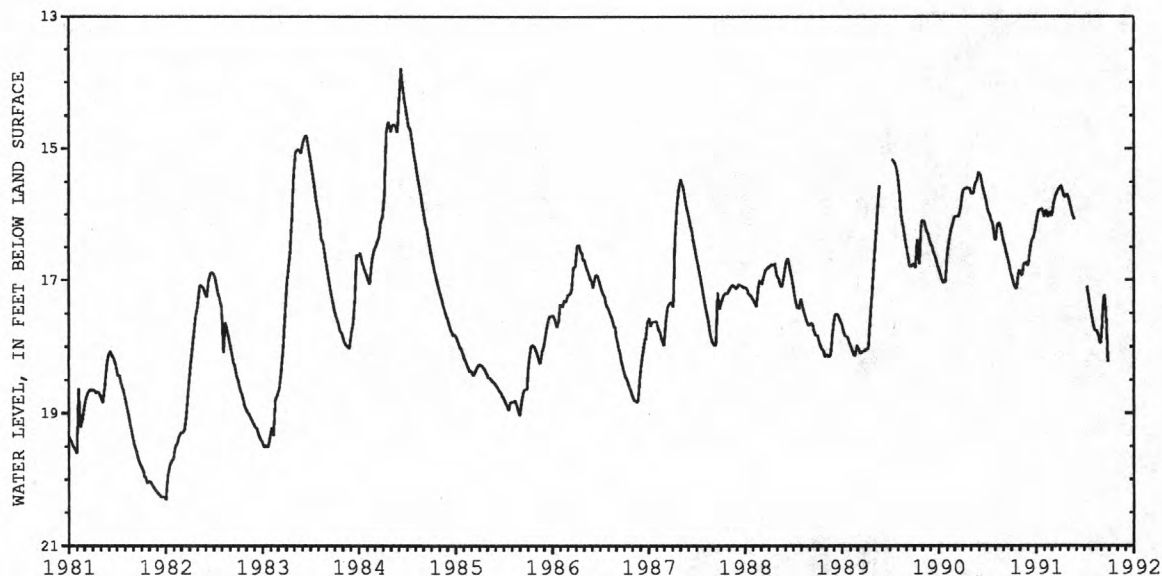
PERIOD OF RECORD.--October 1964 to July 1965, March 1966 to December 1974, April 1976 to current year. Records prior to October 1976 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.80 ft below land-surface datum, June 9, 1984; lowest measured, 20.71 ft below land-surface datum, Jan. 24, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1990	16.98	DEC 07, 1990	16.64	MAR 01, 1991	16.02	MAY 24, 1991	16.07 Z
12	17.08	14	16.44	07	15.86 Z	JUL 11	17.10 Z
17	17.12 Z	28	16.26	08	15.84	26	17.47
19	17.13	JAN 04, 1991	16.07	15	15.72	AUG 09	17.75
26	16.93	11	15.94	29	15.60	23	17.83
NOV 02	16.85	25	15.91	APR 05	15.56	29	17.95 Z
09	16.93	FEB 01	16.03	12	15.65	30	17.95
16	16.76	08	15.93	19	15.73 Z	SEP 13	17.23
28	16.73 Z	15	16.03	26	15.69	27	18.23
30	16.78	22	15.96	MAY 10	15.86		

Z Measured by USGS personnel.



WASHINGTON COUNTY

431030073192101. Local number, W 533.

LOCATION.--Lat 43°10'30", long 73°19'21", Hydrologic Unit 02020003, in Salem.

Owner: Salem Central High School.

AQUIFER.--Water-table aquifer in sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 15 ft, cased to 16 ft, open end. Well backfilled 1.6 ft with coarse gravel.

INSTRUMENTATION.--Water-stage recorder--hourly punch.

DATUM.--Elevation of land-surface datum is 489.5 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 3.10 ft above land-surface datum.

REMARKS.--Well was drilled March 1974 as a replacement for 431032073192401 (local number W 532), located 350 ft northwest, which has a period of record from October 1965 to June 1973 (unpublished).

PERIOD OF RECORD.--March 1974 to current year. Records prior to October 1976 are unpublished and available in files of the Geological Survey.

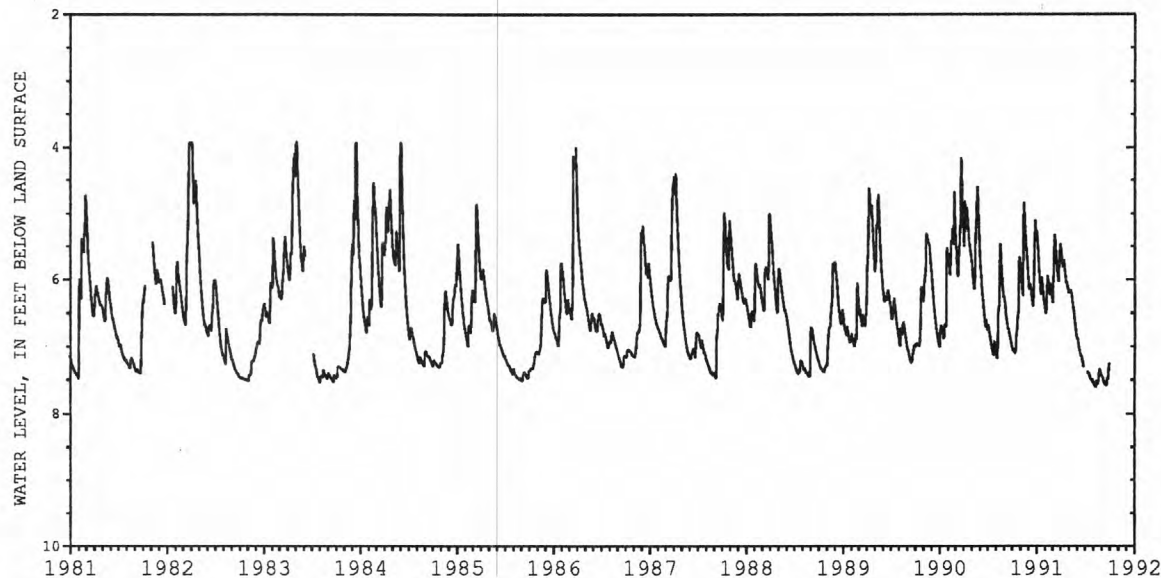
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.82 ft below land-surface datum, Mar. 25, 1986; lowest recorded, 7.75 ft below land-surface datum, Aug. 26, 27-29, 30, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.03	5.89	6.04	5.29	6.45	6.35	5.53	6.19	6.87	---	7.55	7.43
2	7.04	5.95	6.09	5.33	6.48	6.27	5.58	6.17	6.88	---	7.56	7.45
3	7.06	6.00	6.14	5.38	6.50	6.07	5.63	6.16	6.90	---	7.57	7.46
4	7.07	6.06	6.15	5.45	6.49	5.93	5.67	6.17	6.92	---	7.57	7.47
5	7.06	6.11	6.08	5.52	6.45	5.67	5.71	6.19	6.95	---	7.58	7.48
6	7.06	6.15	6.06	5.59	6.41	5.55	5.75	6.20	6.97	---	7.59	7.50
7	7.07	6.16	6.07	5.67	6.24	5.42	5.79	6.16	6.99	---	7.59	7.51
8	7.08	6.20	6.10	5.75	6.08	5.32	5.82	6.17	7.02	---	7.60	7.52
9	7.10	6.24	6.12	5.83	6.00	5.33	5.78	6.19	7.04	---	7.61	7.53
10	7.09	6.07	6.15	5.90	5.95	5.38	5.72	6.21	7.06	7.37	7.55	7.55
11	7.08	5.04	6.19	5.96	5.94	5.44	5.70	6.23	7.09	7.39	7.54	7.55
12	7.08	4.84	6.23	6.02	6.00	5.51	5.73	6.25	7.11	7.41	7.51	7.56
13	7.06	4.84	6.26	6.08	6.04	5.58	5.76	6.28	7.11	7.41	7.53	7.57
14	6.95	4.91	6.30	6.13	6.06	5.64	5.80	6.32	7.12	7.39	7.55	7.57
15	6.84	4.98	6.33	6.19	6.05	5.70	5.84	6.35	7.14	7.40	7.56	7.58
16	6.79	5.06	6.36	6.22	6.10	5.77	5.87	6.39	7.14	7.42	7.56	7.58
17	6.75	5.14	6.39	6.08	6.14	5.82	5.92	6.42	7.15	7.43	7.53	7.58
18	6.73	5.20	6.40	5.96	6.19	5.87	5.95	6.44	7.16	7.44	7.53	7.58
19	6.65	5.26	6.23	5.97	6.23	5.90	5.98	6.47	7.18	7.46	7.53	7.56
20	6.57	5.34	6.05	6.00	6.13	5.94	6.02	6.51	7.20	7.47	7.48	7.50
21	6.52	5.43	5.99	6.04	6.07	5.97	6.05	6.54	7.22	7.48	7.43	7.48
22	6.50	5.50	5.68	6.10	6.07	6.01	6.04	6.59	7.23	7.49	7.35	7.48
23	6.49	5.56	5.51	6.15	6.08	6.03	6.05	6.63	7.26	7.49	7.34	7.48
24	6.13	5.61	5.36	6.19	6.13	5.95	6.07	6.66	7.28	7.50	7.34	7.49
25	5.74	5.67	5.14	6.23	6.18	5.79	6.09	6.70	7.30	7.51	7.36	7.45
26	5.66	5.74	5.10	6.28	6.23	5.71	6.11	6.73	7.31	7.51	7.37	7.34
27	5.66	5.80	5.16	6.31	6.27	5.65	6.13	6.77	---	7.49	7.39	7.30
28	5.69	5.86	5.23	6.34	6.32	5.56	6.15	6.80	---	7.50	7.40	7.27
29	5.73	5.92	5.30	6.37	---	5.48	6.18	6.83	---	7.52	7.42	7.26
30	5.77	5.98	5.32	6.40	---	5.46	6.20	6.86	---	7.53	7.43	7.26
31	5.83	---	5.28	6.42	---	5.49	---	6.88	---	7.54	7.44	---

WTR YEAR 1991 HIGHEST 4.82 Nov. 12, 13, 1990

LOWEST RECORDED 7.61 Aug. 8, 9, 1991



WESTCHESTER COUNTY

411421073481201. Local number, We 3.

LOCATION.--Lat 41°14'21", long 73°48'12", Hydrologic Unit 02030101, near Yorktown Heights.

Owner: New York City Board of Water Supply.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Dug unused well, diameter 36 in., depth 17.1 ft, original depth reported to be 18.2 ft, filled in to 17.1 ft as of November 1956, to 16.3 ft as of June 1971, to 15.5 ft as of October 1977, to 15.3 ft as of November 1978, cleaned out to 16.1 ft September 23, 1981, and 17.6 ft November 9, 1981, stone lined.

INSTRUMENTATION.--Tape measurement by USGS personnel every six weeks.

DATUM.--Elevation of land-surface datum is 252.5 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of hole in wooden well cover, 1.13 ft above land-surface datum.

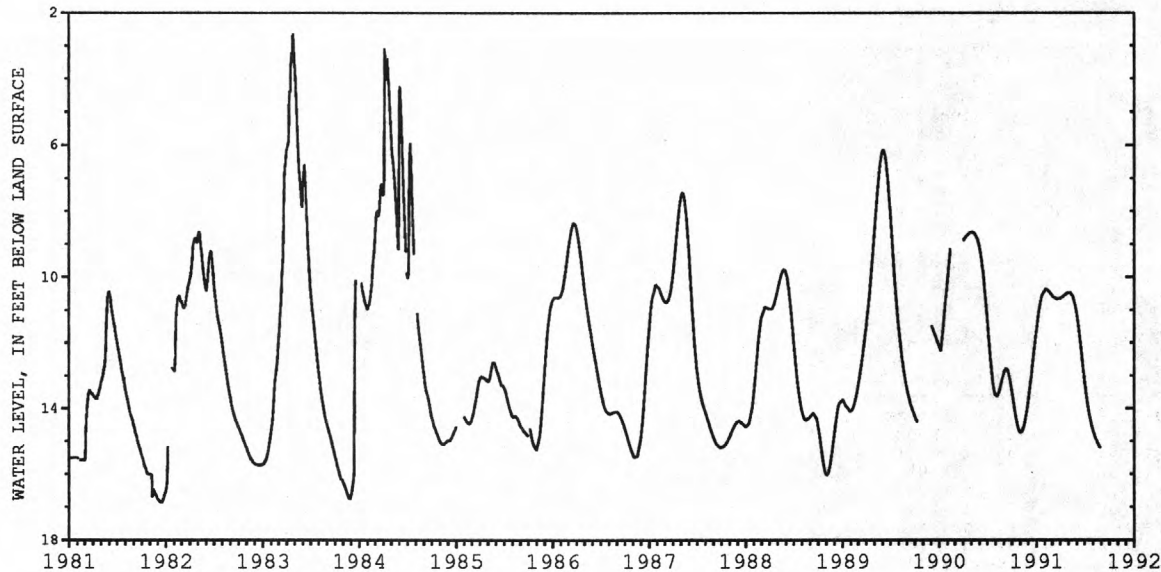
PERIOD OF RECORD.--April 1934 to September 1937, April 1938 to September 1945, March 1951 to current year.

Records prior to October 1976 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.58 ft below land-surface datum, Apr. 26, 1983; lowest measured, dry Nov. 30, 1935, Jan. 7, 1936, Feb. 1, 1936, Jan. 6 to Feb. 4, 1965, Nov. 12, 1970, Sept. 10 to Nov. 9, 1977, Oct. 30 to Nov. 7, 1978, Nov. 28, 1978, to Jan. 8, 1979, Sept. 6 to 30, 1980, Oct. 1, 1980, to Mar. 3, 1981, Oct. 25 to Nov. 8, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1990	14.70	JAN 22, 1991	10.54	APR 16, 1991	10.55	JUL 08, 1991	13.64
DEC 10	13.18	MAR 04	10.59	MAY 28	10.90	AUG 27	15.21



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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

