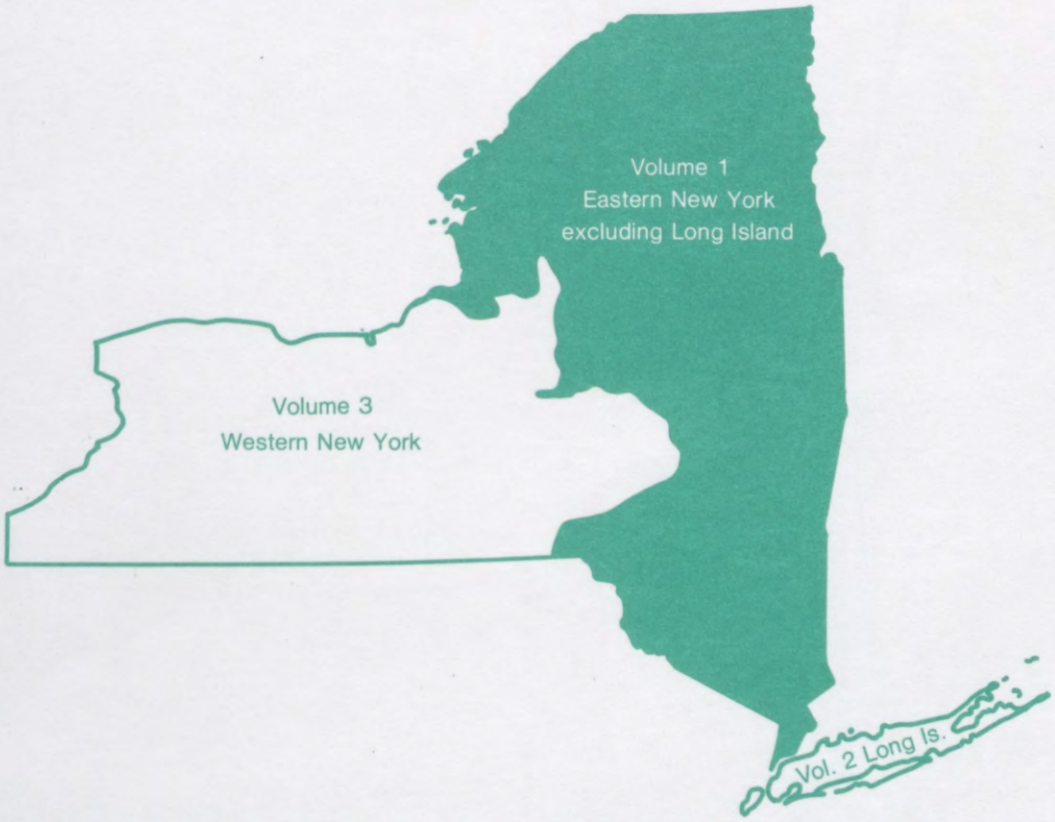
Water Resources Data New York Water Year 1990

Volume 1. Eastern New York excluding Long Island



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-90-1
Prepared in cooperation with the State of New York
and with other agencies

CALENDAR FOR WATER YEAR 1990

1989

OCTOBER

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

NOVEMBER

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

DECEMBER

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

1990

JANUARY

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

FEBRUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

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

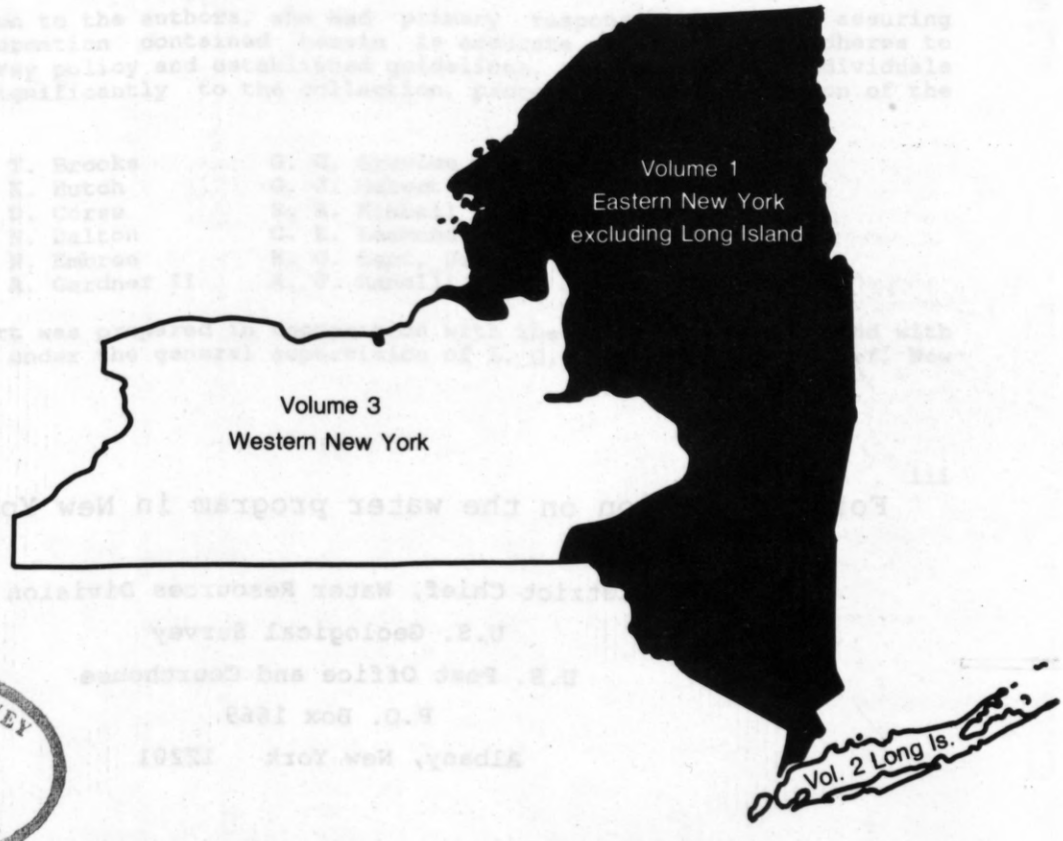
SEPTEMBER

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

Water Resources Data New York Water Year 1990

Volume 1. Eastern New York excluding Long Island

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



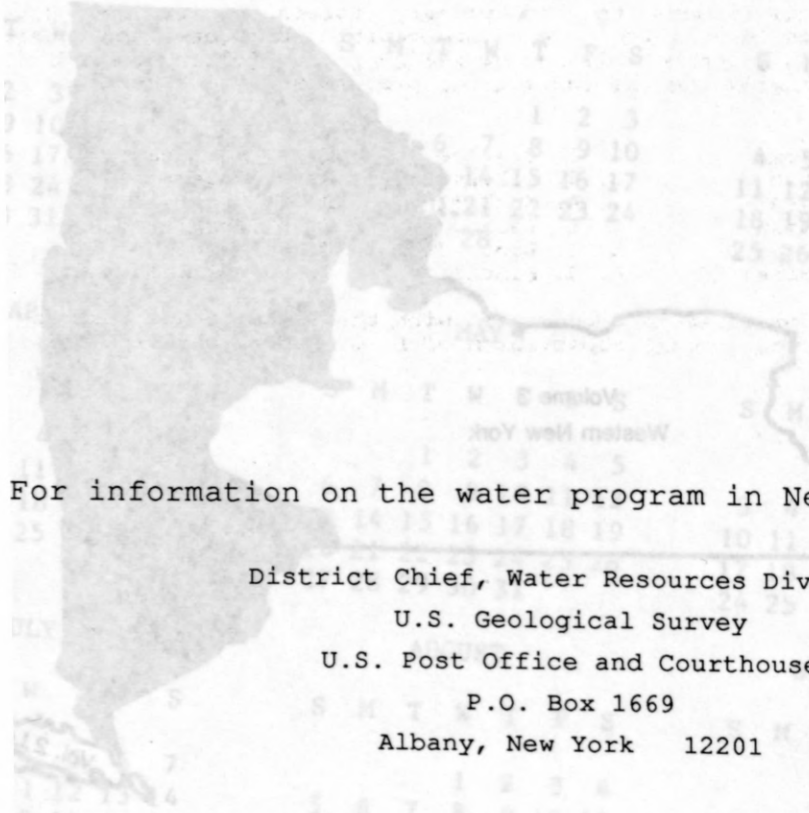
U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-90-1
Prepared in cooperation with the State of New York
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director



For information on the water program in New York write to:

District Chief, Water Resources Division
U.S. Geological Survey
U.S. Post Office and Courthouse
P.O. Box 1669
Albany, New York 12201

1991

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:

L. T. Brooks	G. C. Gravlee	J. A. Robideau
G. K. Butch	G. J. Hebert	R. J. Rogers
M. D. Corse	S. A. Kimball	R. F. Snow
F. N. Dalton	C. E. Leamond	E. D. Templeton
W. N. Embree	H. G. Lent, Jr.	J. F. Weigel
J. A. Gardner II	A. J. Ranalli	J. H. Williams

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.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-91/297	2.	3. Recipient's Accession No.
4. Title and Subtitle	Water Resources Data New York, Water Year 1990, Volume 1. Eastern New York excluding Long Island		5. Report Date 1991 6.
7. Author(s)	G. D. Firda, R. Lumia, P. M. Murray		8. Performing Organization Rept. No. USGS-WDR-NY-90-1
9. Performing Organization Name and Address	U. S. Geological Survey, Water Resources Division 343 J. T. Foley Courthouse P.O. Box 1669 Albany, New York 12201		10. Project/Task/Work Unit No. 11. Contract(C) or Grant(G) No. (C) (G)
12. Sponsoring Organization Name and Address	U.S. Geological Survey, Water Resources Division 343 J. T. Foley Courthouse P.O. Box 1669 Albany, New York 12201		13. Type of Report & Period Covered Annual Oct. 1, 1989-Sept. 30, 1990 14.

15. Supplementary Notes

Prepared in cooperation with the State of New York and other agencies.

16. Abstract (Limit: 200 words)

Water resources data for the 1990 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 water levels in observation wells. This volume contains records of water discharge at 97 gaging stations; stage only at 4 gaging stations; and stage and contents at 4 gaging stations, and 19 other lakes and reservoirs; water quality at 35 gaging stations; and water levels at 23 observation wells. Locations of these sites are shown on figures 8A and 8B. Also included are data for 38 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 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

18. Availability Statement	19. Security Class (This Report)	21. No. of Pages
No restrictions on distribution. This report may be purchased from: National Technical Information Services, Springfield, Va 22161	unclassified	266
	20. Security Class (This Page) unclassified	22. Price

(See ANSI-Z39.18)

See Instructions on Reverse

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

CONTENTS

ILLUSTRATIONS

TABLE

[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]

* * * * * * * * * * * * * * * * * *

GROUND-WATER LEVELS

WATER RESOURCES DATA FOR NEW YORK, 1990
Volume 1.--Eastern New York excluding Long Island

INTRODUCTION

Water resources data for the 1990 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 97 gaging stations; stage only at 4 gaging stations; stage and contents at 4 gaging stations, and 19 other lakes and reservoirs; water quality at 35 gaging stations; and water levels at 23 observation wells. Also included are data for 38 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 volumn. 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-90-1." 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.

Additional information, including current prices for ordering specific reports, may be obtained from the District Chief at the address given on the back of the title page or by telephone (518) 472-3107.

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 1990, 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

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.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Precipitation over eastern New York during water year 1990 generally was above average except in December, which was the coldest and fifth-driest December on record statewide. The excessive annual precipitation and above-normal temperatures from January through April resulted in much above-average annual runoffs throughout eastern New York. The 1990 annual runoff is shown as a precentage of average runoff for 1960-89 in figure 1; the distribution indicates that all of eastern New York had above-average runoff, and some stations in the Lake Champlain Valley had annual runoffs exceeding 140 percent of the 1960-89 average. The lowest relative runoff values, which were near average, were in the Catskill Mountain area, the St. Lawrence Valley, and basins in extreme southeastern New York. Annual runoff in the other parts of northern New York was generally 110 to 140 percent of average.

Average month-end reservoir contents and 1990 month-end contents of the New York City reservoir system are plotted in figure 2A; 1990 month-end storage in Great Sacandaga Lake at Conklingville (in the upper Hudson River basin) and the average month-end storage for the period of record (1931-89) are plotted in figure 2B. Storage in both reservoir systems remained between above average and average throughout 1990; October-November data indicate that storage was much above-normal.

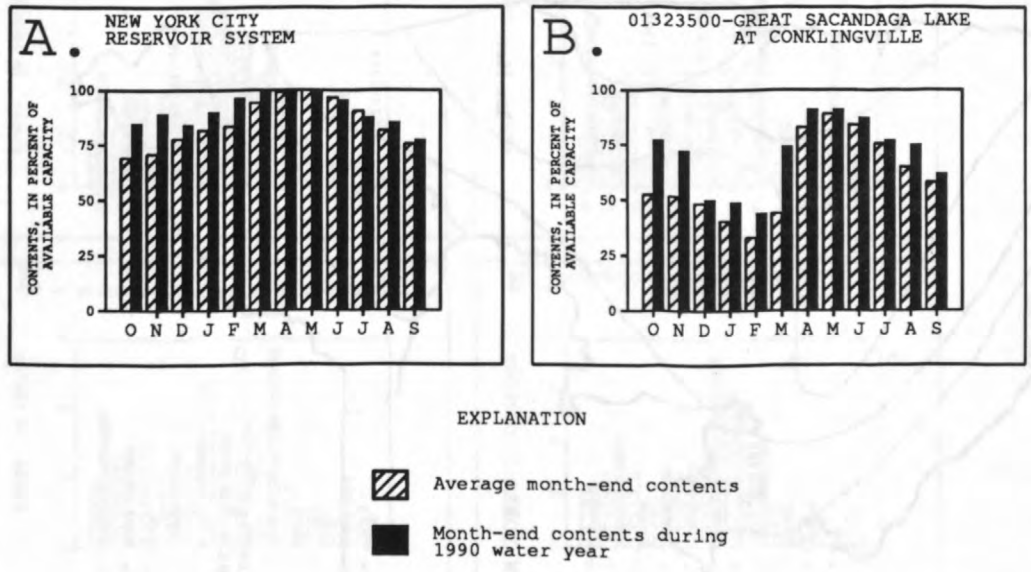


Figure 2.--Comparison of average month-end reservoir contents and month-end contents during 1990 water year for two selected reservoir systems in eastern New York.

The 1990 monthly runoff at selected stations in eastern New York is compared with each site's 1960-89 average monthly runoff in figure 3. October and November 1989 streamflows ranged from average to much above average in most of estern New York. October was the wettest October since 1981 statewide, primarily because steady, soaking rain fell during October 19-20, and totaled as much as 6.3 inches from the mid-Hudson Valley south to New York City. Westchester County Airport recorded 9.81 inches of rain for October. Many streams in eastern New York had their maximum discharge for the year recorded on October 20, particularly throughout southeastern New York. Heavy rain and thunderstorms on November 15-16 crossed the Adirondacks into the Mohawk Valley and Lower Hudson Valley regions and produced a tornado in the Newburgh area that caused a school cafeteria wall to collapse, killing seven children. The Mohawk River near Little Falls and the West Branch Delaware River at Hale Eddy reached their annual maximum discharge on November 16. The above-average runoffs during October and November resulted in much above-normal storage in the New York City and Great Sacandaga Lake reservoir systems.

Monthly streamflow throughout eastern New York during December was generally much below average as a result of extremely cold and dry conditions. This was by far the coldest December on record and the fifth driest recorded at stations in eastern New York. The lowest temperature recorded in New York was -37°F at Watertown on December 27. Despite the extreme cold and lack of liquid precipitation, significant lake-effect snowfalls east of Lake Ontario occurred; for example, Barnes Corners in Hamilton County recorded 98 inches of snow for December and Syracuse had its snowiest December on record (65 inches). The extreme cold during December caused widespread icing of streams, particularly throughout northern New York. Daily discharges at two representative streamflow-gaging stations during 1990 are plotted in figures 4 and 5 and show December flows to have been much below normal for most of the month.

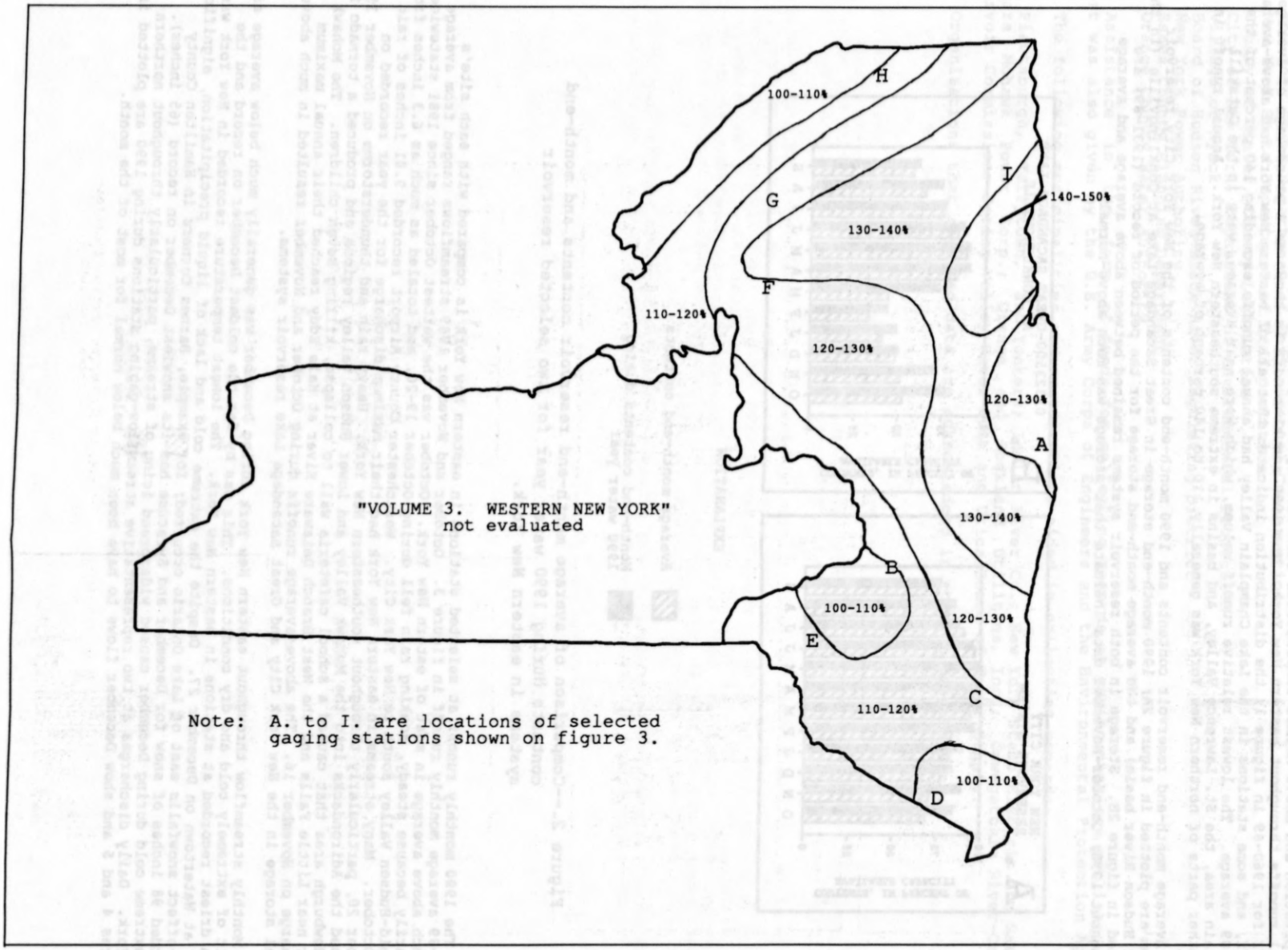


Figure 1.--1990 water year runoff as a percentage of the average annual runoff for 1960-89 for eastern New York excluding Long Island.

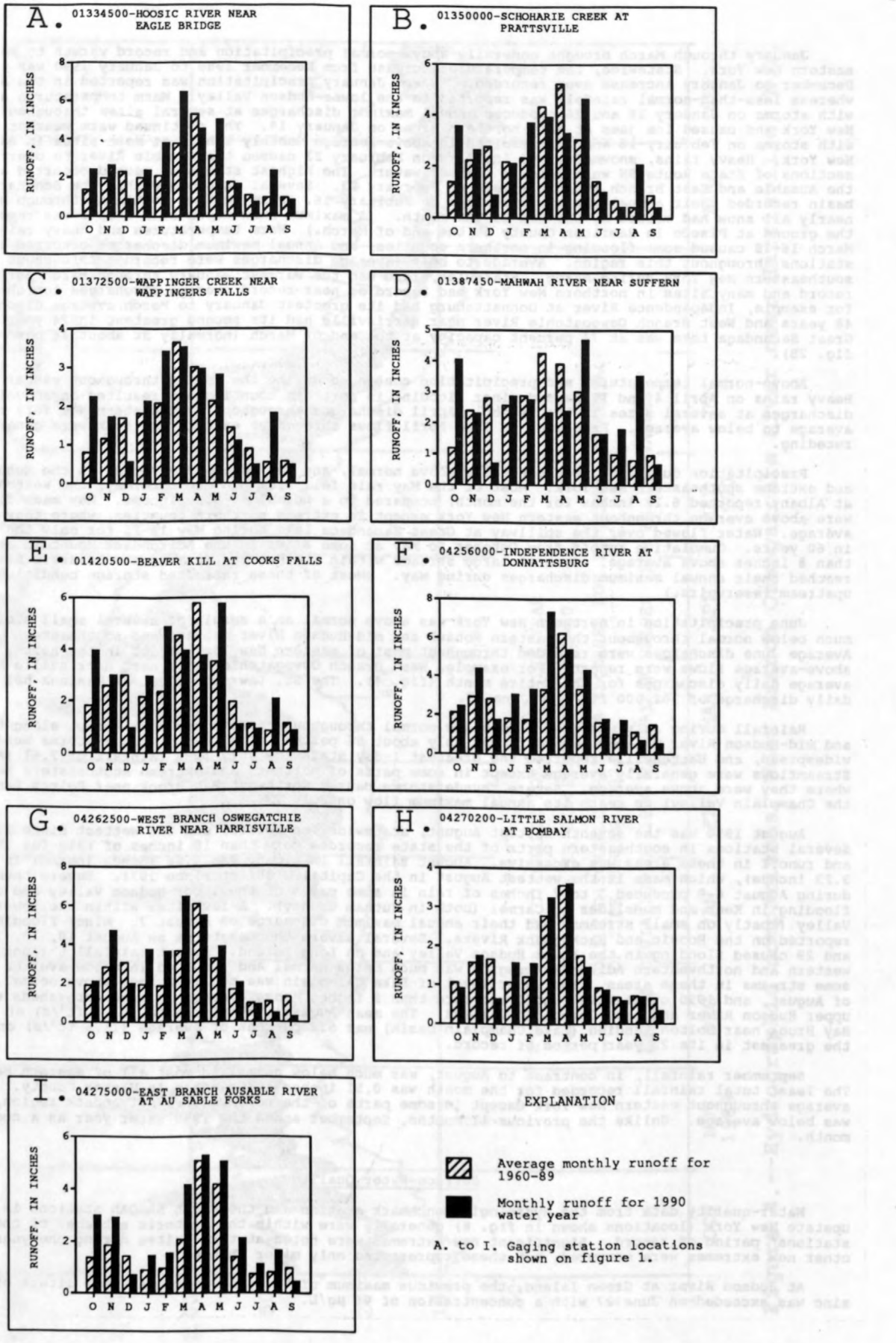


Figure 3.--Comparison of monthly runoff for 1990 water year and average monthly runoff for 1960-89 for selected gaging stations in eastern New York (site locations are shown on figure 1).

January through March brought generally above-normal precipitation and record warmth to most of eastern New York. Statewide, the temperature increase from December 1989 to January 1990 was the greatest December to January increase ever recorded. Excess January precipitation was reported in the Adirondacks; whereas less-than-normal rainfall was reported in the lower Hudson Valley. Warm temperatures associated with storms on January 18 and 26 produced annual maximum discharges at several sites throughout eastern New York and caused ice jams at many northern sites on January 18. The continued warm weather, combined with storms on February 16 and 23, resulted in above average monthly runoff at most sites in eastern New York. Heavy rains, snowmelt, and ice jams on February 23 caused the Ausable River to overflow, and sections of State Route 9N were under 3 feet of water. The highest stages on record occurred at sites on the Ausable and East Branch Ausable Rivers on February 23. Several stations within the Schoharie Creek basin recorded their annual maximum discharge on February 16. Warm weather continued through March and nearly all snow had melted by the end of the month. (A maximum snow depth of 9 inches was reported on the ground at Piseco in Hamilton County at the end of March.) Warm temperatures and heavy rainfall March 16-18 caused some flooding in northern counties, and annual maximum discharges occurred at several stations throughout this region. Average to below-average discharges were recorded throughout southeastern New York during March. Statewide, 1990 had the warmest January through March period on record and many sites in northern New York had record or near-record average discharges for this period; for example, Independence River at Donnattsburg had its greatest January to March average discharge in 48 years and West Branch Oswegatchie River near Harrisville had its second greatest in 74 years. Great Sacandaga Lake was at 74 percent capacity at the end of March (normally at about 44 percent; see fig. 2B).

Above-normal temperatures and precipitation continued during the spring throughout eastern New York. Heavy rains on April 4 and 11 caused minor flooding in northern counties and resulted in annual maximum discharges at several sites in the region. April discharges throughout southeastern New York ranged from average to below average. From mid- to late April flows throughout eastern New York were generally receding.

Precipitation during May was generally above normal, and was much above normal in the Mohawk Valley and extreme southeastern New York. Most of the May rain fell from mid- to late May; the weather station at Albany reported 6.22 inches for the month, compared to a normal of 3.20 inches. May mean discharges were above average throughout eastern New York except in extreme northern counties, where they were about average. Water flowed over the spillway at Great Sacandaga Lake during May 18-25 for only the second time in 60 years. Cumulative runoff from October to May at some sites in the Adirondack Mountain area was more than 8 inches above average. Several large streams within the Hudson, Mohawk, and Delaware River basins reached their annual maximum discharges during May. (Most of these reflected storage conditions in upstream reservoirs.)

June precipitation in northern New York was above normal as a result of several small storms, but much below normal throughout the eastern Mohawk and mid-Hudson River Valleys and southeastern New York. Average June discharges were recorded throughout most of eastern New York except in the north, where above-average flows were report. For example, West Branch Oswegatchie River near Harrisville had above-average daily discharges for the entire month (fig. 4). The St. Lawrence River at Massena had its maximum daily discharge of 302,000 ft^3/s on June 17.

Rainfall during July was generally below normal throughout eastern New York except along the Mohawk and mid-Hudson River Valleys, where it was only about 56 percent of normal. Thunderstorms were widespread, and Battenville reported the greatest 1-day statewide July 1990 rainfall of 2.61 inches. Streamflows were generally average except in some parts of northern and extreme southeastern New York, where they were above average. Severe thunderstorms caused Northwest Bay Brook near Bolton Landing (in the Champlain Valley) to reach its annual maximum flow on July 23.

August 1990 was the seventh-wettest August, statewide, on record, and the wettest since 1977. Several stations in southeastern parts of the state recorded more than 10 inches of rain for the month and runoff in these areas was excessive. August rainfall in Albany was 6.66 inches (normal is 3.23 inches), which made it the wettest August in the Capital District since 1971. Severe thunderstorms during August 6-8 produced 5 to 7 inches of rain in some parts of the lower Hudson Valley and caused road flooding in Kent and mudslides in Carmel (both in Putnam County). A few sites within the lower Hudson Valley (mostly on small streams) had their annual maximum discharge on August 7. Minor flooding was also reported on the Hoosic and Hackensack Rivers. Several severe thunderstorms on August 10, 13, 22, 24, 27, and 29 caused flooding in the lower Hudson Valley and on Long Island. August rainfall throughout the western and northwestern Adirondack region was much below normal and resulted in below-average runoff on some streams in these areas. The water level of Lake Champlain was nearly 2 feet above normal at the end of August, and 1990 cumulative runoff was more than 9 inches above average in some watersheds within the upper Hudson River and Lake Champlain Valleys. The mean August 1990 discharge (62.4 ft^3/s) at Northwest Bay Brook near Bolton Landing (Lake Champlain basin) was 538 percent of average (11.6 ft^3/s) and by far the greatest in its 22 year period of record.

September rainfall, in contrast to August, was much below normal in most all of eastern New York. The least total rainfall recorded for the month was 0.51 inches at Rosedale in Ulster County. Runoff was average throughout eastern New York except in some parts of the northwestern Adirondack region, where it was below average. Unlike the previous 11 months, September ended the 1990 water year as a cool, dry month.

Surface-Water Quality

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

At Hudson River at Green Island, the previous maximum of 80 µg/L (micrograms per liter) of dissolved zinc was exceeded on June 27 with a concentration of 96 µg/L.

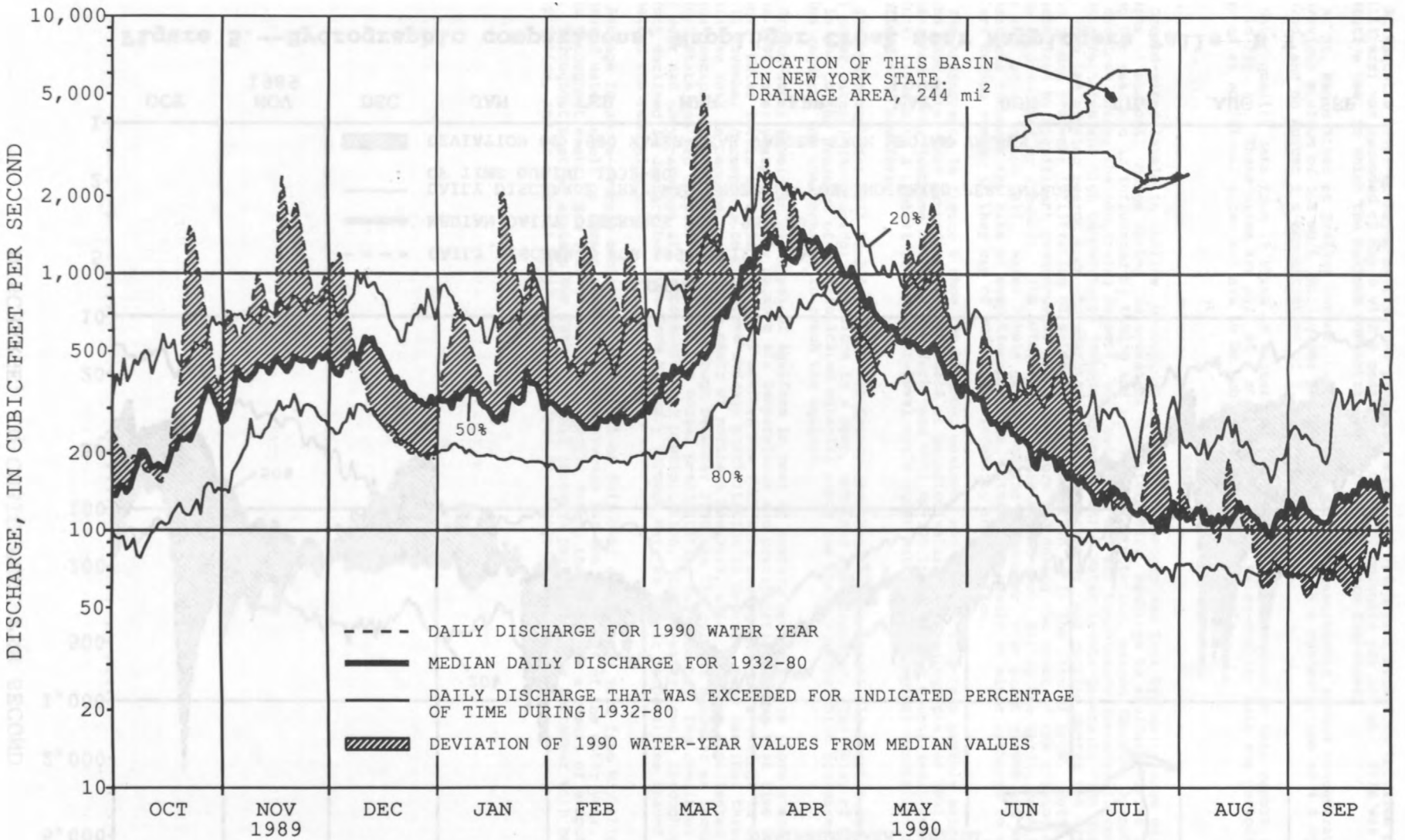


Figure 4.--Hydrographic comparisons, West Branch Oswegatchie River near Harrisville, N.Y.

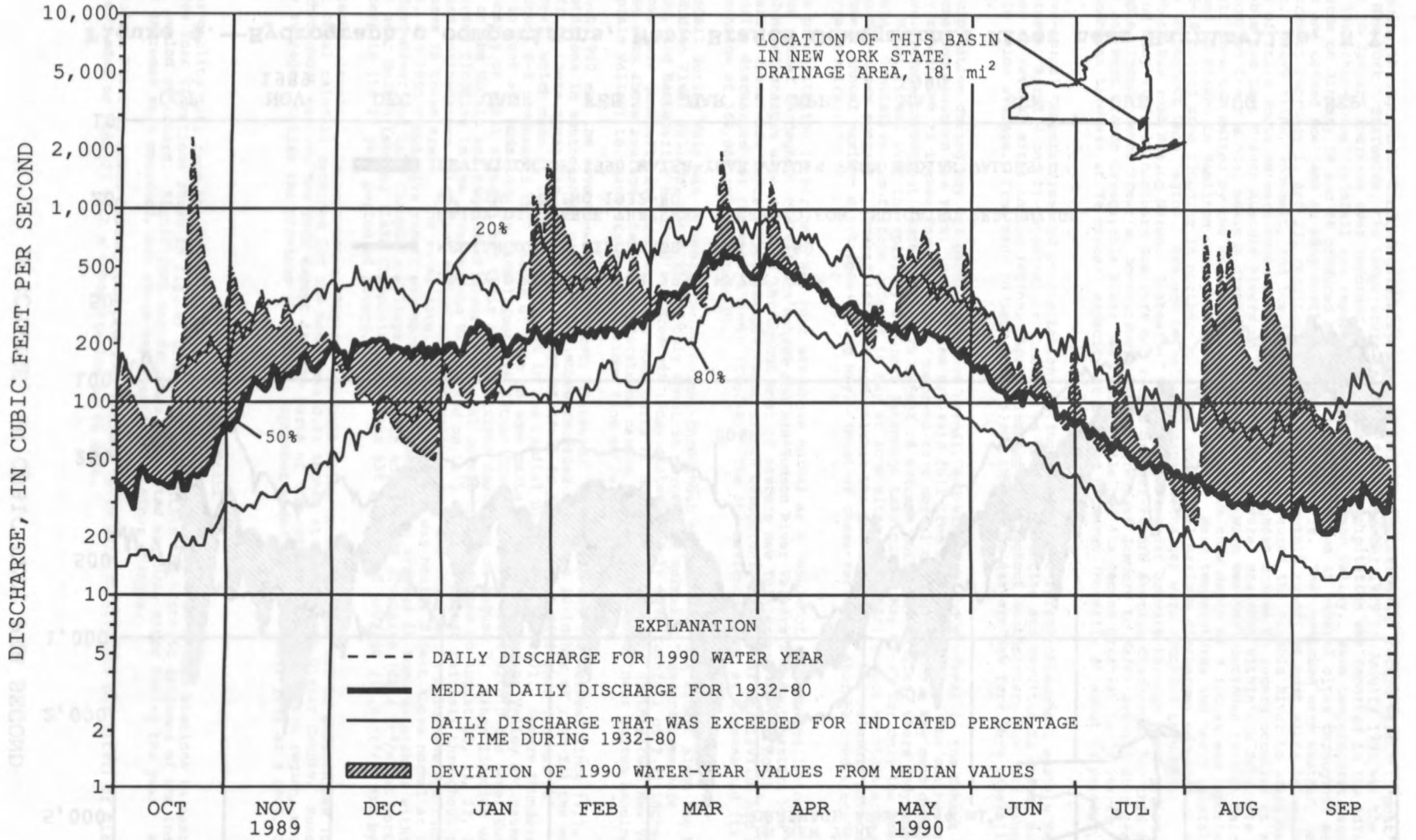


Figure 5.--Hydrographic comparisons, Wappinger Creek near Wappingers Falls, N.Y.

At Raquette River at Raymondville, the previous maximum of 1,600 fecal coliform colonies per 100 mL (milliliters) was exceeded on May 8 with a measurement of 4,800 colonies per 100 mL. This was the second consecutive year in which the maximum concentration of fecal coliform increased.

At St. Regis River at Brasher Center, two dissolved sulfate measurements showed concentrations below the previous minimum of 5.5 mg/L (milligrams per liter). On March 16 a concentration of 4.8 mg/L was measured, and on August 1 a concentration of 5.2 mg/L was measured.

Water-quality data from 15 sites in eastern upstate New York are included in this report (locations shown in fig. 8). These sites are part of a statewide network. Water-quality data are periodically collected at additional sites and are to be 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 course of the water year. Recharge to aquifers varies locally during the year and is influenced by 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. Early spring is characterized by significant ground-water recharge before and during the onset of the growing season, and may be 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 may result in minor recharge to shallow aquifers during summer if they are of sufficient intensity and duration.

The hydrographs in figure 6 show the minimum, maximum, and average long-term monthly water levels and the 1990 water-year ground-water level data at selected wells. 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 (southeastern New York) illustrates the water-level cycle under natural (nonpumping) conditions in a deep, confined shale aquifer. The delay of the annual peak is due to the presence of unconsolidated material above the shale aquifer which increases the amount of time required for the recharge to reach the aquifer.

Ground-water levels in all types of aquifers in most of eastern New York were above average for most of the 1990 water year, probably because air temperatures and precipitation during that time were above average. Water levels in wells throughout eastern New York were average to above-average in October and rose in November in response to the above-average precipitation in October, then declined throughout eastern New York in December, except in parts of northern New York, which had also experienced above-average precipitation in November. Even though December 1990 was the coldest December on record in New York State and had only 45 percent of the normal precipitation for December, the remainder of the water year had above-average air temperatures and precipitation. Ground-water levels throughout eastern New York declined in January but rose from February through May, as warmer temperatures thawed the soil and melted the remaining snow.

Average to above-average amounts of precipitation fell over eastern New York from May through August and caused water levels to remain generally above average for the remainder of the water year. Water levels throughout eastern New York declined as expected during the summer as a result of evapotranspiration. Throughout most of eastern New York, the fall recharge period began in September with below-average precipitation, and as a result water levels declined to average levels.

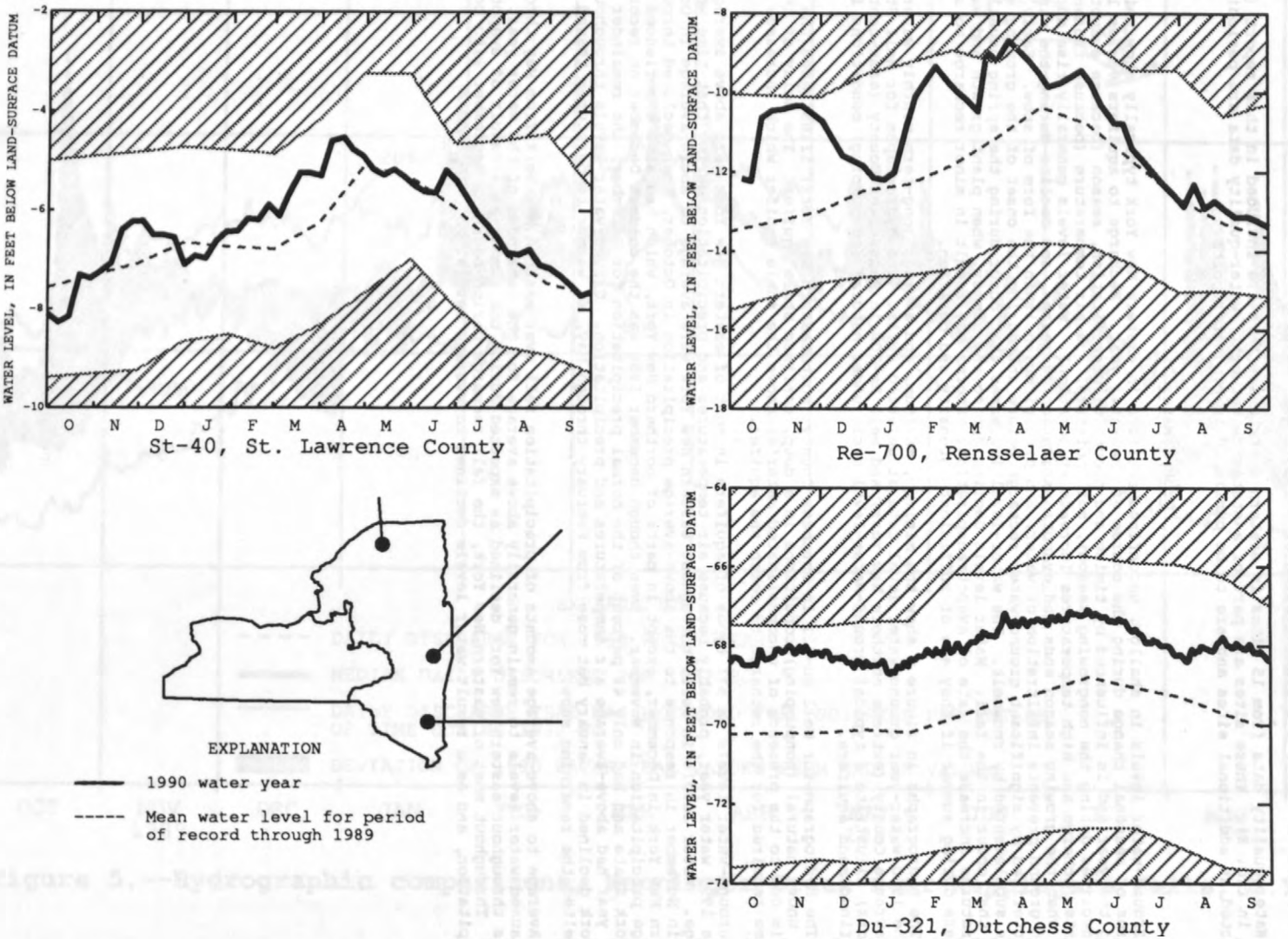


Figure 6.--Hydrographic comparisons, ground-water levels at selected observation wells.

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 1990 water year that began October 1, 1989, and ended September 30, 1990. 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 indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the triburary 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

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.)

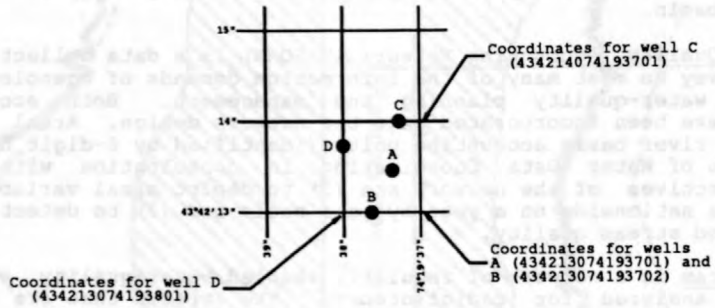


Figure 7. System for numbering wells (latitude and longitude)

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.

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 glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

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

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

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

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

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

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

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

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the 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.

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 ft^3/s; to tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/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.

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.

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.

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 acurate 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.

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 nitrate, 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.
(b) 3 to 5 samples per year.
(c) 6 to 9 samples per year.
(d) 10 to 20 samples per year.
(e) more than 20 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 (lsd). 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.

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.

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

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer costs incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's district offices (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

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

DEFINITION OF TERMS

Terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined below. See also 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 ± 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 ± 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 ± 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/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

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.

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 (FT^3/S, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 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.

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

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

Where *ni* 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 (µg/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 (UG/L, µg/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.

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:

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

The 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.

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

Milligrams of oxygen per area or volume per unit time [mg O_2/(m^2.time)] for periphyton and macrophytes and [mg O_2/(m^3.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.

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 emersed 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 precedures 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.....Hexageria
Species.....Hexagenia limbata

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.

DISCONTINUED GAGING STATIONS

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

Station number	Station name	Drainage area (mi^2)	Period of record
	Housatonic River Basin		
01199420	Tenmile River near Wassaic, NY	120	1959-60
01199490	Swamp River near Dover Plains, NY	46.6	1961-68
01199500	Tenmile River at Dover Plains, NY	189	1902-03

Station number	Station name	Drainage area (mi^2)	Period of record
	Blind Brook Basin		
01300000	Blind Brook at Rye, NY	9.20	1944-89
	Beaver Swamp Brook Basin		
01300500	Beaver Swamp Brook at Mamaroneck, NY	4.59	1947-89
	Mamaroneck River Basin		
01301000	Mamaroneck River at Mamaroneck, NY	23.1	1944-53, 1955-89
	Hutchinson River Basin		
01301500	Hutchinson River at Pelham, NY	5.76	1944-89
	Bronx River Basin		
01302000	Bronx River at Bronxville, NY	26.5	1944-89
	Hudson River Basin		
01312000	Hudson River near Newcomb, NY	192	1932-87
01313500	Cedar River below Chain Lakes near Indian Lake, NY	160	1931-61
01314000	Hudson River at Gooley near Indian Lake, NY	419	1917-68
01317000	Schroon River at Riverbank, NY	527	1926-70
01319000	East Branch Sacandaga River at Griffin, NY	114	1960-78
01326500	Hudson River at Spier Falls, NY	2,779	1913-23, 1928-63
01327000	Glens Falls Feeder at Glens Falls, NY		1920, 1946-80
01327500	Glens Falls Feeder at Dunham Basin, NY	14.7	1948-82
01328000	Bond Creek at Dunham Basin, NY	394	1923-68
01329500	Batten Kill at Battenville, NY	26.0	1949-63
01330000	Glowegee Creek at West Milton, NY	4,500	1912-56
01335500	Hudson River at Mechanicville, NY	26.2	1967-68
01342730	Steele Creek at Ilion, NY	193	1967-68
01342800	West Canada Creek at Nobleboro, NY	375	1920-59, 1920-68
01344000	West Canada Creek at Hinckley, NY	258	1928-46
01344500	Ninemile Feeder near Holland Patent, NY	61.0	1950-89
01347500	East Canada Creek at Dolgeville, NY	6.66	1977
01349000	Otsquago Creek at Fort Plain, NY	44.6	1976-87
01349858	Silver Lake Outlet at Hensonville, NY	532	1939
01350200	West Kill at North Blenheim, NY	67.2	1963-68
01350500	Schoharie Creek at Middleburg, NY	23.7	1914-16
01351000	Fox Creek at West Berne, NY	3,380	1899-1910, 1914-19
01355000	Alplaus Kill near Charlton, NY	89.4	1924-68
01356000	Mohawk River at Vischer Ferry Dam, NY	9.74	1975-77
01358500	Poesten Kill near Troy, NY	8.16	1968-77
01359150	Mill Creek near East Greenbush, NY	131	1968-79
01359513	Hunger Kill at Guilderland, NY	168	1980-83
01359519	Normans Kill near Westmere, NY	35.1	1968-77
01359528	Normans Kill at Albany, NY	2.90	1979-81
01359902	Coeymans Creek near Selkirk, NY	61.6	1968-77
01359918	Silver Creek at Dormansville, NY	329	1929-68
01359924	Hannicrois Creek near New Baltimore, NY	60.6	1960-68
01361000	Kinderhook Creek at Rossman, NY	98.0	1911-77
01361200	Claverack Creek at Claverack, NY	35.3	1969-78
01361500	Catskill Creek at Oak Hill, NY	27.5	1958-60
01361570	Tenmile Creek at Oak Hill, NY	239	1907-13
01362100	Roeliff Jansen Kill near Hillsdale, NY	20.9	1960-65
01363500	Esopus Creek near Olivebridge, NY	20.8	1939-87
01364800	Saw Kill at Red Hook, NY	100	1932-66
01365500	Chestnut Creek at Grahamsville, NY	56.7	1958-77
01366500	Rondout Creek near Lackawack, NY	140	1950-81
01366650	Sandburg Creek at Ellenville, NY	59.7	1949-68
01368000	Wallkill River near Unionville, NY	98.0	1938-77
01368500	Rutgers Creek at Gardnerville, NY	9.69	1950-79
01369000	Pochuck Creek near Pine Island, NY	380	1938-68
01369500	Quaker Creek at Florida, NY	406	1938-59
01370000	Wallkill River at Pellets Island Mountain, NY	8.41	1965-68
01370500	Wallkill River near Phillipsburg, NY	17.3	1960-62
01370600	Crystal Brook near Middletown, NY	10.1	1969-75
01372040	Crum Elbow Creek at Hyde Park, NY	33.6	1959-63
01372065	Casper Creek near Wappingers Falls, NY	92.4	1956-76
01372100	East Branch Wappinger Creek near Clinton Corners, NY		
01372200	Wappinger Creek near Clinton Corners, NY		

Station number	Station name	Drainage area (mi^2)	Period of record
	Hudson River Basin--Continued		
01372300	Little Wappinger Creek at Salt Point, NY	32.9	1959-75
01372400	Great Spring Creek at Pleasant Valley, NY	15.5	1961-65
01372800	Fishkill Creek at Hopewell Junction, NY	57.3	1958-75
01372850	Whortlekill Creek at Hopewell Junction, NY	7.37	1960-68
01373500	Fishkill Creek at Beacon, NY	190	1945-68
01373600	Seely Brook near Chester, NY	12.8	1965-68
01373690	Woodbury Creek near Highland Mills, NY	11.2	1966-68
01374420	Lake Tiorati Brook at Cedar Flats, NY	10.5	1960-63
01374440	Cedar Pond Brook at Stony Point, NY	17.4	1960-62
01374480	Minisceongo Creek at Thiells, NY	15.0	1960-63
01374990	Croton River at Old Croton Dam near Croton Heights, NY	354	1868-1905
01375500	Bird Brook near Croton, NY	0.40	1934-41
01376270	Sparkill Creek at Tappan, NY	4.90	1960-63, 1966
01376275	Sparkill Creek at Tappan Station, NY	9.50	1966
01376280	Sparkill Creek at Sparkill, NY	11.1	1960-63, 1965-68, 1977-78
01376500	Saw Mill River at Yonkers, NY	25.6	1944-78, 1981-89
	Hackensack River Basin		
01376600	Hackensack River at Brookside Park, NY	13.2	1960-63
01376850	Nauraushaun Brook at Nauraushaun, NY	5.89	1960-63
01376900	Hackensack River at Nauraushaun, NY	44.6	1960-62
01377200	Pascack Brook Tributary at Spring Valley, NY	4.19	1960-62
01377300	Pascack Brook at Pearl River, NY	9.83	1960-63
	Passaic River Basin		
01387250	Ramapo River at Sloatsburg, NY	60.1	1960-63
01387300	Stony Brook at Sloatsburg, NY	18.3	1960-62
01387480	Mahwah River at Suffern, NY	20.8	1960-62
01390200	Saddle River near Spring Valley, NY	2.46	1961-63
01390300	Pine Brook near Spring Valley, NY	2.17	1961-62
	Delaware River Basin		
01414000	Platte Kill at Dunraven, NY	35.0	1942-62
01415500	Terry Clove Kill near Pepacton, NY	13.6	1941-62
01416500	Coles Clove Kill near Pepacton, NY	28.0	1945-53
01418000	Beaver Kill near Turnwood, NY	40.8	1949-59
01418500	Beaver Kill at Craigie Clair, NY	81.9	1938-70
01419000	Willowemoc Creek at Debruce, NY	41.2	1949-52
01419500	Willowemoc Creek near Livingston Manor, NY	62.6	1938-70
01420000	Little Beaver Kill near Livingston Manor, NY	20.1	1925-81
01422000	West Branch Delaware River at Delhi, NY	142	1937-70
01422500	Little Delaware River near Delhi, NY	49.7	1938-70
01422700	West Branch Delaware River near Hamden, NY	256	1960-67
01423500	Dryden Creek near Granton, NY	8.10	1953-67
01424000	Trout Creek near Rock Royal, NY	20.0	1953-67
01424500	Trout Creek at Cannonsville, NY	49.5	1941-63
01425500	Cold Spring Brook at China, NY	1.49	1935-68
01425642	Butler Brook at Deposit, NY	8.46	1976-77
01425675	Oquaga Creek near North Sanford, NY	4.69	1970-81
01426000	Oquaga Creek at Deposit, NY	67.6	1941-73
01427405	Delaware River near Callicoon, NY	1,708	1968-75
01427500	Callicoon Creek at Callicoon, NY	110	1941-82
01428000	Tenmile River at Tusten, NY	45.6	1947-73
01434500	Neversink River at Claryville, NY	61.9	1950
01435500	Neversink River at Halls Mills near Curry, NY	68.7	1938-49
01437000	Neversink River at Oakland Valley, NY	223	1929-73
	Streams tributary to Lake Ontario		
04249500	Salmon River near Redfield, NY	188	1911-14
04249910	Beaverdam Brook at Altmar, NY	14.6	1974-76
04250000	Orwell Brook near Altmar, NY	22.3	1911-16
04250500	Salmon River near Pulaski, NY	257	1901-14
04251000	Forestport Feeder near Boonville, NY		1915-33
04251500	Mill Creek Sluiceway at Boonville, NY		1934-40
04252000	Black River Canal (flowing south) near Boonville, NY		1916-80
04253000	Sugar River at Talcottsville, NY	43.1	1926-32, 1967-68
04253500	Middle Branch Moose River at Old Forge, NY	55.0	1912-73

Station number	Station name	Drainage area (mi^2)	Period of record
	Streams tributary to Lake Ontario--Continued		
04254000	Middle Branch Moose River near McKeever, NY	151	1926-68
04254375	Panther Lake Outlet near Old Forge, NY	0.51	1978-82
04254500	Moose River at McKeever, NY	363	1923-70
04255000	Otter Creek near Glenfield, NY	64.5	1924-33
04255500	Independence River at Sperryville, NY	81.8	1928-42
04256460	Cranberry Pond Outlet near Big Moose, NY	0.60	1984-86
04256480	Woods Lake Tributary near Big Moose, NY	0.12	1980-81 1985-86
04256484	Woods Lake near Big Moose, NY	0.80	1979-82
04256485	Woods Lake Outlet near Big Moose, NY	0.73	1978-81 1984-89
04257000	Beaver River below Stillwater Dam, near Beaver River, NY	171	1909-87
04257500	Beaver River near Number Four, NY	225	1921-25
04257955	Beaver River near Croghan, NY		1901-03
04258500	Deer River at Copenhagen, NY	86.6	1930-57
04258700	Deer River at Deer River, NY	94.8	1957-68
04259500	Black River at Black River, NY	1,842	1897-1920
	St. Lawrence River Basin		
04261000	Oswegatchie River at Cranberry Lake, NY	140	1923-82
04261500	Oswegatchie River at Newton Falls, NY	170	1913-23
04263500	Oswegatchie River near Ogdensburg, NY	1,562	1903-17
04264050	St. Lawrence River near Waddington, NY	298,500	1978-86
04264100	Sucker Brook near Waddington, NY	25.6	1961-64
04264200	Little Sucker Brook at Waddington, NY	19.9	1959-60
04264300	Brandy Brook near Waddington, NY	27.0	1959-63
04264400	Middle Branch Grass River near Clare, NY	63.0	1959-60
04264500	North Branch Grass River near South Colton, NY	28.1	1925-32
04264700	North Branch Grass River near Clare, NY	46.3	1958-63
04264800	Plumb Brook at Russell, NY	35.3	1958-60
04265000	Grass River at Pyrites, NY	333	1924-77
04265100	Elm Creek near Hermon, NY	32.6	1959-68
04265200	Tanner Creek at Stellaville, NY	30.3	1958-60
04265300	Little River near Canton, NY	42.4	1958-60
04265400	Grannis Brook at Crary Mills, NY	20.9	1959-60
0426545290	Lost Brook near Raquette Lake, NY	17.0	1978-80
0426545295	Sagamore Lake Outlet near Raquette Lake, NY	19.1	1978-82
04265500	Raquette River near Coreys, NY	418	1908-13
04265605	Little Simon Pond Outlet near Tupper Lake, NY	2.95	1984-88
04266000	Bog River at mouth near Tupper Lake, NY	132	1908-12
04267000	Raquette River near South Colton, NY	927	1904-05
04267700	Parkhurst Brook near Potsdam, NY	16.8	1958-63
04267800	Trout Brook at Allen Corners, NY	54.2	1958-63
04268200	Plum Brook near Grantville, NY	43.9	1959-63
04268300	Squeak Brook near Massena, NY	39.1	1958-60
04268390	St. Regis River near Paul Smiths, NY	22.0	1973-75
04268500	Raquette River at Massena Springs, NY	1,197	1904-17
04268600	East Branch St. Regis River near Meacham Lake, NY	52.2	1958-68
04268700	St. Regis River at St. Regis Falls, NY	234	1958-68
04268710	Lake Ozonia Outlet near St. Regis Falls, NY	28.3	1961-63
04268720	Hopkinton Brook at Hopkinton, NY	20.0	1961-62
04268800	West Branch St. Regis River near Parishville, NY	171	1959-68
04268900	Trout Brook at Stockholm Center, NY	42.4	1958-60
04269043	Deer River at North Lawrence, NY	78.0	1973-79
04269050	Allen Brook near Brasher Falls, NY	16.0	1961-66
04269100	Lawrence Brook near Moira, NY	25.7	1958-60
04269500	Deer River at Brasher Iron Works, NY	182	1912-16 1958-68
04270150	East Branch Deer Creek at Fort Covington Center, NY	23.9	1961-62
04270180	Farrington Brook near Moira, NY	17.7	1961-66
04270500	Chateaugay River near Chateaugay, NY	112	1909 1927-66
04270600	Little Trout River near Burke, NY	27.6	1961-63
04270700	Trout River at Trout River, NY	107	1960-66
04270800	English River near Mooers Forks, NY	40.8	1960-68
04271000	Great Chazy River at Mooers, NY	204	1908
04272500	Saranac River near Saranac Lake, NY	146	1902-03
04273000	Saranac River at Saranac, NY	521	1931-43
04273900	Lake Placid at Lake Placid, NY	20.1	1960-82
04274000	West Branch Ausable River near Lake Placid, NY	116	1928-68
04274500	Black Brook at Black Brook, NY	49.4	1925-61
04276895	West Brook at Lake George, NY	8.4	1980-83
04276920	English Brook at Lake George, NY	7.8	1980-83
04279000	La Chute at Ticonderoga, NY	234	1904-06 1943-79

PUBLICATION OF 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."

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

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

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

2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.

2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.

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

3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

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

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.

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

3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3. Chapter A7. 1968. 28 pages.

3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. *Measurement of time of travel in streams by dye tracing*, by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.

3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

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

3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.

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

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

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

3-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F. A. Kilpatrick, R. E. Rathbun, N. Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.

3-A19. *Levels of streamflow gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 pages.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

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

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

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

3-B4. *Regression modeling of ground-water flow*, by Richard L. Cooley and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.

3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction*, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.

3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.

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

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

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

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

4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

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

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

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

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

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

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

5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R. L. Wershaw, M. J. Fishman, R. R. Grabbe, and L. E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L. J. Britton and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

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

5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.

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

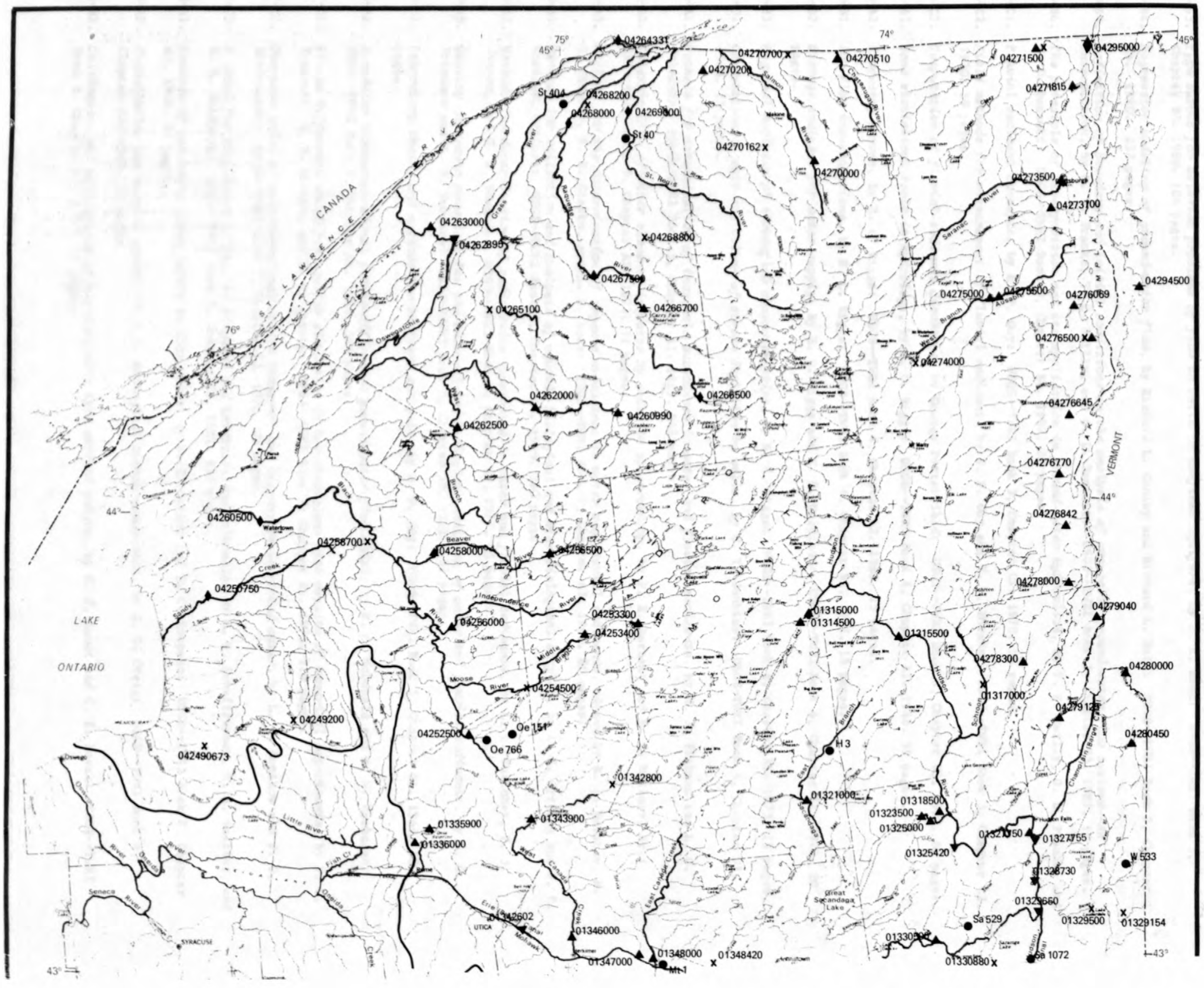
7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

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

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

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

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


CANADA
ST. LAWRENCE RIVER
LAKE ONTARIO
VERMONT
LAKE CHAMPLAIN
75°
74°
76°
45°
44°
43°
04264331
04270700
04270510
04270200
04271500
04295000
04271815
St 404
04268200
04268000
04269000
St 40
04270162
04270000
04273500
04273700
04263000
04262895
04268800
04267500
04266700
04265100
04275000
04275500
04276069
04294500
04276500
04274000
04262000
04260990
04266500
04262500
04276645
04276770
04260500
04276842
04258700
04258000
04256500
04250750
04278000
04279040
04253300
04256000
04253400
01315000
01314500
01315500
04278300
04280000
04254500
01317000
04279125
04249200
04252500
Oe 151
Oe 766
04280450
042490673
H 3
01342800
01321000
01318500
01323500
01325000
01335900
01343900
01327750
01327755
01336000
01325420
W 533
01328730
01329660
01329500
01329154
04242602
01346000
Sa 529
01330500
01347000
01348000
01348420
01330880
Sa 1072
Mt-1
Watertown
UTICA
SYRACUSE
Oswego
Great Sacandaga Lake
Hudson Falls
Black River
Beaver River
Moose River
Independence River
Middle Branch
Sandy Creek
Salmon River
Little River
Fish Cr
Oneida River
Seneca River
Oswego River
Mohawk
West Canada Creek
East Canada Creek
Oswegatchie River
Grass River
Raquette River
St. Regis River
Saranac River
Ausable River
West Branch
Chateaugay River
Hudson River
Schroon River
Sacandaga River
Champlain Barge Canal

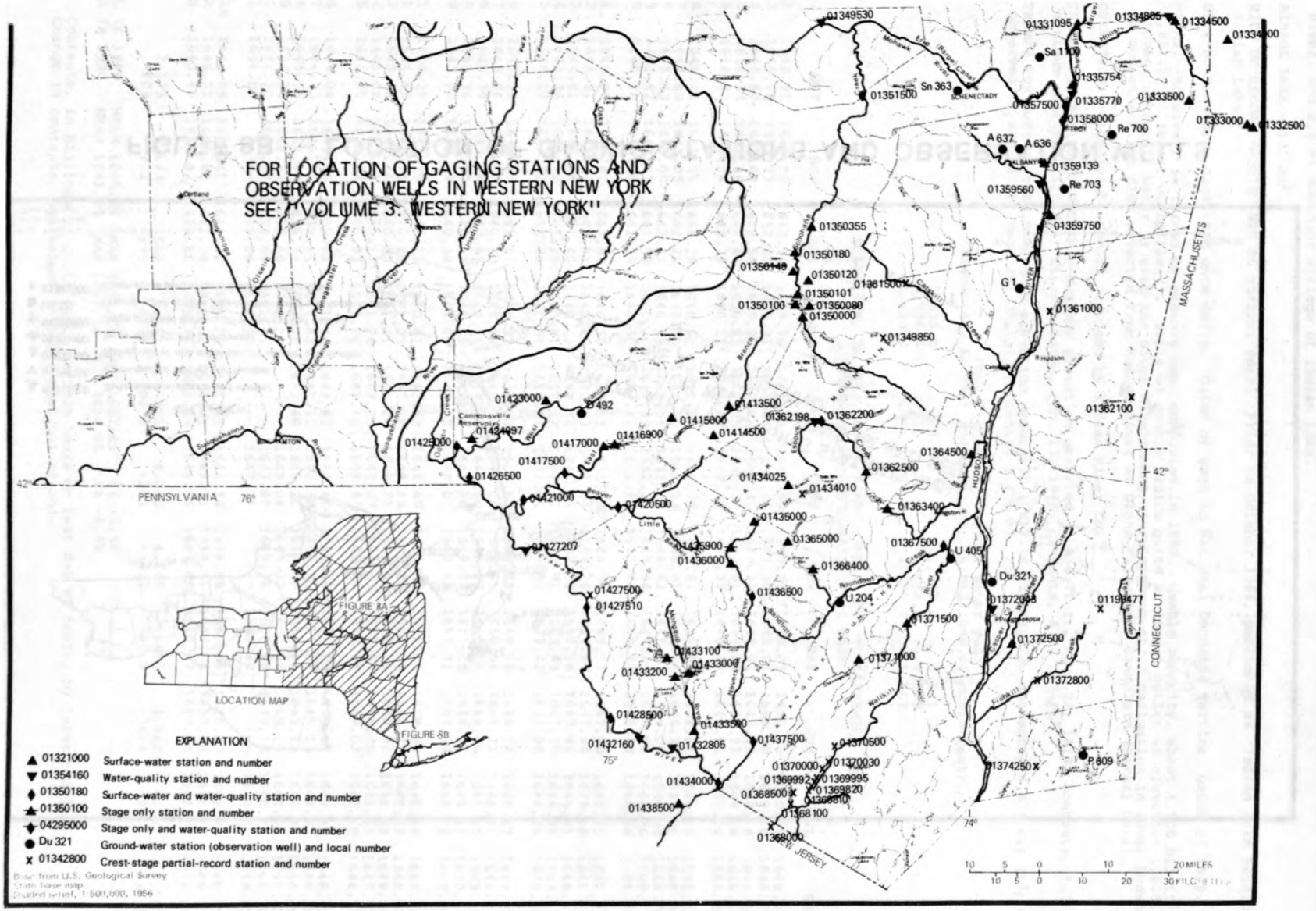


FIGURE 8A -- LOCATION OF GAGING STATIONS AND OBSERVATION WELLS

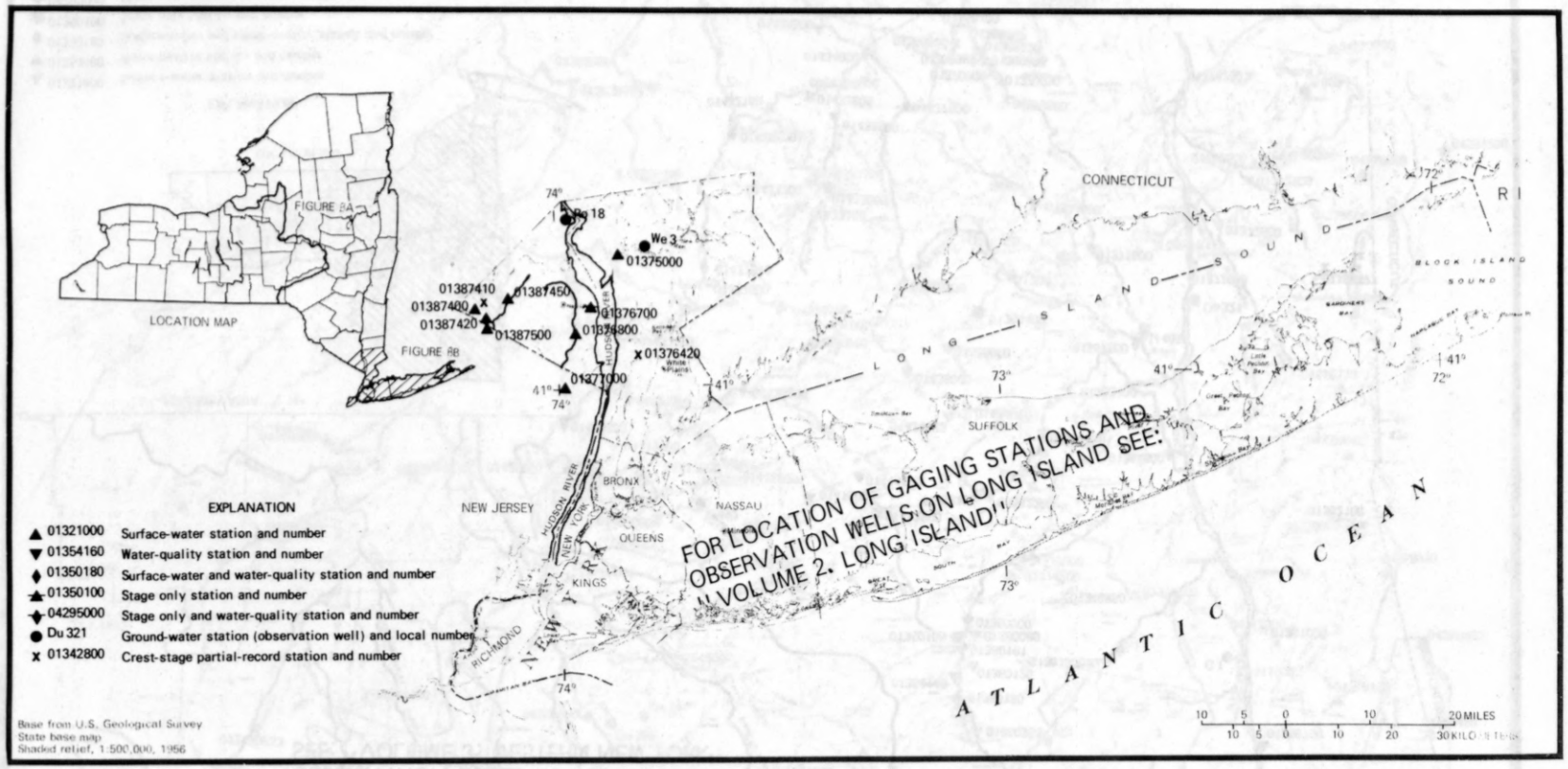


FIGURE 8B -- LOCATION OF GAGING STATIONS AND OBSERVATION WELLS

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 mi^2.

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 4.500 bil ft^2 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 ft^3; minimum observed, 1,616.81 ft, estimated, Feb. 13, 1948, contents, 0.20 bil ft^3.

EXTREMES FOR CURRENT YEAR.--Maximum elevation observed, 1,652.14 ft, May 23, contents, 4.836 bil ft^3; minimum observed, 1,639.66 ft, Dec. 29, 30, 31, contents, 2.679 bil ft^3.

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, IN FEET, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1646.91	1643.88	1642.74	1639.76	1642.61	1643.58	1647.55	1649.03	1650.09	1649.16	1648.72	1648.18
2	1646.76	1643.73	1642.66	1639.91	1642.64	1643.46	1647.50	1648.91	1649.79	1649.16	1648.67	1648.07
3	1646.60	1643.66	1642.58	1639.97	1642.67	1643.31	1647.43	1648.71	1649.49	1649.16	1648.59	1647.96
4	1646.54	1643.49	1642.47	1639.92	1642.75	1643.11	1647.81	1648.57	1649.21	1649.16	1648.52	1647.86
5	1646.27	1643.34	1642.38	1640.11	1642.80	1642.93	1648.36	1648.51	1648.91	1649.16	1648.46	1647.78
6	1646.11	1643.31	1642.29	1640.12	1642.69	1642.73	1648.61	1648.56	1648.61	1649.15	1648.41	1647.71
7	1645.89	1643.05	1642.20	1640.13	1642.63	1642.54	1648.61	1648.64	1648.26	1649.06	1648.56	1647.61
8	1645.63	1643.00	1642.11	1640.26	1642.56	1642.35	1648.63	1648.61	1648.06	1648.98	1648.76	1647.56
9	1645.42	1643.01	1641.89	1640.27	1642.49	1642.11	1648.54	1648.49	1648.06	1648.96	1648.77	1647.49
10	1645.20	1643.26	1641.79	1640.35	1642.49	1641.89	1648.44	1648.47	1648.03	1648.86	1648.77	1647.41
11	1645.00	1643.47	1641.63	1640.30	1642.51	1641.73	1648.64	1648.73	1647.99	1648.75	1648.81	1647.34
12	1644.81	1643.49	1641.51	1640.40	1642.53	1641.65	1649.26	1648.99	1647.94	1648.66	1648.85	1647.27
13	1644.61	1643.46	1641.40	1640.40	1642.58	1641.82	1649.53	1649.16	1647.96	1648.61	1648.87	1647.19
14	1644.36	1643.42	1641.28	1640.31	1642.52	1642.57	1649.61	1649.49	1647.96	1648.56	1649.17	1647.16
15	1644.17	1643.31	1640.96	1640.31	1642.51	1643.61	1649.51	1649.82	1648.06	1648.46	1649.19	1647.07
16	1643.98	1643.25	1641.01	1640.31	1642.64	1643.60	1649.48	1649.88	1648.14	1648.47	1649.23	1647.01
17	1643.78	1643.51	1640.83	1640.38	1642.73	1646.16	1649.51	1650.01	1648.31	1648.41	1649.21	1646.94
18	1643.79	1643.78	1640.67	1640.46	1642.77	1647.60	1649.59	1650.58	1648.44	1648.31	1649.16	1646.87
19	1643.76	1643.82	1640.55	1640.59	1642.82	1648.26	1649.53	1651.15	1648.54	1648.31	1649.11	1646.66
20	1643.69	1643.83	1640.38	1640.81	1642.85	1648.51	1649.51	1651.31	1648.64	1648.26	1649.06	1646.71
21	1644.39	1643.79	1640.27	1640.81	1642.89	1648.69	1649.44	1651.54	1648.64	1648.29	1648.98	1646.61
22	1644.91	1643.76	1640.26	1641.09	1642.78	1648.69	1649.46	1652.08	1648.70	1648.28	1648.91	1646.56
23	1645.06	1643.66	1640.23	1641.21	1642.86	1648.71	1649.46	1652.14	1648.84	1648.29	1648.84	1646.50
24	1645.08	1643.54	1640.13	1641.26	1643.26	1648.67	1649.47	1652.04	1648.96	1648.61	1648.77	1646.44
25	1645.08	1643.44	1640.03	1641.26	1643.46	1648.61	1649.46	1651.88	1649.02	1648.79	1648.71	1646.36
26	1644.94	1643.26	1639.93	1641.46	1643.66	1648.46	1649.48	1651.61	1649.07	1648.81	1648.65	1646.28
27	1644.75	1643.11	1639.84	1641.83	1643.71	1648.34	1649.46	1651.36	1649.13	1648.83	1648.59	1646.21
28	1644.56	1642.99	1639.74	1642.11	1643.66	1648.21	1649.40	1651.11	1649.13	1648.80	1648.49	1646.12
29	1644.36	1642.83	1639.66	1642.27	---	1648.06	1649.30	1650.86	1649.10	1648.76	1648.43	1646.08
30	1644.20	1642.82	1639.66	1642.55	---	1647.92	1649.16	1650.66	1649.16	1648.73	1648.36	1646.11
31	1644.02	---	1639.66	1642.59	---	1647.71	---	1650.36	---	1648.71	1648.29	---
MEAN	1644.99	1643.41	1641.06	1640.76	1642.82	1645.34	1648.99	1650.04	1648.67	1648.73	1648.77	1647.04
MAX	1646.91	1643.88	1642.74	1642.59	1643.71	1648.71	1649.61	1652.14	1650.09	1649.16	1649.23	1648.18
MIN	1643.69	1642.82	1639.66	1639.76	1642.49	1641.65	1647.43	1648.47	1647.94	1648.26	1648.29	1646.08
‡	3.373	3.173	2.687	3.157	3.323	4.001	4.245	4.460	4.262	4.192	4.105	3.744
‡‡	-209	-77.2	-181	+175	+68.6	+253	+94.1	+80.3	-76.4	-26.1	-32.5	-139

CAL YR 1989 MEAN 1645.09 MAX 1652.43 MIN 1637.15 ‡‡ -3.58
WTR YR 1990 MEAN 1645.90 MAX 1652.14 MIN 1639.66 ‡‡ -5.99

‡ 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 mi^2.

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.--76 years (water years 1913, 1916-90), 296 ft^3/s, unadjusted.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft^3/s, May 25, gage height, 4.09 ft; minimum, 39 ft^3/s, part or all of each day June 19-23, 25-27, gage height, 0.90 ft; minimum daily discharge, 39 ft^3/s, June 20-22, 25-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	645	592	418	e108	200	561	623	642	874	103	172	214
2	644	588	418	108	200	560	623	532	869	103	214	213
3	641	585	418	108	202	560	626	463	867	103	214	212
4	636	584	418	108	202	558	637	462	865	103	214	212
5	633	581	418	110	259	556	632	466	862	103	214	212
6	632	580	414	110	320	553	633	463	858	171	214	212
7	630	579	414	110	320	550	633	463	791	214	220	212
8	625	577	411	110	320	547	633	463	228	214	216	211
9	622	582	411	111	320	544	632	463	227	214	214	210
10	619	582	411	112	322	541	633	465	227	213	216	210
11	617	581	408	113	320	539	647	467	227	214	218	209
12	614	581	408	125	320	541	643	465	227	214	217	209
13	611	580	408	134	320	550	645	472	161	213	219	209
14	609	578	408	134	320	560	644	472	120	212	219	207
15	606	577	404	134	320	572	645	471	70	212	217	209
16	604	581	401	134	320	586	644	596	46	213	217	207
17	603	580	401	134	323	608	647	666	46	202	217	207
18	600	579	401	137	323	615	649	668	45	115	217	207
19	598	578	401	136	321	618	649	675	42	115	217	207
20	608	580	398	136	310	627	648	688	39	117	217	207
21	610	578	275	136	355	645	651	794	39	116	217	207
22	606	576	199	136	397	644	650	983	39	115	217	207
23	606	576	199	136	404	628	650	1000	41	135	217	206
24	606	576	197	138	402	629	650	945	40	121	217	204
25	605	576	197	138	401	630	653	910	39	119	217	204
26	604	574	197	143	402	680	655	978	39	118	215	204
27	603	571	197	140	403	686	652	918	76	118	215	204
28	600	569	197	140	493	625	649	898	103	118	214	204
29	598	462	197	140	---	624	646	892	104	118	214	203
30	594	418	e148	164	---	623	647	884	103	118	214	206
31	592	---	e110	199	---	622	---	879	---	119	214	---
TOTAL	19021	17101	10302	4022	9119	18382	19269	20603	8314	4683	6654	6245
MEAN	614	570	332	130	326	593	642	665	277	151	215	208
MAX	645	592	418	199	493	686	655	1000	874	214	220	214
MIN	592	418	110	108	200	539	623	462	39	103	172	203
ADJUSTED FOR CHANGE IN CONTENTS OF INDIAN LAKE												
MEAN	405	493	151	305	395	846	736	745	201	125	182	69.0
CFSM	3.07	3.73	1.14	2.31	2.99	6.41	5.58	5.64	1.52	0.95	1.38	0.52
IN	3.54	4.17	1.32	2.66	3.12	7.39	6.22	6.51	1.70	1.09	1.59	0.58

		OBSERVED						ADJUSTED				
CAL YR 1989	TOTAL 112980	MEAN 310	MAX 750	MIN 42		MEAN 306	CFSM 2.32	IN 31.46				
WTR YR 1990	TOTAL 143715	MEAN 394	MAX 1000	MIN 39		MEAN 388	CFSM 2.94	IN 39.89				

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 mi^2.

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. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--83 years, 1,568 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,900 ft^3/s, Dec. 31, 1948, gage height, 12.14 ft; minimum, 112 ft^3/s, July 26, 1934, gage height, 1.96 ft; minimum daily, 114 ft^3/s, July 26, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,100 ft^3/s, Mar. 18, gage height, 9.45 ft; minimum, 294 ft^3/s, Sept. 6, gage height, 2.48 ft; minimum daily, 335 ft^3/s, Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1300	e2000	1670	e720	e1600	2170	2080	3240	2350	831	731	528
2	e1400	2370	1410	e760	1380	2020	2480	2760	2130	827	784	498
3	e1700	2260	e1300	e800	1340	1920	3610	2290	2080	755	708	469
4	e2100	2100	e1200	e820	1270	1840	8080	1990	2060	680	631	361
5	e1900	1920	e1100	e840	1270	1630	9130	2300	2200	610	572	523
6	e1700	1850	e1200	e860	1340	1520	7070	3170	2110	540	618	335
7	e1500	1880	e1200	e900	1300	1440	5050	2960	2010	535	1370	390
8	e1500	2060	e1100	e900	1310	1420	4160	2740	1510	540	2420	516
9	e1400	2600	e1100	e740	1290	1420	3430	2720	1140	535	1600	490
10	e1400	3830	e1000	e700	1450	1440	3110	2750	1190	532	1450	389
11	e1200	3810	e1000	e680	2160	1430	6220	4310	1160	514	2070	447
12	e1400	3310	e1000	e660	2200	2010	6620	4620	1150	496	2950	457
13	e1400	2840	e960	e640	2000	3680	4990	4330	1100	478	2300	448
14	e1300	2500	e900	e620	1760	7280	4010	5750	948	464	3160	442
15	e1300	2270	e900	e620	1730	10400	3600	5180	866	453	3370	559
16	e1400	2490	e880	e620	1650	12500	3400	4370	862	533	2510	645
17	e1400	5290	e880	e640	2050	13900	3450	5540	1320	556	1790	539
18	e2000	4760	e900	e720	2510	13800	3490	7980	1490	510	1340	535
19	e2300	3740	e940	e1000	e2300	9080	3110	6570	1390	462	1140	507
20	e2800	3220	e940	e1800	e1900	6520	2950	5520	1150	385	950	504
21	e8800	3320	e900	e1900	e1700	5240	3220	7300	1040	433	840	504
22	e8400	2960	e800	e1700	1730	4360	3760	7230	932	492	759	576
23	e5200	2700	e700	e1400	2810	3910	3840	5840	943	796	700	509
24	e4200	2330	e680	e1200	4360	3560	3850	4480	1110	2560	660	490
25	e3400	2140	e680	e1200	4260	3350	3780	3990	1100	2080	650	539
26	e2700	2040	e680	e1400	3580	2950	4610	3420	990	1520	634	543
27	e2400	1820	e660	e2200	2740	2530	4980	2940	858	1110	604	525
28	e2200	1950	e640	e2300	2310	2440	4500	2690	768	895	581	507
29	e2000	2040	e640	e2200	---	2200	4200	2510	711	743	577	550
30	e1800	1790	e660	e1800	---	2100	3560	2610	733	604	493	600
31	e1700	---	e700	e1700	---	2060	---	2640	---	575	495	---
TOTAL	75200	80190	29320	35040	57300	132120	130340	126740	39401	23044	39457	14925
MEAN	2426	2673	946	1130	2046	4262	4345	4088	1313	743	1273	497
MAX	8800	5290	1670	2300	4360	13900	9130	7980	2350	2560	3370	645
MIN	1200	1790	640	620	1270	1420	2080	1990	711	385	493	335

CAL YR 1989 TOTAL 594306 MEAN 1628 MAX 8800 MIN 351
WTR YR 1990 TOTAL 783077 MEAN 2145 MAX 13900 MIN 335

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 mi^2.

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 fair. 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.--69 years, 2,919 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,700 ft^3/s, Jan. 1, 1949, gage height, 21.21 ft; minimum, 281 ft^3/s, Sept. 3, 1934, gage height, 0.94 ft; minimum daily, 292 ft^3/s, July 24, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge for the flood of March 27, 1913, was about 49,000 ft^3/s, based on peak runoff comparison with a station 12.7 mi upstream (drainage area 1,533 mi^2).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 16	1315	a*26,200	*14.52	May 18	0500	16,000	10.28
Mar. 18	0430	23,400	13.35	May 21	1915	16,000	10.27
Apr. 4	2245	19,100	11.59				

a Result of ice jam release.

Minimum discharge, 635 ft^3/s, Sept. 7, gage height, 1.94 ft; minimum daily, 672 ft^3/s, Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2490	3770	3270	1280	2930	4230	4700	5690	4740	1480	1090	1020
2	2570	4120	2600	e1400	2790	3960	5020	5040	4490	1510	1200	1000
3	2620	3990	2380	1310	2650	3730	6610	4450	4010	1430	1160	943
4	2890	3750	2070	1290	2460	3530	16200	3880	3910	1310	1040	879
5	2840	3460	1970	1390	2340	3250	17700	4070	3890	1220	954	755
6	2610	3300	2220	1420	2320	3080	14600	5270	3750	1110	1380	888
7	2360	3300	2420	1430	2320	2890	12000	5340	3570	1010	2030	672
8	2450	3500	2120	1360	2270	2760	9930	4890	3290	980	3420	722
9	2190	4570	1930	1340	2230	2660	8770	4890	2520	969	2890	791
10	2280	6450	1850	1260	2520	2570	7730	4990	2440	938	2280	798
11	1910	6410	1950	1180	3160	2740	12200	7210	2350	898	3000	704
12	2240	5850	1950	e1100	3420	3540	13300	8100	2280	859	4830	750
13	2170	5190	1750	e1000	3400	5470	11100	7490	2170	827	4500	756
14	1930	4680	1660	e1000	3230	10100	9240	10200	2030	779	5560	724
15	2150	4310	1550	e1000	3030	15600	8420	9500	1860	757	5960	798
16	2110	4190	1540	1100	2780	20500	7860	8600	1770	816	5080	998
17	2180	6710	1590	1120	3290	21500	7430	10600	2320	864	4120	1010
18	3100	7330	1560	1220	3870	22700	7280	15500	2580	841	3320	858
19	3320	6190	e1500	1620	3780	18100	6700	13300	2440	771	2880	813
20	4350	5420	e1400	2130	3790	14000	6090	11500	2360	727	2500	788
21	12100	5750	e1300	2380	3200	12100	6090	14400	2130	701	2180	759
22	10700	5270	e1300	2350	3050	10700	6630	14700	2070	728	1960	772
23	8650	4660	1130	2170	4140	9840	6760	12300	1990	957	1760	840
24	7290	4260	1130	1990	6400	9010	6580	10600	2170	2750	1630	776
25	6260	3930	1180	1890	6560	8130	6490	8880	2160	3030	1600	747
26	5520	3740	e1100	2600	5640	7340	7090	7900	1920	2470	1540	778
27	4980	3580	e1100	3750	5150	6290	8040	6930	1700	1920	1430	771
28	4490	3330	1010	3850	4650	5850	7470	6070	1540	1570	1400	750
29	4010	3970	e1100	3600	---	5370	6870	5630	1450	1350	1360	716
30	3710	3090	1040	3000	---	4970	6240	5500	1510	1160	1220	896
31	3460	---	1080	3040	---	4770	---	5370	---	1040	1090	---
TOTAL	121930	138070	51750	56570	97370	251280	261140	248790	77410	37772	76364	24472
MEAN	3933	4602	1669	1825	3477	8106	8705	8025	2580	1218	2462	816
MAX	12100	7330	3270	3850	6560	22700	17700	15500	4740	3030	5960	1020
MIN	1910	3090	1010	1000	2230	2570	4700	3880	1450	701	954	672

CAL YR 1989 TOTAL 1062343 MEAN 2911 MAX 13200 MIN 674
WTR YR 1990 TOTAL 1442918 MEAN 3953 MAX 22700 MIN 672

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 mi^2.

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.--79 years, 1,102 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,000 ft^3/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 ft^3/s, Sept. 30, 1913, gage height, 1.17 ft; minimum daily discharge, 18 ft^3/s, Sept. 20, 1913.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	0630	11,100	7.04	Apr. 11	0930	*11,600	7.17
Jan. 26	1300	ice jam	*8.42	May 21	0930	9,850	6.73
Mar. 17	1930	11,500	7.16				

Minimum discharge, 63 ft^3/s, July 19, 20, gage height, 1.39 ft; minimum daily discharge, 98 ft^3/s, July 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	559	1170	e860	e350	1130	1370	1360	1170	912	399	156	176
2	535	1160	e700	e400	1150	1230	1590	1030	808	346	145	167
3	733	1050	e620	e450	1070	1120	3170	907	739	275	130	156
4	652	975	e540	e500	995	979	7050	841	710	269	118	156
5	551	871	e500	e540	818	838	5370	1170	676	267	119	150
6	525	951	e540	e560	859	775	3780	1560	604	248	480	144
7	504	1110	e600	e540	818	704	2960	1360	498	323	1250	160
8	469	1480	e540	e520	775	677	2510	1260	474	300	910	186
9	409	2830	e450	e500	781	665	2150	1160	521	287	614	168
10	402	3890	e450	e480	1170	637	2030	1410	504	274	534	207
11	459	2560	e420	e450	1470	777	8180	3570	474	190	1780	268
12	574	2410	e420	e420	1310	2160	5230	2800	439	157	1530	200
13	505	2080	e450	e400	1190	4970	3930	3240	406	152	988	195
14	503	1760	e400	e390	1090	7530	3110	4870	287	142	2030	175
15	728	1550	e350	e370	986	9510	2840	3460	262	140	1240	337
16	850	1900	e320	e400	913	9950	2800	2850	363	170	845	413
17	1000	3330	e300	e500	1330	10800	2800	4920	650	239	655	290
18	2180	2600	e300	e800	1340	8580	2670	6790	489	98	544	232
19	1790	2180	e350	e1100	1250	5970	2310	4210	447	149	442	199
20	3540	2030	e350	e1200	1100	4780	2170	3780	369	103	359	193
21	7700	2570	e350	e1100	929	3820	2270	7930	310	112	316	182
22	3710	2050	e330	e1100	972	3440	2390	5270	449	122	299	182
23	2770	1740	e310	e1000	3170	3350	2250	4080	447	284	272	214
24	2270	1500	e300	e800	3750	2990	2080	3120	476	556	261	216
25	1840	1360	e300	e800	2720	2550	1930	2580	433	360	270	197
26	1530	1220	e290	e2000	2020	2190	1920	2120	341	250	256	183
27	1300	1100	e270	e2500	1790	1780	1900	1750	295	219	237	175
28	1140	1250	e250	2050	1550	1550	1650	1460	252	188	224	166
29	972	1510	e250	1670	---	1430	1450	1250	306	167	234	160
30	830	e1100	e250	1350	---	1320	1300	1250	492	149	212	274
31	892	---	e280	1310	---	1270	---	1070	---	146	189	---
TOTAL	42422	53287	12640	26550	38446	99712	87150	84238	14433	7081	17639	6121
MEAN	1368	1776	408	856	1373	3217	2905	2717	481	228	569	204
MAX	7700	3890	860	2500	3750	10800	8180	7930	912	556	2030	413
MIN	402	871	250	350	775	637	1300	841	252	98	118	144

CAL YR 1989 TOTAL 401686 MEAN 1101 MAX 9980 MIN 117
WTR YR 1990 TOTAL 489719 MEAN 1342 MAX 10800 MIN 98

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 mi^2.

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 ft^3 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 ft^3 is available exclusively for flood storage. Elevation of inverts of three Dow valves is 699.0 ft. Capacity of 4.600 bil ft^3 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 mi^2. 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 ft^3; minimum since first filling, 729.55 ft, Mar. 30, 1940, contents, 2.100 bil ft^3.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 772.11 ft, May 22, contents, 39.020 bil ft^3; minimum, 748.15 ft, Mar. 12, contents, 14.300 bil ft^3.

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, IN FEET, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	761.86	763.20	761.55	753.10	752.77	750.68	762.15	768.00	767.87	766.75	763.22	762.53
2	761.81	762.97	761.28	752.98	752.71	750.51	762.10	767.90	767.62	766.68	763.11	762.38
3	761.96	762.85	761.15	752.91	752.65	750.33	762.28	767.80	767.40	766.65	762.99	762.23
4	761.76	762.67	760.94	752.83	752.59	750.15	763.56	767.69	767.25	766.60	762.88	762.14
5	761.52	762.49	760.64	752.76	752.52	749.90	764.95	767.67	767.23	766.50	762.76	761.98
6	761.30	762.42	760.38	752.73	752.31	749.63	765.68	767.80	767.21	766.36	762.88	761.82
7	761.22	762.15	760.32	752.66	752.07	749.38	766.18	767.83	767.22	766.23	763.11	761.68
8	761.02	762.06	760.10	752.55	751.84	749.10	766.55	767.80	767.18	766.15	763.27	761.48
9	760.92	762.20	759.83	752.45	751.62	748.81	766.81	767.87	767.18	766.05	763.30	761.31
10	760.86	762.58	759.58	752.40	751.44	748.54	766.82	767.89	767.19	765.95	763.30	761.19
11	760.70	762.82	759.30	752.34	751.32	748.29	767.46	768.30	767.10	765.76	763.38	761.03
12	760.53	762.85	759.03	752.24	751.21	748.27	768.30	768.56	767.16	765.61	763.55	760.87
13	760.40	762.78	758.75	752.14	751.06	748.74	768.59	768.82	767.14	765.47	763.62	760.68
14	760.18	762.73	758.48	752.03	750.95	749.91	768.74	769.50	767.10	765.34	763.73	760.52
15	760.05	762.65	758.08	751.89	750.82	751.69	768.85	769.87	767.06	765.23	763.80	760.41
16	760.01	762.66	757.82	751.80	750.75	753.62	768.97	769.95	767.04	765.16	763.80	760.22
17	759.79	762.80	757.50	751.70	750.62	755.60	769.04	770.14	767.04	765.02	763.78	760.06
18	759.93	762.83	757.22	751.65	750.46	757.47	769.05	770.93	767.02	764.89	763.74	759.90
19	759.97	762.80	756.93	751.69	750.35	758.54	768.99	771.28	767.00	764.72	763.62	759.70
20	760.26	762.70	756.64	751.75	750.15	759.40	768.94	771.22	767.02	764.55	763.57	759.54
21	761.45	762.77	756.36	751.75	750.01	760.28	768.85	771.64	767.00	764.42	763.48	759.36
22	762.30	762.72	756.07	751.80	749.82	760.86	768.85	772.05	766.98	764.20	763.40	759.20
23	762.64	762.62	755.75	751.78	749.80	761.45	768.77	771.91	766.99	764.10	763.31	759.08
24	762.87	762.54	755.45	751.74	750.19	761.94	768.68	771.46	767.00	763.97	763.21	758.91
25	763.14	762.35	755.15	751.70	750.76	762.32	768.61	770.97	767.01	763.85	763.15	758.68
26	763.34	762.22	754.86	751.86	750.95	762.61	768.52	770.53	766.94	763.73	763.11	758.49
27	763.40	762.02	754.53	752.10	750.89	762.60	768.45	770.07	766.90	763.62	763.04	758.34
28	763.40	761.96	754.23	752.41	750.81	762.50	768.32	769.58	766.83	763.58	762.95	758.12
29	763.35	761.80	753.89	752.52	---	762.41	768.16	769.01	766.78	763.52	762.89	757.95
30	763.25	761.77	753.56	752.74	---	762.32	768.06	768.57	766.78	763.46	762.77	757.82
31	763.15	---	753.28	752.77	---	762.25	---	768.24	---	763.34	762.65	---
MEAN	761.56	762.53	757.70	752.25	751.19	755.16	767.31	769.38	767.11	765.08	763.27	760.25
MAX	763.40	763.20	761.55	753.10	752.77	762.61	769.05	772.05	767.87	766.75	763.80	762.53
MIN	759.79	761.77	753.28	751.65	749.80	748.27	762.10	767.67	766.78	763.34	762.65	757.82
‡	29.11	27.35	18.89	18.48	16.64	27.94	34.32	34.35	32.91	29.08	28.32	23.32
‡‡	+586	-679	-3159	-153	-761	+4219	+2461	+11	-556	-1430	-284	-1929

CAL YR 1989 MEAN 759.36 MAX 770.38 MIN 743.85 ‡‡ +58
WTR YR 1990 MEAN 761.11 MAX 772.05 MIN 748.27 ‡‡ -134

‡ Contents, in billions of cubic feet, at 2400 hours on last day of month.
‡‡ Change in contents, equivalent in cubic feet per second.

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 mi^2.

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 ft^3/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.--83 years, 2,148 ft^3/s, adjusted for storage since 1930.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 35,500 ft^3/s, Mar. 28, 1913, gage height, 12.36 ft, site and datum then in use; minimum, 4.2 ft^3/s, May 4, 1985; minimum daily, 4.7 ft^3/s, Apr. 28 to May 5, 1985. Maximum discharge since construction of Conklingville Dam in 1930, 13,300 ft^3/s, May 4, 1983, gage height, 9.68 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,300 ft^3/s, May 23, gage height, 9.32 ft; minimum, 7.0 ft^3/s, Oct. 3; minimum daily, 24 ft^3/s, Mar. 25, Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	4110	4020	4020	2620	4040	4000	4230	5840	1480	1560	1770
2	2110	4040	4060	2200	2930	4030	4010	2430	4390	1480	1550	1870
3	202	4060	4090	2090	3090	4080	4080	2640	4240	1410	1580	1900
4	2330	4090	4070	2110	3060	4060	667	2490	3190	1310	1690	1860
5	2780	4110	4100	2060	3080	4070	32	2570	26	1400	1720	1990
6	2750	4040	4100	2100	4110	4080	27	2770	1590	1730	1690	2330
7	2730	4040	1920	2090	4090	4100	25	2430	1600	1710	1670	2250
8	2680	3840	4070	2070	4080	4110	24	2210	1010	1770	982	2390
9	70	4060	4090	2070	4060	4070	2450	2050	1020	1670	981	2590
10	2630	4070	4110	2060	4040	4050	4090	2190	1020	2050	1110	2320
11	2960	4090	4100	1970	4060	4030	4010	2420	1030	2020	1530	2360
12	3040	4100	4150	2020	4060	4090	3990	2560	838	2050	1550	2500
13	2910	4050	4470	2070	4070	4080	3980	2460	1030	2070	859	2370
14	3040	4020	5470	2070	3190	572	3990	2520	1200	1990	2190	2420
15	3040	4070	4540	2160	4110	95	3990	4210	1010	2050	1550	2440
16	2800	4070	4090	2040	4110	251	4000	5480	1000	2000	1490	2440
17	3400	4060	4220	2070	4110	279	4410	7500	1010	2290	1460	2420
18	3260	4070	4100	2160	4130	58	4550	7090	951	2230	1510	2370
19	2070	4080	4090	2090	4120	53	4510	7040	977	2260	1480	2350
20	2140	4110	4030	2100	4120	57	4530	8200	977	2190	1480	2390
21	222	4130	4000	1960	2920	962	4400	9840	1120	2340	1400	2370
22	45	4140	4130	2200	4100	2220	4570	10200	1090	2330	1440	2390
23	2040	4160	4160	2080	4090	179	4460	11100	1000	2210	1630	2420
24	46	4180	4160	2040	3170	93	4520	12100	1000	2360	1500	2370
25	43	4190	4140	2020	757	24	4570	11000	1120	2300	1510	2320
26	1100	4110	4080	2080	4060	2360	4450	9570	1070	2060	1540	2320
27	1940	4100	4070	2060	4090	3970	4490	9510	1010	960	1640	2400
28	2580	4090	4110	2010	4060	4040	4380	9480	1090	944	1530	2330
29	2590	4140	4070	2020	---	3870	4300	9460	1380	943	1590	2400
30	2180	3370	4040	2120	---	3960	2580	8530	1420	1500	1430	2450
31	2380	---	4040	2260	---	3950	---	7010	---	1700	1820	---
TOTAL	62141	121790	126890	66470	102487	79883	104085	183290	45249	56807	46662	69100
MEAN	2005	4060	4093	2144	3660	2577	3469	5913	1508	1832	1505	2303
MAX	3400	4190	5470	4020	4130	4110	4570	12100	5840	2360	2190	2590
MIN	33	3370	1920	1960	757	24	24	2050	26	943	859	1770
Adjusted for change in contents in Great Sacandaga Lake and Stewarts Bridge Pool												
MEAN	2669	3361	953	1993	2900	6705	5931	5929	940	408	1226	371
CFSM	2.53	3.19	0.90	1.89	2.75	6.36	5.62	5.62	0.89	0.39	1.16	0.35
IN.	2.92	3.55	1.04	2.18	2.86	7.33	6.27	6.48	0.99	0.45	1.34	0.39

	OBSERVED				ADJUSTED		
CAL YR 1989	TOTAL 822213.1	MEAN 2253	MAX 9860	MIN 5.2	MEAN 2310	CFSM 2.19	IN. 29.72
WTR YR 1990	TOTAL 1064854	MEAN 2917	MAX 12100	MIN 24	MEAN 2783	CFSM 2.64	IN. 35.80

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 mi^2.

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 (b).
MINOR ELEMENTS DATA: 1969 (c), 1970-74 (d), 1975 (c), 1986 (b), 1987 (e), 1988-89 (c), 1990 (b).
NUTRIENT DATA: 1969 (c), 1970-74 (d), 1975 (c).
SEDIMENT DATA: 1988 (b), 1989 (c), 1990 (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 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
OCT									
18...	1100	7180	57	7.0	11.0	752	11.0	101	18
APR									
16...	1000	12100	67	8.7	5.5	747	12.4	100	--
MAY									
07...	1100	5540	73	7.4	11.0	743	10.6	98	--
JUN									
25...	1000	2490	63	7.0	21.0	745	10.3	118	--
AUG									
29...	1000	4820	61	7.2	23.5	739	8.1	98	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
OCT									
18...	5.3	1.1	2.4	0.40	11	7.0	3.4	0.10	80
APR									
16...	--	--	--	--	--	--	--	--	130
MAY									
07...	--	--	--	--	--	--	--	--	100
JUN									
25...	--	--	--	--	--	--	--	--	70
AUG									
29...	--	--	--	--	--	--	--	--	30

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								
18...	<1	4	260	2	30	<0.10	1	<10
APR								
16...	<1	6	130	1	20	<0.10	5	20
MAY								
07...	<1	5	120	3	30	<0.10	<1	<10
JUN								
25...	<1	6	130	1	10	<0.10	2	<10
AUG								
29...	<1	3	160	1	30	<0.10	1	<10

HUDSON RIVER BASIN

01325420 HUDSON RIVER AT CORINTH, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
18...	1100	7180	4	78
APR				
16...	1000	12100	7	229
MAY				
07...	1100	5540	1	15
JUN				
25...	1000	2490	1	6.7
AUG				
29...	1000	4820	2	26

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 mi^2.

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records 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. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years, 5,207 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,900 ft^3/s, May 22, gage height, 26.76 ft; maximum gage height, 28.23 ft, Dec. 29 (ice jam); minimum discharge, 456 ft^3/s, July 12, gage height, 19.81 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3830	6380	6460	e5200	5300	8150	8870	8630	10900	2940	2800	2350
2	3490	7800	6150	e3600	5540	8010	8680	8200	8360	3190	2670	2550
3	3570	7510	5990	e3200	5470	7330	9960	7040	7950	2970	2570	2920
4	3510	7430	5910	2850	5500	7470	18500	6610	7750	2970	2450	2780
5	5060	7250	6080	3870	5400	7310	20000	6390	4040	2560	2390	2940
6	5150	6750	5760	3190	5720	6610	16200	6560	4670	2960	3460	2570
7	5130	6770	4750	3130	6200	6850	13600	8380	5230	2690	3840	2690
8	4940	6970	5280	3250	6120	6720	10800	7230	4720	2470	4460	2750
9	3680	7410	5560	2930	6170	6700	10300	6570	3870	2820	4520	2960
10	3490	9650	5790	3440	6200	6580	12000	6790	3330	2880	3070	3340
11	5080	10200	5490	3180	7010	6600	15300	8710	3640	2750	3390	2780
12	5190	9740	5650	2970	6960	8140	18700	9880	3240	2380	5820	2870
13	4360	8930	5290	3040	7100	8500	16300	9630	3230	2650	5630	3140
14	4430	8280	7190	3070	7200	10200	14100	12400	3090	2620	6680	3000
15	4780	8010	6000	3150	6140	15300	12900	14200	2870	2530	7640	2990
16	4610	7930	5460	2770	7040	21500	12300	13400	2710	2670	6720	3190
17	5330	8650	e5600	3310	7090	22600	11600	17400	2680	2470	5630	3250
18	5340	10900	e5500	3120	7410	24200	11800	23700	3500	3350	4830	3290
19	5850	9940	e5400	3420	7500	20800	11300	21600	3430	2780	4530	3210
20	5770	9260	e5300	3640	7620	16000	10700	19700	3300	2790	3630	3170
21	10900	8510	e5200	3930	6640	14300	10400	24300	3430	2790	3740	2750
22	11700	9180	e5300	4430	6730	14400	10800	26500	3270	2890	3360	2830
23	9940	8430	e5200	4070	7610	11100	11100	24000	3100	2900	3290	2850
24	8260	8110	e5200	3860	9980	9850	10700	23500	3100	3430	3030	3350
25	6530	7280	e5200	3970	7500	8510	10800	20700	3300	5180	3100	2900
26	6080	7250	e5100	4330	9200	8470	10900	17900	3040	4520	2950	3060
27	6630	7230	e5100	5250	9460	10300	12200	16500	2800	3690	2820	2430
28	6080	6930	e5000	5230	8540	9630	12000	15800	2430	2500	3370	3250
29	6660	6990	e5080	5530	---	9560	11000	14900	2810	1920	3230	2990
30	6040	6940	e5000	5410	---	8660	10200	14100	2890	2330	2690	3220
31	5750	---	e5000	5230	---	9010	---	12000	---	2590	1650	---
TOTAL	177160	242610	170990	117570	194350	339360	374010	433220	122680	90180	119960	88370
MEAN	5715	8087	5516	3793	6941	10950	12470	13970	4089	2909	3870	2946
MAX	11700	10900	7190	5530	9980	24200	20000	26500	10900	5180	7640	3350
MIN	3490	6380	4750	2770	5300	6580	8680	6390	2430	1920	1650	2350

CAL YR 1989 TOTAL 1842984 MEAN 5049 MAX 18900 MIN 944
WTR YR 1990 TOTAL 2470460 MEAN 6768 MAX 26500 MIN 1650

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 mi^2.

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 fair except those for estimated daily discharges, which are poor. Slight occasional diurnal fluctuation at low flow caused by mills upstream from station.

AVERAGE DISCHARGE.--63 years, 138 ft^3/s, 20.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,710 ft^3/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 ft^3/s, Aug. 23, 1927, gage height, 0.86 ft; minimum daily discharge, 12 ft^3/s, Aug. 5-9, Sept. 8, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 17	2200	1,330	5.43	Apr. 10	0700	1,230	5.22
Apr. 4	0800	*1,780	*6.28				

Minimum discharge, 20 ft^3/s, July 26; minimum daily discharge, 32 ft^3/s, July 29, Aug. 4-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	167	e90	e94	e156	e140	311	131	149	133	40	50
2	53	142	e76	e97	e171	e132	357	122	135	110	36	48
3	100	112	e74	e92	e158	e116	634	115	129	93	35	44
4	76	103	e68	e78	e144	e110	1540	112	133	91	32	42
5	63	94	e66	e83	e129	e103	844	335	124	80	32	41
6	54	102	e70	e79	e136	e88	490	380	118	74	485	42
7	54	114	e79	e74	e134	e86	366	241	113	68	585	44
8	49	126	e74	e68	e130	e81	311	222	105	93	305	44
9	46	331	e64	e66	e153	e78	282	185	115	68	137	41
10	42	398	e64	e68	e167	82	322	193	126	62	98	61
11	49	236	e62	e66	e172	181	1000	531	113	49	186	51
12	71	175	e59	e64	e160	492	582	348	105	50	135	45
13	57	144	e62	e62	e134	685	383	501	95	55	86	44
14	53	127	e59	e62	e100	960	324	860	93	54	93	41
15	76	139	e56	e60	e96	1090	360	439	93	48	80	47
16	95	164	e54	e64	e208	1040	344	357	91	49	65	49
17	81	209	e52	e100	e230	1180	294	774	88	48	58	43
18	314	e143	e53	e169	e210	928	285	904	88	51	53	39
19	223	e118	e50	e176	e158	596	239	526	89	42	56	37
20	159	e117	e57	e160	e146	868	210	437	165	43	55	43
21	927	e168	e56	e132	e132	965	255	959	115	42	52	42
22	493	e140	e54	e130	124	711	249	733	109	41	49	41
23	242	e112	e52	e122	380	538	222	450	178	43	46	40
24	167	e106	e50	e110	e268	431	193	346	184	59	56	42
25	131	e101	e51	e161	e200	357	190	289	118	48	92	39
26	119	e100	e53	e558	e160	319	204	244	95	36	75	37
27	109	e97	e52	e460	e158	273	184	212	82	37	58	38
28	103	e110	e48	e300	e150	234	158	189	77	34	52	36
29	93	e122	e49	e192	---	215	142	173	80	32	82	35
30	88	e109	e50	e178	---	213	135	237	251	33	67	36
31	84	---	e54	e177	---	261	---	184	---	36	56	---
TOTAL	4320	4426	1858	4302	4664	13553	11410	11729	3556	1802	3337	1282
MEAN	139	148	59.9	139	167	437	380	378	119	58.1	108	42.7
MAX	927	398	90	558	380	1180	1540	959	251	133	585	61
MIN	42	94	48	60	96	78	135	112	77	32	32	35
CFSM	1.55	1.64	.67	1.54	1.85	4.86	4.23	4.20	1.32	.65	1.20	.47
IN.	1.79	1.83	.77	1.78	1.93	5.60	4.72	4.85	1.47	.74	1.38	.53

CAL YR 1989 TOTAL 49777 MEAN 136 MAX 1010 MIN 29 CFSM 1.52 IN. 20.57
WTR YR 1990 TOTAL 66239 MEAN 181 MAX 1540 MIN 32 CFSM 2.02 IN. 27.38

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, 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 mi^2.

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. 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.--No estimated daily discharges. Records good except those for periods below 3,000 ft^3/s, which are fair. Streamflow affected by regulation for power generation and diversion for canal operations.

AVERAGE DISCHARGE.--13 years, 6,495 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,600 ft^3/s, May 4, 1983, gage height, 8.69 ft; minimum daily, 900 ft^3/s, July 25, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32,500 ft^3/s, May 22, gage height, 7.81 ft; minimum daily, 2,410 ft^3/s, July 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5230	8210	7690	5860	6760	9970	10900	9600	13100	4020	3390	3250
2	3980	9940	7390	5860	7570	9470	10700	9820	10300	3830	3600	3490
3	5200	9680	7040	4750	7060	9110	12000	7790	9530	3760	3080	3810
4	3990	9630	6720	4880	6990	8930	23500	7410	9260	3530	2880	3980
5	5830	9150	6500	4890	7510	8360	26000	7520	6870	3170	2780	4010
6	5880	8600	6740	4930	7360	7680	21000	7910	5260	3310	4400	3680
7	5920	8550	6340	4510	7410	7470	17400	9730	6000	3300	7440	3510
8	5610	8840	6030	4530	7300	7390	14100	8550	5990	3120	7850	3480
9	5130	9790	6150	4490	7370	7340	12800	7640	4820	3150	6880	3730
10	3520	13200	6160	3990	9430	7510	13900	7910	4330	3190	5240	4360
11	5740	13500	6240	4260	10800	8470	18600	11800	4660	3290	4920	3900
12	5970	12800	6390	3910	9540	11900	23700	12300	4450	3310	7150	3750
13	5600	11800	5970	4000	9070	13100	20400	12900	4320	2910	7290	3940
14	5460	10500	6820	3730	9100	15100	17300	17800	4110	2920	11400	3740
15	5750	10200	6290	4000	8260	19000	15700	18600	3750	3170	11400	3700
16	5810	10200	5910	3480	8820	24600	15400	16900	3580	3410	9420	4240
17	6400	11000	6330	4240	9890	28700	14200	20900	3490	2430	7680	4160
18	7850	13700	6110	4770	9570	31000	14200	28400	4000	3870	6790	4120
19	7550	12400	5710	5110	9350	28500	13700	27500	4000	3180	6040	4360
20	8490	11700	5790	4920	9110	24000	12900	24000	4700	3360	5640	3980
21	15100	11200	5820	5070	8250	22900	12500	28000	3750	3640	4640	3630
22	16500	11700	5690	5430	7740	21300	12900	31900	4040	3410	4380	3390
23	12900	10500	5470	5470	14400	17600	13200	28600	4000	3490	4310	3380
24	11800	10100	5510	4660	14600	14800	12300	26900	4190	4490	4040	4200
25	8650	9220	5550	5460	11600	12900	12300	24500	4160	5700	4370	3920
26	7680	8940	5530	12500	10000	11800	12500	20900	3750	5550	3940	3730
27	8420	8840	5480	12300	10800	13100	13500	19000	3400	4520	3730	3160
28	7650	8670	5570	9310	10800	12400	13600	17600	3200	3520	3880	3530
29	7890	8830	5480	7850	---	12000	12500	16700	2940	2610	4840	4030
30	7580	8870	5460	7610	---	11000	11900	16200	3770	2410	4090	3720
31	7000	---	5380	7180	---	11100	---	14300	---	3560	2970	---
TOTAL	226080	310260	189260	173950	256460	448500	455600	519580	153720	109130	170460	113880
MEAN	7293	10340	6105	5611	9159	14470	15190	16760	5124	3520	5499	3796
MAX	16500	13700	7690	12500	14600	31000	26000	31900	13100	5700	11400	4360
MIN	3520	8210	5380	3480	6760	7340	10700	7410	2940	2410	2780	3160

CAL YR 1989 TOTAL 2396980 MEAN 6567 MAX 23500 MIN 2040
WTR YR 1990 TOTAL 3126880 MEAN 8567 MAX 31900 MIN 2410

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).
PCN--1977-79 (e), 1980 (a).
NUTRIENT DATA: 1969 (c), 1970-74 (d), 1975 (c), 1977-78 (e).
SEDIMENT DATA: 1977 (d), 1978 (a), 1981-89 (e).

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: March 1977 to current year.

REMARKS.--Interruptions of sediment record were due to problems with observers.

EXTREMES FOR PERIOD OF DAILY RECORD (Water years 1977-90).--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 202 mg/L, Dec. 14, 1983; minimum daily mean, 1 mg/L on many days each year.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 14,800 tons, Dec. 14, 1983, Apr. 1, 1987; minimum daily, 4.0 tons, Sept. 7, 1980.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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	2	28	3	67	---	---	e1	16	4	73	e4	108
2	3	32	10	268	---	---	1	16	2	41	4	102
3	4	56	e7	183	---	---	2	26	e2	38	6	148
4	4	43	6	156	5	91	2	26	e2	38	e5	121
5	4	63	5	124	2	35	e1	13	2	41	5	113
6	2	32	5	116	1	18	e1	13	26	517	e4	83
7	4	64	3	69	1	17	2	24	4	80	e3	61
8	e3	45	3	72	1	16	1	12	---	---	2	40
9	2	28	e10	264	1	17	---	---	---	---	2	40
10	2	19	22	784	---	---	---	---	---	---	e4	81
11	4	62	15	547	---	---	---	---	---	---	15	343
12	3	48	6	207	1	17	---	---	5	129	58	1860
13	2	30	4	127	---	---	---	---	7	171	61	2160
14	e3	44	3	85	---	---	---	---	9	221	48	1960
15	5	78	3	83	---	---	---	---	---	---	58	2980
16	4	63	12	330	---	---	---	---	---	---	78	5180
17	4	69	12	356	1	17	---	---	13	347	80	6200
18	15	318	---	---	---	---	---	---	2	52	79	6610
19	9	183	5	167	1	15	---	---	6	151	47	3620
20	9	206	4	126	---	---	---	---	e6	148	59	3820
21	45	1830	---	---	---	---	---	---	6	134	43	2660
22	37	1650	---	---	---	---	---	---	4	84	48	2760
23	10	348	---	---	---	---	---	---	---	---	e40	1900
24	4	127	---	---	---	---	---	---	58	2290	e22	879
25	4	93	1	25	---	---	5	74	---	---	9	313
26	e3	62	2	48	4	60	---	---	5	135	e7	223
27	4	91	1	24	2	30	---	---	e5	146	e8	283
28	4	83	3	70	2	30	18	452	5	146	9	301
29	5	107	2	48	2	30	---	---	---	---	6	194
30	4	82	1	24	---	---	---	---	---	---	e6	178
31	10	189	---	---	---	---	5	97	---	---	5	150

e Estimated

HUDSON RIVER BASIN

01331095 HUDSON RIVER AT STILLWATER, NY--Continued

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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	118	3	78	4	141	5	54	2	18	---	---
2	4	116	5	133	e3	83	4	41	2	19	---	---
3	22	713	2	42	e3	77	4	41	---	---	---	---
4	30	1900	2	40	5	125	4	38	---	---	---	---
5	33	2320	e2	41	3	56	e4	34	---	---	---	---
6	36	2040	3	64	4	57	4	36	6	71	---	---
7	10	470	6	158	4	65	e4	36	e8	161	---	---
8	8	305	4	92	e3	49	4	34	11	233	1	9.4
9	28	968	2	41	2	26	3	26	---	---	---	---
10	---	---	4	85	3	35	4	34	---	---	---	---
11	43	2160	27	860	5	63	3	27	2	27	---	---
12	20	1280	12	399	2	24	3	27	---	---	---	---
13	9	496	e27	940	3	35	4	31	---	---	---	---
14	5	234	45	2160	5	55	3	24	39	1200	---	---
15	5	212	e36	1810	2	20	4	34	---	---	---	---
16	e5	208	9	411	e2	19	3	28	6	153	---	---
17	e5	192	17	959	3	28	4	26	5	104	---	---
18	5	192	e27	2070	4	43	3	31	3	55	---	---
19	4	148	e13	965	2	22	2	17	e2	33	---	---
20	3	104	e21	1360	10	127	3	27	2	30	---	---
21	3	101	34	2570	7	71	3	29	e1	13	---	---
22	3	104	36	3100	---	---	2	18	1	12	---	---
23	6	214	25	1930	---	---	2	19	e1	12	---	---
24	3	100	15	1090	---	---	18	218	e2	22	---	---
25	3	100	10	661	---	---	e10	154	1	12	---	---
26	4	135	7	395	---	---	3	45	e1	11	---	---
27	4	146	5	256	---	---	3	37	1	10	---	---
28	7	257	6	285	4	35	e3	29	e2	21	---	---
29	4	135	e6	271	5	40	3	21	1	13	---	---
30	4	129	7	306	3	31	2	13	e1	11	---	---
31	---	---	5	193	---	---	2	19	2	16	---	---

e Estimated

HUDSON RIVER BASIN

01332500 HOOSIC RIVER NEAR WILLIAMSTOWN, MA

LOCATION.--Lat 42°42'01", long 73°09'34", Berkshire County, Hydrologic Unit 02020003, on left bank 0.3 mi downstream from Sherman Brook, 2.7 mi east of junction of U.S. Highway 7 and State Highway 2, in Williamstown.

DRAINAGE AREA.--126 mi^2.

PERIOD OF RECORD.--Discharge: July 1940 to current year.
Water-quality records: Water years 1953-54, 1957-58, 1967-69.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 616.11 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to June 6, 1979, at site 1.2 mi downstream at different datum.

REMARKS.--Records good except those for June to September, which are fair, and those for estimated daily discharges, which are poor. Prior to 1966, slight diurnal fluctuation at low flow caused by mills upstream. Some regulation by Cheshire Reservoir 16 mi upstream.

AVERAGE DISCHARGE.--50 years, 274 ft^3/s, 29.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft^3/s, Dec. 31, 1948, gage height, 14.85 ft, former site and datum, from rating curve extended above 4,300 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 5.8 ft^3/s, Aug. 30, 31, Oct. 26, 1940; minimum daily, 24 ft^3/s, Sept. 9, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	2145	3,720	9.18	May 13	2315	2,730	8.44
Mar. 18	0115	*3,840	*9.26	Aug. 7	1015	3,620	9.11

Minimum discharge, 46 ft^3/s, Aug. 5; minimum daily, 48 ft^3/s, Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	463	196	e250	e280	345	331	262	343	162	53	105
2	183	306	166	213	e480	339	327	243	272	e136	51	100
3	260	280	188	159	398	328	496	228	251	120	49	97
4	187	294	e160	134	323	294	1470	209	265	105	49	89
5	158	247	e160	142	282	255	804	404	234	103	48	88
6	153	254	e160	131	263	245	582	365	210	89	532	89
7	146	255	e170	121	259	219	484	301	196	87	2210	93
8	132	249	e150	120	249	222	423	349	178	85	734	104
9	130	423	e145	118	296	223	393	293	203	87	288	88
10	127	521	e140	120	795	257	547	412	249	85	199	130
11	161	349	e140	120	601	339	1440	1000	210	79	268	118
12	154	296	e130	120	403	1040	750	528	200	92	239	100
13	140	260	e120	109	340	1520	565	1230	172	114	165	92
14	133	250	e110	93	341	1780	484	1520	157	90	470	86
15	322	243	e110	89	309	1690	579	763	152	85	230	130
16	235	482	e115	98	354	1640	562	660	135	87	168	138
17	301	507	e115	118	528	2020	498	1250	127	84	135	104
18	396	344	e115	259	349	2610	470	1260	120	83	116	92
19	272	291	e110	224	333	1120	407	934	144	74	214	87
20	1390	293	e110	157	269	1610	373	842	208	79	218	104
21	2070	394	e105	146	255	1430	538	1480	151	87	145	100
22	795	275	e105	141	340	932	479	956	146	74	122	89
23	544	255	e100	138	1510	784	393	694	261	81	113	101
24	432	232	e100	125	1020	644	349	556	267	134	243	93
25	380	229	e98	166	587	557	350	456	174	86	328	86
26	343	241	e96	1360	425	496	443	399	147	70	211	89
27	314	242	e94	647	386	439	365	384	131	68	161	118
28	246	323	e92	409	383	402	312	335	125	69	142	91
29	232	324	e90	324	---	300	270	341	125	67	167	83
30	210	230	e90	298	---	286	263	762	220	60	139	85
31	205	---	e95	e290	---	310	---	453	---	56	120	---
TOTAL	10879	9352	3875	6939	12358	24676	15747	19869	5773	2778	8327	2969
MEAN	351	312	125	224	441	796	525	641	192	89.6	269	99.0
MAX	2070	521	196	1360	1510	2610	1470	1520	343	162	2210	138
MIN	127	229	90	89	249	219	263	209	120	56	48	83
CFSM	2.79	2.47	.99	1.78	3.50	6.32	4.17	5.09	1.53	.71	2.13	.79
IN.	3.21	2.76	1.14	2.05	3.65	7.29	4.65	5.87	1.70	.82	2.46	.88

CAL YR 1989 TOTAL 105527 MEAN 289 MAX 2070 MIN 76 CFSM 2.29 IN. 31.16
WTR YR 1990 TOTAL 123542 MEAN 338 MAX 2610 MIN 48 CFSM 2.69 IN. 36.47

e Estimated

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 mi^2.

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 poor. Slight diurnal fluctuation at times caused by mill upstream.

AVERAGE DISCHARGE.--41 years, 82.9 ft^3/s, 26.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,060 ft^3/s, Dec. 21, 1973, gage height, 5.68 ft in gage well, from rating curve extended above 750 ft^3/s on basis of slope-area measurement at gage height 4.94 ft; maximum gage height, 6.35 ft, Mar. 13, 1977, from floodmarks, gage height in well unknown; minimum discharge, 3.1 ft^3/s, Sept. 20, 22, 24, 25, 1964.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	2015	1,070	3.90	Apr. 4	0430	1,010	3.83
Mar. 17	2145	1,170	4.02	Apr. 11	0015	927	3.72
Mar. 20	1830	1,030	3.85	Aug. 7	0815	*1,870	*4.79

Minimum discharge, 8.0 ft^3/s, Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	109	58	44	e100	129	113	94	114	41	13	50
2	51	74	52	e42	e150	123	107	83	100	37	10	46
3	61	76	61	e30	e140	119	217	76	88	34	9.5	43
4	49	79	48	e27	e120	100	595	72	85	31	8.8	39
5	43	68	e50	e35	e105	85	331	116	73	32	8.4	37
6	42	69	e52	e31	e95	80	247	95	66	29	155	36
7	38	65	e50	e29	e90	68	202	90	62	27	564	37
8	34	64	e45	e28	e90	70	172	111	56	25	160	35
9	33	84	e37	e27	e100	71	151	91	60	26	95	31
10	31	94	e32	e26	e250	84	259	142	57	24	77	39
11	42	80	e34	e26	e190	107	528	308	57	21	93	32
12	36	73	e33	e25	e140	321	318	191	53	28	71	29
13	32	66	e31	e24	e132	385	244	451	46	29	66	27
14	31	64	e27	e23	132	386	206	482	43	23	130	25
15	77	64	e32	e23	111	336	226	313	42	21	84	41
16	56	116	e31	26	241	287	189	282	38	20	69	32
17	78	107	e28	37	282	467	186	391	36	18	59	27
18	96	91	e26	e110	158	640	164	386	36	16	52	24
19	80	82	e24	e95	149	374	145	326	117	15	104	23
20	343	84	e23	e75	109	616	136	313	80	18	88	28
21	408	110	e22	e68	98	544	190	410	53	18	70	23
22	209	79	e21	e64	137	389	158	314	46	14	61	22
23	143	75	e20	e62	462	319	142	248	87	22	59	24
24	112	68	e19	e60	311	254	132	202	64	27	95	22
25	98	65	e18	e70	213	214	133	169	51	16	116	20
26	85	70	e19	e350	155	185	148	153	46	14	91	22
27	75	65	e19	e210	147	157	127	137	42	13	77	25
28	67	82	e18	e160	149	139	117	122	38	12	70	20
29	63	74	e18	e130	---	129	107	121	41	11	92	19
30	59	64	e18	e120	---	124	101	195	55	11	64	19
31	58	---	e19	e110	---	119	---	131	---	11	55	---
TOTAL	2662	2361	985	2187	4556	7421	6091	6615	1832	684	2766.7	897
MEAN	85.9	78.7	31.8	70.5	163	239	203	213	61.1	22.1	89.2	29.9
MAX	408	116	61	350	462	640	595	482	117	41	564	50
MIN	31	64	18	23	90	68	101	72	36	11	8.4	19
CFSM	2.02	1.85	.75	1.66	3.82	5.62	4.77	5.01	1.43	.52	2.10	.70
IN.	2.32	2.06	.86	1.91	3.98	6.48	5.32	5.78	1.60	.60	2.42	.78

CAL YR 1989 TOTAL 31194 MEAN 85.5 MAX 685 MIN 12 CFSM 2.01 IN. 27.24
WTR YR 1990 TOTAL 39057.7 MEAN 107 MAX 640 MIN 8.4 CFSM 2.51 IN. 34.11

e Estimated

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 mi^2.

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 poor.

AVERAGE DISCHARGE.--39 years, 95.2 ft^3/s, 23.05 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft^3/s, June 30, 1973, gage height, 9.20 ft; minimum, 1.9 ft^3/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 ft^3/s, from contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 26	0800	1,920	5.87	May 13	2215	1,260	4.98
Mar. 20	1715	1,580	5.44	Aug. 7	0730	*3,040	*7.38
Apr. 4	0530	1,550	5.40				

Minimum discharge, 8.9 ft^3/s, Aug. 4, 5, 6, gage height, 1.45 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	194	e70	e80	e150	123	113	95	104	29	12	70
2	35	124	e58	e70	e180	119	106	85	91	25	10	63
3	42	125	e61	e56	e142	113	292	77	82	22	9.8	56
4	33	126	e54	e44	e120	96	976	71	101	20	9.3	49
5	29	109	e52	e45	e115	83	532	109	78	22	9.1	44
6	28	106	e52	e37	e110	76	365	93	69	19	158	41
7	26	99	e54	e32	e107	67	277	84	63	18	772	42
8	24	94	e52	e28	e105	67	221	101	56	16	271	39
9	e22	143	e48	e25	e140	68	185	87	73	17	151	34
10	e21	146	e46	e26	623	78	285	122	73	16	119	58
11	e25	125	e45	27	377	107	670	302	61	14	182	40
12	e31	118	e38	27	268	376	413	207	56	16	128	34
13	e27	105	e38	e25	215	342	308	588	47	17	120	30
14	e24	98	e37	e26	e180	342	251	719	43	14	353	28
15	e45	97	e36	e26	e150	303	266	452	39	13	200	43
16	e50	164	e37	e27	e360	270	226	359	35	15	148	35
17	e61	173	e38	48	e280	457	209	427	32	13	114	29
18	e120	146	e38	94	e190	784	184	420	34	12	92	27
19	e80	131	e36	69	e140	465	159	349	34	11	111	25
20	e180	139	e36	57	e120	952	142	325	36	12	95	26
21	e610	181	e34	56	e110	833	233	473	30	14	78	23
22	e320	127	e34	54	e140	582	194	383	27	11	69	22
23	e225	118	e33	50	389	453	171	309	65	44	69	22
24	e160	109	e32	54	282	341	153	253	50	41	129	21
25	e150	102	e32	145	199	278	155	208	36	20	196	20
26	e127	107	e31	1150	142	230	167	175	30	16	135	19
27	e105	99	e31	458	138	184	139	152	26	14	108	21
28	e86	109	e30	298	141	157	124	128	23	13	94	18
29	e74	98	e29	226	---	139	112	119	25	12	157	18
30	e66	e80	e29	e200	---	130	103	174	40	11	98	17
31	e68	---	e31	e170	---	123	---	124	---	11	81	---
TOTAL	2917	3692	1272	3730	5613	8738	7731	7570	1559	548	4278.2	1014
MEAN	94.1	123	41.0	120	200	282	258	244	52.0	17.7	138	33.8
MAX	610	194	70	1150	623	952	976	719	104	44	772	70
MIN	21	80	29	25	105	67	103	71	23	11	9.1	17
CFSM	1.68	2.19	.73	2.14	3.57	5.02	4.59	4.35	.93	.32	2.46	.60
IN.	1.93	2.45	.84	2.47	3.72	5.79	5.13	5.02	1.03	.36	2.84	.67

CAL YR 1989 TOTAL 34309.8 MEAN 94.0 MAX 697 MIN 7.9 CFSM 1.68 IN. 22.75
WTR YR 1990 TOTAL 48662.2 MEAN 133 MAX 1150 MIN 9.1 CFSM 2.38 IN. 32.27

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.--59 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 (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 20	2215	2,780	6.58	Mar. 18	0300	3,490	7.39
Jan. 26	1045	2,400	6.13	Aug. 7	1000	*3,670	*7.59

Minimum discharge, 43 ft³/s, Mar. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	411	e140	e140	213	e230	247	222	248	163	63	e90
2	131	282	e130	e130	e200	e210	245	201	219	129	55	e80
3	194	246	e120	e120	e190	e200	295	187	226	111	51	e75
4	147	251	e120	e105	e185	e180	718	177	482	99	48	e67
5	123	213	e115	e102	e180	e170	467	268	290	95	45	e65
6	118	225	e110	e100	e180	e160	349	256	236	89	353	e80
7	112	230	e110	96	e180	150	303	215	212	83	1630	e100
8	105	226	e105	91	179	151	273	233	189	76	491	e120
9	98	311	e105	88	e201	153	252	207	210	79	249	e220
10	93	390	e105	e88	748	164	308	237	244	77	190	e145
11	134	282	e105	e88	497	201	892	566	237	69	246	e113
12	139	246	e105	e88	318	502	494	333	207	84	196	e100
13	116	221	e100	e88	262	749	369	806	173	95	167	e90
14	107	210	e105	e88	e220	974	325	1010	157	78	562	e85
15	182	209	e110	e90	e200	1090	429	510	147	71	275	e180
16	157	357	e110	96	e190	1200	432	450	134	78	197	e190
17	305	464	e115	111	e180	1720	366	675	124	80	165	e120
18	360	304	e120	e160	e170	2110	335	608	143	86	143	e100
19	236	254	e110	e145	e160	767	296	515	197	68	173	100
20	879	258	e100	e130	e160	1180	284	502	230	81	164	122
21	1290	369	e98	e120	e180	1070	421	791	161	119	133	106
22	525	261	e95	e115	e200	656	381	559	139	76	122	98
23	363	229	e90	e110	807	569	309	434	251	198	119	118
24	293	208	e85	103	588	462	274	372	252	356	172	106
25	252	197	e83	e100	365	388	282	327	167	146	189	94
26	225	221	e82	e945	264	344	410	297	135	99	159	93
27	204	221	e80	e700	e250	297	324	288	118	79	130	123
28	188	e200	e80	e600	e240	270	272	269	109	68	120	102
29	175	e170	e80	e450	---	251	244	252	121	62	174	91
30	164	e160	e80	e350	---	241	232	448	214	56	e130	93
31	171	---	e110	e270	---	244	---	311	---	57	e100	---
TOTAL	7692	7826	3203	6007	7707	17053	10828	12526	5972	3107	7011	3266
MEAN	248	261	103	194	275	550	361	404	199	100	226	109
MAX	1290	464	140	945	807	2110	892	1010	482	356	1630	220
MIN	93	160	80	88	160	150	232	177	109	56	45	65

CAL YR 1989 TOTAL 82587 MEAN 226 MAX 1530 MIN 52
WTR YR 1990 TOTAL 92198 MEAN 253 MAX 2110 MIN 45

e Estimated

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 mi^2.

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 fair 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.--78 years (water years 1911-21, 1924-90), 950 ft^3/s, 25.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,400 ft^3/s, Dec. 31, 1948, gage height, 21.15 ft, from highwater mark in gage house, from rating curve extended above 13,000 ft^3/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 ft^3/s, Sept. 14, 1913; minimum daily, 30 ft^3/s, Sept. 14, 1913.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	0430	9,720	9.79	Apr. 4	1400	a8,200	a9.1
Jan. 26	1300	11,000	10.33	May 14	0400	8,280	9.16
Mar. 18	0515	*13,000	*11.06	Aug. 7	1515	12,500	10.89
Mar. 20	2215	10,200	10.00				

a Estimated.

Minimum discharge, 73 ft^3/s, Aug. 5; minimum daily, 149 ft^3/s, Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	380	1640	e600	e1100	1190	1230	1240	1010	1240	617	191	467
2	370	1310	e520	e840	1950	1200	1160	926	1050	509	177	428
3	690	1110	e620	e640	1710	1180	1520	843	969	445	167	431
4	564	1280	e560	e510	1350	1050	e6400	789	1510	413	158	382
5	455	1040	e520	e570	1160	857	3710	1100	1100	416	149	358
6	427	1010	e520	e500	1040	854	2590	1230	905	404	537	356
7	408	1030	e560	e450	999	692	2090	997	822	374	7480	365
8	361	1010	500	e430	952	703	1760	1080	735	330	3200	439
9	350	1190	481	e420	1140	716	1550	988	760	331	1340	365
10	331	1900	e480	e420	4290	775	1610	992	993	341	897	601
11	366	1380	e460	e400	3000	1010	5230	2990	849	284	1110	552
12	458	1200	e440	e390	1930	2840	3280	1960	805	286	989	429
13	398	1050	e420	e370	1540	3900	2390	2980	683	383	747	380
14	364	977	373	e370	1510	4710	2010	6250	608	348	2140	354
15	639	957	e380	e370	1370	4710	2190	3300	585	280	1300	446
16	694	1280	e380	e390	2280	4500	2290	2540	535	265	914	571
17	797	2150	e370	e540	3340	5220	1900	3820	494	258	740	420
18	1500	1430	e360	976	1830	10300	1830	4090	496	261	622	350
19	984	1210	e350	945	1660	4650	1550	3290	597	245	707	313
20	1920	1170	e340	606	1320	6270	1420	2870	907	e240	855	362
21	7360	1690	e330	593	1090	7570	1840	4650	624	309	622	337
22	3020	1210	e310	528	1280	4700	1870	3780	558	251	543	309
23	1970	1080	e300	514	4290	3760	1530	2810	717	262	485	347
24	1530	987	e310	490	3650	3000	1360	2280	1110	881	746	345
25	1290	913	e300	638	2210	2470	1320	1930	705	405	1140	317
26	1130	964	e290	8320	1430	2160	1710	1660	571	283	892	296
27	1010	995	e270	3500	1360	1830	1480	1520	483	237	689	367
28	897	1000	e270	2100	1410	1630	1260	1370	501	216	605	367
29	809	1120	e250	1600	---	1450	1130	1220	460	190	840	313
30	744	882	e250	1760	---	1330	1060	2090	722	199	651	311
31	776	---	e270	1340	---	1310	---	1620	---	173	525	---
TOTAL	32992	36165	12384	32620	52281	88577	62280	68975	23094	10436	32158	11678
MEAN	1064	1205	399	1052	1867	2857	2076	2225	770	337	1037	389
MAX	7360	2150	620	8320	4290	10300	6400	6250	1510	881	7480	601
MIN	331	882	250	370	952	692	1060	789	460	173	149	296
CFSM	2.09	2.36	.78	2.06	3.66	5.60	4.07	4.36	1.51	.66	2.03	.76
IN.	2.41	2.64	.90	2.38	3.81	6.46	4.54	5.03	1.68	.76	2.35	.85

CAL YR 1989 TOTAL 368816 MEAN 1010 MAX 7360 MIN 189 CFSM 1.98 IN. 26.90
WTR YR 1990 TOTAL 463640 MEAN 1270 MAX 10300 MIN 149 CFSM 2.49 IN. 33.82

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 (b).
MINOR ELEMENTS DATA: 1987 (b), 1988-89 (c), 1990 (b).
SEDIMENT DATA: 1988 (b), 1989 (c), 1990 (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 1989 TO SEPTEMBER 1990

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)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 18...	1400	1500	188	8.1	10.5	756	11.1	100	70
APR 18...	1000	1920	178	8.0	4.5	762	12.9	99	--
MAY 07...	1300	996	196	8.6	11.0	748	12.2	113	--
JUN 20...	1100	951	243	7.9	19.0	746	8.0	88	--
AUG 27...	1100	754	--	--	22.0	752	--	--	--

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 LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)
OCT 18...	19	5.5	6.2	1.6	64	11	9.7	0.10	630
APR 18...	--	--	--	--	--	--	--	--	430
MAY 07...	--	--	--	--	--	--	--	--	210
JUN 20...	--	--	--	--	--	--	--	--	1900
AUG 27...	--	--	--	--	--	--	--	--	290

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 18...	<1	6	1400	4	90	<0.10	2	<10
APR 18...	<1	5	500	2	30	<0.10	3	<10
MAY 07...	<1	4	260	2	30	<0.10	<1	<10
JUN 20...	<1	11	3300	4	100	<0.10	3	10
AUG 27...	<1	5	360	1	30	<0.10	2	<10

HUDSON RIVER BASIN

01334805 HOOSIC RIVER AT EAGLE BRIDGE, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
18...	1400	1500	38	154
APR				
18...	1000	1920	17	88
MAY				
07...	1300	996	7	19
JUN				
20...	1100	951	84	216

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 mi^2.

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. Streamflow affected by regulation for power generation and diversion for canal operations.

AVERAGE DISCHARGE.--14 years, 8,097 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft^3/s, Mar. 15, 1977; minimum daily, 1,170 ft^3/s, July 25, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,700 ft^3/s, Mar. 18, gage height, 31.64 ft; maximum gage height, 34.38 ft, May 22; minimum daily discharge, 2,360 ft^3/s, July 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5790	10400	e8800	e6900	e8300	e12000	13400	12800	17100	5090	3380	3800
2	4480	12200	e8000	e7400	e9600	e11500	13000	12600	13600	4650	3870	4060
3	5880	11500	e7600	e5900	e9400	e10000	15100	10000	12500	4470	3370	4280
4	4630	11800	e7600	e5700	e8800	11200	e30000	9480	12500	4200	2880	4640
5	6210	11000	e7300	e5700	8830	10100	e35000	9780	9950	3750	3090	4540
6	6350	10600	e7500	e5600	9050	9250	e27000	11100	6860	3930	5060	4310
7	6250	10100	e7200	e5100	8910	8880	e22000	12500	7700	3840	12300	3760
8	5960	10700	e6800	e5100	8950	8530	e18000	11300	7650	3600	15100	3810
9	5880	11400	e6800	e5000	9170	8080	e15500	10400	6190	3670	10600	4190
10	3820	16400	e6800	e4500	e13000	8730	e17000	10500	5910	3350	7240	5100
11	6070	16400	e6900	e4800	e15000	9940	e24000	16500	6160	3520	6320	5150
12	6280	14900	e7000	e4400	e13000	e15000	e32000	17000	5950	3570	9250	4590
13	6190	14100	e6500	e4400	e11500	e18000	e26000	17300	5850	3550	10800	4520
14	5870	12500	e7300	e4200	e11000	e22000	e22000	26900	5060	3030	14700	4510
15	6190	12200	e6700	e4400	e10000	e27000	e20000	25300	4700	3500	15500	4460
16	6580	12100	e6400	4040	e11000	e33000	e19500	22600	4550	3720	12600	5030
17	6950	14400	e6800	4770	e13500	e38000	e18000	27500	4180	2630	10200	4990
18	9120	16300	e6500	5680	e13000	43700	e17500	35400	4680	4410	8660	4420
19	8910	14500	e6100	6660	e12000	41600	e17000	34300	5020	3660	7410	4750
20	9870	13800	e6200	e5900	e11000	e34000	e15500	30200	6480	3580	7410	4590
21	20200	13900	e6200	e5400	e10000	e33000	e15500	35900	4810	4080	5720	4200
22	21500	13700	e6000	6360	e9400	e30000	e16000	40100	4510	3830	5270	4000
23	16400	12500	e5800	6290	e19000	e24000	e16000	35600	4210	3700	5190	3940
24	13800	11900	e5800	5350	e20000	e20000	15400	32800	6250	5450	5060	4900
25	11000	10700	e5900	6250	e16000	e17000	15400	30100	5800	6770	5920	4680
26	9900	10700	e5800	e17000	13200	e15000	e15000	26100	4390	6720	5440	4200
27	10300	10600	e5700	e19000	e13000	e16000	e16500	23700	4370	5240	4760	3540
28	9140	10400	e5800	e13000	e12500	15700	17300	22000	3930	3770	4330	3780
29	8870	10500	e5600	e10500	---	15300	15800	20900	3350	2640	5660	4570
30	8850	10200	e5600	e10000	---	13800	15300	20900	4690	2360	4790	4310
31	8020	---	e5600	e9000	---	13600	---	19200	---	3900	3860	---
TOTAL	265260	372400	204600	214300	328110	593910	575700	670760	198900	124180	225740	131620
MEAN	8557	12410	6600	6913	11720	19160	19190	21640	6630	4006	7282	4387
MAX	21500	16400	8800	19000	20000	43700	35000	40100	17100	6770	15500	5150
MIN	3820	10100	5600	4040	8300	8080	13000	9480	3350	2360	2880	3540

CAL YR 1989 TOTAL 2884290 MEAN 7902 MAX 31000 MIN 2260
WTR YR 1990 TOTAL 3905480 MEAN 10700 MAX 43700 MIN 2360

e Estimated

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 (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 (b).
PESTICIDE DATA: 1975 (b), 1976 (d), 1977-79 (e), 1980, 1982 (a).
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).
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).
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), 1981-90 (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. Water quality 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 1977-90), 810 mg/L March 14, 1977; minimum daily mean, 1 mg/L on many days.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily (water years 1977-90), 119,000 tons March 14, 1977; minimum daily, 3.9 tons Sept. 7, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
OCT 19...	1000	13300	179	7.4	11.0	770	10.5	94	51
APR 16...	1200	E19000	120	7.5	6.0	764	10.6	85	--
MAY 14...	1300	29700	147	7.6	12.0	768	10.7	99	--
JUN 25...	1200	7880	195	7.7	23.0	760	6.1	72	--
AUG 29...	1200	5780	185	7.6	24.5	756	7.8	94	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
OCT 19...	15	3.2	5.5	1.2	38	12	10	0.10	420
APR 16...	--	--	--	--	--	--	--	--	270
MAY 14...	--	--	--	--	--	--	--	--	2100
JUN 25...	--	--	--	--	--	--	--	--	450
AUG 29...	--	--	--	--	--	--	--	--	550

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 19...	<1	4	790	3	60	<0.10	2	<10
APR 16...	<1	5	360	2	30	<0.10	4	<10
MAY 14...	<1	5	3300	5	140	<0.10	3	20
JUN 25...	<1	7	700	2	20	<0.10	1	<10
AUG 29...	<1	4	860	2	50	<0.10	1	<10

E Estimated.

HUDSON RIVER BASIN

01335770 HUDSON RIVER AT WATERFORD, NY--Continued

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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	---	---	---	---	8	190	---	---	9	202	---	---
2	3	36	3	99	3	65	---	---	15	389	---	---
3	21	333	7	217	3	62	---	---	e15	381	e10	270
4	3	38	5	159	29	595	---	---	15	356	7	212
5	6	101	4	119	32	631	---	---	14	334	6	164
6	5	86	7	200	14	283	---	---	---	---	6	150
7	7	118	7	191	26	505	---	---	9	217	e5	120
8	7	113	15	433	---	---	---	---	e10	242	e5	115
9	5	79	8	246	---	---	---	---	6	149	4	87
10	e4	41	17	753	---	---	---	---	46	1610	3	71
11	7	115	9	399	---	---	---	---	60	2430	9	242
12	5	85	e10	402	---	---	---	---	e50	1750	110	4450
13	8	134	11	419	---	---	---	---	12	373	64	3110
14	8	127	12	405	---	---	---	---	9	267	62	3680
15	5	84	5	165	---	---	---	---	e9	243	76	5540
16	7	124	4	131	---	---	---	---	36	1070	112	9980
17	---	---	9	350	---	---	---	---	21	765	88	9030
18	3	74	---	---	---	---	---	---	21	737	226	26700
19	e10	241	---	---	---	---	---	---	46	1490	103	11600
20	59	1570	5	186	---	---	---	---	196	5820	84	7710
21	52	2840	9	338	---	---	---	---	7	189	113	10100
22	52	3020	19	703	---	---	---	---	206	5230	50	4050
23	30	1330	e10	337	---	---	---	---	200	10300	23	1490
24	e22	820	2	64	---	---	---	---	---	---	14	756
25	14	416	10	289	---	---	6	101	77	3330	9	413
26	9	241	e9	260	---	---	477	21900	7	249	8	324
27	6	167	e8	229	---	---	176	9030	5	175	8	346
28	41	1010	5	140	---	---	55	1930	e5	169	6	254
29	15	359	12	340	---	---	17	482	---	---	7	289
30	31	741	e8	220	---	---	14	378	---	---	6	224
31	---	---	---	---	---	---	14	340	---	---	4	147

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	145	e7	242	6	277	---	---	9	82	---	---
2	4	140	6	204	8	294	---	---	5	52	---	---
3	201	8190	e4	108	5	169	---	---	e4	36	---	---
4	64	5180	3	77	5	169	---	---	5	39	---	---
5	77	7280	2	53	6	161	---	---	9	75	---	---
6	19	1390	6	180	4	74	---	---	---	---	---	---
7	9	535	5	169	4	83	7	73	---	---	---	---
8	8	389	5	153	4	83	e10	97	---	---	---	---
9	7	293	3	84	e4	67	8	79	93	2660	---	---
10	6	275	e7	198	e3	48	9	81	---	---	---	---
11	66	4280	e17	757	4	67	6	57	---	---	---	---
12	26	2250	24	1100	e4	64	3	29	---	---	---	---
13	12	842	13	607	5	79	2	19	14	408	---	---
14	---	---	90	6540	---	---	6	49	e30	1190	---	---
15	---	---	25	1710	---	---	5	47	52	2180	---	---
16	---	---	13	793	---	---	6	60	e20	680	---	---
17	---	---	25	1860	---	---	7	50	14	386	---	---
18	---	---	57	5450	---	---	5	60	e11	257	---	---
19	6	275	27	2500	---	---	2	20	10	200	4	51
20	6	251	16	1300	---	---	2	19	---	---	e4	50
21	8	335	34	3300	---	---	2	22	---	---	4	45
22	5	216	47	5090	---	---	2	21	---	---	e4	43
23	12	518	15	1440	---	---	3	30	---	---	3	32
24	5	208	14	1240	---	---	6	88	---	---	e4	53
25	7	291	13	1060	---	---	2	37	---	---	4	51
26	e6	243	---	---	---	---	4	73	---	---	---	---
27	e8	356	---	---	---	---	1	14	---	---	---	---
28	6	280	---	---	6	64	6	61	---	---	---	---
29	7	299	---	---	---	---	10	71	---	---	3	37
30	6	248	9	508	---	---	1	6.4	---	---	---	---
31	---	---	8	415	---	---	1	11	6	63	---	---

e Estimated

HUDSON RIVER BASIN

01335770 HUDSON RIVER AT WATERFORD, NY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
19...	1000	13300	21	754
APR				
16...	1200	E19000	9	--
MAY				
14...	1300	29700	98	7860
JUN				
25...	1200	7880	17	362
AUG				
29...	1200	5780	17	265

E Estimated.

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 mi^2.

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.--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 ft^3). 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.--69 years, 375 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,560 ft^3/s, Oct. 2, 1945, gage height, 11.18 ft, from rating curve extended above 5,200 ft^3/s on basis of flow-over-dam measurement of peak flow; minimum discharge, 18 ft^3/s, July 21, 27, Oct. 24, 25, 1983, minimum gage height, 0.63 ft, Oct. 24, 25, 1983; minimum daily discharge, 45 ft^3/s, Jan. 17, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,650 ft^3/s, May 21, gage height, 6.49 ft; minimum, 129 ft^3/s, June 13, gage height, 1.58 ft; minimum daily discharge, 140 ft^3/s, June 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245	477	524	520	542	346	422	186	255	196	191	e180
2	246	458	524	504	753	345	523	168	217	194	190	e180
3	248	456	524	498	750	346	1030	211	198	193	189	e180
4	247	456	523	498	743	345	1590	205	217	193	189	e180
5	245	453	522	508	740	344	1380	291	266	194	190	e180
6	245	462	521	354	735	266	1020	407	242	191	192	184
7	245	459	522	237	733	206	745	411	209	191	189	184
8	247	460	519	237	731	206	562	674	178	191	188	184
9	264	476	517	218	735	205	455	594	175	191	188	183
10	272	469	516	209	773	204	461	504	168	192	189	181
11	285	465	515	210	753	222	1600	990	171	191	189	181
12	276	475	515	197	736	332	1220	765	140	191	189	182
13	273	460	513	189	731	288	799	1140	181	191	189	181
14	275	457	512	188	735	298	611	1800	203	191	189	181
15	303	456	510	186	728	278	789	1050	200	191	189	184
16	280	768	509	186	755	713	759	752	200	192	189	183
17	292	1340	509	199	771	1840	648	1460	198	191	189	182
18	296	956	507	261	747	2040	586	2020	197	189	189	182
19	283	713	504	213	735	1300	478	1490	198	189	188	182
20	379	748	503	199	729	1190	406	1160	198	189	187	181
21	323	1450	502	195	724	1060	431	2380	198	189	188	181
22	299	1090	501	194	726	902	442	1610	199	189	186	181
23	292	785	499	193	792	795	389	985	199	198	186	181
24	288	624	498	197	756	658	329	667	199	194	185	181
25	286	546	495	343	738	514	318	500	198	196	e180	179
26	285	541	494	485	732	434	313	396	197	196	e180	179
27	284	534	494	457	728	359	280	331	196	191	e180	179
28	285	555	491	450	637	304	245	281	196	191	e180	179
29	285	571	490	447	---	280	217	289	197	191	e180	179
30	381	533	488	449	---	287	199	353	197	190	e180	183
31	453	---	496	447	---	315	---	306	---	191	e180	---
TOTAL	8907	18693	15757	9668	20488	17222	19247	24376	5987	5947	5787	5437
MEAN	287	623	508	312	732	556	642	786	200	192	187	181
MAX	453	1450	524	520	792	2040	1600	2380	266	198	192	184
MIN	245	453	488	186	542	204	199	168	140	189	180	179

CAL YR 1989 TOTAL 134947 MEAN 370 MAX 2370 MIN 156
WTR YR 1990 TOTAL 157516 MEAN 432 MAX 2380 MIN 140

e Estimated

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 mi^2.

PERIOD OF RECORD.--Water years 1972-73, April 1988 to current year.
CHEMICAL DATA: 1988 (b), 1989 (c), 1990 (d).
MINOR ELEMENTS DATA: 1972-73, 1988 (b), 1989 (c), 1990 (d).
SEDIMENT DATA: 1989 (c), 1990 (d).

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 1989 TO SEPTEMBER 1990

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)	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)
OCT												
03...	1200	--	425	7.7	14.0	748	9.3	92	170	50	11	17
NOV												
01...	0900	1250	312	7.9	10.5	752	10.3	93	150	44	8.6	15
MAR												
22...	1300	3620	296	7.7	--	754	10.7	--	120	36	7.1	13
APR												
03...	0900	2870	120	8.3	5.0	746	11.3	91	140	40	8.6	17
25...	0900	1180	384	8.0	11.5	753	10.8	101	--	--	--	--
MAY												
15...	0900	4220	254	7.5	13.0	754	8.7	84	--	--	--	--
JUN												
12...	0900	557	455	7.8	15.5	761	9.3	94	--	--	--	--
JUL												
10...	0900	405	468	7.8	21.0	749	6.8	78	--	--	--	--
AUG												
07...	1400	622	394	7.6	21.5	754	8.1	93	--	--	--	--
SEP												
11...	1200	530	445	7.6	18.5	761	7.4	79	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)
OCT											
03...	2.0	120	40	27	0.10	790	<10	<1	<1.0	21	5
NOV											
01...	2.2	111	29	22	0.10	300	--	<1	--	10	--
MAR											
22...	1.4	93	20	23	0.10	700	--	<1	--	13	--
APR											
03...	1.3	105	--	--	--	1400	--	<1	--	12	--
25...	--	--	--	--	--	500	20	<1	<1.0	13	5
MAY											
15...	--	--	--	--	--	490	--	<1	--	9	--
JUN											
12...	--	--	--	--	--	660	<10	<1	<1.0	14	10
JUL											
10...	--	--	--	--	--	60	--	<1	--	21	--
AUG											
07...	--	--	--	--	--	800	--	<1	--	14	--
SEP											
11...	--	--	--	--	--	2900	--	<1	--	17	--

01342602 MOHAWK RIVER NEAR UTICA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT											
03...	1600	43	5	<1	130	78	<0.10	4	4	20	6
NOV											
01...	910	--	4	--	120	--	<0.10	8	--	10	--
MAR											
22...	1400	--	3	--	50	--	0.10	4	--	20	--
APR											
03...	2900	--	5	--	110	--	<0.10	4	--	20	--
25...	1300	44	3	1	110	73	<0.10	3	1	20	9
MAY											
15...	910	--	3	--	50	--	<0.10	1	--	10	--
JUN											
12...	1600	60	3	1	80	50	<0.10	2	4	<10	10
JUL											
10...	1800	--	5	--	160	--	<0.10	3	--	20	--
AUG											
07...	2600	--	3	--	100	--	<0.10	4	--	10	--
SEP											
11...	8400	--	7	--	120	--	<0.10	8	--	20	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
03...	1200	--	27	--
NOV				
01...	0900	1250	25	84
MAR				
22...	1300	3620	30	293
APR				
03...	0900	2870	67	519
25...	0900	1180	27	86
MAY				
15...	0900	4220	23	262
JUN				
12...	0900	557	52	78
JUL				
10...	0900	405	57	62
AUG				
07...	1400	622	54	91
SEP				
11...	1200	530	190	272

ANALYSIS OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLATILE IN BOTTOM MATERIAL (MG/KG)	ALUMINUM, RECOV. FM BOTTOM MATERIAL (UG/G)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)
JUL							
10...	0900	74000	8000	<1	20	22000	20

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM
JUL							
10...	650	0.03	40	70	13	43	78

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 mi^2.

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 ft^3). 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. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--70 years (water years 1921-90), 1,318 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,300 ft^3/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 ft^3/s, Sept. 3, 1929, gage height, 0.90 ft; minimum daily, 59 ft^3/s, Sept. 2, 1929.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,500 ft^3/s, Mar. 18, gage height, 6.33 ft; minimum, 173 ft^3/s, June 22; minimum daily, 438 ft^3/s, Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	1340	1320	e1900	1320	1680	2610	2100	1460	792	583	647
2	1080	1140	1400	1590	1600	1850	2660	2140	1110	757	571	643
3	1030	1110	1550	1430	1460	1850	4000	1910	1410	716	560	627
4	987	1110	1450	1380	1350	1780	4080	1550	1340	654	492	631
5	968	1070	1340	1810	1030	1780	3220	1770	1300	749	563	534
6	984	1220	1350	1370	1010	1740	2920	1850	1080	746	961	597
7	976	1250	1300	1240	984	1650	2550	1670	800	706	738	628
8	993	1290	1340	1190	1340	1590	2500	2330	802	694	587	584
9	986	1640	1400	1160	1630	1590	2440	1750	879	715	544	569
10	966	1890	1380	1170	2610	1540	2860	1860	800	697	601	768
11	1160	2100	1340	1190	1810	2070	5770	2570	765	684	595	658
12	1080	2370	1280	1230	1460	5740	3980	2030	808	708	559	752
13	980	2160	1280	1180	1390	4890	4520	3450	783	755	907	733
14	968	1960	1290	1160	1510	4720	3320	3800	811	659	943	744
15	1480	1850	1330	934	1470	4310	3050	3680	773	540	633	827
16	1160	4700	1280	951	2010	3810	2690	3550	726	571	573	707
17	1280	6080	1270	1260	2510	6770	2690	4650	814	667	605	472
18	1500	5570	1320	3240	1790	10700	2760	5240	822	627	669	509
19	1180	3790	1260	1940	1650	7670	2580	5270	787	620	717	498
20	2230	3430	1350	1450	1470	5800	2270	4760	789	640	675	474
21	2410	3880	1390	1360	1490	3830	2570	6810	808	622	660	470
22	1450	2840	1410	1320	1740	3290	2390	6240	854	607	656	578
23	1320	2520	e1400	1280	4230	3790	2510	4630	882	786	667	630
24	1190	2140	e1200	1310	2440	2960	2260	3170	841	834	662	483
25	1130	2200	e1200	1480	1870	2560	2400	2510	794	632	665	563
26	1100	2320	e1300	2680	1720	2500	2350	2160	712	615	662	546
27	1080	2090	e1400	1710	1640	2360	2190	2110	841	602	675	538
28	1070	1650	e1300	1460	1740	2320	2200	2130	699	540	680	438
29	1040	1530	e1300	1340	---	2350	2020	2070	799	530	745	589
30	1010	1350	e1400	1400	---	2390	2110	1800	897	566	672	995
31	1040	---	e1500	1340	---	2490	---	1540	---	582	645	---
TOTAL	36908	69590	41630	45455	48274	104370	86470	93100	26986	20613	20465	18432
MEAN	1191	2320	1343	1466	1724	3367	2882	3003	900	665	660	614
MAX	2410	6080	1550	3240	4230	10700	5770	6810	1460	834	961	995
MIN	966	1070	1200	934	984	1540	2020	1540	699	530	492	438

CAL YR 1989 TOTAL 474387 MEAN 1300 MAX 6080 MIN 452
WTR YR 1990 TOTAL 612293 MEAN 1678 MAX 10700 MIN 438

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 mi^2.

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 Rocky Rift Dam into Erie (Barge) Canal for lockages at lock 16, near St. Johnsville. Monthly and annual figures of diversion at Rocky Rift 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 ft^3) (see Reservoirs in Hudson River Basin). Telephone gage-height telemeter at station.

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

AVERAGE DISCHARGE.--63 years, 2,805 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (river channel only), 33,100 ft^3/s, Mar. 14, 1977, gage height, 19.17 ft, from floodmark in gage house; minimum discharge (river channel only), 214 ft^3/s, Aug. 18, 1949, gage height, 3.75 ft; minimum daily discharge (including canal), probably not less than 463 ft^3/s, Sept. 2, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 16	1815	*19,100	*14.64	May 21	1400	17,100	13.87
Mar. 18	1300	16,700	13.73				

Minimum discharge (river channel only), 517 ft^3/s, Apr. 30, gage height, 4.48 ft; minimum daily (river channel only), 720 ft^3/s (estimated), Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1750	2770	2660	3440	e3000	e3600	4710	2980	2770	1810	e800	1100
2	1720	2860	2410	4270	4090	e3500	5070	3010	2170	1450	e720	997
3	1590	2510	e2300	3490	4770	e3200	7870	2800	2300	1300	e940	964
4	1750	2600	e2100	2970	4290	e3100	10500	2340	2210	1200	e920	964
5	1580	2440	e1800	4110	3640	e3000	9650	2890	2210	1430	e790	870
6	1640	2460	e1800	4280	3330	e2900	9120	3920	2020	1320	1620	929
7	1620	2680	e2100	3270	3150	e2700	8030	2930	1660	1220	1530	1030
8	1620	2700	e2600	2730	3380	e2600	6720	5160	1550	1160	1190	1090
9	1610	3510	e3100	2440	4470	e2500	5410	4500	1730	1060	978	1030
10	1600	4920	2580	2310	8660	2610	5020	3770	1690	e900	1040	1440
11	1800	4590	e2400	2340	7830	3440	11700	6140	1510	e960	1100	1380
12	1890	4830	e2500	2380	6810	11300	9920	5230	1510	e1000	979	1290
13	1700	4560	e2200	2240	5340	12800	10500	7690	1430	e1050	1160	1170
14	1640	3970	e1800	2040	4660	13800	7920	10200	1450	e800	2810	1170
15	2520	3530	e1600	1800	4480	12200	6300	9190	1470	e1000	1600	1360
16	2590	9470	e1700	e1500	4970	10100	5630	8860	1450	e1000	1160	1620
17	2390	12300	e1600	e1800	7810	11300	5250	11800	1470	e1050	1110	1240
18	3550	11600	e1500	e6400	7040	16300	5270	13100	1460	e1100	1100	1010
19	3010	8320	e1600	7070	6350	13300	4880	13200	1470	e800	1200	918
20	5080	5900	e1900	5280	4920	11200	4220	12000	1430	e780	1140	979
21	8830	9470	e1800	3620	3920	8980	4390	16300	1410	e940	1050	884
22	6560	7650	e1700	3000	4050	8160	4450	14700	1520	e860	1060	989
23	3920	6560	e1600	2730	10400	8720	3830	12000	1540	e820	1080	1100
24	3080	4290	e1600	2670	8530	6940	3680	8420	1600	e860	1050	936
25	2640	4130	e1600	3320	7110	5620	3680	5420	1490	e1050	1070	961
26	2420	4190	e1600	6330	e5000	e4700	3880	4320	1340	e1300	1050	943
27	2330	4490	e1600	5970	e4200	e4200	3510	3800	1430	e1200	1040	983
28	2170	3550	e1650	4590	e3800	e4000	3270	3590	1230	e940	1050	871
29	2110	3470	e1700	3700	---	e3800	3040	3430	1320	e760	1910	915
30	1990	2930	e1800	e3400	---	3880	2560	3460	2190	e740	1430	1530
31	2070	---	e2400	e3100	---	4190	---	3230	---	e1000	1150	---
TOTAL	80770	149250	61300	108590	150000	208640	179980	210380	50030	32860	36827	32663
MEAN	2605	4975	1977	3503	5357	6730	5999	6786	1668	1060	1188	1089
MAX	8830	12300	3100	7070	10400	16300	11700	16300	2770	1810	2810	1620
MIN	1580	2440	1500	1500	3000	2500	2560	2340	1230	740	720	870
‡	12.5	2.0	0.1	0	0	0	0	18.1	23.5	26.8	23.5	25.4

CAL YR 1989 TOTAL 1047428 MEAN 2870 MAX 12300 MIN 805 ‡ 11.6
WTR YR 1990 TOTAL 1301290 MEAN 3565 MAX 16300 MIN 720 ‡ 11.1

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 mi^2.

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.--Records good except those for estimated daily discharges, which are fair. Extensive diurnal fluctuation and slight regulation caused by powerplants upstream from station. City of Little Falls diverts about 5 ft^3/s for municipal supply.

AVERAGE DISCHARGE.--44 years (water years 1947-90), 681 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft^3/s, Dec. 29, 1984, gage height, 7.68 ft; minimum, 0.05 ft^3/s, July 9, 1978, gage height, 0.47 ft; minimum gage height, 0.44 ft, July 29, 1977; minimum daily discharge, 0.22 ft^3/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 ft^3/s, from slope-area measurement of peak flow).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 17	2200	*8,530	*6.50	Apr. 11	1115	8,310	6.44

Minimum discharge, 15 ft^3/s, Oct. 30, 31; minimum gage height, 1.00 ft, Oct. 31; minimum daily discharge, 17 ft^3/s, June 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	488	712	788	395	710	844	727	518	283	145	139	134
2	430	662	332	740	781	683	823	419	337	173	129	20
3	362	606	479	600	796	760	2200	195	410	228	136	81
4	409	445	705	750	783	605	4680	239	365	196	149	159
5	343	219	181	606	650	494	3320	504	327	194	47	53
6	316	775	431	712	511	301	2060	817	179	231	499	48
7	231	634	361	380	677	303	1630	701	391	105	745	102
8	345	850	309	486	641	407	1140	811	235	46	662	115
9	314	1020	271	252	572	396	969	954	223	158	145	81
10	369	1810	82	470	659	473	1020	1080	329	103	204	451
11	510	1630	260	271	822	494	6300	2590	294	49	387	508
12	727	1220	459	298	1030	1200	3890	2210	283	81	202	216
13	531	1190	666	232	782	3540	2150	2380	359	44	290	267
14	496	1100	133	297	803	5030	1610	4300	204	108	685	165
15	747	830	381	305	803	5840	1350	2270	74	109	428	292
16	822	2130	56	300	803	5870	1370	1920	17	78	353	430
17	765	4600	95	384	740	7150	1490	3020	156	61	218	370
18	1190	2080	258	916	772	6340	1410	4220	167	42	19	484
19	1210	1450	144	953	1060	3440	1200	3350	172	102	78	234
20	1460	1150	194	1050	922	2730	1040	2520	143	107	266	47
21	3550	1710	259	956	761	2150	1300	5240	117	105	231	47
22	2350	1470	187	825	829	1820	1560	3880	198	74	69	53
23	1310	1210	168	536	1010	1710	1400	2230	18	115	83	79
24	947	730	233	826	2050	1610	1260	1660	261	323	112	289
25	881	878	199	547	1810	1210	1100	1180	471	217	49	238
26	784	740	e284	910	1250	1060	1080	918	394	139	143	223
27	670	779	e286	881	956	806	975	646	41	18	88	224
28	560	861	142	1120	899	743	833	803	42	51	291	292
29	506	824	109	960	---	737	748	580	49	177	149	214
30	455	489	153	903	---	737	620	754	129	51	104	188
31	157	---	328	821	---	713	---	693	---	202	111	---
TOTAL	24235	34804	8933	19682	24882	60196	51255	53602	6668	3832	7211	6104
MEAN	782	1160	288	635	889	1942	1708	1729	222	124	233	203
MAX	3550	4600	788	1120	2050	7150	6300	5240	471	323	745	508
MIN	157	219	56	232	511	301	620	195	17	18	19	20

CAL YR 1989 TOTAL 281995.3 MEAN 773 MAX 6690 MIN 4.0
WTR YR 1990 TOTAL 301404 MEAN 826 MAX 7150 MIN 17

e Estimated

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 mi^2, revised.

PERIOD OF RECORD.--May 1988 to current year.
CHEMICAL DATA: 1988 (a), 1989 (c), 1990 (d).
MINOR ELEMENTS DATA: 1988 (a), 1989 (c), 1990 (d).
SEDIMENT DATA: 1989 (c), 1990 (d).

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 1989 TO SEPTEMBER 1990

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT											
02...	1300	231	7.3	14.5	751	11.0	110	91	29	4.6	8.2
26...	1000	294	7.6	9.0	765	11.4	99	110	34	5.8	8.9
MAR											
21...	1000	252	8.1	2.0	755	12.4	91	76	24	3.9	7.9
APR											
02...	1000	286	8.1	4.0	755	12.0	93	100	31	5.6	8.6
26...	1000	245	8.1	11.5	752	10.4	96	--	--	--	--
MAY											
16...	1000	193	7.9	13.0	750	10.6	102	--	--	--	--
JUN											
13...	1000	304	8.7	18.5	759	11.2	120	--	--	--	--
JUL											
09...	1200	296	8.7	23.5	750	10.1	121	--	--	--	--
AUG											
08...	1000	319	8.2	23.5	760	8.0	94	--	--	--	--
SEP											
13...	1000	305	8.1	21.0	759	8.5	96	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)
OCT											
02...	1.1	68	19	12	0.10	200	40	<1	<1.0	7	6
26...	2.5	86	20	13	0.10	160	--	<1	--	6	--
MAR											
21...	1.0	63	13	14	<0.10	950	--	<1	--	7	--
APR											
02...	0.80	77	--	--	--	370	--	6	--	6	--
26...	--	--	--	--	--	280	100	<1	<1.0	7	3
MAY											
16...	--	--	--	--	--	700	--	<1	--	8	--
JUN											
13...	--	--	--	--	--	170	40	<1	<1.0	7	5
JUL											
09...	--	--	--	--	--	180	--	<1	--	7	--
AUG											
08...	--	--	--	--	--	400	--	<1	--	6	--
SEP											
13...	--	--	--	--	--	250	--	<1	--	4	--

01349530 MOHAWK RIVER AT FONDA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	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)	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...	420	69	2	<1	50	6	<0.10	2	2	10	4
26...	410	--	2	--	60	--	<0.10	2	--	10	--
MAR											
21...	180	--	2	--	70	--	<0.10	4	--	20	--
APR											
02...	540	--	2	--	50	--	<0.10	2	--	10	--
26...	400	35	2	1	40	29	<0.10	2	1	10	4
MAY											
16...	1200	--	3	--	60	--	<0.10	1	--	20	--
JUN											
13...	230	20	1	1	30	<10	<0.10	1	1	<10	<10
JUL											
09...	330	--	1	--	50	--	<0.10	1	--	<10	--
AUG											
08...	630	--	2	--	80	--	<0.10	2	--	<10	--
SEP											
13...	420	--	1	--	60	--	<0.10	1	--	10	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SEDIMENT, SUSPENDED (MG/L)
OCT		
02...	1300	13
26...	1000	12
MAR		
21...	1000	53
APR		
02...	1000	14
26...	1000	8
MAY		
16...	1000	29
JUN		
13...	1000	8
JUL		
09...	1200	11
AUG		
08...	1000	21
SEP		
13...	1000	14

ANALYSIS OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLA-TILE IN BOTTOM MA-TERIAL (MG/KG)	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)
JUL							
09...	1200	22300	4000	2	40	11000	60

DATE	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)	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM
JUL							
09...	390	0.06	40	90	5	18	99

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 mi^2, revised.

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

REVISED RECORDS.--WSP 351: Drainage area. 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).

GAGE.--Water-stage recorder. Datum of gage is 1,134.98 ft 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 fair. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--87 years, 462 ft^3/s, 26.47 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,600 ft^3/s, Oct. 16, 1955, gage height, 19.14 ft, from rating curve extended above 17,800 ft^3/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 ft^3/s, Sept. 22, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1900	*14,300	*10.42	May 11	0215	4,830	6.76
Jan. 26	0645	ice jam	6.59	Aug. 24	1830	9,000	8.62
Feb. 27	1915	ice jam	7.66				

Minimum daily discharge, 36 ft^3/s, Aug. 4-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	1320	e290	e270	804	e500	558	311	420	201	47	230
2	159	775	e310	e200	1240	e460	574	272	356	163	47	195
3	381	617	e280	e250	1050	e540	1350	238	317	141	40	171
4	235	533	e270	e300	e700	e450	2000	221	291	122	36	148
5	187	454	e250	e300	e500	e350	1320	453	264	106	36	131
6	164	412	e240	e260	e450	e300	996	408	231	96	212	121
7	148	381	e310	e250	e430	e250	821	345	210	92	629	110
8	134	353	e260	e210	e450	e230	684	438	190	83	376	101
9	124	492	e230	e210	647	e230	591	374	224	84	209	90
10	115	721	e210	e240	1710	e240	700	752	332	82	158	89
11	115	542	e200	e240	e1100	408	1850	3120	238	72	275	85
12	116	457	e190	e220	e700	1620	1210	1380	271	113	569	77
13	107	392	e180	e190	e600	1570	903	1570	208	224	292	71
14	99	369	e170	e190	e560	1330	753	2610	181	148	317	65
15	140	398	e160	e200	e560	1130	721	1520	171	115	227	99
16	149	1120	e150	e210	2270	992	664	1210	158	107	172	132
17	171	1320	e140	e250	2510	1090	579	1360	144	97	142	95
18	466	e840	e140	e350	1200	1520	524	1530	132	83	121	80
19	495	e660	e130	e330	e800	1060	449	1110	140	74	110	70
20	6440	e600	e130	e250	e580	1150	404	947	252	69	99	67
21	5250	e580	e120	e240	e500	1120	426	1880	179	77	91	63
22	2050	e490	e120	e230	e470	1080	407	1500	154	68	85	62
23	1230	e400	e110	e230	e900	1830	360	1120	188	64	78	73
24	893	e370	e110	e240	e800	1300	329	910	249	73	2660	70
25	708	e350	e120	e300	e600	975	367	725	181	67	2780	65
26	588	e390	e130	e2000	e500	848	404	588	147	57	1090	59
27	493	405	e120	1240	e540	e620	335	502	127	51	651	55
28	423	426	e120	841	e580	e540	286	434	117	46	505	51
29	373	e380	e130	661	---	e500	266	410	133	43	602	46
30	335	e310	e160	1720	---	497	316	830	335	40	394	45
31	325	---	e230	969	---	501	---	561	---	40	289	---
TOTAL	22758	16857	5710	13591	23751	25231	21147	29629	6540	2898	13339	2816
MEAN	734	562	184	438	848	814	705	956	218	93.5	430	93.9
MAX	6440	1320	310	2000	2510	1830	2000	3120	420	224	2780	230
MIN	99	310	110	190	430	230	266	221	117	40	36	45
CFSM	3.10	2.37	.78	1.85	3.58	3.43	2.97	4.03	.92	.39	1.82	.40
IN.	3.57	2.65	.90	2.13	3.73	3.96	3.32	4.65	1.03	.45	2.09	.44

CAL YR 1989 TOTAL 169176 MEAN 463 MAX 6690 MIN 20 CFSM 1.96 IN. 26.55
WTR YR 1990 TOTAL 184267 MEAN 505 MAX 6440 MIN 36 CFSM 2.13 IN. 28.92

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 mi^2.

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. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,680 ft^3/s, Apr. 4, 1987, gage height, 9.76 ft in gage well, 10.9 ft from floodmarks, from rating curve extended above 970 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 1.5 ft^3/s, Sept. 28, 1988.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	2000	*783	*3.67				

Minimum discharge, 2.1 ft^3/s, Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	84	e29	e50	e76	e62	81	31	52	13	3.1	13
2	10	56	e28	e20	e150	e58	83	28	45	11	2.6	11
3	13	51	e27	e14	e120	e52	163	25	39	8.8	2.4	10
4	10	48	e26	e14	e86	e40	202	24	35	7.7	2.2	8.9
5	9.3	43	e24	e24	e70	e45	158	58	33	7.0	2.6	8.1
6	8.8	41	e23	e16	e68	e33	126	47	28	6.9	6.3	7.6
7	8.2	39	e21	e14	e66	e28	101	38	24	6.5	9.2	7.1
8	8.0	38	e19	e13	e66	e38	88	55	23	5.8	6.1	6.7
9	7.4	51	e18	e12	121	e31	79	43	26	6.2	4.8	6.1
10	6.7	56	e16	e11	272	41	91	52	27	5.7	4.9	7.2
11	7.1	49	e14	e11	e140	69	174	138	23	5.3	8.1	6.4
12	6.9	43	e14	e10	e88	213	113	77	22	9.5	7.1	5.6
13	6.5	38	e14	e10	e84	161	93	90	18	14	5.5	5.1
14	7.2	36	e13	e9.4	98	136	83	107	16	8.7	6.9	4.8
15	40	34	e13	e9.0	85	121	84	79	16	7.2	5.7	5.9
16	23	57	e13	e9.6	362	108	75	80	14	6.7	4.6	5.6
17	31	60	e12	e15	e220	142	70	104	13	5.8	4.2	5.2
18	48	46	e11	e28	e140	182	65	116	12	5.1	3.9	4.7
19	55	41	e11	e16	e120	123	57	105	16	4.7	5.8	4.3
20	338	45	e10	e14	e84	133	53	100	23	4.5	5.0	4.3
21	274	52	e9.0	e13	e80	122	63	216	15	4.6	4.7	4.1
22	152	e40	e8.4	e13	93	134	57	160	13	4.4	4.3	4.0
23	107	e37	e7.8	e13	190	232	50	122	19	4.3	4.0	3.9
24	85	e35	e7.2	e14	121	161	44	102	19	4.3	69	3.6
25	71	34	e6.6	e30	e74	130	48	87	14	3.8	84	3.4
26	62	42	e6.4	e180	e51	110	46	75	12	3.4	37	3.3
27	55	42	e6.2	e80	e57	90	40	67	10	3.2	26	3.3
28	50	42	e6.0	e64	e55	81	36	59	8.9	2.9	22	3.1
29	45	e35	e6.0	e56	---	73	33	63	9.7	2.8	36	3.0
30	41	e31	e6.2	e120	---	71	34	104	19	2.5	21	3.9
31	39	---	e19	e58	---	74	---	65	---	2.7	16	---
TOTAL	1634.3	1346	444.8	961.0	3237	3094	2490	2517	644.6	189.0	425.0	173.2
MEAN	52.7	44.9	14.3	31.0	116	99.8	83.0	81.2	21.5	6.10	13.7	5.77
MAX	338	84	29	180	362	232	202	216	52	14	84	13
MIN	6.5	31	6.0	9.0	51	28	33	24	8.9	2.5	2.2	3.0
CFSM	1.63	1.38	.44	.96	3.57	3.08	2.56	2.51	.66	.19	.42	.18
IN.	1.88	1.55	.51	1.10	3.72	3.55	2.86	2.89	.74	.22	.49	.20

CAL YR 1989 TOTAL 16327.5 MEAN 44.7 MAX 595 MIN 2.6 CFSM 1.38 IN. 18.75
WTR YR 1990 TOTAL 17155.9 MEAN 47.0 MAX 362 MIN 2.2 CFSM 1.45 IN. 19.70

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 mi^2, revised.

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).

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 observed, 1,131.21 ft, May 11, from observation at 0800 hours, contents, 20,057 mil gal; minimum elevation observed, 1103.96 ft, Jan. 25, from observation at 0800 hours, contents, 11,209 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, IN FEET, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1108.82	1130.44	1129.90	1116.63	1118.61	1130.02	1130.22	1130.20	1130.34	1127.00	1116.27	1129.26
2	1108.71	1130.29	1129.72	1116.14	1120.46	1130.02	1130.29	1130.11	1130.16	1126.83	1115.98	1129.27
3	1108.91	1130.27	1129.65	1115.48	1122.40	1129.98	1130.51	1130.06	1130.12	1126.59	1115.68	1128.84
4	1109.16	1130.25	1129.46	1115.13	1124.57	1130.01	1130.83	1130.02	1130.08	1126.32	1115.37	1128.49
5	1108.88	1130.41	1129.21	1114.73	1126.45	1130.00	1130.75	1130.13	1130.09	1126.01	1115.03	1128.03
6	1108.77	1130.36	1129.15	1114.35	1127.68	1130.03	1130.65	1130.18	1130.05	1125.65	1114.76	1127.67
7	1108.67	1130.18	1129.07	1113.96	1128.75	1129.94	1130.59	1130.14	1130.01	1125.29	1115.29	1127.34
8	1108.58	1130.17	1128.84	1113.65	1129.79	1129.93	1130.57	1130.21	1129.93	1124.90	1116.13	1127.22
9	1108.48	1130.15	1128.40	1113.13	1130.24	1129.95	1130.52	1130.18	1129.90	1124.53	1116.41	1127.06
10	1108.50	1130.23	1127.73	1112.63	1130.41	1130.04	1130.56	1130.42	1130.03	1124.16	1116.47	1126.95
11	1108.30	1130.16	1127.35	1112.19	1130.27	1130.25	1130.94	1131.14	1130.05	1123.73	1116.59	1126.76
12	1108.08	1130.11	1127.03	1111.72	1130.19	1130.24	1130.84	1131.13	1130.01	1123.36	1117.19	1126.62
13	1107.87	1130.12	1126.66	1111.19	1130.33	1130.44	1130.74	1131.06	1129.98	1123.21	1117.76	1126.45
14	1107.64	1130.24	1126.16	1110.58	1130.34	1130.39	1130.64	1130.82	1129.87	1122.94	1118.10	1126.04
15	1107.58	1130.21	1125.57	1110.02	1130.28	1130.32	1130.62	1130.63	1129.70	1122.67	1118.39	1124.88
16	1107.59	1130.24	1124.88	1109.43	1130.74	1130.22	1130.56	1130.56	1129.54	1122.45	1118.50	1123.66
17	1107.58	1130.58	1124.34	1108.85	1130.82	1130.24	1130.52	1130.60	1129.36	1122.36	1118.42	1122.73
18	1108.12	1130.40	1123.86	1108.29	1130.47	1130.40	1130.54	1130.65	1129.14	1122.21	1117.91	1122.70
19	1109.00	1130.32	1123.48	1107.92	1130.39	1130.32	1130.51	1130.58	1128.91	1122.02	1117.48	1122.51
20	1111.58	1130.28	1122.92	1107.24	1130.31	1130.37	1130.49	1130.50	1128.79	1121.52	1117.10	1122.27
21	1118.06	1130.33	1122.32	1106.58	1130.27	1130.37	1130.51	1130.77	1128.72	1120.47	1116.98	1122.08
22	1124.84	1130.13	1121.74	1105.93	1130.28	1130.34	1130.52	1130.81	1128.53	1119.37	1116.79	1121.92
23	1130.10	1130.09	1121.14	1105.20	1130.44	1130.68	1130.50	1130.63	1128.33	1118.52	1116.63	1121.65
24	1130.55	1130.05	1120.51	1104.48	1130.29	1130.63	1130.49	1130.56	1128.29	1118.47	1117.15	1121.42
25	1130.53	1130.02	1119.90	1104.51	1130.22	1130.50	1130.47	1130.49	1128.18	1118.25	1120.90	1121.17
26	1130.49	1130.05	1119.30	1106.76	1130.13	1130.44	1130.33	1130.44	1127.95	1118.01	1124.77	1120.94
27	1130.44	1130.10	1118.68	1109.30	1130.10	1130.39	1130.29	1130.41	1127.68	1117.75	1128.03	1120.65
28	1130.37	1130.05	1118.05	1111.86	1130.08	1130.33	1130.24	1130.39	1127.37	1117.48	1129.22	1120.41
29	1130.34	1130.08	1118.09	1113.97	---	1130.28	1130.22	1130.37	1127.01	1117.16	1129.95	1120.15
30	1130.34	1129.97	1117.41	1115.03	---	1130.27	1130.21	1130.53	1126.99	1116.87	1130.04	1119.89
31	1130.37	---	1117.02	1117.04	---	1130.22	---	1130.47	---	1116.57	1129.42	---
MEAN	1115.72	1130.21	1124.44	1111.09	1128.76	1130.24	1130.52	1130.49	1129.17	1122.02	1119.18	1124.50
MAX	1130.55	1130.58	1129.90	1117.04	1130.82	1130.68	1130.94	1131.14	1130.34	1127.00	1130.04	1129.27
MIN	1107.58	1129.97	1117.02	1104.48	1118.61	1129.93	1130.21	1130.02	1126.99	1116.57	1114.76	1119.89
‡	19727	19569	15078	15392	19614	19668	19672	19750	18519	14953	19324	16020
‡‡	+354	-8.15	-224	+15.7	+233	+2.70	+0.21	+3.89	-63.5	-178	+218	-170

CAL YR 1989 MEAN 1113.29 MAX 1131.52 MIN 1078.24 ‡‡ +19.1
WTR YR 1990 MEAN 1124.62 MAX 1131.14 MIN 1104.48 ‡‡ +14.4

‡ 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. 5-9, 19-23, Nov. 1-4, Dec. 30 to Jan. 7, Jan. 25 to Feb. 6, Mar. 8-15, Apr. 25, May 10-13, June 13, July 20-23, Aug. 25-29, Sept. 2, 10-30, 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 mi^2, revised.

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 ft^3/s).

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 314 mi^2, 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 ft^3/s, Apr. 4, 1987, gage height, 30.2 ft, from floodmarks, from rating curve extended above 14,000 ft^3/s on basis of flow-over-dam measurement of peak flow; minimum daily discharge, 0.04 ft^3/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 ft^3/s, Oct. 16, 1955, by computation of flow over dam; flood of Mar. 18, 1936, reached a discharge of 32,000 ft^3/s, from information furnished by Bureau of Water Resources Development, City of New York.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,860 ft^3/s, May 11, gage height, 14.66 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1120	16	---	---	319	653	269	515	---	---	---
2	---	819	---	---	---	323	665	140	164	---	---	---
3	---	567	---	---	---	345	1390	92	89	---	---	---
4	---	477	---	---	---	252	2630	74	43	---	---	---
5	---	389	---	---	---	134	1910	286	49	---	---	---
6	---	327	---	---	---	158	1390	346	32	---	---	---
7	---	301	---	---	---	59	1120	239	---	---	---	---
8	---	268	---	---	87	55	919	344	---	---	---	---
9	---	353	---	---	757	---	783	304	---	---	---	---
10	---	723	---	---	2150	---	873	460	39	---	---	---
11	---	538	---	---	1650	---	2280	3500	40	---	---	---
12	---	404	---	---	1070	1040	1710	1820	29	---	---	---
13	---	338	---	---	824	1670	1280	1820	15	---	---	---
14	---	286	---	---	839	1350	1050	2880	---	---	---	---
15	---	277	---	---	784	1060	953	1940	---	---	---	---
16	---	537	---	---	2760	850	907	1570	---	---	---	---
17	---	1310	---	---	3480	932	766	1790	---	---	---	---
18	---	647	---	---	1680	1610	693	1960	---	---	---	---
19	---	433	---	---	1420	1010	580	1610	---	---	---	---
20	---	380	---	---	1010	1070	538	1370	---	---	---	---
21	562	470	---	---	700	1100	651	2400	---	---	---	---
22	2420	260	---	---	755	1000	651	2150	---	---	---	---
23	1580	185	---	---	1420	2220	566	1640	---	---	---	---
24	1160	122	---	---	1430	1820	512	1350	---	---	---	---
25	887	84	---	---	958	1330	537	1080	---	---	---	---
26	696	112	---	---	552	1130	483	867	---	---	---	---
27	526	157	---	---	489	860	361	726	---	---	---	---
28	386	125	---	---	427	682	286	631	---	---	---	---
29	303	136	---	---	---	618	241	583	---	---	181	---
30	262	48	---	---	---	589	294	1130	---	---	224	---
31	238	---	---	---	---	570	---	853	---	---	---	---
TOTAL	---	12193	---	---	---	---	27672	36224	---	---	---	---
MEAN	---	406	---	---	---	---	922	1169	---	---	---	---
MAX	---	1310	---	---	---	---	2630	3500	---	---	---	---
MIN	---	48	---	---	---	---	241	74	---	---	---	---

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 mi^2, revised.

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

GAGE.--Water-stage recorder. Concrete control since Nov. 12, 1976. Elevation of gage is 1,110 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.

AVERAGE DISCHARGE.--15 years, 14.9 ft^3/s, 18.56 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,210 ft^3/s, Apr. 4, 1987, gage height, 5.24 ft, in gage well, about 6.2 ft, from floodmarks, from rating curve extended above 280 ft^3/s on basis of flow-through-culvert measurement of peak flow; minimum discharge, 0.32 ft^3/s, Nov. 18, 1980 (result of freezeup); minimum gage height (subsequent to concrete control installation), 0.73 ft, Oct. 18, 1988.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 16	2230	*177	*2.81	No other peak greater than base discharge.			

Minimum discharge recorded, 1.9 ft^3/s, Sept. 12, 13, 14, gage height, 0.85 ft, but may have been less during period of estimated record, Sept. 23-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	15	e9.2	e5.0	e21	e23	28	13	19	12	2.7	2.9
2	4.2	12	e8.6	e4.8	e35	e21	28	11	17	8.7	2.3	2.7
3	4.0	12	e8.4	e4.3	e30	e19	54	11	16	7.1	2.2	2.7
4	3.5	11	e8.0	e3.9	e26	e18	70	10	15	5.2	2.1	2.4
5	3.3	11	e7.6	e4.2	e22	e17	57	18	14	5.3	2.6	2.4
6	3.2	13	e7.2	e4.1	e20	e15	46	15	12	5.3	5.7	2.3
7	3.2	11	e6.6	e3.8	e19	e15	39	14	11	4.8	5.4	2.3
8	3.2	10	e6.2	e3.5	e19	e14	34	17	11	4.3	3.4	2.2
9	3.2	16	e5.6	e3.3	26	e13	30	14	13	5.0	2.9	2.1
10	3.1	18	e5.2	e3.0	65	e15	35	17	13	4.5	3.2	2.4
11	3.2	14	e4.5	e2.9	e45	22	59	28	12	4.1	4.4	2.1
12	3.1	13	e4.3	e2.8	e32	69	41	21	11	9.0	3.1	2.0
13	3.0	12	e4.0	e2.7	e29	55	34	25	9.0	9.9	2.8	2.0
14	3.1	11	e3.7	e2.6	34	47	31	26	8.1	6.1	2.9	1.9
15	8.8	11	e3.4	e2.5	31	42	30	21	7.9	4.8	2.5	3.1
16	4.5	18	e3.0	e2.6	112	38	27	24	7.5	4.6	2.3	2.6
17	10	19	e3.0	e3.5	e80	47	25	30	6.7	4.1	2.3	2.7
18	15	14	e3.0	e7.0	e60	56	24	34	5.7	3.8	2.1	2.5
19	16	13	e2.9	e5.6	e45	41	21	30	13	3.5	3.2	2.6
20	59	15	e2.9	e4.0	e38	47	20	30	26	3.4	2.5	2.5
21	81	17	e2.8	e3.7	e35	44	23	57	15	3.4	2.4	2.3
22	41	e12	e2.8	e3.5	e33	48	21	49	10	3.2	2.2	2.1
23	31	e11	e2.7	e3.5	71	73	18	39	13	3.3	2.2	e2.4
24	25	e11	e2.6	e4.0	45	58	17	33	14	3.2	7.7	e2.3
25	21	e10	e2.5	e6.0	e27	48	18	27	11	2.9	6.6	e2.3
26	18	13	e2.4	e30	e29	43	17	25	8.3	2.8	4.8	e2.3
27	16	12	e2.3	e20	e29	34	15	23	6.9	2.7	4.0	e2.2
28	14	13	e2.2	e18	e26	30	14	21	6.3	2.6	4.6	e2.1
29	13	11	e2.1	e16	---	28	14	22	7.7	2.5	7.9	e2.0
30	12	e9.8	e2.1	36	---	27	14	34	16	2.3	4.2	e2.0
31	12	---	e2.4	e25	---	28	---	23	---	3.2	3.3	---
TOTAL	444.1	388.8	134.2	241.8	1084	1095	904	762	356.1	147.6	110.5	70.4
MEAN	14.3	13.0	4.33	7.80	38.7	35.3	30.1	24.6	11.9	4.76	3.56	2.35
MAX	81	19	9.2	36	112	73	70	57	26	12	7.9	3.1
MIN	3.0	9.8	2.1	2.5	19	13	14	10	5.7	2.3	2.1	1.9
CFSM	1.31	1.19	.40	.72	3.55	3.24	2.76	2.26	1.09	.44	.33	.22
IN.	1.52	1.33	.46	.83	3.70	3.74	3.09	2.60	1.22	.50	.38	.24

CAL YR 1989 TOTAL 4288.2 MEAN 11.7 MAX 126 MIN 1.6 CFSM 1.08 IN. 14.63
WTR YR 1990 TOTAL 5738.5 MEAN 15.7 MAX 112 MIN 1.9 CFSM 1.44 IN. 19.58

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 mi^2, revised.

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

GAGE.--Water-stage recorder. 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. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years (water years 1976-90), 24.1 ft^3/s, 20.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,320 ft^3/s, May 29, 1984, gage height, 3.81 ft; minimum, 0.10 ft^3/s, Aug. 27, 28, 29, 30, 1980, gage height, 0.49 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1630	*694	2.71	Jan. 26	0830	a620	b*2.82

a Estimated.
b Ice jam.

Minimum discharge, 0.43 ft^3/s, Aug. 4, 5, gage height, 0.58 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	23	e18	e28	e100	e38	36	15	19	7.4	1.1	.95
2	3.2	18	e17	e17	e66	e35	34	13	16	5.1	.67	.80
3	4.5	17	e16	e10	e58	e30	105	11	14	3.7	.56	.76
4	4.1	17	e15	e9.0	e47	e25	92	11	13	3.1	.49	.65
5	3.3	15	e14	e13	e41	e27	67	32	12	2.8	.63	.65
6	3.1	16	e14	e10	e40	e18	52	27	11	2.3	3.1	.65
7	2.9	16	e13	e8.0	e43	e18	45	20	9.5	2.2	4.7	.54
8	2.8	15	e12	e7.4	46	e19	42	32	8.4	1.7	2.2	.53
9	2.5	30	e11	e7.0	91	e18	36	21	16	2.2	1.3	.49
10	2.3	32	e9.0	e6.6	202	e25	58	33	18	2.2	1.2	1.2
11	2.8	25	e8.6	e6.2	78	40	141	63	12	1.6	4.6	.93
12	3.3	22	e8.0	e6.0	e56	137	57	33	10	6.2	2.4	.72
13	3.1	19	e7.6	e5.8	e50	85	45	52	7.6	9.2	1.5	.61
14	2.9	18	e7.2	e5.6	49	68	39	56	6.3	3.9	1.5	.51
15	16	18	e6.6	e5.6	40	53	39	37	6.3	2.8	1.0	1.5
16	9.2	40	e6.6	e7.0	304	45	34	49	5.6	2.7	.77	1.5
17	29	35	e6.0	e10	147	81	33	81	4.9	2.3	.72	.98
18	31	27	e6.0	e18	e62	81	31	105	5.2	1.7	.59	.75
19	41	23	e5.8	e13	e49	54	26	79	9.1	1.3	.90	.65
20	166	33	e5.6	e10	e40	70	23	60	7.5	1.1	.95	.68
21	69	37	e5.4	e8.0	e38	83	31	172	5.6	1.4	.73	.72
22	51	e26	e5.0	e7.6	e42	112	26	81	4.3	1.1	.72	.72
23	41	e23	e4.5	e7.6	88	172	23	56	9.4	.97	.67	.72
24	34	e23	e4.2	e15	52	70	20	44	10	1.2	2.2	.72
25	29	e21	e4.0	e25	e35	48	21	37	7.8	1.1	3.2	.72
26	26	30	e3.8	e250	e32	e41	20	33	5.4	.73	1.6	.70
27	23	27	e3.7	75	e31	e34	17	28	4.0	.60	1.3	.65
28	21	30	e3.6	58	e34	e31	15	24	3.1	.53	1.9	.62
29	19	25	e3.6	50	---	e29	16	25	5.4	.51	7.7	.58
30	17	25	e4.5	80	---	e29	17	43	14	.48	2.5	.54
31	17	---	e7.0	e54	---	e32	---	24	---	.60	1.3	---
TOTAL	683.1	726	256.3	833.4	1961	1648	1241	1397	280.4	74.72	54.70	22.74
MEAN	22.0	24.2	8.27	26.9	70.0	53.2	41.4	45.1	9.35	2.41	1.76	.76
MAX	166	40	18	250	304	172	141	172	19	9.2	7.7	1.5
MIN	2.3	15	3.6	5.6	31	18	15	11	3.1	.48	.49	.49
CFSM	1.36	1.49	.51	1.66	4.32	3.28	2.55	2.78	.58	.15	.11	.05
IN.	1.57	1.67	.59	1.91	4.50	3.78	2.85	3.21	.64	.17	.13	.05

CAL YR 1989 TOTAL 7042.17 MEAN 19.3 MAX 166 MIN .57 CFSM 1.19 IN. 16.17
WTR YR 1990 TOTAL 9178.36 MEAN 25.1 MAX 304 MIN .48 CFSM 1.55 IN. 21.08

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 mi^2, revised.

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

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

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 400 ft^3/s and poor above except those for estimated daily discharges below 400 ft^3/s, which are fair. Regulation of flow by Blenheim-Gilboa Pumped Storage Project immediately upstream from gage. Entire flow, runoff from 314 mi^2, 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.--20 years, 421 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,200 ft^3/s, Apr. 4, 1987, gage height, 16.70 ft, from floodmarks, from rating curve extended above 12,000 ft^3/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, 4,870 ft^3/s, Feb. 16, gage height, 7.79 ft, minimum, 6.4 ft^3/s, Aug. 20, Sept. 23, 24, gage height, 0.97 ft; minimum daily discharge, 6.7 ft^3/s, Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	938	65	e62	90	335	629	268	463	27	7.7	9.2
2	11	767	21	e64	293	359	662	219	215	14	7.5	8.3
3	7.6	562	20	e17	129	360	1300	102	124	14	7.5	7.3
4	7.5	455	21	e15	135	300	2580	96	79	13	7.8	7.5
5	7.6	398	21	87	130	145	1730	336	105	8.6	7.9	7.4
6	7.6	396	22	36	105	223	1200	376	56	7.6	8.4	7.3
7	7.8	333	34	12	106	e68	960	252	21	7.5	8.3	7.7
8	7.4	330	31	18	153	58	808	407	9.7	7.1	8.0	8.0
9	7.5	379	25	14	823	56	748	325	16	7.5	8.1	7.1
10	8.6	749	24	14	2240	41	765	441	116	8.1	8.6	7.3
11	7.3	518	21	16	1600	81	2320	3140	88	7.7	8.9	7.1
12	7.1	408	19	29	1100	1190	1470	1560	48	9.6	7.8	7.1
13	7.6	385	21	28	805	1510	1080	1520	47	24	7.7	7.3
14	8.1	348	e14	20	867	1220	908	2690	20	17	7.7	7.3
15	12	338	15	22	831	993	781	1670	13	13	7.7	8.5
16	10	543	16	32	2950	817	865	1350	14	11	8.0	7.1
17	83	1270	14	33	3440	858	664	1620	13	8.3	7.9	7.0
18	115	617	16	106	1460	1460	644	1820	19	7.7	8.0	7.4
19	84	455	e15	69	1270	988	502	1420	31	7.6	7.6	7.5
20	616	424	14	21	958	1030	475	1200	56	7.9	6.8	7.0
21	570	577	e10	26	602	1020	628	2350	54	8.2	7.7	7.2
22	2290	371	e9.4	60	734	947	586	2070	19	7.5	7.0	7.5
23	1420	243	e9.4	51	1370	2200	534	1440	16	7.3	7.3	7.0
24	1050	213	e8.6	52	1270	1680	490	1180	25	7.6	8.5	6.7
25	826	142	e8.6	54	841	1150	491	945	26	7.2	8.7	7.4
26	657	176	e9.4	477	e560	993	478	756	18	7.4	7.6	7.2
27	542	236	e10	120	e520	802	352	668	14	7.7	8.0	7.4
28	382	205	e10	83	437	627	301	549	12	7.8	7.7	7.8
29	345	167	e11	103	---	591	265	605	9.2	7.3	8.4	8.2
30	332	188	e11	276	---	551	316	1030	21	7.0	223	7.5
31	268	---	e11	137	---	524	---	756	---	7.8	17	---
TOTAL	9712.2	13131	557.4	2154	25819	23177	25532	33161	1767.9	311.0	468.8	224.3
MEAN	313	438	18.0	69.5	922	748	851	1070	58.9	10.0	15.1	7.48
MAX	2290	1270	65	477	3440	2200	2580	3140	463	27	223	9.2
MIN	7.1	142	8.6	12	90	41	265	96	9.2	7.0	6.8	6.7

CAL YR 1989 TOTAL 84796.1 MEAN 232 MAX 6820 MIN 6.5
WTR YR 1990 TOTAL 136015.6 MEAN 373 MAX 3440 MIN 6.7

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 mi^2, revised.

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

REVISED RECORDS.--WDR NY-79-1: Drainage area. WDR NY-81-1: 1980(M).

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 fair. Regulation of flow by Blenheim-Gilboa Pumped Storage Project. Entire flow, runoff from 314 mi^2, 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.--15 years, 531 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,200 ft^3/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 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 1.7 ft^3/s, Oct. 14, 1980; minimum gage height, 0.25 ft, Sept. 26, 1985; minimum daily discharge, 5.8 ft^3/s, Sept. 13, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,560 ft^3/s, Feb. 16, gage height, 7.52 ft; minimum not determined, occurred during period of estimated record July 24 to Aug. 24; minimum daily discharge, 13 ft^3/s (estimated), Aug. 4-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	1250	169	e120	e290	470	857	404	715	82	e14	26
2	32	1200	98	317	730	478	901	329	337	59	e14	22
3	37	778	e93	e90	e460	464	1850	176	221	47	e14	21
4	31	695	e84	e60	e360	382	3510	170	161	40	e13	20
5	29	550	e86	169	e300	e190	2600	454	175	47	e13	19
6	27	534	e85	137	e270	244	1950	559	120	38	e20	18
7	27	462	e95	80	e260	e120	1580	375	91	35	e30	18
8	26	428	e88	e60	289	e84	1360	612	63	31	e40	18
9	25	553	e76	e50	1220	e80	1210	486	71	31	e31	18
10	25	1170	e70	e45	3260	e80	1200	517	174	32	e26	20
11	26	790	e59	e45	2530	e150	3310	3680	147	28	e24	21
12	25	605	e55	e48	1770	1680	2290	2160	111	37	e34	19
13	25	553	e54	e47	1330	2290	1760	2070	82	69	e32	18
14	24	489	e43	e43	1440	1880	1500	3340	73	47	e28	18
15	112	458	e42	e41	1350	1530	1300	2330	54	39	e28	20
16	81	741	e39	e49	4030	1250	1370	1900	51	33	e25	21
17	188	1970	e37	e62	4660	1310	1100	2450	46	29	e21	19
18	348	968	e36	293	2110	2090	1010	2650	46	26	e19	18
19	271	703	e38	225	1810	1470	814	2200	73	25	e30	17
20	1750	661	e37	e80	1360	1560	718	1860	94	24	e41	17
21	1610	991	e32	e61	827	1570	951	3350	91	23	e31	17
22	3230	593	e31	e78	1050	1430	894	2980	57	22	e24	17
23	2220	419	e30	e70	2110	2940	797	2220	55	21	e23	17
24	1730	346	e28	e82	1900	2380	690	1840	71	e23	e25	17
25	1330	271	e27	e110	1250	1690	711	1510	61	e21	41	17
26	1080	297	e26	1270	751	1470	693	1190	51	e19	33	17
27	834	380	e27	519	717	1180	517	1020	39	e22	27	17
28	596	366	e28	336	624	901	435	814	36	e18	25	17
29	497	293	e29	319	---	813	376	870	50	e15	41	17
30	458	307	e29	680	---	746	406	1560	127	e14	238	16
31	397	---	e30	e330	---	707	---	1170	---	e14	45	---
TOTAL	17120	19821	1701	5916	39058	33629	38660	47246	3543	1011	1050	557
MEAN	552	661	54.9	191	1395	1085	1289	1524	118	32.6	33.9	18.6
MAX	3230	1970	169	1270	4660	2940	3510	3680	715	82	238	26
MIN	24	271	26	41	260	80	376	170	36	14	13	16

CAL YR 1989 TOTAL 140674 MEAN 385 MAX 7570 MIN 14
WTR YR 1990 TOTAL 209312 MEAN 573 MAX 4660 MIN 13

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 mi^2, revised.

WATER-DISCHARGE RECORDS

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

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

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 314 mi^2, 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.--51 years, 1,011 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,500 ft^3/s, Oct. 16, 1955, gage height, 12.39 ft; minimum, 2.4 ft^3/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 reache a higher stage than the 1936 or 1938 flood.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,500 ft^3/s, Feb. 17, gage height, 4.92 ft; minimum discharge, 36 ft^3/s, Aug. 5; minimum gage height, 0.71 ft, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	1080	e440	e370	1320	1550	1750	678	1450	e520	44	173
2	76	1880	e310	e700	2640	1380	1800	552	920	e353	45	125
3	77	1270	e310	e300	e2100	1550	4200	443	662	e294	43	102
4	82	1200	e240	e350	e1450	e1100	9350	342	509	e235	39	89
5	76	979	e260	e560	e1200	e850	6000	606	455	e206	39	79
6	72	873	e300	e290	e1060	e720	4000	1150	407	e179	66	72
7	69	911	e330	e320	e1000	e590	3100	885	352	e167	121	70
8	63	802	e280	e280	e960	526	2570	1180	294	e161	195	65
9	61	1030	e260	e150	1980	506	2180	1130	276	e138	144	62
10	56	1980	e240	e150	7440	576	2010	957	332	e133	108	72
11	56	1650	e190	e160	5940	1090	5510	4140	396	125	102	78
12	56	1260	e180	e150	3520	5650	4330	3650	363	111	161	76
13	55	1080	e170	e140	2560	6390	3140	3120	284	140	148	70
14	53	1010	e130	e130	2810	5340	2590	5160	235	175	125	62
15	113	910	e140	e130	2590	4100	2340	3830	220	143	128	65
16	312	999	e120	e140	5270	3250	2240	2980	199	126	100	62
17	262	2600	e110	e160	11000	3100	1890	4970	179	112	81	70
18	1130	1950	e120	e790	4850	4330	1780	5570	161	99	68	66
19	873	1370	e120	e520	3780	3240	1530	4220	e179	87	135	57
20	2850	1150	e110	e310	3080	4240	1250	3290	e833	79	231	55
21	7630	1810	e100	e275	2130	4260	1490	6610	e740	79	155	51
22	4290	1370	e100	e220	2290	3970	1640	6320	e342	80	117	48
23	3610	1080	e98	e160	5830	6960	1310	4150	e267	77	100	49
24	2640	894	e92	e240	5130	5440	1120	3230	e419	89	103	48
25	1990	813	e94	e300	3290	3700	1090	2720	e342	81	482	44
26	1670	783	e92	e3600	1980	3140	1150	2130	e284	70	402	42
27	1330	934	e90	e2300	1720	2520	1010	1730	e220	65	263	41
28	1130	903	e87	e1650	1830	2060	816	1510	e192	55	199	40
29	915	875	e87	1370	---	1770	696	1300	e167	48	186	39
30	845	681	e83	1930	---	1680	597	2280	e783	45	225	39
31	813	---	e92	1680	---	1630	---	2150	---	42	346	---
TOTAL	33334	36127	5375	19825	90750	87208	74479	82983	12462	4314	4701	2011
MEAN	1075	1204	173	640	3241	2813	2483	2677	415	139	152	67.0
MAX	7630	2600	440	3600	11000	6960	9350	6610	1450	520	482	173
MIN	53	681	83	130	960	506	597	342	161	42	39	39

CAL YR 1989 TOTAL 325932 MEAN 893 MAX 11000 MIN 24
WTR YR 1990 TOTAL 453569 MEAN 1243 MAX 11000 MIN 39

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).
MINOR ELEMENTS DATA: 1960 (e), 1963 (b), 1964, 1972 (a), 1988 (b), 1989 (c), 1990 (d).
NUTRIENT DATA: 1960, 1963-64, 1972 (a).
SEDIMENT DATA: 1989 (c), 1990 (d).

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 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT												
02...	1000	76	300	8.5	14.5	747	11.0	110	120	41	5.0	11
27...	1000	1400	166	8.1	11.0	759	10.0	91	63	21	2.6	5.3
MAR												
19...	1000	3290	148	7.7	6.0	755	11.6	94	57	19	2.3	5.2
APR												
04...	1000	10300	146	7.9	4.5	725	12.3	100	60	20	2.5	5.5
24...	1000	1110	153	8.7	13.0	--	11.2	--	--	--	--	--
MAY												
14...	1000	5160	154	8.0	10.0	751	10.1	91	--	--	--	--
JUN												
11...	1400	419	264	8.3	18.5	748	10.2	111	--	--	--	--
JUL												
11...	1400	113	257	8.4	23.5	750	8.8	105	--	--	--	--
AUG												
06...	1300	72	264	8.1	23.0	747	9.7	116	--	--	--	--
SEP												
10...	1000	69	258	8.0	18.0	751	9.0	97	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)
OCT											
02...	2.1	100	21	15	0.10	80	<10	<1	<1.0	6	4
27...	1.3	53	13	7.0	<0.10	200	--	<1	--	3	--
MAR											
19...	1.1	44	11	8.3	<0.10	560	--	<1	--	6	--
APR											
04...	1.1	49	--	--	--	3900	60	<1	<1.0	8	<10
24...	--	--	--	--	--	170	--	<1	--	3	--
MAY											
14...	--	--	--	--	--	1100	--	<1	--	7	--
JUN											
11...	--	--	--	--	--	240	<10	<1	<1.0	6	6
JUL											
11...	--	--	--	--	--	230	--	<1	--	8	--
AUG											
06...	--	--	--	--	--	370	--	<1	--	5	--
SEP											
10...	--	--	--	--	--	120	--	<1	--	3	--

01351500 SCHOHARIE CREEK AT BURTONSVILLE, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT											
02...	170	11	2	<1	20	4	<0.10	1	<1	30	21
27...	500	--	1	--	40	--	<0.10	2	--	<10	--
MAR											
19...	860	--	2	--	20	--	0.10	2	--	<10	--
APR											
04...	7500	50	14	<10	160	5	<0.10	7	<10	20	8
24...	310	--	1	--	30	--	<0.10	2	--	<10	--
MAY											
14...	2200	--	3	--	70	--	<0.10	3	--	10	--
JUN											
11...	430	50	1	1	40	10	<0.10	1	4	<10	<10
JUL											
11...	600	--	1	--	70	--	<0.10	1	--	<10	--
AUG											
06...	650	--	2	--	40	--	<0.10	3	--	<10	--
SEP											
10...	200	--	1	--	20	--	<0.10	<1	--	<10	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
02...	1000	76	6	1.2
27...	1000	1400	13	49
MAR				
19...	1000	3290	22	195
APR				
04...	1000	10300	194	5400
24...	1000	1110	5	15
MAY				
14...	1000	5160	52	724
JUN				
11...	1400	419	12	14
JUL				
11...	1400	113	11	3.4
AUG				
06...	1300	72	15	2.9
SEP				
10...	1000	69	6	1.1

ANALYSIS OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLATILE IN BOTTOM MATERIAL (MG/KG)	ALUMINUM, RECOV. FM BOTTOM MATERIAL (UG/G)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)
JUL							
11...	1400	24000	4000	1	90	12000	140

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM
JUL							
11...	270	0.02	30	150	1	3	74

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 mi^2, revised.

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 741: Drainage area. WSP 1302: 1919-23 (M).

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.--Records good except those for estimated daily discharges, which are poor. Total flow of Mohawk River equals flow published at Cohoes which includes small diversion for Cohoes water supply, plus flow diverted at Cresent 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 ft^3/s, includes diversion at Lock 6; 65 years (water years 1926-90), 5,672 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft^3/s, Mar. 6, 1964, result of release from ice jam, gage height, 23.15 ft, from rating curve extended above 110,000 ft^3/s; minimum discharge, 6 ft^3/s, Sept. 18, 1941, gage height, 3.40 ft; minimum daily, 23 ft^3/s, Aug. 24, 1941.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 41,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 21	2200	*42,900	*17.21	No other peak greater than base discharge.			

Minimum discharge, 158 ft^3/s, Sept. 5, gage height, 4.85 ft; minimum daily, 570 ft^3/s, Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1820	3960	4660	e2500	6630	7750	7770	2630	4670	2820	929	1620
2	2430	5950	4180	e3800	6740	6960	8560	1260	3330	2740	843	1440
3	2390	4570	3080	5310	10300	7030	13300	4090	3750	1790	945	1070
4	2210	4500	2960	4890	8830	6780	36000	4150	4150	1690	997	1250
5	1860	4260	6660	4780	7160	5830	29600	2110	3390	1840	806	1060
6	1570	3840	7210	6070	6070	5180	19800	8680	2720	1550	2160	1120
7	1700	3390	4800	6200	5730	4650	16100	6430	2210	1710	5460	1070
8	1650	4810	4270	4710	5680	4220	13400	7110	1610	1680	1760	824
9	1970	5950	5260	3910	6160	4090	10800	8930	1630	1450	2460	1080
10	2110	10200	3570	3420	13800	4130	9490	6310	3440	1220	1460	1600
11	2070	9880	3470	3340	21100	5350	19700	15000	2130	1340	1860	1750
12	2120	8280	3000	3270	14800	18800	25700	15200	2000	1270	2710	2440
13	2310	7220	3230	3130	11500	33000	18500	12100	2340	1360	1900	1540
14	2380	6100	2910	2940	9840	33600	15700	27800	2170	1030	2730	1650
15	2580	5760	2270	2760	10500	32300	12700	17900	1680	1390	3320	1590
16	3500	7320	2100	2670	10000	26500	11100	15100	1990	1340	1940	1210
17	4090	20100	1970	2910	19600	24800	10000	27300	1840	1360	1550	2720
18	6590	17900	2110	4150	17500	31300	9350	31300	1970	1390	1220	1420
19	6910	13500	2310	10200	13300	27100	7940	26000	1890	1120	1150	1320
20	7470	9050	2510	9660	11400	25200	6920	19800	2480	970	1350	1140
21	28800	13700	2270	7140	8700	24100	5760	35100	1610	1300	1470	1290
22	16000	11800	2050	5390	7600	20100	8170	35500	1850	1230	1720	570
23	11300	9290	e1950	4830	15900	21700	7900	23200	2560	1060	1520	925
24	6860	7540	e1850	4440	24200	20100	6160	16100	2330	1320	1780	1110
25	6230	5120	e1800	4430	16300	14700	4030	11700	2190	1620	1470	966
26	4630	7020	e1850	8950	11600	11900	3690	8880	2380	1700	1390	1310
27	5080	5460	e1850	16100	8600	10000	5340	7810	2460	1450	1470	1180
28	4620	6450	e1800	11400	7890	8450	5590	5690	1770	1190	1510	1400
29	3870	5800	e1800	8830	---	7530	4850	6820	1160	1080	1770	1060
30	3250	5300	e1850	7140	---	7230	4370	5570	1770	941	2780	1120
31	3600	---	e2000	7610	---	7200	---	8060	---	1180	2100	---
TOTAL	153970	234020	93600	176880	317430	467580	358290	423630	71470	45131	56530	39845
MEAN	4967	7801	3019	5706	11340	15080	11940	13670	2382	1456	1824	1328
MAX	28800	20100	7210	16100	24200	33600	36000	35500	4670	2820	5460	2720
MIN	1570	3390	1800	2500	5680	4090	3690	1260	1160	941	806	570

CAL YR 1989 TOTAL 1897755 MEAN 5199 MAX 32300 MIN 369
WTR YR 1990 TOTAL 2438376 MEAN 6680 MAX 36000 MIN 570

e Estimated

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 1989 to September 1990

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	98	116	3.0	3.0	3.0	3.0	98	140	164	134	170
2	122	104	92	3.0	3.0	3.0	3.0	110	164	158	128	158
3	128	98	92	3.0	3.0	3.0	3.0	364	146	176	134	176
4	134	98	116	3.0	3.0	3.0	3.0	92	146	170	176	164
5	140	98	122	3.0	3.0	3.0	3.0	92	116	146	134	134
6	104	98	92	3.0	3.0	3.0	3.0	92	146	188	128	122
7	134	104	92	3.0	3.0	3.0	3.0	146	146	176	152	128
8	134	116	92	3.0	3.0	3.0	3.0	152	140	158	152	146
9	128	104	92	3.0	3.0	3.0	3.0	146	140	152	140	128
10	128	92	92	3.0	3.0	3.0	3.0	134	146	170	152	146
11	110	98	92	3.0	3.0	3.0	3.0	128	146	134	158	140
12	128	98	92	3.0	3.0	3.0	3.0	164	176	128	158	128
13	116	98	92	3.0	3.0	3.0	3.0	122	158	152	128	128
14	128	98	92	3.0	3.0	3.0	3.0	128	110	152	134	140
15	128	98	92	3.0	3.0	3.0	3.0	146	128	146	134	122
16	122	128	92	3.0	3.0	3.0	3.0	152	140	140	152	140
17	122	110	92	3.0	3.0	3.0	3.0	140	116	140	176	134
18	140	104	92	3.0	3.0	3.0	3.0	122	146	164	152	116
19	128	104	92	3.0	3.0	3.0	3.0	122	128	134	128	128
20	104	92	46	3.0	3.0	3.0	46	140	152	158	140	146
21	92	104	3.0	3.0	3.0	3.0	92	110	146	176	134	128
22	104	104	3.0	3.0	3.0	3.0	92	98	152	176	128	140
23	110	116	3.0	3.0	3.0	3.0	110	170	152	128	128	128
24	98	116	3.0	3.0	3.0	3.0	92	134	152	146	140	140
25	110	116	3.0	3.0	3.0	3.0	92	152	128	146	152	128
26	104	98	3.0	3.0	3.0	3.0	92	158	146	128	134	164
27	92	116	3.0	3.0	3.0	3.0	92	170	146	158	134	128
28	104	104	3.0	3.0	3.0	3.0	92	158	146	146	164	140
29	98	110	3.0	3.0	---	3.0	92	122	152	152	92	128
30	116	122	3.0	3.0	---	3.0	98	122	164	146	158	116
31	128	---	3.0	3.0	---	3.0	---	110	---	140	176	---
TOTAL	3662	3144	1905.0	93.0	84.0	93.0	1047.0	4294	4314	4748	4430	4134
MEAN	118	105	61.5	3.00	3.00	3.00	34.9	139	144	153	143	138
MAX	140	128	122	3.0	3.0	3.0	110	364	176	188	176	176
MIN	92	92	3.0	3.0	3.0	3.0	3.0	92	110	128	92	116

CAL YR 1989 TOTAL 32863.0 MEAN 90.0 MAX 200 MIN 3.0
WTR YR 1990 TOTAL 31948.0 MEAN 87.5 MAX 364 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, N

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 (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).
ORGANIC DATA: 1976 (a), 1977 (c), 1979 (d).
NUTRIENT DATA: 1951-52, 1955 (a), 1958-59 (b), 1963-64, 1970, 1976 (a), 1977 (c), 1979 (d).
BIOLOGICAL DATA: 1979 (d).
SEDIMENT DATA: 1976-77 (e), 1978 (a), 1979 (e), 1988 (a), 1989 (c), 1990 (d).

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 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT												
06...	1000	1380	268	7.7	14.0	753	10.0	99	100	33	5.2	12
27...	1100	5310	--	7.8	10.5	772	12.7	--	89	28	4.6	7.5
MAR												
19...	1200	27000	164	8.1	4.5	769	13.4	102	63	20	3.1	5.2
APR												
04...	1200	38300	227	8.1	5.0	742	13.6	110	93	29	4.9	9.0
24...	1200	6440	219	8.5	12.0	768	11.5	106	--	--	--	--
MAY												
14...	1200	31500	206	8.0	12.0	764	11.6	108	--	--	--	--
JUN												
11...	1100	2080	277	8.6	--	759	10.9	--	--	--	--	--
JUL												
11...	1000	976	338	7.9	23.5	762	7.1	84	--	--	--	--
AUG												
06...	1000	2030	336	7.6	25.5	761	5.9	72	--	--	--	--
SEP												
10...	1100	1430	350	7.6	21.5	762	6.9	78	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)
OCT											
06...	1.6	81	19	15	0.10	260	--	<1	--	3	--
27...	1.9	72	17	11	0.10	370	--	<1	--	4	--
MAR											
19...	1.0	54	11	9.6	<0.10	1800	--	<1	--	10	--
APR											
04...	1.2	75	--	--	--	3600	70	9	<1.0	<1	<10
24...	--	--	--	--	--	530	--	<1	--	6	--
MAY											
14...	--	--	--	--	--	1500	--	<1	--	9	--
JUN											
11...	--	--	--	--	--	410	30	<1	<1.0	7	10
JUL											
11...	--	--	--	--	--	110	--	<1	--	7	--
AUG											
06...	--	--	--	--	--	240	--	<1	--	9	--
SEP											
10...	--	--	--	--	--	280	--	<1	--	6	--

01357500 MOHAWK RIVER AT COHOES, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	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)	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											
06...	530	--	2	--	50	--	<0.10	2	--	<10	--
27...	760	--	2	--	70	--	<0.10	1	--	<10	--
MAR											
19...	3400	--	4	--	110	--	<0.10	5	--	20	--
APR											
04...	6600	48	8	<10	160	10	<0.10	7	<10	30	4
24...	780	--	2	--	70	--	<0.10	2	--	<10	--
MAY											
14...	2600	--	4	--	110	--	<0.10	3	--	20	--
JUN											
11...	640	20	2	1	70	<10	<0.10	2	3	<10	<10
JUL											
11...	550	--	3	--	130	--	<0.10	2	--	10	--
AUG											
06...	460	--	3	--	100	--	<0.10	3	--	<10	--
SEP											
10...	520	--	2	--	80	--	<0.10	2	--	<10	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
06...	1000	1380	13	48
27...	1100	5310	22	315
MAR				
19...	1200	27000	79	5760
APR				
04...	1200	38300	166	17200
24...	1200	6440	19	330
MAY				
14...	1200	31500	78	6630
JUN				
11...	1100	2080	19	107
JUL				
11...	1000	976	11	29
AUG				
06...	1000	2030	14	77
SEP				
10...	1100	1430	16	62

ANALYSIS OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLA-TILE IN BOTTOM MA-TERIAL (MG/KG)	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)
JUL							
11...	1000	33100	8400	<1	50	69000	140

DATE	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)	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM
JUL							
11...	630	0.06	30	210	2	4	96

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 mi^2, 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.--No estimated daily discharges. Records fair above 10,000 ft^3/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.--44 years, 13,700 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181,000 ft^3/s, Dec. 31, 1948, gage height, 27.05 ft, from high-water mark in gage well; maximum daily discharge, 152,000 ft^3/s, Mar. 14, 1977; minimum daily, 882 ft^3/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 ft^3/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, 82,100 ft^3/s, May 22, gage height, 21.64 ft; minimum daily, 3,470 ft^3/s, July 30; minimum gage height, 14.54 ft, July 9, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7950	15100	15600	9560	16700	21500	21900	15300	21200	8100	4330	5150
2	7380	19200	13600	12200	18400	19600	21800	13400	16300	7680	4630	5610
3	8970	17000	11900	11300	21300	19500	27600	13900	15700	6160	4230	5400
4	7290	17400	11100	10600	19300	19000	67400	14100	16200	6070	4070	5790
5	9220	16200	14600	10300	17100	17000	65000	11400	13600	5700	3890	5300
6	8480	15100	16500	12200	16100	15800	48200	19600	9110	5660	6600	5320
7	8570	14300	13400	11300	15600	14400	39000	19000	9410	5640	17300	4820
8	8130	16900	12100	10200	15700	13800	32100	18300	8950	5300	16000	4750
9	8470	18600	13300	8870	16200	13100	27400	19700	7570	5020	12600	4970
10	6140	27500	11300	8260	29000	13700	26600	16900	9160	4830	8690	6420
11	9120	27400	11400	8470	40400	16100	44200	30600	7980	5120	7620	6780
12	9400	24600	10800	7900	29700	34200	57500	32800	7710	4950	11400	6890
13	9630	22600	10600	7790	24500	55000	45100	28800	7900	5120	11700	5910
14	9120	19600	10800	7200	22800	57800	38300	55100	6950	4240	16200	5940
15	9630	19000	10300	7000	22100	59900	32900	43600	6200	4980	18300	6110
16	11400	19900	9210	6860	23700	58900	31400	37400	6280	4910	13800	5860
17	13100	36100	9050	7920	36700	61400	28500	54200	5860	4370	11200	7720
18	17600	35100	9780	10200	33200	74200	27800	66600	6580	5700	9590	5950
19	17000	30400	9340	18000	27100	65500	25400	61200	7080	5000	8060	6020
20	17800	24100	9830	17100	24800	58300	23400	50400	8920	4490	8350	5390
21	50300	28800	9020	14100	20000	61100	22000	69300	6290	5480	6690	5500
22	39800	27400	9000	12500	18400	51800	24800	75200	5940	5070	6490	4510
23	29200	22900	8440	12200	36300	47100	24800	58900	6900	4800	6480	4730
24	21900	20900	8260	10700	48300	41800	22100	48300	8180	6560	6660	5720
25	18400	16700	8000	12000	34200	32800	19400	40800	8010	8150	7000	5440
26	15700	19100	8350	29700	26000	28000	19500	33700	6990	8320	6700	5390
27	16500	17300	8660	39400	20500	26800	21200	30400	6850	6910	6000	4870
28	14500	17800	8850	26300	21600	24200	22600	26700	6090	5190	5460	5110
29	13300	17900	8410	21400	---	23100	20300	26700	4680	4260	7330	5520
30	12600	16900	8430	19100	---	21500	19400	25800	6590	3470	7530	5220
31	12000	---	8640	18700	---	21500	---	26200	---	4880	6230	---
TOTAL	448600	641800	328570	419330	695700	1088400	947600	1084300	265180	172130	271130	168110
MEAN	14470	21390	10600	13530	24850	35110	31590	34980	8839	5553	8746	5604
MAX	50300	36100	16500	39400	48300	74200	67400	75200	21200	8320	18300	7720
MIN	6140	14300	8000	6860	15600	13100	19400	11400	4680	3470	3890	4510

CAL YR 1989 TOTAL 5093710 MEAN 13960 MAX 60600 MIN 3960
WTR YR 1990 TOTAL 6530850 MEAN 17890 MAX 75200 MIN 3470

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), 1988-90 (b).
MINOR ELEMENTS DATA: 1970-71 (a); 1972-73, 1975-79 (b), 1980-85 (b), 1986-87 (a), 1988-90 (b).
RADIOCHEMICAL DATA: 1968-71 (c), 1973-75 (a), 1976 (d), 1977 (a), 1978 (b), 1979-80 (a), 1981 (b), 1982-85, 1988-90 (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), 1988-90 (b).
BIOLOGICAL DATA:
Bacteria--1971 (a), 1973-74 (d), 1975 (a), 1976-78 (c), 1979-81 (d), 1983-86, 1988, 1990 (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, 1988-90 (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 1989 TO SEPTEMBER 1990

DATE	TIME	*DISCHARGE, IN CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 04...	0930	7140	252	7.2	14.5	4.2	754	8.9	89	--	--
FEB 28...	1115	21600	350	7.7	0.5	3.5	769	15.1	104	120	96
JUN 27...	1045	6850	248	7.6	24.0	41	760	7.9	94	160	320
SEP 12...	1430	6890	263	8.0	23.0	3.1	765	9.5	110	390	23

DATE	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLVED FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	CARBONATE WATER DIS IT FIELD MG/L AS CO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT 04...	68	20	21	3.7	7.4	1.1	48	58	0	14	12
FEB 28...	60	19	18	3.6	7.3	0.80	41	50	0	12	13
JUN 27...	84	17	26	4.7	9.5	1.0	67	82	0	15	15
SEP 12...	91	27	28	5.0	12	1.3	64	78	0	23	18

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)
OCT 04...	0.10	5.1	112	95	0.380	0.390	0.050	0.050	0.60	0.040	0.020
FEB 28...	<0.10	5.5	100	89	0.760	0.800	0.070	0.070	0.30	--	<0.010
JUN 27...	<0.10	3.8	120	119	0.570	0.700	0.100	0.070	0.40	0.050	0.020
SEP 12...	0.20	2.8	136	131	0.490	0.500	0.050	0.030	0.40	0.040	0.010

* Daily discharge.

HUDSON RIVER BASIN

01358000 HUDSON RIVER AT GREEN ISLAND, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	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											
04...	0.020	30	<1	17	<0.5	<1.0	<1	<3	3	75	<1
FEB											
28...	<0.010	40	<1	14	<0.5	<1.0	<5	<3	<10	60	<10
JUN											
27...	<0.010	40	<1	22	<0.5	<1.0	<1	<3	7	45	<1
SEP											
12...	<0.010	30	<1	22	<0.5	<1.0	<1	<3	5	33	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										
04...	<4	17	<0.1	<10	2	<1	<1.0	120	<6	20
FEB										
28...	<4	16	0.2	<10	<10	<1	1.0	89	<6	6
JUN										
27...	8	10	<0.1	<10	1	<1	<1.0	140	<6	96
SEP										
12...	<4	8	<0.1	<10	2	<1	<1.0	150	<6	6

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
OCT									
04...	0930	7140	0.9	<0.4	2.8	2.3	<0.4	<0.4	0.09

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	*DIS-CHARGE, IN 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					
04...	0930	7140	10	193	--
FEB					
28...	1115	21600	6	350	95
JUN					
27...	1045	6850	9	166	94
SEP					
12...	1430	6890	7	130	97

* Daily discharge.

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 mi^2, revised.

PERIOD OF RECORD.--October 1972 to September 1976, April 1981 to current year.

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 ft^3/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 1989 TO SEPTEMBER 1990

	OCT*	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG**	SEP
Maximum high tide												
Elevation	--	7.40	5.00	6.11	5.85	6.46	7.45	8.39	5.70	5.18	5.55	5.21
Date	--	16	2	26	11	13	4	22	24	23	13	5
Minimum low tide												
Elevation	--	-2.91	-3.66	-1.76	-2.04	-2.35	-1.32	-1.86	-2.27	-2.33	-1.78	-2.61
Date	--	21	4	19	20	6	21	2	28	10	3	8
Mean high tide	--	4.85	3.32	3.82	4.82	5.01	5.13	5.55	4.70	4.51	4.68	4.47
Mean water level	--	2.07	0.97	1.54	2.12	2.67	2.66	3.15	1.59	1.39	1.70	1.47
Mean low tide	--	-0.83	-1.44	-0.73	-0.63	0.17	0.03	0.56	-1.61	-1.78	-1.22	-1.60

* Incomplete month, only eight days of record, not used.
** Incomplete month, missing record Aug. 14-22, 1990.

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 mi^2, revised.

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).
MINOR ELEMENTS DATA: 1969 (d), 1970-74 (e), 1975 (d), 1976-77 (c), 1978-79 (d), 1988-90 (b).
NUTRIENT DATA: 1969 (d), 1970-74 (e), 1975 (d), 1976-77 (c), 1978-79 (d), 1988 (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).

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 1989 TO SEPTEMBER 1990

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT 19...	1100	212	7.7	11.5	--	10.5	--	75	23
APR 18...	1200	190	7.7	6.5	773	12.0	96	--	--
MAY 07...	1500	207	7.6	14.5	759	9.5	94	--	--
JUN 20...	1200	232	7.3	23.0	757	6.5	77	--	--
AUG 27...	1300	--	--	24.0	761	--	--	--	--

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
OCT 19...	4.3	9.6	1.2	57	17	14	0.10	320
APR 18...	--	--	--	--	--	--	--	400
MAY 07...	--	--	--	--	--	--	--	260
JUN 20...	--	--	--	--	--	--	--	280
AUG 27...	--	--	--	--	--	--	--	310

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 19...	<1	13	640	7	50	<0.10	14	10
APR 18...	<1	7	700	2	50	<0.10	3	<10
MAY 07...	<1	9	580	120	60	<0.10	1	10
JUN 20...	<1	7	460	2	50	<0.10	1	<10
AUG 27...	2	8	3000	3	60	<0.10	8	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SEDIMENT, SUSPENDED (MG/L)
OCT 19...	1100	16
APR 18...	1200	16
MAY 07...	1500	12
JUN 20...	1200	10

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 mi^2.

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 l flow by mills upstream.

AVERAGE DISCHARGE.--33 years, 38.4 ft^3/s, 16.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft^3/s, Mar. 15, 1986, gage height, 4.25 ft; minimum, 0.30 ft^3/s, Aug. 9, 10, 1964, gage height, 0.25 ft; minimum daily, 1.0 ft^3/s, Sept. 6, 1964.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	0500	447	a2.35	Mar. 20	2000	415	c2.28
Jan. 26	1600	*739	b*2.88	Apr. 4	0530	702	d2.82

a Recorded in well; outside gage height was 2.60 ft, from crest-stage gage.
b Recorded in well; outside gage height was 3.23 ft, from crest-stage gage.
c Recorded in well; outside gage height was not obtained.
d Recorded in well; outside gage height was 3.11 ft, from crest-stage gage.

Minimum discharge, 5.0 ft^3/s, Aug. 3, 4, gage height, 0.64 ft; minimum daily, 5.6 ft^3/s, Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	117	e24	e47	e105	e52	58	34	39	16	6.6	18
2	17	87	e21	e46	e88	e54	54	31	32	14	6.1	15
3	31	65	e21	e36	e74	55	172	28	29	12	5.9	13
4	21	71	e19	e31	e70	e46	587	26	27	11	5.6	12
5	16	59	e19	e27	e64	e37	274	60	25	10	5.8	11
6	14	51	e19	e27	e64	e31	167	60	22	9.9	18	11
7	14	46	e20	e24	64	e27	120	43	21	9.5	73	12
8	12	43	e19	24	66	e27	93	67	19	9.0	41	12
9	11	52	e17	16	119	e28	79	53	21	9.4	20	11
10	10	72	e17	15	301	33	76	50	29	9.0	14	16
11	11	55	e17	16	e140	54	154	128	25	8.3	23	16
12	11	46	e15	15	e90	202	111	79	23	12	16	13
13	11	41	e15	e14	e74	177	79	88	19	14	16	12
14	11	38	e14	e15	88	136	68	185	17	11	33	11
15	29	38	e14	e13	74	118	78	106	16	15	19	17
16	28	41	e14	12	117	102	82	96	15	22	13	17
17	47	44	e14	23	216	127	66	154	14	12	10	13
18	104	38	e14	52	e100	290	60	178	14	9.8	8.6	11
19	75	34	e13	e34	e76	160	52	124	16	9.0	17	10
20	220	34	e14	e26	e62	275	47	99	14	8.3	17	13
21	349	e35	e14	e21	e58	372	88	176	14	7.9	11	10
22	166	e30	e13	e18	59	273	82	147	13	7.7	9.2	9.1
23	107	e27	e13	e16	132	203	61	103	27	9.0	9.9	9.1
24	82	e25	e13	e17	e82	145	52	82	31	12	39	8.1
25	67	e25	e13	36	e56	117	50	67	19	9.0	78	7.4
26	58	30	e13	516	e57	100	52	58	15	7.7	43	6.8
27	51	32	e13	249	e60	81	56	52	13	7.6	27	6.8
28	45	33	e12	123	e48	69	46	45	12	7.6	21	6.1
29	40	e32	e12	88	---	64	39	41	14	7.0	55	6.2
30	37	e28	e12	206	---	63	36	77	21	6.6	35	6.0
31	37	---	e17	e90	---	66	---	54	---	6.6	23	---
TOTAL	1743	1369	485	1893	2604	3584	3039	2591	616	319.9	719.7	339.6
MEAN	56.2	45.6	15.6	61.1	93.0	116	101	83.6	20.5	10.3	23.2	11.3
MAX	349	117	24	516	301	372	587	185	39	22	78	18
MIN	10	25	12	12	48	27	36	26	12	6.6	5.6	6.0
CFSM	1.72	1.40	.48	1.87	2.85	3.55	3.11	2.56	.63	.32	.71	.35
IN.	1.99	1.56	.55	2.16	2.97	4.09	3.47	2.96	.70	.37	.82	.39

CAL YR 1989 TOTAL 15322.2 MEAN 42.0 MAX 349 MIN 5.4 CFSM 1.29 IN. 17.48
WTR YR 1990 TOTAL 19303.2 MEAN 52.9 MAX 587 MIN 5.6 CFSM 1.62 IN. 22.03

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 Bushnellsville Creek, 0.5 mi upstream from Fox Hollow Creek, and 5.2 mi northwest of Phoenicia.

DRAINAGE AREA.--59.5 mi^2.

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), 1988-90 (b).
MINOR ELEMENT DATA: 1964-65, 1967-73, 1975-76 (a), 1977 (b), 1978-87 (a), 1988-90 (b).
RADIOCHEMICAL DATA: 1967-77, 1979-85, 1988-90 (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), 1988-90 (b).
BIOLOGICAL DATA:
Bacteria--1968-69 (d), 1970-72 (c), 1973-82 (d), 1983-85 (b), 1986-88 (a), 1990 (b).
SEDIMENT DATA: 1969-71 (c), 1972-75, 1977-82 (d), 1983-86, 1988-90 (b).

REMARKS.--Water discharge data based on records obtained at Allaben (station 01362200).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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, 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 03...	0950	68	48	7.0	12.5	1.5	760	9.8	93	--	--
FEB 21...	1030	245	42	7.3	0.5	1.0	743	15.2	108	K2	K2
JUN 13...	1000	55	52	7.1	12.0	0.60	738	8.4	81	K10	K11
SEP 13...	0900	30	42	8.0	15.5	1.5	765	8.9	89	K11	K5

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)
OCT 03...	19	11	5.7	1.2	2.8	0.40	8	10	0	7.0	3.6
FEB 21...	17	11	4.9	1.1	3.0	0.30	6	7	0	6.8	4.7
JUN 13...	20	11	6.2	1.2	3.2	0.30	10	12	0	6.4	4.3
SEP 13...	22	6	6.5	1.3	3.2	0.40	15	19	0	7.2	4.8

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	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, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
OCT 03...	<0.10	2.4	36	30	0.420	0.010	<0.010	<0.20	0.020	0.010	0.020
FEB 21...	0.10	2.8	36	31	0.800	0.020	0.010	<0.20	<0.010	0.020	<0.010
JUN 13...	0.10	2.9	36	32	0.300	0.010	0.010	0.20	<0.010	<0.010	<0.010
SEP 13...	<0.10	2.6	21	36	0.200	<0.010	<0.010	0.20	0.030	<0.010	<0.010

K Results based on colony count outside the acceptable range (non-ideal colony count).

HUDSON RIVER BASIN

01362198 ESOPUS CREEK AT SHANDAKEN, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
OCT 03...	<10	<1	13	<0.5	<1.0	<1	<3	2	9	<1
FEB 21...	10	<1	13	<0.5	<1.0	<5	<3	<10	<3	<10
JUN 13...	<10	<1	12	<0.5	<1.0	<1	<3	1	7	<1
SEP 13...	<10	<1	12	<0.5	<1.0	<1	<3	1	6	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 03...	<4	4	<0.1	<10	<1	<1	<1.0	19	<6	4
FEB 21...	<4	2	<0.1	<10	<10	<1	<1.0	17	<6	12
JUN 13...	<4	4	<0.1	<10	1	<1	<1.0	19	<6	11
SEP 13...	<4	4	0.1	<10	<1	<1	<1.0	21	<6	4

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 03...	0950	68	3	0.55	--
FEB 21...	1030	245	1	0.66	67
JUN 13...	1000	55	0	0.0	100
SEP 13...	0900	30	1	0.08	82

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (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, DISSOLVED, RADON METHOD (PCI/L)
OCT 03...	0950	68	<0.4	<0.4	1.3	1.0	<0.4	<0.4	0.08

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 mi^2.

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.--27 years, 137 ft^3/s, 29.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft^3/s, Apr. 4, 1987, gage height, 13.70 ft, from floodmarks, site and datum then in use, from rating curve extended above 3,000 ft^3/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 ft^3/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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	2000	*2,200	*7.67

No other peak greater than base discharge.

Minimum discharge, 16 ft^3/s, Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	200	e100	e110	321	e160	147	127	120	48	23	67
2	65	170	e94	e70	339	158	137	121	110	43	20	61
3	68	169	e86	e52	322	146	193	117	103	39	19	55
4	60	159	e82	e52	304	129	255	118	97	37	18	50
5	55	148	e82	e74	263	114	257	160	87	34	21	48
6	54	142	e84	e52	232	e100	246	144	81	34	70	44
7	51	132	e76	e46	206	e90	229	147	77	30	118	42
8	50	124	e70	e43	187	e86	207	160	73	29	75	38
9	48	146	e64	e42	189	e82	185	153	70	33	57	37
10	46	150	e60	e43	316	e82	201	324	68	31	54	38
11	48	145	e58	e43	323	89	566	838	63	29	72	34
12	45	141	e54	e40	300	192	441	598	59	56	59	31
13	43	134	e52	e37	269	265	365	616	54	64	59	29
14	42	130	e48	e35	252	303	316	800	52	47	71	27
15	52	126	e46	e34	229	294	295	604	50	43	57	40
16	49	222	e45	e36	329	282	259	488	46	41	51	32
17	58	266	e44	46	468	316	236	432	44	38	47	28
18	73	251	e42	69	391	387	209	372	43	35	43	26
19	101	230	e40	e66	352	337	185	330	47	33	42	25
20	1070	224	e38	e60	287	377	171	294	49	33	39	24
21	1140	214	e36	e62	244	344	168	330	42	35	38	23
22	601	180	e34	e64	229	324	153	301	41	31	36	22
23	399	164	e32	e68	309	352	142	283	52	35	35	22
24	307	146	e30	e80	323	343	135	262	51	33	187	20
25	249	135	e29	111	e260	320	132	232	43	29	314	19
26	208	131	e28	699	e210	285	126	206	39	27	213	19
27	177	122	e27	491	e190	243	119	182	36	26	166	18
28	154	133	e26	388	e180	210	115	160	34	24	136	17
29	135	125	e25	324	---	183	109	154	51	23	119	17
30	120	e110	e25	503	---	168	135	164	66	23	92	17
31	127	---	e60	363	---	154	---	135	---	22	78	---
TOTAL	5754	4869	1617	4203	7824	6915	6434	9352	1848	1085	2429	970
MEAN	186	162	52.2	136	279	223	214	302	61.6	35.0	78.4	32.3
MAX	1140	266	100	699	468	387	566	838	120	64	314	67
MIN	42	110	25	34	180	82	109	117	34	22	18	17
CFSM	2.91	2.55	.82	2.13	4.39	3.50	3.37	4.74	.97	.55	1.23	.51
IN.	3.36	2.84	.94	2.45	4.57	4.04	3.76	5.46	1.08	.63	1.42	.57

CAL YR 1989 TOTAL 50257.5 MEAN 138 MAX 1660 MIN 9.2 CFSM 2.16 IN. 29.35
WTR YR 1990 TOTAL 53300 MEAN 146 MAX 1140 MIN 17 CFSM 2.29 IN. 31.13

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 malfunctions of recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1963-76, 1978-80, 1982, 1985-86, 1989-90), 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, 24.5°C, July 5, 29, 30; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	13.5	9.5	11.5	11.0	8.0	9.5	1.5	.0	---	.0	.0	.0
2	13.5	12.0	12.5	9.0	7.0	8.0	---	---	---	.0	.0	.0
3	13.5	10.0	12.5	8.0	6.5	7.5	1.5	.0	---	.0	.0	.0
4	11.0	9.0	9.5	7.0	5.0	6.0	.0	.0	.0	---	.0	---
5	11.5	8.5	10.0	8.0	5.0	6.5	.0	.0	.0	---	.0	---
6	12.5	10.0	11.0	9.5	7.5	8.5	2.0	.0	1.0	---	---	---
7	11.5	10.0	11.0	9.0	7.0	8.0	2.0	.0	1.0	---	---	---
8	10.5	9.0	10.0	10.0	8.5	9.0	---	.0	---	.5	.0	.0
9	9.0	7.5	8.5	9.5	8.0	9.0	---	---	---	1.0	.0	.5
10	9.5	6.0	8.0	8.0	6.5	7.5	---	.0	---	1.0	.5	.5
11	10.5	8.5	9.5	7.5	6.0	7.0	1.0	.0	.5	1.5	1.0	1.0
12	12.0	7.0	9.5	7.0	5.0	6.5	1.5	.5	1.0	1.5	.0	1.0
13	12.5	9.0	10.5	7.0	5.0	6.0	1.0	.0	.5	---	.0	---
14	11.5	8.5	10.5	---	6.0	---	.0	.0	.0	---	---	---
15	13.5	10.5	12.0	10.5	9.0	10.0	.0	.0	.0	---	.0	---
16	14.5	11.5	13.0	12.0	7.0	10.5	.0	.0	.0	2.0	.0	1.0
17	13.0	11.0	12.0	7.0	5.0	6.0	.0	.0	.0	3.5	2.0	2.5
18	11.0	9.5	10.0	6.0	4.0	5.0	---	.0	---	4.5	3.0	4.0
19	9.5	8.5	9.0	5.0	3.5	4.0	---	.0	---	3.0	---	---
20	10.0	8.5	9.0	7.0	4.5	6.0	.0	.0	.0	1.0	.0	---
21	9.0	8.0	8.5	5.5	2.0	3.5	---	.0	---	---	---	---
22	8.5	8.0	8.0	3.5	1.5	2.5	---	.0	---	2.0	1.0	---
23	9.5	7.0	8.0	3.5	2.0	3.0	---	---	---	2.5	1.5	2.0
24	10.0	6.5	8.0	3.0	1.5	2.0	---	---	---	3.5	1.0	2.0
25	11.0	7.5	9.0	4.5	1.5	3.0	---	---	---	2.5	1.5	2.0
26	11.0	7.5	9.0	5.5	4.0	4.5	---	---	---	2.0	1.5	2.0
27	11.5	8.0	9.5	5.0	3.0	4.0	---	---	---	3.0	1.5	2.0
28	12.0	9.0	10.5	7.0	4.5	5.5	.0	.0	.0	4.0	2.0	2.5
29	11.5	8.5	10.0	4.5	1.0	2.5	---	.0	---	2.5	1.0	2.0
30	12.0	8.5	10.0	3.0	1.0	1.5	---	---	---	2.5	1.5	2.0
31	11.5	10.0	11.0	---	---	---	---	.0	---	3.5	1.0	2.0
MONTH	14.5	6.0	10.0	---	1.0	---	---	---	---	---	---	---

HUDSON RIVER BASIN

01362200 ESOPUS CREEK AT ALLABEN, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	4.0	1.5	2.5	3.0	---	---	5.5	4.0	5.0	15.5	8.5	11.5
2	3.5	3.0	3.5	4.5	.5	2.5	7.0	4.5	5.5	12.5	9.0	10.5
3	3.0	2.0	2.5	4.5	1.5	3.0	6.0	4.5	5.0	14.0	7.0	10.0
4	2.5	1.5	2.0	2.0	.0	---	5.0	4.0	4.5	13.0	8.0	10.0
5	2.5	.5	1.5	3.0	---	---	5.5	3.5	4.5	10.0	8.0	9.0
6	3.5	.5	2.0	3.0	---	---	6.5	4.0	5.0	12.5	7.5	10.0
7	4.0	2.0	3.0	---	---	---	7.5	3.5	5.0	11.0	7.5	9.0
8	4.5	1.5	3.0	3.0	.0	---	6.0	3.0	4.0	13.0	8.0	10.0
9	5.5	2.5	4.0	3.5	.0	---	8.0	2.5	5.0	14.0	8.5	11.0
10	4.0	2.0	3.5	6.0	2.5	4.0	6.5	4.5	5.5	11.5	10.0	10.5
11	3.5	1.5	2.5	7.5	3.5	5.0	7.0	3.5	5.5	9.5	7.0	8.0
12	3.0	1.5	2.0	6.0	4.5	5.0	5.5	3.0	4.0	10.0	6.5	8.0
13	4.5	1.0	2.5	10.0	4.0	6.5	7.0	2.5	4.5	9.0	7.5	8.5
14	4.0	3.0	4.0	10.0	5.5	7.0	6.5	3.0	4.5	12.0	8.0	9.5
15	3.0	.0	1.5	9.5	5.5	7.0	7.5	5.0	6.0	11.5	8.0	9.5
16	4.5	1.5	3.0	11.0	6.0	8.5	10.0	4.5	7.0	9.5	9.0	9.0
17	4.0	.5	2.5	10.0	7.5	9.0	6.5	4.5	5.5	9.5	9.0	9.5
18	3.0	.0	1.5	7.5	4.5	6.5	8.0	3.5	5.0	11.0	8.0	9.5
19	4.5	1.5	2.5	6.0	4.0	5.0	10.5	3.0	6.5	11.0	8.0	9.0
20	2.0	.0	1.0	5.0	3.0	4.0	8.0	5.5	7.0	9.5	8.0	8.5
21	4.0	.0	---	6.5	3.0	4.0	8.5	7.0	7.5	8.5	8.0	8.0
22	5.0	1.5	3.0	7.0	3.0	5.0	13.0	6.0	9.0	9.5	7.5	8.5
23	6.5	4.0	5.5	6.0	3.0	4.5	14.0	6.5	10.0	9.5	7.0	8.0
24	4.0	2.0	3.0	5.0	2.5	3.5	13.5	6.5	9.5	12.0	7.5	9.5
25	2.0	---	---	6.5	2.0	4.0	14.0	8.0	10.0	13.5	7.5	10.0
26	---	.0	---	5.0	2.0	3.5	17.5	9.0	12.5	12.5	8.0	10.0
27	---	.0	---	4.5	1.0	2.5	16.5	10.0	13.0	12.0	8.5	10.0
28	2.5	---	---	6.0	1.0	3.0	15.0	10.0	12.5	14.0	8.5	11.0
29	---	---	---	6.5	1.5	4.0	15.0	10.5	12.5	11.0	9.5	10.0
30	---	---	---	3.5	2.0	3.0	13.0	10.5	11.5	14.5	9.0	11.0
31	---	---	---	6.0	3.0	4.5	---	---	---	15.0	7.5	11.0
MONTH	---	---	---	---	---	---	17.5	2.5	7.0	15.5	6.5	9.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.5	8.5	12.0	18.5	14.5	16.5	23.0	16.5	19.5	18.0	13.0	15.5
2	16.0	9.5	13.0	20.5	14.5	17.0	23.0	15.5	19.5	18.5	14.5	16.0
3	17.0	12.0	14.0	21.0	14.0	17.5	24.0	17.0	20.0	18.5	15.0	16.0
4	14.0	10.5	12.5	23.5	15.5	19.5	24.0	17.0	20.5	18.0	12.5	15.5
5	16.5	9.0	12.0	24.5	18.5	21.0	20.5	17.5	18.5	18.0	14.0	16.0
6	15.5	9.5	12.0	18.5	14.5	16.0	18.5	16.5	17.5	19.5	15.5	17.0
7	18.0	11.5	14.5	19.5	13.0	16.0	18.5	16.5	17.5	18.0	15.5	16.5
8	13.5	10.5	12.5	18.0	13.5	16.0	20.5	15.5	17.5	17.5	14.0	15.5
9	15.5	11.5	13.0	19.0	15.5	17.0	20.5	15.5	18.0	14.0	11.0	13.0
10	16.0	12.0	14.0	22.5	16.0	18.5	18.0	16.5	17.5	18.5	13.0	15.5
11	13.5	11.5	13.0	17.5	15.0	16.0	20.0	16.0	18.0	19.0	14.5	16.5
12	18.5	10.0	14.0	15.0	14.0	14.5	22.0	16.0	19.0	19.5	15.5	17.0
13	15.5	11.0	13.5	19.5	13.5	16.0	21.5	16.5	18.5	20.0	15.5	17.5
14	14.0	12.5	13.0	18.0	14.0	16.0	20.5	16.5	18.5	19.0	15.5	17.0
15	17.5	12.5	14.5	19.5	15.5	17.5	21.5	15.0	17.5	17.5	15.5	16.5
16	19.5	13.5	16.0	21.5	16.5	18.5	21.5	15.0	18.0	15.0	13.5	14.0
17	19.5	14.0	16.5	22.5	15.5	19.0	22.5	16.0	19.0	13.5	11.0	12.5
18	18.0	14.5	16.5	23.5	16.5	19.5	22.0	16.5	19.0	13.5	9.0	11.0
19	18.0	14.0	16.0	24.0	17.0	20.0	19.0	15.5	17.5	11.5	9.0	10.5
20	16.5	14.0	15.5	23.0	17.5	20.0	16.0	14.5	15.5	14.0	11.0	12.5
21	19.0	13.5	16.0	22.0	17.5	19.5	16.0	14.5	15.0	14.5	9.5	12.0
22	19.5	14.5	17.0	21.5	17.0	19.5	19.5	14.5	17.0	12.5	12.0	12.5
23	18.0	15.0	16.0	20.0	18.0	19.0	17.0	15.5	16.5	13.5	10.5	12.0
24	18.0	14.0	16.0	21.5	17.0	19.5	16.5	14.0	15.5	13.0	10.5	11.5
25	20.5	13.5	16.0	24.0	17.0	20.0	15.5	13.5	14.5	14.0	9.0	11.5
26	21.5	13.5	17.0	24.0	17.0	20.0	16.5	13.5	14.5	12.5	10.5	11.5
27	19.0	14.5	17.0	23.0	17.0	20.0	16.5	13.5	15.0	15.5	11.5	13.5
28	22.0	15.0	18.0	24.0	17.0	20.5	18.0	14.0	15.5	16.5	12.5	14.0
29	19.0	15.0	16.5	24.5	17.5	21.0	18.0	14.5	16.0	16.0	12.0	14.0
30	18.0	15.0	16.0	24.5	17.5	21.0	18.5	13.5	15.5	16.0	13.5	14.5
31	---	---	---	21.0	17.5	19.0	18.0	13.0	15.5	---	---	---
MONTH	22.0	8.5	15.0	24.5	13.0	18.5	24.0	13.0	17.5	20.0	9.0	14.5

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 mi^2.

PERIOD OF RECORD.--January 1914 to current year. Monthly discharge only for some periods, 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. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,300 ft^3/s, Mar. 21, 1980, gage height 21.94 ft, from rating curve extended above 13,000 ft^3/s, on basis of slope-area measurements at gage heights 12.39 ft, 15.15 ft, and 20.70 ft; minimum daily, 8 ft^3/s, Oct. 14, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,900 ft^3/s, Oct. 20, gage height, 11.47 ft; minimum, 205 ft^3/s, Aug. 4, 5, gage height, 4.19 ft; minimum daily, 208 ft^3/s, Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	407	1310	700	618	1300	767	669	592	395	461	227	620
2	548	956	665	538	1390	744	645	627	668	437	218	579
3	580	850	683	517	1340	723	1080	607	647	419	211	550
4	503	760	617	519	1230	674	1150	602	624	407	208	528
5	465	684	644	588	1050	623	990	838	545	395	221	517
6	446	642	646	544	814	603	957	767	520	391	637	506
7	423	597	620	524	743	560	859	741	510	382	794	458
8	403	556	586	521	695	585	770	769	494	375	520	292
9	388	848	558	526	708	785	692	729	490	381	402	284
10	373	838	568	532	1170	787	699	1610	478	377	374	301
11	387	752	575	529	1130	811	1630	3180	459	376	654	280
12	369	689	554	528	995	1240	1240	1810	449	494	678	272
13	356	638	543	510	882	1340	1040	1830	432	523	502	264
14	347	607	500	502	844	1400	920	2200	424	441	569	363
15	393	622	537	507	785	1350	896	1620	424	429	461	899
16	376	1200	542	508	1060	1310	802	1390	418	400	407	847
17	447	1300	535	585	1600	1370	734	1370	407	290	425	726
18	525	1190	525	792	1220	1570	665	1200	402	278	527	264
19	639	1100	514	783	1090	1410	606	1010	455	266	514	253
20	5420	1060	517	760	916	2040	552	871	496	320	457	253
21	4060	1020	506	778	787	1940	455	1160	438	719	309	245
22	1870	924	485	773	762	1640	417	1030	434	706	297	241
23	1220	873	488	775	1070	1400	380	910	510	586	318	241
24	913	822	478	790	1090	1170	352	796	496	266	1740	238
25	737	788	476	942	888	1070	345	676	451	243	1660	241
26	644	776	476	3180	729	952	452	599	430	232	965	238
27	587	750	475	2110	720	834	470	528	416	225	708	238
28	588	796	469	1700	833	757	456	460	405	220	649	234
29	535	764	468	1520	---	690	442	445	438	215	595	230
30	493	733	465	2620	---	670	612	559	551	214	681	227
31	651	---	485	1750	---	652	---	407	---	227	991	---
TOTAL	26093	25445	16900	28369	27841	32467	21977	31933	14306	11695	17919	11429
MEAN	842	848	545	915	994	1047	733	1030	477	377	578	381
MAX	5420	1310	700	3180	1600	2040	1630	3180	668	719	1740	899
MIN	347	556	465	502	695	560	345	407	395	214	208	227

CAL YR 1989 TOTAL 285213 MEAN 781 MAX 8410 MIN 159
WTR YR 1990 TOTAL 266374 MEAN 730 MAX 5420 MIN 208

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 mi^2.

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 good except those for estimated daily discharges, which are poor. Flow from 256 mi^2 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 mi^2, together with spillage during high stages from the upstream reservoirs.

AVERAGE DISCHARGE.--20 years (water years 1971-90), 487 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 28,000 ft^3/s, Apr. 26, 1910, gage height, 25.10 ft, datum then in use; maximum discharge since March 1970, 22,500 ft^3/s, Apr. 5, 1987, gage height, 24.78 ft; minimum discharge, 9.7 ft^3/s, Sept. 16, 17, 1980, gage height, 11.79 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,980 ft^3/s, Oct. 20, gage height, 19.86 ft; minimum, 37 ft^3/s, July 30, 31, gage height, 12.25 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	698	e160	111	1000	303	362	228	295	124	66	159
2	268	589	e140	121	936	293	348	195	229	101	86	143
3	566	470	e130	118	1020	304	666	165	194	86	61	125
4	377	395	e120	109	842	297	1270	153	181	73	47	111
5	280	341	e120	109	737	253	1280	261	163	63	42	101
6	221	311	e110	e110	571	242	1140	301	147	56	355	95
7	187	290	e110	e100	536	e210	944	250	136	53	1480	89
8	158	265	e100	e98	498	e200	794	230	127	50	947	81
9	141	316	e98	e100	481	e200	632	213	123	49	470	75
10	125	416	e98	e98	788	e220	523	276	116	50	322	81
11	123	359	e100	e110	921	e270	946	1730	106	46	553	86
12	120	315	e110	e100	682	e330	1280	2850	99	99	840	76
13	111	281	e100	e96	532	e370	1270	2740	91	230	532	71
14	104	262	e84	e94	468	e390	1040	3540	85	168	696	67
15	118	254	e86	e96	428	e350	949	3130	103	132	460	73
16	119	270	e92	e100	612	e340	927	2390	103	181	323	84
17	134	343	e94	111	964	e390	755	2360	88	140	250	71
18	273	300	e90	161	710	917	688	2290	78	105	205	64
19	317	265	e86	216	580	729	507	1780	76	87	170	59
20	2900	251	e80	192	475	1440	369	1280	129	75	161	58
21	4480	244	e70	191	367	2350	324	1430	136	65	143	55
22	1660	221	e66	191	357	1260	296	1550	120	60	133	54
23	917	208	e60	189	522	852	252	1280	121	59	123	57
24	638	192	e58	192	597	628	222	1020	165	87	1130	55
25	489	182	e56	293	488	507	202	811	123	72	1420	51
26	401	179	e60	2860	356	428	196	625	102	61	709	48
27	345	178	e58	1930	322	368	180	480	86	52	452	47
28	299	191	e58	1050	333	325	166	377	76	46	345	45
29	268	201	e56	759	---	293	153	305	72	41	283	43
30	238	182	e56	2260	---	297	168	467	150	38	222	41
31	258	---	e58	1670	---	340	---	444	---	37	184	---
TOTAL	16770	8969	2764	13935	17123	15696	18849	35151	3820	2586	13210	2265
MEAN	541	299	89.2	450	612	506	628	1134	127	83.4	426	75.5
MAX	4480	698	160	2860	1020	2350	1280	3540	295	230	1480	159
MIN	104	178	56	94	322	200	153	153	72	37	42	41

CAL YR 1989 TOTAL 126865 MEAN 348 MAX 7060 MIN 21
WTR YR 1990 TOTAL 151138 MEAN 414 MAX 4480 MIN 37

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 mi^2, revised.

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

REVISED RECORDS.--WSP 1702: 1952.

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.--53 years, 98.1 ft^3/s, 34.78 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 7,600 ft^3/s, July 22, 1938, from rating curve extended above 2,600 ft^3/s; maximum gage height, 10.6 ft, Apr. 4, 1987, from floodmarks; minimum discharge, 3.3 ft^3/s, Sept. 16, 17, Oct. 17, 18, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	unknown	*a2,000	unknown	No other peak greater than base discharge.			

a Estimated.

Minimum discharge, 21 ft^3/s, Aug. 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	225	69	77	e170	e120	114	105	89	54	25	62
2	92	e120	64	40	e190	e110	111	92	82	46	22	57
3	94	e110	65	34	e190	e105	165	88	78	41	22	53
4	74	e100	53	33	e180	e100	159	90	75	38	21	49
5	67	e98	61	39	e140	94	138	156	70	36	35	47
6	65	e96	59	35	e120	89	130	122	66	36	170	45
7	61	e96	54	33	e120	83	124	115	63	35	150	43
8	57	e96	49	32	e110	81	116	111	57	33	79	40
9	54	e210	45	e30	e110	78	109	105	57	35	61	38
10	50	e150	46	e30	e340	81	124	e400	53	32	59	58
11	59	e110	46	e30	e230	91	e560	e600	49	31	89	41
12	51	e100	43	e31	e170	e200	e240	e290	45	97	69	37
13	46	e94	41	e29	e140	e260	e200	e540	42	85	63	35
14	44	e92	34	e27	e130	e240	e160	e640	42	53	71	34
15	48	e90	35	e29	e130	e200	174	e400	42	49	57	59
16	44	e250	37	e30	e270	e180	149	e400	39	48	52	40
17	68	e200	36	e32	e320	e250	138	e370	37	41	48	35
18	81	e150	34	76	e170	e330	125	e320	37	38	45	32
19	90	e130	36	64	e160	e320	116	e280	105	36	47	31
20	e960	e120	e34	54	e130	304	110	206	103	36	48	32
21	e640	e140	e33	60	e130	289	119	261	62	37	47	29
22	e340	e110	e32	57	e160	239	107	213	64	34	44	35
23	e260	e100	e31	54	e430	205	98	181	79	36	46	36
24	e200	88	e30	60	e370	173	92	160	71	35	210	30
25	e190	84	e29	108	e200	153	91	142	60	31	231	27
26	e160	84	e28	544	e160	139	85	130	53	28	139	26
27	e130	79	e27	e200	e140	125	81	119	49	27	115	26
28	104	e100	e26	e150	e130	115	78	108	46	26	98	24
29	95	e94	25	e140	---	107	75	119	47	25	94	23
30	88	76	25	e400	---	106	133	137	59	24	77	23
31	127	---	38	e220	---	109	---	101	---	24	68	---
TOTAL	4490	3592	1265	2778	5240	5076	4221	7101	1821	1227	2402	1147
MEAN	145	120	40.8	89.6	187	164	141	229	60.7	39.6	77.5	38.2
MAX	960	250	69	544	430	330	560	640	105	97	231	62
MIN	44	76	25	27	110	78	75	88	37	24	21	23
CFSM	3.78	3.13	1.07	2.34	4.89	4.28	3.67	5.98	1.58	1.03	2.02	1.00
IN.	4.36	3.49	1.23	2.70	5.09	4.93	4.10	6.90	1.77	1.19	2.33	1.11

CAL YR 1989 TOTAL 37640.6 MEAN 103 MAX 1550 MIN 7.5 CFSM 2.69 IN. 36.56
WTR YR 1990 TOTAL 40360 MEAN 111 MAX 960 MIN 21 CFSM 2.89 IN. 39.20

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 mi^2, revised (see REMARKS below).

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-86-1: 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 mi^2, together with spillage during high flow from Rondout Reservoir. Telephone gage-height telemeter at station. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,800 ft^3/s, Oct. 16, 1955, gage height, 36.8 ft, present datum, from floodmarks, from rating curve extended above 17,500 ft^3/s, on basis of contracted-opening measurement at gage height 33.93 ft, present datum; minimum discharge, 2.2 ft^3/s, July 16, 1965; minimum daily, 3.0 ft^3/s, July 16, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft^3/s, Oct. 20, gage height, 17.56 ft; minimum, 99 ft^3/s, Sept. 30, gage height, 9.05 ft; minimum daily, 101 ft^3/s, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	299	1940	e320	e350	1760	e560	847	927	675	342	196	275
2	557	1090	e280	e440	1990	e520	810	687	478	293	136	248
3	904	919	e260	e340	2350	e520	1660	497	416	218	116	229
4	578	804	e250	e330	1940	e480	2030	434	402	183	108	198
5	446	591	e240	e360	1690	e430	1380	1090	389	162	110	178
6	355	538	e230	e300	1210	e400	1070	1130	335	146	964	171
7	288	539	e230	e240	1220	e350	875	843	310	128	3450	164
8	252	491	e220	e250	1140	e350	735	656	287	118	1500	156
9	230	664	e230	e250	1090	e380	642	577	285	114	670	142
10	210	830	e240	e260	1790	453	602	782	275	112	427	145
11	213	626	e250	e300	1800	559	845	2810	247	106	671	154
12	237	560	e250	e320	1330	737	770	1600	231	315	728	142
13	224	587	e240	e270	1060	758	691	1800	213	1260	495	138
14	199	443	e190	e240	949	769	595	3250	212	623	538	134
15	198	440	e210	e260	899	708	731	2030	268	508	373	140
16	198	557	e230	e240	1510	649	819	1600	230	770	278	160
17	223	804	e230	e300	1910	772	650	2280	210	373	235	139
18	521	618	e220	e480	e1200	2040	624	2350	194	246	208	125
19	658	532	e210	e540	1040	1330	586	1620	350	191	191	116
20	5830	496	e200	e420	872	2820	545	1230	327	161	195	123
21	7130	528	e180	e450	704	3460	548	1590	245	142	200	126
22	2730	465	e170	e460	708	2010	476	1460	303	137	197	122
23	1670	404	e170	e400	1030	1490	418	1110	256	159	190	129
24	1200	351	e170	e400	1340	1170	375	926	271	448	594	133
25	842	346	e160	e700	e1000	931	355	743	223	227	2240	120
26	692	353	e160	4670	e700	798	359	637	195	172	1080	112
27	599	384	e150	2690	e640	665	328	538	175	145	728	112
28	541	446	e150	1790	e620	597	300	476	160	130	628	109
29	547	457	e150	1390	---	551	277	459	155	121	458	105
30	463	e360	e150	3920	---	577	821	1590	248	115	427	101
31	517	---	e190	2370	---	722	---	950	---	132	326	---
TOTAL	29551	18163	6530	25730	35492	28556	21764	38672	8565	8297	18657	4446
MEAN	953	605	211	830	1268	921	725	1247	285	268	602	148
MAX	7130	1940	320	4670	2350	3460	2030	3250	675	1260	3450	275
MIN	198	346	150	240	620	350	277	434	155	106	108	101

CAL YR 1989 TOTAL 238654 MEAN 654 MAX 9880 MIN 55
WTR YR 1990 TOTAL 244423 MEAN 670 MAX 7130 MIN 101

e Estimated

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).
MINOR ELEMENTS DATA: 1963 (c), 1964, 1988 (a), 1989-90 (b).
NUTRIENT DATA: 1963 (c), 1964, 1971-72 (a).
SEDIMENT DATA: 1989-90 (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 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
OCT 16...	1500	178	124	7.4	14.5	760	10.7	105	23
APR 19...	1000	570	96	7.7	7.5	780	12.2	100	--
MAY 09...	1100	584	95	7.6	14.5	760	10.3	101	--
JUN 26...	0800	198	1	7.9	20.0	763	10.4	114	--
AUG 28...	1100	650	86	7.5	21.0	756	8.5	96	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
OCT 16...	7.1	1.4	6.4	0.90	15	9.0	10	0.10	50
APR 19...	--	--	--	--	--	--	--	--	60
MAY 09...	--	--	--	--	--	--	--	--	100
JUN 26...	--	--	--	--	--	--	--	--	160
AUG 28...	--	--	--	--	--	--	--	--	190

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 16...	<1	4	130	1	20	<0.10	3	<10
APR 19...	<1	7	130	1	30	<0.10	5	<10
MAY 09...	<1	4	220	1	40	<0.10	<1	<10
JUN 26...	<1	4	330	1	30	<0.10	<1	<10
AUG 28...	3	4	400	3	40	<0.10	3	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 16...	1500	178	2	0.96
APR 19...	1000	570	6	9.2
MAY 09...	1100	584	4	6.3
JUN 26...	0800	198	9	4.8
AUG 28...	1100	650	8	14

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 mi^2.

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 good 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.--23 years (1925-32, 1958-71, 1990), 141 ft^3/s, 18.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,350 ft^3/s, Sept. 1, 1927, gage height, 10.5 ft, from graph based on gage readings, from rating curve extended above 2,300 ft^3/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, 2.2 ft^3/s, Aug. 30, 1966; 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 ft^3/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 ft^3/s, based on indirect measurements at Winterton and Ganahgote).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	2015	*3,440	*6.95	Mar. 20	1845	2,100	5.57
Jan. 26	0400	2,320	5.83	Aug. 7	0915	2,870	6.41
Jan. 30	0730	2,150	5.63				

Minimum discharge, 11 ft^3/s, Aug. 4, gage height, 0.65 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	627	e90	e43	498	e130	333	226	161	159	22	58
2	154	316	e70	e58	624	e140	260	140	120	88	20	52
3	232	213	e50	e66	660	205	565	106	104	53	18	53
4	131	178	e52	e62	606	183	575	97	101	41	16	45
5	91	149	e60	e64	545	136	345	425	89	35	19	41
6	76	144	e70	e70	360	129	254	282	75	29	193	38
7	68	143	e56	e64	368	e100	214	176	88	27	1350	37
8	59	135	e58	e58	326	116	191	141	88	26	382	34
9	54	231	e58	e54	298	125	162	122	76	26	171	29
10	51	273	e56	e52	411	148	150	292	76	26	106	31
11	55	189	e52	e64	355	177	188	932	64	25	158	33
12	57	150	e50	e72	257	180	161	365	56	83	143	30
13	52	126	e46	e68	208	164	133	363	51	332	215	30
14	48	117	e43	e60	198	139	120	624	49	140	833	30
15	46	116	e47	e58	196	125	228	347	92	127	231	41
16	46	156	e48	e54	445	118	229	356	77	353	118	57
17	76	198	e47	e62	479	166	164	614	61	155	80	44
18	162	142	e39	e86	263	451	141	748	52	83	68	39
19	303	e100	e36	e250	210	253	122	376	103	56	58	36
20	1960	e100	e35	e170	183	951	112	264	78	44	57	39
21	1720	131	e34	e220	e130	882	125	414	61	39	55	44
22	631	115	e33	e290	150	416	136	350	61	38	55	41
23	372	110	e32	e260	268	298	113	232	51	38	53	42
24	261	105	e31	e250	480	239	100	184	48	51	92	32
25	208	106	e29	e580	317	203	99	151	42	40	375	38
26	174	114	e28	e1700	e150	175	106	128	37	32	156	35
27	151	122	e27	786	e110	150	94	121	35	28	105	42
28	134	142	e26	438	e120	134	85	108	32	26	112	44
29	122	140	e26	339	---	127	79	129	32	24	150	38
30	110	110	e25	1560	---	155	345	704	83	23	104	29
31	148	---	e29	802	---	287	---	284	---	22	71	---
TOTAL	7827	4998	1383	8760	9215	7202	5929	9801	2143	2269	5586	1182
MEAN	252	167	44.6	283	329	232	198	316	71.4	73.2	180	39.4
MAX	1960	627	90	1700	660	951	575	932	161	353	1350	58
MIN	46	100	25	43	110	100	79	97	32	22	16	29
CFSM	2.48	1.63	.44	2.77	3.23	2.28	1.94	3.10	.70	.72	1.77	.39
IN.	2.85	1.82	.50	3.19	3.36	2.63	2.16	3.57	.78	.83	2.04	.43

CAL YR 1989 TOTAL 65429 MEAN 179 MAX 2560 MIN 10 CFSM 1.76 IN. 23.86
WTR YR 1990 TOTAL 66295 MEAN 182 MAX 1960 MIN 16 CFSM 1.78 IN. 24.18

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 mi^2, revised.

PERIOD OF RECORD.--September 1924 to current year.

REVISED RECORDS.--WSP 756: 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.--66 years, 1,065 ft^3/s, 20.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,800 ft^3/s, Oct. 16, 1955, gage height, 19.81 ft; minimum, 9.5 ft^3/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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	0230	*11,500	10.37	Mar. 21	0030	7,170	7.86
Jan. 26	0245	ice jam	a*12.44	Aug. 7	1600	7,650	8.16
Jan. 26	1130	8,860	8.89	Aug. 13	2330	7,490	8.06
Jan. 30	1545	8,240	8.52				

a Ice jam.

Minimum discharge, 96 ft^3/s, July 10, 12, gage height, 2.16 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	847	3660	e600	e300	5060	e1200	1990	1340	1930	783	198	562
2	960	2720	e480	e400	4760	1260	1740	945	1420	780	188	468
3	1580	2080	e430	e460	4670	1450	2770	697	1070	523	165	411
4	1240	1730	e450	e440	3930	1390	3720	632	921	368	166	360
5	868	1450	e480	e450	3990	e980	2860	1770	783	311	136	309
6	670	1290	e500	e490	2960	e860	2260	2050	673	246	446	290
7	611	1220	e400	e450	2680	e780	1860	1510	618	226	5230	286
8	512	1050	e420	e410	2420	e760	1640	1130	635	190	4340	258
9	461	1330	e410	e380	2210	e800	1440	913	603	175	2320	241
10	419	2050	e400	e370	2450	949	1290	1110	618	167	1530	236
11	400	1680	e380	e450	2490	1190	1290	3720	584	174	1630	233
12	421	1320	e360	e500	2140	1260	1290	2730	509	334	2140	242
13	423	1050	e330	e470	1820	1160	1100	2380	432	1620	2490	232
14	378	960	e290	e420	1650	1020	929	2920	424	1620	4990	219
15	357	866	e310	e400	1550	892	1150	2200	622	1420	2660	267
16	325	988	e330	e380	2400	824	1440	1990	784	2790	1700	581
17	382	1410	e340	e440	2810	881	1180	2930	620	1510	1090	558
18	1110	1230	e300	e600	2020	2120	970	4320	450	827	798	375
19	1730	939	e280	e760	e1500	1910	878	2990	619	569	619	301
20	7500	865	e260	e700	e1200	3610	793	2400	691	429	524	321
21	9740	866	e250	e620	e1000	5850	771	2470	742	363	525	329
22	7280	828	e240	e700	961	3690	955	2310	611	314	487	309
23	6350	712	e230	e660	1490	2760	947	1780	472	357	553	285
24	5410	641	e220	e1000	2830	2170	788	1420	415	1140	780	279
25	4080	667	e210	e2200	2670	1810	720	1150	354	969	1830	269
26	2900	685	e200	e8000	e1700	1570	728	930	316	625	1400	229
27	2120	772	e195	6270	e1300	1350	714	846	280	347	927	231
28	1690	840	e190	4240	e1150	1160	643	785	246	305	743	217
29	1410	866	e185	3260	---	1050	585	762	253	255	779	215
30	1210	750	e180	6870	---	1050	1560	3450	394	228	1020	198
31	1570	---	e200	6540	---	1710	---	2730	---	203	760	---
TOTAL	64954	37515	10050	49630	67811	49466	41001	59310	19089	20168	43164	9311
MEAN	2095	1250	324	1601	2422	1596	1367	1913	636	651	1392	310
MAX	9740	3660	600	8000	5060	5850	3720	4320	1930	2790	5230	581
MIN	325	641	180	300	961	760	585	632	246	167	136	198
CFSM	3.01	1.80	.47	2.30	3.48	2.30	1.97	2.75	.92	.94	2.00	.45
IN.	3.48	2.01	.54	2.66	3.63	2.65	2.19	3.17	1.02	1.08	2.31	.50

CAL YR 1989 TOTAL 476572 MEAN 1306 MAX 10300 MIN 78 CFSM 1.88 IN. 25.51
WTR YR 1990 TOTAL 471469 MEAN 1292 MAX 9740 MIN 136 CFSM 1.86 IN. 25.24

e Estimated

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 mi^2.

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).
MINOR ELEMENTS DATA: 1969 (c), 1970-71 (d), 1972 (b), 1973-75 (d), 1988 (a), 1989-90 (b).
RADIOCHEMICAL DATA: 1974 (a), 1975 (d).
ORGANIC DATA: 1975 (a), 1981 (b).
NUTRIENT DATA: 1969 (c), 1970-71 (d), 1972 (b), 1973-75 (d), 1988 (a).
BIOLOGICAL DATA: 1973-75 (d).
SEDIMENT DATA: 1973 (a), 1974 (b), 1975, 1988 (a), 1989-90 (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 1989 TO SEPTEMBER 1990

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT 16...	1600	238	--	17.0	760	--	--	79	24
APR 19...	1300	90	7.2	9.0	780	11.2	95	--	--
MAY 09...	1300	175	6.8	16.0	757	9.6	98	--	--
JUN 18...	1500	170	7.2	21.0	--	8.3	--	--	--
AUG 28...	1300	211	7.5	24.5	756	6.9	83	--	--

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
OCT 16...	4.7	11	1.4	60	21	17	0.10	530
APR 19...	--	--	--	--	--	--	--	1300
MAY 09...	--	--	--	--	--	--	--	1200
JUN 18...	--	--	--	--	--	--	--	1600
AUG 28...	--	--	--	--	--	--	--	820

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 16...	<1	12	920	3	70	<0.10	2	<10
APR 19...	<1	13	2700	4	70	<0.10	3	20
MAY 09...	<1	10	2000	4	120	0.10	3	20
JUN 18...	<1	12	2700	5	260	<0.10	3	10
AUG 28...	<1	17	1300	4	90	<0.10	4	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SEDIMENT, SUSPENDED (MG/L)
OCT 16...	1600	29
APR 19...	1300	42
MAY 09...	1300	50
JUN 18...	1500	83
AUG 28...	1300	44

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 mi^2.

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.--62 years (water years 1929-90), 255 ft^3/s, 19.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,600 ft^3/s, Aug. 19, 1955, gage height, 19.60 ft, from floodmarks in gage shelter, from rating curve extended above 6,000 ft^3/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 ft^3/s, Sept. 20, 21, 1964, gage height, 2.05 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	1145	*2,610	*7.38	Mar. 21	0800	2,150	6.80
Jan. 26	2015	1,540	5.96	Apr. 4	1615	1,550	5.97
Jan. 30	1730	2,160	6.82				

Minimum discharge, 23 ft^3/s, Aug. 3, 4, 5, 6; minimum gage height, 2.58 ft, Aug. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	502	185	97	1050	e345	507	233	405	178	28	158
2	119	467	e145	166	926	354	456	207	335	124	27	142
3	167	394	154	129	941	399	597	192	294	97	25	129
4	139	360	e120	119	789	404	1390	194	328	83	24	116
5	113	319	e130	124	736	344	1190	299	287	72	23	107
6	102	297	135	123	626	322	897	317	241	63	53	102
7	94	285	134	109	605	e266	739	252	225	61	742	98
8	87	272	e105	104	582	e264	637	222	207	55	592	93
9	78	294	e100	100	544	275	558	204	213	55	293	85
10	74	377	e105	108	626	286	514	232	249	53	228	82
11	80	317	109	138	698	306	552	640	203	50	607	81
12	84	283	103	135	580	358	498	546	179	96	485	77
13	81	257	e92	e115	504	403	432	513	155	261	356	72
14	74	239	e70	e98	478	361	388	638	142	178	782	66
15	83	239	e80	106	456	336	441	570	162	124	500	84
16	93	268	89	100	586	314	478	517	147	98	341	91
17	104	343	e85	109	717	323	400	661	125	83	260	77
18	177	287	e79	165	573	679	381	783	112	70	215	68
19	204	257	e73	195	525	654	341	678	139	62	183	64
20	861	242	e67	151	476	886	315	560	190	57	170	65
21	2310	246	e63	162	395	1980	328	637	157	58	160	62
22	1420	217	e61	169	393	1470	347	670	131	57	148	61
23	872	205	e59	158	496	1090	306	547	116	60	152	64
24	677	195	e57	164	633	879	279	472	108	65	332	60
25	549	194	e55	261	545	740	272	405	95	56	530	56
26	468	199	e54	1160	e405	648	286	359	85	47	413	53
27	411	202	e53	1150	e385	563	258	328	77	41	312	52
28	370	218	e52	786	e400	504	239	350	73	37	267	50
29	330	231	e51	648	---	464	221	324	73	35	246	48
30	301	197	e50	1710	---	461	235	657	190	33	216	47
31	295	---	e58	1560	---	533	---	538	---	31	181	---
TOTAL	10928	8403	2773	10419	16670	17211	14482	13745	5443	2440	8891	2410
MEAN	353	280	89.5	336	595	555	483	443	181	78.7	287	80.3
MAX	2310	502	185	1710	1050	1980	1390	783	405	261	782	158
MIN	74	194	50	97	385	264	221	192	73	31	23	47
CFSM	1.95	1.55	.49	1.86	3.29	3.07	2.67	2.45	1.00	.43	1.58	.44
IN.	2.25	1.73	.57	2.14	3.43	3.54	2.98	2.82	1.12	.50	1.83	.50

CAL YR 1989 TOTAL 112933 MEAN 309 MAX 3890 MIN 19 CFSM 1.71 IN. 23.21
WTR YR 1990 TOTAL 113815 MEAN 312 MAX 2310 MIN 23 CFSM 1.72 IN. 23.39

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 mi^2.

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.--Records good except those for estimated daily discharges and those below 300 ft^3/s, which are poor. 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 ft^3/s, Oct. 16, 1955, gage height, 18.44 ft, from floodmarks, from rating curve extended above 9,700 ft^3/s, on basis of slope-area measurements of peak flow; minimum daily discharge, 0.1 ft^3/s, Mar. 14, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,680 ft^3/s, Aug. 11, gage height, 7.50 ft; minimum daily, 9.2 ft^3/s (estimated), Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e9.4	923	427	149	e1700	581	808	996	974	355	80	242
2	e9.4	792	375	e180	e1400	547	749	677	813	369	51	188
3	e9.6	678	349	e180	e1500	581	1100	520	704	270	49	165
4	e10	618	317	e170	e1400	580	1640	455	603	207	50	124
5	e9.8	529	256	166	e1700	510	1390	1120	488	181	48	95
6	e9.8	474	238	156	e1200	549	1250	1200	398	143	211	87
7	e9.8	440	245	143	e1000	483	1180	875	405	101	1080	75
8	e9.4	405	231	e120	e920	414	1050	728	382	72	1080	75
9	e9.4	629	204	169	e880	410	889	627	347	60	1150	38
10	e9.2	887	167	176	e960	440	806	863	363	70	2250	47
11	10	686	146	226	e1200	470	900	2570	335	69	5190	51
12	9.9	569	139	226	e1100	509	836	1840	278	166	4780	47
13	10	486	148	197	953	506	703	1540	215	560	3300	54
14	12	470	132	172	885	477	631	1880	196	387	2630	51
15	11	472	127	e180	845	435	995	1500	280	280	1880	312
16	11	709	141	e190	957	406	1130	1400	246	290	1450	372
17	12	1130	127	e170	976	407	885	1770	198	236	1140	237
18	10	811	121	e160	819	730	814	1620	175	185	822	148
19	9.5	657	e120	e170	748	705	704	1430	207	138	935	115
20	20	639	e110	e170	707	1110	629	1280	261	107	1190	135
21	2360	659	e110	e380	605	2080	787	1330	245	100	749	119
22	3050	524	e100	e600	590	1570	905	1280	362	115	563	118
23	2590	519	e94	e600	732	1380	740	1040	296	204	509	131
24	1960	457	e90	e520	1030	1210	622	855	225	264	865	104
25	1500	425	e92	e500	994	1020	601	731	169	169	1190	82
26	1140	444	e96	e1400	803	889	607	660	134	126	827	73
27	861	479	e90	e1700	672	771	547	604	109	101	639	66
28	753	570	e96	e1300	629	680	479	526	99	85	531	60
29	675	582	e100	e1200	---	639	457	593	99	71	556	55
30	548	459	e110	e2600	---	723	1060	1640	233	64	443	54
31	537	---	e130	e2100	---	882	---	1320	---	66	319	---
TOTAL	16185.2	18122	5228	16370	27905	22694	25894	35470	9839	5611	36557	3520
MEAN	522	604	169	528	997	732	863	1144	328	181	1179	117
MAX	3050	1130	427	2600	1700	2080	1640	2570	974	560	5190	372
MIN	9.2	405	90	120	590	406	457	455	99	60	48	38

CAL YR 1989 TOTAL 152774.3 MEAN 419 MAX 6600 MIN 7.5
WTR YR 1990 TOTAL 223395.2 MEAN 612 MAX 5190 MIN 9.2

e Estimated

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 mi^2. 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 ft^3 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 (1951-86).--Maximum contents observed, 3,136 mil ft^3, June 22, 1972, elevation, 552.8 ft; minimum observed, 2.0 mil ft^3, 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, 3,052 mil ft^3, May 18, elevation, 552.1 ft; minimum observed, 1,750 mil ft^3, Jan. 8, 14, Mar. 11, elevation, 540.0 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 mi^2. 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 ft^3 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 mi^2. 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 ft^3, Oct. 2, 1945, elevation, 1,230.2 ft; minimum observed (after initial filling), not determined.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,706 mil ft^3, Mar. 18, elevation, 1,227.9 ft; minimum observed, 1,607 mil ft^3, Jan. 18, elevation, 1,207.2 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 mi^2. 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, 50,540 mil gal, May 11, elevation, 591.06 ft, in East basin, 82,238 mil gal, May 12, elevation, 588.03 ft; minimum observed, in West basin, 32,207 mil gal, Jan. 24, elevation, 571.06 ft, in East basin, 59,389 mil gal, Oct. 31, elevation, 573.62 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 mi^2. 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, 52,354 mil gal, May 17, elevation, 839.88 ft; minimum observed, 41,351 mil gal, Oct. 7, elevation, 822.82 ft.

HUDSON RIVER BASIN

RESERVOIRS IN HUDSON RIVER BASIN--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet) ‡	Contents (million ft³)	Change in contents (equivalent in ft³/s)	Elevation (feet) ‡	Contents (million ft³)	Change in contents (equivalent in ft³/s)
	01335900 Delta Reservoir			01343900 Hinckley Reservoir		
Sept. 30	546.8	2,438		1,220.2	2,772	
Oct. 31	549.3	2,716	+104	1,222.8	3,062	+108
Nov. 30	550.0	2,800	+ 32.4	1,223.2	3,108	+ 17.7
Dec. 31	541.8	1,920	-329	1,209.4	1,782	-495
CAL YR 1989	-	-	- 17.8	-	-	+ 43.3
Jan. 31	545.9	2,339	+156	1,214.6	2,225	+165
Feb. 28	541.2	1,860	-198	1,218.6	2,610	+159
Mar. 31	550.5	2,860	+373	1,220.1	2,761	+ 56.4
Apr. 30	550.4	2,848	- 4.63	1,223.3	3,119	+138
May 31	550.4	2,848	0.0	1,223.0	3,085	- 12.7
June 30	549.2	2,704	- 55.6	1,221.6	2,926	- 61.3
July 31	548.0	2,570	- 50.0	1,215.6	2,314	-228
Aug. 31	545.2	2,262	-115	1,213.0	2,084	- 85.9
Sept. 30	541.9	1,930	-128	1,208.0	1,670	-160
WTR YR 1990	-	-	- 16.1	-	-	- 34.9

Date	Elevation (feet) ‡‡	Contents (million gallons)	Change in contents (equivalent in ft³/s)	Elevation (feet) ‡‡	Contents (million gallons)	Change in contents (equivalent in ft³/s)	Elevation (feet) ‡‡‡	Contents (million gallons)	Change in contents (equivalent in ft³/s)
	01363398 Ashokan Reservoir West Basin			01363399 Ashokan Reservoir East Basin			01366400 Rondout Reservoir		
Sept. 30	580.34	40,115		576.97	64,413		823.67	41,871	
Oct. 31	590.27	49,704	+479	573.62	59,389	-251	834.41	48,690	+340
Nov. 30	584.75	44,206	-284	578.35	66,541	+369	832.83	47,654	- 53.4
Dec. 31	575.23	35,639	-428	579.71	68,638	+105	826.52	43,633	-201
CAL YR 1989	-	-	+ 27.1	-	-	+ 86.6	-	-	+ 19.1
Jan. 31	578.99	38,918	+164	580.47	69,843	+ 60.1	831.99	47,109	+173
Feb. 28	589.23	48,651	+538	581.14	70,925	+ 59.8	833.42	48,040	+ 51.4
Mar. 31	590.30	49,736	+ 54.2	587.05	80,594	+483	834.74	48,907	+ 43.3
Apr. 30	590.28	49,714	- 1.13	586.59	79,823	- 39.8	839.05	51,788	+149
May 31	590.22	49,651	- 3.14	587.19	80,829	+ 50.2	838.89	51,680	- 5.39
June 30	590.25	49,683	+ 1.65	584.38	76,154	-241	835.08	49,131	-131
July 31	590.06	49,482	- 10.0	578.29	66,448	-484	831.05	46,502	-131
Aug. 31	589.04	48,462	- 50.9	576.57	63,796	-132	835.16	49,184	+134
Sept. 30	578.97	38,901	-493	576.72	64,028	+ 12.0	827.44	44,209	-257
WTR YR 1990	-	-	- 5.15	-	-	- 1.63	-	-	+ 9.91

‡ Elevation at 2400 hours by interpolation.
‡‡ Daily elevation 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 1989 TO SEPTEMBER 1990

Month	01343899 Hinckley Reservoir	01362230 Schoharie Reservoir	01363401 Ashokan Reservoir	01366399 Rondout Reservoir
October.....	30.7	221	859	1,047
November.....	28.0	361	911	963
December.....	29.9	510	899	1,268
CAL YR 1989	32.4	398	810	1,125
January.....	30.9	594	894	1,167
February.....	30.9	147	688	1,164
March.....	29.4	410	701	1,277
April.....	30.0	88.1	706	1,181
May.....	30.4	90.4	704	1,237
June.....	31.9	392	788	1,400
July.....	33.4	363	901	1,388
August.....	33.3	268	898	1,196
September.....	33.0	348	869	1,395
WTR YR 1990	31.0	318	819	1,224

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 mi^2, revised.

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 999 ft^3/s, Oct. 20, gage height, 9.32 ft; minimum daily, 17 ft^3/s, Dec. 26-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	112	38	31	101	42	62	96	69	68	24	25
2	66	86	31	30	90	39	57	68	52	61	20	22
3	90	70	33	28	90	40	131	44	41	39	20	26
4	67	54	28	27	104	40	171	37	36	29	20	22
5	47	42	23	28	119	33	93	119	29	25	21	23
6	36	37	23	28	90	44	78	143	23	22	42	23
7	30	34	24	27	78	38	74	87	30	21	215	23
8	23	31	22	27	70	28	65	68	25	20	116	25
9	19	72	22	35	65	29	55	58	27	21	67	22
10	41	92	21	40	71	32	50	113	29	21	150	22
11	24	74	20	45	73	34	63	354	31	20	429	21
12	19	59	20	43	67	36	58	118	26	29	230	22
13	19	45	21	38	57	35	47	92	21	66	99	21
14	18	39	19	32	55	33	41	213	22	53	133	22
15	19	38	19	31	54	32	85	99	34	48	86	32
16	20	50	22	31	67	31	90	110	28	58	66	22
17	38	59	21	31	69	33	77	222	24	43	52	23
18	86	49	21	34	56	61	67	132	23	32	41	22
19	147	41	21	36	51	55	52	91	51	24	37	23
20	624	37	20	36	50	137	45	76	79	20	33	23
21	484	49	19	77	38	223	58	79	60	24	30	21
22	145	33	19	89	38	96	67	77	79	26	24	24
23	98	41	18	75	51	79	59	61	56	42	25	23
24	79	29	18	64	92	66	49	51	40	90	40	22
25	70	28	18	79	82	56	46	39	31	66	53	22
26	60	31	17	156	65	51	46	35	24	43	45	22
27	50	31	17	123	53	44	42	33	20	30	38	21
28	44	50	18	84	49	37	38	29	22	24	32	21
29	39	51	18	82	---	35	36	55	24	21	45	21
30	35	39	20	391	---	51	83	244	39	20	38	21
31	48	---	21	160	---	69	---	98	---	22	30	---
TOTAL	2611	1503	672	2038	1945	1659	1985	3141	1095	1128	2301	682
MEAN	84.2	50.1	21.7	65.7	69.5	53.5	66.2	101	36.5	36.4	74.2	22.7
MAX	624	112	38	391	119	223	171	354	79	90	429	32
MIN	18	28	17	27	38	28	36	29	20	20	20	21

CAL YR 1989 TOTAL 17809 MEAN 48.8 MAX 897 MIN 16
WTR YR 1990 TOTAL 20760 MEAN 56.9 MAX 624 MIN 17

01377000 HACKENSACK RIVER AT RIVERVALE, NJ

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

DRAINAGE AREA.--58.0 mi^2.

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Records good except those above 500 ft^3/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, other than those published, were made during the year. Hackensack Water Co. gage-height telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990, DAILY-MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	161	70	120	186	77	110	131	144	115	103	88
2	119	147	59	111	153	72	101	123	111	117	109	96
3	131	127	56	108	146	71	180	97	91	88	110	106
4	112	105	50	109	159	70	339	79	82	67	110	115
5	87	88	45	109	178	61	204	199	68	55	108	125
6	72	79	43	108	154	69	149	252	56	46	161	138
7	62	77	43	108	131	66	133	180	95	41	123	125
8	52	72	40	106	113	58	117	132	77	49	174	132
9	47	141	39	85	102	56	99	106	65	57	142	156
10	62	161	39	45	112	57	90	141	59	74	221	157
11	94	135	37	42	118	60	118	732	55	75	801	151
12	94	114	37	40	108	62	108	312	49	83	881	139
13	102	93	37	39	93	60	91	176	43	72	244	129
14	102	82	37	59	88	59	78	310	43	53	253	120
15	113	78	36	83	88	61	154	231	77	80	177	94
16	113	86	40	83	101	67	184	216	63	162	126	39
17	118	99	51	84	105	73	149	635	53	108	101	40
18	40	86	62	84	90	108	127	315	52	80	83	43
19	54	76	71	85	83	93	100	182	101	60	75	80
20	599	67	89	87	79	e230	86	142	222	48	65	85
21	1460	76	94	106	66	e600	102	131	137	42	64	80
22	479	61	99	78	64	206	114	127	133	51	86	86
23	178	68	99	42	82	148	103	111	117	54	94	45
24	138	63	103	41	133	118	88	98	93	83	99	50
25	122	55	108	56	136	100	83	84	73	91	94	80
26	108	59	110	67	112	90	83	76	57	77	92	79
27	98	61	113	47	94	79	77	75	48	63	100	77
28	88	92	112	43	87	69	71	66	44	50	95	74
29	80	92	111	46	---	64	69	98	44	42	104	74
30	73	77	110	199	---	87	130	420	85	39	91	74
31	86	---	112	394	---	119	---	256	---	80	90	---
MEAN	166	92.6	69.4	90.8	113	104	121	201	81.2	71.0	167	95.9
MAX	1460	161	113	394	186	600	339	732	222	162	881	157
MIN	40	55	36	39	64	56	69	66	43	39	64	39

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	59.6	74.1	80.0	88.9	94.5	136	141	106	74.4	78.2	72.1	63.9
MAX	312	239	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 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	115		89.1	
HIGHEST ANNUAL MEAN			156	1952
LOWEST ANNUAL MEAN			30.9	1981
HIGHEST DAILY MEAN	1460	Oct 21	2190	May 31 1984
LOWEST DAILY MEAN	36	Dec 15	5.8	Sep 1 1953
INSTANTANEOUS PEAK FLOW	1700a	Aug 12	2530	May 17 1989
INSTANTANEOUS PEAK STAGE	5.97a	Aug 12	8.08	May 17 1989
INSTANTANEOUS LOW FLOW	20	Oct 19	.00	Jan 16 1970
10 PERCENTILE	171		176	
50 PERCENTILE	91		61	
95 PERCENTILE	42		17	

a Maximum stage and discharge may have been higher on Oct. 21 when intake was sluggish.
e Estimated.

RESERVOIRS IN HACKENSACK RIVER BASIN

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

01376950 LAKE TAPPAN.--Lat 41°01'05", long 74°00'05", Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River, 0.5 mi north of Old Tappan. DRAINAGE AREA, about 49.0 mi^2. PERIOD OF RECORD, October 1966 to current year. 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 mi^2. 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 mi^2. PERIOD OF RECORD, December 1922 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722. REVISED RECORDS.--WDR NJ-84-1: Spillway elevation, 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 1989 TO SEPTEMBER 1990

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.....	85.13	5,713	-	55.12	3,895	-
Oct. 31.....	85.34	5,782	+3.4	55.28	3,953	+2.9
Nov. 30.....	85.25	5,752	-1.5	55.22	3,931	-1.1
Dec. 31.....	85.13	5,713	-1.9	53.32	3,263	-33.3
CAL YR 1989	..		+8.7			-3.3
Jan. 31.....	85.37	5,792	+3.9	55.40	3,997	+36.6
Feb. 28.....	85.18	5,729	-3.5	55.20	3,924	-4.0
Mar. 31.....	85.26	5,756	+1.3	55.27	3,949	+1.2
Apr. 30.....	85.36	5,789	+1.7	55.31	3,964	+.8
May 31.....	85.31	5,772	-.8	55.34	3,975	+.5
June 30.....	85.10	5,703	-3.6	55.19	3,920	-2.8
July 31.....	84.97	5,660	-2.1	55.00	3,852	-3.4
Aug. 31.....	85.13	5,713	+2.6	54.81	3,784	-3.4
Sept. 30.....	84.45	5,491	-11.4	51.40	2,633	-59.4
WTR YR 1990	-	-	-.9	-	-	-5.3

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)
	01377450 WOODCLIFF LAKE			01378480 ORADELL RESERVOIR		
Sept. 30.....	87.12	460	-	21.01	2,947	-
Oct. 31.....	91.45	676	+10.8	23.17	3,509	+28.0
Nov. 30.....	91.00	652	-1.2	23.10	3,490	-.98
Dec. 31.....	90.50	626	-1.3	20.87	2,912	-28.8
CAL YR 1989			+.4			+2.2
Jan. 31.....	91.11	658	+1.6	23.40	3,572	+32.9
Feb. 28.....	90.97	651	-.4	22.03	3,205	-20.3
Mar. 31.....	91.06	655	+.2	22.60	3,355	+7.5
Apr. 30.....	91.16	661	+.3	23.00	3,463	+5.6
May 31.....	94.90	865	+10.2	23.00	3,463	0
June 30.....	94.00	815	-2.6	22.38	3,297	-8.6
July 31.....	90.36	619	-9.8	21.77	2,138	-7.9
Aug. 31.....	91.69	689	+3.5	21.80	2,146	+.4
Sept. 30.....	90.79	641	-2.5	22.11	2,226	+4.1
WTR YR 1990	-	-	+.7	-	-	-3.1

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

DIVERSIONS INTO AND FROM HACKENSACK RIVER BASIN

01376272 Hackensack Water Co., diverts water from Sparkill Creek (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 1989 TO SEPTEMBER 1990

MONTH	01376699 SPRING VALLEY WATER CO.	01376810 WEST NYACK, NY	01378490 HACKENSACK WATER CO.
October	6.15	2.68	156
November	2.41	2.38	148
December	0	2.59	150
CAL YR 1989	4.40	2.65	156
January	0	2.61	149
February	0	2.53	146
March	0	2.57	146
April	0	2.62	141
May	6.39	2.65	145
June	13.3	2.69	170
July	11.3	2.79	178
August	10.6	2.79	172
September	7.64	2.60	163
WTR YR 1990	4.84	2.63	156

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	0	0	0.30
November	0	0	0	0	.12
December	0	0	0	0	0
CAL YR 1989	0	0	8.89	.06	.23
January	0	0	0	0	.05
February	0	0	0	0	.05
March	0	0	0	0	.10
April	0	0	0	0	.21
May	0	0	1.72	0	.45
June	0	0	4.17	0	.39
July	0	0	11.0	0	.39
August	0	0	19.7	0	.46
September	0	0	29.9	0	.47
WTR YR 1990	0	0	5.55	0	.25

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 mi^2, revised.

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

REVISED RECORDS.--WDR NY-81-1: 1980(m).

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 except those for estimated daily discharges, which are poor. Occasional regulation by Lake Sebago.

AVERAGE DISCHARGE.--11 years, 168 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft^3/s, Apr. 5, 1984, gage height, 13.82 ft, from rating curve extended above 3,600 ft^3/s on basis of runoff comparison with station 1.5 mi downstream; minimum discharge, 5.3 ft^3/s, Aug. 7, 1983, gage height, 1.27 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,050 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	0400	*3,120	*7.25	Aug. 7	1800	1,480	5.01
Jan. 30	1500	1,310	4.73				

Minimum discharge, 27 ft^3/s, July 31, Aug. 5, 6, Sept. 30; minimum gage height, 1.72 ft, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	389	116	75	560	175	200	188	304	132	110	112
2	166	299	100	84	439	165	186	149	239	122	60	95
3	236	244	96	70	411	168	248	124	207	88	40	84
4	177	219	e85	65	399	163	390	113	179	67	33	75
5	134	196	e78	69	425	145	307	297	148	54	29	71
6	114	180	79	71	317	141	256	327	128	46	199	60
7	98	172	79	66	281	135	235	260	126	39	1300	54
8	84	159	75	61	256	124	217	221	118	35	941	52
9	76	230	68	68	236	122	193	196	122	33	382	43
10	70	320	65	78	303	129	177	261	116	32	308	42
11	76	249	63	115	384	144	202	764	100	30	580	41
12	80	218	62	111	294	145	183	476	93	67	683	39
13	69	190	e58	96	249	139	155	358	82	298	406	37
14	63	176	e52	81	227	128	140	452	75	210	362	36
15	55	172	e50	77	219	120	179	327	152	137	272	100
16	50	198	e55	77	246	114	194	321	135	159	226	102
17	128	248	e52	82	251	115	163	495	101	113	178	64
18	387	203	e48	120	213	206	149	421	89	88	140	60
19	470	176	e53	143	191	188	132	317	167	70	114	48
20	1720	164	e48	124	174	352	122	264	218	58	115	52
21	2560	178	e43	195	149	861	160	262	157	50	104	47
22	1210	155	e48	236	145	505	200	264	131	44	96	45
23	674	142	e52	212	200	350	164	226	104	46	94	52
24	458	134	e41	204	316	285	138	196	88	96	119	46
25	351	126	e31	252	290	257	130	168	74	59	296	40
26	283	125	e33	589	225	229	136	149	64	45	231	37
27	243	127	e34	524	201	206	128	144	57	39	171	35
28	218	143	35	346	188	188	117	129	51	35	202	32
29	192	147	34	315	---	149	107	162	49	33	240	30
30	169	127	36	1130	---	161	169	740	95	30	195	28
31	189	---	40	929	---	204	---	533	---	51	135	---
TOTAL	10902	5806	1809	6665	7789	6513	5477	9304	3769	2406	8361	1659
MEAN	352	194	58.4	215	278	210	183	300	126	77.6	270	55.3
MAX	2560	389	116	1130	560	861	390	764	304	298	1300	112
MIN	50	125	31	61	145	114	107	113	49	30	29	28

CAL YR 1989 TOTAL 71003 MEAN 195 MAX 3230 MIN 14
WTR YR 1990 TOTAL 70460 MEAN 193 MAX 2560 MIN 28

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 mi^2.

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

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

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow affected by diversion from Spring Valley Water Company well field upstream from station and by occasional regulation by Lake Sebago.

AVERAGE DISCHARGE.--11 years, 174 ft^3/s, unadjusted.

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

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

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	0200	*3,470	*9.65	Aug. 7	0615	1,830	7.08
Jan. 30	1630	1,430	6.24				

Minimum discharge, 14 ft^3/s, Dec. 27, result of freezeup, gage height, 1.49 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	430	115	105	621	179	205	186	327	113	107	116
2	187	334	98	157	488	171	192	144	246	101	58	94
3	267	266	92	103	452	176	268	114	208	67	40	81
4	192	236	e74	74	443	167	442	104	180	49	33	72
5	138	210	e70	75	472	141	343	319	145	39	30	66
6	115	197	73	74	350	141	270	357	120	33	208	55
7	100	188	74	65	306	128	239	267	123	28	1580	49
8	85	171	68	56	274	117	221	222	109	25	1110	47
9	78	267	e60	62	251	115	197	196	112	24	447	39
10	71	372	e58	75	323	127	184	289	104	22	351	38
11	79	279	58	112	416	145	207	858	86	21	678	37
12	82	235	56	106	318	143	186	544	76	53	809	34
13	70	208	e52	92	262	134	154	404	65	309	477	31
14	62	198	e41	78	236	121	137	524	60	205	417	31
15	57	187	e39	71	226	116	189	372	136	133	302	99
16	50	216	e47	72	261	110	199	367	117	158	240	94
17	131	271	e45	80	265	114	168	588	82	112	198	70
18	438	216	e35	121	219	210	152	482	65	85	162	51
19	553	190	e36	147	200	192	128	359	136	68	129	41
20	1970	181	e37	122	184	383	116	286	198	55	127	46
21	2820	195	e31	205	154	881	163	282	131	47	111	39
22	1330	166	e27	243	152	548	200	283	106	43	103	39
23	745	152	e29	217	207	381	163	232	82	54	101	45
24	522	136	e22	209	330	305	137	203	66	99	125	39
25	396	123	e25	275	304	271	130	178	53	57	300	34
26	317	124	e25	638	232	237	136	158	45	44	232	31
27	266	130	e22	573	205	213	120	151	39	38	182	28
28	232	157	e24	392	195	196	111	130	35	35	206	25
29	205	154	32	356	---	154	101	172	35	33	241	23
30	186	128	33	1270	---	172	169	792	74	30	201	21
31	212	---	40	1000	---	211	---	583	---	44	145	---
TOTAL	12057	6317	1538	7225	8346	6699	5627	10146	3361	2224	9450	1515
MEAN	389	211	49.6	233	298	216	188	327	112	71.7	305	50.5
MAX	2820	430	115	1270	621	881	442	858	327	309	1580	116
MIN	50	123	22	56	152	110	101	104	35	21	30	21
‡	10	13	14	14	14	14	14	11	11	14	13	14

CAL YR 1989 TOTAL 75508 MEAN 207 MAX 3720 MIN 12 ‡ 12
WTR YR 1990 TOTAL 74505 MEAN 204 MAX 2820 MIN 21 ‡ 13

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 mi^2.

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.--32 years, 24.7 ft^3/s, 27.27 in/yr.

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

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	2100	529	5.06	May 30	0330	247	3.97
Jan. 30	0430	321	4.31	July 23	2000	371	4.51
May 11	0115	225	3.86	Aug. 7	0745	*542	*5.10

Minimum dishcarge, 3.30 ft^3/s, Sept. 19, gage height, 1.49 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	54	15	12	64	22	28	27	36	37	15	8.8
2	34	36	14	9.0	54	22	25	23	30	22	12	8.0
3	34	31	14	7.2	48	22	47	20	26	15	11	7.4
4	23	26	12	6.5	53	21	48	20	24	12	9.3	6.6
5	17	23	11	7.7	47	19	37	60	21	11	8.3	6.4
6	14	22	11	7.6	39	19	32	51	19	9.0	66	6.3
7	11	20	11	6.7	36	18	30	39	21	8.5	252	5.8
8	9.7	19	10	6.5	32	17	28	33	17	8.2	102	5.2
9	8.8	49	9.3	8.5	30	17	26	29	22	7.7	52	4.7
10	8.1	47	8.6	15	36	19	24	59	17	7.1	63	5.3
11	11	36	8.4	19	35	19	28	132	16	6.9	92	5.0
12	8.7	31	8.3	16	30	18	24	66	14	19	76	4.5
13	7.5	27	7.9	12	27	16	22	63	13	51	53	4.6
14	6.3	25	e6.6	9.6	25	15	20	94	13	22	53	4.1
15	5.6	23	e6.4	9.3	25	14	36	60	22	24	36	29
16	5.4	29	7.2	9.4	31	14	30	65	14	27	29	11
17	17	28	6.6	11	28	14	26	94	13	17	24	9.7
18	46	22	e6.0	18	24	27	23	71	16	13	21	7.8
19	73	20	e5.6	18	23	21	21	53	26	11	19	7.0
20	307	20	e5.6	15	21	65	20	45	26	9.7	17	10
21	284	21	e5.0	32	19	71	27	46	18	12	16	7.4
22	104	17	e4.5	29	20	45	26	40	26	21	14	8.8
23	61	17	e4.0	25	26	37	22	34	17	76	15	9.8
24	46	16	e4.0	25	42	31	20	30	14	41	17	7.2
25	39	15	e4.1	45	32	28	20	27	12	23	18	7.0
26	32	16	e4.2	100	26	26	20	26	11	17	14	6.7
27	28	17	e4.1	70	24	23	18	24	10	19	15	6.5
28	25	26	4.3	51	23	22	17	21	9.7	16	13	6.4
29	22	20	4.4	51	---	20	16	35	9.6	14	20	6.2
30	20	16	5.2	204	---	26	36	118	19	12	12	5.9
31	28	---	6.0	95	---	31	---	49	---	12	10	---
TOTAL	1345.1	769	234.3	951.0	920	779	797	1554	552.3	601.1	1174.6	229.1
MEAN	43.4	25.6	7.56	30.7	32.9	25.1	26.6	50.1	18.4	19.4	37.9	7.64
MAX	307	54	15	204	64	71	48	132	36	76	252	29
MIN	5.4	15	4.0	6.5	19	14	16	20	9.6	6.9	8.3	4.1
CFSM	3.53	2.08	.61	2.49	2.67	2.04	2.16	4.08	1.50	1.58	3.08	.62
IN.	4.07	2.33	.71	2.88	2.78	2.36	2.41	4.70	1.67	1.82	3.55	.69

CAL YR 1989 TOTAL 9546.5 MEAN 26.2 MAX 618 MIN 1.5 CFSM 2.13 IN. 28.87
WTR YR 1990 TOTAL 9906.5 MEAN 27.1 MAX 307 MIN 4.0 CFSM 2.21 IN. 29.96

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 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 781: 1904(M). WSP 1031: 1938, 1940. WSP 1552: 1923(M), 1924, 1925-26(M), 1927-28, 1933, 1937. WRD-NJ 1971: 1968(M). WDR NJ-82-1: Drainage area. 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, other than those published, were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990, DAILY-MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	569	158	94	727	234	272	249	429	219	145	142
2	291	456	134	90	598	225	258	195	333	174	68	120
3	358	367	127	72	564	230	379	166	282	104	45	104
4	244	318	114	64	559	219	530	149	245	72	35	93
5	183	280	102	76	578	193	432	447	207	55	32	87
6	155	261	96	78	460	195	357	460	178	44	387	80
7	134	246	99	66	413	178	322	361	207	37	1930	70
8	113	241	90	61	373	165	295	295	163	33	1230	61
9	102	408	81	83	341	163	261	262	169	31	522	52
10	92	505	75	106	422	178	250	396	154	30	466	54
11	112	389	73	158	514	198	279	990	128	30	742	52
12	106	325	71	143	412	195	248	632	114	122	853	48
13	89	278	69	118	348	181	212	524	94	469	554	45
14	80	264	60	93	321	165	193	670	91	271	511	54
15	72	253	56	90	303	153	294	495	222	211	373	197
16	72	304	62	90	354	145	276	505	164	231	300	136
17	168	366	61	101	349	155	234	738	113	138	242	101
18	545	283	55	160	288	291	205	601	106	96	202	71
19	671	250	48	193	260	246	185	479	205	71	167	62
20	2360	233	52	165	237	538	168	395	277	55	164	73
21	3390	250	46	297	206	1010	231	397	189	49	148	56
22	1590	214	44	339	213	633	267	383	166	69	138	66
23	878	203	38	287	278	480	217	318	120	214	141	69
24	628	188	34	274	444	397	187	273	94	232	173	54
25	517	172	34	387	405	356	180	237	74	90	338	46
26	433	177	35	786	305	310	186	220	60	59	268	43
27	368	187	33	699	269	274	166	209	52	49	216	41
28	322	227	31	518	252	251	149	180	46	46	245	38
29	283	208	31	490	---	214	138	278	58	41	306	35
30	252	175	33	1580	---	248	253	996	136	37	236	33
31	325	---	42	1190	---	294	---	677	---	75	174	---
MEAN	486	287	67.2	289	385	281	254	425	163	111	366	72.8
MAX	3390	569	158	1580	727	1010	530	996	429	469	1930	197
MIN	72	172	31	61	206	145	138	149	46	30	32	33
IN.	4.67	2.67	.65	2.77	3.35	2.70	2.36	4.08	1.51	1.07	3.52	.68

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	146	223	269	260	284	443	406	264	154	101	106	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	37.0	21.9	13.5	11.1
(WY)	1942	1965	1981	1981	1980	1985	1985	1905	1957	1957	1981	1964

PASSAIC RIVER BASIN

01387500 RAMAPO RIVER NEAR MAHWAH, NJ--Continued

WATER-DISCHARGE RECORDS--Continued

SUMMARY STATISTICS	FOR 1990 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	265		230	
HIGHEST ANNUAL MEAN			461	1903
LOWEST ANNUAL MEAN			99.5	1985
HIGHEST DAILY MEAN	3390	Oct 21	8920	Oct 9 1903
LOWEST DAILY MEAN	30	Jul 10	6.1a	Sep 30 1981
INSTANTANEOUS PEAK FLOW	4060	Oct 21	15500b	Apr 5 1984
INSTANTANEOUS PEAK STAGE	8.67	Oct 21	13.35	Apr 5 1984
INSTANTANEOUS LOW FLOW	26	Dec 27	4.6	Sep 30 1981
ANNUAL RUNOFF (INCHES)	30.03		26.07	
10 PERCENTILE	517		517	
50 PERCENTILE	199		139	
95 PERCENTILE	39		22	

a Possible regulation
b From rating curve extended above 6,500 ft^3/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 mi^2.

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.--53 years, 305 ft^3/s, 25.41 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,600 ft^3/s, Nov. 25, 1950, gage height, 13.84 ft, from rating curve extended above 8,700 ft^3/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 ft^3/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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1945	*4,140	*7.99	No other peak greater than base discharge.			

Minimum discharge, 27 ft^3/s, Sept. 30, gage height, 1.89 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	369	260	312	691	365	386	240	269	178	48	99
2	138	286	255	166	926	331	349	214	239	150	41	91
3	158	269	258	125	805	322	525	199	221	132	37	86
4	133	261	213	123	713	277	644	194	207	118	34	78
5	121	238	217	185	592	235	589	344	192	106	46	76
6	118	234	213	146	512	225	537	283	171	102	173	70
7	111	227	207	130	460	194	483	259	159	101	168	66
8	103	220	174	126	443	191	434	322	150	89	116	65
9	98	303	164	123	497	185	389	284	180	104	86	58
10	93	367	154	129	1030	203	460	606	230	95	85	63
11	98	337	153	130	786	255	1180	1460	164	81	131	56
12	93	313	140	127	670	699	841	945	149	166	102	51
13	87	289	126	e100	582	759	709	1140	128	211	91	48
14	82	278	106	e110	564	783	614	1390	121	129	142	44
15	107	269	114	114	503	697	600	1000	121	111	102	77
16	108	816	112	119	1330	630	516	946	116	114	88	66
17	129	814	111	167	1340	800	467	1010	108	98	81	53
18	201	649	108	319	931	1030	426	973	102	88	75	47
19	227	559	98	273	810	797	363	815	106	81	75	43
20	1870	550	101	236	632	919	329	719	96	83	74	44
21	2270	595	98	265	525	821	365	1110	93	102	68	41
22	1290	446	89	245	508	822	326	898	106	81	66	39
23	875	403	89	224	764	1030	288	777	124	78	61	39
24	666	360	93	246	679	825	266	662	134	76	161	37
25	541	328	e84	333	535	730	275	551	105	66	313	34
26	455	354	e78	1760	426	641	264	467	89	59	179	32
27	390	333	e87	999	409	535	238	421	80	53	150	32
28	344	348	81	780	395	466	223	365	78	50	142	30
29	301	310	74	650	---	415	211	340	125	47	151	29
30	269	278	70	1400	---	393	262	468	357	44	123	29
31	256	---	88	818	---	395	---	322	---	43	109	---
TOTAL	11858	11403	4215	10980	19058	16970	13559	19724	4520	3036	3318	1623
MEAN	383	380	136	354	681	547	452	636	151	97.9	107	54.1
MAX	2270	816	260	1760	1340	1030	1180	1460	357	211	313	99
MIN	82	220	70	100	395	185	211	194	78	43	34	29
CFSM	2.35	2.33	.83	2.17	4.18	3.36	2.77	3.90	.92	.60	.66	.33
IN.	2.71	2.60	.96	2.51	4.35	3.87	3.09	4.50	1.03	.69	.76	.37

CAL YR 1989 TOTAL 105808 MEAN 290 MAX 2300 MIN 19 CFSM 1.78 IN. 24.15
WTR YR 1990 TOTAL 120264 MEAN 329 MAX 2270 MIN 29 CFSM 2.02 IN. 27.45

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 mi^2.

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 poor.

AVERAGE DISCHARGE.--53 years, 54.9 ft^3/s, 29.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft^3/s, Sept. 21, 1938, from rating curve extended above 960 ft^3/s on basis of velocity-area study; maximum gage height, 9.92 ft, Nov. 25, 1950; minimum discharge observed, 1.2 ft^3/s, Sept. 25, 26, 1939.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 740 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1600	*1,360	*7.79	No other peak greater than base discharge.			

Minimum discharge, 6.3 ft^3/s, Sept. 28, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	66	e44	e60	114	e60	52	69	39	19	10	19
2	41	53	e44	e30	125	e56	50	63	36	18	8.6	18
3	42	53	e44	e23	111	e54	80	60	33	15	7.9	17
4	38	51	e36	e23	107	e46	98	61	30	14	7.6	16
5	36	48	e38	e35	e88	e44	92	82	28	12	12	15
6	36	47	e37	e30	e77	e42	85	71	25	13	30	15
7	34	45	35	e27	74	e40	78	69	24	13	30	14
8	31	44	e31	e25	70	e38	70	72	23	11	22	13
9	30	62	e29	e23	76	e34	65	66	23	13	18	11
10	28	69	e28	e24	139	e38	83	160	21	12	20	13
11	31	67	e27	20	120	53	190	406	19	10	29	11
12	28	63	22	19	105	110	142	222	19	27	22	10
13	27	59	e23	15	93	142	117	208	17	33	26	9.5
14	25	57	e20	e14	88	133	106	323	16	22	47	8.9
15	33	55	e21	e14	82	116	107	217	16	20	34	17
16	30	197	e21	e15	146	104	96	180	15	22	29	12
17	35	182	e21	26	162	122	89	161	14	19	24	10
18	43	137	e20	59	e120	146	79	136	14	17	22	9.1
19	63	111	e18	60	e110	116	70	125	14	16	21	8.4
20	475	102	e19	55	e90	117	66	109	13	17	18	8.6
21	391	94	e18	54	e80	102	73	113	13	18	17	8.1
22	191	75	e17	49	e83	102	67	97	15	15	17	8.0
23	136	67	e17	45	e110	118	64	86	17	15	15	8.0
24	108	60	e18	50	116	105	60	76	18	15	28	7.6
25	91	54	e16	78	91	97	62	67	15	13	41	7.2
26	78	55	e15	281	e70	87	59	60	13	11	28	6.7
27	67	50	e17	149	e68	73	56	58	11	11	24	6.6
28	60	61	e16	113	e64	66	54	51	11	10	24	6.3
29	54	55	13	101	---	58	52	50	14	10	35	6.3
30	49	52	11	229	---	56	81	56	20	9.5	23	7.0
31	49	---	e16	135	---	54	---	43	---	9.1	21	---
TOTAL	2417	2191	752	1881	2779	2529	2443	3617	586	479.6	711.1	327.3
MEAN	78.0	73.0	24.3	60.7	99.2	81.6	81.4	117	19.5	15.5	22.9	10.9
MAX	475	197	44	281	162	146	190	406	39	33	47	19
MIN	25	44	11	14	64	34	50	43	11	9.1	7.6	6.3
CFSM	3.09	2.90	.96	2.41	3.94	3.24	3.23	4.63	.78	.61	.91	.43
IN.	3.57	3.23	1.11	2.78	4.10	3.73	3.61	5.34	.87	.71	1.05	.48

CAL YR 1989 TOTAL 18136.2 MEAN 49.7 MAX 475 MIN 4.1 CFSM 1.97 IN. 26.77
WTR YR 1990 TOTAL 20713.0 MEAN 56.7 MAX 475 MIN 6.3 CFSM 2.25 IN. 30.58

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 mi^2.

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 poor.

AVERAGE DISCHARGE.--53 years, 61.2 ft^3/s, 24.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft^3/s, Sept. 21, 1938, gage height, 7.12 ft, from rating curve extended above 1,500 ft^3/s; maximum gage height, 7.92 ft, Jan. 26, 1976 (ice jam); minimum discharge, 0.5 ft^3/s, Sept. 17, 21, 22, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 26	0530	*532	*4.18				

Minimum discharge, 4.6 ft^3/s, Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	55	e50	100	e140	91	60	40	39	46	8.4	12
2	14	46	e45	47	198	87	55	36	34	42	7.2	16
3	15	48	e47	39	164	53	124	33	e30	33	6.5	15
4	13	46	e40	35	e150	54	124	34	e32	27	6.1	13
5	12	42	e37	55	e120	67	119	68	e29	22	12	9.7
6	11	45	e36	e40	e110	38	105	53	e25	21	31	7.9
7	10	43	e35	e45	e84	e36	90	50	e22	19	34	7.7
8	9.6	43	e32	e42	e86	e34	77	52	e20	16	19	7.7
9	9.1	61	e28	e32	e90	e38	67	49	e25	24	13	7.0
10	8.7	66	e29	e33	e190	36	103	136	e30	18	14	7.7
11	9.9	64	e29	34	e160	52	246	255	e26	15	43	7.0
12	9.4	61	e24	33	e130	117	191	198	e20	44	22	6.3
13	8.8	60	e22	e35	e110	111	151	225	e15	46	19	5.9
14	8.3	61	e19	e40	101	135	123	229	e12	27	27	5.5
15	15	59	e20	e28	97	122	110	176	e11	24	18	12
16	13	157	e20	30	266	111	91	175	e8.0	24	15	8.6
17	28	153	e19	52	220	169	81	183	e11	20	13	7.4
18	38	132	e16	126	e170	191	70	168	e9.0	17	12	6.1
19	49	121	e15	110	e130	153	59	150	e13	15	12	5.8
20	224	120	e16	e94	e98	195	54	128	e11	16	12	6.5
21	267	119	e14	e92	e100	161	68	198	e9.0	21	11	6.1
22	195	89	e12	81	e84	170	57	156	e10	15	11	6.1
23	142	80	e11	68	129	196	49	135	e12	15	11	6.4
24	113	66	e9.6	72	104	160	45	115	e18	15	20	5.8
25	90	60	e10	111	e84	139	49	94	e17	12	23	6.1
26	74	69	e11	393	e76	115	45	77	16	10	15	5.5
27	60	63	e10	245	e78	92	41	67	14	9.2	14	5.4
28	54	72	e11	181	80	83	40	57	16	8.6	15	5.3
29	49	61	e12	145	---	67	38	58	29	7.9	28	5.0
30	42	57	e14	296	---	65	47	68	71	7.6	16	5.6
31	42	---	e17	e170	---	66	---	46	---	8.0	14	---
TOTAL	1643.6	2219	710.6	2904	3549	3204	2579	3509	634.0	645.3	522.2	232.1
MEAN	53.0	74.0	22.9	93.7	127	103	86.0	113	21.1	20.8	16.8	7.74
MAX	267	157	50	393	266	196	246	255	71	46	43	16
MIN	8.3	42	9.6	28	76	34	38	33	8.0	7.6	6.1	5.0
CFSM	1.60	2.23	.69	2.82	3.82	3.11	2.59	3.41	.64	.63	.51	.23
IN.	1.84	2.49	.80	3.25	3.98	3.59	2.89	3.93	.71	.72	.59	.26

CAL YR 1989 TOTAL 17165.9 MEAN 47.0 MAX 369 MIN 2.5 CFSM 1.42 IN. 19.23
WTR YR 1990 TOTAL 22351.8 MEAN 61.2 MAX 393 MIN 5.0 CFSM 1.84 IN. 25.04

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 Downsville Dam, at downstream end of outlet channel of Pepacton Reservoir, and 1.0 mi east of Downsville.

DRAINAGE AREA.--372 mi^2.

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 consevation 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 ft^3/s, Nov. 26, 1950, gage height, 14.52 ft, site and datum then in use, from rating curve extended above 12,000 ft^3/s; minimum discharge, 0.3 ft^3/s, Oct. 11, 1954; minimum daily, 0.6 ft^3/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, 3,010 ft^3/s, May 14, gage height, 5.24 ft; minimum, 52 ft^3/s, Dec. 14, gage height, 2.77 ft; minimum daily, 55 ft^3/s, Feb. 3, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	62	58	59	59	58	272	66	99	66	77	79
2	66	58	57	57	57	57	213	66	69	76	77	80
3	66	58	57	56	55	58	315	67	67	88	99	66
4	66	58	58	56	56	57	570	67	67	99	113	67
5	66	58	58	56	55	58	673	67	67	100	118	68
6	67	57	58	56	56	58	668	66	70	90	92	67
7	67	58	57	56	57	58	572	67	67	79	67	67
8	67	58	58	56	56	58	449	67	67	78	67	67
9	67	58	58	56	57	58	370	68	68	75	67	67
10	67	58	57	56	58	58	393	111	68	66	67	67
11	67	58	58	56	56	56	1290	1510	69	66	67	67
12	67	58	58	56	56	57	1490	2020	68	65	67	68
13	67	58	58	57	56	57	1310	2130	67	63	67	67
14	67	57	58	58	57	58	1080	2820	67	65	67	67
15	67	57	60	58	56	58	895	2390	66	75	67	67
16	67	58	58	58	57	67	736	1970	66	85	78	67
17	67	57	56	58	57	58	537	2150	65	85	90	67
18	67	57	56	59	57	87	418	2150	73	101	90	67
19	67	58	56	58	56	483	300	1990	82	121	79	67
20	68	58	56	59	56	1070	201	1760	65	123	67	67
21	67	58	56	57	57	1260	181	1890	66	99	67	67
22	67	58	56	56	58	1180	162	1940	79	85	67	67
23	68	58	56	57	58	1390	116	1590	80	86	67	67
24	69	58	56	57	56	1350	80	1260	67	86	68	67
25	69	58	56	60	59	1180	69	1000	67	88	67	67
26	69	58	56	59	57	969	66	824	67	90	67	68
27	69	58	56	60	56	733	65	529	68	103	79	67
28	69	58	56	59	56	531	65	348	79	104	91	67
29	69	58	56	57	---	393	66	243	78	91	77	67
30	69	58	57	59	---	373	66	249	65	102	65	69
31	69	---	59	59	---	325	---	175	---	100	66	---
TOTAL	2090	1739	1770	1781	1587	12313	13688	31650	2113	2700	2364	2039
MEAN	67.4	58.0	57.1	57.5	56.7	397	456	1021	70.4	87.1	76.3	68.0
MAX	69	62	60	60	59	1390	1490	2820	99	123	118	80
MIN	66	57	56	56	55	56	65	66	65	63	65	66

CAL YR 1989 TOTAL 17874.3 MEAN 49.0 MAX 205 MIN 6.3
WTR YR 1990 TOTAL 75834 MEAN 208 MAX 2820 MIN 55

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 mi^2.

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 mi^2 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 ft^3/s, Sept. 22, 1938, gage height, 16.93 ft, site and datum then in use, from rating curve extended above 10,000 ft^3/s, on basis of slope-area measurement at gage height 15.58 ft; minimum discharge, 7.2 ft^3/s, Oct. 13, 1954, gage height, 1.63 ft, site and datum then in use; minimum daily discharge, 7.6 ft^3/s, Oct. 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,610 ft^3/s, May 14, gage height, 6.99 ft; minimum recorded, 83 ft^3/s, Sept. 28, 29, gage height, 2.06 ft, but may have been less during period of ice effect, Dec. 22-31; minimum daily discharge, 85 ft^3/s, Sept. 28-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	188	178	205	468	e240	448	170	236	124	117	152
2	114	165	160	185	484	e220	382	161	177	110	91	166
3	119	158	e155	151	507	e200	530	152	159	123	105	144
4	108	158	e150	147	509	e180	874	151	154	123	122	127
5	105	148	e140	156	446	163	980	203	147	140	147	120
6	106	147	e135	e130	371	e150	944	189	142	125	192	115
7	104	148	e130	e120	331	141	837	182	138	121	163	111
8	101	146	e125	e115	302	e135	696	187	133	101	132	108
9	99	192	e122	e115	304	e132	595	183	134	126	116	103
10	97	261	e120	e120	525	e135	587	305	136	104	127	107
11	102	257	e118	128	568	e150	1640	1770	130	96	176	101
12	101	246	e115	e120	499	201	2010	2500	126	139	147	97
13	98	226	e112	e115	406	265	1730	2590	119	174	135	96
14	96	212	e110	e110	360	314	1370	3390	116	133	143	93
15	98	197	e108	e108	320	309	1110	3050	115	124	127	114
16	98	356	e105	e110	434	298	943	2540	112	151	117	105
17	129	484	e103	129	570	350	751	2680	109	140	132	96
18	219	414	e101	271	469	487	628	2710	111	136	129	93
19	263	357	e100	369	419	663	510	2560	134	149	126	93
20	1270	327	e99	341	351	1340	398	2230	114	168	106	96
21	1670	325	e98	325	295	1630	369	2220	106	162	107	92
22	828	263	e96	277	281	1510	346	2320	106	131	103	92
23	561	236	e94	239	393	1750	288	1960	143	125	99	91
24	424	214	e93	229	395	1760	234	1490	126	123	145	89
25	340	197	e92	275	344	1510	211	1160	113	118	263	87
26	286	197	e91	991	279	1230	203	950	108	117	173	86
27	248	197	e90	788	271	963	191	737	104	116	155	87
28	221	201	e90	581	e260	750	183	549	103	135	166	85
29	199	197	e90	463	---	607	177	412	124	114	302	85
30	185	185	e90	735	---	529	177	429	117	115	196	86
31	177	---	e96	560	---	514	---	341	---	135	169	---
TOTAL	8671	6999	3506	8708	11161	18826	20342	40471	3892	3998	4528	3117
MEAN	280	233	113	281	399	607	678	1306	130	129	146	104
MAX	1670	484	178	991	570	1760	2010	3390	236	174	302	166
MIN	96	146	90	108	260	132	177	151	103	96	91	85

CAL YR 1989 TOTAL 75141 MEAN 206 MAX 2100 MIN 47
WTR YR 1990 TOTAL 134219 MEAN 368 MAX 3390 MIN 85

e Estimated

DELAWARE RIVER BASIN

01417500 EAST BRANCH DELAWARE RIVER AT HARVARD, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June 1978 to current year.

INSTRUMENTATION.--Water-temperature digital recorder since June 1978, provides one-hour-interval punches. Also, water-temperature satellite telemeter since May 1985, provides one-hour-interval readings.

REMARKS.--Interruption of record was due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1978, 1981-82, 1984-90), 28.0°C, June 30, 1981; minimum (water years 1979-87, 1989-90), 0.0°C on many days during winter periods, except 1989.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 25.5°C, July 5; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.5	11.0	12.5	11.5	9.5	10.5	1.0	.5	.5	.0	.0	.0
2	13.5	13.0	13.5	9.0	7.5	8.5	.5	.5	.5	.0	.0	.0
3	13.5	10.5	12.5	8.0	6.5	7.5	.5	.5	.5	.0	.0	.0
4	10.0	8.5	9.0	6.0	4.5	5.5	.5	.5	.5	.0	.0	.0
5	12.0	7.5	9.5	7.0	4.5	5.5	.5	.5	.5	.5	.0	.5
6	11.5	9.5	10.5	8.5	6.5	7.5	.5	.5	.5	.5	.0	.5
7	11.5	10.0	11.0	9.5	7.5	8.5	.5	.5	.5	.5	.0	.5
8	10.0	9.0	9.5	10.5	9.0	9.5	.5	.5	.5	.0	.0	.0
9	9.0	7.0	8.0	10.5	9.0	10.0	.5	.0	.5	.5	.0	.5
10	9.0	5.5	7.0	9.0	7.0	7.5	.5	.0	.5	.5	.5	.5
11	9.5	8.0	8.5	7.0	6.0	6.5	.5	.5	.5	.5	.0	.0
12	12.0	8.0	9.5	6.5	5.5	6.0	.5	.5	.5	.0	.0	.0
13	13.0	10.0	11.0	6.5	5.0	5.5	.5	.5	.5	.0	.0	.0
14	12.0	9.5	10.5	8.0	5.0	6.5	.5	.0	.5	.0	.0	.0
15	14.0	11.0	12.5	11.0	8.0	9.5	.0	.0	.0	.0	.0	.0
16	15.0	12.5	13.5	12.5	9.0	11.0	.0	.0	.0	.5	.0	.5
17	13.5	12.0	13.0	8.5	5.0	7.0	.0	.0	.0	.5	.5	.5
18	12.0	9.5	10.5	5.0	4.0	4.5	.0	.0	.0	1.5	.5	1.0
19	9.5	8.5	8.5	3.5	3.0	3.5	.0	.0	.0	1.5	.5	1.0
20	10.5	8.5	9.5	5.0	3.5	4.0	.0	.0	.0	.5	.5	.5
21	10.0	8.0	9.0	5.0	1.5	3.0	.0	.0	.0	1.0	.5	.5
22	8.0	7.5	8.0	2.0	1.0	1.5	.0	.0	.0	1.5	1.0	1.5
23	9.0	7.0	7.5	2.5	1.5	2.0	.0	.0	.0	3.0	1.5	2.0
24	9.0	7.0	8.0	1.5	1.0	1.5	.0	.0	.0	3.5	2.0	2.5
25	10.0	7.5	9.0	3.0	1.0	1.5	.0	.0	.0	3.0	2.5	2.5
26	11.0	8.5	9.5	4.0	3.0	3.5	.0	.0	.0	3.0	2.0	2.0
27	11.5	9.0	10.0	4.0	3.0	3.5	.0	.0	.0	2.5	1.5	2.0
28	12.0	10.0	10.5	6.0	4.0	5.0	.0	.0	.0	3.0	2.0	2.5
29	11.5	9.0	10.0	5.0	1.5	3.0	.0	.0	.0	3.0	1.5	2.0
30	11.5	8.5	10.0	1.5	.5	1.0	.0	.0	.0	2.0	1.5	2.0
31	11.5	10.0	11.0	---	---	---	.0	.0	.0	2.5	1.0	2.0
MONTH	15.0	5.5	10.0	12.5	0.5	5.5	1.0	0.0	0.0	3.5	0.0	1.0

DELAWARE RIVER BASIN

01417500 EAST BRANCH DELAWARE RIVER AT HARVARD, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.0	2.0	2.5	.5	.0	.5	5.5	4.5	5.0	16.0	11.0	13.5
2	3.5	3.0	3.5	1.5	.0	.5	6.0	4.5	5.5	14.5	11.0	13.0
3	3.5	2.5	3.0	2.5	.5	1.5	6.0	5.5	5.5	15.5	9.5	12.5
4	2.5	2.0	2.5	2.0	.5	1.0	5.0	4.5	4.5	14.5	11.5	13.0
5	1.5	1.0	1.0	1.5	.0	.5	4.5	3.5	4.0	11.5	10.0	10.5
6	1.5	.0	1.0	3.0	.5	1.5	5.5	3.5	4.5	14.0	9.0	11.0
7	3.5	1.5	2.5	2.0	.0	1.0	6.0	3.5	4.5	12.0	10.0	11.0
8	4.0	2.5	3.0	2.5	.0	1.0	5.0	2.5	4.0	15.0	9.5	12.5
9	4.0	2.5	3.5	2.5	.5	1.5	6.5	2.5	4.5	17.0	12.0	14.5
10	4.5	2.5	4.0	5.0	2.5	3.5	6.5	4.5	5.0	15.0	12.0	13.5
11	---	---	---	6.5	4.0	5.0	6.0	4.0	5.0	12.0	6.5	10.0
12	---	---	---	8.0	5.5	6.5	5.0	3.0	4.0	10.5	5.5	7.5
13	---	---	---	10.5	5.5	7.5	6.0	2.5	4.0	11.0	8.5	10.0
14	---	---	---	11.0	7.0	9.0	5.5	3.0	4.0	13.0	10.0	11.5
15	---	---	---	11.0	7.5	9.5	6.0	4.5	5.0	13.5	11.0	12.0
16	---	---	---	11.5	8.0	10.0	8.0	4.0	5.5	12.5	11.0	11.5
17	---	---	---	11.0	10.0	10.5	7.0	4.5	5.0	14.0	12.0	13.0
18	---	---	---	9.5	6.0	8.0	6.5	3.0	4.5	13.0	10.0	12.0
19	---	---	---	6.0	5.0	5.0	9.0	3.5	6.0	12.5	9.0	10.5
20	---	---	---	5.0	3.0	4.0	8.0	6.0	7.0	12.5	8.5	10.5
21	---	---	---	5.5	3.0	4.0	8.5	7.0	7.5	12.0	11.0	11.5
22	4.0	1.0	2.5	6.5	3.0	4.5	12.0	6.5	8.5	12.0	11.0	11.5
23	6.0	4.0	5.5	5.0	3.0	4.5	13.5	8.0	10.5	12.5	11.0	12.0
24	4.5	2.5	3.5	4.5	2.5	3.5	14.5	8.5	11.5	15.0	11.0	12.5
25	2.0	.5	1.0	5.5	2.5	4.0	15.0	10.0	12.5	16.0	11.5	13.5
26	.5	.5	.5	4.5	2.5	3.5	17.5	11.5	14.5	14.0	12.0	13.0
27	.5	.5	.5	4.0	1.5	3.0	18.5	13.0	15.5	15.5	12.5	14.0
28	.5	.0	.5	5.0	1.5	3.5	17.0	13.5	15.5	18.0	13.0	15.5
29	---	---	---	6.0	2.0	4.0	16.5	13.5	15.0	16.5	13.0	14.5
30	---	---	---	5.0	3.0	3.5	15.0	12.5	13.5	17.0	12.0	14.5
31	---	---	---	5.5	3.5	4.5	---	---	---	17.5	12.0	15.0
MONTH	---	---	---	11.5	0.0	4.0	18.5	2.5	7.5	18.0	5.5	12.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.5	13.0	16.0	21.0	17.5	19.0	20.5	14.0	17.0	20.0	15.0	17.5
2	20.5	14.5	17.5	22.5	17.5	20.0	22.0	15.5	18.5	19.5	16.0	17.5
3	20.5	17.0	18.5	23.0	18.0	20.5	23.0	18.0	20.5	19.0	15.5	17.0
4	19.0	14.0	16.5	24.5	18.5	21.5	22.0	17.5	20.0	19.5	14.5	17.0
5	18.0	11.5	14.5	25.5	21.0	23.0	20.0	15.0	17.0	18.5	16.0	17.5
6	18.0	13.5	16.0	22.0	16.5	18.5	15.0	14.0	14.5	20.0	16.5	18.0
7	21.0	15.5	18.0	21.0	14.5	17.5	17.0	14.0	15.5	18.5	17.0	17.5
8	18.0	15.5	16.0	19.0	16.0	17.5	20.0	15.5	17.5	19.0	15.0	17.0
9	17.0	14.5	15.5	20.0	18.0	19.0	19.0	16.5	18.0	16.0	13.5	14.5
10	18.5	15.0	16.5	23.0	17.5	20.0	17.5	16.0	17.0	19.0	13.5	15.5
11	17.0	14.5	16.0	20.5	18.0	19.0	18.0	15.0	16.5	19.5	16.0	17.5
12	20.5	12.5	16.5	18.0	14.5	16.0	21.0	16.0	18.0	19.5	16.5	18.0
13	19.5	15.5	17.5	18.5	13.0	16.0	20.5	17.0	19.0	21.0	17.0	18.5
14	18.0	16.5	17.5	19.0	16.0	17.5	20.0	17.0	18.5	19.5	17.0	18.5
15	19.5	16.0	17.5	20.0	17.5	19.0	21.5	16.5	19.0	18.5	16.5	18.0
16	23.0	17.5	20.0	21.5	18.0	19.5	22.0	17.0	19.5	16.5	14.5	15.0
17	24.0	20.0	22.0	22.5	17.5	20.0	22.0	18.0	20.0	14.5	12.0	13.0
18	22.5	20.0	21.5	24.0	18.0	21.0	22.0	17.5	19.5	14.5	9.5	11.5
19	23.5	18.5	20.5	23.5	18.5	21.0	20.0	16.0	17.5	11.5	10.0	10.5
20	21.0	18.0	19.5	22.5	17.5	20.0	15.5	14.0	14.5	12.5	10.5	11.5
21	22.0	17.5	20.0	20.0	17.0	18.5	14.0	13.0	13.5	14.5	10.0	12.0
22	24.0	18.5	21.0	21.0	16.5	19.0	17.0	13.0	15.0	12.5	12.0	12.5
23	21.5	19.0	20.5	19.5	18.0	19.0	16.0	15.0	15.5	13.0	11.0	12.0
24	19.5	16.5	18.0	20.5	16.5	18.5	16.5	15.0	15.5	12.5	10.5	11.5
25	19.0	17.0	17.5	23.0	17.0	20.0	18.0	14.0	16.0	14.5	10.0	12.0
26	22.5	16.0	19.0	23.5	18.0	20.5	20.0	16.0	18.0	12.5	10.5	12.0
27	22.5	18.0	20.5	23.5	17.5	20.5	20.0	17.0	18.5	15.5	11.5	13.0
28	23.0	19.5	21.0	23.5	18.5	21.0	21.5	17.0	19.0	16.5	12.5	14.5
29	22.0	18.5	20.0	23.5	18.0	20.5	19.5	16.5	18.0	16.5	13.5	15.0
30	20.0	18.0	19.0	24.0	19.0	21.5	20.0	15.5	17.5	16.0	14.0	15.0
31	---	---	---	21.5	16.0	18.5	19.5	15.0	17.0	---	---	---
MONTH	24.0	11.5	18.5	25.5	13.0	19.5	23.0	13.0	17.5	21.0	9.5	15.0

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 mi^2.

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.--76 years (water years 1915-90), 554 ft^3/s, 31.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,600 ft^3/s, Mar. 31, 1951, gage height, 16.02 ft, from rating curve extended above 13,000 ft^3/s on basis of slope-area measurement at gage height 15.52 ft; minimum discharge, 16 ft^3/s, Nov. 22, 23, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1945	*13,300	*11.29	May 14	0415	5,690	8.09
May 11	0115	5,060	7.72				

Minimum discharge, 87 ft^3/s, Aug. 4, gage height, 1.18 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263	689	e450	e450	1230	e640	565	483	452	234	115	332
2	360	567	e360	e500	1250	e610	545	409	400	178	102	299
3	544	506	e370	e210	1460	e590	1210	369	369	146	96	274
4	388	483	e350	e200	1300	e530	1510	356	347	128	90	244
5	334	437	e330	e320	1080	e450	1120	643	323	116	134	226
6	306	425	e320	e250	889	e440	928	596	293	116	928	220
7	287	415	e330	e215	805	e340	804	494	301	119	847	206
8	259	393	e260	e205	790	e310	704	479	278	111	491	195
9	245	571	e240	e200	778	e320	626	443	275	124	336	177
10	228	804	e230	e215	1780	e360	734	1400	264	125	334	213
11	258	639	e240	e220	1620	463	2430	3550	244	107	942	196
12	250	562	e250	e210	1210	967	1560	1840	229	354	548	170
13	229	509	e220	e180	981	1420	1160	2340	206	678	444	158
14	212	476	e160	e170	888	1480	978	4130	202	346	672	148
15	235	465	e160	e185	827	1170	967	2310	194	260	474	236
16	239	1260	e150	e210	1110	983	896	1940	185	286	388	218
17	287	1630	e150	e270	1840	1120	784	2150	174	235	340	172
18	506	1090	e145	e600	1220	1520	720	1810	169	198	305	151
19	790	887	e140	e700	e1000	1140	629	1500	181	176	286	141
20	5450	814	e140	e490	e800	1370	572	1210	162	172	290	157
21	4890	831	e135	e450	e700	1330	653	1420	150	207	286	153
22	2250	663	e130	e430	e680	1160	613	1250	158	176	267	145
23	1490	e570	e130	e420	1730	1240	537	1010	187	180	239	167
24	1120	e510	e125	e440	2030	1050	491	859	237	188	386	152
25	898	e470	e125	e490	1320	913	476	734	194	157	929	135
26	744	494	e120	2680	e900	804	465	647	157	135	524	126
27	633	487	e120	1780	e750	689	426	607	140	125	426	122
28	559	596	e120	1240	e680	609	397	554	131	120	402	116
29	500	620	e120	1010	---	560	374	530	130	122	767	110
30	454	e500	e115	2510	---	541	461	772	182	119	470	110
31	431	---	e200	1640	---	527	---	540	---	111	374	---
TOTAL	25639	19363	6435	19090	31648	25646	24335	37375	6914	5849	13232	5469
MEAN	827	645	208	616	1130	827	811	1206	230	189	427	182
MAX	5450	1630	450	2680	2030	1520	2430	4130	452	678	942	332
MIN	212	393	115	170	680	310	374	356	130	107	90	110
CFSM	3.43	2.68	.86	2.56	4.69	3.43	3.37	5.00	.96	.78	1.77	.76
IN.	3.96	2.99	.99	2.95	4.89	3.96	3.76	5.77	1.07	.90	2.04	.84

CAL YR 1989 TOTAL 194816 MEAN 534 MAX 7330 MIN 48 CFSM 2.21 IN. 30.07
WTR YR 1990 TOTAL 220995 MEAN 605 MAX 5450 MIN 90 CFSM 2.51 IN. 34.11

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 malfunctions 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 recorded, 28.0°C, July 5, but may have been higher during period of instrument malfunction; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.0	10.5	12.5	11.5	9.0	10.5	.5	.0	---	.5	.0	.5
2	14.0	13.5	13.5	9.0	7.0	8.0	---	.0	---	.5	.0	.5
3	14.0	11.0	13.0	7.5	6.0	7.0	.5	.0	---	.5	.0	.5
4	11.0	9.0	10.0	6.0	4.0	5.0	.5	.0	.5	1.0	.0	.5
5	12.0	8.5	10.0	6.5	4.0	5.5	.5	.0	.0	.5	.0	.5
6	12.5	10.0	11.0	8.5	6.5	7.5	.5	.0	.5	.0	.0	.0
7	12.0	10.5	11.5	8.5	7.0	8.0	.5	.0	.0	.5	.0	.0
8	10.5	9.5	10.0	10.0	8.0	9.0	.5	.0	---	.0	.0	.0
9	9.0	7.5	8.5	10.0	8.5	9.5	.5	.5	---	.5	.0	.0
10	9.0	5.5	7.5	8.5	6.5	7.0	---	---	---	.5	.0	.5
11	10.5	8.5	9.5	6.5	5.5	6.0	.5	.5	.5	.5	.0	.0
12	12.0	7.5	9.5	6.5	5.0	6.0	.5	.5	.5	1.0	.0	.5
13	13.0	10.0	11.0	6.0	4.0	5.0	.5	.5	.5	.5	.0	.5
14	11.5	9.0	10.5	---	---	---	.5	.5	.5	1.0	.5	.5
15	14.5	11.0	12.5	---	---	---	.5	.5	.5	1.5	.5	.5
16	15.5	13.0	14.0	12.0	8.0	---	.5	.0	.5	1.5	.5	.5
17	14.0	12.5	13.0	8.0	5.0	---	.5	.0	.5	1.0	.5	.5
18	12.5	10.0	11.0	---	3.5	---	.5	.0	.5	1.0	.5	1.0
19	10.0	8.5	9.0	---	---	---	.5	.0	.5	1.0	.5	.5
20	10.5	8.5	9.5	5.0	---	---	.5	.0	.0	.5	.5	.5
21	10.0	8.0	8.5	4.5	1.0	2.5	.5	.0	.0	1.0	---	---
22	8.0	7.5	8.0	1.5	.0	1.0	.5	.0	.5	1.0	.5	1.0
23	9.0	6.5	7.5	2.0	.5	1.5	.5	.0	.0	1.0	.5	1.0
24	8.5	6.5	7.5	1.0	.0	.5	.5	.0	.0	1.0	.5	.5
25	9.5	7.0	8.5	---	---	---	.5	.0	.0	2.0	.5	1.0
26	10.5	8.0	9.0	---	---	---	1.0	.0	.5	1.5	.5	1.0
27	---	8.5	---	---	---	---	.5	.5	.5	2.0	.5	1.5
28	---	---	---	---	---	---	.5	.5	.5	2.5	1.0	1.5
29	---	---	---	---	2.0	---	.5	.5	---	2.0	.5	1.0
30	11.0	9.0	---	1.0	---	---	.5	.0	.5	2.0	1.0	1.5
31	11.5	10.5	11.0	---	---	---	.5	.0	---	2.0	.0	1.0
MONTH	---	---	---	---	---	---	---	---	---	2.5	---	---

DELAWARE RIVER BASIN

01420500 BEAVER KILL AT COOKS FALLS, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.0	.0	1.5	1.5	.0	.5	7.0	5.5	6.5	14.5	10.5	12.5
2	3.5	2.5	3.0	2.5	.0	1.0	6.5	5.5	6.0	13.0	10.5	12.0
3	3.0	2.0	2.5	3.5	.5	2.0	5.5	4.0	5.0	13.5	8.0	10.5
4	2.0	1.5	2.0	2.0	.0	.5	4.0	3.0	3.5	12.5	9.5	11.0
5	1.5	.0	1.0	1.5	.0	.5	4.0	2.0	3.0	10.5	8.5	9.0
6	1.5	.0	.5	2.0	.0	.5	5.0	2.5	3.5	13.0	8.0	10.5
7	3.0	1.0	2.0	1.5	.0	.0	6.0	2.5	4.0	11.5	9.0	10.5
8	3.5	1.0	2.5	2.5	.0	.5	4.5	2.0	3.0	15.0	9.5	12.0
9	3.5	2.0	2.5	1.5	.0	.5	6.5	1.5	3.5	16.5	11.5	14.0
10	4.0	1.5	3.0	4.0	1.0	2.5	5.5	4.0	4.5	15.0	12.0	13.5
11	2.5	.5	1.5	5.5	3.0	4.0	5.5	3.0	5.0	12.0	8.5	10.0
12	2.5	1.0	1.5	5.0	3.5	4.0	4.5	2.0	3.0	11.5	7.5	9.5
13	3.0	.0	1.5	7.5	3.0	5.0	5.5	1.0	3.5	10.5	9.0	9.5
14	3.5	2.5	3.0	8.0	4.5	---	---	2.0	---	13.5	9.5	11.0
15	3.0	1.0	1.5	8.5	5.0	7.0	---	---	---	14.0	10.0	12.0
16	3.5	1.0	2.0	9.5	6.0	8.0	---	---	---	12.0	11.0	11.5
17	3.5	.0	2.0	9.5	8.0	9.0	---	5.0	---	12.0	11.0	11.5
18	1.5	.0	.5	8.0	4.5	6.5	---	---	---	11.5	9.5	10.5
19	2.5	.0	1.0	4.5	3.0	4.0	---	---	---	12.0	9.0	10.5
20	1.0	.0	.0	4.0	2.0	3.0	7.5	5.5	6.5	12.0	9.5	10.5
21	1.5	.0	.5	5.0	1.5	3.0	8.0	6.5	7.5	11.0	9.0	9.5
22	3.0	.0	1.0	6.5	2.0	4.0	11.5	6.5	8.5	11.0	8.5	9.5
23	5.0	3.0	3.5	5.5	3.0	4.5	13.0	7.5	10.0	11.5	8.5	10.0
24	3.0	1.5	2.0	3.0	1.0	2.0	13.0	8.0	10.5	14.0	9.0	11.5
25	1.5	.0	.0	4.5	1.0	2.5	---	9.5	---	15.0	9.5	12.0
26	.0	.0	.0	3.5	1.0	2.0	17.5	---	---	13.0	10.5	11.5
27	.0	.0	.0	2.5	.0	1.0	19.0	13.0	16.0	13.0	10.0	11.5
28	.5	.0	.0	3.5	.0	1.5	17.5	13.0	15.5	15.5	10.5	13.0
29	---	---	---	4.5	.0	2.5	16.5	13.5	15.0	14.0	10.5	12.0
30	---	---	---	3.5	1.5	2.5	14.0	11.5	12.5	14.0	9.5	11.5
31	---	---	---	---	2.0	---	---	---	---	15.0	8.5	11.5
MONTH	5.0	0.0	1.5	---	0.0	---	---	---	---	16.5	7.5	11.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.0	9.5	12.5	20.0	17.5	18.5	23.0	17.0	20.0	21.0	16.0	18.5
2	16.5	11.0	14.0	21.5	16.5	19.0	23.5	17.5	20.5	22.0	17.0	19.0
3	17.5	13.5	15.5	24.0	17.5	20.0	25.5	19.0	22.0	21.0	17.5	19.0
4	16.0	11.0	13.5	25.5	18.0	21.5	25.5	19.5	22.5	20.0	15.0	17.5
5	15.0	8.5	12.0	28.0	21.5	24.0	22.5	18.0	20.0	19.5	16.5	17.5
6	14.5	10.0	12.5	22.5	16.5	19.0	18.0	17.0	17.0	21.5	17.0	19.0
7	17.5	12.5	14.5	22.5	15.0	18.0	19.0	16.5	17.5	19.5	18.0	---
8	14.5	12.0	13.0	19.5	16.0	18.0	20.0	17.0	18.5	19.5	15.5	---
9	15.5	11.5	13.0	20.0	17.0	18.5	20.5	16.5	18.5	16.0	13.5	14.0
10	17.0	13.5	15.0	23.0	17.0	19.5	19.0	17.5	18.0	19.0	13.5	16.0
11	14.5	12.5	13.5	19.5	16.0	17.5	20.0	16.5	18.0	20.5	16.5	18.5
12	18.0	10.5	14.0	15.5	12.5	14.0	21.0	16.5	18.5	20.5	17.5	19.0
13	16.5	12.5	15.0	15.5	11.5	13.5	23.5	17.0	19.5	21.5	17.5	19.5
14	16.0	13.5	14.5	15.5	13.0	14.5	20.5	17.0	18.5	20.5	17.5	19.0
15	18.5	14.0	16.0	---	14.0	---	20.5	16.0	18.0	19.0	16.5	18.0
16	20.5	15.0	18.0	---	---	---	20.0	15.5	18.0	16.5	14.0	15.0
17	22.5	17.5	20.0	---	---	---	22.0	16.5	19.0	14.0	11.5	13.0
18	20.5	18.5	19.5	---	---	---	22.0	17.0	19.5	14.0	9.5	11.5
19	---	---	---	---	---	---	20.0	16.0	18.0	11.5	10.0	10.5
20	---	---	---	---	19.5	---	16.0	14.5	15.0	13.5	11.0	12.0
21	21.5	16.5	19.0	---	---	---	14.5	13.5	14.0	14.5	10.5	12.5
22	22.0	17.0	20.0	23.5	19.5	---	17.0	13.5	15.0	13.0	12.0	12.5
23	23.0	18.5	---	22.5	20.5	21.5	16.5	15.0	16.0	13.5	11.5	12.5
24	20.0	17.0	18.0	24.0	19.5	21.5	16.5	15.0	16.0	13.0	10.5	11.5
25	18.5	15.5	17.0	25.0	19.5	22.0	17.5	14.5	16.0	13.5	9.5	11.5
26	21.5	15.5	18.5	25.5	19.5	22.5	19.5	15.0	17.0	13.0	10.5	11.5
27	21.5	17.0	19.5	25.0	20.0	22.5	19.0	16.0	17.5	15.0	11.0	13.0
28	22.5	18.0	20.0	26.0	20.0	23.0	22.5	16.0	18.0	16.0	12.5	14.0
29	22.0	17.5	19.5	25.0	20.5	22.5	22.0	19.0	20.5	16.0	13.0	14.5
30	20.5	18.0	19.5	25.5	20.5	23.0	21.0	16.5	18.5	16.5	14.0	15.0
31	---	---	---	23.5	19.0	21.0	20.5	16.0	18.0	---	---	---
MONTH	---	---	---	---	---	---	25.5	13.5	18.0	22.0	9.5	---

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 mi^2.

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 mi^2 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 ft^3/s, Aug. 24, 1933, gage height, 20.60 ft, at former site and datum, from rating curve extended above 22,000 ft^3/s; minimum discharge, 52 ft^3/s, July 23, 1964, gage height, 1.16 ft, at former site and datum; minimum daily discharge, 68 ft^3/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 ft^3/s, from rating curve extended above 22,000 ft^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,000 ft^3/s, Oct. 20, gage height, 10.22 ft; minimum, 223 ft^3/s, Aug. 2, 3, gage height, 2.40 ft; minimum daily, 230 ft^3/s, Aug. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	415	877	697	e810	2490	e960	1150	626	912	451	269	606
2	444	788	535	e860	2390	e870	1010	527	758	355	236	565
3	709	688	e620	e660	2850	e800	2110	472	684	310	230	521
4	550	672	e500	e600	2640	e710	3410	452	641	288	239	453
5	483	601	e600	e600	2220	e600	3090	785	595	285	299	414
6	453	579	e620	e540	1680	e500	2770	787	543	278	1130	398
7	432	573	e570	e480	1440	e450	2430	656	543	274	1260	373
8	398	543	e500	e460	1330	e440	2000	640	510	249	811	358
9	380	681	e470	e460	1300	e440	1620	597	501	277	572	328
10	364	1310	e480	e460	2950	485	1640	1550	483	273	540	357
11	382	1060	e500	e440	3220	561	4800	6560	450	241	1270	354
12	392	909	e460	e420	2550	1200	4550	5400	423	468	903	310
13	361	809	e410	e400	1970	2080	3830	5600	383	1140	715	292
14	341	750	e350	e380	1680	2470	3250	8110	370	653	992	278
15	350	705	e370	e430	1480	2020	2900	5980	353	509	767	376
16	370	1470	e420	e460	1970	1670	2620	5010	343	568	638	406
17	426	3190	e410	e500	3320	1830	2130	5470	325	492	580	318
18	776	2180	e390	e960	e2400	2840	1780	5180	323	423	531	284
19	1030	1700	e370	e1400	e2000	2530	1360	4710	350	397	494	270
20	6770	1470	e380	e1250	e1600	3490	1070	4050	320	396	480	287
21	8820	1490	e370	e1150	e1150	3880	1120	4140	290	446	472	281
22	4350	1150	e340	e1050	1200	3550	1070	4130	287	372	450	271
23	2990	973	e340	e900	2590	3860	854	3530	358	355	404	289
24	2200	848	e340	e840	3330	3690	738	2950	418	359	510	280
25	1660	746	e330	e980	2400	3300	683	2490	354	323	1410	260
26	1290	746	e330	e4500	e1300	2870	666	2130	301	293	893	248
27	1050	753	e330	3780	e1180	2380	599	1800	276	277	711	242
28	874	806	e330	2740	e1080	1870	556	1470	263	283	699	236
29	766	945	e320	2130	---	1490	521	1200	280	266	1230	232
30	687	776	e320	4210	---	1260	562	1560	341	270	861	239
31	638	---	e350	3190	---	1210	---	1170	---	278	689	---
TOTAL	41154	30788	13352	38040	57710	56306	56889	89732	12978	11849	21285	10126
MEAN	1327	1026	431	1227	2061	1816	1896	2895	433	382	687	338
MAX	8820	3190	697	4500	3330	3880	4800	8110	912	1140	1410	606
MIN	341	543	320	380	1080	440	521	452	263	241	230	232

CAL YR 1989 TOTAL 340582 MEAN 933 MAX 10700 MIN 146
WTR YR 1990 TOTAL 440206 MEAN 1206 MAX 8820 MIN 230

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.

REMARKS.--Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1968-75, 1978, 1980-82, 1984, 1986-90), 31.5°C, Aug. 2, 1975; minimum (water years 1968-76, 1978-79, 1981-90), 0.0°C on many days during winter periods, except 1978.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 27.0°C, July 5, 28, 30; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	12.0	10.0	11.0	.5	.0	.0	.0	.0	.0
2	---	---	---	9.5	8.0	8.5	.0	.0	.0	.0	.0	.0
3	---	---	---	8.0	6.5	7.5	.0	.0	.0	.0	.0	.0
4	---	---	---	6.5	5.0	5.5	.0	.0	.0	.0	.0	.0
5	---	---	---	7.0	5.0	6.0	.0	.0	.0	.0	.0	.0
6	---	---	---	9.0	6.5	7.5	.0	.0	.0	.0	.0	.0
7	---	---	---	9.0	8.0	8.5	.0	.0	.0	.0	.0	.0
8	---	---	---	10.5	8.5	9.5	.0	.0	.0	.0	.0	.0
9	---	---	---	10.5	9.0	10.0	.0	.0	.0	.0	.0	.0
10	---	---	---	9.0	7.0	7.5	.0	.0	.0	.0	.0	.0
11	---	---	---	7.0	6.0	6.5	.0	.0	.0	.0	.0	.0
12	---	---	---	6.5	5.5	6.0	.0	.0	.0	.0	.0	.0
13	---	---	---	6.0	4.5	5.5	.0	.0	.0	.0	.0	.0
14	---	---	---	7.5	5.0	6.5	.0	.0	.0	.0	.0	.0
15	---	---	---	10.5	7.5	9.0	.0	.0	.0	.0	.0	.0
16	---	---	---	12.0	9.0	10.5	.0	.0	.0	.0	.0	.0
17	---	---	---	8.5	5.0	6.5	.0	.0	.0	.0	.0	.0
18	---	---	---	5.0	3.5	4.5	.0	.0	.0	.0	.0	.0
19	---	---	---	3.5	2.5	3.0	.0	.0	.0	.0	.0	.0
20	---	---	---	4.5	3.0	4.0	.0	.0	.0	.0	.0	.0
21	---	---	---	4.5	1.5	3.0	.0	.0	.0	.0	.0	.0
22	---	---	---	1.5	.5	1.0	.0	.0	.0	.0	.0	.0
23	---	---	---	1.5	1.0	1.5	.0	.0	.0	.5	.0	.0
24	---	---	---	1.0	.5	1.0	.0	.0	.0	.5	.5	.5
25	---	---	---	1.5	.5	1.0	.0	.0	.0	.5	.5	.5
26	11.5	9.0	10.0	3.5	1.5	2.5	.0	.0	.0	1.0	.0	.5
27	11.5	9.5	10.5	3.0	2.5	3.0	.0	.0	.0	2.0	1.0	1.5
28	12.5	10.5	11.0	5.0	3.0	4.5	.0	.0	.0	2.5	2.0	2.0
29	12.0	10.0	10.5	4.5	.5	2.0	.0	.0	.0	2.5	1.5	2.0
30	12.0	9.5	10.5	.5	.0	.5	.0	.0	.0	1.5	1.5	1.5
31	12.0	11.0	11.5	---	---	---	.0	.0	.0	2.0	1.0	1.5
MONTH	---	---	---	12.0	0.0	5.5	0.5	0.0	0.0	2.5	0.0	0.5

DELAWARE RIVER BASIN

01421000 EAST BRANCH DELAWARE RIVER AT FISHS EDDY, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.5	1.5	2.0	1.0	.5	.5	5.5	5.5	5.5	---	---	---
2	3.0	2.5	2.5	3.0	.5	1.5	6.5	5.0	5.5	---	---	---
3	3.0	2.5	3.0	3.0	1.0	2.0	6.0	5.0	5.5	---	---	---
4	2.5	1.5	2.5	2.0	.5	1.0	5.0	4.5	4.5	---	---	---
5	1.5	1.0	1.0	1.5	.5	1.0	4.5	4.0	4.0	---	---	---
6	1.0	.5	1.0	2.5	.5	1.5	5.5	4.0	5.0	---	---	---
7	3.0	1.0	2.0	1.5	.5	1.0	6.5	4.0	5.0	---	---	---
8	3.5	2.5	3.0	2.5	.5	1.5	5.0	3.5	4.5	---	---	---
9	3.5	2.5	3.0	1.5	.5	1.0	6.5	3.0	5.0	---	---	---
10	3.5	2.5	3.5	4.5	1.5	3.0	6.0	5.5	5.5	---	---	---
11	2.5	1.5	2.0	6.0	4.0	5.0	6.0	4.5	6.0	---	---	---
12	2.5	2.0	2.0	6.5	5.0	6.0	4.5	3.0	4.0	---	---	---
13	2.5	1.0	2.0	9.0	5.0	6.5	6.0	3.0	4.5	---	---	---
14	3.5	2.5	3.0	9.5	6.0	8.0	5.5	3.5	4.5	---	---	---
15	3.0	1.5	2.5	10.0	7.0	8.5	7.0	5.0	6.0	---	---	---
16	3.0	1.5	2.0	11.0	8.0	9.5	8.5	5.0	7.0	---	---	---
17	3.0	1.0	2.5	10.5	9.5	10.5	7.5	5.0	6.0	12.0	11.0	11.5
18	1.5	.5	1.0	9.0	6.0	7.5	6.5	3.5	5.0	11.5	10.0	11.0
19	3.5	1.0	2.0	5.5	4.5	5.0	9.0	4.0	6.5	11.5	8.5	10.0
20	1.5	.5	1.0	5.0	3.5	4.0	8.0	7.0	7.5	11.0	8.5	10.0
21	1.5	.5	1.0	5.5	3.0	4.0	9.0	7.5	8.5	10.5	9.5	10.0
22	3.5	1.0	2.0	6.5	3.5	5.0	12.0	7.5	9.5	10.5	9.0	10.0
23	5.0	3.5	4.5	6.0	3.5	5.0	14.0	8.5	11.5	11.0	9.0	10.5
24	4.0	2.0	2.5	4.0	2.5	3.5	14.5	9.5	12.0	13.5	9.5	11.5
25	2.0	.5	1.0	5.5	2.5	4.0	15.0	11.0	13.0	15.0	10.5	12.5
26	.5	.5	.5	4.0	2.5	3.5	---	---	---	13.5	11.0	12.0
27	.5	.5	.5	3.5	1.0	2.5	---	---	---	14.0	11.0	12.5
28	.5	.5	.5	4.5	1.0	3.0	---	---	---	16.0	12.0	14.0
29	---	---	---	5.5	2.5	4.0	---	---	---	15.0	12.0	13.5
30	---	---	---	5.0	3.5	4.0	---	---	---	15.0	11.0	13.0
31	---	---	---	5.5	3.5	4.5	---	---	---	16.0	11.0	13.5
MONTH	5.0	0.5	2.0	11.0	0.5	4.0	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.0	12.0	15.0	21.5	18.5	20.0	23.5	17.5	20.0	21.0	17.0	19.0
2	18.5	14.0	16.5	23.0	18.0	20.5	24.5	18.0	21.0	21.0	18.0	19.5
3	20.0	16.5	18.0	24.0	19.0	21.5	25.5	20.0	23.0	21.0	17.5	19.5
4	18.0	13.5	15.5	26.0	19.5	23.0	26.0	20.5	23.5	21.0	16.5	18.5
5	17.0	11.5	14.0	27.0	23.0	25.0	23.5	18.5	21.0	20.0	17.0	19.0
6	17.0	13.0	15.0	23.0	18.0	20.5	18.5	17.5	18.0	22.5	18.5	20.5
7	19.5	15.0	17.0	23.0	16.5	19.5	19.5	17.0	18.0	20.5	19.0	20.0
8	17.0	15.0	15.5	20.5	18.0	19.5	21.5	17.5	19.5	21.0	16.5	18.5
9	17.5	14.0	15.5	22.0	18.5	20.5	20.5	18.0	19.5	17.5	15.0	16.0
10	18.0	15.5	16.5	25.0	20.0	22.0	19.5	18.0	18.5	20.0	14.5	17.0
11	16.5	14.0	15.5	21.5	18.5	20.0	20.0	17.5	18.5	21.5	17.5	19.5
12	20.0	12.5	16.0	18.5	15.5	16.5	22.0	18.0	20.0	21.5	18.5	20.5
13	19.0	15.0	17.0	18.0	14.5	16.0	22.5	19.0	20.5	23.5	19.5	21.0
14	18.0	16.0	17.0	19.0	16.0	17.5	21.0	18.5	20.0	22.0	19.5	21.0
15	19.5	16.0	18.0	21.0	17.5	19.0	22.0	18.0	20.0	20.5	18.0	19.5
16	24.0	17.5	20.5	21.5	18.0	19.5	22.5	18.0	20.5	17.5	15.5	16.5
17	24.5	20.5	22.5	23.5	18.0	21.0	23.5	19.0	21.5	15.5	13.0	14.5
18	23.0	20.0	21.5	25.0	19.5	22.5	24.5	20.0	22.0	15.5	11.0	13.0
19	24.0	19.0	21.5	25.5	21.0	23.0	22.5	18.5	20.5	13.0	11.0	12.0
20	22.0	19.0	20.5	25.0	21.0	23.0	18.5	16.0	17.0	13.5	11.5	12.5
21	22.0	18.0	20.5	23.0	21.0	22.0	16.5	15.5	16.0	16.0	11.5	13.5
22	23.5	19.0	21.5	24.5	20.0	22.0	19.0	15.5	17.0	14.5	13.0	13.5
23	22.5	20.0	21.0	22.5	20.5	21.5	18.5	17.0	17.5	14.0	12.5	13.0
24	20.5	18.5	19.0	24.0	19.0	21.5	18.5	17.0	18.0	14.0	11.5	12.5
25	19.5	17.0	18.5	25.0	19.5	22.5	19.0	16.5	17.5	15.5	11.0	13.0
26	22.5	17.0	19.5	26.5	20.5	23.5	21.5	17.5	19.5	14.0	12.0	13.0
27	23.0	18.5	21.0	26.0	20.5	23.5	22.0	19.0	20.5	17.0	12.5	14.5
28	24.0	19.5	21.5	27.0	21.5	24.0	23.5	19.0	21.0	18.5	14.5	16.0
29	23.0	19.5	21.0	26.5	21.5	24.0	21.0	19.0	20.0	18.0	15.0	16.5
30	22.0	19.5	20.5	27.0	22.0	24.5	20.5	17.5	19.0	18.0	15.5	16.5
31	---	---	---	24.5	19.5	22.0	21.0	17.0	19.0	---	---	---
MONTH	24.5	11.5	18.5	27.0	14.5	21.5	26.0	15.5	19.5	23.5	11.0	16.5

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 mi^2.

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.--40 years, 579 ft^3/s, 23.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft^3/s, Mar. 15, 1986, gage height, 14.84 ft, from floodmark in gage well; minimum discharge, 12 ft^3/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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	0230	*6,420	*9.81	No other peak greater than base discharge.			

Minimum discharge, 42 ft^3/s, Sept. 29, 30, gage height, 2.61 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	538	460	e640	e1200	e600	736	407	474	628	112	94
2	132	467	e370	715	2020	e560	661	353	408	511	105	96
3	156	422	e430	451	1910	e580	1240	317	366	424	90	99
4	135	447	e340	493	1640	e450	1480	303	336	360	82	84
5	119	385	e350	e640	e1200	e400	1350	595	314	307	90	78
6	115	378	e390	e430	e1000	418	1190	544	277	275	283	75
7	113	388	e370	e380	e940	e310	1030	463	251	270	349	78
8	105	360	e290	e360	e900	e300	899	583	231	228	255	80
9	100	563	e270	e350	e1000	e300	797	518	290	286	172	73
10	96	823	e260	e350	2600	353	918	785	495	271	239	81
11	103	687	e240	e340	1890	503	3110	2020	329	204	320	80
12	105	642	e210	e330	1490	1010	1990	1440	273	334	272	72
13	97	574	e200	e260	1220	1100	1570	1660	229	570	212	66
14	90	536	e190	e240	1170	1140	1300	2190	207	330	221	60
15	136	508	e210	e260	1030	1070	1150	1560	198	302	185	87
16	189	1090	e190	e280	3120	983	997	1440	188	397	155	98
17	230	1400	e200	e450	3010	1360	871	1900	369	283	137	80
18	559	1010	e210	1060	e1600	1970	824	2170	263	240	125	67
19	562	887	e200	922	e1300	1460	682	1770	312	211	121	62
20	2880	861	e190	e700	e1000	2210	595	1490	230	213	119	61
21	4940	1050	e180	778	e900	1840	712	2380	220	253	120	59
22	2360	790	e175	704	e900	1770	654	1940	383	200	117	58
23	1630	712	e170	615	1360	2540	546	1570	337	184	109	57
24	1240	641	e160	607	1150	1860	493	1310	408	190	125	55
25	1010	585	e150	757	960	1560	500	1070	325	164	159	52
26	850	627	e145	3460	e680	1330	515	899	279	141	135	50
27	732	679	e140	2060	e640	1070	438	785	230	126	112	49
28	637	612	e135	1590	e620	910	405	698	215	116	112	47
29	559	583	e130	1310	---	816	403	610	208	112	170	45
30	496	486	e130	2510	---	770	417	846	1130	109	133	45
31	453	---	e200	e1400	---	774	---	603	---	105	107	---
TOTAL	21058	19731	7285	25442	38450	32317	28473	35219	9775	8344	5043	2088
MEAN	679	658	235	821	1373	1042	949	1136	326	269	163	69.6
MAX	4940	1400	460	3460	3120	2540	3110	2380	1130	628	349	99
MIN	90	360	130	240	620	300	403	303	188	105	82	45
CFSM	2.05	1.98	.71	2.47	4.14	3.14	2.86	3.42	.98	.81	.49	.21
IN.	2.36	2.21	.82	2.85	4.31	3.62	3.19	3.95	1.10	.93	.57	.23

CAL YR 1989 TOTAL 196206 MEAN 538 MAX 4940 MIN 51 CFSM 1.62 IN. 21.98
WTR YR 1990 TOTAL 233225 MEAN 639 MAX 4940 MIN 45 CFSM 1.92 IN. 26.13

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 mi^2.

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.--No estimated daily discharges. Records good except those for periods below 300 ft^3/s, which are poor. Subsequent to October 1963, entire flow from 454 mi^2 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 ft^3/s, Mar. 16, 1986, gage height, 13.07 ft; minimum daily, 7.2 ft^3/s, Feb. 8, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,610 ft^3/s, Feb. 17, gage height, 9.70 ft; minimum daily, 39 ft^3/s, Nov. 2-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	42	44	167	1320	1050	1190	59	577	330	437	187
2	44	39	44	316	1550	996	1110	61	498	329	352	191
3	44	39	44	301	2080	972	1240	57	464	329	963	151
4	43	39	45	86	2070	907	1650	55	406	436	911	62
5	43	39	45	45	2030	815	1830	69	355	441	542	54
6	42	40	45	41	1900	749	1870	101	292	336	396	145
7	196	40	45	41	1740	649	1760	133	235	526	339	213
8	129	40	45	40	1610	575	1590	155	160	449	334	254
9	95	42	45	41	1530	539	1430	184	119	471	336	80
10	217	41	46	42	2080	521	1350	241	99	330	339	144
11	125	41	45	42	2700	546	2350	809	100	331	336	66
12	284	41	45	42	2550	694	3050	1450	85	336	336	57
13	746	42	46	42	2230	1020	2820	1840	60	332	337	241
14	488	42	46	42	1970	1220	2460	2520	53	333	335	651
15	222	43	75	42	1810	1360	2140	2610	415	445	336	558
16	144	63	331	41	2260	1390	1870	2440	341	448	336	375
17	100	65	245	42	3480	1480	1620	2570	331	448	336	386
18	48	49	319	44	3270	2080	1450	2910	332	583	336	201
19	49	46	293	44	2800	2220	1270	2930	438	665	336	280
20	56	45	438	44	2380	2690	1010	2650	335	570	105	542
21	54	45	482	45	1930	2970	882	2630	331	404	57	682
22	49	44	354	45	1670	2800	820	2870	331	341	54	367
23	48	44	429	44	1690	3040	695	2590	331	343	55	359
24	48	44	446	45	1760	3060	539	2270	331	340	55	560
25	48	44	635	45	1640	2730	428	1950	331	340	79	624
26	48	45	551	54	1400	2390	315	1660	330	340	330	873
27	48	44	487	50	1210	2060	218	1440	330	756	380	895
28	48	45	359	48	1120	1740	141	1270	328	630	416	1000
29	48	44	711	48	---	1500	98	1100	417	448	222	916
30	48	44	420	350	---	1350	66	903	332	541	150	871
31	49	---	194	1120	---	1250	---	736	---	560	146	---
TOTAL	3694	1321	7399	3439	55780	47363	39262	43263	9087	13511	10022	11985
MEAN	119	44.0	239	111	1992	1528	1309	1396	303	436	323	399
MAX	746	65	711	1120	3480	3060	3050	2930	577	756	963	1000
MIN	42	39	44	40	1120	521	66	55	53	329	54	54

CAL YR 1989 TOTAL 98168.1 MEAN 269 MAX 1510 MIN 8.4
WTR YR 1990 TOTAL 246126 MEAN 674 MAX 3480 MIN 39

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1963-78, 1980-82, 1984-86, 1988, 1990), 30.5°C July 2, 1963; minimum, 0.0°C on many days during winter periods, except 1969, 1973, 1986-87, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 17.0°C, June 12; minimum, 0.5°C Jan. 13, 30.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	15.5	10.0	12.0	12.0	9.0	11.0	4.5	2.0	3.0	3.5	2.5	3.0
2	13.5	12.0	12.5	10.5	7.5	9.0	3.0	1.5	2.0	4.0	3.0	3.5
3	12.0	9.5	11.5	9.0	6.5	8.5	3.0	1.0	2.0	4.0	3.5	3.5
4	11.5	8.5	9.5	9.5	5.5	7.5	2.0	1.0	1.5	3.5	2.0	3.0
5	14.0	8.5	10.5	11.0	6.5	8.5	3.0	1.5	2.5	4.5	1.5	3.5
6	13.0	10.0	11.5	12.0	8.5	10.0	4.5	3.0	3.5	4.0	1.5	2.5
7	11.5	10.0	11.0	11.5	8.5	10.0	4.0	1.5	2.5	4.0	1.0	2.5
8	11.5	10.0	10.5	12.0	10.0	10.5	2.5	1.5	2.0	4.0	1.0	2.5
9	10.0	8.5	9.5	11.0	9.5	10.5	4.0	1.5	2.5	4.5	1.5	3.0
10	12.0	10.0	11.0	9.0	7.5	8.0	4.0	2.0	3.0	3.5	3.0	3.5
11	12.0	10.0	10.5	8.0	7.0	7.5	4.0	3.0	3.5	3.5	3.0	3.0
12	13.0	10.5	11.0	8.5	6.0	7.5	4.0	2.5	3.5	3.5	1.5	2.5
13	12.5	11.0	11.5	10.0	6.0	7.5	4.0	1.5	3.0	2.0	.5	1.0
14	12.0	11.0	11.5	12.0	6.5	9.0	2.5	1.5	2.0	3.0	1.0	2.0
15	13.5	11.0	12.0	13.0	10.5	11.5	3.0	1.5	2.0	3.5	2.0	2.5
16	14.5	11.0	12.5	12.5	9.0	11.5	3.5	3.0	3.5	6.0	2.5	4.0
17	12.5	11.0	12.0	8.5	5.5	7.0	4.5	1.5	3.5	5.5	3.5	4.5
18	12.0	10.0	11.0	7.0	4.0	5.5	4.5	3.5	4.0	6.5	3.5	5.0
19	10.0	9.0	9.5	7.0	3.5	5.0	4.0	2.5	3.5	3.5	1.5	2.5
20	11.0	9.5	10.5	8.0	5.5	6.5	4.0	4.0	4.0	2.0	1.5	2.0
21	10.0	8.5	9.5	6.5	2.5	4.0	4.0	3.0	3.5	2.5	2.0	2.5
22	10.5	8.5	9.0	6.0	2.5	4.0	3.5	3.0	3.0	3.5	2.5	3.0
23	13.5	8.0	10.0	6.5	4.0	5.0	3.5	3.0	3.5	5.5	2.5	3.5
24	14.0	7.5	10.5	6.0	3.5	4.5	3.5	3.0	3.0	5.5	2.5	3.5
25	14.5	9.5	11.5	6.5	3.5	5.0	3.0	3.0	3.5	4.0	2.5	3.0
26	14.5	10.0	11.5	6.5	4.5	6.0	3.5	3.0	3.0	4.0	2.5	3.0
27	14.0	10.5	12.0	6.5	3.5	5.0	3.5	3.0	3.0	5.5	1.5	3.0
28	14.0	10.5	12.0	8.5	5.0	6.5	3.5	3.5	3.5	4.0	2.5	3.0
29	14.0	10.0	11.0	5.0	2.0	3.0	3.5	3.5	3.5	3.0	1.5	2.5
30	14.0	9.5	11.0	4.5	2.0	3.0	3.5	3.5	3.5	2.0	.5	1.5
31	12.5	10.5	11.5	---	---	---	3.5	2.5	3.5	3.0	2.0	2.5
MONTH	15.5	7.5	11.0	13.0	2.0	7.5	4.5	1.0	3.0	6.5	0.5	3.0

DELAWARE RIVER BASIN

01425000 WEST BRANCH DELAWARE RIVER AT STILESVILLE, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.0	3.0	3.0	3.0	2.5	3.0	4.0	4.0	4.0	13.5	8.0	10.5
2	3.0	3.0	3.0	3.5	2.5	3.0	5.0	4.0	4.5	12.0	8.0	9.5
3	3.0	3.0	3.0	3.0	2.5	3.0	4.5	4.0	4.5	13.5	7.0	9.5
4	3.0	2.5	3.0	3.0	2.5	2.5	4.0	4.0	4.0	12.5	7.5	9.0
5	2.5	2.5	2.5	3.0	2.5	3.0	4.0	4.0	4.0	10.0	8.0	9.0
6	2.5	2.5	2.5	3.5	2.5	3.0	4.0	4.0	4.0	12.5	8.0	10.0
7	2.5	2.5	2.5	3.5	2.0	2.5	4.5	4.0	4.0	10.0	8.5	9.5
8	2.5	2.5	2.5	3.5	2.0	3.0	4.5	4.0	4.0	14.5	8.5	10.5
9	2.5	2.5	2.5	3.0	2.5	2.5	4.5	4.0	4.0	14.0	9.5	11.5
10	2.5	2.5	2.5	3.5	3.0	3.0	4.5	4.0	4.0	12.0	9.0	11.0
11	2.5	2.5	2.5	3.5	3.0	3.5	4.5	4.0	4.0	12.0	6.0	9.5
12	2.5	2.5	2.5	4.0	3.5	3.5	4.0	4.0	4.0	10.5	6.5	9.0
13	3.0	2.5	2.5	4.5	3.0	3.5	4.5	4.0	4.0	11.0	10.0	10.5
14	3.0	2.5	3.0	4.5	3.5	4.0	4.5	4.0	4.5	12.0	11.0	11.5
15	2.5	2.5	2.5	4.0	3.5	4.0	4.5	4.0	4.5	12.0	10.0	11.5
16	2.5	2.5	2.5	4.5	3.5	4.0	5.0	4.0	4.5	13.0	10.5	11.5
17	2.5	2.5	2.5	4.5	4.0	4.5	5.0	4.0	4.5	13.0	11.0	12.5
18	3.0	2.5	3.0	4.0	4.0	4.0	5.0	4.0	4.5	11.5	8.5	10.5
19	3.0	3.0	3.0	4.0	4.0	4.0	6.0	4.0	5.0	11.5	7.5	10.5
20	3.0	2.5	3.0	4.0	4.0	4.0	5.0	4.5	4.5	12.5	11.5	12.0
21	3.0	2.5	3.0	4.0	3.5	4.0	6.0	5.0	5.5	12.5	12.0	12.5
22	3.5	3.0	3.0	4.0	3.5	4.0	7.0	5.5	6.0	12.5	12.0	12.0
23	3.5	3.0	3.0	4.0	4.0	4.0	8.0	5.5	6.5	12.5	12.0	12.5
24	3.0	3.0	3.0	4.0	4.0	4.0	10.0	6.5	8.5	13.5	12.0	13.0
25	3.0	2.5	2.5	4.0	4.0	4.0	10.5	7.5	9.0	14.0	12.5	13.0
26	3.0	2.5	2.5	4.0	4.0	4.0	12.0	7.0	9.5	14.0	13.0	13.5
27	2.5	2.5	2.5	4.0	3.5	3.5	14.0	9.0	11.5	15.0	13.0	14.0
28	3.0	2.5	2.5	4.0	3.5	4.0	14.5	8.0	11.0	16.5	13.5	15.0
29	---	---	---	4.5	3.5	4.0	13.0	9.0	11.0	16.5	14.5	15.5
30	---	---	---	4.0	3.5	4.0	11.0	8.5	10.0	16.0	14.5	15.5
31	---	---	---	4.0	4.0	4.0	---	---	---	15.0	13.0	14.0
MONTH	3.5	2.5	2.5	4.5	2.0	3.5	14.5	4.0	6.0	16.5	6.0	11.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.0	13.5	15.0	7.5	6.5	7.0	9.0	7.0	7.5	11.5	7.0	9.0
2	16.0	13.5	14.5	8.0	6.5	7.5	9.0	6.5	7.5	11.5	7.5	9.0
3	16.0	12.5	14.5	8.5	6.5	7.5	8.0	6.5	7.5	13.0	7.5	10.0
4	14.5	12.5	13.5	9.0	6.0	7.5	8.0	7.5	7.5	16.0	9.0	11.5
5	15.0	12.5	13.5	8.5	6.5	7.5	7.5	7.5	7.5	13.0	10.0	11.0
6	15.0	13.0	14.0	6.5	6.5	6.5	7.5	7.5	7.5	13.5	7.5	10.0
7	17.0	12.5	14.5	8.0	6.5	7.0	7.5	7.5	7.5	11.5	7.5	8.5
8	13.5	12.5	13.0	7.5	6.5	7.0	8.0	7.0	7.5	10.0	7.0	8.5
9	15.5	12.0	13.0	7.5	7.0	7.0	7.5	7.0	7.5	9.5	8.0	9.0
10	14.5	11.0	13.0	9.0	6.5	7.5	7.5	7.0	7.5	13.5	7.5	9.5
11	12.0	11.0	11.5	7.0	6.5	7.0	8.0	7.0	7.5	15.5	9.5	11.5
12	17.0	9.5	12.5	6.5	6.5	6.5	8.5	7.5	8.0	15.0	10.0	11.5
13	15.5	10.0	12.5	9.0	6.5	7.0	9.5	7.5	8.0	10.5	8.0	9.5
14	13.5	10.0	11.5	8.5	6.5	7.5	8.5	7.5	8.0	9.5	8.0	8.5
15	11.0	6.0	7.0	8.5	7.0	7.5	9.0	7.0	8.0	8.5	8.0	8.0
16	8.5	5.5	7.0	8.5	6.5	7.5	9.0	7.5	8.0	8.0	7.5	8.0
17	8.5	6.0	7.0	8.5	6.5	7.5	9.0	7.5	8.0	8.0	7.0	7.5
18	7.5	6.0	6.5	8.0	7.0	7.5	9.0	7.5	8.0	10.5	7.0	8.5
19	7.5	6.0	6.5	8.0	7.0	7.5	7.5	7.5	7.5	9.5	7.0	7.5
20	8.0	6.0	6.5	8.5	7.0	7.5	8.5	7.5	8.0	8.5	7.0	7.5
21	8.5	6.0	7.0	8.5	7.0	7.5	9.5	8.5	9.0	8.5	7.0	8.0
22	8.5	6.0	7.0	9.0	6.5	7.5	12.0	9.0	10.5	8.0	7.0	7.5
23	9.0	6.0	7.0	8.0	7.0	7.0	11.5	9.5	10.5	8.5	7.0	7.5
24	7.5	6.0	6.5	8.5	6.5	7.5	12.5	10.0	10.5	9.0	7.0	7.5
25	8.0	6.5	7.0	9.0	7.0	7.5	13.0	7.5	10.5	9.0	7.5	8.0
26	9.5	6.0	7.5	9.5	7.0	8.0	9.5	7.5	8.0	9.0	7.5	8.0
27	8.5	6.0	7.0	9.0	6.0	7.5	9.5	7.5	8.0	9.0	7.5	8.0
28	8.0	6.5	7.0	9.0	7.0	7.5	10.5	7.5	8.5	9.0	8.0	8.5
29	9.0	6.5	7.0	9.0	6.5	7.5	12.5	8.0	9.5	9.0	8.0	8.5
30	8.0	7.0	7.0	9.0	7.0	7.5	13.5	7.5	10.0	9.0	8.0	8.5
31	---	---	---	7.0	7.0	7.0	13.0	7.0	9.5	---	---	---
MONTH	17.0	5.5	10.0	9.5	6.0	7.5	13.5	6.5	8.5	16.0	7.0	9.0

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 mi^2.

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 fair except those for estimated daily discharges, which are poor. Subsequent to October 1963, entire flow from 454 mi^2 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 ft^3/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 ft^3/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 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,590 ft^3/s, Nov. 16, gage height, 7.75 ft; minimum, 60 ft^3/s, Sept. 13, gage height, 1.35 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	163	203	147	1800	1210	1410	159	671	445	458	212
2	69	146	e200	368	2300	1170	1320	149	589	386	366	213
3	68	140	e190	372	2770	1200	1680	135	534	367	810	171
4	65	154	e180	184	2760	1090	2240	129	488	448	906	88
5	63	139	e175	137	2530	952	2360	293	420	466	607	67
6	68	139	e170	124	2300	878	2300	269	354	383	539	134
7	145	140	e165	121	2110	769	2130	287	292	488	420	212
8	203	137	e160	120	1980	699	1930	311	221	498	376	248
9	76	252	e155	113	1980	654	1720	318	177	517	360	110
10	253	354	e150	114	3060	651	1710	567	145	359	371	149
11	95	295	e145	125	3440	708	3220	1570	140	351	370	87
12	284	258	e140	121	3100	936	3590	1910	129	507	356	65
13	616	227	e135	e120	2660	1310	3230	2490	102	557	351	118
14	554	210	e130	e110	2370	1500	2800	3460	84	431	359	618
15	301	199	e160	e110	2180	1620	2460	3190	322	492	348	550
16	107	2270	e410	e100	2870	1630	2150	3000	426	502	340	395
17	187	1800	e320	178	4210	1850	1890	3270	383	485	335	400
18	108	899	e400	672	3750	2430	1700	3520	384	566	333	245
19	270	587	e370	600	3230	2520	1500	3400	476	653	334	239
20	1040	488	e510	474	2730	3340	1230	3010	399	599	172	432
21	987	481	e550	452	2220	3470	1170	2930	375	446	84	641
22	511	356	e420	378	1990	3300	1060	3090	363	364	72	402
23	348	310	e500	309	2270	3470	916	2770	366	366	67	328
24	271	271	e510	292	2250	3410	749	2420	361	372	79	447
25	225	246	e690	356	2020	3040	645	2080	358	355	169	615
26	196	263	e610	1420	1700	2670	511	1790	354	348	330	801
27	177	259	e540	860	1460	2290	382	1550	351	683	381	775
28	164	253	e410	623	1360	1960	284	1370	351	636	449	920
29	150	228	e760	501	---	1710	224	1210	449	459	424	880
30	139	214	e470	1300	---	1570	182	1080	443	502	215	752
31	133	---	e240	1690	---	1460	---	853	---	595	185	---
TOTAL	7939	11878	10168	12591	69400	55467	48693	52580	10507	14626	10966	11314
MEAN	256	396	328	406	2479	1789	1623	1696	350	472	354	377
MAX	1040	2270	760	1690	4210	3470	3590	3520	671	683	906	920
MIN	63	137	130	100	1360	651	182	129	84	348	67	65

CAL YR 1989 TOTAL 167585 MEAN 459 MAX 3030 MIN 54
WTR YR 1990 TOTAL 316129 MEAN 866 MAX 4210 MIN 63

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 malfunctions of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1968-77, 1979-83, 1985, 1988-90), 30.5°C, July 22, 23, 1972, June 16, 1981; minimum (water years 1968, 1978-90), 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 25.0°C, Sept. 13; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.5	11.5	14.5	12.5	9.5	11.5	.5	.5	.5	2.5	.5	2.0
2	16.0	14.5	15.0	9.5	7.5	8.5	.5	.5	.5	3.0	.5	2.0
3	15.5	10.5	13.5	8.0	6.0	7.5	.5	.5	.5	2.5	.5	1.5
4	12.0	8.5	10.0	6.5	3.5	5.0	.5	.0	.5	2.5	1.5	2.0
5	14.5	8.0	11.0	7.5	4.0	6.0	.0	.0	.0	3.0	1.0	2.0
6	13.0	10.0	11.5	10.0	6.5	8.0	.0	.0	.0	1.0	.0	.5
7	12.5	10.5	12.0	10.5	8.0	9.0	.0	.0	.0	.5	.0	.5
8	10.5	9.0	10.0	11.0	9.0	10.0	.0	.0	.0	.5	.0	.0
9	9.5	7.0	9.0	10.5	9.5	10.5	.0	.0	.0	1.0	.0	.5
10	11.0	6.0	8.5	9.5	6.5	7.5	.0	.0	.0	1.5	.5	1.5
11	11.0	9.5	10.5	6.5	5.0	6.0	.0	.0	.0	---	---	---
12	13.5	8.5	11.0	6.5	5.0	6.0	.0	.0	.0	---	---	---
13	13.5	10.0	11.5	7.0	4.0	5.5	.0	.0	.0	---	---	---
14	12.5	9.5	11.0	9.0	5.0	7.0	.0	.0	.0	---	---	---
15	14.5	10.5	12.5	11.5	9.0	10.0	.0	.0	.0	---	---	---
16	17.5	13.0	15.0	12.5	8.5	11.5	.0	.0	.0	---	---	---
17	15.5	11.5	13.0	8.5	5.5	6.5	.0	.0	.0	---	---	---
18	11.5	9.5	11.0	5.5	4.0	5.0	.0	.0	.0	---	---	---
19	9.5	8.5	8.5	4.0	2.5	3.5	.0	.0	.0	---	---	---
20	10.5	8.5	9.5	5.5	3.0	4.5	.0	.0	.0	---	---	---
21	10.0	9.0	9.5	5.5	1.0	3.0	.0	.0	.0	---	---	---
22	9.0	8.0	8.5	2.0	.0	1.0	.0	.0	.0	---	---	---
23	9.5	6.5	8.0	2.5	.5	1.5	.0	.0	.0	---	---	---
24	10.5	6.0	8.5	2.0	.5	1.0	.5	.0	.0	---	---	---
25	12.5	8.0	10.0	2.5	.0	1.5	1.5	.5	1.0	---	---	---
26	13.0	9.5	11.0	4.5	2.5	3.5	1.5	1.0	1.5	---	---	---
27	13.0	10.0	11.5	4.0	2.0	3.5	1.0	1.0	1.0	---	---	---
28	14.5	11.0	12.5	6.5	3.5	5.0	2.5	.5	1.5	---	---	---
29	13.5	10.0	11.5	5.0	.0	2.5	3.0	1.5	2.0	---	---	---
30	11.5	9.5	10.5	.5	.0	.0	2.5	2.0	2.5	---	---	---
31	12.5	11.0	11.5	---	---	---	2.5	2.0	2.5	---	---	---
MONTH	17.5	6.0	11.0	12.5	0.0	5.5	3.0	0.0	0.5	---	---	---

DELAWARE RIVER BASIN

01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	1.5	1.0	1.0	---	---	---	18.0	12.0	14.5
2	---	---	---	---	---	---	---	---	---	15.5	11.0	13.5
3	---	---	---	---	---	---	---	---	---	17.0	9.0	13.0
4	---	---	---	---	---	---	---	---	---	15.5	11.5	13.0
5	---	---	---	---	---	---	---	---	---	11.5	9.5	10.5
6	---	---	---	---	---	---	---	---	---	15.0	8.5	11.5
7	---	---	---	---	---	---	---	---	---	11.5	10.0	11.0
8	---	---	---	---	---	---	---	---	---	17.0	9.5	13.0
9	---	---	---	---	---	---	---	---	---	17.5	12.0	15.0
10	---	---	---	5.5	3.0	---	---	---	---	14.5	12.0	13.0
11	---	---	---	5.5	3.5	4.5	5.5	4.0	5.0	12.0	7.0	10.0
12	---	---	---	6.0	4.0	5.0	5.0	3.5	4.0	11.5	6.0	9.0
13	---	---	---	8.0	3.5	5.5	6.0	3.5	4.5	11.0	9.5	10.0
14	---	---	---	7.0	4.0	5.0	5.5	3.5	4.5	13.5	10.5	12.0
15	---	---	---	6.5	4.0	5.0	6.0	4.5	5.0	13.0	11.0	12.0
16	---	---	---	7.5	4.0	5.5	7.5	4.0	5.5	13.0	10.5	12.0
17	---	---	---	6.5	5.5	6.0	5.5	4.0	5.0	13.5	11.5	12.5
18	---	---	---	5.5	4.0	4.5	7.0	3.5	5.0	12.0	9.0	11.0
19	---	---	---	4.0	3.5	4.0	8.5	3.5	6.0	11.5	8.0	10.0
20	---	---	---	4.0	3.0	3.5	6.0	4.5	5.5	13.0	11.0	12.0
21	3.5	---	---	5.0	3.0	4.0	7.0	5.5	6.0	12.0	11.5	12.0
22	4.0	2.0	3.0	5.5	3.5	4.5	11.0	6.0	8.0	12.5	11.5	12.0
23	4.5	3.0	4.0	5.0	4.0	4.5	12.5	5.5	8.5	12.5	11.5	12.0
24	3.0	2.5	2.5	---	---	---	13.0	7.0	10.0	14.0	11.5	13.0
25	2.5	1.5	2.0	---	---	---	14.5	8.5	11.5	15.5	12.0	13.5
26	1.5	1.0	1.0	---	---	---	18.0	9.5	14.0	14.5	12.5	13.5
27	1.0	1.0	1.0	---	---	---	19.0	10.0	14.5	16.0	12.5	14.0
28	1.0	1.0	1.0	---	---	---	18.0	13.0	15.5	18.0	13.0	15.0
29	---	---	---	---	---	---	16.5	14.0	15.0	15.5	14.0	15.0
30	---	---	---	---	---	---	15.0	12.5	13.5	18.0	14.0	15.5
31	---	---	---	---	---	---	---	---	---	18.5	12.5	15.0
MONTH	---	---	---	---	---	---	---	---	---	18.5	6.0	12.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.5	13.0	16.0	14.5	10.0	12.0	15.5	7.0	11.0	16.5	14.5	15.5
2	19.5	13.0	16.5	16.5	9.0	12.5	15.0	7.5	11.5	15.5	14.0	15.0
3	20.0	14.5	17.0	16.5	9.0	12.5	12.5	7.5	10.0	17.5	13.0	15.0
4	16.0	12.5	14.0	17.0	8.5	12.5	12.5	6.5	9.0	22.0	13.5	17.0
5	19.0	11.0	14.5	16.0	9.5	12.5	10.5	7.5	8.5	20.5	16.5	18.0
6	18.5	12.5	15.5	11.0	8.0	9.0	11.5	9.0	10.0	19.0	17.0	18.0
7	21.5	15.0	18.0	15.0	7.0	10.0	14.5	10.0	12.0	17.0	13.0	15.0
8	17.5	15.0	15.5	11.5	6.5	9.0	15.5	9.5	12.5	15.5	11.0	13.0
9	20.0	14.5	16.5	12.5	8.0	10.5	12.0	9.0	10.5	11.5	9.5	11.0
10	19.5	17.0	18.0	17.0	9.0	13.0	10.5	9.0	9.5	17.5	11.5	14.0
11	17.5	13.5	15.5	12.5	8.5	10.0	14.5	9.0	11.0	21.5	15.0	18.0
12	22.5	12.0	17.0	10.5	8.0	9.5	16.0	9.5	12.5	22.5	17.0	19.5
13	21.5	16.0	18.5	15.5	9.5	12.0	16.5	9.5	13.0	25.0	15.5	21.0
14	20.0	16.5	18.5	14.5	9.5	12.0	16.5	9.5	13.0	13.5	8.5	11.0
15	18.0	11.5	16.0	14.5	10.5	12.5	16.5	9.0	13.0	12.0	9.0	10.5
16	16.5	8.5	12.0	15.0	9.0	11.5	16.0	9.5	12.5	10.5	8.0	9.0
17	17.0	10.0	13.5	16.0	8.0	11.5	16.5	9.5	12.5	10.5	7.0	9.0
18	14.0	10.0	12.0	14.5	8.5	11.0	16.5	9.5	13.0	13.0	5.5	9.0
19	13.5	9.0	11.5	14.0	7.5	10.5	13.0	9.5	10.5	10.0	8.0	8.5
20	13.5	8.5	11.0	13.0	7.5	10.0	11.5	9.0	10.0	10.5	7.5	9.0
21	14.5	9.0	11.5	13.0	8.5	10.5	14.0	11.5	12.5	11.0	6.5	8.5
22	14.5	9.0	12.0	15.0	9.0	12.0	17.5	13.0	15.5	9.0	7.5	8.0
23	15.5	9.5	12.0	13.0	9.5	11.5	18.0	15.5	16.5	10.5	7.0	8.5
24	12.5	9.0	10.5	15.5	9.5	12.0	19.0	16.0	17.5	11.5	7.0	9.0
25	12.5	8.0	10.0	16.5	9.0	13.0	21.5	17.0	19.0	12.5	6.5	9.0
26	16.5	8.5	12.0	17.5	9.0	13.0	19.0	12.5	16.0	9.5	6.5	8.0
27	15.0	9.0	12.0	13.0	7.5	10.5	15.5	10.0	12.5	10.5	7.5	8.5
28	16.0	9.0	12.5	14.5	7.5	10.5	15.5	8.5	12.0	11.0	7.5	8.5
29	13.5	8.5	11.0	15.0	8.0	11.0	17.0	10.5	14.0	11.0	7.5	9.0
30	14.5	10.0	12.0	15.5	8.0	11.0	18.5	14.0	16.0	10.5	7.5	9.0
31	---	---	---	9.5	7.5	8.5	18.5	14.5	16.0	---	---	---
MONTH	22.5	8.0	14.0	17.5	6.5	11.0	21.5	6.5	12.5	25.0	5.5	12.0

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 mi^2.

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) 30.5°C, June 16, 1976, July 10, 1981; minimum (water years 1968-71, 1974, 1977-78, 1980-90), 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 25.5°C, Sept. 13, but may have been higher during periods of instrument malfunction; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	15.5	12.0	13.5	---	---	---	.5	.0	.0	.0	.0	.0
2	15.0	14.5	14.5	---	---	---	.5	.0	.0	.0	.0	.0
3	14.5	12.5	14.0	---	---	---	.5	.0	.0	.0	.0	.0
4	12.0	10.0	11.0	---	---	---	.0	.0	.0	.0	.0	.0
5	12.0	9.0	10.5	---	---	---	.0	.0	.0	.0	.0	.0
6	13.5	10.5	11.5	---	---	---	.0	.0	.0	.0	.0	.0
7	13.0	11.5	12.0	---	---	---	.0	.0	.0	.0	.0	.0
8	11.5	10.0	11.0	---	---	---	.0	.0	.0	.0	.0	.0
9	10.0	8.0	9.5	---	---	---	.0	.0	.0	---	.0	---
10	9.5	7.0	8.0	---	---	---	.0	.0	.0	.0	.0	.0
11	10.0	8.5	9.0	---	---	---	.0	.0	.0	---	.0	---
12	11.5	8.0	9.5	---	---	---	.0	.0	.0	---	.0	---
13	13.5	11.0	12.0	---	---	---	.0	.0	.0	.0	.0	.0
14	12.5	11.0	12.0	---	---	---	.0	.0	.0	.0	.0	.0
15	14.5	12.0	13.0	---	---	---	.0	.0	.0	---	.0	---
16	16.5	14.5	15.0	---	---	---	.0	.0	.0	---	.0	---
17	15.5	14.0	14.5	---	---	---	.0	.0	.0	---	---	---
18	14.0	11.0	12.5	---	---	---	.0	.0	.0	---	.0	---
19	11.0	8.5	10.0	---	---	---	.0	.0	.0	---	.0	---
20	10.0	8.5	9.0	---	---	---	.0	.0	.0	.0	.0	.0
21	10.0	8.0	9.0	---	---	---	.0	.0	.0	---	.0	---
22	8.0	7.5	8.0	---	---	---	.0	.0	.0	---	.0	---
23	8.5	6.5	7.5	1.0	.5	.5	.0	.0	.0	.0	.0	.0
24	8.5	7.0	7.5	1.0	.0	.5	.0	.0	.0	---	.0	---
25	---	---	---	1.0	.0	.5	.0	.0	.0	---	.0	---
26	---	---	---	2.5	1.0	2.0	.0	.0	.0	---	.0	---
27	---	---	---	3.0	2.0	2.5	.0	.0	.0	---	---	---
28	---	---	---	5.0	3.0	4.0	.0	.0	.0	---	---	---
29	---	---	---	4.5	1.5	3.0	.0	.0	.0	---	---	---
30	---	---	---	1.0	.0	.5	.0	.0	.0	---	---	---
31	---	---	---	---	---	---	.0	.0	.0	---	---	---
MONTH	---	---	---	---	---	---	0.5	0.0	0.0	---	---	---

DELAWARE RIVER BASIN

01427207 DELAWARE RIVER AT LORDVILLE, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	20.5	15.5	18.0	23.0	19.5	21.5
2	---	---	---	---	---	---	22.5	17.5	20.0	23.0	21.0	22.0
3	---	---	---	23.0	---	---	24.0	20.0	22.0	23.0	20.0	21.5
4	---	---	---	25.0	20.5	22.5	21.0	16.5	18.0	22.5	19.0	20.5
5	---	---	---	25.0	22.5	23.5	---	16.0	---	21.5	20.0	21.0
6	---	---	---	23.0	18.5	20.5	18.0	16.0	17.0	24.0	20.5	22.0
7	---	---	---	21.0	16.0	18.5	20.0	17.5	18.5	22.5	---	---
8	---	---	---	19.5	17.5	18.0	21.5	18.5	20.0	22.0	18.5	---
9	---	---	---	19.5	17.0	18.0	20.5	19.5	20.0	19.5	16.5	18.0
10	---	---	---	---	18.0	---	20.0	18.0	18.5	21.0	16.0	18.0
11	---	---	---	21.5	18.5	19.5	20.5	17.5	19.0	23.0	19.5	21.0
12	---	---	---	18.5	15.5	16.5	22.0	19.0	20.5	23.5	20.5	22.0
13	---	---	---	18.0	14.5	16.0	22.5	20.0	21.5	25.5	21.5	23.0
14	---	---	---	18.5	17.0	17.5	22.5	20.5	21.5	23.5	21.0	22.5
15	---	---	---	20.5	18.0	19.0	23.0	19.5	21.0	21.0	18.5	19.5
16	---	---	---	21.5	19.0	20.0	23.0	20.0	21.5	18.5	15.5	17.0
17	---	---	---	23.0	19.5	21.0	23.5	21.0	22.0	15.5	13.5	15.0
18	---	---	---	24.0	20.5	22.0	24.5	21.5	23.0	14.5	12.0	13.5
19	---	---	---	23.0	20.0	21.5	23.5	20.0	22.0	13.5	12.0	13.0
20	---	---	---	22.5	20.0	21.0	20.0	17.0	18.0	14.0	12.5	13.0
21	---	---	---	22.0	20.0	21.0	17.5	16.5	17.0	13.5	12.5	13.0
22	---	---	---	23.5	20.0	21.5	19.0	17.0	18.0	13.5	12.5	13.0
23	---	---	---	23.0	21.5	22.0	19.5	18.5	19.0	14.5	12.0	13.0
24	---	---	---	---	---	---	20.5	19.0	19.5	14.0	12.0	13.0
25	---	---	---	---	---	---	21.5	19.5	20.5	14.0	12.0	12.5
26	---	---	---	25.0	21.5	---	23.0	19.5	21.0	13.0	12.0	12.5
27	---	---	---	24.5	21.5	23.0	23.0	21.0	22.0	14.5	11.5	12.5
28	---	---	---	23.0	18.5	20.5	23.5	20.0	21.5	14.0	13.0	13.5
29	---	---	---	23.5	19.5	21.5	22.5	20.5	21.5	14.5	13.0	14.0
30	---	---	---	24.5	21.0	22.5	22.5	19.5	21.0	15.0	13.5	14.0
31	---	---	---	23.0	17.0	20.5	23.0	19.5	21.0	---	---	---
MONTH	---	---	---	---	---	---	---	15.5	---	25.5	---	---

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 mi^2.

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 fair except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi^2 of drainage area controlled by Pepacton Reservoir (see Reservoirs in Delaware River Basin), and subsequent to October 1963, entire flow from 454 mi^2 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 ft^3/s, Mar. 15, 1986, gage-height, 13.42 ft; maximum gage height, 14.83 ft, Jan. 9, 1979 (ice jam); minimum discharge, 307 ft^3/s, Aug. 23, 1985; minimum gage height, 2.20 ft, Sept. 13, 1977, Aug. 23, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,400 ft^3/s, Oct. 21, gage height, 8.35 ft; maximum gage height, 10.58 ft, Jan. 26 (ice jam); minimum discharge, 547 ft^3/s, Sept. 14, gage height, 2.53 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	677	1660	e1500	e1700	e6000	e3200	3560	1470	2390	1580	1010	1140
2	718	1800	e1300	e1650	e6200	e3000	3370	1400	2000	1260	827	1070
3	895	1560	e1400	e1600	e7600	e2900	5350	1240	1730	1000	703	1030
4	964	1540	e1100	e1400	e7400	e2700	7990	1200	1610	896	1260	904
5	793	1440	e1200	e1300	e6600	e2300	7400	1840	1470	932	1440	758
6	729	1360	e1200	e1000	5840	e2100	6620	2220	1320	907	2720	701
7	697	1330	e1200	e900	5300	e1800	5920	1900	1250	815	3090	737
8	748	1300	e1100	e880	4880	e1700	5190	1830	1150	927	2140	787
9	729	1610	e1050	e880	4840	e1700	4500	1770	1060	877	1510	788
10	606	2740	e1000	e880	e8000	e1800	4220	2800	986	941	1540	713
11	776	2510	e1000	e880	e9400	2100	8310	9460	898	778	3090	731
12	664	2210	e980	e880	e8200	2870	9470	9000	844	1550	2430	657
13	833	1950	e900	e840	e6600	4060	8280	9440	792	3140	1780	579
14	1190	1800	e780	e800	e5800	4810	7180	14800	717	2120	2050	653
15	951	1710	e800	e840	e5000	4640	6390	12200	687	1530	1840	1170
16	767	3310	e940	e880	6180	4310	5850	10300	976	1970	1480	1180
17	743	8070	e1200	e960	9560	4350	5030	11600	929	1620	1310	956
18	1180	4910	e1100	e2000	8190	6190	4490	11600	897	1360	1220	861
19	2210	3670	e1100	e3500	7140	5970	3880	10400	942	1340	1160	699
20	10200	3120	e1150	e3000	6140	7620	3350	8970	1010	1310	1130	733
21	18400	3070	e1200	e2500	4910	8820	3160	8800	880	1260	965	991
22	8140	2620	e1150	e2300	4490	8240	3260	9030	832	1100	935	1080
23	5260	2240	e1100	e1900	6020	8120	2870	7960	904	950	838	836
24	3820	2050	e1150	e1800	7520	8040	2520	6820	1020	935	975	832
25	3050	1860	e1200	e2000	e6000	7330	2230	5830	956	895	1920	968
26	2530	1770	e1250	e6400	e4500	6470	2170	4920	870	825	1900	1010
27	2170	1820	e1200	e7800	e3800	5590	1920	4260	794	783	1590	1140
28	1930	1810	e1150	e5400	e3500	4720	1750	3690	763	1110	1470	1230
29	1720	1980	e1100	e4100	---	4090	1550	3230	823	984	2130	1280
30	1560	e1700	e1250	e6800	---	3700	1440	3830	1570	823	1920	1150
31	1450	---	e1200	e6400	---	3520	---	3090	---	908	1340	---
TOTAL	77100	70520	34950	74170	175610	138760	139220	186900	33070	37426	49713	27364
MEAN	2487	2351	1127	2393	6272	4476	4641	6029	1102	1207	1604	912
MAX	18400	8070	1500	7800	9560	8820	9470	14800	2390	3140	3090	1280
MIN	606	1300	780	800	3500	1700	1440	1200	687	778	703	579

CAL YR 1989 TOTAL 790292 MEAN 2165 MAX 22400 MIN 529
WTR YR 1990 TOTAL 1044803 MEAN 2862 MAX 18400 MIN 579

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 1976-90), 30.5°C, July 12, 1987; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 27.5°C, July 5; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.5	12.5	14.5	12.0	10.5	11.5	.0	.0	.0	.0	.0	.0
2	16.0	15.0	15.5	10.5	9.0	10.0	.0	.0	.0	.0	.0	.0
3	15.5	13.0	14.5	9.0	6.5	8.5	.0	.0	.0	.0	.0	.0
4	13.0	11.0	11.5	7.0	5.5	6.0	.0	.0	.0	.0	.0	.0
5	13.0	10.0	11.5	7.0	5.0	6.0	.0	.0	.0	.0	.0	.0
6	14.5	11.5	13.0	---	---	---	.0	.0	.0	.0	.0	.0
7	14.0	12.5	13.0	9.0	---	---	.0	.0	.0	.0	.0	.0
8	12.5	10.5	11.5	10.5	8.5	9.5	.0	.0	.0	.0	.0	.0
9	10.5	8.5	9.5	10.5	9.5	10.0	.5	.0	.0	.0	.0	.0
10	10.0	7.0	9.0	9.5	7.5	8.5	.5	.0	.0	.0	.0	.0
11	11.0	9.0	---	7.5	7.0	7.0	.0	.0	.0	.0	.0	.0
12	13.0	---	---	7.0	5.5	6.5	.0	.0	.0	.0	.0	.0
13	13.5	10.5	12.0	6.5	5.0	5.5	.5	.0	.0	.0	.0	.0
14	13.5	10.5	12.5	---	5.0	---	.0	.0	.0	.0	.0	.0
15	15.5	12.0	13.5	9.5	6.5	8.0	.0	.0	.0	.0	.0	.0
16	16.0	---	---	11.5	9.5	10.5	.0	.0	.0	.0	.0	.0
17	15.5	14.5	15.0	10.5	6.0	8.0	.0	.0	.0	.0	.0	.0
18	14.0	12.5	13.5	6.0	4.0	5.0	.0	.0	.0	.0	.0	.0
19	12.5	9.0	10.5	---	---	---	.0	.0	.0	.0	.0	.0
20	10.0	9.0	9.5	4.0	3.0	3.5	.0	.0	.0	.0	.0	.0
21	10.0	8.5	9.5	3.5	1.0	2.5	.0	.0	.0	.0	.0	.0
22	8.5	8.0	8.5	1.0	.5	1.0	.0	.0	.0	.0	.0	.0
23	9.0	7.5	8.0	1.5	.0	.5	.0	.0	.0	.0	.0	.0
24	9.0	7.5	8.0	1.0	.0	.5	.0	.0	.0	.0	.0	.0
25	10.5	8.0	9.0	.5	.0	.5	.0	.0	.0	.0	.0	.0
26	11.5	9.0	10.0	2.0	.5	1.5	.0	.0	.0	.0	.0	.0
27	12.5	10.0	11.0	2.5	1.0	2.0	.0	.0	.0	.5	.0	.0
28	13.0	11.0	12.0	5.0	2.5	3.5	.0	.0	.0	1.0	.0	.5
29	13.0	10.5	11.5	4.0	1.0	2.5	.0	.0	.0	.5	.0	.5
30	12.5	10.5	11.5	1.5	.0	1.0	.0	.0	.0	---	---	---
31	12.5	11.5	12.0	---	---	---	.0	.0	.0	---	---	---
MONTH	16.5	---	---	---	---	---	0.5	0.0	0.0	---	---	---

01427510 DELAWARE RIVER AT CALLICOON, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	1.0	.0	.0	5.5	4.5	5.0	19.0	14.0	16.0
2	---	---	---	2.0	.0	1.0	6.0	5.0	5.5	16.5	14.0	15.5
3	---	---	---	3.5	1.0	2.0	6.0	5.5	5.5	17.0	12.0	14.5
4	---	---	---	2.0	.0	1.0	5.5	4.5	5.0	16.0	13.0	14.5
5	1.0	---	---	1.5	.0	.5	5.0	4.0	4.5	13.5	11.5	12.5
6	1.0	.0	.5	2.0	.0	1.0	5.5	4.5	5.0	15.0	10.5	12.5
7	2.5	1.0	1.5	2.0	.0	.5	6.5	4.5	5.5	13.5	11.0	12.5
8	3.0	2.0	2.5	3.0	.0	1.0	5.5	4.0	5.0	16.5	11.5	14.0
9	3.0	2.5	2.5	2.0	.0	1.0	6.0	4.0	5.0	18.0	13.0	15.5
10	3.0	2.5	3.0	4.0	1.5	2.5	6.0	5.0	5.5	16.5	14.0	15.5
11	2.5	1.5	2.0	---	3.0	---	6.5	5.5	6.0	13.5	10.0	12.0
12	2.5	1.5	2.0	6.5	4.5	5.5	5.5	4.0	4.5	10.0	8.5	9.5
13	2.0	1.0	1.5	9.0	5.5	7.0	5.5	3.5	4.5	10.5	9.5	10.0
14	3.0	2.0	2.5	9.5	7.0	8.0	5.5	4.5	5.0	13.0	10.0	11.5
15	2.5	1.5	2.0	9.5	8.0	8.5	6.5	5.5	6.0	13.5	12.5	13.0
16	2.0	1.0	1.5	10.0	8.5	9.0	8.5	6.0	7.0	13.0	12.0	12.5
17	2.5	1.5	2.0	10.5	9.0	10.0	7.5	5.5	7.0	13.0	12.0	12.5
18	1.5	.5	1.0	9.0	7.0	8.0	7.0	5.0	5.5	---	12.0	---
19	2.0	1.0	1.5	7.0	4.5	5.5	9.0	5.0	7.0	---	11.0	---
20	1.5	.5	1.0	4.5	3.5	4.0	9.5	7.0	8.0	---	---	---
21	1.5	.0	.5	4.5	3.0	3.5	9.5	8.0	8.5	---	---	---
22	1.5	1.0	1.5	5.5	4.0	5.0	12.0	8.0	9.5	---	---	---
23	4.0	2.0	3.5	6.0	4.5	5.5	14.5	10.0	12.0	---	---	---
24	4.0	2.0	3.0	4.5	3.5	4.0	15.5	11.0	13.0	14.0	11.5	---
25	2.0	.0	1.0	4.5	3.0	4.0	16.0	12.5	14.0	15.5	13.0	14.0
26	.0	.0	.0	4.5	3.0	4.0	19.5	13.5	16.5	15.0	13.5	14.5
27	.0	.0	.0	3.5	2.5	3.0	21.0	16.0	18.5	15.5	13.0	14.0
28	.0	.0	.0	4.0	2.0	3.0	21.5	17.0	19.0	18.0	14.0	16.0
29	---	---	---	5.5	3.0	4.0	19.5	17.0	18.0	16.5	14.5	16.0
30	---	---	---	4.5	3.5	4.0	16.5	15.0	16.0	16.5	13.5	15.0
31	---	---	---	4.5	3.0	4.0	---	---	---	18.0	13.5	15.5
MONTH	---	---	---	---	0.0	---	21.5	3.5	8.5	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.0	14.5	17.5	23.0	19.5	21.5	23.0	19.5	21.5	24.0	19.5	22.0
2	21.5	16.5	19.0	23.0	19.0	21.5	24.0	18.5	21.5	24.0	21.0	22.5
3	22.5	18.5	20.5	25.0	19.5	22.5	25.5	20.5	23.5	23.5	20.5	22.0
4	21.0	17.0	19.0	27.0	21.0	24.0	26.0	22.0	24.0	23.5	19.0	21.5
5	20.0	15.0	17.5	27.5	24.5	26.0	23.0	18.0	20.0	22.5	20.0	21.5
6	20.0	15.0	17.5	25.5	21.5	23.0	19.0	17.5	18.0	24.5	21.0	22.5
7	22.0	17.0	19.5	23.5	19.0	21.5	20.5	18.0	19.0	23.5	21.5	22.5
8	20.0	17.0	18.5	22.5	19.5	20.5	23.0	19.0	20.5	22.5	19.5	21.0
9	20.0	17.0	18.5	22.5	20.0	21.5	22.5	20.0	21.0	20.5	17.5	18.5
10	20.5	18.0	19.5	24.5	20.5	22.5	21.0	19.0	20.0	21.5	17.0	19.0
11	19.5	17.0	18.0	23.0	19.5	20.5	21.5	18.5	19.5	23.0	19.0	21.0
12	21.5	15.0	18.5	20.0	16.5	18.0	23.0	19.0	21.0	23.5	20.5	22.0
13	21.0	17.0	19.5	18.0	15.5	17.0	24.0	20.0	21.5	24.5	21.5	23.0
14	20.5	18.5	19.5	19.5	17.0	18.0	23.5	20.0	22.0	24.0	22.0	23.0
15	21.5	18.5	20.0	22.0	18.5	20.0	24.0	20.0	22.0	23.0	20.5	22.0
16	25.0	19.5	22.0	23.5	20.0	21.5	25.0	20.0	22.5	20.0	17.5	18.5
17	26.5	22.0	24.5	25.0	20.0	22.5	25.5	21.0	23.5	17.5	14.5	16.0
18	25.5	22.5	23.5	26.5	21.5	24.0	26.5	22.0	24.5	16.0	12.5	14.0
19	24.5	21.5	23.0	27.0	22.0	24.5	25.0	21.0	23.0	14.5	12.5	13.0
20	24.0	20.5	22.0	26.0	22.5	24.5	21.0	18.5	19.5	14.5	13.0	13.5
21	24.0	20.5	22.0	24.0	22.0	23.5	18.5	17.5	18.0	15.5	12.0	14.0
22	24.5	20.5	22.5	26.0	21.0	23.5	19.5	17.0	18.0	15.0	13.5	14.0
23	24.0	21.0	22.5	25.0	23.0	24.0	20.0	18.0	19.0	15.0	12.5	13.5
24	22.5	20.5	21.5	25.5	22.0	24.0	21.0	19.0	20.0	14.5	12.0	13.0
25	21.5	19.0	20.5	26.0	21.5	24.0	23.0	19.5	21.0	16.0	12.0	14.0
26	23.5	18.5	21.0	27.0	22.0	24.5	24.0	20.5	22.0	14.5	12.0	13.5
27	24.0	---	---	26.0	22.5	24.5	24.5	21.0	23.0	16.0	12.5	14.0
28	24.5	21.5	23.0	27.0	23.0	25.0	25.5	21.5	23.5	16.5	13.0	15.0
29	24.0	21.5	23.0	26.0	22.0	24.5	24.5	21.5	23.0	16.5	14.0	15.5
30	24.0	20.5	22.0	26.0	22.5	24.5	24.0	20.0	22.0	17.0	14.5	15.5
31	---	---	---	25.5	22.0	23.5	24.0	19.5	21.5	---	---	---
MONTH	26.5	---	---	27.5	15.5	22.5	26.5	17.0	21.5	24.5	12.0	18.0

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 mi^2.

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 mi^2 of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi^2 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 ft^3/s, Aug. 19, 1955, gage height, 26.40 ft, from floodmarks in gage house, from rating curve extended above 55,000 ft^3/s, on basis of slope-area measurement at gage height 23.19 ft; minimum discharge, 122 ft^3/s, Sept. 5, 1953, gage height, 1.11 ft; minimum daily, 126 ft^3/s, Sept. 4, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,500 ft^3/s, Oct. 21, gage height, 11.30 ft; minimum daily discharge, 634 ft^3/s, Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	862	1940	1820	e1500	6940	e3500	3910	1530	2850	1910	1190	1380
2	846	2080	1390	e1500	6690	e3300	3750	1550	2370	1690	1010	1270
3	1040	1880	e1200	e1700	9460	e3200	5760	1390	2070	1290	877	1250
4	1180	1810	e1300	e1500	9250	e3000	9320	1300	1880	1100	1070	1130
5	1020	1710	e1200	e1400	8690	e2600	8480	1870	1750	1070	1390	959
6	887	1580	e1300	e1200	6670	e2400	7390	2450	1580	1060	2950	854
7	836	1540	e1600	e1050	6010	2280	6490	2140	1510	999	3680	818
8	795	1510	e1400	e990	5470	2130	5650	1960	1420	975	2680	868
9	935	1640	e1300	e990	5370	2070	4890	1900	1300	1070	1880	884
10	757	2850	e1200	e1000	8280	2050	4410	2030	1230	1090	1590	924
11	814	2860	e1200	e1000	10800	2300	7830	9360	1130	952	3720	834
12	822	2510	e1200	e1000	8850	2920	10500	9910	1050	1220	3040	833
13	873	2230	e1100	e970	7190	4110	9060	9690	977	3770	2190	710
14	1130	2050	e960	e920	6280	4990	7730	16100	903	2780	2230	634
15	1210	1950	e960	e940	5770	4960	6790	13900	854	1920	2180	1060
16	971	2280	e1000	e1000	6540	4610	6190	11300	911	2090	1770	1310
17	862	8870	e1100	e1100	10400	4510	5330	12900	1160	1980	1530	1210
18	1350	5610	e1250	e1800	9390	6310	4770	13000	1070	1630	1400	1020
19	2400	4130	e1200	e3800	7890	6400	4140	11500	1110	1500	1320	918
20	12300	3420	e1250	e3600	6750	7730	3610	9930	1160	1490	1310	774
21	23600	3310	e1300	e3100	5340	9820	3260	9390	1090	1460	1260	949
22	10600	2990	e1250	e2600	4800	9240	3380	9800	985	1330	1220	1210
23	6400	2550	e1200	e2200	5900	8750	3030	8600	980	1150	1090	1080
24	4540	2320	e1250	e2000	8410	8750	2660	7280	1210	1080	1290	921
25	3580	2110	e1300	e2200	6910	7960	2390	6130	1160	1060	2050	945
26	2970	2020	e1300	e5800	e4400	6990	2290	5180	1060	996	2440	1120
27	2540	2070	e1300	10300	e3800	5990	2070	4500	966	927	1890	1270
28	2250	2030	e1250	6590	e3900	5070	1840	3920	909	1100	1660	1210
29	2030	2160	e1200	5020	---	4390	1680	3510	892	1170	2130	1360
30	1830	2020	e1300	9560	---	3980	1580	4480	1670	1020	2370	1340
31	1700	---	e1300	8990	---	3800	---	3720	---	970	1670	---
TOTAL	93930	78030	38880	87320	196150	150110	150180	202220	39207	43849	58077	31045
MEAN	3030	2601	1254	2817	7005	4842	5006	6523	1307	1414	1873	1035
MAX	23600	8870	1820	10300	10800	9820	10500	16100	2850	3770	3720	1380
MIN	757	1510	960	920	3800	2050	1580	1300	854	927	877	634

CAL YR 1989 TOTAL 899975 MEAN 2466 MAX 24500 MIN 660
WTR YR 1990 TOTAL 1168998 MEAN 3203 MAX 23600 MIN 634

e Estimated

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1968-75, 1980-81, 1983, 1985-90), 32.0°C, Aug. 2, 3, 1975, July 10, 1981, July 12, 1987; minimum (water years 1968, 1977-90), 0.0°C, on many days during winter periods, each year except water years 1980-82.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 30.0°C, July 5; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.5	13.0	15.0	12.5	11.5	12.0	1.0	.0	.5	.0	.0	.0
2	16.5	15.5	16.0	11.5	10.0	11.0	.0	.0	.0	.0	.0	.0
3	18.0	14.0	16.0	10.0	8.0	9.5	.0	.0	.0	.0	.0	.0
4	14.5	12.0	13.0	8.5	7.0	7.5	.0	.0	.0	.0	.0	.0
5	15.5	11.0	13.0	8.0	6.0	7.0	.0	.0	.0	.0	.0	.0
6	15.0	12.0	13.5	8.5	7.0	7.5	.0	.0	.0	.0	.0	.0
7	15.0	13.0	14.0	9.0	7.5	8.5	.0	.0	.0	.0	.0	.0
8	13.0	11.5	12.5	10.0	8.5	9.5	.0	.0	.0	.0	.0	.0
9	11.5	9.5	11.0	11.0	10.0	10.5	.0	.0	.0	.0	.0	.0
10	11.0	8.5	10.0	9.5	8.5	9.0	.0	.0	.0	.0	.0	.0
11	12.0	10.0	10.5	8.5	7.5	8.0	.0	.0	.0	.0	.0	.0
12	13.5	9.0	11.0	7.5	6.0	7.0	.0	.0	.0	.0	.0	.0
13	15.5	11.0	13.0	7.0	5.5	6.0	.0	.0	.0	.0	.0	.0
14	14.5	11.0	13.0	7.0	5.5	6.5	.0	.0	.0	.0	.0	.0
15	16.5	12.5	14.0	9.0	6.5	8.0	.0	.0	.0	.0	.0	.0
16	17.5	14.5	16.0	11.0	9.0	10.0	.0	.0	.0	.0	.0	.0
17	16.0	15.0	15.5	9.5	7.5	9.0	.0	.0	.0	.0	.0	.0
18	15.0	13.0	14.0	7.0	4.5	6.0	.0	.0	.0	.0	.0	.0
19	13.0	10.5	11.5	4.5	3.5	4.0	.0	.0	.0	.0	.0	.0
20	10.5	10.0	10.0	4.0	3.0	3.5	.0	.0	.0	.0	.0	.0
21	10.0	9.0	9.5	3.5	1.5	3.0	.0	.0	.0	.0	.0	.0
22	9.0	8.5	9.0	1.5	1.0	1.0	.0	.0	.0	.0	.0	.0
23	9.0	8.0	8.5	1.0	.5	1.0	.0	.0	.0	.0	.0	.0
24	9.5	8.0	8.5	.5	.0	.5	.0	.0	.0	.0	.0	.0
25	10.0	8.5	9.0	1.0	.0	.5	.0	.0	.0	.0	.0	.0
26	11.0	9.5	10.0	1.5	.5	1.0	.0	.0	.0	.0	.0	.0
27	12.0	10.0	11.0	2.0	1.0	1.5	.0	.0	.0	.5	.0	.5
28	13.5	11.0	12.0	4.5	2.0	3.5	.0	.0	.0	1.0	.5	.5
29	13.5	11.5	12.5	3.5	1.5	3.0	.0	.0	.0	1.0	.5	1.0
30	13.5	11.5	12.5	2.0	1.0	1.5	.0	.0	.0	.5	.5	.5
31	12.5	12.0	12.5	---	---	---	.0	.0	.0	1.0	.5	1.0
MONTH	18.0	8.0	12.0	12.5	0.0	6.0	1.0	0.0	0.0	1.0	0.0	0.0

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.5	1.0	1.5	1.0	.0	.5	5.0	4.5	4.5	19.5	15.5	17.0
2	2.0	1.5	2.0	1.5	.0	.5	6.5	5.0	6.0	17.5	15.5	16.5
3	2.0	2.0	2.0	2.5	.5	1.0	6.0	6.0	6.0	18.5	13.5	16.0
4	2.0	1.5	2.0	2.0	1.0	1.5	6.0	5.0	5.5	16.5	14.0	15.0
5	1.5	1.0	1.0	1.5	.5	1.0	5.0	4.5	5.0	15.0	13.0	14.0
6	1.0	.0	.5	2.0	.5	1.0	5.5	4.5	5.0	14.5	12.0	13.5
7	2.0	1.0	1.5	2.0	.0	1.0	6.5	5.0	5.5	14.0	12.5	13.0
8	3.0	1.5	2.5	3.0	.0	1.0	6.0	5.0	5.5	16.0	12.0	14.0
9	3.0	2.5	3.0	1.5	.0	1.0	6.0	4.5	5.0	18.0	14.0	16.0
10	3.0	2.5	3.0	3.5	1.0	2.0	6.0	5.5	5.5	16.5	16.0	16.0
11	2.5	2.0	2.0	5.5	2.5	4.0	6.5	6.0	6.5	15.5	11.5	13.5
12	2.5	2.0	2.0	7.0	4.5	5.5	6.0	5.0	5.5	11.0	10.0	10.5
13	2.0	1.5	2.0	8.5	5.5	7.0	5.5	4.0	5.0	10.5	9.5	10.0
14	2.5	2.0	2.5	9.5	8.0	8.5	6.0	4.5	5.5	13.0	10.5	11.5
15	2.5	2.0	2.5	10.0	8.5	9.5	7.0	5.5	6.5	14.0	12.5	13.5
16	2.0	1.5	2.0	10.5	9.0	10.0	8.5	6.5	7.5	13.5	13.0	13.5
17	2.5	2.0	2.0	10.5	10.5	10.5	8.5	7.0	7.5	13.5	12.5	13.0
18	2.0	1.0	1.5	10.5	8.5	9.5	7.0	6.0	6.5	13.5	12.5	13.0
19	2.5	1.0	1.5	8.0	6.0	7.0	8.0	5.5	7.0	12.5	11.5	12.0
20	2.0	1.0	1.5	6.0	4.0	5.0	8.5	8.0	8.5	13.0	11.0	12.0
21	1.5	.0	1.0	4.5	3.5	4.0	10.0	9.0	9.5	12.5	11.0	12.0
22	2.5	1.0	1.5	6.0	4.0	5.0	11.5	8.5	10.0	12.0	10.5	11.5
23	4.0	2.0	3.0	6.5	5.5	6.0	14.0	10.5	12.0	12.5	11.5	12.0
24	4.0	3.0	3.5	5.5	4.0	4.5	15.5	12.5	13.5	13.5	12.0	12.5
25	3.0	.0	1.5	5.0	3.5	4.0	16.0	13.5	14.5	15.5	13.0	14.5
26	.0	.0	.0	5.0	3.5	4.5	18.5	14.0	16.5	15.5	14.5	15.0
27	.0	.0	.0	4.0	3.0	3.5	21.0	17.0	18.5	15.5	14.0	15.0
28	.5	.0	.0	4.0	2.0	3.5	21.5	18.0	19.5	17.0	14.5	15.5
29	---	---	---	5.0	3.0	4.0	19.5	18.0	19.0	17.0	15.0	16.5
30	---	---	---	5.0	4.0	4.5	17.5	16.5	17.0	16.0	14.5	15.5
31	---	---	---	4.5	4.0	4.0	---	---	---	17.0	14.5	15.5
MONTH	4.0	0.0	2.0	10.5	0.0	4.5	21.5	4.0	9.0	19.5	9.5	14.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.0	15.5	17.5	23.5	22.0	23.0	26.0	21.5	23.5	25.0	20.5	22.5
2	20.5	17.5	19.0	24.5	21.0	22.5	27.0	21.0	24.0	26.0	21.5	23.5
3	22.5	19.0	20.5	26.0	21.0	23.5	28.0	22.0	25.0	26.0	22.0	23.5
4	21.0	18.5	20.0	28.0	22.0	25.0	27.5	23.0	25.0	25.5	20.5	23.0
5	20.5	17.0	18.5	30.0	25.0	27.0	25.0	22.5	24.0	23.5	20.5	22.0
6	20.0	16.5	18.5	25.5	22.5	24.5	22.5	19.0	20.5	25.0	21.0	23.0
7	22.0	17.5	19.5	27.0	21.0	24.0	20.5	19.0	20.0	24.5	22.0	23.0
8	20.0	18.5	19.0	23.5	21.0	22.0	22.5	20.0	21.0	24.0	19.5	22.0
9	20.5	18.0	19.0	25.5	21.5	23.0	23.0	21.0	22.0	20.0	18.5	19.0
10	21.5	18.5	19.5	27.0	22.0	24.5	22.0	21.0	21.5	23.5	18.5	20.5
11	19.5	17.5	19.0	23.5	21.0	22.0	21.0	20.5	21.0	24.0	20.0	22.0
12	23.0	16.0	19.5	21.0	19.0	20.0	23.0	20.5	22.0	24.5	21.0	22.5
13	21.5	18.0	20.0	18.5	17.5	18.0	24.5	21.5	23.0	25.5	21.5	23.0
14	21.0	19.0	20.0	19.0	18.0	18.5	24.0	21.5	23.0	24.0	22.0	23.0
15	21.0	19.0	20.0	22.0	18.5	20.0	25.0	21.5	23.0	24.5	21.5	22.5
16	25.0	19.5	22.0	23.0	20.5	22.0	26.0	22.0	23.5	21.5	19.5	20.5
17	27.0	22.0	24.5	25.0	21.5	23.0	27.0	22.5	24.5	19.5	15.5	18.0
18	26.0	23.0	24.0	27.0	22.5	24.5	27.5	23.5	25.5	19.5	14.0	16.5
19	27.0	22.5	24.0	28.0	24.0	26.0	25.5	22.5	24.5	15.5	13.5	14.5
20	25.0	22.0	23.0	28.5	24.5	26.5	22.0	20.5	21.5	16.5	14.0	15.5
21	25.5	21.5	23.0	26.0	24.5	25.5	20.0	19.0	19.5	18.0	13.0	15.5
22	27.0	21.5	24.0	28.0	23.5	25.5	20.0	18.5	19.0	15.5	15.0	15.0
23	26.5	23.0	24.0	28.0	24.5	25.5	20.5	18.5	19.5	16.5	14.0	15.0
24	23.0	21.5	22.5	28.5	23.5	25.5	21.0	19.0	20.0	16.5	12.5	14.0
25	23.5	20.5	22.0	29.0	23.5	26.0	22.5	20.0	21.0	18.0	12.5	15.0
26	25.0	19.5	22.5	28.5	23.5	26.0	24.0	21.0	22.5	16.0	14.0	15.0
27	26.5	21.0	23.5	29.0	23.5	26.5	25.0	22.0	23.5	18.0	14.0	16.0
28	27.0	22.0	24.5	29.0	24.5	26.5	26.0	22.0	24.0	19.5	15.0	16.5
29	26.5	22.5	24.5	29.5	24.5	27.0	25.5	23.0	24.0	19.0	16.0	17.5
30	25.0	23.0	24.0	29.5	24.5	26.5	24.5	22.0	23.0	19.0	16.5	17.5
31	---	---	---	26.5	23.5	25.0	24.5	21.0	22.5	---	---	---
MONTH	27.0	15.5	21.5	30.0	17.5	24.0	28.0	18.5	22.5	26.0	12.5	19.0

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 mi^2.

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1968-73, 1976-78, 1980-82, 1986-88, 1990), 32.0°C, July 20, 21, 1980; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 28.5°C, July 29, 30; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.0	13.5	15.0	13.0	11.5	12.5	1.5	.0	.5	.0	.0	.0
2	17.0	15.5	16.5	11.5	11.0	11.5	.0	.0	.0	.0	.0	.0
3	17.0	15.5	16.5	11.0	9.5	10.5	.0	.0	.0	.0	.0	.0
4	15.0	13.0	13.5	9.5	8.5	9.0	.0	.0	.0	.0	.0	.0
5	14.0	12.0	13.0	9.5	8.0	9.0	.0	.0	.0	.0	.0	.0
6	15.5	13.0	14.0	10.0	9.0	9.5	.0	.0	.0	.0	.0	.0
7	15.0	13.0	14.0	10.0	9.5	9.5	.0	.0	.0	.0	.0	.0
8	13.5	11.0	12.5	11.0	9.5	10.5	.0	.0	.0	.0	.0	.0
9	11.5	10.0	11.0	11.5	10.5	11.0	.5	.0	.0	.0	.0	.0
10	12.5	9.0	11.0	10.5	9.0	10.0	.5	.0	.0	.0	.0	.0
11	13.5	11.0	12.0	9.0	7.5	8.5	.5	.0	.0	.0	.0	.0
12	14.0	10.0	12.0	8.5	7.0	7.5	.5	.0	.0	.0	.0	.0
13	15.0	12.0	13.5	8.0	6.5	7.0	.5	.0	.0	.0	.0	.0
14	14.5	12.0	13.0	9.0	6.0	7.5	.5	.0	.0	.0	.0	.0
15	15.0	13.0	14.0	9.5	8.0	9.0	.5	.0	.0	.0	.0	.0
16	17.0	15.0	16.0	11.0	9.5	10.5	.5	.0	.5	.0	.0	.0
17	16.5	15.5	16.0	9.0	7.0	8.5	.5	.0	.5	.0	.0	.0
18	15.0	13.5	14.5	7.0	5.0	6.0	.0	.0	.0	.0	.0	.0
19	13.5	11.0	12.0	4.5	3.5	4.0	.5	.0	.0	.0	.0	.0
20	11.0	10.0	10.5	4.5	3.5	4.0	.0	.0	.0	.0	.0	.0
21	10.5	9.5	10.0	4.0	1.5	3.0	.0	.0	.0	.0	.0	.0
22	9.5	9.0	9.0	1.5	1.0	1.0	.0	.0	.0	.0	.0	.0
23	9.5	8.0	9.0	1.0	.5	1.0	.0	.0	.0	.0	.0	.0
24	9.5	8.5	9.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
25	10.5	8.5	9.5	1.0	.0	.5	.0	.0	.0	.5	.0	.5
26	11.0	9.5	10.5	2.0	1.0	1.5	.0	.0	.0	.5	.0	.5
27	12.0	10.5	11.0	2.5	1.5	2.0	.0	.0	.0	.5	.0	.5
28	13.0	11.5	12.0	4.5	2.5	3.5	.0	.0	.0	1.0	.0	.5
29	13.0	11.5	12.0	4.0	1.5	2.5	.0	.0	.0	1.0	.5	.5
30	13.0	11.5	12.0	2.0	1.5	1.5	.0	.0	.0	1.0	.5	.5
31	13.0	12.5	12.5	---	---	---	.0	.0	.0	1.5	.5	1.0
MONTH	17.0	8.0	12.5	13.0	0.0	6.5	1.5	0.0	0.0	1.5	0.0	0.0

01432160 DELAWARE RIVER AT BARRYVILLE, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.0	.5	1.0	2.0	.0	1.0	5.0	4.5	5.0	18.0	15.0	16.5
2	2.5	1.5	2.0	3.0	.0	1.5	7.0	5.0	6.0	17.0	15.5	16.5
3	2.0	1.5	2.0	3.5	1.0	2.0	7.0	6.5	6.5	16.5	14.0	15.5
4	1.5	1.0	1.5	2.5	1.0	2.0	6.5	5.5	6.0	15.5	14.5	15.0
5	1.5	.5	1.0	2.5	1.0	1.5	5.5	5.0	5.5	14.0	13.0	13.5
6	2.0	.0	1.0	2.5	1.0	1.5	5.5	5.5	5.5	14.5	13.0	14.0
7	2.5	1.0	1.5	3.0	.0	1.5	6.5	5.5	6.0	14.5	13.0	14.0
8	3.0	1.5	2.0	3.5	.0	1.5	6.0	5.5	6.0	15.0	13.0	14.0
9	3.0	2.0	2.5	2.5	.5	1.5	6.5	5.0	5.5	16.5	15.0	15.5
10	3.0	2.5	3.0	3.5	2.0	2.5	6.5	6.0	6.0	16.5	16.0	16.5
11	2.5	1.5	2.0	5.5	3.0	4.0	7.0	6.5	7.0	16.0	12.5	14.0
12	2.5	1.5	2.0	7.0	5.0	6.0	6.5	5.5	6.0	12.0	10.5	11.0
13	3.0	1.0	2.0	8.5	5.5	7.0	6.5	4.5	5.5	11.0	10.0	10.5
14	3.0	2.0	2.5	9.5	7.5	8.5	6.5	5.0	6.0	13.0	11.0	12.0
15	3.0	2.5	2.5	10.0	8.5	9.0	7.5	6.5	6.5	14.5	12.5	13.5
16	2.5	2.0	2.5	11.0	9.0	10.0	9.5	7.0	8.0	14.0	13.5	14.0
17	2.5	2.0	2.5	11.0	10.0	10.5	9.0	7.5	8.5	14.0	13.0	13.5
18	2.0	.5	1.5	11.0	9.0	10.0	7.5	6.5	7.0	14.0	13.0	13.5
19	3.0	1.0	2.0	8.5	6.5	7.5	8.5	6.5	7.5	13.5	12.0	13.0
20	2.5	1.0	1.5	6.5	4.5	5.5	9.5	7.5	8.5	13.5	11.5	12.5
21	2.5	.0	1.5	5.0	4.0	4.5	10.0	9.0	9.5	13.0	12.0	12.5
22	3.0	1.5	2.0	6.5	4.5	5.5	12.0	9.0	10.5	12.5	11.0	12.0
23	4.5	3.0	3.5	7.0	6.0	6.5	13.5	10.5	12.0	13.0	11.5	12.5
24	4.0	3.0	3.5	6.0	4.5	5.0	14.5	12.0	13.5	14.0	12.0	13.0
25	3.0	.5	2.0	5.0	4.0	4.5	15.0	13.5	14.5	15.5	13.0	14.0
26	.5	.0	.0	5.5	4.0	5.0	18.0	15.0	16.0	15.5	14.5	15.0
27	1.0	.0	.5	4.5	3.5	4.0	19.0	15.5	17.5	16.0	14.5	15.0
28	1.0	.0	.5	5.0	2.5	4.0	20.0	17.0	18.5	17.0	15.0	16.0
29	---	---	---	5.5	3.5	4.5	19.5	17.5	19.0	17.0	15.0	16.5
30	---	---	---	5.5	4.5	5.0	17.5	16.0	17.0	15.5	14.0	15.0
31	---	---	---	4.5	4.5	4.5	---	---	---	16.5	13.5	15.0
MONTH	4.5	0.0	2.0	11.0	0.0	5.0	20.0	4.5	9.0	18.0	10.0	14.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.0	14.5	16.5	24.0	22.5	23.0	25.0	21.0	22.5	23.0	20.5	21.5
2	19.5	16.5	18.0	22.5	21.0	22.0	25.0	20.5	23.0	24.0	22.0	23.0
3	22.0	19.5	20.5	24.0	20.5	22.0	27.5	21.5	24.0	23.5	22.0	23.0
4	21.5	17.0	20.0	26.0	21.5	24.0	27.5	21.5	24.5	23.5	21.0	22.0
5	19.0	16.0	17.5	27.5	23.5	26.0	25.0	22.5	24.0	22.0	20.0	21.0
6	18.5	16.5	17.5	25.0	21.0	23.5	22.5	19.5	21.5	24.0	20.5	22.0
7	20.0	17.5	18.5	25.5	20.0	23.0	21.0	19.0	20.0	23.5	21.0	22.0
8	19.0	17.0	18.0	24.0	21.5	22.5	23.0	20.0	21.0	23.5	19.5	21.5
9	20.0	17.0	18.5	24.5	21.5	22.5	22.5	20.5	21.5	20.0	18.0	19.0
10	20.0	18.5	19.5	25.5	21.5	23.5	21.5	21.0	21.5	22.0	18.0	20.0
11	19.5	16.0	18.5	22.5	19.5	21.5	21.5	20.0	21.0	23.5	19.5	21.0
12	20.0	15.0	18.0	19.5	17.5	19.0	23.5	20.5	22.0	23.5	20.5	21.5
13	21.0	17.5	19.0	18.5	17.5	18.0	24.5	21.5	22.5	24.5	20.5	22.0
14	20.5	18.0	19.0	19.5	17.5	18.5	24.0	21.5	22.5	24.0	20.5	22.0
15	20.0	17.5	19.0	22.0	18.5	20.0	24.0	21.0	22.5	22.5	20.0	21.5
16	23.5	18.0	21.0	22.5	21.0	21.5	25.0	21.5	23.0	21.5	19.5	20.5
17	25.0	22.0	23.5	24.0	20.5	22.0	25.5	22.5	24.0	19.5	16.0	18.0
18	25.0	21.0	23.5	24.5	21.5	23.0	25.5	23.0	24.5	17.0	15.0	16.0
19	25.0	20.0	22.5	26.0	22.5	24.0	24.5	22.0	24.0	16.0	14.5	15.0
20	23.0	20.5	21.5	26.5	23.0	24.5	22.0	19.5	21.0	17.0	14.0	15.0
21	23.0	20.0	21.5	25.0	23.0	24.0	19.5	18.0	19.0	18.0	14.0	15.5
22	25.0	20.5	22.5	26.0	22.0	24.0	19.5	18.0	18.5	16.0	15.0	15.5
23	24.5	20.5	22.5	25.5	22.5	24.0	19.5	18.5	19.0	16.0	14.5	15.0
24	22.5	21.5	22.0	25.5	21.5	23.5	20.0	19.0	19.5	15.5	13.5	14.5
25	22.0	19.5	21.0	26.0	21.5	24.0	22.0	19.0	20.5	16.5	13.0	14.5
26	22.5	19.5	21.0	27.0	22.0	24.0	23.5	20.5	22.0	15.5	14.5	15.0
27	24.5	19.5	22.0	27.5	22.0	24.5	24.0	22.0	23.0	16.5	14.5	15.5
28	25.5	20.5	22.5	28.0	22.5	25.0	24.5	21.5	23.0	17.0	15.5	16.5
29	25.0	20.5	22.0	28.5	25.0	26.5	24.5	22.5	23.5	18.0	16.0	17.0
30	25.0	20.5	23.0	28.5	24.0	26.0	24.0	21.5	22.5	18.5	17.0	17.5
31	---	---	---	26.0	21.5	24.0	23.5	20.5	22.0	---	---	---
MONTH	25.5	14.5	20.5	28.5	17.5	23.0	27.5	18.0	22.0	24.5	13.0	19.0

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 mi^2.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1973 to current year.

INSTRUMENTATION.--Water-temperature digital recorder since October 1973, provides one-hour-interval punches.

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, 1983-90), 0.0°C on many days during winter periods, except 1978, 1980, and 1985.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 29.0°C, July 29; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.0	14.0	15.0	12.5	11.5	12.5	1.0	.0	.5	.0	.0	.0
2	16.0	15.0	15.5	11.5	10.5	11.0	.0	.0	.0	.0	.0	.0
3	17.0	15.5	16.0	11.0	9.5	10.5	.0	.0	.0	.0	.0	.0
4	15.5	13.0	14.0	9.5	8.0	8.5	.0	.0	.0	.0	.0	.0
5	14.5	12.0	13.0	8.5	7.5	8.0	.0	.0	.0	.0	.0	.0
6	15.5	12.5	14.0	9.5	8.5	9.0	.5	.0	.0	.0	.0	.0
7	15.0	13.5	14.0	9.5	9.0	9.0	.0	.0	.0	.0	.0	.0
8	14.0	12.0	13.0	10.5	9.5	10.0	.0	.0	.0	.0	.0	.0
9	12.0	10.5	11.0	11.0	10.5	11.0	.5	.0	.0	.0	.0	.0
10	11.5	9.5	10.5	10.5	9.0	9.5	.5	.0	.0	.0	.0	.0
11	12.5	10.5	11.5	9.0	7.5	8.0	.5	.0	.0	.0	.0	.0
12	13.5	10.5	11.5	8.0	7.0	7.5	.0	.0	.0	.0	.0	.0
13	15.0	11.5	13.0	7.0	6.0	6.5	.0	.0	.0	.0	.0	.0
14	14.5	12.5	13.5	7.5	7.0	7.0	.5	.0	.0	.0	.0	.0
15	15.0	13.0	14.0	9.5	8.0	8.5	.5	.0	.0	.0	.0	.0
16	16.5	14.5	15.5	11.0	9.5	10.0	.0	.0	.0	.0	.0	.0
17	16.0	15.5	16.0	9.5	7.5	8.5	.0	.0	.0	.0	.0	.0
18	15.5	13.0	14.5	7.5	5.0	6.0	.0	.0	.0	.0	.0	.0
19	13.0	10.5	12.0	5.0	4.0	4.0	.0	.0	.0	.0	.0	.0
20	11.0	10.0	10.5	4.5	3.5	4.0	.0	.0	.0	.0	.0	.0
21	10.0	9.5	9.5	4.0	2.0	3.0	.0	.0	.0	.0	.0	.0
22	9.0	8.5	9.0	1.5	1.0	1.5	.0	.0	.0	.0	.0	.0
23	9.0	8.0	8.5	1.0	.5	1.0	.0	.0	.0	.0	.0	.0
24	9.0	8.0	8.5	.5	.0	.0	.0	.0	.0	.5	.0	.0
25	10.0	8.5	9.0	.5	.0	.5	.0	.0	.0	.5	.0	.5
26	10.5	9.5	10.0	1.5	1.0	1.5	.0	.0	.0	.5	.0	.0
27	11.5	10.0	10.5	2.0	1.5	1.5	.0	.0	.0	.5	.0	.5
28	12.5	11.0	12.0	4.0	2.5	3.0	.0	.0	.0	1.0	.5	1.0
29	12.5	11.5	12.0	4.0	1.5	3.0	.0	.0	.0	1.0	.5	1.0
30	12.5	12.0	12.5	2.0	1.0	1.5	.0	.0	.0	1.0	1.0	1.0
31	12.5	12.5	12.5	---	---	---	.0	.0	.0	1.5	.5	1.0
MONTH	17.0	8.0	12.5	12.5	0.0	6.0	1.0	0.0	0.0	1.5	0.0	0.0

DELAWARE RIVER BASIN

01432805 DELAWARE RIVER AT POND EDDY, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2.0	1.0	1.5	1.5	.0	.5	5.0	4.5	5.0	18.0	15.0	16.5
2	2.5	2.0	2.0	2.0	.0	1.0	6.5	5.0	5.5	17.0	15.5	16.5
3	2.5	1.5	2.0	3.0	1.0	2.0	6.5	6.0	6.5	16.5	14.0	15.5
4	2.0	1.5	1.5	2.5	1.0	1.5	6.0	5.5	6.0	15.5	14.5	15.0
5	1.5	.5	1.0	1.5	1.0	1.5	5.5	5.0	5.0	14.0	13.0	13.5
6	1.5	.5	1.0	1.5	1.0	1.5	5.5	5.0	5.5	14.5	13.0	14.0
7	2.5	1.0	1.5	1.5	.0	1.0	6.5	5.0	5.5	14.5	13.0	13.5
8	3.0	1.5	2.5	2.5	.5	1.5	6.0	5.0	5.5	15.0	13.0	14.0
9	3.0	2.5	3.0	2.5	1.0	1.5	6.0	4.5	5.5	16.5	15.0	15.5
10	3.5	2.5	3.0	3.0	2.0	2.5	6.5	5.5	6.0	16.5	16.0	16.5
11	2.5	2.0	2.5	5.5	3.0	4.0	7.0	6.0	6.5	16.0	12.0	14.0
12	2.5	2.0	2.5	7.0	5.5	6.0	6.0	5.5	6.0	12.0	10.5	11.0
13	2.5	1.5	2.0	8.5	5.5	7.0	6.0	4.5	5.5	11.0	10.0	10.5
14	3.0	2.5	2.5	9.5	7.5	8.5	6.5	5.0	5.5	13.0	11.0	12.0
15	3.0	2.5	2.5	10.5	8.5	9.5	7.0	6.0	6.5	14.5	12.5	13.5
16	2.5	2.0	2.5	11.5	9.5	10.5	9.0	6.5	8.0	14.0	13.5	14.0
17	2.5	2.0	2.5	11.5	10.5	11.0	8.5	7.5	8.0	13.5	13.0	13.5
18	2.0	1.0	1.5	11.0	9.0	10.0	7.5	6.5	7.0	14.0	13.0	13.5
19	2.5	1.0	2.0	8.5	6.5	7.5	8.5	6.0	7.5	13.0	12.0	12.5
20	2.0	1.0	1.5	6.5	4.5	5.5	9.5	7.5	8.5	13.0	11.5	12.5
21	2.0	.5	1.0	5.0	3.5	4.5	10.0	9.0	9.5	13.0	11.5	12.5
22	2.5	1.5	2.0	6.0	4.0	5.0	12.0	9.0	10.5	12.5	11.0	12.0
23	4.0	3.0	3.5	7.0	6.0	6.5	13.5	10.5	12.0	13.0	11.5	12.5
24	4.0	3.5	4.0	5.5	4.5	5.0	14.5	12.0	13.5	14.0	12.0	13.0
25	3.0	.5	2.0	5.0	3.5	4.5	15.0	13.0	14.5	15.5	13.0	14.0
26	.0	.0	.0	5.0	4.0	4.5	18.0	14.5	16.0	15.5	14.5	15.0
27	.0	.0	.0	4.5	3.5	4.0	19.0	15.5	17.5	16.0	14.5	15.0
28	1.0	.0	.5	4.5	2.5	3.5	20.0	17.0	18.5	17.0	15.0	16.0
29	---	---	---	5.0	3.5	4.5	19.5	17.5	19.0	17.0	15.0	16.5
30	---	---	---	5.0	4.0	4.5	17.5	16.0	16.5	15.5	13.5	14.5
31	---	---	---	4.5	4.0	4.5	---	---	---	16.5	13.5	15.0
MONTH	4.0	0.0	2.0	11.5	0.0	4.5	20.0	4.5	9.0	18.0	10.0	14.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.0	14.5	16.5	24.0	23.0	23.5	25.0	21.0	23.0	23.5	21.0	22.5
2	19.5	16.5	18.0	23.0	22.0	22.5	25.0	21.0	23.0	24.5	21.5	23.0
3	21.5	19.5	20.5	24.0	20.5	22.5	26.5	22.0	24.0	24.0	22.0	23.0
4	21.0	18.0	20.0	25.5	21.5	23.5	27.0	23.0	25.0	24.0	21.5	22.5
5	19.0	16.0	17.5	28.5	24.5	26.0	25.0	23.0	24.5	22.0	21.0	21.5
6	19.0	17.0	18.0	26.0	23.5	24.0	23.0	21.0	22.5	24.0	21.0	22.0
7	20.5	18.0	19.0	24.5	20.0	22.5	21.0	19.5	20.5	24.0	22.0	22.5
8	19.5	18.0	18.5	23.5	21.5	22.5	22.5	20.0	21.0	23.5	20.5	21.5
9	19.0	17.0	18.0	24.0	22.0	23.0	22.5	21.5	22.0	20.5	19.0	19.5
10	20.5	18.5	19.5	26.0	22.0	23.5	22.0	21.5	21.5	22.0	18.5	20.0
11	19.0	18.0	19.0	24.0	21.5	22.5	22.0	21.0	21.5	23.5	20.0	21.5
12	20.0	15.5	17.5	21.5	19.0	19.5	23.0	20.5	22.0	23.5	21.0	22.0
13	20.0	17.5	19.0	18.5	17.5	18.0	24.0	22.0	23.0	24.0	21.0	22.5
14	19.0	18.0	19.0	19.0	18.0	18.5	24.0	22.0	23.0	23.5	22.0	22.5
15	20.0	18.0	19.0	21.5	19.0	20.0	24.0	21.5	23.0	23.5	21.5	22.0
16	22.0	18.5	20.0	23.0	21.0	22.0	24.5	22.0	23.5	22.0	20.5	21.0
17	25.0	21.0	23.0	24.0	21.0	22.5	26.0	23.5	24.5	20.0	17.0	19.0
18	24.5	23.0	23.5	25.0	22.0	23.5	26.0	24.0	25.0	18.0	15.0	16.5
19	23.5	21.0	22.5	26.0	22.5	24.5	25.0	22.5	24.0	16.0	14.5	15.5
20	23.0	21.5	22.0	25.5	23.0	24.5	22.0	20.5	21.0	16.5	14.5	15.0
21	23.0	20.0	21.5	25.0	23.5	24.0	20.0	19.0	19.5	17.5	14.0	15.5
22	24.0	21.0	22.5	25.5	22.5	24.0	19.5	18.5	19.0	16.0	15.5	15.5
23	23.5	21.5	22.5	25.5	23.5	24.5	19.5	19.0	19.5	15.5	14.5	15.0
24	22.5	22.0	22.5	25.0	22.5	24.0	19.5	19.0	19.5	16.0	14.0	14.5
25	23.0	21.0	21.5	25.5	22.5	24.0	21.5	19.5	20.5	16.5	13.0	14.5
26	23.0	19.5	21.5	26.0	22.5	24.5	23.5	21.0	22.0	15.5	14.5	15.0
27	23.5	20.5	22.0	26.5	22.5	24.5	24.0	22.5	23.5	17.0	14.5	15.5
28	24.5	21.5	23.0	27.0	23.5	25.0	25.0	22.0	23.5	18.5	15.5	16.5
29	23.5	21.5	22.5	29.0	25.0	26.5	25.0	22.5	23.5	18.0	16.5	17.0
30	24.0	21.5	22.5	28.5	25.5	26.5	24.0	22.0	23.0	18.5	17.0	17.5
31	---	---	---	26.5	24.0	24.5	23.5	21.0	22.5	---	---	---
MONTH	25.0	14.5	20.5	29.0	17.5	23.5	27.0	18.5	22.5	24.5	13.0	19.0

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 mi^2.

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 mi^2 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.--51 years, 343 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft^3/s, Aug. 19, 1955, gage height, 15.22 ft, present datum; minimum daily, 6 ft^3/s, Oct. 1, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,620 ft^3/s, Oct. 21, gage height, 6.12 ft; minimum daily, 26 ft^3/s, Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	491	342	34	703	623	638	35	677	36	38	45
2	245	337	110	33	707	646	484	44	459	143	323	41
3	370	180	121	36	712	698	579	30	242	205	308	41
4	356	242	449	298	763	685	623	541	519	155	313	275
5	142	557	333	49	927	550	48	690	704	362	39	346
6	123	553	210	36	918	584	59	34	95	169	470	432
7	28	652	445	159	914	599	323	45	389	33	513	418
8	27	294	193	171	784	588	383	33	154	33	489	63
9	60	513	39	220	625	571	381	30	39	404	240	43
10	28	514	106	470	917	436	381	271	80	213	313	290
11	172	467	286	31	821	539	419	175	387	32	41	456
12	238	78	568	101	901	432	428	136	521	218	41	218
13	88	428	337	77	894	514	452	207	330	440	442	355
14	27	564	178	76	890	679	453	523	399	168	404	502
15	26	568	199	532	877	453	459	690	35	454	166	49
16	468	575	73	346	764	626	458	692	177	540	124	42
17	361	475	32	304	688	183	457	697	38	572	178	341
18	564	446	179	219	686	357	445	839	373	239	251	298
19	564	523	171	184	685	424	527	828	152	488	45	361
20	715	575	53	45	684	486	670	910	32	624	43	419
21	2040	586	264	47	684	600	526	918	93	70	47	438
22	2040	542	156	386	683	698	404	659	406	36	274	41
23	994	366	30	357	685	696	536	698	132	420	52	41
24	919	554	54	351	692	694	571	703	32	424	164	120
25	694	344	31	489	688	693	417	506	183	260	385	152
26	473	486	255	538	598	689	400	459	81	463	285	175
27	469	393	371	558	641	687	313	702	37	315	524	237
28	537	392	96	601	643	686	33	113	170	96	387	259
29	551	438	176	615	---	648	32	262	286	38	391	40
30	655	351	32	652	---	556	34	718	173	247	159	40
31	624	---	32	711	---	686	---	704	---	273	457	---
TOTAL	14648	13484	5921	8726	21174	18006	11933	13892	7395	8170	7906	6578
MEAN	473	449	191	281	756	581	398	448	246	264	255	219
MAX	2040	652	568	711	927	698	670	918	704	624	524	502
MIN	26	78	30	31	598	183	32	30	32	32	38	40

CAL YR 1989 TOTAL 131979 MEAN 362 MAX 2760 MIN 24
WTR YR 1990 TOTAL 137833 MEAN 378 MAX 2040 MIN 26

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 mi^2.

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.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Lake Wallenpaupack and by Toronto, Cliff Lake, and Swinging Bridge Reservoirs (see Reservoirs in Delaware River Basin) and smaller reservoirs. Large diurnal fluctuations at medium and low flows caused by powerplants on tributary streams. Subsequent to September 1954, entire flow from 371 mi^2 of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi^2 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 ft^3/s, Aug. 19, 1955, gage height, 23.91 ft, from floodmarks in gage house, from rating curve extended above 89,000 ft^3/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 ft^3/s, Sept. 23, 1908, gage height, 0.6 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--The U.S. Weather Bureau reported a discharge of 205,000 ft^3/s, Oct. 10, 1903, gage height, 23.1 ft, from rating curve extended above 70,000 ft^3/s, by velocity-area studies; maximum gage height, 25.5 ft, Mar. 8, 1904 (ice jam).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,100 ft^3/s, Oct. 20, gage height, 10.11 ft; minimum, 977 ft^3/s, Oct. 11, gage height, 1.90 ft; minimum daily, 1,120 ft^3/s, Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	4140	2920	e1700	11900	6730	5730	2480	6230	2500	1920	2530
2	1530	4870	2070	e1700	10800	6360	5490	2390	4570	2710	2010	1850
3	2240	4590	1780	e2000	14100	6320	7630	2190	3380	2470	1800	1810
4	2280	4480	3300	e2200	13700	6100	13300	2430	3560	1910	1660	2020
5	2030	4630	2420	e2100	14600	5420	11600	3340	4020	1890	1610	2430
6	1760	4190	2280	e2000	11800	5120	9940	3750	2910	1980	3390	2430
7	1470	4180	3110	e1900	10800	4820	8810	3430	3420	1690	6240	2430
8	1120	3770	2640	e1900	9770	4500	7830	2900	3200	1140	4910	2000
9	1320	4370	2750	2670	9320	4510	6940	2870	2530	1650	3310	1240
10	1460	5990	1850	2300	11800	3680	6220	3040	2140	1990	2700	1590
11	1480	5680	2390	2010	15400	3580	8600	10600	2360	1680	4920	2360
12	1790	4300	2520	2080	13300	4520	12800	12800	2970	2030	4650	2130
13	1500	4370	2280	2070	11500	5940	11300	11500	2260	6180	3930	2160
14	1480	4400	1710	1810	10300	7110	9630	18600	2150	4830	3980	2160
15	1570	3930	1960	2080	9650	6960	8620	17900	1870	3370	3550	1310
16	1690	3650	1510	2130	10200	6740	8150	14400	1790	3950	2890	1680
17	1930	10800	1370	1990	14500	5840	7320	16600	1590	4660	2530	1880
18	2580	8500	e1400	2440	13900	7870	6630	17200	1960	3680	2520	1540
19	3630	6400	e1800	4710	12000	8460	6010	15000	2420	3460	2020	1580
20	16800	5430	e1700	5290	10500	9310	5520	13000	2110	3600	1690	1500
21	35700	5190	e1600	4370	8800	12800	4710	12500	2110	2960	2090	1650
22	18800	4880	e2000	4590	8020	12200	4720	13000	2110	2510	2420	1560
23	11600	4060	e2200	4230	8850	11200	4710	12000	2100	2770	2140	1560
24	8380	3860	e1400	3880	12400	11100	4350	10400	1500	2780	2370	1380
25	6540	3470	e1550	4120	11100	10200	3760	8570	1860	2540	3550	1350
26	5280	3430	e1650	11400	8750	9330	3770	7210	1920	2460	3680	1510
27	5080	3400	e2050	15900	7930	8220	3870	6260	2100	2300	3480	1650
28	4540	3310	e2050	10500	6280	7160	2960	5040	2070	1840	3430	1790
29	3790	3420	e1850	8470	---	6360	2370	5040	2140	1450	3710	1620
30	3680	3690	e1800	14400	---	5760	2370	9480	2320	1590	3980	1710
31	3920	---	e1800	15100	---	5500	---	8370	---	1960	3280	---
TOTAL	158290	141380	63710	144040	311970	219720	205660	274290	77670	82530	96360	54410
MEAN	5106	4713	2055	4646	11140	7088	6855	8848	2589	2662	3108	1814
MAX	35700	10800	3300	15900	15400	12800	13300	18600	6230	6180	6240	2530
MIN	1120	3310	1370	1700	6280	3580	2370	2190	1500	1140	1610	1240

CAL YR 1989 TOTAL 1551770 MEAN 4251 MAX 38200 MIN 1050
WTR YR 1990 TOTAL 1830030 MEAN 5014 MAX 35700 MIN 1120

e Estimated

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 (b).
MINOR ELEMENTS DATA: 1970 (a), 1972-73 (a), 1974-76 (c), 1987 (b), 1988-89 (c), 1990 (b).
PESTICIDE DATA: 1974 (a).
ORGANIC DATA: OC--1974 (b), 1975 (d).
NUTRIENT DATA: 1968 (a), 1969-76 (d).
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 (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.--Interruption of record was due to malfunction of recording instrument. 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, 1988-90), 30.0°C, July 13, 1981; minimum (water years 1958-60, 1973, 1975-90), 0.0°C, on many days during winter periods, except 1984.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 28.0°C, July 30, but may have been higher during period of instrument malfunction; minimum, 0.0°C, on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 17...	1000	1640	88	--	15.5	748	8.4	86	23
APR 17...	1000	7130	76	7.3	8.5	746	10.0	87	--
MAY 10...	1000	2620	76	6.9	16.0	742	9.1	95	--
JUN 26...	1200	1500	93	8.3	21.5	752	9.5	109	--
AUG 30...	1000	3500	77	7.8	23.0	751	8.7	103	--

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 LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)
OCT 17...	6.8	1.5	5.0	0.90	15	9.0	8.3	<0.10	30
APR 17...	--	--	--	--	--	--	--	--	70
MAY 10...	--	--	--	--	--	--	--	--	60
JUN 26...	--	--	--	--	--	--	--	--	50
AUG 30...	--	--	--	--	--	--	--	--	90

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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								
17...	<1	6	110	3	30	<0.10	<1	<10
APR								
17...	<1	6	120	1	40	<0.10	3	<10
MAY								
10...	<1	13	140	2	50	<0.10	2	<10
JUN								
26...	<1	3	60	<1	20	<0.10	1	<10
AUG								
30...	<1	4	230	2	60	<0.10	1	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
17...	1000	1640	2	8.9
APR				
17...	1000	7130	5	96
MAY				
10...	1000	2620	4	28
JUN				
26...	1200	1500	2	8.1
AUG				
30...	1000	3500	4	38

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.5	14.5	15.0	12.5	11.5	12.5	2.0	.5	1.0	.0	.0	.0
2	16.0	15.5	15.5	11.5	11.0	11.0	.5	.0	.0	.0	.0	.0
3	16.5	15.5	16.0	11.0	9.5	10.5	.0	.0	.0	.0	.0	.0
4	15.5	13.5	14.5	9.5	8.5	9.0	.0	.0	.0	.0	.0	.0
5	13.5	12.5	13.0	8.5	8.0	8.5	.0	.0	.0	.0	.0	.0
6	15.0	12.5	14.0	9.5	8.5	9.0	.5	.0	.5	.0	.0	.0
7	14.5	13.5	14.0	10.0	9.0	9.5	.5	.0	.0	.0	.0	.0
8	13.5	12.0	13.0	11.0	9.5	10.5	.0	.0	.0	.0	.0	.0
9	12.0	10.0	11.0	11.0	10.5	11.0	.0	.0	.0	.0	.0	.0
10	11.0	9.5	10.0	10.5	9.0	10.0	.0	.0	.0	.0	.0	.0
11	11.5	10.5	11.0	9.0	8.0	8.5	.0	.0	.0	.0	.0	.0
12	13.5	11.0	12.0	8.0	7.0	8.0	.5	.0	.5	.0	.0	.0
13	13.5	12.0	13.0	7.5	6.5	7.0	.5	.0	.0	.0	.0	.0
14	14.0	12.5	13.5	8.5	6.5	7.5	.0	.0	.0	.0	.0	.0
15	15.0	13.5	14.0	10.0	7.5	9.0	.0	.0	.0	.0	.0	.0
16	15.5	14.5	15.0	11.5	9.5	10.5	.0	.0	.0	.5	.0	.0
17	15.5	15.0	15.5	9.5	8.0	9.0	.0	.0	.0	.5	.0	.5
18	15.0	13.5	14.0	8.0	5.5	6.5	.0	.0	.0	.5	.0	.5
19	13.5	11.0	12.0	5.5	4.5	4.5	.0	.0	.0	.0	.0	.0
20	11.0	10.5	10.5	5.0	4.0	4.5	.0	.0	.0	.0	.0	.0
21	10.5	9.5	10.0	4.5	2.5	3.5	.0	.0	.0	.0	.0	.0
22	9.5	9.0	9.0	2.0	1.5	2.0	.0	.0	.0	.5	.0	.0
23	9.0	8.5	9.0	1.5	1.0	1.5	.0	.0	.0	.5	.0	.5
24	9.5	8.5	9.0	1.0	.5	1.0	.0	.0	.0	1.0	.0	.5
25	10.0	9.0	9.5	1.5	.5	1.0	.0	.0	.0	1.0	.0	.5
26	11.0	9.5	10.0	2.5	1.0	2.0	.0	.0	.0	1.0	.0	.5
27	11.5	10.5	11.0	2.5	2.0	2.5	.0	.0	.0	.5	.0	.5
28	12.5	11.0	12.0	4.5	2.5	3.5	.0	.0	.0	1.0	.5	1.0
29	12.5	11.5	12.0	4.0	2.0	3.0	.0	.0	.0	1.0	1.0	1.0
30	13.0	11.5	12.5	2.0	1.5	2.0	.0	.0	.0	1.0	1.0	1.0
31	13.0	12.0	12.5	---	---	---	.0	.0	.0	1.0	.5	1.0
MONTH	16.5	8.5	12.5	12.5	0.5	6.5	2.0	0.0	0.0	1.0	0.0	0.0

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.0	1.0	1.5	1.0	.0	.5	5.0	4.5	5.0	18.0	15.5	17.0
2	2.5	2.0	2.0	2.0	.5	1.5	6.5	5.0	5.5	17.5	16.0	16.5
3	2.5	2.0	2.0	2.5	2.0	2.0	6.5	6.5	6.5	16.5	14.0	15.5
4	2.0	1.5	2.0	2.5	1.5	2.0	6.5	5.5	6.0	16.0	13.5	15.0
5	1.5	1.0	1.0	2.0	1.5	1.5	5.5	5.0	5.5	13.5	12.5	13.0
6	1.5	.5	1.0	2.0	1.0	1.5	5.5	5.5	5.5	15.0	12.5	14.0
7	2.0	1.5	1.5	2.0	.5	1.0	6.5	5.0	6.0	14.5	13.0	14.0
8	2.5	2.0	2.5	2.5	.5	1.5	6.5	5.5	6.0	15.5	13.0	14.0
9	3.5	2.5	3.0	2.5	1.5	2.0	6.5	5.0	5.5	17.5	14.0	15.5
10	3.5	3.0	3.5	3.5	1.5	2.5	6.5	6.0	6.0	16.5	15.0	16.0
11	3.0	2.0	2.5	5.0	3.0	4.0	7.5	6.5	6.5	15.0	12.5	14.0
12	2.5	2.0	2.5	7.0	5.0	6.0	6.5	5.5	6.0	12.5	11.0	11.5
13	2.5	2.0	2.5	8.5	6.5	7.5	6.0	4.5	5.5	11.0	10.5	10.5
14	3.0	2.5	2.5	9.5	7.5	8.5	6.0	5.0	5.5	13.0	10.5	12.0
15	3.0	2.5	2.5	10.5	8.5	9.5	7.0	6.0	6.5	14.5	12.5	13.5
16	3.0	2.5	2.5	11.0	9.0	10.0	9.0	6.5	8.0	14.0	14.0	14.0
17	3.0	2.0	2.5	11.5	10.5	11.0	8.5	7.5	8.0	14.0	13.5	13.5
18	2.0	1.5	1.5	11.0	9.0	10.5	8.0	6.5	7.0	14.0	13.0	13.5
19	2.0	1.5	2.0	9.0	7.0	8.0	9.0	6.0	7.5	13.5	12.5	13.0
20	2.0	1.5	1.5	7.0	4.5	6.0	9.5	8.0	8.5	13.0	12.0	12.5
21	1.5	1.0	1.5	5.0	4.0	4.5	10.0	9.0	9.5	13.0	12.0	12.5
22	2.5	1.5	2.0	6.0	4.5	5.0	11.5	9.5	10.5	12.5	11.5	12.0
23	4.0	2.5	3.5	7.0	6.0	6.5	13.0	10.5	12.0	12.5	12.0	12.5
24	4.0	3.5	4.0	6.0	5.0	5.5	14.0	11.5	13.0	13.5	12.0	13.0
25	3.5	.5	2.0	5.0	4.0	4.5	14.5	13.0	13.5	15.5	12.5	14.0
26	.5	.0	.0	5.0	4.0	4.5	17.5	13.5	15.5	15.5	14.5	15.0
27	.0	.0	.0	4.5	3.5	4.0	18.5	16.5	17.5	16.0	14.0	15.0
28	1.5	.0	.5	4.5	3.0	4.0	19.5	17.0	18.5	17.5	15.0	16.0
29	---	---	---	5.5	3.5	4.5	19.0	17.5	18.5	16.5	15.5	16.0
30	---	---	---	5.0	4.5	4.5	17.5	16.0	16.5	15.5	14.0	15.0
31	---	---	---	5.0	4.0	4.5	---	---	---	16.0	13.5	15.0
MONTH	4.0	0.0	2.0	11.5	0.0	5.0	19.5	4.5	9.0	18.0	10.5	14.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.5	15.0	16.5	24.5	22.5	23.5	24.5	22.5	23.5	23.5	21.5	22.5
2	18.5	17.0	18.0	24.0	22.0	23.0	25.0	22.0	23.5	24.0	21.5	23.0
3	21.0	18.0	19.5	24.0	21.5	22.5	25.5	22.5	24.0	23.5	22.5	23.0
4	20.5	18.0	19.5	25.5	22.5	24.0	26.5	23.0	25.0	23.5	21.5	22.5
5	18.5	16.5	17.5	26.5	23.0	25.0	24.5	23.5	24.0	22.5	21.0	22.0
6	19.5	16.5	18.0	25.5	22.0	24.5	23.5	22.0	23.0	23.0	21.0	22.0
7	20.5	18.0	19.0	24.0	22.0	23.0	22.0	20.5	21.0	23.5	22.0	23.0
8	19.0	18.0	18.5	23.0	21.5	22.5	22.5	21.0	21.5	22.5	21.0	21.5
9	19.0	17.5	18.5	24.5	22.5	23.0	23.0	22.0	22.5	21.0	19.5	20.0
10	21.0	18.5	20.0	25.0	22.0	23.5	22.5	21.5	22.0	21.5	19.0	20.0
11	20.0	18.0	19.0	23.0	21.5	22.5	22.5	21.5	22.0	22.5	20.0	21.5
12	20.0	17.0	18.5	21.5	18.0	20.0	23.5	21.5	22.5	23.0	21.0	22.0
13	20.5	18.0	19.5	19.0	18.0	18.5	---	23.0	---	23.0	22.0	22.5
14	19.5	18.5	19.0	19.0	18.0	18.5	---	---	---	23.0	21.5	22.5
15	21.0	18.5	19.5	21.0	19.0	19.5	---	---	---	22.5	21.0	22.0
16	22.5	19.5	21.0	23.5	20.5	21.5	---	---	---	21.5	20.5	21.0
17	24.5	20.0	22.5	23.0	21.0	22.0	---	---	---	20.5	17.5	19.0
18	24.5	22.0	23.5	25.0	22.0	23.5	---	---	---	17.5	16.0	17.0
19	23.5	21.5	23.0	25.5	23.0	24.5	---	---	---	16.5	15.5	16.0
20	23.5	21.5	22.5	25.5	23.5	24.5	---	---	---	16.5	15.5	16.0
21	22.5	21.5	22.0	25.0	24.0	24.5	---	---	---	17.0	15.0	16.0
22	24.0	21.5	22.5	25.0	23.5	24.5	---	---	---	17.0	15.5	16.0
23	24.5	22.0	23.0	25.5	23.5	24.5	---	---	---	15.5	15.0	15.5
24	23.0	21.5	22.5	25.0	23.0	24.0	---	---	---	15.0	14.0	14.5
25	23.0	21.0	22.0	26.0	23.0	24.5	---	---	---	15.5	13.5	14.5
26	23.0	20.5	22.0	25.5	23.5	24.5	---	---	---	15.5	14.5	15.0
27	24.0	21.5	23.0	26.0	23.5	24.5	24.0	---	---	17.0	14.5	15.5
28	25.0	22.5	23.5	26.5	24.0	25.5	24.0	22.5	23.5	18.0	15.5	16.5
29	24.0	22.0	23.0	27.5	24.5	26.0	24.5	23.5	24.0	18.0	16.5	17.5
30	24.5	21.5	23.0	28.0	25.5	27.0	24.0	22.5	23.5	18.5	17.0	18.0
31	---	---	---	26.0	23.0	25.5	23.5	22.0	23.0	---	---	---
MONTH	25.0	15.0	20.5	28.0	18.0	23.5	---	---	---	24.0	13.5	19.5

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.--3.80 mi^2.

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 ft^3/s and poor above. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years (water years 1984-1990), 10.18 ft^3/s, 36.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft^3/s, Apr. 4, 1987, gage height, 4.37 ft, present datum; minimum discharge, 0.40 ft^3/s, Sept. 16, 1983; minimum gage height, 0.97 ft, July 16, 1988, present datum.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1545	*221	*3.13	No other peak greater than base discharge.			

Minimum discharge, 1.60 ft^3/s, Aug. 4, 5, gage height, 0.98 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	16	e8.8	e12	15	e13	11	9.9	10	4.4	2.3	4.9
2	12	9.8	e8.6	e4.0	17	12	9.5	8.3	9.2	3.6	1.9	4.6
3	9.5	8.9	e8.0	e3.5	16	10	20	8.3	8.6	3.1	1.9	4.2
4	7.5	8.0	e6.8	e3.4	13	e9.0	17	9.5	8.0	2.9	1.8	3.9
5	6.7	7.3	e6.4	4.3	e12	e8.2	13	16	6.9	2.7	5.1	3.8
6	6.2	7.7	e6.0	3.6	e11	e7.2	12	11	6.5	2.9	37	3.8
7	5.7	7.2	e6.0	3.4	9.6	e6.8	11	9.7	6.8	2.7	35	3.5
8	5.5	7.1	e5.4	3.3	9.3	e6.4	10	9.9	6.1	2.4	13	3.4
9	5.3	13	e5.0	3.3	10	6.1	9.3	9.0	6.0	3.3	8.1	3.2
10	5.2	11	e4.8	3.3	36	7.1	25	62	5.9	2.6	8.6	5.3
11	7.2	9.1	e4.6	3.2	21	11	70	70	5.5	2.4	12	3.5
12	5.6	8.3	e4.5	3.2	15	42	26	28	4.8	10	7.8	3.4
13	5.3	7.5	e4.3	2.9	14	49	18	68	4.1	8.3	7.7	3.1
14	4.9	7.1	e4.2	e2.8	12	30	15	74	3.9	4.5	9.2	3.0
15	9.8	7.2	e4.0	2.9	11	20	19	34	4.0	4.1	6.3	6.7
16	6.4	40	e3.9	3.2	32	16	15	31	3.8	3.9	5.2	3.0
17	12	25	e3.8	e4.0	42	27	14	29	3.4	3.4	4.8	2.7
18	11	16	e3.7	e16	e16	31	12	25	3.7	3.0	4.4	2.5
19	16	13	e3.5	e10	e13	19	11	22	3.6	2.7	4.6	2.5
20	107	13	e3.3	e8.0	e12	27	11	19	3.1	3.0	4.3	2.6
21	57	13	e3.2	7.3	e13	20	13	25	4.7	3.1	4.5	2.2
22	24	11	e3.0	6.3	15	21	10	19	4.5	2.7	4.0	2.5
23	17	10	e2.9	5.7	61	21	9.3	16	8.4	4.1	3.8	2.4
24	13	10	e2.8	5.8	40	17	8.3	14	6.1	3.4	25	2.1
25	11	8.6	e2.8	13	e20	14	8.9	13	4.3	2.6	23	2.0
26	9.5	8.9	e2.7	80	e16	e12	8.0	12	3.5	2.4	11	2.0
27	8.6	8.1	e2.6	24	e14	e11	7.7	14	3.2	2.3	8.9	2.1
28	7.7	16	e2.6	15	e14	e10	7.4	11	3.0	2.2	7.6	1.9
29	6.8	12	e2.6	13	---	9.7	6.9	13	4.3	2.2	8.5	1.8
30	6.2	10	e2.5	44	---	9.2	15	15	5.0	2.1	6.2	2.1
31	9.6	---	e4.0	21	---	11	---	11	---	2.8	5.2	---
TOTAL	425.2	349.8	137.3	335.4	529.9	513.7	443.3	716.6	160.9	105.8	288.7	94.7
MEAN	13.7	11.7	4.43	10.8	18.9	16.6	14.8	23.1	5.36	3.41	9.31	3.16
MAX	107	40	8.8	80	61	49	70	74	10	10	37	6.7
MIN	4.9	7.1	2.5	2.8	9.3	6.1	6.9	8.3	3.0	2.1	1.8	1.8
CFSM	3.61	3.07	1.17	2.85	4.98	4.36	3.89	6.08	1.41	.90	2.45	.83
IN.	4.16	3.42	1.34	3.28	5.19	5.03	4.34	7.02	1.58	1.04	2.83	.93

CAL YR 1989 TOTAL 3759.69 MEAN 10.3 MAX 162 MIN .62 CFSM 2.71 IN. 36.81
WTR YR 1990 TOTAL 4101.3 MEAN 11.2 MAX 107 MIN 1.8 CFSM 2.96 IN. 40.15

e Estimated

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 mi^2.

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 ft^3/s and fair above, except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--39 years, 187 ft^3/s, 38.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft^3/s, Apr. 4, 1987, gage height, 13.26 ft; maximum gage height, 13.83 ft, present datum, July 10, 1952; minimum discharge, 6.8 ft^3/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 ft^3/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1545	*4,830	*10.23	No other peak greater than base discharge.			

Minimum discharge, 39 ft^3/s, Aug. 4, 5, gage height, 6.16 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	406	131	171	e260	e200	187	236	162	88	47	90
2	223	229	e130	99	304	e190	175	190	150	74	43	82
3	236	199	e120	79	324	e180	304	172	143	66	42	78
4	162	180	e98	73	279	e160	310	169	135	60	39	73
5	138	165	e91	74	226	e150	237	300	124	56	58	71
6	130	163	e100	69	e200	e135	208	231	117	57	549	70
7	120	156	e110	e66	198	e125	191	203	120	58	451	68
8	112	151	e100	e64	193	e120	176	196	109	53	199	67
9	105	290	e95	e62	191	e117	164	182	110	59	127	64
10	98	280	e90	64	554	127	207	743	106	56	113	90
11	115	210	e88	63	379	176	1120	1210	97	51	167	69
12	103	184	e85	65	e260	413	459	504	94	142	127	64
13	95	166	e86	e60	230	526	330	889	86	164	108	62
14	91	157	e83	e58	219	457	280	1090	84	91	138	59
15	117	155	e82	e60	208	347	322	569	84	76	103	104
16	103	473	e80	62	407	291	280	515	81	74	90	76
17	151	399	e78	68	601	402	250	546	77	66	83	65
18	195	272	e76	147	e300	540	227	460	75	62	78	60
19	241	229	e72	146	279	332	205	395	78	58	79	59
20	2110	216	e70	102	e215	510	193	330	92	59	82	63
21	1340	224	e68	106	213	421	219	424	79	63	78	57
22	577	183	e66	98	226	344	196	342	98	55	76	61
23	383	172	e64	91	796	343	175	286	117	59	72	68
24	297	157	e62	93	668	281	162	254	120	60	456	60
25	249	148	e61	130	e330	244	167	226	88	52	556	56
26	218	148	e60	1300	e242	221	158	206	76	48	232	54
27	194	142	e60	439	e220	e190	148	204	70	47	174	54
28	177	200	e59	280	e215	e180	141	189	65	45	147	51
29	162	178	e58	233	---	169	136	199	65	45	140	50
30	149	147	e57	768	---	167	318	270	105	44	109	50
31	186	---	e56	e330	---	170	---	185	---	45	98	---
TOTAL	8684	6379	2536	5520	8737	8228	7645	11915	3007	2033	4861	1995
MEAN	280	213	81.8	178	312	265	255	384	100	65.6	157	66.5
MAX	2110	473	131	1300	796	540	1120	1210	162	164	556	104
MIN	91	142	56	58	191	117	136	169	65	44	39	50
CFSM	4.21	3.19	1.23	2.67	4.69	3.99	3.83	5.77	1.51	.98	2.35	1.00
IN.	4.85	3.56	1.42	3.08	4.88	4.60	4.27	6.66	1.68	1.14	2.72	1.11

CAL YR 1989 TOTAL 67813 MEAN 186 MAX 3360 MIN 21 CFSM 2.79 IN. 37.88
WTR YR 1990 TOTAL 71540 MEAN 196 MAX 2110 MIN 39 CFSM 2.94 IN. 39.96

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 mi^2.

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 mi^2 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 ft^3/s, Nov. 25, 1950, from rating curve extended above 2,600 ft^3/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, 1,510 ft^3/s, May 14, gage height, 4.98 ft; minimum, 18 ft^3/s, Nov. 21, gage height, 2.90 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	30	25	25	25	24	43	50	42	44	56	45
2	43	25	25	24	25	24	52	50	42	52	53	45
3	40	24	24	24	25	24	50	51	42	66	76	45
4	41	24	24	24	25	24	51	51	42	73	87	45
5	40	24	25	24	25	24	52	51	42	78	87	45
6	40	25	25	24	25	24	51	52	42	66	65	45
7	39	24	24	24	25	24	52	68	42	66	44	45
8	40	24	25	24	25	24	52	76	42	66	44	46
9	40	24	25	24	25	24	49	78	42	52	45	45
10	40	24	25	24	26	24	51	106	42	43	45	45
11	40	24	25	24	25	24	49	1070	42	43	45	45
12	41	23	25	24	25	24	50	486	42	44	45	45
13	41	24	25	24	25	23	51	468	42	43	45	45
14	40	24	25	24	25	24	51	1140	42	43	45	45
15	40	24	25	24	24	24	51	550	42	51	45	45
16	40	25	25	24	25	24	51	326	42	68	53	45
17	40	24	24	24	23	24	50	296	43	68	67	45
18	40	24	24	24	24	24	50	608	44	79	67	45
19	40	24	24	24	24	24	51	524	42	85	59	45
20	42	24	24	24	25	25	51	423	42	76	46	45
21	41	22	24	24	24	23	51	368	43	68	44	45
22	41	24	24	26	24	25	51	101	44	68	44	45
23	42	24	24	24	24	25	51	44	44	67	44	45
24	42	24	25	24	24	24	52	42	44	67	45	45
25	42	24	25	24	23	24	52	42	44	67	45	45
26	42	24	25	25	23	23	51	42	44	67	45	45
27	40	24	25	24	24	23	52	42	44	67	53	45
28	39	24	25	24	24	23	52	42	51	75	68	45
29	39	23	25	25	---	23	52	43	58	81	55	45
30	39	24	25	25	---	23	52	42	44	76	45	45
31	39	---	25	25	---	23	---	42	---	78	45	---
TOTAL	1255	725	765	751	686	739	1524	7374	1303	1987	1652	1351
MEAN	40.5	24.2	24.7	24.2	24.5	23.8	50.8	238	43.4	64.1	53.3	45.0
MAX	43	30	25	26	26	25	52	1140	58	85	87	46
MIN	39	22	24	24	23	23	43	42	42	43	44	45

CAL YR 1989 TOTAL 13179.2 MEAN 36.1 MAX 817 MIN 4.0
WTR YR 1990 TOTAL 20112 MEAN 55.1 MAX 1140 MIN 22

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 mi^2.

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 mi^2 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 ft^3/s, Nov. 26, 1950, gage height, 11.19 ft, from rating curve extended above 15,000 ft^3/s; maximum gage height, 11.2 ft, July 22, 1938, from floodmarks; minimum discharge, 6.7 ft^3/s, June 27, 1953; minimum gage height, 0.80 ft, Aug. 25, 27, 28, 1949; minimum daily discharge, 8.2 ft^3/s, June 25, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,700 ft^3/s, Oct. 20, gage height, 4.74 ft; minimum not determined, occurred during period of ice effect; minimum daily discharge, 32 ft^3/s (estimated), Dec. 29-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	142	e62	e120	e100	e64	86	87	83	85	70	67
2	78	79	e60	e88	148	e63	106	79	78	68	56	65
3	75	69	e65	e72	148	67	165	75	75	81	80	64
4	64	64	e66	e61	e120	e60	140	78	73	83	93	62
5	61	59	e66	e58	e105	e55	115	136	70	93	106	61
6	60	61	68	e56	e98	53	103	101	69	79	180	61
7	58	59	62	e54	94	e50	99	105	70	78	129	60
8	58	56	e56	e53	92	e49	95	107	67	78	77	59
9	57	111	e54	e53	97	e48	88	111	68	70	64	58
10	55	95	e58	e55	244	58	97	130	66	56	64	64
11	64	73	61	e54	e130	72	144	1170	64	56	79	59
12	60	65	60	e52	e100	102	106	626	63	135	66	59
13	60	60	58	e48	e90	97	96	615	62	118	63	58
14	55	59	e52	e46	e88	89	92	1330	61	75	69	57
15	55	61	e47	e49	87	80	114	722	62	72	61	72
16	55	113	e44	e52	145	76	104	507	61	89	61	62
17	77	100	e41	e54	e130	96	97	433	60	85	77	59
18	84	80	e39	e85	e90	125	93	753	61	91	77	58
19	115	73	e38	e55	e80	82	88	672	62	97	75	58
20	630	73	e37	e45	e75	162	86	542	61	92	59	61
21	313	80	e36	e46	e74	134	99	576	60	81	57	58
22	167	69	e36	e47	e80	101	92	220	60	78	56	60
23	129	67	e35	e45	177	88	86	117	69	82	57	61
24	111	63	e35	e48	166	79	84	102	64	81	153	58
25	99	61	e34	72	e90	73	85	93	60	80	174	57
26	92	65	e34	294	e75	69	83	87	58	78	89	57
27	83	65	e33	e120	e70	64	80	84	57	77	83	56
28	78	74	e33	98	e66	61	79	80	60	80	100	56
29	74	67	e32	88	---	60	78	100	78	93	140	56
30	72	61	e32	255	---	62	98	159	76	81	79	56
31	89	---	e70	e125	---	65	---	94	---	91	71	---
TOTAL	3188	2224	1504	2448	3059	2404	2978	10091	1978	2583	2665	1799
MEAN	103	74.1	48.5	79.0	109	77.5	99.3	326	65.9	83.3	86.0	60.0
MAX	630	142	70	294	244	162	165	1330	83	135	180	72
MIN	55	56	32	45	66	48	78	75	57	56	56	56

CAL YR 1989 TOTAL 29203 MEAN 80.0 MAX 982 MIN 17
WTR YR 1990 TOTAL 36921 MEAN 101 MAX 1330 MIN 32

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.--Interruption of record was due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1979-83, 1985, 1988, 1990), 26.5°C, June 16, 1981; minimum (water years 1980-90), 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 19.0°C, July 4, 10, Aug. 7, 25, 26, but may have been higher during period of instrument malfunction; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.5	9.5	12.0	11.5	9.0	10.5	1.5	.0	.5	.0	.0	.0
2	13.0	12.5	12.5	9.5	7.5	8.5	.0	.0	.0	.0	.0	.0
3	15.0	11.0	12.5	8.5	6.0	8.0	.5	.0	.0	.0	.0	.0
4	12.0	9.0	10.0	7.5	4.5	6.0	.5	.0	.0	.0	.0	.0
5	13.5	9.0	11.0	8.0	5.0	6.5	.0	.0	.0	.5	.0	.0
6	14.0	10.5	12.5	9.5	7.5	8.5	.5	.0	.5	.0	.0	.0
7	13.0	11.0	12.0	9.0	7.0	8.0	1.0	.0	.5	.0	.0	.0
8	11.0	9.5	10.0	11.5	8.5	10.0	.0	.0	.0	.0	.0	.0
9	9.5	8.0	9.0	10.5	8.5	10.0	.5	.0	.5	.5	.0	.0
10	10.0	6.0	8.5	8.0	6.5	7.0	.5	.0	.0	.0	.0	.0
11	11.0	9.0	10.0	7.0	5.5	6.5	.5	.0	.0	.0	.0	.0
12	13.0	8.0	10.5	8.0	5.0	6.5	.5	.0	.0	.0	.0	.0
13	14.0	10.0	12.0	7.0	4.5	5.5	.5	.0	.5	.0	.0	.0
14	13.0	9.5	11.5	8.5	5.0	7.0	.5	.0	.5	.0	.0	.0
15	15.5	11.5	13.5	11.0	8.5	9.5	.5	.0	.0	.0	.0	.0
16	15.5	13.0	14.0	12.0	8.0	11.0	.0	.0	.0	.0	.0	.0
17	13.5	11.0	12.5	7.5	4.5	6.0	.0	.0	.0	.5	.0	.5
18	11.0	9.5	10.0	5.5	3.5	4.5	.0	.0	.0	2.0	.5	1.0
19	9.5	8.0	8.5	4.0	2.0	3.0	.0	.0	.0	1.0	.0	.5
20	10.0	8.0	9.0	6.0	3.0	4.5	.0	.0	.0	.0	.0	.0
21	9.5	8.0	8.5	5.0	.0	3.0	.0	.0	.0	.0	.0	.0
22	9.0	8.0	8.5	1.5	.0	1.0	.0	.0	.0	.5	.0	.0
23	10.5	7.0	8.5	3.0	1.0	1.5	.0	.0	.0	1.5	.5	1.0
24	10.5	7.0	9.0	1.5	.0	1.0	.0	.0	.0	2.5	1.0	1.5
25	11.5	8.0	10.0	3.0	.5	2.0	.0	.0	.0	1.5	1.5	1.5
26	12.0	8.5	10.0	5.0	3.0	4.0	.0	.0	.0	1.0	.5	.5
27	12.0	8.5	10.5	4.0	2.5	3.5	.0	.0	.0	2.0	.0	1.0
28	13.0	9.5	11.5	7.0	4.0	5.5	.0	.0	.0	2.5	.5	1.5
29	12.5	9.5	11.0	4.5	.5	2.5	.0	.0	.0	1.5	.0	1.0
30	12.5	9.5	11.0	2.0	.0	1.0	.0	.0	.0	1.0	.5	.5
31	11.5	11.0	11.5	---	---	---	.0	.0	.0	2.0	.0	1.0
MONTH	15.5	6.0	10.5	12.0	0.0	5.5	1.5	0.0	0.0	2.5	0.0	0.5

DELAWARE RIVER BASIN

01436500 NEVERSINK RIVER AT WOODBOURNE, NY--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.5	.0	1.5	1.0	.0	.5	4.5	4.0	4.0	15.0	8.0	11.0
2	2.5	1.5	2.0	1.5	.0	.5	4.5	3.5	4.0	13.0	9.0	11.5
3	1.0	.5	1.0	4.0	.5	2.0	4.5	4.0	4.0	14.0	7.0	10.5
4	1.0	.5	1.0	2.0	.0	1.0	5.0	3.5	4.0	11.5	8.5	10.5
5	1.0	.0	.5	1.5	.0	1.0	5.5	3.0	4.0	9.5	8.0	8.5
6	1.0	.0	.5	3.0	.0	1.0	6.5	3.5	5.0	14.0	7.5	10.5
7	3.5	.5	2.0	2.0	.0	.5	8.5	3.0	5.5	11.0	8.0	9.5
8	4.0	.5	2.0	3.0	.0	1.0	5.5	2.5	4.0	13.5	8.5	10.5
9	3.5	1.0	2.5	2.5	.0	1.5	7.5	2.0	5.0	14.0	8.5	11.5
10	3.0	.5	2.0	7.0	2.0	4.0	6.0	4.5	5.0	12.5	10.0	11.5
11	3.0	.0	1.5	7.0	3.0	4.5	6.5	4.0	6.0	10.5	9.0	10.0
12	3.5	1.0	1.5	5.0	3.0	4.0	7.0	2.5	4.5	12.0	9.0	10.0
13	3.0	.0	1.5	9.0	2.5	5.5	8.5	1.5	5.0	10.0	9.0	9.5
14	3.5	2.0	3.0	9.5	4.0	6.5	6.5	2.5	5.0	12.5	10.0	11.0
15	2.5	1.0	1.5	9.0	4.5	7.0	8.0	5.0	6.5	14.0	10.0	11.5
16	3.0	1.0	2.0	10.5	5.5	8.5	11.5	4.0	7.5	12.0	11.0	11.5
17	3.5	.0	1.5	9.5	7.5	9.0	8.0	4.5	6.0	11.5	10.5	11.5
18	1.5	.0	.5	7.5	5.0	6.5	9.0	2.5	5.5	13.0	10.0	11.5
19	3.5	.0	1.5	5.0	3.0	4.5	11.0	3.0	7.0	13.0	10.5	11.5
20	1.5	.0	.5	4.5	3.0	4.0	9.0	5.5	7.5	12.0	10.5	11.0
21	2.0	.0	1.0	7.0	2.0	4.0	9.0	7.0	8.0	10.5	9.5	9.5
22	3.0	.5	1.5	8.0	2.5	5.0	13.5	6.0	9.5	12.5	8.5	10.5
23	4.0	2.0	3.0	7.5	3.5	5.5	14.5	7.0	10.5	11.5	8.5	10.5
24	2.0	1.0	1.5	5.0	1.5	3.0	14.0	7.5	10.5	15.0	8.5	11.0
25	1.0	.0	.5	7.5	1.5	4.0	13.0	8.0	10.5	15.5	8.5	12.0
26	1.0	.0	.5	5.5	1.5	3.5	17.5	9.5	13.0	12.5	10.0	11.0
27	.5	.0	.5	5.5	.0	2.5	16.5	10.5	13.5	13.0	8.5	11.0
28	.5	.0	.5	6.5	.5	3.5	16.0	10.0	13.5	16.0	9.0	12.5
29	---	---	---	7.0	1.5	4.5	13.5	10.0	11.5	13.5	10.0	11.0
30	---	---	---	5.0	2.0	2.5	11.0	9.0	10.0	15.5	9.5	12.0
31	---	---	---	5.0	2.0	3.5	---	---	---	16.0	8.0	12.0
MONTH	4.0	0.0	1.5	10.5	0.0	3.5	17.5	1.5	7.0	16.0	7.0	11.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.0	9.5	13.0	18.0	13.0	15.5	17.5	10.0	13.5	17.0	12.5	15.0
2	16.5	11.0	14.0	17.5	13.0	15.0	18.5	12.5	15.5	17.0	13.5	15.5
3	17.0	12.5	15.0	16.5	10.5	13.5	16.0	10.5	14.0	17.5	13.0	15.0
4	15.0	11.0	12.5	19.0	11.0	15.0	15.5	9.5	12.5	17.0	12.0	14.5
5	16.5	9.0	12.0	18.5	11.5	15.0	13.0	9.5	11.0	15.5	13.0	14.5
6	15.0	10.0	12.5	15.0	10.5	11.5	16.0	11.5	13.5	17.5	13.0	15.0
7	18.0	11.5	14.5	16.0	8.5	12.0	19.0	14.5	16.5	16.0	13.5	14.5
8	14.5	11.0	12.0	14.0	10.0	11.5	18.0	13.5	16.0	17.0	12.0	14.0
9	14.5	10.5	12.0	15.0	10.0	12.5	16.0	13.5	15.0	13.5	10.5	11.5
10	16.0	11.5	13.5	19.0	13.0	15.5	15.0	13.0	13.5	17.0	11.0	13.5
11	14.0	11.5	12.5	16.5	11.5	13.5	18.5	13.0	15.0	16.5	13.0	14.5
12	18.0	9.5	13.0	13.0	10.5	11.5	18.0	13.5	16.0	15.5	13.0	14.5
13	15.0	11.0	13.0	16.5	12.5	14.0	---	13.5	---	17.5	13.0	15.0
14	13.0	11.0	12.0	14.5	12.5	13.5	---	---	---	15.5	13.0	14.5
15	12.5	10.5	11.5	15.0	12.5	13.5	---	---	---	17.5	14.0	15.5
16	16.0	11.0	13.5	16.5	11.5	14.0	---	---	---	14.5	12.0	12.5
17	17.5	12.5	15.0	17.0	10.5	14.0	---	---	---	12.0	10.0	11.0
18	16.0	13.0	14.0	17.0	11.0	14.0	---	---	---	13.5	8.0	10.5
19	16.0	12.0	14.0	17.0	10.0	13.5	---	---	---	11.0	9.0	10.0
20	15.0	12.0	14.0	17.0	10.0	13.5	12.5	---	---	13.5	10.0	11.5
21	16.0	12.0	14.0	15.0	11.5	13.0	12.0	11.5	12.0	14.5	9.5	11.5
22	17.0	12.5	15.0	16.5	10.5	13.5	14.0	11.5	13.0	12.5	10.5	11.5
23	16.5	13.0	14.5	15.5	12.0	14.0	13.5	12.5	13.0	12.0	9.5	10.5
24	15.0	12.5	13.5	15.0	11.5	13.5	16.0	12.5	13.5	13.0	9.5	11.0
25	16.5	11.5	14.0	18.0	11.0	14.5	19.0	15.5	16.5	14.0	8.5	11.0
26	17.5	11.5	14.5	17.0	11.0	14.0	19.0	14.5	16.5	12.0	10.0	11.0
27	17.5	13.0	15.5	18.0	10.5	14.0	18.0	14.5	16.0	14.5	9.5	12.0
28	18.0	13.5	15.5	18.0	11.5	14.5	17.5	12.5	15.0	15.5	10.5	13.0
29	15.5	10.5	13.0	17.0	10.0	13.5	18.5	14.0	16.5	14.5	11.5	13.0
30	17.0	13.0	15.0	17.5	11.0	14.5	18.5	13.5	16.0	14.5	12.0	13.5
31	---	---	---	14.0	10.0	12.0	17.5	12.5	15.0	---	---	---
MONTH	18.0	9.0	13.5	19.0	8.5	13.5	---	---	---	17.5	8.0	13.0

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 mi^2.

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 mi^2 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 ft^3/s, Aug. 19, 1955, gage height, 12.49 ft, from rating curve extended above 11,000 ft^3/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, 5,950 ft^3/s, Oct. 20, gage height, 7.76 ft; minimum, 140 ft^3/s, Aug. 3, but may have been less during period of ice effect Dec. 25-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	411	797	e300	e340	1080	e440	511	344	533	387	199	243
2	449	654	e265	e320	1100	e430	542	301	462	312	165	223
3	517	561	e250	272	1370	448	795	277	421	257	147	209
4	428	500	e275	238	1190	425	1010	274	411	241	171	197
5	380	463	e245	230	1080	381	810	460	375	232	188	190
6	361	448	e250	233	890	375	664	438	346	224	339	181
7	343	439	e230	220	863	e320	617	387	371	211	395	174
8	320	394	207	212	785	e330	571	376	340	203	282	169
9	304	458	e205	208	756	e320	515	344	333	202	216	157
10	284	642	e210	215	1120	337	488	430	317	189	201	162
11	297	464	228	231	1090	383	626	1700	293	174	276	169
12	279	399	219	226	837	448	563	1300	276	286	246	159
13	265	365	212	e210	707	457	479	1140	254	733	222	158
14	255	353	e205	e205	654	446	445	2250	247	371	352	155
15	250	349	e198	205	632	413	517	1550	261	301	247	194
16	276	406	e192	202	733	380	558	1180	259	284	216	204
17	372	609	e186	217	1050	494	482	1400	239	260	205	184
18	505	485	e182	336	e700	1000	465	1640	236	240	201	172
19	592	441	e178	440	e610	688	427	1490	265	232	194	167
20	2930	421	e174	352	e540	886	406	1240	287	225	186	208
21	3360	449	e170	384	e500	1140	411	1310	250	211	188	197
22	1790	418	e168	389	504	920	421	1060	245	197	186	185
23	1290	433	e165	376	685	801	382	757	233	194	172	191
24	1070	e380	e162	378	911	693	355	633	252	202	227	181
25	864	e355	e160	487	695	619	347	547	228	192	578	169
26	747	363	e158	e1750	e520	556	347	488	213	182	351	166
27	656	364	e156	1320	e480	505	328	458	204	174	272	165
28	574	364	e154	1020	e460	449	311	425	196	172	284	166
29	521	360	e152	894	---	413	301	430	198	176	436	162
30	466	e280	e150	1670	---	421	323	1070	316	182	355	164
31	473	---	e235	1330	---	444	---	694	---	179	282	---
TOTAL	21629	13414	6241	15110	22542	16362	15017	26393	8861	7625	7979	5421
MEAN	698	447	201	487	805	528	501	851	295	246	257	181
MAX	3360	797	300	1750	1370	1140	1010	2250	533	733	578	243
MIN	250	280	150	202	460	320	301	274	196	172	147	155

CAL YR 1989 TOTAL 166943 MEAN 457 MAX 4140 MIN 104
WTR YR 1990 TOTAL 166594 MEAN 456 MAX 3360 MIN 147

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 (b).
MINOR ELEMENTS DATA: 1987 (b), 1988-89 (c), 1990 (b).
SEDIMENT DATA: 1988 (b), 1989 (c), 1990 (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 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
OCT 17...	0900	342	98	--	14.5	747	9.0	90	43
APR 17...	1200	477	92	6.6	9.0	744	10.5	93	--
MAY 10...	1200	352	87	6.9	15.5	740	9.4	97	--
JUN 26...	1100	216	105	6.7	17.5	751	10.2	108	--
AUG 30...	1200	347	88	7.3	20.5	750	8.6	97	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
OCT 17...	13	2.5	5.1	1.0	31	13	7.6	0.10	40
APR 17...	--	--	--	--	--	--	--	--	90
MAY 10...	--	--	--	--	--	--	--	--	50
JUN 26...	--	--	--	--	--	--	--	--	40
AUG 30...	--	--	--	--	--	--	--	--	220

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 17...	<1	3	160	2	20	<0.10	<1	<10
APR 17...	<1	4	150	1	30	<0.10	2	<10
MAY 10...	<1	8	160	2	60	<0.10	<1	<10
JUN 26...	<1	3	190	1	40	<0.10	1	<10
AUG 30...	3	12	420	3	70	<0.10	8	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 17...	0900	342	2	1.8
APR 17...	1200	477	3	3.9
MAY 10...	1200	352	4	3.8
JUN 26...	1100	216	4	2.3
AUG 30...	1200	347	8	7.5

01438500 DELAWARE RIVER AT MONTAGUE, NJ

LOCATION.--Lat 41°18'33", long 74°47'44", Pike County, PA, Hydrologic Unit 02040104, on right bank 1,500 ft upstream from toll bridge (on U.S. Route 206) between Montague, NJ and Milford, PA, 0.8 mi downstream from Sawkill Creek, and at river mile 246.3.

DRAINAGE AREA.--3,480 mi^2.

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 excellent except for periods of ice effect, Dec. 4 to Jan. 26, and periods of shifting control, Oct. 1 to 20, and July 18 to Sept. 30, which are good. 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 1989 TO SEPTEMBER 1990, DAILY-MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1940	5290	3470	e1900	13400	7500	6690	3000	7470	3100	2320	3130
2	1990	5910	2580	e1900	12200	7290	6500	2860	5740	3090	2230	2290
3	2850	5550	2180	e2300	15800	7190	8340	2640	4300	2980	2060	2160
4	2930	5330	3270	e2500	15200	6940	14400	2740	4230	2460	1910	2160
5	2570	5380	e3100	e2400	16400	6220	12800	4010	4790	2060	1860	2780
6	2350	5060	e2550	e2300	13100	5840	11000	4570	3670	2480	3210	2780
7	2050	4880	e3350	e2100	12000	5490	9920	4150	4010	2190	6820	2720
8	1540	4360	e2900	e2100	11000	5150	8990	3570	3950	1500	5730	2570
9	1490	4960	e3300	e2800	10500	5190	8050	3460	3320	1720	3770	1440
10	1960	6830	e2150	e2400	12600	4430	7250	3650	2720	2340	3070	1570
11	1770	6570	e2500	e2400	17000	4180	8890	10900	2730	2150	4960	2600
12	2050	5230	e2900	e2300	14500	5000	13300	14300	3510	2240	5350	2500
13	1920	4820	e2600	e2400	12500	6630	11900	12400	2760	6660	4150	2390
14	1850	4960	e2000	e2000	11200	7820	10400	19600	2640	5920	4910	2490
15	1810	4700	e2000	e2200	10600	7750	9550	20600	2450	4000	4190	1720
16	1820	4230	e2000	e2300	11000	7520	9220	15900	2260	4200	3380	1940
17	2360	10600	e1650	e2200	15300	6740	8320	18000	2050	5210	2910	2060
18	2830	9450	e1600	e2700	15100	9200	7560	19500	2100	4200	2680	1830
19	4080	7280	e2000	e5000	12700	9720	6880	17100	2960	3830	2570	1760
20	16400	6210	e1900	e6200	11300	10200	6380	14500	2630	3970	1940	1770
21	41700	5910	e1800	e5100	9800	14100	5540	13600	2600	3450	2360	1850
22	22900	5650	e2300	e5100	8980	13200	5530	14100	2450	2970	2650	1810
23	13600	4800	e2500	e4900	9670	12200	5390	12900	2730	2910	2490	1800
24	10200	4490	e1600	e4600	13100	11900	5040	11300	1860	3180	2640	1620
25	8240	4150	e1750	e4700	12000	11100	4390	9630	2090	2840	4270	1490
26	6700	3990	e1850	e11000	9590	10300	4300	8310	2370	2740	4440	1650
27	6240	4010	e2300	19100	8670	9210	4490	7230	2430	2620	3960	1760
28	5610	3900	e2300	12300	7320	8130	3770	6030	2370	2280	4030	2070
29	4890	3980	e2100	10200	---	7250	2850	5750	2400	1710	4410	1980
30	4460	4230	e2000	16300	---	6610	2740	10800	2770	1680	4850	2000
31	4710	---	e2000	17700	---	6390	---	9830	---	2150	3940	---
MEAN	6058	5424	2339	5271	12230	7948	7679	9901	3145	3059	3550	2090
MAX	41700	10600	3470	19100	17000	14100	14400	20600	7470	6660	6820	3130
MIN	1490	3900	1600	1900	7320	4180	2740	2640	1860	1500	1860	1440

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	3386	5056	6069	5664	6091	10140	11920	7661	4496	3067	2615	2713
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	806	995	1968	1318	1748	3191	3322	2215	1214	864	715	892
(WY)	1942	1965	1965	1981	1980	1981	1985	1965	1965	1954	1954	1941

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

SUMMARY STATISTICS	FOR 1990 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	5684		5733	Unadjusted
HIGHEST ANNUAL MEAN			8621	1952
LOWEST ANNUAL MEAN			2309	1965
HIGHEST DAILY MEAN	41700	Oct 21	187000	Aug 19 1955
LOWEST DAILY MEAN	1440	Sep 9	412	Aug 23 1954
INSTANTANEOUS PEAK FLOW	47200	Oct 21	250000a	Aug 19 1955
INSTANTANEOUS PEAK STAGE	15.46	Oct 21	35.15	Aug 19 1955
INSTANTANEOUS LOW FLOW	1270	Sep 15, 21	382	Aug 24 1954
10 PERCENTILE	12400		12400	
50 PERCENTILE	4100		3450	
95 PERCENTILE	1770		1260	

a From rating curve extended above 90,000 ft^3/s on basis of flood-routing study
e Estimated

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 Downsville Dam on East Branch Delaware River, and 1.6 mi east of Downsville. DRAINAGE AREA, 372 mi^2, 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, 151,485 mil gal, May 15, elevation, 1,280.91 ft; minimum observed, 110,571 mil gal, Sept. 30, elevation, 1,256.90 ft.

01424997 CANNONSVILLE RESERVOIR.--Lat 42°03'46", long 75°22'29", Delaware County, Hydrologic Unit 02040101, in emergency gate tower at Cannonsville Dam on West Branch Delaware River, and 1.8 mi southeast of Stilesville. DRAINAGE AREA, 454 mi^2. 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, 102,754 mil gal, Feb. 17, elevation, 1,152.57 ft; minimum observed, 66,766 mil gal, Oct. 17, 18, 19, elevation, 1,127.26 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 mi^2, 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 ft^3 between elevations 1,010.0 ft, minimum operating pool, and 1,071.2 ft, top of flashboards. Capacity below elevation 1,010.0 ft, minimum operating pool, about 212.7 mil ft^3. 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 ft^3, Mar. 14, 1977, elevation, 1,071.8 ft; minimum observed (after first filling), -141.4 mil ft^3, Dec. 2, 1938, elevation, 987.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,367.1 mil ft^3, Oct. 25, Feb. 11, elevation, 1,069.5 ft; minimum observed, 1,017.3 mil ft^3, Mar. 31, elevation, 1,060.2 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 mi^2, 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 ft^3 between elevations 1,165.0 ft, minimum operating pool, and 1,220.0 ft, top of permanent flashboards. Capacity below elevation 1,165.0 ft, minimum operating pool, about 26.8 mil ft^3. 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 ft^3, July 20, 1945, elevation, 1,222.0 ft; minimum observed (after first filling), -26.8 mil ft^3, Nov. 15, 1928, elevation, 1,144.5 ft.

EXTREMES OF CURRENT YEAR.--Maximum contents observed, 1,084.2 mil ft^3, June 8, 11, elevation, 1,219.6 ft; minimum observed, 308.0 mil ft^3, Oct. 16, 18, elevation, 1,190.5 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 mi^2, 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 ft^3 between elevations 1,043.3 ft, minimum operating pool, and 1,072.0 ft, top of permanent flashboards. Capacity below elevation 1,043.3 ft, minimum operating pool, about 6.54 mil ft^3. 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 ft^3, July 30, 31, 1945, elevation, 1,073.1 ft; minimum observed (after first filling), about -6.54 mil ft^3, Mar. 16, 1963, elevation, 1,038.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 119.66 mil ft^3, Oct. 25, elevation, 1,070.0 ft; minimum observed, 58.82 mil ft^3, Mar. 31, Apr. 2, elevation, 1,060.9 ft.

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 mi^2. 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, 37,594 mil gal, May 11, 14, elevation, 1,440.90 ft; minimum observed, 20,045 mil gal, Oct. 2, elevation, 1,399.15 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	01416900 Pepacton Reservoir			01424997 Cannonsville Reservoir			01433000 Swinging Bridge Reservoir		
	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)
Sept. 30	1,263.52	121,139		1,131.24	71,899		1,065.7	1,218	
Oct. 31	1,264.93	123,457	+116	1,135.81	77,998	+304	1,068.2	1,315	+ 36.2
Nov. 30	1,268.34	129,172	+295	1,147.16	94,298	+841	1,064.8	1,184	- 50.5
Dec. 31	1,266.69	126,389	-139	1,142.29	87,095	-360	1,061.6	1,067	- 43.7
CAL YR 1989	-	-	+190	-	-	+129	-	-	- 1.5
Jan. 31	1,269.87	131,782	+269	1,151.31	100,726	+680	1,067.0	1,268	+ 75.0
Feb. 28	1,278.32	146,717	+825	1,151.14	100,452	- 15.1	1,067.7	1,295	+ 11.1
Mar. 31	1,280.16	150,095	+169	1,151.28	100,678	+ 11.3	1,060.2	1,017	-104
Apr. 30	1,279.67	149,192	- 46.6	1,150.09	98,763	- 98.8	1,062.1	1,084	+ 25.8
May 31	1,279.89	149,596	+ 20.2	1,150.62	99,616	+ 42.6	1,066.8	1,260	+ 65.7
June 30	1,276.11	142,723	-354	1,147.16	94,298	-274	1,066.0	1,229	- 12.0
July 31	1,269.79	131,645	-553	1,141.23	85,563	-436	1,064.1	1,158	- 26.5
Aug. 31	1,264.10	122,090	-477	1,136.37	78,771	-339	1,064.0	1,154	- 1.5
Sept. 30	1,256.63	110,153	-616	1,129.02	69,007	-504	1,063.0	1,117	- 14.3
WTR YR 1990	-	-	- 46.6	-	-	- 12.3	-	-	- 3.2

Date	01433100 Toronto Reservoir			01433200 Cliff Lake			01435900 Neversink Reservoir		
	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)
Sept. 30	1,190.8	314		1,065.1	84.3		1,399.40	20,133	
Oct. 31	1,196.5	434	+ 44.8	1,069.5	115.8	+11.8	1,415.50	26,192	+302
Nov. 30	1,200.1	519	+ 32.8	1,065.6	87.6	-10.9	1,423.85	29,677	+180
Dec. 31	1,200.1	519	0.0	1,061.4	61.6	- 9.7	1,418.70	27,500	-109
CAL YR 1989	-	-	+ 14.3	-	-	- 0.2	-	-	+ 70.9
Jan. 31	1,204.0	618	+ 37.0	1,066.8	95.8	+12.8	1,423.63	29,583	+104
Feb. 28	1,210.5	795	+ 73.2	1,068.5	108.1	+ 5.1	1,436.60	35,488	+326
Mar. 31	1,213.5	883	+ 32.9	1,060.9	58.8	-18.4	1,434.04	34,271	- 60.7
Apr. 30	1,216.0	961	+ 30.1	1,061.7	63.4	+ 1.8	1,438.22	36,272	+103
May 31	1,219.2	1,070	+ 40.7	1,067.1	97.9	+12.9	1,438.77	36,540	+ 13.4
June 30	1,216.5	978	- 35.5	1,066.8	95.8	- 0.8	1,435.35	34,891	- 85.0
July 31	1,213.3	877	- 37.7	1,066.1	91.0	- 1.8	1,425.74	30,499	-219
Aug. 31	1,208.6	742	- 50.4	1,065.9	89.6	- 0.5	1,422.13	28,941	- 77.8
Sept. 30	1,197.3	452	-112	1,066.7	95.1	+ 2.1	1,413.15	25,253	-190
WTR YR 1990	-	-	+ 4.4	-	-	+ 0.3	-	-	+ 21.7

‡‡ 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 1989 TO SEPTEMBER 1990

Month	01415200 Pepacton Reservoir	01423900 Cannonsville Reservoir	01435800 Neversink Reservoir
October.....	702	421	15.7
November.....	495	113	76.2
December.....	396	411	190
CAL YR 1989	418	385	132
January.....	647	357	123
February.....	630	65.1	97.2
March.....	663	0.6	408
April.....	678	219	188
May.....	401	190	240
June.....	645	384	172
July.....	696	315	232
August.....	694	267	228
September.....	682	218	228
WTR YR 1990	610	248	184

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 mi^2.

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.--33 years, 274 ft^3/s, 29.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,690 ft^3/s, Feb. 25, 1985, gage height, 11.05 ft, from rating curve extended above 5,500 ft^3/s on basis of flow-over-dam measurement of peak flow; minimum discharge, 1.5 ft^3/s, Sept. 17, 18, 1963, Aug. 19, 1964; minimum daily, 2.2 ft^3/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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	0100	5,410	8.85	Mar. 17	1600	3,080	6.72
Jan. 18	1100	*6,510	*9.93				

Minimum discharge, 8.8 ft^3/s, Sept. 3, 4, 5, 15, 16, gage height, 0.95 ft; minimum daily discharge, 8.8 ft^3/s, Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	210	e400	e250	332	e230	315	143	110	225	28	12
2	23	156	e360	e400	540	e220	471	126	94	153	24	11
3	23	122	e310	e380	e350	e190	453	105	113	100	20	9.4
4	22	119	e240	e450	e330	e170	670	98	287	76	18	8.8
5	22	105	e220	902	e300	e140	731	144	256	65	22	9.1
6	22	175	e240	736	e300	e125	664	190	165	56	45	9.2
7	23	199	e230	560	304	e110	532	154	129	51	36	9.8
8	22	303	e200	507	323	e110	448	217	101	44	31	9.6
9	23	457	e180	430	793	e120	406	170	109	43	26	10
10	21	555	e190	e400	1440	e130	777	208	177	48	22	10
11	21	362	e180	e350	e700	e190	1780	572	228	41	20	12
12	22	349	e160	e290	e490	797	835	321	153	36	18	12
13	22	274	e120	e250	e460	1390	584	514	95	34	26	11
14	22	226	e100	e260	e580	1570	498	698	86	31	63	10
15	33	298	e100	e270	449	1350	877	401	165	32	42	9.6
16	60	1160	e110	287	636	1150	645	304	114	81	33	15
17	63	1240	e110	522	836	2070	573	548	81	51	27	15
18	132	720	e120	4970	501	1140	515	656	130	39	24	15
19	99	482	e110	2130	e350	677	416	569	129	32	21	13
20	178	1560	e100	989	e260	643	344	516	91	35	20	13
21	373	2720	e110	e600	e270	609	557	1080	76	62	18	15
22	441	e900	e120	e500	448	536	493	714	81	46	16	15
23	331	e600	e120	e420	1320	522	378	499	80	46	16	20
24	202	e480	e110	e450	e560	444	307	380	282	67	16	62
25	143	497	e110	591	e340	356	321	312	152	56	15	39
26	120	568	e100	1000	e290	320	309	253	104	44	15	30
27	105	591	e110	656	e270	251	258	202	88	35	15	27
28	93	981	e110	528	e250	235	217	158	90	28	14	24
29	84	764	e100	419	---	218	188	145	92	25	13	22
30	79	e500	e110	366	---	230	160	169	442	22	13	47
31	77	---	e120	350	---	293	---	134	---	24	12	---
TOTAL	2926	17673	5000	21213	14022	16536	15722	10700	4300	1728	729	525.5
MEAN	94.4	589	161	684	501	533	524	345	143	55.7	23.5	17.5
MAX	441	2720	400	4970	1440	2070	1780	1080	442	225	63	62
MIN	21	105	100	250	250	110	160	98	76	22	12	8.8
CFSM	.74	4.60	1.26	5.35	3.91	4.17	4.09	2.70	1.12	.44	.18	.14
IN.	.85	5.14	1.45	6.17	4.08	4.81	4.57	3.11	1.25	.50	.21	.15

CAL YR 1989 TOTAL 89241.5 MEAN 244 MAX 3240 MIN 7.8 CFSM 1.91 IN. 25.94
WTR YR 1990 TOTAL 111074.5 MEAN 304 MAX 4970 MIN 8.8 CFSM 2.38 IN. 32.28

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), 1981-90 (c).
MINOR ELEMENTS DATA: 1978-79 (b), 1980 (c), 1981-90 (b).
ORGANIC DATA: OC--1978 (c), 1979-80 (d), 1981 (c).
NUTRIENT DATA: 1978 (c), 1979-80 (d), 1981-90 (c).
BIOLOGICAL DATA:
Bacteria--1978 (c), 1979-80 (d), 1981-90 (c).
Phytoplankton--1978-80 (c), 1981 (b).
Periphyton--1978-80 (b).
SEDIMENT DATA: 1978 (c), 1979-80 (d), 1981-88 (c), 1989 (b), 1990 (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 1989 TO SEPTEMBER 1990

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, 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 31...	1000	70	320	8.5	11.5	0.40	750	10.2	95	170	46
JAN 23...	1100	419	263	8.0	0.5	2.0	750	11.8	83	30	5500
MAR 06...	0945	123	330	8.0	0.0	1.1	770	12.8	87	87	K24
MAY 22...	1015	727	237	8.4	7.5	1.5	750	9.9	84	250	58
JUL 10...	1300	48	351	8.7	20.0	1.0	750	9.0	101	780	100
AUG 15...	0945	43	344	7.8	19.5	2.0	765	9.0	98	630	340

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)
OCT 31...	150	21	53	4.3	9.8	1.9	129	133	12	18	12
JAN 23...	130	20	47	3.0	5.6	1.3	110	134	0	14	8.5
MAR 06...	160	26	59	3.9	11	1.4	137	167	0	18	19
MAY 22...	120	11	42	3.4	4.9	0.90	108	117	7	9.3	8.7
JUL 10...	150	15	53	4.8	11	1.7	137	143	12	15	14
AUG 15...	160	12	58	4.5	12	1.9	152	185	0	13	13

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	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 31...	<0.10	1.4	186	181	--	0.540	0.010	0.010	0.40	0.070	0.050
JAN 23...	<0.10	4.4	178	157	--	1.60	0.030	0.020	0.30	0.040	0.020
MAR 06...	<1.0	3.7	210	205	--	1.60	<0.010	<0.010	<0.20	0.040	0.030
MAY 22...	0.30	3.5	140	145	--	1.60	0.010	0.010	0.30	0.030	0.010
JUL 10...	0.20	2.9	183	189	0.850	0.900	<0.010	<0.010	0.40	0.050	0.050
AUG 15...	0.10	5.2	192	201	--	0.400	0.020	0.050	0.60	0.080	0.060

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 1989 TO SEPTEMBER 1990

DATE	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
OCT											
31...	0.050	10	<1	28	<0.5	<1.0	<1	<3	<1	13	<1
JAN											
23...	0.040	20	<1	18	<0.5	<1.0	<1	<3	<10	18	<10
MAR											
06...	0.040	--	--	--	--	--	--	--	--	--	--
MAY											
22...	0.010	<10	<1	16	<0.5	<1.0	<1	<3	3	36	<1
JUL											
10...	0.040	--	--	--	--	--	--	--	--	--	--
AUG											
15...	0.060	<10	<1	29	<0.5	<1.0	<1	<3	2	16	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
OCT										
31...	5	6	<0.1	<10	<1	<1	<1.0	110	<6	<3
JAN										
23...	<4	5	<0.1	<10	<10	<1	<1.0	86	<6	<3
MAR										
06...	--	--	--	--	--	--	--	--	--	--
MAY										
22...	<4	4	--	<10	1	<1	<1.0	82	<6	6
JUL										
10...	--	--	--	--	--	--	--	--	--	--
AUG										
15...	6	8	<0.1	<10	1	<1	<1.0	120	<6	5

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
31...	1000	70	4	0.76	85
JAN					
23...	1100	419	10	11	84
MAR					
06...	0945	123	5	1.7	74
MAY					
22...	1015	727	12	24	94
JUL					
10...	1300	48	3	0.39	91
AUG					
15...	0945	43	5	0.58	91

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 mi^2.

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.--79 years, 707 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft^3/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 ft^3/s, Aug. 26, 1918, gage height, 2.40 ft; minimum daily, 7 ft^3/s, Aug. 26, 1918.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 17	1415	5,150	9.11	Mar. 18	0845	*6,640	9.68
Jan. 27	2245	ice jam	*10.38				

Minimum discharge, 140 ft^3/s, Sept. 4, gage height, 3.75 ft; minimum daily, 160 ft^3/s, Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	1010	813	e800	e820	e680	1090	716	831	754	299	167
2	474	1000	600	e1000	e800	e600	1230	617	750	496	283	162
3	602	831	e660	e900	e780	e560	1760	560	817	399	266	165
4	440	762	e700	e780	e780	e500	2940	556	950	307	248	160
5	488	673	e680	e840	e760	e480	2720	819	797	344	243	181
6	362	822	e660	e900	e760	e460	2080	1170	668	335	407	183
7	364	973	e600	e800	e780	e430	1570	847	630	290	608	251
8	377	991	e560	e760	e780	e420	1310	1130	574	270	544	481
9	396	1100	e600	e700	e840	e430	1170	997	608	273	361	368
10	343	1610	e620	e620	e1200	e480	1130	1020	657	279	312	371
11	525	1580	e640	e540	e1900	e560	2810	1960	664	263	281	361
12	679	1420	e620	e490	e2100	e900	3260	2070	551	251	284	317
13	524	1270	e600	e450	e1300	2440	1990	1940	497	266	238	227
14	451	1110	e580	e430	e940	3510	1630	2850	503	267	971	242
15	757	992	e560	e420	e960	4600	1720	2390	574	246	967	599
16	854	1580	e520	e430	e940	5170	1760	1690	643	394	564	685
17	900	4490	e490	e450	e1100	5530	1630	2140	467	399	380	463
18	1170	3200	e520	e800	e1100	6060	1590	3470	417	324	301	387
19	1120	1940	e540	e1300	e1100	3900	1360	3120	509	280	284	385
20	1370	1520	e490	e2500	e1000	2820	1230	2420	468	261	301	396
21	2820	2070	e470	e1900	e920	2390	1230	3200	423	305	276	369
22	2260	1810	e480	e1400	e940	2000	1350	2990	414	294	243	356
23	1530	1230	e500	e1200	e1300	1840	1250	2010	528	755	235	372
24	1210	992	e520	e1000	e1900	1700	1080	1420	758	2290	230	369
25	1060	924	e540	e900	e1300	1400	1120	1180	864	1260	212	356
26	700	888	e520	e1100	e1000	1270	1130	953	606	699	212	311
27	742	933	e460	e2000	e840	971	1070	947	450	562	198	254
28	692	932	e490	e1700	e760	e880	945	882	324	526	195	249
29	616	1140	e500	e1200	---	e840	881	937	454	426	217	272
30	556	883	e460	e1000	---	e840	737	1270	838	310	175	499
31	537	---	e500	e860	---	925	---	1030	---	278	173	---
TOTAL	25319	40676	17493	30170	29700	55586	46773	49301	18234	14403	10508	9958
MEAN	817	1356	564	973	1061	1793	1559	1590	608	465	339	332
MAX	2820	4490	813	2500	2100	6060	3260	3470	950	2290	971	685
MIN	343	673	460	420	760	420	737	556	324	246	173	160

CAL YR 1989 TOTAL 296082 MEAN 811 MAX 4800 MIN 138
WTR YR 1990 TOTAL 348121 MEAN 954 MAX 6060 MIN 160

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 mi^2.

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 telemeter at station.

AVERAGE DISCHARGE.--48 years, 194 ft^3/s, 29.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,420 ft^3/s, Dec. 30, 1984, gage height, 13.34 ft, from rating curve extended above 4,600 ft^3/s on basis of slope-area measurement of peak flow; minimum observed discharge, 18 ft^3/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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 17	1230	1,350	6.52	Apr. 11	2230	1,300	6.44
Mar. 18	0130	*2,830	*8.41				

Minimum discharge, 30 ft^3/s, Sept. 5, 6, 7, gage height, 3.43 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e120	245	235	e140	182	e180	268	144	163	277	72	42
2	e100	315	185	e160	182	e160	398	133	135	194	66	37
3	110	235	e190	e190	e170	e150	587	124	134	142	58	34
4	112	191	e210	e210	e160	e140	1070	117	228	108	52	33
5	101	160	e230	e250	e150	e120	975	141	248	93	49	31
6	97	174	e240	e270	e140	e110	643	220	191	81	52	31
7	97	212	e220	e200	e140	e110	445	214	161	71	55	37
8	95	257	e200	190	141	e110	342	205	135	64	55	49
9	91	292	e190	151	154	e110	291	181	132	61	53	51
10	88	418	e170	134	384	118	288	170	151	65	48	48
11	87	371	e160	127	680	142	884	331	150	60	48	47
12	92	307	e150	124	579	333	981	325	134	56	49	44
13	91	248	e140	e120	383	776	530	318	112	53	54	40
14	87	209	e120	e110	291	1410	384	744	105	50	163	38
15	104	195	e110	e100	258	1910	437	546	118	51	138	42
16	127	361	e110	e100	287	1820	453	348	120	85	87	52
17	149	1200	e110	e110	516	2150	396	402	103	105	67	52
18	204	749	e110	e200	e350	2210	359	841	95	78	57	44
19	210	420	e100	e500	e300	989	299	685	112	62	51	40
20	285	346	e100	730	267	676	263	472	104	60	46	44
21	971	622	e98	485	208	606	330	649	94	100	43	45
22	726	602	e94	314	209	514	400	749	98	102	40	47
23	413	406	e90	234	444	482	324	481	123	278	39	50
24	288	312	e86	198	e410	463	266	334	228	853	37	61
25	217	259	e84	193	e330	361	245	257	196	400	36	68
26	176	243	e86	301	e270	312	271	208	143	187	36	62
27	152	222	e86	419	e230	243	238	179	112	119	37	57
28	135	261	e84	368	e200	232	203	169	100	93	40	53
29	128	350	e80	263	---	208	177	158	93	79	46	49
30	117	307	e78	217	---	210	157	251	276	72	52	64
31	112	---	e96	211	---	219	---	215	---	72	46	---
TOTAL	5882	10489	4242	7319	8015	17574	12904	10311	4294	4171	1772	1392
MEAN	190	350	137	236	286	567	430	333	143	135	57.2	46.4
MAX	971	1200	240	730	680	2210	1070	841	276	853	163	68
MIN	87	160	78	100	140	110	157	117	93	50	36	31
CFSM	2.14	3.94	1.54	2.66	3.23	6.39	4.85	3.75	1.61	1.52	.64	.52
IN.	2.47	4.40	1.78	3.07	3.36	7.37	5.41	4.32	1.80	1.75	.74	.58

CAL YR 1989 TOTAL 74470 MEAN 204 MAX 1650 MIN 33 CFSM 2.30 IN. 31.23
WTR YR 1990 TOTAL 88365 MEAN 242 MAX 2210 MIN 31 CFSM 2.73 IN. 37.06

e Estimated

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 mi^2.

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 ft^3 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 ft^3, 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 ft^3; minimum observed since first filling, 1,644.80 ft, Mar. 25-27, 1949, contents, 8 mil ft^3.

EXTREMES FOR CURRENT YEAR.--Maximum observed elevation, 1,679.68 ft, May 22, contents, 4,823 mil ft^3; minimum observed, 1,667.83 ft, Mar. 12-13, contents, 2,009 mil ft^3.

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, IN FEET, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1675.99	1674.50	1675.31	1670.79	1670.99	1669.38	1676.96	1677.48	1678.34	1677.04	1675.79	1672.44
2	1676.08	1674.51	1675.28	1670.64	1670.95	1669.25	1676.98	1677.43	1678.22	1677.01	1675.67	1672.25
3	1676.04	1674.42	1675.21	1670.48	1670.91	1669.13	1677.00	1677.39	1678.08	1676.95	1675.56	1672.10
4	1675.99	1674.37	1675.13	1670.35	1670.86	1669.02	1677.24	1677.34	1678.02	1676.90	1675.43	1671.93
5	1675.91	1674.25	1675.05	1670.35	1670.81	1668.88	1677.61	1677.32	1678.00	1676.86	1675.28	1671.77
6	1675.67	1674.15	1674.94	1670.32	1670.71	1668.76	1677.82	1677.32	1677.88	1676.77	1675.14	1671.62
7	1675.50	1674.06	1674.88	1670.26	1670.59	1668.60	1677.86	1677.31	1677.80	1676.73	1675.03	1671.45
8	1675.34	1674.03	1674.76	1670.19	1670.49	1668.43	1677.81	1677.29	1677.77	1676.61	1674.89	1671.33
9	1675.20	1673.96	1674.65	1670.10	1670.35	1668.27	1677.73	1677.23	1677.75	1676.50	1674.74	1671.16
10	1675.08	1673.97	1674.53	1670.01	1670.45	1668.09	1677.63	1677.20	1677.72	1676.44	1674.60	1671.02
11	1674.93	1673.92	1674.41	1669.94	1670.59	1667.91	1677.65	1677.22	1677.71	1676.33	1674.47	1670.87
12	1674.79	1673.89	1674.27	1669.89	1670.68	1667.83	1678.02	1677.25	1677.66	1676.22	1674.33	1670.69
13	1674.65	1673.87	1674.12	1669.85	1670.68	1667.83	1678.10	1677.30	1677.63	1676.11	1674.18	1670.51
14	1674.50	1673.79	1673.98	1669.73	1670.66	1668.20	1678.09	1677.61	1677.57	1676.00	1674.09	1670.35
15	1674.37	1673.73	1673.80	1669.63	1670.60	1668.94	1678.05	1677.92	1677.52	1675.88	1673.98	1670.16
16	1674.24	1673.70	1673.66	1669.52	1670.59	1670.00	1677.99	1678.14	1677.48	1675.79	1673.91	1670.03
17	1674.14	1674.15	1673.50	1669.40	1670.68	1671.11	1677.94	1678.36	1677.40	1675.65	1673.87	1669.86
18	1674.05	1674.50	1673.34	1669.49	1670.64	1672.57	1677.89	1678.73	1677.39	1675.51	1673.81	1669.70
19	1673.98	1674.68	1673.17	1669.97	1670.52	1673.51	1677.80	1679.18	1677.38	1675.37	1673.76	1669.57
20	1673.92	1674.88	1672.99	1670.33	1670.36	1674.08	1677.69	1679.40	1677.32	1675.24	1673.69	1669.45
21	1674.21	1675.24	1672.83	1670.62	1670.10	1674.61	1677.63	1679.60	1677.26	1675.14	1673.61	1669.42
22	1674.49	1675.40	1672.65	1670.87	1669.93	1675.03	1677.67	1679.68	1677.21	1675.01	1673.53	1669.35
23	1674.67	1675.43	1672.45	1670.90	1669.80	1675.38	1677.66	1679.57	1677.22	1674.91	1673.48	1669.21
24	1674.79	1675.42	1672.25	1670.89	1669.87	1675.75	1677.67	1679.39	1677.23	1675.35	1673.45	1669.08
25	1674.86	1675.42	1672.06	1670.86	1669.87	1676.08	1677.67	1679.20	1677.23	1675.58	1673.37	1668.95
26	1674.91	1675.40	1671.88	1670.91	1669.77	1676.28	1677.68	1679.04	1677.21	1675.70	1673.26	1668.83
27	1674.96	1675.40	1671.70	1671.00	1669.62	1676.50	1677.66	1678.91	1677.17	1675.77	1673.13	1668.81
28	1674.90	1675.36	1671.50	1671.02	1669.52	1676.64	1677.63	1678.74	1677.12	1675.83	1673.03	1668.80
29	1674.79	1675.36	1671.31	1671.02	---	1676.80	1677.58	1678.62	1677.06	1675.88	1672.87	1668.73
30	1674.71	1675.32	1671.10	1671.08	---	1676.94	1677.52	1678.58	1677.06	1675.93	1672.75	1668.62
31	1674.60	---	1670.88	1671.05	---	1677.00	---	1678.47	---	1675.87	1672.59	---
MEAN	1674.91	1674.57	1673.47	1670.37	1670.41	1671.83	1677.67	1678.20	1677.55	1676.03	1674.11	1670.27
MAX	1676.08	1675.43	1675.31	1671.08	1670.99	1677.00	1678.10	1679.68	1678.34	1677.04	1675.79	1672.44
MIN	1673.92	1673.70	1670.88	1669.40	1669.52	1667.83	1676.96	1677.20	1677.06	1674.91	1672.59	1668.62
‡	3441	3634	2600	2641	2316	4063	4203	4449	4084	3762	2964	2150
‡‡	-133	+74.5	-386	+15.3	-134	+652	+54.0	+91.8	-141	-120	-298	-314

CAL YR 1989 MEAN 1673.27 MAX 1678.45 MIN 1665.35 ‡‡ +15.0
WTR YR 1990 MEAN 1674.14 MAX 1679.68 MIN 1667.83 ‡‡ -52.3

‡ 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 mi^2.

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 good 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.--60 years, 606 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,100 ft^3/s, May 21, 1969, gage height, 6.98 ft; minimum, 11 ft^3/s, Jan. 22, 29, Feb. 4, 1967, gage height, 0.63 ft; minimum daily, 22 ft^3/s, July 18, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,980 ft^3/s, Apr. 12, gage height, 5.48 ft; minimum, 235 ft^3/s, July 27, 28, Aug. 24, gage height, 2.00 ft; minimum daily, 255 ft^3/s, Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271	875	1040	927	730	e1050	861	809	1120	525	414	565
2	347	900	878	854	737	e1050	904	835	1100	715	407	580
3	541	924	987	931	732	1040	1100	774	989	569	378	602
4	689	1040	910	1050	704	940	1520	823	1010	531	415	557
5	497	904	830	1070	728	882	1880	908	989	508	405	557
6	566	864	890	761	739	927	1390	878	978	501	414	497
7	783	941	845	811	649	911	1370	627	971	471	457	758
8	768	1020	950	779	840	820	1360	576	953	360	505	541
9	752	967	e920	602	749	817	1310	500	972	396	568	707
10	740	1160	e900	703	1060	831	1380	531	972	446	542	598
11	780	1110	e880	639	1080	848	2030	559	1010	439	394	345
12	768	1130	e880	688	989	980	2590	418	864	487	315	345
13	766	1050	e920	604	1040	1080	1640	682	520	379	440	457
14	761	1070	966	726	1110	1660	1540	1050	537	399	476	552
15	836	1020	913	685	998	2040	1400	499	526	383	366	502
16	730	1210	812	642	1030	2190	1330	397	477	575	260	525
17	712	1550	893	724	1110	2290	1440	544	398	521	255	649
18	889	1680	788	1010	1220	2520	1480	817	478	575	268	555
19	847	1150	725	1080	1410	1920	1420	924	666	561	295	382
20	1000	981	756	957	1400	1190	1380	923	800	662	335	364
21	1250	1120	1120	1040	1200	817	1360	1100	609	690	368	459
22	1250	e1300	1080	766	1310	704	1340	2040	528	649	358	457
23	1030	e1250	1160	482	1520	360	1220	1960	622	687	347	362
24	898	e1250	1130	535	1810	373	1170	1650	844	490	257	384
25	414	e1200	825	563	1600	465	934	1750	642	612	367	407
26	514	1020	867	859	1620	411	916	1630	608	639	263	437
27	677	897	840	797	1280	404	951	1480	527	279	307	390
28	685	e880	936	929	1120	558	921	1180	396	280	605	362
29	772	e1000	1040	601	---	674	826	1190	458	514	540	318
30	893	e920	938	825	---	727	962	1220	480	586	585	295
31	745	---	870	690	---	863	---	1140	---	411	481	---
TOTAL	23171	32383	28489	24330	30515	32342	39925	30414	22044	15840	12387	14509
MEAN	747	1079	919	785	1090	1043	1331	981	735	511	400	484
MAX	1250	1680	1160	1080	1810	2520	2590	2040	1120	715	605	758
MIN	271	864	725	482	649	360	826	397	396	279	255	295

CAL YR 1989 TOTAL 247333 MEAN 678 MAX 2000 MIN 235
WTR YR 1990 TOTAL 306349 MEAN 839 MAX 2590 MIN 255

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 mi^2.

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.--70 years, 4,060 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,900 ft^3/s, Dec. 31, 1984, gage height, 13.15 ft; minimum, 10 ft^3/s, Sept. 2, 1934, gage height, 0.81 ft, present datum; minimum daily discharge, 137 ft^3/s, Sept. 4, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 39,700 ft^3/s, Apr. 23, 1869 (from New York State Museum Bulletin 85).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 17,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 19	0030	*32,400	*11.60	No other peak greater than base discharge.			

Minimum discharge, 205 ft^3/s, Mar. 8, gage height, 1.51 ft; minimum daily discharge, 1,020 ft^3/s, Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2940	3790	5650	2720	5660	6600	5100	4150	5410	3650	1990	1240
2	2540	5650	4020	3680	e5000	5910	5890	3640	4880	3650	1600	1120
3	2400	5500	3930	4440	e4800	5490	6720	3360	4230	3270	1650	1220
4	2930	5170	4000	4580	e4500	5020	8490	3110	4100	2690	1510	1200
5	3090	4720	4490	5270	e4200	4370	10700	3120	4740	2240	1560	1160
6	2620	4230	4320	5690	e4100	3890	12700	3690	4620	2000	1430	1140
7	2720	4590	4190	5490	e4000	3340	12700	4450	4180	1890	1420	1120
8	2950	5170	4350	5140	4020	3190	11400	4380	3730	1730	1700	1380
9	2780	5730	4270	4620	4290	3040	10000	4450	3430	1550	2410	1560
10	2770	6310	3840	4020	6210	3130	8910	4370	3700	1410	2300	1730
11	2730	6830	3390	e3400	7070	3260	10000	5160	3900	1430	1700	1820
12	2640	7140	3860	e3200	7160	5010	11000	6120	3950	1540	1570	1240
13	3090	7280	e3700	e2900	7130	8030	12500	6730	3340	1490	1580	1250
14	2820	6830	e3600	e2800	7190	11800	12800	8700	2460	1380	1770	1250
15	2840	6190	e3400	e2900	6820	17900	12000	9100	3360	1220	2150	1300
16	3560	6180	e3300	2980	6100	22700	11100	9290	3520	1370	3260	1360
17	3850	9090	e3000	2950	6540	26800	10300	9330	2870	1990	2440	1800
18	4320	10500	e3200	6500	7070	31000	9700	9800	2470	1890	1770	1930
19	4850	13100	e2800	9290	7550	31300	9060	10600	2690	2010	1560	1570
20	5010	13200	e2900	9180	7320	25600	8340	12300	2730	1790	1390	1410
21	6830	14300	e2800	9010	7210	19100	7840	14000	2840	1810	1320	1310
22	8400	13000	e2800	8670	6560	14700	7640	14700	2550	2130	1320	1450
23	9580	11700	e3100	7710	8100	12100	7310	15200	2480	2370	1340	1430
24	9670	10300	e3200	6690	9000	10500	7020	13900	4020	3460	1210	1470
25	8590	8850	e3300	6020	9310	9350	6520	11800	4510	5400	1060	1620
26	6930	7620	e3300	6140	9170	8370	6130	10000	4310	6050	1060	1600
27	5490	6870	e2800	6500	8700	7300	5880	8460	3470	5390	1020	1420
28	4850	6680	e3000	6690	7580	6240	5640	6970	2650	3580	1030	1480
29	4200	7480	e3100	7000	---	5580	5110	5680	2480	2520	1330	1350
30	3810	7170	e2800	6760	---	5150	4520	5240	2440	2400	1280	1230
31	3680	---	3350	6220	---	4930	---	5580	---	1880	1300	---
TOTAL	135480	231170	109760	169160	182360	330700	263020	237380	106060	77180	50030	42160
MEAN	4370	7706	3541	5457	6513	10670	8767	7657	3535	2490	1614	1405
MAX	9670	14300	5650	9290	9310	31300	12800	15200	5410	6050	3260	1930
MIN	2400	3790	2800	2720	4000	3040	4520	3110	2440	1220	1020	1120

CAL YR 1989 TOTAL 1622180 MEAN 4444 MAX 24400 MIN 1050
WTR YR 1990 TOTAL 1934460 MEAN 5300 MAX 31300 MIN 1020

e Estimated

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), 1988-90 (d).
MINOR ELEMENTS DATA: 1970-71 (a), 1974-79 (b), 1980 (c), 1981-87 (b), 1988-90 (c).
PESTICIDE DATA: 1975-79 (b), 1980-82 (a).
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), 1982-90 (c).
BIOLOGICAL DATA:
Bacteria--1973-81 (d), 1982-86 (c), 1987-88 (b), 1989-90 (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 (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 1989 TO SEPTEMBER 1990

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, 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											
25...	0900	9030	--	8.1	6.5	--	--	16.0	--	--	--
31...	1330	3760	80	7.7	11.5	1.4	755	10.7	99	420	37
JAN											
23...	1515	7540	92	7.1	0.5	3.0	755	14.1	99	51	66
MAR											
06...	1415	3630	90	7.3	0.5	1.4	775	14.8	101	35	K5
APR											
24...	1100	7230	--	7.9	13.0	--	--	13.7	--	--	--
MAY											
15...	1030	9680	--	8.0	14.5	--	--	12.6	--	--	--
22...	1300	14600	76	7.7	10.5	5.0	760	11.2	101	420	70
JUN											
26...	0930	4450	--	8.1	18.5	--	--	12.0	--	--	--
JUL											
11...	0745	1500	102	8.1	22.0	2.3	755	8.3	96	100	44
AUG											
15...	1200	2340	91	8.0	23.0	2.0	765	8.5	99	77	48
28...	1500	1010	--	6.8	25.0	--	--	12.1	--	--	--

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)
OCT											
25...	29	--	10	1.0	2.4	1.0	--	--	--	10	3.0
31...	35	6	12	1.2	3.9	0.80	29	35	0	11	3.3
JAN											
23...	37	9	13	1.2	3.4	0.80	28	35	0	10	4.2
MAR											
06...	37	7	13	1.2	3.7	0.70	30	37	0	8.5	2.8
APR											
24...	--	--	--	--	--	--	--	--	--	--	--
MAY											
15...	--	--	--	--	--	--	--	--	--	--	--
22...	38	5	13	1.3	3.0	0.60	32	40	0	6.0	2.8
JUN											
26...	--	--	--	--	--	--	--	--	--	--	--
JUL											
11...	39	4	13	1.5	4.1	0.80	34	42	0	9.2	3.5
AUG											
15...	32	4	11	1.1	4.6	0.60	28	34	0	10	2.9
28...	--	--	--	--	--	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

STREAMS TRIBUTARY TO LAKE ONTARIO

04260500 BLACK RIVER AT WATERTOWN, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)
OCT											
25...	0.10	--	--	41	--	--	--	--	--	--	--
31...	0.10	5.8	68	57	--	0.280	0.040	0.040	0.40	0.030	0.010
JAN											
23...	0.10	6.1	76	60	--	0.800	0.060	0.060	0.30	0.020	<0.010
MAR											
06...	<0.10	6.3	79	58	0.690	0.700	0.060	0.060	0.60	0.040	0.020
APR											
24...	--	--	--	--	--	--	--	--	--	--	--
MAY											
15...	--	--	--	--	--	--	--	--	--	--	--
22...	<0.10	4.2	65	53	--	0.400	0.050	0.040	0.70	0.030	0.010
JUN											
26...	--	--	--	--	--	--	--	--	--	--	--
JUL											
11...	0.10	5.9	70	61	0.390	0.400	0.020	0.030	0.60	0.030	0.020
AUG											
15...	<0.10	6.3	60	56	0.390	0.400	0.040	0.060	0.40	0.030	0.020
28...	--	--	--	--	--	--	--	--	--	--	--

DATE	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
OCT										
25...	--	330	--	--	--	--	<1	--	--	--
31...	0.010	--	90	<1	17	<0.5	--	<1.0	<1	<3
JAN										
23...	0.010	--	120	<1	11	<0.5	--	<1.0	<1	<3
MAR										
06...	0.010	--	--	--	--	--	--	--	--	--
APR										
24...	--	260	--	--	--	--	1	--	--	--
MAY										
15...	--	490	--	--	--	--	<1	--	--	--
22...	<0.010	--	110	<1	12	<0.5	--	<1.0	<1	<3
JUN										
26...	--	240	--	--	--	--	<1	--	--	--
JUL										
11...	0.020	--	--	--	--	--	--	--	--	--
AUG										
15...	0.010	--	70	1	12	<0.5	--	2.0	<1	<3
28...	--	230	--	--	--	--	<1	--	--	--

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
OCT										
25...	4	--	520	--	2	--	--	70	--	<0.10
31...	--	2	--	160	--	<1	<4	--	20	--
JAN										
23...	--	<10	--	130	--	<10	<4	--	25	--
MAR										
06...	--	--	--	--	--	--	--	--	--	--
APR										
24...	6	--	320	--	4	--	--	40	--	<0.10
MAY										
15...	7	--	770	--	11	--	--	60	--	<0.10
22...	--	3	--	140	--	2	<4	--	14	--
JUN										
26...	5	--	690	--	2	--	--	80	--	<0.10
JUL										
11...	--	--	--	--	--	--	--	--	--	--
AUG										
15...	--	3	--	310	--	1	4	--	12	--
28...	4	--	520	--	2	--	--	30	--	<0.10

STREAMS TRIBUTARY TO LAKE ONTARIO

04260500 BLACK RIVER AT WATERTOWN, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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										
25...	--	--	<1	--	--	--	--	--	20	--
31...	<0.1	10	--	1	<1	<1.0	31	<6	--	<3
JAN										
23...	<0.1	<10	--	<10	<1	<1.0	32	<6	--	17
MAR										
06...	--	--	--	--	--	--	--	--	--	--
APR										
24...	--	--	1	--	--	--	--	--	20	--
MAY										
15...	--	--	1	--	--	--	--	--	20	--
22...	0.2	<10	--	1	<1	<1.0	33	<6	--	13
JUN										
26...	--	--	1	--	--	--	--	--	20	--
JUL										
11...	--	--	--	--	--	--	--	--	--	--
AUG										
15...	<0.1	<10	--	<1	<1	<1.0	27	<6	--	6
28...	--	--	3	--	--	--	--	--	<10	--

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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					
25...	0900	9030	10	244	--
31...	1330	3760	5	51	76
JAN					
23...	1515	7540	9	183	81
MAR					
06...	1415	3630	9	88	35
APR					
24...	1100	7230	5	98	--
MAY					
15...	1030	9680	17	444	--
22...	1300	14600	13	512	91
JUL					
11...	0745	1500	3	12	100
AUG					
15...	1200	2340	2	13	95
28...	1500	1010	6	16	--

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 mi^2. 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 ft^3 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 ft^3, Oct. 3, 1945, elevation, 1,787.1 ft; minimum observed, less than 0.90 mil ft^3, Nov. 18, 1943, water level below elevation 1,775.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 296.6 mil ft^3, Aug. 7, elevation, 1,786.00 ft; minimum observed, 156.2 mil ft^3, Dec. 27 to Jan. 2, elevation, 1,781.50 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 mi^2. 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 ft^3, elevation, 1,707.0 ft. Usable capacity without flashboards, 764.3 mil ft^3, 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 ft^3, June 17, 1972, elevation, 1,707.9 ft; minimum observed, 6.50 mil ft^3, Nov. 3, 1939, elevation, 1,699.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 895.8 mil ft^3, May 30, June 23, elevation, 1,707.04 ft; minimum observed, 358.8 mil ft^3, Feb. 9, elevation, 1,702.88 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 1989 TO SEPTEMBER 1990

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	1,785.40	277.4		1,706.91	878.0	
Oct. 31	1,782.70	192.9	-31.5	1,704.01	499.4	-141
Nov. 30	1,782.28	179.9	- 5.00	1,703.96	493.4	- 2.31
Dec. 31	1,781.50	156.2	- 8.84	1,703.43	426.8	- 24.9
CAL YR 1989	-	-	+ 1.96	-	-	- 2.15
Jan. 31	1,782.33	181.3	+ 9.39	1,703.12	388.3	- 14.4
Feb. 28	1,782.13	175.4	- 2.44	1,703.05	379.2	- 3.75
Mar. 31	1,782.38	182.7	+ 2.73	1,703.98	495.8	+ 43.5
Apr. 30	1,783.55	219.2	+14.1	1,704.61	576.0	+ 30.9
May 31	1,785.60	283.8	+24.1	1,707.01	891.6	+118
June 30	1,785.18	270.4	- 5.17	1,706.95	883.2	- 3.24
July 31	1,785.87	292.4	+ 8.23	1,706.95	883.2	0.0
Aug. 31	1,785.79	289.9	- 0.93	1,706.87	872.8	- 3.87
Sept. 30	1,785.18	270.4	- 7.53	1,706.55	829.2	- 16.8
WTR YR 1990	-	-	- 0.22	-	-	- 1.55

‡ 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 mi^2.

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.

AVERAGE DISCHARGE.--47 years (water years 1925-68, 1988-90), 516 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,090 ft^3/s, Apr. 12, 1947; maximum gage height, 7.1 ft, Apr. 6, 1928; minimum daily discharge, 1 ft^3/s, July 25, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,050 ft^3/s, Mar. 17, 18, gage height, 6.23 ft; minimum, 100 ft^3/s, Aug. 13, gage height, 1.83 ft; minimum daily, 114 ft^3/s, Sept. 28-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	662	315	1140	560	901	715	851	288	432	403	122	170
2	618	488	893	590	704	778	993	293	375	415	122	170
3	619	500	774	497	323	624	1150	277	293	268	122	170
4	618	497	780	603	489	831	1540	271	533	671	122	169
5	667	590	839	773	671	670	1620	294	661	340	122	169
6	566	574	778	910	632	634	1690	314	671	282	206	168
7	426	883	787	565	667	581	1540	344	597	262	250	169
8	264	884	855	541	562	573	1630	389	545	246	249	168
9	322	841	690	614	516	556	1430	487	349	241	222	167
10	354	831	506	417	911	584	1080	439	274	241	187	167
11	262	754	629	478	876	632	1380	657	634	244	186	167
12	276	835	593	632	640	740	1630	310	688	246	185	166
13	322	757	632	581	762	1050	1590	308	878	248	317	166
14	383	658	525	498	872	1440	1390	1040	717	248	348	138
15	212	633	544	519	828	1890	1430	1080	819	246	178	118
16	289	939	528	591	853	2010	1450	946	795	245	177	115
17	362	1470	525	446	850	2580	1390	1110	639	209	176	145
18	335	1350	437	1260	682	2730	1400	1660	400	146	176	164
19	354	993	350	1320	775	2170	1260	1510	272	120	155	163
20	563	984	611	1080	697	1850	1130	1460	424	123	124	164
21	904	1460	586	1200	635	1770	798	1840	370	181	141	165
22	1000	1290	435	900	917	1700	789	1940	390	264	175	164
23	1040	1250	498	937	1240	1600	822	1760	400	272	217	165
24	706	1250	433	1010	1240	1220	876	1470	850	250	173	165
25	403	1120	442	758	1020	825	857	1130	939	355	173	137
26	569	1210	494	927	888	868	722	784	633	262	172	115
27	701	1020	409	1040	749	758	533	637	461	257	170	115
28	846	1140	423	920	725	857	384	796	474	255	169	114
29	685	1180	579	763	---	1070	269	668	414	244	172	114
30	732	1060	451	942	---	808	310	840	430	186	172	118
31	389	---	563	898	---	875	---	834	---	123	170	---
TOTAL	16449	27756	18729	23770	21625	35989	33934	26176	16357	8093	5650	4565
MEAN	531	925	604	767	772	1161	1131	844	545	261	182	152
MAX	1040	1470	1140	1320	1240	2730	1690	1940	939	671	348	170
MIN	212	315	350	417	323	556	269	271	272	120	122	114

CAL YR 1989 TOTAL 226978 MEAN 622 MAX 2380 MIN 159
WTR YR 1990 TOTAL 239093 MEAN 655 MAX 2730 MIN 114

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 mi^2.

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.--74 years, 520 ft^3/s, 28.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,080 ft^3/s, Mar. 15, 1977, gage height, 9.31 ft; maximum gage height, 9.6 ft, Jan. 9, 1930; minimum discharge prior to regulation, 25 ft^3/s, Sept. 1, 1934, gage height, 0.86 ft; minimum discharge since regulation, 20 ft^3/s, Aug. 11, 1985, gage height, 0.83 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 18	1300	*5,280	a*8.10	No other peak greater than base discharge.			

a Recorded in well; outside gage height was 8.29 ft, from crest-stage gage.

Minimum discharge, 54 ft^3/s, Sept. 6, 7, 19, gage height, 1.26 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	483	e1000	e250	616	583	606	442	371	404	147	69
2	230	716	e1100	e400	594	529	707	404	330	398	142	66
3	211	709	e1100	e500	e540	501	942	368	320	345	132	64
4	206	645	e1200	524	e520	459	1750	334	457	293	117	69
5	192	579	e1100	626	e500	e380	2790	341	584	251	105	61
6	187	563	e720	773	484	e330	2480	438	563	217	118	55
7	196	649	e600	738	465	e310	1890	473	486	189	127	56
8	194	702	e520	695	457	307	1420	501	411	160	124	60
9	186	752	e450	590	521	301	1130	496	357	154	113	68
10	172	892	e400	519	863	314	996	468	347	160	103	71
11	169	996	e370	476	1350	376	1370	568	390	156	95	66
12	166	932	e330	444	1480	611	2260	657	417	156	90	64
13	161	814	e300	409	1260	1090	2040	676	361	118	103	64
14	156	687	e290	388	1140	1950	1570	1040	318	127	159	69
15	154	628	e270	367	960	3100	1350	1350	340	121	192	66
16	170	778	e260	353	871	3700	1300	1220	360	119	158	63
17	194	1810	e250	360	947	3980	1200	1050	346	122	132	59
18	276	2380	e240	872	e1000	5040	1070	1160	330	128	119	57
19	341	1870	e230	2010	e1000	4230	970	1430	489	120	105	56
20	391	1490	e220	2080	e860	2860	869	1440	544	115	97	62
21	813	1720	e220	1670	757	1980	829	1580	502	130	119	67
22	1360	e1900	e210	1320	643	1530	917	1920	445	157	79	67
23	1540	e1600	e210	1100	955	1300	935	1670	412	173	77	73
24	1420	e1300	e200	891	e1300	1220	860	1300	625	250	63	91
25	1140	1060	e200	788	e1200	1120	807	1000	770	315	58	107
26	895	900	e200	902	e1100	988	752	759	684	271	60	112
27	696	803	e200	1090	907	842	686	602	554	226	62	103
28	576	824	e200	1120	699	726	618	504	489	182	65	93
29	483	e900	e190	931	---	660	540	444	412	148	72	85
30	399	e1000	e190	782	---	607	487	438	377	123	70	92
31	351	---	e190	679	---	590	---	425	---	130	67	---
TOTAL	13867	31082	13160	24647	23989	42514	36141	25498	13391	5958	3270	2155
MEAN	447	1036	425	795	857	1371	1205	823	446	192	105	71.8
MAX	1540	2380	1200	2080	1480	5040	2790	1920	770	404	192	112
MIN	154	483	190	250	457	301	487	334	318	115	58	55
CFSM	1.83	4.25	1.74	3.26	3.51	5.62	4.94	3.37	1.83	.79	.43	.29
IN.	2.11	4.74	2.01	3.76	3.66	6.48	5.51	3.89	2.04	.91	.50	.33

CAL YR 1989 TOTAL 209213 MEAN 573 MAX 4360 MIN 91 CFSM 2.35 IN. 31.90
WTR YR 1990 TOTAL 235672 MEAN 646 MAX 5040 MIN 55 CFSM 2.65 IN. 35.93

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 mi^2.

PERIOD OF RECORD.--August 1989.
CHEMICAL DATA: 1989 (a), 1990 (b).
MINOR ELEMENTS DATA: 1989 (a), 1990 (b).
SEDIMENT DATA: 1989 (a), 1990 (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 Oswegatchie River near Heuvelton (station 04263000).

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)
OCT												
25...	1200	2650	--	7.0	11.0	13.3	27	8.0	1.8	2.3	0.90	14
APR												
24...	1400	2540	7	7.0	19.5	--	--	--	--	--	--	--
MAY												
15...	1415	3100	--	7.3	17.5	--	--	--	--	--	--	--
JUN												
26...	1330	2220	--	7.1	20.0	10.9	--	--	--	--	--	--
AUG												
28...	1200	294	--	7.9	19.5	11.5	--	--	--	--	--	--

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	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												
25...	14	3.6	0.10	350	<1	7	880	3	120	<0.10	2	40
APR												
24...	--	--	--	150	<1	8	270	3	40	<0.10	1	20
MAY												
15...	--	--	--	390	<1	7	780	5	60	0.10	2	20
JUN												
26...	--	--	--	240	1	6	770	3	80	<0.10	2	20
AUG												
28...	--	--	--	130	2	9	380	3	40	<0.10	4	20

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
25...	1200	2650	10	72
APR				
24...	1400	2540	2	14
MAY				
15...	1415	3100	17	142
JUN				
26...	1330	2220	11	66
AUG				
28...	1200	294	4	3.2

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 mi^2.

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 fair. 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.--74 years, 1,737 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,600 ft^3/s, Apr. 6, 1960, gage height, 10.36 ft; minimum recorded, 130 ft^3/s, Aug. 17, 1949, gage height, 0.47 ft, but may have been less during period of no gage-height record Sept. 7, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,500 ft^3/s, Mar. 20, gage height, 7.25 ft; minimum, 218 ft^3/s, Sept. 21, gage height, 0.83 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1270	1240	2720	999	2470	2460	2120	1160	1520	1450	432	298
2	988	1010	2500	1360	e2200	2150	2360	1080	1450	1460	353	287
3	954	1160	2280	1520	e2000	1920	2870	1030	1140	1320	328	330
4	867	1450	e2100	1680	e1800	1840	4250	931	1010	1140	340	250
5	890	1400	e2000	2180	1610	1760	5890	900	981	1010	325	264
6	862	1300	1880	2640	1550	e1500	6800	961	1430	1050	319	293
7	865	1450	e1800	2680	1640	e1300	6840	1080	1500	811	375	266
8	807	1640	e1700	2540	1720	1310	6180	1190	1410	655	359	280
9	639	1930	1620	2130	2090	1260	5190	1250	1300	609	462	270
10	548	2110	1510	1870	2960	1260	4570	1390	1150	595	482	263
11	550	2260	1440	1820	3580	1420	5060	2030	994	533	382	285
12	567	2300	1330	1680	3880	2300	5890	2320	1170	520	365	274
13	535	2200	1270	1550	3740	3360	6140	2240	1280	529	398	289
14	483	2060	1180	e1400	3620	4150	6020	2520	1390	554	494	281
15	506	1960	1110	e1400	3630	5040	5580	3070	1410	481	756	276
16	613	2060	993	e1300	3310	6640	5170	3510	1340	461	712	308
17	512	3100	e960	1480	2950	8890	4750	3400	1410	460	613	249
18	540	4540	e940	2980	e2600	9550	4290	3550	1400	459	535	240
19	613	5050	e900	4880	e2400	10100	3880	4010	1300	405	447	239
20	794	4630	e880	5630	e2300	10400	3480	4260	1130	414	376	232
21	1060	4750	e820	5390	e2200	9870	3250	4700	1090	420	365	225
22	1740	5210	e820	4860	2170	8210	3020	5480	1240	384	360	251
23	2410	5140	e800	4080	2860	6480	2790	5820	1140	400	335	247
24	2820	4490	e800	3500	3990	5330	2580	5500	1380	450	341	286
25	2660	3890	e800	3420	4450	4430	2490	4620	1720	535	324	326
26	2030	3380	e800	3420	4350	3460	2430	3640	2160	635	287	310
27	1690	3090	e780	3400	3650	2910	2300	2730	2070	716	294	344
28	1610	3020	e780	3450	2870	2590	1980	2180	1610	633	302	278
29	1490	2980	e780	3330	---	2280	1710	1900	1320	524	330	279
30	1420	e2900	e780	2950	---	2310	1330	1750	1450	544	300	317
31	1300	---	e860	2660	---	2200	---	1570	---	498	262	---
TOTAL	34633	83700	39933	84179	78590	128680	121210	81772	40895	20655	12353	8337
MEAN	1117	2790	1288	2715	2807	4151	4040	2638	1363	666	398	278
MAX	2820	5210	2720	5630	4450	10400	6840	5820	2160	1460	756	344
MIN	483	1010	780	999	1550	1260	1330	900	981	384	262	225

CAL YR 1989 TOTAL 647302 MEAN 1773 MAX 10900 MIN 323
WTR YR 1990 TOTAL 734937 MEAN 2014 MAX 10400 MIN 225

e Estimated

ST. LAWRENCE RIVER MAIN STEM

04264331 ST. LAWRENCE RIVER AT CORNWALL, ONTARIO--NEAR MASSENA, NY
(National stream-quality accounting network station)
(National radiochemical network station)

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 mi^2.

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, 1874, 1881, 1883, 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.--130 years (water years 1861-1990), 245,100 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 352,000 ft^3/s, June 22, 1976; minimum daily, 139,000 ft^3/s, Feb. 7, 1936; maximum monthly discharge, 350,000 ft^3/s, July 1973; minimum monthly, 154,000 ft^3/s, Feb. 1936.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 302,000 ft^3/s, June 17; minimum daily, 205,000 ft^3/s, Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	257000	255000	275000	230000	255000	258000	270000	287000	293000	285000	270000	266000
2	260000	255000	277000	230000	255000	258000	270000	287000	294000	285000	270000	266000
3	258000	255000	277000	230000	256000	263000	270000	287000	294000	285000	270000	266000
4	258000	255000	277000	240000	255000	263000	270000	287000	294000	285000	268000	266000
5	258000	255000	273000	240000	244000	263000	259000	284000	294000	285000	268000	267000
6	251000	255000	248000	221000	239000	263000	250000	284000	294000	285000	268000	265000
7	254000	255000	249000	220000	246000	263000	260000	284000	294000	284000	268000	266000
8	255000	255000	231000	248000	249000	263000	270000	284000	294000	284000	268000	262000
9	255000	255000	231000	248000	253000	263000	273000	284000	299000	284000	268000	262000
10	255000	255000	231000	248000	255000	262000	275000	284000	299000	284000	267000	262000
11	255000	257000	231000	248000	255000	262000	275000	284000	299000	284000	265000	262000
12	255000	257000	231000	248000	255000	262000	275000	284000	299000	284000	265000	262000
13	255000	257000	221000	221000	255000	262000	275000	284000	299000	284000	265000	262000
14	255000	257000	220000	220000	255000	262000	281000	284000	299000	278000	264000	263000
15	255000	257000	221000	248000	255000	262000	281000	284000	299000	278000	265000	260000
16	255000	257000	221000	248000	255000	262000	281000	284000	291000	278000	265000	260000
17	255000	257000	229000	248000	255000	266000	281000	284000	302000	278000	265000	261000
18	255000	265000	250000	248000	255000	257000	281000	284000	297000	278000	267000	262000
19	255000	265000	250000	248000	255000	246000	281000	294000	297000	278000	267000	260000
20	255000	265000	232000	225000	255000	251000	281000	294000	297000	277000	267000	261000
21	253000	265000	213000	225000	255000	266000	284000	294000	297000	272000	267000	261000
22	253000	265000	205000	253000	255000	266000	284000	294000	297000	272000	267000	256000
23	253000	265000	213000	253000	255000	266000	284000	294000	288000	272000	267000	257000
24	253000	265000	223000	253000	258000	272000	284000	294000	288000	272000	267000	256000
25	253000	275000	230000	253000	258000	272000	284000	294000	288000	272000	267000	256000
26	253000	275000	230000	253000	258000	272000	284000	293000	288000	272000	265000	255000
27	253000	275000	230000	255000	258000	272000	284000	293000	288000	272000	266000	256000
28	255000	275000	230000	255000	258000	272000	287000	293000	288000	270000	266000	257000
29	256000	275000	230000	255000	---	272000	287000	293000	288000	270000	266000	255000
30	255000	275000	230000	255000	---	272000	287000	293000	285000	270000	266000	253000
31	255000	---	230000	255000	---	270000	---	293000	---	270000	266000	---
TOTAL	7903000	7854000	7339000	7522000	7112000	8183000	8308000	8940000	8823000	8627000	8270000	7923000
MEAN	254900	261800	236700	242600	254000	264000	276900	288400	294100	278300	266800	260800
MAX	260000	275000	277000	255000	258000	272000	287000	294000	302000	285000	270000	267000
MIN	251000	255000	205000	220000	239000	246000	250000	284000	285000	270000	264000	253000

CAL YR 1989 TOTAL 88826000 MEAN 243400 MAX 284000 MIN 188000
WTR YR 1990 TOTAL 96704000 MEAN 264900 MAX 302000 MIN 205000

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).
MINOR ELEMENTS DATA: 1974-77 (b), 1978 (a), 1979 (b), 1980 (c), 1981-87 (b), 1988-90 (c).
RADIOCHEMICAL DATA: 1974-90 (a).
ORGANIC DATA: OC--1974 (a), 1975 (b), 1977 (b), 1978-81 (d).
NUTRIENT DATA: 1974-75 (c), 1976-81 (d), 1982-86 (c), 1987-90 (b).
BIOLOGICAL DATA:
Bacteria--1974 (c), 1975-81 (d), 1982-86 (c), 1987-90 (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).

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 1989 TO SEPTEMBER 1990

DATE	TIME	*DISCHARGE, IN CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 24...	1130	253000	--	8.0	14.0	--	--	--	--	--	--
NOV 06...	1015	255000	298	8.2	10.0	1.6	755	10.6	95	K4	0
MAR 15...	0930	262000	298	8.2	1.5	1.8	760	14.1	101	1	17
APR 26...	0930	284000	--	8.2	11.0	--	--	--	--	--	--
MAY 07...	1000	284000	295	8.0	9.0	1.5	755	12.0	105	54	K1
17...	1045	284000	--	8.6	11.5	--	--	--	--	--	--
JUN 28...	1030	288000	--	8.1	19.5	--	--	--	--	--	--
JUL 31...	1000	270000	307	8.5	23.0	1.5	755	8.6	101	K7	K1
AUG 30...	1015	266000	--	8.0	21.0	--	--	--	--	--	--

DATE	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLVD FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	CARBONATE WATER DIS IT FIELD MG/L AS CO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT 24...	130	--	37	8.0	11	1.5	--	--	--	27	20
NOV 06...	130	35	38	8.2	12	1.5	93	114	0	27	22
MAR 15...	130	30	38	8.2	12	2.0	99	121	0	27	22
APR 26...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	140	34	41	8.1	11	1.3	102	124	0	26	18
17...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	--	--	--	--	--	--	--	--	--	--	--
JUL 31...	130	38	39	8.3	12	1.4	93	102	6	26	21
AUG 30...	--	--	--	--	--	--	--	--	--	--	--

* Daily discharge.
k Results based on colony count outside the acceptable range (non-ideal colony count).

ST. LAWRENCE RIVER MAIN STEM

04264331 ST. LAWRENCE RIVER AT CORNWALL, ONTARIO--NEAR MASSENA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)
OCT											
24...	0.10	--	--	161	--	--	--	--	--	--	--
NOV											
06...	0.10	0.52	174	166	--	0.180	0.020	<0.010	0.40	0.030	<0.010
MAR											
15...	0.20	0.38	176	171	0.370	0.400	0.010	0.010	<0.20	0.020	<0.010
APR											
26...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	0.20	0.13	182	169	0.480	0.500	0.020	0.020	0.60	0.010	0.020
17...	--	--	--	--	--	--	--	--	--	--	--
JUN											
28...	--	--	--	--	--	--	--	--	--	--	--
JUL											
31...	<0.10	0.47	183	165	--	--	--	--	--	--	--
AUG											
30...	--	--	--	--	--	--	--	--	--	--	--

DATE	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
OCT										
24...	--	60	--	--	--	--	<1	--	--	--
NOV										
06...	<0.010	--	<10	<1	28	<0.5	--	<1.0	<1	<3
MAR										
15...	<0.010	--	<10	<1	22	<0.5	--	<1.0	<5	<3
APR										
26...	--	30	--	--	--	--	<1	--	--	--
MAY										
07...	<0.010	390	<10	<1	25	<0.5	<1	<1.0	<1	<3
17...	--	40	--	--	--	--	<1	--	--	--
JUN										
28...	--	40	--	--	--	--	<1	--	--	--
JUL										
31...	--	--	<10	<1	24	<0.5	--	<1.0	<1	<3
AUG										
30...	--	190	--	--	--	--	<1	--	--	--

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
OCT										
24...	3	--	40	--	1	--	--	<10	--	<0.10
NOV										
06...	--	2	--	8	--	<1	4	--	2	--
MAR										
15...	--	<10	--	5	--	<10	<4	--	14	--
APR										
26...	4	--	3100	--	1	--	--	<10	--	<0.10
MAY										
07...	7	7	730	<3	4	1	<4	40	6	<0.10
17...	4	--	80	--	1	--	--	10	--	<0.10
JUN										
28...	3	--	160	--	1	--	--	30	--	<0.10
JUL										
31...	--	3	--	6	--	2	5	--	<1	--
AUG										
30...	3	--	310	--	2	--	--	10	--	<0.10

ST. LAWRENCE RIVER MAIN STEM

04264331 ST. LAWRENCE RIVER AT CORNWALL, ONTARIO--NEAR MASSENA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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...	--	--	2	--	--	--	--	--	20	--
NOV										
06...	<0.1	<10	--	<1	<1	<1.0	180	<6	--	15
MAR										
15...	<0.1	<10	--	<10	<1	<1.0	180	<6	--	28
APR										
26...	--	--	1	--	--	--	--	--	20	--
MAY										
07...	<0.1	<10	2	1	<1	<1.0	180	<6	<10	41
17...	--	--	1	--	--	--	--	--	10	--
JUN										
28...	--	--	3	--	--	--	--	--	<10	--
JUL										
31...	<0.1	<10	--	1	<1	<1.0	190	<6	--	13
AUG										
30...	--	--	5	--	--	--	--	--	20	--

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
MAR								
15...	0930	1.6	<0.4	3.3	2.7	<0.4	<0.4	0.07

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	*DIS-CHARGE, IN 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
NOV					
06...	1015	255000	4	2750	77
MAR					
15...	0930	262000	3	2120	74
MAY					
07...	1000	284000	2	1530	94
JUL					
31...	1000	270000	3	2190	100

* 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 mi^2.

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.--Records good except those for estimated daily discharges, which are fair. 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.--82 years, 1,312 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,360 ft^3/s, May 8, 1972, gage height, 12.25 ft; minimum daily, 4.1 ft^3/s, Oct. 12, 1947.

EXTREMES FOR YEAR.--Maximum discharge, 6,010 ft^3/s, Mar. 22, gage height, 10.65 ft; minimum daily, 155 ft^3/s, Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2490	1820	2420	985	1600	2150	3510	3050	3160	1130	723	313
2	2380	1740	2350	859	1580	2160	3340	2930	2980	1110	607	329
3	2240	1670	2270	877	1550	2150	3290	2850	2860	780	747	326
4	2110	1550	2200	837	1530	2100	3540	2750	2750	887	605	335
5	2040	1460	2100	883	1500	2030	3750	2660	2630	946	726	349
6	1990	1420	1840	821	1470	1930	3910	2570	2560	967	643	344
7	1810	1360	1630	920	1450	1840	4010	2530	2430	735	646	307
8	1600	1430	1640	830	1430	1740	4030	2480	2360	874	615	342
9	1440	1430	1610	812	1430	1680	4030	2450	2260	732	795	361
10	1410	1520	1570	821	1440	1610	3990	2430	2170	740	668	324
11	1400	1700	1550	800	1530	1580	4120	2480	2070	738	736	339
12	1360	1690	1520	861	1450	1590	4200	2470	2020	660	796	297
13	1410	1720	1490	817	1620	1720	4240	2540	1870	409	760	337
14	1370	1720	1350	804	1650	1960	4220	2700	1620	429	663	332
15	1260	1710	1460	759	1710	2680	4150	2780	1440	476	874	209
16	868	1870	1340	801	1800	3460	4030	2830	1210	494	704	330
17	962	2400	1260	869	1820	4180	3900	2960	1250	433	838	311
18	1090	2750	1010	1060	1830	4850	3750	3120	1300	468	873	312
19	1050	2810	378	1100	1830	5350	3640	3230	1240	467	679	155
20	1430	2910	410	1250	1840	5660	3480	3380	1250	467	779	302
21	1690	2930	480	1270	1770	5890	3370	3780	1160	457	841	425
22	2000	2990	564	1280	1810	5980	3280	4010	1270	425	618	323
23	2230	2950	571	1310	2030	5880	3200	4160	1350	553	778	273
24	2280	2900	648	1380	2240	5750	3150	4250	1320	624	613	279
25	2240	2840	733	1510	2260	5540	3100	4260	1270	633	754	310
26	2200	2760	646	1540	2210	e5250	3130	4210	1240	639	606	311
27	2160	2680	738	1540	2150	e4930	3140	4080	1170	797	640	282
28	2090	2620	747	1540	2140	e4640	3150	3920	1190	635	676	302
29	2020	2580	951	1540	---	e4340	3170	3720	1190	834	595	279
30	1950	2520	844	1590	---	e4050	3130	3490	1100	769	788	357
31	1890	---	875	1630	---	e3760	---	3320	---	681	417	---
TOTAL	54460	64450	39195	33896	48670	108430	108950	98390	53690	20989	21803	9395
MEAN	1757	2148	1264	1093	1738	3498	3632	3174	1790	677	703	313
MAX	2490	2990	2420	1630	2260	5980	4240	4260	3160	1130	874	425
MIN	868	1360	378	759	1430	1580	3100	2430	1100	409	417	155

CAL YR 1989 TOTAL 574258 MEAN 1573 MAX 4790 MIN 374
WTR YR 1990 TOTAL 662318 MEAN 1815 MAX 5980 MIN 155

e Estimated

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), 1988-90 (b).
MINOR ELEMENTS DATA: 1955, 1970-72 (a), 1988-90 (b).
NUTRIENT DATA: 1970-72 (a).
SEDIMENT DATA: 1988-90 (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 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)
OCT 26...	1330	2190	6.6	12.5	15.9	11	3.4	0.55	1.7	0.40	5.0	6.0
APR 25...	1200	3110	7.9	13.0	--	--	--	--	--	--	--	--
MAY 16...	1130	2820	7.1	15.0	--	--	--	--	--	--	--	--
JUN 27...	1130	1370	7.3	19.5	12.0	--	--	--	--	--	--	--
AUG 29...	1100	627	7.1	21.0	11.5	--	--	--	--	--	--	--

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	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 26...	1.8	0.10	160	<1	2	250	1	30	<0.10	1	20
APR 25...	--	--	130	<1	7	160	4	20	<0.10	1	20
MAY 16...	--	--	210	<1	7	220	5	30	<0.10	1	20
JUN 27...	--	--	100	1	6	270	1	60	<0.10	2	10
AUG 29...	--	--	150	<1	5	310	2	60	<0.10	1	10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
APR 25...	1200	3110	2	17
JUN 27...	1130	1370	1	3.7
AUG 29...	1100	627	8	14

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 mi^2.

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.--37 years, 1,797 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,720 ft^3/s, May 11, 1971, gage height, 9.80 ft; minimum, 1.3 ft^3/s, Feb. 1, 1962, Aug. 8, 1964, gage height, 1.53 ft; minimum daily, 4.6 ft^3/s, June 2, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,250 ft^3/s, Mar. 24, gage height, 8.52 ft; minimum, 13 ft^3/s, July 28, 29, Aug. 27, 28, 31; minimum gage height, 1.72 ft, Nov. 1, July 28, 29, Aug. 27, 28, 31; minimum daily discharge, 324 ft^3/s, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2450	1710	3140	1580	1260	3310	3710	3620	3670	1370	1250	1250
2	2610	2510	3440	1350	1920	3130	3730	3620	3510	1660	1250	1240
3	2360	2650	3170	1240	2540	3320	3620	3310	3340	1620	981	1290
4	2510	2610	3310	1380	2370	3230	3730	3180	3450	1600	537	1340
5	2610	2540	3150	1100	2220	3270	3810	3380	3440	1350	392	1240
6	2430	2560	3190	1250	2520	3050	3930	3110	3240	1600	1080	1280
7	2480	2530	3300	1260	2450	2640	3810	3180	3070	1360	1270	1250
8	2470	2710	3370	1220	2380	2610	3740	3080	2920	1050	1260	1120
9	2390	2600	3210	1340	2450	2480	4020	2900	3010	1330	1300	1020
10	2430	2730	3310	994	2360	2400	4300	2950	2680	1600	1250	1160
11	2790	2810	3160	1310	2330	2570	4950	3120	2580	1760	1160	1310
12	2640	2190	3350	1280	2440	2340	5500	3070	2580	1650	1210	1000
13	2350	2040	3220	1290	2420	2300	5020	3120	2460	1380	1300	863
14	2620	1480	3100	1300	2600	2150	4670	3260	2520	1300	1200	958
15	1820	1900	2640	1310	2400	2300	4700	3370	2070	1170	1410	541
16	1440	1210	2380	1140	2490	2530	4550	3460	1280	1090	1520	400
17	1610	2050	2450	1130	2380	3220	4190	3620	1400	1530	1700	814
18	1590	2580	2560	1060	2420	4520	3810	4040	1670	1220	1410	928
19	1590	2810	2390	1260	2340	4200	3730	4420	1600	1090	1530	589
20	1380	2880	2050	1340	2330	4750	3700	4240	1510	1360	1450	485
21	1340	3110	1510	1400	2350	5090	4200	4870	1540	1000	1790	508
22	1720	3220	1370	1390	2400	5210	4150	5200	1540	449	1470	512
23	1220	2890	1530	1310	2460	6350	4070	5160	1510	970	1570	449
24	1410	3410	1810	1210	2340	7200	3610	5110	2040	1230	1560	572
25	1740	3280	1570	1430	2570	7210	3520	4870	2300	1090	1620	475
26	1540	3210	1540	1420	2220	7020	3470	4840	2090	1460	1600	567
27	1460	3300	1550	1290	2600	6350	3790	4580	2020	1190	1550	397
28	1460	3480	1580	1390	2790	5500	4050	4680	2150	488	1580	414
29	1650	3230	1580	1640	---	4820	3810	4140	1850	465	1460	330
30	2560	3340	1560	1580	---	4500	3540	4110	1390	1090	794	324
31	2470	---	1780	1480	---	3950	---	3700	---	1260	1210	---
TOTAL	63140	79570	77270	40674	66350	123520	121430	119310	70430	38782	40664	24626
MEAN	2037	2652	2493	1312	2370	3985	4048	3849	2348	1251	1312	821
MAX	2790	3480	3440	1640	2790	7210	5500	5200	3670	1760	1790	1340
MIN	1220	1210	1370	994	1260	2150	3470	2900	1280	449	392	324

CAL YR 1989 TOTAL 733569 MEAN 2010 MAX 5730 MIN 40
WTR YR 1990 TOTAL 865766 MEAN 2372 MAX 7210 MIN 324

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 mi^2.

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 Piercefield. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years (water years 1945-90), 2,100 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft^3/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 ft^3/s, Sept. 18, 19, 1966; minimum gage height, 0.42 ft, July 13, 1950; minimum daily discharge, 7.0 ft^3/s, Oct. 15, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,740 ft^3/s, Mar. 26, gage height, 6.23 ft; maximum gage-height, 7.94 ft, Dec. 30 (ice jam); minimum discharge, 19 ft^3/s, Sept. 9, gage height, 0.59 ft; minimum daily, 494 ft^3/s, Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2820	2790	3800	e1700	e1300	e3100	4510	3860	4000	1840	1410	1360
2	2810	2580	3850	e1400	e1500	e3300	4640	3930	3620	1820	1350	1440
3	2790	2610	3870	e1500	e2300	3970	4910	4000	3780	1820	1260	1440
4	2800	2710	3820	e1600	e3000	3970	6300	3700	3800	1800	503	1410
5	2770	2780	3960	e1300	e3500	4000	6070	3570	3940	1790	567	1370
6	2790	2870	3910	e1400	e3200	4040	5200	3820	3660	1830	863	1410
7	2770	3090	3770	e1400	e3000	3020	4630	3800	3530	1500	1370	1350
8	2690	3250	3860	e1500	e3000	3160	4620	3820	3670	1460	1440	1280
9	2700	3340	3980	e1600	e3200	2970	4350	3760	3040	1430	1520	1050
10	2770	3380	4040	e1300	3990	2870	4970	3600	3080	1740	1290	1280
11	2760	3460	3930	e1200	3760	2990	6510	3450	3360	1700	1340	1440
12	2800	3230	4010	e1300	3390	3270	6590	3650	3530	1680	1320	1240
13	2790	2320	e4000	e1400	3170	3560	6180	3690	2930	1660	1500	1040
14	2800	1800	e3800	e1600	e3100	3730	5510	3730	2740	1380	1570	995
15	2670	1900	e3400	e1500	e3000	3810	5710	3850	2610	1330	1720	678
16	1930	2260	e3000	e1300	e2900	4010	5590	4000	1920	1420	1750	494
17	1810	2650	e3000	e1300	e2900	5470	5410	4080	1760	1250	1630	681
18	1820	3790	e2800	e1200	e2800	6480	4470	4440	1830	1470	1740	1040
19	1740	3670	e2500	e1400	e2600	6030	4230	4920	1980	1310	1740	763
20	1870	3580	e2000	e1600	e2400	5250	4260	5310	1840	1340	1770	527
21	1900	3610	e1600	e1500	e2800	5710	4540	5490	1920	1410	1700	516
22	1890	4120	e1600	e1600	e2900	5590	4960	5800	1920	608	1680	529
23	1880	3800	e1800	e1500	e3000	6330	4930	6010	1790	922	1700	712
24	1770	3650	e2000	e1400	e3000	7360	4680	5490	2570	1450	1710	553
25	1850	3700	e1800	e1800	e3100	7250	3770	5470	2850	1400	1700	586
26	1860	3700	e1800	e1700	e3000	7230	3990	5150	2580	1370	1710	515
27	1800	3720	e1800	e1700	e3200	6760	4200	5100	2760	1330	1720	513
28	1770	3820	e1800	e1600	e3400	6070	4510	5000	2430	749	1740	526
29	1730	3980	e1800	e1500	---	5580	4780	4940	2110	630	1730	508
30	2250	3730	e1800	e1400	---	5150	4250	4540	1830	691	1230	653
31	2830	---	e2000	e1300	---	4370	---	4600	---	1490	1390	---
TOTAL	72230	95890	91100	45500	82410	146400	149270	136570	83380	43620	45663	27899
MEAN	2330	3196	2939	1468	2943	4723	4976	4405	2779	1407	1473	930
MAX	2830	4120	4040	1800	3990	7360	6590	6010	4000	1840	1770	1440
MIN	1730	1800	1600	1200	1300	2870	3770	3450	1760	608	503	494

CAL YR 1989 TOTAL 887136 MEAN 2431 MAX 6140 MIN 201
WTR YR 1990 TOTAL 1019932 MEAN 2794 MAX 7360 MIN 494

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), 1983-90 (b).
MINOR ELEMENTS DATA: 1969 (a), 1970, 1979 (b), 1980 (d), 1981-90 (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), 1983-90 (b).
BIOLOGICAL DATA:
Bacteria--1969-71 (a), 1979-80 (d), 1981-82 (c), 1983-90 (b).
Phytoplankton--1979-80 (c), 1981 (b).
Periphyton--1979-80 (b).
SEDIMENT DATA: 1979 (c), 1980 (d), 1981-82 (c), 1983-90 (b).

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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, 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...	0830	2860	40	7.3	7.5	1.0	750	11.5	97	53	65
MAR											
15...	1030	3730	128	7.0	0.5	1.1	760	14.3	99	K7	340
MAY											
08...	0815	3800	68	6.9	11.0	0.60	765	10.6	96	K4800	K27
AUG											
02...	0800	1500	55	7.4	24.0	1.2	760	7.6	91	30	550

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)
NOV											
06...	17	6	4.8	1.2	2.4	0.50	10	13	0	6.0	2.7
MAR											
15...	30	10	7.9	2.5	2.8	0.70	E24	24	0	11	3.5
MAY											
08...	18	7	5.2	1.2	2.1	0.50	10	13	0	6.1	2.9
AUG											
02...	21	9	5.9	1.5	2.4	0.40	12	15	0	6.1	3.2

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	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, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV											
06...	0.10	4.9	47	30	0.160	0.030	0.030	0.40	<0.010	<0.010	<0.010
MAR											
15...	0.20	5.9	60	48	0.380	0.060	0.060	<0.20	0.030	0.020	<0.010
MAY											
08...	<0.10	4.7	33	32	0.700	0.020	0.020	0.50	0.010	0.010	<0.010
AUG											
02...	<0.10	3.6	40	31	--	--	--	--	--	--	--

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...	70	<1	15	<0.5	<1.0	<1	<3	2	210	1
MAR										
15...	70	<1	10	<0.5	<1.0	<5	<3	<10	130	<10
MAY										
08...	80	<1	8	<0.5	<1.0	<1	<3	3	72	1
AUG										
02...	30	<1	13	<0.5	1.0	<1	<3	2	150	1

K Results based on colony count outside the acceptable range (non-ideal colony count).
E Estimate.

ST. LAWRENCE RIVER BASIN

04268000 RAQUETTE RIVER AT RAYMONDVILLE, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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	9	<0.1	<10	<1	<1	<1.0	22	<6	4
MAR										
15...	<4	18	<0.1	<10	<10	<1	<1.0	29	<6	12
MAY										
08...	<4	14	--	<10	1	<1	<1.0	19	<6	15
AUG										
02...	<4	10	<0.1	<10	<1	<1	<1.0	24	<6	8

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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
NOV					
06...	0830	2860	3	23	79
MAR					
15...	1030	3730	6	60	86
MAY					
08...	0815	3800	3	31	23
AUG					
02...	0800	1500	0	0.0	100

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 mi^2.

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.--80 years, 1,048 ft^3/s, 23.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft^3/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 ft^3/s, Aug. 8, 1917, gage height, 5.25 ft; minimum daily, 37 ft^3/s, Aug. 8, 1917.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,600 ft^3/s, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 18	0430	*11,700	*11.37	Apr. 4	1900	6,060	9.43

Minimum discharge, 208 ft^3/s, Sept. 17, gage height, 5.85 ft; minimum daily, 243 ft^3/s, Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	602	685	e1100	e740	e860	e1100	1330	1300	789	1040	451	416
2	568	777	e1200	e760	e940	e1400	1560	1180	620	1040	522	361
3	499	797	e1200	e800	e900	e1100	2240	1100	664	900	482	328
4	475	809	e1100	e860	e860	e940	5210	875	903	742	408	414
5	452	711	e980	e1000	e820	e820	5180	1030	1300	668	366	626
6	455	754	e1150	e1100	e800	e800	4050	1230	1240	620	350	289
7	499	853	e1100	e900	e780	e760	3040	1420	1050	572	373	264
8	486	1180	e1000	e740	e760	e740	2440	1360	904	489	444	285
9	472	1300	e900	e680	e960	e720	2100	1330	808	471	520	301
10	495	1290	e860	e640	e1400	e760	2240	1280	800	459	513	319
11	431	1180	e820	e620	e1900	e900	3920	1400	1610	422	439	303
12	410	1050	e780	e620	e1800	e1200	3920	1480	1490	382	400	267
13	425	959	e760	e600	e1700	e1800	3100	1450	1080	366	575	271
14	407	911	e720	e600	e1600	e2700	2700	1810	861	340	2210	261
15	396	946	e680	e640	e1500	e3800	2660	1860	776	299	2010	261
16	453	1280	e660	e700	e1400	e5500	2560	1630	718	306	1420	258
17	641	2670	e640	e860	e1350	e8700	2310	1500	693	306	1020	243
18	715	2470	e620	e1300	e1300	10400	2150	1870	816	305	792	256
19	786	2100	e600	e2000	e1150	7240	1980	2140	963	278	756	259
20	970	1900	e580	e2500	e1000	5000	1800	2190	1020	304	647	248
21	1930	2300	e560	e2400	e1050	3860	1910	2610	961	387	573	270
22	1990	1940	e540	e2200	e1100	3300	2000	2740	963	444	478	288
23	1760	e1600	e530	e2000	e1500	3070	1890	2320	1010	540	403	286
24	1520	1540	e520	e1600	e1800	2970	1750	1970	1880	684	389	304
25	1300	1420	e500	e1400	e1650	2530	1640	1630	1740	694	373	292
26	1130	1470	e490	e1500	e1500	2180	1620	1350	1400	572	335	325
27	1000	e1400	e480	e1700	e1350	1800	1660	1260	1110	461	288	312
28	907	e1300	e470	e1500	e1200	1550	1610	1190	957	404	310	274
29	800	e1400	e460	e1200	---	1530	1530	1060	814	369	333	260
30	725	e1300	e480	e980	---	1370	1410	935	851	390	435	304
31	681	---	e560	e880	---	1330	---	856	---	393	530	---
TOTAL	24380	40292	23040	36020	34930	81870	73510	47356	30791	15647	19145	9145
MEAN	786	1343	743	1162	1247	2641	2450	1528	1026	505	618	305
MAX	1990	2670	1200	2500	1900	10400	5210	2740	1880	1040	2210	626
MIN	396	685	460	600	760	720	1330	856	620	278	288	243
CFSM	1.29	2.19	1.21	1.90	2.04	4.32	4.00	2.50	1.68	.82	1.01	.50
IN.	1.48	2.45	1.40	2.19	2.12	4.98	4.47	2.88	1.87	.95	1.16	.56

CAL YR 1989 TOTAL 389332 MEAN 1067 MAX 7540 MIN 260 CFSM 1.74 IN. 23.67
WTR YR 1990 TOTAL 436126 MEAN 1195 MAX 10400 MIN 243 CFSM 1.95 IN. 26.51

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).
MINOR ELEMENTS DATA: 1975, 1977-79 (b), 1980 (c), 1981-90 (b).
ORGANIC DATA: OC--1974 (b), 1978-81 (d).
NUTRIENT DATA: 1970-71 (a), 1975-81 (d), 1982 (c), 1983-90 (b).
BIOLOGICAL DATA:
Bacteria--1975-81 (d), 1982 (c), 1983-90 (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).

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 1989 TO SEPTEMBER 1990

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, 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											
07...	0945	844	58	7.4	7.5	1.4	760	10.8	90	140	20
MAR											
16...	0745	E5500	34	6.7	0.0	5.3	760	13.5	93	58	180
MAY											
09...	0815	1330	53	7.1	11.0	1.0	755	10.6	97	40	9
AUG											
01...	0845	460	72	7.7	22.0	1.7	760	7.7	88	130	36

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	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)
NOV											
07...	29	9	7.5	2.5	2.4	0.60	20	25	0	7.0	3.4
MAR											
16...	17	8	4.5	1.4	1.4	0.50	9	11	0	4.8	2.0
MAY											
09...	26	7	6.8	2.1	2.0	0.40	19	23	0	5.7	2.6
AUG											
01...	33	8	8.7	2.8	2.5	0.80	25	31	0	5.2	3.3

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	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											
07...	0.10	6.6	58	43	--	0.120	0.020	0.030	0.30	<0.010	<0.010
MAR											
16...	<0.10	5.2	39	27	--	0.310	0.050	0.040	0.50	0.040	<0.010
MAY											
09...	<0.10	4.8	50	37	0.190	0.200	0.020	0.030	0.40	0.010	<0.010
AUG											
01...	<0.10	5.4	66	45	--	--	--	--	--	--	--

E Estimated daily discharge.

ST. LAWRENCE RIVER BASIN

04269000 ST. REGIS RIVER AT BRASHER CENTER, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
NOV											
07...	<0.010	90	<1	15	<0.5	<1.0	<1	<3	1	270	<1
MAR											
16...	<0.010	70	<1	8	0.8	<1.0	<5	<3	<10	130	<10
MAY											
09...	<0.010	70	<1	10	<0.5	1.0	<1	<3	2	210	2
AUG											
01...	--	40	<1	15	<0.5	<1.0	<1	<3	2	420	3

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV										
07...	<4	10	<0.1	<10	<1	<1	<1.0	24	<6	5
MAR										
16...	<4	21	<0.1	<10	<10	<1	<1.0	13	<6	7
MAY										
09...	<4	11	0.1	<10	1	<1	<1.0	21	<6	9
AUG										
01...	<4	32	<0.1	<10	1	<1	<1.0	31	<6	14

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV					
07...	0945	844	3	6.8	91
MAR					
16...	0745	E5500	70	--	38
MAY					
09...	0815	1330	2	7.2	87
AUG					
01...	0845	460	2	2.5	100

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 mi^2.

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.--61 years (water years 1926-82, 1987-90), 229 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,890 ft^3/s, Apr 25, 1926, gage height, 5.0 ft; minimum, 9.8 ft^3/s, Sept. 26, 27, 1963; minimum daily, 28 ft^3/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 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,360 ft^3/s, Mar. 18, gage height, 4.52 ft; minimum, 32 ft^3/s, Dec. 25, gage height, 0.65 ft; minimum daily, 116 ft^3/s, Dec. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	238	265	207	199	208	280	286	206	227	175	195
2	203	242	243	221	207	208	310	209	195	216	145	179
3	159	168	255	213	194	331	518	212	221	191	136	168
4	214	158	236	212	204	293	846	216	367	175	127	160
5	204	150	222	240	198	158	849	283	306	262	123	154
6	236	164	232	185	210	162	666	434	261	222	128	150
7	250	189	224	139	221	177	535	360	249	203	177	159
8	224	239	212	161	216	178	463	328	226	190	207	174
9	211	292	207	140	230	179	441	307	209	203	164	150
10	200	349	210	142	335	182	486	294	209	204	152	153
11	194	298	215	159	365	202	749	337	252	173	140	142
12	191	228	204	161	331	245	704	316	246	167	142	142
13	187	213	201	151	296	381	546	277	202	163	304	130
14	174	186	192	146	288	680	486	343	196	155	772	131
15	167	210	191	177	238	1040	482	334	214	155	472	135
16	218	337	153	177	245	1510	484	297	232	147	340	142
17	227	735	151	181	327	1970	401	299	239	124	269	131
18	227	597	149	371	304	2120	391	448	227	122	233	130
19	223	446	159	524	290	1390	359	425	241	121	273	140
20	290	405	158	466	192	935	363	393	240	137	227	156
21	602	430	153	420	187	742	427	501	220	228	193	162
22	570	419	151	337	200	630	439	538	242	184	177	170
23	446	360	147	302	326	627	408	437	245	182	160	162
24	356	343	150	284	381	583	386	371	306	229	157	161
25	306	309	119	305	317	498	373	276	257	192	149	151
26	256	215	132	318	261	461	413	261	253	158	143	154
27	236	191	126	264	231	394	413	251	223	149	141	144
28	227	262	125	240	217	385	373	223	214	134	142	185
29	215	340	123	202	---	274	343	208	194	133	383	184
30	211	300	116	185	---	265	321	217	227	153	294	227
31	205	---	121	186	---	263	---	225	---	150	223	---
TOTAL	7840	9013	5542	7416	7210	17671	14255	9906	7119	5449	6868	4721
MEAN	253	300	179	239	257	570	475	320	237	176	222	157
MAX	602	735	265	524	381	2120	849	538	367	262	772	227
MIN	159	150	116	139	187	158	280	208	194	121	123	130

CAL YR 1989 TOTAL 92072 MEAN 252 MAX 1620 MIN 83
WTR YR 1990 TOTAL 103010 MEAN 282 MAX 2120 MIN 116

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 mi^2.

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.--32 years (water years 1959-90), 119 ft^3/s, 17.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,250 ft^3/s, Apr. 4, 1974, gage height, 12.90 ft; minimum, 8.0 ft^3/s, Aug. 6, 7, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 17	2300	*1,670	*8.93	Apr. 4	1245	1,580	8.66

Minimum discharge, 21 ft^3/s, Oct. 5, July 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	62	e120	e38	e110	e80	169	97	52	70	31	41
2	24	66	e120	e50	e120	e70	241	87	47	74	30	33
3	23	60	e120	e62	e98	e62	403	80	50	62	26	30
4	22	61	e120	e76	e84	e58	1360	74	65	57	24	27
5	22	57	e94	e160	e78	e52	682	100	70	188	23	25
6	24	59	e86	e100	e72	e46	381	184	63	86	25	25
7	29	73	e78	e94	e70	e41	258	141	61	55	34	26
8	29	148	e70	e88	e110	e39	200	114	54	45	46	33
9	26	186	e64	e80	e160	e38	174	106	50	42	35	33
10	25	168	e58	e72	e250	e45	268	107	52	42	29	30
11	26	122	e54	e66	e210	e140	690	137	84	37	27	30
12	27	99	e48	e60	e190	e300	437	133	87	33	25	30
13	26	85	e45	e54	e160	e450	292	112	64	32	42	27
14	25	80	e44	e52	e190	e400	338	138	53	30	329	26
15	24	128	e40	e48	e180	e600	407	119	48	29	136	26
16	56	233	e38	e45	e150	e700	298	100	55	28	77	27
17	97	509	e35	e74	e150	e1050	228	101	57	26	54	27
18	109	242	e34	e350	e170	1010	207	155	51	27	48	24
19	98	164	e33	e400	e150	412	183	152	60	25	96	24
20	184	149	e33	e210	e130	295	164	136	64	30	68	28
21	447	278	e31	e140	e100	292	207	257	63	41	46	30
22	232	e150	e30	e110	e120	326	206	237	82	38	37	31
23	152	e130	e30	e130	e200	329	167	153	79	50	32	33
24	113	e120	e29	e150	e180	276	143	120	218	79	30	33
25	89	e120	e28	e200	e140	202	131	101	136	55	28	32
26	75	e110	e28	e310	e120	175	188	87	122	44	27	29
27	67	e120	e28	e190	e100	e130	183	77	85	36	25	28
28	60	e160	e27	e160	e94	e120	140	76	81	32	26	27
29	56	252	e26	e130	---	e110	120	70	66	29	111	26
30	51	176	e26	e110	---	112	106	66	65	26	115	35
31	49	---	e30	e96	---	125	---	59	---	28	59	---
TOTAL	2312	4367	1647	3905	3886	8085	8971	3676	2184	1476	1741	876
MEAN	74.6	146	53.1	126	139	261	299	119	72.8	47.6	56.2	29.2
MAX	447	509	120	400	250	1050	1360	257	218	188	329	41
MIN	22	57	26	38	70	38	106	59	47	25	23	24
CFSM	.81	1.58	.58	1.37	1.51	2.83	3.24	1.29	.79	.52	.61	.32
IN.	.93	1.76	.66	1.58	1.57	3.26	3.62	1.48	.88	.60	.70	.35

CAL YR 1989 TOTAL 39161 MEAN 107 MAX 1450 MIN 17 CFSM 1.16 IN. 15.80
WTR YR 1990 TOTAL 43126 MEAN 118 MAX 1360 MIN 22 CFSM 1.28 IN. 17.40

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 mi^2.

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.--24 years (water years 1967-90), 247 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft^3/s, Apr. 4, 1974, gage height, 7.33 ft, from rating curve extended above 1,600 ft^3/s; maximum gage height, 10.99 ft, Feb. 11, 1966 (ice jam); minimum discharge, 14 ft^3/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 ft^3/s, Aug. 23, 26, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,050 ft^3/s, Mar. 17, gage height, 5.73 ft; maximum gage height, 7.50 ft, Jan. 18 (ice jam); minimum discharge, 66 ft^3/s, May 14, gage height, 2.76 ft; minimum daily, 89 ft^3/s, Aug. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	216	518	e150	e280	e230	526	188	142	164	113	283
2	182	211	e410	e170	e270	239	442	151	143	154	96	271
3	201	215	e310	e160	e250	231	452	157	167	144	89	186
4	192	216	e260	e140	e250	240	1050	155	188	163	90	197
5	168	216	e180	e180	e250	e220	967	176	196	413	92	187
6	108	219	e130	e170	e250	e220	835	178	218	280	104	174
7	118	216	e130	e160	e250	e220	748	173	256	330	160	141
8	115	255	e140	e150	e270	e230	653	167	252	315	168	138
9	115	240	e160	e140	e380	e230	601	177	262	281	143	133
10	116	230	e170	e140	619	246	667	212	258	216	158	128
11	117	211	e160	e130	428	377	742	239	258	199	170	112
12	117	192	e140	e130	372	452	696	317	222	198	142	103
13	115	189	e120	e120	338	544	651	397	213	186	423	110
14	113	188	e120	e130	369	614	646	280	229	151	667	125
15	113	193	e120	e150	328	776	669	110	242	111	780	137
16	140	313	e130	e160	e300	943	558	277	248	102	579	149
17	134	303	e130	e180	e290	1470	414	319	227	103	219	140
18	133	254	e120	e500	e250	1190	376	425	226	101	152	130
19	130	243	e120	e440	e200	1020	350	391	230	99	183	131
20	206	280	e120	e400	e180	969	395	389	210	108	159	137
21	302	324	e120	e380	e200	949	472	494	210	105	159	133
22	297	377	e120	e360	e210	959	454	474	211	92	152	134
23	299	626	e120	e340	e250	1050	410	449	205	112	128	134
24	319	491	e110	e320	e230	937	271	408	220	125	127	132
25	348	429	e120	e370	e220	880	219	337	205	118	128	131
26	341	434	e120	e410	e210	685	223	279	190	111	127	152
27	342	420	e120	e360	e220	493	217	235	173	98	129	615
28	295	511	e110	e330	e230	485	210	169	171	97	146	515
29	261	470	e110	e310	---	476	206	178	167	98	278	441
30	221	512	e120	e300	---	570	202	184	166	99	276	436
31	210	---	e140	e290	---	592	---	147	---	107	275	---
TOTAL	6035	9194	4998	7670	7894	18737	15322	8232	6305	4980	6612	5935
MEAN	195	306	161	247	282	604	511	266	210	161	213	198
MAX	348	626	518	500	619	1470	1050	494	262	413	780	615
MIN	108	188	110	120	180	220	202	110	142	92	89	103

CAL YR 1989 TOTAL 88193 MEAN 242 MAX 1530 MIN 76
WTR YR 1990 TOTAL 101914 MEAN 279 MAX 1470 MIN 89

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 mi^2.

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 ft^3/s) from which the Clinton Correctional Facility at Dannemora (Saranac River basin) obtains its water supply (about 1 ft^3/s). Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years (water years 1928-68), 258 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,000 ft^3/s, Apr. 7, 1937, gage height, 9.74 ft, from rating curve extended above 3,200 ft^3/s; maximum gage height, 11.5 ft, Mar. 9, 1946, from floodmark (ice jam); minimum discharge, 0.8 ft^3/s (estimated), Sept. 18, 1932; minimum gage height, 1.31 ft, Aug. 31, 1966; minimum daily discharge, 10 ft^3/s, Sept. 18, 1932.

EXTREMES FOR CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 15	1815	ice jam	*9.32	Apr. 4	2400	*3,800	7.86
Mar. 18	0600	3,580	7.65				

Minimum discharge, 44 ft^3/s, Aug. 5, gage height, 1.73 ft; minimum daily, 45 ft^3/s, Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e270	420	235	166	169	63	141
2	---	---	---	---	---	e260	568	216	144	201	62	112
3	---	---	---	---	---	e280	858	193	164	175	54	95
4	---	---	---	---	---	e270	2960	179	338	141	48	86
5	---	---	---	---	---	e250	3060	213	279	952	45	79
6	---	---	---	---	---	e240	1470	520	209	826	51	75
7	---	---	---	---	---	e240	961	429	187	374	110	80
8	---	---	---	---	---	e240	759	331	162	233	193	91
9	---	---	---	---	---	e250	650	288	143	186	129	85
10	---	---	---	---	---	e310	702	274	138	167	92	73
11	---	---	---	---	---	e520	1290	387	210	139	86	89
12	---	---	---	---	---	e640	1130	422	479	119	84	88
13	---	---	---	---	---	e740	830	329	270	109	325	73
14	---	---	---	---	---	e1000	835	441	200	102	2110	64
15	---	---	---	---	---	e1300	875	398	303	94	892	62
16	---	---	---	---	---	e1800	947	312	563	93	423	63
17	---	---	---	---	---	e2700	759	302	413	86	262	59
18	---	---	---	---	---	3200	644	608	299	77	181	55
19	---	---	---	---	---	1750	508	521	283	70	228	51
20	---	---	---	---	---	1260	394	391	400	69	234	57
21	---	---	---	---	---	1270	455	834	301	85	160	69
22	---	---	---	---	---	1250	513	964	332	82	129	71
23	---	---	---	---	---	1480	438	620	320	103	101	72
24	---	---	---	---	---	1290	383	475	319	172	89	69
25	---	---	---	---	---	879	349	397	254	136	83	64
26	---	---	---	---	---	753	356	342	221	134	77	58
27	---	---	---	---	---	e520	361	287	177	114	76	55
28	---	---	---	---	---	e450	316	251	168	85	90	53
29	---	---	---	---	---	e400	280	216	159	71	263	51
30	---	---	---	---	---	397	253	208	164	63	421	67
31	---	---	---	---	---	339	---	192	---	59	213	---
TOTAL	---	---	---	---	---	26548	24324	11775	7765	5486	7374	2207
MEAN	---	---	---	---	---	856	811	380	259	177	238	73.6
MAX	---	---	---	---	---	3200	3060	964	563	952	2110	141
MIN	---	---	---	---	---	240	253	179	138	59	45	51

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 mi^2.

PERIOD OF RECORD.--March to September 1990.

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. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 650 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 17	2315	*766	*9.20	Apr. 5	1430	697	8.91

Minimum discharge, 3.0 ft^3/s, Sept. 15, gage height, 1.57 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e50	e96	46	33	34	11	24
2	---	---	---	---	---	e50	e130	42	29	60	12	20
3	---	---	---	---	---	e54	e250	38	27	43	10	15
4	---	---	---	---	---	e50	e560	35	37	45	9.0	13
5	---	---	---	---	---	e48	523	43	40	215	8.2	12
6	---	---	---	---	---	e45	450	93	34	280	9.0	11
7	---	---	---	---	---	e44	248	91	36	147	21	11
8	---	---	---	---	---	e44	184	71	35	83	54	12
9	---	---	---	---	---	45	157	62	27	60	49	12
10	---	---	---	---	---	45	148	58	24	49	36	10
11	---	---	---	---	---	89	250	68	25	38	32	11
12	---	---	---	---	---	124	280	71	37	30	29	12
13	---	---	---	---	---	219	202	63	34	24	46	11
14	---	---	---	---	---	291	171	84	29	29	204	21
15	---	---	---	---	---	383	158	82	146	9.7	233	3.8
16	---	---	---	---	---	484	146	e66	140	15	116	9.5
17	---	---	---	---	---	685	128	e64	76	14	70	10
18	---	---	---	---	---	605	112	e120	55	13	46	9.1
19	---	---	---	---	---	422	100	115	70	11	36	8.8
20	---	---	---	---	---	315	91	90	133	10	32	9.1
21	---	---	---	---	---	305	98	138	116	12	27	9.8
22	---	---	---	---	---	316	100	176	92	13	22	9.8
23	---	---	---	---	---	297	93	137	85	16	19	9.4
24	---	---	---	---	---	256	85	107	92	38	16	9.7
25	---	---	---	---	---	199	76	89	71	35	14	9.1
26	---	---	---	---	---	e160	78	74	61	28	12	8.7
27	---	---	---	---	---	e120	76	61	48	23	15	8.5
28	---	---	---	---	---	e90	66	51	39	19	30	8.2
29	---	---	---	---	---	e82	56	43	33	16	41	7.8
30	---	---	---	---	---	e78	50	41	31	13	48	13
31	---	---	---	---	---	e70	---	38	---	11	32	---
TOTAL	---	---	---	---	---	6065	5162	2357	1735	1433.7	1339.2	339.3
MEAN	---	---	---	---	---	196	172	76.0	57.8	46.2	43.2	11.3
MAX	---	---	---	---	---	685	560	176	146	280	233	24
MIN	---	---	---	---	---	44	50	35	24	9.7	8.2	3.8
CFSM	---	---	---	---	---	3.71	3.26	1.44	1.10	.88	.82	.21
IN.	---	---	---	---	---	4.27	3.64	1.66	1.22	1.01	.94	.24

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 mi^2.

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 7.64 ft^3/s from Saranac River and Mead and West Brooks, tributaries upstream from station, for municipal supply. About 1 ft^3/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.--74 years, 839 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s, Apr. 8, 1928, from computation of flow over dam and through waste gates and powerplant; minimum daily discharge, 3.6 ft^3/s, June 26, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,330 ft^3/s, Mar. 18, gage height, 8.75 ft; minimum, 88 ft^3/s, Sept. 8, gage height, 2.21 ft; minimum daily, 223 ft^3/s, Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1010	841	1050	e860	870	1180	1400	e1600	e1200	692	395	580
2	865	1050	1020	e840	875	1090	1520	e1500	e1200	732	406	544
3	722	788	1140	e840	e760	1050	1810	e1400	e1100	714	381	520
4	936	774	1010	661	e680	970	4610	e1300	e1200	725	363	456
5	914	976	960	1110	e760	889	4030	e1300	e1200	843	330	385
6	896	1000	1010	1020	e800	e680	3000	e1800	e1100	796	414	377
7	660	988	1030	897	817	e680	2610	e1600	e860	576	975	301
8	842	755	746	753	891	e700	2300	e1500	747	685	892	319
9	851	818	974	692	845	e660	2050	e1200	952	664	702	319
10	511	1230	959	610	1090	e700	2020	e1300	961	588	652	317
11	594	1190	876	683	1580	731	3120	e1600	737	542	665	318
12	587	1180	851	566	1430	937	2830	e1600	789	512	652	321
13	512	1010	851	505	1300	1600	2300	e1200	909	465	640	313
14	593	1090	e780	e560	1180	2560	2140	e2200	734	414	882	310
15	593	769	e780	e620	1190	3490	2060	e2000	741	439	812	347
16	724	922	e800	671	1040	4840	2000	e1700	944	460	647	370
17	894	1820	e840	745	879	5980	1880	e1700	1110	467	731	363
18	748	1530	e840	876	1120	6290	1810	e2400	1050	483	681	426
19	721	1410	e820	1450	1110	4530	1690	e2100	885	445	734	289
20	1170	1400	e840	1310	1060	3550	1610	e1900	840	417	637	297
21	1940	1680	e840	1250	1080	3010	e1600	e2400	634	500	554	340
22	1620	1380	e800	1160	949	2650	e1700	e2600	641	402	442	326
23	1510	1120	e740	1100	1250	2620	e1600	e2200	529	524	370	365
24	1420	1130	e720	909	e1400	2370	e1600	e2000	813	765	359	359
25	1340	1190	e740	700	e1300	1990	e1600	e1900	722	689	346	310
26	1230	1240	e760	819	e1300	1860	e1500	e1800	682	714	348	329
27	1180	1170	e700	994	e1200	1650	e1700	e1700	564	669	353	223
28	1130	1350	e620	1130	e1100	1590	e1900	e1500	502	585	299	294
29	1010	1210	e580	1140	---	1520	e1800	e1400	459	517	597	368
30	980	1050	e680	1050	---	1430	e1700	e1400	520	416	597	468
31	885	---	e800	960	---	1390	---	e1300	---	382	603	---
TOTAL	29588	34061	26157	27481	29856	65187	63490	53100	25325	17822	17459	10854
MEAN	954	1135	844	886	1066	2103	2116	1713	844	575	563	362
MAX	1940	1820	1140	1450	1580	6290	4610	2600	1200	843	975	580
MIN	511	755	580	505	680	660	1400	1200	459	382	299	223

CAL YR 1989 TOTAL 333234 MEAN 913 MAX 6030 MIN 72
WTR YR 1990 TOTAL 400380 MEAN 1097 MAX 6290 MIN 223

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 mi^2.

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 ft^3/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 ft^3/s, Sept. 17, 1967; minimum daily, 3.6 ft^3/s, Sept. 17, 1967.

EXTREMES FOR CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 17	--	a518	ice jam	Apr. 4	1130	*1,240	4.53
Mar. 17	1530	ice jam	b*6.50	Apr. 11	0915	509	3.26

a Measured.
b Ice jam.

Minimum discharge, 14 ft^3/s, July 19, 20; minimum daily, 15 ft^3/s, July 19, Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e76	87	57	44	38	36	23
2	---	---	---	---	---	e70	151	50	39	43	24	21
3	---	---	---	---	---	e64	217	45	41	35	19	20
4	---	---	---	---	---	e60	953	45	49	31	16	18
5	---	---	---	---	---	e54	419	80	44	75	15	18
6	---	---	---	---	---	e52	210	144	39	46	26	19
7	---	---	---	---	---	e50	149	100	39	32	117	21
8	---	---	---	---	---	e46	121	78	35	26	100	23
9	---	---	---	---	---	e48	108	72	35	30	51	19
10	---	---	---	---	---	e54	132	69	34	28	41	19
11	---	---	---	---	---	e74	413	108	45	23	69	18
12	---	---	---	---	---	e130	236	87	50	21	78	18
13	---	---	---	---	---	e180	154	97	39	21	72	16
14	---	---	---	---	---	e280	125	191	37	19	134	16
15	---	---	---	---	---	e400	114	114	36	19	66	20
16	---	---	---	---	---	e450	105	91	47	19	45	23
17	---	---	---	---	---	e500	98	103	56	17	37	19
18	---	---	---	---	---	367	87	186	61	16	30	18
19	---	---	---	---	---	205	80	123	124	15	45	16
20	---	---	---	---	---	193	80	96	143	16	33	20
21	---	---	---	---	---	e180	91	242	71	34	27	19
22	---	---	---	---	---	e170	91	186	81	22	25	20
23	---	---	---	---	---	188	83	121	78	62	22	23
24	---	---	---	---	---	149	75	98	75	97	19	19
25	---	---	---	---	---	117	72	85	49	46	20	18
26	---	---	---	---	---	103	79	73	38	36	20	17
27	---	---	---	---	---	e74	76	64	33	27	19	18
28	---	---	---	---	---	e68	68	54	30	22	21	18
29	---	---	---	---	---	e64	62	51	29	19	63	16
30	---	---	---	---	---	67	59	53	40	19	44	33
31	---	---	---	---	---	73	---	47	---	19	29	---
TOTAL	---	---	---	---	---	4606	4795	3010	1561	973	1363	586
MEAN	---	---	---	---	---	149	160	97.1	52.0	31.4	44.0	19.5
MAX	---	---	---	---	---	500	953	242	143	97	134	33
MIN	---	---	---	---	---	46	59	45	29	15	15	16
CFSM	---	---	---	---	---	2.40	2.58	1.57	.84	.51	.71	.32
IN.	---	---	---	---	---	2.77	2.88	1.81	.94	.58	.82	.35

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 mi^2.

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.--66 years, 314 ft^3/s, 21.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,100 ft^3/s, Sept. 22, 1938, gage height, 12.91 ft, from rating curve extended above 5,800 ft^3/s, on basis of velocity-area studies; maximum gage height, 13.96 ft, Feb. 23, 1990 (ice jam); minimum discharge observed, 20 ft^3/s, Aug. 11, 14, 28, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,700 ft^3/s, and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 21	0245	*6,350	7.51	Mar. 17	1930	4,040	6.11
Nov. 16	2115	4,330	6.31	Apr. 4	1030	4,780	6.60
Feb. 23	1230	ice jam	*13.96				

Minimum discharge, 63 ft^3/s, Sept. 14, gage height, 1.14 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	388	e180	e110	e280	e290	288	685	347	403	168	83
2	158	406	e160	e130	e240	e270	614	556	293	348	118	81
3	620	342	e160	e100	e210	e250	1030	432	278	276	99	77
4	395	304	e170	e84	e190	e230	3690	362	511	220	88	73
5	279	260	e170	e140	e180	e210	1850	557	448	211	83	72
6	235	265	e180	e170	e170	e200	985	800	360	171	169	74
7	246	309	e180	e160	e160	e180	686	784	312	149	626	78
8	230	352	e140	e150	e160	e180	547	760	261	133	573	86
9	209	738	e170	e150	e200	e190	461	742	263	126	320	78
10	182	1230	e170	e160	e270	e230	457	711	245	127	228	74
11	170	731	e160	e160	e540	e280	1520	2000	356	113	493	72
12	199	562	e150	e140	e640	e400	1010	1020	448	105	734	69
13	204	422	e140	e130	e330	e660	675	940	307	101	476	66
14	184	370	e140	e120	e250	e1500	535	1850	251	93	1390	69
15	166	367	e130	e120	e190	e3000	490	1030	217	91	672	79
16	207	1180	e120	e120	e170	2790	503	734	559	182	425	110
17	278	1900	e120	e230	e180	3190	547	945	689	172	299	85
18	487	921	e110	e350	e200	2200	567	1770	515	136	223	80
19	389	616	e110	e600	e210	1050	454	1030	602	112	223	76
20	1850	531	e100	e450	e200	730	456	738	567	101	174	86
21	3890	691	e98	e350	e190	607	822	2080	392	111	145	88
22	1420	438	e96	e300	e180	535	884	1460	382	98	128	87
23	831	e330	e94	e240	e250	712	951	951	392	321	121	109
24	615	e290	e92	e220	e900	524	921	719	537	744	110	123
25	498	e300	e90	e200	e700	e350	955	630	386	403	112	112
26	419	302	e86	e800	e500	e290	1610	532	299	250	107	99
27	364	e260	e84	e540	e390	e250	1540	442	237	175	103	88
28	322	294	e82	e450	e330	e240	1250	382	210	139	113	81
29	289	e270	e82	e400	---	e230	1020	350	190	116	111	77
30	261	e230	e80	e350	---	e230	830	515	550	103	103	91
31	240	---	e80	e320	---	e240	---	433	---	108	93	---
TOTAL	16008	15599	3924	7944	8410	22238	28148	26940	11404	5938	8827	2523
MEAN	516	520	127	256	300	717	938	869	380	192	285	84.1
MAX	3890	1900	180	800	900	3190	3690	2080	689	744	1390	123
MIN	158	230	80	84	160	180	288	350	190	91	83	66
CFSM	2.61	2.63	.64	1.29	1.52	3.62	4.74	4.39	1.92	.97	1.44	.42
IN.	3.01	2.93	.74	1.49	1.58	4.18	5.29	5.06	2.14	1.12	1.66	.47

CAL YR 1989 TOTAL 134254 MEAN 368 MAX 3890 MIN 45 CFSM 1.86 IN. 25.22
WTR YR 1990 TOTAL 157903 MEAN 433 MAX 3890 MIN 66 CFSM 2.18 IN. 29.67

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 mi^2.

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.--58 years (water years 1911-68), 662 ft^3/s, 20.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft^3/s, Sept. 22, 1938, gage height, 11.65 ft, from rating curve extended above 9,100 ft^3/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.--March to September 1990: Peak discharges greater than base discharge of 6,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 13	unknown	ice jam	a*	Apr. 4	1100	*7,660	6.88

a At least 14.5 ft, 200 ft upstream from gage.

Minimum discharge, 168 ft^3/s, Sept. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e600	667	1520	756	857	404	222
2	---	---	---	---	---	e540	1140	1210	654	748	320	211
3	---	---	---	---	---	e490	1880	950	635	609	255	202
4	---	---	---	---	---	e460	6350	803	1130	481	219	191
5	---	---	---	---	---	e420	4070	1100	1050	471	201	186
6	---	---	---	---	---	e400	2230	1670	836	397	312	189
7	---	---	---	---	---	e370	1590	1570	722	342	1300	197
8	---	---	---	---	---	e370	1270	1590	619	306	1400	208
9	---	---	---	---	---	e400	1070	1550	606	288	721	200
10	---	---	---	---	---	e460	1050	1490	578	287	501	192
11	---	---	---	---	---	e540	3020	3350	726	262	802	189
12	---	---	---	---	---	e840	2350	2060	978	243	1170	181
13	---	---	---	---	---	e1500	1570	1780	704	234	793	173
14	---	---	---	---	---	e3000	1240	3360	580	222	2130	174
15	---	---	---	---	---	e5800	1120	2100	509	214	1190	193
16	---	---	---	---	---	e5400	1120	1570	843	298	778	262
17	---	---	---	---	---	e6000	1150	1760	1120	318	576	228
18	---	---	---	---	---	e4500	1220	3040	867	264	459	205
19	---	---	---	---	---	e3400	1010	2070	990	226	463	195
20	---	---	---	---	---	e2000	978	1590	918	215	388	212
21	---	---	---	---	---	1530	1620	3640	704	254	327	216
22	---	---	---	---	---	1370	1840	2990	682	233	291	219
23	---	---	---	---	---	1620	1870	2030	677	525	269	244
24	---	---	---	---	---	1370	1810	1580	912	1360	253	281
25	---	---	---	---	---	1050	1840	1340	713	738	256	270
26	---	---	---	---	---	e700	3010	1190	561	486	249	240
27	---	---	---	---	---	e640	3000	1000	463	357	241	216
28	---	---	---	---	---	e580	2500	874	413	291	263	204
29	---	---	---	---	---	e580	2130	796	380	251	290	194
30	---	---	---	---	---	e580	1810	1070	976	229	281	235
31	---	---	---	---	---	614	---	944	---	248	249	---
TOTAL	---	---	---	---	---	48124	57525	53587	22302	12254	17351	6329
MEAN	---	---	---	---	---	1552	1917	1729	743	395	560	211
MAX	---	---	---	---	---	6000	6350	3640	1130	1360	2130	281
MIN	---	---	---	---	---	370	667	796	380	214	201	173
CFSM	---	---	---	---	---	3.47	4.28	3.86	1.66	.88	1.25	.47
IN.	---	---	---	---	---	4.00	4.78	4.45	1.85	1.02	1.44	.53

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 mi^2.

PERIOD OF RECORD.--March to September 1990.

GAGE.--Water-stage recorder. Elevation of gage is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good 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 CURRENT YEAR.--Maximum discharge during period March to September, 149 ft^3/s, Apr. 4, gage height, 6.21 ft; minimum, 0.54 ft^3/s, Sept. 27, gage height, 4.52 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e22	30	21	14	9.8	5.0	4.0
2	---	---	---	---	---	e21	34	12	13	9.4	4.4	3.9
3	---	---	---	---	---	e20	47	5.8	14	8.5	4.0	3.9
4	---	---	---	---	---	e19	115	6.4	15	7.8	3.7	3.1
5	---	---	---	---	---	e18	77	11	14	9.7	4.3	2.9
6	---	---	---	---	---	e17	61	10	13	8.0	4.5	4.9
7	---	---	---	---	---	e16	49	9.4	12	7.0	16	4.0
8	---	---	---	---	---	e16	44	11	11	6.3	15	3.8
9	---	---	---	---	---	e16	40	16	11	5.9	9.1	3.4
10	---	---	---	---	---	e19	38	18	9.6	5.4	5.2	3.5
11	---	---	---	---	---	e22	46	21	11	4.0	14	3.5
12	---	---	---	---	---	e30	42	12	11	3.6	17	2.6
13	---	---	---	---	---	e40	38	16	10	3.5	27	2.4
14	---	---	---	---	---	e47	35	44	10	3.5	20	2.8
15	---	---	---	---	---	e60	30	35	9.2	3.9	13	3.3
16	---	---	---	---	---	e70	25	28	8.9	13	13	3.3
17	---	---	---	---	---	e76	24	28	9.2	9.4	13	2.9
18	---	---	---	---	---	70	24	29	9.6	3.4	10	2.5
19	---	---	---	---	---	55	24	23	9.8	3.4	6.6	3.7
20	---	---	---	---	---	49	22	19	9.8	3.4	4.0	2.6
21	---	---	---	---	---	61	23	29	9.6	4.0	4.3	3.1
22	---	---	---	---	---	57	22	30	11	4.1	4.6	2.6
23	---	---	---	---	---	62	28	28	13	15	4.8	2.7
24	---	---	---	---	---	55	29	26	15	19	4.9	3.1
25	---	---	---	---	---	47	26	24	13	15	5.2	2.1
26	---	---	---	---	---	27	24	23	12	12	4.9	2.4
27	---	---	---	---	---	24	21	21	11	6.6	10	3.6
28	---	---	---	---	---	e24	14	14	9.8	3.7	14	1.9
29	---	---	---	---	---	e25	9.1	12	9.6	4.0	16	2.0
30	---	---	---	---	---	e26	19	15	11	3.9	11	3.2
31	---	---	---	---	---	e27	---	14	---	4.1	4.3	---
TOTAL	---	---	---	---	---	1138	1060.1	611.6	340.1	220.3	292.8	93.7
MEAN	---	---	---	---	---	36.7	35.3	19.7	11.3	7.11	9.45	3.12
MAX	---	---	---	---	---	76	115	44	15	19	27	4.9
MIN	---	---	---	---	---	16	9.1	5.8	8.9	3.4	3.7	1.9

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 mi^2.

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.--45 years (water years 1923-68), 289 ft^3/s, 14.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft^3/s, Oct. 1, 1924, gage height, 10.85 ft, from rating curve extended above 4,600 ft^3/s; minimum discharge, 8.8 ft^3/s, Sept. 20, 1957, gage height, 1.84 ft.

EXTREMES FOR CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 2,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 14	0745	ice jam	*8.26	Apr. 4	1815	*5,300	7.51
Mar. 17	--	a2,900	ice jam				

a Estimated.

Minimum discharge, 84 ft^3/s, Sept. 28, gage height, 2.43 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e350	476	440	401	404	195	144
2	---	---	---	---	---	e340	760	398	339	327	189	139
3	---	---	---	---	---	e360	1110	350	321	274	133	128
4	---	---	---	---	---	e340	4590	326	414	235	111	129
5	---	---	---	---	---	e330	3090	425	398	216	105	141
6	---	---	---	---	---	e320	1430	919	329	195	117	156
7	---	---	---	---	---	e310	1030	767	295	172	534	157
8	---	---	---	---	---	e300	834	795	267	161	780	176
9	---	---	---	---	---	e350	709	662	248	146	412	160
10	---	---	---	---	---	e500	668	614	257	144	292	149
11	---	---	---	---	---	e660	1570	1640	253	135	757	145
12	---	---	---	---	---	e880	1430	1160	327	114	1280	137
13	---	---	---	---	---	e1000	900	886	277	116	854	133
14	---	---	---	---	---	e1300	735	1790	239	113	1980	126
15	---	---	---	---	---	e1700	664	1100	224	110	951	106
16	---	---	---	---	---	e2200	649	815	215	333	649	179
17	---	---	---	---	---	e2400	626	919	671	263	483	136
18	---	---	---	---	---	2160	635	2000	546	162	378	118
19	---	---	---	---	---	1180	551	1220	633	134	353	103
20	---	---	---	---	---	1050	513	855	657	123	290	122
21	---	---	---	---	---	1420	589	1830	512	133	246	136
22	---	---	---	---	---	1090	721	1960	568	126	216	120
23	---	---	---	---	---	1010	654	1150	520	394	200	123
24	---	---	---	---	---	900	613	884	653	944	190	121
25	---	---	---	---	---	680	550	733	435	442	181	117
26	---	---	---	---	---	609	718	637	332	339	178	92
27	---	---	---	---	---	e440	798	547	278	260	172	98
28	---	---	---	---	---	e420	655	477	245	206	185	85
29	---	---	---	---	---	e400	550	428	229	163	196	90
30	---	---	---	---	---	410	483	536	497	146	170	102
31	---	---	---	---	---	419	---	498	---	140	151	---
TOTAL	---	---	---	---	---	25828	29301	27761	11580	7170	12928	3868
MEAN	---	---	---	---	---	833	977	896	386	231	417	129
MAX	---	---	---	---	---	2400	4590	2000	671	944	1980	179
MIN	---	---	---	---	---	300	476	326	215	110	105	85
CFSM	---	---	---	---	---	3.03	3.55	3.26	1.40	.84	1.52	.47
IN.	---	---	---	---	---	3.49	3.96	3.76	1.57	.97	1.75	.52

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 mi^2.

PERIOD OF RECORD.--March to September 1990.

GAGE.--Water-stage recorder. Elevation of gage is 246 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 CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	0115	423	5.86	Aug. 13	1945	*444	*5.90

Minimum discharge recorded, 1.2 ft^3/s, July 20, gage height, 3.84 ft, but may have been less during period of no gage-height record June 27 to July 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e10	15	5.5	5.6	e4.5	3.5	2.7
2	---	---	---	---	---	e9.6	25	5.0	5.2	e5.0	2.4	2.7
3	---	---	---	---	---	e8.8	88	4.6	6.5	e4.3	2.0	2.5
4	---	---	---	---	---	e8.2	216	4.4	7.4	e3.5	1.8	2.2
5	---	---	---	---	---	e7.6	29	22	5.3	e3.0	1.7	2.3
6	---	---	---	---	---	e6.8	19	17	4.8	e2.6	3.2	2.4
7	---	---	---	---	---	e6.2	14	19	4.4	e2.2	33	2.7
8	---	---	---	---	---	e5.8	11	13	4.0	e1.9	12	2.8
9	---	---	---	---	---	e6.0	10	11	4.8	e1.7	5.7	2.3
10	---	---	---	---	---	e6.4	10	12	4.0	e1.4	5.1	2.1
11	---	---	---	---	---	e8.2	52	29	5.0	e1.4	43	2.1
12	---	---	---	---	---	e13	20	12	4.3	e1.3	23	2.6
13	---	---	---	---	---	e20	13	44	3.5	e1.3	81	2.2
14	---	---	---	---	---	e40	11	34	3.9	e1.3	48	2.1
15	---	---	---	---	---	e70	10	16	3.4	e1.3	16	3.5
16	---	---	---	---	---	e84	9.1	13	4.4	e2.2	10	2.4
17	---	---	---	---	---	e50	8.9	44	4.8	e3.0	8.0	2.0
18	---	---	---	---	---	22	8.0	31	5.4	e2.2	6.7	1.9
19	---	---	---	---	---	15	7.1	17	5.4	1.9	7.6	1.9
20	---	---	---	---	---	38	7.0	14	6.3	1.9	5.4	2.5
21	---	---	---	---	---	58	8.7	58	4.9	2.2	4.8	2.0
22	---	---	---	---	---	25	7.8	26	4.4	1.7	4.3	2.2
23	---	---	---	---	---	25	6.9	17	5.4	40	3.9	2.3
24	---	---	---	---	---	e15	6.4	13	4.7	13	4.0	2.0
25	---	---	---	---	---	e13	6.5	11	3.7	5.8	3.8	1.8
26	---	---	---	---	---	e13	10	9.0	3.2	4.1	3.6	1.8
27	---	---	---	---	---	e11	7.7	7.9	e3.0	3.3	5.7	1.8
28	---	---	---	---	---	e9.2	6.7	6.9	e2.7	2.7	5.3	1.7
29	---	---	---	---	---	e8.4	5.9	6.9	e3.0	2.5	3.6	1.8
30	---	---	---	---	---	e8.0	5.6	9.6	e4.7	2.3	3.2	4.0
31	---	---	---	---	---	e11	---	6.6	---	2.8	2.9	---
TOTAL	---	---	---	---	---	632.2	655.3	539.4	138.1	128.3	364.2	69.3
MEAN	---	---	---	---	---	20.4	21.8	17.4	4.60	4.14	11.7	2.31
MAX	---	---	---	---	---	84	216	58	7.4	40	81	4.0
MIN	---	---	---	---	---	5.8	5.6	4.4	2.7	1.3	1.7	1.7
CFSM	---	---	---	---	---	3.15	3.38	2.69	.71	.64	1.82	.36
IN.	---	---	---	---	---	3.63	3.77	3.10	.79	.74	2.09	.40

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 mi^2.

PERIOD OF RECORD.--March to September 1990.

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 good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	0600	*850	*3.95	Apr. 11	0530	515	3.24

Minimum discharge, 5.5 ft^3/s, July 19, 20, Sept. 28, gage height, 0.84 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e40	57	41	38	21	18	10
2	---	---	---	---	---	e37	85	35	33	21	10	10
3	---	---	---	---	---	e34	184	31	39	17	8.1	9.3
4	---	---	---	---	---	e30	662	26	47	15	6.7	8.5
5	---	---	---	---	---	e28	270	75	33	15	6.2	8.5
6	---	---	---	---	---	e25	164	77	28	12	17	9.2
7	---	---	---	---	---	e23	125	73	27	11	96	9.5
8	---	---	---	---	---	e22	99	67	23	11	53	11
9	---	---	---	---	---	e23	84	65	27	10	30	8.7
10	---	---	---	---	---	e28	71	66	27	9.8	25	8.9
11	---	---	---	---	---	e38	319	116	30	8.5	133	8.7
12	---	---	---	---	---	e56	163	85	28	8.5	78	11
13	---	---	---	---	---	e95	107	150	22	8.4	95	10
14	---	---	---	---	---	e180	87	204	22	7.7	139	12
15	---	---	---	---	---	e320	80	128	21	7.6	74	25
16	---	---	---	---	---	e340	72	95	33	9.5	53	16
17	---	---	---	---	---	e330	68	183	32	7.7	40	12
18	---	---	---	---	---	241	60	245	32	6.9	30	10
19	---	---	---	---	---	149	54	147	28	6.0	24	8.8
20	---	---	---	---	---	142	52	109	28	5.9	20	10
21	---	---	---	---	---	134	65	193	24	7.4	17	9.7
22	---	---	---	---	---	119	59	148	24	16	16	10
23	---	---	---	---	---	136	53	112	33	97	15	14
24	---	---	---	---	---	102	49	89	28	58	15	9.4
25	---	---	---	---	---	81	52	77	22	28	18	8.3
26	---	---	---	---	---	69	64	64	19	21	16	7.3
27	---	---	---	---	---	55	55	53	17	15	14	6.5
28	---	---	---	---	---	e45	49	44	16	12	13	6.2
29	---	---	---	---	---	40	43	41	19	10	12	6.2
30	---	---	---	---	---	38	43	60	29	9.0	13	12
31	---	---	---	---	---	45	---	45	---	11	11	---
TOTAL	---	---	---	---	---	3045	3395	2944	829	503.9	1116.0	306.7
MEAN	---	---	---	---	---	98.2	113	95.0	27.6	16.3	36.0	10.2
MAX	---	---	---	---	---	340	662	245	47	97	139	25
MIN	---	---	---	---	---	22	43	26	16	5.9	6.2	6.2
CFSM	---	---	---	---	---	3.64	4.19	3.52	1.02	.60	1.33	.38
IN.	---	---	---	---	---	4.20	4.68	4.06	1.14	.69	1.54	.42

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 mi^2.

PERIOD OF RECORD.--March to September 1990.

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 fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	1445	*1,730	a*7.01	No other peak greater than base discharge.			

a Recorded; outside gage height was 7.64 ft, from crest-stage gage.

Minimum discharge, 6.5 ft^3/s, July 19, 20, gage height, 4.14 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e88	121	77	81	18	13	17
2	---	---	---	---	---	e80	152	68	66	19	11	14
3	---	---	---	---	---	e70	303	61	62	18	10	12
4	---	---	---	---	---	e64	1470	55	75	16	9.6	11
5	---	---	---	---	---	e58	872	109	62	14	8.9	11
6	---	---	---	---	---	e52	505	154	53	12	24	10
7	---	---	---	---	---	e49	314	162	50	11	119	11
8	---	---	---	---	---	e47	226	159	44	10	124	11
9	---	---	---	---	---	e47	182	153	44	9.7	81	10
10	---	---	---	---	---	e49	169	144	39	9.5	56	11
11	---	---	---	---	---	e74	664	197	38	8.5	185	11
12	---	---	---	---	---	e110	546	177	37	8.1	175	11
13	---	---	---	---	---	223	309	281	32	8.0	137	10
14	---	---	---	---	---	424	227	597	29	7.4	221	9.6
15	---	---	---	---	---	623	190	378	27	7.1	187	16
16	---	---	---	---	---	673	166	254	31	9.6	127	15
17	---	---	---	---	---	659	152	343	35	8.3	94	13
18	---	---	---	---	---	577	139	604	33	7.5	71	12
19	---	---	---	---	---	351	125	400	30	7.1	53	11
20	---	---	---	---	---	279	114	268	31	9.1	42	11
21	---	---	---	---	---	279	133	378	31	11	33	11
22	---	---	---	---	---	251	139	332	29	9.5	28	9.8
23	---	---	---	---	---	261	123	243	34	78	25	10
24	---	---	---	---	---	236	109	192	33	105	23	9.8
25	---	---	---	---	---	184	110	162	28	66	25	8.7
26	---	---	---	---	---	156	127	140	24	41	25	8.4
27	---	---	---	---	---	128	120	120	21	27	23	8.2
28	---	---	---	---	---	115	108	103	19	20	21	8.5
29	---	---	---	---	---	103	97	94	17	16	18	8.7
30	---	---	---	---	---	98	87	116	19	13	18	14
31	---	---	---	---	---	106	---	99	---	12	18	---
TOTAL	---	---	---	---	---	6514	8099	6620	1154	616.4	2005.5	334.7
MEAN	---	---	---	---	---	210	270	214	38.5	19.9	64.7	11.2
MAX	---	---	---	---	---	673	1470	604	81	105	221	17
MIN	---	---	---	---	---	47	87	55	17	7.1	8.9	8.2
CFSM	---	---	---	---	---	4.07	5.23	4.14	.75	.39	1.25	.22
IN.	---	---	---	---	---	4.70	5.84	4.77	.83	.44	1.45	.24

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 mi^2 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 mi^2.

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, 4.73 ft, Apr. 5; minimum, 3.03 ft, Oct. 17.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.37	3.84	3.55	3.36	3.65	3.67	3.97	3.88	3.91	3.62	---	3.55
2	3.35	3.78	3.54	3.36	3.63	3.65	3.96	3.85	3.86	3.59	---	3.52
3	3.38	3.77	3.58	3.36	3.63	3.61	4.00	3.81	3.87	3.62	---	3.44
4	3.34	3.78	3.58	3.36	3.63	3.59	4.46	3.77	3.86	3.60	---	3.50
5	3.32	3.80	3.51	3.33	3.65	3.56	4.65	3.76	3.81	3.53	---	3.46
6	3.31	3.84	3.50	3.34	3.63	3.53	4.62	3.79	3.78	3.49	---	3.42
7	3.31	3.76	3.48	3.34	3.61	3.51	4.57	3.82	3.76	3.48	---	3.40
8	3.28	3.75	3.44	3.33	3.59	3.49	4.54	3.80	3.73	3.52	---	3.39
9	3.26	3.83	3.43	3.33	3.58	3.46	4.49	3.82	3.74	3.52	---	3.42
10	3.25	3.90	3.46	3.31	3.59	3.44	4.44	3.84	3.76	3.48	3.98	3.42
11	3.25	3.94	3.42	3.31	3.63	3.41	4.54	3.94	3.70	3.46	4.07	3.36
12	3.28	3.88	3.41	3.32	3.61	3.45	4.62	3.90	3.73	3.45	4.17	3.37
13	3.27	3.85	3.39	3.32	3.62	3.50	4.57	3.91	3.73	3.43	4.18	3.34
14	3.25	3.83	3.39	3.29	3.58	3.58	4.53	4.04	3.72	3.46	4.25	3.35
15	3.26	3.80	3.37	3.30	3.60	3.70	4.48	4.07	3.72	3.47	4.26	3.37
16	3.28	3.84	3.41	3.28	3.68	3.80	4.43	4.03	3.72	3.54	4.20	3.32
17	3.17	3.82	3.43	3.29	3.69	3.92	4.41	4.08	3.74	3.53	4.14	3.30
18	3.28	3.77	3.40	3.31	3.68	4.02	4.34	4.22	3.78	3.51	4.07	3.29
19	3.26	3.73	3.39	3.30	3.68	4.03	4.31	4.21	3.73	3.50	3.90	3.28
20	3.39	3.72	3.39	3.31	3.66	4.08	4.27	4.16	3.69	3.50	3.90	3.27
21	3.68	3.71	3.37	3.32	3.65	4.23	4.22	4.22	3.71	3.50	3.86	3.25
22	3.73	3.67	3.34	3.36	3.63	4.25	4.20	4.24	3.74	3.47	3.82	3.26
23	3.74	3.62	3.33	3.36	3.65	4.27	4.13	4.20	3.76	3.58	3.79	3.27
24	3.75	3.67	3.34	3.37	3.69	4.25	4.11	4.20	3.79	3.67	3.76	3.25
25	3.73	3.69	3.34	3.37	3.70	4.22	4.09	4.17	3.79	3.65	3.73	3.23
26	3.74	3.69	3.34	3.50	3.70	4.18	4.06	4.12	3.78	---	3.71	3.21
27	3.75	3.66	3.33	3.56	3.70	4.13	4.04	4.08	3.75	---	3.70	3.21
28	3.74	3.70	3.31	3.56	3.68	4.09	3.98	4.03	3.69	---	3.70	3.21
29	3.77	3.63	3.28	3.56	---	4.01	3.92	3.92	3.68	---	3.66	3.19
30	3.78	3.61	3.28	3.67	---	4.00	3.88	3.92	3.64	---	3.59	3.27
31	3.76	---	3.30	3.66	---	3.99	---	3.95	---	---	3.56	---
MEAN	3.45	3.76	3.41	3.38	3.64	3.83	4.29	3.99	3.76	---	---	3.34
MAX	3.78	3.94	3.58	3.67	3.70	4.27	4.65	4.24	3.91	---	---	3.55
MIN	3.17	3.61	3.28	3.28	3.58	3.41	3.88	3.76	3.64	---	---	3.19

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 mi^2, revised.

PERIOD OF RECORD.--October 1965 to September 1968, October 1971 to current year. Annual maximum, water years 1969-71.

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.--22 years (water years 1966-68, 1972-90), 36.5 ft^3/s, 22.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft^3/s, Feb. 11, 1981, gage height, 6.35 ft, from rating curve extended above 590 ft^3/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 ft^3/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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	2200	613	3.99	May 17	2215	438	3.41
Mar. 13	2000	441	3.42	July 23	1700	*1,320	*5.53
Apr. 4	0630	953	4.80	Aug. 11	2315	890	4.67
Apr. 11	0615	482	3.55	Aug. 13	2045	475	3.60
May 13	2215	435	3.40				

Minimum discharge, 1.8 ft^3/s, July 19, 20, gage height, 0.74 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	41	e28	24	e35	100	63	32	25	7.2	11	8.3
2	6.7	34	e26	16	e32	70	87	28	22	6.5	7.6	7.8
3	9.1	32	e25	12	e30	48	258	25	21	6.0	6.4	6.7
4	7.0	32	e24	11	e28	38	587	24	24	5.2	5.2	5.9
5	6.1	28	e23	11	e27	35	236	50	20	4.7	4.7	5.3
6	5.9	29	e23	10	e26	33	141	59	18	4.0	44	5.2
7	6.4	29	e22	10	e25	33	105	61	17	3.5	166	9.1
8	5.6	38	e21	9.8	e25	32	85	50	15	3.2	93	8.4
9	5.5	127	e21	9.1	31	30	69	46	17	3.4	46	6.3
10	5.2	132	e20	9.1	98	31	68	58	15	3.2	34	9.5
11	6.6	79	e19	9.6	95	55	295	140	14	2.8	212	8.0
12	7.7	64	e18	9.6	65	132	147	83	12	2.6	327	6.8
13	7.0	50	e18	e8.0	56	e250	99	176	11	2.5	189	5.9
14	6.8	45	e18	e7.4	43	334	80	235	11	2.2	286	5.2
15	8.0	41	e17	e7.0	36	358	73	120	9.5	2.3	114	14
16	7.7	41	e17	e7.0	49	318	63	94	9.3	2.7	71	11
17	13	43	e16	7.9	59	318	59	209	8.8	2.3	52	7.9
18	45	37	e16	19	e60	218	50	252	7.8	2.2	39	6.3
19	34	34	e15	31	e45	135	45	133	7.4	2.0	30	6.0
20	162	36	e14	27	e43	157	44	106	8.1	2.5	24	7.7
21	252	55	e13	18	e45	186	62	244	7.8	3.7	20	6.1
22	97	39	e13	17	e60	147	55	148	7.5	2.5	18	7.3
23	63	34	e13	15	e160	167	46	99	13	276	15	8.4
24	47	30	e12	15	144	128	41	74	21	145	16	6.3
25	40	28	e12	16	92	97	41	61	13	56	19	5.3
26	34	28	e12	212	e110	80	53	51	9.8	32	16	4.1
27	30	25	e11	128	166	68	49	42	8.1	20	18	4.1
28	27	35	e10	68	131	60	42	36	7.1	15	17	3.9
29	25	e31	e10	e50	---	50	36	33	6.4	12	14	4.0
30	22	e30	e10	e45	---	48	34	39	8.1	9.3	11	11
31	21	---	e11	e40	---	56	---	30	---	10	9.7	---
TOTAL	1019.5	1327	528	879.5	1816	3812	3113	2838	394.7	652.5	1935.6	211.8
MEAN	32.9	44.2	17.0	28.4	64.9	123	104	91.5	13.2	21.0	62.4	7.06
MAX	252	132	28	212	166	358	587	252	25	276	327	14
MIN	5.2	25	10	7.0	25	30	34	24	6.4	2.0	4.7	3.9
CFSM	1.49	2.01	.77	1.29	2.95	5.59	4.72	4.16	.60	.96	2.84	.32
IN.	1.72	2.24	.89	1.49	3.07	6.45	5.26	4.80	.67	1.10	3.27	.36

CAL YR 1989 TOTAL 11115.2 MEAN 30.5 MAX 418 MIN 1.4 CFSM 1.38 IN. 18.79
WTR YR 1990 TOTAL 18527.6 MEAN 50.8 MAX 587 MIN 2.0 CFSM 2.31 IN. 31.33

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 mi^2.

PERIOD OF RECORD.--March to September 1990.

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 good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	0645	*424	*3.60	May 13	2030	220	2.98
Apr. 11	0500	201	2.90				

Minimum discharge, 0.25 ft^3/s, Aug. 5, 6, gage height, 0.25 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	19	29	13	14	e4.7	.61	.98
2	---	---	---	---	---	19	34	11	12	e4.4	.44	.91
3	---	---	---	---	---	21	101	10	12	e4.0	.35	.88
4	---	---	---	---	---	19	286	9.5	17	3.5	.32	.70
5	---	---	---	---	---	14	95	22	13	2.8	.29	.75
6	---	---	---	---	---	12	63	33	11	2.4	3.0	.96
7	---	---	---	---	---	11	48	42	10	2.0	37	1.0
8	---	---	---	---	---	11	40	27	8.7	1.6	17	1.3
9	---	---	---	---	---	13	34	26	8.7	1.3	5.7	1.4
10	---	---	---	---	---	24	35	32	8.8	1.3	2.9	1.5
11	---	---	---	---	---	49	132	72	8.1	1.2	22	1.8
12	---	---	---	---	---	53	63	36	8.1	.90	30	1.2
13	---	---	---	---	---	77	44	94	6.4	.81	19	.98
14	---	---	---	---	---	87	37	111	5.9	.80	47	.91
15	---	---	---	---	---	99	33	58	5.5	.66	21	1.6
16	---	---	---	---	---	96	29	42	5.4	.83	13	2.8
17	---	---	---	---	---	97	26	77	4.7	.98	7.7	3.3
18	---	---	---	---	---	74	25	83	4.5	.87	6.0	2.0
19	---	---	---	---	---	48	23	48	4.8	.64	5.1	.88
20	---	---	---	---	---	77	21	40	4.7	.53	3.5	1.1
21	---	---	---	---	---	101	32	91	5.2	1.0	2.7	.87
22	---	---	---	---	---	75	26	56	5.3	.92	2.4	.91
23	---	---	---	---	---	76	21	42	7.8	5.0	2.3	1.0
24	---	---	---	---	---	61	19	32	21	8.0	e1.9	.88
25	---	---	---	---	---	45	19	27	8.8	3.4	e2.8	.81
26	---	---	---	---	---	37	27	25	5.6	2.3	e2.5	.72
27	---	---	---	---	---	30	22	22	4.2	1.3	e2.3	.68
28	---	---	---	---	---	26	19	18	3.3	.78	e2.1	.64
29	---	---	---	---	---	24	17	17	2.8	.87	e1.9	.56
30	---	---	---	---	---	22	13	24	e5.4	.65	1.6	1.5
31	---	---	---	---	---	27	---	17	---	.40	1.2	---
TOTAL	---	---	---	---	---	1444	1413	1257.5	242.7	60.84	265.61	35.52
MEAN	---	---	---	---	---	46.6	47.1	40.6	8.09	1.96	8.57	1.18
MAX	---	---	---	---	---	101	286	111	21	8.0	47	3.3
MIN	---	---	---	---	---	11	13	9.5	2.8	.40	.29	.56
CFSM	---	---	---	---	---	4.52	4.57	3.94	.79	.19	.83	.11
IN.	---	---	---	---	---	5.22	5.10	4.54	.88	.22	.96	.13

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 mi^2.

PERIOD OF RECORD.--March to September 1990.

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 CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	0530	*423	*6.17	No other peak greater than base dishcarge.			

Minimum discharge, 0.93 ft^3/s, July 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e16	31	16	15	6.0	4.6	4.7
2	---	---	---	---	---	e15	42	14	13	5.1	3.1	4.3
3	---	---	---	---	---	e14	125	12	14	4.3	2.3	5.2
4	---	---	---	---	---	e13	279	11	21	3.5	1.9	4.1
5	---	---	---	---	---	e12	97	26	14	3.0	1.6	3.7
6	---	---	---	---	---	e11	60	29	12	2.5	46	3.4
7	---	---	---	---	---	e11	48	25	12	2.0	119	8.6
8	---	---	---	---	---	e10	41	22	9.4	1.7	53	8.0
9	---	---	---	---	---	e10	36	20	9.6	2.1	30	5.5
10	---	---	---	---	---	e10	37	32	9.3	1.7	21	6.8
11	---	---	---	---	---	e10	109	81	10	1.3	69	5.3
12	---	---	---	---	---	33	65	49	8.4	1.3	86	4.5
13	---	---	---	---	---	73	48	91	7.0	1.3	64	3.9
14	---	---	---	---	---	121	40	115	6.4	1.1	89	3.5
15	---	---	---	---	---	151	37	59	6.2	1.1	49	5.2
16	---	---	---	---	---	140	33	48	6.4	2.6	34	4.4
17	---	---	---	---	---	136	31	111	6.4	1.8	27	3.5
18	---	---	---	---	---	98	28	112	6.4	1.4	23	2.9
19	---	---	---	---	---	62	24	62	8.1	1.1	20	2.5
20	---	---	---	---	---	69	23	52	11	2.8	16	2.9
21	---	---	---	---	---	64	30	115	11	3.7	12	2.5
22	---	---	---	---	---	59	27	71	16	2.5	11	2.7
23	---	---	---	---	---	80	24	51	17	30	9.1	3.2
24	---	---	---	---	---	65	22	40	15	29	11	2.6
25	---	---	---	---	---	49	24	33	11	14	13	2.3
26	---	---	---	---	---	41	28	29	7.8	8.7	11	2.1
27	---	---	---	---	---	34	25	26	7.3	6.3	10	2.0
28	---	---	---	---	---	30	21	22	5.8	5.0	9.6	1.9
29	---	---	---	---	---	26	19	20	5.9	4.1	7.8	2.2
30	---	---	---	---	---	25	17	24	7.1	3.4	6.2	8.7
31	---	---	---	---	---	28	---	18	---	4.5	5.4	---
TOTAL	---	---	---	---	---	1516	1471	1436	309.5	158.9	865.6	123.1
MEAN	---	---	---	---	---	48.9	49.0	46.3	10.3	5.13	27.9	4.10
MAX	---	---	---	---	---	151	279	115	21	30	119	8.7
MIN	---	---	---	---	---	10	17	11	5.8	1.1	1.6	1.9
CFSM	---	---	---	---	---	4.22	4.23	3.99	.89	.44	2.41	.35
IN.	---	---	---	---	---	4.86	4.72	4.61	.99	.51	2.78	.39

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, and period of no gage-height record Jan. 17 to Feb. 23, July 27 to Aug. 9, which are poor. 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.--62 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, 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 (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
a Jan. 26	--	(ice jam)	b*17.02	May 14	0700	*3,830	13.66

a about b From peak stage indicator

Minimum daily discharge, 6.4 ft³/s, Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	411	199	e56	e270	369	364	278	182	94	e43	54
2	64	413	e130	e110	e310	355	434	250	184	86	e23	53
3	74	363	e160	e100	e270	313	645	172	141	77	e96	35
4	73	438	e150	e96	e250	302	1970	169	179	75	e22	50
5	42	382	e110	e105	e230	236	1360	184	138	62	e21	55
6	75	389	e160	e140	e220	229	959	228	154	70	e200	27
7	34	434	e160	e110	e230	201	816	228	147	53	e1100	58
8	54	405	e110	e105	e230	183	676	240	128	38	e1000	64
9	82	471	e115	e100	e300	183	463	236	168	74	e450	67
10	53	891	e120	e98	e500	205	434	270	227	52	e250	53
11	44	566	e115	e100	e600	370	1370	749	239	62	292	35
12	46	469	e115	e90	e400	623	1030	730	239	50	396	52
13	54	392	e98	e74	e320	920	722	1020	204	25	330	55
14	50	324	e145	e60	e310	1340	620	2880	130	17	767	62
15	77	217	e92	e70	e265	1370	620	1530	73	26	520	25
16	60	207	e82	e62	e245	1290	737	1210	105	62	367	37
17	86	285	e80	e70	e400	1260	636	1330	78	28	313	50
18	319	219	e74	e250	e320	1400	486	1500	73	34	272	42
19	242	205	e86	e360	e300	1010	358	1090	89	23	245	35
20	259	210	e165	e240	e255	1270	323	763	74	88	212	42
21	953	476	e86	e190	e210	1940	451	1130	69	19	116	71
22	561	436	e92	e155	e800	1630	471	874	97	42	67	23
23	455	384	e125	e160	e1600	1470	377	694	154	110	78	14
24	406	356	e115	e155	961	1190	357	596	322	143	78	51
25	367	343	e130	e195	614	952	390	497	210	115	59	35
26	263	340	e120	e900	e470	828	441	344	149	86	66	29
27	221	341	e125	e820	e450	492	390	292	124	e95	69	26
28	190	344	e115	e600	e400	409	351	252	105	e25	65	63
29	193	369	e120	e350	---	365	319	230	94	e24	64	6.4
30	181	288	e110	e270	---	335	295	261	99	e27	52	63
31	261	---	e54	e290	---	338	---	247	---	e66	53	---
TOTAL	5914	11368	3658	6481	11730	23378	18865	20474	4375	1848	7686	1332.4
MEAN	191	379	118	209	419	754	629	660	146	59.6	248	44.4
MAX	953	891	199	900	1600	1940	1970	2880	322	143	1100	71
MIN	34	205	54	56	210	183	295	169	69	17	21	6.4
CFSM	1.02	2.03	.63	1.12	2.24	4.03	3.36	3.53	.78	.32	1.33	.24
IN.	1.18	2.26	.73	1.29	2.33	4.65	3.75	4.07	.87	.37	1.53	.27

CAL YR 1989 TOTAL 85966.8 MEAN 236 MAX 1780 MIN 8.8 CFSM 1.26 IN. 17.10
WTR YR 1990 TOTAL 117109.4 MEAN 321 MAX 2880 MIN 6.4 CFSM 1.72 IN. 23.30

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 mi^2.

PERIOD OF RECORD.--March to September 1990.

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 CURRENT YEAR.--March to September 1990: Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 20	2045	2,150	6.59	May 14	0215	*2,830	*7.16

Minimum discharge, 24 ft^3/s, Aug. 5, gage height, 3.04 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e450	385	311	274	160	35	84
2	---	---	---	---	---	e400	385	285	241	136	32	80
3	---	---	---	---	---	e350	453	258	222	117	28	117
4	---	---	---	---	---	e320	1040	240	272	102	26	87
5	---	---	---	---	---	e300	749	303	225	93	25	77
6	---	---	---	---	---	e280	597	326	198	87	155	73
7	---	---	---	---	---	e260	512	275	187	80	468	76
8	---	---	---	---	---	e250	448	261	167	74	283	93
9	---	---	---	---	---	e250	401	248	163	75	169	76
10	---	---	---	---	---	e250	396	258	164	72	132	81
11	---	---	---	---	---	e350	1190	593	223	64	215	78
12	---	---	---	---	---	e600	837	431	202	62	337	69
13	---	---	---	---	---	838	653	757	162	64	260	66
14	---	---	---	---	---	913	566	2000	148	58	848	63
15	---	---	---	---	---	928	585	1100	135	55	443	70
16	---	---	---	---	---	886	545	870	131	53	312	80
17	---	---	---	---	---	964	504	1250	123	50	249	66
18	---	---	---	---	---	1200	482	1500	113	45	206	61
19	---	---	---	---	---	834	419	1080	113	43	186	58
20	---	---	---	---	---	1420	387	886	115	42	161	60
21	---	---	---	---	---	1680	530	1410	107	53	140	57
22	---	---	---	---	---	1320	491	1090	115	44	127	55
23	---	---	---	---	---	1130	423	861	279	42	116	59
24	---	---	---	---	---	895	380	709	273	83	117	54
25	---	---	---	---	---	739	405	595	179	55	118	52
26	---	---	---	---	---	634	552	516	143	45	109	49
27	---	---	---	---	---	530	468	447	121	40	104	49
28	---	---	---	---	---	472	405	388	109	38	115	47
29	---	---	---	---	---	426	355	349	110	35	110	45
30	---	---	---	---	---	399	333	397	226	32	113	113
31	---	---	---	---	---	408	---	320	---	31	95	---
TOTAL	---	---	---	---	---	20676	15876	20314	5240	2030	5834	2095
MEAN	---	---	---	---	---	667	529	655	175	65.5	188	69.8
MAX	---	---	---	---	---	1680	1190	2000	279	160	848	117
MIN	---	---	---	---	---	250	333	240	107	31	25	45
CFSM	---	---	---	---	---	3.99	3.17	3.92	1.05	.39	1.13	.42
IN.	---	---	---	---	---	4.61	3.54	4.53	1.17	.45	1.30	.47

e Estimated

ST. LAWRENCE RIVER BASIN

04294500 LAKE CHAMPLAIN AT BURLINGTON, VT.

LOCATION.--Lat 44°28'52", long 73°13'27", Chittenden County, Hydrologic Unit 02010003, 50 ft south of Gulf Oil Co. dock at Burlington, 0.1 mi north of Burlington Water Department pumping station, and 0.5 mi north of railroad station.

PERIOD OF RECORD.--Gage heights: May 1907 to current year.
Water-quality records: Water year 1971.

REVISED RECORDS.--WSP 684: 1912-29 (datum correction). WSP 1207: 1938 (datum correction).

GAGE.--Water-stage recorder. Datum of gage is 92.86 ft above National Geodetic Vertical Datum of 1929. Prior to July 20, 1937, nonrecording gage at site 0.7 mi south, and July 20, 1937, to Sept. 7, 1939, nonrecording gage at site 0.1 mi south, both at present datum.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 8.80 ft Apr. 4, 1976; minimum observed, -0.25 ft Dec. 4, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 7.25 ft Apr. 13, affected by seiche; minimum, 2.46 ft Jan. 17, affected by seiche.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.06	3.59	3.80	2.83	3.43	4.16	6.05	6.25	5.47	3.95	3.51	4.00
2	3.02	3.61	3.72	2.79	3.46	4.13	6.03	6.16	5.39	3.94	3.51	3.95
3	3.03	3.62	3.71	2.78	3.46	4.14	6.08	6.05	5.31	3.88	3.47	3.92
4	2.99	3.63	3.67	2.75	3.49	4.11	6.40	5.95	5.26	3.85	3.38	3.86
5	2.97	3.58	3.63	2.77	3.48	4.08	6.66	5.89	5.21	3.94	3.31	3.77
6	2.94	3.47	3.58	2.76	3.46	4.04	6.84	5.83	5.10	4.02	3.27	3.74
7	2.92	3.55	3.59	2.74	3.45	3.99	6.90	5.77	5.04	4.06	3.41	3.74
8	2.90	3.59	3.56	2.74	3.42	3.93	6.90	5.70	4.96	4.03	3.58	3.70
9	2.86	3.61	3.53	2.72	3.40	3.88	6.84	5.59	4.90	3.95	3.64	3.60
10	2.82	3.72	3.49	2.71	3.51	3.83	6.81	5.54	4.82	3.92	3.68	3.55
11	2.78	3.79	3.47	2.68	3.66	3.81	6.96	5.53	4.78	3.90	3.78	3.54
12	2.73	3.85	3.44	2.67	3.77	3.83	7.17	5.54	4.71	3.87	3.90	3.51
13	2.72	3.85	3.35	2.65	3.76	3.91	7.23	5.57	4.63	3.81	4.02	3.48
14	2.70	3.83	3.31	2.62	3.82	4.05	7.21	5.69	4.57	3.74	4.20	3.38
15	2.67	3.89	3.28	2.58	3.86	4.26	7.16	5.76	4.51	3.67	4.34	3.35
16	2.60	3.87	3.28	2.57	3.91	4.56	7.15	5.80	4.46	3.66	4.39	3.33
17	2.68	3.87	3.24	2.54	3.92	4.93	7.06	5.76	4.40	3.62	4.41	3.30
18	2.74	3.92	3.21	2.56	3.92	5.35	7.04	5.81	4.32	3.59	4.42	3.24
19	2.77	3.95	3.18	2.68	3.92	5.64	6.94	5.86	4.32	3.54	4.42	3.17
20	2.81	3.88	3.16	2.78	3.93	5.82	6.84	5.89	4.31	3.53	4.43	3.14
21	3.08	3.98	3.13	2.86	3.86	6.05	6.83	5.96	4.27	3.52	4.36	3.11
22	3.36	3.98	3.10	2.88	3.85	6.17	6.84	6.02	4.22	3.48	4.30	3.03
23	3.50	3.97	3.08	2.89	3.96	6.27	6.81	6.02	4.21	3.53	4.27	3.01
24	3.57	3.93	3.04	2.87	4.12	6.38	6.75	6.02	4.21	3.63	4.22	2.98
25	3.63	3.88	3.01	2.89	4.21	6.39	6.65	5.99	4.17	3.69	4.17	2.91
26	3.65	3.86	2.99	2.97	4.22	6.38	6.63	5.92	4.12	3.70	4.13	2.88
27	3.66	3.84	2.96	3.15	4.20	6.35	6.57	5.84	4.09	3.68	4.11	2.86
28	3.65	3.75	2.93	3.25	4.19	6.27	6.53	5.79	4.03	3.65	4.12	2.84
29	3.64	3.81	2.90	3.34	---	6.23	6.41	5.73	3.99	3.62	4.13	2.82
30	3.60	3.79	2.87	3.46	---	6.14	6.34	5.67	3.97	3.57	4.12	2.82
31	3.59	---	2.82	3.45	---	6.10	---	5.56	---	3.53	4.07	---
MEAN	3.09	3.78	3.29	2.84	3.77	5.01	6.75	5.82	4.59	3.74	3.97	3.35
MAX	3.66	3.98	3.80	3.46	4.22	6.39	7.23	6.25	5.47	4.06	4.43	4.00
MIN	2.60	3.47	2.82	2.54	3.40	3.81	6.03	5.53	3.97	3.48	3.27	2.82

CAL YR 1989 MEAN 3.33 MAX 5.97 MIN 1.53
WTR YR 1990 MEAN 4.17 MAX 7.23 MIN 2.54

ST. LAWRENCE RIVER BASIN

04295000 RICHELIEU RIVER (LAKE CHAMPLAIN) AT ROUSES POINT, NY
(National stream-quality accounting network station)

LOCATION.--Lat 44°59'46", long 73°21'37", Clinton County, Hydrologic Unit 02010006, on left bank at outlet of Lake Champlain in Rouses Point, and 1.0 mi south of Fort Montgomery ruins. Water-quality sampling site at stage station.

DRAINAGE AREA.--8,277 mi^2.

WATER-STAGE RECORDS

PERIOD OF RECORD.--October 1863 to December 1870 (maximum and minimum monthly gage heights at St. Johns, Quebec, published in WSP 97) and March 1871 to current year (daily gage heights prior to October 1970, elevations thereafter: those for 1871-1907 published in WSP 894). Gage heights prior to October 1, 1925, published as "Richelieu River at Fort Montgomery, Rouses Point". Discharge records for January 1875 to September 1916 at "Chambly, Quebec," published in WSP 65, 82, 97, 129, 170, 206, 424, and 1307 have been found to be unreliable and should not be used. Daily discharge record for "Richelieu River at Fryers Rapids, Quebec," published in Water Survey of Canada annual reports.

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.

REMARKS.--Area of lake surface about 490 mi^2. Total volume below 92.5 ft elevation, reported by Lake Champlain Studies Center, 902.2 bil ft^3. Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 101.80 ft, Mar. 30, 1903; minimum observed, 92.17 ft, Oct. 23, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known since at least 1827, 102.1 ft, May 4, 1869, from marks at railroad bridge near present gage, according to data published on p. 428 of the Report of the Board of Engineers on Deep Waterways, 1900: U.S. 56th Cong., 2d sess. H. Doc. 149.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 100.25 ft, Apr. 15; minimum, 95.06 ft, Oct. 17.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96.03	96.48	96.58	95.65	96.33	97.04	98.87	99.11	98.34	96.74	96.30	96.97
2	96.05	96.45	96.71	95.65	96.21	97.00	98.85	98.93	98.27	96.74	96.27	96.79
3	95.86	96.43	96.52	95.63	96.26	96.92	98.84	98.87	98.23	96.77	96.27	96.67
4	95.81	96.43	96.49	95.65	96.29	96.92	99.17	98.77	98.11	96.75	96.26	96.75
5	95.77	96.63	96.49	95.59	96.35	96.90	99.56	98.68	98.02	96.74	96.30	96.68
6	95.91	96.72	96.52	95.61	96.34	96.85	99.68	98.65	98.02	96.84	96.27	96.60
7	95.78	96.35	96.36	95.63	96.30	96.81	99.70	98.63	97.88	96.85	96.24	96.47
8	95.72	96.39	96.37	95.59	96.30	96.76	99.69	98.61	97.83	96.94	96.39	96.49
9	95.67	96.53	96.34	95.59	96.30	96.71	99.69	98.55	97.74	96.91	96.51	96.60
10	95.72	96.63	96.31	95.53	96.34	96.67	99.61	98.50	97.65	96.78	96.55	96.43
11	95.71	96.80	96.23	95.57	96.50	96.63	99.70	98.43	97.51	96.74	96.64	96.33
12	95.74	96.62	96.19	95.52	96.59	96.67	99.97	98.45	97.56	96.66	96.73	96.32
13	95.59	96.84	96.16	95.46	96.73	96.74	100.09	98.43	97.56	96.62	96.78	96.26
14	95.54	96.75	96.13	95.45	96.60	96.88	100.11	98.51	97.52	96.64	96.98	96.44
15	95.53	96.74	96.10	95.45	96.69	97.09	100.08	98.62	97.42	96.61	97.20	96.31
16	95.69	96.85	96.08	95.39	96.73	97.40	99.94	98.59	97.33	96.58	97.25	96.15
17	95.30	96.83	96.08	95.43	96.71	97.75	99.95	98.71	97.30	96.54	97.30	96.04
18	95.45	96.84	96.04	95.41	96.80	98.20	99.82	98.72	97.34	96.50	97.25	95.99
19	95.49	96.81	96.01	95.50	96.78	98.47	99.84	98.70	97.16	96.41	97.13	96.06
20	95.64	96.92	96.00	95.64	96.73	98.59	99.78	98.71	97.12	96.40	97.19	95.96
21	95.96	96.55	95.95	95.65	96.79	98.82	99.63	98.73	97.11	96.35	97.20	95.93
22	96.22	96.77	95.93	95.74	96.73	99.11	99.65	98.80	97.08	96.28	97.16	96.05
23	96.42	96.75	95.92	95.75	96.76	99.07	99.58	98.82	97.10	96.33	97.10	95.89
24	96.48	96.80	95.92	95.79	96.89	99.19	99.56	98.85	97.08	96.46	97.08	95.83
25	96.47	96.83	95.89	95.76	96.98	99.24	99.56	98.81	97.05	96.52	97.03	95.90
26	96.49	96.70	95.84	95.82	97.05	99.16	99.45	98.76	97.05	96.53	97.00	95.79
27	96.50	96.66	95.79	96.05	97.08	99.16	99.41	98.71	96.96	96.51	96.99	95.72
28	96.50	96.88	95.76	96.16	97.01	99.08	99.32	98.64	96.84	96.48	97.01	95.69
29	96.50	96.58	95.72	96.18	---	99.01	99.37	98.47	96.83	96.47	96.96	95.59
30	96.51	96.72	95.69	96.26	---	99.04	99.21	98.36	96.76	96.50	96.94	95.69
31	96.47	---	95.71	96.30	---	98.91	---	98.41	---	96.41	96.95	---
MEAN	95.95	96.68	96.12	95.69	96.61	97.83	99.59	98.66	97.46	96.60	96.81	96.21
MAX	96.51	96.92	96.71	96.30	97.08	99.24	100.11	99.11	98.34	96.94	97.30	96.97
MIN	95.30	96.35	95.69	95.39	96.21	96.63	98.84	98.36	96.76	96.28	96.24	95.59

CAL YR 1989 MEAN 96.18 MAX 98.77 MIN 94.40
WTR YR 1990 MEAN 97.02 MAX 100.11 MIN 95.30

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 (b).
MINOR ELEMENTS DATA: 1974-86 (b), 1987 (c), 1988 (d), 1989 (c), 1990 (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 (b).
BIOLOGICAL DATA:
Bacteria--1974 (a), 1975-82 (c), 1983-89 (b), 1990 (b).
Phytoplankton--1974 (a), 1975-78 (c), 1979 (b), 1980-81 (c).
Periphyton--1975 (c), 1976-80 (b).
SEDIMENT DATA: 1975-82 (c), 1983-90 (b).

REMARKS.--Water-quality samples without turbidity analyses were collected by personnel of the New York State Department of Environmetnal Conservation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)
NOV											
02...	0915	158	7.9	10.5	0.60	770	10.4	92	38	10	62
APR											
23...	0915	136	7.6	5.0	1.5	765	14.2	111	2	0	51
MAY											
16...	0930	146	7.2	9.5	--	765	12.4	108	--	--	58
JUN											
20...	0745	145	7.8	17.5	1.5	760	10.1	106	--	--	49
AUG											
14...	0845	157	7.9	22.0	1.8	765	7.8	89	17	5	49

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	CARBONATE WATER DIS IT FIELD MG/L AS CO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
NOV											
02...	18	4.2	7.8	1.4	50	60	0	13	10	<0.10	0.88
APR											
23...	14	3.9	7.0	1.3	44	54	0	11	12	0.10	0.98
MAY											
16...	17	3.8	7.8	1.5	--	--	--	12	12	<0.10	--
JUN											
20...	13	4.0	7.3	1.3	47	55	0	12	11	0.20	0.43
AUG											
14...	13	3.9	7.2	1.2	48	56	0	12	11	<0.10	1.2

DATE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)
NOV											
02...	95	85	0.130	0.020	0.010	0.40	0.040	<0.010	<0.010	--	<10
APR											
23...	89	78	0.200	<0.010	<0.010	0.70	<0.010	<0.010	<0.010	60	<10
MAY											
16...	--	79	--	--	--	--	--	--	--	40	--
JUN											
20...	85	77	0.200	0.020	<0.010	0.60	0.010	<0.010	<0.010	160	<10
AUG											
14...	51	77	<0.100	0.050	0.040	0.40	<0.010	<0.010	<0.010	90	<10

ST. LAWRENCE RIVER BASIN

04295000 RICHELIEU RIVER (LAKE CHAMPLAIN) AT ROUSES POINT, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	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)	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)
NOV 02...	<1	12	<0.5	--	<1.0	<1	<3	--	<1	--	6
APR 23...	<1	7	<0.5	<1	<1.0	<1	<3	3	2	140	10
MAY 16...	--	--	--	4	--	--	--	18	--	130	--
JUN 20...	<1	8	<0.5	<1	<1.0	<1	<3	3	3	150	8
AUG 14...	<1	7	<0.5	<1	1.0	<1	<3	2	2	140	7

DATE	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)	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)
NOV 02...	--	<1	<4	--	2	--	<0.1	<10	--	<1	<1
APR 23...	1	<1	<4	10	1	<0.10	<0.1	<10	1	2	<1
MAY 16...	6	--	--	10	--	0.20	--	--	5	--	--
JUN 20...	1	<1	<4	20	3	0.30	<0.1	<10	1	1	<1
AUG 14...	1	<1	<4	20	5	<0.10	<0.1	<10	1	<1	<1

DATE	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 02...	<1.0	83	<6	--	6
APR 23...	<1.0	83	<6	<10	9
MAY 16...	--	--	--	40	--
JUN 20...	<1.0	84	<6	<10	3
AUG 14...	<1.0	82	<6	<10	8

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SEDI-MENT, SUS-PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 02...	0915	3	71
APR 23...	0915	3	76
JUN 20...	0745	6	84
AUG 14...	0845	5	82

ST. LAWRENCE RIVER BASIN

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 mi^2. 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 ft^3. 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 mi^2. Records provided by Oswegatchie River-Cranberry Reservoir Commission.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 2,985 mil ft^3, May 13-15, 1971, gage height, 18.5 ft; minimum observed, 70 mil ft^3, Apr. 1-4, 1956, gage height, 6.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 2,500 mil ft^3, May 23-25, gage height, 16.9 ft; minimum observed, 1,296 mil ft^3, Mar. 10-12, gage height, 12.3 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 mi^2. 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 ft^3. 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 mi^2 (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 ft^3, June 1, 5, 6, 1955, elevation, 1,386.1 ft; minimum observed, 8.64 mil ft^3, Mar. 27-30, 1963, Apr. 4-11, 1964, elevation, 1,331.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 4,994 mil ft^3, Apr. 25 to May 1, May 3, 6, 17-29, June 3-5, 21, 24, elevation, 1385.0 ft; minimum observed, 1,645 mil ft^3, Mar. 12-13, elevation, 1,356.4 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 1989 TO SEPTEMBER 1990

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	15.4	2,074		1,381.5	4,510.1	
Oct. 31	15.4	2,074	0.0	1,382.7	4,676.0	+ 61.9
Nov. 30	15.2	2,022	- 20.1	1,381.9	4,565.4	- 42.7
Dec. 31	13.0	1,460	-210	1,359.7	1,958.7	-973
CAL YR 1989	-	-	- 3.04	-	-	- 37.1
Jan. 31	12.6	1,364	- 35.8	1,366.1	2,619.6	+247
Feb. 28	13.0	1,460	+ 39.7	1,363.0	2,298.2	-133
Mar. 31	15.4	2,074	+229	1,375.1	3,667.7	+511
Apr. 30	15.8	2,184	+ 42.4	1,385.0	4,993.9	+512
May 31	16.6	2,410	+ 84.4	1,384.9	5,118.3	+ 46.5
June 30	16.2	2,296	- 44.0	1,384.1	4,869.5	- 96.0
July 31	16.1	2,268	- 10.5	1,376.1	3,797.3	-400
Aug. 31	15.6	2,128	- 52.3	1,367.2	2,735.4	-396
Sept. 30	15.2	2,022	- 40.9	1,359.0	1,892.2	-325
WTR YR 1990	-	-	- 1.65	-	-	- 83.0

* 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 1990 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.

Annual maximum discharge at crest-stage partial-record stations during water year 1990

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Housatonic River basin					
01199477	Stony Brook near Dover Plains, NY	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.	1.93	1976-90	10-21-89	2.79	148
		Hudson River basin					
01317000	Schroon River at Riverbank, NY	Lat 43°36'34", long 73°44'17", Warren County, Hydrologic Unit 02020001, on right bank, 30 ft upstream from highway bridge at Riverbank, and 11.8 mi downstream from Schroon Lake.	527	1908-25, 1926-70‡, 1987-90	3-18-90	8.02	5,200
01329154	Steele Brook at Shushan, NY	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.	2.85	1979-90	1-26-90	5.62	118
01329500	Batten Kill at Battenville, NY	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.	394	1923-68‡, 1987-90	1-26-90	8.11	5,690
01330880	Saratoga Lake tributary near Bemis Heights, NY	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.	2.98	1968-90	1-26-90	15.58	226
01342800	West Canada Creek at Nobleboro, NY	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.	193	1958-66, 1967-68‡, 1969-76, 1985, 1987-90	10-21-89 3-17-90	9.00 9.00	8,800 8,800
01348420	North Creek near Ephratah, NY	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.	6.52	1975-90	4-11-90	5.86	223

‡ Operated as a continuous-record gaging station.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Gage height (feet)	Discharge (ft^3/s)
		Hudson River basin--Continued					
01349850	Batavia Kill at Hensonville, NY	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, at Hensonville, 0.7 mi upstream from Silver Lake Outlet, and 1.8 mi upstream from Nauvo Stream.	13.5	1972-90	10-20-89	3.39	658
01361000	Kinderhook Creek at Rossman, NY	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.	329	1906-14, 1929-68‡, 1988-90	4- 4-90	7.44	5,940
01361500	Catskill Creek at Oak Hill, NY	Lat 42°24'16', long 74°09'07", Greene County, Hydrologic Unit 02020006, on right bank, just downstream from highway bridge in southernmost part of Oak Hill, 100 ft downstream from small tributary.	98.0	1911-77, 1987-90	10-20-89	8.62	3,870
01362100	Roeliff Jansen Kill near Hillsdale, NY	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.	27.5	1958-60‡, 1961-90	8- 7-90	5.15	1,050
01368000	Wallkill River near Unionville, NY	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.	140	1938-49, 1950-81‡, 1989-90	10-20-89	388.87*	2,270
01368100	Wallkill River near Pine Island, NY	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.	162	1989-90	10-20-89	382.45*	-
01368500	Rutgers Creek at Gardnerville, NY	Lat 41°20'40", long 74°29'10", Orange County, Hydrologic Unit 02020007, on left bank, 2.2 mi upstream from mouth, and 1.7 mi southeast of Johnson.	59.7	1944-48, 1949-68‡, 1987-90	10-20-89	6.24	1,780
01369820	Wallkill River 0.8 mi above Pellets Island, near Middletown, NY	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.	373	1990	10-20-89	373.55*	-
01369992	Wallkill River 0.45 mi above Pellets Island, near Middletown, NY	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.	373	1989-90	10-20-89	373.43*	-
01369995	Wallkill River 0.35 mi above Pellets Island, near Middletown, NY	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.	374	1989-90	10-20-89	373.00*	-

‡ Operated as a continuous-record gaging station.
* Elevation, in feet, above National Geodetic Vertical Datum of 1929.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Gage height (feet)	Discharge (ft^3/s)
		Hudson River basin--Continued					
01370000	Wallkill River at Pellets Island, NY	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.	380	1920-37, 1938-68‡, 1989-90	10-20-89	371.84*	4,800
01370030	Wallkill River at Denton, NY	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.	385	1989-90	10-20-89	365.71*	-
01370500	Wallkill River near Phillipsburg, NY	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, 1.0 mi southwest of Phillipsburg, and 1.9 mi northeast of New Hampton.	406	1937, 1938-59‡, 1989-90	10-20-89	361.82*	5,720
01372800	Fishkill Creek at Hopewell Junction, NY	Lat 41°34'22", long 73°48'25", Dutchess County, Hydrologic Unit 02020008, on right bank, 400 ft upstream from bridge on State Highway 376, 500 ft upstream from small tributary, 0.6 mi south of State Highway 82, at Hopewell Junction.	57.3	1956-57, 1958-75‡, 1984, 1987-90	10-21-89	6.88	1,160
01374250	Peekskill Hollow Creek at Tompkins Corners, NY	Lat 41°23'18", long 73°48'47", Putnam County, Hydrologic Unit 02030101, at bridge on Bryant Pond Road, 0.9 mi southwest of Tompkins Corners, and 1.1 mi downstream from Wiccopee Brook.	14.9	1975-90	8- 7-90	4.77	1,050
01376420	Saw Mill River at Elmsford, NY	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.	15.4	1979-90	10-20-89	8.88	490
		Passaic River basin					
01387410	Torne Brook at Ramapo, NY	Lat 41°08'34", long 74°09'44", Rockland County, Hydrologic Unit 02030103, 0.2 mi upstream from mouth, and 0.5 mi east of Ramapo.	2.60	1960, 1962-90	8- 7-90	5.95	345
		Delaware River basin					
01427500	Callicoon Creek at Callicoon, NY	Lat 41°45'39", long 75°02'55", Sullivan County, Hydrologic Unit 02040101, on right bank, 0.7 mi southeast of Callicoon, 0.9 mi upstream from mouth, and 1.0 mi southwest of Hortonville.	110	1941-82‡, 1983-90	10-20-89	6.00	4,710
01434010	East Branch Neversink River at Denning, NY	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.	13.3	1984-87, 1989-90	10-20-89	<3.38	<962

‡ Operated as a continuous-record gaging station.
* Elevation, in feet, above National Geodetic Vertical Datum of 1929.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Gage height (feet)	Discharge (ft^3/s)
		Streams tributary to Lake Ontario					
042490673	North Branch Grindstone Creek near Altmar, NY	Lat 43°29'31", long 76°05'41", Oswego County, Hydrologic Unit 04140102, at culvert on Hong Kong Road, 4.1 mi upstream from confluence with South Branch Grindstone Creek, and 4.1 mi southwest of Altmar.	11.2	1976-90	3-17-90	8.72	236
04249200	North Branch Salmon River at Redfield, NY	Lat 43°32'32", long 75°48'51", Oswego County, Hydrologic Unit 04140102, at highway bridge on Harvester Mill Road, 0.7 mi northeast of Redfield.	82.5	1962-64, 1985, 1987-90	3-17-90	14.96	4,420
04254500	Moose River at McKeever, NY	Lat 43°36'36", long 75°06'35", Herkimer County, Hydrologic Unit 04150101, on left bank, 1.0 mi west of McKeever, and 1.9 mi downstream from confluence of Middle and South Branches.	363	1901-22, 1923-70‡, 1985, 1987-90	3-18-90	11.02	8,100
04258700	Deer River at Deer River, NY	Lat 43°35'49", long 75°35'27", Lewis County, Hydrologic Unit 04150101, on left bank, 350 ft upstream from bridge on State Highway 26 at Deer River, and 2 mi upstream from mouth.	94.8	1957-68‡, 1969, 1971-74, 1977-90	1-18-90 3-17-90	b6.07 5.38	- 5,630
		St. Lawrence River basin					
04265100	Elm Creek near Hermon, NY	Lat 44°26'15", long 75°12'49", St. Lawrence County, Hydrologic Unit 04150304, at bridge, 2.7 mi southeast of Hermon, and 6.8 mi upstream from confluence with Tanner Creek.	32.6	1959-68‡, 1969-90	1-20-90 4- 5-90	b7.01 6.79	- 584
04268200	Plum Brook near Grantville, NY	Lat 44°52'46", long 74°54'54", St. Lawrence County, Hydrologic Unit 04150305, on right bank, 430 ft upstream from bridge at junction of Brouse and Grant Roads, 0.7 mi downstream from unnamed tributary, 1.1 mi upstream from mouth, 1.4 mi north of Grantville, and 2.3 mi southwest of Massena city limits.	43.9	1959-63‡, 1964-68, 1971-90	3-17-90 4- 4-90	b5.86 5.37	- 682
04268800	West Branch St. Regis River near Parishville, NY	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, 4.2 mi southeast of Parishville, and 4.8 mi upstream from Niagara Mohawk Power Corp. dam.	171	1959-68‡, 1969-90	3-17-90	6.40	4,620
04270162	East Branch Little Salmon River near Skerry, NY	Lat 44°47'13", long 74°22'12", Franklin County, Hydrologic Unit 04150307, at culvert on Adams Road, 100 ft downstream from Limekiln Brook, 1.1 mi northeast of Skerry, and 5.7 mi upstream from mouth.	7.11	1978-90	4- 4-90	2.57	62
04270700	Trout River at Trout River, NY	Lat 44°59'23", long 74°17'56", Franklin County, Hydrologic Unit 04150307, on left bank, at downstream side of bridge on county highway, 0.2 mi east of State Highway 30, at Trout River, 0.5 mi upstream from international boundary, 1.5 mi downstream from unnamed tributary, and 3.3 mi downstream from Little Trout River.	107	1960-66‡, 1967-90	1-18-90 4- 4-90	b7.82 4.94	- 1,810

‡ Operated as a continuous-record gaging station.
b Ice jam.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Gage height (feet)	Discharge (ft^3/s)
		St. Lawrence River basin--Continued					
04271500	Great Chazy River at Perry Mills,NY	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.	247	1929-68‡, 1985, 1987-90	3-15-90 4- 4-90	b9.32 7.86	- 3,800
04274000	West Branch Ausable River near Lake Placid, NY	Lat 44°18'40", long 73°55'00", Essex County, Hydrologic Unit 02010004, on right bank, 4 mi northeast of Lake Placid, 4 mi downstream from Lake Placid outlet, and 150 ft upstream from Monument Falls.	116	1917, 1920-27, 1928-68‡, 1983-90	3-17-90 4- 4-90	7.63 7.63	3,290 3,290
04276500	Bouquet River at Willsboro, NY	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.	275	1924-68‡, 1985, 1987-90	10-20-89 3-14-90	7.72 b8.26	5,650 -

‡ Operated as a continuous-record gaging station.
b Ice jam.

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Hudson River basin				
01312000 Hudson River	Atlantic Ocean	Lat 43°58'00", long 74°07'55", Essex County, Hydrologic Unit 02020001, on right bank, 30 ft downstream from bridge on State Highway 28N, 0.5 mi downstream from outlet of Harris Lake, 2.0 mi east of Newcomb, and 4.0 mi upstream from Wolf Creek.	192	1926-31, 1932-87‡	3-17-90	4,810
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	10-24-89	*194
					4- 3-90	1,310
					5-16-90	286
					6-27-90	*83.9
					8-29-90	*79.5
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	1988-89	10-24-89	1,030
					4- 2-90	2,030
					5-15-90	4,000
					6-26-90	*571
					8-28-90	*385
01349503 Cayadutta Creek	Mohawk River	Lat 43°59'13", long 74°25'50", Fulton County, Hydrologic Unit 02020004, at bridge on State Highway 334 at Sammonsville, 0.1 mi downstream from Crum Creek.	41.9	1981, 1989	10-24-89	*75.3
					4- 2-90	168
					4- 4-90	944
					5-15-90	140
					6-26-90	*41.7
					8-28-90	*39.9
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, 1988-89	10-24-89	4,080
					4- 2-90	6,860
					4- 4-90	24,700
					5-15-90	10,900
					6-26-90	*2,550
					8-28-90	*1,180
		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, 1973-89	6- 7-90	10.7
					6-13-90	7.92
					6-21-90	*4.43
					7-20-90	10.4
					7-25-90	6.19
					8-15-90	13.4
					9-20-90	4.08
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, and 400 ft upstream from Mill Street bridge, in Deposit.	67.6	1941-73‡, 1975-76, 1979-89	6- 7-90	23.2
					7-25-90	16.4
					9-21-90	9.78
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‡, 1978-89	5- 9-90	37.3
					6-22-90	16.5
					7-17-90	41.1
					7-26-90	*11.2
					9-19-90	*12.0
					9-25-90	*13.1
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), 450 ft upstream from Clove Brook, and 0.6 mi upstream from mouth, in Port Jervis.	336	1902-03, 1943, 1945, 1960-62, 1965-89	10- 5-89	407
					10-13-89	251
					12- 7-89	273
					6- 4-90	508
					6-11-90	344
					6-18-90	253
					6-22-90	262
					7-17-90	294
					7-26-90	178
					8- 9-90	280
					9-19-90	162
					9-24-90	175

‡ Operated as a continuous-record gaging station.
* Base flow.

Discharge measurements made at miscellaneous sites during water year 1990--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		Streams tributary to Lake Ontario				
04250500 Salmon River	Lake Ontario	Lat 43°33'00", long 76°05'45", Oswego County, Hydrologic Unit 04140102, at bridge on State Highway 2A, 2.5 mi downstream from Trout Brook, and 1.9 mi southeast of Pulaski.	260	1901-14, 1989	10-25-89	960
					4- 3-90	1,820
					6-27-90	824
					8-29-90	*201
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	1909-87	10- 6-87	370
					11-18-87	580
					12-15-87	727
					1-26-88	282
					2-24-88	364
					3- 9-88	629
					4- 6-88	*0.65
					5-18-88	513
					6-28-88	387
					7-21-88	221
					8- 9-88	611
					11- 1-88	548
					12- 6-88	866
					1-17-89	266
					2-28-89	292
					5-22-89	450
					7- 5-89	283
					8- 9-89	78.6
					10-30-89	665
					12-19-89	650
					1-31-90	599
					3-13-90	630
					4-10-90	1,210
					6-13-90	439
					8- 9-90	269
					9- 4-90	501

* Base flow.

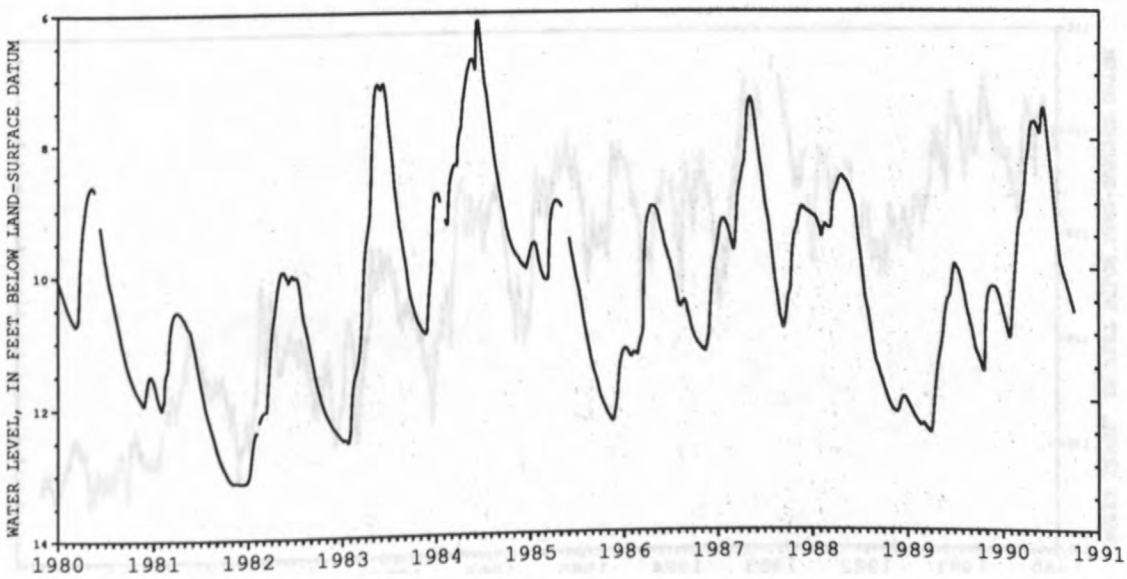
ALBANY COUNTY

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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.36	10.43	10.28	10.67	10.87	9.29	8.24	7.74	7.51	8.48	9.68	10.23
2	11.38	10.41	10.28	10.68	10.80	9.26	8.22	7.75	7.52	8.51	9.72	10.25
3	11.39	10.39	10.28	10.70	10.74	9.24	8.20	7.77	7.53	8.55	9.75	10.26
4	11.40	10.37	10.29	10.71	10.66	9.23	8.17	7.78	7.54	8.58	9.79	10.28
5	11.41	10.36	10.29	10.73	10.59	9.22	8.12	7.78	7.56	8.63	9.83	10.30
6	11.42	10.34	10.30	10.74	10.53	9.21	8.07	7.79	7.59	8.67	9.87	10.31
7	11.43	10.33	10.30	10.76	10.47	9.21	8.02	7.80	7.61	8.71	9.89	10.32
8	11.44	10.32	10.32	10.78	10.42	9.20	7.97	7.81	7.64	8.76	9.90	10.34
9	11.46	10.30	10.33	10.80	10.38	9.18	7.93	7.82	7.67	8.80	9.92	10.35
10	11.47	10.29	10.34	10.81	10.33	9.17	7.88	7.83	7.70	8.84	9.94	10.37
11	11.48	10.29	10.34	10.83	10.27	9.16	7.83	7.83	7.73	8.88	9.94	10.38
12	11.49	10.28	10.36	10.84	10.20	9.14	7.81	7.86	7.77	8.93	9.95	10.39
13	11.50	10.28	10.37	10.86	10.14	9.09	7.80	7.87	7.81	8.96	9.97	10.41
14	11.52	10.28	10.38	10.88	10.07	9.04	7.78	7.88	7.84	9.00	9.98	10.42
15	11.53	10.27	10.39	10.90	10.02	9.00	7.76	7.89	7.88	9.03	10.00	10.43
16	11.53	10.27	10.40	10.92	9.96	8.96	7.74	7.90	7.92	9.07	10.02	10.45
17	11.54	10.26	10.42	10.93	9.91	8.91	7.73	7.90	7.96	9.11	10.03	10.47
18	11.55	10.27	10.43	10.95	9.85	8.88	7.73	7.89	8.00	9.15	10.05	10.48
19	11.55	10.27	10.45	10.96	9.78	8.85	7.73	7.88	8.04	9.19	10.07	10.50
20	11.54	10.26	10.46	10.98	9.72	8.83	7.73	7.86	8.07	9.23	10.08	10.51
21	11.51	10.26	10.48	10.99	9.68	8.79	7.73	7.82	8.11	9.27	10.10	10.53
22	11.39	10.26	10.50	11.00	9.62	8.74	7.72	7.77	8.15	9.31	10.11	10.54
23	11.19	10.26	10.52	11.01	9.55	8.66	7.72	7.70	8.19	9.35	10.13	10.55
24	11.00	10.27	10.54	11.03	9.47	8.59	7.72	7.64	8.22	9.39	10.14	10.57
25	10.85	10.27	10.55	11.04	9.42	8.52	7.72	7.59	8.26	9.42	10.15	10.58
26	10.74	10.27	10.56	11.04	9.39	8.45	7.71	7.56	8.30	9.46	10.15	10.60
27	10.66	10.27	10.58	11.05	9.35	8.40	7.72	7.53	8.34	9.50	10.16	10.62
28	10.60	10.27	10.60	11.03	9.32	8.36	7.72	7.52	8.38	9.54	10.17	10.63
29	10.55	10.27	10.62	11.01	---	8.33	7.73	7.51	8.42	9.57	10.18	10.65
30	10.50	10.27	10.64	10.96	---	8.30	7.73	7.50	8.45	9.61	10.20	10.66
31	10.46	---	10.66	10.92	---	8.27	---	7.50	---	9.65	10.21	---

WTR YEAR 1990 HIGHEST 7.50 May 29, 30-31, June 1, 1990 LOWEST 11.55 Oct. 18, 19, 20, 1989



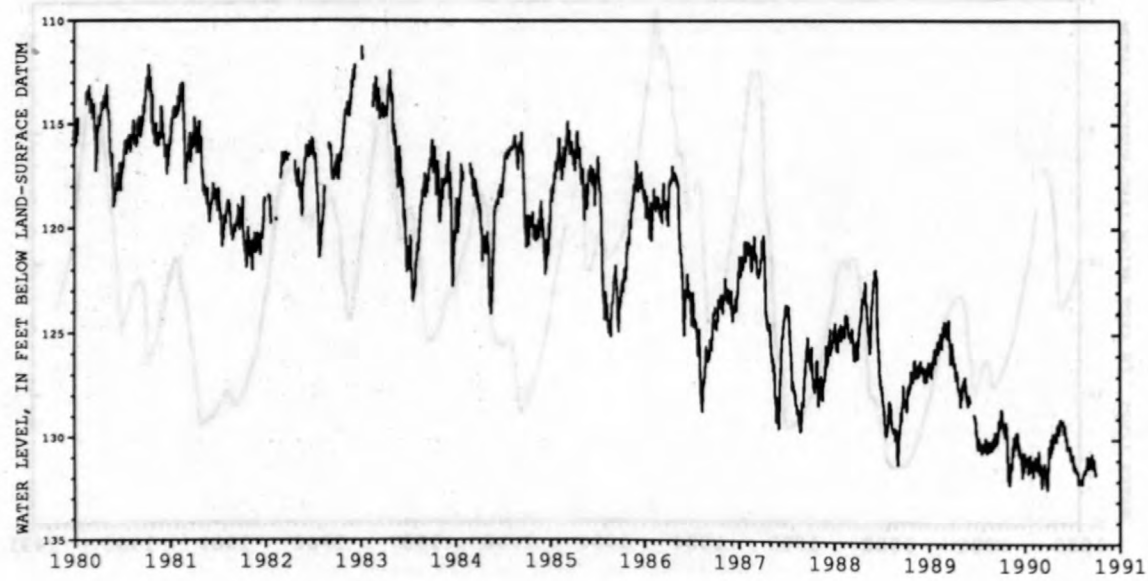
ALBANY COUNTY

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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129.08	131.86	130.21	130.62	131.48	131.43	131.46	129.67	129.73	130.70	132.03	131.25
2	128.69	132.11	130.19	131.13	131.50	131.15	131.23	129.89	129.64	130.84	132.10	131.04
3	128.57	131.90	129.63	131.24	131.79	131.12	130.90	130.12	129.33	130.92	132.09	131.26
4	128.55	132.17	129.79	130.95	131.21	131.37	130.30	129.94	129.31	130.73	132.07	131.38
5	128.66	132.13	129.77	131.24	131.43	131.67	130.51	129.34	129.69	130.85	132.12	131.12
6	128.71	131.72	129.72	131.18	131.26	131.97	130.75	129.43	129.73	131.07	132.02	130.98
7	128.99	131.69	130.34	131.04	131.14	132.30	130.68	129.53	129.78	131.35	132.00	130.80
8	129.11	131.47	130.71	130.84	131.31	132.13	130.79	129.65	130.05	131.43	132.11	131.25
9	129.22	131.08	130.62	130.94	131.09	131.77	130.82	129.53	129.87	131.16	132.10	131.20
10	129.37	131.12	130.24	130.80	130.80	131.69	130.32	129.19	129.95	131.15	131.98	131.00
11	129.34	131.12	130.28	130.88	130.96	131.55	129.93	129.27	130.18	131.35	131.78	131.08
12	129.43	131.23	130.58	130.82	131.05	131.42	130.32	129.74	130.41	131.42	131.79	131.12
13	129.50	131.38	130.62	131.34	130.87	131.34	130.59	129.41	130.48	131.48	131.64	131.16
14	129.67	130.99	130.76	131.62	131.07	131.44	130.36	129.53	130.31	131.43	131.61	131.00
15	129.55	130.75	130.83	131.41	131.33	131.52	129.93	129.48	130.31	131.31	131.63	130.65
16	129.46	130.19	130.58	131.34	130.88	131.48	129.88	129.32	130.42	131.46	131.58	130.83
17	129.59	130.58	130.87	131.19	131.27	131.11	129.68	129.05	130.48	131.57	131.55	131.14
18	129.88	130.71	131.03	130.99	131.51	131.20	130.13	128.99	130.35	131.56	131.43	131.35
19	129.88	130.77	131.16	131.53	130.82	131.53	130.38	129.13	130.31	131.54	131.48	131.23
20	129.33	129.85	131.05	131.30	131.20	131.38	130.16	129.22	130.46	131.47	131.62	131.16
21	129.16	129.90	131.16	130.82	131.34	131.50	129.83	129.15	130.46	131.48	131.55	131.41
22	129.32	130.44	131.56	130.71	130.92	131.81	129.83	129.16	130.48	131.57	131.47	131.09
23	129.62	130.32	131.80	131.02	130.55	131.81	129.77	129.10	130.31	131.55	131.41	130.90
24	129.58	130.39	131.45	131.01	130.71	132.10	129.88	129.14	130.44	131.74	131.41	131.16
25	129.88	130.20	130.86	131.10	131.16	131.86	129.75	129.19	130.79	131.90	131.33	131.30
26	130.38	129.90	130.60	131.03	131.67	131.71	129.67	129.10	130.93	132.08	131.25	131.32
27	130.82	130.21	131.14	131.47	131.17	132.13	129.72	129.10	130.86	132.11	131.03	131.57
28	131.23	129.67	131.06	131.36	131.30	132.29	129.70	129.26	130.99	132.06	130.87	131.69
29	131.63	130.06	131.51	131.17	---	132.37	129.95	129.27	130.92	132.01	130.78	131.67
30	131.95	129.73	131.52	130.96	---	132.09	129.87	129.25	130.76	131.96	131.00	131.53
31	131.93	---	130.89	131.51	---	131.65	---	129.59	---	131.87	131.24	---

WTR YEAR 1990 HIGHEST 128.46 Oct. 3, 4, 1989 LOWEST 132.44 Mar. 29, 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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL	
OCT 24, 1989	103.00	Z	FEB 23, 1990	93.00	Z	MAY 18, 1990	102.00	Z	AUG 09, 1990	132.00	Z
DEC 01	100.00	Z	APR 11	89.00	Z	JUN 29	139.00	Z	SEP 20	148.00	Z
JAN 19, 1990	113.00	Z									

Z Measured by USGS personnel.

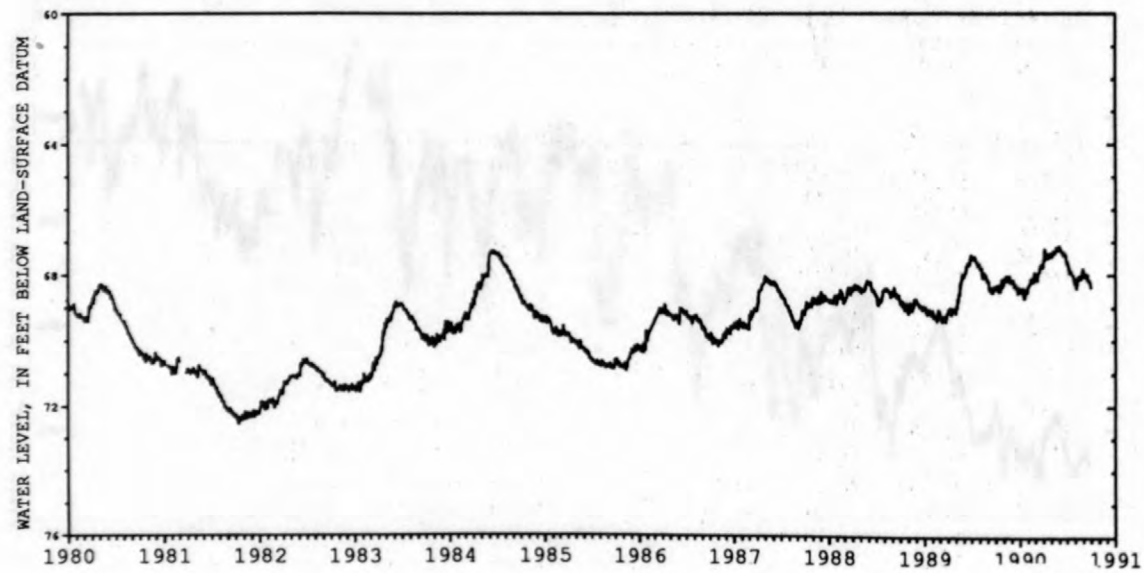
DUTCHESS COUNTY

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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68.43	68.10	68.21	68.40	68.37	68.12	67.56	67.36	67.19	67.58	68.24	67.98
2	68.40	68.09	68.26	68.43	68.34	68.05	67.51	67.36	67.24	67.62	68.29	67.99
3	68.31	68.09	68.18	68.50	68.34	67.96	67.42	67.42	67.23	67.67	68.34	68.00
4	68.30	68.12	68.14	68.52	68.29	67.94	67.23	67.46	67.18	67.70	68.38	68.05
5	68.30	68.17	68.14	68.50	68.26	68.01	67.18	67.35	67.19	67.71	68.40	68.04
6	68.31	68.16	68.16	68.50	68.27	68.08	67.27	67.26	67.23	67.76	68.35	68.02
7	68.32	68.12	68.21	68.51	68.27	68.15	67.35	67.26	67.24	67.84	68.17	67.93
8	68.36	68.08	68.33	68.50	68.26	68.17	67.42	67.31	67.28	67.92	68.09	67.95
9	68.41	68.03	68.37	68.48	68.23	68.10	67.50	67.36	67.28	67.93	68.15	68.01
10	68.48	68.00	68.34	68.45	68.14	68.03	67.49	67.33	67.26	67.91	68.18	68.02
11	68.49	68.03	68.31	68.42	68.10	67.98	67.38	67.24	67.26	67.93	68.14	68.04
12	68.50	68.07	68.31	68.38	68.13	67.95	67.37	67.31	67.31	67.93	68.12	68.07
13	68.49	68.18	68.31	68.43	68.19	67.90	67.44	67.35	67.37	67.85	68.13	68.08
14	68.50	68.20	68.32	68.56	68.20	67.90	67.49	67.32	67.38	67.88	68.02	68.08
15	68.49	68.17	68.33	68.67	68.24	67.90	67.43	67.33	67.36	67.89	68.01	68.00
16	68.49	68.07	68.28	68.70	68.16	67.90	67.36	67.33	67.37	67.90	68.04	67.96
17	68.47	68.02	68.31	68.71	68.09	67.85	67.32	67.25	67.40	67.95	68.06	68.02
18	68.46	68.08	68.37	68.65	68.18	67.76	67.35	67.15	67.40	67.98	68.07	68.11
19	68.49	68.16	68.42	68.65	68.16	67.80	67.45	67.14	67.35	68.00	68.08	68.17
20	68.34	68.12	68.42	68.68	68.16	67.78	67.49	67.19	67.32	68.00	68.11	68.16
21	68.11	68.01	68.41	68.59	68.22	67.65	67.44	67.19	67.34	67.99	68.12	68.19
22	68.12	68.08	68.44	68.52	68.19	67.68	67.39	67.19	67.38	68.00	68.13	68.19
23	68.23	68.14	68.52	68.53	68.03	67.68	67.36	67.20	67.38	68.01	68.10	68.14
24	68.32	68.20	68.55	68.56	67.91	67.73	67.37	67.21	67.38	68.03	68.03	68.16
25	68.35	68.23	68.48	68.55	67.93	67.75	67.38	67.24	67.44	68.08	67.94	68.21
26	68.34	68.20	68.38	68.43	68.09	67.73	67.34	67.24	67.52	68.15	67.91	68.24
27	68.33	68.21	68.39	68.43	68.17	67.74	67.32	67.22	67.57	68.21	67.88	68.29
28	68.31	68.17	68.42	68.49	68.15	67.75	67.33	67.21	67.61	68.24	67.82	68.34
29	68.30	68.17	68.49	68.52	---	67.76	67.36	67.19	67.64	68.24	67.79	68.37
30	68.28	68.18	68.54	68.35	---	67.74	67.38	67.09	67.60	68.24	67.83	68.37
31	68.24	---	68.51	68.33	---	67.64	---	67.11	---	68.22	67.91	---

WTR YEAR 1990 HIGHEST 67.07 May 30, 1990 LOWEST 68.72 Jan. 17, 1990

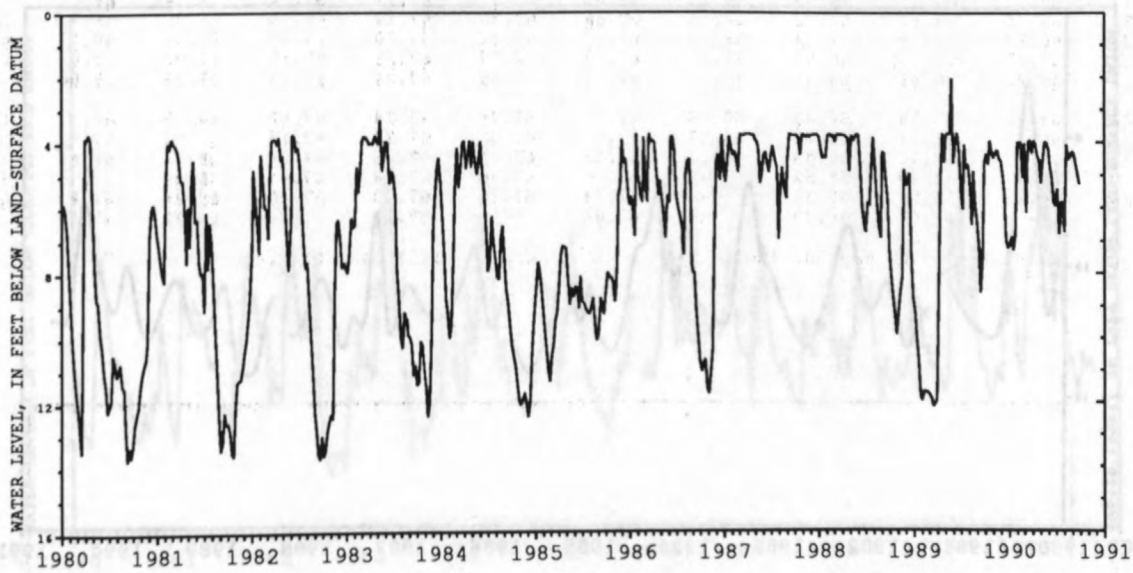


GREENE COUNTY

422319073482001. Local number, G 1.
LOCATION.--Lat 42°23'19", long 73°48'20", Hydrologic Unit 02020006, near West Coxsackie.
Owner: Harry Andrews.
AQUIFER.--Water-table aquifer in till of Pleistocene age.
WELL CHARACTERISTICS.--Dug domestic well, diameter 36 in., depth 17.6, 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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1989	4.35	JAN 04, 1990	7.15	APR 04, 1990	3.96	JUL 04, 1990	5.44
12	4.68	11	6.89	12	4.07	11	6.79
18	3.97	17	7.30	18	4.41	19	5.83
25	4.29	24	6.89	25	4.55	25	5.85
NOV 01	4.47	FEB 01	4.00	MAY 02	5.26	AUG 01	6.74
08	4.32	07	4.06	10	4.56	08	4.08
16	4.24	14	4.00	16	4.01	15	4.53
22	4.48	21	5.09	23	4.00	22	4.46
30	4.59	28	4.04	31	4.19	29	4.29
DEC 06	4.95	MAR 07	6.15	JUN 06	4.70	SEP 05	4.33
13	5.54	15	3.99	13	5.09	12	4.61
20	7.01	21	3.94	20	5.84	26	5.28
27	7.23	29	4.35	27	5.94		

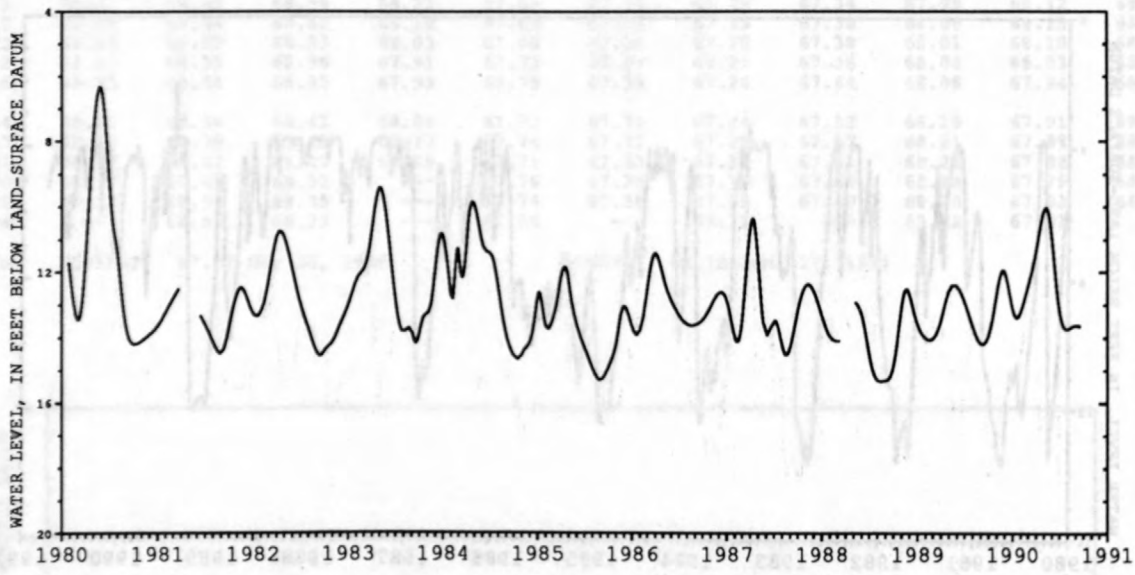


HAMILTON COUNTY

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 16.1 ft in September 1990, 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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1989	13.43	FEB 21, 1990	12.71	JUN 26, 1990	12.88	SEP 12, 1990	13.63
NOV 28	11.94	APR 03	11.35	AUG 07	13.72	18	13.66
JAN 09, 1990	13.30	MAY 23	10.27				



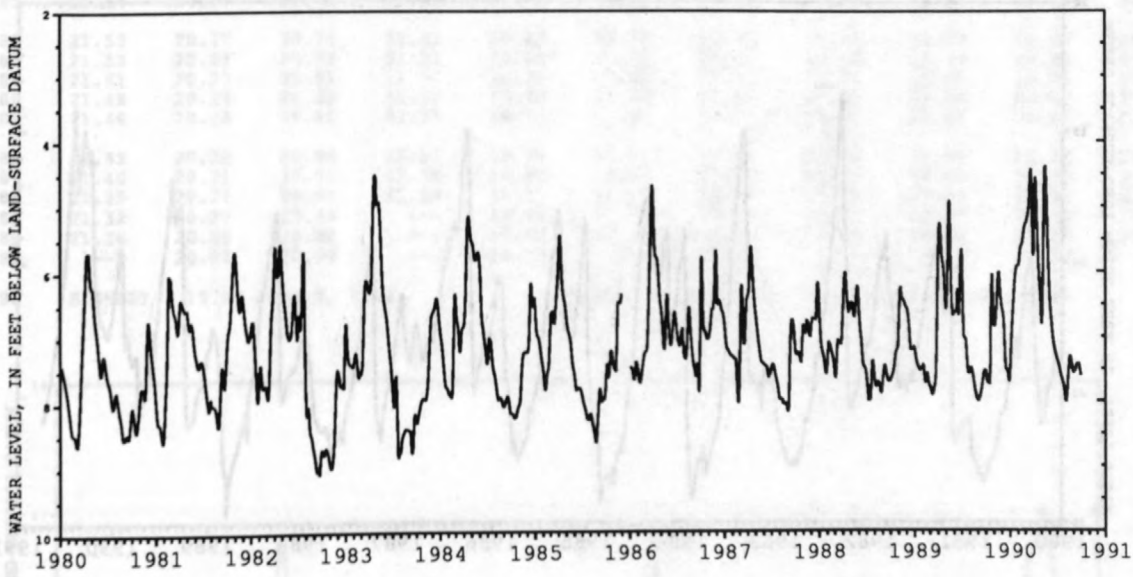
MONTGOMERY COUNTY

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL	
OCT 07, 1989	7.71		JAN 06, 1990	7.12		APR 14, 1990	5.05		JUL 14, 1990	7.58	
14	7.73		13	6.57		21	5.98		21	7.69	
18	7.43	Z	20	6.12		28	6.45		28	7.83	
21	6.35		27	5.92		MAY 05	6.66		AUG 04	8.01	
28	6.48		FEB 03	5.91		12	4.75		11	7.67	
NOV 04	6.85		10	5.64		19	4.55		18	7.31	
11	6.54		17	5.57		26	5.51		25	7.41	
18	6.02		24	5.35		JUN 02	6.36		SEP 01	7.57	
25	6.29		MAR 03	5.26		09	6.78		08	7.54	
DEC 02	6.58		10	5.14		16	7.07		11	7.46	Z
09	6.82		17	4.80		23	7.23		15	7.42	
16	7.51		24	4.55		30	7.35		22	7.42	
23	7.53		31	5.76		JUL 07	7.44		29	7.61	
30	7.70		APR 07	4.66							

Z Measured by USGS personnel.



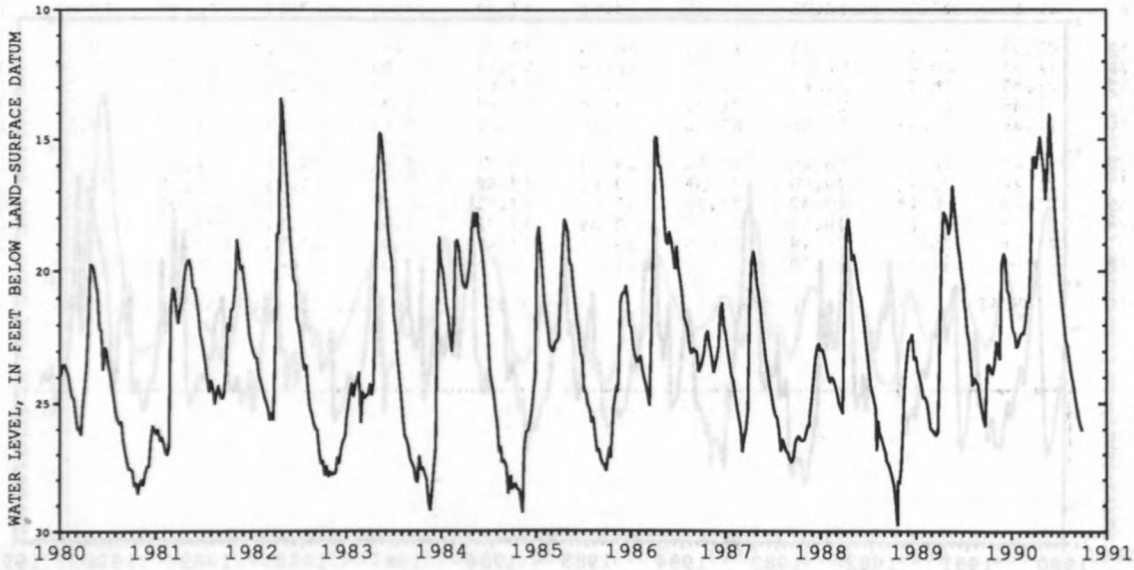
ONEIDA COUNTY

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.
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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL		DATE	WATER LEVEL
OCT 07, 1989	23.50	JAN 13, 1990	22.33	APR 14, 1990	15.42		JUL 07, 1990	20.57
14	23.76	20	22.85	21	14.91		14	21.18
21	23.86	27	22.75	28	15.56		21	21.86
28	23.50	FEB 03	22.45	MAY 05	16.18		28	22.56
NOV 04	22.61	10	22.28	12	17.29		AUG 04	22.80
11	22.93	17	22.33	19	16.29		11	23.33
18	23.28	24	21.88	28	14.03		18	23.85
25	19.70	MAR 03	21.12	JUN 02	15.09		25	24.18
DEC 02	19.34	10	21.12	09	16.19		SEP 01	24.65
09	19.52	17	19.19	13	17.03	Z	08	25.13
16	20.70	24	15.71	16	17.51		15	25.53
23	20.85	31	15.68	23	18.63		22	25.85
30	21.50	APR 07	16.11	30	19.51		29	26.05
JAN 06, 1990	22.18							

Z Measured by USGS personnel.



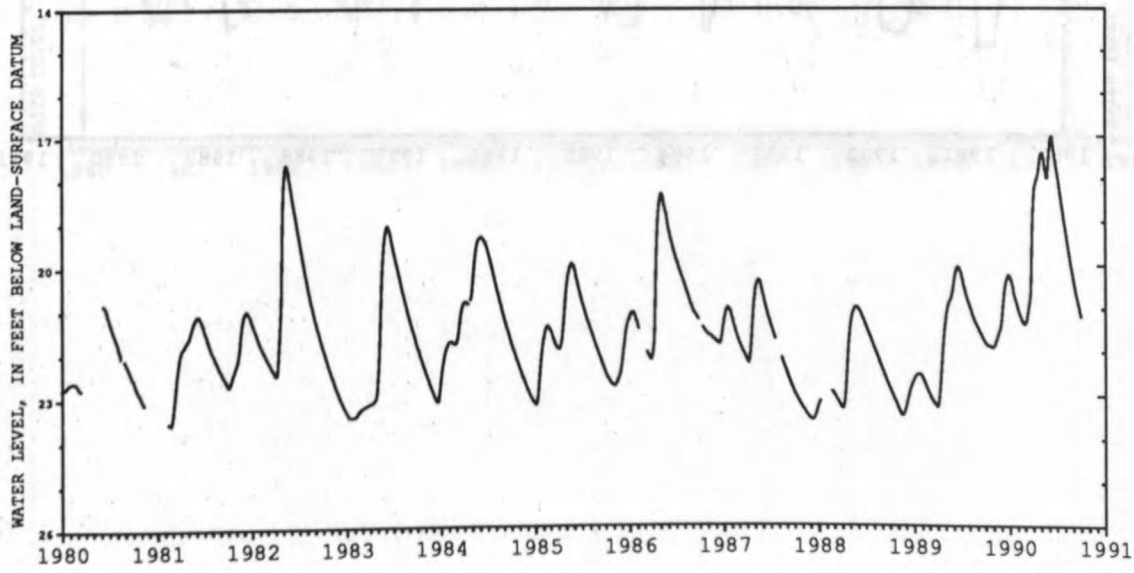
ONEIDA COUNTY

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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.80	21.87	21.22	20.25	21.01	21.33	18.46	17.40	17.27	17.89	19.19	20.35
2	21.80	21.88	21.14	20.30	21.03	21.30	18.36	17.41	17.20	17.93	19.23	20.38
3	21.81	21.86	21.06	20.32	21.05	21.29	18.28	17.44	17.13	17.97	19.26	20.42
4	21.82	21.86	20.99	20.31	21.06	21.29	18.20	17.43	17.08	18.00	19.30	20.46
5	21.83	21.84	20.92	20.34	21.09	21.30	18.17	17.39	17.05	18.05	19.34	20.48
6	21.82	21.81	20.85	20.36	21.10	21.28	18.14	17.42	17.02	18.10	19.39	20.51
7	21.83	21.79	20.80	20.39	21.12	21.26	18.11	17.46	17.01	18.16	19.43	20.53
8	21.84	21.77	20.74	20.41	21.14	21.21	18.09	17.50	17.01	18.19	19.47	20.58
9	21.85	21.74	20.67	20.43	21.14	21.15	18.08	17.53	17.00	18.22	19.51	20.61
10	21.85	21.73	20.61	20.45	21.16	21.11	18.03	17.53	17.01	18.27	19.54	20.63
11	21.84	21.71	20.56	20.47	21.18	21.08	18.01	17.58	17.05	18.32	19.58	20.67
12	21.85	21.71	20.52	20.49	21.20	21.04	18.02	17.68	17.10	18.36	19.62	20.69
13	21.85	21.70	20.48	20.56	21.21	21.00	18.02	17.69	17.15	18.41	19.66	20.72
14	21.85	21.67	20.44	20.61	21.24	20.96	17.98	17.75	17.19	18.44	19.70	20.75
15	21.85	21.64	20.41	20.63	21.25	20.93	17.94	17.79	17.23	18.48	19.74	20.76
16	21.85	21.60	20.37	20.66	21.25	20.89	17.93	17.82	17.29	18.53	19.78	20.80
17	21.85	21.61	20.35	20.68	21.28	20.84	17.89	17.82	17.34	18.58	19.81	20.83
18	21.87	21.60	20.33	20.68	21.30	20.81	17.89	17.86	17.36	18.62	19.85	20.86
19	21.87	21.59	20.31	20.74	21.28	20.79	17.86	17.92	17.40	18.65	19.89	20.88
20	21.85	21.54	20.29	20.75	21.32	20.72	17.80	17.95	17.46	18.69	19.93	20.91
21	21.85	21.53	20.27	20.75	21.33	20.63	17.74	17.97	17.50	18.73	19.97	20.94
22	21.87	21.53	20.27	20.78	21.31	20.48	17.70	17.99	17.54	18.77	20.00	20.96
23	21.88	21.51	20.27	20.81	21.30	20.25	17.65	17.98	17.56	18.81	20.04	20.98
24	21.89	21.49	20.25	20.82	21.32	19.99	17.60	17.96	17.60	18.86	20.07	21.02
25	21.89	21.46	20.23	20.85	21.35	19.71	17.55	17.91	17.67	18.91	20.11	21.05
26	21.89	21.42	20.22	20.86	21.36	19.44	17.51	17.81	17.71	18.96	20.14	21.08
27	21.89	21.40	20.25	20.90	21.34	19.21	17.48	17.71	17.74	19.00	20.17	21.11
28	21.89	21.35	20.24	20.92	21.34	19.01	17.45	17.62	17.78	19.03	20.20	21.14
29	21.89	21.32	20.27	20.93	---	18.85	17.43	17.51	17.81	19.07	20.23	21.16
30	21.89	21.26	20.26	20.94	---	18.70	17.41	17.41	17.85	19.10	20.27	21.18
31	21.88	---	20.24	20.99	---	18.57	---	17.34	---	19.14	20.32	---

WTR YEAR 1990 HIGHEST 16.99 June 9, 1990 LOWEST 21.89 Oct. 23, 24, 25-30, 31, 1989



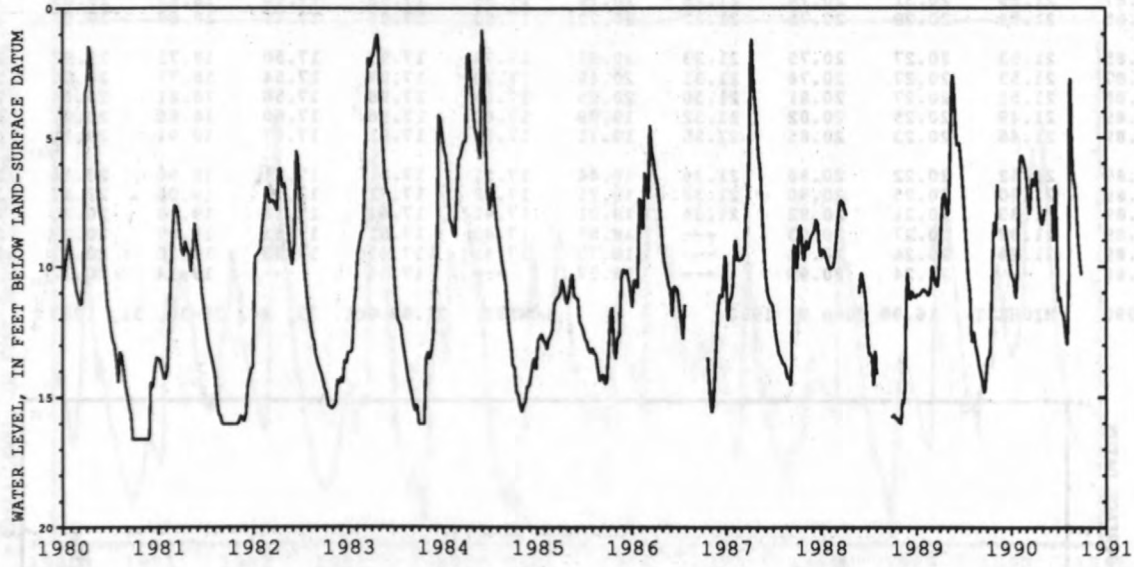
PUTNAM COUNTY

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1989	13.47	JAN 25, 1990	10.20	APR 12, 1990	6.84	JUL 26, 1990	12.30
12	13.38	FEB 01	6.78	MAY 03	8.30	AUG 02	12.90
28	8.30	08	5.70	10	7.78	09	10.93
NOV 02	8.80	22	6.06	JUN 07	7.61	16	3.13
09	6.85	MAR 01	6.55	14	8.87	23	4.90
DEC 07	8.42	15	7.85	21	6.88	SEP 06	7.13
14	8.92	22	6.59	28	10.50	13	8.62
21	9.52	29	6.74	JUL 07	11.16	20	9.61
JAN 04, 1990	10.40	APR 02	6.89 Z	13	11.70	27	10.30
11	10.62	06	6.33	19	11.82		

Z Measured by USGS personnel.

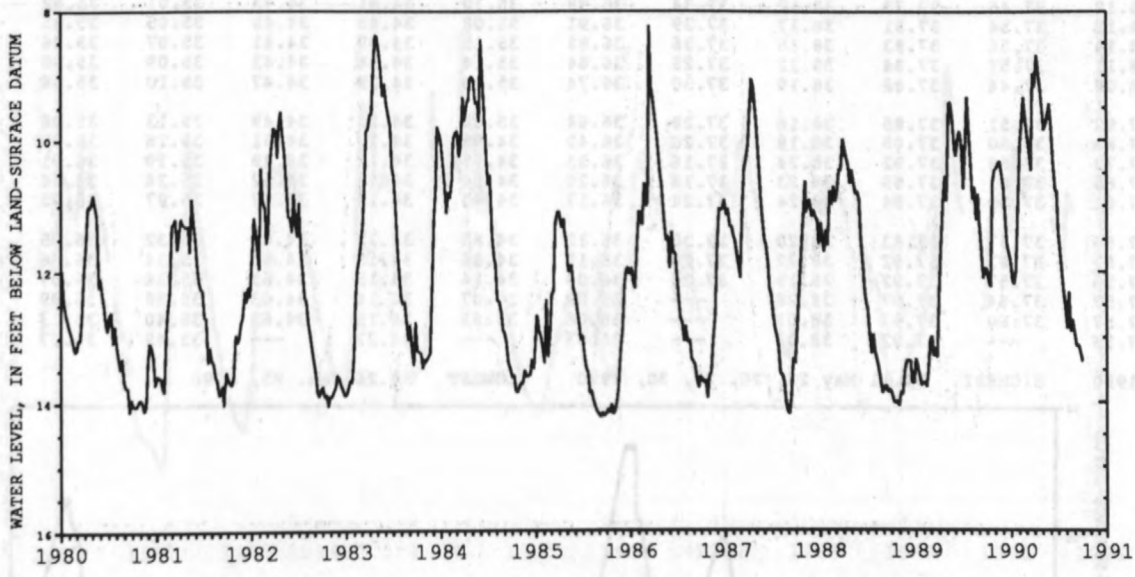


RENSSELAER COUNTY

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09, 1989	12.17	JAN 13, 1990	12.19	APR 14, 1990	8.90	JUL 14, 1990	11.99
15	12.23	20	12.00	22	9.19	21	12.30
22	10.63	28	10.84	29	9.51	28	12.56
29	10.45	FEB 03	10.09	MAY 05	9.84	AUG 04	12.86
NOV 05	10.42	10	9.70	13	9.75	11	12.31
13	10.34	17	9.34	20	9.60	18	12.91
18	10.33	25	9.70	27	9.44	25	12.73
25	10.52	MAR 03	9.94	JUN 02	9.74	SEP 02	12.97
DEC 02	10.72	10	10.16	09	10.30	08	13.13
09	11.16	18	10.46	18	10.76	16	13.12
16	11.58	24	8.97	24	10.78	22	13.21
30	11.84	31	9.18	30	11.40	30	13.37
JAN 06, 1990	12.14	APR 08	8.69	JUL 07	11.68		



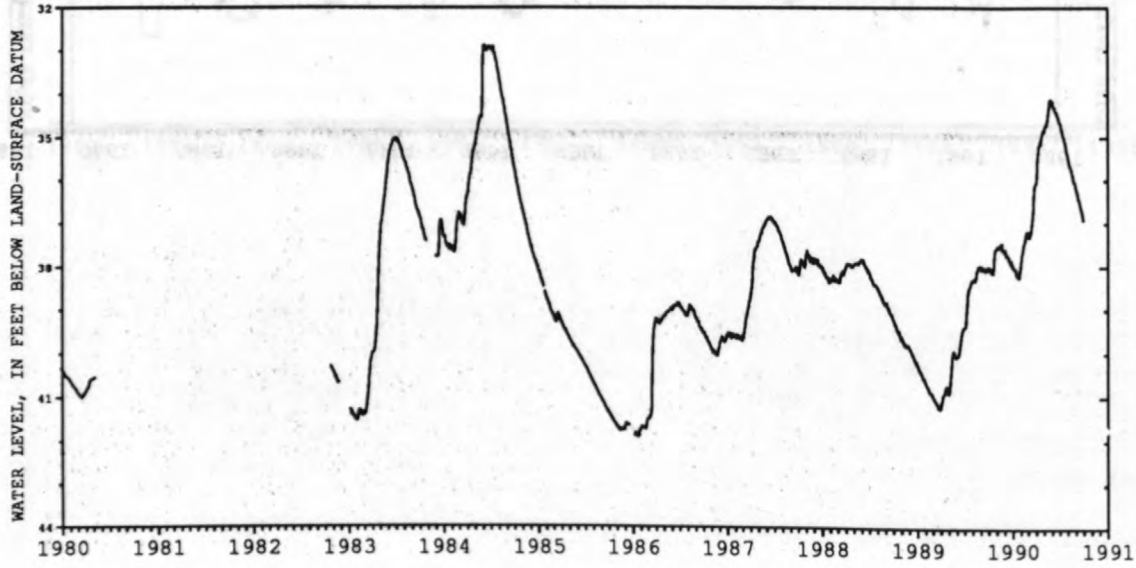
RENSSELAER COUNTY

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. Hydrograph shows water levels plotted for Re 701 (through 1980) adjusted to elevation of water levels plotted for Re 703. 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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38.05	37.57	37.67	37.92	37.93	37.20	36.03	34.80	34.24	34.65	35.47	36.19
2	38.00	37.56	37.64	38.01	37.87	37.16	36.02	34.84	34.22	34.69	35.51	36.20
3	37.99	37.51	37.57	38.02	37.84	37.19	35.99	34.87	34.17	34.71	35.54	36.25
4	38.00	37.55	37.62	37.98	37.73	37.24	35.83	34.81	34.18	34.70	35.57	36.28
5	38.01	37.53	37.63	38.03	37.73	37.28	35.63	34.73	34.26	34.74	35.60	36.28
6	38.00	37.50	37.64	38.03	37.69	37.30	35.53	34.75	34.27	34.79	35.63	36.30
7	38.04	37.53	37.72	38.04	37.67	37.32	35.43	34.75	34.28	34.83	35.65	36.31
8	38.06	37.52	37.75	38.03	37.66	37.26	35.38	34.75	34.32	34.85	35.67	36.39
9	38.09	37.50	37.73	38.05	37.61	37.22	35.34	34.71	34.29	34.81	35.69	36.40
10	38.11	37.53	37.69	38.03	37.56	37.23	35.25	34.66	34.30	34.85	35.70	36.40
11	38.10	37.51	37.72	38.04	37.53	37.23	35.20	34.68	34.34	34.90	35.71	36.43
12	38.11	37.52	37.75	38.04	37.49	37.21	35.21	34.73	34.38	34.93	35.73	36.45
13	38.12	37.54	37.75	38.12	37.44	37.15	35.20	34.63	34.39	34.96	35.74	36.49
14	38.13	37.49	37.76	38.16	37.44	37.11	35.14	34.63	34.37	34.98	35.77	36.49
15	38.13	37.47	37.77	38.15	37.42	37.05	35.09	34.57	34.39	34.98	35.80	36.49
16	38.12	37.45	37.73	38.17	37.34	36.98	35.10	34.51	34.43	35.01	35.82	36.54
17	38.12	37.54	37.81	38.17	37.39	36.91	35.08	34.45	34.45	35.05	35.85	36.59
18	38.14	37.56	37.83	38.15	37.36	36.88	35.15	34.39	34.41	35.07	35.86	36.63
19	38.11	37.57	37.84	38.22	37.25	36.84	35.14	34.34	34.42	35.09	35.90	36.63
20	38.02	37.44	37.82	38.19	37.30	36.74	35.06	34.29	34.47	35.10	35.94	36.65
21	37.92	37.51	37.85	38.16	37.28	36.64	35.00	34.23	34.49	35.13	35.96	36.69
22	37.81	37.60	37.89	38.18	37.20	36.49	34.98	34.17	34.51	35.16	35.99	36.69
23	37.73	37.58	37.92	38.24	37.16	36.33	34.95	34.12	34.49	35.19	36.01	36.71
24	37.65	37.61	37.89	38.23	37.18	36.26	34.94	34.13	34.52	35.24	36.04	36.76
25	37.61	37.59	37.84	38.24	37.24	36.17	34.90	34.14	34.57	35.27	36.05	36.79
26	37.58	37.57	37.83	38.20	37.30	36.12	34.88	34.12	34.60	35.32	36.05	36.81
27	37.57	37.63	37.92	38.22	37.20	36.11	34.86	34.12	34.60	35.34	36.06	36.86
28	37.56	37.57	37.92	38.15	37.20	36.09	34.84	34.15	34.63	35.36	36.07	36.88
29	37.57	37.64	37.97	38.08	---	36.09	34.87	34.14	34.63	35.38	36.09	36.91
30	37.57	37.60	37.97	38.01	---	36.06	34.83	34.15	34.63	35.40	36.13	36.92
31	37.56	---	37.92	38.01	---	36.03	---	34.22	---	35.42	36.17	---

WTR YEAR 1990 HIGHEST 34.11 May 23, 26, 27, 30, 1990 LOWEST 38.26 Jan. 25, 1990



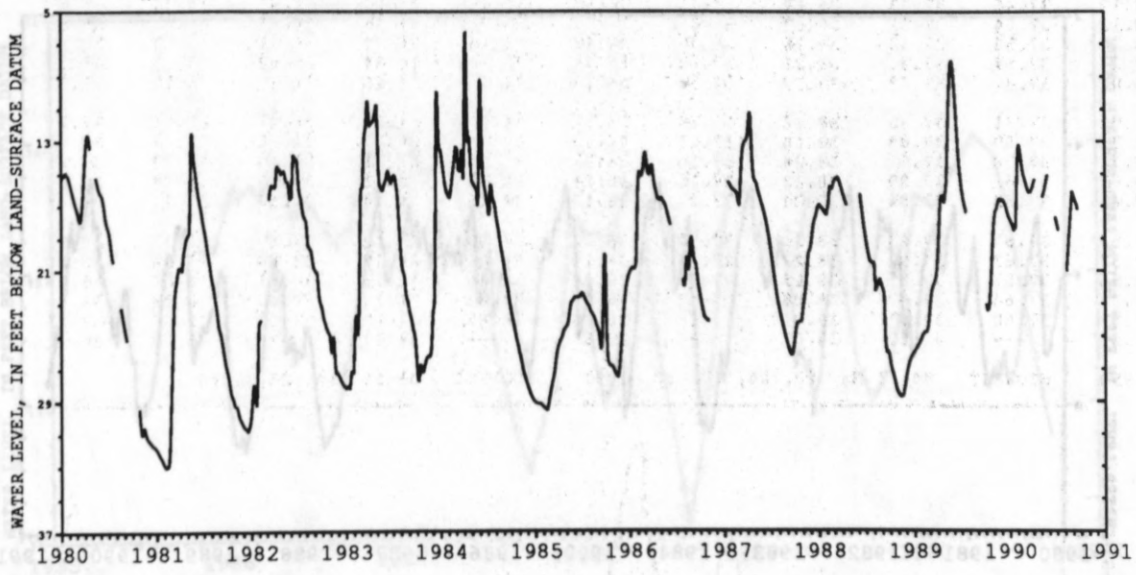
ROCKLAND COUNTY

411802073593001. Local number, Ro 18.
LOCATION.--Lat 41°18'02", long 73°59'30", Hydrologic Unit 02030101, in Bear Mountain State Park near Lemon Road and Seven Lakes Drive.
Owner: Palisades Interstate Park Commission.
AQUIFER.--Confined aquifer in Storm King Granite of Precambrian age.
WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in., depth 60 ft, cased to 53 ft, open hole.
INSTRUMENTATION.--Tape gage read weekly by observer.
DATUM.--Elevation of land-surface datum is 390 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of extended casing, 3.65 ft above land surface datum.
PERIOD OF RECORD.--July 1949 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.32 ft below land-surface datum, Apr. 6, 1984; lowest measured, 33.02 ft below land-surface datum, Feb. 6, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL		DATE	WATER LEVEL
OCT 03, 1989	23.08	DEC 11, 1989	16.78	FEB 07, 1990	13.30		MAY 25, 1990	15.08
13	23.36	19	17.18	21	14.96		JUN 25	17.69
23	20.89	27	17.66	28	15.37		JUL 06	18.50
NOV 02	17.87	JAN 03, 1990	17.90	MAR 07	15.82		AUG 07	21.04
13	17.08	10	18.16	15	16.19		28	16.12
20	16.56	16	18.54	APR 06	15.36	Z	SEP 16	17.01
27	16.69	24	18.35	MAY 07	16.46		17	17.24
DEC 04	16.59	31	14.19	14	16.05			

Z Measured by USGS personnel.



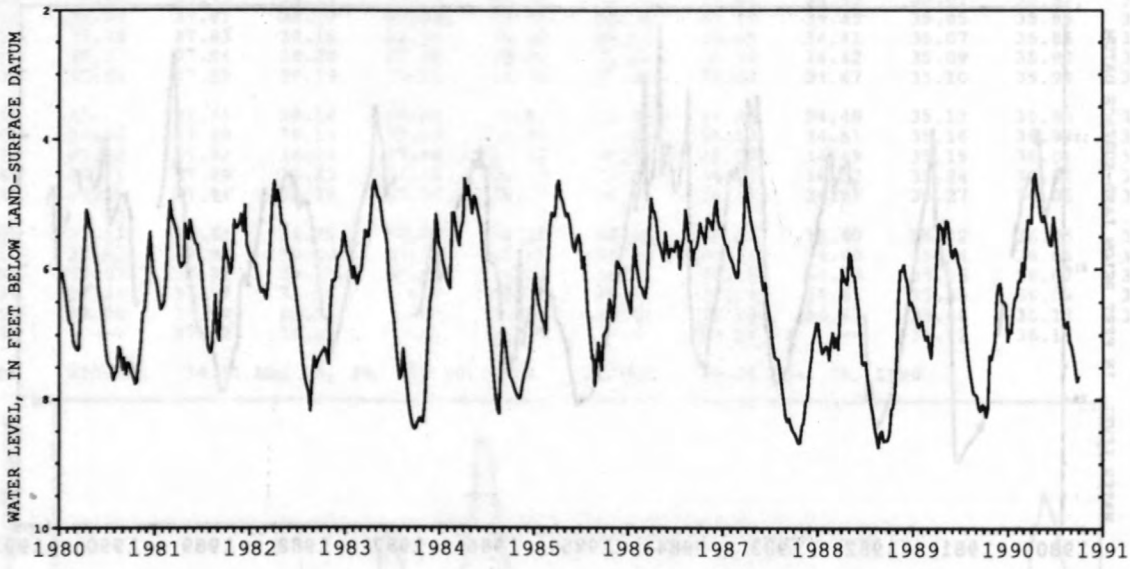
ST. LAWRENCE COUNTY

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 01, 1989	8.10	JAN 07, 1990	6.92	APR 08, 1990	4.60	JUL 08, 1990	5.73	
08	8.27	14	6.97	16	4.53	15	6.08	
15	8.15	21	6.62	22	4.77	22	6.30	E
22	7.31	28	6.43	29	4.90	29	6.57	
29	7.38	FEB 04	6.42	MAY 06	5.17	AUG 04	6.85	
NOV 05	7.24	11	6.17	13	5.28	12	6.89	
12	7.07	18	6.19	20	5.17	19	6.79	
19	6.40	25	5.89	27	5.32	26	7.10	
26	6.23	MAR 04	6.11	JUN 03	5.50	SEP 02	7.17	
DEC 03	6.22	11	5.65	10	5.62	09	7.32	
10	6.50	18	5.24	17	5.64	16	7.51	
17	6.50	25	5.25	24	5.19	23	7.72	
24	6.55	APR 01	5.30	JUL 01	5.40	30	7.64	
31	7.10							

E Estimated.

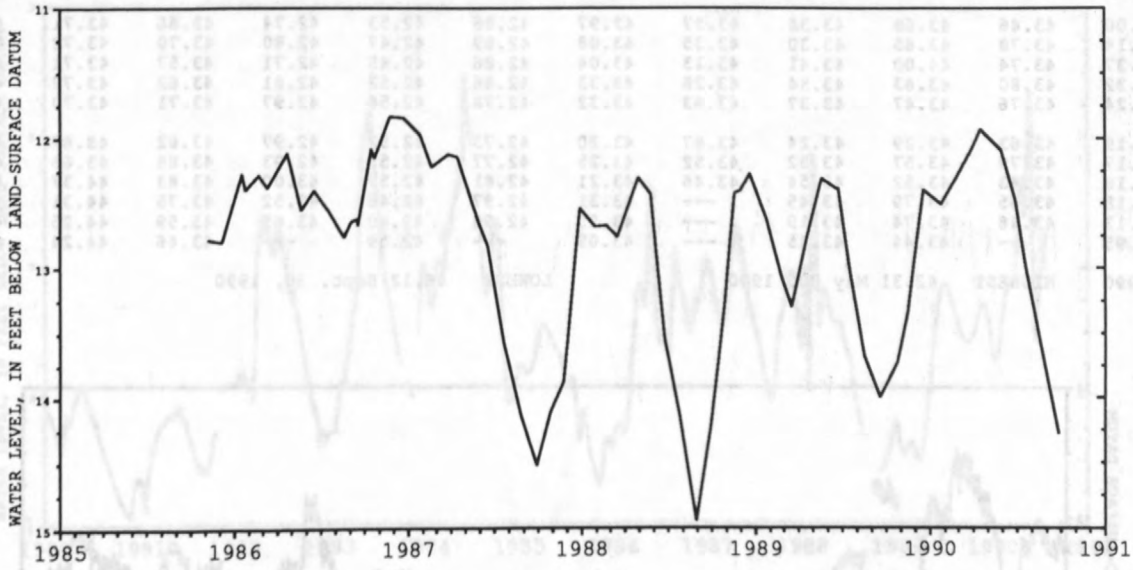


445216074593001. Local number, St 404.
LOCATION.--Lat 44°52'16", long 74°59'30", Hydrologic Unit 04150305, near Raymondville.
Owner: New York Power Authority.
AQUIFER.--Confined aquifer in Beekmantown dolomite of Cambrian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 179.6 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 recorded, 16.33 ft below land-surface datum, Oct. 13, 1960.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL		DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24, 1989	13.73		JAN 24, 1990	12.51	APR 16, 1990	11.93	JUL 19, 1990	12.98
NOV 15	13.34	E	FEB 22	12.32	MAY 29	12.09	AUG 22	13.64
DEC 18	12.40		MAR 29	12.08	JUN 28	12.48	SEP 26	14.28

E Estimated.



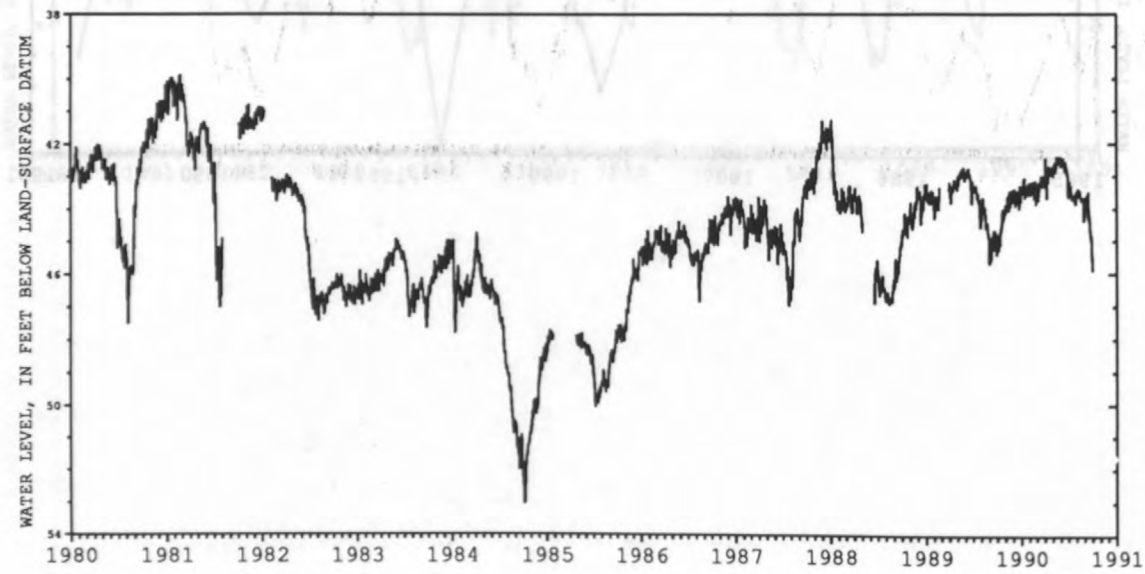
SARATOGA COUNTY

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 topograhic 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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.80	43.88	43.72	43.28	43.38	43.42	43.06	42.73	42.70	43.50	43.52	44.16
2	44.83	44.02	43.66	43.53	43.37	43.20	42.98	42.85	42.71	43.39	43.56	44.02
3	45.14	43.92	43.39	43.54	43.58	43.25	42.81	43.01	42.56	43.27	43.56	44.05
4	45.23	44.07	43.46	43.34	43.34	43.46	42.45	42.94	42.49	43.15	43.58	43.95
5	45.29	44.08	43.40	43.46	43.53	43.63	42.65	42.64	42.52	43.19	43.61	43.75
6	45.26	43.89	43.41	43.42	43.40	43.66	42.90	42.71	42.45	43.33	43.46	43.68
7	45.22	43.85	43.74	43.43	43.37	43.75	43.23	42.74	42.45	43.42	43.39	43.59
8	44.99	43.74	43.93	43.33	43.42	43.61	43.59	42.79	42.59	43.40	43.53	43.89
9	44.89	43.59	43.81	43.28	43.26	43.42	43.68	42.74	42.45	43.28	43.61	43.87
10	45.13	43.70	43.71	43.13	43.17	43.45	43.21	42.57	42.47	43.38	43.63	43.71
11	45.00	43.77	43.65	43.13	43.37	43.45	42.85	42.61	42.56	43.55	43.55	43.70
12	44.81	43.93	43.68	43.06	43.46	43.37	43.02	42.90	42.61	43.62	43.58	43.66
13	44.70	44.07	43.62	43.41	43.37	43.19	43.20	42.80	42.62	43.71	43.47	43.64
14	44.71	43.83	43.65	43.67	43.45	43.18	43.10	42.77	42.65	43.70	43.47	43.54
15	44.65	43.72	43.63	43.56	43.52	43.18	42.87	42.67	42.72	43.64	43.57	43.49
16	44.54	43.46	43.45	43.51	43.16	43.12	42.83	42.62	42.84	43.66	43.62	43.97
17	44.47	43.72	43.68	43.46	43.46	42.99	42.69	42.42	42.85	43.69	43.69	44.39
18	44.52	43.84	43.83	43.33	43.69	43.16	43.00	42.39	42.62	43.70	43.68	44.27
19	44.50	43.94	43.82	43.60	43.31	43.32	---	42.53	42.56	43.69	43.75	44.25
20	44.14	43.44	43.66	43.53	43.52	43.06	---	42.63	42.67	43.67	43.77	44.45
21	44.00	43.46	43.68	43.34	43.57	42.97	42.86	42.53	42.74	43.66	43.71	44.68
22	44.14	43.78	43.85	43.30	43.35	43.08	42.89	42.47	42.80	43.70	43.72	44.66
23	44.37	43.74	44.00	43.41	43.13	43.04	42.86	42.45	42.71	43.57	43.71	44.76
24	44.32	43.80	43.83	43.34	43.28	43.33	42.86	42.52	42.81	43.62	43.72	44.92
25	44.24	43.76	43.47	43.37	43.63	43.32	42.78	42.56	42.97	43.71	43.70	44.82
26	44.19	43.63	43.29	43.24	43.87	43.20	42.73	42.52	42.97	43.82	43.67	44.87
27	44.17	43.79	43.57	43.52	43.52	43.25	42.77	42.55	42.93	43.86	43.65	45.17
28	44.18	43.43	43.52	43.54	43.46	43.21	42.81	42.57	43.00	43.83	44.37	45.42
29	44.18	43.65	43.79	43.45	---	43.31	42.97	42.46	43.52	43.75	44.31	45.63
30	44.13	43.48	43.74	43.19	---	43.25	42.90	42.40	43.65	43.59	44.25	45.90
31	43.95	---	43.44	43.45	---	43.09	---	42.59	---	43.46	44.24	---

WTR YEAR 1990 HIGHEST 42.31 May 30, 1990 LOWEST 46.12 Sept. 30, 1990



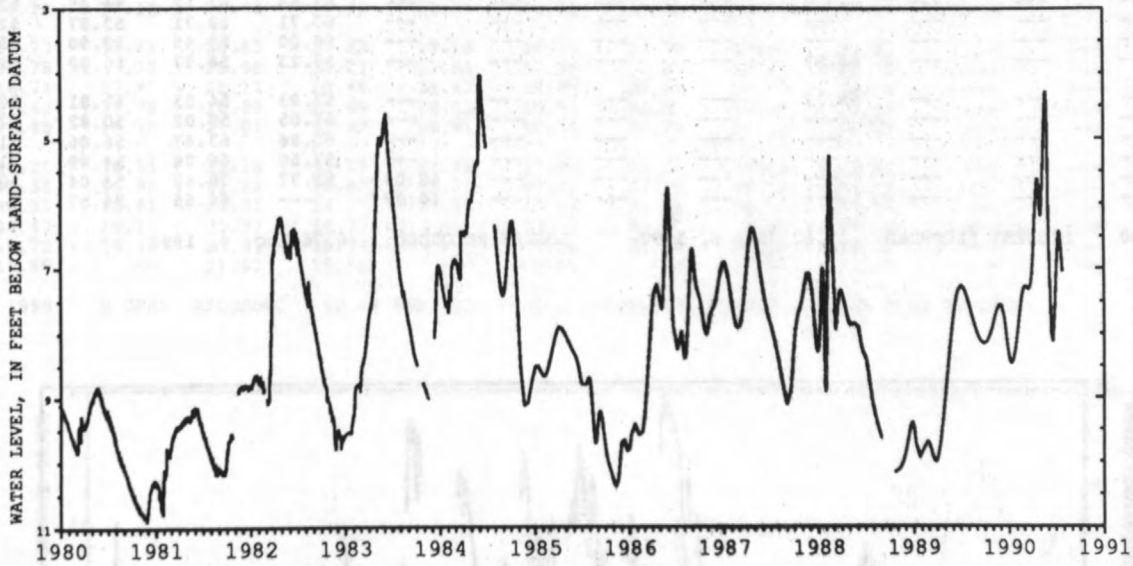
SARATOGA COUNTY

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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL	
OCT 25, 1989	7.97	Z	FEB 08, 1990	7.80		APR 24, 1990	5.67	Z	JUN 05, 1990	6.80	
DEC 13	7.73	Z	MAR 01	7.28	Z	MAY 04	6.20		JUL 10	6.48	Z
JAN 03, 1990	8.40		APR 04	6.80		29	4.83	Z	26	7.05	Z
26	8.24	Z									

Z Measured by USGS personnel.



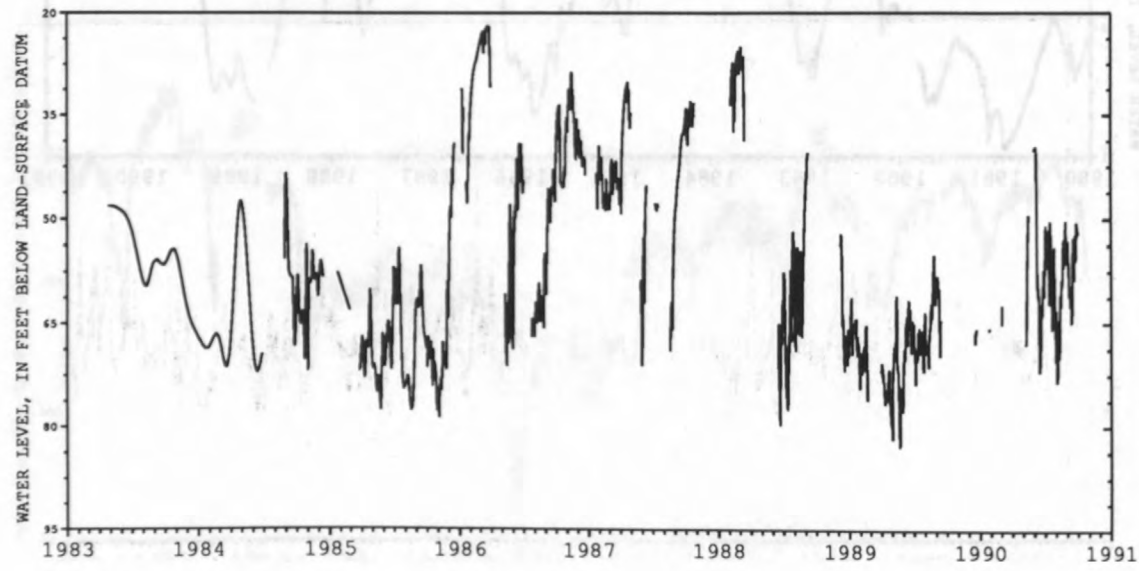
SARATOGA COUNTY

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, 85.38 ft below land-surface datum, May 21, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	65.06	---	---	39.94	51.55	63.80	54.54
2	---	---	---	---	---	62.40	---	---	40.04	50.98	69.37	53.16
3	---	---	---	---	---	---	---	---	39.93	54.64	73.42	55.11
4	---	---	---	---	---	---	---	---	39.76	56.81	72.99	58.60
5	---	---	---	---	---	---	---	---	39.71	54.32	72.54	61.02
6	---	---	---	---	---	---	---	---	39.69	56.09	66.16	60.63
7	---	---	---	---	---	---	---	---	47.15	56.25	69.70	59.68
8	---	---	---	---	---	---	---	67.97	59.71	55.75	69.96	59.53
9	---	---	---	---	---	---	---	67.38	57.67	53.42	69.80	62.53
10	---	---	---	---	---	---	---	60.31	60.86	52.22	68.65	60.11
11	---	---	---	---	---	---	---	56.95	61.50	61.77	63.38	63.10
12	---	---	---	---	---	---	---	54.87	60.83	58.03	60.79	64.84
13	---	---	---	---	---	---	---	52.59	65.30	53.39	62.44	64.03
14	---	---	---	---	---	---	---	50.99	68.67	50.68	62.49	63.32
15	---	---	---	---	---	---	---	49.47	71.93	50.39	60.06	58.86
16	---	---	66.43	---	---	---	---	---	69.11	51.08	58.62	54.93
17	---	---	67.74	---	---	---	---	---	70.95	54.27	59.35	52.69
18	---	---	67.56	---	---	---	---	---	71.16	57.73	57.53	53.28
19	---	---	66.29	---	---	---	---	---	65.14	64.19	54.40	53.46
20	---	---	65.79	---	---	---	---	---	---	65.05	53.12	58.63
21	---	---	65.91	---	---	---	---	---	63.92	59.21	56.89	54.85
22	---	---	---	---	---	---	---	---	63.68	62.12	54.45	52.25
23	---	---	---	---	---	---	---	---	60.71	59.71	53.97	52.71
24	---	---	---	---	---	---	---	---	60.00	59.45	52.90	55.95
25	---	---	---	65.99	---	---	---	---	57.23	56.97	55.32	52.92
26	---	---	---	65.72	---	---	---	---	57.93	54.03	51.81	50.55
27	---	---	---	---	---	---	---	---	61.05	59.02	50.82	52.54
28	---	---	---	---	---	---	---	---	60.86	63.47	56.06	51.17
29	---	---	---	---	---	---	---	---	57.66	66.06	54.99	51.20
30	---	---	---	---	---	---	---	40.08	53.77	70.40	53.04	52.14
31	---	---	---	---	---	---	---	40.07	---	64.65	54.57	---

WTR YEAR 1990 HIGHEST RECORDED 39.62 June 6, 1990 LOWEST RECORDED 76.76 Aug. 4, 1990



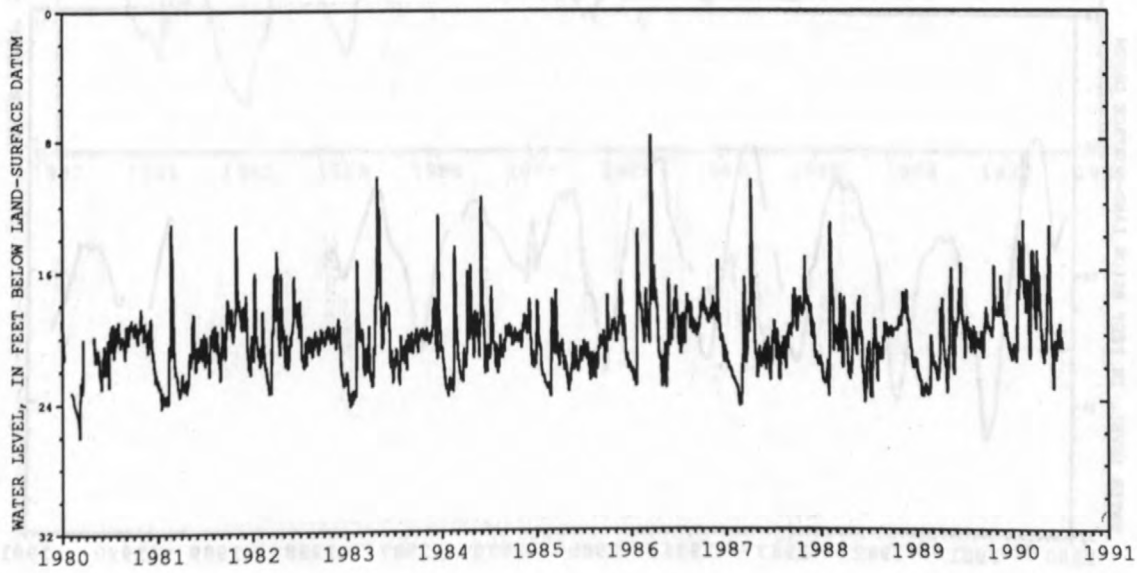
SCHENECTADY COUNTY

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 17.09 Mgal/d in 1990) 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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.58	18.71	19.28	21.54	15.73	16.63	19.48	21.42	21.05	19.55	---	---
2	19.53	18.53	19.62	21.45	15.97	16.95	19.66	21.69	21.20	19.35	---	---
3	19.48	18.74	19.56	21.12	15.26	17.71	19.49	21.45	21.20	20.14	---	---
4	19.48	18.81	20.05	20.87	15.07	18.43	16.72	21.25	21.80	20.17	---	---
5	19.57	18.68	19.99	20.82	15.58	19.03	14.85	21.15	22.40	20.40	---	---
6	19.63	18.84	19.35	20.70	16.02	19.75	15.52	20.33	22.49	20.25	---	---
7	19.66	18.81	19.16	20.55	16.35	20.56	16.39	20.38	23.01	20.12	---	---
8	19.76	18.79	19.49	20.65	16.54	21.09	16.88	20.53	23.30	20.27	---	---
9	19.78	18.72	19.27	20.80	16.61	21.43	17.82	20.63	22.50	20.43	---	---
10	19.78	18.04	19.60	20.99	15.44	21.41	18.49	21.08	20.75	20.67	---	---
11	19.81	18.04	19.86	21.15	13.01	21.11	17.98	20.39	20.43	20.81	---	---
12	19.89	18.02	19.81	21.23	14.58	20.33	16.15	19.67	20.36	---	---	---
13	19.99	18.09	20.05	21.18	16.11	17.50	16.38	19.38	20.90	---	---	---
14	20.09	18.52	20.27	21.26	17.06	15.92	16.71	17.75	21.06	---	---	---
15	20.11	18.79	20.15	21.32	17.47	14.95	17.28	17.43	20.66	---	---	---
16	19.96	18.82	20.45	21.47	17.79	15.02	17.80	18.07	20.77	---	---	---
17	19.78	17.36	20.48	21.62	17.10	15.36	18.28	16.81	21.32	---	---	---
18	19.49	16.41	20.70	21.60	16.59	14.91	18.61	15.14	21.55	---	---	---
19	19.21	16.73	20.81	20.97	17.16	14.83	18.98	15.15	21.41	---	---	---
20	19.10	17.12	20.43	18.41	17.71	15.15	19.60	15.86	20.74	---	---	---
21	16.73	17.41	20.63	17.23	18.18	14.99	19.75	14.86	20.45	---	---	---
22	15.78	17.22	20.98	17.27	18.63	15.95	19.60	13.31	20.36	---	---	---
23	16.71	17.41	21.13	17.48	18.62	15.67	20.21	14.42	20.19	---	---	---
24	17.40	17.78	20.89	17.69	16.85	15.84	20.62	16.00	19.92	---	---	---
25	17.85	18.20	21.01	17.87	16.91	16.34	20.79	17.14	19.63	---	---	---
26	18.21	18.55	21.18	17.32	17.46	17.45	21.08	17.63	19.92	---	---	---
27	18.38	18.95	21.24	14.82	17.58	17.76	21.20	18.13	20.62	---	---	---
28	18.35	18.81	21.31	14.27	17.15	18.49	21.04	19.05	20.54	---	---	---
29	18.40	19.17	21.37	14.77	---	18.79	21.23	19.68	20.83	---	---	---
30	18.72	19.36	21.51	15.34	---	19.05	21.34	20.36	19.91	---	---	---
31	18.80	---	21.52	15.50	---	18.98	---	20.54	---	---	---	---

WTR YEAR 1990 HIGHEST RECORDED 12.49 Feb. 11, 1990 LOWEST RECORDED 23.34 June 8, 1990



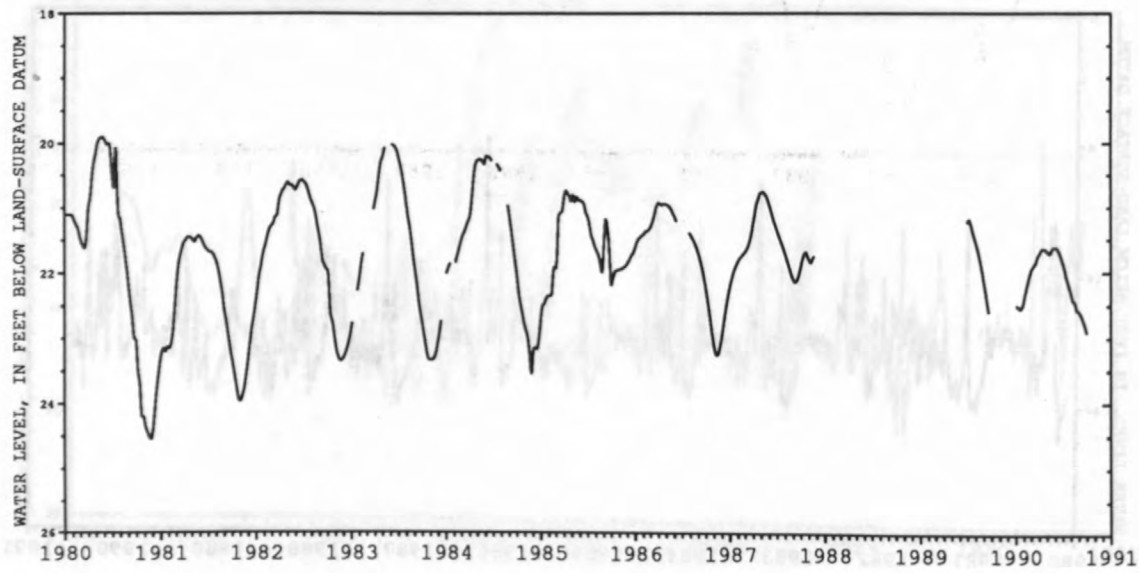
ULSTER COUNTY

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.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	22.42	21.96	21.71	21.68	21.61	21.85	22.31	22.60
2	---	---	---	---	22.40	21.95	21.70	21.68	21.61	21.86	22.33	22.60
3	---	---	---	---	22.38	21.94	21.70	21.68	21.61	21.88	22.34	22.61
4	---	---	---	22.50	22.36	21.93	21.69	21.69	21.61	21.89	22.36	22.61
5	---	---	---	22.50	22.34	21.93	21.68	21.69	21.61	21.91	22.38	22.62
6	---	---	---	22.50	22.32	21.92	21.67	21.70	21.61	21.93	22.40	22.63
7	---	---	---	22.51	22.30	21.91	21.66	21.70	21.62	21.94	22.41	22.63
8	---	---	---	22.51	22.29	21.91	21.66	21.70	21.62	21.96	22.42	22.64
9	---	---	---	22.51	22.27	21.90	21.65	21.70	21.63	21.97	22.42	22.65
10	---	---	---	22.51	22.25	21.89	21.64	21.71	21.63	22.00	22.43	22.66
11	---	---	---	22.52	22.23	21.89	21.64	21.71	21.64	22.02	22.43	22.66
12	---	---	---	22.52	22.21	21.88	21.63	21.71	21.65	22.04	22.44	22.67
13	---	---	---	22.52	22.20	21.88	21.63	21.70	21.66	22.05	22.44	22.69
14	---	---	---	22.53	22.18	21.87	21.63	21.70	21.66	22.07	22.44	22.70
15	---	---	---	22.53	22.17	21.87	21.63	21.69	21.67	22.08	22.45	22.71
16	---	---	---	22.53	22.15	21.86	21.63	21.68	21.68	22.09	22.46	22.72
17	---	---	---	22.54	22.14	21.86	21.63	21.67	21.69	22.10	22.47	22.73
18	---	---	---	22.54	22.12	21.85	21.63	21.66	21.70	22.12	22.48	22.74
19	---	---	---	22.54	22.10	21.84	21.63	21.65	21.71	22.13	22.49	22.75
20	---	---	---	22.54	22.09	21.83	21.63	21.64	21.72	22.14	22.51	22.77
21	---	---	---	22.54	22.07	21.82	21.63	21.64	21.73	22.16	22.53	22.78
22	---	---	---	22.54	22.06	21.80	21.63	21.63	21.74	22.17	22.55	22.79
23	---	---	---	22.53	22.04	21.79	21.64	21.63	21.75	22.18	22.56	22.81
24	---	---	---	22.52	22.03	21.77	21.64	21.62	21.76	22.20	22.57	22.82
25	---	---	---	22.52	22.01	21.76	21.64	21.62	21.77	22.21	22.57	22.83
26	---	---	---	22.51	22.01	21.75	21.65	21.61	21.79	22.23	22.58	22.84
27	---	---	---	22.50	21.99	21.74	21.65	21.61	21.80	22.24	22.58	22.85
28	---	---	---	22.49	21.97	21.73	21.66	21.61	21.81	22.26	22.58	22.87
29	---	---	---	22.48	---	21.73	21.67	21.61	21.83	22.27	22.58	22.89
30	---	---	---	22.46	---	21.72	21.67	21.61	21.84	22.28	22.58	22.91
31	---	---	---	22.44	---	21.72	---	21.61	---	22.30	22.59	---

WTR YEAR 1990 HIGHEST RECORDED 21.61 May 26, 27 to June 6, 7, 1990 LOWEST RECORDED 22.91 Sept. 30, 1990



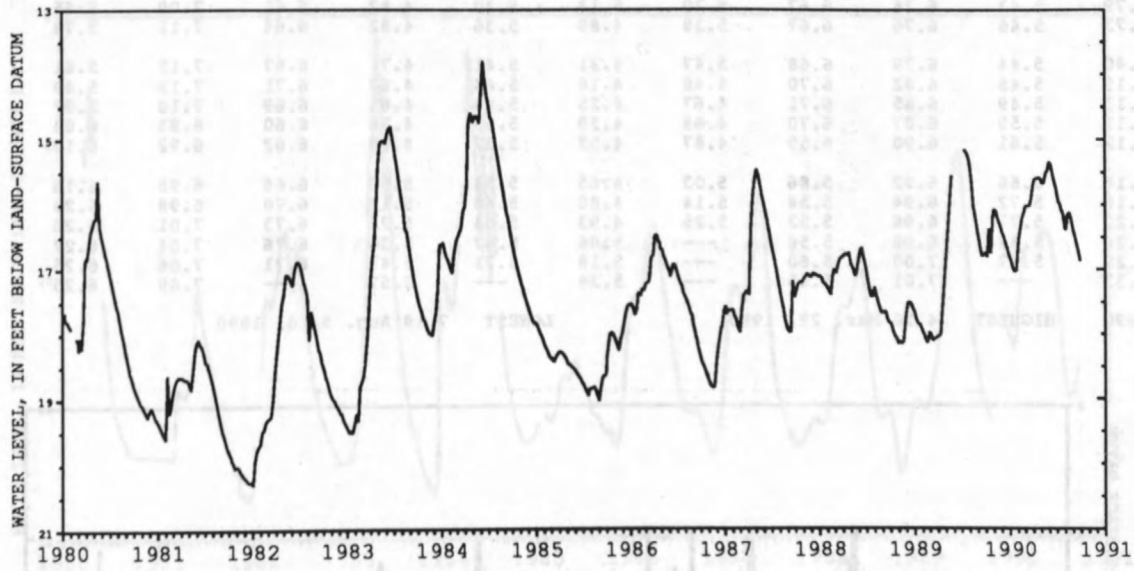
ULSTER COUNTY

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 36 ft, cased to 34 ft, 2-in. well point (60-gauze screen 34 ft to 36 ft).
INSTRUMENTATION.--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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL	
OCT 06, 1989	16.81		JAN 05, 1990	16.87		APR 05, 1990	15.61		JUL 13, 1990	16.01	
13	16.39		12	16.98		20	15.59		19	16.11	Z
20	16.75		19	17.04		27	15.60	Z	20	16.11	
27	16.20		26	17.02		MAY 04	15.68		27	16.25	
NOV 03	16.10		FEB 01	16.69	Z	11	15.68		AUG 03	16.39	
08	16.11	Z	09	16.41		18	15.53		10	16.15	
10	16.14		16	16.23		25	15.47		17	16.13	
17	16.25		23	16.14		JUN 01	15.35		24	16.23	
24	16.32		MAR 02	16.03		08	15.41	Z	31	16.38	Z
DEC 01	16.43		09	16.03		15	15.56		SEP 07	16.49	
08	16.50		16	16.03	Z	22	15.68		14	16.61	
15	16.60		23	15.93		29	15.80		21	16.73	
21	16.67	Z	30	15.72		JUL 06	15.95		28	16.87	
29	16.79										

Z Measured by USGS personnel.



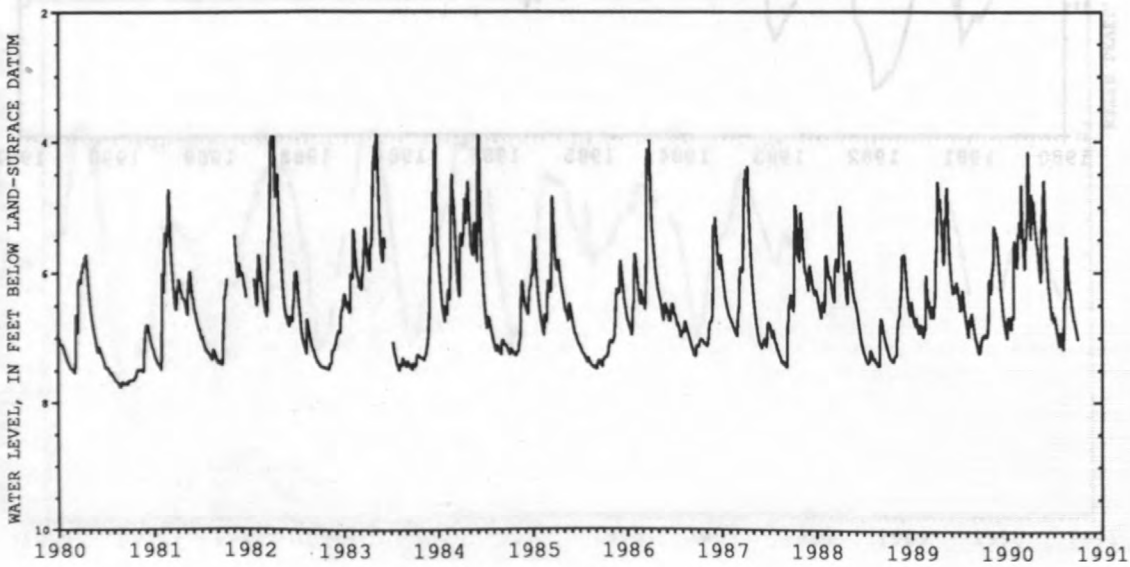
WASHINGTON COUNTY

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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.01	6.22	5.93	6.88	5.70	5.35	5.37	5.76	5.67	6.68	7.10	6.29
2	7.01	6.10	5.99	6.77	5.69	5.43	5.46	5.81	5.76	6.68	7.12	6.32
3	6.97	6.05	6.04	6.75	5.69	5.49	5.50	5.87	5.83	6.70	7.14	6.36
4	6.95	6.00	6.09	6.76	5.73	5.55	4.98	5.93	5.87	6.72	7.16	6.40
5	6.95	5.97	6.15	6.70	5.78	5.64	4.81	5.97	5.94	6.75	7.18	6.44
6	6.95	5.94	6.21	6.68	5.82	5.73	4.88	5.99	6.01	6.78	7.11	6.48
7	6.95	5.91	6.25	6.70	5.87	5.81	4.97	6.04	6.08	6.80	6.82	6.53
8	6.96	5.88	6.30	6.73	5.92	5.88	5.06	6.08	6.14	6.83	6.52	6.55
9	6.97	5.79	6.35	6.76	5.93	5.93	5.15	6.12	6.21	6.86	6.45	6.58
10	6.98	5.43	6.39	6.78	5.70	5.95	5.23	6.15	6.23	6.88	6.43	6.61
11	6.99	5.31	6.43	6.78	5.43	5.91	5.04	6.06	6.27	6.91	6.41	6.64
12	6.98	5.30	6.47	6.80	5.41	5.77	4.91	5.99	6.30	6.92	6.40	6.67
13	6.98	5.33	6.51	6.82	5.44	5.61	4.94	5.93	6.34	6.95	6.39	6.70
14	7.00	5.37	6.56	6.85	5.43	5.54	5.00	5.51	6.39	6.98	5.78	6.73
15	6.98	5.42	6.61	6.87	5.42	5.49	5.05	5.30	6.43	7.00	5.49	6.75
16	6.97	5.46	6.64	6.88	5.40	5.46	5.09	5.27	6.47	7.03	5.46	6.73
17	6.96	5.39	6.67	6.86	5.23	5.42	5.15	5.18	6.52	7.05	5.50	6.75
18	6.87	5.39	6.71	6.71	5.24	5.22	5.23	4.95	6.56	7.07	5.57	6.78
19	6.79	5.43	6.74	6.67	5.30	5.13	5.30	4.82	6.61	7.09	5.65	6.80
20	6.73	5.46	6.76	6.67	5.38	4.89	5.36	4.82	6.64	7.11	5.73	6.82
21	6.40	5.44	6.79	6.68	5.47	4.31	5.41	4.71	6.67	7.12	5.81	6.84
22	6.19	5.45	6.82	6.70	5.46	4.16	5.43	4.60	6.71	7.13	5.89	6.86
23	6.13	5.49	6.85	6.71	4.67	4.25	5.48	4.65	6.69	7.10	5.97	6.88
24	6.11	5.55	6.87	6.70	4.68	4.39	5.53	4.76	6.60	6.93	6.04	6.90
25	6.12	5.61	6.90	6.59	4.87	4.52	5.57	4.89	6.62	6.92	6.10	6.92
26	6.14	5.66	6.92	5.86	5.03	4.65	5.58	5.00	6.66	6.95	6.16	6.95
27	6.18	5.72	6.94	5.54	5.14	4.80	5.60	5.12	6.70	6.98	6.23	6.97
28	6.22	5.77	6.96	5.52	5.25	4.93	5.63	5.25	6.73	7.01	6.26	6.99
29	6.26	5.82	6.98	5.56	---	5.06	5.67	5.36	6.76	7.04	6.27	7.01
30	6.29	5.87	7.00	5.60	---	5.18	5.71	5.47	6.71	7.06	6.25	7.03
31	6.33	---	7.01	5.65	---	5.28	---	5.57	---	7.09	6.25	---

WTR YEAR 1990 HIGHEST 4.16 Mar. 22, 1990 LOWEST 7.19 Aug. 5, 6, 1990

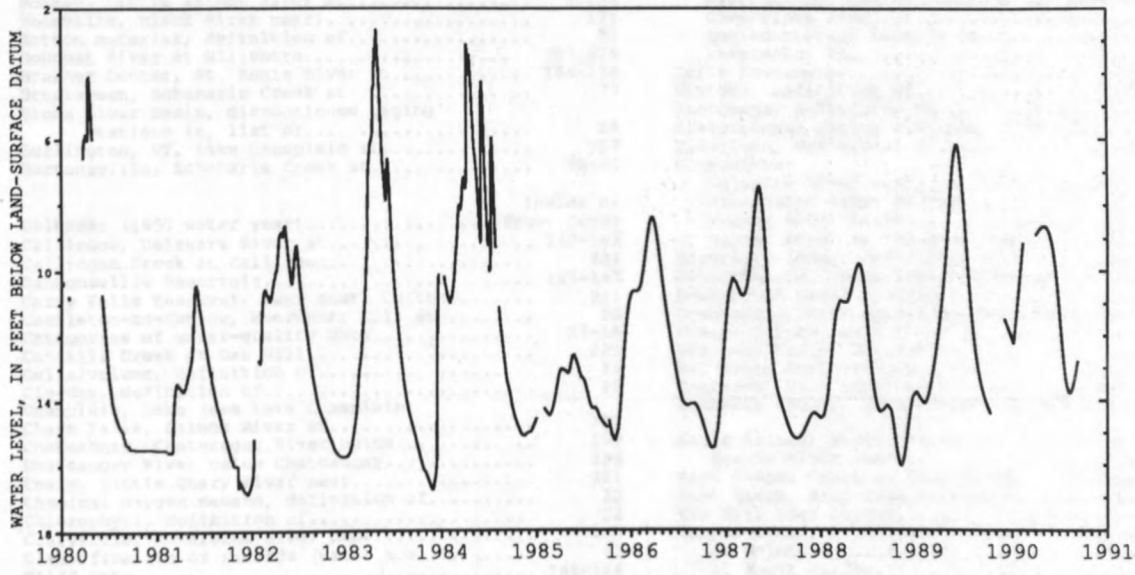


WESTCHESTER COUNTY

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 17.2 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 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1989	14.41	FEB 12, 1990	9.14	MAY 07, 1990	8.64	JUL 30, 1990	13.56
DEC 04	11.48	APR 02	8.89	JUN 18	10.07	SEP 10	12.78
JAN 08, 1990	12.25						



October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
343 U.S. Post Office & Courthouse - P.O. Box 1669
Albany, NY 12201

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

SPECIAL 4TH CLASS BOOK RATE