Water Resources Data New York Water Year 1988

Volume 3. Western New York

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-88-3
Prepared in cooperation with the State of New York
and with other agencies

CALENDAR FOR WATER YEAR 1988

1987

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		

1988

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	29					

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 1988

Volume 3. Western New York

by J.B. Campbell, W.F. Coon, D.A. Sherwood and D.D. Deloff

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-88-3
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

1988

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 quality of water 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

The data contained in these three volumes were collected, computed, and processed from three subdistrict offices and one area field office. The offices, and personnel in charge, are:

Volume 1. Albany, John R. Ritter, Subdistrict Chief
Potsdam, Howard G. Lent, Jr., Technician-in-charge
Volume 2. Syosset, Donald L. Bingham, Subdistrict Chief
Volume 3. Ithaca, Robin G. Brown, Acting Subdistrict Chief

The authors, including W. H. Johnston, 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:

R. G. Cacciotti	R. L. Mulks	M. J. Welsh
J. P. Campbell	J. M. Surface	H. J. Zajd, Jr.
H. L. Dixson	C. O. Szabo	

A. M. Weaver and S. J. Woodward typed the text of the report.

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

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-89/285	2.	3. Recipient's Accession No.

4. Title and Subtitle
Water Resources Data - New York, Water Year 1988
Volume 3. Western New York

5. Report Date
September 1989

6.

7. Author(s)
J. B. Campbell, W. F. Coon, D. A. Sherwood and D. D. Deloff

8. Performing Organization Rept. No.
USGS-WDR-NY-88-3

9. Performing Organization Name and Address
U.S. Geological Survey, Water Resources Division
521 West Seneca Street
Ithaca, New York 14850-4094

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
U.S. Post Office and Courthouse
P.O. Box 1669
Albany, New York 12202-1669

13. Type of Report & Period Covered
Annual-October 1, 1987 to September 30, 1988

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 1988 water year for New York consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels of ground-water wells. This volume contains records for water discharge at 77 gaging stations; stage only at 19 gaging stations; stage and contents at 6 gaging stations; water quality at 4 gaging stations and 10 partial-record stations; and water levels at 21 observation wells. Also included are data for 47 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. These data together with the data in Volumes 1 and 2 represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in New York.

17. Document Analysis a. Descriptors
*New York, *Hydrologic data, *Surface water, *Ground water, *Water quality, Streamflow, Flow rates, Gaging stations, Lakes, Reservoirs, Chemical analysis, Sediments, Water analyses, Water temperature, Water levels, Water wells, Data collection, Sites.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement: No restriction on distribution. This report may be purchased from: National Technical Information Service Springfield, VA 22162	19. Security Class (This Report) Unclassified	21. No. of Pages 210
	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) gage height, elevation, and/or contents, (c) chemical, (b) biological, (t) water temperature, (s) sediment]

* * * * * * **

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED

GROUND-WATER LEVELS

GROUND-WATER LEVELS

DISCONTINUED SURFACE-WATER STATIONS

The following continuous-record streamflow, elevation, or stage (†) stations in western New York have been discontinued or converted to partial-record stations. Daily records were collected and published for the period of record shown for each station. Stations that are presently operated as crest-stage partial-record stations are preceded by an asterisk (*).

Station number	Station name	Drainage area (mi^2)	Period of record
	Susquehanna River Basin		
01496450	Canadarago Lake at Schuyler Lake	65.0	10/68 – 10/78
01497000	Cherry Valley Creek at Westville	81.4	1/30 – 6/31 6/38 – 7/41
01497500	Susquehanna River at Colliersville	349	5/07 – 12/08 7/24 – 9/68
01498000	Charlotte Creek at Davenport Center	164	9/38 – 9/56
01498500	Charlotte Creek at West Davenport	167	6/38 – 10/75
01499000	Otego Creek near Oneonta	108	8/40 – 9/68
01499050	Flax Island Creek near Otego	4.22	7/66 – 9/68
01499470	East Branch Handsome Brook at Franklin	9.12	9/66 – 9/68
01501000	Unadilla River near New Berlin	199	7/24 – 9/68
01501015	Mill Brook at New Berlin	4.64	5/74 – 11/80‡
01501500	Sage Brook near South New Berlin	0.70	11/32 – 9/68
01505500	Canasawacta Creek near South Plymouth	57.9	9/45 – 9/75
*01507000	Chenango River at Greene	593	2/37 – 9/70
01507470	Red Brook at Smithville Flats	7.06	7/66 – 9/68
01507500	Genegantslet Creek at Smithville Flats	82.3	6/38 – 9/70
01507975	Muller Gulf Creek near Cuyler	2.67	7/66 – 9/68
01508000	Shackham Brook near Truxton	2.95	11/32 – 9/68
01508500	Albright Creek at East Homer	6.81	10/38 – 9/68
*01508803	West Branch Tioughnioga River at Homer	71.5	11/66 – 9/68 10/72 – 9/86
01508962	Otter Creek at mouth at Cortland	14.3	12/75 – 12/76
01509150	Gridley Creek above East Virgil	10.36	7/74 – 9/81
01509500	Dudley Creek at Lisle	30.0	6/38 – 7/40
01510500	Otselic River near Upper Lisle	217	1/37 – 9/69
*01511500	Tioughnioga River at Itaska	730	10/29 – 6/67
*01513500	Susquehanna River at Vestal	3,941	3/37 – 6/67
01513719	East Branch Nanticoke Creek above Glen Aubrey	12.8	9/76 – 10/77
01513720	East Branch Nanticoke Creek at Glen Aubrey	15.4	3/76 – 7/76
01513790	Nanticoke Creek at Union Center	90.7	8/75 – 10/77
01513840	Pumpelly Creek at Owego	8.59	7/66 – 9/68
*01514000	Owego Creek near Owego	185	1/30 – 11/78
01514500	Dean Creek at Spencer	8.03	7/54 – 9/60

‡ No winter record.

Station number	Station name	Drainage area (mi^2)	Period of record
	Susquehanna River Basin--continued		
01515500	Cayuta Creek near Alpine	17.6	11/29 – 9/31
01522000	Canisteo River at Hornell	93.7	6/38 – 4/43
01522500	Karr Valley Creek at Almond	27.4	2/37 – 9/68
01524000	Canacadea Creek at Hornell	58.5	9/25 – 9/29
01525000	Bennett Creek at Canisteo	95.3	5/38 – 9/47
*01525500	Canisteo River at West Cameron	340	1/30 – 9/31 2/37 – 9/70
01525750	Tuscarora Creek Tributary near Woodhull	9.43	7/66 – 9/68
01526000	Tuscarora Creek near South Addison	114	2/37 – 9/70
01526495	Mulholland Creek near Erwins	5.06	7/66 – 9/68
01526980	Kirkwood Creek near Atlanta	4.65	8/66 – 9/68
*01527000	Cohocton River at Cohocton	52.2	10/50 – 10/81
01527050	Switzer Creek near Cohocton	3.45	11/78 – 10/80
01527500	Cohocton River at Avoca	157	5/38 – 9/45
01529000	Mud Creek near Savona	76.6	7/18 – 12/19 3/37 – 9/82
01530380	Newtown Creek at Breesport	20.6	8/75 – 11/78‡
	Allegheny River Basin		
*03010800	Olean Creek near Olean	198	4/58 – 9/68‡ 10/75 – 8/81
*03011000	Great Valley Creek near Salamanca	137	12/50 – 9/68
03011550	Quaker Run near Quaker Bridge	28.5	5/63 – 9/64‡
03012834	Conewango Creek below South Dayton	63.3	8/75 – 10/77‡
*03013800	Ball Creek at Stow	9.06	10/73 – 9/74
03013980	Chautauqua Lake at Celeron	189	10/72 – 8/73
03013990	Chautauqua Lake near Mayville	189	11/49 – 10/76
	Streams Tributary to Lake Erie		
04213410	Cattaraugus Creek near Arcade	79.0	3/63 – 6/68
04213440	Franks Creek near West Valley	0.28	12/75 – 10/79
04213441	Franks Creek tributary No. 4 near West Valley	0.12	12/75 – 9/76
04213442	Franks Creek tributary No. 2 to tributary No. 4 near West Valley	0.002	12/75 – 3/77
04213443	Franks Creek tributary No. 3 to tributary No. 4 near West Valley	0.004	12/75 – 3/77
04213450	Buttermilk Creek near Springville	30.0	10/61 – 9/68
04213492	South Branch Cattaraugus Creek near Cattaraugus	70.4	10/79 – 11/81
04214000	Cattaraugus Creek at Versailles	466	10/15 – 9/23
04214200	Eighteenmile Creek at North Boston	37.2	3/63 – 9/68
04214400	Buffalo Creek near Wales Hollow	76.9	3/63 – 9/68
	Streams Tributary to Niagara River		
04218190	Black Creek near Swormville	12.9	3/78 – 10/79
04218450	Ellicott Creek at Milgrove	40.8	3/63 – 9/68
04218500	Ellicott Creek at Williamsville	76.2	10/55 – 10/72
04218592	Donner Brook near Lockport	3.84	11/77 – 11/78‡

‡ No winter record.

Station number	Station name	Drainage area (mi^2)	Period of record
	Streams Tributary to Lake Ontario		
04219940	Manning Muckland Creek near Barre Center	5.80	5/74 – 11/78‡
04219940	Manning Muckland Creek tributary near Elba	21.9	5/74 – 11/78‡
04220250	West Creek near Hilton	31.0	5/57 – 9/64
04220470	Dyke Creek near Andover	38.0	2/64 – 9/68
04220500	Dyke Creek at Wellsville	72.1	8/55 – 9/60
04221500	Genesee River at Scio	308	6/16 – 9/72
04221600	Van Campen Creek at Friendship	45.9	1/64 – 9/68
04221720	Angelica Creek at Transit Bridge	86.7	2/64 – 6/68
04221820	Genesee River at Belfast	644	2/64 – 6/67
04222000	Caneadea Creek at Caneadea	62.0	7/49 – 9/68
04222500	Lost Nation Brook near Centerville	1.21	10/34 – 8/35
04222900	East Koy Creek at East Koy	46.5	1/64 – 9/68
04223500	Genesee River at St. Helena	1,019	10/46 – 9/50
04224650	Canaseraga Creek near Canaseraga	58.4	1/64 – 9/68
04225000	Canaseraga Creek near Dansville	152	3/19 – 9/68 7/70 – 1/77
04225005	Canaseraga Creek at Cumminsville	155	7/10 – 12/12 7/15 – 6/17 10/17 – 9/19
04225500	Canaseraga Creek at Groverland	180	8/15 – 3/20 10/55 – 9/64
04226000	Keshequa Creek at Craig Colony, Sonyea	68.3	8/17 – 9/32 11/74 – 1/78
04226500	Keshequa Creek near Sonyea	68.4	9/15 – 12/16
0422660005	Keshequa Creek at mouth at Sonyea	69.0	3/11 – 12/13
04228000	Conesus Creek near Lakeville	72.0	10/19 – 9/34
04228900	Springwater Creek at Springwater	10.1	1/64 – 9/68
04231500	Genesee River below Erie Canal at Rochester	2,457	4/04 – 12/04 4/05 – 9/18
0423205023	Irondequoit Creek at Wetland Narrows at Rochester	144	3/81 – 11/83
04232200	Catharine Creek at Montour Falls	41.1	8/75 – 10/77‡
*04232630	Kendig Creek near MacDougall	13.8	10/64 – 9/68
04232650	Seneca River at Lock 4, Waterloo	742	1/31 – 12/66 1/69 – 9/79
04233678	Dryden Lake Inlet near Harford	2.73	8/73 – 11/74
04233700	Virgil Creek at Freeville	40.3	8/73 – 10/75
04234018	Salmon Creek at Ludlowville	81.7	10/64 – 9/68
04234055	Canoga Creek at Canoga	3.20	10/64 – 9/68
*04234200	Mud Creek at East Victor	64.2	4/58 – 9/68
04234270	Red Creek near Walworth	23.8	10/64 – 12/68 4/69 – 6/69
04235150	Flint Creek at Potter	31.0	3/64 – 9/68 10/70 – 10/78
04235271	Clyde River at Lock 26 Clyde	845	1/35 – 12/66
04235300	Owasco Inlet at Moravia	106	1/60 – 9/68
04236500	Skaneateles Creek at Willow Glen	75.8	4/1895 – 9/08
04239500	Onondaga Creek at Syracuse	95.0	11/39 – 7/49
04240000	Onondaga Creek at Temple Street Syracuse	104	6/49 – 9/51

‡ No winter record.

Station number	Station name	Drainage area (mi^2)	Period of record
	Streams Tributary to Lake Ontario--continued		
04240145	Spafford Creek at Bromley Road near Spafford	3.14	11/81 – 10/83
04240150	Spafford Creek at Sawmill Road near Spafford	8.06	11/81 – 9/83 12/85 – 9/86
0424015305	Rice Brook at Rice Grove	2.64	11/81 – 9/83
0424016205	Willow Brook at Lader Point	3.73	11/81 – 9/83
0424016825	Amber Brook at Amber	3.75	11/81 – 9/83
0424016975	Van Benthuysen Brook near Amber	5.84	11/81 – 9/83
04240200	Ninemile Creek at Camillus	84.3	7/58 – 10/82
04241200	West Branch Fish Creek at Blossvale	204	12/65 – 9/68
04241500	East Branch Fish Creek at Fish Creek near Constableville	74.3	10/23 – 9/32
04244000	Chittenango Creek near Chittenango	66.3	8/50 – 9/68
*04245000	Limestone Creek at Fayetteville	85.5	11/39 – 9/86
04245250	Butternut Creek below Dewitt	58.6	6/64 – 6/66
*04245840	Scriba Creek near Constantia	38.4	3/66 – 9/68

‡ No winter record.

WATER RESOURCES DATA - NEW YORK, 1988
Volume 3.--Western New York

INTRODUCTION

Water resources data for the 1988 water year for New York consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels of ground-water wells. This volume contains records for water discharge at 77 gaging stations; stage only at 19 gaging stations; stage and contents at 6 gaging stations; water quality at 4 gaging stations and 10 partial-record stations; and water levels at 21 observation wells. Locations of these sites are shown on figure 1. Also included are data for 47 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 measurements made at miscellaneous sites. These data together with the data in Volumes 1 and 2 represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in New York.

Records of discharge and stage of streams, and contents or 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 in the United States or may be purchased from the Distribution Branch, U.S. Geological Survey, 604 South Pickett Street, Alexandria, VA 22304.

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, the Geological Survey publishes annual water data for streamflow, water quality, and ground water for all States. These reports are identified by 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–88–3." These 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 3, water year 1988, through cooperative agreement with the Survey are:

New York State Department of Environmental Conservation

New York State Department of Transportation

County of Chautauqua, Planning Department

County of Cortland, Planning Department

County of Monroe, Department of Health

County of Monroe, Division of Engineering

County of Monroe, Water Authority

County of Onondaga, Department of Drainage and Sanitation

County of Onondaga, Water Authority Commission

City of Auburn

Town of Amherst, Erie County

Town of Cheektowaga, Erie County

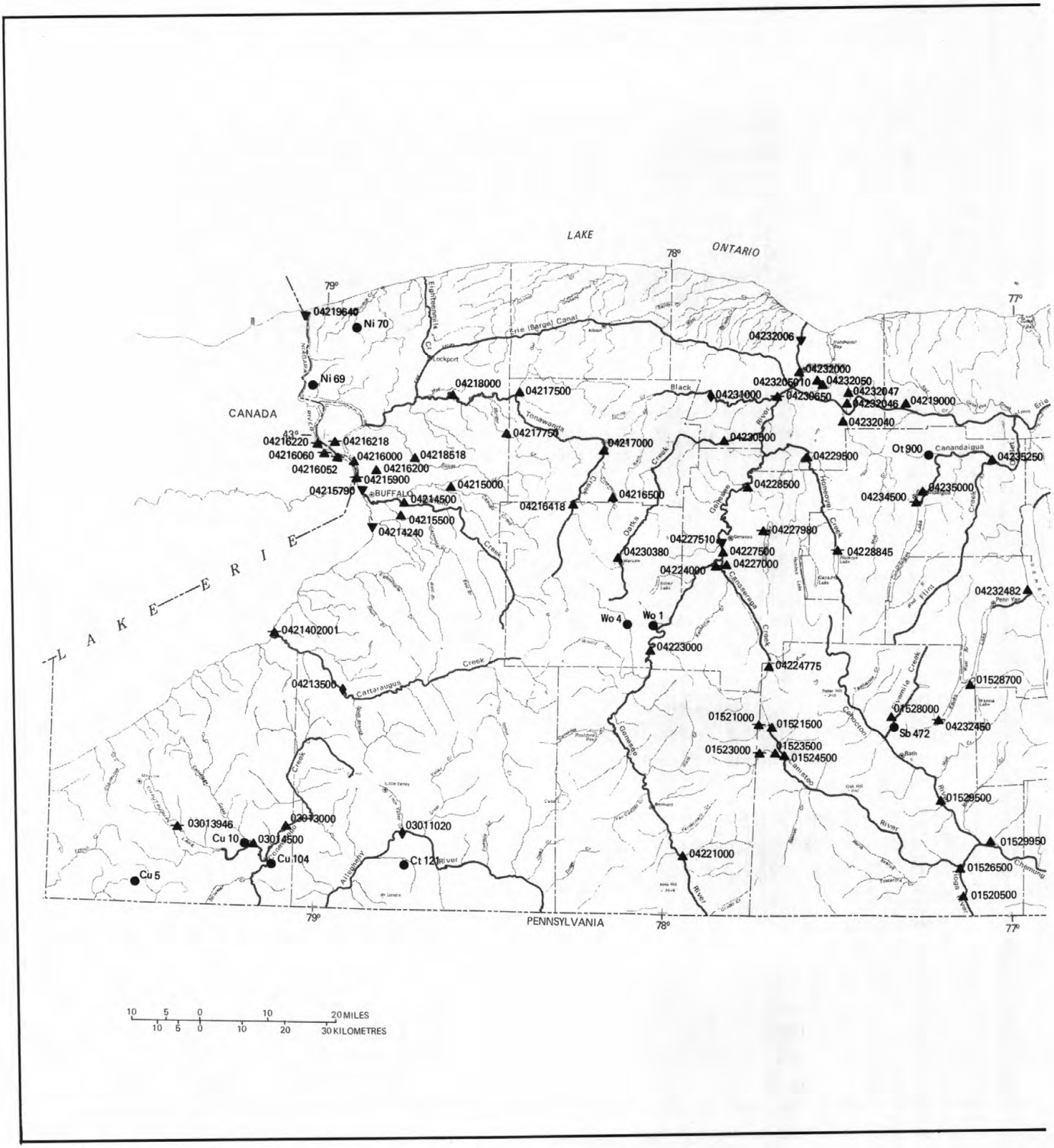
Irondequoit Bay Pure Waters District

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.

The following organizations aided in collecting records:

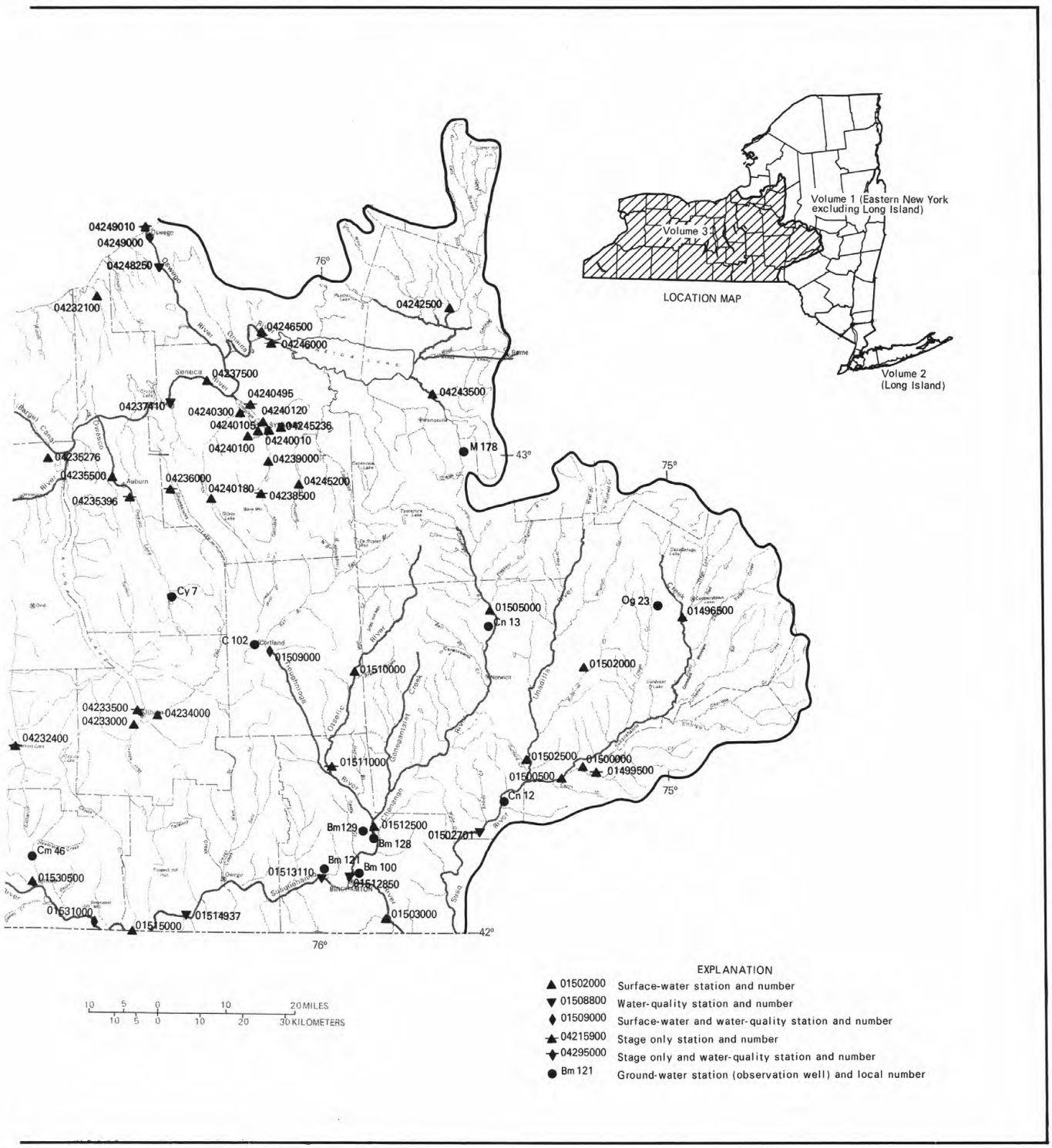
Municipalities of Batavia, Canandaigua, Cortland, Jamestown, Lancaster, Oneida, Rochester, Syracuse; Cornell University; New York State Electric and Gas Corporation; Niagara Mohawk Power Corporation; Rochester Gas and Electric Corporation.

Organizations that supplied data are acknowledged in station descriptions.



Base from U.S. Geological Survey
State base map
Shaded relief, 1:500,000, 1966

FIGURE 1.-- LOCATION OF GAGING STATIONS AND



OBSERVATION WELLS IN WESTERN NEW YORK

SUMMARY OF HYDROLOGIC CONDITIONS[1]

Surface Water

Annual mean discharges in western New York were in the deficient range[2] as a result of below-average precipitation through most of the 1988 water year (see table 1). During June and the first half of July, moderate drought conditions prevailed, and streamflows were low-normal and deficient before and after this period.

Table 1.-- Comparison of annual mean discharge of the 1988 water year with annual mean discharges for the period of record for selected streams
[Locations are shown in figure 1.]

	Station	Period of record	1988 Water year mean discharge (ft^3/s)	Percentile of period-of-record annual mean discharges
01503000	Susquehanna River at Conklin	1914–88	2,723	12
01531000	Chemung River at Chemung	1906–13, 1915–88	1,762	19
03011020	Allegheny River at Salamanca	1904–88	2,203	16
04213500	Cattaraugus Creek at Gowanda	1941–88	602	20
04217000	Tonawanda Creek at Batavia	1945–88	170	22
04221000	Genesee River at Wellsville	1956–58, 1973–88	293	20
04234000	Fall Creek near Ithaca	1926–88	129	8
04242500	East Branch Fish Creek at Taberg	1924–88	418	12

Streamflow at the beginning of the 1988 water year generally was receding from the excessive flows that had resulted from above-average precipitation in September 1987. Frequent rain showers and snow through October kept flows in the excessive and normal ranges in all streams, but November marked the beginning of a period of generally below-average precipitation that lasted through the end of the water year. Scattered rain showers and snow through November and December kept streamflow in the normal range, however, and heavy rain on November 29-30 and snowmelt on December 20-21 produced the monthly high flows. Unseasonably mild temperatures through December caused the lack of snow in most areas, especially in the snowbelt regions east and south of Lakes Erie and Ontario.

From the end of December through the winter, extended periods of below-freezing weather alternated with warm periods that produced snowmelt and increases in streamflow. Precipitation in January was well below average, and this month was the second driest January in 99 years. As a result, snowmelt during warm periods did not produce significant runoff, and streamflow for the month generally was in the low-normal range. The January mean discharges did not reflect this dryness, however, because precipitation during this month is usually frozen on the ground and does not contribute to runoff. In contrast, February precipitation was near average and produced seasonal accumulations of snow. Snowmelt, combined with rain during the warm periods of this month, kept streamflow in the normal range. Precipitation during March and April once again fell below normal, and streamflow declined into the deficient range in both months. Heavy rain and thunderstorms produced monthly high flows on March 26-27 and annual peaks on many streams on April 4-5.

Precipitation during the remainder of the year consisted of scattered showers and thunderstorms. Below-average quantities of rain combined with abnormally warm temperatures and dry soil conditions resulted in a midsummer water shortage that approached alarming levels, especially for farmers. Although this drought was tempered by infrequent major storms that caused streamflows to fluctuate between deficient and normal levels, the overall trend of streamflow was to be well below average through the remainder of the water year (see figures 2, 3, 4). Streamflow receded through the first half of May, but heavy rain and thunderstorms on May 19-22 increased the flows and brought monthly mean discharges of most streams into the normal range. This May storm was the last significant precipitation for the next 2 months. As a result, New York had the second driest June since 1890. Moderate drought conditions, as classified by the long-term Palmer Drought Index, prevailed throughout the State during this month. The flow on all streams receded to near-record low levels from the end of May to the third week of July (see tables 2 and 3).

---

[1] Climatological data used in this summary are from monthly weather summaries published by the National Oceanic and Atmospheric Administration.

[2] Range refers to the quartile within which a given flow statistic falls. The excessive range is defined as flow in the upper quartile; deficient as flow in the lower quartile; and normal as flow in the two middle quartiles. In addition, low-normal and high-normal refer to flow in the second and third quartiles, respectively.

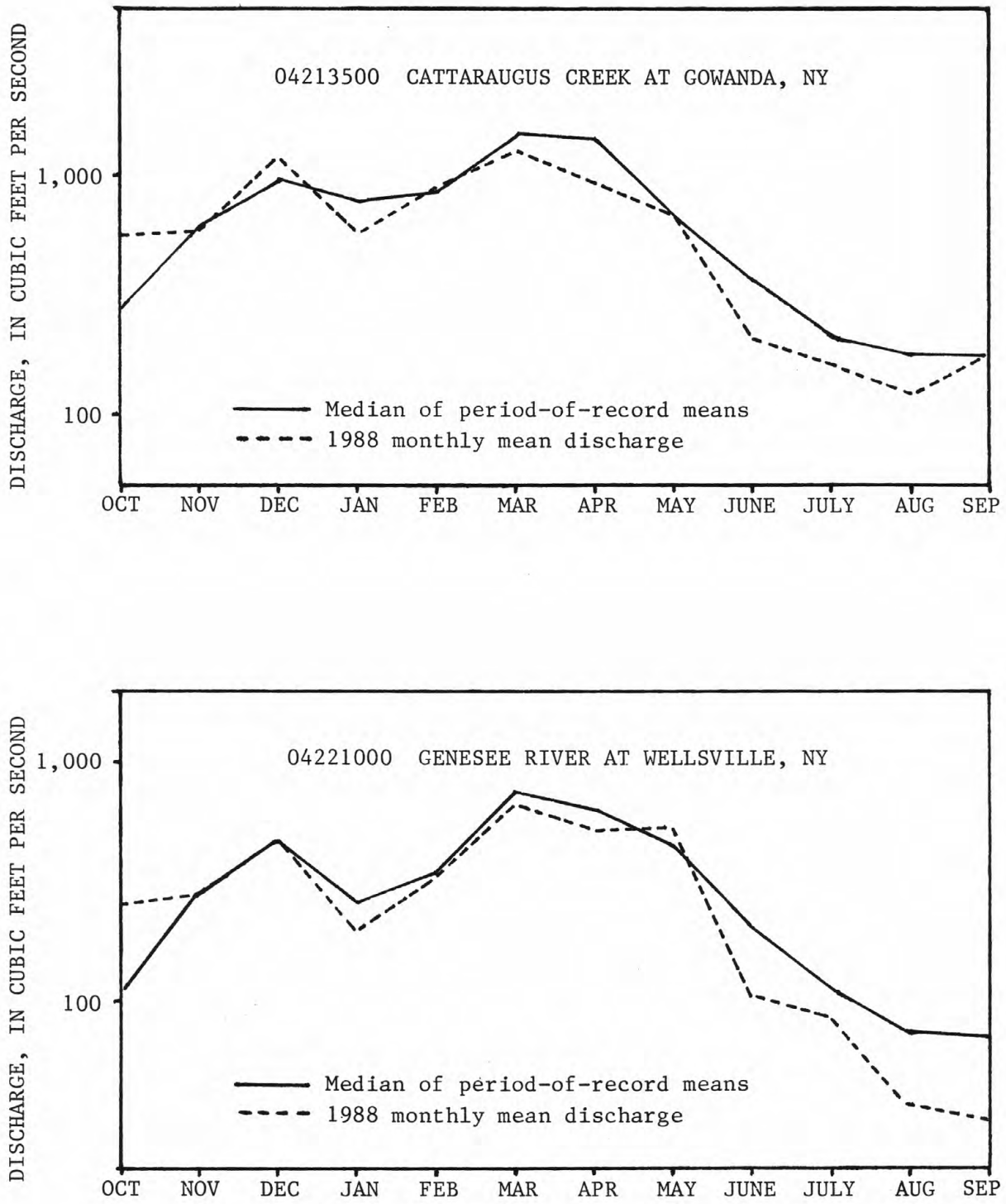


Figure 2.--Comparison of monthly mean discharge for 1988 water year with median of monthly mean discharges for period of record.

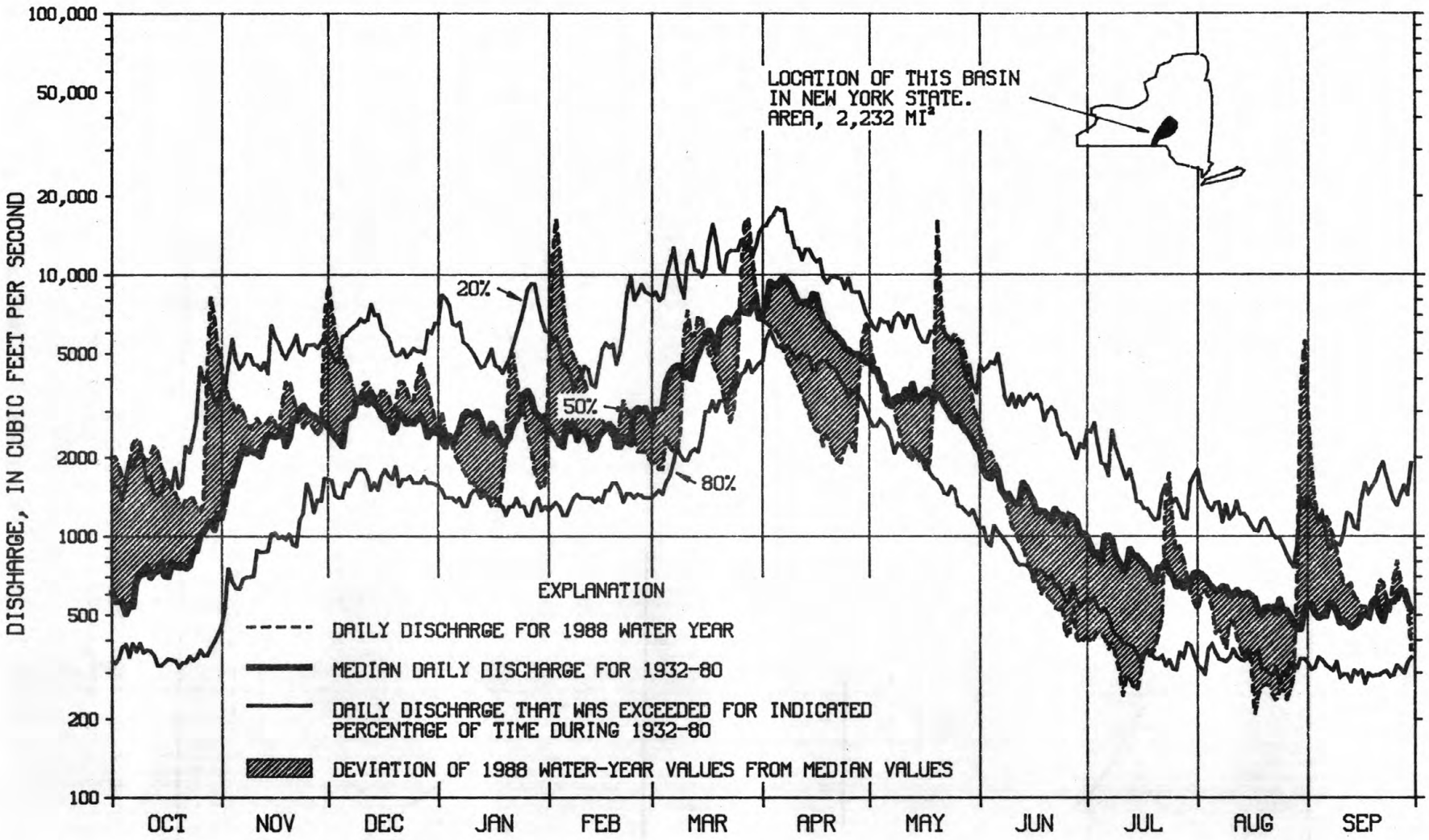


Figure 3.--Comparison of discharge at Susquehanna River at Conklin during 1988 water year with median discharge for period 1932–80.

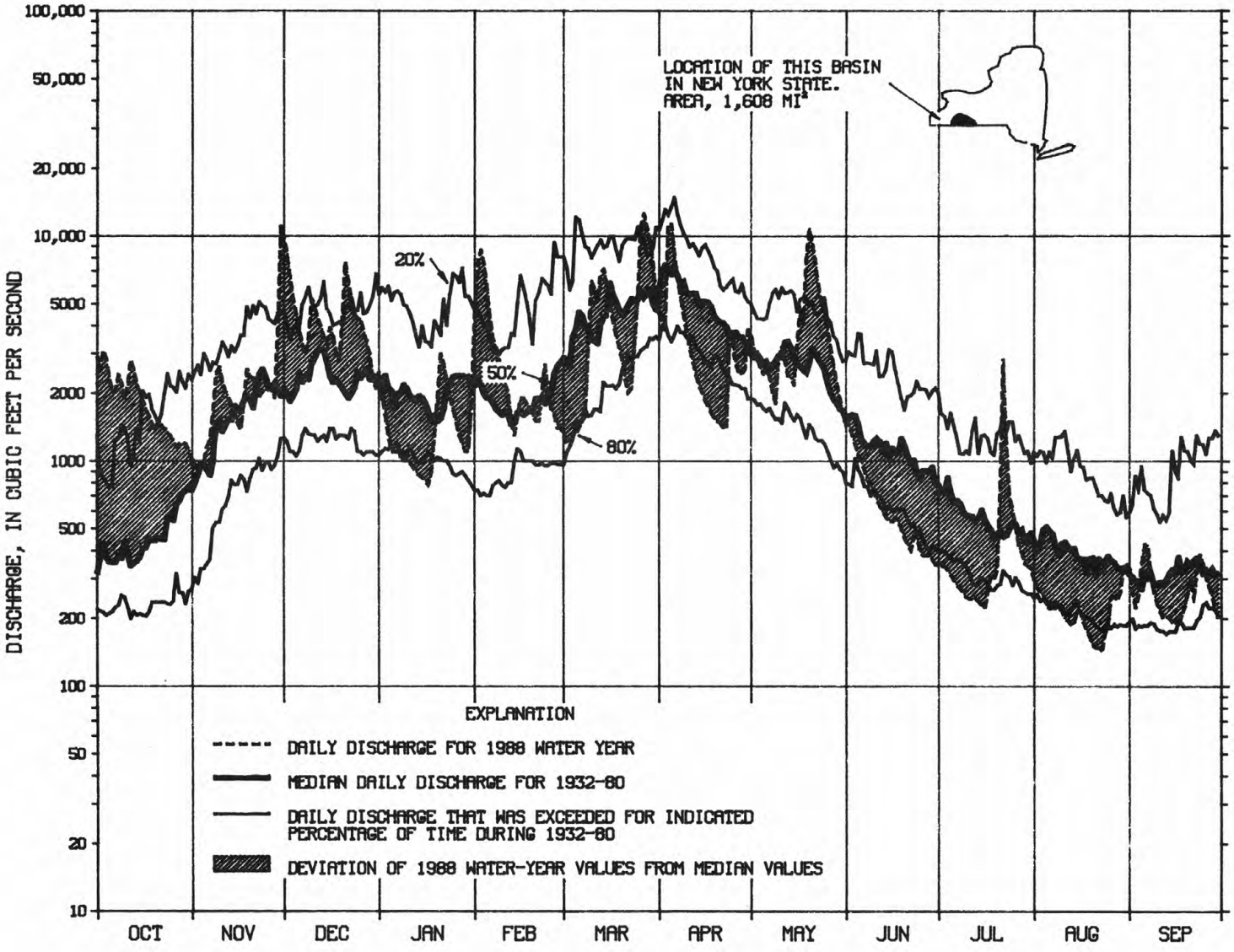


Figure 4.——Comparison of discharge at Allegheny River at Salamanca during 1988 water year with median discharge for period 1932–80.

Table 2.--Rank of June 1988 mean discharge for period-of-record June mean discharges for selected streams
[Locations are shown in figure 1.]

Station	June 1988 mean discharge (ft^3/s)	nth Lowest monthly mean for period-of-record June mean discharges	Years of record
Allegheny River at Salamanca	673	10th	85
Cattaraugus Creek at Gowanda	204	6th	48
Tonawanda Creek at Batavia	33.9	8th	44
Genesee River at Wellsville	106	3rd	19
East Branch Fish Creek at Taberg	85.0	4th	65

Drought conditions intensified through the first half of July but were relieved by heavy thunderstorms and rain during July 17-22. Rain through the second half of the month produced monthly precipitation totals that ranked this as the second wettest July in New York in 40 years. High flows that resulted from this precipitation raised monthly mean streamflows into the low-normal range on most streams for July. Through August, flow once again receded in the absence of any significant precipitation, until heavy rain on August 28-30 produced monthly high flows and brought relief from the dry conditions. Monthly mean flow on most streams declined into the deficient range for the month.

Table 3.--Comparison of monthly mean discharges with period-of-record median monthly discharges for June and July 1988 for selected streams
[Locations are shown in figure 1.]

	Station	Period of record used	Percentage of period-of-record median monthly discharge	
			June	July
01503000	Susquehanna River at Conklin	1914–88	62	50
01531000	Chemung River at Chemung	1915–88	61	104
03011020	Allegheny River at Salamanca	1904–88	47	64
04213500	Cattaraugus Creek at Gowanda	1941–88	57	76
04217000	Tonawanda Creek at Batavia	1945–88	43	89
04221000	Genesee River at Wellsville	1956–58, 1973–88	51	76
04234000	Fall Creek near Ithaca	1930–88	56	77
04242500	East Branch Fish Creek at Taberg	1924–88	35	58

Below-average precipitation continued and resulted in the driest September in 19 years. Scattered showers and localized thunderstorms produced monthly high flows at different times on different streams, but the generally low-normal flow conditions prevailed through the month. Streamflow was receding at the end of the water year.

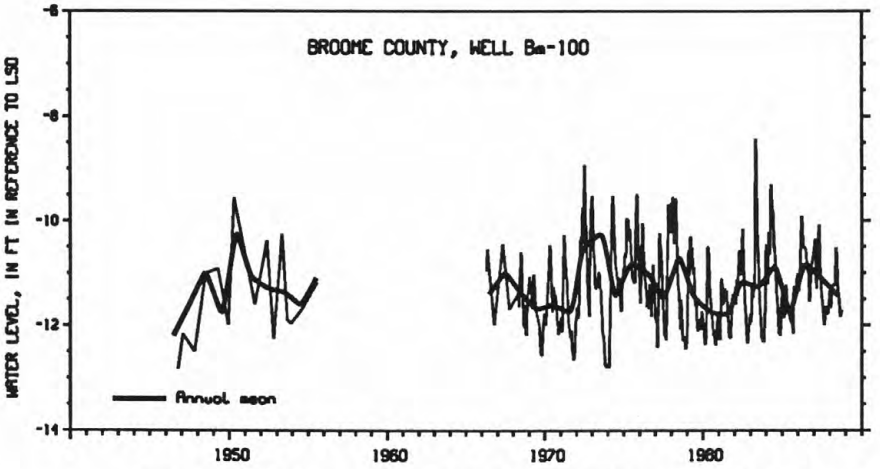
Surface-Water Quality

Analysis of stream-water samples and associated discharge data collected from the four NASQAN stations in western New York indicated no significant changes in chemical or biological quality from previous years. Nearly all values for sampled constituents were within the historical extremes for each site. Of those few values that exceeded the historical extremes, the only noteworthy one was a new maximum fecal coliform count of 14,000 colonies per 100 mL in a sample collected from the Oswego River on March 9, 1988. The previous maximum for this constituent at this site was 12,000 colonies per 100 mL. None of the values that exceeded the previous extremes during the 1988 water year indicated a trend in the data.

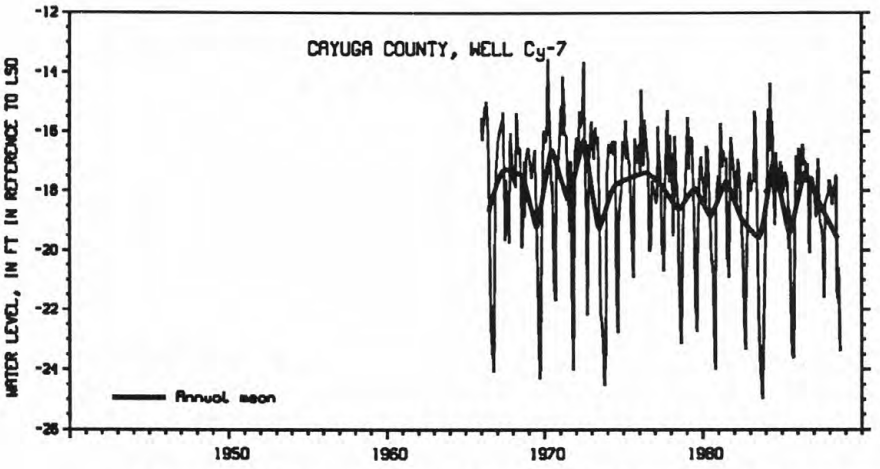
Ground Water

Ground-water levels, which were near normal at the end of the 1987 water year, began a seasonal rise in October 1987 in response to frequent rain showers and snow and the cessation of vegetation growth. Ground-water levels were normal through most of November until heavy rain at the end of the month produced a rise, but below-average precipitation in December and January caused them to decline. Warm periods during January and February generally did not result in ground-water recharge because the snow accumulations were insignificant, although an unseasonably warm period in early February caused a midwinter thaw and a slight rise in ground-water levels. Seasonal accumulations of snow in February, combined with warm temperatures in March, caused ground-water levels to rise in late March, and heavy rain during the last week of March and the first week of April produced the highest-recorded ground-water levels of the year in most observation wells. With below-average precipitation and the beginning of vegetation growth in April, ground-water levels declined but were restored by heavy rain and thunderstorms during mid-May. This was the last significant contribution to ground water for the remainder of the water year.

From the end of May through September, ground-water levels generally declined in response to the drought. During the first half of July, which was the most severe part of the drought, soil-moisture conditions were rated "very short," and crops were showing severe stress. Heavy rains during the second half of July brought relief to vegetation but caused only a small rise in ground-water levels that was followed by another steady decline until the end of August, when rain recharged the ground water once again. After this storm, ground-water levels declined through the end of the water year. The lowest recorded levels of the year in most observation wells occurred during August and September. This fact, as well as a two-year downward trend in annual mean ground-water levels is shown in the period-of-record hydrograph (A) for well Bm-100 and the period-of-record hydrograph (B) for well Cy-7.



HYDROGRAPH A -- WELL HYDROGRAPH FOR PERIOD OF RECORD



HYDROGRAPH B -- WELL HYDROGRAPH FOR PERIOD OF RECORD

SPECIAL NETWORKS AND PROGRAMS

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. NASQAN sites are generally located at the downstream ends of hydrologic 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 on a yearly basis in streams flowing from the United States and (2) to detect and assess long-term changes in streamflow and stream quality.

EXPLANATION OF THE RECORDS

The surface-water and ground-water data in this report are for the water year that began October 1, 1987, and ended September 30, 1988. A calendar of the water year is provided on the inside of the front cover. The data include discharge or stage of streams and canals, stage, surface area, and contents of lakes or reservoirs, surface-water quality, and ground-water levels. The locations of the stations and wells where data were collected are shown in figure 1. The following provide an explanation of how the data were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each surface-water station and well in this report is assigned a unique identification number. The "downstream order" system is used for 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 main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed on listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the 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 tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations, miscellaneous sites, and other stations; therefore, the station number for a partial-record station or a miscellaneous site indicates downstream-order position in a list made up of all types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 01502500, includes the 2-digit Part number "01" plus the 6-digit downstream order number "502500." The Part number designates the major river basin. Part numbers used in this report and their corresponding river basins are: "01," the North Atlantic Slope basin; "03," the Ohio River basin; and "04," the St. Lawrence 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 to identify intermediate stations.

Latitude-Longitude System

The well-identification number is based on the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells within a 1-second grid. See figure below.

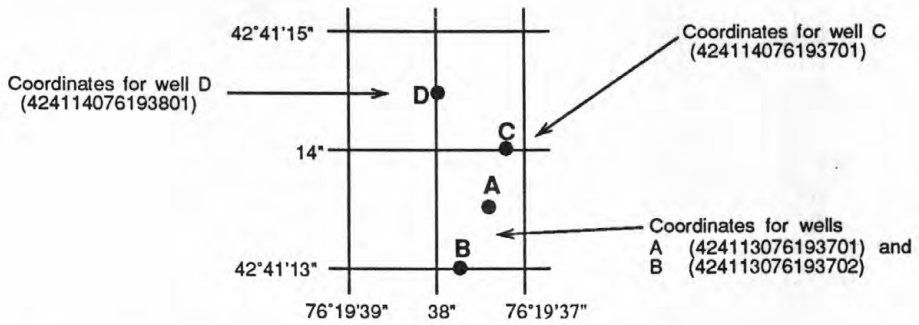


Figure 5. System for numbering wells (latitude and longitude)

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." Periods of record for discontinued continuous-record surface-water stations are given in a table following the "Contents" section of this report.

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 complete-record stations for which data are given in this report are shown in figure 1.

Data Collection and Computation

The data collected at stream-gaging stations consist of records of stage, measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationship between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data collected at a lake or reservoir station consist of records of stage and notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake 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.

For stream-gaging stations, results of individual discharge measurements are plotted against corresponding stages to develop stage-discharge relation curves. From these curves, rating tables that indicate the approximate discharge for any stage within the range of measurements are prepared. If it is necessary to express discharge greater than measured, the rating curves are extended 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.

Daily mean discharges are computed by applying the instantaneous stages (gage heights) to the stage-discharge curves or rating tables and averaging these discharges for each day. 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 of the personnel making the measurements and observers are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control.

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.

At some stream-gaging stations, formation of ice in the winter may so obscure the stage-discharge relation that daily mean discharges must be estimated on the basis of gage-height record, occasional water discharge measurements, and other information such as temperature and precipitation records, notes by gage observers and hydrologist, and records of discharge for other stations in the same or nearby basins for comparable periods.

For computing lake or reservoir contents, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The daily contents are computed from gage heights and capacity tables, then the daily, monthly, and yearly change of contents are computed from the daily figures. If the stage-capacity curve changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated from recorded range in stage, previous and following records, discharge measurements, weather records, and comparison with other station records in the same or nearby basins. Likewise daily contents may be estimated from operator's logs, previous and following 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 station description and the data table for the current water year. The station description provides, under different headings, information such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. Following is a list of headings for complete record stations and a discussion of the information provided under each heading.

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, is that 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.--Identifies 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 are occasionally revised in light of new information, and revisions published in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years for which 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. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see DEFINITION OF TERMS), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented at 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. 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, as recorded on a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified.

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 secondary peaks are also included. Secondary peaks are those that are less than the peak for the year but that exceed a selected base discharge. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

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 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 stages are given.

The second part of the record for each gaging station is the table of daily mean discharges, followed by monthly and yearly summaries. In the monthly summary below the table, the "TOTAL" line gives the sum of the daily figures. The "MEAN" line gives the average glow in cubic feet per second during the month. The "MAX" and "MIN" lines 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 ("CFSM" line), or in inches ("IN." line). 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.

Information published for partial-record stations follows 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. 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 records depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true discharge; "good," within 10 percent; and "fair," within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Daily mean discharges in this report are given 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 discharge value. The same rounding rules apply to discharge figures listed for partial-record stations.

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

Other Records Available

Information used in the preparation of records in this report, such as discharge measurement notes, water temperature measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-readable form and many statistical analyses are available. Information on the availability of unpublished data or statistical analyses 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. Locations of surface-water quality stations are shown on figure 1.

Note that "continuing-record" differs from "continuous recording," which refers to a continuous graph or a series of discrete values recorded at predetermined intervals. Some water-quality data may be obtained through continuous recordings (i.e.. temperature); however, 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, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the location of the water quality sampling site differs significantly from that of the nearby surface-water station, the continuing-record water-quality site is given 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.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern is 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 I, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed in the "Publications on Techniques of Water-Resources Investigations" section of this report. 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 DEFINITION OF TERMS) 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.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the 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.

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 concentrations in the cross sections. 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 instantaneous suspended-sediment discharge, the percentage of suspended sediment finer than 0.062 mm are reported at continuing-record sites.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. 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, including station location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily preceeds the data tables. If the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. Following is a list of headings and a discussion of the information provided under each heading.

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, is that 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 area 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 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 recorder, 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 maximum or minimum may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--Published data are occasionally revised in light of new information, and appropriate revisions 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.

Following information on station history are tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily. Following these are tables of daily mean temperatures.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)

Categories of Water-Quality Data

There is a broad range of water-quality parameters available for most stations whose record exceeds more than a few years operation. Sampling schedules are often intermittent for certain types of data, with analyses available for some but not all years within a station's period of record. An accurate description of the variety of data available is shown by grouping similar parameters into a few general categories, which are listed in the "PERIOD OF RECORD" paragraph. Each category of data is followed by a notation of the water year(s) for which data is available and a letter code describing the frequency of sampling (see following section, "Frequency-of-Sampling Notation").

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 usually 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: nitrite 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.

Thus, "CHEMICAL DATA: 1972-74(c), 1977-82(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 of the five additional years.

Records of Ground-Water Levels

Ground-water level data consist of water-level measurements made in observation wells. Ground-water records are presented by county, in alphabetical order. Locations of observation wells are shown on figure 1.

Data Collection and Computation

Water-level 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 records are from direct measurements using a steel tape or from the graph or punched tape of a water-stage recorder. 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. If known, the altitude of the land-surface datum above National Geodetic Vertical Datum of 1929 (see DEFINITION OF TERMS) 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; then monthly and yearly means are computed from the daily figures. Water levels in wells not equipped with recording gages are measured periodically, usually weekly, with a weighted tape.

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 two parts, the well description and a table of water levels observed in the current water year. The well description includes such information as location, aquifer, period of record, historical extremes, and other information pertinent to the well site. Following is a list of headings for well records and a discussion of the information provided under each heading.

LOCATION.--Provides (immediately below the well-identification number) the latitude and longitude (in degrees, minutes, and seconds); the hydrologic unit number (see DEFINITION OF TERMS); the distance and direction from a geographic point of reference; and the owner's name.

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

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

INSTRUMENTATION.--Describes frequency of measurements 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.--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.--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.--Identifies the period for which there are published records for the observation well or for an equivalent well. An equivalent well is one that was in operation at a time that the present well was not, and whose location was such that water-level records from it can reasonably be considered equivalent with records from the present observation well.

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

The second part of the well-record is a table of water levels, reported in feet above or below land-surface datum. For wells not equipped with continuous-stage recorders, the table lists the water levels and measurement dates. For well records longer than one year, a hydrograph of ground-water level fluctuations for the past ten water years (including the current water year) is presented following the data table.

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 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 cost 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 or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled 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 brain heart 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 60°C for zooplankton and 105°C for 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, about 646,000 gallons or 2,447 cubic meters.

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 carbonaceos 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.

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 or 0.02832 cubic meters per second.

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:

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

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

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

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

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

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

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

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.

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.

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 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 recommendations 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 (PC, 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.

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 044255/4455(m^2.time) for periphyton and macrophytes and mg 044255/(m^3.time) for phytoplankton] are the 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 bedload 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 microsemiens 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 micromhos). 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 occuring emersed or submersed solid surface, such 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 or 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 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 table of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45-micrometer filter.

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

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

Suspended, total is the total amount of a given constituent in the part of a representative 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.)

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to state annual basic-data reports published beginning in 1975.

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.

WRD is used as an abbreviation for "Water Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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

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-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.

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. J. 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 and dispersion in streams by dye tracing, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 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-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 programed test 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-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. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 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 analysis of organic substances in water, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. Methods for collection and analysis of aquatic biological and microbiological samples, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 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.

01496500 OAKS CREEK AT INDEX, NY

LOCATION.--Lat 42°39'56", long 74°57'36", Otsego County, Hydrologic Unit 02050101, on right bank 200 ft upstream from bridge on State Highway 28 at Index, 0.5 mi upstream from mouth, and 3 mi southwest of Cooperstown.

DRAINAGE AREA.--102 mi^2

PERIOD OF RECORD.--November 1929 to September 1932, March 1937 to current year.

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,174.47 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1932, nonrecording gage at different datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Prior to June 1964 and since October 1979 flow regulated by natural storage in Canadarago Lake. June 1964 to September 1979 flow regulated by gates at Panther Mountain Dam at outlet. Satellite rain-gage telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--53 years (1931–32, 1938–88), 170 ft^3/s, 22.63 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,320 ft^3/s Oct. 17, 1977, from rating extended above 1,700 ft^3/s by logarithmic plotting, gage height, 7.62 ft; minimum, 1.3 ft^3/s Aug. 4, 5, 1962, gage height, 1.79 ft.

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.26	1230	*977	*5.04	No other peak greater than base discharge.			

Minimum daily discharge, 6.6 ft^3/s July 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	123	292	e140	188	e100	438	198	131	11	93	146
2	110	120	290	e130	375	e94	428	190	129	10	80	135
3	107	118	271	e120	272	103	413	179	118	e9.2	73	125
4	108	123	263	e120	240	101	406	171	115	e8.6	40	125
5	103	126	254	e110	e200	97	391	162	103	e8.2	21	135
6	95	124	241	e110	e190	96	373	157	95	e8.2	19	119
7	96	119	225	e100	e190	92	353	145	88	e7.4	35	109
8	95	122	215	e100	e180	92	335	82	83	e7.4	34	102
9	88	134	215	e98	e180	111	326	72	77	e7.4	31	94
10	83	132	238	e96	e170	213	306	70	74	e7.4	30	96
11	93	132	218	e94	e170	172	285	78	70	e7.0	29	91
12	101	131	210	e98	e160	169	268	77	39	e6.8	28	86
13	90	139	210	e100	e160	205	250	72	23	e6.6	25	87
14	86	144	200	e80	e150	232	232	82	18	e7.0	23	87
15	82	137	197	e76	e140	209	217	75	17	9.5	25	79
16	79	133	211	e80	e140	203	209	70	16	8.2	23	73
17	75	129	199	e84	e130	199	198	92	16	13	21	72
18	70	200	186	95	e130	193	186	83	15	14	19	91
19	67	187	179	114	e120	189	176	110	13	12	17	82
20	63	174	179	114	e140	178	166	146	13	12	15	77
21	64	167	197	137	e130	167	157	144	12	50	13	102
22	63	158	182	123	e130	163	147	216	12	159	12	82
23	58	161	172	110	e130	161	136	195	19	121	11	92
24	60	151	166	e100	e130	214	144	195	17	113	17	90
25	68	148	190	e100	e120	333	139	193	16	106	20	76
26	67	147	215	e98	e110	715	126	215	13	102	15	69
27	64	140	190	e94	e110	624	124	186	13	95	12	65
28	214	133	185	e90	e110	546	291	174	12	61	13	59
29	152	133	158	e94	e100	502	221	162	11	42	219	58
30	132	371	e120	e100	---	478	202	149	10	39	271	53
31	127	---	e120	115	---	454	---	137	---	81	160	---
TOTAL	2882	4456	6388	3220	4695	7405	7643	4277	1388	1149.9	1444	2757
MEAN	93.0	149	206	104	162	239	255	138	46.3	37.1	46.6	91.9
MAX	214	371	292	140	375	715	438	216	131	159	271	146
MIN	58	118	120	76	100	92	124	70	10	6.6	11	53
CFSM	.91	1.46	2.02	1.02	1.59	2.34	2.50	1.35	.45	.36	.46	.90
IN.	1.05	1.63	2.33	1.17	1.71	2.70	2.79	1.56	.51	.42	.53	1.01

CAL YR	1987	TOTAL	55011.8	MEAN	151	MAX	1110	MIN	5.4	CFSM	1.48	IN. 20.06
WTR YR	1988	TOTAL	47704.9	MEAN	130	MAX	715	MIN	6.6	CFSM	1.28	IN. 17.40

e Estimated

01500000 OULEOUT CREEK AT EAST SIDNEY, NY

LOCATION.--Lat 42°20'00", long 75°14'07", Delaware County, Hydrologic Unit 02050101, on right bank 0.2 mi downstream from bridge on County Highway 44, 0.4 mi downstream from East Sidney Dam, at East Sidney, and 3.5 mi upstream from mouth.

DRAINAGE AREA.--103 mi^2.

PERIOD OF RECORD.--August 1940 to current year.

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1,086.23 ft above National Geodetic Vertical Datum of 1929. Prior to June 13, 1947, water-stage recorder at site 0.5 mi upstream at datum 27.30 ft higher.

REMARKS.--Records good. Since November 1949, flow regulated by East Sidney Lake (see station 01499500). Satellite gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years, 171 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,250 ft^3/s Dec. 30, 1942, gage height, 7.62 ft site and datum then in use, from rating curve extended above 4,000 ft^3/s; minimum, 1.2 ft^3/s Aug. 13, 14, 17, 1949 and May 21, 1988; minimum gage height, 0.32 ft Aug. 13, 14, 17, 1949.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of 16,700 ft^3/s in July 1935 was determined by computation of flow over dam and from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,710 ft^3/s Feb. 2 at 1315 hours, gage height, 4.52 ft; minimum, 1.2 ft^3/s May 21, gage height, 0.66 ft (result of regulation).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	250	512	176	427	107	282	241	109	13	13	76
2	136	250	347	162	1190	74	317	198	99	13	13	48
3	103	182	342	84	788	107	329	127	100	13	13	35
4	120	134	336	85	464	108	285	123	99	13	13	35
5	216	214	329	106	409	91	240	131	83	13	13	35
6	248	250	320	79	288	67	203	151	69	13	13	35
7	167	185	239	64	229	72	202	159	43	13	13	35
8	131	131	133	64	228	100	167	159	31	13	13	28
9	131	131	143	102	208	182	152	119	31	13	13	24
10	131	131	200	117	197	699	152	53	31	13	13	24
11	115	132	200	58	173	305	152	58	31	13	13	24
12	121	132	156	52	131	307	120	70	32	11	13	24
13	133	132	140	74	131	367	107	70	33	10	13	24
14	133	211	141	61	132	426	107	71	33	10	13	24
15	133	251	141	61	131	350	90	71	33	10	10	24
16	132	171	142	42	164	307	84	76	34	10	8.6	24
17	132	132	155	41	134	256	99	124	34	10	8.8	24
18	92	134	146	60	112	212	108	132	34	10	8.6	24
19	71	273	117	76	132	187	107	151	34	10	8.6	24
20	71	227	118	123	158	204	108	53	20	9.8	8.6	24
21	72	193	151	191	231	137	107	106	14	10	8.6	24
22	72	192	164	133	97	106	89	226	14	24	8.6	17
23	96	152	154	79	171	144	67	247	14	33	8.6	13
24	107	133	124	61	168	201	60	219	14	47	8.9	14
25	106	133	119	82	104	354	62	303	14	35	8.6	14
26	88	133	298	98	65	1110	62	549	13	12	8.6	14
27	73	134	219	73	86	923	63	358	13	12	8.6	14
28	852	134	216	51	109	606	67	258	13	12	9.0	14
29	496	115	148	52	108	478	175	217	13	12	287	15
30	486	442	116	67	---	377	240	176	13	13	322	14
31	328	---	116	97	---	295	---	138	---	13	68	---
TOTAL	5446	5414	6182	2671	6965	9259	4403	5134	1148	456.8	981.7	768
MEAN	176	180	199	86.2	240	299	147	166	38.3	14.7	31.7	25.6
MAX	852	442	512	191	1190	1110	329	549	109	47	322	76
MIN	71	115	116	41	65	67	60	53	13	9.8	8.6	13

CAL YR	1987	TOTAL	57084.1	MEAN	156	MAX	1780	MIN	1.6
WTR YR	1988	TOTAL	48828.5	MEAN	133	MAX	1190	MIN	8.6

01500500 SUSQUEHANNA RIVER AT UNADILLA, NY

LOCATION.--Lat 42°19'17", long 75°19'01", Otsego County, Hydrologic Unit 02050101, on right bank 25 ft downstream from bridge on Bridge Street at Unadilla, 1.0 mi upstream from Carrs Creek, and 1.6 mi downstream from Ouleout Creek.

DRAINAGE AREA.--982 mi^2.

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

REVISED RECORDS.--WSP 851: 1938(M). WSP 2103: 1966(M); Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 997.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Slight regulation by upstream lakes and reservoirs. Satellite and gage-height telemeters at station.

AVERAGE DISCHARGE.--50 years, 1,557 ft^3/s, 21.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft^3/s Mar. 14, 1977, gage height, 14.64 ft; minimum, 39 ft^3/s Oct. 17, 1964, gage height, 1.38 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Mar. 18, 1936, reached a stage of 16.6 ft, from floodmarks, discharge, 31,300 ft^3/s from publications of the Corps of Engineers, Baltimore District.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Feb. 2	2030	*9,880	*9.56	No peak greater than base discharge.			

Minimum discharge, 79 ft^3/s Aug. 23, 24, gage height, 1.58 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	2290	2780	e1300	e1800	e820	3270	2130	1320	209	306	846
2	1020	1910	2270	e1300	6170	e740	3380	1990	1180	217	365	643
3	927	1950	2220	e1100	6310	981	3160	1810	1130	208	347	548
4	1090	1560	2140	e1050	4450	949	3210	1510	1140	196	197	520
5	1380	1820	2070	e1000	3390	831	2950	1420	994	182	233	583
6	1620	1750	1970	e940	e2750	768	2650	1380	861	174	195	571
7	1560	1560	1710	e860	e2200	820	2440	1360	748	159	173	506
8	1580	1420	1480	e820	e2100	972	2220	1220	640	161	171	445
9	1320	1510	1400	e800	e2000	1090	2090	969	587	155	182	350
10	1200	1510	1710	e780	e1800	3130	1960	928	523	157	166	322
11	1200	1430	1800	e740	e1600	2570	1810	813	494	133	174	428
12	1470	1400	1650	e700	e1500	2110	1630	919	469	119	156	321
13	1290	1350	1580	e660	e1400	2390	1510	939	422	108	151	324
14	1140	1480	1520	e620	e1300	2900	1250	864	365	244	138	289
15	1060	1400	1460	e600	e1300	2540	1180	886	327	183	133	299
16	1010	1290	1580	e600	e1200	2260	1160	785	335	133	127	268
17	948	1270	1580	e600	e1200	2210	835	1050	323	134	121	275
18	871	1520	1370	e600	e1200	1980	1190	1130	320	154	146	337
19	802	1870	1220	e720	e1200	1830	1060	1280	306	147	124	417
20	776	1690	1270	1130	1480	1710	915	1510	285	218	98	389
21	812	1520	1460	1400	e2000	1440	908	1650	265	262	127	290
22	909	1350	1500	e1200	e1500	1290	874	2030	235	895	95	342
23	820	1300	1380	e1100	e1300	1350	761	2190	245	659	83	373
24	768	1360	1270	e920	e1200	1650	923	1940	220	475	103	394
25	778	1290	1400	e820	e1000	2880	969	2590	245	397	139	378
26	821	1230	2080	e800	e920	6420	861	3200	238	382	139	318
27	741	1210	1860	e760	e860	8390	804	2700	196	357	122	286
28	3930	1130	1690	e740	e840	6550	2110	2150	213	330	102	263
29	4320	1050	e1500	e700	e820	4880	2620	1810	213	276	949	285
30	3140	2450	e1200	e660	---	4060	2340	1640	168	231	3350	224
31	2730	---	e1100	e620	---	3550	---	1450	---	269	1530	---
TOTAL	43283	45870	51220	26640	56790	76061	53040	48243	15007	7924	10442	11834
MEAN	1396	1529	1652	859	1958	2454	1768	1556	500	256	337	394
MAX	4320	2450	2780	1400	6310	8390	3380	3200	1320	895	3350	846
MIN	741	1050	1100	600	820	740	761	785	168	108	83	224
CFSM	1.42	1.56	1.68	.88	1.99	2.50	1.80	1.58	.51	.26	.34	.40
IN.	1.64	1.74	1.94	1.01	2.15	2.88	2.01	1.83	.57	.30	.40	.45

CAL YR	1987	TOTAL	532870	MEAN	1460	MAX	12000	MIN	185	CFSM	1.49	IN. 20.19
WTR YR	1988	TOTAL	446354	MEAN	1220	MAX	8390	MIN	83	CFSM	1.24	IN. 16.91

e Estimated

01502000 BUTTERNUT CREEK AT MORRIS, NY

LOCATION.--Lat 42°32'43", long 75°14'22", Otsego County, Hydrologic Unit 02050101, on right bank 15 ft upstream from bridge on State Highway 23 at Morris, and 0.2 mi upstream from Calhoun Creek.

DRAINAGE AREA.--59.7 mi^2.

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

REVISED RECORDS.--WSP 921: 1939. WSP 2103: Drainage area. WRD NY 1974: 1973(P).

GAGE.--Water-stage recorder. Datum of gage is 1096.21 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years, 99.1 ft^3/s, 22.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,980 ft^3/s Oct. 17, 1977, gage height, 9.44 ft; minimum daily, 1.3 ft^3/s Sept. 24, 1939.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 26	1230	*1,060	*5.75	No peak greater than base discharge.			

Minimum discharge, 8.3 ft^3/s July 12, 13, 14, and 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	102	244	e58	e120	e48	157	96	38	14	23	42
2	52	94	212	e56	e440	e44	150	86	38	15	18	34
3	52	89	174	e54	e260	54	148	79	38	13	16	30
4	51	90	158	e54	e190	53	148	72	43	12	15	28
5	48	98	141	e52	e135	e48	132	68	36	11	14	32
6	45	86	124	e50	e115	e44	117	67	33	11	14	27
7	49	79	106	e48	e110	49	108	68	31	10	15	24
8	49	79	95	e45	e100	49	97	58	29	10	16	22
9	44	93	99	e44	e95	65	92	55	27	10	14	20
10	42	85	121	e42	e86	176	86	53	25	9.9	14	19
11	48	80	101	e40	e82	111	79	57	25	9.3	15	18
12	55	78	94	e42	e78	105	73	53	23	8.9	14	17
13	46	85	95	e44	e74	162	68	50	22	8.6	13	17
14	43	91	86	e38	e68	174	63	53	21	8.8	13	19
15	42	79	85	e34	e64	133	61	46	20	9.8	13	17
16	41	74	99	e32	e60	119	60	43	19	9.5	12	15
17	40	73	87	e33	e58	108	60	45	18	10	13	15
18	39	180	77	e34	e56	100	59	44	18	10	12	17
19	38	135	74	e44	e54	96	56	54	17	11	13	21
20	38	115	77	61	e70	e80	53	65	16	11	12	17
21	41	102	93	80	e66	e66	52	70	16	18	11	21
22	40	87	80	66	e60	e58	48	66	14	55	11	20
23	38	88	74	e50	e60	e64	48	57	15	26	11	21
24	38	96	70	e46	e58	129	61	58	15	22	12	25
25	41	90	95	e44	e56	287	56	60	14	21	14	20
26	40	87	115	e42	e54	796	49	74	13	20	14	18
27	38	80	91	e40	e54	509	48	58	13	20	13	17
28	279	75	85	e38	e52	307	198	50	13	18	16	16
29	160	80	e74	e36	e50	229	125	47	12	17	158	16
30	130	463	e56	e42	---	192	108	43	12	17	158	16
31	114	---	e54	e50	---	163	---	40	---	24	60	---
TOTAL	1882	3133	3236	1439	2825	4618	2660	1835	674	470.8	767	641
MEAN	60.7	104	104	46.4	97.4	149	88.7	59.2	22.5	15.2	24.7	21.4
MAX	279	463	244	80	440	796	198	96	43	55	158	42
MIN	38	73	54	32	50	44	48	40	12	8.6	11	15
CFSM	1.02	1.75	1.75	.78	1.63	2.50	1.49	.99	.38	.25	.41	.36
IN.	1.17	1.95	2.02	.90	1.76	2.88	1.66	1.14	.42	.29	.48	.40

CAL YR	1987	TOTAL	31552	MEAN	86.4	MAX	715	MIN	15	CFSM	1.45	IN. 19.66
WTR YR	1988	TOTAL	24180.8	MEAN	66.1	MAX	796	MIN	8.6	CFSM	1.11	IN. 15.07

e Estimated

01502500 UNADILLA RIVER AT ROCKDALE, NY

LOCATION.--Lat 42°22'40", long 75°24'23", Chenango County, Hydrologic Unit 02050101, on right bank 400 ft down-stream from Chenango-Otsego County highway bridge at Rockdale, and 0.7 mi downstream from Kent Brook.

DRAINAGE AREA.--520 mi^2.

PERIOD OF RECORD.--November 1929 to September 1933, January 1937 to current year.

REVISED RECORDS.--WRD NY 1974: 1973 (P).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 992.25 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1933, nonrecording gage at bridge 400 ft upstream at datum 0.73 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Satellite telemeter at station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--54 years (water years 1931–33, 1938–88), 836 ft^3/s, 21.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,400 ft^3/s Dec. 31, 1942, gage height, 12.98 ft; minimum daily, 27 ft^3/s Sept. 20–27, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 27	0600	*6,650	*8.69	No other peak greater than base discharge.			

Minimum discharge, 66 ft^3/s July 14, gage height, 3.59 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	332	631	3530	e680	e1100	e430	1840	1010	360	119	122	465
2	325	559	2260	e780	4000	e400	1820	875	347	138	120	337
3	297	518	1860	e660	3850	e480	1680	800	360	139	205	268
4	282	532	1580	e580	2320	488	1820	709	367	119	307	239
5	267	633	1410	e540	1690	429	1800	643	337	102	200	259
6	256	569	1220	e500	e1300	403	1580	617	290	92	e160	255
7	259	525	1050	e480	e1200	469	1360	638	258	86	e150	223
8	287	509	878	e450	e1100	491	1210	577	237	82	e140	194
9	293	570	930	e430	e980	670	1100	497	220	78	e150	174
10	256	660	1180	e410	e900	1900	1030	455	205	75	e140	159
11	262	612	1170	e390	e800	1610	920	476	196	73	e140	146
12	328	566	971	e370	e760	1330	812	499	187	70	133	135
13	349	582	953	e350	e700	1660	734	445	177	68	122	133
14	301	693	873	e330	e680	2100	665	453	168	68	114	140
15	268	636	794	e320	e640	1650	619	449	159	71	109	155
16	249	549	901	e320	e620	1360	614	384	151	79	105	135
17	236	515	868	e320	e600	1190	608	405	150	109	112	133
18	226	893	727	e330	e600	1080	591	507	147	128	117	140
19	217	1100	650	e420	e620	1030	553	556	138	174	112	160
20	214	804	697	e660	e720	896	505	837	130	150	114	178
21	227	693	914	e900	972	715	486	939	123	230	101	167
22	239	565	891	e800	745	638	474	889	119	1100	93	162
23	231	516	733	e620	e700	671	453	940	120	733	87	180
24	217	618	652	e500	e640	1030	554	854	128	345	95	208
25	223	621	876	e450	e580	2430	575	924	138	284	104	204
26	232	600	1400	e420	e500	4990	498	825	129	232	147	164
27	238	565	1160	e400	e470	6430	439	861	120	210	144	142
28	1480	514	952	e390	e460	5200	1270	632	115	184	136	131
29	1700	494	e800	e370	e450	3330	1550	520	114	171	1170	124
30	1010	3320	e560	e360	---	2480	1240	453	110	171	2390	118
31	761	---	e600	e350	---	2070	---	402	---	132	913	---
TOTAL	12062	21162	34040	14880	30697	50050	29400	20071	5800	5812	8252	5628
MEAN	389	705	1098	480	1059	1615	980	647	193	187	266	188
MAX	1700	3320	3530	900	4000	6430	1840	1010	367	1100	2390	465
MIN	214	494	560	320	450	400	439	384	110	68	87	118
CFSM	.75	1.36	2.11	.92	2.04	3.10	1.88	1.25	.37	.36	.51	.36
IN.	.86	1.51	2.44	1.06	2.20	3.58	2.10	1.44	.41	.42	.59	.40

CAL YR	1987	TOTAL	258771	MEAN	709	MAX	6060	MIN	84	CFSM	1.36	IN. 18.51
WTR YR	1988	TOTAL	237854	MEAN	650	MAX	6430	MIN	68	CFSM	1.25	IN. 17.02

e Estimated

01502701 SUSQUEHANNA RIVER AT AFTON, NY

LOCATION.--Lat 42°13'38", long 75°31'27", Chenango County, Hydrologic Unit 02050101, at bridge on State Highway 41, 0.1 mi southeast of Afton and intersection of State Highways 7 and 41, and 0.2 mi downstream from Kelsey Brook.

DRAINAGE AREA.--1,716 mi^2.

PERIOD OF RECORD.--April to September 1988
CHEMICAL DATA: 1988 (b).
MINOR ELEMENT DATA: 1988 (b).
SEDIMENT DATA: 1988 (a).

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but were analyzed by the USGS Central Laboratory at Denver, Colorado.

WATER QUALITY DATA, APRIL TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
APR									
05	1100	5220	158	7.50	9.0	--	10.8	65	12
MAY									
03	0800	3140	154	7.40	6.0	--	11.4	63	13
JUN									
07	0830	1200	188	8.00	17.0	--	9.3	78	12
AUG									
03	0930	402	218	7.47	26.0	756	8.2	87	11

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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
APR									
05	22	2.4	3.9	1.0	53	14	6.8	0.1	82
MAY									
03	21	2.5	4.2	1.0	50	14	7.0	0.1	80
JUN									
07	26	3.1	5.4	1.0	66	12	8.1	0.1	95
AUG									
03	29	3.6	7.0	1.2	76	15	11	<0.1	112

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)	SEDI-MENT, SUS-PENDED (MG/L)
APR									
05	<1	6	1300	<5	50	<0.1	4	10	--
MAY									
03	2	10	370	<5	30	<0.1	<1	<10	--
JUN									
07	<1	6	280	<5	40	<0.1	3	<10	5
AUG									
03	<1	<1	200	<5	70	<0.1	1	<10	--

01503000 SUSQUEHANNA RIVER AT CONKLIN, NY

LOCATION.--Lat 42°02'07", long 75°48'12", Broome County, Hydrologic Unit 02050101, on left bank at abutment of former highway bridge, 500 ft upstream from bridge on County Highway 304 at Conklin, 0.7 mi downstream from Little Snake Creek, and 3.5 mi downstream from Pennsylvania-New York State line.

DRAINAGE AREA.--2,232 mi^2.

PERIOD OF RECORD.--November 1912 to current year.

REVISED RECORDS.--WSP 1672: 1918(M, P). WSP 2103: Drainage area. WDR NY–81–3: 1918 (M, P).

GAGE.--Water-stage recorder. Datum of gage is 841.04 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1914, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Minor regulation by upstream lakes and reservoirs. Satellite telemeter at station. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--75 years (water years 1914–88), 3,582 ft^3/s, 21.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,600 ft^3/s Mar. 18, 1936, gage height, 20.14 ft; maximum gage height, 20.83 ft Mar. 22, 1948; minimum discharge, 85 ft^3/s Oct. 14, 1964, gage height, 1.30 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,000 ft^3/s and maximum (*);

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 20	0600	*21,500	*11.49	No other peak greater than base discharge.			

Minimum discharge, 184ft^3/s Aug. 17, 18, gage height, 1.67 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2010	4530	9170	e2500	e4400	e1900	6690	5530	2580	406	522	3000
2	2020	3920	7440	e3000	e11500	e1900	6540	4770	2360	390	585	1880
3	1890	3370	5900	e2500	16400	e1800	6350	4260	2110	409	622	1370
4	1690	3290	5320	e2400	12400	e1800	6140	3840	2090	431	582	1150
5	1670	2900	4930	e2200	e8200	e2400	6070	3320	1970	420	534	1200
6	1860	3170	4540	e2000	e6000	e2200	5600	3130	1820	400	423	1200
7	2240	2980	4150	e1900	e5400	e2100	5090	3280	1580	369	438	1120
8	2360	2720	3660	e1800	e4800	e2100	4710	2990	1410	394	401	996
9	2290	2580	3310	e1700	e4600	e2500	4350	2630	1240	341	368	879
10	2020	2710	3450	e1600	e4300	6010	4080	2310	1090	305	480	768
11	1940	2830	3850	e1600	e3900	7290	3790	2110	1020	245	468	651
12	2040	2680	3890	e1500	e3500	5850	3520	2040	950	293	410	641
13	2220	2640	3640	e1500	e3300	5890	3210	1970	899	282	370	661
14	2130	2760	3440	e1400	e3100	6980	2970	2140	824	263	338	589
15	1880	2880	3340	e1400	e2900	6780	2670	1910	745	256	370	565
16	1730	2720	3600	e1300	e2800	5660	2550	1910	669	302	331	536
17	1610	2460	3580	e1300	e2600	5010	2500	1760	698	358	208	535
18	1540	3200	3400	e1300	e2500	4660	2210	1950	596	345	248	518
19	1470	3890	3000	e1600	e2400	4270	2430	3720	632	351	265	532
20	1360	3970	3190	e2200	e2300	3980	2250	16300	583	372	272	582
21	1300	3480	3920	e4500	e2800	3510	2040	7680	567	425	267	683
22	1380	3050	3890	e5000	e3300	2990	1960	6020	531	491	247	660
23	1420	2770	3660	e4000	e3000	2730	1910	5550	521	1290	235	576
24	1400	2600	3260	e3300	e2700	3080	2160	5730	549	1740	256	527
25	1300	2730	3280	e3000	e2400	4660	2330	5960	411	1120	256	684
26	1250	2700	4000	e2500	e2100	10200	2250	5610	428	867	237	802
27	1330	2560	4600	e2200	e2100	16300	2080	5530	540	916	258	671
28	4170	2440	4110	e1800	e2100	16300	3880	4780	408	807	292	574
29	8290	2560	3770	e1600	e2000	12100	5840	3890	387	700	666	535
30	6850	7030	e3200	e1500	---	8840	6610	3260	403	599	3880	365
31	5300	---	e2800	e1600	---	7360	---	2870	---	553	5590	---
TOTAL	71960	94120	127290	67700	129800	169150	114780	128750	30611	16440	20419	25450
MEAN	2321	3137	4106	2184	4476	5456	3826	4153	1020	530	659	848
MAX	8290	7030	9170	5000	16400	16300	6690	16300	2580	1740	5590	3000
MIN	1250	2440	2800	1300	2000	1800	1910	1760	387	245	208	365
CFSM	1.04	1.41	1.84	.98	2.01	2.44	1.71	1.86	.46	.24	.30	.38
IN.	1.20	1.57	2.12	1.13	2.16	2.82	1.91	2.15	.51	.27	.34	.42

CAL YR	1987	TOTAL	1146820	MEAN	3142	MAX	23100	MIN	318	CFSM	1.41	IN. 19.11
WTR YR	1988	TOTAL	996470	MEAN	2723	MAX	16400	MIN	208	CFSM	1.22	IN. 16.61

e Estimated

01505000 CHENANGO RIVER AT SHERBURNE, NY

LOCATION.--Lat 42°40'43", long 75°30'39", Chenango County, Hydrologic Unit 02050102, on right bank 20 ft downstream from bridge on State Highway 80, 0.5 mi west of Sherburne, and 0.5 mi downstream from Handsome Brook.

DRAINAGE AREA.--263 mi^2.

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

REVISED RECORDS.--WSP 851: 1938(M). WSP 1502: 1955. WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,037.16 ft above National Geodetic Vertical Datum of 1929. July 22 to Dec. 9, 1953, nonrecording gage or reference point and Dec. 10, 1953 to Jan. 26, 1955, water-stage recorder at temporary site 1.5 mi downstream, at datum approximately 11.9 ft lower, during period of construction of highway bridge.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow from 82 mi^2 of drainage area formerly may have been diverted into Mohawk River basin through abandoned Chenango Canal; no diversion from this cause known during period of record. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years, 398 ft^3/s, 20.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft^3/s Mar. 6, 1979, gage height, 9.94 ft; maximum gage height, 9.99 ft Dec. 30, 1942 (ice jam); minimum discharge, 12 ft^3/s Sept. 25, 1964; minimum gage height, 1.52 ft Sept. 19, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 10.6 ft, from records of National Weather Service.

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

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 26	1100	*3,070	*7.92	No peak greater than base discharge.			

Minimum discharge, 24 ft^3/s Aug. 23, gage height, 1.69 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	182	928	e310	630	205	810	330	143	53	72	63
2	83	162	852	e300	1290	185	740	287	145	67	58	54
3	83	155	689	e280	883	214	768	256	147	57	50	49
4	82	179	603	e270	e680	205	991	238	156	46	43	49
5	76	170	527	e260	e600	193	940	217	136	41	37	51
6	74	165	478	e250	e550	189	809	210	119	38	33	50
7	83	169	416	e240	e510	209	703	197	110	35	56	47
8	94	177	389	e230	e480	201	628	180	101	32	55	45
9	87	241	415	e225	e440	258	582	166	97	31	43	42
10	83	248	538	e215	e400	604	532	160	87	29	39	40
11	88	220	473	e205	e350	501	481	192	83	27	36	39
12	110	203	449	e205	e330	478	440	177	76	29	35	37
13	105	218	448	e200	e315	664	397	165	66	27	32	38
14	101	228	412	e180	e310	748	366	178	57	28	32	41
15	95	205	397	e170	e300	628	352	159	53	48	33	39
16	90	188	436	e175	e290	560	367	147	50	42	31	37
17	87	178	403	181	e280	501	358	174	50	44	31	37
18	83	253	367	199	e260	465	335	188	47	54	32	41
19	81	232	348	329	e235	449	304	221	43	45	30	48
20	79	207	370	396	e270	401	284	496	40	44	28	43
21	80	189	473	524	e260	343	279	425	39	237	27	42
22	79	e170	417	e400	e250	341	268	507	39	434	26	42
23	76	e180	382	e320	e240	342	241	357	56	199	25	45
24	79	206	353	e280	e230	628	273	378	62	124	38	54
25	93	227	463	e235	e220	1210	253	322	49	113	61	48
26	102	222	582	e210	e215	2640	220	280	47	97	59	44
27	99	208	467	e205	e212	2500	199	239	47	77	48	41
28	342	190	424	e200	e210	1810	456	206	44	65	53	40
29	325	232	370	e200	e208	1360	383	183	39	56	123	40
30	264	1430	351	e205	---	1080	393	169	40	53	131	38
31	215	---	e330	238	---	903	---	154	---	86	82	---
TOTAL	3508	7234	14550	7837	11448	21015	14152	7558	2268	2358	1479	1324
MEAN	113	241	469	253	395	678	472	244	75.6	76.1	47.7	44.1
MAX	342	1430	928	524	1290	2640	991	507	156	434	131	63
MIN	74	155	330	170	208	185	199	147	39	27	25	37
CFSM	.43	.92	1.78	.96	1.50	2.58	1.79	.93	.29	.29	.18	.17
IN.	.50	1.02	2.06	1.11	1.62	2.97	2.00	1.07	.32	.33	.21	.19

CAL YR	1987	TOTAL	109605	MEAN	300	MAX	2070	MIN	21	CFSM	1.14	IN. 15.50
WTR YR	1988	TOTAL	94731	MEAN	259	MAX	2640	MIN	25	CFSM	.98	IN. 13.40

e Estimated

01509000 TIOUGHNIOGA RIVER AT CORTLAND, NY

LOCATION.--Lat 42°36'10", long 76°09'35", Cortland County, Hydrologic Unit 02050102, on right bank at east end of Elm Street at Cortland, 0.4 mi downstream from confluence of East and West Branches. Water-quality sampling site at Cortland Sewage Treatment Plant, 0.4 mi downstream from discharge station.

DRAINAGE AREA.--292 mi^2, including 14.0 mi^2, the flow from which may be diverted into De Ruyter Reservoir in Oswego River basin.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 2103: Drainage area. WRD NY 1974: 1973.

GAGE.--Water-stage recorder. Datum of gage is 1,084.92 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1939, water-stage recorder at datum 4.00 ft higher; Oct. 1, 1939 to Sept. 30, 1963, water-stage recorder at datum 3.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low and medium flow caused by powerplants in mills on West Branch. Slight diversion from East Branch for operation of Erie (Barge) Canal. Slight diversion from Gate House Pond on West Branch 17 mi upstream from station into Onondaga Creek basin (St. Lawrence River basin) for manufacturing purposes by Linden Chlorine Process Co. Gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years (water years 1939–88), 492 ft^3/s, 22.88 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft^3/s Mar. 5, 1964, gage height, 12.49 ft; maximum gage height, 13.82 ft (present datum) Apr. 5, 1950; minimum discharge, 9.8 ft^3/s Sept. 20, 1939, Sept. 29, 1959; minimum daily, 17 ft^3/s Sept. 26, 27, 1959.

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)
Mar. 26	2030	*5,640	*9.28	No other peak greater than base discharge.			

Minimum discharge, 73 ft^3/s, July 14; minimum gage height, 2.74 ft July 10-12, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	239	598	e400	754	e230	985	642	252	105	105	145
2	93	207	538	e360	1540	e210	863	552	251	118	96	125
3	91	197	479	e340	e1100	e250	930	497	266	114	90	115
4	88	214	436	e330	e880	245	1510	460	294	102	87	115
5	86	210	403	e320	e680	e220	1380	423	238	93	99	122
6	84	198	376	e310	e590	e210	1080	404	208	89	126	122
7	112	197	350	e290	e510	e230	897	374	195	87	137	114
8	134	199	327	e270	e500	238	784	344	186	83	127	107
9	127	252	346	e260	e480	300	745	322	175	81	113	100
10	126	296	530	e240	e440	635	693	333	163	80	106	96
11	129	265	501	e230	e430	563	631	383	157	77	102	93
12	149	246	459	e210	e400	518	568	341	150	80	99	91
13	183	249	464	e200	e390	696	520	318	143	78	95	95
14	163	252	434	e200	e380	810	479	335	134	79	94	96
15	143	229	408	e180	e380	657	455	300	128	78	92	95
16	135	214	436	e205	370	586	459	303	124	79	89	90
17	126	209	423	e210	e335	540	457	412	125	88	96	98
18	112	243	379	245	e315	507	423	345	119	88	97	108
19	104	278	358	364	e320	489	390	392	116	89	95	103
20	103	244	426	420	e340	e440	368	1180	113	86	90	99
21	106	228	589	e580	e330	e390	362	1070	109	236	86	100
22	112	e200	533	e490	e320	e360	347	900	108	559	84	104
23	111	e200	478	e410	e320	e380	331	695	115	278	83	131
24	111	235	442	e390	309	651	356	609	114	205	98	152
25	116	271	524	379	e280	1330	343	546	111	250	163	129
26	120	273	672	361	e260	4220	315	472	107	211	135	116
27	119	270	547	e320	e270	4220	312	411	103	173	110	108
28	333	248	498	e300	e250	2520	638	357	101	196	130	103
29	396	245	e420	e300	e235	1580	596	322	98	161	223	99
30	304	617	e340	e290	---	1280	793	295	99	127	319	97
31	262	---	e370	343	---	1130	---	271	---	111	195	---
TOTAL	4476	7425	14084	9747	13708	26635	19010	14608	4602	4281	3661	3268
MEAN	144	247	454	314	473	859	634	471	153	138	118	109
MAX	396	617	672	580	1540	4220	1510	1180	294	559	319	152
MIN	84	197	327	180	235	210	312	271	98	77	83	90
CFSM	.49	.85	1.56	1.08	1.62	2.94	2.17	1.61	.53	.47	.40	.37
IN.	.57	.95	1.79	1.24	1.75	3.39	2.42	1.86	.59	.55	.47	.42

CAL YR	1987	TOTAL	129801	MEAN	356	MAX	2670	MIN	50	CFSM	1.22	IN. 16.54
WTR YR	1988	TOTAL	125505	MEAN	343	MAX	4220	MIN	77	CFSM	1.17	IN. 15.99

e Estimated

01509000 TIOUGHNIOGA RIVER AT CORTLAND, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957 to current year.
CHEMICAL DATA: 1957 (e), 1970, 1972 (a).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1956 to September 1957, once-daily measurements, unpublished.
pH: October 1956 to September 1957, once-daily measurements, unpublished.
WATER TEMPERATURES: October 1956 to current year.

REMARKS.--Daily water-temperature measurements made at 0900 hours. Measurements are reported to half degrees Celsius.

COOPERATION.--Water-temperature records furnished by the city of Cortland.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum daily. 23.5°C July 22, 1957; minimum daily (except water year 1960), 0.0°C on many days during winter periods in water years 1957, 1959, 1962, 1967-84, 1987.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum daily, 19.0°C Aug. 4, 6 and 16; minimum daily, 0.0°C Dec. 31, Jan. 5-11, 14-16, 27, 29, and Feb. 3-9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(ONCE DAILY AT 0900)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	8.0	7.0	.5	3.5	1.5	7.5	7.5	15.5	13.0	18.0	13.5
2	11.0	8.0	5.0	.5	2.0	.5	7.0	9.0	12.5	---	17.5	14.0
3	11.5	10.0	4.0	.5	.0	1.5	8.0	9.0	12.0	13.0	18.0	15.0
4	10.5	10.5	4.0	1.0	.0	1.0	7.5	8.5	13.5	---	19.0	15.0
5	9.0	10.0	3.5	.0	.0	1.0	7.0	11.0	13.0	---	18.5	12.5
6	10.0	9.5	3.0	.0	.0	1.5	7.0	12.0	14.0	10.0	19.0	11.5
7	1.5	6.0	3.0	.0	.0	5.0	10.0	11.5	14.0	16.5	17.0	11.0
8	10,0	6.5	3.0	.0	.0	4.0	8.5	11.0	11.0	17.0	17.5	11.5
9	9.5	7.0	4.5	.0	.0	6.0	5.5	12.5	12.0	16.5	16.5	11.5
10	10.0	7.0	5.0	.0	.5	5.5	5.0	12.5	12.0	17.0	17.0	13.5
11	9.0	5.5	5.0	.0	1.0	4.0	6.5	13.0	10.5	17.5	17.5	13.0
12	8.0	6.0	4.0	.5	.5	4.0	7.0	10.5	12.0	17.0	17.5	13.0
13	8.0	6.0	3.5	1.0	1.0	5.0	8.0	11.5	14.5	17.0	18.0	15.5
14	7.0	7.0	4.5	.0	1.0	3.5	7.5	10.5	14.0	17.0	18.5	13.0
15	8.5	6.0	5.0	.0	2.0	2.5	7.0	11.0	15.0	18.0	18.5	12.0
16	11.0	6.5	4.5	.0	1.5	2.5	7.0	13.5	16.0	17.5	19.0	11.5
17	10.0	6.5	3.0	1.0	1.5	2.5	5.5	13.5	14.0	---	17.0	12.5
18	10.5	10.0	1.5	3.5	3.0	3.0	9.5	13.0	12.5	18.0	16.0	14.5
19	10.0	7.5	1.5	7.0	2.0	3.0	7.0	13.0	13.5	18.5	16.5	14.5
20	10.0	6.0	1.5	3.0	3.0	3.0	6.5	13.5	16.5	---	14.0	16.5
21	10.0	4.5	2.5	3.0	2.0	2.5	7.0	13.5	16.0	18.0	14.5	17.0
22	9.5	4.0	1.5	2.0	1.5	2.0	6.5	14.0	15.5	18.0	12.5	16.5
23	10.0	2.0	3.0	.5	2.0	4.0	7.0	14.0	17.0	17.5	12.5	15.5
24	9.0	7.0	2.5	2.5	2.0	4.0	7.0	11.0	13.0	---	12.0	15.0
25	9.0	7.0	5.0	3.0	3.0	6.0	6.5	12.0	15.0	18.0	12.0	13.0
26	7.5	7.5	3.5	3.0	2.0	5.0	7.5	11.0	16.0	18.5	13.0	12.5
27	7.5	6.5	1.5	.0	2.5	5.0	9.0	11.5	13.5	18.0	14.0	12.0
28	8.0	5.5	1.5	.5	2.0	2.0	10.5	15.0	13.5	18.5	17.0	14.0
29	7.0	5.0	1.5	.0	3.0	5.0	8.0	15.5	13.5	18.0	16.0	11.0
30	7.0	7.0	1.0	2.0	---	6.0	7.0	15.0	13.0	18.0	15.5	11.0
31	8.0	---	.0	2.0	---	6.0	---	15.5	---	18.0	15.5	---
MEAN	9.3	6.8	3.2	1.2	1.5	3.5	7.3	12.1	13.8	---	16.3	13.4
MAX	12.0	10.5	7.0	7.0	3.5	6.0	10.5	15.5	17.0	---	19.0	17.0
MIN	7.0	2.0	.0	.0	.0	.5	5.0	7.5	10.5	---	12.0	11.0

01510000 OTSELIC RIVER AT CINCINNATUS, NY

LOCATION.--Lat 42°32'28", long 75°54'00", Cortland County, Hydrologic Unit 02050102, on right bank 150 ft upstream from Mead Brook, and 300 ft downstream from bridge on County Highway 159 at Cincinnatus.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--June 1938 to September 1964, October 1969 to current year.

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,031.67 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and satellite telemeters at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--45 years (water years 1939–64, 1970–88), 264 ft^3/s, 24.39 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,390 ft^3/s Dec. 30, 1942; maximum gage height, 10.68 ft Apr. 4, 1950; minimum discharge, 3.8 ft^3/s Sept. 25, 1939; minimum gage height, 0.11 ft Aug. 24, 28, 29, Sept. 25, 1985.

EXTREMES FOR CURRENT YEAR.--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. 26	1200	*3,930	*7.11	No other peak greater than base discharge.			

Minimum daily discharge, 16 ft^3/s July 13, 14 and Aug. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	171	551	e180	493	e100	578	341	119	32	42	55
2	67	154	510	e170	1250	e94	528	294	114	48	35	44
3	69	145	409	e165	678	113	525	265	114	35	31	38
4	68	173	374	e160	e490	106	757	240	123	29	28	38
5	62	168	333	e155	e370	101	717	213	95	28	26	47
6	58	148	297	e150	e310	99	539	205	82	25	25	42
7	86	144	262	e148	e280	106	455	181	75	23	26	38
8	108	146	238	e146	e240	103	391	158	69	21	32	34
9	89	204	256	e144	e230	134	352	142	63	e18	26	31
10	79	207	386	e142	e220	378	314	159	58	e19	23	29
11	95	183	320	e140	e210	292	279	276	54	e18	22	26
12	127	173	303	e138	e200	266	247	179	50	e17	21	25
13	108	188	307	e136	e190	420	224	162	47	e16	20	28
14	95	188	267	e134	e180	483	202	189	43	e16	19	29
15	88	164	257	e130	e170	378	196	151	39	e19	19	26
16	81	151	284	e140	e160	334	205	138	38	18	18	24
17	76	144	255	e160	e150	302	198	159	37	22	19	27
18	72	261	226	189	e140	280	184	143	35	32	21	28
19	69	222	213	273	e135	273	165	199	32	32	21	26
20	67	194	277	325	e150	241	155	841	31	46	19	28
21	70	181	354	413	e145	204	155	540	31	146	17	31
22	69	159	281	e240	e140	200	145	564	32	213	16	29
23	66	158	249	e200	e135	207	142	416	35	92	16	46
24	64	184	227	e170	e130	395	188	456	34	81	24	57
25	73	194	342	e150	e120	1100	165	369	30	86	54	46
26	76	189	420	e140	e115	3290	145	299	29	79	43	38
27	80	178	317	e135	e110	2340	159	250	28	62	31	34
28	432	161	285	e130	e105	1220	461	212	26	55	28	32
29	318	209	258	e125	e102	774	359	180	25	49	109	33
30	237	910	194	e135	---	686	444	156	25	39	143	31
31	199	---	e190	165	---	665	---	136	---	60	78	---
TOTAL	3325	6051	9442	5328	7348	15684	9574	8213	1613	1476	1052	1040
MEAN	107	202	305	172	253	506	319	265	53.8	47.6	33.9	34.7
MAX	432	910	551	413	1250	3290	757	841	123	213	143	57
MIN	58	144	190	125	102	94	142	136	25	16	16	24
CFSM	.73	1.37	2.07	1.17	1.72	3.44	2.17	1.80	.37	.32	.23	.24
IN.	.84	1.53	2.39	1.35	1.86	3.97	2.42	2.08	.41	.37	.27	.26

CAL YR	1987	TOTAL	71559	MEAN	196	MAX	1870	MIN	12	CFSM	1.33	IN. 18.11
WTR YR	1988	TOTAL	70146	MEAN	192	MAX	3290	MIN	16	CFSM	1.30	IN. 17.75

e Estimated

01512500 CHENANGO RIVER NEAR CHENANGO FORKS, NY

LOCATION.--Lat 42°13'05", long 75°50'55", Broome County, Hydrologic Unit 02050102, on left bank in Chenango Valley State Park, and 1.2 mi downstream from Tioughnioga River and village of Chenango Forks.

DRAINAGE AREA.--1,483 mi^2.

PERIOD OF RECORD.--November 1912 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 871.63 ft above National Geodetic Vertical Datum of 1929. Nov. 11, 1912 to Oct. 1, 1914, nonrecording gage and Oct. 2, 1914 to Aug. 2, 1936, water-stage recorder at site 300 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since March 1942, flood flows partly regulated by Whitney Point Lake (see station 01511000). Slight diversion from upstream tributaries for operation of Erie (Barge) Canal. Satellite telemeter at station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--75 years (water years 1914–88), 2,398 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 96,000 ft^3/s July 8, 1935, gage height, 20.3 ft, from floodmarks, from rating curve extended above 32,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 84 ft^3/s Sept. 19, 25, 1939, gage height, 2.24 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Jan. 21	1300	ice jam	*8.75
Mar. 26	1000	*14,800	8.70

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

Minimum discharge, 193 ft^3/s Aug. 23, gage height, 2.46 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	724	1240	7280	e1700	e5000	e1100	6050	3240	1080	290	550	696
2	690	1290	5570	e1900	e10000	e1100	5410	2640	1010	307	496	591
3	670	1230	4120	e1700	10500	e1200	4910	2300	970	329	397	536
4	665	1170	3310	e1600	6490	e1300	5170	2040	1110	327	313	537
5	660	1460	3220	e1500	e4300	e1200	5280	1940	1080	295	287	624
6	642	1410	2940	e1400	e3700	e1100	4380	1820	866	277	298	561
7	656	1230	2590	e1350	e3200	e1200	3650	1820	763	274	426	456
8	702	1220	2220	e1300	e2900	1420	3270	1570	667	275	432	405
9	687	1290	2140	e1250	e2700	1790	2900	1300	627	262	382	367
10	734	1520	2620	e1200	e2400	4170	2730	1180	593	251	308	342
11	791	1600	2800	e1200	e2200	4000	2480	1510	567	254	283	321
12	925	1400	2630	e1150	e2100	3280	2210	1620	536	252	272	307
13	922	1270	2660	e1100	e2000	4500	2040	1210	510	228	257	302
14	885	1450	2430	e1050	e1900	5810	1890	1370	492	211	244	309
15	810	1590	2210	e1000	e2000	4480	1630	1360	470	218	232	306
16	732	1330	2400	e960	e1800	3480	1510	1230	440	233	222	316
17	626	1030	2320	e940	e1750	3150	1530	1280	438	280	219	315
18	602	1460	2210	e920	e1650	2860	1460	1300	426	340	250	329
19	576	1840	2000	e1200	e1600	2670	1360	1690	403	361	252	363
20	593	1630	2230	e1700	e1700	2460	1240	6060	385	397	241	357
21	641	1380	3320	e2100	e2000	2120	1200	5810	371	579	228	372
22	646	1230	3110	e2700	e1800	1810	1170	5040	363	2180	216	369
23	642	1190	2430	e2400	e1600	1860	1150	3610	366	1400	199	404
24	629	1350	2210	e2200	e1500	2850	1510	3200	364	884	218	547
25	609	1440	2440	e2000	e1400	6530	1450	3610	369	697	277	497
26	573	1430	3620	e1800	e1300	13400	1240	2620	377	654	351	434
27	590	1410	3360	e1600	e1250	13600	1150	2130	361	708	343	394
28	2520	1340	2430	e1400	e1200	11800	2970	1780	342	549	371	367
29	3370	1350	e2100	e1300	e1150	9230	3060	1520	306	525	1450	342
30	1700	6080	e1900	e1200	---	7650	3920	1290	286	482	2650	329
31	1270	---	e1600	e1400	---	6820	---	1170	---	567	1080	---
TOTAL	27482	45860	88420	46220	83090	129940	79920	70260	16938	14886	13744	12395
MEAN	887	1529	2852	1491	2865	4192	2664	2266	565	480	443	413
MAX	3370	6080	7280	2700	10500	13600	6050	6060	1110	2180	2650	696
MIN	573	1030	1600	920	1150	1100	1150	1170	286	211	199	302

CAL YR	1987	TOTAL	649232	MEAN	1779	MAX	13100	MIN	196
WTR YR	1988	TOTAL	629155	MEAN	1719	MAX	13600	MIN	199

e Estimated

01512850 CHENANGO RIVER AT BINGHAMTON, NY

LOCATION.--Lat 42°06'11", long 75°54'55", Broome County, Hydrologic Unit 02050102, at bridge on Clinton Street, at Binghamton, and 0.7 mi upstream from mouth.

DRAINAGE AREA.--1,602 mi^2

PERIOD OF RECORD.--October 1967, April to September 1988.
CHEMICAL DATA: 1967 (a), 1988 (b).
MINOR ELEMENT DATA: 1967 (a), 1988 (b).
SEDIMENT DATA: 1988 (a).

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but samples were analyzed by the USGS Central Laboratory at Denver Colorado.

WATER QUALITY DATA, APRIL TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
APR									
05	1200	6220	171	7.30	12.0	--	11.2	67	16
MAY									
03	1200	3470	201	7.40	11.0	--	11.0	80	19
JUN									
07	1045	1480	282	8.00	17.5	755	9.0	110	20
AUG									
03	1100	907	295	7.50	28.0	756	7.0	120	33

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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
APR									
05	21	3.5	5.8	1.0	51	15	10	0.1	87
MAY									
03	25	4.3	7.0	1.0	61	17	12	0.1	103
JUN									
03	35	6.6	11	1.2	95	14	17	0.1	142
AUG									
03	36	7.2	13	1.3	87	19	21	<0.1	150

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)	SEDI-MENT, SUS-PENDED (MG/L)
APR									
05	<1	6	1400	<5	50	<0.1	4	10	--
MAY									
03	1	6	450	<5	30	<0.1	<1	<10	--
JUN									
07	1	8	680	5	70	<0.1	4	20	13
AUG									
03	<1	10	440	<5	80	<0.1	3	<10	--

01513110 SUSQUEHANNA RIVER AT JOHNSON CITY, NY

LOCATION.--Lat 42°06'37", long 75°58'30", Broome County, Hydrologic Unit 02050103, at intake of the New York State Electric and Gas Corp., Goudy Station, at Johnson City, 100 ft upstream from Little Choconut Creek, 0.5 mi downstream from C.F.J. Memorial Bridge, 3.5 mi downstream from Chenango River and 4.8 mi upstream from discontinued discharge station (01513500) at Vestal.

DRAINAGE AREA.--3,891 mi.

PERIOD OF RECORD.--Water years 1956 to current year. Prior to October 1960, published as 01513500, "at Johnson City", and prior to October 1967, published as 01513500, "at Vestal"; however, all water-temperature records were collected at present site.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1955 to current year.

REMARKS.--Daily water-temperature measurements made at 0800 hours. Measurements are reported to whole degrees Celsius. During winter periods water is at times recirculated from inside the plant through the intake to prevent icing conditions, thus resulting in reported water temperatures that are slightly above actual river temperatures.

COOPERATION.--Water temperature records furnished by the New York State Electric and Gas Corp.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum daily, 29.0°C Aug. 4, 1979, July 21, 1980, July 13, 1987; minimum daily, 0.0°C on many days during winter periods, except 1967, 1976, 1978-80 and 1982-3.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum daily, 28.0°C Aug. 14 and 15; minimum daily, 0.0°C on Nov. 23 and Feb. 3-6.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

(ONCE DAILY AT 0800)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	6.0	5.0	1.0	1.0	1.0	7.0	7.0	21.0	17.0	25.0	19.0
2	14.0	7.0	4.0	1.0	1.0	1.0	7.0	9.0	18.0	16.0	26.0	19.0
3	14.0	8.0	4.0	1.0	.0	2.0	8.0	9.0	18.0	18.0	27.0	20.0
4	11.0	8.0	3.0	1.0	.0	1.0	9.0	9.0	16.0	20.0	27.0	20.0
5	11.0	10.0	3.0	1.0	.0	1.0	11.0	12.0	16.0	22.0	27.0	19.0
6	12.0	7.0	2.0	1.0	.0	1.0	11.0	12.0	17.0	23.0	27.0	17.0
7	13.0	5.0	2.0	1.0	1.0	2.0	11.0	12.0	18.0	24.0	26.0	16.0
8	12.0	5.0	2.0	1.0	1.0	2.0	11.0	14.0	16.0	26.0	24.0	17.0
9	10.0	6.0	2.0	1.0	1.0	3.0	8.0	15.0	17.0	26.0	25.0	18.0
10	11.0	5.0	3.0	1.0	1.0	2.0	6.0	15.0	16.0	27.0	26.0	18.0
11	11.0	3.0	3.0	1.0	1.0	1.0	6.0	16.0	14.0	27.0	27.0	18.0
12	8.0	3.0	3.0	1.0	1.0	2.0	8.0	14.0	17.0	26.0	27.0	18.0
13	9.0	3.0	4.0	1.0	1.0	3.0	9.0	16.0	20.0	26.0	27.0	19.0
14	8.0	4.0	3.0	1.0	1.0	3.0	9.0	15.0	21.0	26.0	28.0	18.0
15	9.0	4.0	3.0	1.0	1.0	2.0	9.0	15.0	23.0	25.0	28.0	18.0
16	10.0	4.0	3.0	1.0	1.0	2.0	8.0	17.0	23.0	25.0	25.0	17.0
17	11.0	6.0	2.0	1.0	1.0	2.0	8.0	16.0	22.0	25.0	25.0	17.0
18	12.0	8.0	1.0	1.0	1.0	3.0	10.0	16.0	21.0	24.0	24.0	16.0
19	11.0	7.0	1.0	1.0	1.0	2.0	8.0	16.0	22.0	26.0	22.0	18.0
20	12.0	6.0	1.0	1.0	1.0	2.0	8.0	13.0	23.0	24.0	22.0	19.0
21	11.0	3.0	2.0	1.0	1.0	2.0	9.0	14.0	24.0	25.0	22.0	19.0
22	10.0	1.0	1.0	1.0	1.0	2.0	8.0	15.0	24.0	23.0	21.0	18.0
23	9.0	.0	1.0	1.0	1.0	3.0	8.0	16.0	24.0	23.0	21.0	17.0
24	9.0	2.0	1.0	1.0	1.0	6.0	7.0	18.0	22.0	23.0	19.0	16.0
25	10.0	3.0	3.0	1.0	2.0	4.0	7.0	16.0	23.0	23.0	19.0	17.0
26	8.0	5.0	3.0	1.0	1.0	6.0	7.0	13.0	23.0	24.0	21.0	17.0
27	8.0	3.0	2.0	1.0	1.0	6.0	10.0	14.0	19.0	22.0	21.0	16.0
28	8.0	4.0	2.0	1.0	1.0	4.0	10.0	17.0	19.0	24.0	23.0	17.0
29	7.0	4.0	2.0	1.0	1.0	4.0	9.0	18.0	21.0	25.0	23.0	14.0
30	6.0	6.0	1.0	1.0	---	5.0	8.0	19.0	19.0	26.0	17.0	15.0
31	7.0	---	1.0	1.0	---	6.0	---	20.0	---	26.0	19.0	---
MEAN	10.3	4.9	2.4	1.0	.9	2.8	8.5	14.5	19.9	23.8	23.9	17.6
MAX	16.0	10.0	5.0	1.0	2.0	6.0	11.0	20.0	24.0	27.0	28.0	20.0
MIN	6.0	.0	1.0	1.0	.0	1.0	6.0	7.0	14.0	16.0	17.0	14.0

WTR YR 1988 TOTAL 3985.0 MEAN 10.9 MAX 28.0 MIN .0

01514937 SUSQUEHANNA RIVER AT SMITHBORO, NY

LOCATION.--Lat 42°01'41", long 76°23'07", Tioga County, Hydrologic Unit 02050103, at bridge on State Highway 282, 1.2 mi west of Nichols and 1.2 mi east of Smithboro.

DRAINAGE AREA.--4,725 mi^2

PERIOD OF RECORD.--May 1972-74, April to September 1988.
CHEMICAL DATA: 1972-74 (a), 1988 (b).
MINOR ELEMENT DATA: 1972-74 (a), 1988 (b).
SEDIMENT DATA: 1988 (a).

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but samples were analyzed by the USGS Central Laboratory at Denver Colorado.

WATER QUALITY DATA; APRIL TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
APR									
05	1600	17500	166	7.30	15.0	--	10.3	63	16
MAY									
05	1030	6850	175	7.80	11.0	--	8.4	66	18
JUN									
09	0945	3350	241	7.90	16.0	--	10.2	93	18
AUG									
04	1100	2070	310	7.90	28.0	755	8.2	110	9

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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
APR									
05	20	3.1	6.0	1.1	47	16	11	0.1	85
MAY									
05	21	3.4	7.5	1.2	49	17	11	0.1	91
JUN									
09	29	4.9	10	1.2	75	14	16	0.1	120
AUG									
04	34	6.4	15	1.6	102	21	23	0.1	162

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)	SEDI-MENT, SUS-PENDED (MG/L)
APR									
05	<1	10	1300	<5	50	<0.1	4	20	--
MAY									
05	2	10	530	<5	40	<0.1	2	20	--
JUN									
09	1	10	610	5	60	<0.1	8	20	15
AUG									
04	<1	37	190	<5	70	<0.1	2	10	--

01515000 SUSQUEHANNA RIVER NEAR WAVERLY, NY

LOCATION.--Lat 41°59'05", long 76°30'05", Bradford County, Pa., Hydrologic Unit 02050103, on left bank 0.2 mi upstream from Cayuta Creek, 0.4 mi upstream from bridge on East Lockhart Street at Sayre, Pa., 1 mi downstream from New York-Pennsylvania State line, and 2 mi southeast of Waverly.

DRAINAGE AREA.--4,773 mi^2.

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

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 743.96 ft above National Geodetic Vertical Datum of 1929 (levels by U. S. Army Corps of Engineers). Prior to November 1939, at datum 1.0 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Minor regulation by upstream lakes and reservoirs. Slight diversion from upstream tributaries for operation of Erie (Barge) Canal. Satellite telemeter at station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years (water years 1938–88), 7,523 ft^3/s, 21.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 121,000 ft^3/s June 23, 1972, gage height, 21.24 ft; minimum daily, 237 ft^3/s Sept. 22, 23, 1964; minimum gage height, 0.52 ft Sept. 24, 25, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 21.4 ft, from flood profile (discharge, 128,000 ft^3/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 52,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 20	1600	*47,100	*11.40	No peak greater than base discharge.			

Minimum discharge, 525 ft^3/s Aug. 19, gage height, 0.80 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3350	7560	19700	e4400	e5900	e4300	16800	14000	5100	829	1350	6860
2	3380	6630	18800	e5300	20200	e4000	16200	11200	4730	827	1280	4230
3	3270	6060	14400	e5600	33300	e4400	14700	9500	4500	824	1260	3010
4	3020	5540	11200	e4800	28400	e4700	14100	8390	4330	822	1210	2820
5	2840	5280	10200	e4000	e18000	e4500	14200	7490	4200	862	1110	3300
6	2780	5330	9410	e3600	e13200	e4400	13400	6830	3930	839	1020	2790
7	3100	5420	8560	e3500	e10500	e4600	11500	7040	3510	791	963	2430
8	3710	4960	7650	e3200	e8700	e5400	10300	6610	3160	742	975	2150
9	3700	4700	6860	e3100	e8200	e7000	9430	5810	2850	732	1010	1870
10	3500	4650	6890	e3000	e8200	12900	8670	5130	2570	678	926	1650
11	3320	5070	7670	e2800	e7700	16200	8100	4610	2350	657	896	1460
12	3520	5160	7890	e2800	e7200	14300	7410	4810	2180	609	924	1290
13	3700	4870	7660	e2700	e6500	14100	6840	4640	2030	584	880	1200
14	3800	4900	7270	e2500	e5800	17400	6310	4640	1890	585	763	1240
15	3590	5130	6850	e2300	e5600	16800	5840	4690	1770	582	694	1130
16	3240	5250	7620	e2200	e5800	13500	5270	4370	1650	584	629	1070
17	2970	4760	7620	e2300	e5600	11400	5070	4190	1510	606	670	1050
18	2710	4840	7170	e2400	e5600	10300	4980	4150	1520	769	651	1070
19	2570	6410	6620	e2800	e5400	9430	4650	5250	1340	809	541	1040
20	2470	6890	6860	e4400	e6200	8650	4640	35100	1340	991	565	1090
21	2370	6440	9930	e8400	e7500	7750	4310	27500	1270	1030	566	1150
22	2400	5570	9880	e9000	e7100	6740	4040	17900	1210	1750	549	1210
23	2480	5130	8730	e8000	7070	6100	3960	14600	1150	3080	540	1270
24	2500	4840	7620	e6800	6730	6400	4640	12600	1160	3150	559	1240
25	2430	5020	7080	e5600	6210	10500	5110	14200	1110	2950	619	1240
26	2340	5100	7990	e5100	e5400	24800	4870	12400	1040	2500	635	1380
27	2250	4990	9670	e4600	e4800	36400	4480	10400	1010	3570	621	1450
28	4290	4760	8910	e4100	e4600	36700	7260	9340	1050	2510	728	1300
29	11400	4620	7820	e3600	e4600	30600	11000	7860	926	1940	2230	1150
30	13400	11100	e6700	e3400	---	23100	16000	6540	861	1560	6950	1060
31	9340	---	e5000	e3800	---	18700	---	5660	---	1410	8650	---
TOTAL	119740	166980	276230	130100	270010	396070	254080	297450	67247	40172	40964	55200
MEAN	3863	5566	8911	4197	9311	12780	8469	9595	2242	1296	1321	1840
MAX	13400	11100	19700	9000	33300	36700	16800	35100	5100	3570	8650	6860
MIN	2250	4620	5000	2200	4600	4000	3960	4150	861	582	540	1040
CFSM	.81	1.17	1.87	.88	1.95	2.68	1.77	2.01	.47	.27	.28	.39
IN.	.93	1.30	2.15	1.01	2.10	3.09	1.98	2.32	.52	.31	.32	.43

CAL YR	1987	TOTAL	2302656	MEAN	6309	MAX	47400	MIN	635	CFSM	1.32	IN. 17.95
WTR YR	1988	TOTAL	2114243	MEAN	5777	MAX	36700	MIN	540	CFSM	1.21	IN. 16.48

e Estimated

01520500 TIOGA RIVER AT LINDLEY, NY

LOCATION.--Lat 42°01'43", long 77°07'57", Steuben County, Hydrologic Unit 02050104, on left bank just downstream from bridge on County Highway 120 at Lindley, and 6 mi upstream from Canisteo River.

DRAINAGE AREA.--771 mi^2.

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

REVISED RECORDS.--WSP 871: 1938. WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 964.50 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 9, 1937, nonrecording gage on bridge at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since March 1979, flood flows regulated by detention in upstream reservoirs. Satellite and gage-height telemeters at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years, 796 ft^3/s, 14.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 128,000 ft^3/s June 23, 1972, gage height, 26.27 ft, from floodmark in gage house, from rating curve extended above 31,000 ft^3/s on basis of velocity-area and slope-area studies at gage height 19.2 ft and conveyance study and slope-area measurements at gage heights 22.87 ft and 26.27 ft; minimum, 6.1 ft^3/s Sept. 1, 1939; minimum gage height, 2.68 ft Aug. 28, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 20	0600	*8,960	*11.27	No peak greater than base discharge.			

Minimum discharge, 50 ft^3/s July 8, 9, gage height, 2.86 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	236	206	1170	e300	712	467	1220	931	471	74	97	177
2	252	234	955	397	2030	439	1280	691	427	74	94	130
3	369	215	797	e380	1950	619	1200	550	318	73	93	108
4	381	212	739	e340	1150	893	1500	519	432	73	89	130
5	265	214	653	e290	942	729	1260	403	553	72	86	176
6	100	222	586	e270	e580	594	876	569	484	70	79	136
7	161	200	523	e190	e560	804	901	621	373	54	80	132
8	230	190	456	e200	e500	1100	848	445	305	50	78	125
9	280	208	485	e200	e600	1920	787	429	223	53	78	113
10	252	226	614	e190	e580	2620	750	464	244	59	78	107
11	344	215	552	e230	e580	1820	720	555	212	60	84	104
12	498	199	577	e250	e540	1650	654	625	181	60	76	98
13	304	178	751	e250	e500	1650	528	521	146	62	68	98
14	379	175	485	e250	e460	1710	496	375	134	61	68	95
15	409	171	460	e250	421	1420	442	455	129	61	67	85
16	344	247	601	e250	433	1200	364	446	120	61	67	84
17	298	273	709	235	421	1000	376	485	93	72	74	86
18	195	396	543	216	420	931	401	551	90	63	72	85
19	182	649	356	249	461	836	392	3930	89	68	68	83
20	148	526	512	389	e560	811	376	8290	90	70	60	86
21	179	468	958	565	e800	685	357	6310	109	162	60	82
22	176	264	897	393	972	463	323	5630	103	463	59	76
23	165	271	601	323	778	591	287	4220	96	232	61	78
24	161	319	645	244	808	650	468	2770	83	126	67	72
25	150	318	770	284	682	831	590	2570	80	112	64	72
26	147	316	741	288	550	3400	401	2100	81	111	61	72
27	160	289	564	e230	464	3430	382	796	80	196	63	73
28	516	268	338	e220	460	1810	377	705	76	115	64	72
29	676	312	e290	e210	408	1710	583	642	74	117	161	72
30	362	1590	e250	e220	---	1600	1020	597	75	169	563	72
31	355	---	e260	308	---	1360	---	522	---	172	413	---
TOTAL	8674	9571	18838	8611	20322	39743	20159	48717	5971	3265	3192	2979
MEAN	280	319	608	278	701	1282	672	1572	199	105	103	99.3
MAX	676	1590	1170	565	2030	3430	1500	8290	553	463	563	177
MIN	100	171	250	190	408	439	287	375	74	50	59	72
CFSM.	36	.41	.79	.36	.91	1.66	.87	2.04	.26	.14	.13	.13
IN.	.42	.46	.91	.42	.98	1.92	.97	2.35	.29	.16	.15	.14

CAL YR	1987	TOTAL	215477	MEAN	590	MAX	8200	MIN	68	CFSM	.77	IN. 10.40
WTR YR	1988	TOTAL	190042	MEAN	519	MAX	8290	MIN	50	CFSM	.67	IN. 9.17

e Estimated

01521500 CANISTEO RIVER AT ARKPORT, NY

LOCATION.--Lat 42°23'45", long 77°42'42", Steuben County, Hydrologic Unit 02050104, on left bank 0.2 mi downstream from Arkport Dam, and 0.9 mi west of Arkport.

DRAINAGE AREA.--30.6 mi^2.

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

REVISED RECORDS.--WSP 1552: 1952–57. WSP 2103: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,202.85 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Since November 1939, flows above 500 ft^3/s controlled by detention in Arkport Reservoir (see station 01521000). Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years, 35.1 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft^3/s Mar. 5, 1938, Feb. 20, 1939; maximum gage height, 5.63 ft Feb. 19, 1939 (ice jam); practically no flow July 30, 1938, Sept. 30, 1939 (result of construction operations).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 8, 1935, reached a discharge of 4,820 ft^3/s, on basis of slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 545 ft^3/s Nov. 29 at 1500 hours, gage height, 2.91 ft; minimum daily discharge, 0.72 ft^3/s Aug. 23; minimum gage height, 0.59 ft Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	9.0	60	e16	e86	e18	41	63	8.9	1.8	1.4	1.7
2	62	8.1	44	e16	e150	e25	45	42	12	1.8	1.4	1.5
3	85	7.8	37	e15	e54	e30	76	33	13	1.6	1.2	1.5
4	39	8.4	37	e15	e36	e27	373	28	15	1.5	1.2	2.8
5	28	8.4	33	e16	e35	e23	79	26	8.8	1.4	1.0	2.9
6	21	8.9	30	e19	e34	e23	51	29	6.9	1.4	1.1	2.3
7	22	8.8	27	e20	e32	e26	40	23	7.0	1.3	1.1	2.0
8	24	11	31	e17	e34	e42	35	20	9.1	1.3	1.0	1.9
9	20	15	107	e16	e30	106	35	21	7.7	1.4	.95	1.7
10	14	15	80	e15	e25	89	30	18	6.3	1.4	.95	1.6
11	26	11	48	e14	e26	53	25	21	4.9	1.3	.93	1.6
12	38	10	38	e12	e23	43	22	16	4.1	1.3	.80	1.5
13	26	9.8	34	e11	e21	75	21	13	3.6	1.3	.94	1.7
14	20	9.0	30	e10	e20	45	19	14	3.3	1.3	1.3	1.6
15	16	8.0	35	e10	e25	35	23	12	2.9	1.4	1.2	1.4
16	13	7.2	44	e11	e31	27	19	18	3.6	1.2	.88	1.4
17	11	7.6	32	e12	e30	27	17	31	3.5	2.2	1.4	2.0
18	10	16	27	e18	e26	23	17	23	3.0	1.7	1.4	1.9
19	9.1	14	25	e28	e23	22	16	274	2.7	2.1	1.2	1.8
20	8.2	12	160	e54	e26	19	13	169	2.2	1.9	1.1	1.8
21	7.9	e9.2	116	e66	e28	19	13	359	2.1	48	.94	1.9
22	8.1	e7.6	52	e39	e30	22	13	186	2.0	18	.74	1.8
23	9.0	e8.0	40	e52	e31	21	34	59	2.0	6.4	.72	3.3
24	9.0	e11	34	e20	e28	57	98	43	1.9	4.4	1.2	4.1
25	14	12	56	e16	e26	95	42	36	1.8	3.6	1.1	3.3
26	12	17	47	e13	e23	318	29	30	1.8	3.4	1.2	2.8
27	10	16	e30	e14	e17	138	32	23	1.8	2.9	1.5	2.5
28	12	12	e23	e15	e18	66	60	18	1.6	2.3	2.6	2.1
29	12	190	e20	e22	e17	50	120	14	1.6	2.0	3.3	2.1
30	12	124	e18	e21	---	40	135	11	1.7	1.8	2.8	2.0
31	11	---	e17	e46	---	33	---	8.9	---	1.7	2.1	---
TOTAL	670.3	611.8	1412	669	985	1637	1573	1681.9	146.8	125.1	40.65	62.5
MEAN	21.6	20.4	45.5	21.6	34.0	52.8	52.4	54.3	4.89	4.04	1.31	2.08
MAX	85	190	160	66	150	318	373	359	15	48	3.3	4.1
MIN	7.9	7.2	17	10	17	18	13	8.9	1.6	1.2	.72	1.4

CAL YR	1987	TOTAL	11071.9	MEAN	30.3	MAX	556	MIN	1.2
WTR YR	1988	TOTAL	9615.05	MEAN	26.3	MAX	373	MIN	.72

e Estimated

01523500 CANACADEA CREEK NEAR HORNELL, NY

LOCATION.--Lat 42°20'05", long 77°41'00", Steuben County, Hydrologic Unit 02050104, on right bank 35 ft downstream from bridge on State Highway 21, 1.2 mi west of Hornell, 1.5 mi downstream from Almond Dam, and 2 mi upstream from mouth.

DRAINAGE AREA.--57.9 mi^2.

PERIOD OF RECORD.--October 1940 to December 1942, October 1944 to current year.

REVISED RECORDS.--WSP 2103: Drainage area. WRD NY 1971: 1969(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,185.68 ft above National Geodetic Vertical Datum of 1929. Oct. 23, 1940 to Dec. 31, 1942, at site 185 ft upstream at different datum.

REMARKS.--Records poor. Since October 1948, floodflows regulated by detention in Almond Lake (see station 01523000). Occasional regulation at low flows to clear debris from gates at Almond Lake. Monthly figures for 1952–66 water years adjusted for regulation. Satellite telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years (1940–42, 1944–88), 65.0 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,430 ft^3/s May 17, 1945, gage height, 5.14 ft, from rating curve extended above 3,400 ft^3/s; maximum gage height, 6.65 ft June 3, 1947; minimum discharge, 0.5 ft^3/s May 29, 1965, gage height, 0.61 ft; minimum daily, 0.6 ft^3/s May 30 to June 1, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 8, 1935, reached a stage of 16.61 ft, discharge, 21,000 ft^3/s, from floodmarks on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,060 ft^3/s July 21 at 1200 hours, gage height, 3.04 ft; minimum daily, 2.1 ft^3/s Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e103	e29	e103	e31	185	e24	74	239	25	3.8	11	8.1
2	e89	e31	e88	e35	413	e20	92	37	15	3.5	11	e7.2
3	e174	e26	e57	e35	170	e32	107	72	19	3.6	9.8	e6.4
4	e90	e21	e43	e34	64	e54	458	39	23	3.0	11	e6.2
5	e44	e18	e43	e33	e56	e36	299	38	23	3.1	11	e7.7
6	e25	e15	e57	e43	e44	e27	124	46	21	4.3	11	e8.9
7	e34	e15	e68	e25	e53	e40	91	73	24	7.7	11	e9.4
8	e46	e22	e54	e18	e25	e56	62	45	28	10	9.3	e13
9	e44	e29	e123	e22	e45	150	53	20	26	9.3	7.6	e9.5
10	e42	e35	e162	e30	e34	327	53	21	25	7.0	8.0	e7.5
11	e40	e37	e67	e23	e34	99	52	29	21	6.5	8.1	e6.5
12	e62	e35	e69	e19	e33	86	51	46	17	6.9	7.7	e8.1
13	e54	e28	e60	e21	e38	103	51	e22	17	6.3	7.3	e9.5
14	e41	e23	e45	e26	e35	121	26	e50	9.3	6.6	7.5	e9.6
15	e40	e17	e53	e27	e31	81	21	e25	17	6.0	7.6	e9.8
16	e27	e13	e62	e19	e38	48	19	e40	16	6.2	6.7	e9.7
17	e19	e15	e60	e19	e46	48	19	53	14	7.0	5.8	e11
18	e22	e25	e53	e20	e34	44	20	50	13	24	4.4	e11
19	e30	e28	e43	59	e27	41	39	172	13	24	3.0	e9.1
20	e33	e26	e220	94	e37	41	39	555	11	16	2.6	e9.2
21	e33	e27	e292	152	e44	32	39	338	8.3	412	2.1	e9.1
22	e29	e25	e98	86	e46	25	22	219	8.2	161	2.7	e9.7
23	e26	e16	e75	60	e48	44	20	183	7.4	38	3.0	e11
24	e28	e22	e61	37	e46	66	23	102	5.5	31	11	e8.8
25	e26	e28	e67	37	e42	131	112	77	5.7	22	11	e7.8
26	e22	e28	e79	24	e34	618	125	77	4.5	19	8.0	e6.8
27	e22	e26	e50	e16	e32	486	39	60	3.4	16	7.9	e6.9
28	e32	e30	e40	e19	e33	131	37	32	2.9	13	7.8	e8.1
29	e32	e144	e41	e20	e32	75	106	22	3.7	11	19	e6.6
30	e24	e317	e45	e23	---	75	401	27	3.5	11	17	e7.8
31	e23	---	e40	55	---	73	---	35	---	11	8.9	---
TOTAL	1356	1151	2418	1162	1799	3234	2674	2844	430.4	909.8	259.8	260.0
MEAN	43.7	38.4	78.0	37.5	62.0	104	89.1	91.7	14.3	29.3	8.38	8.67
MAX	174	317	292	152	413	618	458	555	28	412	19	13
MIN	19	13	40	16	25	20	19	20	2.9	3.0	2.1	6.2

CAL YR	1987	TOTAL	22615.0	MEAN	62.0	MAX	1050	MIN	4.7
WTR YR	1988	TOTAL	18498.0	MEAN	50.5	MAX	618	MIN	2.1

e Estimated

01524500 CANISTEO RIVER BELOW CANACADEA CREEK, AT HORNELL, NY

LOCATION.--Lat 42°18'50", long 77°39'05", Steuben County, Hydrologic Unit 02050104, on right bank 235 ft upstream from Erie Railroad bridge in Hornell, 0.3 mi upstream from Crosby Creek, and 1.5 mi downstream from Canacadea Creek.

DRAINAGE AREA.--158 mi^2.

PERIOD OF RECORD.--August 1942 to current year.

REVISED RECORD--WDR NY-86-3: 1971 (including minimum daily).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,131.32 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Diversion from Carrington Creek, a tributary upstream from station, by City of Hornell for municipal supply (1987 average, 3.3 ft^3/s); sewage enters river downstream from gage. Since Nov. 1939, flood flows regulated by Arkport Reservoir (see station 01521000), and, since October 1948, by Almond Lake (see station 01523000); normal regulation occasionally sufficient to affect figures of monthly runoff. Satellite and gage-height telemeters at station. Several measurements of water temperature were made during the year.

COOPERATION.--Records of diversion from Carrington Creek furnished by City of Hornell.

AVERAGE DISCHARGE.--46 years, 157 ft^3/s, 13.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,560 ft^3/s June 23, 1972, gage height, 13.45 ft from floodmark, from rating curve extended above 7,600 ft^3/s on basis of critical-depth measurement of peak flow; minimum, 7.4 ft^3/s Sept. 13, 14, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,450 ft^3/s May 19 at 1400 hours; maximum gage height, 5.78 ft Nov. 29; minimum discharge, 17 ft^3/s Sept. 11, 21, 22, gage height, 0.37 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	70	265	e96	e350	e62	191	273	e66	18	29	27
2	221	75	203	e100	e660	e60	224	171	e70	17	27	24
3	380	67	150	e110	e330	e100	233	145	e62	17	26	19
4	230	58	126	e86	e190	e110	911	115	e72	17	27	18
5	124	53	118	e70	e160	e90	498	107	e68	16	27	21
6	73	52	143	e83	e120	e80	285	139	e64	16	28	23
7	91	51	161	e86	e120	e110	216	125	e58	19	27	23
8	111	57	137	e60	e130	147	172	87	e62	22	25	29
9	106	65	299	e60	e110	346	155	68	e58	22	23	23
10	99	73	377	e70	e100	462	139	72	e54	19	22	19
11	105	75	184	e60	e100	217	126	86	e46	19	22	17
12	155	73	172	e54	e88	188	118	88	e40	19	22	20
13	137	68	157	e70	e76	265	110	62	e38	18	20	23
14	104	60	125	e80	e80	236	87	143	e34	19	21	23
15	98	47	137	e58	e96	157	76	38	e29	18	20	23
16	73	37	161	e49	e104	112	71	66	e33	20	20	23
17	53	40	153	e50	e100	106	64	119	e37	53	23	27
18	57	65	133	e62	e88	98	67	88	e34	53	21	26
19	72	72	113	e120	e88	95	77	923	33	46	18	23
20	77	66	495	e230	e110	91	74	714	31	40	17	23
21	76	64	644	e320	e120	76	70	894	32	810	16	23
22	69	60	255	e215	e126	62	55	586	30	342	16	24
23	64	44	184	e180	e136	85	78	314	32	111	17	29
24	69	55	161	e116	e126	159	275	215	25	78	27	25
25	69	69	188	e106	e100	302	217	184	23	63	27	22
26	59	73	204	e84	e82	1130	131	166	24	56	25	19
27	57	68	134	e68	e72	858	87	119	22	47	24	19
28	78	74	106	e74	e70	295	192	80	18	40	40	21
29	80	345	109	e76	e68	212	421	60	20	36	53	18
30	64	660	e100	e78	---	187	587	62	17	35	43	20
31	60	---	e120	e150	---	174	---	62	---	34	31	---
TOTAL	3357	2736	6014	3121	4100	6672	6007	6371	1232	2140	784	674
MEAN	108	91.2	194	101	141	215	200	206	41.1	69.0	25.3	22.5
MAX	380	660	644	320	660	1130	911	923	72	810	53	29
MIN	53	37	100	49	68	60	55	38	17	16	16	17

CAL YR	1987	TOTAL	53816	MEAN	147	MAX	2040	MIN	18
WTR YR	1988	TOTAL	43208	MEAN	118	MAX	1130	MIN	16

e Estimated

01526500 TIOGA RIVER NEAR ERWINS, NY

LOCATION.--Lat 42°07'16", long 77°07'46", Steuben County, Hydrologic Unit 02050104, on right bank 20 ft downstream from bridge on Mulholland Road, 1.1 mi northeast of Erwins, and 1.1 mi downstream from Canisteo River.

DRAINAGE AREA.--1,377 mi^2.

PERIOD OF RECORD.--July 1918 to current year.

REVISED RECORDS.--WSP 891: 1935–38. WSP 1672: 1919(M), 1927(M), 1929(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 931.24 ft above National Geodetic Vertical Datum of 1929. Prior to June 21, 1931, nonrecording gage on highway bridge at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. High flows regulated by upstream reservoirs. Satellite telemeter at station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--70 years, 1,368 ft^3/s, 13.49 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 190,000 ft^3/s June 23, 1972, from rating curve extended above 90,000 ft^3/s on basis of computation of peak flow at Lindley and Canisteo River at Erwins, 7.2 mi and 2.0 mi upstream, respectively, adjusted for flow from intervening area, gage height, 26.74 ft, from floodmarks; minimum, 18 ft^3/s Sept. 2, 3, 1939; minimum gage height, 0.40 ft Sept. 8, 9, 1954, July 23, Aug. 10, 11, 1955.

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)
May 19	1600	*19,400	*10.99	No other peak greater than base discharge.			

Minimum discharge, 89 ft^3/s July 9, gage height, 0.59 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	622	436	2460	e640	1450	e750	1980	2290	774	135	194	286
2	698	433	1870	e720	4130	e700	2260	1560	758	134	179	199
3	949	424	1520	e780	3480	1040	2140	1270	630	134	170	170
4	1010	407	1350	e760	1930	1430	4420	1140	718	130	161	186
5	715	398	1220	e620	1510	1190	3530	957	831	126	156	251
6	400	400	1080	e560	1090	993	2180	1180	722	123	146	223
7	383	372	1000	e470	e1000	1310	1940	1220	590	105	147	203
8	491	348	936	e390	e900	1710	1740	925	527	94	145	189
9	568	374	1010	e410	e1100	2800	1580	829	445	92	140	174
10	515	412	1620	e420	e960	4710	1460	858	441	103	135	166
11	596	408	1320	e450	e920	2940	1320	962	397	103	133	158
12	1030	390	1120	e490	e880	2610	1190	1010	354	99	144	143
13	758	361	1330	e520	e860	2640	1020	895	294	99	121	e140
14	731	354	1000	e490	e780	2850	932	705	274	96	117	e140
15	719	333	906	e470	e720	2270	848	806	253	96	113	e140
16	633	379	1240	e470	e760	1870	737	709	246	92	108	e135
17	567	402	1260	e440	e770	1550	714	948	216	137	124	e140
18	401	609	1080	e430	e780	1450	718	986	208	176	128	e140
19	392	1030	787	e620	e820	1310	700	9320	196	172	120	e135
20	343	809	1050	e860	e950	1270	671	12800	185	188	107	e140
21	379	741	2790	e1100	1310	1100	636	8890	193	1170	100	e130
22	369	469	1970	e960	1550	755	596	7870	191	2250	96	e125
23	350	470	1340	e700	1270	882	615	5850	189	752	96	e135
24	332	540	1250	e580	1420	1050	1430	4000	184	403	108	134
25	323	544	1360	e560	1150	1530	1370	3600	174	349	107	136
26	326	554	1400	e520	e930	6550	998	3140	167	359	128	129
27	316	545	1190	e500	e770	7000	844	1540	158	484	117	123
28	686	496	823	e480	e760	3610	942	1280	155	293	139	118
29	1070	619	e700	e480	e680	2850	1670	1100	141	250	246	115
30	633	4160	e520	e480	---	2530	2930	979	136	274	654	115
31	586	---	e560	623	---	2150	---	860	---	289	541	---
TOTAL	17891	18217	39062	17993	35630	67400	44111	80479	10747	9307	5120	4718
MEAN	577	607	1260	580	1229	2174	1470	2596	358	300	165	157
MAX	1070	4160	2790	1100	4130	7000	4420	12800	831	2250	654	286
MIN	316	333	520	390	680	700	596	705	136	92	96	115
CFSM	.42	.44	.92	.42	.89	1.58	1.07	1.89	.26	.22	.12	.11
IN.	.48	.49	1.06	.49	.96	1.82	1.19	2.17	.29	.25	.14	.13

CAL YR	1987	TOTAL	398749	MEAN	1092	MAX	13600	MIN	107	CFSM	.79	IN. 10.77
WTR YR	1988	TOTAL	350675	MEAN	958	MAX	12800	MIN	92	CFSM	.70	IN. 9.47

e Estimated

01528000 FIVEMILE CREEK NEAR KANONA, NY

LOCATION.--Lat 42°23'18", long 77°21'29", Steuben County, Hydrologic Unit 02050105, on left bank just downstream from town of Wheeler highway bridge, 1.3 mi upstream from mouth and Kanona.

DRAINAGE AREA.--66.8 mi^2.

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

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,170.30 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1973, at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years, 75.3 ft^3/s, 15.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,110 ft^3/s June 23, 1972, gage height, 6.95 ft present datum; maximum gage height, 7.10 ft present datum, Mar. 31, 1940 (ice jam); minimum discharge, 0.04 ft^3/s Sept. 27, 29, 1941; minimum gage height, 0.42 ft Sept. 7, 8, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 880 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Feb. 2	0200	ice jam	*4.43
Mar. 26	0500	*685	3.60

No peak greater than base discharge.

Minimum discharge, 1.5 ft^3/s July 14, 15, 16, gage height, 0.77 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	32	138	e68	e250	e33	86	76	14	4.8	7.2	3.9
2	83	29	97	e66	e300	e37	104	59	22	4.7	6.8	3.3
3	111	33	76	e66	e150	59	100	49	19	4.3	5.9	2.9
4	88	27	70	e80	e70	62	337	42	16	3.9	5.1	4.7
5	62	25	66	e76	e64	e50	231	38	13	3.9	5.4	4.9
6	55	25	62	e74	e60	e48	140	42	11	3.3	5.7	4.2
7	50	29	52	e70	e58	e64	110	38	10	2.6	5.3	4.0
8	51	26	49	e68	e56	e88	99	33	9.1	2.1	4.9	3.9
9	44	26	71	e66	e54	e150	97	28	8.2	2.0	4.3	3.5
10	37	26	173	e64	e52	250	90	27	8.5	2.0	3.9	2.8
11	44	29	122	e60	e50	156	78	29	7.6	2.2	4.3	2.1
12	65	25	87	e72	e48	126	67	26	7.4	2.0	3.9	2.2
13	56	23	77	e70	e45	139	60	23	7.3	1.9	3.5	2.3
14	45	22	62	e68	e42	123	55	21	7.2	1.6	2.8	2.3
15	39	21	72	e66	e42	88	52	20	7.1	1.5	2.2	2.0
16	33	20	121	e68	e44	72	50	24	6.8	1.6	1.9	2.2
17	28	20	92	e70	e46	63	50	34	7.7	3.8	2.5	2.6
18	29	39	69	e80	e48	58	47	30	7.2	4.3	3.2	3.1
19	27	37	64	e100	e50	53	42	105	8.1	4.4	2.5	2.9
20	25	31	144	e150	e52	49	44	139	8.0	4.1	2.1	2.8
21	23	28	279	e230	e54	e43	37	94	7.6	109	1.9	2.7
22	27	e25	156	e180	e56	e38	34	69	5.9	108	2.0	3.0
23	24	e23	108	e130	e50	e42	39	56	5.1	32	2.5	4.7
24	22	24	85	e90	e48	76	84	48	4.8	21	3.6	4.6
25	27	25	90	e70	e46	146	60	38	4.8	23	2.9	4.3
26	25	30	89	e50	e44	622	44	33	4.8	17	2.6	3.5
27	23	29	76	e40	e42	476	38	27	5.2	15	2.5	3.1
28	55	27	60	e38	e38	221	45	22	5.0	10	4.8	2.5
29	67	52	e56	e40	e34	141	48	20	4.8	7.7	6.2	2.6
30	44	247	e56	e60	---	113	76	17	4.8	6.5	5.9	3.2
31	37	---	e96	e150	---	91	---	14	---	6.5	4.8	---
TOTAL	1448	1055	2915	2580	1993	3777	2444	1321	258.0	416.7	123.1	96.8
MEAN	46.7	35.2	94.0	83.2	68.7	122	81.5	42.6	8.60	13.4	3.97	3.23
MAX	111	247	279	230	300	622	337	139	22	109	7.2	4.9
MIN	22	20	49	38	34	33	34	14	4.8	1.5	1.9	2.0
CFSM	.70	.53	1.41	1.25	1.03	1.82	1.22	.64	.13	.20	.06	.05
IN.	.81	.59	1.62	1.44	1.11	2.10	1.36	.74	.14	.23	.07	.05

CAL YR	1987	TOTAL	25127.9	MEAN	68.8	MAX	1350	MIN	1.4	CFSM	1.03	IN. 13.99
WTR YR	1988	TOTAL	18427.6	MEAN	50.3	MAX	622	MIN	1.5	CFSM	.75	IN. 10.26

e Estimated

01528700 DIVERSION FROM WANETA LAKE TO KEUKA LAKE AT KEUKA, NY

LOCATION.--Lat 42°29'06", long 77°06'39", Steuben County, Hydrologic Unit 02050105, at entrance to conduit on Diversion Canal, 0.8 mi east of Keuka, and 1.0 mi north of Wayne.

DRAINAGE AREA.--45.5 mi^2.

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

GAGE.--Daily power generation records.

REMARKS.--Records for March 1931 (when diversion and power generation began) to September 1966 on file. Sketch indicates diversion from Lamoka-Waneta Lakes (Susquehanna River Basin) to Keuka Lake (Oswego River Basin).

COOPERATION.--Records furnished by New York State Electric and Gas Corp.

AVERAGE DISCHARGE.--22 years, 20.0 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 73 ft^3/s June 23, 1972; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 72 ft^3/s many days; no flow many days.

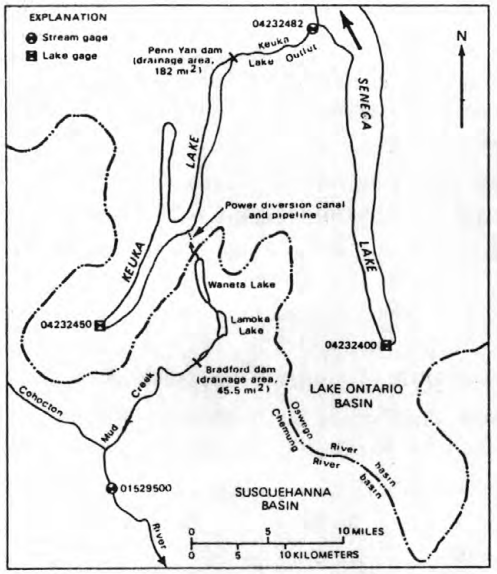


Figure 6.--Gaging stations and transbasin diversion, Cohocton River-Keuka Lake area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	19	.00	35	.00	.00	.00	.00	.00
5	3.0	.00	.00	.00	46	.00	65	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	46	.00	63	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	44	.00	63	.00	.00	.00	.00	.00
8	.00	.00	.00	17	25	.00	60	.00	.00	.00	.00	.00
9	7.6	.00	.00	72	46	.00	60	.00	.00	.00	.00	.00
10	.00	.00	.00	72	44	.00	60	.00	.00	.00	.00	.00
11	.00	.00	.00	71	44	.00	28	.00	.00	.00	.00	.00
12	.00	.00	.00	71	26	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	71	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	71	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	72	1.8	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	58	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	58	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	48	.00	30	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	48	.00	63	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	48	.00	63	.00	35	.00	.00	.00	.00
21	.00	.00	.00	48	.00	63	.00	42	.00	.00	.00	.00
22	.00	.00	.00	21	.00	63	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	63	.00	35	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	63	.00	65	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	63	.00	65	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	63	.00	65	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	63	.00	65	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	63	.00	65	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	63	.00	65	.00	.00	.00	.00
30	.00	.00	.00	.00	---	63	.00	65	.00	.00	.00	.00
31	.00	---	.00	.00	---	39	---	22	---	.00	.00	---
TOTAL	10.60	0.00	0.00	846.00	341.80	825.00	434.00	589.00	0.00	0.00	0.00	0.00
MEAN	.34	.00	.00	27.3	11.8	26.6	14.5	19.0	.00	.00	.00	.00
MAX	7.6	.00	.00	72	46	63	65	65	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR	1987	TOTAL	5564.60	MEAN	15.2	MAX	72	MIN .00
WTR YR	1988	TOTAL	3046.40	MEAN	8.32	MAX	72	MIN .00

01529500 COHOCTON RIVER NEAR CAMPBELL, NY

LOCATION.--Lat 42°15'09", long 77°13'01", Steuben County, Hydrologic Unit 02050105, on left bank just downstream from bridge on town road at junction with County Highway 125, 1.9 mi upstream from Michigan Creek, and 2 mi north of Campbell.

DRAINAGE AREA.--470 mi^2.

PERIOD OF RECORD.--July 1918 to current year.

REVISED RECORDS.--WSP 891: 1935. WSP 1302: 1919–20(M), 1927–28(M), 1928–38 (monthly runoff). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,016.34 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 5, 1937, nonrecording gage on highway bridge.

REMARKS.--Records good except those for periods of estimated daily discharges, which are fair. During each year since March 1931, a large part of flow from 45.5 mi^2 of drainage area upstream from Lake Lamoka on Mud Creek, a tributary upstream from this station, is diverted into Keuka Lake (Oswego River basin), for power development. For table of diversion, see station 01528700. Satellite telemeter at station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--70 years, 447 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,100 ft^3/s July 8, 1935, gage height, 11.6 ft, from floodmark, from rating curve extended above 24,200 ft^3/s on basis of velocity-area and slope-area measurements of peak flow; minimum, 8 ft^3/s Sept. 6, 7, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 19	1800	*4,520	*4.82	No other peak greater than base discharge.			

Minimum daily discharge, 26 ft^3/s Aug. 23; minimum recorded gage height, 0.02 ft July 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	460	245	703	e320	e500	e270	694	597	209	58	e68	57
2	428	234	593	e290	e1000	e260	745	514	281	59	63	48
3	529	232	523	e280	e780	e340	693	471	239	57	63	42
4	447	228	499	e290	e720	e360	1690	443	212	52	59	50
5	378	209	469	e270	e620	e300	1280	422	192	50	56	66
6	336	186	435	e240	e540	e310	976	469	167	47	58	59
7	328	181	394	e210	e470	e350	816	416	151	43	60	52
8	323	174	359	e170	e430	e440	723	372	150	36	56	47
9	287	172	394	e180	e450	682	666	340	143	32	52	40
10	255	174	612	e170	e420	1010	606	337	134	31	48	34
11	288	169	534	e170	e390	726	543	350	128	31	48	e32
12	377	163	482	e190	e370	627	492	317	117	29	47	e33
13	318	160	458	e180	e340	706	451	291	105	29	e42	e32
14	275	155	415	e170	e320	664	418	278	96	28	44	e31
15	248	149	433	e160	e300	596	398	241	89	27	38	e30
16	232	142	573	e170	e290	581	376	244	90	29	31	e28
17	221	140	484	e160	e300	545	361	308	107	48	36	e32
18	209	215	414	e180	e310	526	340	273	89	90	48	e39
19	203	209	381	e250	e320	444	320	1870	88	65	46	e41
20	193	183	585	e350	e370	381	300	1640	81	69	42	e36
21	186	159	1010	e450	e420	320	285	955	75	753	34	e32
22	185	148	685	e380	e470	291	270	750	71	629	29	e30
23	182	173	586	e300	e430	313	279	596	74	255	26	e52
24	174	166	527	e240	e460	408	497	604	78	182	38	59
25	180	169	519	e210	e430	590	399	559	71	216	52	53
26	179	179	511	e190	e380	2350	332	473	72	171	45	45
27	168	211	459	e180	e340	2080	295	397	65	135	41	37
28	294	206	418	e170	e310	1330	334	336	63	109	42	e32
29	332	272	e360	e170	e300	1020	500	291	59	92	93	e31
30	299	1130	e260	e180	---	844	703	256	57	82	92	e32
31	267	---	e280	e260	---	706	---	227	---	74	70	---
TOTAL	8781	6533	15355	7130	12780	20370	16782	15637	3553	3608	1567	1232
MEAN	283	218	495	230	441	657	559	504	118	116	50.5	41.1
MAX	529	1130	1010	450	1000	2350	1690	1870	281	753	93	66
MIN	168	140	260	160	290	260	270	227	57	27	26	28

CAL YR	1987	TOTAL	146043	MEAN	400	MAX	4950	MIN	36
WTR YR	1988	TOTAL	113328	MEAN	310	MAX	2350	MIN	26

e Estimated

01529950 CHEMUNG RIVER AT CORNING, NY

LOCATION.--Lat 42°08'47", long 77°03'28", Steuben County, Hydrologic Unit 02050105, on right bank adjacent to Corning Glass Works power plant, 0.2 mi upstream from bridge on State Highway 414 (Centerway St.) at Corning, and 1.7 mi downstream from Cohocton River.

DRAINAGE AREA.--2,006 mi^2.

PERIOD OF RECORD.--Occasional discharge measurements water years 1941, 1968–69. October 1974 to current year.

REVISED RECORDS.--WRD NY–78–1: 1976, 1977(M). WDR NY–83–3: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 900.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. High flows significantly regulated by upstream reservoirs. During each year a large part of flow from 45.5 mi^2 of drainage area is diverted upstream from Lake Lamoka on Mud Creek, an upstream tributary, into Keuka Lake (Oswego River basin) for power development. For table of diversion, see station 01528700. Satellite and gage-height telemeters at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years, 2,080 ft^3/s, 14.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 127,000 ft^3/s Sept. 26, 1975, gage height, 32.46 ft; minimum, 102 ft^3/s Oct. 3, 1980, gage height, 14.22 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1972, reached a stage of 40.71 ft, from floodmark; discharge 228,000 ft^3/s, from peak flows determined at upstream and downstream stations adjusted for drainage area and channel storage.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 19	1900	*24,000	*21.92	No peak greater than base discharge.			

Minimum discharge, 128 ft^3/s July 16, gage height, 14.30 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1010	711	3000	e850	e1200	e920	2820	3120	1040	185	304	423
2	1100	673	2250	e1200	4890	e900	3270	2220	1120	188	277	289
3	1360	662	1950	e1000	4390	e1200	3000	1850	968	188	266	251
4	1490	643	1730	e920	e2360	e1400	6050	1670	955	184	254	264
5	1140	610	1580	e860	e1920	e1300	5660	1440	1060	173	248	331
6	777	577	1390	e800	e1880	e1200	3560	1690	931	171	239	319
7	717	546	1280	e740	e1400	e1500	3030	1710	801	155	239	288
8	799	520	1200	e660	e1400	2010	2670	1360	724	140	239	272
9	846	525	1230	e620	e1390	3200	2410	1210	641	132	233	259
10	778	548	1940	e580	e1350	5680	2220	1210	602	139	222	243
11	805	536	1760	e540	e1300	3750	1980	1320	561	146	218	232
12	1380	518	1450	e520	e1250	3290	1800	1340	511	144	227	222
13	1070	486	1610	e500	e1150	3470	1550	1210	441	144	207	215
14	988	473	1310	e490	e1050	3650	1420	989	411	136	202	210
15	948	446	1180	e480	e1050	2880	1310	1060	378	133	194	205
16	847	474	1630	e470	e1060	2450	1160	938	363	131	186	200
17	784	498	1590	e450	e1000	2130	1120	1160	349	187	209	206
18	620	698	1380	e440	e1170	2020	1100	1210	328	255	218	211
19	596	1110	1070	e450	e1120	1790	1050	10800	308	276	206	219
20	543	921	1320	e1400	e1220	1640	999	16100	290	278	197	222
21	548	888	3460	e1800	e1500	1400	948	10700	279	1230	187	214
22	537	700	2550	e1900	e1560	1040	899	9320	274	3550	180	201
23	519	603	1880	e1300	1600	1180	914	7020	273	1220	182	217
24	499	722	1680	e1000	1740	1410	1880	5160	263	665	195	215
25	479	745	1760	e920	1490	2080	1840	4600	248	585	201	225
26	486	745	1790	e880	e1200	9340	1390	4060	230	582	214	214
27	472	770	1570	e820	e980	10100	1200	2140	216	716	207	206
28	803	735	1170	e730	e920	5580	1270	1750	209	456	233	194
29	1360	753	1060	e690	e910	4260	2190	1480	195	369	348	190
30	933	4490	e960	e660	---	3630	3960	1310	184	384	847	187
31	854	---	e720	e650	---	3070	---	1150	---	423	754	---
TOTAL	26088	23326	50450	25320	45450	89470	64670	102297	15153	13665	8133	7144
MEAN	842	778	1627	817	1567	2886	2156	3300	505	441	262	238
MAX	1490	4490	3460	1900	4890	10100	6050	16100	1120	3550	847	423
MIN	472	446	720	440	910	900	899	938	184	131	180	187
CFSM	.42	.39	.81	.41	.78	1.44	1.07	1.65	.25	.22	.13	.12
IN .	.48	.43	.94	.47	.84	1.66	1.20	1.90	.28	.25	.15	.13

CAL YR	1987	TOTAL	563351	MEAN	1543	MAX	18100	MIN	160	CFSM	.77	IN. 10.45
WTR YR	1988	TOTAL	471166	MEAN	1287	MAX	16100	MIN	131	CFSM	.64	IN. 8.74

e Estimated

01530500 NEWTOWN CREEK AT ELMIRA, NY

LOCATION.--Lat 42°06'16", long 76°47'54", Chemung County, Hydrologic Unit 02050105, on left bank 200 ft downstream from bridge on Linden Place in Elmira, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--77.5 mi^2.

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

REVISED RECORDS.--WSP 1502: 1956. WSP 2103: Drainage area. WRD NY 1974: 1973.

GAGE.--Water-stage recorder. Datum of gage is 838.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low flow caused by numerous industrial operations upstream. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years, 86.1 ft^3/s, 15.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 4,000 ft^3/s June 23, 1972 (backwater from Chemung River); maximum gage height, 19.28 ft June 23, 1972, from floodmarks (backwater from Chemung River); minimum daily discharge, 1.7 ft^3/s Sept. 16, 1985.

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. 26	0845	*624	*8.34	No peak greater than base discharge.			

Minimum daily discharge, 7.6 ft^3/s Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	56	98	55	e180	e37	128	140	36	e13	26	13
2	31	47	83	41	e350	e36	143	103	58	e13	26	11
3	44	42	72	30	e170	e40	110	85	43	e12	26	11
4	39	40	70	39	e130	e45	140	73	54	e12	23	17
5	37	44	66	e26	e110	e50	107	66	38	e11	18	19
6	31	39	61	e25	e72	e54	87	75	32	e11	19	15
7	91	34	54	e25	e54	e84	77	60	29	e10	19	13
8	64	31	51	e25	e50	114	74	51	29	e10	17	14
9	43	30	67	e26	e48	153	76	45	27	e9.9	16	14
10	33	29	90	e26	e45	241	71	45	25	e9.6	16	14
11	58	29	70	e23	e43	129	61	47	24	e10	17	15
12	69	28	63	e25	e42	116	55	41	22	e10	20	14
13	49	30	57	e25	e41	155	50	39	21	e9.6	17	13
14	39	31	51	e22	e40	134	45	39	19	e10	13	13
15	33	28	63	e21	e39	101	41	34	e18	e11	15	13
16	28	26	110	e21	e38	84	40	35	e17	e10	15	12
17	25	25	76	e21	e38	74	39	46	e18	31	19	14
18	23	46	63	e25	e39	71	36	43	e17	26	19	13
19	22	46	58	e54	e44	66	34	91	e16	41	15	12
20	21	39	149	e120	e70	60	32	155	e15	39	15	14
21	21	31	171	e150	e94	47	30	96	e14	78	15	13
22	21	27	106	e96	e62	42	29	76	e14	67	14	11
23	20	28	91	e62	e58	44	80	65	e15	36	16	15
24	19	28	81	e51	e54	57	194	151	e14	32	19	12
25	19	29	78	e44	e46	98	93	125	e13	31	18	11
26	19	28	71	e39	e41	322	70	96	e16	78	14	10
27	20	28	62	e36	e40	191	62	72	e15	144	14	10
28	228	27	57	e32	e38	134	101	57	e13	37	18	9.8
29	118	33	53	e33	e38	101	199	48	e13	24	50	7.6
30	82	173	37	e35	---	85	298	40	e14	19	33	8.0
31	66	---	40	e52	---	72	---	35	---	21	16	---
TOTAL	1443	1152	2319	1305	2114	3037	2602	2174	699	876.1	598	381.4
MEAN	46.5	38.4	74.8	42.1	72.9	98.0	86.7	70.1	23.3	28.3	19.3	12.7
MAX	228	173	171	150	350	322	298	155	58	144	50	19
MIN	19	25	37	21	38	36	29	34	13	9.6	13	7.6
CFSM	.60	.50	.97	.54	.94	1.26	1.12	.90	.30	.36	.25	.16
IN.	.69	.55	1.11	.63	1.01	1.46	1.25	1.04	.34	.42	.29	.18

CAL YR	1987	TOTAL	22639.6	MEAN	62.0	MAX	743	MIN	7.6	CFSM	.80	IN. 10.87
WTR YR	1988	TOTAL	18700.5	MEAN	51.1	MAX	350	MIN	7.6	CFSM	.66	IN. 8.98

e Estimated

01531000 CHEMUNG RIVER AT CHEMUNG, NY

LOCATION.--Lat 42°00'08", long 76°38'06", Chemung County, Hydrologic Unit 02050105, on right bank 100 ft upstream from bridge on State Highway 427, 0.7 mi southwest of Chemung, and 10.0 mi upstream from mouth.

DRAINAGE AREA.--2,506 mi^2.

PERIOD OF RECORD.--September 1903 to current year (gage heights only for some winter periods).

REVISED RECORDS.--WSP 891: 1935–39. WSP 1432: 1904, 1907, 1915. WSP 2103: Drainage area. WRD NY 1974: 1973.

GAGE.--Water-stage recorder. Datum of gage is 778.63 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Jan. 10, 1930, nonrecording gage on highway bridge 60 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. High flows significantly regulated by upstream reservoirs. During each year a large part of flow from 45.5 mi^2 of drainage area is diverted upstream from Lake Lamoka on Mud Creek, an upstream tributary, into Keuka Lake (Oswego River basin) for power development. For table of diversion, see station 01528700. Satellite telemeter at station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--82 years (water years 1906–13, 1915–88), 2,528 ft^3/s, 13.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft^3/s June 23, 1972, gage height, 31.62 ft, from floodmark, from rating curve extended above 65,000 ft^3/s on basis of slope-area and velocity-area studies at gage height 19.57 ft and slope-area and contracted opening measurements at gage heights 23.97 and 31.62 ft; minimum, 49 ft^3/s Aug. 14, 1911, gage height, 1.47 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
May 20	0500	*26,800	*12.29	No peak greater than base discharge.			

Minimum discharge, 200 ft^3/s July 16, gage height, 3.05 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	985	1130	4950	e1400	e1900	e1200	3780	4840	1570	279	712	958
2	1220	937	3500	e1600	5230	e1200	4540	3610	1650	276	541	597
3	1340	932	2890	e1400	7150	e1400	4130	2850	1610	278	489	465
4	1880	898	2540	e1300	4240	e2000	5190	2550	1460	273	454	464
5	1570	883	2360	e1200	e3360	e1900	7510	2270	1470	266	425	528
6	1170	835	2070	e1100	e2160	e1700	4920	2390	1390	255	434	546
7	988	806	1890	e1000	e1720	e2000	4060	2490	1220	248	510	496
8	1020	759	1760	e940	e1720	2920	3630	2250	1080	240	405	447
9	1070	741	1690	e880	e1690	4250	3340	1950	988	225	393	413
10	1030	761	2300	e820	e1650	7240	3120	1870	869	216	367	384
11	1010	794	2740	e740	e1610	6020	2780	2160	823	214	352	353
12	1500	776	2160	e720	e1540	4910	2540	2190	742	220	373	339
13	1560	749	2160	e700	e1440	4730	2250	2120	659	218	364	318
14	1320	733	2060	e680	e1350	5400	2030	1990	577	216	327	300
15	1220	709	1750	e660	e1350	4400	1890	1940	531	215	304	291
16	1130	678	2190	e620	e1370	3740	1730	1920	486	210	292	274
17	1030	715	2380	e600	e1320	3160	1620	2110	462	257	283	272
18	896	818	2150	e580	e1350	2870	1550	2440	436	344	362	295
19	742	1280	1750	e600	e1440	2640	1500	6520	408	359	340	282
20	713	1430	1830	e1200	e1750	2410	1410	22700	388	453	306	289
21	672	1240	4040	e2300	e2200	2100	1340	14100	370	804	293	299
22	667	1030	4170	e2400	e2230	1690	1280	11100	360	4570	269	280
23	660	858	2950	e1700	2250	1570	1260	8670	371	2390	260	281
24	627	913	2480	e1400	2340	1810	2190	7240	359	1290	303	294
25	614	951	2390	e1200	2140	2480	2790	6350	350	942	304	281
26	593	958	2440	e1100	e1700	7630	2200	5870	343	980	292	287
27	601	975	2350	e1000	e1500	12500	1830	3820	330	1710	304	277
28	1100	981	1890	e920	e1300	7720	1720	2820	306	1210	376	262
29	1870	960	1640	e860	e1300	5450	2750	2380	295	818	1040	246
30	1570	4090	e1200	e850	---	4690	4950	2050	285	672	1240	239
31	1260	---	e960	e840	---	4110	---	1790	---	737	1250	---
TOTAL	33628	30320	73630	33310	62300	117840	85830	139350	22188	21385	13964	11057
MEAN	1085	1011	2375	1075	2148	3801	2861	4495	740	690	450	369
MAX	1880	4090	4950	2400	7150	12500	7510	22700	1650	4570	1250	958
MIN	593	678	960	580	1300	1200	1260	1790	285	210	260	239
CFSM	.43	.40	.95	.43	.86	1.52	1.14	1.79	.30	.28	.18	.15
IN .	.50	.45	1.09	.49	.92	1.75	1.27	2.07	.33	.32	.21	.16

CAL YR	1987	TOTAL	736581	MEAN	2018	MAX	23500	MIN	219	CFSM	.81	IN. 10.93
WTR YR	1988	TOTAL	644802	MEAN	1762	MAX	22700	MIN	210	CFSM	.70	IN. 9.57

e Estimated

01531000 CHEMUNG RIVER AT CHEMUNG, NY--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--April 1953-54, July 1962, March 1970-78, April to September 1988
CHEMICAL DATA: 1953-54 (a), 1962 (a), 1970-71 (a), 1972 (b), 1974 (b), 1975-77 (d), 1988 (b).
MINOR ELEMENT DATA: 1953-54 (a), 1972 (b), 1973 (a), 1974 (b), 1975-77 (d), 1988 (b).
PESTICIDE DATA: 1972 (a).
ORGANIC DATA: 1972 (a), 1974 (a), 1975-77 (d).
NUTRIENT DATA: 1953-54 (a), 1970-71 (a), 1972 (b), 1974 (a), 1975-77 (d).
BIOLOGICAL DATA:
Bacterial--1974 (a), 1975-77 (d).
Phytoplankton--1974 (a), 1975 (d), 1976-77 (c).
SEDIMENT: 1972 (a), 1975 (b), 1976 (a), 1988 (a).

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but were analyzed by the USGS Central Laboratory at Denver, Colorado.

WATER QUALITY DATA, APRIL TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
APR									
05	1050	7490	176	8.00	12.0	8.5	60	18	18
MAY									
03	1145	2770	229	8.90	10.5	10.6	82	26	24
JUN									
07	1130	1120	299	8.10	17.5	8.2	110	31	33
AUG									
01	1145	715	384	8.70	29.0	8.8	140	35	41

DATE	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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)
APR									
05	3.7	7.2	1.6	42	22	12	0.1	90	1
MAY									
03	5.3	9.1	1.5	56	29	15	0.1	118	1
JUN									
07	7.3	13	1.8	82	31	19	0.2	154	1
AUG									
01	9.4	20	2.4	106	33	34	0.2	204	<1

DATE	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)	SEDI-MENT, SUS-PENDED (MG/L)
APR								
05	15	11000	5	440	<0.1	1	70	--
MAY								
03	9	570	<5	130	--	5	<10	--
JUN								
07	6	450	<5	70	--	6	10	--
AUG								
01	9	780	<5	110	<0.1	4	<10	13

LAKES AND RESERVOIRS IN SUSQUEHANNA RIVER BASIN

01499500 EAST SIDNEY LAKE.--Lat 42°19'40", long 75°13'42", Delaware County, Hydrologic Unit 02050101, at East Sidney Dam, on Ouleout Creek, 0.3 mi upstream from bridge on County Highway 44 at East Sidney, 4.0 mi upstream from mouth, and 4.5 mi east of Unadilla. DRAINAGE AREA, 103 mi^2. PERIOD OF RECORD, November 1949 to September 1952 (monthend elevations and contents), October 1952 to September 1985 (mean daily elevations and monthend contents), October 1986 to current year (monthend elevations and contents). Prior to October 1970, published as "East Sidney Reservoir at East Sidney". REVISED RECORDS, WSP 2103: Drainage area. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1979, at datum 0.05 ft lower.

REMARKS.--Lake is formed by concrete dam and rockfill dike, completed by Corps of Engineers in June 1950; regulation of outflow began in November 1949; first used for flood regulation on Mar. 28, 1950. Useable capacity, 33,550 acre-ft between elevations 1,115.0 ft (sill of conduits) and 1,203.0 ft (crest of spillway). Dead storage 56 acre-ft. Discharge is controlled by the operation of five gates. Water is stored during high flows and released when downstream conditions warrant. Lake is used for flood control and recreation. Satellite, gage-height, and rain-gage telemeters at station.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 25,100 acre-ft, Apr. 6, 1960, elevation 1,194.4 ft; minimum 56 acre-ft, Aug. 31, 1953, Sept. 7–26, Nov. 4, 1964, elevation, 1,115.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,049 acre-ft, Oct. 28, elevation, 1,153.41 ft; minimum, 1,455 acre-ft, Mar. 27, elevation, 1,138.55 ft.

01511000 WHITNEY POINT LAKE.--Lat 42°20'34", long 75°57'57", Broome County, Hydrologic Unit 02050102, on left bank at control-gate structure for Whitney Point Dam on Otselic River, 0.3 mi upstream from spillway, 0.9 mi upstream from mouth, and 1.0 mi north of Whitney Point. DRAINAGE AREA, 257 mi^2. PERIOD OF RECORD, October 1942 to September 1985 (mean daily elevations and monthend contents), October 1985 to current year (monthend elevations and contents). REVISED RECORDS, WSP 2103: Drainage area. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to October 1970, published as "Whitney Point Reservoir at Whitney Point".

REMARKS.--Lake is formed by earthfill dam with concrete spillway, completed by Corps of Engineers in 1942 for flood control; first used for flood regulation on Mar. 9, 1942. Useable capacity 86,440 acre-ft between elevations 950.0 ft (sill of gates) and 1,010.0 ft (crest of spillway). Dead storage, 28 acre-ft. Figures given herein represent total contents. Discharge is controlled by operation of three gates. Water is stored during high flows and released when downstream conditions warrant. Lake is used for flood control and recreation. Satellite, gage-height, and rain-gage telemeters at station.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,440 acre-ft, Mar. 23, 1948, elevation 1,005.0 ft; minimum, 36 acre-ft, Sept. 2–4, 1953, elevation, 950.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,060 acre-ft, Mar. 28, elevation, 980.54 ft; minimum, 4,980 acre-ft, Dec. 27, elevation, 965.75 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-(feet)	Change in contents (equlivalent in cfs)	Elevation (feet)	Contents (acre-(feet)	Change in contents (equivalent in cfs)
	01499500 East Sidney Lake			01511000 Whitney Point Lake		
Sept. 30	1,151.21	3,539	--	973.32	13,091	--
Oct. 31	1,150.36	3,357	- 3.0	973.17	12,901	- 3.1
Nov. 30	1,150.21	3,325	- 0.5	973.81	13,714	+ 13.7
Dec. 31	1,140.52	1,698	- 26.5	966.11	5,323	- 136
CAL YR 1987	--	--	+ 0.1	--	--	0.0
Jan. 31	1,141.36	1,810	+ 1.8	966.21	5,422	+ 1.6
Feb. 29	1,140.69	1,720	- 1.6	966.15	5,363	- 1.0
Mar. 31	1,140.49	1,694	- 0.4	972.61	12,217	+ 111
Apr. 30	1,149.63	3,207	+ 25.4	973.19	12,926	+ 11.9
May 31	1,150.37	3,359	+ 2.5	973.03	12,723	- 3.3
June 30	1,150.58	3,403	+ 0.7	973.22	12,964	+ 4.1
July 31	1,150.94	3,479	+ 1.2	973.64	13,498	+ 8.7
Aug. 31	1,151.23	3,543	+ 1.0	973.31	13,079	- 6.8
Sept. 30	1,150.50	3,386	- 2.6	973.10	12,812	- 4.5
WTR YR 1988	--	--	- 0.2	--	--	- 0.4

01517900 TIOGA LAKE.--Lat 41°53'57", long 77°08'21", Tioga County, Hydrologic Unit 02050104, at Tioga Dam on Tioga River, 0.8 mi south of Tioga, and 1.7 mi upstream from Crooked Creek. DRAINAGE AREA, 280 mi^2. PERIOD OF RECORD, November 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam. Flood flows are routed to Hammond Lake through a connecting channel with weir at elevation 1,101.0 ft and to Hammond Dam spillway with crest at elevation 1,131.0 ft. Storage began in November 1979. Capacity at elevation 1,131.0 ft is 62,000 acre-ft. Recreation lake elevation is 1,081.0 ft, capacity 9,500 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow is regulated by two service gates and low-flow by-pass system. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,560 acre-ft, Feb. 16, 1984, elevation, 1,109.34 ft; minimum, 2,210 acre-ft, Oct. 25, 1980, elevation, 1,060.05 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,920 acre-ft, May 19, elevation, 1,094.40 ft; minimum, 7,950 acre ft, Mar. 25, elevation, 1,077.50 ft.

01518498 HAMMOND LAKE.--Lat 41°53'56", long 77°08'52", Tioga County, Hydrologic Unit 02050104, at Hammond Dam on Crooked Creek, 3 mi upstream from mouth, and 0.8 mi southwest of Tioga. DRAINAGE AREA, 122 mi^2. PERIOD OF RECORD, November 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam with concrete chute spillway with uncontrolled weir at elevation 1,131.0 ft. Storage began in November 1979. Capacity at elevation 1,131.0 ft is 63,000 acre-ft. Recreation lake elevation is 1,086.0 ft, capacity 8,850 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow is regulated by two gates through a connecting channel that discharges into Tioga Lake, and a low-flow outlet to Crooked Creek. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 30,620 acre-ft, Feb. 16, 1984, elevation, 1,109.34 ft; minimum, 2,430 acre-ft, Oct. 24, 1980, elevation, 1,074.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,380 acre-ft, May 20, elevation, 1,094.56 ft; minimum, 7,490 acre-ft, Mar. 6, elevation, 1,084.05 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-(feet)	Change in contents (equlivalent in cfs)	Elevation (feet)	Contents (acre-(feet)	Change in contents (equivalent in cfs)
	01517900 Tioga Lake			01518498 Hammond Lake		
Sept. 30	1,081.49	9,740	--	1,086.10	8,910	--
Oct. 31	1,081.63	9,810	+ 1.1	1,086.31	9,040	+ 2.1
Nov. 30	1,083.60	10,800	+ 16.6	1,087.24	9,640	+ 10.1
Dec. 31	1,083.70	10,850	+ 0.8	1,087.52	9,840	+ 3.3
CAL YR 1986	--	--	+ 0.4	--	--	+ 0.4
Jan. 31	1,081.41	9,700	- 18.7	1,086.38	9,080	- 12.4
Feb. 28	1,079.92	8,010	- 12.0	1,084.18	7,580	- 26.1
Mar. 31	1,081.19	9,590	+ 9.4	1,084.94	8,060	+ 7.8
Apr. 30	1.081.88	9,930	+ 5.7	1,086.61	9,220	+ 19.5
May 31	1,081.60	9,790	- 2.3	1,086.63	9,230	+ 0.2
June 30	1,081.45	9,720	- 1.2	1,086.47	9,140	- 1.5
July 31	1,081.96	9,970	+ 4.1	1,086.56	9,190	+ 0.8
Aug. 31	1,081.19	9,590	- 6.2	1,086.33	9,050	- 2.3
Sept. 30	1,080.46	9,260	- 5.5	1,085.92	8,790	- 4.4
WTR YR 1987	--	--	- 0.7	--	--	- 0.2

Lakes and Reservoirs in Susquehanna River basin--Continued

01519995 COWANESQUE LAKE.--Lat 41°59'05", long 77°09'05", Tioga County, Hydrologic Unit 02050104, at Cowanesque Dam on Cowanesque River, 1.8 mi southwest of Lawrenceville, and 2.5 mi upstream from mouth. DRAINAGE AREA, 298 mi^2. PERIOD OF RECORD, December 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam with concrete chute spillway with uncontrolled weir at elevation 1,117.0 ft. Storage began in December 1979. Capacity at elevation 1,117.0 ft is 89,110 acre-ft. Recreation lake elevation is 1,045.0 ft, capacity 7,330 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow is regulated by two service gates and low-flow by-pass system. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,110 acre-ft, Feb. 16, 1984, elevation, 1,079.57 ft; minimum, 65 acre-ft, June 23, 1980, elevation, 1,011.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,930 acre-ft, May 20, elevation, 1,056.38 ft; minimum, 7,100 acre-ft, Sept. 30, elevation, 1,044.45 ft.

01521000 ARKPORT RESERVOIR.--Lat 42°23'45", long 77°43'08", Steuben County, Hydrologic Unit 02050104, on right bank 1,000 ft upstream from Arkport Dam on Canisteo River, 1.3 mi west of Arkport, and 2.3 mi upstream from small tributary. DRAINAGE AREA, 30.5 mi^2. PERIOD OF RECORD, January 1951 to September 1985 (mean daily elevations and monthend contents), October 1985 to current year (monthend elevations and contents). REVISED RECORDS, WSP 1552: 1951–57. WRD NY 1974: 1973. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway, completed by Corps of Engineers in 1940 for flood control; first used for flood regulation on Mar. 31, 1940. Usable capacity, 7,936 acre-ft between elevations 1,218.0 ft (sill of conduit) and 1,304.0 ft (crest of spillway). No dead storage. The flood control works consist of a pressure conduit and a side-channel spillway and are not provided with gates. Water is stored during high flows and released gradually. Satellite, gage-height, and rain-gage telemeters at station.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,944 acre-ft, June 23, 1972, elevation, 1,304.04 ft; minimum contents, 0.3 acre-ft, one or more days during water years 1978–81 and 1984–87; minimum elevation, 1,226.26 ft, several days in October 1980.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 580 acre-ft, May 21, elevation, 1,242.44 ft; minimum recorded, 0.5 acre-ft, many days in September, elevation, 1,226.54 ft, but may have been less during August.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equlivalent in cfs)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in cfs)
	01519995 Cowanesque Lake			01521000 Arkport Reservoir		
Sept. 30	1,045.30	7,460	--	1,227.39	3.7	--
Oct. 31	1,045.25	7,440	- 0.3	1,227.19	2.3	0.0
Nov. 30	1,045.32	7,460	+ 0.3	1,227.87	7.1	+ 0.1
Dec. 31	1,045.10	7,370	- 1.5	1,227.51	4.6	0.0
CAL YR 1987	--	--	- 0.1	--	--	0.0
Jan. 31	1,045.22	7,420	+ 0.8	1,227.45	4.2	0.0
Feb. 28	1,045.16	7,400	- 0.3	1,227.19	2.3	0.0
Mar. 31	1,045.16	7,400	0	1,227.40	3.8	0.0
Apr. 30	1,045.36	7,480	+ 1.3	1,229.57	91.5	+ 1.5
May 31	1,045.00	7,330	- 2.4	1,227.43	4.0	- 1.4
June 30	1,045.58	7,570	+ 4.0	1,227.42	3.9	0.0
July 31	1,046.10	7,790	+ 3.6	1,227.20	2.4	0.0
Aug. 31	1,045.85	7,690	- 1.6	1,226.60	0.6	0.0
Sept. 30	1,044.45	7,100	- 9.9	1,226.55	0.6	0.0
WTR YR 1988	--	--	- 0.5	--	--	0.0

01523000 ALMOND LAKE NEAR ALMOND, NY

LOCATION.--Lat 42°20'56", long 77°42'10", Steuben County, Hydrologic Unit 02050104, at Almond Dam on Canacadea Creek, 2 mi northeast of Almond, and 3 mi upstream from mouth.

DRAINAGE AREA.--55.8 mi^2.

PERIOD OF RECORD.--July 1949 to September 1952 (monthly elevations and contents), October 1952 to September 1985 (mean daily elevations and monthend contents), October 1985 to current year (monthend elevations and contents). Prior to October 1970, published as "Almond Reservoir near Almond".

REVISED RECORDS.--WSP 2103: Drainage area.

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

REMARKS.--Lake is formed by earthfill dam with concrete spillway, completed by Corps of Engineers in June 1949 for flood control; first used for flood regulation on Mar. 28, 1950. Usable capacity, 14,800 acre-ft between elevations 1,229.0 ft (sill of gates) and 1,300.0 ft (crest of spillway). No dead storage. Figures given herein represent usable contents. Discharge is controlled by the operation of three gates. Water is stored during high flows and released when downstream conditions warrant. Lake is used for flood control and recreation. Satellite and gage-height telemeters at station.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 14,100 acre-ft, June 23, 1972, elevation, 1,298.58 ft; no contents for many days each year 1949–65.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,260 acre-ft, Mar. 26, elevation, 1,264.87 ft; minimum, 1,110 acre-ft, Oct. 5, elevation, 1,255.27 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in cfs)
Sept. 30	1,257.22	1,359	--
Oct. 31	1,256.45	1,258	- 1.6
Nov. 30	1,260.23	1,787	+ 8.9
Dec. 31	1,260.26	1,792	+ 0.1
CAL YR 1987	--	--	+ 0.9
Jan. 31	1,261.18	1,941	+ 2.4
Feb. 28	1,260.17	1,777	- 2.8
Mar. 31	1,260.21	1,784	+ 0.1
Apr. 30	1,259.89	1,734	- 0.8
May 31	1,260.18	1,779	+ 0.7
June 30	1,260.40	1,814	+ 0.6
July 31	1,260.73	1,867	+ 0.9
Aug. 31	1,260.86	1,888	+ 0.3
Sept. 30	1,260.81	1,880	- 0.1
WTR YR 1988	--	--	+ 0.7

DIVERSION OF WATER AFFECTING THE SUSQUEHANNA RIVER BASIN

01528700 Diversion from Waneta Lake to Keuka Lake at Keuka, NY (see station for daily discharge).

03011020 ALLEGHENY RIVER AT SALAMANCA, NY

LOCATION.--Lat 42°09'23", long 78°42'56", Cattaraugus County, Hydrologic Unit 05010001, on left bank 230 ft upstream from Main Street bridge in Salamanca, 1.3 mi downstream from Great Valley Creek, and 1.6 mi upstream from Little Valley Creek.

DRAINAGE AREA.--1,608 mi^2.

PERIOD OF RECORD.--September 1903 to current year. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1964, published as "at Red House."

REVISED RECORDS.--WSP 1385: 1907, 1909–12, 1913(M), 1914–15, 1916–17(M), 1925, 1927. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,358.00 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Sept. 3, 1917, nonrecording gage and Sept. 4, 1917 to Sept. 30, 1964, water-stage recorder at site 7.5 mi downstream at different datum. Oct. 1, 1964 to Sept. 30, 1967, at present site at datum 0.04 ft lower.

REMARKS.--Records good except those for estimated daily discharges and period of questionable gage-height record, June 10 to July 21, which are fair. U.S. Army Corps of Engineers satellite and gage-height telemeters at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--85 years, 2,777 ft^3/s, 23.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft^3/s June 23, 1972, gage height, 24.01 ft from floodmarks; minimum daily, 79 ft^3/s Sept. 10, 11, 1971.

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)
Apr. 4	2000	*13,700	*8.81	No peak greater than base discharge.			

Minimum discharge, 142 ft^3/s Aug. 22-23, gage height, 2.71 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2920	1030	9680	e2500	4290	e1300	4530	3630	1440	340	296	332
2	2530	976	8310	e2100	7630	e1200	4110	3120	1450	340	272	259
3	3090	943	6540	e1600	8690	e1200	3820	2840	e1300	339	261	223
4	2840	933	5210	e1300	7460	e1300	11400	2610	e1180	326	254	255
5	2330	995	4460	e1100	5980	e1300	11400	2430	e1060	311	230	349
6	2020	1160	3790	e1100	4350	e1400	8410	2560	e990	294	220	426
7	2080	1240	3280	e1100	3490	e1500	6510	2370	e910	281	223	424
8	2440	1640	2950	e1100	e3200	e1600	5380	2020	e820	271	220	316
9	2200	2460	3500	e1000	e2800	e3200	4500	1800	e770	259	220	262
10	1870	2620	5290	e1000	e2500	6340	3770	2820	725	248	217	233
11	2150	2260	4830	e980	e2200	5790	3210	3260	673	243	199	214
12	2830	2040	4300	e940	e2000	5120	2760	2780	626	247	195	200
13	2540	1910	3990	e900	e1500	6880	2430	2400	593	244	187	203
14	2200	1770	3530	e860	e1300	7150	2170	2370	559	237	192	202
15	1990	1610	3310	e840	e1600	6010	2020	2170	537	228	219	192
16	1840	1470	3920	e820	e1900	4990	1850	3270	532	221	214	191
17	1690	1370	3590	e780	e1900	4200	1750	4700	557	270	192	189
18	1580	1850	3050	e900	e1800	3610	1640	4080	534	309	178	205
19	1470	2560	2770	e1300	e1700	e3200	1550	7870	491	298	166	225
20	1360	2370	4090	e1900	e1600	e2800	1500	10800	447	330	153	257
21	1520	2330	7720	e3000	e1500	e2300	1470	9290	426	719	148	299
22	1440	2030	6250	e2700	e1500	e2000	1390	7830	399	2820	148	248
23	1390	1910	5160	e2200	e2000	e2100	1410	6120	461	1240	142	319
24	1340	2040	4500	e1900	e2700	3240	3400	5120	457	e710	172	384
25	1290	2010	4280	e1700	e2000	5000	3470	4810	394	e600	185	351
26	1220	2100	4280	e1500	e1700	11000	2710	3910	379	e510	250	304
27	1150	2060	3800	e1300	e1600	12600	2460	3230	380	e420	247	e275
28	1200	1900	3340	e1200	e1400	10900	2430	2680	379	e390	241	e251
29	1220	3720	e3000	e1100	e1400	9470	2560	2230	364	e350	261	e220
30	1190	11100	e2300	e1100	---	7540	3850	1900	345	e340	326	e199
31	1120	---	e2100	e1800	---	5550	---	1640	---	e330	356	---
TOTAL	58050	64407	137120	43620	83690	141790	109860	118660	20178	14065	6784	8007
MEAN	1873	2147	4423	1407	2886	4574	3662	3828	673	454	219	267
MAX	3090	11100	9680	3000	8690	12600	11400	10800	1450	2820	356	426
MIN	1120	933	2100	780	1300	1200	1390	1640	345	221	142	189
CFSM	1.16	1.34	2.75	.88	1.79	2.84	2.28	2.38	.42	.28	.14	.17
IN.	1.34	1.49	3.17	1.01	1.94	3.28	2.54	2.75	.47	.33	.16	.19

CAL YR	1987	TOTAL	982257	MEAN	2691	MAX	14500	MIN	276	CFSM	1.67	IN. 22.72
WTR YR	1988	TOTAL	806231	MEAN	2203	MAX	12600	MIN	142	CFSM	1.37	IN. 18.65

e Estimated

03011020 ALLEGHENY RIVER AT SALAMANCA, NY--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--July to September 1967, March 1971-1974, April to September 1988
CHEMICAL DATA: 1967 (a), 1971-72 (a), 1988 (b).
MINOR ELEMENT DATA: 1967 (a), 1971 (a), 1972-74 (a), 1988 (b).
NUTRIENT DATA: 1967 (a), 1971-72 (a).

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but were analyzed by the USGS Central Laboratory at Denver, Colorado.

WATER QUALITY DATA, APRIL TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
APR									
12	1115	2780	129	7.20	10.0	--	--	--	--
MAY									
10	1230	3120	158	7.20	15.0	8.0	--	--	--
JUL									
21	1030	349	307	7.90	22.0	6.4	88	23	26

DATE	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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
APR								
12	--	--	--	27	11	10	0.4	--
MAY								
10	--	--	--	31	--	--	--	--
JUL								
21	5.7	24	1.8	66	14	44	0.1	155

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)
APR								
12	<1	3	550	<5	80	<0.1	12	<10
MAY								
10	1	8	2400	<5	180	--	6	20
JUL								
21	<1	34	750	<5	160	<0.1	4	30

03013000 CONEWANGO CREEK AT WATERBORO, N.Y.

LOCATION.--Lat 42°10'15", long 79°04'10", Chautauqua County, Hydrologic Unit 05010002, on right bank 300 ft downstream from bridge on State Highway 394 at Waterboro, 0.2 mi downstream from Davis Brook, 0.4 mi upstream from Harris Brook, and 1.9 mi northeast of Kennedy.

DRAINAGE AREA.--290 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1,255.30 ft above National Geodetic Vertical Datum of 1929 (U. S. Army Corps of Engineers bench mark). Prior to Nov. 7, 1939, nonrecording gages at site 1,300 ft upstream at various datums. Nov. 7, 1939 to Nov. 4, 1940, nonrecording gage at site 1,100 ft upstream at datum 0.79 ft higher, and Nov. 5, 1940 to May 28, 1948, nonrecording gage at site 700 ft downstream at present datum.

REMARKS.--Records good except those for periods of estimated daily discharges, which are fair. U. S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years, 536 ft^3/s, 25.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,600 ft^3/s Apr. 7, 1947; maximum gage height, 12.13 ft Feb. 22, 1981; minimum discharge observed, 22 ft^3/s Aug. 18, 1940, Sept. 27, 29, 1941.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 28	1100	*1,960	*7.67	No peak greater than base discharge.			

Minimum discharge, 42 ft^3/s Aug. 21, 22, gage height, 2.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	577	330	1030	518	1370	e480	999	974	177	57	66	98
2	529	293	944	e410	1620	e460	756	700	198	57	60	83
3	577	271	795	e350	1690	545	594	479	201	58	57	76
4	522	258	698	e300	1490	552	1480	385	216	55	55	85
5	394	244	645	e240	1170	504	1680	347	192	53	53	107
6	308	253	605	e220	e800	467	1620	400	154	52	63	111
7	276	295	571	e230	e640	490	1350	387	134	52	68	99
8	427	384	557	e220	e540	534	1150	334	124	52	56	89
9	495	489	888	e210	e520	850	958	300	116	52	52	82
10	404	560	1340	e210	e500	1230	739	323	114	50	51	75
11	442	449	1410	e200	e440	1180	572	331	106	51	53	72
12	499	381	1260	e190	e400	1010	490	304	99	51	53	72
13	419	347	1060	e200	e330	1140	425	282	91	50	51	70
14	342	325	877	e210	e350	1110	351	276	84	50	48	71
15	288	309	852	e200	e440	929	339	267	82	50	47	68
16	253	278	1150	e200	e680	720	325	381	82	50	47	65
17	226	259	1050	e200	e760	582	313	626	79	56	46	71
18	204	440	925	e360	e720	540	302	518	75	60	47	93
19	184	528	783	599	e660	533	299	727	74	54	46	95
20	167	473	1090	917	e700	526	285	879	71	57	44	86
21	168	415	1570	1390	e680	461	291	773	68	71	42	89
22	196	350	1690	1450	e640	391	300	603	63	80	42	91
23	216	326	1580	1280	e1100	471	309	468	69	77	43	170
24	222	370	1280	983	1340	1070	647	484	69	136	48	251
25	239	407	1210	705	1220	1300	576	589	62	105	52	193
26	260	490	1180	e520	e940	1610	433	491	62	86	51	146
27	231	480	985	e390	e680	1850	355	392	62	72	49	114
28	282	429	752	e320	e540	1960	323	326	61	64	56	101
29	348	698	599	e310	e520	1910	349	280	59	60	183	93
30	446	1090	506	e310	---	1620	909	237	59	57	210	88
31	395	---	518	e720	---	1270	---	204	---	72	140	---
TOTAL	10536	12221	30400	14562	23480	28295	19519	14067	3103	1947	1979	3004
MEAN	340	407	981	470	810	913	651	454	103	62.8	63.8	100
MAX	577	1090	1690	1450	1690	1960	1680	974	216	136	210	251
MIN	167	244	506	190	330	391	285	204	59	50	42	65
CFSM	1.17	1.40	3.38	1.62	2.79	3.15	2.24	1.56	.36	.22	.22	.35
IN.	1.35	1.57	3.90	1.87	3.01	3.63	2.50	1.80	.40	.25	.25	.39

CAL YR	1987	TOTAL	159267	MEAN	436	MAX	2330	MIN	55	CFSM	1.50	IN. 20.43
WTR YR	1988	TOTAL	163113	MEAN	446	MAX	1960	MIN	42	CFSM	1.54	IN. 20.92

e Estimated

03013946 CHAUTAUQUA LAKE AT BEMUS POINT, NY

LOCATION.--Lat 42°09'23", long 79°23'39", Chautauqua County, Hydrologic Unit 05010002, 6 ft east of lake shore, 30 ft south of the intersection of Pauline Avenue and Lakeside Avenue, and 950 ft southeast of the ferry landing, at Bemus Point.

DRAINAGE AREA.--189 mi^2.

PERIOD OF RECORD.--October 1972 to September 1973; November 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Nov. 1974 at site 950 ft northwest at same datum.

REMARKS.--Lake regulated for flood control by Warner Dam. Area of water surface, 20.98 mi^2. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 1,311.23 ft Mar. 5, 1976; minimum, 1,306.34 ft Feb. 27–28, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,308.46 ft April 30, minimum, 1,306.98 ft Jan. 17.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1308.34	1308.07	1307.29	1307.68	1307.43	1307.47	1307.93	1308.40	1308.23	1307.78	1307.76	1307.50
2	1308.24	1308.00	1307.31	1307.64	1307.60	1307.42	1307.93	1308.33	1308.25	1307.75	1307.75	1307.48
3	1308.28	1307.93	1307.31	1307.58	1307.63	1307.40	1307.96	1308.25	1308.23	1307.73	1307.73	1307.47
4	1308.28	1307.87	1307.33	1307.54	1307.66	1307.38	1308.30	1308.23	1308.22	1307.72	1307.72	1307.56
5	1308.26	1307.80	1307.32	1307.52	1307.64	1307.34	1308.35	1308.25	1308.19	1307.71	1307.70	1307.60
6	1308.24	1307.73	1307.30	1307.50	1307.62	1307.28	1308.31	1308.25	1308.17	1307.69	1307.69	1307.60
7	1308.29	1307.66	1307.27	1307.46	1307.58	1307.25	1308.29	1308.24	1308.16	1307.68	1307.67	1307.59
8	1308.39	1307.61	1307.25	1307.41	1307.54	1307.24	1308.25	1308.23	1308.15	1307.66	1307.64	1307.58
9	1308.39	1307.62	1307.31	1307.35	1307.50	1307.33	1308.18	1308.24	1308.13	1307.65	1307.63	1307.56
10	1308.33	1307.59	1307.51	1307.31	1307.45	1307.47	1308.12	1308.27	1308.10	1307.63	1307.62	1307.55
11	1308.31	1307.53	1307.53	1307.26	1307.41	1307.48	1308.12	1308.24	1308.08	1307.62	1307.61	1307.54
12	1308.26	1307.47	1307.54	1307.21	1307.37	1307.48	1308.12	1308.20	1308.07	1307.61	1307.61	1307.52
13	1308.21	1307.41	1307.56	1307.17	1307.35	1307.56	1308.12	1308.20	1308.06	1307.58	1307.59	1307.53
14	1308.18	1307.36	1307.55	1307.13	1307.31	1307.59	1308.11	1308.21	1308.05	1307.56	1307.59	1307.52
15	1308.17	1307.31	1307.58	1307.09	1307.32	1307.57	1308.11	1308.20	1308.04	1307.54	1307.57	1307.50
16	1308.15	1307.26	1307.69	1307.05	1307.39	1307.55	1308.11	1308.29	1308.04	1307.54	1307.54	1307.47
17	1308.12	1307.22	1307.71	1307.01	1307.39	1307.52	1308.11	1308.33	1308.03	1307.65	1307.52	1307.49
18	1308.10	1307.27	1307.69	1307.01	1307.38	1307.48	1308.13	1308.27	1308.01	1307.64	1307.50	1307.53
19	1308.08	1307.28	1307.66	1307.04	1307.36	1307.45	1308.12	1308.25	1308.00	1307.65	1307.47	1307.54
20	1308.07	1307.26	1307.77	1307.15	1307.39	1307.44	1308.13	1308.20	1307.98	1307.65	1307.44	1307.54
21	1308.07	1307.23	1308.00	1307.35	1307.41	1307.40	1308.16	1308.17	1307.97	1307.70	1307.40	1307.54
22	1308.07	1307.17	1308.01	1307.37	1307.39	1307.35	1308.17	1308.17	1307.95	1307.70	1307.36	1307.53
23	1308.08	1307.12	1307.97	1307.36	1307.55	1307.33	1308.21	1308.18	1307.99	1307.72	1307.34	1307.58
24	1308.08	1307.09	1307.93	1307.34	1307.64	1307.47	1308.26	1308.28	1307.96	1307.82	1307.34	1307.61
25	1308.09	1307.08	1307.93	1307.32	1307.64	1307.60	1308.23	1308.33	1307.94	1307.81	1307.36	1307.60
26	1308.08	1307.11	1307.96	1307.28	1307.62	1307.83	1308.21	1308.29	1307.91	1307.81	1307.34	1307.59
27	1308.07	1307.09	1307.92	1307.25	1307.59	1307.98	1308.20	1308.26	1307.88	1307.80	1307.31	1307.57
28	1308.10	1307.07	1307.88	1307.21	1307.55	1308.01	1308.19	1308.26	1307.85	1307.79	1307.38	1307.56
29	1308.13	1307.16	1307.86	1307.16	1307.51	1308.00	1308.24	1308.25	1307.84	1307.77	1307.51	1307.54
30	1308.16	1307.27	1307.79	1307.13	---	1307.95	1308.43	1308.25	1307.81	1307.77	1307.53	1307.52
31	1308.13	---	1307.73	1307.18	---	1307.92	---	1308.24	---	1307.79	1307.51	---
MEAN	1308.19	1307.42	1307.63	1307.29	1307.49	1307.53	1308.17	1308.25	1308.04	1307.69	1307.54	1307.54
MAX	1308.39	1308.07	1308.01	1307.68	1307.66	1308.01	1308.43	1308.40	1308.25	1307.82	1307.76	1307.61
MIN	1308.07	1307.07	1307.25	1307.01	1307.31	1307.24	1307.93	1308.17	1307.81	1307.54	1307.31	1307.47

CAL YR	1987	MEAN	1307.73	MAX	1308.56	MIN	1306.35
WTR YR	1988	MEAN	1307.73	MAX	1308.43	MIN	1307.01

03014500 CHADAKOIN RIVER AT FALCONER, NY

LOCATION.--Lat 42°06'45", long 79°12'15", Chautauqua County, Hydrologic Unit 05010002, on left bank 10 ft downstream from South Dow Street Bridge in Falconer, 1.8 mi upstream from mouth, and 6 mi downstream from Chautauqua Lake.

DRAINAGE AREA.--194 mi^2.

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

REVISED RECORDS.--WSP 803: 1936(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,256.41 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Chautauqua Lake. Diurnal fluctuation caused by mills upstream from station. Monthly figures for 1951–66 water years adjusted for regulation. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--53 years (water years 1936–88), 356 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,250 ft^3/s Sept. 14, 1979, gage height, 4.93 ft; minimum, 2.7 ft^3/s Nov. 20, 21, 1960, gage height, 0.15 ft; minimum daily, 3.0 ft^3/s Nov. 20, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 845 ft^3/s May 16 at 2130 hours, gage height, 2.38 ft; minimum, 8.2 ft^3/s July 11, gage height, 0.27 ft (due to regulation at Warner Dam).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	734	702	436	615	499	549	226	817	159	68	83	62
2	442	693	469	574	553	539	226	805	180	67	86	62
3	198	686	478	561	576	538	319	660	141	67	61	63
4	197	678	489	553	581	533	748	149	129	67	66	84
5	197	690	489	544	579	521	804	211	126	67	66	65
6	196	670	487	542	571	508	787	500	118	66	66	63
7	201	615	470	537	559	495	796	213	94	66	65	61
8	353	592	468	530	557	483	797	178	95	65	64	58
9	741	599	483	517	549	500	782	146	78	64	64	56
10	739	588	505	481	545	549	479	311	66	65	64	62
11	744	582	503	468	534	575	160	454	66	55	76	62
12	733	549	506	461	524	572	160	272	65	80	102	61
13	454	515	538	458	534	592	160	102	66	72	65	63
14	246	509	556	436	509	600	160	102	65	75	68	60
15	246	497	540	408	520	597	160	101	65	71	64	90
16	246	481	590	399	535	595	137	380	66	81	62	62
17	246	445	576	396	534	588	99	827	62	71	62	64
18	246	405	574	408	533	565	102	816	62	65	60	68
19	223	433	586	405	523	552	101	806	61	70	60	62
20	147	436	639	422	535	541	101	703	62	75	60	68
21	148	439	678	459	543	533	104	409	68	94	59	63
22	146	420	693	489	529	521	102	104	64	75	58	61
23	146	415	690	488	578	510	150	102	81	80	64	76
24	147	417	681	484	582	450	606	343	69	73	78	71
25	238	414	677	484	581	556	512	450	69	72	69	71
26	238	421	668	474	574	646	238	446	69	70	64	71
27	243	407	663	469	572	700	238	224	69	69	64	67
28	242	401	645	464	561	714	238	104	69	68	94	58
29	245	435	658	456	556	700	328	104	70	67	74	71
30	355	438	635	450	---	704	699	103	68	80	64	69
31	535	---	622	454	---	414	---	134	---	73	64	---
TOTAL	10212	15572	17692	14886	15926	17440	10519	11076	2522	2198	2116	1974
MEAN	329	519	571	480	549	563	351	357	84.1	70.9	68.3	65.8
MAX	744	702	693	615	582	714	804	827	180	94	102	90
MIN	146	401	436	396	499	414	99	101	61	55	58	56

CAL YR	1987	TOTAL	113025	MEAN	310	MAX	860	MIN	51
WTR YR	1988	TOTAL	122133	MEAN	334	MAX	827	MIN	55

LAKES IN ALLEGHENY RIVER BASIN

03013946 CHAUTAUQUA LAKE AT BEMUS POINT, NY (see station for daily mean elevation).

04213500 CATTARAUGUS CREEK AT GOWANDA, NY

(National stream-quality accounting network station)

LOCATION.--Lat 42°27'50", long 78°56'07", Erie County, Hydrologic Unit 04120102, on right bank 380 ft downstream from bridge on State Highways 39 and 62 at Gowanda, 4.2 mi downstream from South Branch, and 17.8 mi upstream from mouth. Water-quality sampling site at discharge station.

DRAINAGE AREA.--436 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1912;WDR NY–82–3: Drainage area. WRD NY 1971: 1956(M). WRD NY 1974: 1940–42 (M, P).

GAGE.--Water-stage recorder. Datum of gage is 738.85 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1969, at datum 0.11 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low and medium flow caused by powerplant 20 mi upstream from station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--48 years (water years 1941–88), 739 ft^3/s, 23.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,600 ft^3/s Mar. 7, 1956, gage height, 14.14 ft; minimum, about 6 ft^3/s Aug. 21, 1941, result of regulation; minimum gage height, 0.90 ft Oct. 26, 1951; minimum daily discharge, 52 ft^3/s Sept. 13, 1945, Aug. 1, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 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	0700	*7,540	*6.96	No peak greater than base discharge.			

Minimum discharge, 80 ft^3/s Aug. 22, 23, Sept. 17; minimum recorded gage height, 1.24 ft Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1210	459	1190	e720	e3000	e540	850	983	296	132	184	190
2	875	418	1040	e550	e2300	e500	839	708	380	140	158	125
3	1080	397	880	e400	e1200	e460	928	589	297	138	137	119
4	684	380	867	e330	e930	e480	4840	532	276	135	122	139
5	498	368	811	e260	e760	e500	1810	507	259	128	113	189
6	400	388	749	e250	e640	e500	1180	524	243	124	118	201
7	497	386	695	e260	e600	e520	1040	460	244	115	136	183
8	918	427	732	e250	e580	e540	990	406	264	109	119	172
9	663	898	2120	e240	e580	1890	906	378	253	106	110	165
10	470	792	2290	e230	e560	2250	778	462	232	103	102	107
11	642	549	1180	e210	e540	1220	682	439	217	101	99	96
12	736	472	953	e220	e500	1070	614	387	207	101	101	99
13	534	452	901	e230	e460	2090	574	360	200	109	103	109
14	430	414	822	e220	e440	1290	540	385	189	126	97	108
15	381	378	1300	e220	e850	e960	548	332	180	109	104	102
16	352	353	1630	e220	e1100	e840	520	622	177	102	97	90
17	328	339	1050	e230	e900	e740	496	944	177	197	92	153
18	319	764	889	e320	e800	e680	512	636	169	234	94	204
19	307	685	814	e540	e740	e660	503	2120	160	178	90	162
20	300	541	2810	e1700	e720	e620	459	1530	156	166	85	141
21	337	460	2970	e2600	e700	e540	499	1480	164	297	82	136
22	375	396	1370	e1200	e680	e500	468	1080	152	263	e80	139
23	440	400	1040	e820	e1500	e990	860	728	171	218	e80	792
24	427	499	903	e690	e1300	2600	1180	738	178	218	e85	452
25	541	493	1320	e590	e920	2400	755	704	156	189	e95	243
26	459	636	1390	e520	e760	5030	581	629	150	197	e140	183
27	389	563	960	e400	e660	2910	529	497	149	198	e150	152
28	404	468	806	e350	e580	1680	522	418	144	180	e148	137
29	617	1360	711	e340	e560	1450	786	375	141	162	e170	121
30	841	2100	545	e520	---	1140	1680	338	132	149	e197	115
31	588	---	573	e1700	---	939	---	313	---	208	e210	---
TOTAL	17042	17235	36311	17330	25860	38529	27469	20604	6113	4932	3698	5324
MEAN	550	574	1171	559	892	1243	916	665	204	159	119	177
MAX	1210	2100	2970	2600	3000	5030	4840	2120	380	297	210	792
MIN	300	339	545	210	440	460	459	313	132	101	80	90
CFSM	1.26	1.32	2.69	1.28	2.05	2.85	2.10	1.52	.47	.36	.27	.41
IN .	1.45	1.47	3.10	1.48	2.21	3.29	2.34	1.76	.52	.42	.32	.45

CAL YR	1987	TOTAL	246319	MEAN	675	MAX	5760	MIN	147	CFSM	1.55	IN.	21.02
WTR YR	1988	TOTAL	220447	MEAN	602	MAX	5030	MIN	80	CFSM	1.38	IN.	18.81

e Estimated

04213500 CATTARAUGUS CREEK AT GOWANDA, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959, 1963-64, 1972 to current year.
CHEMICAL DATA: 1959 (e), 1963 (b), 1972 (a), 1975 (b), 1976-78 (c), 1979-80 (d), 1981-82 (c), 1983-87 (b).
MINOR ELEMENTS DATA: 1972-74 (a), 1975 (b), 1976-77 (c), 1978-87 (b).
ORGANIC DATA: OC--1975 (b), 1976-77 (c), 1978-80 (d), 1981 (c).
NUTRIENT DATA: 1975 (b), 1976-77 (c), 1978-80 (d), 1981-82 (c), 1983-88 (b).
BIOLOGICAL DATA:
Bacterial--1978-80 (d), 1981-82 (c), 1983-88 (b).
Phytoplankton--1978 (b), 1979-80 (c), 1981 (b).
SEDIMENT DATA: 1964 (b), 1978-82 (c), 1983-88 (b).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1958 to September 1959, unpublished; January 1978 to September 1981.
pH: Ocotber 1958 to September 1959, unpublished.
WATER TEMPERATURES: October 1958 to September 1959, January 1978 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 952 microsiemems Oct. 7, 1958; minimum daily, 150 microsiemems Feb. 19, 1981.
WATER TEMPERATURES: Maximum daily, 29.0 C Aug. 19, 1978; minimum daily, 0.0 C on many days during winter periods.

COOPERATION.--Water-quality analyses identified by an (*) were collected by personnel of the New York State Department of Environmental Conservation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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./ 100ML)
NOV											
02	1100	411	340	--	8.26	8.0	5.3	757	12.5	106	--
*02	1105	411	--	--	8.10	--	--	--	11.6	--	--
DEC											
*09	0930	1360	--	--	8.20	5.0	--	--	12.2	--	--
MAR											
08	1100	614	317	--	7.79	2.0	19	754	14.4	105	K890
*23	1045	550	--	349	7.80	4.5	--	--	--	--	--
APR											
*07	1115	1050	--	279	7.50	12.0	--	--	--	--	--
*21	1200	516	--	345	8.30	6.0	--	--	--	--	--
MAY											
*04	1300	522	--	318	8.40	12.0	--	--	10.8	--	--
*19	1300	2060	--	250	8.00	12.5	--	--	10.0	--	--
JUN											
23	1100	168	431	--	8.00	22.5	8.4	760	8.6	100	570
*28	0915	144	--	458	--	--	--	--	--	--	--
AUG											
22	1100	82	427	--	8.26	16.0	9.5	753	9.5	98	K16
SEP											
*08	0845	174	--	457	8.20	13.0	--	--	--	--	--

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV											
02	--	--	170	42	54	9.0	9.1	1.6	130	--	26
02	--	211	170	--	53	8.6	--	--	--	--	--
DEC											
09	--	370	--	--	--	--	--	--	--	--	--
MAR											
08	2600	--	150	37	46	8.2	11	1.5	112	--	28
23	--	--	150	33	46	8.0	11	1.3	--	115	28
APR											
07	--	--	--	--	--	--	--	--	--	98	28
21	--	--	150	28	47	8.5	8.8	1.3	--	125	28
MAY											
04	--	--	--	--	--	--	--	--	--	114	--
19	--	--	100	9	31	5.4	6.2	1.3	--	91	19
JUN											
23	110	--	190	43	59	11	16	1.9	150	--	35
28	--	--	190	43	59	11	19	1.8	--	150	34
AUG											
22	--	--	190	26	56	12	18	1.8	163	--	39
SEP											
08	--	--	190	51	57	12	21	1.9	--	141	47

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

STREAMS TRIBUTARY TO LAKE ERIE

04213500 - CATTARAUGUS CREEK AT GOWANDA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	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, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)
NOV											
02	14	0.2	2.8	197	198	0.70	0.07	0.08	<0.01	0.2	<0.01
02	--	--	--	--	--	--	--	--	--	--	--
DEC											
09	--	--	--	--	--	--	--	--	--	--	--
MAR											
08	17	0.1	4.3	185	189	1.20	0.09	0.07	<0.01	0.4	0.01
23	17	0.1	--	--	180	--	--	--	--	--	--
APR											
07	11	0.1	--	--	--	--	--	--	--	--	--
21	14	0.1	--	--	183	--	--	--	--	--	--
MAY											
04	--	--	--	--	--	--	--	--	--	--	--
19	9.3	0.3	--	--	127	--	--	--	--	--	--
JUN											
23	22	0.4	3.8	247	245	1.30	0.31	0.26	0.02	0.3	0.02
28	28	0.3	--	--	243	--	--	--	--	--	--
AUG											
22	26	0.1	2.7	253	257	0.56	0.28	0.26	0.01	0.6	0.02
SEP											
08	29	0.1	--	--	253	--	--	--	--	--	--

DATE	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS 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)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
NOV										
02	<0.01	<0.01	<10	<1	65	<0.5	1	--	<1	<3
02	--	--	--	--	--	--	--	1	--	--
DEC										
09	--	--	--	--	--	--	--	<1	--	--
MAR										
08	<0.01	<0.01	10	<1	50	<0.5	<1	--	<1	<3
23	--	--	<10	--	--	--	<1	<1	--	--
APR										
07	--	--	--	--	--	--	--	<1	--	--
21	--	--	<10	--	--	--	<1	2	--	--
MAY										
04	--	--	--	--	--	--	--	<1	--	--
19	--	--	40	--	--	--	<1	<1	--	--
JUN										
23	<0.01	<0.01	<10	1	68	<0.5	<1	--	<1	<3
28	--	--	--	--	--	--	--	<1	--	--
AUG										
22	0.01	<0.01	<10	<1	74	<0.5	<1	--	<1	<3
SEP										
08	--	--	--	--	--	--	--	1	--	--

04213500 - CATTARAUGUS CREEK AT GOWANDA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, TOTAL RECOV-ERABLE (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 DIS-SOLVED (UG/L AS HG)
NOV										
02	2	--	--	16	<5	--	<4	--	12	<0.1
02	--	2	660	--	--	<5	--	20	--	--
DEC										
09	--	10	7400	--	--	8	--	130	--	--
MAR										
08	1	--	--	14	<5	--	<4	--	10	<0.1
23	1	4	1800	6	<5	<5	--	40	9	--
APR										
07	--	7	3000	--	--	<5	--	50	--	--
21	3	3	520	10	<5	<5	--	10	7	--
MAY										
04	--	7	610	--	--	<5	--	20	--	--
19	3	15	1300	46	<5	5	--	360	9	--
JUN										
23	1	--	--	8	<5	--	9	--	5	<0.1
28	--	4	280	--	--	<5	--	60	--	--
AUG										
22	2	--	--	26	<5	--	8	--	7	--
SEP										
08	--	4	510	--	--	<5	--	20	--	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	NICKEL, TOTAL RECOV-ERABLE (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)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV										
02	--	<10	2	--	<1	<1.0	88	<6	<3	--
02	<0.1	--	--	<1	--	--	--	--	--	<10
DEC										
09	<0.1	--	--	8	--	--	--	--	--	20
MAR										
08	--	<10	<1	--	<1	<1.0	74	<6	4	--
23	<0.1	--	4	10	--	--	--	--	<3	10
APR										
07	<0.1	--	--	14	--	--	--	--	--	<10
21	<0.1	--	1	5	--	--	--	--	<3	<10
MAY										
04	--	--	--	7	--	--	--	--	--	10
19	<0.1	--	2	18	--	--	--	--	5	40
JUN										
23	--	<10	<1	--	<1	<1.0	110	<6	10	--
28	<0.1	--	--	3	--	--	--	--	--	10
AUG										
22	--	<10	1	--	<1	1.0	120	<6	<3	--
SEP										
08	<0.1	--	--	4	--	--	--	--	--	<10

04213500 - CATTARAUGUS CREEK AT GOWANDA, NY--Continued

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)
NOV								
02.....	1107	20	1.3	1.0	340	8.26	8.0	12.5
02.....	1110	40	1.4	1.0	342	8.26	8.0	12.2
02.....	1115	60	1.5	1.0	340	8.25	8.5	12.3
02.....	1120	80	1.3	1.0	343	8.24	8.0	12.3
02.....	1125	100	1.5	1.0	342	8.25	8.0	12.4
02.....	1130	120	1.4	1.0	342	8.25	8.0	12.5
MAR								
08.....	1105	20	1.6	1.0	318	7.79	2.0	14.4
08.....	1110	40	1.7	1.0	317	7.81	2.5	14.6
08.....	1115	60	1.9	1.0	319	7.74	2.0	14.5
08.....	1120	80	1.7	1.0	319	7.76	2.0	14.6
08.....	1125	100	1.8	1.0	317	7.79	2.0	14.4
08.....	1130	120	1.8	1.0	318	7.80	2.0	14.4
JUN								
23.....	1105	20	0.8	0.5	431	8.00	22.5	8.6
23.....	1110	40	0.7	0.5	432	8.00	22.0	8.6
23.....	1115	60	0.9	0.5	436	7.98	22.0	8.4
23.....	1120	80	0.8	0.5	430	7.99	22.5	8.5
23.....	1125	100	0.9	0.5	432	8.01	22.0	8.5
23.....	1130	120	0.6	0.5	433	8.02	22.5	8.4
AUG								
22.....	1105	20	0.5	0.5	427	--	16.0	9.4
22.....	1110	40	0.8	0.5	427	--	16.0	9.6
22.....	1115	60	1.0	0.5	426	--	16.0	9.6
22.....	1120	80	0.8	0.5	425	--	16.0	9.5
22.....	1125	100	0.6	0.5	426	--	16.0	9.5
22.....	1130	120	0.6	0.5	426	--	16.0	9.3

CHEMICAL QUALITY OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SOLIDS, VOLATILE IN BOTTOM MATERIAL (MG/KG)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	MERCURY RECOV. FMBOTTOM MATERIAL (UG/G AS HG)
JUN										
28.....	0945	15300	<10	20	<100	2600	20	70	17000	<0.10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV					
02.....	1100	411	15	17	94
02.....	1105	411	14	16	--
DEC					
09.....	0930	1360	245	900	--
MAR					
08.....	1100	614	31	51	99
MAY					
19.....	1300	2060	474	2640	--
JUN					
23.....	1100	168	24	11	99
AUG					
22.....	1100	82	14	3.1	96
SEP					
08.....	0845	174	11	5.2	--

STREAMS TRIBUTARY TO LAKE ERIE

0421402001 CATTARAUGUS CREEK BELOW IRVING, NY

LOCATION.--Lat 42°33'53", long 79°07'30", Chautauqua County, Hydrologic Unit 04120102, on left bank at downstream side of Conrail railroad bridge, 0.6 mi west of Irving, and 0.9 mi upstream from mouth.

DRAINAGE AREA.--554 mi^2.

PERIOD OF RECORD.--February 1985 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is International Great Lakes Datum (IGLD) of 1955.

COOPERATION.--Station established and maintained in cooperation with U.S. Army Corps of Engineers, Buffalo District, to evaluate magnitude and frequency of peak stages after breakwater construction.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 582.46 ft Feb. 25, 1985; minimum recorded, 570.00 ft Sept. 15, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 577.25 ft Dec. 15; minimum recorded, 570.00 ft Sept. 15.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	572.13	571.19	---	572.82	---	---	---	---	571.44	---	570.71	570.72
2	572.50	571.24	---	572.14	---	---	---	---	571.54	---	---	570.77
3	571.74	571.49	---	571.55	---	---	---	---	571.35	---	---	---
4	572.06	571.64	---	572.90	---	---	---	---	571.32	---	---	---
5	571.88	572.22	---	572.93	---	---	---	---	571.42	---	---	---
6	571.90	572.50	---	572.02	---	---	---	---	571.16	---	---	---
7	572.03	572.11	---	571.37	---	---	---	---	571.18	---	---	---
8	572.05	571.80	---	571.43	---	---	---	---	571.22	---	---	---
9	572.00	571.56	---	571.78	---	---	---	---	571.12	---	---	---
10	571.57	571.13	---	571.51	---	---	---	---	---	---	---	---
11	571.49	571.49	---	571.54	570.92	---	---	---	---	---	---	---
12	571.63	572.14	---	571.42	571.85	571.50	---	---	---	---	---	---
13	571.50	571.89	---	572.04	571.98	571.37	---	---	---	---	---	---
14	571.62	571.56	---	571.24	571.25	571.93	---	---	---	---	---	---
15	571.55	571.27	---	571.48	571.63	571.66	---	---	---	---	---	---
16	571.43	571.38	---	571.28	571.78	571.51	---	---	---	---	---	570.55
17	571.89	571.41	---	571.21	571.47	571.79	---	---	---	---	---	570.40
18	571.70	572.72	---	571.48	571.42	---	---	---	---	---	---	570.34
19	571.49	---	---	571.29	571.30	---	---	---	---	---	---	---
20	571.59	---	---	571.64	572.14	---	571.53	---	---	---	---	---
21	571.90	---	---	---	571.69	---	571.47	---	---	---	---	---
22	571.70	---	---	---	571.64	---	571.53	---	---	---	---	---
23	571.82	---	---	---	573.70	---	571.57	---	---	---	---	---
24	571.76	---	---	---	573.98	---	571.53	---	---	---	---	---
25	572.06	---	---	---	573.88	---	571.57	---	---	---	---	---
26	571.31	---	---	---	573.41	---	---	---	---	571.18	---	---
27	571.56	---	---	---	573.11	---	---	---	---	571.16	---	---
28	571.59	---	---	---	573.14	---	---	---	---	571.11	---	---
29	571.59	---	---	---	---	---	---	---	---	571.19	---	---
30	571.63	---	571.54	---	---	---	---	---	---	570.89	---	---
31	571.24	---	572.25	---	---	---	---	571.46	---	570.94	570.70	---
MEAN	571.74	---	---	---	---	---	---	---	---	---	---	---
MAX	572.50	---	---	---	---	---	---	---	---	---	---	---
MIN	571.24	---	---	---	---	---	---	---	---	---	---	---

04214240 EIGHTEENMILE CREEK AT HIGHLAND-ON-THE-LAKE, NY

LOCATION.--Lat 42°42'44", long 78°58'00", Erie County, Hydrologic Unit 04120103, at bridge on Lake Shore Road 0.5 mi north of Highland-on-the-Lake and 0.5 mi upstream of mouth.

DRAINAGE AREA.--119 mi2

PERIOD OF RECORD.--Water years 1963, 1970, 1972-74, 1987 to current year.
CHEMICAL DATA: 1963 (a), 1970 (a), 1973-74 (a), 1987-88 (c).
MINOR ELEMENT DATA: 1963 (a), 1970 (a), 1972 (a), 1973-74 (b), 1987-88 (c).
PESTICIDE DATA: 1970 (a), 1973 (a).
NUTRIENT DATA: 1970 (a), 1973-74 (a).
SEDIMENT DATA: 1987-88 (c).

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but were analyzed by the USGS Central Laboratory in Denver, Colorado.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD (UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD NESS NONCARB WH WAT TOT FLD MG/L AS (CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
NOV											
18	1130	--	--	7.80	7.0	15.8	290	100	--	31	5.7
DEC											
10	1205	710	--	8.20	5.0	12.0	235	--	--	--	--
MAR											
23	1200	115	443	7.70	5.0	--	--	150	63	45	8.6
APR											
04	0900	--	222	8.10	11.0	--	--	--	--	--	--
19	0900	115	389	7.10	4.0	--	--	140	53	44	8.4
MAY											
05	1000	--	378	8.20	12.0	10.4	--	--	--	--	--
17	0900	250	427	7.80	14.5	8.8	--	150	50	47	8.7
JUN											
28	1315	97	479	7.80	21.5	9.6	--	160	65	46	12
SEP											
09	0900	40	587	8.00	15.0	--	--	210	110	60	14

DATE	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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	CADMIUM DIS-SOLVED (UG/L AS CD)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L ASA CU)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
NOV											
18	--	--	--	--	--	--	--	--	1	--	12
DEC											
10	--	--	--	--	--	--	--	--	<1	--	11
MAR											
23	28	1.8	85	44	55	0.1	234	<1	<1	1	3
APR											
04	--	--	53	38	20	0.1	--	--	<1	--	31
19	20	1.7	92	44	36	0.1	209	<1	1	3	2
MAY											
05	--	--	91	--	--	--	--	--	2	--	4
17	25	2.3	103	42	40	0.3	227	<1	6	3	9
JUN											
28	29	3.0	100	58	49	0.2	257	--	1	--	4
SEP											
09	40	3.1	102	100	58	0.1	336	--	<1	--	4

04214240 EIGHTEENMILE CREEK AT HIGHLAND-ON-THE-LAKE, NY--continued

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, TOTAL RECOV-ERABLE (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, DIS-SOLVED (UG/L AS NI)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	ZINC, DIS-SOLVED (UG/L AS ZN	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN	SEDI-MENT, SUS-PENDED (MG/L)
NOV											
18	5400	--	7	130	--	--	--	5	--	40	--
DEC											
10	3600	--	7	80	--	<0.1	--	7	--	20	92
MAR											
23	260	<5	<5	30	21	<0.1	1	6	<3	10	--
APR											
04	35000	--	14	690	--	<0.1	--	30	--	140	--
19	110	<5	<5	12	12	<0.1	1	4	<3	<10	--
MAY											
05	110	--	16	10	--	--	--	6	--	<10	--
17	220	<5	<5	10	8	<0.1	<1	6	<3	<10	15
JUN											
28	200	--	<5	50	--	<0.1	--	8	--	<10	--
SEP											
09	280	--	<5	20	--	<0.1	--	5	--	<10	10

CHEMICAL QUALITY OF BOTTOM MATERIAL, OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SOLIDS, VOLA-TILE IN BOTTOM MA-TERIAL (MG/KG)	CADMIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)
JUN										
28	1315	24900	<1	20	<10	5400	30	70	17000	<0.01

04214500 BUFFALO CREEK AT GARDENVILLE, NY

LOCATION.--Lat 42°51'17", long 78°45'19", Erie County, Hydrologic Unit 04120103, on left bank 300 ft downstream from bridge on Union Road in Gardenville, 2 mi upstream from Cayuga Creek, and 10.1 mi upstream from mouth.

DRAINAGE AREA.--142 mi^2.

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

REVISED RECORDS.--WSP 1337: 1939–52. WSP 1912; WDR NY–82–3: Drainage area. WRD NY–78–1: 1939–1976 (P).

GAGE.--Water-stage recorder. Datum of gage is 603.65 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1968, water-stage recorder at site 400 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years, 201 ft^3/s, 19.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s Mar. 1, 1955, Mar. 7, 1956, from rating curve extended above 3,200 ft^3/s on basis of slope-area measurement at gage height 7.07 ft; maximum gage height, 14.34 ft Mar. 21, 1978 (ice jam); minimum discharge, 0.2 ft^3/s Sept. 1, 1964; minimum gage height, 0.50 ft Aug. 23, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,750 ft^3/s and maximum (*);

Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov.29	1900	*3,660	5.49
Feb. 22	1500	ice jam	*6.49

No peak greater than base discharge.

Minimum discharge, 4.6 ft^3/s Aug. 23, gage height, 0.50 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	933	136	479	e150	764	e120	150	247	37	15	27	22
2	347	119	392	e180	646	e130	152	149	47	14	19	14
3	544	115	246	e130	e260	280	305	116	47	13	15	13
4	237	111	249	e100	e150	194	1760	102	37	13	13	17
5	151	102	224	e94	e120	e120	386	96	34	12	12	27
6	115	102	194	e90	e110	e100	232	104	32	11	17	38
7	683	98	168	e86	e100	160	219	89	35	11	15	24
8	1060	96	171	e82	e96	185	245	75	52	10	14	16
9	333	511	558	e80	e92	665	207	68	50	9.5	12	14
10	183	283	552	e78	e90	615	165	82	39	8.6	11	12
11	274	153	242	e76	e88	257	140	80	33	8.8	9.2	23
12	300	126	216	e90	e86	214	125	67	29	8.2	8.1	16
13	171	121	312	e84	e84	391	118	64	26	8.4	7.4	13
14	133	113	240	e80	e90	245	110	66	23	9.6	7.1	12
15	116	99	706	e78	e450	e170	113	60	21	11	6.6	11
16	104	91	835	e76	e600	e150	114	94	20	9.9	5.8	11
17	97	92	331	e90	e360	e140	107	134	19	48	7.1	21
18	95	376	244	e330	e280	e130	108	94	19	67	7.9	81
19	93	253	206	e800	e250	e120	113	318	18	29	7.1	35
20	87	188	1620	e1200	e500	e110	105	261	17	19	6.7	22
21	135	130	1130	1000	e360	e100	128	351	16	25	5.8	20
22	308	e90	350	e310	e1200	e90	124	230	15	49	5.0	21
23	476	115	251	e160	1810	192	163	119	24	47	6.0	109
24	234	133	216	e130	540	680	263	89	33	62	8.5	128
25	367	156	309	e110	e270	576	165	74	21	32	7.6	56
26	203	366	316	e84	e210	1710	120	86	17	23	18	29
27	147	201	199	e64	e160	710	108	69	16	20	25	18
28	137	142	165	e58	e130	342	117	55	16	18	23	14
29	201	1240	e120	e58	e120	325	308	47	16	15	157	12
30	307	1160	e110	e170	---	221	729	42	15	23	119	11
31	187	---	e100	e520	---	164	---	39	---	58	45	---
TOTAL	8758	7018	11451	6638	10016	9606	7199	3567	824	708.0	647.9	860
MEAN	283	234	369	214	345	310	240	115	27.5	22.8	20.9	28.7
MAX	1060	1240	1620	1200	1810	1710	1760	351	52	67	157	128
MIN	87	90	100	58	84	90	105	39	15	8.2	5.0	11
CFSM	1.99	1.65	2.60	1.51	2.43	2.18	1.69	.81	.19	.16	.15	.20
IN.	2.29	1.84	3.00	1.74	2.62	2.52	1.89	.93	.22	.19	.17	.23

CAL YR	1987	TOTAL	83524	MEAN	229	MAX	2590	MIN	21	CFSM	1.61	IN. 21.88
WTR YR	1988	TOTAL	67292.9	MEAN	184	MAX	1810	MIN	5.0	CFSM	1.29	IN. 17.63

e Estimated

04215000 CAYUGA CREEK NEAR LANCASTER, NY

LOCATION.--Lat 42°53'24", long 78°38'43", Erie County, Hydrologic Unit 04120103, on right bank 150 ft upstream from low dam in Como Lake Park, 700 ft downstream from bridge on Bowen Road, 800 ft downstream from Little Buffalo Creek, 2 mi southeast of Lancaster, and 8.7 mi upstream from mouth.

DRAINAGE AREA.--96.4 mi^2.

PERIOD OF RECORD.--September 1938 to September 1968. October 1971 to April 1974 (peak discharges only). May 1974 to current year.

REVISED RECORDS.--WDR NY-82-3: Drainage area.

GAGE.--Water-stage recorder and low concrete dam as control. Datum of gage is 672.02 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since August 1962, undetermined amount of flow diverted by Lancaster Country Club for irrigation upstream from station. Concrete dam configuration modified in September 1974 resulting in a lower point of zero flow. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years (water years 1939-68, 1975-88) 132 ft^3/s, 18.60 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,440 ft^3/s Sept. 14, 1979, gage height, 10.48 ft; maximum gage height, 12.58 ft Mar. 30, 1960 (ice jam); practically no flow part of Aug. 8, 9, 1939, when stoplogs were installed in the dam.

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)
Jan. 20	1445	ice jam	*7.20	No peak greater than base discharge.			
Mar. 26	0330	*2,340	6.50				

Minimum discharge, 1.6 ft^3/s Aug. 22, 23; minimum gage height, 2.48 ft July 12, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	62	355	123	378	e82	97	170	14	5.4	16	10
2	159	54	278	98	e320	e90	95	109	23	5.4	8.8	6.3
3	208	52	171	79	e140	225	216	82	21	5.0	6.9	5.3
4	110	53	171	e66	e90	145	1320	68	15	4.6	5.6	5.9
5	62	49	151	58	e76	92	269	59	13	3.8	4.8	8.2
6	42	43	129	e52	e68	88	167	67	12	3.3	7.4	15
7	510	40	105	e50	e64	112	150	55	13	3.0	7.0	9.3
8	700	40	118	e48	e62	149	171	44	20	2.7	6.3	6.0
9	188	308	339	e46	e60	464	141	38	18	2.5	4.9	4.9
10	103	167	294	e45	e58	380	112	43	13	2.2	4.2	4.2
11	180	88	153	e44	e56	175	92	41	11	2.0	3.7	3.7
12	185	68	147	e54	e56	145	79	35	9.8	2.0	3.2	3.4
13	101	63	217	e50	e54	228	71	30	8.9	2.1	2.9	3.1
14	72	58	160	e48	e58	159	64	35	8.0	2.1	2.8	3.0
15	58	51	528	e46	e170	128	63	30	7.5	2.8	2.4	2.8
16	51	45	481	e45	e390	116	68	58	7.0	3.5	1.9	2.7
17	45	43	213	e56	e280	e100	64	76	6.3	29	2.1	6.5
18	44	185	150	e200	e230	e94	66	50	5.7	34	3.4	29
19	45	174	131	e420	e200	e88	68	140	6.2	11	3.6	17
20	39	126	1050	e700	e500	e82	60	144	5.7	7.5	2.8	7.8
21	48	81	575	515	e300	e76	93	161	5.3	9.1	2.4	6.1
22	150	61	201	e160	e190	e70	82	79	5.2	19	1.9	5.6
23	270	63	156	e100	1220	168	92	50	8.0	31	2.0	22
24	136	111	141	e90	416	432	150	38	8.8	85	3.9	38
25	207	118	206	e84	244	389	102	31	6.8	30	6.3	15
26	120	373	187	e60	e160	1170	69	33	5.7	14	7.3	9.3
27	83	163	127	e52	e130	500	57	28	5.3	9.8	6.6	6.6
28	76	107	105	e46	e100	241	64	23	5.2	7.7	7.7	5.3
29	95	982	e66	e50	e90	220	250	19	6.3	6.3	67	4.7
30	114	772	e60	e110	---	148	495	17	5.7	5.7	61	4.7
31	82	---	e70	e240	---	111	---	15	---	29	20	---
TOTAL	4597	4600	7235	3835	6160	6667	4887	1868	300.4	380.5	286.8	271.4
MEAN	148	153	233	124	212	215	163	60.3	10.0	12.3	9.25	9.05
MAX	700	982	1050	700	1220	1170	1320	170	23	85	67	38
MIN	39	40	60	44	54	70	57	15	5.2	2.0	1.9	2.7
CFSM	1.54	1.59	2.42	1.28	2.20	2.23	1.69	.63	.10	.13	.10	.09
IN.	1.77	1.78	2.79	1.48	2.38	2.57	1.89	.72	.12	.15	.11	.10

CAL YR	1987	TOTAL	53883.0	MEAN	148	MAX	2270	MIN	6.1	CFSM	1.53	IN. 20.79
WTR YR	1988	TOTAL	41088.1	MEAN	112	MAX	1320	MIN	1.9	CFSM	1.16	IN. 15.86

e Estimated

04215500 CAZENOVIA CREEK AT EBENEZER, NY

LOCATION.--Lat 42°49'47", long 78°46'31", Erie County, Hydrologic Unit 04120103, on right bank 30 ft upstream from bridge on Ridge Road in Ebenezer, 4.0 mi upstream from mouth, and 5 mi southeast of Buffalo.

DRAINAGE AREA.--135 mi^2.

PERIOD OF RECORD.--June 1940 to current year.

REVISED RECORDS.--WSP 1912: Drainage area. WRD NY 1973: 1972 (M). WDR NY-82-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 604.86 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 4, 1955, at datum 2.00 ft higher. Apr. 4 to Oct. 12, 1955, nonrecording gage at temporary site 1.3 mi downstream at different datum.

REMARKS.--Records fair. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years (water years 1941-88), 231 ft^3/s, 23.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft^3/s Mar. 1, 1955, gage height, 15.82 ft present datum, from rating curve extended above 7,700 ft^3/s; minimum, 2.6 ft^3/s Nov. 7, 1953; minimum gage height, 1.87 ft June 28.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 26	0330	*3,790	*7.66	No peak greater than base discharge.			

Minimum discharge, 8.5 ft^3/s Aug. 22, 23, gage height 1.97 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	626	154	545	e170	1120	e150	173	251	44	16	20	27
2	291	132	419	e200	730	213	166	173	51	16	15	18
3	652	124	253	e140	254	261	366	140	46	16	14	17
4	232	114	254	e104	e150	199	1950	126	38	15	13	26
5	150	111	222	e94	e130	e140	419	119	35	14	13	31
6	113	100	197	e92	e120	e130	260	139	31	14	17	43
7	742	95	176	e90	e110	162	266	117	38	13	15	24
8	1130	95	190	e86	e110	190	295	95	51	13	13	17
9	337	517	741	e84	e100	865	228	86	41	12	12	15
10	187	254	671	e82	e100	744	182	103	34	12	12	14
11	259	154	277	e78	e98	338	157	93	30	12	11	13
12	275	131	256	e90	e96	281	140	77	27	13	11	12
13	167	127	318	e86	e96	650	129	75	25	13	11	13
14	131	114	233	e82	e130	322	122	73	23	13	11	12
15	111	101	615	e80	e700	e220	125	65	22	14	10	12
16	99	94	670	e78	557	e190	123	121	20	13	11	11
17	93	94	317	e100	301	e170	113	157	20	74	15	76
18	89	423	235	e400	235	e150	118	110	19	60	12	96
19	86	260	202	e900	218	e140	119	658	18	29	11	46
20	80	192	1510	e1300	464	e130	112	324	18	18	10	27
21	205	143	1050	e1100	234	e120	155	311	17	30	9.5	25
22	305	e120	363	454	e1000	e120	135	184	18	51	8.9	25
23	497	e110	250	254	1500	244	224	130	39	55	16	303
24	228	144	209	e150	539	855	261	101	32	50	15	168
25	400	157	493	e110	331	810	166	96	20	25	14	72
26	203	322	375	e80	e230	1930	126	113	17	19	38	41
27	154	184	214	e64	e180	1050	117	83	17	18	29	27
28	156	140	174	e60	e160	409	125	67	17	17	45	21
29	281	940	e150	e68	e140	385	320	56	18	14	229	17
30	482	904	e130	e200	---	274	673	51	17	41	137	15
31	223	---	e120	e700	---	200	---	45	---	53	51	---
TOTAL	8984	6550	11829	7576	10133	12042	7865	4339	843	773	849.4	1264
MEAN	290	218	382	244	349	388	262	140	28.1	24.9	27.4	42.1
MAX	1130	940	1510	1300	1500	1930	1950	658	51	74	229	303
MIN	80	94	120	60	96	120	112	45	17	12	8.9	11
CFSM	2.15	1.62	2.83	1.81	2.59	2.88	1.94	1.04	.21	.18	.20	.31
IN.	2.48	1.80	3.26	2.09	2.79	3.32	2.17	1.20	.23	.21	.23	.35

CAL YR	1987	TOTAL	80868	MEAN	222	MAX	2280	MIN	20	CFSM	1.64	IN. 22.28
WTR YR	1988	TOTAL	73047.4	MEAN	200	MAX	1950	MIN	8.9	CFSM	1.48	IN. 20.13

e Estimated

04215790 BUFFALO RIVER AT OHIO STREET AT BUFFALO, NY

LOCATION.--Lat 42°51'42", long 78°52'04", Erie County, Hydrologic Unit 04120103, at Ohio Street bridge, 1.0 mi upstream of mouth.

DRAINAGE AREA.--427 mi2

PERIOD OF RECORD.--Water years 1971-74, 1987 to current year.
CHEMICAL DATA: 1987-88 (c).
MINOR ELEMENT DATA: 1972 (b), 1973-74 (a), 1987-88 (c).
SEDIMENT DATA: 1987-88 (c).

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but were analyzed by the USGS Central Laboratory at Denver Colorado.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
NOV											
09	0930	--	7.60	8.5	8.0	180	--	53	11	--	--
DEC											
07	1400	--	7.90	2.0	12.2	--	--	--	--	--	--
MAR											
21	1215	429	8.00	1.0	--	140	29	42	8.9	26	2.1
APR											
05	0830	249	7.70	10.0	--	--	--	--	--	--	--
20	0830	431	7.80	8.5	--	160	36	49	10	21	2.2
MAY											
02	0845	275	7.60	9.0	10.6	--	--	--	--	--	--
18	0900	436	7.40	14.0	5.2	170	37	50	10	22	2.6
JUN											
29	1000	423	8.00	20.0	--	160	31	44	11	21	3.0
SEP											
06	0845	482	7.60	19.0	--	160	52	45	12	34	3.9

DATE	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)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	CADMIUM DIS-SOLVED (UG/L AS CD)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
NOV											
09	--	--	--	--	267	--	--	<1	--	7	1100
DEC											
07	--	--	--	--	301	--	<1	<1	5	7	470
MAR											
21	113	32	42	0.1	--	221	<1	<1	2	4	570
APR											
05	71	29	18	0.1	--	--	--	<1	--	18	7600
20	128	36	34	0.2	--	229	<1	2	4	5	1100
MAY											
02	82	--	--	--	--	--	--	1	--	11	1900
18	129	33	33	0.3	--	228	<1	6	2	10	960
JUN											
29	124	32	32	0.3	--	218	--	1	--	6	1200
SEP											
06	110	51	51	0.2	--	263	--	<1	--	8	780

04215790 BUFFALO RIVER AT OHIO STREET AT BUFFALO, NY--Continued

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, TOTAL RECOV-ERABLE (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, DIS-SOLVED (UG/L AS NI)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	ZINC, DIS-SOLVED (UG/L AS ZN)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)
NOV										
09.....	--	<5	70	--	<0.1	--	4	--	<10	30
DEC										
07.....	<5	7	50	--	<0.1	1	<1	20	20	10
MAR										
21.....	<5	<5	70	53	<0.1	5	2	<3	10	--
APR										
05.....	--	<5	130	--	<0.1	--	10	--	40	--
20.....	<5	<5	120	110	<0.1	1	12	5	20	--
MAY										
02.....	--	9	70	--	<0.1	--	10	--	20	--
18.....	<5	<5	130	74	<0.1	<1	6	4	10	33
JUN										
29.....	--	<5	140	--	<0.1	--	8	--	10	40
SEP										
06.....	--	<5	80	--	<0.1	--	11	--	<10	23

04215900 LAKE ERIE AT BUFFALO, NY

LOCATION.--Lat 42°52'39", long 78°53'26", Erie County, Hydrologic Unit 04120200, near outer end of Buffalo River South Pier, at Buffalo.

DRAINAGE AREA.--263,700 mi^2.

PERIOD OF RECORD.--January 1860 to current year. Records prior to October 1960 in files of Lake Survey Center.

REVISED RECORDS.--WDR NY-75-1: 1974.

GAGE.--Water-stage recorder. Elevations are in feet International Great Lakes Datum (IGLD) of 1955. Prior to Feb. 5, 1899, nonrecording gages.

COOPERATION.--Records furnished by U.S. Department of Commerce, NOAA-NOS, Lake Survey Center, Detroit, Mich.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 580.65 ft Dec. 2, 1985; minimum, 564.17 ft Mar. 10, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 578.57 ft Dec. 15; minimum elevation, 569.09 ft Dec. 15, both extremes result of severe storm.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	572.21	571.25	571.36	573.00	571.13	571.05	571.32	571.69	571.65	571.29	571.32	570.77
2	572.71	571.31	572.07	572.23	571.04	571.33	571.16	571.57	571.30	571.33	571.27	570.86
3	571.73	571.65	571.35	571.58	570.96	571.03	571.35	571.43	571.31	571.23	571.20	570.76
4	572.22	571.85	571.20	573.17	571.21	571.10	571.72	571.40	571.67	571.17	571.23	571.04
5	572.08	572.17	571.58	572.98	571.86	571.23	571.38	571.50	571.98	571.17	571.37	570.99
6	572.03	572.28	571.44	571.99	572.43	571.25	571.48	571.62	571.63	571.19	571.58	570.95
7	572.23	571.87	571.13	571.19	571.84	571.34	571.50	571.55	571.45	571.22	571.34	570.83
8	572.06	571.74	571.27	571.38	571.38	571.10	571.56	571.51	571.33	571.24	571.21	570.77
9	572.30	571.36	571.99	571.66	571.36	571.38	571.61	571.70	571.28	571.32	571.25	570.98
10	571.59	570.88	571.67	571.45	571.18	571.28	571.60	571.73	571.49	571.30	571.16	570.85
11	571.59	571.18	571.36	571.65	570.69	571.14	571.50	571.72	571.61	571.55	571.14	570.60
12	571.72	571.92	572.55	571.46	571.88	570.96	571.51	571.56	571.62	571.38	571.19	570.65
13	571.60	571.76	572.10	571.91	572.03	572.00	571.60	571.77	571.51	571.19	571.23	570.92
14	571.73	571.33	571.40	571.02	571.16	571.54	571.75	571.50	571.53	571.59	571.52	570.86
15	571.64	571.10	572.38	571.42	571.48	571.45	571.79	571.59	571.51	571.25	571.62	570.38
16	571.54	571.20	573.38	571.30	571.28	571.54	571.86	571.54	571.43	571.22	571.22	570.29
17	572.14	571.41	571.66	571.12	571.19	571.38	571.90	571.57	571.43	571.39	571.27	570.83
18	571.85	572.62	571.53	571.44	571.11	571.43	571.84	571.27	571.36	571.26	570.81	570.68
19	571.59	572.31	571.77	570.79	571.02	571.46	571.87	571.33	571.41	571.40	570.74	570.54
20	571.67	571.45	572.46	571.34	571.94	571.35	572.08	571.58	571.55	571.16	570.91	571.34
21	572.00	571.33	572.74	571.65	571.54	571.26	571.78	571.59	571.37	571.14	570.81	570.88
22	571.92	571.34	571.64	571.33	571.47	570.96	571.60	571.57	571.64	571.20	570.66	570.56
23	571.99	571.47	571.85	571.41	571.60	571.35	571.62	571.60	571.31	571.10	570.96	570.95
24	572.01	571.55	571.36	571.70	571.58	571.17	572.25	571.59	571.24	571.35	571.30	570.40
25	571.70	570.77	571.63	571.05	571.37	571.36	571.80	571.64	571.68	571.37	571.67	570.50
26	571.41	570.79	571.45	572.02	571.26	571.51	571.66	571.66	571.43	571.32	571.30	570.43
27	571.75	570.46	571.66	571.57	571.22	571.91	571.57	571.68	571.44	571.32	570.77	570.70
28	571.70	570.96	570.63	571.51	571.24	571.30	571.83	571.63	571.52	571.28	571.07	569.80
29	571.72	571.35	571.26	571.12	571.40	571.26	571.92	571.56	571.39	571.38	570.81	570.14
30	571.78	572.16	571.41	571.33	---	571.67	571.72	571.64	571.29	571.47	570.87	570.48
31	571.27	---	572.51	571.31	---	571.21	---	571.67	---	571.34	570.83	---
MEAN	571.85	571.49	571.74	571.62	571.41	571.33	571.67	571.58	571.48	571.29	571.15	570.69
MAX	572.71	572.62	573.38	573.17	572.43	572.00	572.25	571.77	571.98	571.59	571.67	571.34
MIN	571.27	570.46	570.63	570.79	570.69	570.96	571.16	571.27	571.24	571.10	570.66	569.80

CAL YR	1987	MEAN	572.41	MAX	574.30	MIN	570.46
WTR YR	1988	MEAN	571.44	MAX	573.38	MIN	569.80

04216000 NIAGARA RIVER AT BUFFALO, NY

LOCATION.--Lat 42°52'40", long 78°55'00", Erie County, Hydrologic Unit 04120104, at head of Niagara River at Buffalo, and 34.3 mi upstream from mouth.

DRAINAGE AREA.--263,700 mi^2.

PERIOD OF RECORD.--January 1860 to September 1960 (monthly discharges only published in WSP 1912), October 1960 to current year. Records of January 1926 to September 1960 daily discharges available in files of U.S. Department of Commerce and U.S. Geological Survey.

REVISED RECORDS.--WSP 1912: 1862(M), 1955 (M), 1936 (M), WDR NY-77-1: Drainage area.

GAGE.--Discharge determined from several powerplants at Niagara Falls and discharge over the falls. Discharge before 1926 determined from records of Corps of Engineers gages at Buffalo and Cleveland.

REMARKS.--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, and from Lake Erie by Welland and New York State Canals before 1918. 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 in July 1943. Figures of monthly mean discharge for 1860 to 1960 and daily discharge for 1961 to 1965, published in WSP 1912, are the official records of the U.S. Lake Survey, and have been coordinated with and concurred by the counterpart Canadian agencies, as have been the extremes for period of record through December 1976 and records October 1977 to current year.

COOPERATION.--Records of daily discharge furnished by Detroit District Corps of Engineers and Canada Department of the Environment.

AVERAGE DISCHARGE.--128 years, 205,600 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 347,000 ft^3/s Dec. 2, 1985, result of high, storm-generated Lake Erie level; minimum daily, 90,000 ft^3/s Jan. 13, 1964, Aug. 29, 1984. Maximum monthly mean discharge, 268,400 ft^3/s June 1986; minimum monthly mean, 116,200 ft^3/s February 1936.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 270,000 ft^3/s Dec. 16; minimum daily, 176,000 ft^3/s Jan. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231000	212000	221000	243000	211000	207000	210000	225000	222000	202000	208000	200000
2	246000	211000	226000	237000	209000	209000	207000	222000	212000	202000	207000	201000
3	223000	219000	220000	224000	206000	205000	211000	217000	214000	199000	206000	202000
4	231000	224000	210000	242000	208000	205000	220000	216000	220000	198000	207000	205000
5	231000	228000	218000	237000	208000	211000	212000	217000	229000	198000	209000	204000
6	229000	230000	217000	195000	216000	211000	212000	221000	220000	197000	215000	204000
7	231000	231000	207000	176000	203000	212000	214000	220000	218000	198000	211000	203000
8	229000	224000	211000	189000	215000	206000	212000	220000	212000	199000	209000	201000
9	233000	214000	223000	212000	210000	214000	215000	222000	211000	201000	209000	204000
10	223000	205000	225000	210000	211000	210000	210000	224000	215000	202000	206000	202000
11	219000	206000	218000	216000	198000	210000	202000	223000	220000	205000	208000	196000
12	222000	224000	240000	218000	217000	204000	204000	221000	220000	202000	208000	197000
13	219000	224000	238000	222000	227000	226000	205000	224000	216000	199000	209000	202000
14	222000	214000	215000	205000	209000	218000	202000	218000	216000	208000	213000	203000
15	219000	211000	227000	204000	219000	215000	206000	221000	215000	200000	217000	191000
16	218000	209000	270000	209000	212000	216000	216000	223000	213000	203000	209000	189000
17	227000	215000	221000	213000	211000	213000	211000	219000	210000	206000	212000	201000
18	229000	239000	216000	213000	210000	214000	211000	213000	211000	202000	199000	199000
19	219000	230000	223000	205000	209000	214000	215000	214000	210000	205000	198000	195000
20	218000	221000	235000	212000	225000	214000	224000	219000	212000	202000	201000	211000
21	229000	212000	245000	224000	218000	208000	228000	221000	207000	200000	200000	203000
22	224000	214000	228000	213000	216000	204000	226000	220000	211000	203000	198000	196000
23	231000	215000	226000	218000	224000	210000	213000	220000	206000	202000	200000	204000
24	225000	218000	215000	221000	222000	209000	240000	219000	202000	208000	214000	193000
25	223000	202000	225000	214000	215000	212000	227000	220000	210000	207000	219000	193000
26	215000	209000	218000	223000	215000	220000	221000	221000	205000	207000	212000	193000
27	225000	193000	222000	216000	213000	230000	219000	224000	205000	207000	203000	198000
28	220000	208000	197000	219000	214000	218000	222000	221000	207000	207000	206000	182000
29	222000	216000	208000	206000	214000	212000	227000	220000	203000	210000	203000	182000
30	223000	235000	219000	214000	---	218000	222000	220000	201000	211000	202000	194000
31	215000	---	238000	214000	---	208000	---	220000	---	210000	201000	---
TOTAL	6971000	6513000	6922000	6664000	6185000	6583000	6464000	6825000	6373000	6300000	6419000	5948000
MEAN	224900	217100	223300	215000	213300	212400	215500	220200	212400	203200	207100	198300
MAX	246000	239000	270000	243000	227000	230000	240000	225000	229000	211000	219000	211000
MIN	215000	193000	197000	176000	198000	204000	202000	213000	201000	197000	198000	182000

CAL YR	1987	TOTAL	86569000	MEAN	237200	MAX	283000	MIN	193000
WTR YR	1988	TOTAL	78167000	MEAN	213600	MAX	270000	MIN	176000

ST. LAWRENCE RIVER MAIN STEM

04216052 BLACK ROCK CANAL AT PORTER AVENUE, BUFFALO, NY

LOCATION.--Lat 42°53'52", long 78°54'07", Erie County, Hydrologic Unit 04120104, on right bank at U. S. Navy Installation at Porter Avenue, Buffalo and 0.6 mi upstream from Peace bridge.

DRAINAGE AREA.--263,700 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is International Great Lakes Datum (IGLD) of 1955.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 578.90 ft Dec. 2, 1985; minimum recorded 568.93 ft Dec. 14, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 577.62 ft Dec. 15; minimum, 568.94 ft Dec. 15; both extremes result of severe storm.

ELEVATION, (FEET IGLD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	572.20	e571.35	571.42	573.04	571.21	571.12	571.39	571.77	571.78	571.43	571.39	570.89
2	572.83	e571.35	572.12	572.30	571.11	571.40	571.27	571.67	571.34	571.44	571.34	570.94
3	571.70	e571.75	571.41	571.66	571.03	571.11	571.42	571.52	571.43	571.32	571.28	570.87
4	572.21	e571.95	571.24	573.14	571.26	571.17	571.81	571.49	571.72	571.28	571.31	571.06
5	572.12	e572.25	571.63	573.08	571.88	571.31	571.42	571.58	572.07	571.29	571.41	571.13
6	572.14	e572.30	571.50	572.03	572.46	571.32	571.51	571.70	571.71	571.30	571.68	571.01
7	572.22	e572.00	571.20	571.22	571.87	571.41	571.44	571.65	571.57	571.35	571.40	570.96
8	572.06	e571.80	571.35	571.41	571.45	571.16	571.55	571.59	571.40	571.36	571.30	570.89
9	572.29	e571.45	572.03	571.70	571.41	571.46	571.59	571.72	571.35	571.46	571.36	571.11
10	571.64	e571.00	571.75	571.49	571.25	571.34	571.62	571.73	571.51	571.44	571.25	571.00
11	571.60	e571.25	571.44	571.69	570.74	571.23	571.57	571.74	571.72	571.66	571.23	570.71
12	571.76	e572.00	572.57	571.50	571.91	571.01	571.58	571.61	571.73	571.46	571.27	570.73
13	571.63	e571.85	572.20	571.95	572.08	572.05	571.61	571.83	571.63	571.25	571.30	571.06
14	571.77	571.41	571.46	571.07	571.22	571.60	571.77	571.58	571.68	571.69	571.57	571.02
15	571.69	571.17	572.23	571.46	571.57	571.52	571.73	571.64	571.67	571.29	571.74	570.49
16	571.59	571.28	573.37	571.35	571.34	571.61	571.84	571.69	571.58	571.33	571.36	570.42
17	572.15	571.50	571.71	571.21	571.26	571.46	571.83	571.65	571.51	571.41	571.46	570.93
18	571.95	572.58	571.59	571.49	571.19	571.50	571.83	571.35	571.48	571.31	570.98	570.82
19	571.68	572.28	571.83	570.86	571.09	571.51	571.82	571.40	571.55	571.52	570.85	570.62
20	571.72	571.46	572.50	571.37	571.98	571.43	571.98	571.66	571.67	571.28	571.04	571.41
21	572.07	571.31	572.77	571.73	571.58	571.34	571.72	571.67	571.50	571.22	570.95	571.01
22	e571.95	571.35	571.73	571.39	571.55	571.04	571.51	571.66	571.74	571.27	570.86	570.64
23	e572.15	571.52	571.89	571.47	571.64	571.43	571.46	571.68	571.49	571.18	571.03	571.04
24	e571.90	571.62	571.43	571.77	571.65	571.28	572.31	571.67	571.39	571.43	571.55	570.56
25	e571.90	570.82	571.69	571.12	571.43	571.42	571.82	571.71	571.87	571.43	571.80	570.67
26	e571.50	570.88	571.50	572.04	571.32	571.55	571.72	571.72	571.61	571.42	571.42	570.64
27	e571.85	570.52	571.72	571.59	571.28	572.01	571.68	571.78	571.66	571.42	570.95	570.84
28	e571.75	571.03	570.70	571.58	571.30	571.36	571.86	571.69	571.73	571.40	571.17	570.10
29	e571.80	571.39	571.25	571.17	571.47	571.35	571.97	571.63	571.57	571.51	570.91	570.22
30	e571.85	572.22	571.47	571.39	---	571.77	571.79	571.72	571.44	571.56	570.97	570.67
31	e571.35	---	572.54	571.38	---	571.32	---	571.74	---	571.42	570.92	---
MEAN	571.90	571.55	571.78	571.67	571.47	571.41	571.68	571.65	571.60	571.39	571.26	570.82
MAX	572.83	572.58	573.37	573.14	572.46	572.05	572.31	571.83	572.07	571.69	571.80	571.41
MIN	571.35	570.52	570.70	570.86	570.74	571.01	571.27	571.35	571.34	571.18	570.85	570.10

WTR YR 1988 MEAN 571.52 MAX 573.37 MIN 570.10

e Estimated

04216060 NIAGARA RIVER AT ANDERSON PARK, BUFFALO, NY

LOCATION.--Lat 42°54'53", long 78°54'12", Erie County, Hydrologic Unit 04120104, at Anderson Park (Broderick Park) dock at foot of Ferry Street on Squaw Island, Buffalo, 0.6 mi downstream from Peace Bridge.

DRAINAGE AREA.--263,700 mi^2.

PERIOD OF RECORD.--October 1984 to current year. Prior to October 1987, published as "at Bird Island."

GAGE.--Water-stage recorder. Datum of gage is International Great Lakes Datum (IGLD) of 1955.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 572.05 ft Dec. 2, 1985; minimum recorded, 564.35 ft Sept. 29, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum recorded elevation, 570.27 ft Dec. 15; minimum recorded, 564.35 ft Sept. 29.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e566.70	565.78	---	---	565.73	565.65	e566.00	566.28	566.29	565.89	e566.00	e565.60
2	567.19	565.80	---	567.22	565.70	565.82	e566.00	566.22	e565.90	565.93	e566.00	e565.60
3	e566.40	566.15	---	---	565.75	565.69	566.04	566.09	e566.00	565.90	e566.00	e565.60
4	e566.70	566.23	---	567.40	565.76	565.70	566.36	566.08	566.25	565.80	e566.00	e565.70
5	566.54	566.62	---	567.46	566.24	565.83	565.92	566.13	566.48	565.78	566.23	e565.80
6	566.54	566.68	---	566.72	567.62	565.78	565.93	566.22	566.21	565.78	566.37	e565.70
7	566.68	566.64	---	565.63	---	565.89	e566.00	566.22	566.18	565.82	566.24	e565.60
8	566.60	566.12	---	566.08	---	565.72	e566.10	566.16	566.02	565.83	566.01	e565.60
9	566.75	565.94	566.42	566.61	---	565.94	566.17	566.22	565.95	565.93	566.02	e565.70
10	566.25	565.51	567.35	566.45	---	565.90	566.21	566.33	566.12	566.01	566.08	e565.60
11	566.09	565.64	567.29	566.79	---	565.80	566.08	566.31	566.20	e566.00	566.05	e565.50
12	566.25	566.31	567.27	e566.50	---	565.62	566.02	566.16	566.18	e566.00	566.11	e565.50
13	566.18	566.24	---	566.55	---	566.38	566.16	566.33	566.14	e565.90	566.05	565.71
14	566.26	565.86	---	e566.00	---	e566.20	566.39	566.14	566.14	e566.10	566.17	565.75
15	566.21	565.66	e566.80	566.32	---	566.17	566.85	566.17	566.09	e565.80	e566.40	565.32
16	566.12	565.67	---	566.29	e566.00	566.12	566.54	566.60	566.15	e565.80	e566.10	565.18
17	566.47	565.77	---	565.65	e565.90	565.96	566.56	566.40	566.14	e566.00	e566.10	565.60
18	---	567.15	---	565.92	e565.80	565.95	566.72	566.10	566.00	e565.90	e565.80	565.56
19	---	---	---	565.54	e565.80	565.95	566.85	566.04	566.05	e566.00	e565.70	565.43
20	---	---	---	565.71	e565.50	566.21	566.92	566.23	566.10	e565.90	e565.80	565.97
21	---	---	---	566.16	566.68	565.90	566.90	566.21	565.99	e565.80	e565.80	565.74
22	---	---	---	565.83	566.49	565.69	566.33	566.21	566.19	e565.90	e565.80	565.45
23	566.66	---	---	565.93	566.20	565.84	566.05	566.22	566.10	e565.90	e565.70	565.73
24	566.47	---	---	566.20	566.51	565.85	567.04	566.22	565.89	e566.10	e566.20	565.35
25	---	---	---	---	566.19	565.92	566.41	566.29	566.24	e566.00	e566.30	565.39
26	---	---	---	---	---	565.94	566.18	566.26	566.21	e566.10	e566.10	565.47
27	---	---	---	---	---	565.78	566.60	566.55	566.20	e566.10	e566.10	e565.80	565.53
28	566.33	---	---	e566.20	565.80	e566.10	566.88	566.19	e566.20	e566.00	e565.80	565.05
29	566.23	---	---	565.98	565.87	e565.90	566.45	566.13	e566.10	e566.10	e565.70	565.09
30	566.30	---	---	565.81	---	e566.30	566.31	566.18	e565.90	e566.10	e565.70	565.45
31	565.90	---	---	565.78	---	e565.90	---	566.21	---	e566.10	e565.60	---
MEAN	---	---	---	---	---	565.95	566.37	566.22	566.11	565.94	565.99	565.54
MAX	---	---	---	---	---	566.60	567.04	566.60	566.48	566.10	566.40	565.97
MIN	---	---	---	---	---	565.62	565.92	566.04	565.89	565.78	565.60	565.05

e Estimated

04216200 SCAJAQUADA CREEK AT BUFFALO, NY

LOCATION.--Lat 42°54'41", long 78°47'45", Erie County, Hydrologic Unit 04120104, on right bank 58 ft upstream from point where stream goes underground in concrete-lined tunnel, 86 ft upstream from Pine Ridge Road, 0.2 mi east of boundary line of city of Buffalo, and 6.2 mi upstream from mouth.

DRAINAGE AREA.--15.4 mi^2.

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

REVISED RECORDS.--WSP 1912; WDR NY–82–3: Drainage area. WRD NY 1974: 1973.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 626.26 ft above National Geodetic Vertical Datum of 1929 (city of Buffalo bench mark).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to July 1982 discharge included flow diverted from Lake Erie and Niagara River as sewage-plant effluent entering basin upstream from station. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

COOPERATION.--Town of Cheektowaga maintains records of sewage-plant discharge.

AVERAGE DISCHARGE.--31 years, 32.7 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,820 ft^3/s June 22, 1987, gage height, 15.17 ft; minimum, 0.94 ft^3/s Aug. 24, 1987, gage height, 1.34 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov. 29	0900	763	5.96	July 23	1815	*914	*6.73
Dec. 15	1115	610	5.15				

Minimum discharge, 0.64 ft^3/s July 4, gage height, 1.34 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	2.6	44	e9.0	66	e4.8	5.5	7.7	8.4	1.5	2.9	2.0
2	14	3.3	23	e5.5	41	e8.8	5.0	4.6	8.6	1.1	2.0	1.8
3	8.5	3.5	13	e3.5	e14	10	110	3.5	2.2	.84	1.8	6.6
4	4.2	2.7	24	e3.0	e8.0	7.6	156	3.0	1.6	.78	1.7	32
5	4.4	2.2	14	e2.8	e6.8	5.9	19	3.1	1.4	.97	1.9	23
6	3.1	2.1	9.8	e2.7	e6.0	6.1	10	3.3	1.4	1.1	5.9	3.1
7	52	1.8	8.1	e2.2	e5.7	7.3	15	2.6	12	1.2	1.9	2.0
8	37	3.3	8.3	e2.0	e5.4	8.3	12	2.4	8.7	1.3	1.7	1.7
9	8.8	66	23	e1.9	e5.2	46	7.1	3.3	2.4	1.1	1.8	1.6
10	4.8	11	17	e1.8	e5.1	25	5.2	9.9	1.7	2.0	1.9	1.3
11	36	5.7	9.2	e2.5	e5.0	11	4.4	3.0	1.4	1.1	1.9	1.1
12	9.3	4.3	16	e3.0	e4.7	11	4.1	2.6	1.2	1.2	2.0	1.2
13	5.6	3.5	15	e2.7	e4.7	14	3.8	13	1.1	1.2	1.2	1.4
14	4.1	3.1	7.9	e2.5	e5.5	11	3.4	4.4	1.3	1.5	.99	1.4
15	3.4	2.7	163	e2.4	e85	9.4	4.0	2.7	1.3	1.6	7.6	2.2
16	3.0	2.4	62	e2.8	e42	9.3	3.4	88	1.5	4.2	1.7	1.4
17	2.6	8.3	19	3.8	e30	7.7	2.6	10	1.5	96	4.7	22
18	4.0	44	9.8	35	e32	6.9	5.7	11	1.2	4.3	1.9	3.1
19	2.3	10	7.7	13	e44	6.4	3.2	52	1.1	15	1.4	2.6
20	2.3	35	113	68	e95	7.9	3.2	14	1.1	3.6	1.3	1.9
21	16	9.6	29	24	e25	6.1	11	6.3	1.6	14	.90	1.5
22	9.5	5.0	12	8.8	e32	5.1	3.4	4.1	3.4	57	2.0	1.4
23	21	4.1	10	6.7	e220	5.5	10	3.1	21	140	16	26
24	12	5.3	7.8	7.7	e24	19	4.8	2.5	2.1	52	20	2.3
25	22	89	23	6.4	e11	86	3.4	5.1	1.7	9.0	7.7	1.5
26	6.7	87	12	e3.2	e7.5	172	3.2	2.8	2.0	7.7	8.3	2.1
27	5.9	16	7.2	e3.0	e6.0	83	4.9	2.9	1.6	3.8	1.9	1.3
28	5.0	9.1	5.5	e3.2	e5.0	22	4.2	1.7	4.2	2.3	34	1.2
29	7.5	320	4.6	e4.8	e5.8	14	30	1.7	4.5	1.8	50	1.0
30	4.7	62	4.2	e45	---	9.8	22	1.5	1.9	40	6.7	1.1
31	3.3	---	e6.0	50	---	6.8	---	1.4	---	24	2.9	---
TOTAL	346.0	824.6	728.1	332.9	847.4	653.7	479.5	277.2	105.1	493.19	198.59	152.8
MEAN	11.2	27.5	23.5	10.7	29.2	21.1	16.0	8.94	3.50	15.9	6.41	5.09
MAX	52	320	163	68	220	172	156	88	21	140	50	32
MIN	2.3	1.8	4.2	1.8	4.7	4.8	2.6	1.4	1.1	.78	.90	1.0

CAL YR	1987	TOTAL	6872.4	MEAN	18.8	MAX	890	MIN	1.1
WTR YR	1988	TOTAL	5439.08	MEAN	14.9	MAX	320	MIN	.78

e Estimated

ST. LAWRENCE RIVER MAIN STEM

04216218 BLACK ROCK CANAL AT BLACK ROCK LOCK, BUFFALO, NY

LOCATION.--Lat 42°56'01", long 78°54'18", Erie County, Hydrologic Unit 04120104, at Black Rock Lock adjacent to U.S. Army Corps of Engineers installation at foot of Hamilton Street, Buffalo and 0.2 mi downstream from International railroad bridge.

DRAINAGE AREA.--263,700 mi^2.

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

GAGE.--Water stage recorder. Datum of gage is International Great Lakes Datum (IGLD) of 1955.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 579.26 ft Dec. 2, 1985; minimum recorded, 568.52 ft Aug. 24, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 577.69 ft Dec. 15; minimum, 568.52 ft Aug. 24, 1988.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	572.12	571.21	571.31	572.97	571.10	571.00	571.22	571.66	571.68	571.30	571.26	570.77
2	572.75	571.21	572.01	572.22	571.00	571.27	571.16	571.54	571.24	571.36	571.21	570.83
3	571.58	571.63	571.31	571.57	570.95	570.98	571.27	571.39	571.32	571.22	571.18	570.76
4	572.12	571.84	571.12	573.01	571.15	571.04	571.68	571.36	571.63	571.17	571.22	570.94
5	572.04	572.13	571.52	572.97	571.77	571.19	571.28	571.47	571.99	571.18	571.31	570.99
6	572.04	572.17	571.39	571.93	572.35	571.19	571.34	571.59	571.62	571.21	571.55	570.89
7	572.13	571.88	571.08	571.10	571.75	571.29	571.32	571.53	571.47	571.25	571.29	570.82
8	572.02	571.70	571.24	571.29	571.42	571.05	571.39	571.49	571.31	571.26	571.19	570.75
9	572.25	571.32	571.94	571.59	571.34	571.35	571.44	571.64	571.26	571.36	571.23	570.98
10	571.58	570.86	571.65	571.38	571.15	571.22	571.50	571.71	571.43	571.34	571.11	570.85
11	571.52	571.11	571.33	571.59	570.63	571.11	571.43	571.69	571.63	571.56	571.10	570.57
12	571.69	571.87	572.47	571.40	571.80	570.88	571.45	571.54	571.65	571.36	571.15	570.61
13	571.54	571.76	572.10	571.83	571.96	571.93	571.50	571.75	571.52	571.16	571.19	570.91
14	571.70	571.30	571.37	570.96	571.12	571.48	571.65	571.47	571.55	571.61	571.47	570.87
15	571.61	571.06	572.16	571.35	571.46	571.40	571.53	571.53	571.53	571.17	571.59	570.35
16	571.48	571.18	573.32	571.24	571.22	571.51	571.73	571.59	571.45	571.23	571.23	570.27
17	572.02	571.40	571.60	571.10	571.15	571.34	571.70	571.55	571.42	571.28	571.25	570.81
18	571.86	572.55	571.48	571.39	571.09	571.39	571.72	571.24	571.37	571.19	570.79	570.69
19	571.58	572.25	571.73	570.75	570.99	571.37	571.67	571.30	571.43	571.37	570.73	570.50
20	571.60	571.43	572.41	571.27	571.91	571.32	571.70	571.57	571.56	571.12	570.87	571.29
21	571.95	571.26	572.69	571.62	571.55	571.21	571.69	571.57	571.38	571.08	570.77	570.89
22	571.82	571.29	571.63	571.27	571.45	570.93	571.39	571.57	571.63	571.15	570.66	570.52
23	572.05	571.46	571.80	571.36	571.53	571.26	571.34	571.59	571.35	571.06	570.83	570.92
24	571.79	571.52	571.33	571.66	571.54	571.25	572.16	571.56	571.22	571.31	571.37	570.41
25	571.80	570.71	571.60	571.01	571.32	571.31	571.68	571.61	571.67	571.31	571.64	570.47
26	571.35	570.77	571.40	571.93	571.20	571.42	571.61	571.64	571.39	571.29	571.28	570.44
27	571.73	570.39	571.62	571.49	571.16	571.97	571.56	571.70	571.43	571.29	570.79	570.65
28	571.62	570.91	570.60	571.47	571.19	571.25	571.76	571.62	571.53	571.27	571.04	569.90
29	571.68	571.27	571.18	571.07	571.35	571.21	571.86	571.55	571.40	571.36	570.80	570.03
30	571.74	572.12	571.38	571.29	---	571.66	571.68	571.65	571.28	571.38	570.85	570.49
31	571.22	---	572.47	571.28	---	571.29	---	571.67	---	571.30	570.81	---
MEAN	571.81	571.45	571.69	571.56	571.37	571.29	571.55	571.56	571.48	571.27	571.12	570.67
MAX	572.75	572.55	573.32	573.01	572.35	571.97	572.16	571.75	571.99	571.61	571.64	571.29
MIN	571.22	570.39	570.60	570.75	570.63	570.88	571.16	571.24	571.22	571.06	570.66	569.90

CAL YR	1987	MEAN	572.26	MAX	574.10	MIN	570.39
WTR YR	1988	MEAN	571.40	MAX	573.32	MIN	569.90

04216220 NIAGARA RIVER AT BLACK ROCK LOCK, BUFFALO, NY

LOCATION.--Lat 42°56'02", long 78°54'17", Erie County, Hydrologic Unit 04120104, at Black Rock Lock adjacent to U.S. Army Corps of Engineers installation at foot of Hamilton Street, Buffalo and 0.2 mi downstream from International railroad bridge.

DRAINAGE AREA.--263,700 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is International Great Lakes Datum (IGLD) of 1955.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 570.48 ft Dec. 2, 1985; minimum, 563.25 ft Dec. 14, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum recorded elevation, 566.65 ft Mar. 30, but was probably highest on Dec. 15 or 16 (see records for upstream stations); minimum recorded, 563.66 ft Sept. 29.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	565.56	---	---	---	---	564.61	564.88	565.30	565.27	564.96	565.11	564.81
2	566.04	---	---	---	---	564.76	564.88	565.23	564.94	564.98	565.10	564.82
3	565.21	---	565.09	---	---	564.66	564.94	565.12	565.05	564.96	565.10	564.81
4	565.52	---	564.86	---	---	564.68	565.22	565.11	565.19	564.91	565.13	564.87
5	565.48	---	565.15	---	---	564.79	564.95	565.17	565.45	564.87	565.17	564.97
6	---	---	565.08	---	---	564.75	564.96	565.24	565.23	564.88	565.39	564.90
7	---	---	564.91	---	---	564.84	565.04	565.22	565.14	564.92	565.23	564.84
8	---	---	565.05	---	---	564.66	565.12	565.19	564.97	564.91	565.14	564.76
9	---	---	565.25	---	---	564.85	565.12	565.24	564.92	565.01	565.14	564.88
10	---	---	565.62	---	---	564.83	565.27	565.32	565.11	564.98	565.10	564.84
11	---	---	---	---	---	564.76	565.16	565.32	565.21	565.09	565.08	564.65
12	---	e565.30	---	---	---	564.60	565.09	565.18	565.22	565.02	565.09	564.63
13	---	e565.30	---	---	---	565.09	565.26	565.30	565.18	564.91	565.10	564.88
14	---	---	---	---	---	e565.40	565.51	565.17	565.18	565.14	565.26	564.91
15	---	---	---	---	---	e565.20	565.96	565.21	565.13	564.88	565.49	564.52
16	---	---	---	---	564.74	e565.10	565.64	565.30	565.13	564.92	565.10	564.36
17	---	---	---	---	564.67	e565.00	565.66	565.22	565.07	565.04	565.16	564.76
18	---	---	---	---	564.61	e565.00	565.83	565.03	565.05	564.96	564.87	564.74
19	---	---	---	---	564.56	e565.00	565.90	565.05	565.10	565.10	564.78	564.61
20	---	---	---	---	565.31	e565.20	565.93	565.25	565.15	564.97	564.90	565.08
21	---	---	---	---	565.56	e564.90	565.79	565.23	565.05	564.88	564.86	564.90
22	---	---	---	---	565.52	e564.70	565.38	565.25	565.16	564.97	564.81	564.63
23	---	---	---	---	565.11	e564.90	565.06	565.25	565.06	564.97	564.81	564.86
24	---	---	---	---	565.37	e564.90	566.09	565.22	564.94	565.14	565.21	564.54
25	---	---	---	---	565.20	564.94	565.42	565.26	565.22	565.10	565.36	564.57
26	---	---	---	---	564.94	565.06	565.24	565.22	565.06	565.16	565.11	564.66
27	---	---	---	---	564.72	565.44	565.18	565.20	565.05	565.14	564.84	564.71
28	---	---	---	---	564.75	564.96	565.28	565.20	565.09	565.07	564.97	564.27
29	---	---	---	---	564.81	564.77	565.38	565.16	564.97	565.16	564.81	564.32
30	---	---	---	---	---	565.19	565.29	565.20	564.94	565.20	564.85	564.64
31	---	---	---	---	---	564.84	---	565.21	---	565.13	564.81	---
MEAN	---	---	---	---	---	564.92	565.35	565.21	565.11	565.01	565.06	564.72
MAX	---	---	---	---	---	565.44	566.09	565.32	565.45	565.20	565.49	565.08
MIN	---	---	---	---	---	564.60	564.88	565.03	564.92	564.87	564.78	564.27

e Estimated

04216418 TONAWANDA CREEK AT ATTICA, NY

LOCATION.--Lat 42°51'50", long 78°17'02", Wyoming County, Hydrologic Unit 04120104, on right bank behind Village Hall and fire station, 150 ft downstream from bridge on State Highway 238 (Main Street) at Attica, and 0.4 mi upstream from Tannery Creek.

DRAINAGE AREA.--76.9 mi^2.

PERIOD OF RECORD.--October 1977 to current year.

REVISED RECORDS.--WDR NY-79-1: 1978 (M). WDR NY-82-3: Drainage area.

GAGE.--Water-stage recorder,crest-stage gages, and concrete weir. Datum of gage is 954.63 ft above National Geodetic Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 116 ft^3/s, 20.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft^3/s Dec. 29, 1984, gage height, 9.25 ft; maximum gage height, 12.40 ft Feb. 18, 1979 (backwater from ice); minimum discharge, 5.4 ft^3/s July 27, 28, 29, 1983; minimum gage height, 3.34 ft July 27, 28, 29, 1983, Aug. 14, 15, 16, 1985, and Aug. 17, 22, 23, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 6,000 ft^3/s June 23, 1972, gage height, about 12.0 ft, from information supplied by Village of Attica.

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)
Dec. 20	1615	1,380	5.92	Apr. 4	0500	1,530	6.11
Mar. 26	0230	*2,200	*6.89				

Minimum discharge, 6.1 ft^3/s Aug. 17, 22, 23, gage height, 3.34 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	310	52	161	e96	365	e68	109	165	32	12	16	20
2	149	48	135	e82	265	e100	107	113	54	12	12	16
3	172	46	102	e78	e120	143	169	90	35	11	11	13
4	91	43	101	e74	e110	93	782	80	30	9.5	8.5	15
5	69	39	93	e70	e90	e74	238	71	27	9.5	8.3	29
6	58	37	84	e66	e70	e72	159	71	25	8.9	16	28
7	113	37	75	e60	e68	84	133	62	25	8.3	13	17
8	182	38	104	e58	e66	115	141	54	34	8.3	10	15
9	91	135	253	e56	e64	404	120	49	27	7.4	9.1	18
10	68	82	195	e54	e62	279	102	63	23	7.1	8.3	17
11	95	55	115	e52	e60	148	90	56	22	7.3	7.6	19
12	103	50	114	e50	e66	131	80	46	20	7.6	8.3	20
13	71	52	124	e48	e80	220	75	46	20	7.3	7.4	24
14	57	49	103	e46	e120	125	72	47	18	9.1	7.1	21
15	51	43	207	e44	e220	99	78	42	18	9.5	7.3	19
16	48	41	218	e42	e340	91	72	96	16	8.1	8.1	17
17	44	42	131	e42	e290	88	69	88	16	47	11	34
18	43	114	105	e100	e250	84	75	61	15	34	20	39
19	43	81	96	e280	e200	81	68	214	15	17	10	22
20	40	65	651	e460	e160	77	63	246	14	13	8.3	16
21	55	51	402	369	e90	e60	83	310	14	36	7.2	14
22	81	44	170	141	e100	e58	68	163	12	33	6.5	16
23	131	49	128	e100	e460	183	122	97	29	28	7.5	81
24	79	92	113	e90	211	362	135	72	19	103	12	50
25	116	76	216	e80	140	397	96	63	15	32	13	28
26	73	148	161	e66	e110	888	73	67	12	20	41	21
27	63	83	105	e54	e94	355	68	53	12	18	18	18
28	56	68	90	e52	e80	216	84	44	12	14	42	17
29	53	382	69	e50	e74	192	286	38	13	12	128	14
30	71	279	e54	e90	---	145	384	35	12	13	71	14
31	61	---	e70	e270	---	119	---	30	---	25	31	---
TOTAL	2737	2421	4745	3220	4425	5551	4201	2732	636	587.9	584.5	692
MEAN	88.3	80.7	153	104	153	179	140	88.1	21.2	19.0	18.9	23.1
MAX	310	382	651	460	460	888	782	310	54	103	128	81
MIN	40	37	54	42	60	58	63	30	12	7.1	6.5	13
CFSM	1.15	1.05	1.99	1.35	1.98	2.33	1.82	1.15	.28	.25	.25	.30
IN.	1.32	1.17	2.30	1.56	2.14	2.69	2.03	1.32	.31	.28	.28	.33

CAL YR	1987	TOTAL	38803	MEAN	106	MAX	1360	MIN	16	CFSM	1.38	IN. 18.77
WTR YR	1988	TOTAL	32532.4	MEAN	88.9	MAX	888	MIN	6.5	CFSM	1.16	IN. 15.74

e Estimated

04216500 LITTLE TONAWANDA CREEK AT LINDEN, NY

LOCATION.--Lat 42°52'37", long 78°09'48", Genesee County, Hydrologic Unit 04120104, on right bank at upstream side of bridge on County Highway 13A (Depot Road) in Linden and 9.3 mi upstream from mouth.

DRAINAGE AREA.--22.1 mi^2.

PERIOD OF RECORD.--July 1912 to November 1919, April 1920 to September 1968, October 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Concrete control since Oct. 15, 1930. Datum of gage is 1,081.62 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 26, 1943, nonrecording gage at same 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.

AVERAGE DISCHARGE.--66 years (water years 1913–19, 1921–68, 1978–88), 27.5 ft^3/s, 16.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,700 ft^3/s Mar. 7, 1956, gage height, 16.04 ft, from high-water mark; minimum, 0.08 ft^3/s Aug. 3, 4, 1955; minimum gage height, -0.14 ft Jan. 17, 1966 (siphonic action).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 530 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	0700	433	4.78	No peak greater than base discharge.			

Minimum discharge, 0.36 ft^3/s Aug. 16, 17, gage height, 0.21 ft; minimum gage height, 0.13 ft Jan. 8 (siphonic action).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	8.9	42	25	77	23	28	57	6.6	1.5	1.5	1.7
2	40	8.1	34	19	66	29	27	37	13	1.5	1.4	1.4
3	33	8.1	25	18	33	45	39	30	8.2	1.4	1.2	1.3
4	20	7.6	25	17	24	29	272	27	6.7	1.2	1.1	1.4
5	14	7.9	22	e16	e22	22	75	25	6.0	1.2	1.0	2.2
6	11	7.4	20	e15	e21	21	46	24	4.8	1.1	1.2	2.7
7	11	7.4	18	e13	e21	26	38	21	4.6	.91	1.1	1.6
8	18	7.3	20	e11	e18	32	38	18	5.5	.98	.95	1.5
9	13	16	60	e10	e19	92	33	16	5.0	.84	.94	1.2
10	10	15	54	e9.0	e18	90	29	18	4.2	.78	.85	1.1
11	13	12	32	e8.5	e18	44	26	17	3.4	.79	.76	.99
12	19	10	28	e7.8	e17	37	23	15	2.7	.73	.75	.90
13	13	9.9	29	e6.8	e23	48	21	14	2.6	.66	.71	1.0
14	11	9.3	24	e6.2	e36	35	20	14	2.3	1.1	.68	.89
15	9.5	8.8	43	e5.6	54	27	21	12	2.3	.92	.62	.80
16	8.9	8.1	62	e6.0	76	25	20	25	2.2	.97	.51	.83
17	8.1	7.8	36	e7.0	47	24	19	23	2.5	3.3	.86	1.2
18	7.6	14	29	e26	39	23	19	17	2.4	2.3	.77	1.1
19	7.4	14	26	45	33	22	18	61	2.2	1.4	.73	.96
20	7.3	12	140	109	e32	21	17	50	2.0	1.3	.52	1.0
21	7.7	11	140	121	e31	18	23	54	1.8	2.5	.50	.93
22	12	9.5	53	46	e30	18	19	52	1.8	2.9	.47	.91
23	18	10	38	30	167	29	29	27	2.3	2.3	.61	1.4
24	15	17	32	25	74	65	35	19	1.9	12	.84	1.9
25	20	16	41	e21	48	75	26	17	1.7	4.0	.85	1.4
26	15	34	39	e17	38	221	20	16	1.5	2.3	.82	1.1
27	12	23	28	e15	33	111	18	12	1.7	2.0	.70	.95
28	12	18	24	e14	30	58	24	9.9	1.6	1.9	1.2	.81
29	10	70	19	e14	27	47	87	8.8	1.8	1.5	4.2	.80
30	10	78	17	22	---	36	147	7.7	1.6	1.5	5.5	.75
31	9.7	---	19	64	---	29	---	6.5	---	2.0	2.1	---
TOTAL	524.2	486.1	1219	769.9	1172	1422	1257	750.9	106.9	59.78	35.94	36.72
MEAN	16.9	16.2	39.3	24.8	40.4	45.9	41.9	24.2	3.56	1.93	1.16	1.22
MAX	108	78	140	121	167	221	272	61	13	12	5.5	2.7
MIN	7.3	7.3	17	5.6	17	18	17	6.5	1.5	.66	.47	.75
CFSM	.77	.73	1.78	1.12	1.83	2.08	1.90	1.10	.16	.09	.05	.06
IN.	.88	.82	2.05	1.30	1.97	2.39	2.12	1.26	.18	.10	.06	.06

CAL YR	1987	TOTAL	9409.9	MEAN	25.8	MAX	530	MIN	1.4	CFSM	1.17	IN. 15.84
WTR YR	1988	TOTAL	7840.44	MEAN	21.4	MAX	272	MIN	.47	CFSM	.97	IN. 13.20

e Estimated

04217000 TONAWANDA CREEK AT BATAVIA, NY

LOCATION.--Lat 42°59'51", long 78°11'20", Genesee County, Hydrologic Unit 04120104, on right bank 150 ft downstream from municipal dam, 500 ft upstream from bridge on Walnut Street in Batavia, and 5.0 mi downstream from Little Tonawanda Creek.

DRAINAGE AREA.--171 mi^2.

PERIOD OF RECORD.--July 1944 to current year.

REVISED RECORDS.--WSP 1627: 1956–57. WSP 1912: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 876.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversion upstream from station by city of Batavia for municipal supply; sewage, which may include water from municipal and industrial wells upstream from gage, enters creek downstream from gage. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

COOPERATION.--City of Batavia maintains records of diversion.

AVERAGE DISCHARGE.--44 years, 211 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,200 ft^3/s Mar. 31, 1960, gage height, 12.70 ft; maximum gage height, 13.85 ft Apr. 6, 1947; minimum discharge, 0.4 ft^3/s Aug. 5–7, 1955; minimum gage height, 0.59 ft July 26, 27, 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.--From records of city of Batavia, maximum stage, 14.5 ft in March 1942.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar.27	0245	*1,470	*5.13	No peak greater than base discharge.			

Minimum discharge, 6.6 ft^3/s Aug. 22, gage height, 1.26 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	443	100	585	e200	e500	e130	223	534	56	17	36	37
2	501	90	379	e170	577	e170	218	297	85	17	23	25
3	362	84	261	e140	344	e240	218	227	75	15	19	20
4	249	81	222	e130	e200	318	860	188	57	14	15	20
5	166	77	203	e120	e170	203	1110	168	50	12	15	24
6	129	73	175	e110	e160	203	431	166	46	9.5	17	40
7	127	73	153	e110	e150	e240	301	147	43	9.7	25	31
8	333	71	148	e100	e140	e260	273	124	50	9.6	20	21
9	231	127	347	e100	e130	515	271	107	52	8.1	15	19
10	152	218	473	e98	e125	903	226	112	42	9.1	13	19
11	147	122	280	e94	e120	518	189	119	37	8.7	14	18
12	235	96	210	e90	e115	376	165	102	34	8.4	14	21
13	176	89	267	e86	e110	455	152	92	30	8.7	11	20
14	141	87	228	e80	e130	366	141	93	26	10	11	25
15	114	79	240	e76	174	211	143	86	22	18	10	20
16	98	72	603	e76	498	190	146	123	23	14	9.0	21
17	87	69	372	e82	423	163	138	256	21	38	13	27
18	83	107	260	138	340	164	131	157	21	100	19	56
19	81	171	215	366	300	160	141	227	20	40	20	37
20	79	126	433	378	e260	151	125	431	20	25	12	23
21	75	107	1160	657	e220	131	142	568	17	30	11	19
22	118	75	859	597	e230	e110	152	394	19	66	7.0	17
23	170	91	370	291	e560	141	132	247	24	64	11	22
24	183	129	290	233	e760	464	280	169	34	146	18	97
25	168	149	294	209	473	554	216	134	23	103	23	47
26	175	261	378	166	e280	904	155	136	19	51	33	32
27	127	237	261	120	e180	1260	133	111	17	38	41	24
28	112	159	211	e110	e150	610	142	89	18	29	24	19
29	102	271	165	e100	e140	409	259	76	17	24	110	20
30	112	839	e110	148	---	319	747	67	18	21	157	18
31	117	---	e130	e360	---	259	---	59	---	38	67	---
TOTAL	5393	4330	10282	5735	7959	11097	7960	5806	1016	1001.8	833.0	839
MEAN	174	144	332	185	274	358	265	187	33.9	32.3	26.9	28.0
MAX	501	839	1160	657	760	1260	1110	568	85	146	157	97
MIN	75	69	110	76	110	110	125	59	17	8.1	7.0	17

CAL YR	1987	TOTAL	75415	MEAN	207	MAX	2780	MIN	19
WTR YR	1988	TOTAL	62251.8	MEAN	170	MAX	1260	MIN	7.0

e Estimated

04217500 TONAWANDA CREEK NEAR ALABAMA, NY

LOCATION.--Lat 43°05'28", long 78°27'15", Genesee County, Hydrologic Unit 04120104, on right bank 15 ft downstream from bridge on Meadville Road, 0.4 mi downstream from inoperable canal feeder connecting Tonawanda and Oak Orchard Creeks, 1.1 mi upstream from small tributary, and 3.2 mi west of Alabama.

DRAINAGE AREA.--231 mi^2.

PERIOD OF RECORD.--October 1955 to current year.

REVISED RECORDS.--WSP 1912: Drainage area. WRD NY 1974: 1973. WDR NY–75–1: 1959 (P).

GAGE.--Water-stage recorder. Datum of gage is 605.93 ft above National Geodetic Vertical Datum of 1929. Prior to October 1965, nonrecording gage at same 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.

AVERAGE DISCHARGE.--33 years, 285 ft^3/s, 16.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,980 ft^3/s Mar. 31, 1960, gage height, 14.28 ft; maximum gage height, 15.95 ft Jan. 23, 1959 (ice jam); minimum daily, 7.7 ft^3/s Sept. 14, 15, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Dec. 22	0300	*1,550	*9.34	No peak greager than base discharge.			
Mar. 27	1015	*1,550	*9.34				

Minimum discharge, 15 ft^3/s July 11, 12, 13, gage height, 5.03 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	424	130	1120	e230	e600	e190	302	842	83	30	41	76
2	864	116	664	e210	777	e210	277	457	84	29	44	e50
3	498	110	478	e190	582	e280	295	315	107	28	34	e39
4	417	105	373	e180	326	371	868	254	86	27	28	e30
5	254	100	341	e170	e280	278	1390	224	71	26	25	e26
6	188	97	293	e160	e270	212	772	206	67	24	25	e37
7	181	93	253	e150	e250	213	471	198	63	23	27	e48
8	350	92	226	e145	e230	243	384	173	59	20	28	e36
9	422	122	333	e140	e220	360	379	155	63	18	30	e28
10	253	258	625	e135	e210	807	324	145	62	17	27	e25
11	210	213	485	e130	e200	665	279	154	54	16	22	e23
12	258	155	334	e125	e190	403	246	146	49	16	20	e22
13	272	137	336	e120	e180	368	222	134	44	17	20	e25
14	205	132	357	e115	e240	453	201	128	41	20	19	e28
15	168	122	360	e110	e290	315	193	126	36	28	20	e30
16	142	111	762	e105	e500	261	203	136	33	32	22	e27
17	126	108	693	e100	749	240	199	263	32	54	26	e35
18	115	131	438	e170	559	231	193	245	30	102	27	e46
19	109	209	339	e300	483	221	190	201	29	91	28	e60
20	106	209	508	e500	e440	217	185	532	28	60	31	e46
21	104	171	1270	e900	e400	e200	182	657	29	46	26	e32
22	108	132	1340	e1100	e340	e170	216	624	27	57	22	e26
23	163	117	658	752	e740	175	191	388	35	75	21	e25
24	230	135	439	e340	e1300	398	274	249	40	99	26	e60
25	191	212	380	e290	e950	706	302	188	39	164	39	e95
26	229	356	498	e230	e400	995	234	164	35	92	36	e60
27	183	444	398	e170	e230	1450	190	156	31	60	46	e40
28	152	283	292	e150	e190	999	176	130	29	48	60	e30
29	136	549	e230	e140	e180	598	238	110	30	40	65	e26
30	126	1280	e180	e200	---	481	736	98	31	34	161	e23
31	142	---	e210	e360	---	368	---	88	---	33	133	---
TOTAL	7326	6429	15213	8117	12306	13078	10312	7886	1447	1426	1179	1154
MEAN	236	214	491	262	424	422	344	254	48.2	46.0	38.0	38.5
MAX	864	1280	1340	1100	1300	1450	1390	842	107	164	161	95
MIN	104	92	180	100	180	170	176	88	27	16	19	22
CFSM	1.02	.93	2.12	1.13	1.84	1.83	1.49	1.10	.21	.20	.16	.17
IN.	1.18	1.04	2.45	1.31	1.98	2.11	1.66	1.27	.23	.23	.19	.19

CAL YR	1987	TOTAL	104689	MEAN	287	MAX	3480	MIN	37	CFSM	1.24	IN. 16.86
WTR YR	1988	TOTAL	85873	MEAN	235	MAX	1450	MIN	16	CFSM	1.02	IN. 13.83

e Estimated

04217750 MURDER CREEK NEAR AKRON, NY

LOCATION.--Lat 43°02'49", long 78°30'47", Erie County, Hydrologic Unit 04120104, on left bank at downstream side of bridge on State Highway 93, 2.0 mi northwest of Akron and 5.7 mi upstream from mouth.

DRAINAGE AREA.--58.8 mi^2.

PERIOD OF RECORD.--Occasional low flow discharge measurements, water years 1964–65. November 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 623.78 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.

AVERAGE DISCHARGE--5 years (water years 1984-88), 70.5 ft^3/s, 16.28 in/yr.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 3,000 ft^3/s Feb. 25, 1985, gage height, 7.16 ft; minimum discharge, 1.2 ft^3/s Oct. 12, 1985; minimum gage height, 1.48 ft, Sept. 21, 1985.

EXTREMES FOR CURRENT YEAR.--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)
Dec. 1	1200	*565	*4.17	No other peak greater than base discharge.			

Minimum discharge, 2.0 ft^3/s Aug. 21, gage height, 1.56 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	27	528	e52	e120	e48	e86	128	e20	e7.0	4.3	11
2	113	25	375	e48	e150	e64	e80	108	e30	e6.6	4.2	7.1
3	133	24	241	e44	e100	e88	e100	63	e17	e6.2	4.4	4.5
4	122	23	172	e42	e70	e110	e160	50	e15	e5.8	4.1	5.3
5	103	21	132	e40	e46	e70	e280	44	e14	e5.4	4.2	4.7
6	76	19	109	e39	e44	e56	e140	39	e13	e5.0	3.3	5.0
7	62	19	87	e37	e42	e58	e100	37	e12	e4.7	2.9	4.4
8	106	17	77	e35	e40	70	e105	36	e17	e4.4	3.2	4.5
9	172	29	83	e32	e38	93	e80	32	e15	e4.0	3.3	4.6
10	181	51	115	e30	e36	138	e70	31	e12	e3.7	3.2	4.1
11	109	64	129	e29	e34	148	e62	31	e10	e4.0	2.9	3.6
12	86	47	114	e28	e37	117	e58	28	e9.8	e4.3	3.3	4.5
13	82	38	95	e27	e40	88	e56	26	e9.2	4.2	2.7	5.1
14	72	33	93	e26	e70	82	e54	23	e8.8	5.8	2.6	5.0
15	52	29	117	e25	e90	79	e58	24	e8.4	5.5	3.6	4.7
16	44	27	186	e24	e120	69	e54	33	e8.0	4.3	2.9	4.8
17	37	27	242	e23	e150	66	e52	40	e7.8	20	5.0	6.4
18	31	39	190	e34	e200	63	e56	44	e7.4	11	3.3	4.8
19	28	58	129	e80	e140	62	e53	45	e7.0	17	3.0	4.4
20	25	72	166	e130	e90	60	e50	70	e6.7	15	2.6	4.4
21	23	68	268	e240	e70	58	e60	137	e6.3	13	2.3	4.0
22	22	50	383	e140	e80	52	e52	114	e6.0	9.5	2.8	4.0
23	27	43	267	e90	e100	55	e80	e70	e14	9.8	3.7	4.8
24	33	41	171	e60	e300	e80	e110	e56	e9.0	21	5.8	3.7
25	40	57	140	e48	e180	e120	e70	e40	e7.0	30	3.5	3.3
26	44	157	130	e40	e110	e240	46	e32	e5.4	23	3.6	4.0
27	43	174	125	e38	e76	e300	43	e28	e5.7	15	3.1	4.4
28	38	174	105	e35	e64	e160	38	e24	e6.1	10	4.4	4.3
29	33	241	e70	e33	e56	e130	42	e20	e6.4	6.8	8.2	4.2
30	30	402	e40	e50	---	e110	96	e18	e7.0	5.2	4.7	4.3
31	29	---	e42	e80	---	e94	---	e16	---	4.4	7.0	---
TOTAL	2059	2096	5121	1679	2693	3028	2391	1487	321.0	291.6	118.1	143.9
MEAN	66.4	69.9	165	54.2	92.9	97.7	79.7	48.0	10.7	9.41	3.81	4.80
MAX	181	402	528	240	300	300	280	137	30	30	8.2	11
MIN	22	17	40	23	34	48	38	16	5.4	3.7	2.3	3.3
CFSM	1.13	1.19	2.81	.92	1.58	1.66	1.36	.82	.18	.16	.06	.08
IN.	1.30	1.33	3.24	1.06	1.70	1.92	1.51	.94	.20	.18	.07	.09

CAL YR	1987	TOTAL	24636.5	MEAN	67.5	MAX	666	MIN	3.6	CFSM	1.15	IN. 15.59
WTR YR	1988	TOTAL	21428.6	MEAN	58.5	MAX	528	MIN	2.3	CFSM	1.00	IN. 13.56

e Estimated

04218000 TONAWANDA CREEK AT RAPIDS, NY

LOCATION.--Lat 43°05'35", long 78°38'11", Niagara County, Hydrologic Unit 04120104, on right bank at downstream side of bridge on Rapids Road at Rapids, 4.6 mi east of Pendleton, 4.9 mi downstream from Beeman Creek, and 5.9 mi upstream from Mud Creek.

DRAINAGE AREA.--349 mi^2, includes 0.76 mi^2 in Mud Creek from which flow is diverted into Black Creek.

PERIOD OF RECORD.--August 1955 to September 1965, March 1978 to September 1979 (seasonal gage-height records only), October 1979 to current year.

REVISED RECORDS.--WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 571.19 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--19 years (water years 1956–65, 1980–88), 390 ft^3/s, 15.18 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,280 ft^3/s Apr. 1, 1960, gage height, 16.96 ft; minimum 4.5 ft^3/s July 28, 1983, gage height, 0.91 ft.

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)
Dec. 02	0230	*1,950	*7.34
Mar. 28	1300	*1,950	*7.34

No peak greater than base discharge.

Minimum discharge, 24 ft^3/s July 11-14, gage height, 1.16 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	202	1840	e320	e700	e340	491	942	108	39	49	147
2	549	187	1850	e300	e1000	e320	412	928	109	39	57	92
3	816	172	1380	e270	1110	e360	397	565	114	37	63	65
4	664	164	955	e250	758	518	937	410	130	35	51	54
5	520	156	720	e240	436	515	1440	347	105	34	43	46
6	374	149	599	e230	e390	398	1760	318	88	33	39	43
7	290	143	513	e220	e350	356	1200	302	83	32	38	42
8	304	139	443	e210	e330	373	702	283	78	31	41	51
9	491	170	432	e200	e320	435	551	256	74	29	40	52
10	550	239	598	e190	e310	725	504	238	77	27	42	42
11	447	353	792	e180	e300	1030	436	227	75	25	38	37
12	373	301	668	e170	e290	834	381	236	65	24	34	34
13	395	237	529	e160	e280	576	339	229	59	24	30	33
14	373	207	507	e150	e270	546	307	220	55	26	30	33
15	310	193	557	e140	e260	534	284	213	51	30	27	36
16	258	177	873	e130	e430	425	274	218	46	41	27	36
17	222	164	1120	e125	e770	380	282	276	41	71	32	38
18	196	201	1030	e150	e1000	350	275	383	40	116	38	38
19	178	256	725	e220	e900	336	271	336	38	139	34	48
20	169	330	714	e400	e800	329	275	361	36	127	34	66
21	164	331	1140	e740	e720	315	269	651	36	91	35	59
22	163	278	1540	945	e640	284	275	805	36	74	32	45
23	181	219	1700	1070	e1000	260	301	678	40	83	28	39
24	241	210	1170	811	e1300	302	281	447	46	111	31	37
25	303	252	760	e440	e1600	631	371	310	50	181	34	50
26	286	574	653	e350	e1400	1160	369	242	48	207	42	92
27	307	709	679	e290	e800	1610	309	213	46	137	40	63
28	263	673	549	e250	e500	1900	269	192	42	92	51	48
29	229	724	e380	e200	e400	1480	265	159	38	71	71	39
30	207	1450	e290	e230	---	911	467	136	39	59	87	34
31	191	---	e310	e400	---	638	---	120	---	51	181	---
TOTAL	10192	9560	26016	9981	19364	19171	14694	11241	1893	2116	1419	1539
MEAN	329	319	839	322	668	618	490	363	63.1	68.3	45.8	51.3
MAX	816	1450	1850	1070	1600	1900	1760	942	130	207	181	147
MIN	163	139	290	125	260	260	265	120	36	24	27	33
CFSM	.94	.91	2.40	.92	1.91	1.77	1.40	1.04	.18	.20	.13	.15
IN.	1.09	1.02	2.77	1.06	2.06	2.04	1.57	1.20	.20	.23	.15	.16

CAL YR	1987	TOTAL	152965	MEAN	419	MAX	4130	MIN	45	CFSM	1.20	IN. 16.30
WTR YR	1988	TOTAL	127186	MEAN	348	MAX	1900	MIN	24	CFSM	1.00	IN. 13.56

e Estimated

04218518 ELLICOTT CREEK BELOW WILLIAMSVILLE, NY

LOCATION.--Lat 42°58'40", long 78°45'50", Erie County, Hydrologic Unit 04120104, on right bank 15 ft upstream from bridge on State Highway 324 (Sheridan Drive), 0.8 mi upstream from sewage treatment plant, 1.4 mi northwest of Williamsville, and 10.8 mi upstream from mouth.

DRAINAGE AREA.--81.6 mi^2.

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

REVISED RECORDS.--WDR NY-82-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 586.41 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Regulation by seasonal manipulation of dam at Island Park 2.4 mi upstream by Village of Williamsville and by intermittent pumping from stone quarries into stream upstream from station. Records at medium and high flows may be comparable with those obtained at station 04218500 between October 1955 and September 1972. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 131 ft^3/s, 21.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft^3/s Feb. 25, 1985, gage height, 11.19 ft; no flow for part of July 27, 1976, gage height, 0.73 ft result of pipeline construction.

EXTREMES FOR CURRENT YEAR.--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)
Nov.30	2000	*1,170	*5.85	No other peak greater than base discharge.			

Minimum daily discharge, 9.7 ft^3/s Aug. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	54	701	e95	e280	e76	104	209	29	19	34	32
2	242	52	370	e120	e270	e95	92	119	40	17	41	38
3	172	57	251	e100	e170	125	125	73	40	17	22	23
4	156	58	187	e88	e110	139	590	73	40	18	16	33
5	110	45	168	e80	e90	112	609	65	27	17	18	38
6	102	43	143	e70	e84	94	206	63	20	16	16	41
7	80	44	122	e65	e78	96	148	63	21	20	16	38
8	316	56	109	e60	e74	107	124	58	22	20	23	22
9	372	90	151	e55	e70	163	119	55	26	19	34	17
10	156	176	241	e50	e66	292	102	53	34	18	21	16
11	121	112	200	e46	e64	198	88	51	e32	19	11	16
12	138	87	147	e54	e62	128	80	49	e26	18	10	16
13	129	83	150	e52	e60	121	73	52	e23	22	9.7	16
14	108	75	e160	e50	e64	129	70	50	e21	39	12	19
15	90	51	e220	e48	e100	119	65	51	e19	19	16	37
16	70	46	e370	e52	e180	107	64	88	e17	20	12	25
17	60	55	e220	e60	e240	103	65	94	e16	77	9.8	23
18	56	104	e160	81	e230	93	65	86	e18	45	13	17
19	61	170	e120	148	e220	84	64	100	e21	64	14	21
20	68	153	e320	237	e300	87	63	126	e25	33	14	38
21	69	137	e800	302	e230	87	70	107	13	29	12	26
22	56	86	e300	220	e250	84	89	67	20	45	12	17
23	78	79	e190	120	e520	83	83	51	20	95	17	28
24	97	88	e150	93	e700	108	84	45	22	200	19	18
25	96	147	e240	86	e270	213	92	54	35	98	16	19
26	117	291	e200	e70	e150	507	79	49	22	65	23	21
27	101	351	e150	e60	e120	659	66	48	17	49	26	38
28	86	182	e130	e50	e95	331	65	43	20	44	30	21
29	78	345	e90	e45	e80	193	78	23	20	29	55	15
30	64	923	e80	e70	---	152	227	22	19	45	55	14
31	61	---	e80	e180	---	120	---	21	---	40	45	---
TOTAL	3706	4240	6920	2907	5227	5005	3849	2108	725	1276	672.5	743
MEAN	120	141	223	93.8	180	161	128	68.0	24.2	41.2	21.7	24.8
MAX	372	923	800	302	700	659	609	209	40	200	55	41
MIN	56	43	80	45	60	76	63	21	13	16	9.7	14
CFSM	1.47	1.73	2.74	1.15	2.21	1.98	1.57	.83	.30	.50	.27	.30
IN.	1.69	1.93	3.15	1.33	2.38	2.28	1.75	.96	.33	.58	.31	.34

CAL YR	1987	TOTAL	45076.1	MEAN	123	MAX	1020	MIN	5.4	CFSM	1.51	IN. 20.55
WTR YR	1988	TOTAL	37378.5	MEAN	102	MAX	923	MIN	9.7	CFSM	1.25	IN. 17.04

e Estimated

04219000 ERIE (BARGE) CANAL AT LOCK 30, MACEDON, NY

LOCATION.--Lat 43°04'20", long 77°17'45", Wayne County, Hydrologic Unit 04140201, on left bank in Macedon, 500 ft downstream from headgate in old Erie Canal, 700 ft downstream from bridge on State Highway 350, 0.2 mi downstream from Lock 30, and 2.6 mi upstream from Ganargua Creek.

PERIOD OF RECORD.--November 1919 to December 1920, October 1950 to September 1977, October 1977 to current year (navigation seasons only). Prior to October 1956, published as "Barge Canal at Lock 30, Macedon."

REVISED RECORDS.--WSP 1237: 1951

GAGE.--Water-stage recorder. Datum of gage is 447.58 ft above National Geodetic Vertical Datum of 1929. Nov. 1, 1919 to Dec. 28, 1920, nonrecording gage at same site at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. This record represents net diversion from Niagara River basin into Oswego River basin through Erie (Barge) Canal. During the non-navigation period, when the pool upstream from Lock 30 is drained, discharge consists of leakage through guard gates, runoff from small areas tributary to canal upstream from station, or diversion for use downstream in the Canal system. Record is not published during the non-navigation period, which this year extended from Dec. 9 to May 4. Several measurements of water temperature were made during the year.

COOPERATION.--Records of gate openings, lockages, lock-valve openings, and elevations of water surface in Erie (Barge) Canal upstream and downstream from Lock 30 furnished by New York State Department of Transportation.

AVERAGE DISCHARGE.--27 years (water years 1951–77), 200 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 874 ft^3/s Dec. 3, 1969; no significant flow at times in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239	207	---	---	---	---	---	e3.0	153	274	265	246
2	235	207	---	---	---	---	---	e3.0	152	279	272	249
3	233	205	---	---	---	---	---	e3.0	148	304	256	266
4	231	208	---	---	---	---	---	e13	163	301	281	255
5	230	202	---	---	---	---	---	32	161	295	262	247
6	218	191	---	---	---	---	---	41	150	291	293	239
7	212	194	---	---	---	---	---	55	158	295	282	232
8	222	200	---	---	---	---	---	60	144	282	268	240
9	218	200	---	---	---	---	---	50	144	293	270	231
10	232	192	---	---	---	---	---	57	163	295	254	243
11	219	195	---	---	---	---	---	50	161	282	263	260
12	221	188	---	---	---	---	---	56	172	286	267	253
13	225	190	---	---	---	---	---	78	201	279	273	245
14	224	195	---	---	---	---	---	114	300	267	290	248
15	229	200	---	---	---	---	---	128	287	273	250	232
16	234	209	---	---	---	---	---	67	286	280	268	238
17	250	209	---	---	---	---	---	158	295	273	254	239
18	245	210	---	---	---	---	---	138	291	274	260	247
19	241	201	---	---	---	---	---	63	310	280	272	242
20	240	206	---	---	---	---	---	50	292	267	257	238
21	231	193	---	---	---	---	---	80	283	272	274	234
22	235	187	---	---	---	---	---	108	275	266	259	226
23	218	186	---	---	---	---	---	108	279	275	255	227
24	224	186	---	---	---	---	---	105	272	273	246	229
25	212	189	---	---	---	---	---	115	287	265	246	225
26	210	188	---	---	---	---	---	109	283	263	253	228
27	211	187	---	---	---	---	---	108	274	258	266	224
28	204	187	---	---	---	---	---	129	277	264	253	218
29	205	195	---	---	---	---	---	135	275	262	247	210
30	199	216	---	---	---	---	---	178	267	261	253	207
31	200	---	---	---	---	---	---	159	---	279	248	---
TOTAL	6947	5923	---	---	---	---	---	2553.0	6903	8608	8157	7118
MEAN	224	197	---	---	---	---	---	82.4	230	278	263	237
MAX	250	216	---	---	---	---	---	178	310	304	293	266
MIN	199	186	---	---	---	---	---	3.0	144	258	246	207

e Estimated

04219640 NIAGARA RIVER (LAKE ONTARIO) AT FORT NIAGARA, NY

(National stream-quality accounting network station)

WATER QUALITY RECORDS

LOCATION.--Lat 43°16'10", long 79°03'52", Niagara County, Hydrologic Unit 04120104, water samples collected about 2 mi upstream from Coast Guard wharf, at Fort Niagara and 1.5 mi south of Youngstown.

DRAINAGE AREA.--265,000 mi^2.

PERIOD OF RECORD.--Water years 1971 to current year.
CHEMICAL DATA: 1971 (a), 1973-74 (b), 1975-82 (c), 1983-88 (b).
MINOR ELEMENT DATA: 1971 (a), 1972-88 (b).
ORGANIC DATA: OC--1973 (a), 1974-75 (b), 1978-80 (c), 1981 (b).
NUTRIENT DATA: 1971 (a), 1973-74 (b), 1975-82 (c), 1983-88 (b).
BIOLOGICAL DATA:
Bacteria--1973 (b), 1974 (d), 1975-82 (c), 1983-88 (b).
Phytoplankton--1973 (b), 1974 (d), 1975-77 (c), 1978-81 (c).
Periphyton--1974 (a), 1975-80 (b).
SEDIMENT DATA: 1975-77 (c), 1978 (b), 1979-82 (c), 1983-88 (b).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: September 1973 to June 1980.
WATER TEMPERATURE: September 1973 to June 1980.

REMARKS.--Published in 1971 as "at Youngstown". Discharge is the daily mean reported by The Corps of Engineers at Detroit for the Niagara River at Queenston. Water-quality samples collected by New York State Department of Environmental Conservation were grab samples collected from the Coast Guard wharf at Fort Niagara.

COOPERATION.-- Water-quality analyses identified by an (*) were collected by personnel of the New York State Department of Environmental Conservation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE IN CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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./ 100ML)
NOV											
* 05	0825	226000	--	--	8.20	--	--	--	--	--	--
05	0900	226000	283	--	8.24	11.0	3.7	765	11.4	103	78
* 05	0905	226000	--	--	--	--	--	--	--	--	--
DEC											
* 07	0830	212000	--	--	8.20	--	--	--	--	--	--
MAR											
* 21	0945	218000	--	290	8.40	0.0	--	--	--	--	--
APR											
* 06	0935	223000	--	273	--	2.0	--	--	--	--	--
* 18	0920	217000	--	259	--	1.0	--	--	--	--	--
MAY											
* 03	0845	225000	--	287	8.10	7.5	--	--	13.3	--	--
* 03	0855	225000	--	--	--	--	--	--	--	--	--
03	0900	225000	278	--	8.08	7.0	0.80	760	13.4	111	58
* 03	0915	225000	--	287	--	--	--	--	--	--	--
* 16	0910	227000	--	293	8.10	12.0	--	--	12.9	--	--
JUN											
* 29	1230	209000	291	--	8.00	19.0	--	--	9.2	--	--
* 29	1255	209000	--	--	--	--	--	--	--	--	--
29	1300	209000	282	--	7.98	18.5	1.1	761	9.9	106	630
AUG											
25	0900	218000	281	--	8.27	22.5	1.5	753	8.8	103	320
SEP											
* 07	0900	208000	--	282	8.30	20.0	--	--	--	--	--

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV											
05	--	165	130	--	39	8.6	--	--	--	--	--
05	K6	--	130	34	37	8.6	8.8	1.5	91	--	24
05	--	--	--	--	--	--	--	--	--	--	--
DEC											
07	--	176	--	--	--	--	--	--	--	--	--
MAR											
21	--	--	120	23	36	8.4	9.0	1.3	--	102	26
APR											
06	--	--	--	--	--	--	--	--	--	94	27
18	--	--	110	26	33	7.5	8.4	1.2	--	87	24
MAY											
03	--	--	--	--	--	--	--	--	--	97	--
03	--	--	--	--	--	--	--	--	--	--	--
03	K14	--	130	17	36	8.5	9.5	1.3	108	--	27
03	--	--	--	--	--	--	--	--	--	97	--

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

04219640 - NIAGARA RIVER (LAKE ONTARIO) AT FORT NIAGARA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
MAY											
16	--	--	120	30	36	8.5	9.9	1.3	--	95	26
JUN											
29	--	--	120	25	35	8.3	9.1	1.3	--	97	26
29	--	--	--	--	--	--	--	--	--	--	--
29	K6	--	130	37	37	8.8	9.5	1.3	93	--	25
AUG											
25	--	--	130	37	37	8.7	9.0	1.2	92	--	27
SEP											
07	--	--	120	29	35	8.8	9.8	1.3	--	95	26

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 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV										
05	--	--	--	--	--	--	--	--	--	--
05	0.9	0.18	154	178	0.12	0.02	0.02	<0.01	0.7	<0.01
05	--	--	--	--	0.12	0.02	0.02	<0.01	0.7	<0.01
DEC										
07	--	--	--	--	--	--	--	--	--	--
MAR										
21	0.2	--	--	157	--	--	--	--	--	--
APR										
06	0.1	--	--	--	--	--	--	--	--	--
18	0.2	--	--	141	--	--	--	--	--	--
MAY										
03	--	--	--	--	--	--	--	--	--	--
03	--	--	--	--	0.12	0.03	0.03	<0.01	<0.2	0.01
03	0.1	0.02	159	189	0.21	0.03	0.02	<0.01	<0.2	0.01
03	--	--	--	--	--	--	--	--	--	--
16	0.3	--	--	154	--	--	--	--	--	--
JUN										
29	0.3	--	--	152	--	--	--	--	--	--
29	--	--	--	--	0.24	0.01	0.04	<0.01	0.5	0.01
29	0.2	0.19	161	177	0.33	0.03	0.06	0.05	0.3	0.01
AUG										
25	0.1	0.44	158	153	0.10	0.02	0.03	0.01	0.4	0.01
SEP										
07	0.1	--	--	152	--	--	--	--	--	--

DATE	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	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)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT DIS-SOLVED (UG/L AS CO)
NOV										
05	--	--	--	--	--	--	--	<1	--	--
05	<0.01	0.01	<10	<1	25	<0.5	3	--	<1	<3
05	<0.01	<0.01	--	--	--	--	--	--	--	--
DEC										
07	--	--	--	--	--	--	1	<1	--	--
MAR										
21	--	--	<10	--	--	--	<1	<1	--	--
APR										
06	--	--	--	--	--	--	--	<1	--	--
18	--	--	<10	--	--	--	<1	1	--	--
MAY										
03	--	--	--	--	--	--	--	<1	--	--
03	<0.01	<0.01	--	--	--	--	--	28	--	--
03	<0.01	0.01	<10	<1	20	<0.5	<1	--	<1	<3
03	--	--	--	--	--	--	--	44	--	--
16	--	--	<10	--	--	--	<1	5	--	--
JUN										
29	--	--	--	--	--	--	--	<1	--	--
29	0.01	<0.01	--	--	--	--	--	28	--	--
29	0.01	<0.01	<10	<1	21	<0.5	1	--	<1	<3
AUG										
25	0.01	<0.01	<10	<1	22	<0.5	<1	--	<1	<3
SEP										
07	--	--	--	--	--	--	--	<1	--	--

04219640 - NIAGARA RIVER (LAKE ONTARIO) AT FORT NIAGARA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, TOTAL RECOV-ERABLE (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 DIS-SOLVED (UG/L AS HG)
NOV										
05	--	5	490	--	--	<5	--	20	--	--
05	4	--	--	7	<5	--	<4	--	<1	<0.1
05	--	--	--	--	--	--	--	--	--	--
DEC										
07	4	7	2200	--	<5	<5	--	50	--	--
MAR										
21	1	11	20000	25	<5	<5	--	100	4	--
APR										
06	--	8	720	--	--	<5	--	10	--	--
18	1	5	880	8	<5	<5	--	20	1	--
MAY										
03	--	8	540	--	--	<5	--	10	--	--
03	--	10	120	--	--	<5	--	<10	--	--
03	4	--	--	<3	<5	--	9	--	2	--
03	--	17	120	--	--	<5	--	<10	--	--
16	2	14	160	<3	<5	<5	--	<10	2	--
JUN										
29	--	11	100	--	--	8	--	50	--	--
29	--	11	170	--	--	<5	--	20	--	--
29	3	--	--	<3	<5	--	7	--	2	<0.1
AUG										
25	4	--	--	<3	<5	--	<4	--	<1	<0.1
SEP										
07	--	6	180	--	--	<5	--	<10	--	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	NICKEL, TOTAL RECOV-ERABLE (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)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV										
05	<0.1	--	--	<1	--	--	--	--	--	<10
05	--	<10	1	--	1	<1	160	<6	<3	--
05	--	--	--	--	--	--	--	--	--	--
DEC										
07	<0.1	--	<1	2	--	--	--	--	10	30
MAR										
21	<0.1	--	3	3	--	--	--	--	<3	10
APR										
06	<0.1	--	--	5	--	--	--	--	--	<10
18	<0.1	--	1	3	--	--	--	--	4	<10
MAY										
03	--	--	--	6	--	--	--	--	--	<10
03	<0.1	--	--	2	--	--	--	--	--	<10
03	--	<10	<1	--	<1	<1	150	<6	3	--
03	<0.1	--	--	3	--	--	--	--	--	<10
16	<0.1	--	3	5	--	--	--	--	<3	<10
JUN										
29	0.4	--	--	2	--	--	--	--	--	<10
29	<0.1	--	--	5	--	--	--	--	--	20
29	--	<10	1	--	<1	<1	160	<6	<3	--
AUG										
25	--	<10	<1	--	<1	<1	160	<6	<3	--
SEP										
07	<0.1	--	--	4	--	--	--	--	--	<10

ST. LAWRENCE RIVER MAIN STEM

04219640 - NIAGARA RIVER (LAKE ONTARIO) AT FORT NIAGARA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	DEPTH AT SAMPLE LOC-ATION, TOTAL (FEET)	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV								
05.....	0907	1000	36.0	3.0	283	8.20	11.0	11.5
05.....	0910	1000	36.0	10.0	283	8.24	11.0	11.4
05.....	0915	1000	36.0	20.0	282	8.26	11.0	11.4
05.....	0920	1000	36.0	30.0	282	8.24	11.0	11.3
05.....	0925	1700	44.0	3.0	283	8.18	11.0	11.3
05.....	0930	1700	44.0	10.0	283	8.20	11.0	11.4
05.....	0935	1700	44.0	25.0	282	8.22	11.0	11.4
05.....	0940	1700	44.0	40.0	--	--	11.0	--
MAY								
03.....	0905	1000	45.0	3.0	278	7.95	7.0	13.5
03.....	0910	1000	45.0	10.0	278	8.05	7.0	13.4
03.....	0914	1000	45.0	25.0	278	8.08	7.0	13.3
03.....	0920	1000	45.0	40.0	268	--	7.0	--
03.....	0925	1700	48.0	3.0	277	7.15	7.0	13.5
03.....	0930	1700	48.0	10.0	277	7.37	7.0	13.5
03.....	0935	1700	48.0	25.0	277	7.49	7.0	13.4
03.....	0940	1700	48.0	40.0	266	--	7.0	--
JUN								
29.....	1305	1000	46.0	3.0	282	7.96	18.5	9.9
29.....	1310	1000	46.0	10.0	282	7.99	18.5	9.8
29.....	1315	1000	46.0	25.0	281	8.04	18.5	9.9
29.....	1320	1000	46.0	40.0	275	--	18.5	--
29.....	1325	1700	48.0	3.0	282	7.98	18.5	10.0
29.....	1330	1700	48.0	10.0	281	7.91	18.5	10.0
29.....	1335	1700	48.0	25.0	281	7.95	18.5	9.9
29.....	1340	1700	48.0	40.0	275	--	18.5	--
AUG								
25.....	0905	1000	44.0	3.0	281	--	22.5	8.7
25.....	0910	1000	44.0	10.0	281	--	22.5	8.7
25.....	0915	1000	44.0	20.0	281	--	22.5	8.7
25.....	0920	1000	44.0	35.0	277	--	23.0	--
25.....	0930	1700	40.0	3.0	281	--	22.5	8.8
25.....	0935	1700	40.0	10.0	281	--	22.5	8.8
25.....	0940	1700	40.0	20.0	281	--	22.5	8.8
25.....	0945	1700	40.0	35.0	280	--	22.5	8.8

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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					
05.....	0900	226000	11	5850	90
DEC					
07.....	0830	212000	63	36100	--
MAY					
03.....	0900	225000	4	2430	97
16.....	0910	227000	4	2450	--
JUN					
29.....	1300	209000	4	2260	97
AUG					
25.....	0900	218000	3	1770	89

04221000 GENESEE RIVER AT WELLSVILLE, NY

LOCATION.--Lat 42°07'20", long 77°57'27", Allegany County, Hydrologic Unit 04130002, on left bank 35 ft upstream from concrete weir at Wellsville, 0.5 mi upstream from bridge on State Highway 17, 0.6 mi upstream from Crowner Brook and sewage treatment plant, 0.6 mi downstream from Dyke Creek, and 140.9 mi upstream from mouth.

DRAINAGE AREA.--288 mi^2.

PERIOD OF RECORD.--August 1955 to September 1958, October 1972 to current year.

REVISED RECORDS.--WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,470.00 ft above National Geodetic Vertical Datum of 1929. October 1957 to September 1958, nonrecording gage at site 0.4 mi upstream at datum 3.00 ft higher. August 1955 to September 1957, at same site at datum 8.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Record for station 04221500 Genesee River at Scio, 5.2 mi downstream, published for June 1916 to September 1972. Satellite and gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years (water years 1956–58, 1973–88), 392 ft^3/s, 18.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,800 ft^3/s Mar. 8, 1956 (site and datum then in use, from graph based on gage readings) and Oct. 28, 1981 (present site and datum); maximum gage height, 13.60 ft October 28, 1981; minimum daily, 18 ft^3/s Sept. 9, 1957, and Aug. 21-22, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since June 1916, 38,500 ft^3/s June 23, 1972, gage height, 20.7 ft present datum, from floodmark, on basis of contracted-opening measurement of peak flow 0.5 mi downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar.26	0400	*4,590	*8.59	No other peak greater than base discharge.			

Minimum discharge, 13 ft^3/s Aug. 24, gage height, 4.19 ft (momentary regulation). Unregulated minimum, 18 ft^3/s Aug. 17, 20-23, gage height, 4.23 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305	138	832	e380	e560	e170	687	498	226	46	53	39
2	305	133	714	e320	1460	e180	637	431	240	48	47	34
3	559	131	605	e260	753	e200	659	395	228	44	43	31
4	342	128	560	e240	e600	e200	2060	366	234	41	40	46
5	287	150	492	e180	e520	e210	1040	354	187	39	40	61
6	260	149	438	e180	e380	e230	824	394	154	36	41	51
7	296	150	389	e190	e350	e250	726	324	141	35	41	41
8	294	179	387	e200	e320	e270	650	277	143	34	38	36
9	249	177	554	e190	e300	e640	593	256	135	32	33	34
10	221	173	623	e170	e290	e1000	510	294	119	31	31	30
11	410	163	489	e140	e280	655	443	273	109	32	31	29
12	392	161	469	e160	e260	644	393	237	98	32	30	29
13	313	161	437	e150	e220	975	356	216	90	30	28	29
14	282	164	394	e140	e200	736	326	217	83	28	28	29
15	265	151	398	e140	e210	e600	322	193	77	29	26	28
16	248	143	410	e150	e220	e500	295	282	76	31	22	24
17	233	143	349	e170	e220	e450	272	344	80	65	20	26
18	219	507	311	196	e230	e410	266	311	71	61	20	28
19	206	341	289	203	e240	e380	245	1900	65	48	20	27
20	192	316	606	282	e220	e350	216	1550	61	59	20	26
21	188	e290	832	317	e240	e290	209	1380	57	749	18	25
22	172	e260	514	212	e250	e270	194	1330	55	312	18	23
23	170	e280	478	174	e220	e280	255	874	78	127	19	32
24	159	272	442	164	e200	435	645	886	69	113	28	36
25	169	258	473	e150	e180	703	371	716	56	128	38	32
26	159	264	453	e140	e180	3060	311	590	53	94	35	28
27	147	241	386	e110	e170	2510	297	480	53	80	30	27
28	183	222	368	e140	e180	1400	339	404	51	90	39	25
29	172	1090	358	e170	e160	1070	495	350	47	71	59	23
30	158	1380	e300	e190	---	848	718	300	46	56	86	23
31	148	---	e400	e280	---	698	---	257	---	65	50	---
TOTAL	7703	8315	14750	6088	9613	20614	15354	16679	3182	2686	1072	952
MEAN	248	277	476	196	331	665	512	538	106	86.6	34.6	31.7
MAX	559	1380	832	380	1460	3060	2060	1900	240	749	86	61
MIN	147	128	289	110	160	170	194	193	46	28	18	23
CFSM	.86	.96	1.65	.68	1.15	2.31	1.78	1.87	.37	.30	.12	.11
IN.	.99	1.07	1.91	.79	1.24	2.66	1.98	2.15	.41	.35	.14	.12

CAL Y R	1987	TOTAL	129665	MEAN	355	MAX	4890	MIN	31	CFSM	1.23	IN. 16.75
WTR YR	1988	TOTAL	107008	MEAN	292	MAX	3060	MIN	18	CFSM	1.02	IN. 13.82

e Estimated

04223000 GENESEE RIVER AT PORTAGEVILLE, NY

LOCATION.--Lat 42°34'13", long 78°02'33", Wyoming County, Hydrologic Unit 04130002, on left bank at Portageville, 500 ft downstream from bridge on State Highway 436, 800 ft upstream from abandoned railroad bridge piers, 0.9 mi upstream from Upper Falls, and 89.8 mi upstream from mouth.

DRAINAGE AREA.--984 mi^2.

PERIOD OF RECORD.--August 1908 to current year. Prior to December 1945, published as "at St. Helena". Records published for both sites December 1945 to September 1950.

REVISED RECORDS.--WSP 264: 1908. WSP 564: 1916(M). WSP 2112; WDR NY–82–3: Drainage area. WRD NY 1972: 1950(M), 1951(M), 1956(M), 1959(M), 1964(M), 1967(M).

GAGE.--Water-stage recorder. Datum of gage is 1,080.00 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Aug. 24, 1911, nonrecording gage and Aug. 24, 1911 to Sept. 30, 1946, water-stage recorder at site 8 mi downstream at different datum. Oct. 1, 1946 to June 21, 1972, water-stage recorder at site 1,200 ft downstream at datum 2.60 ft higher (destroyed by flood of June 1972). July 12, 1972 to May 18, 1973, nonrecording gage at site 500 ft upstream at datum 11.48 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since July 1928, some seasonal regulation by Rushford Lake. Diurnal fluctuation at low flow caused by powerplant. Monthly figures of discharge and runoff 1952 to 1966 water years adjusted for change in contents in Rushford Lake. Gage-height telemeter at station. Satellite gage-height and rain-gage telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--80 years (water years 1909–88), 1,252 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 90,000 ft^3/s June 23, 1972, gage height, 35.25 ft site and datum then in use, from high-water mark, from rating curve extended above 25,000 ft^3/s on basis of contracted-opening measurement of 71,000 ft^3/s at highway bridge 0.4 mi upstream and contracted-opening measurement of 98,200 ft^3/s 0.7 mi downstream from gage; minimum, 18 ft^3/s Oct. 5, 17, 1913, gage height, 1.70 ft site and datum then in use.

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)
Apr. 4	0945	*13,100	*14.93	No peak greater than base discharge.			

Minimum discharge, 64 ft^3/s Aug. 23, 24, gage height, 8.08 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1740	705	3210	e1050	e3200	e550	1700	2490	603	157	186	173
2	1600	678	2370	e920	4700	e530	1920	1670	559	155	173	133
3	2480	651	1770	e680	3160	e800	1850	1360	534	151	158	110
4	1680	591	1600	e620	2070	e840	9840	1170	548	144	149	121
5	1220	411	1470	e530	e1600	e700	4480	1010	539	134	142	137
6	1120	435	1300	e460	e1200	e740	3040	1130	469	120	139	155
7	1190	444	1170	e440	e980	e900	2350	1040	431	112	138	148
8	1020	548	1330	e430	e900	1060	1900	892	432	107	124	128
9	1090	911	2250	e420	e850	2470	1770	767	388	103	116	101
10	1240	962	3240	e400	e800	4130	1520	808	343	97	102	100
11	1390	837	2080	e380	e720	2430	1270	1060	325	100	99	89
12	2050	784	1750	e360	e660	2000	1110	942	299	97	98	87
13	1600	780	1640	e380	e630	3250	1000	801	276	94	92	100
14	1220	769	1480	e350	e600	2500	935	727	254	92	91	105
15	780	684	1500	e340	e610	1730	938	666	234	88	90	99
16	861	459	1830	e360	e630	1470	950	894	230	89	83	97
17	1130	436	1350	e410	e650	1240	864	1780	236	130	92	121
18	1090	614	1140	e500	e670	1140	797	1180	230	198	80	154
19	1060	1020	1030	e960	e690	1090	796	5390	218	179	81	132
20	1030	771	2800	e1350	e700	1050	738	5590	275	168	76	136
21	872	705	4600	2460	e700	e900	697	3710	191	883	73	143
22	554	552	2210	1430	e670	e820	675	3660	177	2060	70	123
23	559	617	1660	e900	e1300	e900	742	2460	199	641	68	245
24	628	661	1450	e800	e1200	1740	2040	1850	213	510	67	254
25	836	929	1680	e700	e840	2750	1640	1880	219	425	115	183
26	843	994	1740	e530	e700	8470	1140	1510	284	399	111	153
27	715	997	1350	e440	e630	6600	937	1240	178	322	105	148
28	494	909	1140	e500	e600	4220	1020	1030	163	270	107	265
29	524	2410	1050	e600	e580	3410	1530	904	160	237	227	267
30	541	6400	e700	e700	---	2560	4150	831	158	232	259	266
31	734	---	e720	e1340	---	1920	---	725	---	206	227	---
TOTAL	33891	28664	54610	21740	33240	64910	54339	51167	9365	8700	3738	4473
MEAN	1093	955	1762	701	1146	2094	1811	1651	312	281	121	149
MAX	2480	6400	4600	2460	4700	8470	9840	5590	603	2060	259	267
MIN	494	411	700	340	580	530	675	666	158	88	67	87

CAL YR	1987	TOTAL	422661	MEAN	1158	MAX	11800	MIN	99
WTR YR	1988	TOTAL	368837	MEAN	1008	MAX	9840	MIN	67

e Estimated

04224000 MOUNT MORRIS LAKE NEAR MOUNT MORRIS, NY

LOCATION.--Lat 42°44'00", long 77°54'40", Livingston County, Hydrologic Unit 04130002, at Mount Morris Dam on Genesee River, 2.0 mi northwest of Mount Morris, 5 mi upstream from Canaseraga Creek, and 69.3 mi upstream from mouth.

DRAINAGE AREA.--1,080 mi^2.

PERIOD OF RECORD.--January 1952 to current year. Prior to October 1970, published as "Mount Morris Reservoir near Mount Morris."

REVISED RECORDS.--WSP 1437: 1955. WSP 2112; WDR NY-82-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U. S. Army Corps of Engineers). Prior to Apr. 8, 1952, reference point at same site and datum.

REMARKS.--Lake is formed by a concrete gravity-type dam with overflow spillway, completed by U. S. Army Corps of Engineers in 1951 for flood control; first used for flood regulation on Nov. 24, 1951. Usable capacity, 336,800 acre-ft between elevation 585.0 ft, sill of conduits, and 760.0 ft, crest of spillway. Dead storage, 609 acre-ft. Discharge is controlled by the operation of nine gates. Water is stored during high flows and released when downstream conditions warrant.

COOPERATION.--Capacity table provided by U. S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 755.46 ft June 25, 1972, contents, 322,600 acre-ft; minimum, 584.23 ft Sept. 2, 1976, contents, 475.8 acre-ft.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 637.97 ft Mar. 28, 29, contents, 40,860 acre-ft; minimum, 584.38 ft Oct. 21, 22, contents 502 acre-ft.

Capacity table (elevation, in feet, and usable contents, in acre-feet)
(Furnished by U. S. Army Corps of Engineers in 1953)

584.00	436	605.00	8,250	660.00	78,200
586.00	782	610.00	11,600	680.00	119,800
588.00	1,210	620.00	19,800	700.00	166,300
590.00	1,730	630.00	30,500	730.00	245,200
595.00	3,410	640.00	43,700	750.00	305,100
600.00	5,610				

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	592.58	590.64	623.00	592.91	613.23	608.11	624.64	612.56	590.73	587.59	589.50	589.37
2	592.60	590.48	622.48	592.54	622.91	606.50	619.64	610.08	590.49	587.54	589.34	589.30
3	593.60	590.33	620.17	589.98	630.01	605.16	614.25	606.25	590.58	587.46	589.26	588.95
4	593.93	590.29	616.46	590.34	629.82	606.70	624.44	605.94	590.41	587.40	589.08	588.63
5	591.39	588.96	611.81	590.05	626.73	607.25	635.03	597.18	590.76	587.35	588.92	588.75
6	590.03	588.87	605.85	589.85	622.30	606.40	634.87	593.32	590.21	587.28	588.86	588.79
7	590.36	589.00	597.22	590.14	616.35	606.00	632.53	593.42	589.80	587.17	588.82	588.69
8	589.89	589.03	594.21	590.83	608.93	607.08	628.04	592.34	589.77	587.08	588.75	588.53
9	589.73	591.12	597.01	591.53	597.05	610.58	622.35	591.39	589.62	587.01	588.59	588.34
10	590.19	592.31	607.44	591.13	592.66	620.70	616.32	591.11	589.41	586.92	588.46	588.05
11	590.23	591.48	609.29	590.43	595.76	626.21	608.71	592.93	589.35	586.84	588.35	587.79
12	591.94	591.06	606.65	590.19	600.43	628.17	599.04	592.88	589.30	586.78	588.29	587.63
13	591.31	590.96	602.24	589.73	600.87	630.20	593.21	591.72	589.22	586.74	588.24	587.49
14	590.57	590.91	595.59	589.66	596.77	633.14	592.91	590.92	589.12	586.69	588.15	587.42
15	589.79	590.75	594.36	591.56	596.64	634.18	592.69	590.81	588.98	586.67	588.09	587.38
16	589.47	589.31	597.89	593.76	601.37	632.34	592.92	590.72	588.66	586.65	588.08	587.33
17	589.58	588.96	595.15	593.88	603.44	628.73	592.33	596.62	588.60	586.85	587.99	587.39
18	589.74	589.25	593.76	594.10	604.47	624.46	591.55	594.39	588.59	587.75	588.31	587.96
19	589.60	592.68	593.07	596.63	605.01	619.52	591.39	603.42	588.49	588.11	588.17	587.98
20	589.01	591.72	597.01	602.79	605.36	613.45	591.10	623.01	588.55	588.03	588.18	587.81
21	586.65	590.62	615.22	610.28	606.23	605.49	590.95	626.72	588.53	588.47	588.04	587.77
22	584.50	589.75	617.96	615.55	605.33	592.35	590.81	630.05	588.18	603.62	587.93	587.73
23	585.88	589.81	615.19	616.32	606.03	591.67	590.87	631.66	588.15	606.04	587.86	588.50
24	586.93	590.18	610.88	616.05	610.56	593.81	596.55	628.67	588.17	603.56	588.02	589.32
25	587.57	591.38	605.82	615.30	612.39	601.38	599.88	624.57	588.20	598.91	588.08	589.14
26	587.74	592.10	603.33	613.37	612.00	616.29	593.93	619.84	588.38	592.37	588.55	588.63
27	589.67	592.62	597.22	611.20	611.13	631.58	592.45	615.81	588.48	591.45	587.24	589.27
28	589.56	592.05	594.05	608.29	609.99	637.29	592.55	607.82	587.98	590.45	587.16	591.91
29	589.53	592.97	593.34	606.30	608.90	637.76	594.24	595.28	587.90	589.84	587.94	591.57
30	589.66	616.78	590.66	605.13	---	635.65	606.52	591.96	587.73	589.75	589.37	589.15
31	590.39	---	590.36	605.92	---	630.36	---	591.43	---	589.56	589.38	---
MEAN	589.79	591.55	603.70	598.89	608.71	617.05	604.89	604.03	589.08	589.93	588.42	588.55
MAX	593.93	616.78	623.00	616.32	630.01	637.76	635.03	631.66	590.76	606.04	589.50	591.91
MIN	584.50	588.87	590.36	589.66	592.66	591.67	590.81	590.72	587.73	586.65	587.16	587.33
†	1970	22,080	2,160	10,330	10,630	27,780	13,300	2,009	1,132	1,587	1,569	1,447
††	-12.8	+338	-324	+133	+5.21	+279	-243	-184	-14.7	+7.4	-0.3	-2.0

CAL YR 1987 MEAN 598.49 MAX 666.93 MIN 584.50 †† +1.0
WTR YR 1988 MEAN 597.87 MAX 637.76 MIN 584.50 †† -1.8

† Contents, in acre-ft, at end of month.
†† Change in contents, equivalent in cubic feet per second.

04224775 CANASERAGA CREEK ABOVE DANSVILLE, NY

LOCATION.--Lat 42°32'08", long 77°42'16", Livingston County, Hydrologic Unit 04130002, on right bank on Poags Hole Road, 0.7 mi upstream from Stony Brook, and 1.7 mi south of Dansville.

DRAINAGE AREA.--88.9 mi^2.

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

REVISED RECORDS.--WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 715.60 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height telemeter at station. Satellite gage-height and rain-gage telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years, 94.9 ft^3/s, 14.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,870 ft^3/s Sept. 20, 1977, gage height, 5.51 ft; minimum discharge, 6.7 ft^3/s Aug. 27, Sept 7, 8, 1985; minimum gage height, 0.70 ft several days in August, September, and October 1980.

EXTREMES FOR CURRENT YEAR.--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)
Nov.29	1800	1,110	2.65	Apr. 4	0245	1,350	2.91
Mar.26	0430	1,200	2.75	May 20	2300	*2,460	*3.84

Minimum daily discharge, 8.0 ft^3/s Aug. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	32	173	e110	e150	e64	145	202	e92	e14	e14	e12
2	153	32	148	e92	e180	e62	148	162	e110	e15	e14	e11
3	179	31	136	e84	e130	112	210	151	e54	e13	e12	e10
4	134	31	136	e72	e110	90	881	145	48	e12	e11	e13
5	95	31	125	e64	e100	77	283	137	42	e11	e12	e16
6	70	30	109	e60	e92	79	195	138	36	e10	e13	e12
7	74	30	97	e58	e84	89	162	117	35	e9.6	e12	e11
8	73	30	93	e52	e80	104	154	97	38	e9.4	e12	e10
9	60	36	190	e48	e76	207	153	87	34	e9.0	e11	e11
10	52	37	178	e47	e74	206	149	85	31	e8.6	e12	e9.8
11	75	34	131	e46	e70	139	139	86	29	e9.2	e11	e8.9
12	105	33	125	e45	e66	135	122	75	27	e9.6	e10	e8.9
13	71	32	118	e44	e64	147	110	69	23	e8.6	e9.4	e9.1
14	54	31	102	e43	e62	133	102	68	22	e8.6	e9.0	e9.3
15	46	31	111	e45	e80	105	118	60	20	e9.6	e8.7	e8.6
16	42	29	134	e58	e120	90	93	72	21	e9.0	e8.0	e8.8
17	40	29	109	e66	e100	82	80	124	22	e17	e8.8	e11
18	37	37	83	e130	e92	76	77	91	19	e23	e11	e15
19	35	36	77	319	e84	74	72	484	17	e15	e8.4	e10
20	35	33	330	244	e80	70	67	434	16	e15	e8.4	e12
21	35	31	299	209	e78	61	64	570	15	86	e8.3	e12
22	34	32	161	133	e94	61	62	272	14	46	e8.5	e11
23	37	27	144	e100	e120	74	89	177	19	e28	e8.8	e20
24	36	33	139	e82	e100	125	156	e150	17	e26	e11	e18
25	44	32	142	e68	e90	139	123	e140	14	e26	e11	e14
26	39	37	139	e56	e80	494	97	e120	e14	e26	e11	e13
27	36	37	118	e50	e74	280	98	e110	e14	e22	e10	e13
28	37	33	95	e45	e70	186	137	e100	e13	e18	e14	e11
29	36	301	e72	e52	e66	156	203	e94	e14	e16	e21	e11
30	37	320	e68	e70	---	152	346	e86	e13	e15	e20	e11
31	34	---	e100	e90	---	146	---	e86	---	e18	e14	---
TOTAL	2005	1528	4182	2682	2666	4015	4835	4789	883	563.2	353.3	351.4
MEAN	64.7	50.9	135	86.5	91.9	130	161	154	29.4	18.2	11.4	11.7
MAX	179	320	330	319	180	494	881	570	110	86	21	20
MIN	34	27	68	43	62	61	62	60	13	8.6	8.0	8.6
CFSM	.73	.57	1.52	.97	1.03	1.46	1.81	1.74	.33	.20	.13	.13
IN.	.84	.64	1.75	1.12	1.12	1.68	2.02	2.00	.37	.24	.15	.15

CAL YR	1987	TOTAL	31450	MEAN	86.2	MAX	991	MIN	15	CFSM	.97	IN. 13.16
WTR YR	1988	TOTAL	28852.9	MEAN	78.8	MAX	881	MIN	8.0	CFSM	.89	IN. 12.07

e Estimated

04227000 CANASERAGA CREEK AT SHAKERS CROSSING, NY

LOCATION.--Lat 42°44'13", long 77°50'27", Livingston County, Hydrologic Unit 04130002, on right bank 100 ft upstream from bridge on State Highway 408 at Shakers Crossing, 1.4 mi upstream from mouth, and 1.5 mi northeast of Mount Morris.

DRAINAGE AREA.--335 mi^2.

PERIOD OF RECORD.--July 1915 to September 1922 (gage height only), November 1958 to September 1970, October 1974 to current year.

REVISED RECORDS.--WDR NY-82-3: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 545.52 ft above National Geodetic Vertical Datum of 1929. Prior to July 1981 at site 250 ft east on left bank of old filled-in channel at same datum and prior to November 1958 at site 250 ft east and 40 ft north at datum 5.52 ft lower. April 1968 to September 1970, and since October 1974, auxiliary water-stage recorder 0.6 mi downstream from base gage.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years (water years 1960-70, 1975-88), 286 ft^3/s, 11.59 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,270 ft^3/s Mar. 4, 1976, gage height, 13.33 ft; maximum gage height, 23.62 ft present datum, May 17, 1916 (backwater from Genesee River); minimum discharge, 4.3 ft^3/s Aug. 19, 1970, gage height, 2.26 ft, result of temporary regulation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1972 reached an estimated discharge of 11,200 ft^3/s from U. S. Army Corps of Engineers publication (Tropical Storm Agnes, June 1972).

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)
Apr. 4	0730	*3,410	*10.41	No other peak greater than base discharge.			

Minimum discharge, 27 ft^3/s Aug. 17, gage height, 3.43 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	447	103	436	e240	e470	e160	246	625	157	52	47	45
2	408	99	318	e180	e560	e150	283	437	245	55	43	40
3	456	100	252	e150	e320	258	389	352	173	51	41	36
4	292	96	253	e130	e180	231	2760	302	157	48	38	44
5	227	97	244	e120	e180	171	1390	269	139	44	37	62
6	170	94	230	e100	e170	187	775	291	126	41	42	48
7	164	91	225	e98	e170	222	486	253	125	39	41	40
8	178	89	224	e94	e160	224	423	222	130	38	40	38
9	147	97	450	e90	e160	359	419	199	120	37	37	40
10	129	108	610	e89	e150	566	346	204	107	35	42	35
11	156	97	363	e88	e150	327	296	199	99	37	37	33
12	240	94	285	e86	e150	289	296	183	91	38	34	33
13	198	97	268	e85	e140	353	290	168	84	35	32	34
14	150	90	260	e84	e140	309	277	173	83	34	32	35
15	136	85	328	e88	e230	218	323	158	72	38	32	33
16	128	84	460	e100	e680	168	294	209	69	35	30	33
17	114	85	329	e110	e450	148	267	417	77	66	32	42
18	109	101	262	e140	e430	133	232	282	69	87	42	63
19	107	109	239	e320	e410	140	221	1030	67	58	32	42
20	104	97	815	e400	e400	141	204	1200	61	58	31	45
21	105	85	1040	e760	e330	130	189	2020	57	204	32	48
22	102	70	459	e400	e260	149	184	1480	55	219	33	42
23	112	90	340	e210	e380	191	226	669	81	87	32	79
24	116	101	294	e220	e320	272	375	451	67	75	39	82
25	119	101	304	e200	e250	331	267	363	60	80	45	54
26	123	110	307	e160	e200	1470	226	313	61	79	46	46
27	107	119	270	e110	e190	1160	209	236	55	65	41	49
28	119	104	248	e100	e180	620	296	211	53	55	49	41
29	113	385	e190	e110	e180	445	369	209	55	51	82	40
30	114	1080	e120	e140	---	362	1130	187	50	49	84	40
31	110	---	e160	e250	---	287	---	162	---	62	53	---
TOTAL	5300	4158	10583	5452	7990	10171	13688	13474	2845	1952	1278	1342
MEAN	171	139	341	176	276	328	456	435	94.8	63.0	41.2	44.7
MAX	456	1080	1040	760	680	1470	2760	2020	245	219	84	82
MIN	102	70	120	84	140	130	184	158	50	34	30	33
CFSM	.51	.41	1.02	.52	.82	.98	1.36	1.30	.28	.19	.12	.13
IN.	.59	.46	1.18	.61	.89	1.13	1.52	1.50	.32	.22	.14	.15

CAL YR	1987	TOTAL	96209	MEAN	264	MAX	3390	MIN	45	CFSM	.79	IN. 10.68
WTR YR	1988	TOTAL	78233	MEAN	214	MAX	2760	MIN	30	CFSM	.64	IN. 8.69

e Estimated

04227500 GENESEE RIVER NEAR MOUNT MORRIS, NY

LOCATION.--Lat 42°46'00", long 77°50'21", Livingston County, Hydrologic Unit 04130002, on right bank 100 ft north of Jones Bridge Road, 0.8 mi downstream from Canaseraga Creek, 2.8 mi northeast of Mount Morris and 63.0 mi upstream from mouth.

DRAINAGE AREA.--1,424 mi^2.

PERIOD OF RECORD.--May 1903 to April 1906, August 1908 to April 1914, July 1915 to current year. Prior to 1968, published as "at Jones Bridge."

REVISED RECORDS.--WSP 1277: 1952. WSP 1387: 1913. WSP 1437: 1955. WSP 2112; WDR NY–82–3: Drainage area. WDR NY–78–1: 1974–77 (M, m).

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 540.12 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 11, 1915, nonrecording gage on bridge at datum 2.85 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low flow caused by powerplant. Flow regulated to some extent by Rushford Lake since July 1928, and at high flows since November 1951 by Mount Morris Lake (see station 04224000). Monthly figures of discharge and runoff 1952 to 1966 water years adjusted for change in contents in Rushford Lake and Mount Morris Lake. U.S. Army Corps of Engineers gage-height telemeter at station. Satellite gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--78 years (water years 1909–13, 1916–88), 1,670 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,100 ft^3/s May 17, 1916, gage height, 25.44 ft; maximum gage height, 25.80 ft, present datum, Mar. 13, 1920 (ice jam); minimum discharge, 12 ft^3/s July 23, 1955, gage height, 0.22 ft, partially obstructed intake; minimum daily, 30 ft^3/s Aug. 8, 1909.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5910 ft^3/s May 21 at 0645 hours, gage height, 9.71 ft; minimum discharge 47 ft^3/s July 16; minimum gage height, 1.10 ft, Aug 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2340	871	3740	1370	e1700	1240	4940	3450	851	223	270	270
2	2440	828	3590	1410	e1900	1240	4080	3160	869	221	244	216
3	2800	799	3430	1070	e2350	1260	3850	2810	801	213	231	176
4	2410	787	3270	989	e3300	1250	5060	2050	739	164	208	178
5	1770	595	3030	e1400	e4200	1230	5560	1510	773	194	192	223
6	1390	555	2710	e1300	e4000	1210	5410	1510	675	181	194	213
7	1650	573	1900	e1200	e4400	1240	5270	1520	611	167	184	213
8	1350	573	1630	e1300	e3000	1250	5420	1270	603	142	176	200
9	1270	893	2190	e1300	e1900	1460	4870	1100	573	107	164	189
10	1570	1170	3140	e1400	e1400	1900	3950	1010	504	131	164	125
11	1560	1020	3040	e1200	e1200	1720	3240	1340	467	147	154	142
12	2360	926	2820	e1100	e1100	1700	2430	1320	437	152	168	154
13	2070	904	2560	e980	e1050	1800	1650	1110	402	127	132	147
14	1750	895	2100	e920	e1100	1800	1580	958	381	112	121	126
15	1110	866	1960	e840	e1300	2270	1580	912	344	137	163	141
16	939	645	2470	e800	e1600	3440	1590	918	324	87	145	153
17	1340	560	2070	e820	1520	3680	1470	2210	337	172	97	154
18	1350	600	1620	e900	1500	3510	1290	1840	327	282	178	227
19	1310	1120	1430	e1000	1510	3310	1240	2940	311	276	121	217
20	1270	955	2330	e1200	1550	3040	1150	4530	327	248	133	197
21	1230	846	3950	e1500	1540	2640	1070	5240	312	456	126	190
22	801	694	3560	e2100	1670	1420	1030	3760	256	1600	95	189
23	719	696	3310	e1900	1500	1240	1080	3830	296	1050	123	245
24	752	779	3050	e1800	1520	1830	1970	4750	292	968	111	404
25	923	1000	2790	e1700	1450	2500	2400	4460	288	900	142	291
26	1050	1150	2640	e1600	1500	4310	1660	3840	325	609	145	240
27	957	1220	2240	e1500	1370	3840	1290	3200	313	485	162	209
28	752	1110	1650	e1500	1460	3390	1360	2820	241	389	169	204
29	663	1440	1510	e1400	1310	4930	1760	1820	228	336	267	343
30	698	3940	1030	e1400	---	5750	3470	1140	221	311	381	321
31	782	---	1050	e1400	---	5450	---	993	---	312	316	---
TOTAL	43376	29010	77810	40299	54900	76850	82720	73321	13428	10899	5476	6297
MEAN	1399	967	2510	1300	1893	2479	2757	2365	448	352	177	210
MAX	2800	3940	3950	2100	4400	5750	5560	5240	869	1600	381	404
MIN	663	555	1030	800	1050	1210	1030	912	221	87	95	125

CAL YR	1987	TOTAL	602727	MEAN	1651	MAX	8930	MIN	186
WTR YR	1988	TOTAL	514386	MEAN	1405	MAX	5750	MIN	87

e Estimated

04227510 GENESEE RIVER NEAR GENESEO, NY

LOCATION.--Lat 42°46'37", long 77°50'31", Livingston County, Hydrologic Unit 04130003, at bridge on U.S. Highway 20A, and State Highway 39, 1.0 mi west of intersection with State Highway 63 and 1.5 mi southwest of Geneseo.

DRAINAGE AREA.--1,425 mi^2.

PERIOD OF RECORD.--May 1972-1974, April to September 1988.
CHEMICAL DATA: 1988 (b).
MINOR ELEMENT DATA: 1972-74 (a), 1988 (b).

REMARKS.--Water-discharge data are based on records for station 04227500 Genesee River near Mount Morris.

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but were analyzed by the USGS Central Laboratory at Denver Colorado.

WATER QUALITY DATA, APRIL TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
APR									
06	1100	5420	196	8.20	13.0	9.3	77	20	23
MAY									
02	1530	3110	204	8.00	11.5	9.8	80	20	23
JUN									
06	0945	682	328	8.40	18.0	8.2	130	28	39
AUG									
02	0945	230	381	8.40	26.5	7.2	150	35	43

DATE	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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)
APR									
06	4.8	7.1	1.6	57	23	11	0.1	105	<1
MAY									
02	5.4	7.8	1.4	60	23	12	0.1	109	2
JUN									
06	9.1	12	1.6	107	31	17	0.1	174	1
AUG									
02	11	16	2.1	118	35	25	0.1	203	1

DATE	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)	SEDI-MENT, SUS-PENDED (MG/L)
APR								
06	24	18000	60	350	<0.1	21	70	--
MAY								
02	19	5100	8	140	<0.1	9	20	--
JUN								
06	9	1100	<5	70	<0.1	3	20	--
AUG								
02	12	1000	<5	70	<0.1	3	20	29

04227980 CONESUS LAKE NEAR LAKEVILLE, NY

LOCATION.--Lat 42°47'39", long 77°43'15", Livingston County, Hydrologic Unit 04130003, on west shore of Conesus Lake at Geneseo Water Works pumping station, 300 ft east of State Highway 256, and 3.0 mi south of Lakeville.

DRAINAGE AREA.--69.8 mi^2.

PERIOD OF RECORD.--July 1963 to current year. Since 1930 in files of village of Geneseo.

REVISED RECORDS.--WSP 2112; WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Oct. 1, 1970 to Sept. 30, 1975, at datum 800.00 ft higher. Prior to Oct. 1, 1970, nonrecording gage at site 200 ft downstream at datum 796.59 ft higher.

REMARKS.--Lake elevation regulated by gates at outlet. Area of water surface, 5.08 mi^2. Daily average of about 2 ft^3/s diverted from lake for water supply for Avon, Geneseo, and Lakeville Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 822.50 ft June 24, 1972; minimum observed, 816.33 ft present datum, Nov. 3–8, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 819.36 ft Apr. 4; minimum, 816.77 ft Nov. 23, 24, 25.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	817.06	816.88	816.97	817.52	817.10	817.72	818.80	818.69	818.70	818.14	818.03	817.63
2	817.06	816.88	817.00	817.50	817.15	817.73	818.82	818.71	818.70	818.12	818.01	817.61
3	817.05	816.88	817.02	817.47	817.19	817.74	818.88	818.69	818.69	818.09	818.00	817.59
4	817.03	816.88	817.04	817.44	817.25	817.76	819.28	818.66	818.67	818.07	817.98	817.61
5	817.02	816.87	817.06	817.43	817.28	817.77	819.16	818.63	818.65	818.05	817.96	817.61
6	817.01	816.86	817.06	817.40	817.29	817.78	818.89	818.60	818.62	818.03	817.97	817.59
7	817.02	816.85	817.06	817.37	817.30	817.79	818.61	818.55	818.60	818.01	817.94	817.56
8	817.01	816.84	817.06	817.35	817.30	817.81	818.50	818.49	818.59	817.99	817.92	817.53
9	816.99	816.85	817.09	817.32	817.31	817.84	818.43	818.43	818.57	817.98	817.89	817.51
10	816.98	816.84	817.12	817.30	817.32	817.88	818.34	818.38	818.56	817.96	817.87	817.49
11	816.99	816.82	817.14	817.28	817.32	817.91	818.26	818.37	818.54	817.95	817.86	817.47
12	816.99	816.81	817.15	817.25	817.34	817.93	818.28	818.37	818.53	817.93	817.85	817.45
13	816.99	816.81	817.18	817.23	817.35	817.96	818.30	818.37	818.52	817.90	817.83	817.44
14	816.98	816.80	817.18	817.20	817.35	817.98	818.31	818.37	818.51	817.89	817.81	817.42
15	816.97	816.80	817.21	817.18	817.37	817.99	818.34	818.36	818.50	817.90	817.78	817.39
16	816.97	816.80	817.26	817.15	817.40	818.00	818.35	818.39	818.48	817.88	817.75	817.36
17	816.96	816.81	817.27	817.13	817.41	818.01	818.36	818.43	818.47	817.96	817.74	817.38
18	816.95	816.82	817.28	817.12	817.43	818.02	818.38	818.45	818.45	817.99	817.73	817.38
19	816.95	816.81	817.29	817.12	817.46	818.03	818.37	818.53	818.43	818.00	817.70	817.37
20	816.94	816.80	817.38	817.15	817.51	818.05	818.37	818.64	818.42	817.99	817.67	817.36
21	816.95	816.79	817.47	817.19	817.55	818.06	818.37	818.80	818.40	818.04	817.64	817.35
22	816.93	816.78	817.52	817.21	817.57	818.06	818.36	818.72	818.39	818.06	817.60	817.32
23	816.94	816.78	817.55	817.20	817.60	818.07	818.39	818.70	818.39	818.05	817.58	817.36
24	816.94	816.77	817.57	817.19	817.64	818.09	818.43	818.73	818.35	818.08	817.59	817.34
25	816.93	816.78	817.58	817.17	817.67	818.14	818.43	818.74	818.33	818.07	817.57	817.33
26	816.92	816.79	817.59	817.16	817.68	818.33	818.44	818.75	818.29	818.09	817.60	817.31
27	816.91	816.80	817.60	817.15	817.70	818.52	818.45	818.75	818.26	818.08	817.58	817.29
28	816.90	816.79	817.60	817.13	817.71	818.63	818.46	818.75	818.23	818.07	817.61	817.27
29	816.90	816.85	817.60	817.11	817.72	818.71	818.52	818.74	818.21	818.05	817.67	817.24
30	816.90	816.94	817.57	817.09	---	818.75	818.63	818.73	818.17	818.04	817.67	817.22
31	816.89	---	817.55	817.08	---	818.78	---	818.71	---	818.05	817.65	---
MEAN	816.97	816.83	817.29	817.24	817.42	818.06	818.52	818.59	818.47	818.02	817.78	817.43
MAX	817.06	816.94	817.60	817.52	817.72	818.78	819.28	818.80	818.70	818.14	818.03	817.63
MIN	816.89	816.77	816.97	817.08	817.10	817.72	818.26	818.36	818.17	817.88	817.57	817.22

CAL YR	1987	MEAN	817.89	MAX	819.85	MIN	816.77
WTR YR	1988	MEAN	817.72	MAX	819.28	MIN	816.77

04228500 GENESEE RIVER AT AVON, NY

LOCATION.--Lat 42°55'04", long 77°45'27", Livingston County, Hydrologic Unit 04130003, on right bank 250 ft downstream from bridge on U.S. Highway 20 (State Highway 5), 0.3 mi west of Avon, 0.8 mi downstream from Conesus Creek, and 35.6 mi upstream from mouth.

DRAINAGE AREA.--1,673 mi^2.

PERIOD OF RECORD.--August 1955 to current year.

REVISED RECORDS.--WSP 2112; WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 500.11 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low flow caused by powerplant. Flow regulated to some extent by Rushford Lake, at high flows by Mount Morris Lake (see station 04224000), and by Conesus Lake (see station 04227980). Monthly figures of discharge and runoff August 1955 to September 1965 adjusted for change in contents in Rushford Lake and Mount Morris Lake. Satellite gage-height and rain-gage telemeter at station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years (water years 1956–88), 1,934 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft^3/s, June 25, 1972, gage height, 40.67 ft; minimum, 47 ft^3/s, Oct. 10–11, 1980, gage height, 13.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,940 ft^3/s, Apr. 5 at 0615 hours, gage height, 28.34 ft; minimum, 120 ft^3/s, Aug. 23, gage height, 13.84 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2200	964	3970	e1800	e1650	e1510	5180	3780	1080	271	324	328
2	2500	956	3750	e1900	e1800	e1480	4490	3500	1020	271	288	281
3	2350	926	3590	e1700	e2200	e1500	4050	3190	992	269	270	240
4	2860	899	3430	e1500	e3250	e1480	5780	2720	924	261	257	225
5	2080	841	3240	e1450	e4200	e1450	6810	1900	905	223	243	233
6	1590	635	2970	e1400	e4300	e1450	6450	1640	886	240	236	252
7	1500	631	2500	e1300	e4250	1400	5890	1750	776	236	232	245
8	1540	637	1690	e1400	e3500	1370	5660	1590	725	215	226	243
9	1370	732	1840	e1450	e2400	1470	5460	1400	687	191	222	233
10	1420	1120	2840	e1500	e1650	1900	4640	1240	627	161	209	225
11	1550	1190	3220	e1300	e1400	1930	4010	1290	557	186	208	170
12	1880	1070	3040	e1200	e1250	1800	3060	1460	521	207	202	176
13	2310	1010	2800	e1150	e1230	1820	2080	1310	484	204	216	197
14	1890	996	2470	e1050	e1300	1900	1640	1160	446	188	181	185
15	1500	975	2010	e960	e1500	1920	1590	1070	415	176	163	167
16	1100	894	2420	873	e1750	3050	1600	1030	381	173	205	179
17	1160	658	2560	979	e1900	3680	1540	1610	367	181	193	204
18	1390	628	1930	1060	e1800	3620	1400	2190	374	262	157	214
19	1360	843	1610	1280	e1810	3470	1280	2000	362	304	211	252
20	1330	1170	1830	1720	e1850	3260	1240	4220	339	294	167	244
21	1300	987	3880	2330	e1900	2930	1170	5200	370	346	173	231
22	1140	863	4020	2400	e1750	2190	1110	5220	338	1070	158	227
23	854	750	3660	2080	e1800	1350	1090	3820	323	1270	152	238
24	847	819	3370	e1900	e1900	1560	1430	4510	344	1140	169	324
25	910	918	3090	e1750	e1700	2360	2440	4530	340	1030	163	387
26	1110	1150	2860	e1650	e1650	3970	2190	4200	337	878	191	295
27	1110	1230	2640	e1600	e1600	5200	1580	3500	385	602	186	261
28	994	1220	2020	e1530	e1550	3910	1430	3090	348	480	213	233
29	787	1200	1700	e1510	e1530	4340	1600	2550	297	398	260	265
30	777	3000	e1400	e1490	---	5450	2900	1440	279	350	368	347
31	809	---	e1350	e1520	---	5500	---	1200	---	352	388	---
TOTAL	45518	29912	83700	46732	60370	80220	90790	79310	16229	12429	6831	7301
MEAN	1468	997	2700	1507	2082	2588	3026	2558	541	401	220	243
MAX	2860	3000	4020	2400	4300	5500	6810	5220	1080	1270	388	387
MIN	777	628	1350	873	1230	1350	1090	1030	279	161	152	167

CAL YR	1987	TOTAL	657486	MEAN	1801	MAX	8810	MIN	224
WTR YR	1988	TOTAL	559342	MEAN	1528	MAX	6810	MIN	152

e Estimated

04228845 HONEOYE LAKE NEAR HONEOYE, NY

LOCATION.--Lat 42°45'44", long 77°30'26", Ontario County, Hydrologic Unit 04130003, on east shore of Honeoye Lake, at Trident Marina on East Lake Road, 1.9 mi south of U.S. Highway 20A, and 2.0 mi southeast of Honeoye.

DRAINAGE AREA.--41.0 mi^2.

PERIOD OF RECORD.--July to December 1963. Occasional readings January to August 1964. October 1964 to current year.

REVISED RECORD.--WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. July 10, 1963 to Sept. 28, 1967, nonrecording gage and Sept. 29, 1967 to Sept. 30, 1969, recording gage at datum 800.35 ft higher. Oct. 1, 1969 to Sept. 30, 1975, at datum 800.00 ft higher.

REMARKS.--Area of water surface, 2.71 mi^2.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 806.91 ft June 23, 1972; minimum observed, 802.15 ft present datum, Oct. 5, 1965, Oct. 1, 2, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 804.41 ft Apr. 4; minimum, 802.51 ft July 14.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	803.41	803.39	803.41	803.77	803.55	803.59	803.95	803.78	803.30	802.96	803.08	802.96
2	803.43	803.41	803.33	803.77	803.62	803.59	803.96	803.83	803.20	802.92	803.07	802.95
3	803.42	803.45	803.36	803.76	803.64	803.54	804.08	803.85	803.31	802.89	803.07	802.94
4	803.41	803.41	803.38	803.74	803.68	803.57	804.37	803.76	803.41	802.85	803.05	802.98
5	803.41	803.33	803.39	803.67	803.70	803.58	804.17	803.83	803.31	802.82	803.06	802.99
6	803.43	803.31	803.38	803.67	803.71	803.60	804.05	803.85	803.22	802.79	803.05	802.96
7	803.45	803.33	803.38	803.66	803.70	803.60	804.06	803.70	803.35	802.75	803.03	802.94
8	803.44	803.35	803.38	803.67	803.68	803.47	804.02	803.65	803.34	802.71	803.01	802.91
9	803.42	803.35	803.43	803.68	803.68	803.45	804.07	803.74	803.31	802.67	802.98	802.87
10	803.41	803.32	803.49	803.67	803.67	803.50	804.03	803.76	803.28	802.64	802.95	802.83
11	803.46	803.33	803.51	803.67	803.66	803.54	804.01	803.71	803.26	802.61	802.97	802.80
12	803.47	803.39	803.52	803.67	803.66	803.54	804.02	803.64	803.24	802.59	802.95	802.78
13	803.47	803.40	803.53	803.50	803.65	803.49	803.90	803.46	803.22	802.55	802.93	802.77
14	803.47	803.35	803.53	803.45	803.64	803.50	803.77	803.22	803.19	802.53	802.92	802.75
15	803.46	803.33	803.55	803.44	803.61	803.49	803.78	803.21	803.18	802.64	802.91	802.72
16	803.44	803.30	803.57	803.42	803.53	803.49	803.90	803.26	803.15	802.62	802.87	802.70
17	803.43	803.22	803.60	803.42	803.55	803.48	803.95	803.37	803.14	802.72	802.87	802.71
18	803.42	803.13	803.62	803.44	803.58	803.47	803.99	803.45	803.12	802.90	802.89	802.72
19	803.41	803.14	803.62	803.43	803.58	803.47	803.83	803.58	803.11	802.97	802.86	802.70
20	803.41	803.10	803.69	803.49	803.60	803.46	803.60	803.63	803.09	802.96	802.83	802.70
21	803.41	803.07	803.74	803.51	803.58	803.45	803.60	803.69	803.05	802.97	802.81	802.70
22	803.40	803.14	803.77	803.52	803.57	803.44	803.65	803.82	803.04	803.01	802.78	802.70
23	803.43	803.16	803.76	803.53	803.60	803.44	803.79	803.95	803.05	803.02	802.77	802.76
24	803.42	803.11	803.74	803.53	803.61	803.46	803.75	803.96	803.03	803.04	802.80	802.78
25	803.40	803.15	803.73	803.52	803.63	803.53	803.51	803.92	803.02	803.04	802.77	802.75
26	803.42	803.22	803.74	803.51	803.64	803.77	803.59	803.94	802.97	803.05	802.81	802.73
27	803.42	803.28	803.76	803.52	803.64	803.91	803.62	803.91	802.98	803.04	802.79	802.72
28	803.39	803.29	803.77	803.51	803.64	803.93	803.44	803.70	802.96	803.03	802.86	802.68
29	803.39	803.39	803.79	803.49	803.57	803.94	803.57	803.52	802.99	803.03	803.00	802.67
30	803.40	803.48	803.79	803.49	---	803.93	803.69	803.59	802.96	803.04	803.01	802.65
31	803.40	---	803.78	803.49	---	803.94	---	803.26	---	803.08	802.98	---
MEAN	803.42	803.29	803.58	803.57	803.63	803.59	803.86	803.66	803.16	802.85	802.93	802.79
MAX	803.47	803.48	803.79	803.77	803.71	803.94	804.37	803.96	803.41	803.08	803.08	802.99
MIN	803.39	803.07	803.33	803.42	803.53	803.44	803.44	803.21	802.96	802.53	802.77	802.65

CAL YR	1987	MEAN	803.54	MAX	805.02	MIN	802.91
WTR YR	1988	MEAN	803.36	MAX	804.37	MIN	802.53

04229500 HONEOYE CREEK AT HONEOYE FALLS, NY

LOCATION.--Lat 42°57'26", long 77°35'21", Monroe County, Hydrologic Unit 04130003, on right bank 25 ft downstream from bridge on State Highway 65 at Honeoye Falls, and 15.3 mi upstream from mouth.

DRAINAGE AREA.--196 mi^2.

PERIOD OF RECORD.--October 1945 to September 1970, October 1972 to current year.

REVISED RECORDS.--WSP 2112; WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 610.00 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1970, water-stage recorder at same site at datum 609.76 ft NGVD.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Outlet of Honeoye Lake not controlled (see station 04228845). Some diversion from and regulation of Hemlock and Canadice Lakes for water supply of city of Rochester. Diurnal fluctuation at low flow caused by mills upstream from station. Prior to 1967 water year, published monthly figures adjusted for change in contents in, and diversion from, Hemlock and Canadice Lakes. During low-water periods the village of Honeoye Falls pumps water from two deep wells with maximum pumping capacity of 600 gal/min (1.33 ft^3/s). This pumped water enters creek upstream from gage. Satellite gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--41 years (water years 1946–70, 1973–88), 122 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,630 ft^3/s Mar. 28, 1950, gage height, 6.42 ft datum then in use, from rating curve extended above 2,700 ft^3/s by logarithmic plotting; minimum, 0.06 ft^3/s Aug. 28, 1949.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1972, reached a stage of about 6.3 ft current datum; discharge, about 6,600 ft^3/s, from rating curve extended above 2,700 ft^3/s by logarithmic plotting.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 991 ft^3/s Apr. 4 at 2200 hours, gage height, 3.14 ft; minimum daily discharge, 1.0 ft^3/s Aug. 21-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	31	148	e64	e110	e60	148	211	62	5.6	5.1	11
2	62	29	95	e60	e130	e73	144	142	62	5.2	5.2	6.7
3	59	28	77	e56	e110	e82	152	119	63	4.6	4.4	4.3
4	52	28	72	e54	e90	e84	751	108	64	3.9	3.3	4.5
5	42	29	72	e52	e80	e78	702	100	57	3.0	2.7	3.9
6	34	29	68	e50	e72	e72	361	94	49	2.3	2.8	5.3
7	31	27	60	e49	e66	e74	268	89	45	1.9	2.1	6.0
8	29	27	62	e47	e60	e80	233	82	43	1.7	2.2	5.2
9	28	31	79	e45	e58	e82	232	75	40	1.6	2.1	3.8
10	26	48	140	e44	e56	e110	211	71	37	1.4	1.8	2.9
11	27	53	124	e42	e52	e100	180	70	33	1.4	1.6	2.4
12	29	42	96	e40	e50	86	157	66	31	1.4	1.6	2.1
13	33	38	85	e37	e48	83	139	62	27	1.4	1.4	2.2
14	31	38	80	e56	e47	84	126	61	25	1.5	e1.4	1.9
15	28	36	83	e49	e54	77	120	58	22	1.5	e1.4	1.7
16	26	33	153	e43	e85	73	116	59	20	1.4	e1.3	1.6
17	24	33	130	e39	e120	70	105	108	19	9.0	e1.3	2.7
18	23	38	92	e35	e106	71	98	112	17	15	e1.2	2.6
19	22	46	88	e100	e94	70	95	101	16	14	e1.2	1.9
20	22	40	214	e270	e98	69	88	160	14	9.1	e1.1	2.3
21	22	32	410	e200	e105	63	81	562	13	12	e1.0	1.9
22	23	34	232	e160	e122	58	78	389	12	27	e1.0	1.6
23	24	25	148	e110	e145	69	79	210	15	37	e1.3	2.9
24	29	27	122	e80	e160	91	126	164	15	34	1.9	2.2
25	32	31	115	e70	e115	126	111	138	13	53	2.1	3.1
26	32	34	e100	e66	e86	473	87	126	11	81	2.5	4.0
27	31	39	e90	e64	e66	559	79	113	9.4	58	2.3	3.9
28	30	36	e78	e66	e64	393	82	97	8.6	25	5.0	2.5
29	33	55	e56	e66	e62	249	97	85	7.2	14	10	1.9
30	34	193	e50	e62	---	200	278	75	6.0	9.2	21	1.7
31	32	---	e60	e70	---	168	---	68	---	7.0	19	---
TOTAL	996	1210	3479	2246	2511	4027	5524	3975	856.2	444.1	112.3	100.7
MEAN	32.1	40.3	112	72.5	86.6	130	184	128	28.5	14.3	3.62	3.36
MAX	62	193	410	270	160	559	751	562	64	81	21	11
MIN	22	25	50	35	47	58	78	58	6.0	1.4	1.0	1.6

CAL YR	1987	TOTAL	43719.9	MEAN	120	MAX	1840	MIN 3.5
WTR YR	1988	TOTAL	25481.3	MEAN	69.6	MAX	751	MIN 1.0

e Estimated

04230380 OATKA CREEK AT WARSAW, NY

LOCATION.--Lat 42°44'39", long 78°08'16", Wyoming County, Hydrologic Unit 04130003, on right bank 400 ft downstream from bridge on Court Street, Warsaw.

DRAINAGE AREA.--39.1 mi^2.

PERIOD OF RECORD.--December 1963 to current year.

REVISED RECORDS.--WSP 2112; WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 987.15 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharge, which are fair. Gage-height telemeter at station. Satellite gage-height and rain-gage telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years (water years 1965–88), 53.5 ft^3/s, 18.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,010 ft^3/s June 23, 1972, gage height, 9.75 ft, from rating curve extended above 1,770 ft^3/s on basis of slope-area measurement of peak discharge; minimum, 0.90 ft^3/s Aug. 1, 1965; minimum gage height, 0.91 ft July 11, 14, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 690 ft^3/s and maximum(*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 26	0230	704	3.71	Apr. 4	0445	*906	*4.19

Minimum discharge, 4.2 ft^3/s Aug. 23; minimum gage height, 0.91 ft, July 11, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	e20	65	e48	152	e42	117	144	24	6.8	5.3	8.1
2	65	e18	55	e44	123	67	117	103	26	6.8	5.1	7.2
3	61	e16	46	e36	64	83	176	84	26	6.3	5.0	7.1
4	34	e14	47	e32	42	58	487	77	25	7.1	6.0	11
5	27	e14	43	e30	e40	50	199	69	23	6.2	6.4	13
6	23	e14	39	e28	e38	51	187	65	19	5.8	6.8	9.9
7	42	e13	35	e27	e36	50	174	62	18	5.5	5.4	8.6
8	57	e12	48	e26	e35	67	159	56	18	5.3	5.1	9.0
9	32	e24	137	e25	e33	202	142	50	17	5.2	5.0	9.1
10	26	e21	100	e24	e32	172	100	48	15	4.9	5.0	9.0
11	39	e19	58	e23	e31	100	66	48	14	4.9	5.6	9.0
12	40	e18	52	e22	e30	84	64	47	13	5.2	5.6	8.8
13	29	e17	54	e21	e46	122	60	45	10	5.0	5.2	8.6
14	24	e16	49	e20	e76	75	54	44	7.5	5.1	5.1	8.4
15	23	e15	93	e20	e120	58	54	40	7.0	6.1	5.4	7.8
16	21	e14	105	e20	175	52	55	41	6.7	5.6	5.2	7.6
17	20	e13	62	e25	130	55	50	45	6.8	28	8.3	9.1
18	20	e50	51	e50	93	53	46	47	6.6	9.8	5.7	12
19	19	32	48	85	71	50	46	105	6.2	6.9	4.7	11
20	18	28	344	202	e66	46	40	153	5.9	6.6	4.5	10
21	22	24	216	175	e60	42	37	119	5.7	38	4.4	9.5
22	25	26	95	85	86	44	35	95	6.0	12	4.3	8.6
23	37	23	73	69	241	78	46	76	15	43	4.7	43
24	27	36	65	52	143	169	87	67	7.3	69	5.6	14
25	39	32	130	45	92	186	75	59	6.2	12	9.2	8.9
26	27	48	86	38	e70	371	52	52	5.9	7.9	20	7.7
27	24	32	57	e34	e62	263	38	44	6.3	6.7	5.5	8.1
28	23	28	48	e30	e56	184	36	37	6.8	5.9	43	8.1
29	24	162	42	e27	e48	169	68	32	6.8	5.5	91	8.1
30	e22	121	e40	e27	---	148	166	28	6.6	5.4	32	8.1
31	e21	---	e39	e70	---	125	---	25	---	6.6	12	---
TOTAL	1041	920	2422	1460	2291	3316	3033	2007	367.3	355.1	342.1	308.4
MEAN	33.6	30.7	78.1	47.1	79.0	107	101	64.7	12.2	11.5	11.0	10.3
MAX	130	162	344	202	241	371	487	153	26	69	91	43
MIN	18	12	35	20	30	42	35	25	5.7	4.9	4.3	7.1
CFSM	.86	.78	2.00	1.20	2.02	2.74	2.59	1.66	.31	.29	.28	.26
IN.	.99	.88	2.30	1.39	2.18	3.15	2.89	1.91	.35	.34	.33	.29

CAL YR	1987	TOTAL	18717.2	MEAN	51.3	MAX	615	MIN	8.5	CFSM	1.31	IN. 17.81
WTR YR	1988	TOTAL	17862.9	MEAN	48.8	MAX	487	MIN	4.3	CFSM	1.25	IN. 16.99

e Estimated

04230500 OATKA CREEK AT GARBUTT, NY

LOCATION.--Lat 43°00'36", long 77°47'30", Monroe County, Hydrologic Unit 04130003, on right bank 40 ft downstream from bridge on Union Street in Garbutt, 1.5 mi west of Scottsville, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--200 mi^2.

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

REVISED RECORDS.--WSP 2112; WDR NY-82-3: Drainage area. WRD NY 1971: 1960(M).

GAGE.--Water-stage recorder. Datum of gage is 560.86 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. National Weather Service gage-height telemeter at station. Satellite gage-height and rain-gage telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--43 years, 214 ft^3/s, 14.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft^3/s Mar. 31, 1960, gage height, 8.64 ft; minimum, 3.3 ft^3/s Sept. 11, 12, 1958; minimum gage height, 1.88 ft June 19, 1959, result of regulation; minimum daily discharge, 13 ft^3/s Oct. 30 to Nov. 1, 1966.

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)
Apr. 5	2200	*1,280	*5.02	No peak greater than base discharge.			

Minimum discharge, 32 ft^3/s Sept. 17, gage height, 2.30 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	87	429	e180	380	e130	256	463	113	46	41	59
2	238	80	305	e170	440	194	245	366	110	45	40	43
3	217	75	228	e150	360	273	259	244	125	44	41	37
4	189	73	197	e140	212	289	719	203	110	42	40	40
5	134	72	184	e125	e130	223	1100	188	98	41	40	40
6	110	72	173	e110	e150	207	874	180	92	41	43	38
7	103	70	158	e120	e150	203	433	179	87	40	41	41
8	103	69	146	e120	e140	222	349	164	83	39	41	40
9	144	74	170	e120	e130	278	329	149	81	39	40	37
10	121	85	294	e116	e130	436	301	140	81	38	40	36
11	110	109	295	e110	e130	452	274	137	78	38	40	36
12	112	88	212	112	e130	307	252	138	72	37	40	37
13	134	82	193	112	e125	266	233	129	69	36	40	38
14	113	80	191	e102	e115	289	219	123	65	39	38	37
15	100	80	194	e100	e140	228	209	119	62	39	38	37
16	91	76	344	95	234	194	210	118	60	37	37	37
17	85	73	366	96	358	183	195	126	58	57	38	40
18	81	75	256	109	e300	178	188	156	57	46	37	38
19	78	95	216	172	e250	176	185	148	55	43	36	38
20	77	111	292	283	e240	172	181	209	54	44	36	38
21	76	94	602	454	e250	e140	174	382	52	52	37	37
22	76	80	668	441	295	e130	175	392	52	48	34	37
23	85	e76	598	e400	e400	151	170	553	55	56	37	41
24	97	80	331	245	e480	226	209	360	51	82	40	37
25	105	97	271	195	e360	365	274	253	49	198	37	46
26	102	117	297	171	e290	604	216	204	49	95	40	41
27	104	139	280	e130	e210	802	178	182	47	64	36	37
28	90	126	219	e120	e150	888	168	168	47	52	41	36
29	85	148	e170	e115	e140	587	184	148	48	48	48	36
30	84	380	e125	e115	---	379	341	134	46	43	88	36
31	85	---	e145	187	---	298	---	124	---	43	107	---
TOTAL	3429	2963	8549	5215	6819	9470	9100	6579	2106	1612	1332	1171
MEAN	111	98.8	276	168	235	305	303	212	70.2	52.0	43.0	39.0
MAX	238	380	668	454	480	888	1100	553	125	198	107	59
MIN	76	69	125	95	115	130	168	118	46	36	34	36
CFSM	.55	.49	1.38	.84	1.18	1.53	1.52	1.06	.35	.26	.21	.20
IN.	.64	.55	1.59	.97	1.27	1.76	1.69	1.22	.39	.30	.25	.22

CAL YR	1987	TOTAL	74513	MEAN	204	MAX	2210	MIN	48	CFSM	1.02	IN. 13.86
WTR YR	1988	TOTAL	58345	MEAN	159	MAX	1100	MIN	34	CFSM	.80	IN. 10.85

e Estimated

04230650 GENESEE RIVER AT BALLANTYNE BRIDGE, NEAR MORTIMER, NY

LOCATION.--Lat 43°05'32", long 77°40'50", Monroe County, Hydrologic Unit 04130003, on right bank 400 ft upstream from Ballantyne Bridge on State Highway 252, 1.6 mi west of Mortimer, and 2.8 mi upstream from Erie (Barge) Canal.

DRAINAGE AREA.--2,210 mi^2.

PERIOD OF RECORD.--October 1973 to current year.

REVISED RECORD.--WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--River regulated for operation of Erie (Barge) Canal, downstream powerplants, and at high stages by Mount Morris Lake (see station 04224000). Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 19.33 ft Mar. 5, 1976; minimum recordable, 8.20 ft Nov. 9, 1979, result of regulation.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 15.12 ft Feb. 7; minimum recordable, 10.00 ft Dec. 30, result of regulation.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.40	12.08	12.80	11.63	11.74	11.82	12.79	12.90	11.87	11.87	12.05	11.95
2	12.17	12.06	12.76	12.06	12.17	11.89	12.48	12.53	11.97	12.04	12.02	11.97
3	11.97	12.10	12.77	11.80	12.13	12.12	12.75	12.06	12.07	12.05	12.06	11.91
4	12.23	11.94	12.51	11.98	12.06	11.98	13.52	12.26	12.06	11.90	12.12	11.93
5	11.92	12.01	12.25	11.78	12.16	11.90	14.00	11.89	12.07	11.77	11.92	11.93
6	11.72	11.89	11.98	11.90	14.06	12.12	13.72	11.42	12.00	11.74	11.90	12.01
7	11.87	12.02	12.16	11.95	14.91	12.00	13.19	11.60	12.02	11.78	11.88	11.95
8	11.86	12.04	11.80	11.87	14.59	11.92	13.19	11.49	12.05	11.85	11.84	11.75
9	11.71	12.07	11.40	11.87	13.72	11.86	13.15	11.63	11.95	11.84	11.87	11.86
10	11.63	12.12	12.54	12.07	12.61	12.22	12.89	11.56	11.94	11.78	11.81	11.85
11	11.88	12.17	12.57	11.72	12.12	12.15	12.94	11.70	11.99	11.76	11.80	11.82
12	11.83	11.91	12.46	11.18	11.86	12.04	12.48	11.77	11.92	11.72	11.77	11.76
13	12.05	11.67	12.19	11.27	12.12	12.09	12.20	11.80	12.04	11.70	11.67	11.77
14	11.75	11.58	12.31	11.30	12.35	12.10	11.84	11.68	11.84	11.70	11.72	11.80
15	11.73	11.67	12.11	11.38	12.04	12.15	12.17	11.64	11.92	11.76	11.80	11.78
16	11.68	11.61	12.20	11.45	12.49	12.33	12.07	11.77	12.02	11.73	11.77	11.73
17	11.83	11.46	12.43	11.72	12.29	12.54	11.55	11.73	12.09	11.96	11.89	11.77
18	11.85	11.39	12.26	11.67	12.09	12.37	10.63	12.08	12.04	12.04	11.90	11.89
19	11.72	11.53	11.72	11.87	12.06	12.44	10.72	11.64	12.01	12.00	11.83	11.76
20	11.82	11.70	12.21	11.62	11.53	12.19	11.81	12.55	12.01	12.13	11.81	11.47
21	12.12	11.50	13.07	12.16	12.30	12.25	11.82	12.87	12.01	12.06	11.74	11.50
22	12.03	11.44	13.01	12.33	11.93	11.75	11.70	13.15	11.95	12.12	11.68	11.46
23	12.10	11.64	12.70	11.99	12.22	11.64	11.58	12.51	11.99	12.12	11.64	11.57
24	11.97	11.52	12.74	11.61	12.39	11.79	11.77	12.71	11.94	12.10	11.91	11.50
25	12.05	11.41	12.55	11.96	12.20	12.18	12.12	12.61	11.93	12.21	11.89	11.52
26	12.17	11.01	12.17	11.80	12.22	12.76	12.35	12.64	11.96	12.15	12.03	11.51
27	11.96	10.65	12.15	12.03	12.08	13.66	11.77	12.67	12.02	12.04	11.99	11.44
28	12.06	10.37	12.20	11.65	11.85	12.94	12.02	12.52	12.06	12.05	12.03	11.46
29	11.97	11.34	11.79	11.80	12.01	12.91	12.07	12.27	11.99	11.89	11.98	11.43
30	12.06	12.03	11.48	11.85	---	13.25	12.66	11.88	11.91	12.00	11.85	11.52
31	12.12	---	10.79	11.76	---	13.09	---	12.00	---	12.09	11.99	---
MEAN	11.94	11.66	12.26	11.78	12.42	12.27	12.33	12.11	11.99	11.93	11.88	11.72
MAX	12.40	12.17	13.07	12.33	14.91	13.66	14.00	13.15	12.09	12.21	12.12	12.01
MIN	11.63	10.37	10.79	11.18	11.53	11.64	10.63	11.42	11.84	11.70	11.64	11.43

CAL YR	1987	MEAN	12.14	MAX	16.09	MIN	8.21
WTR YR	1988	MEAN	12.02	MAX	14.91	MIN	10.37

04231000 BLACK CREEK AT CHURCHVILLE, NY

LOCATION.--Lat 43°06'02", long 77°52'57", Monroe County, Hydrologic Unit 04130003, on right bank at east end of Carrol Street in Churchville, 100 ft downstream from mainline tracks of Penn Central Transportation Co., and 0.3 mi downstream from Black Creek Dam.

DRAINAGE AREA.--130 mi^2.

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

REVISED RECORDS.--WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 551.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to May 1952, small diversion by Penn Central Transportation Co. and slight regulation by pumping operations upstream from station. National Weather Service gage-height telemeter at station. Satellite rain-gage and gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--43 years, 115 ft^3/s, 12.01 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,880 ft^3/s Mar. 31, 1960, gage height, 9.44 ft; minimum, 0.22 ft^3/s Aug. 19, 1970; minimum gage height, 0.93 ft Aug. 5–7, Sept. 15, 1959.

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)
Dec. 1	0330	*853	*4.75	No other peak greater than base discharge.			

Minimum discharge, 0.34 ft^3/s July 7, gage height, 0.98 ft, due to construction.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	37	785	e90	201	e110	115	191	30	5.6	13	19
2	146	35	473	e80	219	99	103	150	29	4.9	13	14
3	150	35	273	e70	171	136	128	98	29	4.6	13	11
4	107	36	200	e62	116	143	417	84	28	4.0	11	12
5	77	35	171	e56	101	110	592	76	24	3.8	8.9	14
6	59	33	151	e52	e92	107	410	76	21	3.3	9.2	13
7	65	33	127	e48	e80	114	232	73	20	2.4	10	11
8	95	34	112	e45	e74	120	180	67	20	1.8	8.7	9.8
9	100	47	123	e42	e72	147	155	62	20	1.6	7.3	9.1
10	76	62	155	e39	e68	186	132	62	19	1.5	6.2	7.6
11	69	56	171	e36	e64	185	114	59	18	1.5	5.1	6.1
12	83	48	142	e35	e62	137	102	55	17	1.4	4.5	6.0
13	81	43	124	e34	e60	117	95	52	15	1.5	3.9	8.4
14	65	39	117	e33	e66	109	90	52	14	3.9	3.9	7.2
15	53	36	132	e32	72	98	86	49	13	6.2	3.9	5.9
16	46	35	227	e35	102	88	84	53	10	9.5	3.1	5.2
17	42	38	338	41	146	85	83	60	9.5	31	4.1	11
18	40	50	260	59	190	81	80	66	9.3	65	3.9	11
19	37	66	167	83	209	79	79	73	8.9	53	4.7	9.6
20	37	68	231	132	e190	79	76	122	7.9	29	4.0	11
21	37	69	421	210	e170	72	76	300	5.8	29	3.1	7.9
22	42	51	524	204	e220	62	77	404	7.3	34	2.7	7.3
23	53	48	325	160	e280	79	75	224	12	30	5.9	11
24	54	53	204	100	e380	111	79	121	9.0	31	14	8.7
25	51	71	166	87	e300	163	81	84	9.1	40	14	8.6
26	53	128	150	79	e200	359	74	70	7.9	34	12	8.0
27	48	198	133	e70	e150	514	73	60	7.1	24	11	10
28	45	174	e100	e64	e130	408	72	48	6.8	20	13	14
29	43	256	e80	e60	e120	249	81	40	6.2	18	28	6.8
30	43	559	e60	63	---	179	146	36	5.6	15	34	11
31	40	---	e70	120	---	140	---	33	---	14	27	---
TOTAL	2030	2473	6712	2321	4305	4666	4187	3000	439.4	524.5	306.1	295.2
MEAN	65.5	82.4	217	74.9	148	151	140	96.8	14.6	16.9	9.87	9.84
MAX	150	559	785	210	380	514	592	404	30	65	34	19
MIN	37	33	60	32	60	62	72	33	5.6	1.4	2.7	5.2
CFSM	.50	.63	1.67	.58	1.14	1.16	1.07	.74	.11	.13	.08	.08
IN.	.58	.71	1.92	.66	1.23	1.34	1.20	.86	.13	.15	.09	.08

CAL YR	1987	TOTAL	40343.6	MEAN	111	MAX	1270	MIN	8.1	CFSM	.85	IN. 11.54
WTR YR	1988	TOTAL	31259.2	MEAN	85.4	MAX	785	MIN	1.4	CFSM	.66	IN. 8.94

e Estimated

04232000 GENESEE RIVER AT ROCHESTER, NY

LOCATION.--Lat 43°10'50", long 77°37'40", Monroe County, Hydrologic Unit 04130003, on right bank 40 ft downstream from Rochester Gas and Electric Corp. plant 5, 100 ft upstream from bridge on Driving Park Avenue in Rochester, and 6.4 mi upstream from mouth.

DRAINAGE AREA.--2,467 mi^2.

PERIOD OF RECORD.--April 1904 to September 1918, December 1919 to current year. Published as "at Driving Park Avenue," 1919–68.

REVISED RECORDS.--WSP 1912; WDR NY–82–3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 246.24 ft above National Geodetic Vertical Datum of 1929 (247.00 ft, Barge Canal datum). April 1904 to December 1910, nonrecording gage and December 1910 to September 1918, water-stage recorder at site 5 mi upstream at datum 506.85 ft, Barge Canal datum. December 1919 to Apr. 4, 1927, water-stage recorder in plant 5, and Apr. 4, 1927 to June 19, 1956, at present site at datum 3.00 ft higher.

REMARKS.--Records fair except those for periods of estimated daily discharges, which are poor. Extensive diurnal fluctuation caused by powerplants upstream from station. New York State Erie (Barge) Canal crosses river 5.4 mi upstream from station. Water diverted by the canal from Lake Erie is discharged into river from the west, the canal again diverting a smaller amount of water from river to the east. Additional regulation is provided by Rushford Lake, Mount Morris Lake (see station 04224000), and Conesus Lake (see station 04227980).

AVERAGE DISCHARGE.--81 years (water years 1905–18, 1921–88), 2,797 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,300 ft^3/s Mar. 30, 1916, gage height, 15.3 ft site and datum then in use; maximum at present site, 34,400 ft^3/s Mar. 19, 1942; maximum gage height, 17.08 ft Apr. 2, 1940, present datum; minimum discharge, less than 10 ft^3/s, occurred during low-water periods in some years when power plant was shut down; minimum daily, 91 ft^3/s Jan. 9, 29, Feb. 1, 8, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge on Mar. 18, 1865, was about 54,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,000 ft^3/s Apr. 4 at 1900 hours, gage height, 14.58 ft, result of regulation; minimum daily 396 ft^3/s Aug. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2400	1200	5000	1570	2400	2100	5840	4560	1660	e528	e583	e617
2	3210	e1300	4830	1880	2820	1660	5040	3680	1500	e526	e546	e545
3	3050	1380	4470	1680	2850	1980	4880	2690	1470	e522	e528	e492
4	3320	1200	4330	1510	3200	2160	7600	1790	1240	e511	e511	e482
5	2870	1250	4000	1100	3550	1960	9170	2440	1340	e471	e495	e491
6	2310	e820	3450	1150	3480	1750	8460	2050	1490	e487	e491	e508
7	1760	e961	3000	1020	3360	2040	7180	1890	1170	e480	e485	e503
8	2170	e967	2360	1300	3670	2050	6530	2140	1280	e458	e478	e498
9	1920	e1080	2210	1190	3390	1980	6400	1400	1120	e433	e471	e483
10	1840	e1520	2960	1370	2570	2580	5380	1740	998	e402	e457	e472
11	2010	1490	3920	1360	1820	2950	4770	991	929	e427	e455	e414
12	2180	1600	3670	1150	1720	2390	3900	1770	e841	e447	e448	e421
13	2900	1390	3350	1350	1260	2570	3040	1410	e795	e443	e461	e446
14	2490	1170	2940	e1440	1430	2350	2300	1300	e750	e432	e424	e431
15	1940	1320	2800	e1340	1590	2470	2080	1250	e712	e423	e406	e412
16	1480	1120	2850	e1250	1750	3220	2160	1080	e671	e421	e446	e423
17	1260	1070	3540	859	2810	3960	2270	1750	e654	e478	e436	e458
18	1840	1070	2870	930	2540	4120	2250	2720	e657	e588	e399	e466
19	1740	1480	2480	1110	2680	3890	1530	2450	e642	e614	e453	e502
20	1460	1620	2370	2170	2800	3840	1390	4620	e615	e576	e408	e495
21	1490	1560	4870	2520	3020	3290	1650	6660	e641	1150	e414	e478
22	1510	e1230	5360	2930	2770	3020	1610	7310	e609	1160	e396	e473
23	1040	1240	4940	2640	2810	1730	1670	5540	e605	1860	e396	e493
24	1300	1190	4200	2050	3370	1730	1540	5270	e619	1790	e425	e572
25	1220	1430	3980	2120	3130	2970	2270	5490	e611	1620	e416	e645
26	1270	1600	3610	2000	2720	4850	2040	4630	e605	1410	e446	e548
27	1700	1310	3320	1500	2420	7320	2310	4360	e648	1320	e435	e512
28	1060	1530	2640	1670	2050	6090	1720	3830	e610	833	e472	e486
29	1440	1550	2440	1470	2100	5480	1990	3450	e558	945	995	e510
30	836	3370	1780	1460	---	6170	3310	2400	e537	e617	802	e596
31	1160	---	e1820	1640	---	6190	---	1840	---	e616	936	---
TOTAL	58176	41018	106360	48729	76080	100860	112280	94501	26577	22988	15514	14872
MEAN	1877	1367	3431	1572	2623	3254	3743	3048	886	742	500	496
MAX	3320	3370	5360	2930	3670	7320	9170	7310	1660	1860	995	645
MIN	836	820	1780	859	1260	1660	1390	991	537	402	396	412

CAL YR	1987	TOTAL	897060	MEAN	2458	MAX	13100	MIN	488
WTR YR	1988	TOTAL	717955	MEAN	1962	MAX	9170	MIN	396

e Estimated

04232006 GENESEE RIVER AT CHARLOTTE DOCKS AT ROCHESTER, NY

(National stream-quality accounting network station)

WATER QUALITY RECORDS

LOCATION.--Lat 43°13'47", long 77°36'59", Monroe County, Hydrologic Unit 04130003, at Charlotte Docks, at the Rochester Cement Corp., in Rochester, 0.4 mi upstream from Rattlesnake Point, 1.6 mi upstream from Stutson Street Bridge, and 3.6 mi downstream from gaging station (04232000) at Rochester.

DRAINAGE AREA.--2,472 mi^2.

PERIOD OF RECORD.--Water years 1971 to current year.
CHEMICAL DATA: 1971-72 (a), 1974 (b), 1975-82 (c), 1983-88 (b).
MINOR ELEMENTS DATA: 1971-73 (a), 1974-88 (b).
ORGANIC DATA: OC--1974 (a), 1975 (b), 1977 (b), 1978-80 (c), 1981 (b).
NUTRIENT DATA: 1971 (a), 1974 (b), 1975-82 (c), 1983-88 (b).
BIOLOGICAL DATA:
Bacteria--1974 (b), 1975-82 (c), 1983-88 (b).
Phytoplankton--1974 (b), 1975-77 (c), 1978-81 (b).
Periphyton--1975-80 (b).
SEDIMENT DATA: 1974 (b), 1975-82 (c), 1983-88 (b).

REMARKS.--Water-discharge data are based on records for station 04232000 Genesee River at Rochester. Water-quality samples collected by the New York State Department of Environmental Conservation are grab samples collected from the dock at Genesee Docks.

COOPERATION.--Water-quality analyses identified by an (*) were collected by personnel of the New York State Department of Environmental Conservation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE IN CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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./ 100ML)
NOV											
04	1200	1200	770	--	7.90	9.0	8.3	763	11.1	96	410
APR											
* 06	1430	8460	--	403	8.10	15.0	--	--	9.9	--	--
MAY											
* 02	1155	3680	--	--	--	--	--	--	--	--	--
02	1200	3680	430	--	7.73	9.0	58	761	13.1	114	380
* 02	1215	3680	--	440	8.20	11.0	--	--	10.6	--	--
JUN											
* 06	1225	1490	--	643	8.40	21.0	--	--	8.5	--	--
30	1000	497	826	--	7.89	22.5	9.6	763	5.0	58	3900
AUG											
* 02	1200	511	--	775	--	--	--	--	--	--	--
24	1200	387	826	--	7.89	22.0	1.7	756	6.1	71	150000

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD (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)	POTA-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD (MG/L AS CACO3)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV											
04	K34	240	120	71	14	65	3.5	118	--	83	110
APR											
06	--	150	47	44	10	22	2.5	--	104	47	33
MAY											
02	--	--	--	--	--	--	--	--	--	--	--
02	870	160	67	46	11	26	1.9	89	--	49	42
02	--	150	53	45	10	26	2.0	--	101	50	42
JUN											
06	--	220	88	67	14	40	2.4	--	137	87	68
30	--	260	120	76	16	65	4.4	143	--	110	100
AUG											
02	--	220	110	67	13	64	3.7	--	112	110	110
24	--	200	100	59	13	67	2.9	101	--	85	110

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

04232006 GENESEE RIVER AT CHARLOTTE DOCKS, ROCHESTER, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV										
04	0.2	2.1	438	423	0.70	0.19	0.20	0.01	0.6	0.01
APR										
06	0.2	--	--	221	--	--	--	--	--	--
MAY										
02	--	--	--	--	0.74	0.07	0.10	<0.01	0.2	0.03
02	0.2	2.9	257	239	0.66	0.10	0.08	0.01	0.3	0.03
02	0.2	--	--	236	--	--	--	--	--	--
JUN										
06	0.2	--	--	361	--	--	--	--	--	--
30	0.2	1.4	469	463	0.60	0.96	0.99	0.07	1.7	0.09
AUG										
02	0.3	--	--	435	--	--	--	--	--	--
24	0.2	1.1	423	403	0.52	0.56	0.56	0.04	1.8	0.10

DATE	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	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)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT DIS-SOLVED (UG/L AS CO)
NOV										
04	0.02	0.01	<10	<1	49	<0.5	2	--	<1	<3
APR										
06	--	--	--	--	--	--	--	1	--	--
MAY										
02	0.01	<0.01	--	--	--	--	--	1	--	--
02	0.02	<0.01	<10	1	31	<0.5	1	--	<1	<3
02	--	--	--	--	--	--	--	3	--	--
JUN										
06	--	--	--	--	--	--	--	2	--	--
30	0.03	<0.01	20	2	55	<0.5	2	--	<1	<3
AUG										
02	--	--	--	--	--	--	--	2	--	--
24	0.03	<0.01	30	1	45	<0.5	<1	--	<1	<3

04232006 GENESEE RIVER AT CHARLOTTE DOCKS, ROCHESTER, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, TOTAL RECOV-ERABLE (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 DIS-SOLVED (UG/L AS HG)
NOV										
04.....	15	--	--	11	<5	--	15	--	49	<0.1
APR										
06.....	--	16	16000	--	--	6	--	370	--	--
MAY										
02.....	--	13	4000	--	--	<5	--	110	--	--
02.....	5	--	--	20	<5	--	13	--	21	--
02.....	--	12	3800	--	--	<5	--	90	--	--
JUN										
06.....	--	8	1500	--	--	<5	--	80	--	--
30.....	9	--	--	25	<5	--	62	--	120	<0.1
AUG										
02.....	--	9	370	--	--	7	--	120	--	--
24.....	7	--	--	26	<5	--	14	--	64	<0.1

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	NICKEL, TOTAL RECOV-ERABLE (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)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV										
04.....	--	<10	4	--	<1	<1.0	710	<6	58	--
APR										
06.....	<0.1	--	--	20	--	--	--	--	--	60
MAY										
02.....	<0.1	--	--	5	--	--	--	--	--	20
02.....	--	<10	<1	--	<1	<1.0	410	<6	7	--
02.....	<0.1	--	--	6	--	--	--	--	--	20
JUN										
06.....	<0.1	--	--	6	--	--	--	--	--	20
30.....	--	<10	4	--	<1	<1.0	900	<6	43	--
AUG										
02.....	<0.1	--	--	6	--	--	--	--	--	30
24.....	--	<10	4	--	<1	<1.0	670	<6	32	--

04232006 GENESEE RIVER AT CHARLOTTE DOCKS, ROCHESTER, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	DEPTH AT SAMPLE LOC-ATION, TOTAL (FEET)	SAM-PLING DEPTH (FEET)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV								
04.....	1205	40	17.0	3.0	770	7.82	9.5	11.1
04.....	1210	40	17.0	8.0	771	7.88	9.0	11.1
04.....	1215	40	17.0	12.0	771	7.91	9.0	10.7
04.....	1220	40	17.0	16.0	770	7.92	9.0	10.7
04.....	1225	100	14.0	3.0	772	7.90	9.0	11.1
04.....	1230	100	14.0	7.0	771	7.95	9.0	11.1
04.....	1235	100	14.0	10.0	771	7.94	9.0	10.9
04.....	1240	100	14.0	13.0	747	7.93	9.0	10.8
04.....	1245	180	10.0	3.0	770	7.90	9.5	11.2
04.....	1250	180	10.0	7.0	769	7.92	9.0	11.2
04.....	1255	180	10.0	10.0	769	7.92	9.0	10.9
MAY								
02.....	1205	40	22.0	3.0	429	7.67	9.0	12.9
02.....	1210	40	22.0	10.0	428	7.70	9.0	13.0
02.....	1217	40	22.0	15.0	429	7.72	9.0	13.0
02.....	1220	40	22.0	20.0	428	7.73	9.0	12.7
02.....	1227	100	16.0	3.0	429	7.67	9.0	13.2
02.....	1230	100	16.0	8.0	430	7.78	9.0	13.3
02.....	1235	100	16.0	14.0	428	7.80	9.0	13.0
02.....	1240	180	11.0	3.0	430	7.79	9.0	13.3
02.....	1245	180	11.0	7.0	430	7.81	9.0	13.1
02.....	1250	180	11.0	10.0	430	7.84	9.0	13.3
JUN								
30.....	1005	40	20.0	3.0	824	7.89	22.5	5.0
30.....	1010	40	20.0	10.0	827	7.86	22.5	5.0
30.....	1015	40	20.0	15.0	826	7.72	22.5	5.0
30.....	1020	40	20.0	20.0	826	7.69	23.0	4.8
30.....	1025	100	16.0	3.0	824	7.96	22.5	5.2
30.....	1030	100	16.0	9.0	826	7.87	22.5	5.0
30.....	1035	100	16.0	15.0	825	7.74	22.5	4.1
30.....	1040	180	12.0	3.0	822	7.89	22.5	5.3
30.....	1045	180	12.0	7.0	823	7.83	22.5	5.0
30.....	1050	180	12.0	11.0	822	7.77	22.5	5.0
AUG								
24.....	1005	40	20.0	3.0	834	--	23.0	5.5
24.....	1010	40	20.0	8.0	826	--	23.0	5.2
24.....	1015	40	20.0	12.0	464	--	17.5	6.7
24.....	1020	40	20.0	18.0	384	--	15.0	7.5
24.....	1025	100	16.0	3.0	813	--	23.0	5.1
24.....	1030	100	16.0	7.0	788	--	22.5	4.7
24.....	1035	100	16.0	10.0	630	--	19.5	6.1
24.....	1040	100	16.0	15.0	545	--	18.5	6.3
24.....	1045	180	10.0	3.0	807	--	23.0	3.7
24.....	1050	180	10.0	6.0	788	--	22.5	4.1
24.....	1055	180	10.0	10.0	701	--	21.0	4.8

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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					
04.....	1200	1200	21	68	95
MAY					
02.....	1200	3680	117	116	99
JUN					
30.....	1000	497	19	25	97
AUG					
24.....	1200	387	22	23	99

04232040 IRONDEQUOIT CREEK NEAR PITTSFORD, NY

LOCATION.--Lat 43°03'15", long 77°29'28", Monroe County, Hydrologic Unit 04140101, on right bank 140 ft upstream from bridge on Thornell Road, 0.9 mi south of creek passage under Erie (Barge) Canal, and 2.7 mi southeast of Pittsford.

DRAINAGE AREA.--44.4 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1955, 1961–62, 1964–66, 1968, and annual maximum, water years 1962–63, 1965–66, 1968–70, 1972. March 1980 to current year.

REVISED RECORDS.--WDR NY–81–3: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Prior to March 1980, nonrecording gage and crest-stage gage at site 150 ft downstream at same datum. Elevation of gage is 405 ft above National Geodetic Vertical Datum of 1929, from Corps of Engineers river-profile map.

REMARKS.--Records fair. Unpublished water-quality records are available in files of Monroe County Department of Health. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1981–88), 40.5 ft^3/s, 12.39 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,140 ft^3/s Mar. 12, 1962, gage height, 8.6 ft at site then in use; minimum discharge measured, 8.10 ft^3/s Sept. 17, 1964; minimum gage height at present site, 2.98 ft Sept. 12, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 360 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
July 24	0315	*398	*6.69	No other peak greater than base discharge.			

Minimum discharge, 8.8 ft^3/s July 14, gage height, 2.99 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	21	56	e28	42	e28	31	40	18	10	16	17
2	34	21	45	e27	50	30	31	33	22	10	15	15
3	31	21	38	e26	43	36	42	28	22	10	14	14
4	29	21	36	e24	35	34	250	28	24	10	14	19
5	26	23	36	e22	e32	29	121	26	20	10	14	22
6	24	23	34	e22	e29	28	68	26	17	10	14	18
7	25	22	32	e21	e28	29	55	25	17	10	14	16
8	25	22	31	e20	e27	30	51	23	17	10	14	16
9	23	29	34	e20	e26	30	52	22	17	10	14	15
10	21	26	40	e19	e24	32	46	20	17	10	13	14
11	27	24	36	e18	e23	32	41	20	16	10	13	13
12	27	23	33	e19	e24	30	40	20	16	9.6	13	13
13	23	22	32	e20	e25	29	40	20	16	9.3	14	13
14	21	21	32	e18	e29	28	38	20	14	10	14	13
15	21	21	36	e17	43	27	36	20	13	13	13	13
16	20	20	50	e16	77	25	34	37	13	12	12	13
17	20	20	44	e19	69	26	34	116	13	42	13	18
18	20	22	37	e27	61	25	32	51	12	27	13	18
19	19	22	35	46	61	26	31	50	12	15	12	15
20	19	22	82	83	80	27	31	64	12	15	12	15
21	22	21	119	87	73	25	34	159	12	29	11	15
22	23	19	55	50	58	24	32	141	12	23	12	16
23	24	20	43	38	e54	27	33	51	15	104	15	24
24	23	23	39	36	e48	30	38	39	13	209	22	19
25	25	23	38	36	e42	38	33	35	13	38	19	15
26	23	29	36	e31	e39	131	31	31	11	26	29	14
27	21	26	34	e28	e35	99	28	26	11	34	17	14
28	23	24	32	e25	e33	56	28	22	11	25	23	14
29	22	67	e31	e24	e30	44	33	20	11	18	50	14
30	22	123	e30	e26	---	39	51	19	10	17	32	14
31	21	---	e29	34	---	33	---	17	---	16	19	---
TOTAL	749	821	1285	927	1240	1127	1445	1249	447	801.9	520	469
MEAN	24.2	27.4	41.5	29.9	42.8	36.4	48.2	40.3	14.9	25.9	16.8	15.6
MAX	45	123	119	87	80	131	250	159	24	209	50	24
MIN	19	19	29	16	23	24	28	17	10	9.3	11	13
CFSM	.54	.62	.93	.67	.96	.82	1.08	.91	.34	.58	.38	.35
IN.	.63	.69	1.08	.78	1.04	.94	1.21	1.05	.37	.67	.44	.39

CAL YR	1987	TOTAL	14338	MEAN	39.3	MAX	342	MIN	14	CFSM	.88	IN. 12.01
WTR YR	1988	TOTAL	11080.9	MEAN	30.3	MAX	250	MIN	9.3	CFSM	.68	IN. 9.28

e Estimated

04232046 THOMAS CREEK AT FAIRPORT, NY

LOCATION.--Lat 43°06'22", long 77°27'44", Monroe County, Hydrologic Unit 04140101, on right bank 48 ft upstream from culvert on Foreman Center Road, 0.5 mi northwest of Fairport, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--28.5 mi^2, flow from 0.86 mi^2 noncontributing.

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

REVISED RECORDS.--WDR NY–81–3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 403 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. Unpublished water-quality records are available in files of Monroe County Health Department. Discharge subsequent to July 20, 1983 includes undetermined diversion (maximum 25 ft^3/s) from Erie (Barge) Canal upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1981–88), 16.2 ft^3/s, 7.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 232 ft^3/s Feb. 15, 1984, gage height, 2.71 ft; maximum gage height, 3.62 ft Jan. 12, 1982 (ice jam); minimum discharge, 2.0 ft^3/s Aug. 19, 20, Sept. 10, 1982; minimum gage height, 1.22 ft June 7, 8, 13, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 140 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Dec. 30	1845	ice jam	*2.58
Apr. 4	1945	*107	2.11

No peak greater than base discharge.

Minimum discharge, 2.7 ft^3/s Jan. 11, gage height, 1.35 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	6.8	32	e5.9	e14	e8.0	9.5	13	6.6	4.6	5.1	5.9
2	14	6.8	16	e5.4	e19	e8.5	9.5	10	7.0	4.5	4.9	5.4
3	14	6.8	13	e5.0	22	10	20	9.4	5.8	4.4	4.9	5.3
4	11	6.8	13	e4.4	14	9.6	87	10	5.7	4.3	5.0	8.4
5	7.5	6.9	13	e4.2	e12	13	86	10	5.1	4.1	5.0	7.5
6	6.8	6.5	12	e4.0	e10	12	44	10	4.8	4.2	5.2	6.0
7	7.4	6.3	10	e3.5	e9.0	8.9	20	10	5.3	4.3	5.3	5.4
8	7.0	6.3	9.6	e3.3	e8.5	9.4	17	10	5.3	4.3	5.0	5.0
9	6.3	11	9.8	e3.1	e8.0	9.5	15	11	5.0	4.3	5.0	5.0
10	6.4	7.7	10	e3.0	e7.5	9.5	14	12	4.8	4.4	4.8	4.9
11	14	7.1	11	e2.8	e7.0	9.5	12	12	4.8	4.4	5.0	4.8
12	9.9	6.8	9.0	e2.8	e6.6	9.5	10	12	4.4	4.6	5.0	4.6
13	7.1	7.0	7.6	e2.9	e6.1	9.0	8.9	12	4.3	4.5	4.8	5.1
14	6.3	14	6.4	e3.1	e6.0	8.7	8.8	11	4.3	8.0	4.8	4.7
15	6.1	9.1	9.5	e3.0	e20	7.5	8.8	11	4.1	5.9	4.8	4.3
16	5.3	6.8	13	e2.8	e50	6.8	9.1	13	4.0	4.3	4.8	4.3
17	5.3	6.3	13	e5.7	e40	6.3	8.7	14	4.2	22	5.7	10
18	5.3	7.9	12	e11	31	6.2	8.4	11	4.2	11	5.3	6.9
19	5.3	6.3	10	23	31	6.1	7.7	15	4.3	7.1	5.0	4.9
20	5.4	6.4	30	28	27	5.8	6.9	16	4.3	5.9	4.9	5.0
21	7.0	6.3	51	32	e60	e5.4	7.2	16	4.4	11	4.8	4.8
22	7.5	6.3	44	23	e50	e4.8	7.5	14	5.8	7.9	4.8	4.8
23	7.5	6.3	19	16	e18	5.0	8.3	12	10	8.2	9.0	11
24	7.1	6.3	14	9.0	e19	6.5	8.9	9.5	5.1	13	10	6.2
25	7.9	7.2	12	8.0	e13	11	7.7	8.6	4.8	8.7	8.6	5.3
26	6.6	10	11	e7.5	e12	52	6.3	7.7	4.9	6.8	8.7	5.0
27	6.5	8.4	9.2	e7.0	e10	62	6.5	7.4	4.5	6.7	5.6	4.8
28	7.4	7.6	8.4	e6.4	e9.6	36	7.3	6.9	4.7	5.8	12	4.8
29	6.9	40	e7.7	e6.0	e8.9	17	11	6.9	5.1	5.4	39	4.4
30	6.3	62	e7.0	e7.0	---	13	15	6.6	4.5	5.0	17	4.4
31	6.8	---	e6.5	e10	---	11	---	5.8	---	5.2	7.6	---
TOTAL	247.9	310.0	449.7	258.8	549.2	397.5	497.0	333.8	152.1	204.8	227.4	168.9
MEAN	8.00	10.3	14.5	8.35	18.9	12.8	16.6	10.8	5.07	6.61	7.34	5.63
MAX	20	62	51	32	60	62	87	16	10	22	39	11
MIN	5.3	6.3	6.4	2.8	6.0	4.8	6.3	5.8	4.0	4.1	4.8	4.3
CFSM	.28	.36	.51	.29	.66	.45	.58	.38	.18	.23	.26	.20
IN.	.32	.40	.59	.34	.72	.52	.65	.44	.20	.27	.30	.22

CAL YR	1987	TOTAL	4867.3	MEAN	13.3	MAX	102	MIN	2.7	CFSM	.47	IN. 6.35
WTR YR	1988	TOTAL	3797.1	MEAN	10.4	MAX	87	MIN	2.8	CFSM	.36	IN. 4.96

e Estimated

04232047 IRONDEQUOIT CREEK AT LINDEN AVENUE, EAST ROCHESTER, NY

LOCATION.--Lat 43°07'16", long 77°28'36", Monroe County, Hydrologic Unit 04140101, on left bank 200 ft upstream from bridge on Linden Avenue, 2.2 mi upstream from Allen Creek, and 7.8 mi upstream from mouth.

DRAINAGE AREA.--101 mi^2, flow from 4.95 mi^2 noncontributing.

PERIOD OF RECORD.--August 1973 to current year.

REVISED RECORDS.--WDR NY-78-1: 1977. WDR NY-81-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 341.46 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to 1980, flow of undetermined magnitude diverted from Erie (Barge) Canal into Thomas Creek, a tributary upstream from station; diversion resumed July 20, 1983.

AVERAGE DISCHARGE.--15 years, 91.7 ft^3/s, 12.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,480 ft^3/s Oct. 29, 1974, gage height, 15.64 ft (result of dewatering of Erie (Barge) Canal through accidental break in canal wall at Bushnell Basin); minimum discharge, 13 ft^3/s Aug. 19, 1985; minimum gage height, 11.15 ft July 19, 1981, Aug. 6, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 570 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	0630	*500	*13.56	No peak greater than base discharge.			

Minimum discharge, 21 ft^3/s July 9, 10, 11, gage height, 11.17 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	44	125	e59	94	e66	70	90	48	28	35	40
2	78	45	90	e58	119	71	68	76	50	27	35	36
3	74	45	74	e58	95	84	124	69	43	26	34	35
4	67	46	77	e57	e80	77	478	73	47	25	32	60
5	54	46	72	e57	e74	69	306	73	41	24	38	57
6	50	47	65	e56	e70	73	160	73	37	24	36	47
7	54	46	60	e52	e68	72	114	71	38	23	32	41
8	52	46	57	e50	e62	71	104	59	38	23	32	35
9	49	66	67	e49	e60	79	100	54	38	23	32	35
10	47	54	73	e47	e58	86	89	48	36	22	29	34
11	72	48	65	e46	e56	75	78	46	35	22	30	33
12	60	47	58	e45	e56	64	73	46	32	23	29	33
13	51	46	55	e44	e58	62	70	46	30	23	28	38
14	47	51	53	e42	e58	60	71	e46	29	36	28	36
15	46	47	81	e42	e110	57	74	e46	28	33	28	34
16	45	44	109	e42	169	56	69	e70	27	26	28	33
17	44	44	100	e50	151	54	66	152	27	134	33	70
18	44	51	83	e76	137	54	65	78	27	76	37	51
19	42	45	75	111	140	54	61	93	27	40	35	40
20	43	45	196	182	197	55	60	94	26	34	32	39
21	52	44	244	211	e160	51	66	183	25	73	30	38
22	52	42	146	112	e150	48	65	153	33	49	29	38
23	53	43	103	66	e140	53	68	90	58	43	51	87
24	48	46	88	58	e110	64	75	72	30	335	84	49
25	52	50	81	52	e98	87	66	63	29	115	54	36
26	47	65	74	48	e88	282	62	59	29	57	80	33
27	46	55	68	e44	e80	254	61	56	27	61	49	32
28	50	50	65	e41	e78	149	64	52	27	57	86	31
29	47	193	62	e40	e70	99	88	49	29	42	199	31
30	46	234	e60	e45	---	87	110	46	27	36	100	31
31	45	---	e60	e50	---	74	---	42	---	38	51	---
TOTAL	1688	1775	2686	1990	2886	2587	3025	2268	1018	1598	1456	1233
MEAN	54.5	59.2	86.6	64.2	99.5	83.5	101	73.2	33.9	51.5	47.0	41.1
MAX	131	234	244	211	197	282	478	183	58	335	199	87
MIN	42	42	53	40	56	48	60	42	25	22	28	31
CFSM	.54	.59	.86	.64	.99	.83	1.00	.72	.34	.51	.47	.41
IN.	.62	.65	.99	.73	1.06	.95	1.11	.84	.37	.59	.54	.45

CAL YR	1987	TOTAL	30845	MEAN	84.5	MAX	648	MIN	37	CFSM	.84	IN. 11.36
WTR YR	1988	TOTAL	24210	MEAN	66.1	MAX	478	MIN	22	CFSM	.65	IN. 8.92

e Estimated

04232050 ALLEN CREEK NEAR ROCHESTER, NY

LOCATION.--Lat 43°07'49", long 77°31'08", Monroe County, Hydrologic Unit 04140101, on right bank 525 ft downstream from Penn Central Transportation Co. bridge, near Rochester, and about 1.3 mi upstream from Irondequoit Creek.

DRAINAGE AREA.--30.1 mi^2, flow from 3.5 mi^2 noncontributing.

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

REVISED RECORDS.--WRD NY 1974: 1972(M), 1973(M, P). WDR NY-76-1: 1960-75 (M, P), 1960-63, 1972-74.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 323.54 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Discharge prior to January 1980 included undetermined diversion (maximum 20 ft^3/s) from Erie (Barge) Canal upstream from station. January 1980 to present, diversion reduced to a maximum of 3 ft^3/s for use by several golf courses adjacent to stream. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years (water years 1961-88), 32.4 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,280 ft^3/s May 17, 1974, gage height, 7.42 ft, from rating curve extended above 1,000 ft^3/s on basis of contracted-opening measurement of peak discharge and step-backwater analysis; minimum daily, 1.7 ft^3/s Jan. 24, 1963; minimum gage height, 1.16 ft Feb. 19, 1962.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov. 29	1645	502	4.23	Apr. 4	0215	*507	*4.24

Minimum discharge, 5.4 ft^3/s Jan. 12, gage height, 1.93 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	11	40	e9.2	26	14	17	20	15	12	10	17
2	34	11	31	e8.8	36	15	15	15	17	11	9.7	15
3	25	13	22	e8.4	21	19	73	16	11	11	13	15
4	18	13	e21	e8.0	15	16	245	15	11	10	18	37
5	16	12	e21	e7.8	e14	14	58	14	10	9.9	18	25
6	14	12	e18	e7.6	e13	14	34	14	9.3	9.6	22	17
7	20	12	e16	7.4	e12	15	25	13	11	10	19	15
8	17	13	15	7.3	11	16	26	12	10	9.3	18	14
9	14	28	23	7.1	e10	19	22	12	9.5	9.3	16	14
10	13	16	22	6.7	e9.8	19	18	12	9.5	9.4	15	13
11	32	14	17	6.5	9.6	15	16	11	9.0	8.3	13	13
12	20	13	15	6.3	e9.4	14	15	11	8.0	8.5	12	13
13	16	12	14	8.1	e9.2	14	14	12	10	9.3	12	15
14	15	12	12	6.8	e9.2	13	14	14	10	28	12	13
15	15	12	36	e6.4	57	12	15	12	11	16	16	12
16	13	11	41	e6.2	55	12	12	20	10	12	12	12
17	13	12	29	e9.0	38	11	11	17	10	143	15	35
18	12	21	21	e17	39	11	12	13	10	33	13	16
19	12	13	17	23	44	11	10	38	10	20	11	14
20	12	14	127	76	94	11	9.4	43	9.4	15	11	13
21	18	13	58	43	e44	9.4	14	110	9.4	77	12	13
22	18	12	30	22	e38	8.7	10	43	18	22	12	13
23	20	12	22	17	e50	9.9	13	25	42	20	38	44
24	15	13	18	14	35	17	14	19	14	60	47	17
25	15	17	17	13	24	34	10	15	14	24	30	14
26	13	31	14	12	19	173	9.2	13	14	18	45	13
27	13	17	13	10	19	106	9.7	13	11	17	17	12
28	14	15	12	9.4	17	41	12	11	11	14	50	12
29	13	220	11	8.4	17	28	40	10	14	13	99	12
30	12	89	10	11	---	22	37	9.8	12	12	32	12
31	12	---	e9.6	16	---	17	---	9.4	---	11	20	---
TOTAL	570	714	772.6	419.4	795.2	751.0	830.3	612.2	370.1	682.6	687.7	500
MEAN	18.4	23.8	24.9	13.5	27.4	24.2	27.7	19.7	12.3	22.0	22.2	16.7
MAX	76	220	127	76	94	173	245	110	42	143	99	44
MIN	12	11	9.6	6.2	9.2	8.7	9.2	9.4	8.0	8.3	9.7	12

CAL YR	1987	TOTAL	9139.2	MEAN	25.0	MAX	303	MIN 8.0
WTR YR	1988	TOTAL	7705.1	MEAN	21.1	MAX	245	MIN 6.2

e Estimated

0423205010 IRONDEQUOIT CREEK AT BLOSSOM ROAD, ROCHESTER, NY

LOCATION.--Lat 43°08'50", long 77°30'48", Monroe County, Hydrologic Unit 04140101, on right bank 120 ft downstream from bridge on Blossom Road, 1.6 mi east of Rochester, 2.5 mi downstream from Allen Creek, and 3.6 mi upstream from mouth.

DRAINAGE AREA.--143 mi^2, flow from 8.45 mi^2 noncontributing.

PERIOD OF RECORD.--Occasional discharge measurements water years 1977–80. December 1980 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 246.31 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Discharge includes undetermined diversion from Erie (Barge) Canal. Unpublished water-quality records are available in files of Monroe County Department of Health. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years (water years 1982–88), 125 ft^3/s, 12.57 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,370 ft^3/s Feb. 14, 1984, gage height, 7.91 ft; maximum gage height, 8.01 ft, Jan. 20, 1987 (backwater from ice); minimum discharge, 28 ft^3/s Sept. 11, 14, 1982, gage height, 1.69 ft.

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)
Nov. 29	2030	*813	*7.28	No peak greater than base discharge.			

Minimum discharge, 32 ft^3/s part of each day July 4-12, gage height, 1.99 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	229	59	208	e80	130	101	103	119	56	39	48	60
2	125	59	142	e78	164	102	97	101	70	37	47	57
3	114	59	131	e76	130	119	160	93	55	36	48	55
4	99	62	150	e74	112	110	664	96	58	34	51	94
5	80	60	130	e70	e100	99	424	95	52	33	52	87
6	73	63	106	e68	e96	102	225	94	48	32	66	69
7	81	63	91	e66	e92	101	159	91	49	32	54	59
8	79	63	84	e64	e88	100	146	80	50	33	51	54
9	72	100	100	e62	e84	110	135	73	49	33	49	52
10	67	76	113	e60	e80	121	122	67	46	33	48	51
11	113	67	94	e58	e78	108	112	64	45	33	46	51
12	91	64	83	e58	e78	94	107	64	42	33	46	50
13	76	63	78	e60	e80	90	102	64	41	33	45	55
14	70	67	71	e64	e90	87	100	65	39	66	45	51
15	67	64	225	e64	232	83	104	63	37	59	49	47
16	65	59	315	e62	269	79	98	86	37	43	44	47
17	62	57	285	e62	193	78	93	153	38	263	49	95
18	62	77	238	e100	175	78	91	98	36	132	51	65
19	60	61	214	166	186	78	88	127	37	64	48	53
20	60	61	478	304	282	80	85	126	36	52	46	50
21	71	60	511	285	225	69	95	266	36	153	45	49
22	75	55	310	168	e200	52	91	190	44	79	44	49
23	76	57	186	126	e220	57	92	113	118	56	73	119
24	66	60	129	108	e180	66	102	91	43	356	149	66
25	71	56	115	101	e140	87	91	79	42	153	73	53
26	63	72	105	94	e120	456	85	74	45	76	134	49
27	62	55	96	e88	e115	451	83	68	40	75	63	48
28	66	49	89	e84	110	237	91	63	38	69	115	46
29	64	357	86	e80	116	157	129	59	43	56	270	46
30	61	449	e84	e80	---	130	152	56	38	50	139	45
31	59	---	e82	102	---	112	---	51	---	51	76	---
TOTAL	2479	2574	5129	3012	4165	3794	4226	2929	1408	2294	2164	1772
MEAN	80.0	85.8	165	97.2	144	122	141	94.5	46.9	74.0	69.8	59.1
MAX	229	449	511	304	282	456	664	266	118	356	270	119
MIN	59	49	71	58	78	52	83	51	36	32	44	45

CAL YR	1987	TOTAL	45198	MEAN	124	MAX	947	MIN	49
WTR YR	1988	TOTAL	35946	MEAN	98.2	MAX	664	MIN	32

e Estimated

04232100 STERLING CREEK AT STERLING, NY

LOCATION.--Lat 43°19'31", long 76°38'51", Cayuga County, Hydrologic Unit 04140101, on right bank at Sterling, 25 ft downstream from bridge on State Highway 104A, 1.8 mi southwest of Sterling Valley, and 1.9 mi upstream from Sterling Valley Creek.

DRAINAGE AREA.--44.4 mi^2.

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

REVISED RECORDS.--WDR NY–85–3: 1960(M), 1979–80(M).

GAGE.--Water-stage recorder. Datum of gage is 264.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (water years 1958–88), 65.4 ft^3/s, 20.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,760 ft^3/s, revised, Mar. 22, 1980, gage height, 5.99 ft; minimum, 0.32 ft^3/s Sept. 14, 1966, gage height, 1.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 311 ft^3/s, Mar. 26 at 0630 hours; maximum gage height, 3.12 ft, Feb. 9 (ice jam); minimum discharge 1.1 ft^3/s Aug. 17, 18, 22-24, gage height 1.59 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	19	95	35	e82	e60	79	46	13	4.0	1.8	4.6
2	13	16	81	e31	e100	e54	73	39	13	3.6	1.7	3.3
3	12	16	71	e27	e70	54	78	35	11	2.7	1.9	2.6
4	11	17	66	24	e48	54	126	32	11	2.8	1.7	2.4
5	8.3	17	61	e23	e45	e52	139	30	10	2.3	1.6	2.7
6	7.6	17	54	e21	e44	e54	122	29	8.8	2.5	1.6	4.1
7	6.1	17	45	e19	e42	e56	104	28	8.5	2.1	1.5	3.2
8	7.0	16	39	e17	e41	e74	94	29	8.3	1.8	1.5	2.5
9	8.8	27	38	e17	e40	168	110	24	7.3	1.9	1.5	2.3
10	9.5	29	46	e16	e39	258	97	30	6.6	1.7	1.5	2.0
11	10	27	43	e16	e38	198	81	26	6.1	1.6	1.5	1.8
12	12	26	43	e16	e37	159	69	24	5.7	1.7	1.3	1.7
13	11	25	45	e16	e36	147	61	21	5.5	1.6	1.3	2.0
14	8.3	22	43	e17	e35	138	56	20	5.0	1.7	1.4	2.0
15	7.6	21	41	e18	e36	109	56	19	4.2	4.1	1.4	1.7
16	7.3	19	59	e19	e41	90	54	18	3.7	2.8	1.3	1.6
17	5.1	18	62	e22	e46	79	50	21	3.6	6.2	1.3	2.8
18	5.1	21	56	e30	e54	73	45	23	3.2	11	1.3	4.0
19	5.1	22	49	e60	68	70	40	36	3.2	5.4	1.3	2.9
20	6.3	20	66	e120	92	65	39	109	3.3	3.3	1.3	2.8
21	6.2	19	109	e200	e110	54	40	176	2.7	3.4	1.3	2.7
22	12	16	96	e180	e100	47	38	114	2.8	4.3	1.1	2.3
23	14	15	84	e120	99	48	36	90	5.7	3.3	1.1	3.1
24	14	15	74	e86	e92	73	39	69	4.8	5.0	3.0	3.8
25	17	16	65	67	e80	104	37	51	4.2	4.5	3.2	2.7
26	12	22	59	58	e76	273	36	39	5.1	2.9	3.1	2.5
27	11	24	54	e50	e70	243	32	31	5.2	2.8	2.5	2.2
28	20	22	48	e46	e66	196	34	25	4.0	2.6	3.9	2.2
29	23	32	37	e42	63	152	37	20	4.1	2.5	8.3	2.2
30	24	117	e24	e39	---	118	51	17	3.9	2.3	8.6	2.1
31	22	---	e22	e46	---	94	---	14	---	2.0	6.2	---
TOTAL	354.3	710	1775	1498	1790	3414	1953	1285	183.5	100.4	72.0	78.8
MEAN	11.4	23.7	57.3	48.3	61.7	110	65.1	41.5	6.12	3.24	2.32	2.63
MAX	24	117	109	200	110	273	139	176	13	11	8.6	4.6
MIN	5.1	15	22	16	35	47	32	14	2.7	1.6	1.1	1.6
CFSM	.26	.53	1.29	1.09	1.39	2.48	1.47	.93	.14	.07	.05	.06
IN.	.30	.59	1.49	1.26	1.50	2.86	1.64	1.08	.15	.08	.06	.07

CAL YR	1987	TOTAL	14402.5	MEAN	39.5	MAX	462	MIN	1.3	CFSM	.89	IN. 12.07
WTR YR	1988	TOTAL	13214.0	MEAN	36.1	MAX	273	MIN	1.1	CFSM	.81	IN. 11.07

e Estimated

04232400 SENECA LAKE AT WATKINS GLEN, NY

LOCATION.--Lat 42°23'00", long 76°52'05", Schuyler County, Hydrologic Unit 04140201, on east bank about 300 ft from lake on shorter of two boat slips at Watkins Glen.

DRAINAGE AREA.--704 mi^2.

PERIOD OF RECORD.--October 1956 to current year.

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datm of 1929 (1.59 ft Barge Canal datum). Prior to Oct. 1, 1975, at datum 438.41 ft higher.

REMARKS.--Area of water surface, 67.6 mi^2. Diversion from Susquehanna River basin enters lake through Keuka Lake Outlet at Dresden. For table of diversion, see station 01528700. Lake elevation regulated by taintor gates on Seneca River at Lock 4, Waterloo, for operation of Erie (Barge) Canal and power generation by New York State Electric and Gas Corp.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 448.88 ft June 25, 1972; minimum, 442.64 ft Mar. 14, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 445.52 ft June 22; minimum, 443.66 ft Jan. 13.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	445.09	444.25	444.01	444.35	444.04	443.83	444.48	444.83	445.18	445.14	445.24	444.82
2	444.95	444.23	444.04	444.35	444.15	443.80	444.51	444.84	445.22	445.11	445.20	444.75
3	445.05	444.19	444.04	444.33	444.15	443.86	444.52	444.84	445.21	445.07	445.17	444.78
4	445.09	444.15	444.09	444.33	444.23	443.89	444.62	444.85	445.19	445.08	445.08	444.79
5	444.98	444.15	444.09	444.26	444.18	443.88	444.64	444.86	445.19	445.08	445.07	444.81
6	444.88	444.09	444.10	444.18	444.16	443.87	444.59	444.88	445.22	445.06	445.04	444.82
7	444.90	444.05	444.09	444.13	444.13	443.91	444.59	444.89	445.21	445.03	445.08	444.74
8	444.84	444.01	444.07	444.06	444.16	443.92	444.60	444.87	445.20	445.04	445.05	444.75
9	444.76	444.07	444.07	443.99	444.11	443.95	444.62	444.86	445.21	445.03	445.00	444.67
10	444.76	444.09	444.12	443.91	444.11	444.05	444.65	444.88	445.20	445.01	445.01	444.74
11	444.83	444.06	444.13	443.82	444.06	444.07	444.67	444.93	445.17	445.02	445.04	444.72
12	444.81	444.01	444.13	443.79	444.08	444.08	444.62	444.92	445.15	445.04	444.98	444.66
13	444.79	443.97	444.14	443.85	444.08	444.12	444.57	444.92	445.13	445.04	444.98	444.65
14	444.77	443.99	444.14	443.84	444.07	444.15	444.51	444.94	445.13	444.99	444.95	444.71
15	444.70	443.99	444.15	443.78	444.06	444.15	444.52	444.93	445.12	445.06	444.97	444.67
16	444.64	443.96	444.18	443.77	444.11	444.16	444.51	444.98	445.13	445.01	445.00	444.60
17	444.64	443.92	444.23	443.79	444.04	444.16	444.52	445.04	445.17	445.02	444.89	444.51
18	444.62	443.98	444.21	443.83	444.01	444.13	444.56	445.05	445.16	445.08	445.03	444.60
19	444.63	444.00	444.21	443.88	443.95	444.16	444.56	445.09	445.12	445.07	444.90	444.62
20	444.56	444.03	444.25	443.89	443.99	444.17	444.57	445.13	445.09	445.09	444.90	444.55
21	444.53	444.03	444.35	444.00	444.04	444.16	444.59	445.15	445.14	445.25	444.89	444.63
22	444.51	444.00	444.38	444.02	443.96	444.14	444.59	445.17	445.12	445.33	444.85	444.63
23	444.41	443.94	444.40	444.01	444.01	444.08	444.58	445.18	445.19	445.28	444.73	444.60
24	444.37	443.91	444.41	444.00	443.96	444.13	444.65	445.15	445.20	445.32	444.73	444.67
25	444.42	443.87	444.44	444.05	443.91	444.14	444.69	445.14	445.09	445.31	444.80	444.63
26	444.39	443.93	444.48	444.06	443.84	444.30	444.69	445.14	445.13	445.25	444.76	444.61
27	444.28	443.92	444.48	444.04	443.85	444.40	444.73	445.13	445.18	445.25	444.81	444.58
28	444.32	443.90	444.49	444.02	443.81	444.44	444.74	445.14	445.12	445.25	444.79	444.60
29	444.31	443.91	444.51	443.98	443.80	444.43	444.76	445.14	445.12	445.20	444.91	444.59
30	444.22	443.97	444.42	443.96	---	444.46	444.81	445.13	445.15	445.20	444.85	444.48
31	444.22	---	444.30	443.99	---	444.48	---	445.14	---	445.24	444.84	---
MEAN	444.65	444.02	444.23	444.01	444.04	444.11	444.61	445.00	445.16	445.13	444.95	444.67
MAX	445.09	444.25	444.51	444.35	444.23	444.48	444.81	445.18	445.22	445.33	445.24	444.82
MIN	444.22	443.87	444.01	443.77	443.80	443.80	444.48	444.83	445.09	444.99	444.73	444.48

CAL YR	1987	MEAN	444.67	MAX	445.58	MIN	443.84
WTR YR	1988	MEAN	444.55	MAX	445.33	MIN	443.77

04232450 KEUKA INLET (KEUKA LAKE) AT HAMMONDSPORT, NY

(Formerly published as Keuka Lake at Hammondsport)

LOCATION.--Lat 42°24'22", long 77°13'08", Steuben County, Hydrologic Unit 04140201, on left bank of Keuka Inlet at end of Liberty Street extension at Hammondsport, and 300 ft upstream from mouth.

DRAINAGE AREA.--Keuka Inlet 25.0 mi^2; Keuka Lake at mouth 182 mi^2.

PERIOD OF RECORD.--August 1960 to current year.

REVISED RECORDS.--WSP 2112: Drainage area. WRD NY 1974: 1973.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to October 1, 1975, at datum 710.00 ft higher.

REMARKS.--Lake regulated by village of Penn Yan; prior to July 1962, by New York State Electric and Gas Corp. Area of water surface, 18.3 mi^2. During each year, a large part of flow from 45.5 mi^2 of drainage area of Mud Creek (Susquehanna River basin) is diverted into Keuka Lake for power development. For table of diversion, see station 01528700.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 719.35 ft June 24, 1972; minimum daily, 711.40 ft Feb. 2, 3, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 714.54 July 21; minimum, 712.32 ft Jan. 19.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	713.98	713.47	713.16	712.68	712.63	712.96	713.68	713.54	714.33	714.17	714.07	713.64
2	713.89	713.46	713.14	712.65	712.74	712.91	713.72	713.55	714.38	714.16	714.01	713.62
3	713.90	713.45	713.12	712.61	712.76	712.91	713.75	713.56	714.36	714.14	713.94	713.61
4	713.84	713.47	713.11	712.58	712.83	712.90	713.88	713.57	714.36	714.13	713.89	713.64
5	713.77	713.46	713.08	712.54	712.85	712.86	713.97	713.58	714.32	714.13	713.88	713.64
6	713.72	713.46	713.05	712.52	712.85	712.84	714.01	713.60	714.34	714.12	713.88	713.61
7	713.68	713.46	713.01	712.50	712.85	712.82	714.07	713.62	714.34	714.11	713.87	713.59
8	713.64	713.45	712.97	712.48	712.85	712.81	714.12	713.61	714.34	714.11	713.86	713.57
9	713.57	713.47	712.95	712.47	712.85	712.82	714.11	713.60	714.35	714.10	713.84	713.55
10	713.54	713.48	712.96	712.46	712.85	712.87	714.10	713.62	714.33	714.08	713.84	713.54
11	713.53	713.46	712.94	712.45	712.86	712.86	714.07	713.65	714.30	714.07	713.86	713.53
12	713.48	713.43	712.93	712.44	712.90	712.86	714.02	713.65	714.29	714.08	713.84	713.51
13	713.45	713.42	712.93	712.44	712.93	712.85	713.98	713.65	714.29	714.07	713.81	713.50
14	713.44	713.42	712.93	712.42	712.92	712.85	713.93	713.67	714.28	714.05	713.79	713.49
15	713.44	713.42	712.92	712.41	712.93	712.87	713.90	713.66	714.28	714.10	713.77	713.49
16	713.44	713.41	712.90	712.42	712.98	712.88	713.85	713.71	714.30	714.06	713.78	713.45
17	713.43	713.39	712.90	712.41	713.00	712.89	713.81	713.82	714.32	714.10	713.74	713.43
18	713.43	713.44	712.88	712.38	713.02	712.91	713.78	713.85	714.32	714.14	713.79	713.47
19	713.43	713.41	712.85	712.39	713.03	712.94	713.73	713.89	714.30	714.15	713.73	713.46
20	713.43	713.38	712.88	712.43	713.07	712.96	713.67	713.97	714.28	714.16	713.71	713.43
21	713.43	713.34	712.91	712.51	713.10	712.99	713.63	714.03	714.30	714.37	713.70	713.46
22	713.42	713.29	712.90	712.54	713.08	713.01	713.59	714.09	714.28	714.47	713.66	713.44
23	713.41	713.24	712.89	712.55	713.13	713.01	713.55	714.12	714.33	714.46	713.62	713.47
24	713.41	713.23	712.86	712.55	713.12	713.06	713.56	714.15	714.29	714.47	713.62	713.48
25	713.40	713.20	712.85	712.58	713.10	713.11	713.53	714.19	714.25	714.47	713.60	713.47
26	713.41	713.20	712.83	712.58	713.06	713.32	713.49	714.21	714.25	714.43	713.60	713.46
27	713.39	713.16	712.80	712.58	713.05	713.45	713.47	714.22	714.24	714.38	713.60	713.42
28	713.45	713.13	712.80	712.58	713.01	713.52	713.47	714.24	714.21	714.33	713.63	713.45
29	713.46	713.13	712.79	712.57	712.98	713.58	713.48	714.27	714.21	714.26	713.70	713.40
30	713.45	713.16	712.74	712.57	---	713.61	713.52	714.28	714.18	714.19	713.67	713.38
31	713.46	---	712.69	712.59	---	713.66	---	714.30	---	714.14	713.66	---
MEAN	713.54	713.36	712.92	712.51	712.94	713.03	713.78	713.85	714.30	714.20	713.77	713.51
MAX	713.98	713.48	713.16	712.68	713.13	713.66	714.12	714.30	714.38	714.47	714.07	713.64
MIN	713.39	713.13	712.69	712.38	712.63	712.81	713.47	713.54	714.18	714.05	713.60	713.38

CAL YR	1987	MEAN	713.60	MAX	714.88	MIN	712.40
WTR YR	1988	MEAN	713.48	MAX	714.47	MIN	712.38

04232482 KEUKA LAKE OUTLET AT DRESDEN, NY

LOCATION.--Lat 42°40'49", long 76°57'15", Yates County, Hydrologic Unit 04140201, on right bank at upstream side of bridge on Milo Street in Dresden, and 0.4 mi upstream from mouth.

DRAINAGE AREA.--207 mi^2.

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

REVISED RECORD.--WDR NY-86-3: 1984 (P).

GAGE.--Water-stage recorder. Datum of gage is 444.67 ft (revised) above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1982, at datum 2.00 ft higher.

REMARKS.--Records fair. Flow regulated by village of Penn Yan. During each year a large part of flow from 45.5 mi^2 of Mud Creek drainage area (Susquehanna River basin) is diverted into Keuka Lake (Oswego basin) for power development. For table of diversion, see station 01528700. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years, 196 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft^3/s June 22, 1972, gage height, 10.37 ft, present datum, from rating curve extended above 2,100 ft^3/s on basis of contracted-opening measurement at Mays Mill, adjusted for intervening area; minimum, 3.2 ft^3/s Sept. 6, 7, 8, 9, 10, 1982, gage height, 1.47 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 446 ft^3/s July 27 at 1845 hours, gage height, 3.13 ft; maximum gage height, 4.17 ft, Feb. 9 at 1515 hours (result of ice jam); minimum daily, 13 ft^3/s June 14-22; minimum gage height, 1.47 ft, June 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	348	54	201	e180	e40	258	40	25	20	19	386	23
2	340	37	246	e170	e40	257	39	24	19	18	375	23
3	322	32	280	e150	e38	257	40	24	18	18	371	23
4	310	28	273	e140	e36	254	63	24	16	18	179	27
5	310	24	262	e120	e30	251	49	24	16	18	23	24
6	300	22	251	e130	e30	249	44	24	15	18	21	23
7	286	21	246	e120	e30	253	40	23	15	18	27	23
8	263	15	248	e110	e28	254	129	23	15	18	27	23
9	268	19	248	e120	e140	267	371	22	15	18	27	23
10	260	20	239	e130	212	265	367	22	15	18	28	23
11	267	20	182	e130	e32	252	365	22	14	19	28	23
12	258	20	119	e130	e30	246	364	21	14	18	28	24
13	125	19	116	e140	e32	249	365	21	14	18	28	25
14	38	19	176	e130	e32	123	364	21	13	20	28	24
15	37	19	230	e130	e32	36	354	20	13	18	29	24
16	36	19	236	e120	e30	34	347	25	13	15	28	24
17	44	19	222	e120	e30	33	344	26	13	17	26	29
18	50	136	214	e90	e32	33	335	21	13	15	25	25
19	50	236	225	e50	e32	33	328	22	13	16	24	24
20	55	224	328	e90	e46	32	321	23	13	15	24	25
21	76	214	274	e76	e40	29	312	23	13	89	24	25
22	80	211	241	e54	e30	30	303	22	13	34	24	25
23	82	209	230	e50	168	29	302	21	37	21	25	30
24	85	204	224	e46	299	31	302	22	58	19	26	25
25	102	201	225	e40	286	35	295	22	57	106	24	21
26	97	197	221	e36	279	139	293	21	53	332	23	21
27	92	195	218	e34	273	75	239	21	51	381	22	21
28	146	194	e210	e30	268	56	106	20	51	406	24	21
29	113	198	e210	e28	266	50	29	20	37	397	26	21
30	88	206	e200	e34	---	46	28	20	19	396	23	21
31	74	---	e190	e36	---	42	---	19	---	385	23	---
TOTAL	5002	3032	6985	2964	2861	4198	6878	688	686	2918	1996	713
MEAN	161	101	225	95.6	98.7	135	229	22.2	22.9	94.1	64.4	23.8
MAX	348	236	328	180	299	267	371	26	58	406	386	30
MIN	36	15	116	28	28	29	28	19	13	15	21	21

CAL YR	1987	TOTAL	61808	MEAN	169	MAX	1080	MIN	13
WTR YR	1988	TOTAL	38921	MEAN	106	MAX	406	MIN	13

e Estimated

04233000 CAYUGA INLET NEAR ITHACA, NY

LOCATION.--Lat 42°23'35", long 76°32'43", Tompkins County, Hydrologic Unit 04140201, on left bank 0.8 mi upstream from Enfield (formerly Butternut) Creek, and 5 mi south of Ithaca.

DRAINAGE AREA.--35.2 mi^2.

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

REVISED RECORDS.--WSP 2112: Drainage area. WRD NY 1974: 1973.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 437.16 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

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

AVERAGE DISCHARGE.--51 years (water years 1938–88), 38.2 ft^3/s, 14.74 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft^3/s June 23, 1972, gage height, 8.10 ft, from rating curve extended above 1,600 ft^3/s on basis of slope-area measurements at gage heights 5.5 ft and 7.58 ft; minimum discharge, 1.7 ft^3/s July 22, 1955; minimum gage height, 0.42 ft Aug. 30, 31, Sept. 1, 2, 1939, July 22, 1955. Several measurements of water temperature were made during the year.

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)
Mar. 26	0430	*373	*2.28	No peak greater than base discharge.			

Minimum discharge, 2.4 ft^3/s Aug. 16, gage height, 0.46 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	14	43	e28	86	e22	54	40	e19	5.7	6.3	7.3
2	9.4	13	35	e21	146	e28	52	39	e24	5.5	5.8	6.1
3	12	13	28	e19	e74	33	48	37	e19	5.1	5.1	5.8
4	11	13	26	e20	e58	31	63	34	e25	4.7	4.7	14
5	9.6	14	23	e16	e48	e28	49	31	e19	4.4	4.3	13
6	8.9	12	21	e16	e40	e24	43	29	e16	4.1	4.8	9.6
7	18	11	19	e16	e38	39	40	27	14	3.9	5.1	7.7
8	14	11	19	e15	e36	52	39	25	13	3.8	4.5	6.7
9	11	12	24	e15	e34	115	42	20	12	3.5	4.3	5.7
10	9.9	11	25	e15	e32	133	38	21	11	3.4	4.2	5.0
11	18	11	21	e14	e30	83	34	23	10	3.7	4.2	4.7
12	17	10	21	e14	e28	81	33	22	9.4	3.7	4.1	4.5
13	13	11	19	e15	e26	100	30	20	8.6	3.4	3.6	4.8
14	12	10	18	e14	e25	86	28	20	8.0	3.9	3.6	4.5
15	11	9.7	25	e13	e25	69	28	18	7.5	4.5	3.4	4.1
16	9.9	9.6	31	e13	e24	59	28	18	7.6	4.0	3.0	3.9
17	9.4	9.4	26	e15	e23	51	27	20	7.7	11	5.2	6.7
18	9.2	20	23	e19	e24	47	24	19	6.9	7.3	6.1	5.6
19	9.0	15	23	e40	e24	44	24	25	6.5	6.3	4.2	4.7
20	9.1	14	68	e80	e50	41	22	72	6.2	7.2	3.9	5.9
21	9.2	11	70	67	e40	e28	20	42	5.9	37	3.7	6.4
22	9.0	12	47	42	e36	e24	20	39	5.6	19	3.5	5.1
23	8.4	12	40	e38	e34	35	26	31	5.9	9.2	3.5	12
24	8.1	14	35	e30	e30	48	37	74	5.4	7.6	7.0	8.1
25	9.5	13	37	e28	e28	68	27	51	5.3	7.2	6.0	6.4
26	8.8	13	30	e26	e26	189	22	42	6.5	26	5.0	5.7
27	9.2	12	26	e24	e26	127	21	35	5.6	21	15	5.2
28	51	12	24	e22	e24	89	29	28	5.1	10	15	4.9
29	27	26	e21	e18	e24	66	29	e25	5.2	7.9	32	5.6
30	19	74	e20	e24	---	54	38	e21	5.5	6.8	19	5.4
31	16	---	e24	41	---	47	---	e19	---	8.0	10	---
TOTAL	406.6	442.7	912	778	1139	1941	1015	967	306.4	258.8	210.1	195.1
MEAN	13.1	14.8	29.4	25.1	39.3	62.6	33.8	31.2	10.2	8.35	6.78	6.50
MAX	51	74	70	80	146	189	63	74	25	37	32	14
MIN	8.1	9.4	18	13	23	22	20	18	5.1	3.4	3.0	3.9
CFSM	.37	.42	.84	.71	1.12	1.78	.96	.89	.29	.24	.19	.18
IN.	.43	.47	.96	.82	1.20	2.05	1.07	1.02	.32	.27	.22	.21

CAL YR	1987	TOTAL	10870.0	MEAN	29.8	MAX	338	MIN	3.6	CFSM	.85	IN. 11.49
WTR YR	1988	TOTAL	8571.7	MEAN	23.4	MAX	189	MIN	3.0	CFSM	.67	IN. 9.06

e Estimated

04233500 CAYUGA INLET (CAYUGA LAKE) AT ITHACA, NY

(Formerly published as Cayuga Lake at Ithaca)

LOCATION.--Lat 42°26'45", long 76°30'45", Tompkins County, Hydrologic Unit 04140201, on left bank of natural channel 40 ft upstream from flood-control channel of Cayuga Inlet, at north end of Taughannock Boulevard, and 1 mi upstream from mouth of Inlet, at Ithaca.

DRAINAGE AREA.--Cayuga Inlet 143 mi^2; Cayuga Lake at mouth 1,564 mi^2; Cayuga Lake portion 785 mi^2.

PERIOD OF RECORD.--August 1905 to December 1909, August 1956 to current year in reports of Geological Survey. January 1910 to September 1925 in reports of State Engineer and Surveyor.

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (1.43 ft Barge Canal datum). Prior to September 1925, nonrecording gage at several sites within 1 mi of present site. Prior to October 1968, at datum 378.57 ft higher. October 1968 to September 1975, at datum 376.57 ft higher.

REMARKS.--Lake elevation regulated at Mud Lock by New York State Department of Transportation. Area of water surface, 66.9 mi^2. Seneca River (Cayuga and Seneca Canal) enters lake 0.5 mi upstream from Mud Lock and is included in second drainage area given above.

EXTREMES FOR PERIOD OF RECORD.--(1905–25 and since 1956): Maximum elevation, 386.33 ft June 26, 1972; minimum daily, 377.64 ft present datum, Mar. 28, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 383.10 ft May 13; minimum, 379.01 ft Jan. 17, 18.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	382.19	381.61	380.98	379.73	379.42	380.38	381.40	382.32	382.81	382.64	382.61	382.20
2	382.03	381.50	381.01	379.64	379.63	380.26	381.43	382.35	382.84	382.61	382.59	382.16
3	382.13	381.40	380.95	379.52	379.65	380.28	381.41	382.36	382.79	382.56	382.58	382.17
4	382.16	381.38	380.97	379.47	379.78	380.29	381.55	382.37	382.78	382.56	382.51	382.14
5	381.93	381.43	380.90	379.46	379.81	380.26	381.69	382.38	382.79	382.57	382.51	382.22
6	381.91	381.39	380.83	379.44	379.81	380.20	381.69	382.42	382.80	382.54	382.47	382.22
7	381.98	381.27	380.72	379.45	379.76	380.24	381.83	382.46	382.77	382.52	382.47	382.15
8	382.03	381.15	380.61	379.42	379.82	380.21	381.96	382.40	382.75	382.53	382.40	382.13
9	381.99	381.14	380.54	379.44	379.84	380.24	381.94	382.38	382.78	382.51	382.36	382.08
10	381.97	381.14	380.56	379.43	379.93	380.43	381.90	382.44	382.76	382.50	382.35	382.14
11	381.99	381.08	380.51	379.38	379.94	380.45	381.90	382.50	382.71	382.50	382.37	382.13
12	381.92	380.98	380.44	379.28	380.01	380.46	381.91	382.49	382.68	382.53	382.33	382.07
13	381.87	380.89	380.40	379.31	380.03	380.51	381.95	382.49	382.69	382.51	382.31	382.09
14	381.86	380.89	380.33	379.26	379.99	380.54	381.93	382.56	382.68	382.45	382.29	382.13
15	381.84	380.84	380.22	379.13	379.96	380.57	382.06	382.52	382.66	382.55	382.34	382.12
16	381.85	380.77	380.24	379.07	380.06	380.61	382.04	382.59	382.67	382.45	382.35	382.04
17	381.78	380.69	380.28	379.04	380.08	380.64	381.97	382.69	382.72	382.47	382.23	381.96
18	381.77	380.82	380.16	379.06	380.15	380.59	382.00	382.72	382.69	382.54	382.38	382.06
19	381.75	380.80	380.07	379.11	380.16	380.64	381.97	382.76	382.65	382.51	382.23	382.04
20	381.71	380.84	380.00	379.11	380.23	380.69	381.95	382.92	382.63	382.55	382.24	381.98
21	381.77	380.88	380.15	379.30	380.32	380.68	381.97	382.96	382.68	382.68	382.23	382.08
22	381.78	380.77	380.13	379.36	380.19	380.64	381.99	382.91	382.64	382.79	382.19	382.04
23	381.74	380.68	380.12	379.34	380.34	380.52	381.93	382.85	382.75	382.72	382.04	382.02
24	381.69	380.77	380.04	379.33	380.39	380.64	382.03	382.86	382.70	382.74	382.06	382.10
25	381.71	380.79	380.02	379.40	380.42	380.64	382.06	382.93	382.56	382.71	382.14	382.05
26	381.64	380.89	380.00	379.44	380.42	380.90	382.03	382.87	382.67	382.66	382.12	382.07
27	381.55	380.83	379.91	379.40	380.44	381.17	382.06	382.78	382.68	382.73	382.15	382.00
28	381.73	380.79	379.86	379.37	380.42	381.31	382.09	382.78	382.60	382.76	382.15	382.06
29	381.76	380.79	379.97	379.32	380.40	381.30	382.13	382.77	382.64	382.71	382.28	382.00
30	381.70	380.92	379.86	379.30	---	381.35	382.26	382.77	382.64	382.68	382.23	381.91
31	381.68	---	379.70	379.33	---	381.42	---	382.79	---	382.67	382.24	---
MEAN	381.85	381.00	380.34	379.34	380.05	380.61	381.90	382.63	382.71	382.60	382.31	382.09
MAX	382.19	381.61	381.01	379.73	380.44	381.42	382.26	382.96	382.84	382.79	382.61	382.22
MIN	381.55	380.68	379.70	379.04	379.42	380.20	381.40	382.32	382.56	382.45	382.04	381.91

CAL YR	1987	MEAN	381.41	MAX	382.83	MIN	379.10
WTR YR	1988	MEAN	381.45	MAX	382.96	MIN	379.04

04234000 FALL CREEK NEAR ITHACA, NY

LOCATION.--Lat 42°27'12", long 76°28'23", Tompkins County, Hydrologic Unit 04140201, on left bank in Forest Home, 0.2 mi east of Ithaca, 0.5 mi upstream from Cornell University dam, and 2.2 mi upstream from mouth.

DRAINAGE AREA.--126 mi^2.

PERIOD OF RECORD.--July 1908 to June 1909 (gage heights only), February 1925 to current year.

REVISED RECORDS.--WSP 874: 1935–38. WSP 1912: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 795.13 ft above National Geodetic Vertical Datum of 1929. July 1908 to June 1909, nonrecording gage at bridge 1.2 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversion from point about 1 mi upstream from station by Cornell University for water supply and at several sites for irrigation purposes. Records of diversion from Fall Creek are in files of Cornell University. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--63 years (water years 1926–88), 185 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft^3/s July 8, 1935, gage height, 9.52 ft, from average of computed flow over each of four dams; maximum gage height, 11.16 ft Feb. 21, 1971 (ice jam); minimum discharge, about 3 ft^3/s Aug. 25, 1927, result of regulation; minimum daily, 3.6 ft^3/s Aug. 17, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 26	1200	*1,710	*3.51	No peak greater than base discharge.			

Minimum discharge, 8.3 ft^3/s Sept. 17, gage height, 0.25 ft, result of momentary regulation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	92	252	e160	e420	e100	250	292	79	32	27	31
2	56	83	218	e120	e700	e86	246	213	86	33	24	25
3	58	80	180	e100	375	e120	244	179	85	27	19	22
4	67	88	173	e94	262	e110	436	162	121	24	16	24
5	58	107	166	e90	e220	e100	366	144	89	22	16	35
6	50	92	154	e86	e180	e100	258	145	71	21	18	29
7	96	84	142	e84	e150	e150	218	132	65	18	41	26
8	124	86	133	e82	e140	187	198	114	71	16	27	21
9	81	100	175	e80	e140	303	211	104	62	16	21	19
10	66	117	299	e78	e130	636	198	99	55	16	18	17
11	77	96	243	e76	e130	331	179	190	57	15	17	16
12	116	86	193	e74	e120	276	164	137	50	15	16	15
13	85	93	180	e72	e120	411	152	116	44	15	16	16
14	72	90	160	e72	e110	415	139	178	39	18	14	21
15	61	81	164	e70	e110	281	132	125	36	19	13	18
16	57	74	250	e70	e110	234	138	108	34	20	12	15
17	55	72	187	e90	e100	211	152	178	38	25	14	18
18	50	122	156	e140	e100	198	133	135	36	42	27	42
19	48	120	153	e270	e100	193	119	151	33	30	20	29
20	48	92	361	e310	e150	175	111	860	30	34	15	23
21	57	76	500	e440	e180	e140	108	398	27	77	13	30
22	66	67	270	267	e140	e130	106	261	26	217	12	28
23	63	83	218	177	e150	e140	106	190	29	79	12	49
24	54	109	186	e160	e150	285	196	293	32	50	19	79
25	60	127	234	e140	e120	466	148	268	28	38	29	43
26	73	109	271	e120	e100	1320	115	182	28	36	31	30
27	61	100	196	e100	e110	963	106	144	29	55	22	24
28	282	86	e170	e98	e100	600	315	120	26	44	24	22
29	199	92	e140	e94	e100	416	356	102	25	34	94	20
30	130	440	e100	e92	---	326	597	92	27	28	109	19
31	106	---	e120	e170	---	273	---	82	---	35	51	---
TOTAL	2548	3144	6344	4076	5017	9676	6197	5894	1458	1151	807	806
MEAN	82.2	105	205	131	173	312	207	190	48.6	37.1	26.0	26.9
MAX	282	440	500	440	700	1320	597	860	121	217	109	79
MIN	48	67	100	70	100	86	106	82	25	15	12	15
CFSM	.65	.83	1.62	1.04	1.37	2.48	1.64	1.51	.39	.29	.21	.21
IN.	.75	.93	1.87	1.20	1.48	2.86	1.83	1.74	.43	.34	.24	.24

CAL YR	1987	TOTAL	52355	MEAN	143	MAX	1410	MIN	19	CFSM	1.14	IN. 15.46
WTR Y R	1988	TOTAL	47118	MEAN	129	MAX	1320	MIN	12	CFSM	1.02	IN. 13.91

e Estimated

04234500 CANANDAIGUA LAKE AT CANANDAIGUA, NY

LOCATION.--Lat 42°52'19", long 77°16'22", Ontario County, Hydrologic Unit 04140201, at comfort station in middle of city pier at northern end of Canandaigua Lake, 1 mi southeast of Canandaigua.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--November 1939 to current year. December 1927 to November 1939, records for site on west side of E. T. Waldorf's boathouse collected by, and in files of, city of Canandaigua.

REVISED RECORDS.--WSP 2112: Drainage area. WRD NY 1971: 1970. WDR NY-86-3: 1985.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. June 26, 1946 to Sept. 30, 1975, at datum 681.17 ft higher, and prior to June 26, 1946, nonrecording gage at E. T. Waldorf's boathouse at same datum.

REMARKS.--Lake elevation regulated by one gate on West outlet, which is a 1.5 mi long canal, and by two gates on East outlet, which is the natural outlet. Sill elevations of West and East outflow structures are 684.37 ft and 684.94 ft, respectively. Water diverted for municipal supply for villages of Newark, Palmyra, and Gorham. Records of diversion in files of city of Canandaigua. Area of water surface, 16.6 mi^2.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 692.11 ft June 24, 1972; minimum daily, 685.62 ft Jan. 30, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 688.88 ft Apr. 23; minimum, 686.92 ft Jan. 19.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	688.05	687.72	687.43	687.39	687.28	687.53	688.39	688.59	688.60	688.29	688.38	688.02
2	688.13	687.70	687.45	687.36	687.31	687.55	688.42	688.57	688.61	688.28	688.36	688.00
3	688.05	687.68	687.46	687.34	687.34	687.55	688.47	688.58	688.61	688.27	688.36	687.98
4	688.05	687.64	687.46	687.30	687.39	687.56	688.59	688.59	688.60	688.26	688.37	688.01
5	688.07	687.60	687.47	687.28	687.41	687.57	688.63	688.60	688.61	688.24	688.36	687.99
6	688.05	687.56	687.48	687.25	687.44	687.57	688.67	688.62	688.57	688.24	688.34	687.96
7	688.06	687.52	687.51	687.20	687.43	687.58	688.61	688.61	688.58	688.23	688.30	687.94
8	688.03	687.49	687.52	687.18	687.42	687.60	688.58	688.64	688.57	688.21	688.28	687.93
9	688.04	687.47	687.51	687.15	687.42	687.64	688.57	688.67	688.54	688.21	688.28	687.92
10	688.00	687.41	687.51	687.13	687.42	687.65	688.54	688.66	688.53	688.19	688.25	687.89
11	688.02	687.37	687.49	687.10	687.40	687.68	688.51	688.64	688.53	688.19	688.25	687.87
12	688.02	687.36	687.47	687.07	687.40	687.70	688.53	688.65	688.52	688.16	688.24	687.86
13	688.01	687.36	e687.46	687.06	687.39	687.73	688.55	688.68	688.51	688.15	688.24	687.86
14	688.01	687.34	687.46	687.05	687.36	687.74	688.59	688.66	688.51	688.17	688.24	687.84
15	687.99	687.34	687.50	687.05	687.35	687.75	688.59	688.68	688.50	688.17	688.20	687.79
16	688.00	687.38	687.48	687.04	687.33	687.76	688.62	688.69	688.48	688.19	688.15	687.79
17	688.00	687.46	687.45	687.03	687.32	687.77	688.64	688.72	688.46	688.22	688.15	687.81
18	687.96	687.32	687.44	687.05	687.31	687.79	688.66	688.73	688.46	688.24	688.11	687.79
19	687.95	687.28	687.42	687.07	687.35	687.79	688.67	688.73	688.46	688.25	688.10	687.78
20	687.96	687.28	687.51	687.16	687.38	687.79	688.68	688.74	688.47	688.24	688.07	687.81
21	687.93	687.29	687.53	687.17	687.41	687.80	688.69	688.75	688.43	688.28	688.04	687.77
22	687.93	687.28	687.53	687.20	687.47	687.81	688.69	688.75	688.44	688.33	688.01	687.76
23	687.95	687.26	687.51	687.22	687.44	687.86	688.75	688.73	688.42	688.34	688.03	687.79
24	687.93	687.25	687.51	687.26	687.47	687.84	688.77	688.69	688.43	688.41	688.03	687.77
25	687.93	687.26	687.49	687.22	687.49	687.89	688.77	688.64	688.46	688.40	688.01	687.76
26	687.91	687.27	687.47	687.22	687.51	688.04	688.75	688.61	688.40	688.40	688.02	687.74
27	687.96	687.29	687.46	687.24	687.51	688.18	688.69	688.63	688.38	688.39	687.99	687.75
28	687.87	687.36	687.43	687.24	687.52	688.25	688.65	688.63	688.37	688.39	688.02	687.69
29	687.85	687.40	687.42	687.26	687.54	688.31	688.63	688.62	688.35	688.38	688.04	687.70
30	687.82	687.41	687.43	687.25	---	688.34	688.62	688.63	688.33	688.39	688.05	687.69
31	687.76	---	687.43	687.26	---	688.35	---	688.62	---	688.39	688.03	---
MEAN	687.98	687.41	687.47	687.19	687.41	687.81	688.62	688.66	688.49	688.27	688.17	687.84
MAX	688.13	687.72	687.53	687.39	687.54	688.35	688.77	688.75	688.61	688.41	688.38	688.02
MIN	687.76	687.25	687.42	687.03	687.28	687.53	688.39	688.57	688.33	688.15	687.99	687.69

CAL YR	1987	MEAN	688.00	MAX	689.57	MIN	686.98
WTR YR	1988	MEAN	687.94	MAX	688.77	MIN	687.03

e Estimated

04235000 CANANDAIGUA OUTLET AT CHAPIN, NY

LOCATION.--Lat 42°55'05", long 77°13'59", Ontario County, Hydrologic Unit 04140201, on right bank at Chapin, 25 ft upstream from bridge on State Highway 488, and 4.1 mi downstream from Canandaigua Lake.

DRAINAGE AREA.--195 mi^2.

PERIOD OF RECORD.--November 1939 to current year. Prior to October 1964, published as "Canandaigua Lake Outlet."

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 671.44 ft above National Geodetic Vertical Datum of 1929. Prior to June 25, 1974, at site 0.1 mi upstream at datum 676.90 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow regulated by Canandaigua Lake (see station 04234500), from which water is diverted for municipal supply by villages of Newark, Palmyra, and Gorham. Monthly runoff adjusted for change in contents in Canandaigua Lake from October 1945 to September 1966. Gage-height telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years (water years 1941–88), 152 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,710 ft^3/s June 24, 1972, gage height, 11.08 ft present datum, at site then in use; minimum, 4.6 ft^3/s Sept. 17, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 527 ft^3/s Apr. 27 at 1315 hours, gage height, 4.92 ft; maximum gage height, 6.01 ft, Jan. 11 (backwater from ice); minimum, 13 ft^3/s Sept. 14, gage height, 2.97 ft

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	224	32	e160	36	e30	27	399	49	39	24	40
2	41	218	31	e170	36	e32	27	351	50	39	24	39
3	39	219	30	e150	36	34	34	67	47	39	24	38
4	38	214	31	e140	e34	33	218	51	46	38	24	35
5	38	208	30	e120	e32	33	399	50	45	38	23	32
6	37	202	29	e110	e32	32	412	50	44	32	22	28
7	37	195	29	e90	e30	33	469	50	44	32	21	20
8	36	187	29	e80	e32	33	468	51	43	31	21	19
9	35	185	44	e70	e34	35	463	51	43	31	21	17
10	34	176	167	e60	e40	36	455	52	42	30	21	15
11	36	167	177	e50	e50	35	395	51	42	30	21	15
12	35	142	177	e40	e70	34	53	51	41	30	21	15
13	35	32	177	e30	e130	34	28	52	41	31	22	15
14	35	26	174	e25	e190	35	28	53	41	33	22	19
15	35	27	177	e25	197	34	30	53	39	33	21	48
16	40	27	182	e30	194	34	29	57	23	31	22	46
17	62	29	174	e34	193	32	27	61	22	38	22	41
18	62	29	168	e44	174	32	28	112	16	34	22	38
19	58	28	165	39	46	32	27	404	15	33	21	36
20	35	28	219	73	53	33	27	440	19	31	21	37
21	35	26	205	52	e46	29	27	460	26	43	21	36
22	35	26	185	e34	e40	29	26	443	36	35	21	36
23	36	26	179	e32	e40	29	29	434	41	31	21	40
24	35	26	179	30	e36	30	30	425	38	42	24	36
25	35	27	177	30	e34	32	72	415	38	33	21	35
26	35	27	174	e30	e32	74	383	323	38	40	29	35
27	74	27	172	e28	e30	56	501	61	38	36	35	34
28	239	26	169	e26	e28	37	493	52	39	30	42	34
29	243	40	168	e26	e28	32	417	51	40	29	45	34
30	241	42	e170	30	---	29	407	50	39	28	42	33
31	230	---	e170	33	---	28	---	50	---	27	40	---
TOTAL	2054	2856	4190	1891	1953	1071	6029	5270	1125	1047	781	946
MEAN	66.3	95.2	135	61.0	67.3	34.5	201	170	37.5	33.8	25.2	31.5
MAX	243	224	219	170	197	74	501	460	50	43	45	48
MIN	34	26	29	25	28	28	26	50	15	27	21	15

CAL YR	1987	TOTAL	52882	MEAN	145	MAX	848	MIN	24
WTR YR	1988	TOTAL	29213	MEAN	79.8	MAX	501	MIN	15

e Estimated

04235250 FLINT CREEK AT PHELPS, NY

LOCATION.--Lat 42°57'28", long 77°04'06", Ontario County, Hydrologic Unit 04140201, on right bank 25 ft downstream from bridge on Eagle Street at Phelps, and 1.1 mi upstream from Canandaigua Outlet.

DRAINAGE AREA.--102 mi^2.

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

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 523.14 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Small diversion (during periods of low ground-water level) by Phelps Cement Products, Inc., located about 0.2 mile upstream. Since 1967, flow from Canandaigua Lake diverted into Flint Creek for municipal supply of village of Gorham; presently not exceeding 0.3 ft^3/s. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years, 87.9 ft^3/s, 11.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,940 ft^3/s Mar. 30, 1960, gage height, 5.83 ft; maximum gage height, 6.20 ft Mar. 17, 1963 (ice jam); no flow for many days 1962–65, 1969.

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)
Dec. 20	2130	*449	3.45
Jan. 20	1730	ice jam	*4.05

No peak greater than base discharge.

Minimum discharge, 0.32 ft^3/s July 9, 10, 14, gage height, 0.64 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	37	123	e56	e92	e44	82	88	25	4.5	e4.0	3.6
2	85	33	96	e54	e120	e42	85	70	25	3.9	e4.4	3.4
3	70	33	77	e52	e92	e52	89	58	27	3.8	e3.0	3.0
4	66	33	72	e48	e60	e56	212	54	24	3.8	e2.4	4.1
5	55	33	69	e46	e50	e50	235	51	21	3.1	e2.6	4.8
6	46	30	63	e44	e50	e56	170	51	19	2.1	e2.6	4.1
7	42	29	55	e44	e49	70	131	51	18	1.0	e2.2	3.6
8	39	28	55	e42	e49	77	118	46	17	.72	e2.0	3.5
9	35	31	73	e42	e48	110	124	43	17	.39	e1.9	2.9
10	31	32	113	e40	e47	145	115	41	16	.43	e1.8	2.7
11	35	30	108	e37	e47	127	103	42	15	.52	e1.7	2.4
12	43	28	90	e35	e46	100	88	40	13	.60	e1.6	2.1
13	41	27	77	e32	e44	95	77	38	12	.63	e1.5	2.6
14	36	27	66	e35	e40	97	70	36	11	.62	e1.4	2.7
15	33	25	72	e35	e46	82	75	36	8.9	2.0	e1.3	2.2
16	32	25	110	e28	e48	70	73	51	7.8	1.4	e1.2	1.9
17	32	26	e94	e27	e56	62	64	103	6.2	6.7	e1.0	2.3
18	27	28	e78	e35	e62	58	60	82	6.0	9.1	e.90	5.5
19	25	28	e72	e100	e74	57	56	83	7.1	6.9	e.80	3.3
20	25	29	215	e200	e90	55	51	125	6.9	5.9	e.70	3.2
21	24	22	333	e180	e90	43	48	158	6.5	15	e.60	3.2
22	26	24	193	e100	e82	43	46	210	5.5	37	e.54	2.7
23	27	28	134	e92	e84	49	48	162	7.2	24	e.50	4.5
24	27	39	108	e70	e80	59	67	104	6.6	16	e1.5	4.4
25	28	44	97	e60	e70	85	62	80	6.7	14	e1.4	3.9
26	27	49	e86	e50	e64	261	51	69	6.1	14	e1.3	4.2
27	27	45	e70	e40	e60	326	47	56	5.8	e12	e1.3	3.6
28	43	40	e60	e42	e46	253	46	46	4.7	e8.0	e4.0	3.1
29	57	64	e50	e42	e45	157	54	38	4.1	e6.0	e9.0	2.8
30	50	145	e28	e38	---	115	76	32	4.7	e5.0	e6.8	2.6
31	42	---	e58	e48	---	93	---	28	---	e5.0	e5.0	---
TOTAL	1267	1092	2995	1794	1831	2989	2623	2172	360.8	214.11	70.94	98.9
MEAN	40.9	36.4	96.6	57.9	63.1	96.4	87.4	70.1	12.0	6.91	2.29	3.30
MAX	91	145	333	200	120	326	235	210	27	37	9.0	5.5
MIN	24	22	28	27	40	42	46	28	4.1	.39	.50	1.9
CFSM	.40	.36	.95	.57	.62	.95	.86	.69	.12	.07	.02	.03
IN.	.46	.40	1.09	.65	.67	1.09	.96	.79	.13	.08	.03	.04

CAL YR	1987	TOTAL	26404.5	MEAN	72.3	MAX	998	MIN	4.3	CFSM	.71	IN. 9.63
WTR YR	1988	TOTAL	17507.75	MEAN	47.8	MAX	333	MIN	.39	CFSM	.47	IN. 6.39

e Estimated

04235276 BLACK BROOK AT TYRE, NY

LOCATION.--Lat 42°59'30", long 76°48'13", Seneca County, Hydrologic Unit 04140201, on right bank 25 ft upstream from bridge on County Highway 101 in village of Tyre, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--19.0 mi^2.

PERIOD OF RECORD.--Low-flow measurements, water years 1964–66, 1970–72, 1974, and annual maximum, water years 1965–73, 1975–85, November 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 391.12 ft above National Geodetic Vertical Datum of 1929. December 9, 1964 to November 21, 1985, crest-stage gage at same site and datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 786 ft^3/s, Dec. 14, 1977, gage height, 5.02 ft; maximum gage height, 6.68 ft, Nov. 5, 1970, discharge not determined; minimum daily discharge, 0.40 ft^3/s, Aug. 22, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 160 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Dec. 21	0100	*163	2.08	Jan. 20	1200	ice jam	*2.36

Minimum daily discharge , 0.40 ft^3/s Aug. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	11	48	e10	e15	e7.0	11	3.1	2.2	.97	1.3	.78
2	13	8.2	36	e8.0	e35	e8.4	9.1	2.7	2.5	.89	1.1	.71
3	12	6.7	26	e7.0	e23	e10	9.4	2.4	2.5	.78	.92	.60
4	9.7	6.3	22	e6.0	e15	e11	53	2.3	2.1	.78	.79	.94
5	7.0	5.7	23	e5.2	e13	e14	53	2.2	1.5	.76	.79	.96
6	5.0	5.3	20	e4.6	e11	e13	36	2.1	1.2	.66	.79	.78
7	4.5	4.6	16	e4.2	e9.4	e15	22	2.1	1.2	.64	.96	.78
8	4.3	4.9	13	e4.0	e8.8	e21	17	1.9	1.2	.52	.89	.77
9	3.7	6.8	19	e4.0	e8.2	35	19	1.8	1.1	.50	.74	.62
10	3.0	8.0	25	e3.9	e7.8	46	18	1.8	1.1	.49	.61	.66
11	3.8	7.1	19	e3.8	e7.4	34	14	1.8	1.1	.78	1.2	.62
12	5.2	5.8	16	e3.8	e7.0	25	13	1.7	1.1	.82	1.1	.41
13	4.4	5.2	15	e3.8	e6.8	23	11	1.8	1.1	.77	.72	.87
14	3.9	4.8	12	e3.9	e6.6	22	8.0	1.7	1.0	.80	.49	.81
15	3.4	4.4	15	e4.0	e6.8	17	8.2	1.6	.97	.78	.49	.74
16	3.0	4.0	32	e4.0	e6.8	14	7.0	1.9	.97	.76	.43	.54
17	2.6	3.7	27	e3.9	e7.0	11	5.3	1.9	.97	1.1	.58	.91
18	2.3	3.8	24	e11	e7.2	e10	4.6	2.1	.97	.91	.51	.82
19	2.1	3.9	21	e30	e7.4	e8.0	5.1	4.9	.97	.92	.48	.86
20	2.2	4.0	81	e45	e7.4	e7.0	3.5	38	.95	.79	.47	1.1
21	2.0	4.1	131	e60	e7.6	e6.0	2.9	73	.93	1.5	.43	1.2
22	2.0	3.6	60	e50	e8.0	e5.2	2.7	43	.99	1.3	.40	.86
23	2.3	e3.0	37	e30	e8.0	e5.0	2.6	20	1.0	1.2	.45	2.3
24	2.6	6.4	28	e15	e7.8	5.9	2.8	10	.92	9.7	.73	1.7
25	2.5	11	24	e12	e7.6	9.6	3.0	6.3	.84	48	.71	1.4
26	2.7	14	20	e8.8	e7.4	105	2.7	5.0	.82	10	.87	1.2
27	2.7	14	17	e7.0	e7.4	94	2.5	3.6	.83	3.6	.60	1.1
28	16	11	14	e5.4	e7.2	50	2.5	2.6	.78	2.5	.98	.76
29	21	18	e13	e4.9	e7.2	27	2.6	2.2	.92	2.6	1.1	.70
30	17	85	e13	e4.6	---	18	2.9	1.9	.95	2.0	1.1	.62
31	14	---	e17	e5.4	---	14	---	1.7	---	1.6	.89	---
TOTAL	197.9	284.3	884	373.2	284.8	691.1	354.4	249.1	35.68	99.42	23.62	27.12
MEAN	6.38	9.48	28.5	12.0	9.82	22.3	11.8	8.04	1.19	3.21	.76	.90
MAX	21	85	131	60	35	105	53	73	2.5	48	1.3	2.3
MIN	2.0	3.0	12	3.8	6.6	5.0	2.5	1.6	.78	.49	.40	.41
CFSM	.34	.50	1.50	.63	.52	1.17	.62	.42	.06	.17	.04	.05
IN .	.39	.56	1.73	.73	.56	1.35	.69	.49	.07	.19	.05	.05

CAL YR	1987	TOTAL	5039.13	MEAN	13.8	MAX	204	MIN	.55	CFSM	.73	IN. 9.87
WTR YR	1988	TOTAL	3504.64	MEAN	9.58	MAX	131	MIN	.40	CFSM	.50	IN. 6.86

e Estimated

04235396 OWASCO LAKE NEAR AUBURN, NY

LOCATION.--Lat 42°53'56", long 76°32'17", Cayuga County, Hydrologic Unit 04140201, on east side of breakwater at city of Auburn water intake and pumping station, 1 mi south of city limits of Auburn, and 1.8 mi upstream from State dam.

DRAINAGE AREA.--205 mi^2.

PERIOD OF RECORD.--October 1967 to current year. Records since 1912 collected by, and in files of, city of Auburn.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 1, 1982, nonrecording gage read once daily by employees of city of Auburn Water Division at same site and datum from reference mark at elevation 718.59 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Lake elevation regulated by gates on outlet at State dam. Area of water surface, 10.6 mi^2.

COOPERATION.--Records furnished by city of Auburn until April 30, 1982.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed elevation, 716.88 ft June 25, 1972; minimum observed, 708.58 ft Feb. 17, 18, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum observed elevation since 1912, 716.91 ft Mar. 23, 1936, Apr. 9, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 713.02 ft Apr. 6; minimum, 709.38 ft Mar. 1.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	a711.50	711.78	710.57	a710.40	709.51	709.41	712.67	712.37	712.41	711.79	712.02	711.62
2	a711.55	711.81	710.59	a710.38	709.69	709.44	712.66	712.42	712.34	711.78	712.01	711.66
3	a711.50	711.81	710.62	a710.37	709.80	709.47	712.73	712.46	712.30	711.82	712.01	711.62
4	a711.47	711.83	710.56	a710.26	709.88	709.50	712.84	712.50	712.20	711.80	712.01	711.59
5	a711.50	711.79	710.54	a710.22	709.89	709.52	712.94	712.52	712.20	711.80	711.98	711.58
6	a711.51	711.74	710.52	a710.15	709.88	709.54	712.97	712.54	712.12	711.77	711.96	711.55
7	a711.53	711.68	710.48	a710.09	709.86	709.60	712.88	712.49	712.15	711.77	711.92	711.53
8	a711.53	711.63	710.48	a709.99	709.83	709.65	712.80	712.47	712.16	711.74	711.90	711.57
9	711.48	711.57	710.40	a709.88	709.81	709.75	712.77	712.34	712.15	711.74	711.89	711.53
10	711.44	711.52	710.43	a709.82	709.81	709.93	712.72	712.34	712.15	711.74	711.86	711.46
11	711.45	711.45	710.47	a709.82	709.77	710.08	712.63	712.29	712.12	711.71	711.86	711.44
12	711.48	711.38	710.46	a709.86	709.78	710.20	712.63	712.34	712.11	711.65	711.84	711.46
13	711.47	711.34	710.45	a709.79	709.76	710.33	712.64	712.33	712.09	711.62	711.82	711.44
14	711.53	711.22	710.43	a709.66	709.73	710.48	712.54	712.26	712.08	711.66	711.84	711.41
15	711.52	711.16	710.40	a709.62	709.71	710.60	712.56	712.24	712.07	711.60	711.75	711.38
16	711.51	711.01	710.44	a709.57	709.68	710.70	712.52	712.22	712.04	711.65	711.70	711.39
17	711.46	710.71	710.42	a709.50	709.65	710.78	712.50	712.30	712.02	711.64	711.74	711.39
18	711.48	710.96	710.41	a709.49	709.62	710.85	712.47	712.35	712.02	711.66	711.70	711.39
19	711.51	710.96	710.40	a709.51	709.58	710.93	712.41	712.42	712.02	711.65	711.68	711.41
20	711.51	710.86	710.31	a709.64	709.62	710.99	712.37	712.69	711.99	711.63	711.65	711.37
21	711.47	710.78	710.56	709.70	709.61	711.04	712.32	712.91	711.95	711.78	711.61	711.35
22	711.48	710.75	710.68	709.75	709.61	711.08	712.27	712.96	711.97	711.95	711.58	711.35
23	711.53	710.66	710.64	709.76	709.60	711.13	712.16	712.95	711.93	711.98	711.55	711.39
24	711.49	710.69	710.65	709.70	709.60	711.21	712.13	712.90	711.92	712.00	711.53	711.38
25	711.49	710.62	710.63	709.62	709.55	711.38	712.12	712.80	711.95	712.02	711.62	711.38
26	711.51	710.58	710.64	709.58	709.52	711.89	712.08	712.78	711.87	712.04	711.60	711.38
27	711.38	710.54	710.64	709.55	709.49	712.27	712.07	712.77	711.84	712.04	711.57	711.40
28	711.59	710.52	710.60	709.50	709.44	712.48	712.10	712.70	711.85	712.04	711.58	711.33
29	711.70	710.46	710.58	709.49	709.41	712.60	712.17	712.63	711.82	712.04	711.60	711.34
30	711.73	710.51	710.55	709.46	---	712.63	712.29	712.58	711.80	712.05	711.62	711.34
31	711.75	---	a710.53	709.44	---	712.64	---	712.48	---	712.04	711.62	---
MEAN	711.52	711.14	710.52	709.79	709.68	710.71	712.50	712.53	712.05	711.81	711.76	711.45
MAX	711.75	711.83	710.68	710.40	709.89	712.64	712.97	712.96	712.41	712.05	712.02	711.66
MIN	711.38	710.46	710.31	709.44	709.41	709.41	712.07	712.22	711.80	711.60	711.53	711.33

CAL YR	1987	MEAN	711.78	MAX	713.04	MIN	709.82
WTR YR	1988	MEAN	711.29	MAX	712.97	MIN	709.41

a Once-daily reading made by city of Auburn personnel.

04235500 OWASCO OUTLET NEAR AUBURN, NY

LOCATION.--Lat 42°56'48", long 76°35'56", Cayuga County, Hydrologic Unit 04140201, on left bank 2.5 mi downstream from center of Auburn, and 4 mi downstream from State dam at outlet of Owasco Lake.

DRAINAGE AREA.--206 mi^2.

PERIOD OF RECORD.--November 1912 to current year. Prior to October 1966, published as "Owasco Lake Outlet".

REVISED RECORDS.--WSP 824: 1913–14, 1916, 1920(M), 1922(M), 1928(M), 1929, 1932(M). WSP 2112: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 533.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation caused by mills in Auburn; regulation at State dam at outlet of lake. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--75 years (water years 1914–88), 287 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,250 ft^3/s June 23, 1972, gage height, 6.28 ft; minimum, about 2 ft^3/s Dec. 5, 1936; minimum gage height, 1.02 ft Oct. 22, 23, 1986; minimum daily discharge, 5 ft^3/s Nov. 11, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 685 ft^3/s Apr. 7 at 1100 hours, gage height, 2.54 ft; minimum recorded, 18 ft^3/s, Sept. 7, gage height, 1.03 ft, but may have been less during period of no gage-height record July 12 to Aug 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	49	364	356	273	88	376	83	350	32	e40	32
2	59	51	364	355	299	81	386	83	345	31	e40	32
3	57	161	366	355	305	80	395	83	342	30	e40	31
4	54	270	367	353	310	80	456	83	339	30	e40	37
5	54	38	374	375	313	80	571	83	311	34	e39	32
6	52	324	371	e370	e300	80	656	234	68	52	e39	61
7	62	352	370	e370	e300	80	672	345	32	55	e39	31
8	58	338	370	e370	e300	81	671	344	28	55	e39	31
9	55	315	372	e370	e300	84	665	346	28	e55	e39	49
10	53	328	370	e370	e300	85	655	345	53	e55	e39	33
11	59	370	370	e370	e300	83	525	205	103	e55	e39	32
12	53	361	370	e370	e300	83	379	62	103	e55	e39	32
13	52	399	367	e370	e300	83	377	239	97	e55	e39	36
14	50	382	359	e370	e300	84	374	334	89	e55	e38	44
15	53	355	369	e370	e300	83	365	315	86	e55	e38	51
16	56	348	365	372	e300	83	362	238	87	e55	e38	37
17	53	354	361	372	312	80	357	85	85	e55	e38	41
18	47	319	360	353	309	79	356	74	84	e55	e38	39
19	52	303	355	338	305	76	353	95	84	e55	e38	39
20	54	293	384	310	321	75	351	275	84	e60	e38	37
21	53	288	367	293	316	75	343	377	84	e200	e38	36
22	52	258	366	301	308	76	341	373	91	e100	e38	38
23	54	131	365	294	313	74	343	372	87	e60	e38	45
24	53	340	362	295	327	74	335	370	82	e48	e38	35
25	53	361	362	291	326	77	327	358	82	e45	36	33
26	53	363	362	290	326	100	323	353	80	e42	34	28
27	59	359	360	295	322	287	173	357	80	e40	32	26
28	70	359	359	291	316	385	79	361	71	e40	49	26
29	63	369	358	291	228	383	94	357	53	e40	43	28
30	57	369	355	289	---	378	85	353	46	e40	34	31
31	54	---	359	281	---	370	---	353	---	e40	32	---
TOTAL	1717	8907	11323	10450	8829	3907	11745	7935	3554	1679	1189	1083
MEAN	55.4	297	365	337	304	126	391	256	118	54.2	38.4	36.1
MAX	70	399	384	375	327	385	672	377	350	200	49	61
MIN	47	38	355	281	228	74	79	62	28	30	32	26

CAL YR	1987	TOTAL	89102	MEAN	244	MAX	1130	MIN	28
WTR YR	1988	TOTAL	72318	MEAN	198	MAX	672	MIN	26

e Estimated

04236000 SKANEATELES LAKE AT SKANEATELES, NY

LOCATION.--Lat 42°56'42", long 76°25'46", Onondaga County, Hydrologic Unit 04140201, on east side of breakwater, enclosed in city of Syracuse boathouse, at Skaneateles.

DRAINAGE AREA.--72.7 mi^2.

PERIOD OF RECORD.--October 1967 to current year. Records since September 1890 collected by, and in files of, city of Syracuse.

GAGE.--Nonrecording gages read once daily by employees of Syracuse Water Division. Datum of gage is National Geodetic Vertical Datum of 1929. October 1967 to September 1975, at same site at datum 801.75 ft higher.

REMARKS.--Lake elevation regulated by gates at outlet by Syracuse Water Division. Area of water surface, 13.6 mi^2.

COOPERATION.--Records furnished by city of Syracuse.

EXTREMES FOR PERIOD OF RECORD.--(since 1890): Maximum observed elevation, 866.95 ft June 25, 26, 1972; minimum observed, 858.90 ft Nov. 15, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum observed elevation, 861.59 ft May 24, 25; minimum observed, 859.52 ft Sept. 30.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	861.54	860.96	860.63	860.70	860.42	860.48	861.02	861.35	861.53	861.05	861.01	860.28
2	861.56	860.94	860.66	860.70	860.46	860.48	861.02	861.34	861.54	861.03	860.99	860.26
3	861.52	860.94	860.65	860.70	860.48	860.46	861.06	861.34	861.56	861.00	860.97	860.24
4	861.46	860.95	860.65	860.69	860.50	860.48	861.17	861.34	861.55	860.98	860.95	860.22
5	861.43	860.92	860.65	860.67	860.53	860.47	861.24	861.34	861.52	860.96	860.92	860.19
6	861.41	860.88	860.65	860.64	860.57	860.45	861.25	861.33	861.50	860.94	860.90	860.15
7	861.36	860.89	860.62	860.65	860.60	860.43	861.27	861.31	861.48	860.92	860.88	860.12
8	861.33	860.89	860.62	860.63	860.58	860.43	861.27	861.30	861.46	860.90	860.83	860.09
9	861.31	860.88	860.63	860.59	860.56	860.43	861.30	861.30	861.44	860.88	860.81	860.04
10	861.27	860.88	860.67	860.55	860.55	860.47	861.32	861.30	861.41	860.86	860.77	860.00
11	861.33	860.85	860.67	860.57	860.55	860.48	861.35	861.32	861.38	860.83	860.73	859.96
12	861.30	860.85	860.68	860.55	860.54	860.46	861.34	861.32	861.37	860.81	860.69	859.93
13	861.26	860.83	860.61	860.52	860.55	860.50	861.34	861.31	861.35	860.80	860.66	859.90
14	861.24	860.84	860.62	860.50	860.56	860.53	861.34	861.31	861.32	860.78	860.66	859.89
15	861.22	860.77	860.61	860.47	860.57	860.55	861.38	861.32	861.31	860.76	860.64	859.85
16	861.20	860.78	860.63	860.42	860.55	860.55	861.40	861.32	861.28	860.74	860.60	859.82
17	861.19	860.77	860.65	860.39	860.54	860.53	861.35	861.39	861.27	860.81	860.56	859.80
18	861.14	860.75	860.65	860.39	860.55	860.55	861.37	861.35	861.26	860.77	860.52	859.80
19	861.12	860.72	860.66	860.42	860.55	860.55	861.36	861.35	861.25	860.78	860.49	859.77
20	861.10	860.69	860.66	860.47	860.56	860.56	861.33	861.50	861.22	860.77	860.48	859.77
21	861.07	860.68	860.75	860.48	860.50	860.55	861.35	861.56	861.19	860.76	860.46	859.75
22	861.07	860.65	860.76	860.46	860.53	860.55	861.36	861.57	861.15	860.97	860.41	859.72
23	861.04	860.65	860.75	860.48	860.57	860.55	861.35	861.58	861.17	860.97	860.38	859.72
24	861.02	860.63	860.77	860.49	860.56	860.55	861.33	861.59	861.17	861.03	860.38	859.72
25	860.99	860.60	860.75	860.47	860.54	860.57	861.31	861.59	861.17	861.07	860.36	859.70
26	860.97	860.56	860.77	860.46	860.52	860.68	861.32	861.58	861.12	861.06	860.39	859.67
27	860.97	860.58	860.74	860.45	860.52	860.89	861.31	861.58	861.10	861.06	860.38	859.66
28	860.99	860.56	860.73	860.44	860.52	860.99	861.35	861.57	861.09	861.06	860.36	859.61
29	861.00	860.55	860.71	860.42	860.50	861.03	861.37	861.56	861.07	861.05	860.33	859.56
30	860.97	860.59	860.71	860.40	---	861.05	860.99	861.56	861.04	861.03	860.33	859.52
31	860.97	---	860.75	860.43	---	861.02	---	861.54	---	861.03	860.30	---
MEAN	861.20	860.77	860.68	860.52	860.54	860.59	861.28	861.42	861.31	860.92	860.62	859.89
MAX	861.56	860.96	860.77	860.70	860.60	861.05	861.40	861.59	861.56	861.07	861.01	860.28
MIN	860.97	860.55	860.61	860.39	860.42	860.43	860.99	861.30	861.04	860.74	860.30	859.52

CAL YR	1987	MEAN	862.23	MAX	863.62	MIN	860.55
WTR YR	1988	MEAN	860.81	MAX	861.59	MIN	859.52

04237410 SENECA RIVER AT JACKS' REEF NEAR MEMPHIS, NY

LOCATION.--Lat 43°05'55", long 76°25'24", Onondaga County, Hydrologic Unit 04140201, at bridge on Plainville Road, 200 ft from intersection with State Highway 31, 2.3 mi upstream from Cross Lake and 2.6 mi northwest of Memphis.

DRAINAGE AREA.--3,091 mi^2.

PERIOD OF RECORD.--April to September 1988.
CHEMICAL DATA: 1988 (b).
MINOR ELEMENT DATA: 1988 (b).

REMARKS.--Water-discharge data are based on records for station 04237500 Seneca River at Baldwinsville.

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but were analyzed by the USGS Central Laboratory at Denver Colorado.

WATER QUALITY DATA, APRIL TO SEPTEMBER 1988

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)
APR												
04	1300	697	7.90	9.0	12.6	250	96	74	17	43	2.1	159
MAY												
02	0930	780	8.00	10.0	11.5	280	110	83	18	49	2.3	168
JUN												
06	1230	717	8.20	13.0	6.9	240	85	68	16	50	2.3	151
AUG												
02	1130	758	--	--	--	180	71	47	14	78	2.3	104

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	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)
APR												
04	88	72	0.2	392	<1	14	460	24	50	<0.1	2	<10
MAY												
02	99	89	0.2	441	1	10	250	<5	40	<0.1	2	10
JUN												
06	82	86	0.2	395	<1	6	10	<5	50	<0.1	2	20
AUG												
02	77	120	0.1	401	<1	6	360	<5	50	<0.1	1	10

04237500 SENECA RIVER AT BALDWINSVILLE, NY

LOCATION.--Lat 43°09'25", long 76°19'55", Onondaga County, Hydrologic Unit 04140201, on left bank 200 ft downstream from bridge on State Highways 31 and 48 in Baldwinsville, and 400 ft downstream from navigation dam at Lock 24 of New York State Erie (Barge) Canal.

DRAINAGE AREA.--3,138 mi^2.

PERIOD OF RECORD.--November 1949 to current year in reports of Geological Survey. November 1898 to December 1908, prior to construction of Erie (Barge) Canal, not equivalent to later records at same site because of extensive development of Erie (Barge) Canal system. January 1909 to September 1925 (gage heights only) in reports of State Engineer and Surveyor.

REVISED RECORDS.--WDR NY-78-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 361.38 ft above National Geodetic Vertical Datum of 1929 (362.60 ft Erie (Barge) Canal Datum). Prior to Dec. 31, 1908, nonrecording gage at same site at different datum. Auxiliary water-stage recorder 1,500 ft downstream from base gage at same datum. Gage-height telemeter at base and auxiliary gages.

REMARKS.--No estimated daily discharges. Records good except those below 2,000 ft^3/s, which are fair. Discharge from 1898 to 1908 determined on basis of head on dam, flow through 10 mills nearby, lockages at Oswego Canal lock, estimated leakage of dam, wheel gates, flumes, and penstocks; not adjusted for inflow from Lake Erie through Erie (Barge) Canal. Discharge, since November 1949, computed by using fall as determined by auxiliary water-stage recorder. Published discharge represents the total flow at Baldwinsville and includes flow in Erie (Barge) Canal.

A large amount of natural storage and some artificial regulation is afforded by many large lakes and the Erie (Barge) Canal system in the river basin. Large diurnal fluctuations at low and medium flows caused by powerplants upstream from station. Seneca River basin receives water from Erie (Barge) Canal through Lock 32 near Pittsford. During part of year, entire flow from 45.5 mi^2 of Mud Creek drainage area may be diverted from Chemung River basin into Keuka Lake in Oswego River basin. Several measurements of water temperature were made during the year. Gage-height telemeter at station.

COOPERATION.--Records of lockages at Lock 24 furnished by New York State Department of Transportation (since November 1949).

AVERAGE DISCHARGE.--38 years (water years 1951–88), 3,395 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 17,200 ft^3/s Apr. 4, 1960, June 28, 1972; maximum gage height, 9.21 ft Apr. 4, 1960, June 30, 1972; minimum daily discharge, 34 ft^3/s Sept. 17, 1985, result of extreme regulation; minimum gage height, 0.70 ft Feb. 20, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 6,040 ft^3/s Dec. 23; maximum gage height, 3.99 ft May 23; minimum daily discharge, 142 ft^3/s Aug. 12; minimum gage height, 1.13 ft June 20, Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1870	2840	3820	3840	1470	3020	2410	1180	1350	834	1190	1670
2	2420	2810	4480	3760	1890	2300	2350	1190	1420	1320	1110	925
3	2490	3150	4400	3780	2260	2050	2420	1330	1490	968	969	667
4	2420	3100	3910	3210	2310	2040	2480	1260	1540	646	1530	533
5	2340	2850	3640	2380	2240	2040	3190	1380	1490	583	1530	162
6	2320	2700	3810	3330	2170	2010	4340	1050	1150	786	1480	1200
7	2340	3570	4410	3030	1930	2020	4700	1250	863	1400	1450	557
8	2270	3270	4510	2800	1380	2060	4500	1530	824	1080	1420	237
9	2080	3210	4330	2780	1320	2330	4380	1240	937	653	1400	237
10	1350	3100	4440	2810	1300	2870	4180	878	1000	590	1090	856
11	1960	2990	4400	3010	1300	2850	3510	924	659	988	752	1150
12	2120	2220	4410	3000	1390	2770	3000	980	493	1460	142	248
13	2370	1900	4400	2780	1420	2720	2370	946	498	1500	640	163
14	2290	1860	4310	2320	1560	2680	3070	1010	494	1070	707	485
15	2170	1850	4260	1990	2060	2420	3230	1030	569	736	698	1020
16	2190	1810	4300	2060	2120	2010	3060	909	1280	662	551	559
17	2130	1550	4260	1940	2250	1880	2240	1380	1620	695	654	367
18	1540	919	4410	1990	2540	1480	1240	1280	703	1310	675	872
19	1640	1250	4720	2500	2310	1630	1910	1640	571	2170	213	533
20	1410	1640	4610	2430	2180	1450	1700	2790	510	1800	461	326
21	1930	1210	4320	3420	2380	1400	975	4370	802	996	720	870
22	2380	1110	5290	4380	2870	1150	858	5450	876	1500	301	876
23	1900	1140	6040	4010	3640	1020	1300	5660	1430	1940	176	230
24	2280	1380	5500	3390	4050	1420	1600	5340	1690	2820	628	216
25	2140	1920	4980	2180	4330	1840	1530	4570	657	1750	674	431
26	1890	1520	4610	1630	4120	2420	915	3600	789	878	756	417
27	2000	1190	4070	1530	3760	3420	673	2820	981	1320	834	188
28	1850	1460	3030	1430	3660	5050	1600	2280	1130	1850	837	234
29	2020	1920	2830	1710	3560	4380	2000	2260	1100	1880	644	264
30	2780	2470	3520	1820	---	3240	1330	1820	603	1670	258	555
31	3190	---	3860	1390	---	2670	---	1340	---	1510	1030	---
TOTAL	66080	63909	133880	82630	69770	72640	73061	64687	29519	39365	25520	17048
MEAN	2132	2130	4319	2665	2406	2343	2435	2087	984	1270	823	568
MAX	3190	3570	6040	4380	4330	5050	4700	5660	1690	2820	1530	1670
MIN	1350	919	2830	1390	1300	1020	673	878	493	583	142	162

CAL YR	1987	TOTAL	1003717	MEAN	2750	MAX	8260	MIN	481
WTR YR	1988	TOTAL	738109	MEAN	2017	MAX	6040	MIN	142

04238500 ONONDAGA RESERVOIR NEAR NEDROW, NY

LOCATION.--Lat 42°55'51", long 76°10'24", Onondaga County, Hydrologic Unit 04140201, at Onondaga Dam on Onondaga Creek, 3.5 mi southwest of Nedrow, 4 mi south of Syracuse, and 10.5 mi upstream from Onondaga Lake.

DRAINAGE AREA.--67.7 mi^2.

PERIOD OF RECORD.--June 1949 to September 1952 (monthly elevations and contents), October 1952 to current year.

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

REMARKS.--Reservoir is formed by a rolled earthfill dam, completed by Corps of Engineers in August 1949 for flood control; first used for flood regulation about a year prior to completion. Usable capacity, 18,200 acre-ft between elevations 457.0 ft, conduit invert at intake, and 504.5 ft crest of spillway. No dead storage. The flood-control works consist of a pressure conduit and a side-channel spillway and are not provided with gates. Water is stored during high flows and released gradually. Storage includes minor diversion from Gate House Pond in headwaters of West Branch Tioughnioga River basin.

COOPERATION.--Capacity curve furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 485.9 ft Apr. 1, 1960, contents, 5,960 acre-ft; no contents at times.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 467.46 ft Mar. 26, contents, 282 acre-ft; minimum elevation, 459.00 ft Aug. 23, no contents many days.

Capacity table (elevation, in feet, and contents, in acre-feet)

460.00	0	470.00	700
461.00	5	473.00	1,420
462.00	15	478.00	2,880
464.00	50	482.00	4,230
467.00	225	486.00	6,010

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	459.35	459.60	461.27	460.09	462.30	460.11	461.86	460.68	459.68	459.21	459.50	459.37
2	459.36	459.57	460.71	460.00	462.58	460.03	461.60	460.33	459.67	459.21	459.46	459.33
3	459.36	459.54	460.34	460.17	461.29	460.33	461.71	460.18	459.75	459.20	459.42	459.29
4	459.36	459.55	460.20	459.82	460.88	460.33	463.51	460.09	459.74	459.19	459.40	459.25
5	459.35	459.56	460.13	459.77	460.52	460.16	463.07	459.99	459.66	459.18	459.37	459.24
6	459.35	459.55	460.03	459.69	460.69	460.10	462.48	459.97	459.60	459.16	459.34	459.21
7	459.35	459.55	459.92	459.64	460.75	460.27	462.23	459.93	459.57	459.14	459.31	459.19
8	459.38	459.57	459.83	459.61	460.39	460.35	462.03	459.82	459.55	459.12	459.30	459.17
9	459.40	459.80	460.02	459.61	460.33	461.10	462.45	459.76	459.51	459.11	459.27	459.15
10	459.40	460.03	460.50	459.59	460.23	463.53	462.35	459.72	459.50	459.09	459.25	459.13
11	459.39	459.80	460.32	459.57	460.09	462.26	462.04	459.84	459.48	459.07	459.22	459.10
12	459.42	459.69	460.16	459.56	460.13	461.59	461.59	459.75	459.45	459.05	459.20	459.08
13	459.43	459.63	460.21	459.57	460.04	461.92	461.34	459.70	459.42	459.04	459.19	459.07
14	459.43	459.60	460.04	459.54	460.01	462.02	461.12	459.73	459.40	459.02	459.15	459.07
15	459.42	459.58	459.98	459.51	460.09	461.37	461.05	459.70	459.38	459.05	459.14	459.06
16	459.41	459.56	460.43	459.49	460.42	461.07	461.07	459.88	459.35	459.05	459.10	459.04
17	459.39	459.54	460.40	459.48	460.34	460.89	460.95	461.31	459.34	459.04	459.10	459.03
18	459.37	459.56	460.13	459.81	460.29	460.79	460.74	460.17	459.31	459.04	459.10	459.03
19	459.36	459.60	460.01	461.39	460.26	460.79	460.63	460.55	459.29	459.07	459.08	459.03
20	459.35	459.58	460.64	461.52	461.28	460.65	460.59	463.72	459.26	459.09	459.06	459.04
21	459.34	459.57	462.16	462.28	461.63	460.30	460.59	462.91	459.25	461.21	459.04	459.06
22	459.33	459.55	461.32	461.29	461.67	460.29	460.43	461.79	459.24	461.92	459.04	459.06
23	459.34	459.54	460.70	460.50	461.01	460.39	460.14	461.09	459.24	459.91	459.02	459.07
24	459.34	459.57	460.44	460.24	460.96	461.15	460.30	460.67	459.24	460.11	459.01	459.08
25	459.36	459.65	460.46	460.11	460.53	462.32	460.19	460.46	459.25	460.76	459.81	459.09
26	459.38	459.68	460.51	460.05	460.51	465.76	460.02	460.31	459.25	460.27	459.64	459.08
27	459.39	459.66	460.26	459.89	460.33	466.21	459.96	460.12	459.23	460.51	459.57	459.08
28	460.20	459.61	460.11	460.40	460.16	463.62	460.58	459.96	459.20	459.75	459.50	459.07
29	460.15	459.61	459.99	459.93	460.18	462.92	460.43	459.90	459.21	459.62	459.45	459.06
30	459.81	461.73	459.93	459.88	---	462.49	461.16	459.87	459.20	459.57	459.44	459.05
31	459.65	---	460.52	460.88	---	462.02	---	459.72	---	459.52	459.41	---
MEAN	459.45	459.69	460.38	460.09	460.69	461.52	461.27	460.37	459.41	459.53	459.29	459.12
MAX	460.20	461.73	462.16	462.28	462.58	466.21	463.51	463.72	459.75	461.92	459.81	459.37
MIN	459.33	459.54	459.83	459.48	460.01	460.03	459.96	459.70	459.20	459.02	459.01	459.03
†	0	14.3	0.45	16.6	1.00	13.3	4.55	0	0	0	0	0
††	0	+0.24	-0.23	+0.26	-0.27	+0.20	-0.15	-0.07	0	0	0	0

CAL YR 1987 MEAN 460.19 MAX 468.94 MIN 459.03 †† -0.01
WTR YR 1988 MEAN 460.07 MAX 466.21 MIN 459.01 †† 0

† Contents, in acre-ft, at end of month.
†† Change in contents, equivalent in cubic feet per second.

04239000 ONONDAGA CREEK AT DORWIN AVENUE, SYRACUSE, NY

LOCATION.--Lat 42°59'00", long 76°09'04", Onondaga County, Hydrologic Unit 04140201, on left bank 550 ft upstream from bridge on Dorwin Avenue, at Syracuse, and 4 mi downstream from Onondaga Reservoir.

DRAINAGE AREA.--88.5 mi^2.

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

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 414.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. High flows regulated by Onondaga Reservoir (see station 04238500). Discharge includes minor diversion from Gate House Pond in headwaters of West Branch Tioughnioga River basin. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 124 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,260 ft^3/s July 3, 1974, gage height, 6.48 ft; minimum daily, 5.5 ft^3/s Aug. 17, 1965; minimum gage height, 1.15 ft Sept. 16, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 631 ft^3/s Mar. 26 at 0830 hours, gage height, 3.58 ft; minimum, 16 ft^3/s July 11, gage height, 1.50 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	45	154	e74	218	83	160	122	63	39	40	31
2	36	42	121	e70	240	84	149	102	68	34	33	28
3	36	41	98	e68	147	96	150	94	73	28	31	27
4	35	52	91	e64	e120	93	321	89	66	27	29	29
5	31	47	86	e62	e100	81	268	84	57	24	29	32
6	29	47	81	e60	e94	79	201	84	50	22	31	29
7	47	51	73	e60	e90	92	178	79	50	22	32	27
8	48	55	69	e62	e88	97	170	74	49	21	29	26
9	40	78	87	e62	e86	153	204	69	45	20	31	24
10	34	80	110	e62	e84	336	200	68	43	20	28	24
11	43	64	93	e60	e84	210	177	76	43	20	28	24
12	47	56	86	e56	e84	163	153	70	40	21	26	23
13	40	54	89	e56	e84	181	139	65	37	20	27	28
14	36	51	79	e54	e84	188	126	71	36	22	27	28
15	33	47	79	e52	96	150	124	63	34	32	25	24
16	32	43	108	e52	111	133	125	76	34	22	25	23
17	30	41	100	e56	112	124	119	177	35	29	29	27
18	29	58	84	e70	99	119	109	93	33	31	33	32
19	29	53	79	230	132	119	104	119	32	41	28	28
20	28	49	131	194	167	110	102	418	30	30	27	33
21	31	49	213	226	181	90	101	351	30	219	28	37
22	33	46	151	e150	e170	97	94	232	32	245	25	29
23	36	44	117	e120	135	94	88	160	58	78	24	46
24	35	60	102	e100	131	135	98	129	35	89	47	39
25	46	61	105	87	119	194	90	116	29	135	111	30
26	41	60	105	e80	e110	538	83	105	31	95	42	27
27	37	53	91	e64	95	564	81	93	30	122	33	26
28	108	49	83	e66	90	341	128	83	27	65	29	25
29	85	54	77	e70	88	245	113	79	28	47	47	24
30	65	217	e70	75	---	197	157	76	32	39	49	24
31	51	---	e72	137	---	168	---	66	---	40	35	---
TOTAL	1294	1747	3084	2699	3439	5354	4312	3583	1250	1699	1058	854
MEAN	41.7	58.2	99.5	87.1	119	173	144	116	41.7	54.8	34.1	28.5
MAX	108	217	213	230	240	564	321	418	73	245	111	46
MIN	28	41	69	52	84	79	81	63	27	20	24	23

CAL YR	1987	TOTAL	33577	MEAN	92.0	MAX	837	MIN	16
WTR YR	1988	TOTAL	30373	MEAN	83.0	MAX	564	MIN	20

e Estimated

04240010 ONONDAGA CREEK AT SPENCER STREET, SYRACUSE, NY

LOCATION.--Lat 43°03'27", long 76°09'46", Onondaga County, Hydrologic Unit 04140201, on right bank 250 ft upstream from bridge on Spencer Street in Syracuse, 1,000 ft upstream from Erie (Barge) Canal terminal, and 1.0 mi upstream from mouth.

DRAINAGE AREA.--110 mi^2.

PERIOD OF RECORD.--Occasional discharge measurements, water years 1958–70. September 1970 to current year.

REVISED RECORDS.--WRD NY 1972: 1971(M). WRD NY 1975: 1972(M), 1974(M). WDR NY–81–3: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 362.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. High flows regulated by Onondaga Reservoir (see station 04238500). Discharge includes minor diversion from Gate House Pond in headwaters of West Branch Tioughnioga River basin. Flow may be affected by backwater from Onondaga Lake at times when the lake elevation exceeds 364.75 ft. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 185 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,740 ft^3/s July 3, 1974, gage height, 8.73 ft; minimum, 20 ft^3/s Sept. 26, 1985, gage height, 2.16 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,120 ft^3/s July 21 at 1215 hours, gage height, 7.62 ft; minimum, 34 ft^3/s July 14, gage height, 2.31 ft, but may have been lower during period of questionable gage-height record June 9 to July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	58	184	112	245	118	201	152	94	66	59	50
2	51	56	147	100	266	104	194	132	96	56	53	48
3	49	56	125	86	179	133	203	122	104	46	49	46
4	48	64	117	93	165	131	355	118	96	44	49	57
5	44	61	113	80	131	116	301	112	86	43	46	52
6	43	64	106	79	e120	114	245	111	78	45	49	48
7	69	66	98	80	e110	128	223	107	77	42	50	47
8	62	68	92	81	e110	132	216	102	76	41	48	46
9	55	93	110	83	e110	195	242	97	71	41	46	44
10	48	97	136	80	e110	361	239	100	69	40	45	42
11	60	81	120	75	e110	244	223	103	65	70	44	42
12	62	73	114	79	e110	200	199	99	61	41	43	41
13	56	71	116	80	e110	211	186	96	55	38	41	52
14	51	68	105	69	e110	224	174	99	53	57	41	50
15	47	64	109	68	121	190	168	93	47	51	40	41
16	46	61	135	69	138	174	168	101	44	40	38	40
17	44	59	129	70	130	165	162	209	47	75	55	51
18	42	72	113	119	127	160	148	124	45	56	50	57
19	41	68	106	196	129	161	143	173	44	89	43	49
20	41	64	162	212	191	152	139	454	46	53	41	92
21	44	65	243	256	210	129	140	385	48	435	45	56
22	49	58	186	179	152	125	133	277	93	256	41	45
23	50	59	151	127	173	137	130	201	101	138	53	77
24	50	70	135	125	170	178	137	166	67	109	75	59
25	61	76	134	118	142	244	130	150	75	146	135	48
26	55	74	137	114	129	555	119	139	60	154	59	43
27	57	69	123	e90	134	560	139	125	57	144	50	42
28	122	65	115	e88	121	359	156	115	53	85	86	40
29	98	114	105	e100	124	278	149	107	50	69	64	38
30	77	246	86	103	---	238	188	106	64	64	69	38
31	64	---	95	162	---	211	---	97	---	59	54	---
TOTAL	1742	2260	3947	3373	4177	6427	5550	4572	2022	2693	1661	1481
MEAN	56.2	75.3	127	109	144	207	185	147	67.4	86.9	53.6	49.4
MAX	122	246	243	256	266	560	355	454	104	435	135	92
MIN	41	56	86	68	110	104	119	93	44	38	38	38

CAL YR	1987	TOTAL	44077	MEAN	121	MAX	808	MIN	29
WTR YR	1988	TOTAL	39905	MEAN	109	MAX	560	MIN	38

e Estimated

04240100 HARBOR BROOK AT SYRACUSE, NY

LOCATION.--Lat 43°02'09", long 76°10'55", Onondaga County, Hydrologic Unit 04140201, on left bank 160 ft upstream from bridge on Holden Street at Syracuse, 220 ft downstream from gated outlet of Velasko Road Detention Basin, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--10.0 mi^2.

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

REVISED RECORDS.--WSP 2112: Drainage area. WDR NY-82-3: 1981 (M).

GAGE.--Water-stage recorder. Datum of gage is 391.16 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1978, at site 1,660 ft upstream and Oct. 1, 1978 to May 31, 1980, at site 1,800 ft upstream at datum 3.63 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow includes some sewage and storm sewer inflow, some originating outside the basin. Flows can be regulated at detention basin by Onondaga County. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years, 8.78 ft^3/s, 11.92 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 726 ft^3/s July 3, 1974, gage height, 8.34 ft datum then in use, from rating curve extended above 180 ft^3/s on basis of slope-area measurements of peak flow; minimum discharge, 0.11 ft^3/s Aug. 8, 1980, result of regulation; minimum gage height, 0.75 ft Oct. 21, 1987, result of regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 169 ft^3/s July 21 at 1330 hours, gage height, 4.38 ft, from rating curve extended above 50 ft^3/s on basis of indirect measurement of peak flow; minimum, 0.42 ft^3/s Oct. 21, gage height, 0.75 ft, result of regulation.

REVISIONS.-- The maximum discharges for the water years 1986 and 1987 have been revised to 210 ft^3/s June 8, 1986, gage height, 5.18 ft, and 106 ft^3/s June 22, 1987, gage height, 3.30 ft, superseding figures published in reports for 1986 and 1987.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.9	4.1	5.4	4.4	8.2	4.8	6.4	5.2	e6.2	4.3	e3.6	e3.4
2	e3.8	4.1	4.9	4.4	7.2	4.8	6.3	5.2	e6.0	3.8	e3.5	e3.6
3	e3.9	4.7	4.4	4.4	5.2	4.8	8.0	5.2	e5.6	3.8	e3.5	e3.4
4	e3.6	4.4	4.4	4.4	5.2	4.8	13	5.0	e4.9	3.7	e3.4	e5.4
5	e3.5	4.3	4.3	4.4	5.0	4.8	8.6	5.2	e5.0	3.9	e3.7	e3.7
6	e4.5	4.4	4.1	4.4	5.0	4.8	7.6	5.3	e5.4	4.1	e3.4	e3.3
7	8.5	4.7	4.0	4.5	4.7	4.8	7.3	5.4	e5.2	4.1	e3.3	e3.2
8	4.1	4.4	4.0	4.5	4.6	5.2	7.9	5.5	e4.8	4.4	e3.3	e3.2
9	3.9	5.9	4.6	4.4	4.6	15	8.4	5.7	4.5	4.8	e3.4	e3.2
10	4.0	4.8	4.4	4.4	4.6	14	8.5	6.4	4.2	4.9	e3.4	e3.1
11	7.1	4.6	4.2	4.4	4.4	7.1	7.9	5.9	e3.9	9.4	e3.3	e3.1
12	5.0	e4.2	4.7	4.4	4.6	6.6	7.3	5.8	e3.7	4.6	e3.2	e3.1
13	4.5	e4.0	4.2	4.5	4.4	6.7	7.5	6.2	e3.6	4.3	e3.2	e3.8
14	4.5	e4.0	3.8	4.5	4.4	6.4	7.3	e6.0	e3.6	5.1	e3.2	3.4
15	4.0	e3.9	5.3	4.4	5.5	5.8	7.2	e5.8	e3.7	4.5	e3.2	3.1
16	4.1	e3.8	4.9	4.3	4.7	5.3	7.1	e7.2	e3.8	4.9	e3.5	3.1
17	4.2	e4.0	4.4	4.3	4.4	5.2	6.7	e5.8	e3.7	9.0	e5.8	4.0
18	4.1	5.0	4.2	9.2	4.5	5.2	6.8	e5.6	e3.7	4.6	e3.5	2.9
19	4.2	3.7	4.2	7.6	4.4	5.0	6.4	13	e3.7	5.8	e3.3	2.8
20	3.8	3.7	9.6	14	6.0	4.9	6.1	18	e3.8	4.9	e3.3	8.9
21	3.9	3.7	8.6	9.2	5.3	4.7	6.6	12	4.7	36	e3.3	4.6
22	4.3	3.7	5.6	5.7	4.9	4.7	6.8	9.0	7.8	5.5	e3.3	3.8
23	4.4	3.7	5.0	5.0	5.7	5.1	7.2	6.3	6.5	9.0	e4.0	6.7
24	3.9	3.7	4.8	4.8	5.2	6.5	6.3	e6.0	3.7	7.7	e6.8	3.6
25	5.1	4.1	4.8	4.8	5.1	7.2	6.0	e5.8	6.0	4.6	e4.5	3.4
26	3.9	3.9	4.8	4.8	4.9	21	6.1	e5.8	4.1	7.7	e4.0	3.3
27	5.0	3.8	4.5	4.8	4.9	12	7.9	5.9	3.9	4.7	e5.0	3.1
28	7.4	3.6	4.4	4.8	4.8	8.8	5.5	6.0	4.4	e4.0	11	3.0
29	4.6	9.0	4.4	4.6	4.8	7.9	6.8	6.2	3.8	e3.8	7.4	2.9
30	4.2	13	4.4	4.9	---	7.0	6.0	e6.2	5.1	e3.7	4.4	3.1
31	4.2	---	4.4	9.5	---	6.7	---	e6.2	---	e3.7	e3.7	---
TOTAL	140.1	138.9	149.7	168.7	147.2	217.6	217.5	208.8	139.0	189.3	127.4	111.2
MEAN	4.52	4.63	4.83	5.44	5.08	7.02	7.25	6.74	4.63	6.11	4.11	3.71
MAX	8.5	13	9.6	14	8.2	21	13	18	7.8	36	11	8.9
MIN	3.5	3.6	3.8	4.3	4.4	4.7	5.5	5.0	3.6	3.7	3.2	2.8
CFSM	.45	.46	.48	.54	.51	.70	.72	.67	.46	.61	.41	.37
IN.	.52	.52	.56	.63	.55	.81	.81	.78	.52	.70	.47	.41

CAL YR	1987	TOTAL	2322.0	MEAN	6.36	MAX	64	MIN	2.8	CFSM	.64	IN. 8.64
WTR YR	1988	TOTAL	1955.4	MEAN	5.34	MAX	36	MIN	2.8	CFSM	.53	IN. 7.27

e Estimated

04240105 HARBOR BROOK AT HIAWATHA BOULEVARD, SYRACUSE, NY

LOCATION.--Lat 43°03'22", long 76°11'07", Onondaga County, Hydrologic Unit 04140201, on left bank 250 ft downstream from culvert on Hiawatha Boulevard, in Syracuse, and 0.5 mi upstream from mouth.

DRAINAGE AREA.--11.3 mi^2.

PERIOD OF RECORD.--Occasional discharge measurements, water years 1958–70. October 1970 to current year.

REVISED RECORDS.--WDR NY–76–1: 1971–75 (P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 365.86 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for May 29 to June 9, which are fair. Flow includes some sewage and storm sewer inflow, some originating outside the basin. Flow can be regulated at Velasko Road Detention Basin 2.1 mi upstream. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 13.4 ft^3/s, 16.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 824 ft^3/s July 3, 1974, gage height, 7.91 ft from rating curve extended above 160 ft^3/s on basis of step-backwater computations; maximum gage height, 8.15 ft Sept. 26, 1975 (backwater from debris jam); no flow for part of each day Oct. 26, 27, 1987, result of regulation for maintenance work in the channel.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 546 ft^3/s July 21 at 1230 hours, gage height, 6.56 ft; no flow for part of each day Oct. 26, 27, result of regulation for maintenance work in the channel.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.3	6.5	4.9	11	6.9	e9.6	7.1	7.1	5.2	4.7	4.2
2	4.3	4.3	5.8	4.9	9.3	6.9	8.9	6.9	7.1	4.5	4.5	4.9
3	4.5	5.0	5.1	4.9	7.2	6.9	12	6.7	6.6	4.5	4.4	4.2
4	4.0	4.5	5.1	4.9	7.1	6.9	19	6.5	5.8	4.5	4.4	6.2
5	4.0	4.5	5.1	4.6	6.9	6.9	11	6.5	5.7	4.4	4.7	3.9
6	5.4	4.9	4.8	4.5	6.8	6.9	10	6.5	6.3	4.2	4.2	3.9
7	9.6	5.4	4.7	4.5	6.5	6.9	9.2	6.4	6.0	4.2	4.1	3.9
8	4.5	4.8	4.7	4.5	6.5	7.3	9.7	6.5	5.6	4.1	4.2	3.9
9	4.5	6.6	5.6	4.5	6.3	18	10	6.9	4.7	4.0	4.0	3.7
10	4.2	4.7	5.0	4.6	6.2	19	9.6	8.1	4.6	4.0	4.0	3.7
11	7.2	4.5	4.7	4.7	6.2	11	8.9	7.1	4.3	15	4.0	3.7
12	4.6	4.5	5.5	4.8	6.2	10	8.1	7.0	4.2	4.6	4.0	3.7
13	4.6	4.5	4.8	4.6	6.2	10	7.8	7.5	4.1	4.2	3.9	5.7
14	4.6	4.4	4.5	4.5	6.1	9.8	7.2	6.8	4.1	8.0	3.9	3.9
15	4.5	4.2	6.7	4.5	8.3	8.8	7.1	6.2	4.3	4.2	3.9	3.9
16	4.6	4.2	6.0	4.5	7.1	8.6	7.1	8.4	4.4	4.0	3.9	4.0
17	4.4	4.2	5.4	4.5	6.7	8.3	6.9	6.3	4.4	12	8.1	5.7
18	4.5	5.9	4.9	11	6.7	8.3	7.2	6.3	4.4	4.3	4.3	4.6
19	4.7	4.3	4.9	9.2	6.9	8.3	7.2	14	4.4	5.7	3.9	4.3
20	4.9	4.4	10	17	8.8	8.2	7.3	19	4.5	4.2	3.9	16
21	5.3	4.3	9.3	11	8.1	7.8	7.4	13	5.0	76	4.0	5.5
22	5.4	4.2	6.4	7.4	7.3	7.8	7.5	9.7	14	7.7	3.9	4.8
23	5.0	4.3	5.6	6.7	8.6	8.0	8.3	7.2	9.8	15	6.5	8.5
24	4.4	4.3	5.1	6.3	7.9	10	7.4	6.8	4.8	10	10	4.9
25	6.1	4.6	5.1	6.2	7.4	12	7.5	6.5	9.2	5.5	5.5	4.9
26	4.0	4.5	5.1	6.2	6.9	29	7.3	6.6	4.9	11	5.0	4.7
27	4.5	4.4	5.1	6.2	6.9	16	11	6.8	4.5	5.3	4.7	4.7
28	8.8	4.4	5.1	6.1	6.9	e13	7.2	7.0	5.2	5.1	16	4.7
29	5.2	16	5.1	6.0	6.9	e12	9.4	7.1	4.8	5.0	8.0	4.7
30	4.6	17	4.9	6.7	---	e11	8.0	7.1	6.5	4.8	5.1	4.8
31	4.4	---	4.9	10	---	e10	---	7.1	---	4.7	4.6	---
TOTAL	155.7	162.1	171.5	194.9	209.9	320.5	264.8	241.6	171.3	259.9	160.3	150.2
MEAN	5.02	5.40	5.53	6.29	7.24	10.3	8.83	7.79	5.71	8.38	5.17	5.01
MAX	9.6	17	10	17	11	29	19	19	14	76	16	16
MIN	4.0	4.2	4.5	4.5	6.1	6.9	6.9	6.2	4.1	4.0	3.9	3.7
CFSM	.44	.48	.49	.56	.64	.91	.78	.69	.51	.74	.46	.44
IN.	.51	.53	.56	.64	.69	1.06	.87	.80	.56	.86	.53	.49

CAL YR	1987	TOTAL	2911.5	MEAN	7.98	MAX	68	MIN	3.0	CFSM	.71	IN. 9.58
WTR YR	1988	TOTAL	2462.7	MEAN	6.73	MAX	76	MIN	3.7	CFSM	.60	IN. 8.11

e Estimated

04240120 LEY CREEK AT PARK STREET, SYRACUSE, NY

LOCATION.--Lat 43°04'38", long 76°10'14", Onondaga County, Hydrologic Unit 04140201, on left bank 0.2 mi upstream from bridge on Park Street, and 0.4 mi upstream from mouth.

DRAINAGE AREA.--29.9 mi^2.

PERIOD OF RECORD.--Occasional discharge measurements water years 1959–72. December 1972 to current year.

REVISED RECORDS.--WDR NY 76–1: 1975 (M).

GAGE.--Water-stage recorder, crest-stage gage and, since July 9, 1984, steel "H" beam control. Datum of gage is 362.76 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, at same site at datum 0.08 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow may be affected by backwater from Onondaga Lake at times when the lake elevation exceeds 364.4 ft. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years (water years 1974–88), 43.7 ft^3/s, 19.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,310 ft^3/s Sept. 26, 1975, gage height, 6.17 ft, from rating curve extended above 530 ft^3/s; minimum discharge, 1.9 ft^3/s Aug. 19, 1987; minimum gage height, 0.28 ft Feb. 6–8, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov.30	0230	476	3.62	July 21	1630	*590	*3.98

Minimum discharge, 4.2 ft^3/s Oct. 5, gage height, 0.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	22	118	e17	72	34	43	44	17	37	15	14
2	4.9	21	78	e16	84	29	45	31	19	18	15	12
3	9.2	24	51	15	44	34	89	27	16	12	14	10
4	5.2	25	47	e14	35	39	151	25	16	10	14	32
5	5.9	22	44	14	29	36	112	21	15	10	16	17
6	6.7	27	39	12	24	34	82	22	16	10	15	15
7	48	32	33	e12	22	46	66	19	17	7.6	14	13
8	14	26	31	e11	21	53	64	17	13	7.8	15	9.8
9	10	56	42	e11	e20	82	103	17	14	7.6	15	9.7
10	5.6	35	46	e11	e20	118	78	19	15	6.6	12	9.3
11	38	27	40	e11	e19	84	66	25	14	27	12	9.2
12	18	25	38	e11	e19	59	59	18	10	16	14	9.8
13	12	23	43	e13	e19	51	47	18	8.7	6.9	12	20
14	11	20	36	12	21	49	43	20	9.9	44	11	11
15	11	18	49	e11	45	42	45	15	7.6	32	12	8.9
16	13	19	68	e11	50	39	45	21	7.5	13	13	10
17	10	18	56	12	40	39	43	23	9.8	55	17	19
18	9.5	30	44	74	41	39	41	19	8.4	27	15	14
19	e10	22	38	72	45	38	40	93	7.6	67	12	12
20	e13	18	101	142	83	38	44	227	8.9	23	11	25
21	e19	18	102	111	85	37	45	185	11	240	10	37
22	e23	19	62	64	62	36	42	150	17	135	11	13
23	e33	23	40	34	92	40	45	81	132	54	13	50
24	16	41	31	24	88	65	44	43	25	81	68	16
25	29	39	26	e22	62	94	32	29	22	26	49	11
26	e21	37	24	e21	48	241	20	20	31	90	29	10
27	e29	28	21	e20	41	169	38	16	16	75	12	11
28	e78	24	20	19	36	132	85	14	16	39	82	11
29	48	79	18	18	37	112	74	13	20	23	103	9.1
30	41	273	17	25	---	82	70	13	22	20	40	9.1
31	27	---	15	49	---	52	---	14	---	19	22	---
TOTAL	626.9	1091	1418	909	1304	2043	1801	1299	562.4	1239.5	713	457.9
MEAN	20.2	36.4	45.7	29.3	45.0	65.9	60.0	41.9	18.7	40.0	23.0	15.3
MAX	78	273	118	142	92	241	151	227	132	240	103	50
MIN	4.9	18	15	11	19	29	20	13	7.5	6.6	10	8.9
CFSM	.68	1.22	1.53	.98	1.50	2.20	2.01	1.40	.63	1.34	.77	.51
IN.	.78	1.36	1.76	1.13	1.62	2.54	2.24	1.62	.70	1.54	.89	.57

CAL YR	1987	TOTAL	10902.7	MEAN	29.9	MAX	273	MIN	2.4	CFSM	1.00	IN. 13.56
WTR YR	1988	TOTAL	13464.7	MEAN	36.8	MAX	273	MIN	4.9	CFSM	1.23	IN. 16.75

e Estimated

04240180 NINEMILE CREEK NEAR MARIETTA, NY

LOCATION.--Lat 42°55'15", long 76°19'47", Onondaga County, Hydrologic Unit 04140201, on right bank 25 ft upstream from bridge on Schuyler Road, 0.9 mi north of Marietta, and 1.8 mi downstream from Otisco Lake. Water-quality sampling site at discharge station.

DRAINAGE AREA.--45.1 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1955, 1963. June 1964 to current year.

REVISED RECORDS.--WRD NY 1971: 1966(M), 1968, 1969. WDR NY-82-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 748.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow regulated by Otisco Lake from which water is diverted for city of Syracuse water supply. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years (water years 1965-88), 38.9 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,030 ft^3/s June 23, 1972, gage height, 8.65 ft; minimum, 0.80 ft^3/s Sept. 13, 18, 19, 1966, gage height, 0.61 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 122 ft^3/s July 21 at 1400 hours, gage height, 4.08 ft (backwater from beaver dam); minimum daily, 4.0 ft^3/s Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	6.5	9.0	14	15	5.6	71	36	14	9.6	13	5.3
2	6.3	6.4	8.8	13	18	5.6	67	35	8.9	8.3	14	5.0
3	8.6	7.0	7.3	12	9.5	6.9	66	35	10	7.8	8.6	4.6
4	8.9	8.1	7.4	11	e8.0	6.6	88	34	10	7.8	7.8	6.2
5	8.7	8.1	7.0	e10	e7.0	6.0	93	34	9.3	9.1	7.6	6.4
6	8.5	8.5	6.3	e9.5	e6.5	6.1	94	33	8.2	12	8.1	5.8
7	9.2	9.0	5.7	e9.1	e6.0	7.0	88	31	8.8	14	8.7	5.6
8	8.1	8.9	5.9	e9.0	e6.0	8.3	82	30	9.2	16	9.2	5.5
9	7.8	8.2	8.3	e8.8	e5.9	17	83	27	10	16	9.1	5.5
10	8.0	6.0	8.5	e8.2	e5.8	24	78	25	11	15	8.1	5.5
11	8.8	5.4	6.8	8.5	e5.4	12	72	24	11	13	7.6	5.3
12	8.1	5.7	6.9	e7.8	e5.4	9.8	66	24	12	14	7.1	5.3
13	7.8	5.9	7.4	e6.4	e5.4	14	62	27	13	12	6.8	8.6
14	7.6	5.8	6.2	e5.4	e5.4	15	60	25	14	10	6.7	6.6
15	7.8	5.2	7.3	e5.2	e6.3	12	53	25	17	9.4	7.3	5.8
16	7.8	5.2	9.3	e5.2	6.9	11	51	28	16	8.5	10	5.8
17	7.8	5.0	8.2	e5.2	6.0	10	48	36	15	9.4	11	7.3
18	7.9	6.4	7.2	15	6.1	10	46	36	14	9.1	11	8.7
19	7.4	5.8	6.8	15	6.1	11	43	41	13	8.6	9.9	8.1
20	7.6	5.4	17	18	12	10	41	68	13	8.3	9.5	8.8
21	7.9	5.5	30	17	11	8.5	39	68	14	35	8.8	11
22	8.1	5.4	22	11	7.0	7.6	37	64	14	9.2	8.6	12
23	8.6	5.7	19	8.3	8.1	8.5	38	60	15	12	8.8	15
24	8.2	7.1	17	7.5	7.7	13	37	54	11	28	13	9.7
25	9.1	6.4	16	e6.9	6.6	18	31	46	10	21	14	9.1
26	7.6	6.1	16	e6.4	6.1	47	28	41	11	13	12	9.0
27	7.5	5.2	15	5.9	6.0	47	28	37	10	13	7.3	9.1
28	12	4.9	15	e5.6	5.9	62	31	32	9.6	12	4.0	12
29	7.8	6.6	15	e5.0	5.9	79	34	27	9.3	12	5.1	10
30	7.6	16	14	5.9	---	80	37	23	9.5	12	5.3	11
31	6.8	---	14	12	---	75	---	18	---	13	5.2	---
TOTAL	250.4	201.4	350.3	287.8	217.0	653.5	1692	1124	350.8	398.1	273.2	233.6
MEAN	8.08	6.71	11.3	9.28	7.48	21.1	56.4	36.3	11.7	12.8	8.81	7.79
MAX	12	16	30	18	18	80	94	68	17	35	14	15
MIN	6.3	4.9	5.7	5.0	5.4	5.6	28	18	8.2	7.8	4.0	4.6

CAL YR	1987	TOTAL	10116.4	MEAN	27.7	MAX	175	MIN	2.3
WTR YR	1988	TOTAL	6032.1	MEAN	16.5	MAX	94	MIN	4.0

e Estimated

04240300 NINEMILE CREEK AT LAKELAND, NY

LOCATION.--Lat 43°04'51", long 76°13'36", Onondaga County, Hydrologic Unit 04140201, on left bank 30 ft downstream from bridge on State Highway 48, 0.6 mi downstream from Geddes Brook, and 0.7 mi upstream from mouth.

DRAINAGE AREA.--115 mi^2.

PERIOD OF RECORD.--Occasional measurements, water years 1959–70. November 1970 to September 1973, July 1975 to current year.

REVISED RECORDS.--WDR NY–83–3: 1972 (M), 1976 (M), 1979 (M), 1982 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 360.67 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow regulated by Otisco Lake from which water is diverted for city of Syracuse water supply. Flow affected by backwater from Onondaga Lake whenever lake level exceeds about 362 ft NGVD. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years (1972–73, 1976–88), 198 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,110 ft^3/s June 23, 1972; maximum gage height, 8.75 ft Sept. 26, 1975 (backwater from Onondaga Lake); minimum daily discharge, 13 ft^3/s Aug. 18, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 335 ft^3/s May 22; maximum gage height, 3.70 ft May 21; minimum daily discharge, 35 ft^3/s Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	78	105	143	150	64	177	115	e62	e72	e58	e56
2	74	72	90	136	172	61	175	100	e60	e72	e56	e53
3	91	128	95	136	134	89	191	e98	e58	e72	e54	e52
4	79	106	133	123	99	90	255	e94	e56	e72	e50	e56
5	55	85	106	63	71	69	264	e90	e54	e70	e47	e55
6	65	62	94	75	72	75	246	e88	e52	e68	e45	e52
7	78	106	93	85	68	87	233	87	e49	e66	e46	e47
8	57	132	116	75	69	104	226	89	e50	e66	e48	e44
9	47	167	119	64	72	148	243	87	e58	e68	e47	e40
10	42	166	133	61	72	250	226	75	e62	e70	e47	e37
11	54	140	131	59	67	174	199	81	e72	e80	e46	e36
12	67	111	128	65	66	136	183	79	69	e76	e45	e36
13	68	97	125	60	63	136	170	76	67	e76	e45	e40
14	68	97	110	47	63	141	151	81	64	e76	e44	e43
15	66	93	112	39	67	114	153	80	e74	e75	e42	e40
16	68	89	129	126	82	107	144	77	e84	e74	e44	e40
17	57	80	116	149	77	99	132	76	e62	e70	e55	35
18	48	71	96	89	75	90	129	82	e58	e82	e50	48
19	36	74	102	170	83	95	122	105	e52	94	e47	48
20	47	95	139	207	139	95	114	246	e56	65	e46	41
21	42	77	216	239	164	80	110	292	e62	170	e45	55
22	77	57	160	153	120	73	115	335	e72	164	e45	57
23	67	56	209	89	129	79	95	295	e80	e60	e52	60
24	57	78	235	90	139	102	90	268	e68	177	e58	49
25	63	104	202	83	109	131	80	201	e66	183	e66	46
26	53	98	159	69	86	323	83	146	e64	107	e60	e45
27	53	73	114	58	53	299	89	97	e62	90	e57	e43
28	101	63	74	53	46	259	114	e86	e62	75	e70	e41
29	88	99	67	49	77	239	89	e80	e64	75	e72	e41
30	98	225	87	58	---	211	155	e72	e70	64	e70	e40
31	115	---	123	110	---	189	---	e66	---	e60	e60	---
TOTAL	2029	2979	3918	3023	2684	4209	4753	3844	1889	2689	1617	1376
MEAN	65.5	99.3	126	97.5	92.6	136	158	124	63.0	86.7	52.2	45.9
MAX	115	225	235	239	172	323	264	335	84	183	72	60
MIN	36	56	67	39	46	61	80	66	49	60	42	35

CAL YR	1987	TOTAL	44865	MEAN	123	MAX	655	MIN	28
WTR YR	1988	TOTAL	35010	MEAN	95.7	MAX	335	MIN	35

e Estimated

04240495 ONONDAGA LAKE AT LIVERPOOL, NY

LOCATION.--Lat 43°06'01", long 76°12'34", Onondaga County, Hydrologic Unit 04140201, on north shore of Onondaga Lake at Onondaga Park Marina basin, 200 ft southwest of Onondaga Lake Parkway, and 1.9 mi upstream from outlet of lake.

DRAINAGE AREA.--285 mi^2.

PERIOD OF RECORD.--October 1970 to current year. Elevation records, at Barge Canal datum, since February 1927 collected by, and in files of, New York State Department of Transportation at Syracuse.

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

REMARKS.--Lake elevation regulated by operation of Erie (Barge) Canal. Area of water surface, 4.60 mi^2.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 369.21 ft June 30, 1972; minimum, 361.54 ft Mar. 13, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 364.04 ft Dec. 23; minimum, 362.12 ft May 2.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	362.75	363.03	363.20	363.35	362.96	363.12	362.91	362.41	362.87	362.76	362.81	362.81
2	363.03	363.01	363.31	363.33	363.08	362.96	362.94	362.39	362.94	362.85	362.85	362.83
3	363.13	363.37	363.39	363.31	363.17	362.90	363.02	363.10	362.97	362.87	362.89	362.73
4	363.06	363.23	363.61	363.25	363.17	362.88	363.21	363.15	362.99	362.74	362.96	362.76
5	362.89	363.12	363.50	362.85	363.12	362.85	363.37	363.21	363.03	362.67	362.87	363.03
6	362.99	362.92	363.43	362.91	363.05	362.83	363.63	363.10	362.95	362.66	362.83	362.99
7	363.11	363.21	363.45	363.01	363.00	362.81	363.77	363.00	362.82	362.81	362.81	362.84
8	362.90	363.36	363.57	362.95	362.85	362.82	363.61	363.06	362.78	362.85	362.82	362.75
9	362.83	363.37	363.56	362.90	362.71	362.92	363.54	363.04	362.93	362.72	362.80	362.75
10	362.78	363.29	363.60	362.86	362.64	363.22	363.44	362.93	362.98	362.65	362.69	362.97
11	362.83	363.20	363.61	362.84	362.61	363.15	363.24	362.97	362.87	362.68	362.63	363.12
12	362.96	363.04	363.60	362.90	362.76	363.05	363.11	362.98	362.72	362.86	362.69	362.77
13	362.98	362.97	363.57	362.84	362.82	362.97	363.02	363.00	362.69	362.90	362.76	362.67
14	363.01	362.98	363.51	362.73	362.84	362.97	363.30	362.98	362.67	362.91	362.75	362.67
15	362.99	362.96	363.51	362.62	362.98	362.93	363.19	363.02	362.65	362.79	362.79	362.83
16	363.02	362.94	363.54	363.02	363.10	362.82	363.06	362.96	362.80	362.71	362.79	362.86
17	362.95	362.95	363.49	363.17	363.11	363.05	362.89	362.91	363.05	362.74	362.66	362.74
18	362.84	362.77	363.42	363.17	363.17	362.65	362.64	362.98	362.88	362.85	362.71	362.83
19	362.72	362.81	363.47	363.35	363.11	362.71	363.10	363.00	362.75	363.17	362.76	362.86
20	362.86	363.00	363.51	363.16	363.05	362.71	362.99	363.41	362.69	362.96	362.66	362.73
21	362.84	362.85	363.64	363.27	363.09	362.67	362.78	363.63	362.72	362.85	362.61	362.86
22	363.07	362.72	363.62	363.46	363.15	362.60	362.88	363.94	362.81	363.18	362.72	362.88
23	362.98	362.69	363.91	363.17	363.30	362.55	362.99	363.90	363.04	363.22	362.78	362.79
24	362.94	362.89	363.90	362.65	363.28	362.89	363.19	363.87	363.11	363.47	362.87	362.72
25	362.97	363.04	363.60	362.40	363.32	363.14	363.09	363.58	362.93	363.09	362.92	362.69
26	362.86	362.99	363.39	362.94	363.36	363.28	362.76	363.28	362.77	362.78	362.93	362.77
27	362.90	362.81	363.14	363.03	363.26	363.60	362.61	362.99	362.82	363.08	362.84	362.72
28	363.01	362.75	362.85	362.91	363.12	363.89	363.00	363.13	362.86	363.18	362.82	362.81
29	362.96	362.92	362.81	362.87	363.05	363.77	363.26	363.14	362.90	363.18	363.05	362.84
30	363.13	363.42	363.01	362.93	---	363.30	362.79	363.10	362.80	363.01	363.07	362.88
31	363.24	---	363.25	362.89	---	363.09	---	362.93	---	362.87	362.91	---
MEAN	362.95	363.02	363.45	363.00	363.04	363.00	363.11	363.13	362.86	362.91	362.81	362.82
MAX	363.24	363.42	363.91	363.46	363.36	363.89	363.77	363.94	363.11	363.47	363.07	363.12
MIN	362.72	362.69	362.81	362.40	362.61	362.55	362.61	362.39	362.65	362.65	362.61	362.67

CAL YR	1987	MEAN	363.08	MAX	364.40	MIN	362.06
WTR YR	1988	MEAN	363.01	MAX	363.94	MIN	362.39

04242500 EAST BRANCH FISH CREEK AT TABERG, NY

LOCATION.--Lat 43°18'06", long 75°37'09", Oneida County, Hydrologic Unit 04140202, on left bank at downstream side of bridge on Main Street at Taberg, just downstream from Furnace Creek, 300 ft upstream from bridge on State Highway 69, and 2.8 mi upstream from confluence of East and West Branches near Blossvale.

DRAINAGE AREA.--188 mi^2.

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

REVISED RECORDS.--WSP 604: 1924. WSP 759: Drainage area. WSP 1034: 1944. WSP 1054: 1923–45. WDR NY–83–3: 1980 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 490.12 ft above National Geodetic Vertical Datum of 1929. Prior to May 20, 1969, at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversion upstream from station for municipal water supply by cities of Rome and Oneida. Diurnal fluctuation at low flow caused by power-generating operations upstream. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--65 years (water years 1924–88), 539 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft^3/s Dec. 29, 1984, gage height, 13.81 ft, from slope-area indirect measurement of peak flow and result of release of upstream debris jam (constructed maximum discharge, about 16,000 ft^3/s on same date at earlier time when adjusted for storage effects); minimum discharge, 4.9 ft^3/s Aug. 15, 16, 1949.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,900 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	2315	*5,030	*6.49	No other peak greater than base discharge.			

Minimum discharge, 18 ft^3/s July 12, gage height, 0.51 ft (result of regulation).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	466	432	1250	e280	e460	e170	1530	837	143	99	85	313
2	333	363	830	e300	e900	e170	1380	663	173	118	70	257
3	330	434	660	e280	e800	194	1930	564	163	103	62	241
4	334	701	593	e260	e600	202	3690	483	160	82	57	242
5	269	613	501	e240	e500	168	3690	423	140	65	55	245
6	229	573	456	e220	e430	153	2460	384	123	53	57	249
7	654	535	341	e210	e370	167	2640	343	107	44	60	240
8	961	480	340	e200	e350	184	2200	293	99	39	59	213
9	652	1280	442	e190	e300	219	1490	261	93	38	57	128
10	475	1280	852	e190	e290	411	1070	261	86	34	55	85
11	439	725	810	e180	e270	497	993	433	82	36	54	80
12	445	547	648	e180	e260	538	1200	408	80	40	53	78
13	371	478	581	e170	e250	531	1180	330	75	48	50	95
14	311	472	545	e170	e250	508	1030	310	67	40	53	108
15	270	449	511	e160	e260	427	1200	272	63	44	63	93
16	243	407	482	e180	e260	380	1030	235	61	40	57	86
17	221	368	443	e220	e250	293	812	308	54	54	55	92
18	215	873	414	e280	e240	298	785	316	50	66	54	115
19	206	836	395	441	e230	283	752	316	48	96	51	118
20	195	599	419	496	e230	226	646	664	44	81	51	117
21	304	457	686	528	e230	180	602	826	64	139	50	185
22	403	330	690	479	e220	174	595	779	63	192	49	434
23	354	323	578	e420	e250	224	578	589	87	134	50	443
24	325	359	495	e380	e250	316	563	423	67	116	124	490
25	468	402	540	e320	e220	657	563	313	52	110	131	337
26	539	633	740	e310	e210	1910	635	250	56	156	223	244
27	421	667	582	e300	e200	2210	720	223	55	261	282	193
28	1100	490	473	e290	e190	1630	1100	198	55	153	624	165
29	931	483	382	e290	e180	1300	1220	173	64	104	1070	145
30	645	1670	e280	e280	---	1400	1140	160	75	82	809	130
31	530	---	e240	e270	---	1650	---	149	---	109	470	---
TOTAL	13639	18259	17199	8714	9450	17670	39424	12187	2549	2776	5040	5961
MEAN	440	609	555	281	326	570	1314	393	85.0	89.5	163	199
MAX	1100	1670	1250	528	900	2210	3690	837	173	261	1070	490
MIN	195	323	240	160	180	153	563	149	44	34	49	78

CAL YR	1987	TOTAL	152123	MEAN	417	MAX	2980	MIN	63
WTR YR	1988	TOTAL	152868	MEAN	418	MAX	3690	MIN	34

e Estimated

04243500 ONEIDA CREEK AT ONEIDA, NY

LOCATION.--Lat 43°05'51", long 75°38'22", Oneida County, Hydrologic Unit 04140202, on right bank 70 ft upstream from bridge on Sconondoa Street at Oneida, and 500 ft downstream from Sconondoa Creek.

DRAINAGE AREA.--113 mi^2.

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WSP 2112: Drainage area. WDR NY–78–1: 1951, 1956, 1958, 1961, 1963, 1964, 1972, 1976 (P). WDR NY–83–3: 1950 (M), 1977 (M), 1979 (M).

GAGE.--Water-stage recorder. Datum of gage is 409.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional regulation by small mills upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--39 years, 164 ft^3/s, 19.71 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,110 ft^3/s Oct. 9, 1976, gage height, 15.01 ft; minimum, 12 ft^3/s Aug. 5, 6, 1962, Oct. 28, 1964; minimum gage height, 1.30 ft Aug. 3, 6, 1955, Aug. 17, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 26	1000	*1,250	*6.06	No peak greater than base discharge.			

Minimum discharge, 19 ft^3/s July 11-13, gage height, 1.45 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	64	217	e88	e350	e68	171	120	50	64	36	38
2	40	57	165	e80	e250	e70	160	106	56	65	31	33
3	44	55	133	e68	e200	e74	168	98	55	42	29	27
4	43	68	123	e62	e160	e74	322	91	50	37	27	32
5	35	68	112	e58	e150	e66	272	86	45	34	29	38
6	26	92	99	e56	e140	e72	209	85	41	32	42	36
7	35	95	e82	e52	e130	e86	173	81	41	30	44	33
8	46	119	e86	e50	e120	e110	159	75	40	30	35	28
9	49	173	99	e47	e120	208	175	71	38	28	32	21
10	43	130	131	e46	e120	502	158	71	37	27	30	21
11	64	96	110	e43	e110	e230	141	88	36	26	29	21
12	66	82	105	e41	e110	e190	130	76	35	19	29	24
13	45	97	119	e39	e110	e210	123	71	33	25	28	30
14	46	84	105	e38	e110	e220	114	74	28	36	27	31
15	44	72	102	e38	e100	e170	122	68	29	48	27	27
16	41	65	140	e38	e100	e146	136	74	30	30	24	26
17	39	62	118	e38	e98	e130	127	115	32	32	22	29
18	38	73	96	e45	e98	e120	115	91	31	34	31	34
19	34	70	89	e64	e110	e120	106	112	29	31	28	32
20	30	63	181	e100	e120	e100	105	238	28	30	27	39
21	45	e54	263	e170	e130	e90	109	206	29	330	27	56
22	44	e52	157	e160	e120	e88	101	233	31	160	27	28
23	43	e58	130	e140	e110	e84	96	130	91	59	27	52
24	42	72	115	e130	e100	e145	112	96	44	45	36	44
25	47	83	121	e120	e90	286	108	82	37	50	43	34
26	46	84	133	e110	e80	873	95	79	38	44	37	32
27	45	74	e110	e100	e76	656	93	68	37	41	32	31
28	248	66	e86	e96	e72	388	187	61	34	36	36	29
29	128	77	e70	e94	e70	275	141	56	36	34	71	29
30	100	512	e60	e90	---	223	138	52	43	31	65	29
31	77	---	e70	e200	---	192	---	48	---	48	43	---
TOTAL	1718	2817	3727	2501	3654	6266	4366	3002	1184	1578	1051	964
MEAN	55.4	93.9	120	80.7	126	202	146	96.8	39.5	50.9	33.9	32.1
MAX	248	512	263	200	350	873	322	238	91	330	71	56
MIN	26	52	60	38	70	66	93	48	28	19	22	21
CFSM	.49	.83	1.06	.71	1.12	1.79	1.29	.86	.35	.45	.30	.28
IN.	.57	.93	1.23	.82	1.20	2.06	1.44	.99	.39	.52	.35	.32

CAL YR	1987	TOTAL	47101	MEAN	129	MAX	1450	MIN	17	CFSM	1.14	IN. 15.51
WTR YR	1988	TOTAL	32828	MEAN	89.7	MAX	873	MIN	19	CFSM	.79	IN. 10.81

e Estimated

04245200 BUTTERNUT CREEK NEAR JAMESVILLE, NY

LOCATION.--Lat 42°56'02", long 76°03'44", Onondaga County, Hydrologic Unit 04140202, on left bank 15 ft downstream from bridge on Walberger Road, 125 ft downstream from tributary from Stebbins Gulf, 2.2 mi upstream from Jamesville Reservoir, and 4 mi south of Jamesville.

DRAINAGE AREA.--32.2 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1955–58. July 1958 to current year.

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 717.93 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 48.9 ft^3/s, 20.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,820 ft^3/s July 3, 1974, gage height, 7.84 ft; maximum gage height 8.46 ft Oct. 28, 1981; minimum discharge, 2.0 ft^3/s Sept. 27, 1959.

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)
Mar. 26	0600	*465	*7.22	No peak greater than base discharge.			

Minimum discharge, 5.3 ft^3/s Aug. 23, gage height, 5.08 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	35	e32	82	24	73	53	27	20	11	10
2	10	14	34	e30	105	33	68	45	29	17	9.2	8.9
3	12	15	29	e27	69	27	74	43	34	12	7.9	8.1
4	11	17	28	e24	53	26	132	40	31	9.6	7.8	11
5	9.9	16	27	e22	e48	28	101	38	25	9.1	9.3	11
6	8.9	16	25	e20	e45	30	80	36	22	8.6	11	10
7	17	17	23	e20	e42	27	73	35	22	7.5	10	8.7
8	16	18	23	e19	e40	29	72	31	21	7.2	8.3	7.9
9	13	25	29	e19	e38	58	78	30	18	7.1	7.9	7.5
10	11	22	35	e21	e37	88	75	30	19	6.9	6.5	7.1
11	16	18	31	e21	e36	58	68	34	19	7.3	6.2	6.7
12	17	17	29	e20	e36	52	60	30	17	7.0	6.1	6.7
13	14	18	29	e19	e37	68	56	29	15	6.9	6.2	11
14	12	17	27	e18	e38	68	52	34	14	14	5.9	9.6
15	11	16	28	e18	39	53	53	27	12	15	6.0	7.7
16	10	15	34	e20	37	48	52	61	14	8.3	5.8	7.2
17	10	14	30	24	31	46	48	73	14	15	9.6	12
18	9.5	20	27	38	30	45	45	41	12	13	9.0	12
19	9.9	18	26	43	29	44	42	60	11	23	6.1	8.9
20	10	17	44	53	46	39	42	144	11	15	6.0	13
21	12	17	56	59	41	38	41	96	11	136	5.7	17
22	13	16	41	39	54	41	38	79	11	55	5.6	11
23	14	16	36	35	34	42	37	58	26	22	5.5	21
24	12	22	34	30	33	59	41	51	14	25	12	15
25	18	22	36	28	e30	92	36	46	12	31	e35	11
26	14	21	37	28	e28	348	33	42	12	21	e11	9.5
27	13	19	33	e26	e26	216	36	37	12	20	e10	8.9
28	42	18	31	e26	e25	134	69	34	10	15	e9.0	8.5
29	24	20	30	e27	e24	106	61	32	11	12	e21	8.5
30	20	51	e28	31	---	88	73	30	15	11	e22	8.2
31	17	---	e27	56	---	77	---	27	---	13	e13	---
TOTAL	441.2	567	982	893	1213	2132	1809	1446	521	590.5	305.6	303.6
MEAN	14.2	18.9	31.7	28.8	41.8	68.8	60.3	46.6	17.4	19.0	9.86	10.1
MAX	42	51	56	59	105	348	132	144	34	136	35	21
MIN	8.9	14	23	18	24	24	33	27	10	6.9	5.5	6.7
CFSM	.44	.59	.98	.89	1.30	2.14	1.87	1.45	.54	.59	.31	.31
IN.	.51	.66	1.13	1.03	1.40	2.46	2.09	1.67	.60	.68	.35	.35

CAL YR	1987	TOTAL	11768.1	MEAN	32.2	MAX	370	MIN	4.1	CFSM	1.00	IN. 13.60
WTR YR	1988	TOTAL	11203.9	MEAN	30.6	MAX	348	MIN	5.5	CFSM	.95	IN. 12.94

e Estimated

04245236 MEADOW BROOK AT HURLBURT ROAD, SYRACUSE, NY

LOCATION.--Lat 43°02'30", long 76°06'02", Onondaga County, Hydrologic Unit 04140202, on right bank 170 ft downstream from culvert at intersection of Hurlburt Road and Meadowbrook Drive, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--2.90 mi^2.

PERIOD OF RECORD.--December 1970 to March 1973, April 1973 to September 1978 (annual maximum only), October 1978 to current year.

REVISED RECORDS.--WDR NY-75-1: 1974 (M): WDR NY-78-1: 1977 (M).

GAGE.--Water-stage recorder, crest-stage gage, and artificial control. Datum of gage is 511.50 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow includes storm sewer inflow, some originating outside the basin. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years (water years 1972, 1979–88), 2.03 ft^3/s, 9.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 595 ft^3/s Oct. 21, 1976, gage height, 5.31 ft; maximum gage height, 6.51 ft July 3, 1974 (backwater from downstream channel conditions; Type IV flow); minimum discharge, 0.02 ft^3/s Sept. 11, 1972.

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

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Apr. 1	1200	137	3.14	July 26	1330	212	3.62
July 17	1300	104	2.87	Sept. 20	1930	109	2.92
July 21	1145	*303	*4.08				

Minimum discharge, 0.45 ft^3/s July 11, gage height 1,12 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.5	2.3	e2.3	4.3	e3.1	e5.0	1.9	1.5	4.5	e1.0	e.60
2	1.4	1.5	2.5	e2.3	e4.0	e3.1	4.2	1.7	1.2	3.4	e.94	.64
3	1.8	1.9	2.3	e2.3	e3.5	e3.1	6.7	1.1	2.1	3.3	e.88	.78
4	1.3	2.0	2.3	e2.3	e3.4	e3.1	8.8	.89	1.1	3.3	e.84	3.2
5	1.4	1.9	2.3	e2.3	e3.3	e3.2	3.8	.89	.78	3.3	e.82	.95
6	1.4	2.7	2.2	e2.3	e3.0	e3.3	3.5	.89	.78	3.3	e.80	.87
7	5.3	2.7	2.1	e2.3	e2.7	e3.5	3.2	.89	.61	3.4	e.80	.60
8	1.5	2.3	2.1	e2.2	e2.3	e4.0	3.7	.96	.56	3.6	e.80	.60
9	1.4	4.0	2.8	e2.2	e2.3	11	4.0	1.2	.47	3.3	e.80	.60
10	1.3	2.0	2.3	e2.1	e2.3	8.6	3.3	1.6	.56	1.6	e.80	.60
11	3.7	1.8	2.3	e2.0	e2.3	e5.6	3.2	1.6	.56	4.7	e.80	.60
12	1.5	1.7	2.7	e2.0	e2.5	e4.2	2.7	1.4	.53	3.9	e.80	.85
13	1.5	1.6	2.5	e2.1	2.5	e3.8	2.2	2.1	.52	1.7	e.80	2.9
14	1.5	1.5	2.3	e2.1	2.6	e3.8	2.1	2.2	.58	2.1	e.80	1.2
15	1.3	1.4	3.7	e2.1	5.2	e3.8	2.9	1.7	.53	1.4	e.82	1.0
16	1.4	1.3	3.0	e2.1	3.9	e3.7	2.9	2.8	.72	1.6	e.90	1.2
17	1.4	1.2	2.6	2.6	3.1	e3.7	2.6	2.4	.89	9.3	e1.3	3.1
18	1.4	2.5	2.5	8.3	3.7	e3.7	2.6	2.3	.89	1.7	e.88	2.3
19	1.3	1.7	2.4	3.7	3.9	e3.6	2.5	8.1	1.0	8.4	e.80	1.6
20	1.3	1.7	6.1	8.2	e4.8	e3.6	2.4	16	1.2	1.6	e.80	7.2
21	1.4	1.7	2.8	4.2	e4.3	e3.6	3.0	8.2	1.3	56	e.80	3.5
22	1.8	1.9	2.6	3.6	3.9	e3.6	2.9	4.0	5.2	3.3	e.86	1.6
23	2.1	2.2	2.6	3.2	5.0	e3.8	3.5	3.0	8.1	3.6	e1.3	5.7
24	1.4	2.3	2.4	3.1	3.7	e4.0	3.1	2.4	2.0	4.4	e1.9	1.8
25	2.6	2.5	2.4	3.1	3.3	e5.0	2.7	2.3	3.0	1.2	e1.8	1.7
26	1.6	2.2	2.4	3.1	3.3	17	2.5	2.3	2.9	11	e1.0	1.7
27	2.5	2.0	2.3	e3.1	3.1	9.6	5.4	2.3	2.2	2.3	e.82	1.7
28	6.0	2.0	2.3	e3.1	e3.1	6.9	3.6	2.6	2.8	1.5	e2.6	1.7
29	1.9	9.9	2.3	e3.0	e3.1	6.5	3.9	1.9	3.5	1.3	e2.1	2.2
30	1.6	7.7	2.3	e3.3	---	6.4	1.7	1.8	5.6	e1.2	e1.8	2.1
31	1.5	---	2.3	4.9	---	6.1	---	1.3	---	e1.1	e1.0	---
TOTAL	59.2	73.3	80.0	95.5	98.4	158.0	104.6	84.72	53.68	156.3	33.16	55.09
MEAN	1.91	2.44	2.58	3.08	3.39	5.10	3.49	2.73	1.79	5.04	1.07	1.84
MAX	6.0	9.9	6.1	8.3	5.2	17	8.8	16	8.1	56	2.6	7.2
MIN	1.3	1.2	2.1	2.0	2.3	3.1	1.7	.89	.47	1.1	.80	.60
CFSM	.66	.84	.89	1.06	1.17	1.76	1.20	.94	.62	1.74	.37	.63
IN.	.76	.94	1.03	1.23	1.26	2.03	1.34	1.09	.69	2.00	.43	.71

CAL YR	1987	TOTAL	825.76	MEAN	2.26	MAX	19	MIN	.25	CFSM	.78	IN. 10.59
WTR YR	1988	TOTAL	1051.95	MEAN	2.87	MAX	56	MIN	.47	CFSM	.99	IN. 13.49

e Estimated

04246000 ONEIDA LAKE AT BREWERTON, NY

LOCATION.--Lat 43°14'25", long 76°08'30", Onondaga County, Hydrologic Unit 04140202, at west end of Oneida Lake, 100 ft west of bridge on U.S. Highway 11, at Brewerton.

DRAINAGE AREA.--1,382 mi^2, at dam at Caughdenoy.

PERIOD OF RECORD.--November 1951 to current year. April 1904 to September 1925 in reports of State Engineer and Surveyor, published as "Oneida River at Brewerton."

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (1.01 ft Barge Canal datum). November 1951 to September 1975, at datum 360.99 ft higher.

REMARKS.--Lake elevation regulated by taintor-gate dam on Oneida River at Caughdenoy and gates on Oneida Canal and Erie (Barge) Canal. Lake volume at elevation 369 ft NGVD, 1.135 million acre-ft. Area of water surface, 79.8 mi^2; axes, 20.9 mi by 5.5 mi; shoreline length, 54.7 mi.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 372.83 ft June 26, 1972; minimum daily, 366.12 ft Feb. 11, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1936, reached a water surface elevation of 373.5 ft, from Corps of Engineers report "Flood Plain Information, Oneida Creek, New York."

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 370.33 ft July 14, result of surge; minimum, 366.96 ft Mar. 7.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	369.41	369.63	369.40	367.88	367.15	367.14	368.69	369.98	369.86	369.82	369.86	369.99
2	369.43	369.62	369.44	367.84	367.24	367.13	368.71	370.08	369.86	369.85	369.84	369.97
3	369.30	369.52	369.52	367.80	367.35	367.09	368.80	370.11	369.88	369.89	369.81	369.96
4	369.15	369.45	369.45	367.73	367.42	367.07	368.88	370.15	369.83	369.92	369.77	370.04
5	369.24	369.23	369.34	367.66	367.44	367.05	369.12	370.17	369.70	369.92	369.76	369.80
6	369.30	369.24	369.22	367.63	367.42	367.04	369.44	370.09	369.78	369.92	369.71	369.80
7	369.34	369.33	369.19	367.59	367.42	367.00	369.41	370.02	369.78	369.92	369.65	369.76
8	369.33	369.40	369.15	367.55	367.39	367.01	369.33	370.02	369.79	369.91	369.65	369.79
9	369.47	369.36	369.01	367.47	367.38	367.03	369.35	369.98	369.75	369.92	369.69	369.75
10	369.45	369.40	368.88	367.43	367.35	367.08	369.33	369.94	369.75	369.91	369.64	369.64
11	369.52	369.44	368.87	367.38	367.34	367.17	369.29	369.81	369.74	369.92	369.65	369.60
12	369.57	369.40	368.83	367.34	367.33	367.26	369.27	369.82	369.76	369.92	369.64	369.62
13	369.56	369.40	368.66	367.27	367.30	367.29	369.21	369.72	369.77	369.94	369.65	369.50
14	369.59	369.33	368.65	367.24	367.31	367.34	369.17	369.72	369.80	369.95	369.64	369.50
15	369.57	369.33	368.89	367.20	367.31	367.37	369.00	369.75	369.79	370.00	369.51	369.53
16	369.57	369.33	368.50	367.16	367.27	367.39	368.90	369.71	369.77	370.02	369.57	369.58
17	369.56	369.23	368.52	367.12	367.26	367.41	368.91	369.69	369.76	370.04	369.61	369.62
18	369.47	369.04	368.48	367.11	367.24	367.43	368.79	369.75	369.79	370.06	369.58	369.56
19	369.48	369.14	368.40	367.12	367.24	367.43	368.89	369.84	369.80	370.02	369.59	369.60
20	369.49	369.08	368.43	367.20	367.22	367.40	368.93	369.91	369.76	369.98	369.58	369.64
21	369.37	369.09	368.29	367.23	367.21	367.40	368.94	369.98	369.77	370.06	369.53	369.57
22	369.40	369.13	368.36	367.28	367.24	367.38	369.03	370.03	369.79	370.02	369.54	369.64
23	369.42	369.19	368.30	367.30	367.21	367.38	369.27	370.01	369.81	370.01	369.64	369.67
24	369.42	369.06	368.36	367.29	367.23	367.35	369.02	369.86	369.88	369.95	369.83	369.72
25	369.22	369.17	368.22	367.26	367.23	367.42	369.19	369.72	369.90	369.88	369.63	369.78
26	369.43	369.04	368.20	367.25	367.23	367.64	369.36	369.74	369.76	369.94	369.65	369.77
27	369.47	369.17	368.14	367.24	367.22	367.95	369.44	369.81	369.83	369.98	369.71	369.81
28	369.44	369.25	368.20	367.20	367.19	368.24	369.56	369.83	369.85	369.98	369.78	369.75
29	369.57	369.41	368.10	367.18	367.17	368.44	369.72	369.84	369.83	369.96	369.90	369.78
30	369.63	369.25	368.01	367.15	---	368.50	369.84	369.84	369.76	369.91	369.97	369.73
31	369.61	---	367.99	367.12	---	368.58	---	369.82	---	369.87	369.98	---
MEAN	369.44	369.29	368.68	367.36	367.29	367.43	369.16	369.89	369.80	369.95	369.70	369.72
MAX	369.63	369.63	369.52	367.88	367.44	368.58	369.84	370.17	369.90	370.06	369.98	370.04
MIN	369.15	369.04	367.99	367.11	367.15	367.00	368.69	369.69	369.70	369.82	369.51	369.50

CAL YR	1987	MEAN	369.05	MAX	370.20	MIN	366.86
WTR YR	1988	MEAN	368.98	MAX	370.17	MIN	367.00

04246500 ONEIDA RIVER AT CAUGHDENOY, NY

LOCATION.--Lat 43°14'49", long 76°10'12", Oswego County, Hydrologic Unit 04140202, on left bank at point of diversion to New York State Erie (Barge) Canal, 1.6 mi downstream from Oneida Lake, and 2.6 mi upstream from navigation dam at Caughdenoy.

DRAINAGE AREA.--1,382 mi^2; 1902–9, 1,439 mi^2.

PERIOD OF RECORD.--September 1902 to December 1909 (published as "near Euclid"), January 1910 to December 1912, and October 1947 to current year in reports of Geological Survey. September 1902 to December 1909 and January 1910 to September 1925 in reports of State Engineer and Surveyor.

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Base gage: Water-stage recorder. Datum of gage is 360.98 ft above National Geodetic Vertical Datum of 1929 (362.00 ft Barge Canal datum). Prior to June 5, 1907, headwater readings, and June 5, 1907 to Dec. 31, 1909, nonrecording gage readings at former Oak Orchard State Dam 5.5 mi downstream at different datum. Jan. 1, 1910 to Dec. 31, 1912, nonrecording gage at site 2.5 mi downstream from present site at different datum. From Oct. 9, 1947 to Nov. 7, 1951, water-stage recorder at site 2.5 mi downstream at present datum.

Auxiliary gage: Water-stage recorder at site 2.5 mi downstream, 350 ft upstream from navigation dam at present datum (base gage site 1947–51).

Supplementary gage: Water-stage recorder at site 2.6 mi downstream, 180 ft downstream from navigation dam at present datum.

REMARKS.--No estimated daily discharges. Records fair. Jan. 1, 1910 to Dec. 31, 1912: Flow over dam computed on basis of coefficient determined for model of dam of same general type; flow through gate and diversion through lock culverts estimated by theoretical calculations.

1947 to current year: Record represents total discharge at Caughdenoy, including flow in Oneida and Erie (Barge) Canals. Considerable seasonal regulation by operation of gates in Oneida and Erie (Barge) Canals with a large amount of natural storage in Oneida Lake. Occasional large diurnal fluctuations caused by seiche in Oneida Lake. Water may be diverted into or received from Mohawk River basin through summit level of Erie (Barge) Canal between New London and Utica. Nearly all of flow from 14 mi^2 of Tioughnioga River basin may be diverted into De Ruyter Reservoir, in Oswego River basin. Several measurements of water temperature were made during the year.

COOPERATION.--Records of gate openings, lockages, and elevations of water surface in Erie (Barge) Canal above and below Lock 23, furnished by New York State Department of Transportation.

AVERAGE DISCHARGE.--51 years (water years 1903–12, 1948–88), 2,533 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 13,800 ft^3/s Mar. 25–27, 1903; minimum daily, 52 ft^3/s Oct.24, 1910.

1947 to current year: Maximum daily discharge, 10,100 ft^3/s June 25, 1972; minimum daily, 62 ft^3/s July 29, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,900 ft^3/s Apr. 6; minimum daily, 139 ft^3/s Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2440	2220	2140	2670	1780	1770	3670	282	552	249	1160	1060
2	2420	2750	2140	2610	1870	1770	3710	987	562	277	1170	1060
3	2420	3090	3640	2560	2000	1720	3830	1450	565	273	1180	1050
4	2410	3080	4550	2470	2070	1700	3960	1470	576	253	896	1100
5	1030	3010	4440	2380	2110	1680	4360	2370	579	237	710	1050
6	198	3010	4330	2320	2080	1670	4900	2850	557	235	713	1050
7	210	3040	4290	2260	2090	1630	4850	2790	547	262	704	1030
8	139	3040	4310	2210	2060	1650	4710	2700	542	274	425	1020
9	617	3040	4240	2140	2040	1660	4750	2650	539	255	248	1010
10	921	3080	4110	2090	2000	1700	4700	2640	431	247	226	1040
11	930	3060	4090	2040	2010	1800	4640	2590	343	248	225	1050
12	926	3050	4030	2000	1990	1900	4600	2600	316	275	235	1010
13	922	3060	3760	1910	1930	1940	4510	2230	343	287	253	524
14	929	3040	3750	1880	1960	1990	4430	1910	258	302	254	220
15	1230	3050	4150	1840	1960	2030	4170	1900	238	279	247	238
16	1420	3040	3530	1790	1910	1990	3990	1500	246	291	240	252
17	1430	2990	3560	1740	1900	1950	4000	1250	316	328	223	235
18	1420	2400	3510	1730	1880	1980	2530	1270	280	1080	233	254
19	1410	2040	3410	1750	1890	1970	1720	1290	247	1630	246	243
20	1420	2150	3450	1840	1860	1940	883	2630	228	1530	238	219
21	1420	2140	3250	1860	1820	1940	296	3120	230	1740	241	235
22	1430	2120	3350	1910	1870	1920	309	3160	247	2460	234	232
23	1430	2110	3250	1950	1840	1940	329	4050	307	2680	240	225
24	1410	2090	3350	1940	1860	1890	372	4560	332	2630	261	213
25	1370	2100	3150	1910	1860	1980	337	3280	312	1590	269	207
26	1370	2090	3140	1890	1860	2250	292	1410	250	666	273	206
27	1390	2100	3060	1870	1860	2660	289	519	250	711	255	502
28	1420	2090	3140	1840	1820	3040	337	542	270	1010	304	678
29	1850	2100	2980	1820	1810	3340	382	551	283	1210	788	687
30	2220	2090	2850	1790	---	3410	278	560	243	1180	1100	673
31	2240	---	2820	1760	---	3520	---	549	---	1160	1070	---
TOTAL	42392	78270	109770	62770	55990	64330	82134	61660	10989	25849	14861	18573
MEAN	1367	2609	3541	2025	1931	2075	2738	1989	366	834	479	619
MAX	2440	3090	4550	2670	2110	3520	4900	4560	579	2680	1180	1100
MIN	139	2040	2140	1730	1780	1630	278	282	228	235	223	206

CAL YR	1987	TOTAL	714124	MEAN	1957	MAX	5480	MIN	139
WTR YR	1988	TOTAL	627588	MEAN	1715	MAX	4900	MIN	139

04248250 OSWEGO RIVER AT LOCK 5, MINETTO, NY

LOCATION.--Lat 43 24'01", long 76 28'25", Oswego County, Hydrologic Unit 04140203, at bridge on Oswego River in Minetto, 0.1 mi upstream of lock 5.

DRAINAGE AREA.--5,097 mi^2.

PERIOD OF RECORD.--April to September 1988.
CHEMICAL DATA: 1988 (b).
MINOR ELEMENT DATA: 1988 (b).
SEDIMENT DATA: 1988 (a).

REMARKS.--Water-discharge data are based on records for station 04249000 Oswego River at Lock 7 Oswego.

COOPERATION.--Water-quality samples were collected by personnel of the New York State Department of Environmental Conservation, but were analyzed by the USGS Central Laboratory at Denver Colorado.

WATER QUALITY DATA, APRIL TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
APR									
04	1600	8200	591	8.10	7.0	--	13.2	200	84
MAY									
02	1200	1520	973	8.00	9.0	--	11.7	290	140
JUN									
06	1030	2250	850	8.00	17.0	758	9.6	250	110
AUG									
02	1330	2970	790	8.03	28.0	756	10.0	190	84

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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
APR									
04	59	12	39	2.0	113	62	75	0.1	317
MAY									
02	88	16	78	3.0	148	87	170	0.2	531
JUN									
06	74	15	68	1.5	137	81	130	0.2	452
AUG									
02	53	14	71	2.5	106	82	130	0.1	416

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)	SEDI-MENT, SUS-PENDED (MG/L)
APR									
04	<1	13	400	76	50	<0.1	3	20	14
MAY									
02	1	10	460	<5	80	<0.1	2	20	--
JUN									
06	<1	7	280	6	70	<0.1	9	10	--
AUG									
02	<1	6	710	33	90	<0.1	1	10	--

04249000 OSWEGO RIVER AT LOCK 7, OSWEGO, NY

(National stream-quality accounting network station)

LOCATION.--Lat 43°27'06", long 76°30'20", Oswego County, Hydrologic Unit 04140203, on right bank at New York State Barge Canal (Oswego Canal) Lock 7 in Oswego, 0.8 mi upstream from mouth. Water-quality sampling site at discharge station.

DRAINAGE AREA.--5,100 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1900 to April 1906, October 1933 to current year. Monthly discharge only for some periods, published in WSP 1307. Prior to January 1904, published as "above Minetto" or "near Minetto." January 1904 to April 1906, published as "at Battle Island." Records for April 1897 to September 1900, published in WSP 65 and for October 1927 to September 1928, published in WSP 644, have been found to be unreliable and should not be used.

REVISED RECORDS.--WDR NY 78–1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 245.12 ft above National Geodetic Vertical Datum of 1929. Prior to 1933, nonrecording gage at site about 6 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Prior to 1933 and subsequent to 1972, flow in Oswego (Barge) Canal not included. A large amount of natural storage and some artificial regulation is afforded by the many large lakes and the Erie (Barge) and Oswego (Barge) Canal systems in the river basin. Large diurnal fluctuations at low and medium flow caused by powerplants upstream from station. Oswego River basin receives water from Erie (Barge) Canal through Lock 32 near Pittsford. Water may be diverted into or received from Mohawk River basin through Erie (Barge) Canal between New London and Utica. During part of year, entire flow from 45.5 mi^2 of Mud Creek drainage area may be diverted from Chemung River basin into Keuka Lake in Oswego River basin. Nearly all of flow from 14 mi^2 of the Tioughnioga River basin may be diverted into De Ruyter Reservoir, in Oswego River basin. Gage-height telemeter at station.

COOPERATION.--Records of lockages at Lock 7 furnished by New York State Department of Transportation, record of elevations of Lake Ontario by Corps of Engineers, daily discharge records for Oswego River High Dam upstream by Niagara Mohawk Power Corp.

AVERAGE DISCHARGE.--55 years (1933–1988), 6,640 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,500 ft^3/s Mar. 28, 1936, includes daily mean discharge of canals; maximum gage height, 13.46 ft Apr. 10, 1940; minimum discharge (river only), 30 ft^3/s Nov. 6, 1944; minimum daily, 261 ft^3/s Sept. 18, 1985; minimum gage height, 0.97 ft Aug. 24, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 12,200 ft^3/s May 24; maximum gage height, 7.41 ft May 24; minimum daily discharge, 494 ft^3/s Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4280	6330	8120	6900	3880	6050	7650	2920	1690	947	2600	2070
2	4310	5320	7930	6480	4690	5270	7420	1470	2450	778	2310	1840
3	4860	6800	7970	7150	5070	4320	7430	1550	2130	1330	2630	1400
4	4950	7460	9720	6850	5600	4770	8060	2930	2080	1130	2850	1890
5	4120	7290	9370	5830	5050	4310	8740	3070	2640	1160	2710	2400
6	1200	7130	9070	5980	4920	4670	9920	4600	2550	657	2260	2410
7	3560	6680	9010	6610	4910	4540	10600	4310	1800	1220	2060	2020
8	2640	7230	8980	6150	4110	4200	10900	4290	1190	1400	2160	1650
9	2660	7760	9090	5560	4000	4810	10400	4690	1470	870	1920	1470
10	2680	7840	9150	5350	3770	5920	10600	3860	1380	925	1280	1260
11	2720	7310	9420	5450	3790	7090	9920	3770	1060	1100	839	2250
12	3320	7230	9220	5260	3850	6420	8980	3720	1020	1100	494	2600
13	3120	6070	9230	5440	3830	6380	8410	3540	606	1340	922	1180
14	3100	6020	9060	5420	3890	6440	7490	2740	502	1470	1060	746
15	3080	5760	9020	3290	4310	6330	9060	2910	758	1580	849	952
16	3780	5480	9140	3090	4670	4440	8470	3190	1060	598	1540	937
17	3530	5760	8960	4030	4370	5220	8130	2810	1600	981	666	1000
18	3470	4870	8960	3670	5320	5070	5060	2930	1360	1200	730	1070
19	2860	2850	8880	4940	5460	4160	2800	3090	1050	2830	968	1270
20	2680	3720	8950	6630	5390	4240	4080	6520	828	3980	871	1090
21	2800	4300	9450	6610	4730	4220	1940	9230	1170	2910	520	927
22	3340	3460	9330	7310	5740	4160	1190	10400	970	3280	1050	1320
23	4090	3190	9390	8600	6450	2910	1370	10700	1630	3280	895	1140
24	3110	3300	10200	7920	7160	3590	2280	12200	2010	5250	1250	750
25	3720	3950	9820	4350	7190	5570	2590	10100	981	5870	1050	888
26	3200	4700	9090	3060	7420	7330	2490	6860	1060	1480	1600	891
27	3480	4090	9010	3670	7130	7920	1510	3930	1340	1730	1080	899
28	4060	3550	7870	3760	6810	9450	1260	2690	1200	2740	1170	955
29	4460	4100	6510	3570	6190	10600	3470	3130	1480	3610	1800	1110
30	5020	7640	5930	3920	---	9450	4210	3060	828	3510	3080	1130
31	6320	---	6560	3980	---	7970	---	2780	---	3440	2690	---
TOTAL	110520	167190	272410	166830	149700	177820	186430	143990	41893	63696	47904	41515
MEAN	3565	5573	8787	5382	5162	5736	6214	4645	1396	2055	1545	1384
MAX	6320	7840	10200	8600	7420	10600	10900	12200	2640	5870	3080	2600
MIN	1200	2850	5930	3060	3770	2910	1190	1470	502	598	494	746

CAL	YR	1987	TOTAL 1889895	MEAN	5178	MAX	14800	MIN	853
WTR	YR	1988	TOTAL 1569898	MEAN	4289	MAX	12200	MIN	494

04249000 OSWEGO RIVER AT LOCK 7, OSWEGO, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1964-66, 1971 to current year.
CHEMICAL DATA: 1957 (a), 1958-60 (a) unpublished, 1984 (b), 1965 (c), 1966 (a), 1971-72 (a), 1974 (a), 1975 (c), 1976-81 (d), 1982 (c), 1983-88 (b).
MINOR ELEMENTS DATA: 1971-73 (a), 1975 (b), 1976 (a), 1977-88 (b).
ORGANIC DATA: OC--1975 (b), 1978-81 (d).
NUTRIENT DATA: 1971 (a), 1974 (a), 1975 (c), 1976-81 (d), 1982 (c), 1983-88 (b).
BIOLOGICAL DATA:
Bacteria--1974 (a), 1975 (c), 1976-81 (d), 1982 (c), 1983-88 (b).
Phytoplankton--1974 (a), 1975 (c), 1976 (d), 1977-81 (c).
Periphyton--1975-80 (a).
SEDIMENT DATA: 1974 (a), 1975 (c), 1976 (d), 1977 (b), 1978-79 (c), 1980-81 (d), 1982 (c), 1983-88 (b).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: September 1975 to September 1981.
WATER TEMPERATURES: July 1975 to September 1981

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (Water years 1975-78, 1981): Maximum recorded, 2,290 microsiemens Oct. 25, 1980; minimum recorded, 430 microsiemens Apr. 19, 1976.

WATER TEMPERATURES (Water years 1975-78, 1981): Minimun, 0.0 C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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											
03	0900	6510	761	7.90	9.5	5.9	762	10.6	93	6500	130
MAR											
09	0900	4660	734	7.93	3.0	1.9	752	13.3	100	K14000	280
JUN											
22	0900	1770	919	7.43	23.0	2.4	753	6.0	71	K500	62
AUG											
23	0900	270	927	7.74	22.5	8.0	764	5.0	58	110	--

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOT FET FIELD 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)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV											
03	240	120	71	14	62	2.9	116	76	120	0.1	1.1
MAR											
09	240	100	71	15	60	2.7	138	72	100	0.2	1.4
JUN											
22	270	140	81	16	77	2.9	129	79	150	0.4	0.27
AUG											
23	230	110	68	15	90	3.0	122	86	170	0.2	0.23

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

04249000 OSWEGO RIVER AT LOCK 7, OSWEGO, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV										
03	427	419	0.36	0.23	0.23	0.02	0.7	0.04	0.03	0.02
MAR										
09	432	423	0.73	0.31	0.31	0.02	0.9	0.03	0.02	<0.01
JUN										
22	524	488	0.65	0.17	0.16	0.06	1.4	0.09	0.03	0.01
AUG										
23	521	506	0.23	0.10	0.12	0.02	1.4	0.10	0.04	0.01

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										
03	<10	<1	49	<0.5	<1	<1	<3	1	10	<5
MAR										
09	<10	<1	46	<0.5	<1	<1	<3	4	11	<5
JUN										
22	<10	<1	48	<0.5	1	<1	<3	1	14	<5
AUG										
23	<10	<1	49	<0.5	<1	<1	<3	3	12	<5

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										
03	12	4	<0.1	<10	4	<1	<1.0	720	<6	<3
MAR										
09	13	16	<0.1	<10	<1	<1	<1.0	700	<6	5
JUN										
22	18	9	<0.1	<10	2	<1	<1.0	870	<6	10
AUG										
23	21	21	--	<10	1	<1	1.0	810	<6	<3

04249000 OSWEGO RIVER AT LOCK 7, OSWEGO, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)
NOV								
03.....	0905	30	11.7	3.0	761	7.90	9.5	10.6
03.....	0910	30	11.7	7.0	765	7.92	9.5	10.4
03.....	0915	100	12.9	3.0	764	7.91	9.5	10.7
03.....	0920	100	12.9	8.0	764	7.91	9.5	10.6
03.....	0925	200	12.0	3.0	771	7.87	9.5	10.6
03.....	0930	200	12.0	7.0	767	7.89	9.5	10.2
03.....	0935	300	5.1	3.0	770	7.92	9.5	10.3
MAR								
09.....	0905	30	11.0	3.0	734	7.93	3.0	13.3
09.....	0910	30	11.0	7.0	735	7.92	3.0	13.4
09.....	0915	100	12.1	3.0	733	7.94	3.0	13.4
09.....	0920	100	12.1	8.0	736	7.95	3.0	13.2
09.....	0925	200	11.2	3.0	734	7.94	3.0	13.3
09.....	0930	200	11.2	7.0	734	7.92	3.0	13.3
09.....	0935	300	4.2	3.0	737	7.96	3.0	13.4
JUN								
22.....	0905	30	9.7	3.0	919	7.43	23.0	6.0
22.....	0910	30	9.7	7.0	920	7.42	23.0	6.1
22.....	0915	100	10.8	3.0	922	7.40	23.0	5.9
22.....	0920	100	10.8	7.0	920	7.45	23.0	6.0
22.....	0925	200	10.0	3.0	921	7.42	23.0	6.2
22.....	0930	200	10.0	7.0	916	7.43	23.0	6.1
22.....	0935	300	2.9	1.0	918	7.40	23.5	6.0
AUG								
23.....	0905	30	1.5	1.0	927	--	22.0	6.0
23.....	0910	65	1.3	1.0	927	--	22.0	6.0
23.....	0915	100	1.7	1.0	926	--	21.5	6.5
23.....	0920	150	2.0	1.0	923	--	21.5	6.0
23.....	0925	200	2.5	1.0	928	--	22.0	6.0
23.....	0930	250	2.0	1.0	926	--	22.5	5.5
23.....	0935	300	1.0	1.0	927	--	22.5	5.0

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV					
03.....	0900	6510	15	264	90
MAR					
09.....	0900	4660	3	38	95
JUN					
22.....	0900	1770	6	29	83

04224000 MOUNT MORRIS LAKE NEAR MOUNT MORRIS, NY (see station for daily mean elevation, skeleton capacity table, monthly contents, and change in contents).

04227980 CONESUS LAKE NEAR LAKEVILLE, NY (see station for daily mean elevation).

04228845 HONEOYE LAKE NEAR HONEOYE, NY (see station for daily mean elevation).

04232400 SENECA LAKE AT WATKINS GLEN, NY (see station for daily mean elevation).

04232450 KEUKA INLET (KEUKA LAKE) AT HAMMONDSPORT, NY (see station for daily mean elevation).

04233500 CAYUGA INLET (CAYUGA LAKE) AT ITHACA, NY (see station for daily mean elevation).

04234500 CANANDAIGUA LAKE AT CANANDAIGUA, NY (see station for daily mean elevation).

04235396 OWASCO LAKE NEAR AUBURN, NY (see station for daily elevation).

04236000 SKANEATELES LAKE AT SKANEATELES, NY (see station for daily elevation).

04238500 ONONDAGA RESERVOIR NEAR NEDROW, NY (see station for daily mean elevation, skeleton capacity table, monthly contents, and change in contents).

04240495 ONONDAGA LAKE AT LIVERPOOL, NY (see station for daily mean elevation).

04246000 ONEIDA LAKE AT BREWERTON, NY (see station for daily mean elevation).

04249010 LAKE ONTARIO AT OSWEGO, NY

LOCATION.--Lat 43°27'51", long 76°30'42" Oswego County, Hydrologic Unit 04150200, in southwest corner of Port of Oswego Authority building at mouth of Oswego River at Oswego.

DRAINAGE AREA.--295,800 mi^2.

PERIOD OF RECORD.--January 1860 to current year. Records prior to October 1960 in files of Lake Survey Center.

GAGE.--Water-stage recorder. Elevations are in feet International Great Lakes Datum (IGLD) of 1955. Prior to Jan. 1, 1933, nonrecording gages.

COOPERATION.--Records furnished by U.S. Department of Commerce, NOAA-NOS, Lake Survey Center, Detroit, Mich.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 248.96 ft June 6, 1952; minimum observed, 240.94 ft Dec. 23, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 246.04 ft June 22; minimum, 243.11 ft Nov. 17.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	244.27	243.72	243.95	244.26	244.10	244.24	244.37	244.91	245.39	245.28	245.13	244.68
2	244.18	243.67	244.04	244.12	244.13	244.18	244.36	244.93	245.36	245.23	245.07	244.66
3	244.28	243.71	243.94	243.97	244.07	244.21	244.38	244.93	245.35	245.17	245.05	244.63
4	244.30	243.73	244.00	244.18	244.22	244.23	244.52	244.92	245.34	245.14	245.04	244.58
5	244.12	243.99	244.06	244.38	244.18	244.21	244.55	244.93	245.40	245.12	245.00	244.75
6	244.05	243.90	244.06	244.15	244.32	244.14	244.50	244.97	245.35	245.10	245.02	244.73
7	244.14	243.79	243.94	243.96	244.15	244.17	244.62	245.02	245.35	245.09	245.08	244.70
8	244.25	243.69	243.90	243.92	244.19	244.08	244.72	244.95	245.34	245.07	245.08	244.56
9	244.07	243.79	243.90	244.05	244.15	244.12	244.71	244.93	245.34	245.05	244.99	244.56
10	244.14	243.77	243.99	243.96	244.22	244.24	244.67	245.00	245.33	245.05	245.01	244.60
11	244.07	243.72	243.92	243.90	244.03	244.18	244.71	245.07	245.31	245.04	244.99	244.59
12	244.01	243.74	243.96	243.82	244.18	244.05	244.69	245.02	245.27	245.07	244.98	244.49
13	244.00	243.69	244.13	244.16	244.50	244.16	244.67	245.06	245.26	245.02	244.93	244.61
14	243.93	243.72	244.03	243.97	244.16	244.18	244.68	245.09	245.26	245.05	244.92	244.58
15	243.92	243.64	243.85	243.87	244.16	244.24	244.75	245.07	245.24	245.05	245.15	244.49
16	243.88	243.59	244.19	243.83	244.27	244.26	244.81	245.10	245.27	245.04	245.14	244.41
17	243.85	243.54	244.17	243.88	244.20	244.20	244.72	245.17	245.28	245.15	245.06	244.38
18	243.90	243.79	244.09	243.96	244.19	244.13	244.81	245.16	245.24	245.15	244.97	244.43
19	243.86	243.72	244.07	243.94	244.11	244.16	244.78	245.16	245.18	245.14	244.90	244.36
20	243.84	243.82	244.05	243.85	244.30	244.27	244.75	245.22	245.22	245.13	244.83	244.39
21	243.91	243.87	244.25	244.10	244.41	244.16	244.82	245.25	245.21	245.09	244.77	244.51
22	243.85	243.68	244.09	244.02	244.11	244.07	244.80	245.27	245.31	245.04	244.64	244.43
23	243.82	243.53	244.18	243.99	244.28	243.97	244.71	245.27	245.33	245.05	244.52	244.52
24	243.82	243.65	244.05	243.98	244.30	244.09	244.89	245.33	245.26	245.07	244.56	244.45
25	243.98	243.62	244.18	244.05	244.31	244.05	244.83	245.40	245.25	245.08	244.64	244.38
26	243.79	243.75	244.18	244.10	244.22	244.15	244.80	245.33	245.32	245.06	244.72	244.38
27	243.70	243.64	244.21	244.08	244.23	244.34	244.80	245.34	245.28	245.08	244.65	244.31
28	243.82	243.61	244.09	244.12	244.21	244.34	244.85	245.35	245.28	245.08	244.71	244.32
29	243.79	243.69	244.22	243.98	244.30	244.25	244.93	245.35	245.27	245.07	244.74	244.18
30	243.76	243.89	244.11	243.99	---	244.32	244.94	245.35	245.32	245.11	244.73	244.18
31	243.78	---	244.00	244.00	---	244.36	---	245.38	---	245.14	244.71	---
MEAN	243.97	243.72	244.06	244.02	244.21	244.19	244.70	245.14	245.30	245.10	244.89	244.49
MAX	244.30	243.99	244.25	244.38	244.50	244.36	244.94	245.40	245.40	245.28	245.15	244.75
MIN	243.70	243.53	243.85	243.82	244.03	243.97	244.36	244.91	245.18	245.02	244.52	244.18

CAL YR	1987	MEAN	245.04	MAX	246.38	MIN	243.53
WTR YR	1988	MEAN	244.48	MAX	245.40	MIN	243.53

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in the following 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 second table.

Crest-stage partial-record stations

The following table contains annual maximum stage and discharge 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 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Susquehanna River basin					
01497805	Little Elk Creek near Westford, NY	Lat 42°38'01", long 74°47'45", Otsego County, Hydrologic Unit 02050101, at culvert on Greenbush Road, 1.2 mi south of Westford, and 2.2 mi upstream from mouth.	3.73	1978-88	3-26-88	15.56	59
01498620	Susquehanna River southwest of Oneonta, NY	Lat 42°26'24", long 75°06'01", Otsego County, Hydrologic Unit 02050101, on right bank at the downstream side of bridge on County Highway 48B, at Oneonta, and 1.7 mi upstream from Otego Creek.	678	1988	3-26-88	6.93	5,700
01502632	Susquehanna River at Bainbridge, NY	Lat 42°17'29", long 75°28'36", Chenango County, Hydrologic Unit 02050101, on right bank at the downstream side of bridge on State highway 206 over the Susquehanna River, at Bainbridge.	1,610	1988	2-10-88 3-27-88	17.85 12.58	a 16,600
01502701	Susquehanna River at Afton, NY	Lat 42°13'38", long 75°31'27", Chenango County, Hydrologic Unit 02050101, on right bank at the downstream side of bridge on State Highway 41, 0.1 mi southeast of Afton and intersection of State Highways 7 and 41, and 0.2 mi downstream from Kelsey Brook.	1,716	1972,77, 1979-88	2- 2-88 3-27-88	10.44 10.40	a 16,300
01502731	Susquehanna River at Windsor, NY	Lat 42°04'28", long 75°38'17", Broome County, Hydrologic Unit 02050101, on right bank at downstream side of bridge on County Highway 315 over the Susquehanna River, at Windsor.	1,820	1988	2- 2-88 3-27-88	16.27 12.16	a 16,700
01503495	Susquehanna River at Binghamton, NY	Lat 42°06'03", long 75°55'51", Broome County, Hydrologic Unit 02050101, on right bank at the upstream side of bridge on State Highway 7 over the Susquehanna River, at Binghamton.	2,265	1988	5-20-88	7.45	25,100

‡ Operated as a continuous-record gaging station.
a Ice jam

Annual maximum discharge at crest-stage partial-record stations during water year 1988--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Susquehanna River basin--Continued					
01503980	Chenango River at Eaton, NY	Lat 42°51'02", long 75°36'21", Madison County, Hydrologic Unit 02050102, at bridge on Landon Road at Eaton, 0.1 mi upstream from Eaton Brook, and 0.1 mi downstream from State Highway 26.	24.3	1964-65, 1967-88	3-26-88	6.92	560
01507000	Chenango River at Greene, NY	Lat 42°19'28", long 75°46'18", Chenango County, Hydrologic Unit 02050102, on left bank 1,700 ft downstream from bridge on State Highway 206 at Greene, and 0.6 mi downstream from Birdsall Creek.	593	1937-70‡, 1971-88	3-26-88	10.50	6,220
01508803	West Branch Tioughnioga River at Homer, NY	Lat 42°38'18", long 76°10'36", Cortland County, Hydrologic Unit 02050102, on left bank at downstream side of bridge on Wall Street at Homer and 3.4 mi upstream from confluence with East Branch.	71.5	1967-68‡, 1973-86‡, 1987-88	3-26-88	5.24	859
01509520	Tioughnioga River at Lisle, NY	Lat 42°20'58", long 75°59'58", Broome County, Hydrologic Unit 02050102, on left bank 50 ft downstream from bridge on State Highway 79, at Lisle, and 2.3 mi upstream from Otselic River.	470	1988	3-27-88	6.16	6,840
01510610	Merrill Creek tributary near Texas Valley, NY	Lat 42°28'03", long 75°59'19", Cortland County, Hydrologic Unit 02050102, at bridge on town road, 0.3 mi upstream from mouth, and 1.4 mi southwest of Texas Valley.	5.32	1976-81, 1983-88	3-26-88	1.06	278
01511500	Tioughnioga River at Itaska, NY	Lat 42°17'53", long 75°54'33", Broome County, Hydrologic Unit 02050102, on right bank at Itaska, 3.8 mi downstream from Otselic River and village of Whitney Point, and 6 mi upstream from mouth.	730	1930-67‡, 1968-88	3-26-88	6.82	7,660
01513500	Susquehanna River at Vestal, NY	Lat 42°05'27", long 76°03'23", Broome County, Hydrologic Unit 02050103, on left bank 400 ft downstream from highway bridge, at Vestal, and 800 ft upstream from Choconut Creek.	3,941	1936, 1937-67‡, 1968-72, 1974-88	5-20-88	16.41	36,600
01513831	Susquehanna River at Owego, NY	Lat 42°06'05", long 76°15'41", Tioga County, Hydrologic Unit 02050103, on left bank at the upstream side of bridge on State Highway 96 over the Susquehanna River, at Owego.	4,216	1988	3-28-88	25.96	44,100

‡ Operated as a continuous-record gaging station.
a Ice jam.

Annual maximum discharge at crest-stage partial-record stations during water year 1988--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Susquehanna River basin--Continued					
01514000	Owego Creek near Owego, NY	Lat 42°07'45", long 76°16'15", Tioga County, Hydrologic Unit 02050103, on right bank of right channel 300 ft upstream from bridge on State Highway 96, 0.5 mi upstream from Catatonk Creek, and 1.5 mi north of Owego.	185	1930-78‡, 1979-88	5-20-88	5.78	3,450
01514801	Catatonk Creek near Owego, NY	Lat 42°08'18", long 76°17'23", Tioga County, Hydrologic Unit 02050103, on right bank 0.4 mi downstream from bridge on County Highway 23, 1.2 mi upstream from mouth, and 1.4 mi north of Owego.	151	1988	12-23-87	7.96	2,170
01521596	Big Creek near Howard, NY	Lat 42°22'01", long 77°34'33", Steuben County, Hydrologic Unit 02050104, at culvert on town road, 0.1 mi south of State Highway 70, 1.3 mi north of Butch Corner, 3.4 mi west of Howard,and 6.2 mi upstream from mouth.	6.32	1977-88	9-13-87R 7-21-88	16.04R 14.64	580R 176
01525500	Canisteo River at West Cameron, NY	Lat 42°13'20", long 77°25'05", Steuben County, Hydrologic Unit 02050104, on right bank 250 ft downstream from bridge on County Highway 119, 0.3 mi southeast of West Cameron, and 1.7 mi north of Cameron.	340	1930-31‡, 1937-70‡, 1971-72, 1974-88	5-19-88	11.41	6,220
01527000	Cohocton River at Cohocton, NY	Lat 42°30'00", long 77°30'02", Steuben County, Hydrologic Unit 02050105, on left bank 450 ft downstream from bridge on U.S. Highway 15 at Cohocton, 800 ft downstream from small tributary, and 1.4 mi upstream from Reynolds Creek.	52.2	1951-81‡, 1982-88	3-26-88	3.76	193
01528320	Cohocton River at Bath, NY	Lat 42°20'36", long 77°20'39", Steunen County, Hydrologic Unit 02050104, on left bank 150 ft upstream from bridge on Veterans Avenue at Bath and 0.6 mi downstream from Harrisburg Hollow Creek.	340	1988	5-19-88	7.71	4,340
01530301	Cuthrie Run near Big Flats, NY	Lat 42°10'43", long 75°55'32", Chemung County, Hydrologic Unit 02050105, at culvert on Breed Hollow Road, 0.9 mi north of intersection of Eacher Hollow Road and Breed Hollow Road, 2.3 mi north of State Highway 17, and 3.0 mi north of Big Flats.	5.39	1976, 1979-81, 1983-88	2- 2-88	13.56	92

‡ Operated as a continuous-record gaging station.
R Revised.

Annual maximum discharge at crest-stage partial-record stations during water year 1988--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Susquehanna River basin--Continued					
01530332	Chemung River at Elmira, NY	Lat 42°05'11", long 76°48'05", Chemung County, Hydrologic Unit 02050105, on right bank 350 ft upstream from bridge on Pennsylvania Avenue at the north end of George Place, at Elmira, and 1.0 mi downstream from Hoffman Brook.	2,170	1988	5-19-88	10.51	23,600
		Allegheny River basin					
03010734	Ischua Creek tributary near Machias, NY	Lat 42°24'28", long 78°33'33", Cattaraugus County, Hydrologic Unit 05010001, at culvert on Very Road, 0.2 mi upstream from mouth, 0.7 mi north of State Highway 242, and 1.5 mi west of Machias.	5.12	1978-81, 1983-88	12-20-87 4- 4-88	8.21 8.47	308 --
03010800	Olean Creek near Olean, NY	Lat 42°07'12", long 78°25'12", Cattaraugus County, Hydrologic Unit 05010001, on right bank at upstream side of highway bridge, 1,000 ft west of State Highway 16, 1.4 mi northeast of Olean, and 4.6 mi upstream from mouth.	198	1958-68‡, 1969-88	3-26-88	6.60	2,460
03011000	Great Valley Creek near Salamanca, NY	Lat 42°10'28", long 78°41'28", Cattaraugus County, Hydrologic Unit 05010001, at bridge on old State Highway 98, 275 ft upstream from bridge on U. S. Highway 219, 1.5 mi northeast of Salamanca, and 2.1 mi upstream from mouth.	137	1951-68‡, 1972, 1977-88	4- 4-88	13.55	3,470
03013800	Ball Creek at Stow, NY	Lat 42°09'13", long 79°24'27", Chautauqua County, Hydrologic Unit 05010002, on left bank 75 ft upstream from bridge on State Highway 394 at Stow, and 0.4 mi upstream from mouth.	9.06	1955-64§, 1965, 1967-68b, 1974‡, 1975-88	4- 4-88	15.80	472
		Streams tributary to Lake Erie					
04213376	Canadaway Creek at Fredonia, NY	Lat 42°27'02", long 79°21'03", Chautauqua County, Hydrologic Unit 04120102, at bridge on Van Buren Road (Matteson Street), 0.8 mi northwest of Fredonia corporate boundary, and 1.2 mi upstream from Beaver Creek.	32.9	1962-63b, 1987-88	4- 4-88	<5.48	c
04213490	South Branch Cattaraugus Creek near Otto, NY	Lat 42°21'54", long 78°48'04", Cattaraugus County, Hydrologic Unit 04120102, at highway bridge, 0.2 mi upstream from Mansfield Creek, 1.7 mi northeast of Otto, and 5.5 mi upstream from mouth.	25.1	1963-88	4- 4-88	<4.78	<690
0421402003	Cattaraugus Creek at Sunset Bay below Irving, NY	Lat 42°33'52", long 79°07'47", Cattaraugus County, Hydrologic Unit 04120102, on left bank at east end of Erie Street in Sunset Bay, at mouth of unnamed tributary, and 0.9 mi west of Irving.	557	1985-88	12-15-87	8.30	d

‡ Operated as a continuous-record gaging station.
§ Operated as a low-flow partial-record station.
b Miscellaneous measurements made.
c Discharge not determined.
d No stage-discharge relationship defined at this site.
< Less than.

Annual maximum discharge at crest-stage partial-record stations during water year 1988--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 Erie--Continued					
0421402004	Cattaraugus Creek at Sunset Bay near Silver Creek, NY	Lat 42°34'05", long 79°08'09", Cattaraugus County, Hydrologic Unit 04120102, on left bank at Sunset Bay, at north end of Allegany Road, and 1.9 mi northeast of Silver Creek.	558	1985-88	12-15-87	8.35	d
		Streams tributary to Niagara River					
04216212	Delaware Park Lake at Buffalo, NY	Lat 42°56'03", long 78°52'28", Erie County, Hydrologic Unit 04120104, on north shore of Delaware Park Lake at downstream side of bridge on Scajaquada Expressway (SH 198), and 1.7 mi upstream from mouth of Scajaquada Creek.	1.14	1985-88	12-15-87	7.29	d
04216214	Scajaquada Creek below Delaware Park Lake at Buffalo, NY	Lat 42°56'15", long 78°53'07", Erie County, Hydrologic Unit 04120104, on left bank, 400 ft east of Grant Street (North) exit from Scajaquada Expressway (SH 198), at Buffalo.	25.7	1985-88	12-15-88	7.21	d
		Streams tributary to Lake Ontario					
04219900	Johnson Creek near Lyndonville, NY	Lat 43°20'21", long 78°20'55", Orleans County, Hydrologic Unit 04130001, at bridge on Woodworth Road, 3.3 mi downstream from dam at Lyndonville, and 4.4 mi upstream from mouth.	87.7	1962-70, 1972-73, 1976-88	12-15-87 2-24-88	4.85 5.97	942 a
04221769	Black Creek at Hyder Flats Road at Black Creek, NY	Lat 42°16'03", long 78°13'38", Allegany County, Hydrologic Unit 04130002, at culvert on Hyder Flats Road, 0.6 mi south of Black Creek, and 11.3 mi upstream from mouth.	10.7	1978-88	7- 2-87 3-26-88	6.05 5.41	150R 150
04224807	Stony Brook tributary at South Dansville, NY	Lat 42°28'16", long 77°40'21", Steuben County, Hydrologic Unit 04130002, at culvert on Willey Road, 0.6 mi upsream from mouth, and 0.9 mi west of South Dansville.	3.15	1977-82, 1984-88	4- 4-88	7.94	28
042320578	Bear Creek at Ontario, NY	Lat 43°13'30", long 77°17'00", Wayne County, Hydrologic Unit 04140101, at culvert on New Street in Ontario, 100 ft west of Furnaceville Road, and 4.0 mi upstream from mouth.	6.74	1971-73, 1975-88	3-10-88	11.52	70

‡ Operated as a continuous-record gaging station.
§ Operated as a low-flow partial-record station.
a Ice jam.
d No stage-discharge relationship defined at this site.
R Revised.
< Less than.

Annual maximum discharge at crest-stage partial-record stations during water year 1988--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--Continued					
04232200	Catharine Creek at Montour Falls, NY	Lat 42°19'42", long 76°50'39", Schuyler County, Hydrologic Unit 04140201, on left bank 12 ft downstream from bridge on Town Road, 0.4 mi south of village line of Montour Falls, and 0.6 mi upstream from diversion channel.	41.1	1957-62§, 1964-66§, 1970§, 1976-77‡, 1987-88	3-26-88	<4.95	< 425
04232460	Sugar Creek at Guyanoga, NY	Lat 42°37'23", long 77°09'30", Yates County, Hydrologic Unit 04140201, at bridge on Sid White Road, 0.4 mi east of Guyanoga, and 2.3 mi upstream from mouth.	28.9	1966-88	3-26-88	2.91	154
04232630	Kendig Creek near MacDougall, NY	Lat 42°50'57", long 76°53'33", Seneca County, Hydrologic Unit 04140201, at downstream side of bridge on County Highway 120, 3.0 mi north of MacDougall, 3.5 mi southwest of Waterloo, and 4.6 mi upstream from mouth.	13.8	1965-68‡, 1969-88	12-20-87	4.85	399
04233255	Cayuga Inlet at Ithaca, NY	Lat 42°25'38", long 76°31'19", Tompkins County, Hydrologic Unit 04140201, on upstream abutment face of flood-control weir, at east end of Burtt Place, south of Ithaca city line, 0.3 mi east of State Highway 13a, 0.9 mi downstream from Buttermilk Creek, and 2.4 mi upstream from mouth.	86.7	1971-72, 1975-88	3-26-88	<7.94	< 1,910
04233258	Coy Glen Creek at Ithaca, NY	Lat 42°25'45", long 76°31'18", Tompkins County, Hydrologic Unit 04140201, on right bank at double drop structure 200 ft upstream from mouth at Ithaca.	3.56	1983-88	3-26-88	18.15	63
04234138	Schaeffer Creek near Canandaigua, NY	Lat 42°54'25", long 72°22'14", Ontario County, Hydrologic Unit 04140201, at culvert on McCann Road, 0.8 mi upstream from Mud Creek, 1.7 mi north of U.S. Highway 20, and 3.2 mi west of Canandaigua.	7.84	1980-88	3-26-88	9.14	68
04234200	Mud Creek at East Victor, NY	Lat 42°58'28", long 77°22'58", Ontario County, Hydrologic Unit 04140201, 25 ft downstream from bridge on State Highway 96 at East Victor, 0.3 mi upstream from Fish Creek, and 0.5 mi upstream from mouth.	64.2	1958-68‡, 1972, 1976-88	3-26-88	4.43	593
04235255	Canandaigua Outlet tributary near Alloway, NY	Lat 43°00'21", long 77°00'54", Ontario County, Hydrologic Unit 04140201, at bridge on Pre-Emption Road, 0.5 mi south of Wayne-Ontario County line, 1.8 mi southwest of Alloway, and 2.9 mi upstream from mouth.	2.94	1978-88	3-26-88	<5.39	< 34

‡ Operated as a continuous-record gaging station.
§ Operated as a low-flow partial-record station.
R Revised.
< Less than.

Annual maximum discharge at crest-stage partial-record stations during water year 1988--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--Continued					
04245000	Limestone Creek at Fayetteville, NY	Lat 43°01'48", long 76°00'49", Onondaga County, Hydrologic Unit 04140202, on left bank, 100 ft downstream from bridge on Genesee Street at Fayetteville, and 8 mi upstream from mouth.	85.5	1940-86‡, 1988	5-20-88	3.89	997
04245840	Scriba Creek near Constantia, NY	Lat 43°15'35" long 76°00'11", Oswego County, Hydrologic Unit 04140202, on right bank, 8 ft upstream from road to Ingersol Road, and about 0.8 mi north of village of Constantia.	38.4	1966-68‡, 1969, 1971-88	3-27-88	5.38	613
04249050	Catfish Creek at New Haven, NY	Lat 43°29'00", long 76°19'34", Oswego County, Hydrologic Unit 04140102, at bridge on State Highway 104B, at New Haven, and 1.4 mi upstream from mouth.	31.7	1962-66, 1968-88	3-26-88	5.01	403

Discharge measurements made at miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Susquehanna River basin				
01496355 Susquehanna River	Atlantic Ocean	Lat 42°40'43", long 74°56'16", Otsego County, Hydrologic Unit 02050101, at bridge on farmer's dirt road, 0.7 mi downstream from Red Creek, and 0.9 mi south of Cooperstown corporate boundary.	90.2	--	8- 9-88 8-11-88	20.3 25.6
0149635650 Susquehanna River	Atlantic Ocean	Lat 42°40'02", long 74°56'45", Otsego County, Hydrologic Unit 02050101, at bridge on road 0.1 mi west of Phoenix Mills and 0.8 mi northwest of Hyde Park.	90.8	--	8- 9-88 8-11-88	21.7 22.9
*01498620 Susquehanna River	Atlantic Ocean	Lat 42°26'24", long 75°06'01", Otsego County, Hydrologic Unit 02050101, on right bank at the downstream side of bridge on County Highway 48B, at Oneonta, and 1.7 mi upstream from Otego Creek.	678	--	4- 8-87 6-10-87 7-14-87 2-23-88 3-27-88 4-27-88 6-14-88 6-29-88 7-26-88 9- 1-88	7,780 265 417 590 5,620 566 224 108 308 545

‡ Operated as a continuous-record gaging station.
* Also a crest-stage partial-record station.

Discharge measurements made at miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Susquehanna River basin--Continued				
*01502632 Susquehanna River	Atlantic Ocean	Lat 42°17'29", long 75°28'36", Chenango County, Hydrologic Unit 02050101, on right bank at the downstream side of bridge on State Highway 206 over the Susquehanna River, at Bainbridge.	1,610	1970-71	7-24-87	572
					8-17-87	421
					10-28-87	4,360
					2-23-88	2,450
					3-27-88	16,600
					4-25-88	2,020
					6-1-88	2,100
					7-19-88	332
					8-18-88	252
*01502701 Susquehanna River	Atlantic Ocean	Lat 42°13'38", long 75°31'27", Chenango County, Hydrologic Unit 02050101, on right bank at the downstream side of bridge on State Highway 41, 0.1 mi southeast of Afton and intersection of State Highways 7 and 41, and 0.2 mi downstream from Kelsey Brook.	1,716	1972, 77, 1979-80, 1982-83, 1985-86	8-4-88	493
					9-7-88	866
*01502731 Susquehanna River	Atlantic Ocean	Lat 42°04'28", long 75°38'17", Broome County, Hydrologic Unit 02050101, on right bank at the downstream side of the bridge on County Highway 315 over the Susquehanna River, at Windsor.	1,820	--	4-22-87	4,290
					6-11-87	846
					7-28-87	716
					10-20-87	1,230
					10-28-87	4,510
					3-27-88	16,700
					4-25-88	2,270
					6-16-88	582
					8-3-88	645
					8-18-88	268
*01503495 Susquehanna River	Atlantic Ocean	Lat 42°06'03", long 75°55'51", Broome County, Hydrologic Unit 02050101, on right bank at the upstream side of bridge on State Highway 7 over the Susquehanna River, at Binghamton.	2,265	--	7-28-87	1,100
					10-29-87	8,050
					3-27-88	18,300
					6-2-88	2,590
					7-25-88	1,300
*01507000 Chenango River	Susquehanna River	Lat 42°19'28", long 75°46'18", Chenango County, Hydrologic Unit 02050102, on left bank 1,700 ft downstream from bridge on State Highway 206, at Greene, and 0.6 mi downstream from Birdsall Creek.	593	1937-1970‡, 1971-79, 1982-83, 1986	8-4-88	128
					8-26-88	95.9
*01509520 Tioughnioga River	Chenango River	Lat 42°20'58", long 75°59'58", Broome County, Hydologic Unit 02050102, on left bank 50 ft downstream from bridge on State Highway 79, at Lisle, and 2.3 mi upstream from Otselic River.	470	--	4-17-87	1,530
					6-5-87	204
					7-7-87	227
					8-14-87	111
					10-8-87	246
					1-18-88	312
					2-2-88	3,530
					3-4-88	374
					3-27-88	6,800
					4-22-88	492
					6-8-88	265
					7-21-88	151
					8-18-88	125

‡ Operated as a continuous-record gaging station.

* Also a crest-stage partial-record station.

Discharge measurements made at miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Susquehanna River basin--Continued				
*01511500 Tioughnioga River	Chenango River	Lat 42°17'53", long 75°54'33", Broome County, Hydrologic Unit 02050102, on right bank at Itaska, 3.8 mi downstream from Otselic River and village of Whitney Point, and 6 mi upstream from mouth.	730	1930-67‡, 1968-79, 1982-84, 1986-87	3-28-88 8-2-88 9-7-88	6,840 271 195
01512850 Chenango River	Susquehanna River	Lat 42°06'11", long 75°54'55", Broome County, Hydrologic Unit 02050102, at bridge on Clinton Street, at Binghamton, and 0.7 mi upstream from mouth.	1,602	--	3-29-88 5-4-88 6-16-88 8-2-88	9,770 2,470 472 509
*01513500 Susquehanna River	Atlantic Ocean	Lat 42°05'27", long 76°03'23", Broome County, Hydrologic Unit 02050103, on left bank 400 ft downstream from highway bridge, at Vestal, and 800 ft upstream from Choconut Creek.	3,941	1937-67‡, 1968-78, 1980, 1982-83, 1986	3-29-88 6-17-88 7-25-88 8-25-88	26,100 1,240 2,100 542
*01513831 Susquehanna River	Atlantic Ocean	Lat 42°06'05", long 76°15'41", Tioga County, Hydrologic Unit 02050103, on left bank at the upstream side of bridge on State Highway 96 over the Susquehanna River, at Owego.	4,216	--	4-23-87 2-22-88 3-28-88 3-29-88 4-20-88 6-22-88 8-8-88 8-24-88	7,230 5,860 30,900 27,200 4,480 1,110 968 542
*01514801 Catatonk Creek	Susquehanna River	Lat 42°08'18", long 76°17'23", Tioga County, Hydrologic Unit 02050103, on right bank 0.4 mi downstream from bridge on County Highway 23, 1.2 mi upstream from mouth, and 1.4 mi north of Owego.	151	--	4-13-87 6-2-87 7-6-87 8-13-87 1-11-88 2-2-88 2-25-88 3-27-88 3-28-88 4-20-88 5-27-88 7-21-88 8-24-88	1,210 84.2 61.4 25.2 75.4 965 128 945 585 96.8 230 28.1 23.4
01514937 Susquehanna River	Atlantic Ocean	Lat 42°01'41", long 76°23'07", Tioga County, Hydrologic Unit 02050103, at bridge on Route 282, 1.2 mi west of Nichols, and 1.2 mi east of Smithboro.	4,725	--	3-30-88 4-14-88 6-9-88 8-1-88 8-25-88	22,200 6,110 2,530 1,370 625
01516000 Cayuta Creek	Susquehanna River	Lat 42°00'32", long 76°31'37", Tioga County, Hydrologic Unit 02050103, at bridge on Ithaca Street, at Waverly, and 2.4 mi upstream from mouth.	137	1937, 1953-76, 1978-80, 1983	3-28-88 3-29-88 3-30-88 4-14-88 6-9-88 8-1-88	490 336 294 113 50.2 34.5

‡ Operated as a continuous-record gaging station.
* Also a crest-stage partial-record station.

Discharge measurements made at miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Susquehanna River basin--Continued				
01524520 Canisteo River	Tioga River	Lat 42°18'20", long 77°39'18", Steuben County, Hydrologic Unit 02050104, at bridge on East Avenue (Ashbaugh Hill Road, 0.3 mi south of South Hornell, and 0.8 mi south of Hornell corporate boundary.	168	--	9-26-88 9-27-88	20.9 20.6
01524540 Canisteo River	Tioga River	Lat 42°17'10", long 77°37'29", Steuben County, Hydrologic Unit 02050104, at bridge on town road about 0.3 mi upstream from Cunningham Creek and 1.5 mi northwest of Canisteo.	173	--	9-27-88 9-28-88	19.5 20.3
*01525500 Canisteo River	Tioga River	Lat 42°13'20", long 77°25'05", Steuben County, Hydrologic Unit 02050104, on right bank 250 ft downstream from bridge on County Highway 119, 0.3 mi southeast of West Cameron, and 1.7 mi north of Cameron.	340	1930-31‡, 1937-70‡, 1972-76, 1987	2-3-88 5-19-88 7-8-88 7-28-88	786 6,000 33.6 81.5
01525981 Tuscarora Creek	Susquehanna River	Lat 42°04'20", long 77°17'57", Steuben County, Hydrologic Unit 02050104, on right bank 500 ft downstream from bridge on State Highway 417, 200 ft upstream from Elk Creek, and 1.7 mi southwest of South Addison.	102	--	10-16-87 11-23-87 2-3-88 2-18-88 3-31-88 5-23-88 6-27-88 7-25-88 9-7-88	29.1 28.0 112 53.0 96.7 157 1.70 21.1 3.68
*01528320 Cohocton River	Chemung River	Lat 42°20'36", long 77°20'39" Steuben County, Hydrologic Unit 02050104, on left bank 150 ft upstream from bridge on Veterans Avenue, at Bath, and 0.6 mi downstream from Harrisburg Hollow Creek.	340	--	6-11-87 12-7-87 2-2-88 3-11-88 3-28-88 4-21-88 5-26-88 7-7-88 7-19-88 8-24-88	70.6 444 1,070 485 1,100 225 293 37.4 56.4 35.8
*01530301 Cuthrie Run	Sing Sing Creek	Lat 42°10'43", long 76°55'32", Chemung County, Hydrologic Unit 02050105, at culvert on Breed Hollow Road, 0.9 mi north of intersection of Eacher Hollow Road and Breed Hollow Road, 2.3 mi north of State Highway 17, and 3.0 mi north of Big Flats.	5.39	--	6-19-76 9-14-83 4-5-84 4-6-84 9-13-88	800 0.00 121 127 0.13

‡ Operated as a continuous-record gaging station.

* Also a crest-stage partial-record station.

Discharge measurements made at miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Susquehanna River basin--Continued				
*01530332 Chemung River	Susquehanna River	Lat 42°04'11", long 76°48'05", Chemung County, Hydrologic Unit 02050105, on right bank 350 ft upstream from bridge on Pennsylvania Avenue at the north end of George Place, at Elmira, and 1.0 mi downstream from Hoffman Brook.	2,170	--	12-14-87 2- 3-88 3-28-88 6-23-88 7-29-88 8-30-88	1,480 5,730 6,220 330 491 575
		Allegheny River basin				
03011035 Little Valley Creek	Allegheny River	Lat 42°10' 34", long 78° 44' 55", Cattaraugus County, Hydrologic Unit 05010001, at bridge on State Highway 353, 0.4 mi north of Salamanca, and 0.9 mi upstream from mouth.	46.4	--	4- 7-88	141
		Streams tributary to Lake Erie				
04213320 Chautauqua Creek	Lake Erie	Lat 42°20'15", long 79°36'04", Chautauqua County, Hydrologic Unit 04120101, at bridge on State Highway 5, 0.2 mi southwest of Barcelona, and 0.3 mi upstream from mouth.	35.6	1950-68, 1972	4-14-88 7-26-88 9- 1-88	30.1 14.0 11.1
*04213376 Canadaway Creek	Lake Erie	Lat 42°27'02", long 79°21'03", Chautauqua County, Hydrologic Unit 04120102, at bridge on Van Buren Road (Matteson Street), 0.8 mi northwest of Fredonia corporate boundary, and 1.2 mi upstream from Beaver Creek.	32.9	1962-63, 1973	4-15-88 6- 3-88 7-26-88 9- 1-88	30.7 11.2 5.02 4.55
04214020 Cattaraugus Creek	Lake Erie	Lat 42°34'12", long 79°06'45", Erie County, Hydrologic Unit 04120102, at bridge on Buffalo Road, 0.1 mi north of Irving, and 1.5 mi upstream from mouth.	554	1963-64, 1975-76	5- 2-88 6- 8-88 7-26-88 8-31-88	950 298 265 285
04214240 Eighteenmile Creek	Lake Erie	Lat 42°42'44", long 78°58'00", Erie County, Hydrologic Unit 04120103, at bridge on Lake Shore Road, 0.5 mi upstream from mouth, and 0.6 mi northeast of Highland-on-the-Lake.	119	1963-64, 1975	5- 2-88 6- 8-88 8- 1-88 8-31-88	128 27.8 13.0 25.1
		Streams tributary to Niagara River				
04217122 Tonawanda Creek	Niagara River	Lat 42°59'58", long 78°18'38", Genesee County, Hydrologic Unit 04120104, at bridge on Slusser Road and 0.25 mi north of East Pembroke.	57.8	--	5- 3-88 6-22-88 8-16-88	273 25.6 18.0

*Also a crest-stage partial-record station.

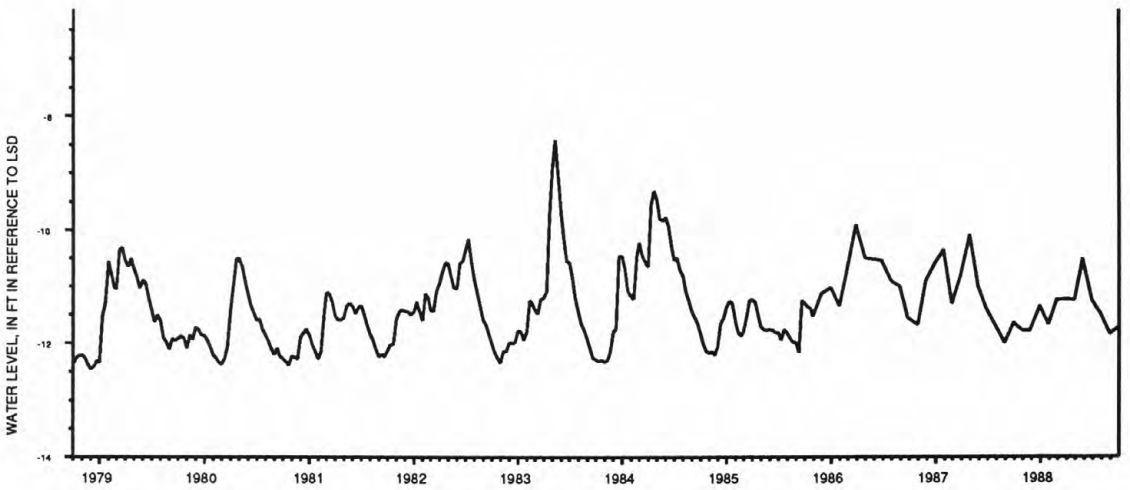
Discharge measurements made at miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Streams tributary to Niagara River--Continued				
04218054 Tonawanda Creek	Niagara River	Lat 43°05'10", long 78°43'40", Niagara County, Hydrologic Unit 04120104, at bridge on New Road at Pendleton, 0.3 mi upstream from confluence with Erie Canal, and 11.7 mi upstream from mouth.	11.7	--	5- 3-88	588
04218090 Ransom Creek	Tonawanda Creek	Lat 48°01'11", long 78°39'47", Erie County, Hydrologic Unit 04120104, at bridge on Shimerville/Connor Roads, 1.6 mi northwest of Clarence Center, and 2.3 mi southeast of Swormville.	7.2	--	5- 3-88 8- 16-88	4.71 0.00
		Streams tributary to Lake Ontario				
04220250 West Creek	Lake Ontario	Lat 43°18'10", long 77°48'50", Monroe County, Hydrologic Unit 04130001, at bridge on Collamer Road, 0.5 mi north of Collamer, and 1.5 mi northwest of Hilton.	31.0	1957-65, 1968, 1972	8- 11-88 8- 29-88	5.61 8.82
0422026250 Northrup Creek	Lake Ontario	Lat 43°15'13", long 77°43'33", Monroe county, Hydrologic Unit 04130001, at bridge on State Highway 18 and 0.5 mi west of North Greece.	11.7	1974	8- 11-88 8- 29-88	4.29 11.2
0422028490 Slater Creek	Lake Ontario	Lat 43°15'10", long 77°38'55", Monroe County, Hydrologic Unit 04130001, at bridge on Latta Road, 0.6 mi upstream from Fleming Creek, and 3.9 mi northeast of Greece.	1.52	--	8- 29-88 8- 29-88 8- 29-88	6.31 5.63 2.72
04246580 Caughdenoy Creek	Oneida River	Lat 43°17'54", long 76°12'19", Oswego County, Hydrologic Unit 04140202, at site 0.15 mi downstream from bridge on State Highway 49, 0.3 mi southeast of McMahon Corners, and 1.8 mi north of Caughdenoy.	14.1	--	6- 13-88 6- 14-88	2.46 1.74
04246589 Caughdenoy Creek	Oneida River	Lat 43°16'42", long 76°11'39", Oswego County, Hydrologic Unit 04140202, at culvert on Fuller Road, 0.7 mi northeast of Caughdenoy, and 1.7 mi upstream from mouth.	15.8	--	6- 13-88	2.47

420646075531201. Local number, Bm 100.
LOCATION.--Lat 42°06'46", long 75°53'12", Hydrologic Unit 02050103, at Moeller and Frederick Streets, Binghamton. Owner: U.S. Geological Survey.
AQUIFER.--Water-table aquifer in sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 52 ft, cased to 52 ft, slotted 40 ft to 45 ft.
INSTRUMENTATION.--Monthly measurement with chalked tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 851.05 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter base, 2.86 ft above land-surface datum.
REMARKS.--Lowest water level recorded on June 25, 1985 due to water-level decline for several hours, possibly from nearby pumping.
PERIOD OF RECORD.--October 1946 to July 1955, April 1966 to current year. Records for October 1946 to July 1955 (intermittent), April 1966 to April 1968 (intermittent) and May 1968 to September 1977 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.29 ft below land-surface datum, May 4, 1983; lowest, 13.18 ft below land-surface datum, June 25, 1985.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 10.52 ft below land-surface datum, May 26; lowest measured, 11.84 ft below land-surface datum, Aug. 29.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	11.78	JAN 28	11.67	APR 28	11.24	JUL 28	11.49
NOV 25	11.78	FEB 26	11.24	MAY 26	10.52	AUG 29	11.84
DEC 29	11.35	MAR 30	11.23	JUN 28	11.26	SEP 29	11.72



BROOME COUNTY

420657075583501. Local number, Bm 121.

LOCATION.--Lat 42°06'57", long 75°58'35", Hydrologic Unit 02050103, at Camden and Main Streets, Johnson City. Owner: U.S. Geological Survey.

AQUIFER.--Water-table aquifer in sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 53 ft, cased to 53 ft open end.

INSTRUMENTATION.--Digital recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is 833.62 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter base, 3.42 ft above land-surface datum.

REMARKS.--Well cleaned from 46 ft, to original depth on Oct. 19, 1970. Water level affected by floods of Susquehanna River and by pumping from municipal well field 1,100 ft south.

PERIOD OF RECORD.--March 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.73 ft below land-surface datum, Apr. 8, 1956; lowest, 33.47 ft below land-surface datum, Sept.23, 1965.

EXTREMES FOR CURRENT YEAR.--Highest water level, 22.28 ft below land-surface datum, Mar. 30; lowest 27.74 ft below land-surface datum, Aug. 28-29.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WA.ER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

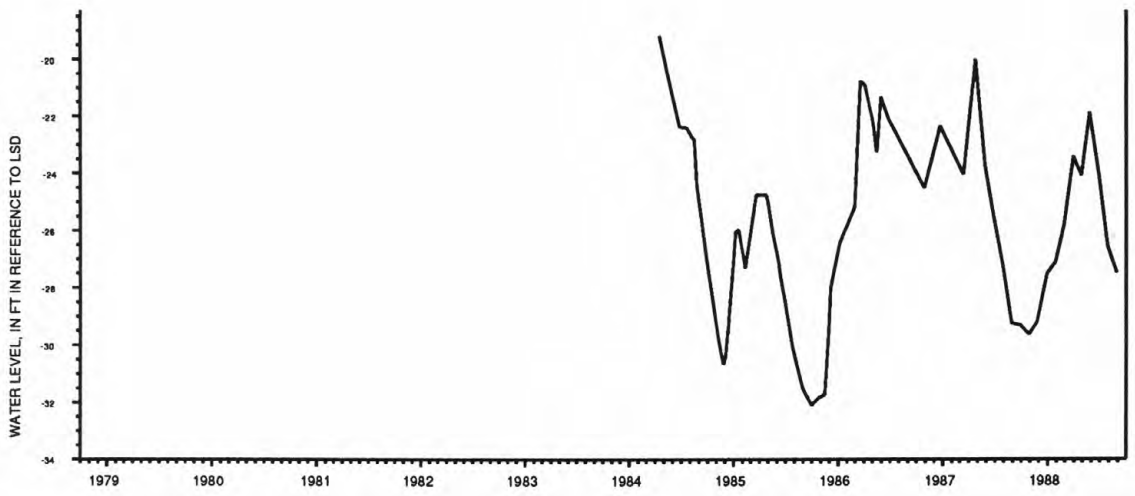
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.14	25.91	25.15	25.01	25.90	25.42	22.47	24.91	23.52	26.39	26.83	26.62
2	27.16	25.85	24.73	25.09	25.71	25.49	22.62	24.80	23.66	26.45	26.83	26.44
3	27.17	25.82	24.49	25.13	24.98	25.56	22.76	24.76	23.80	26.51	26.92	26.40
4	27.17	25.82	24.39	25.18	24.25	25.60	22.87	24.75	23.91	26.56	27.14	26.39
5	27.17	25.85	24.38	25.25	23.95	25.64	22.98	24.75	24.01	26.60	27.29	26.38
6	27.15	25.88	24.38	25.19	23.91	25.67	23.06	24.78	24.12	26.66	27.41	26.38
7	27.09	25.89	24.42	25.01	23.97	25.70	23.19	24.80	24.22	26.72	27.50	26.39
8	27.01	25.89	24.48	24.95	24.11	25.72	23.36	24.81	24.33	26.84	27.51	26.42
9	26.91	25.92	24.56	24.95	24.22	25.70	23.54	24.85	24.46	26.95	27.47	26.47
10	26.84	25.93	24.64	25.02	24.28	25.58	23.70	24.92	24.60	27.05	27.42	26.53
11	26.82	25.86	24.67	25.07	24.37	25.31	23.85	25.01	24.72	27.11	27.40	26.59
12	26.76	25.81	24.67	25.14	24.43	25.06	24.01	25.08	24.82	27.14	27.41	26.65
13	26.69	25.80	24.70	25.21	24.54	24.89	24.17	25.13	24.92	27.26	27.50	26.71
14	26.63	25.79	24.74	25.29	24.67	24.72	24.29	25.17	25.03	27.41	27.52	26.78
15	26.59	25.78	24.76	25.35	24.77	24.52	24.43	25.19	25.13	27.60	27.52	26.83
16	26.59	25.75	24.76	25.41	24.86	24.41	24.58	25.22	25.22	27.70	27.52	26.87
17	26.59	25.72	24.80	25.47	24.95	24.40	24.70	25.26	25.34	27.72	27.52	26.92
18	26.59	25.72	24.82	25.55	25.02	24.40	24.80	25.30	25.43	27.70	27.53	26.97
19	26.62	25.70	24.84	25.62	25.08	24.41	24.92	25.30	25.52	27.68	27.56	27.02
20	26.65	25.61	24.88	25.64	25.10	24.44	25.03	24.65	25.59	27.65	27.57	27.08
21	26.69	25.54	24.86	25.59	25.12	24.52	25.14	23.63	25.67	27.61	27.59	27.13
22	26.75	25.53	24.80	25.49	25.11	24.62	25.24	23.26	25.77	27.54	27.62	27.17
23	26.78	25.53	24.76	25.42	25.10	24.70	25.33	23.11	25.89	27.39	27.64	27.27
24	26.81	25.55	24.78	25.41	25.12	24.78	25.38	23.06	25.99	27.28	27.68	27.31
25	26.82	25.60	24.81	25.45	25.15	24.77	25.42	22.97	26.06	27.16	27.68	27.31
26	26.84	25.66	24.82	25.53	25.18	24.48	25.46	22.92	26.11	27.12	27.70	27.30
27	26.84	25.61	24.77	25.63	25.23	23.80	25.52	22.91	26.17	27.02	27.73	27.31
28	26.83	25.63	24.71	25.72	25.31	23.02	25.53	22.96	26.22	26.92	27.73	27.33
29	26.56	25.63	24.71	25.80	25.36	22.46	25.36	23.08	26.29	26.87	27.65	27.35
30	26.25	25.52	24.78	25.84	---	22.29	25.14	23.24	26.34	26.86	27.31	27.36
31	26.01	---	24.88	25.89	---	22.36	---	23.38	---	26.85	26.90	---
MEAN	26.79	25.73	24.71	25.36	24.82	24.66	24.29	24.32	25.10	27.11	27.44	26.86
LOW	27.17	25.93	25.15	25.89	25.90	25.72	25.53	25.30	26.34	27.72	27.73	27.36
HIGH	26.01	25.52	24.38	24.95	23.91	22.29	22.47	22.91	23.52	26.39	26.83	26.38

CAL YR	1987	TOTAL	9355.61	MEAN	25.63	HIGH	19.93	LOW	28.75
WTR YR	1988	TOTAL	9371.26	MEAN	25.60	HIGH	22.29	LOW	27.73

421138075511301. Local number, Bm 128.
LOCATION.--Lat 42°11'38", long 75°51'13", Hydrologic Unit 02050102, at end of Jeffery Drive on Chenango Forks School District property at Kattelville. Owner: U.S. Geological Survey.
AQUIFER.--Water-table aquifer in sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 53 ft, cased to 48.5 ft, screened 48.5 to 53 ft.
INSTRUMENTATION.--Monthly measurement with chalked tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 908.58 ft above National Geodetic Vertical Datum of 1929. Measuring point: Double file mark on top of coupling, 3.20 ft above land-surface datum.
REMARKS.--Water level may be affected by pumping in nearby village and school wells.
PERIOD OF RECORD.-- September 1980 to current year. Records for September 1980 to February 1982 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.17 ft below land-surface datum, Apr. 16, 1984; lowest measured, 32.48 ft below land-surface datum, Oct. 27, 1981.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 21.86 ft below land-surface datum, May 26; lowest measured, 29.62 ft below land-surface datum, Oct. 28.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

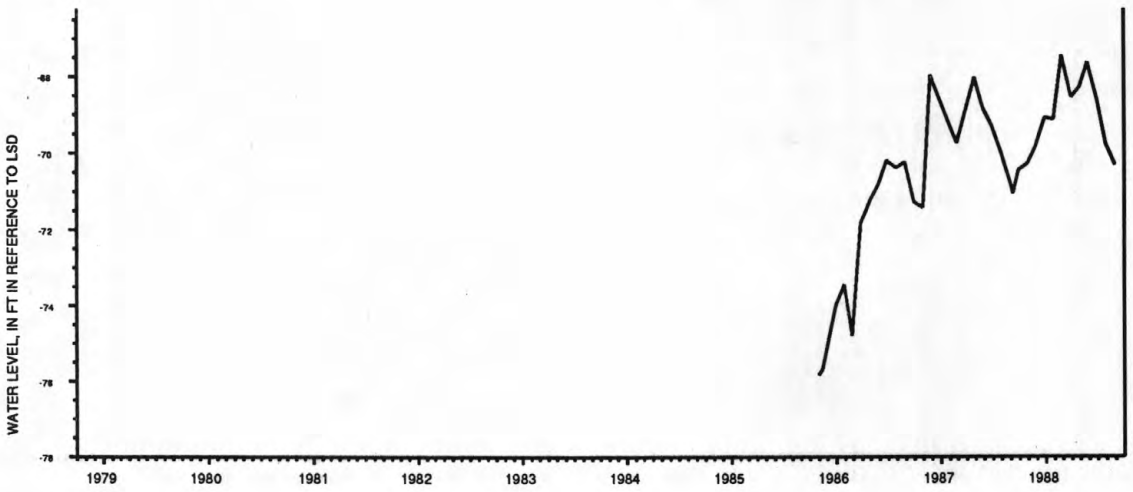
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	29.62	JAN 28	27.10	APR 27	24.05	JUL 28	26.54
NOV 25	29.20	FEB 26	25.83	MAY 26	21.86	AUG 29	27.48
DEC 29	27.51	MAR 30	23.40	JUN 28	24.09		



421157075535401. Local number, Bm 129.
LOCATION.--Lat 42°11'57", long 75°53'54", Hydrologic Unit 02050102, near Castle Creek. Owner: New York State Department of Transportation.
AQUIFER.--Aquifer in shales of Middle to Upper Devonian age.
WELL CHARACTERISTICS.--Drilled water supply well, diameter 6 in, depth approximately 252 ft.
INSTRUMENTATION.--Monthly measurement with chalked tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1105.75 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of coupling, 2.00 ft above land-surface datum.
REMARKS.--Well drilled by New York State Department of Transportation, originally intended as water-supply well for proposed rest area on Interstate Highway I-81.
PERIOD-OF-RECORD.--November 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 67.45 ft below land-surface datum, Feb. 26, 1988; lowest measured, 75.83 ft below land-surface datum, Nov. 1, 1985.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 67.45 ft below land-surface datum, Feb. 26; lowest measured, 70.29 ft below land-surface datum, Aug. 29.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	70.26	JAN 28	69.12	APR 28	68.27	JUL 28	69.75
NOV 25	69.84	FEB 26	67.45	MAY 26	67.63	AUG 29	70.29
DEC 29	69.07	MAR 30	68.54	JUN 28	68.60		

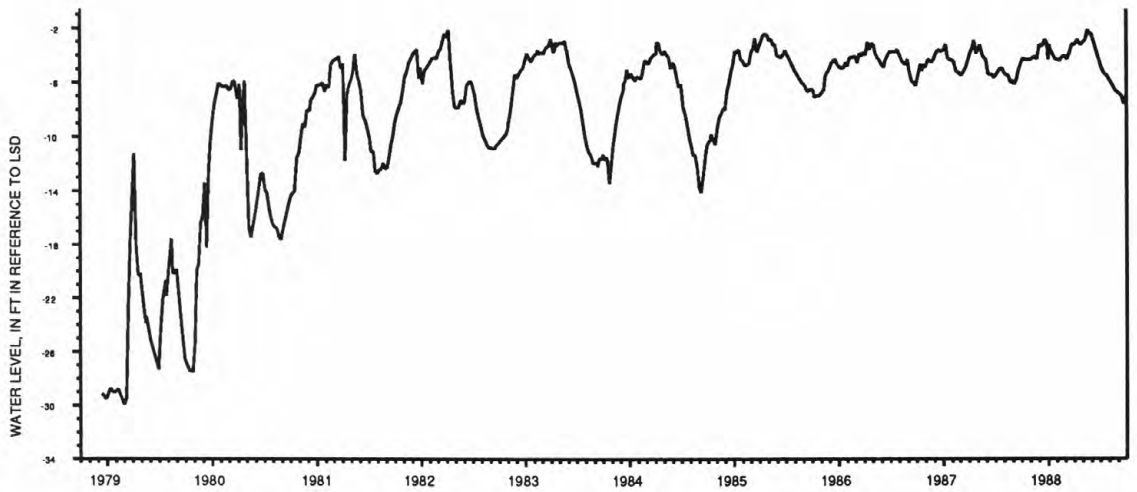


420530078445201. Local number, Ct 121.
LOCATION.--Lat 42°05'30", long 78°44'52", Hydrologic Unit 05010001, near Red House. Owner: New York State Department of Environmental Conservation.
AQUIFER.--Confined aquifer in sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in, depth 53 ft, cased to 53 ft, open end.
INSTRUMENTATION.--Float tape read weekly by observer.
DATUM.--Elevation of land-surface datum is 1,467.08 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.30 ft above land-surface datum.
REMARKS.--Well is located in a New York State owned and operated campground area. A new central water system for the campground, utilizing a well about 1.5 mi from the observation well was put in operation in 1980. Extreme low levels occurred from 1969 to 1979 due to the effect of pumping at the campground area.
PERIOD OF RECORD.--September 1950 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.11 ft below land-surface datum, May 19, 1988; lowest measured, 34.87 ft below land-surface datum, Nov. 21, 1972.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 2.11 ft below land-surface datum, May 19; lowest measured, 7.55 ft below land-surface datum, Sept. 21.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03	4.32	DEC 29	3.20	MAR 08	4.26	MAY 31	2.36z
07	4.19z	JAN 05	3.20	17	3.72	JUL 04	4.83
11	4.28	12	3.66	24	3.21	13	5.25
NOV 03	4.28	20	3.99	APR 04	3.16	17	5.39
17	4.05	28	4.32	12	2.83	21	5.37z
24	4.27	FEB 03	4.29	21	3.15	AUG 14	6.24
DEC 02	3.21	10	4.37	26	3.16	21	6.52
10	3.33	16	4.19	MAY 10	2.84	SEP 12	6.96
15	3.16	25	4.04	19	2.11	21	7.55
22	2.84	MAR 01	4.07	26	2.45	28	6.95
28	3.04z						

z Measured by USGS personnel.

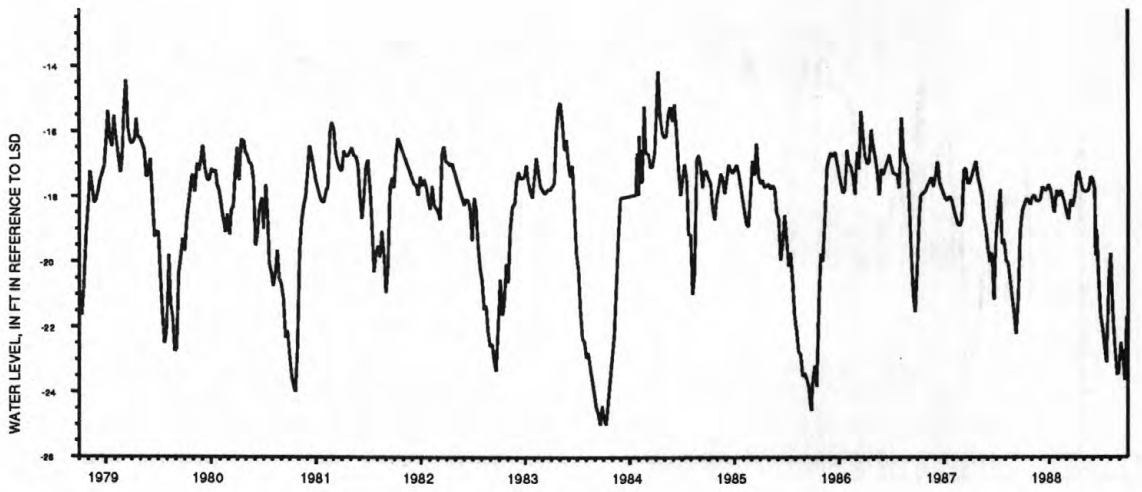


424158076251901. Local number, Cy 7.
LOCATION.--Lat 42°41'58", long 76°25'19", Hydrologic Unit 04140201, near Moravia. Owner: Earl Van Pelt.
AQUIFER.--Water-table aquifer in clayey gravel of Pleistocene age.
WELL CHARACTERISTICS.--Bored observation well, diameter 2.5 in, depth 28 ft, cased to 26 ft 1.25-in well point (60-gauze screen 26 ft to 28 ft).
INSTRUMENTATION.--Weekly measurement with chalked tape by observer.
DATUM.--Elevation of land-surface datum is 760.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter base, 3.08 ft above land-surface datum.
PERIOD OF RECORD.--December 1965 to current year. Records for December 1965 to September 1976 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.91 ft below land-surface datum, June 26, 1972; lowest measured, 25.00 ft below land-surface datum, Sept. 19, 1983.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 17.23 below land-surface datum, Apr. 11; lowest measured, 23.62 ft below land-surface datum, Sept. 19.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	18.25	JAN 11	18.12	APR 11	17.23z	JUL 07	22.24z
07	18.19z	15	18.38z	18	17.51	11	22.62
12	18.07	18	18.48	25	17.80	18	23.07
19	18.09	25	17.80	MAY 02	17.83	25	20.58
26	18.24	FEB 01	17.99	10	17.83	AUG 01	19.74
NOV 02	17.99	08	17.80	16	17.76	08	21.44
09	17.95	15	17.96	23	17.39	15	22.54
16	18.13	22	18.20	30	17.47	22	23.28
23	18.13	29	18.47	JUN 06	17.77	24	23.46z
30	18.09	MAR 07	18.69	09	19.79z	29	23.39
DEC 07	17.70	14	18.10	13	19.01	SEP 05	22.47
14	17.77	21	18.30	20	20.47	12	22.82
21	17.79	28	18.01	27	21.63	19	23.62
28	17.63	APR 04	17.38	JUL 04	22.03	26	21.68
JAN 04	17.76						

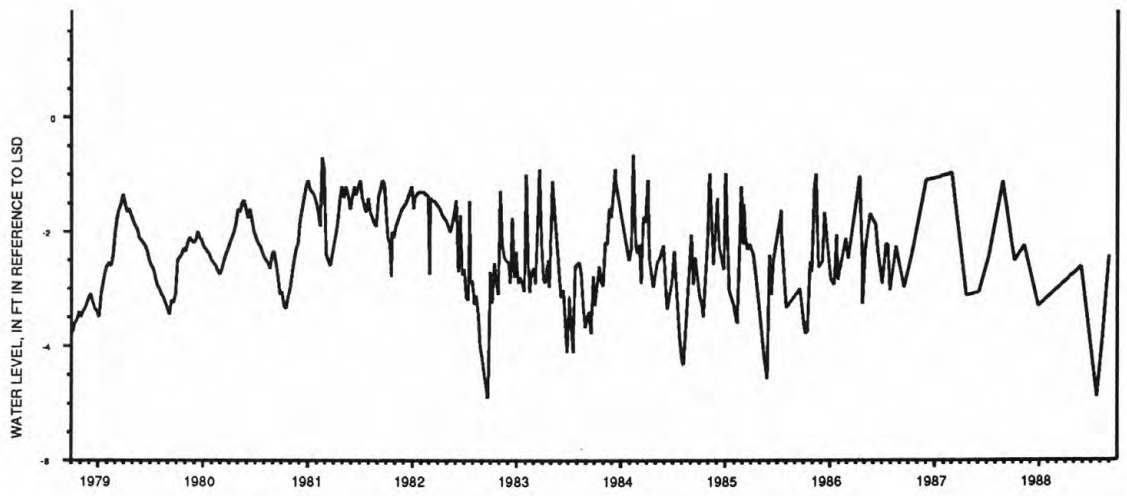
z Measured by USGS personnel.



420326079295801. Local number, Cu 5.
LOCATION.--Lat 42°03'26", long 79°29'58", Hydrologic Unit 05010002, near Panama. Owner: State Department of Environmental Conservation.
AQUIFER.--Water-table aquifer in till of Pleistocene age.
WELL CHARACTERISTICS.--Dug unused well, diameter 36 in, depth 33 ft, stone-lined.
INSTRUMENTATION.--Periodic measurement with chalked tape by USGS personnel.
DATUM.--Elevation of land surface datum is 1,752.51 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 0.25-in steel-plate well cover, inside shelter door, 0.44 ft below land-surface datum.
PERIOD OF RECORD.--May 1949 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.65 ft below land-surface datum, Feb. 13, 1984; lowest measured, 9.41 ft below land-surface datum, May 24, 1949.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 2.24 ft below land-surface datum, Nov. 10; lowest measured, 4.89 ft below land-surface datum, July 21.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

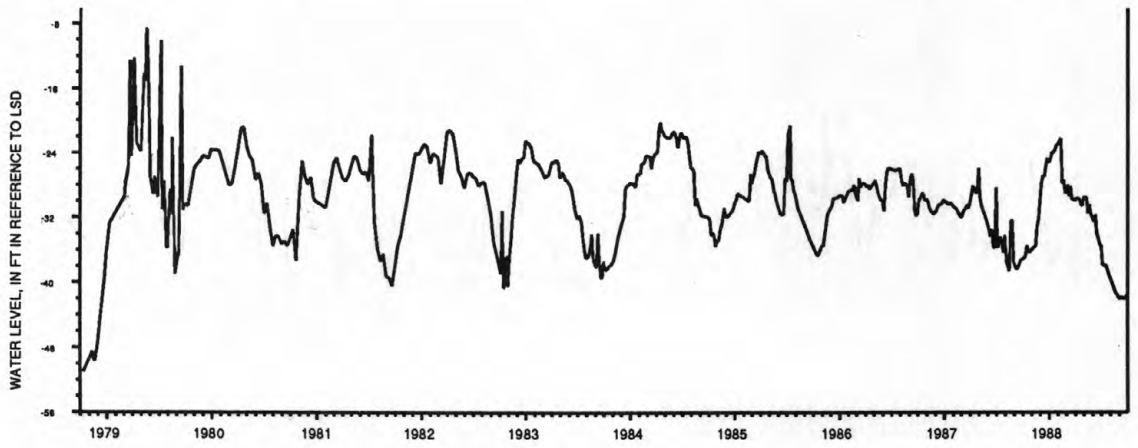
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06	2.51	DEC 29	3.30	JUL 21	4.89	SEP 01	2.43
NOV 10	2.24	MAY 27	2.61	AUG 10	3.81		



420815079121401. Local number, Cu 10.
LOCATION.--Lat 42°08'15", long 79°12'14", Hydrologic Unit 05010002, at Falconer. Owner: City of Jamestown.
AQUIFER.--Confined aquifer in sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 12 in to 10 in, depth 232 ft, filled in from original depth of 240 ft, cased 12 in 0 ft to 130 ft, 10 in 130 ft to 240 ft, slotted 130 ft to 144 ft, open end.
INSTRUMENTATION.--Twice-daily measurements by City of Jamestown personnel, every fifth day published.
DATUM.--Elevation of land-surface datum is 1,252.52 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood sheet, 5.52 ft above land-surface datum.
REMARKS.--Water level affected by pumping from municipal well field. Digital recorder installed Dec. 18, 1978, removed Sept. 16, 1982.
PERIOD OF RECORD.--November 1939 to September 1943, August 1946 to current year. Records for November 1939 to September 1943, August 1946 to September 1976 are unpublished and available in files of the Geological Survey.
REVISED RECORD.--WDR NY-87-3: 1983-86.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.2 ft above land-surface datum, Mar. 14, 1942; lowest measured, 66.6 ft below land-surface datum, Nov. 3, 1971.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 18.52 ft below land-surface datum, Feb. 8; lowest measured, 41.97 ft, Sept. 6, 7, 15-23, 25.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	36.96	JAN 05	24.73	APR 05	29.59	JUL 05	37.82
10	36.74	10	23.99	10	29.66	10	37.86
15	35.45	15	23.94	15	29.76	15	37.82
20	36.06	20	23.70	20	30.34	20	38.18
25	36.28	25	23.07	25	30.54	30	39.35
30	36.01	30	22.97	30	29.41	AUG 05	39.79
NOV 05	35.78	FEB 05	22.58	MAY 05	29.59	10	40.31
10	35.58	10	22.24	10	29.56	15	40.79
15	35.58	15	27.83	15	31.52	20	41.31
20	33.08	20	27.39	20	30.39	25	41.43
25	32.18	25	28.95	25	31.56	30	41.94
DEC 05	27.66	MAR 05	28.00	JUN 05	32.49	SEP 05	41.94
10	26.88	10	29.34	10	31.66	10	41.72
15	26.92	15	28.17	15	33.96	15	41.97
20	25.65	20	29.81	20	34.59	20	41.97
25	24.73	25	29.76	25	35.28	25	41.72
30	25.21	30	29.90	30	35.47	30	41.55



420748079062701. Local number, Cu 104.
LOCATION.--Lat 42°07'48", long 79°06'27", Hydrologic Unit 05010002, 59 ft west of Conewango Creek, 20 ft north of County Highway 325 and 1 mi southeast of Poland Center. Owner: City of Jamestown.
AQUIFER.--Water-table aquifer in sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 79 ft, screened 69 ft to 79 ft.
INSTRUMENTATION.--Digital recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 1,247.62 ft above National Geodetic Vertical Datum of 1929. Measuring point: Chisled marks at top of metal shelter base, 6.22 ft above land-surface datum.
REMARKS.--Well drilled by the U.S.G.S. The water level is affected by pumping from municipal well field and by river stages in Conewango Creek, which is within 100 ft of the well.
PERIOD OF RECORD.--March 1983 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.09 ft above land-surface datum, Feb. 20, 1984; lowest, 19.35 ft below land-surface datum, Oct. 16, 1985 (corrected).
EXTREMES FOR CURRENT YEAR.--Highest water level, 1.78 ft below land-surface datum, Apr. 7; lowest, 15.98 ft, below land-surface datum, Aug. 18.
REVISIONS.--Water levels reported for the 1987 water year have been revised: subtract 2.97 ft. The extremes for the 1987 water year have been revised: highest water level, 0.58 ft below land-surface datum, Apr. 9; lowest, 16.56 ft below land-surface datum, Aug. 25. The lowest water level for the period of record published in the 1987 report has been corrected as shown above.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.77	7.99	8.99	8.59	13.40	5.52	3.28	5.64	8.67	12.92	13.53	14.16
2	10.44	8.38	9.40	8.28	12.90	6.31	3.09	6.85	8.33	12.29	13.94	14.40
3	9.19	8.92	9.45	8.58	13.19	6.67	3.79	7.80	8.70	11.95	14.08	13.52
4	9.12	8.99	9.99	9.20	12.98	5.68	3.28	7.85	8.07	11.55	14.50	13.06
5	8.60	8.44	9.43	9.52	12.36	6.55	3.07	7.91	7.87	12.26	14.82	12.56
6	8.54	8.89	9.25	9.53	11.94	5.69	2.42	7.63	8.22	12.55	14.64	12.63
7	9.03	8.30	9.95	9.53	11.70	6.16	2.46	7.64	8.70	13.69	13.79	13.00
8	8.32	8.43	9.83	10.49	12.36	6.65	2.86	7.39	9.00	13.59	14.64	13.30
9	8.17	8.08	9.82	11.38	12.53	6.65	2.39	7.64	9.26	12.33	14.63	13.21
10	7.97	8.55	10.23	11.38	12.87	5.97	3.38	7.89	9.49	11.46	14.79	12.89
11	7.94	8.09	10.51	11.38	11.76	6.25	4.78	8.18	9.00	11.23	14.93	12.78
12	7.51	8.45	8.63	11.87	11.57	4.91	5.32	8.27	9.15	13.12	15.12	13.04
13	8.08	8.53	8.90	12.36	10.83	4.47	5.64	8.47	9.86	14.26	15.39	12.97
14	8.16	7.50	8.92	12.71	9.93	5.02	6.10	7.52	10.08	13.61	14.79	13.42
15	8.50	7.09	10.02	12.85	10.02	5.16	6.54	7.88	11.23	14.01	15.25	13.10
16	8.67	8.08	9.01	12.76	9.27	4.64	6.79	7.88	11.46	13.91	15.08	13.37
17	8.10	7.40	9.46	13.05	9.34	5.44	7.45	7.79	11.43	14.65	15.65	12.89
18	7.33	8.05	8.64	12.88	8.72	5.53	6.88	7.50	11.58	14.81	15.70	12.41
19	8.02	8.25	8.90	12.97	8.41	5.43	7.46	7.59	10.75	14.74	15.84	12.91
20	8.46	8.43	9.47	13.23	8.06	5.02	7.87	7.54	11.34	14.81	14.88	13.07
21	8.76	8.14	7.96	13.34	6.71	5.91	8.01	6.67	12.24	14.79	15.04	13.21
22	8.49	7.98	8.20	13.70	7.31	6.20	8.12	6.09	12.37	14.34	14.71	13.31
23	9.00	8.54	8.18	12.18	6.88	6.34	7.20	6.89	12.70	14.56	14.92	13.44
24	8.01	8.76	7.36	12.88	6.22	6.22	6.49	7.15	12.87	13.32	15.15	12.80
25	7.41	8.90	7.29	12.37	5.52	6.32	6.96	7.23	12.46	13.51	14.94	12.89
26	7.58	9.02	6.85	12.24	5.79	5.16	7.17	7.44	12.61	13.80	15.21	12.60
27	8.32	9.07	7.25	12.69	6.15	4.04	7.53	6.86	12.30	14.24	14.94	12.68
28	8.54	9.15	7.09	13.76	5.13	3.56	7.61	7.52	12.85	14.29	14.35	12.93
29	7.88	9.06	8.03	13.89	6.00	3.65	7.02	7.07	13.09	14.38	13.95	13.04
30	8.39	8.61	8.24	13.34	---	3.47	6.68	6.97	12.60	14.29	14.35	13.18
31	7.50	---	8.36	13.75	---	2.99	---	7.98	---	13.43	14.51	---
MEAN	8.41	8.40	8.83	11.83	9.65	5.41	5.59	7.44	10.61	13.51	14.78	13.09
LOW	10.77	9.15	10.51	13.89	13.40	6.67	8.12	8.47	13.09	14.81	15.84	14.40
HIGH	7.33	7.09	6.85	8.28	5.13	2.99	2.39	5.64	7.87	11.23	13.53	12.41

CAL YR	1987	MEAN	8.75	HIGH	1.41	LOW	16.27
WTR YR	1988	MEAN	9.80	HIGH	2.39	LOW	15.84

CHEMUNG COUNTY

420829076484801. Local number, Cm 46.
LOCATION.--Lat 42°08'29", long 76°48'48", Hydrologic Unit 02050105, near Horseheads. Owner: Unknown.
AQUIFER.--Water-table aquifer in sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in, depth 34 ft, cased to 34 ft, open end.
INSTRUMENTATION.--Measurement with chalked tape by USGS personnel Oct. 1 to Feb. 24; electronic data recorder--60-minute average Feb. 25 to Sept. 30.
DATUM.--Elevation of land-surface datum is 885.69 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of pipe flange, 3.44 ft above land-surface datum.
REMARKS.--Water level affected by stage of Newtown Creek.
PERIOD OF RECORD.--October 1955 to current year. Records for October 1955 to September 1976 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.93 ft below land-surface datum, April 25, 1961; lowest measured, 26.30 ft below land-surface datum, July 18, 1980.
EXTREMES FOR CURRENT YEAR.--Highest water level recorded, 23.37 ft below land-surface datum, Apr. 30; lowest recorded, 25.83 ft below land-surface datum, Sept. 30.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	24.39	24.40	24.05	23.57	24.44	25.40	25.39	25.49
2	---	---	---	---	---	24.44	23.83	23.72	24.37	25.43	25.43	25.54
3	---	---	---	---	---	24.36	23.89	23.83	24.41	25.46	25.46	25.58
4	---	---	---	---	---	24.27	23.86	23.92	24.41	25.48	25.48	25.56
5	---	---	---	---	---	24.34	23.87	23.98	24.48	25.50	25.52	25.48
6	---	---	---	---	---	24.34	23.96	23.98	24.55	25.52	25.54	25.50
7	---	---	---	---	---	24.26	24.03	24.03	24.60	25.53	25.55	25.54
8	24.80	---	---	---	---	24.16	24.07	24.10	24.65	25.55	25.58	25.58
9	---	---	---	---	---	24.02	24.09	24.15	24.70	25.57	25.60	25.60
10	---	---	---	---	---	23.78	24.11	24.19	24.75	25.58	25.63	25.63
11	---	---	---	---	---	23.84	24.16	24.20	24.80	25.59	25.65	25.66
12	---	---	---	---	---	23.92	24.21	24.24	24.85	25.61	25.63	25.69
13	---	---	---	---	---	23.88	24.25	24.29	24.91	25.62	25.65	25.71
14	---	---	---	---	---	23.83	24.29	24.31	24.95	25.64	25.68	25.73
15	---	---	---	---	---	23.92	24.32	24.35	24.99	25.65	25.70	25.74
16	---	---	---	---	---	24.01	24.34	24.38	25.01	25.68	25.71	25.75
17	---	---	---	---	---	24.09	24.38	24.32	25.05	25.67	25.71	25.75
18	---	---	---	---	---	24.14	24.39	24.34	25.09	25.66	25.68	25.75
19	---	---	---	---	---	24.17	24.41	24.19	25.13	25.68	25.70	25.77
20	---	---	---	---	---	24.20	24.44	23.89	25.16	25.67	25.71	25.77
21	---	---	---	---	---	24.28	24.47	23.90	25.19	25.54	25.72	25.72
22	---	---	---	---	---	24.34	24.49	24.00	25.22	25.21	25.73	25.75
23	---	---	---	---	---	24.37	24.41	24.09	25.24	25.33	25.74	25.74
24	---	---	---	---	---	24.37	23.87	24.02	25.26	25.42	25.71	25.73
25	---	24.76	---	---	24.33	24.25	23.90	23.90	25.30	25.46	25.69	25.75
26	---	---	---	---	24.33	23.84	24.02	23.99	25.30	25.44	25.73	25.76
27	25.10	---	---	---	24.34	23.65	24.11	24.10	25.33	24.98	25.76	25.78
28	---	---	24.46	---	24.38	23.74	24.06	24.20	25.36	25.13	25.72	25.78
29	---	---	---	---	24.40	23.89	23.81	24.27	25.38	25.27	25.53	25.80
30	---	---	---	---	---	24.00	23.42	24.34	25.39	25.35	25.30	25.82
31	---	---	---	---	---	24.07	---	24.40	---	25.36	25.41	---
MEAN	---	---	---	---	---	24.10	24.12	24.10	24.94	25.48	25.61	25.68
LOW	---	---	---	---	---	24.44	24.49	24.40	25.39	25.68	25.76	25.82
HIGH	---	---	---	---	---	23.65	23.42	23.57	24.37	24.98	25.30	25.48

CHENANGO COUNTY

421556075281602. Local number, Cn 12.

LOCATION.--Lat 42°15'56", long 75°28'16", Hydrologic Unit 02050101, 400 ft south of intersection of County Highways 39 and 12, 0.5 mi east of Susquehanna River, and 2.0 mi south of Bainbridge. Owner: Ilse Maehlman.

AQUIFER.--Water-table aquifer in gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 13 ft, cased to 13 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 979.28 ft above National Geodetic Vertical Datum of 1929. Measuring point: File mark at top of shelter base, 1.37 ft above land-surface datum.

REMARKS.--This well drilled April 1974 as a replacement for 421556075281601 (local number Cn 11), located 90 ft north, which has a period of record from October 1965 to September 1972 (unpublished).

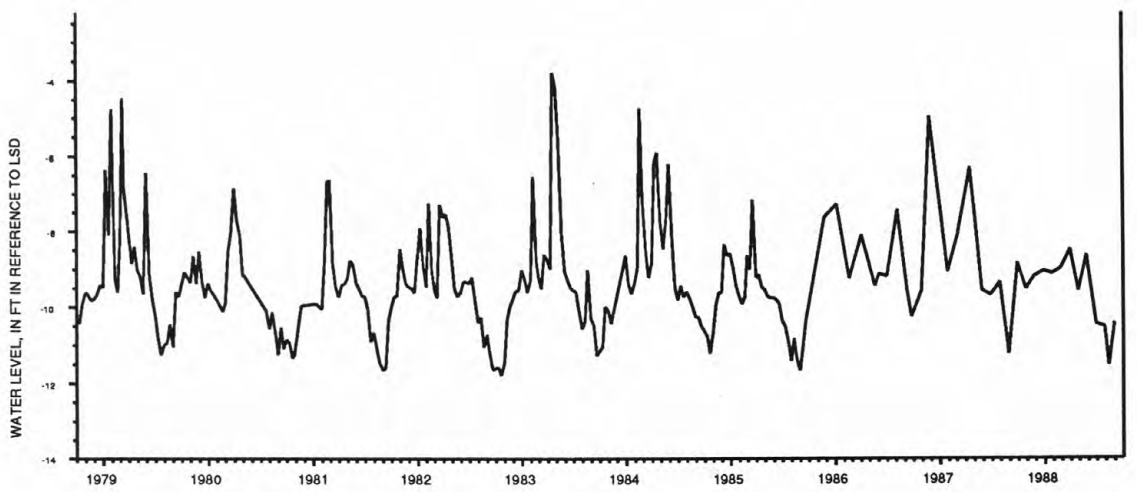
PERIOD OF RECORD.--April 1975 to current year. Records for April 1975 to September 1976 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.79 ft below land-surface datum, Mar. 7, 1979; lowest, 11.81 ft below land-surface datum, Sept. 26-29, 1982.

EXTREMES FOR CURRENT YEAR.--Highest water level measured, 8.48 ft below land-surface datum, Mar. 30; lowest measured, 11.53 ft below land-surface datum, Aug. 11.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	9.52	JAN 28	9.12	APR 27	9.57	JUL 28	10.53
NOV 25	9.19	FEB 26	8.98	MAY 26	8.63	AUG 11	11.53
DEC 29	9.05	MAR 30	8.48	JUN 28	10.45	31	10.43

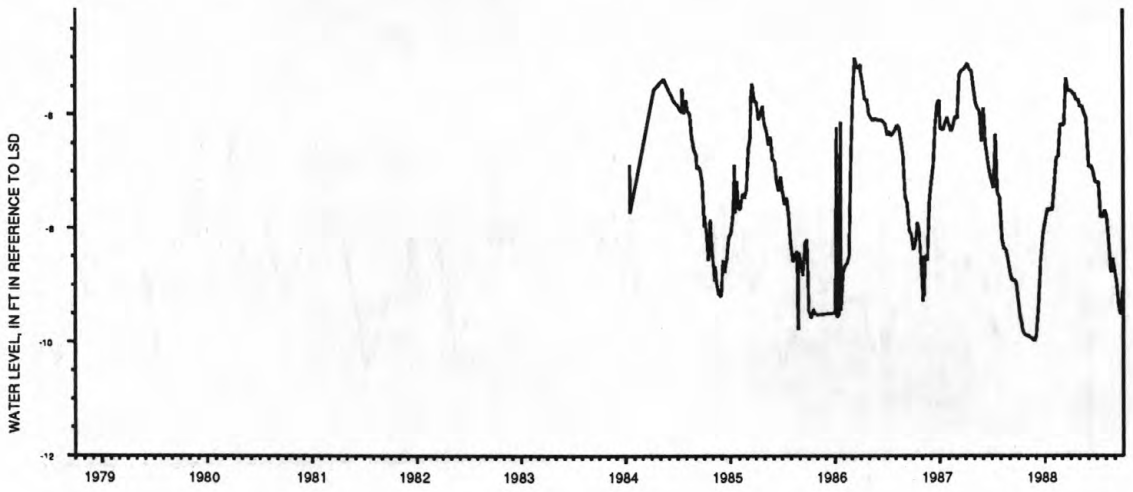


423849075315701. Local number, Cn 13.
LOCATION.--Lat 42°38'49", long 75°31'57", Hydrologic Unit 02050102, at junction of Chenango County Road 23 and Erie-Lackawanna Railroad tracks, 2.1 mi north of North Norwich and 2.7 mi south of NYS Rt. 80 near Sherburne. Owner: U. S. Geological Survey.
AQUIFER.--Confined aquifer in sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 125 ft, cased to 123 ft, screened 123 ft to 125 ft.
INSTRUMENTATION.--Weekly measurement with chalked tape by observer.
DATUM.--Elevation of land-surface datum is 1065.77 ft above National Geodetic Vertical Datum of 1929. Measuring point: Double file mark on top of coupling, 4.00 ft above land-surface datum.
REMARKS.--Water level may be affected by pumping from nearby farm well.
PERIOD OF RECORD.--April 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.00 ft below land-surface datum, Mar. 12, 1986; lowest measured, 9.98 ft below land-surface datum, Nov. 25, 1987.
EXTREMES OUTSIDE PERIOD OF RECORD.--Lowest water level measured, 10.61 ft below land-surface datum, Jan. 27, 1981.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 5.36 ft below land-surface datum, Mar. 16; lowest measured, 9.98 ft below land-surface datum, Nov. 25.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07	9.56	JAN 07	7.76	APR 07	5.60	JUL 07	7.18
13	9.68z	12	7.65z	13	5.64z	14	7.80
14	9.75	16	7.69	14	5.62	21	7.76
21	9.85	21	7.64	21	5.74	26	7.80z
28	9.89	28	7.68	28	5.72	28	7.68
NOV 04	9.88	FEB 04	7.22	MAY 04	5.86	AUG 04	7.79
11	9.92	11	6.76	11	5.84	11	8.24
18	9.94	18	6.72	18	5.97	18	8.78
25	9.98	25	6.16	25	6.05	25	8.54
DEC 02	9.90	MAR 09	6.18	JUN 03	6.90	SEP 07	8.96
09	9.42	16	5.36	10	6.88	14	9.36
17	8.58	24	5.58	17	6.96	21	9.52
26	8.10	30	5.56	25	7.17	28	9.04

z Measured by USGS personnel.



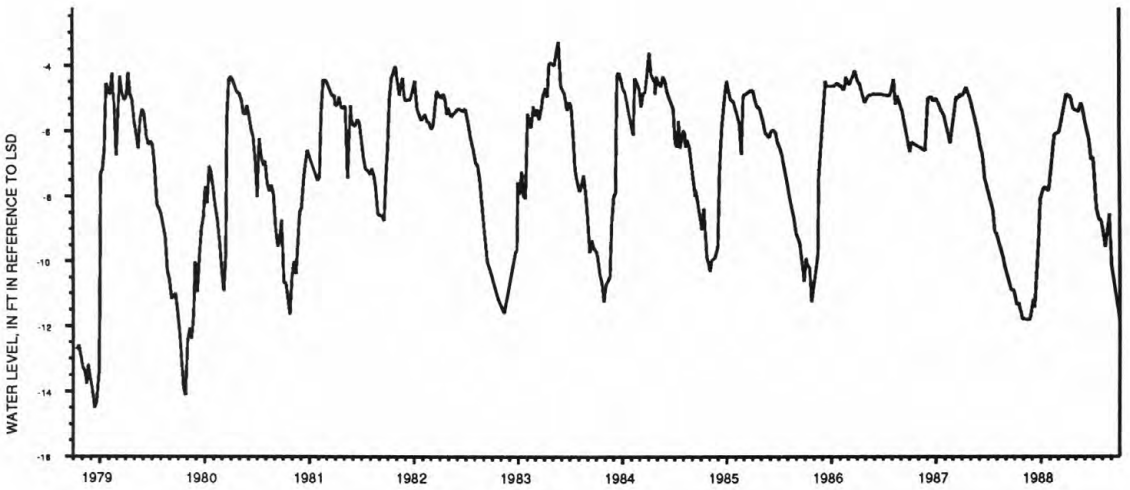
CORTLAND COUNTY

423541076114701. Local number, C 102.
LOCATION.--Lat 42°35'41", long 76°11'47", Hydrologic Unit 02050102, at Municipal Water Works, Cortland. Owner: City of Cortland.
AQUIFER.--Water-table aquifer in gravel of Pleistocene age.
WELL CHARACTERISTICS.--Driven unused well, diameter 1.25 in, depth 45 ft, 1.25 in well point.
INSTRUMENTATION.--Weekly measurement with chalked tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1136.59 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of coupling, 2.0 ft above land-surface datum.
REMARKS.--Water level is affected by pumping from adjacent municipal supply wells. This well is a replacement for 423539076114801 (local number C 19), located 80 ft southwest, which has a period of record from February 1947 to May 1976.
PERIOD OF RECORD.--October 1975 to current year. Records for October 1975 to September 1977 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.07 ft below land-surface datum, Sept. 25, 1977; lowest measured, 14.50 ft below land-surface datum, Dec. 14, 1978.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 4.86 ft below land-surface datum, Mar. 30; lowest measured, 11.80 ft below land-surface datum, Nov. 16.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	11.36	JAN 15	7.70	APR 15	4.95	JUL 01	6.80
15	11.30z	22	7.78	22	5.27	12	8.39
28	11.78	28	7.80	27	5.33	21	8.71
NOV 16	11.80	FEB 17	6.12	MAY 12	5.38	28	8.72
23	11.78	25	6.04	20	5.14	AUG 05	9.17
DEC 04	11.18	MAR 04	6.05	26	5.28	11	9.56
09	11.42	09	5.84	JUN 03	5.69	26	8.55
23	9.30	30	4.86	17	6.25	SEP 02	10.15
29	8.08	APR 08	4.90	24	6.86	29	11.73
JAN 08	7.77						

z Measured by County Health Dept. personnel.



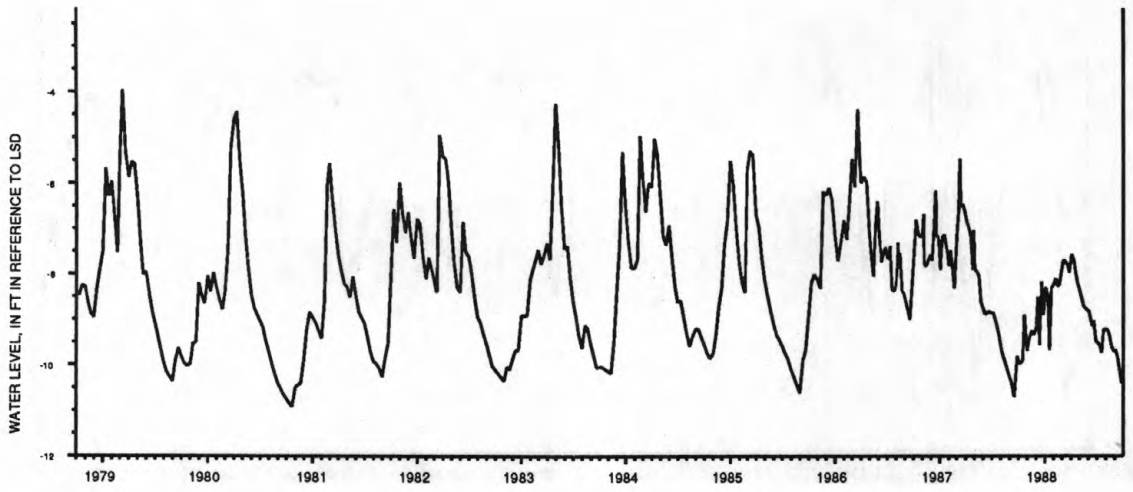
MADISON COUNTY

430056075354102. Local number, M 178.
LOCATION.--Lat 43°00'56", long 75°35'41", Hydrologic Unit 04140202, at Valley Mills. Owner: Donald L. Greene.
AQUIFER.--Water-table aquifer in gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 15.3 ft, cased to 16 ft, open end.
INSTRUMENTATION.--Float tape read weekly by observer.
DATUM.--Elevation of land-surface datum is 573.76 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of flange, 3.06 ft above land-surface datum.
REMARKS.--Well drilled April 1974 as a replacement for 430056075354101 (local number M 177), located 10 ft west, which has a period of record from October 1965 to September 1973 (unpublished).
PERIOD OF RECORD.--April 1975 to current year. Records for April 1975 to September 1976 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.60 ft below land-surface datum, Mar. 5, 1979; lowest, 10.97 ft below land-surface datum, Oct. 24, 25, 1980.
EXTREMES FOR CURRENT YEAR.--Highest water level observed, 7.57 ft below land-surface datum, Apr. 3; lowest observed, 10.40 ft below land-surface datum, Sept. 25.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03	9.97	JAN 06	8.33z	APR 10	7.68	JUL 15	9.68z
14	9.92	11	8.47	12	7.73z	17	9.73
15	9.90z	17	9.68	17	7.97	23	9.23
21	8.90	24	8.30	24	8.20	AUG 01	9.22
31	9.68	30	8.25	MAY 01	8.35	08	9.24
NOV 07	9.42	FEB 08	8.10	09	8.55	13	9.35
15	9.24	14	8.26	15	8.71	21	9.61
23	9.34	20	8.25	JUN 03	8.83	30	9.71
30	9.21	28	7.93	14	9.15	31	9.69z
DEC 07	8.51	MAR 05	7.70	19	9.03	SEP 03	9.67
13	9.56	13	7.72	27	9.48	09	9.78z
20	8.18	20	7.80	JUL 05	9.52	11	9.84
27	8.90	26	7.97	10	9.57	25	10.40
JAN 03	8.29	APR 03	7.57				

z Measured by USGS personnel.



NIAGARA COUNTY

430655079022001. Local number, Ni 69.

LOCATION.--Lat 43°06'55", long 79°02'20", Hydrologic Unit 04120104, 20th Street and Beech Avenue, Niagara Falls. Owner: City of Niagara Falls.

AQUIFER.--Confined and water-table aquifer in Lockport Dolomite of Middle Silurian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 8 in to 6 in, depth 36 ft, cased 8 in 0 ft to 17 ft, open hole 6 in 17 ft to 36 ft.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 595.61 ft National Geodetic Vertical Datum of 1929. Measuring point: top of 2 in opening in 6 in plug of 8 in extended casing, 3.60 ft above land-surface datum.

PERIOD OF RECORD.--October 1958 to current year. Records for October 1958 to September 1976 are unpublished and available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.00 ft below land-surface datum, Feb. 25, 1985; lowest measured, 22.21 ft below land-surface datum, Aug. 3, 1959, corrected.

EXTREMES FOR CURRENT YEAR.--Highest water level measured, 17.56 ft below land-surface datum, Dec. 21; lowest measured, 21.18 ft below land-surface datum, Sept. 21.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEV.EL	DATE	WATER LEVEL
OCT 05	18.84	DEC 28	18.18	MAR 14	18.92	JUN 13	19.30
13	19.45	JAN 04	18.66	21	19.17	21	20.29z
19	19.73	12	19.16	28	18.04	27	20.37
26	19.68	18	18.90	APR 04	18.06	JUL 05	20.63
NOV 02	19.66	25	19.59z	11	18.40	11	19.75
05	19.73z	FEB 01	19.77	18	18.90	18	20.44
09	19.77	08	19.63	25	19.18	25	20.56
23	19.86	16	19.24	MAY 02	18.81	AUG 01	20.68
30	17.76	23	18.06	09	19.07	06	20.45
DEC 07	17.76	29	18.44	15	19.29	29	20.97
14	18.58	MAR 07	18.91	23	19.48	SEP 21	21.18z
21	17.56	09	18.79z	31	19.67		

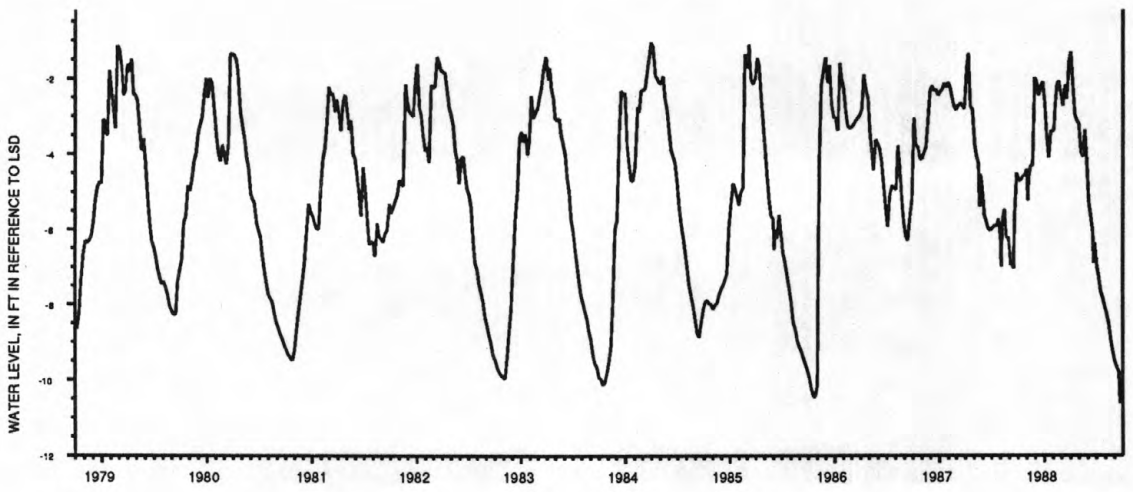
z Measured by USGS personnel.

431308078544501. Local number, Ni 70.
LOCATION.--Lat 43°13'08", long 78°54'45", Hydrologic Unit 04130001, near Ransomville. Owner: Calvin C. Schultz.
AQUIFER.--Water-table aquifer in sand of Pleistocene age.
WELL CHARACTERISTICS.--Dug unused well, diameter 4 ft to 5 ft (reported), stone-lined, depth 24 ft.
INSTRUMENTATION.--Weekly measurement with chalked tape by observer.
DATUM.--Elevation of land-surface datum is 336.66 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 1 in hole in steel cover, at land-surface datum.
PERIOD OF RECORD.--August 1972 to current year. Records for August 1972 to September 1976 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.05 ft below land-surface datum, Mar. 31, 1984; lowest measured, 10.64 ft below land-surface datum, Sept. 21, 1988.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 1.32 ft below land-surface datum, Apr. 2; lowest measured, 10.64 ft below land-surface datum, Sept. 21.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03	4.70	JAN 02	2.65	APR 02	1.32	JUL 02	6.99
10	4.68	09	3.54	09	2.19	09	7.29
17	4.58	16	4.08	16	2.98	16	7.70
25	4.54	23	3.39	23	3.11	23	7.86
31	4.40	30	3.40	30	3.21	AUG 06	8.30
NOV 05	5.23z	FEB 03	3.35z	MAY 07	3.95	13	8.55
07	4.65	06	2.84	14	4.06	20	8.98
14	4.29	13	2.17	21	3.37	27	9.28
21	4.30	20	2.08	28	4.23	SEP 02	9.52
28	1.99	27	2.39	JUN 04	5.28	10	9.68
DEC 05	2.11	MAR 05	2.73	11	5.67	17	9.81
12	2.46	12	2.17	18	6.07	21	10.64z
18	2.21	19	2.54	21	6.91z	24	10.02
26	2.10	26	1.56	25	6.38		

z Measured by USGS personnel.



ONTARIO COUNTY

425840077133901. Local number, Ot 900.

LOCATION.--Lat 42°58'40", long 77°13'39", Hydrologic Unit 04140201, at New York State Thruway Interchange 43, near Manchester. Owner: New York State Thruway Authority.

AQUIFER.--Confined aquifer in Camillus Shale of the Salina Group of Late Silurian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in, depth 139 ft, cased to 11 ft, open hole.

INSTRUMENTATION.--Float tape read weekly by observer.

DATUM.--Elevation of land-surface datum is 556.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of instrument shelf, 11.63 ft above land-surface datum.

PERIOD OF RECORD.--May 1955 to current year.

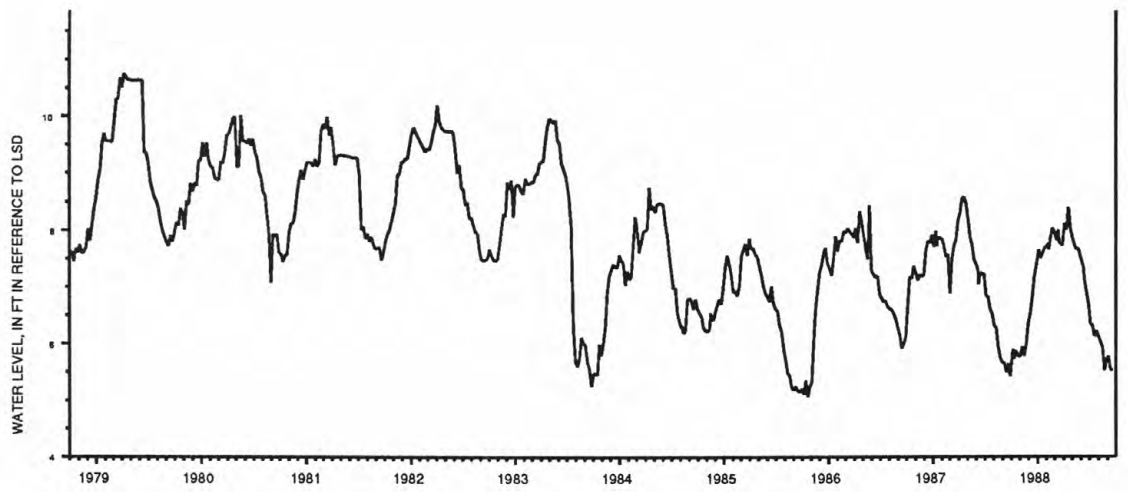
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.14 ft above land-surface datum, Mar. 15, 1976; lowest measured, 4.59 ft above land-surface datum, Nov. 11, 1957.

EXTREMES FOR CURRENT YEAR.--Highest water level measured, 8.41 ft above land-surface datum, Apr. 18; lowest measured, 5.48 ft above land-surface datum, Sept. 26.

WATER LEVEL, IN FEET ABOVE LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	5.83	JAN 06	7.67	MAR 28	7.74	JUN 27	6.72
08	5.90z	11	7.52	APR 04	8.13	JUL 04	6.34
12	5.73	18	7.59	11	8.02	11	6.32
19	5.88	25	7.69	18	8.41	18	6.13
26	5.78	FEB 01	7.72	25	8.03	25	6.23z
NOV 02	5.77	08	7.77	MAY 02	7.87	AUG 01	6.13
09	5.95	10	7.67z	09	7.75	08	6.03
16	5.79	15	7.88	16	7.67	15	5.94
23	5.98	22	8.04	23	7.69	22	5.53
30	6.36	29	7.98	30	7.54	29	5.72
DEC 07	6.53	MAR 07	7.83	JUN 06	7.41	SEP 05	5.78
14	6.81	14	8.02	09	7.37z	12	5.54
21	7.19	17	7.78z	13	7.13	19	5.53
28	7.38	21	7.78	20	6.91	26	5.48

z Measured by USGS personnel.



OTSEGO COUNTY

424136075025101. Local number, Og 23.

LOCATION.--Lat 42°41'36", long 75°02'51", Hydrologic Unit 02050101, at "Wild Creek Farm", 0.6 mi northeast of intersection of State Highway 205 and Kallan Road, 2.2 mi north of Hartwick, and 3.2 mi southeast of Oaksville. Owner: Thomas Kallan.

AQUIFER.--Water-table aquifer in till of Pleistocene age.

WELL CHARACTERISTICS.--Dug unused well, diameter 36 in, depth 15 ft, stone-lined.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,432.44 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of hole drilled through concrete well cover, at land-surface datum.

PERIOD OF RECORD.--May 1953 to current year. Records for May 1953 to September 1976 are unpublished and available in files of the Geological Survey.

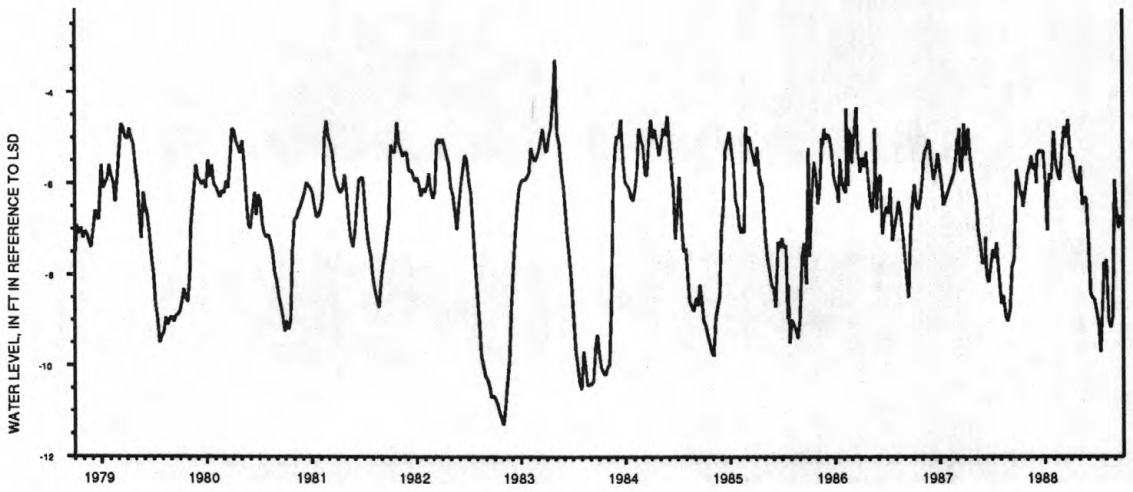
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.98 ft below land-surface datum, Apr. 2, 1960, Sept. 19, 1977; lowest measured, 12.66 ft below land-surface datum, Nov. 14, 1964.

EXTREMES FOR CURRENT YEAR.--Highest water level measured, 4.60 ft below land-surface datum, Mar. 24; lowest measured, 9.70 ft below land-surface datum, July 14.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	5.98	JAN 04	5.98	APR 14	5.70	JUL 14	9.70
11	6.27	11	7.02	19	5.86z	21	8.65
14	6.17z	13	6.28z	21	5.90	26	7.72z
18	6.50	18	5.78	28	5.99	28	7.89
25	6.20	25	5.90	MAY 05	5.62	AUG 04	7.67
NOV 02	5.80	FEB 03	4.86	12	6.46	10	8.88z
09	5.65	10	5.57	19	6.30	11	9.02
16	5.40	17	5.80	26	6.34	18	9.16
23	5.69	24	5.91	JUN 02	7.20	25	8.94
30	5.56	MAR 03	5.21	09	8.40	SEP 01	5.92
DEC 04	5.98	10	4.75	16	8.50	08	6.57
07	5.37	17	4.98	23	8.55	15	6.97
14	5.28	24	4.60	30	8.80	22	6.70
21	5.30	31	5.40	JUL 07	9.06	29	6.90
28	5.28	APR 07	5.38				

z Measured by USGS personnel.



422445077203301. Local number, Sb 472.
LOCATION.--Lat 42°24'45", long 77°20'33", Hydrologic Unit 02050105, near Kanona. Owner: David Owens.
AQUIFER.--Water-table aquifer in gravel of Pleistocene age.
WELL CHARACTERISTICS.--Bored observation well, diameter 2.5 in, depth 17 ft, filled in from original depth of 18 ft, cased to 16 ft, 1.25 in well point (60-gauze screen 16 ft to 18 ft, damaged during well installation).
INSTRUMENTATION.--Weekly measurement with chalked tape by observer.
DATUM.--Elevation of land-surface datum is 1,209.78 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.
PERIOD OF RECORD.--November 1965 to current year. Records for November 1965 to September 1976 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.64 ft below land-surface datum, June 25, 1972; lowest measured, 10.84 ft below land-surface datum, Sept. 22, 1966.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 6.74 ft below land-surface datum, Oct. 4; lowest measured, 10.49 ft below land-surface datum, Aug. 28.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	6.74	JAN 10	8.69	APR 04	7.29z	JUL 03	10.03
13	6.90	17	9.10	10	7.14	10	10.14
18	8.44	24	9.14	17	7.40	17	10.38
25	9.04	27	9.12z	21	7.62z	19	10.30z
NOV 01	9.23	31	9.34	24	7.91	24	9.69
06	9.40z	FEB 07	9.04	MAY 01	8.36	31	9.98
08	9.50	14	9.20	11	8.72	AUG 07	10.20
15	9.64	21	9.09	15	9.04	14	10.36
22	9.75	28	9.05	22	8.73	21	10.42
29	9.68	MAR 06	9.08	26	8.66z	24	10.40z
DEC 06	9.29	10	8.79z	29	8.70	28	10.49
13	9.11	13	8.64	JUN 05	8.73	SEP 05	10.35
18	8.84z	20	8.60	12	9.10	11	10.39
20	8.92	27	7.99	19	9.50	18	10.41
27	8.72	APR 03	7.72	26	9.76	25	10.40
JAN 03	8.44						

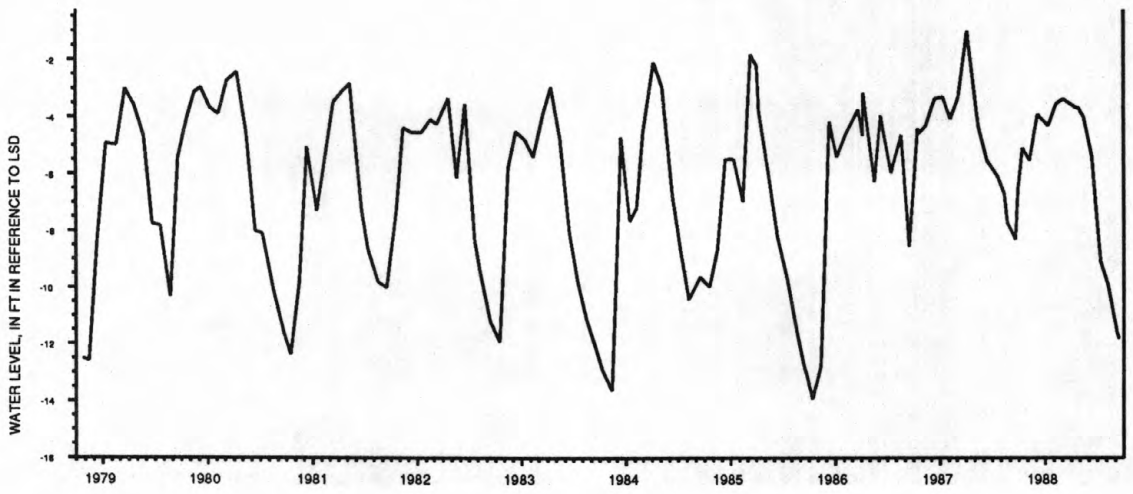
z Measured by USGS personnel.

423739077595501. Local number, Wo 1.
LOCATION.--Lat 42°37'39", long 77°59'55", Hydrologic Unit 04130002, Letchworth State Park, near Castile. Owner: New York State Department of Environmental Conservation.
AQUIFER.--Water-table aquifer in till of Pleistocene age.
WELL CHARACTERISTICS.--Driven unused well, diameter 2 in, depth 14 ft, well point (60-gauze screen 12 ft to 14 ft).
INSTRUMENTATION.--Monthly measurement with chalked tape by observer.
DATUM.--Elevation of land-surface datum is 1,045.44 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 2 in by 1 in reducing coupling, 3.33 ft above land-surface datum.
PERIOD OF RECORD.--November 1942 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.5 ft below land-surface datum, Apr. 5, 1947; lowest measured, dry, Dec. 6-27, 1964, Jan. 2, 1965.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 3.37 ft below land-surface datum, Mar. 4; lowest measured, 11.82 ft below land-surface datum, Sept. 14.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	5.10	FEB 09	3.53	MAY 15	4.01	AUG 06	9.90
NOV 08	5.53	MAR 04	3.37	JUN 12	5.39	SEP 07	11.60
DEC 06	3.91	APR 17	3.66	27	7.37z	14	11.82z
JAN 12	4.31	27	3.68z	JUL 12	9.09		

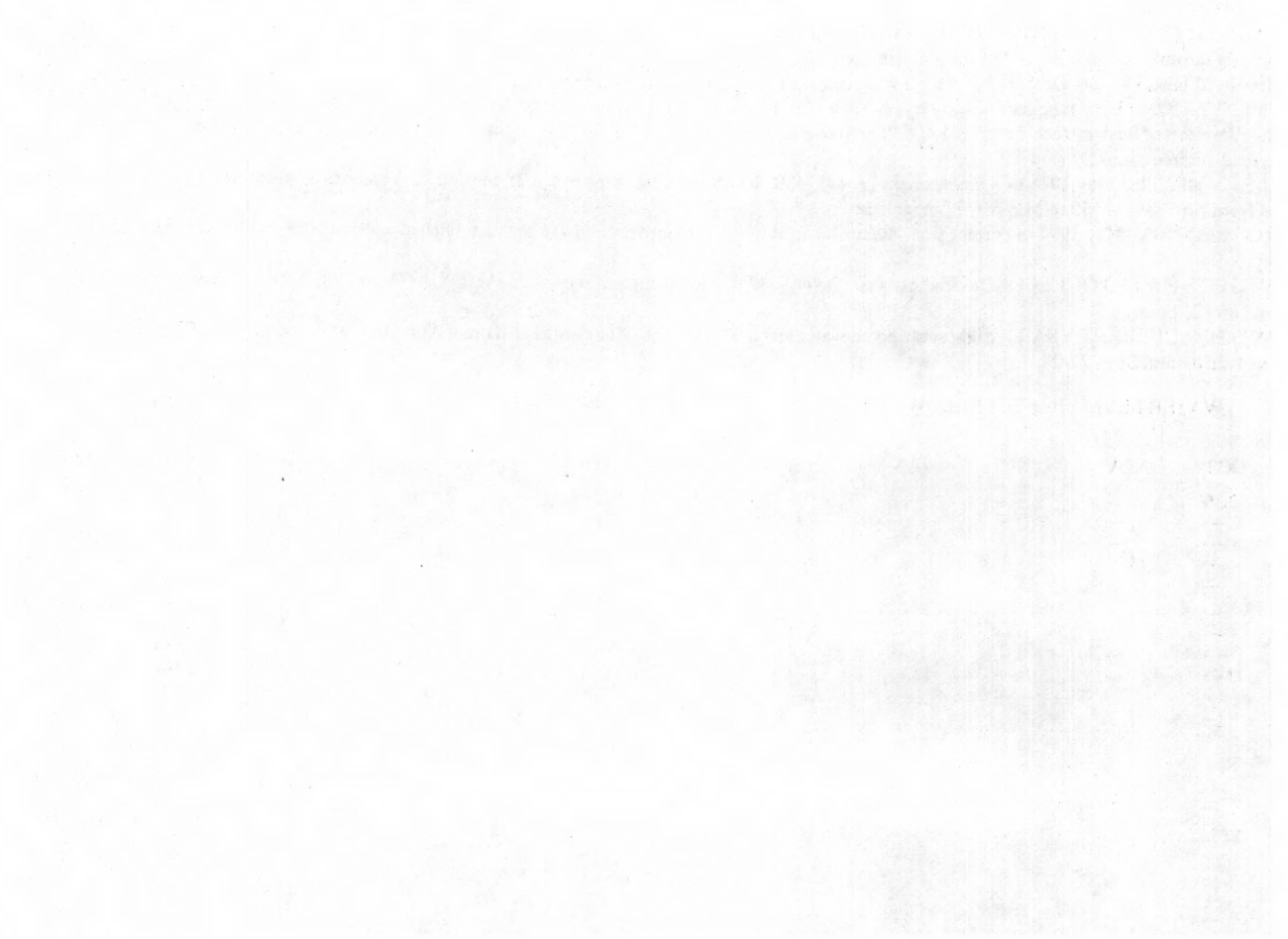
z Measured by USGS personnel.



423743078070802. Local number, Wo 4.
LOCATION.--Lat 42°37'43", long 78°07'08", Hydrologic Unit 04130002, near Gainesville. Owner: Letchworth Central School.
AQUIFER.--Water-table aquifer in sand of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 20 ft, cased to 20 ft, open end.
INSTRUMENTATION.--Float tape read weekly by observer Oct. 1 to July 13; digital recorder with 60-minute punch July 14 to Sept. 30.
DATUM.--Elevation of land-surface datum is 1,606.76 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 2.60 ft above land-surface datum.
REMARKS.--Well drilled May 1974 as a replacement for 423743078070801 (local number Wo 2), located 25 ft southeast, which has a period of record from November 1965 to May 1974 (unpublished).
PERIOD OF RECORD.--May 1974 to current year. Records for May 1974 to September 1976 are unpublished and available in files of the Geological Survey.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.89 ft below land-surface datum, Mar. 5, 1976; lowest, 14.00 ft below land-surface datum, Nov. 3, 1974.
EXTREMES FOR CURRENT YEAR.--Highest observed water level, 11.63 ft below land-surface datum, Apr. 10; lowest recorded, 13.67 ft below land-surface datum, Sept. 22-23.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.36	---	---	---	---	12.55	---	---	---	12.75	13.36	13.26
2	---	---	---	---	---	---	---	---	---	---	13.34	13.32
3	---	---	---	12.52	---	---	---	---	---	---	13.34	13.36
4	---	13.07	---	---	---	---	---	---	---	---	13.37	13.40
5	---	---	13.02	---	---	---	---	---	---	---	13.41	13.41
6	---	---	---	---	---	---	---	---	---	---	13.42	13.42
7	---	---	---	---	12.55	---	---	12.39	---	13.33	13.42	13.43
8	---	---	---	---	---	---	---	---	12.78	---	13.44	13.47
9	12.38	---	---	12.71	---	---	---	---	---	---	13.42	13.49
10	---	---	---	---	---	---	11.63	---	---	---	13.41	13.53
11	---	---	---	---	---	---	---	---	---	---	13.45	13.54
12	---	---	12.83	---	---	---	---	---	---	---	13.46	13.57
13	---	---	---	---	---	---	---	---	---	---	13.49	13.57
14	---	---	---	---	---	---	---	---	12.95	13.48	13.51	13.61
15	---	---	---	12.79	12.74	---	---	---	---	13.49	13.52	13.62
16	12.58	---	---	---	---	---	---	12.58	---	13.49	13.55	13.64
17	---	---	---	---	---	12.18	---	---	---	13.44	13.51	13.62
18	---	13.27	---	---	---	---	---	---	---	13.31	13.42	13.61
19	---	---	12.80	---	---	---	12.08	---	---	13.29	13.44	13.63
20	---	---	---	---	---	---	---	---	---	13.33	13.48	13.63
21	---	---	---	---	12.75	---	---	---	---	13.30	13.52	13.64
22	---	13.30	---	---	---	---	---	---	---	13.22	13.56	13.66
23	12.83	---	12.83	12.56	---	---	---	---	---	13.23	13.56	13.59
24	---	---	---	---	---	12.39	---	---	13.13	13.19	13.51	13.53
25	12.92	---	---	---	---	---	---	---	---	13.18	13.51	13.53
26	---	---	---	---	---	---	---	12.47	---	13.20	13.51	13.55
27	---	---	12.24	---	---	---	---	---	13.19	13.22	13.52	13.58
28	---	---	---	---	---	---	---	---	---	13.25	13.52	13.60
29	---	---	---	---	---	---	---	---	---	13.29	13.40	13.63
30	---	---	---	12.74	---	---	12.28	---	13.23	13.32	13.25	13.65
31	---	---	---	---	---	11.67	---	12.62	---	13.34	13.22	---
MEAN	---	---	---	---	---	---	---	---	---	---	13.45	13.54
LOW	---	---	---	---	---	---	---	---	---	---	13.56	13.66
HIGH	---	---	---	---	---	---	---	---	---	---	13.22	13.26



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
521 West Seneca Street
Ithaca, NY 14850

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

SPECIAL 4TH CLASS BOOK RATE

INT 413