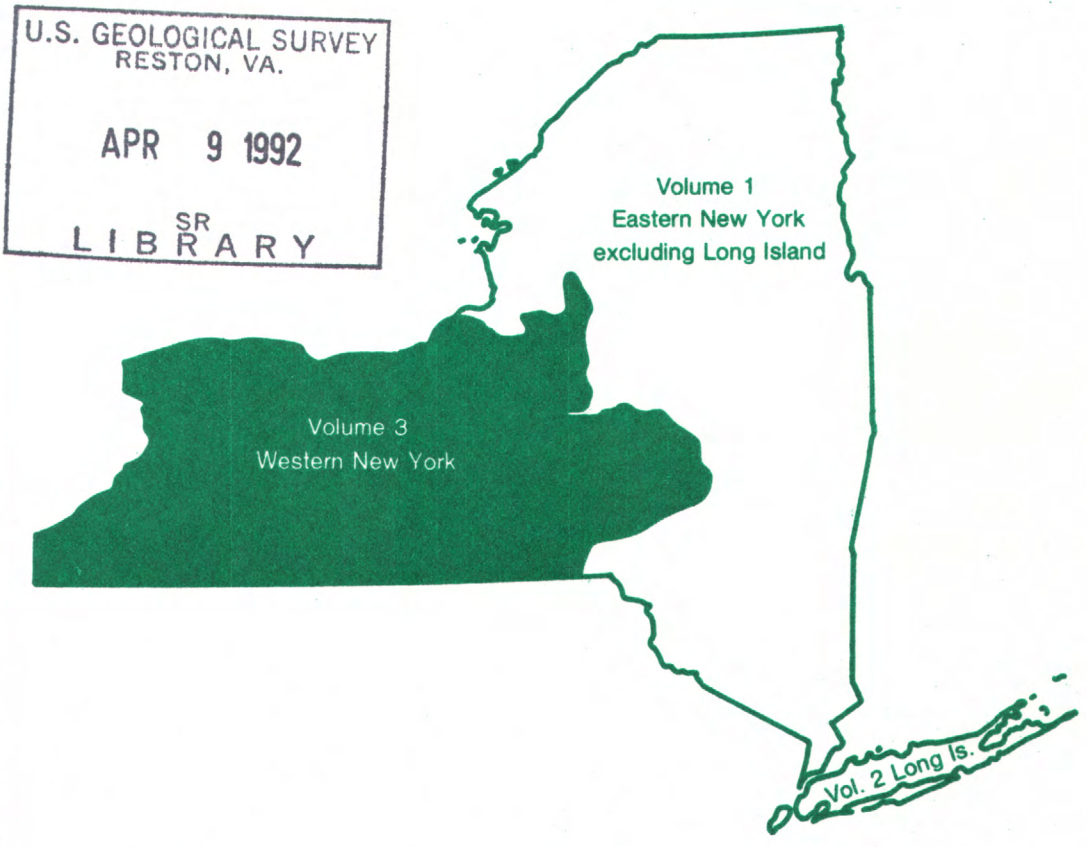
Water Resources Data New York Water Year 1990

Volume 3. Western New York



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-90-3
Prepared in cooperation with the State of New York
and with other agencies

CALENDAR FOR WATER YEAR 1990

1989

OCTOBER

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

NOVEMBER

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

DECEMBER

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

1990

JANUARY

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

FEBRUARY

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

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

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

SEPTEMBER

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

Water Resources Data New York Water Year 1990

Volume 3. Western New York

by J.B. Campbell, C.O. Szabo, D.A. Sherwood, and D.D. Deloff

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NY-90-3
Prepared in cooperation with the State of New York
and with other agencies

U.S. DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, Jr., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in New York write to
District Chief, Water Resources Division
U.S. Geological Survey
U.S. Post Office and Courthouse
P.O. Box 1669
Albany, New York 12201

1991

PREFACE

This volume of the annual hydrologic data report of New York is one of a series of annual reports that document hydrologic data gathered from the U. S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and 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, Bronius Nemickas, Acting Subdistrict Chief
Volume 3. Ithaca, Robin G. Brown, Acting Subdistrict Chief

The authors, including W. F. Coon and 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:

J. P. Campbell	R. L. Mulks	M. J. Welsh
H. L. Dixson	K. A. Voytko	H. J. Zajd, Jr.

A. M. Weaver 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-91/284	2.	3. Recipient's Accession No.

4. Title and Subtitle
Water Resources Data - New York, Water Year 1990
Volume 3. Western New York

5. Report Date
April 1991

6.

7. Author(s)
J. B. Campbell, C. O. Szabo, D. A. Sherwood and D. D. Deloff

8. Performing Organization Rept. No.
USGS-WDR-NY-90-3

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, 1989 to September 30, 1990

14.

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

16. Abstract (Limit: 200 words)

Water resources data for the 1990 water year for New York consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels of ground-water wells. This volume contains records for water discharge at 78 gaging stations; stage only at 19 gaging stations; stage and contents at 6 gaging stations; water quality at 4 gaging stations and 9 partial-record stations; and water levels at 22 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 213
	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		
04217500	Tonawanda Creek near Alabama	231	10/55 - 9/89
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
04232047	Irondequoit Creek at Linden Avenue, East Rochester	101	8/73 - 3/89
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
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, 1990
Volume 3.--Western New York

INTRODUCTION

Water resources data for the 1990 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 78 gaging stations; stage only at 19 gaging stations; stage and contents at 6 gaging stations; water quality at 4 gaging stations and 9 partial-record stations; and water levels at 22 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–90–3." 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 1990, 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

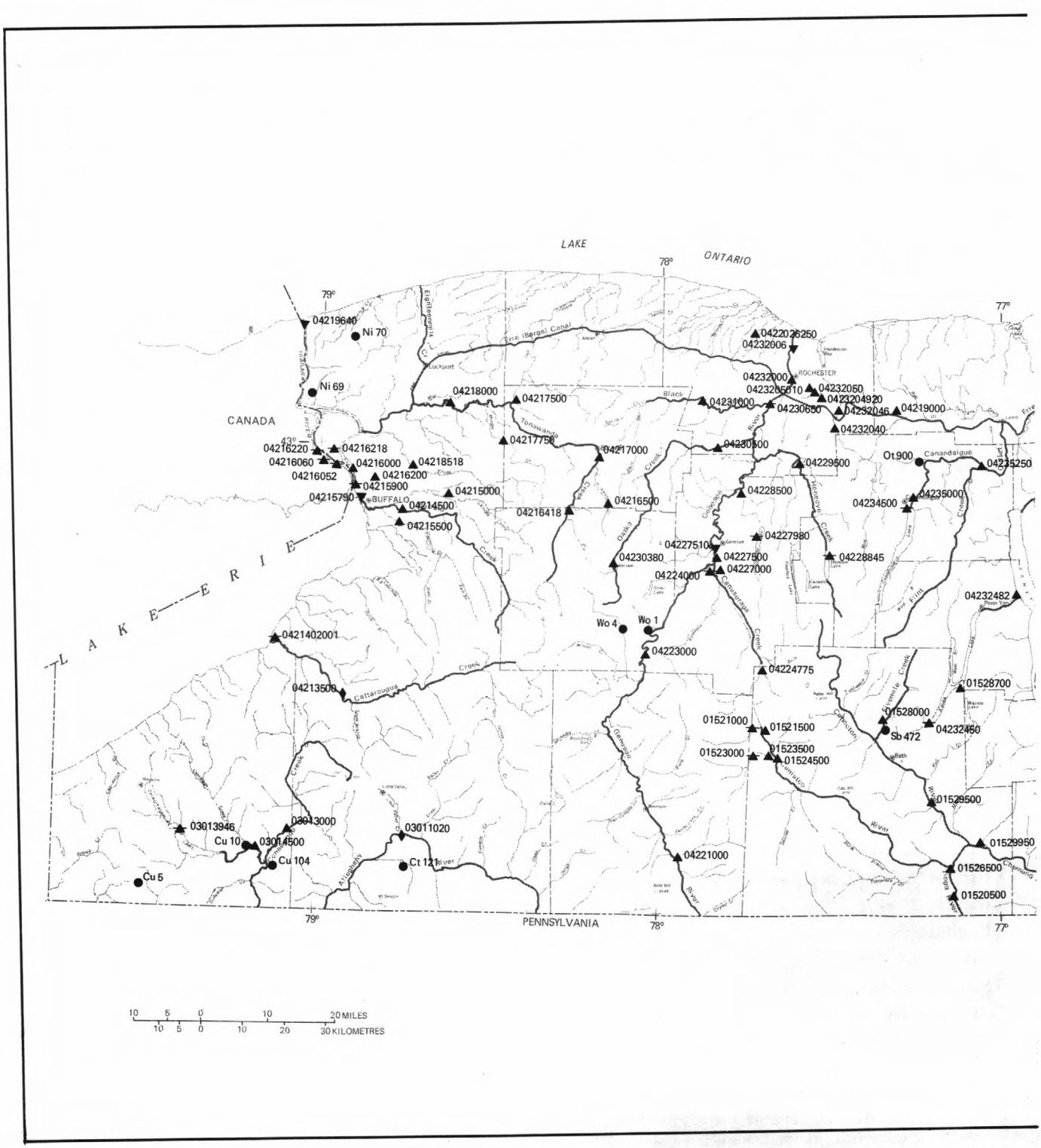
Irondequoit Bay Pure Waters District

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:

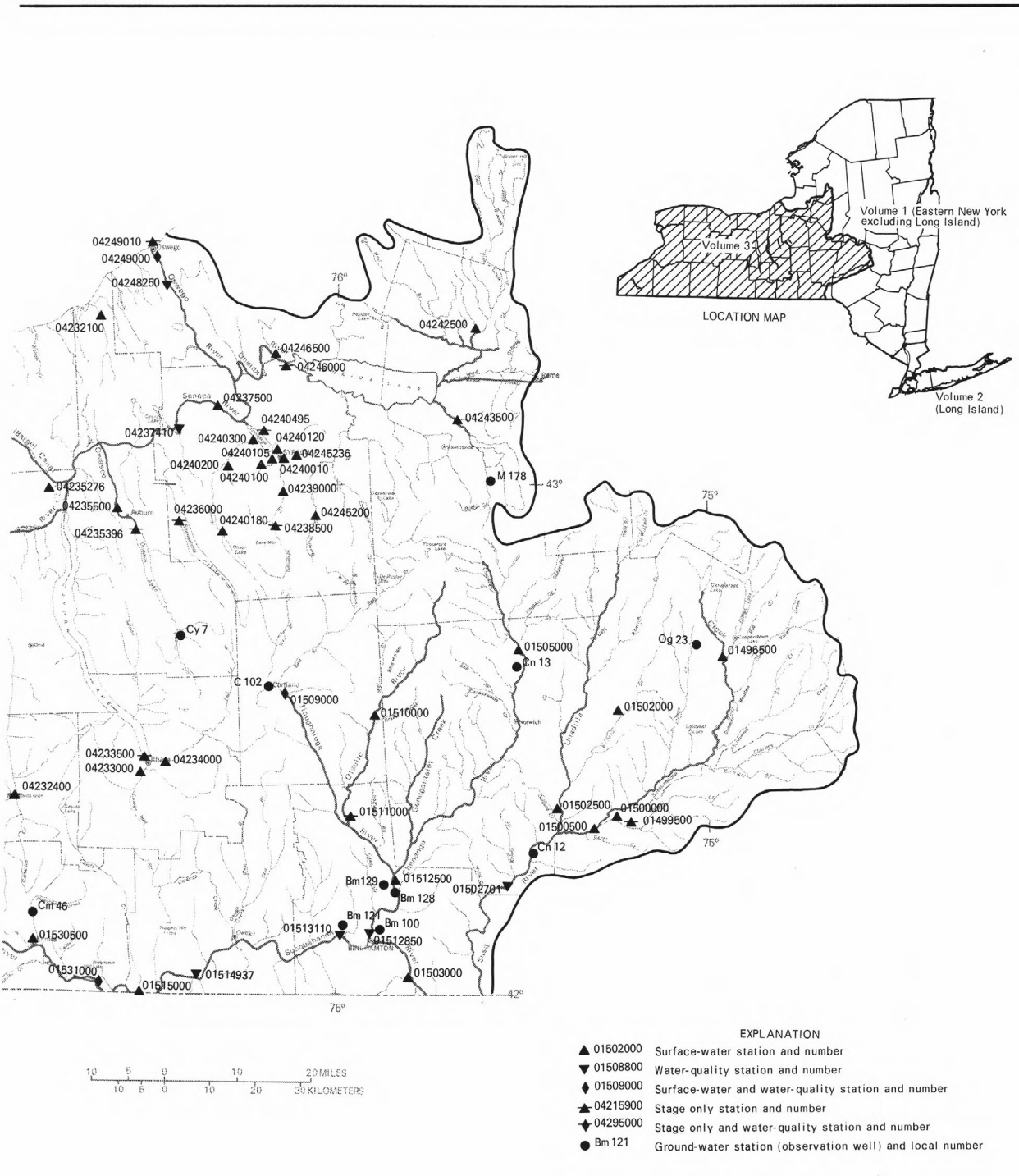
Municipalities of Batavia, Canandaigua, Cortland, Jamestown, Lancaster, Oneida, Rochester, Syracuse; Cornell University; New York State Electric and Gas Corporation; Niagara Mohawk Power Corporation; Rochester Gas and Electric Corporation.

Organizations that supplied data are acknowledged in station descriptions.



Base from U.S. Geological Survey
State base map
Shaded relief, 1:500,000, 1956

FIGURE 1.-- LOCATION OF GAGING STATIONS AND



OBSERVATION WELLS IN WESTERN NEW YORK

SUMMARY OF HYDROLOGIC CONDITIONS[1]

Surface Water

Average discharges in western New York were near the period-of-record average (table 1). Streamflow departures from average conditions in response to precipitation at two index stations—Susquehanna River at Conklin and Allegheny River at Salamanca are indicated in figures 2 and 3.

Table 1.-- Comparison of annual mean discharges of the 1990 water year with mean discharges for the period of record for selected streams
[Locations are shown in fig. 1. Discharges are in cubic feet per second.]

	Station	Period of record	Mean discharge for period of record	1990 Water year mean discharge	Percent difference
01503000	Susquehanna River at Conklin	1914–89	3,584	3,963	+ 9.6
01531000	Chemung River at Chemung	1906–13, 1915–89	2,522	2,185	- 13.4
03011020	Allegheny River at Salamanca	1904–89	2,779	2,827	+ 1.7
04213500	Cattaraugus Creek at Gowanda	1941–89	740	784	+ 5.6
04217000	Tonawanda Creek at Batavia	1945–89	212	215	+ 1.4
04221000	Genesee River at Wellsville	1917–1989[2]	337	338	+ 0.3
04234000	Fall Creek near Ithaca	1926–89	184	192	+ 4.2
04242500	East Branch Fish Creek at Taberg	1924-89	540	591	+ 8.6

Streamflow at the beginning of the 1990 water year was near normal and continued in the recession that was in effect at the end of September. Above-average precipitation from mid-October through November resulted in above-average runoff. November began a period of below-average temperatures that increased precipitation in the snow-belt regions adjacent to Lakes Erie and Ontario. Below-average temperatures continued and intensified in December, which was the coldest December on record. During this period, most streams became ice covered. December was also one of the driest months on record; recorded precipitation was only 45 percent of the State average amounts, and streamflow was below-average at most stream-gaging sites. Snow accumulations were generally above average in the snow-belt regions adjacent to Lakes Erie and Ontario, however.

Table 2.--Comparison of mean discharges water year 1990 December, February, and May at selected sites with period-of-record median monthly-mean discharges.
[Locations are shown in fig. 1.]

	Station	Period of record used	Monthly discharge as a percentage of period-of-record median monthly-mean discharge		
			Dec. (below average)	Feb. (above average)	May
01503000	Susquehanna River at Conklin	1914–89	49	276	178
01531000	Chemung River at Chemung	1915–89	41	495	149
03011020	Allegheny River at Salamanca	1904–89	31	280	137
04213500	Cattaraugus Creek at Gowanda	1941–89	40	248	188
04217000	Tonawanda Creek at Batavia	1945–89	24	236	257
04221000	Genesee River at Wellsville	1917–1989[2]	30	304	119
04234000	Fall Creek near Ithaca	1930–89	39	235	160
04242500	East Branch Fish Creek at Taberg	1924–89	40	196	190

[1] Climatological data used in this summary are from monthly weather summaries published by the Northeast Regional Climate Center, Cornell University.

[2] Includes equivalent discharge record from Genesee River at Scio (04221500) for 1917-1955 and 1959-1972.

Mixed precipitation during the early part of January resulted in mixed hydrologic conditions. Record high temperatures in mid-January melted snowpacks, and this snowmelt, combined with earlier precipitation, began a nearly 2-month period of sustained high flows. Unseasonable thunderstorms with brief but heavy downpours caused minor flooding in many parts of western New York. Streamflow during February was substantially above average (table 2), and most stream-gaging sites recorded annual peak flows at this time.

The early spring snowmelt and above-average temperatures generally resulted in below-average streamflows during March and April, except for a brief period of heavy showers during the middle of April that caused some lowland flooding in western New York. Receding streamflow continued until the beginning of May, when a prolonged wet period with heavy rains during the middle of the month produced the second highest streamflows of the water year at many streamflow-gaging sites (table 2). Streamflow receded to near-average conditions as drier, warmer air dominated the latter part of May. Except for localized thunderstorms in mid-June, dry weather and below-average precipitation continued through early July and reduced streamflow to its second-lowest level of the water year.

Heavy rains associated with thunderstorms in western New York during most of mid-July increased streamflow to well above average in many areas. After a brief period of fair weather at the end of July, periodic heavy rains associated with thunderstorms increased streamflow to above-average levels through most of August and caused localized flooding in small tributary streams. During September, above-average precipitation in the western part of New York sustained high flows, but below-average precipitation in the eastern part of the State caused streamflow to recede to average conditions.

Analysis of stream-water samples and associated discharge data collected from the four National Stream Quality Accounting Network (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.

Water-quality data from 12 sites in central and western New York that are part of a statewide cooperative program with the New York State Department of Environmental Conservation (NYSDEC) are included in this report. Water-quality samples were collected at these sites by NYSDEC but analyzed by the USGS National Water Quality Laboratory at Denver, Colo. Three of these NYSDEC sites, Niagara River at Fort Niagara, Genesee River at Charlotte Docks at Rochester, and Cattaraugus Creek at Gowanda, also are NASQAN sites.

Ground Water

Ground-water levels, which were above average levels at the end of the 1989 water year as a result of heavy rains at the end of September, declined through mid-October. Lowest levels for the 1990 water year were recorded at many observation wells during this month. A seasonal rise occurred during November with the cessation of vegetation growth and above-average precipitation from mid-October through November. During the dry winter months, water levels responded minimally to snowmelt and declined during December and the first half of January. Record high temperatures in mid-January melted snowpacks, and this snowmelt, combined with above-average precipitation, caused ground-water levels to rise from mid-January through February. Highest levels for the 1990 water year were recorded at most observation wells during February. Ground-water levels declined during March and April, except for a brief rise in mid-April in response to heavy showers, and continued to decline in May until a prolonged mid-month wet period caused a brief rise. From the beginning of June until the end of September, below-average precipitation and the water demands of vegetation caused water levels to decline throughout most of western New York, resulting in a second period of low ground-water levels. Lowest annual water levels were recorded in September at those observation wells where lowest levels were not recorded in October. The southwestern part of the State received above-average precipitation from July through September, however, which increased ground-water levels for September in that region.

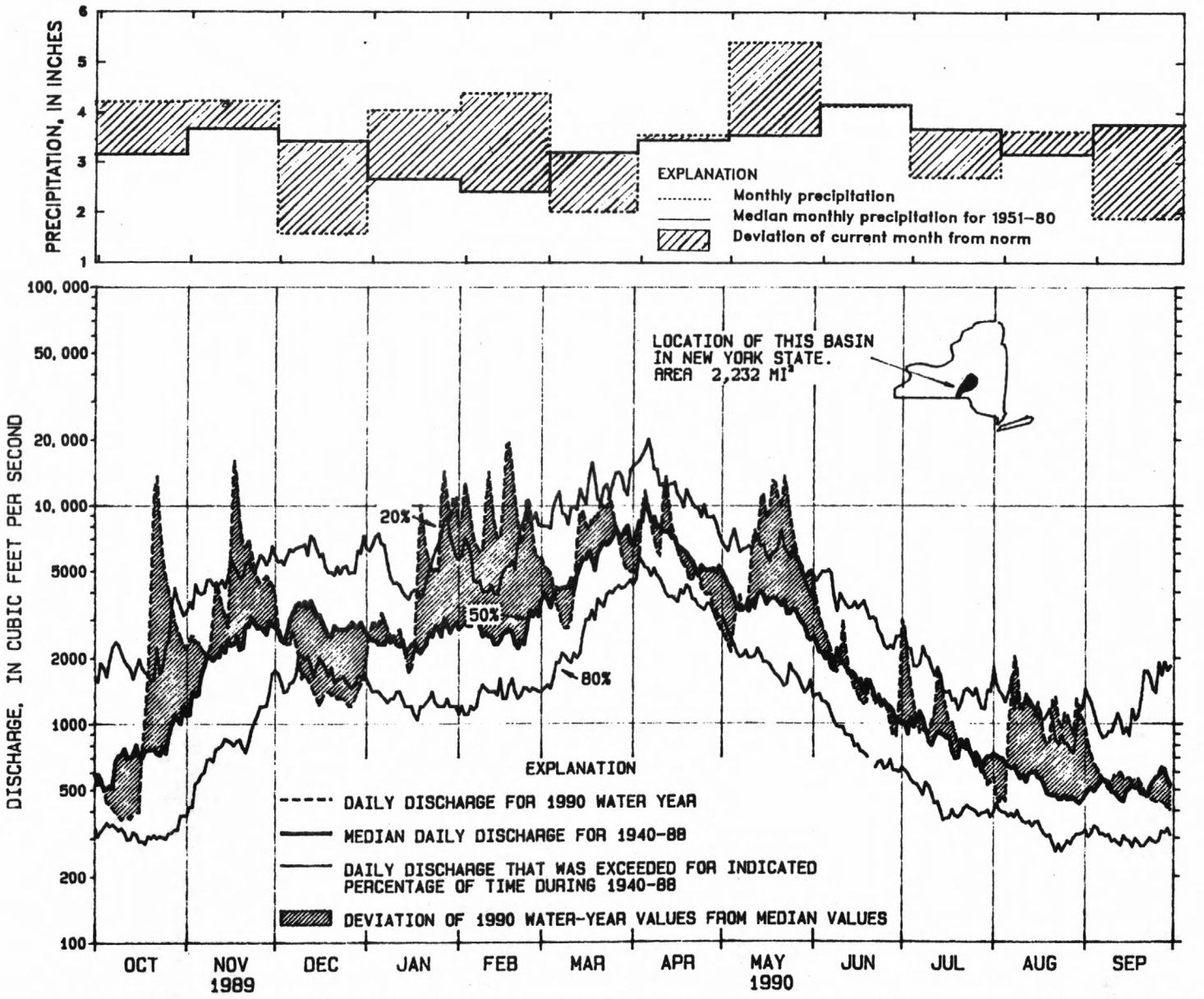


Figure 2.--Monthly precipitation and daily discharge at Susquehanna River at Conklin during the 1990 water year and median daily discharge for 1940-88. (Location is shown in fig. 1. Precipitation data is from monthly weather summaries published by the National Oceanic and Atmospheric Administration from Norwich, N.Y.)

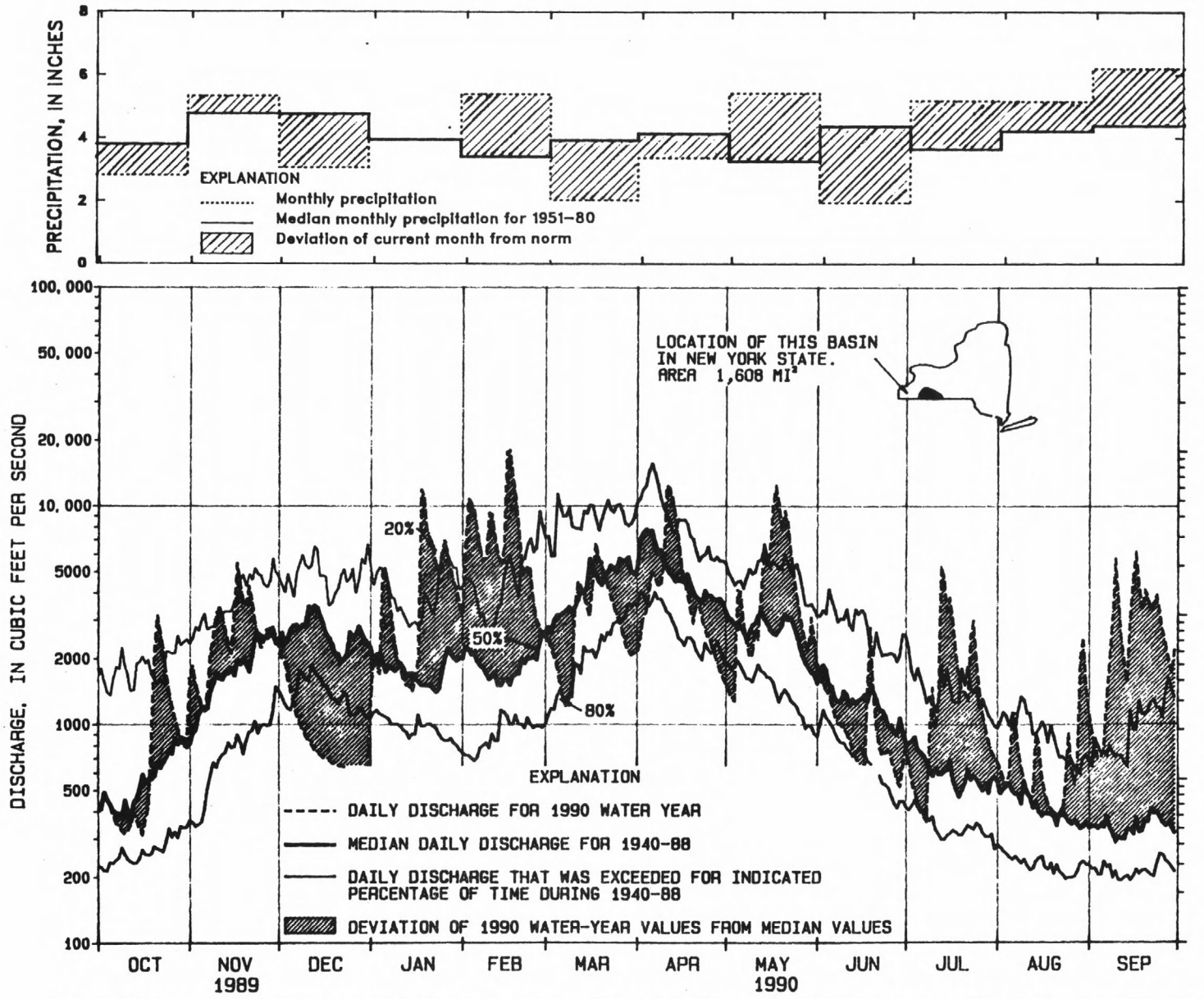


Figure 3.--Monthly precipitation and daily discharge at Allegheny River at Salamanca during the 1990 water year and median daily discharge for 1940-88. (Location is shown in fig. 1. Precipitation data is from monthly weather summaries published by the National Oceanic and Atmospheric Administration from Little Valley, N.Y.)

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, 1989, and ended September 30, 1990. 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.

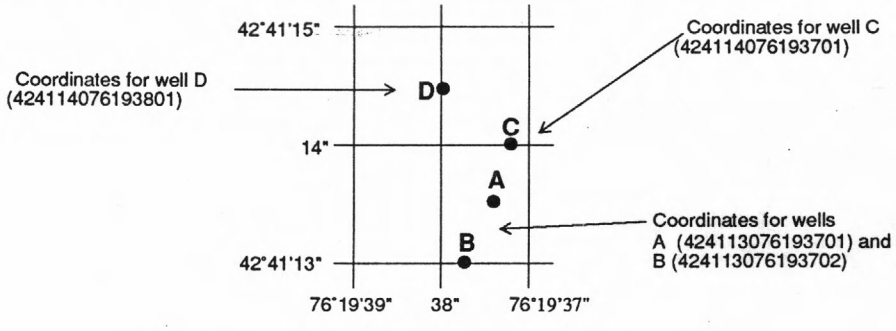


Figure 5. System for numbering wells (latitude and longitude)

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)

NOTE: In March 1989 the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989. Sulfate values in this report have not been corrected for this bias.

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

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

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

Substrate is the physical surface upon which an organism lived.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SUSQUEHANNA RIVER BASIN

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

AVERAGE DISCHARGE.--55 years (1931–32, 1938–90), 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)
Feb. 17	0630	*1,010	*5.16	No other peak greater than base discharge.			

Minimum daily discharge, 6.1 ft^3/s, Oct. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	168	249	178	e320	e420	353	177	288	99	20	35
2	11	157	e200	150	370	407	341	163	258	85	18	32
3	9.8	150	e220	123	356	387	432	149	232	77	15	30
4	9.0	150	e180	123	e320	e320	486	139	215	72	14	28
5	8.9	139	e190	153	e310	e300	472	233	198	70	15	25
6	8.8	133	e200	e130	312	e270	454	210	179	66	72	24
7	8.0	130	e190	e110	301	e260	433	186	165	62	58	26
8	7.4	129	e160	e106	294	e250	410	210	153	56	41	30
9	7.0	153	e120	e100	311	e240	388	189	156	58	32	26
10	6.1	185	e150	116	467	241	406	215	145	55	43	34
11	7.7	165	e150	115	e410	266	627	347	137	51	52	30
12	8.9	164	e135	114	e370	524	514	268	130	54	41	26
13	7.6	160	e120	e100	e360	552	478	375	120	56	38	24
14	7.5	156	e90	e96	e364	597	448	470	116	49	46	23
15	37	153	e106	e100	e360	567	426	377	110	47	39	23
16	33	318	e100	106	687	540	400	418	106	49	36	25
17	44	455	e104	142	879	554	385	658	102	45	48	24
18	78	344	e90	308	e600	573	369	635	100	41	39	22
19	60	324	e82	e260	e530	524	337	579	108	38	75	20
20	206	337	e90	e240	e480	561	316	550	100	39	64	20
21	379	423	e90	245	e440	548	324	735	95	46	46	19
22	256	361	e85	242	475	535	301	680	90	41	42	40
23	238	341	e80	236	712	645	279	620	91	42	37	42
24	223	321	e78	239	e590	584	260	565	89	51	38	38
25	213	306	e76	251	e500	535	257	513	73	41	36	34
26	203	306	e74	440	e480	500	246	467	67	36	32	30
27	193	301	e72	401	e450	457	226	428	60	32	30	26
28	184	296	e76	360	e430	423	210	392	59	29	30	21
29	175	283	e86	341	---	399	197	361	82	27	77	16
30	165	262	e100	370	---	381	192	380	164	24	48	20
31	158	---	e110	e330	---	367	---	325	---	22	39	---
TOTAL	2965.7	7270	3853	6325	12478	13727	10967	12014	3988	1560	1261	813
MEAN	95.7	242	124	204	446	443	366	388	133	50.3	40.7	27.1
MAX	379	455	249	440	879	645	627	735	288	99	77	42
MIN	6.1	129	72	96	294	240	192	139	59	22	14	16
CFSM	.94	2.38	1.22	2.00	4.37	4.34	3.58	3.80	1.30	.49	.40	.27
IN.	1.08	2.65	1.41	2.31	4.55	5.01	4.00	4.38	1.45	.57	.46	.30

CAL YR 1989 TOTAL 58019.9 MEAN 159 MAX 614 MIN 6.1 CFSM 1.56 IN. 21.16
WTR YR 1990 TOTAL 77221.7 MEAN 212 MAX 879 MIN 6.1 CFSM 2.07 IN. 28.16

e Estimated

SUSQUEHANNA RIVER BASIN

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.--No estimated daily discharges. 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.--50 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 daily, 1.2 ft^3/s, Aug. 13, 1949; 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, 1,470 ft^3/s, May 21 at 1215 hours, gage height, 4.18 ft; minimum daily, 9.7 ft^3/s, Sept. 6, 7, 22-24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	127	128	188	442	226	234	109	141	185	23	30
2	17	128	73	161	818	193	216	109	105	133	23	30
3	12	127	102	118	761	179	576	109	100	97	22	30
4	12	128	122	117	497	155	622	86	115	89	22	30
5	12	127	95	169	419	118	484	115	114	90	22	16
6	12	129	99	185	357	121	446	171	77	75	278	9.7
7	12	128	167	120	343	95	358	131	57	68	198	9.7
8	13	91	95	89	308	84	284	153	69	48	133	21
9	13	102	45	90	361	118	260	150	127	111	62	23
10	13	220	50	112	915	118	281	233	410	79	241	19
11	13	246	70	121	666	178	923	569	131	38	201	27
12	13	244	75	121	513	381	576	316	112	88	142	30
13	13	176	75	85	385	374	399	481	90	179	85	30
14	14	107	75	66	355	343	349	913	80	90	113	29
15	55	142	44	66	335	320	212	520	81	50	85	29
16	36	235	31	86	216	304	138	396	81	130	48	29
17	18	823	55	158	13	326	220	549	82	121	41	30
18	70	585	69	450	636	566	252	612	106	66	58	23
19	157	493	50	310	1310	395	212	559	122	50	66	20
20	763	467	41	268	1200	806	175	421	120	50	48	20
21	704	469	41	236	474	696	177	933	91	68	40	13
22	982	374	41	237	269	563	233	679	149	68	40	9.7
23	674	297	41	235	467	840	263	453	133	44	54	9.7
24	548	273	41	200	348	643	278	390	119	45	64	9.7
25	485	209	41	241	295	524	216	350	99	50	77	9.8
26	272	198	41	597	165	482	123	228	61	40	42	10
27	136	212	41	959	180	330	35	181	53	28	30	10
28	109	213	41	600	215	247	139	208	53	24	30	10
29	162	212	41	534	---	235	162	235	54	24	30	10
30	111	214	41	776	---	235	118	309	409	24	30	11
31	86	---	41	613	---	234	---	204	---	20	30	---
TOTAL	5557	7496	2012	8308	13263	10429	8961	10872	3541	2272	2378	588.3
MEAN	179	250	64.9	268	474	336	299	351	118	73.3	76.7	19.6
MAX	982	823	167	959	1310	840	923	933	410	185	278	30
MIN	12	91	31	66	13	84	35	86	53	20	22	9.7

CAL YR	1989	TOTAL	62020.2	MEAN	170	MAX	1740	MIN 1.4
WTR YR	1990	TOTAL	75677.3	MEAN	207	MAX	1310	MIN 9.7

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

AVERAGE DISCHARGE.--52 years, 1,563 ft^3/s, 21.61 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)
Feb. 17	1530	*10,300	*9.78

No peak greater than base discharge.

Minimum discharge, 136 ft^3/s, Oct. 10, gage height, 1.83 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275	1220	1740	e860	3470	e2800	2680	1280	2060	1340	194	372
2	207	1290	1400	e1100	4760	2710	2540	1150	1780	1020	260	339
3	168	1150	e1400	e1150	5150	2660	3660	1050	1610	786	177	336
4	163	1200	e1150	e1200	4030	2350	5520	975	1530	636	161	303
5	155	1110	e1100	e1150	3510	1940	5140	1230	1390	441	182	271
6	150	1060	e1100	e1300	3070	1860	4390	1740	1180	490	608	233
7	148	1020	e1250	e1200	2940	1600	3780	1430	1040	600	1310	238
8	145	945	e1050	e1100	2760	1460	3300	1590	881	428	989	256
9	170	1110	e800	1080	2980	1410	2990	1630	1080	516	613	275
10	153	2170	e750	1090	5680	1390	2880	1560	2020	519	691	286
11	152	1920	e800	1130	5890	1700	6500	3340	1200	342	809	307
12	177	1720	e750	1160	4440	2770	5940	3000	990	544	873	284
13	178	1550	e700	947	3600	4820	4490	3340	863	638	645	286
14	172	1320	e600	887	3550	4920	3800	5370	777	627	663	255
15	270	1300	e540	584	3400	4550	3350	4370	728	469	730	266
16	640	2780	e500	763	6970	4040	3010	3660	687	529	530	281
17	449	4800	e520	1090	10000	3860	2790	5310	655	597	445	275
18	681	3460	e550	2610	8120	5040	2810	6340	724	463	447	240
19	848	2810	e520	3050	6750	4170	2490	6010	907	368	510	219
20	2930	2610	e490	2320	5500	5280	2200	5080	730	384	736	213
21	6650	3210	e480	2220	3870	5410	2390	6680	682	367	615	204
22	4700	2940	e470	2150	3520	4990	2580	6800	753	373	480	199
23	3260	2500	e460	1870	5120	6310	2250	5390	658	301	454	212
24	2500	2260	e450	1970	5730	6120	2050	4500	674	380	466	212
25	2200	2050	e420	2310	4650	4980	1930	3860	611	356	502	202
26	1840	2050	e400	5590	e3300	4360	1980	3270	435	313	448	195
27	1470	2250	e420	6240	e2950	3670	1640	2910	435	307	396	188
28	1430	2130	e430	4530	e3000	3110	1430	2700	568	268	377	179
29	1300	2120	e450	3760	---	2890	1400	2450	515	272	424	169
30	1210	1870	e480	4960	---	2740	1290	2910	1770	202	628	165
31	1090	---	e520	4110	---	2690	---	2620	---	159	439	---
TOTAL	35881	59925	22690	65481	128710	108600	93200	103545	29933	15035	16802	7460
MEAN	1157	1997	732	2112	4597	3503	3107	3340	998	485	542	249
MAX	6650	4800	1740	6240	10000	6310	6500	6800	2060	1340	1310	372
MIN	145	945	400	584	2760	1390	1290	975	435	159	161	165
CFSM	1.18	2.03	.75	2.15	4.68	3.57	3.16	3.40	1.02	.49	.55	.25
IN.	1.36	2.27	.86	2.48	4.88	4.11	3.53	3.92	1.13	.57	.64	.28

CAL YR 1989 TOTAL 544948 MEAN 1493 MAX 9510 MIN 117 CFSM 1.52 IN. 20.64
WTR YR 1990 TOTAL 687262 MEAN 1883 MAX 10000 MIN 145 CFSM 1.92 IN. 26.03

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

AVERAGE DISCHARGE.--52 years, 99.7 ft^3/s, 22.68 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)
Oct. 20	2230	1,550	6.93	Nov.16	2000	*1,730	*7.33

Minimum discharge, 9.3 ft^3/s, Aug. 5, gage height, 1.07 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	135	135	70	e195	e150	143	85	92	59	12	27
2	23	119	113	e63	e290	e140	139	78	82	44	12	28
3	24	113	e102	e47	e250	e140	326	72	76	36	11	28
4	23	119	e95	52	e220	e110	382	69	74	31	11	24
5	22	105	e90	83	e180	e95	311	130	71	28	11	22
6	21	101	e88	e66	e170	e92	261	113	62	26	61	22
7	21	97	e84	e60	e160	e78	222	94	58	25	49	22
8	19	97	e70	e55	171	e76	195	136	55	23	33	28
9	18	138	e60	e56	207	e76	174	107	61	26	23	22
10	17	176	e62	65	479	84	198	146	57	24	37	27
11	18	145	e63	69	e330	118	489	316	51	20	41	25
12	18	137	e57	65	e240	324	283	192	48	22	29	21
13	17	128	e49	e51	e210	321	232	305	43	28	28	19
14	16	122	e40	e50	221	312	206	341	40	24	48	18
15	56	120	e44	52	221	250	190	233	37	23	33	20
16	42	683	e45	54	979	208	169	249	35	22	28	20
17	45	656	e46	93	851	226	162	434	33	21	35	17
18	82	337	e40	287	e390	246	157	334	34	20	30	16
19	85	260	e37	217	e320	191	132	276	38	18	140	15
20	572	250	e37	165	e240	254	122	242	32	16	74	15
21	765	328	e33	166	e200	237	169	384	30	21	55	14
22	339	232	e29	153	236	257	144	288	29	18	50	14
23	260	205	e26	139	505	377	123	234	30	17	47	14
24	211	180	e23	149	362	271	109	197	32	23	50	13
25	182	167	e22	177	e240	232	132	168	30	19	43	12
26	163	180	e21	502	e180	208	127	146	28	16	38	12
27	150	182	e20	293	e170	173	107	133	25	15	35	13
28	137	182	e19	232	e170	152	99	120	23	14	34	12
29	127	168	e18	202	---	143	92	113	43	13	41	11
30	120	146	23	e310	---	143	89	158	150	13	36	14
31	113	---	26	e210	---	146	---	111	---	12	30	---
TOTAL	3730	6008	1617	4253	8387	5830	5684	6004	1499	717	1205	565
MEAN	120	200	52.2	137	300	188	189	194	50.0	23.1	38.9	18.8
MAX	765	683	135	502	979	377	489	434	150	59	140	28
MIN	16	97	18	47	160	76	89	69	23	12	11	11
CFSM	2.02	3.35	.87	2.30	5.02	3.15	3.17	3.24	.84	.39	.65	.32
IN.	2.32	3.74	1.01	2.65	5.23	3.63	3.54	3.74	.93	.45	.75	.35

CAL YR 1989 TOTAL 39861.5 MEAN 109 MAX 815 MIN 5.1 CFSM 1.83 IN. 24.84
WTR YR 1990 TOTAL 45499 MEAN 125 MAX 979 MIN 11 CFSM 2.09 IN. 28.35

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

AVERAGE DISCHARGE.--56 years (water years 1931–33, 1938–90), 839 ft^3/s, 21.91 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)
Oct. 21	1530	6,090	8.67	Feb. 17	0930	*7,620	*9.41
Nov.17	1230	6,340	8.81				

Minimum discharge, 97 ft^3/s, Sept. 29, 30, minimum gage height, 3.70 ft, Aug. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142	653	976	728	1630	e1400	1190	635	867	802	140	147
2	138	704	796	961	2250	e1300	1160	593	728	468	136	132
3	134	579	e750	851	2300	e1290	1850	543	648	361	133	134
4	130	596	e660	683	1860	e1000	3210	501	596	301	127	123
5	125	545	e670	765	1520	e850	2980	735	571	266	135	116
6	123	497	e590	e690	1400	e730	2400	1160	509	249	357	112
7	121	498	e550	e600	1400	e650	1990	859	464	234	420	109
8	118	504	e500	e550	1290	e640	1680	1010	429	217	319	116
9	116	656	e470	e530	1510	682	1480	1020	523	290	242	136
10	113	1310	e480	557	3430	687	1470	954	742	265	229	144
11	116	1130	e490	587	3510	905	3490	2290	524	223	292	155
12	116	937	e420	577	2320	1770	3250	1770	440	232	268	158
13	116	833	e390	e500	1800	3320	2230	1890	385	287	220	136
14	113	737	e350	e490	1810	3420	1840	3230	344	253	329	120
15	196	683	e360	469	1690	2920	1630	2420	324	221	428	119
16	363	2700	e370	475	4630	2290	1470	1940	309	207	303	141
17	266	5950	e380	656	7370	2060	1320	3320	290	199	245	177
18	400	3590	e370	1920	5030	2490	1350	3730	308	195	237	139
19	465	2140	e380	2400	3040	1940	1160	3090	339	183	435	121
20	2080	1800	e360	1510	2260	2070	1020	2490	304	171	385	115
21	5690	2390	e370	e1300	1630	2100	1200	3340	336	183	291	111
22	2780	2050	e340	e1200	1760	2050	1270	3700	403	213	233	110
23	1680	1620	e300	1120	3090	2680	1040	2760	316	201	203	108
24	1330	1380	e290	1100	3580	2470	902	2120	335	217	198	106
25	1070	1240	e280	1400	2500	1960	879	1710	307	259	185	103
26	881	1260	e280	3380	1690	1730	1130	1440	286	211	172	103
27	752	1420	e290	3090	1520	1460	906	1250	261	179	157	105
28	661	1310	e300	2070	e1500	1230	781	1130	234	163	147	103
29	592	1330	e360	1710	---	1170	713	1020	249	153	145	99
30	535	1080	e420	2410	---	1130	668	1270	1070	145	203	101
31	494	---	477	1850	---	1160	---	1150	---	142	187	---
TOTAL	21956	42122	14019	37129	69320	51554	47659	55070	13441	7690	7501	3699
MEAN	708	1404	452	1198	2476	1663	1589	1776	448	248	242	123
MAX	5690	5950	976	3380	7370	3420	3490	3730	1070	802	435	177
MIN	113	497	280	469	1290	640	668	501	234	142	127	99
CFSM	1.36	2.70	.87	2.30	4.76	3.20	3.06	3.42	.86	.48	.47	.24
IN.	1.57	3.01	1.00	2.66	4.96	3.69	3.41	3.94	.96	.55	.54	.26

CAL YR 1989 TOTAL 301785 MEAN 827 MAX 6100 MIN 79 CFSM 1.59 IN. 21.59
WTR YR 1990 TOTAL 371160 MEAN 1017 MAX 7370 MIN 99 CFSM 1.96 IN. 26.55

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.--Water years 1988 to current year.
CHEMICAL DATA: 1988-90 (b).
MINOR ELEMENT DATA: 1988-90 (b).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT										
10	0800	372	221	7.4	9.5	752	9.9	88	98	33
APR										
17	1000	4710	137	7.2	7.0	733	11.0	95	--	--
MAY										
08	0900	2460	180	7.7	11.5	737	9.8	93	--	--
JUN										
19	1000	1020	184	7.6	20.5	732	7.5	87	--	--
AUG										
28	1000	561	201	7.5	24.0	736	7.9	97	--	--
SEP										
25	0800	285	182	7.7	13.5	738	9.0	--	--	--

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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)
OCT									
10	3.8	6.8	1.2	78	15	11	0.1	50	< 1
APR									
17.	--	--	--	--	--	--	--	350	< 1
MAY									
08	--	--	--	--	--	--	--	120	< 1
JUN									
19	--	--	--	--	--	--	--	140	2
AUG									
28	--	--	--	--	--	--	--	110	< 1
SEP									
25	--	--	--	--	--	--	--	90	< 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)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT									
10	18	220	3	20	< 0.1	1	< 10	2	2.0
APR									
17	4	630	2	40	< 0.1	--	< 10	14	178
MAY									
08	5	40	3	30	< 0.1	2	< 10	7	46
JUN									
19	11	270	2	30	< 0.1	1	< 10	7	19
AUG									
28	8	260	1	40	< 0.1	1	< 10	7	11
SEP									
25	8	219	1	30	< 0.1	< 1	20	5	3.8

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

AVERAGE DISCHARGE.--77 years (water years 1914-90), 3,584 ft^3/s, 21.81 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)
Feb. 17	2100	*20,300	*11.12	No other peak greater than base discharge.			

Minimum discharge, 355 ft^3/s, Oct. 10, gage height, 2.05 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	530	2190	3800	e2000	8030	e5700	4930	2610	4460	2990	574	995
2	598	2450	e2800	e2600	9040	e5200	4870	2500	3600	2770	454	814
3	567	2540	e2500	e2900	12800	5070	5680	2290	3090	1940	436	723
4	494	2360	e2400	e2900	10900	4870	9960	2120	2780	1500	466	655
5	438	2340	e2300	e2800	8780	4200	11500	2870	2580	1240	439	624
6	419	2210	e2300	e3200	6950	e3500	9860	3390	2370	1040	977	593
7	410	2110	e2600	e3000	6470	e3200	8200	3870	2130	895	1340	551
8	393	2050	e2300	e2700	6150	e2800	7000	3280	1870	934	2050	525
9	378	2220	e2000	e2500	6200	2730	6100	3430	1720	915	1800	500
10	363	3270	e1600	e2500	10200	2740	5860	3840	1850	915	1270	537
11	375	4460	e1700	e2600	14200	3010	10600	6480	3040	1020	1160	589
12	375	3960	e1600	e2700	11100	3980	13800	7680	2200	1140	1300	588
13	367	3420	e1500	e2400	8240	6850	10500	6830	1770	1740	1330	598
14	386	3120	e1400	e2100	7070	9370	8070	10800	1560	1680	1230	564
15	395	2750	e1300	e1700	7020	9340	7020	11300	1440	1340	1080	562
16	394	6740	e1200	e1800	10700	8180	6240	8650	1360	1160	1250	563
17	780	16200	e1300	e2200	19000	7610	5620	9670	1260	1000	1120	544
18	1080	13200	e1400	e5000	19400	8790	5340	13000	1220	1010	869	557
19	1820	8520	e1400	e10000	14700	8820	5120	12700	1250	921	802	560
20	4670	6540	e1350	e8000	11000	8990	4550	10700	1550	793	833	528
21	11800	6390	e1350	e6200	8420	10500	4480	10100	1350	786	1300	490
22	13600	6980	e1300	e5600	6550	9790	5060	13600	1210	772	1340	465
23	8170	5970	e1300	e4900	7630	9760	4820	11700	1380	747	1040	457
24	5710	5150	e1300	e5100	10900	11200	4200	9160	1260	767	964	444
25	4630	4610	e1250	e5000	10200	9550	3920	7490	1230	706	1120	439
26	3990	4370	e1200	10900	7450	8020	3880	6350	1170	740	1090	436
27	3410	4570	e1200	14300	e5900	7000	3950	5500	1000	708	989	439
28	2910	4730	e1300	11100	e5700	5950	3340	4940	876	621	890	429
29	2670	4560	e1400	8360	---	5280	2930	4620	871	579	1300	410
30	2450	4280	e1500	10900	---	5010	2800	4870	1270	521	1190	396
31	2280	---	e1600	10900	---	4920	---	5130	---	537	1050	---
TOTAL	76852	144260	53450	158860	270700	201930	190200	211470	54717	34427	33053	16575
MEAN	2479	4809	1724	5125	9668	6514	6340	6822	1824	1111	1066	552
MAX	13600	16200	3800	14300	19400	11200	13800	13600	4460	2990	2050	995
MIN	363	2050	1200	1700	5700	2730	2800	2120	871	521	436	396
CFSM	1.11	2.15	.77	2.30	4.33	2.92	2.84	3.06	.82	.50	.48	.25
IN.	1.28	2.40	.89	2.65	4.51	3.37	3.17	3.52	.91	.57	.55	.28

CAL YR 1989 TOTAL 1235545 MEAN 3385 MAX 24400 MIN 295 CFSM 1.52 IN. 20.59
WTR YR 1990 TOTAL 1446494 MEAN 3963 MAX 19400 MIN 363 CFSM 1.78 IN. 24.11

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

AVERAGE DISCHARGE.--52 years, 399 ft^3/s, 20.60 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)
Feb. 17	0230	*3,860	*8.53	No other peak greater than base discharge.			

Minimum daily discharge, 48 ft^3/s, Sept. 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	418	e500	374	662	692	566	310	401	344	93	62
2	96	360	e490	318	843	664	608	281	343	262	90	60
3	99	324	e450	312	811	e580	1040	269	305	206	86	63
4	95	329	e360	317	e700	e500	1370	265	286	163	85	57
5	89	299	e370	356	e640	e450	1350	492	277	139	86	54
6	88	295	e340	e300	e620	e430	1190	464	262	131	110	53
7	92	294	e310	e280	e600	377	1010	396	233	118	111	55
8	88	337	e280	e300	594	367	858	608	210	113	97	62
9	85	417	e260	307	760	368	749	460	258	126	91	59
10	83	541	e270	315	1650	385	750	538	242	121	91	68
11	84	491	e280	315	e1300	530	1970	942	216	111	93	70
12	84	473	e250	315	e1000	1060	1480	681	191	117	89	64
13	82	427	e220	e280	e900	1410	1200	988	168	126	88	59
14	84	394	e190	e260	e820	1460	997	1360	155	113	173	54
15	333	372	e200	e280	843	1240	893	973	183	108	154	71
16	230	1080	e210	318	2450	1020	781	1020	175	149	135	89
17	222	1220	e220	473	3200	973	731	2000	156	129	115	77
18	340	907	e210	588	2180	1000	691	2110	152	111	99	68
19	286	784	e210	502	1700	817	595	1780	168	103	93	63
20	978	788	e190	e470	1280	864	533	1500	152	105	90	61
21	1640	1150	e190	e480	1040	853	622	2020	144	145	86	60
22	981	855	e180	497	989	886	573	1880	161	121	82	57
23	811	778	e160	497	1730	1070	497	1460	186	132	77	57
24	651	673	e155	531	1520	911	441	1160	193	193	74	55
25	525	620	e150	646	e1000	828	495	924	173	139	73	53
26	442	669	e145	1320	e900	768	514	765	152	117	71	53
27	384	715	e150	964	e800	646	442	661	137	107	66	53
28	349	713	e160	830	e740	557	392	580	130	101	70	49
29	321	667	e200	735	---	533	354	500	281	97	71	48
30	295	580	e250	e700	---	532	333	602	789	93	73	59
31	278	---	e300	e680	---	576	---	477	---	92	66	---
TOTAL	10313	17970	7850	14860	32272	23347	24025	28466	6879	4232	2878	1813
MEAN	333	599	253	479	1153	753	801	918	229	137	92.8	60.4
MAX	1640	1220	500	1320	3200	1460	1970	2110	789	344	173	89
MIN	82	294	145	260	594	367	333	265	130	92	66	48
CFSM	1.26	2.28	.96	1.82	4.38	2.86	3.04	3.49	.87	.52	.35	.23
IN.	1.46	2.54	1.11	2.10	4.56	3.30	3.40	4.03	.97	.60	.41	.26

CAL YR	1989	TOTAL	135879	MEAN	372	MAX	2410	MIN	48	CFSM	1.42	IN. 19.22
WTR YR	1990	TOTAL	174905	MEAN	479	MAX	3200	MIN	48	CFSM	1.82	IN. 24.74

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. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--52 years (water years 1939–90), 494 ft^3/s, 22.97 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, 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)
Feb. 17	0230	*4,270	*8.30	No peak greater than base discharge.			

Minimum daily discharge, 69 ft^3/s, Sept. 4, 5, 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247	797	e630	454	e740	e730	601	434	405	374	88	73
2	233	664	e550	502	1030	e690	630	406	367	340	85	73
3	233	585	e530	431	1010	e700	1030	379	344	282	80	71
4	206	581	e480	e420	e900	e590	1480	369	319	247	73	69
5	190	529	e470	e560	e770	e520	1480	582	315	229	83	69
6	186	514	e460	e530	e720	e490	1320	582	298	210	99	69
7	178	502	e480	e460	e740	e440	1160	486	283	195	99	76
8	165	548	e440	e430	722	e430	1020	604	275	179	88	78
9	161	552	e390	e420	862	e420	921	552	311	213	80	78
10	163	691	e390	433	1820	439	1030	570	300	204	78	93
11	191	637	e380	454	1680	560	2990	929	276	172	76	94
12	201	629	e360	429	1250	918	2570	726	259	172	73	86
13	185	567	e340	e370	1050	1380	1660	1270	244	181	85	80
14	169	528	e310	e350	1060	1760	1300	2110	233	158	200	77
15	423	509	e300	e350	1050	1420	1150	1540	366	148	157	173
16	453	850	e310	365	3130	1070	1000	1300	303	163	117	178
17	396	1280	e290	547	4040	1020	918	2060	258	150	105	131
18	621	913	e310	1730	2560	1170	888	2070	286	129	93	115
19	563	759	e300	1730	1850	920	778	1770	322	110	88	107
20	1410	783	e270	1150	1370	936	698	1410	275	119	85	107
21	2730	1280	e280	1000	1060	921	842	1920	248	173	85	103
22	1960	1000	e260	889	1090	953	790	1700	291	148	83	101
23	1360	866	e270	771	1700	1200	690	1320	311	158	83	99
24	1030	753	e270	748	1660	1010	622	1050	306	196	80	97
25	839	697	e260	916	e1200	868	650	862	279	160	78	94
26	730	769	e250	1500	e900	795	653	731	260	132	80	100
27	647	878	e240	1220	e890	683	566	656	240	114	80	98
28	596	807	e280	983	e800	606	524	571	227	102	78	96
29	538	774	275	867	---	593	488	532	231	99	83	94
30	490	668	278	910	---	583	456	537	583	90	85	123
31	461	---	295	e790	---	607	---	466	---	90	76	---
TOTAL	17955	21910	10948	22709	37654	25422	30905	30494	9015	5437	2823	2902
MEAN	579	730	353	733	1345	820	1030	984	300	175	91.1	96.7
MAX	2730	1280	630	1730	4040	1760	2990	2110	583	374	200	178
MIN	161	502	240	350	720	420	456	369	227	90	73	69
CFSM	1.98	2.50	1.21	2.51	4.61	2.81	3.53	3.37	1.03	.60	.31	.33
IN.	2.29	2.79	1.39	2.89	4.80	3.24	3.94	3.88	1.15	.69	.36	.37

CAL YR	1989	TOTAL	186259	MEAN	510	MAX	3170	MIN	80	CFSM	1.75	IN. 23.73
WTR YR	1990	TOTAL	218174	MEAN	598	MAX	4040	MIN	69	CFSM	2.05	IN. 27.79

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, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum reported daily, 18.5°C July 5; minimum daily, 0.0°C Feb. 18, 20, 26, 27 and Mar. 1.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
(ONCE DAILY AT 0900)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.0	10.5	2.0	2.5	1.0	.0	---	13.0	12.5	17.0	16.5	14.5
2	12.5	12.5	1.5	1.0	1.5	1.0	5.5	11.0	13.0	16.5	15.5	15.0
3	12.5	10.5	1.0	1.0	1.0	3.0	6.0	11.0	15.5	16.0	17.0	14.0
4	9.5	6.0	.5	1.5	2.0	1.0	4.0	12.0	13.5	17.0	16.0	14.0
5	10.0	6.0	1.0	1.5	2.0	1.0	4.0	10.0	11.0	18.5	16.0	14.0
6	10.0	8.0	1.5	1.0	1.0	3.0	4.5	9.0	12.0	17.0	16.0	14.0
7	11.0	8.0	1.5	1.0	1.5	1.0	4.5	10.0	11.0	16.0	15.0	14.5
8	11.0	8.5	.5	1.0	3.0	1.0	4.0	9.5	12.0	15.5	15.0	13.5
9	9.5	9.0	.5	2.0	3.5	3.0	4.5	12.5	14.0	16.5	14.5	13.0
10	9.0	8.0	1.0	2.5	3.0	4.5	6.0	13.0	15.0	16.0	15.5	15.0
11	10.0	6.0	3.0	3.5	1.0	5.0	5.0	8.0	14.0	15.5	15.0	15.0
12	10.5	6.0	3.0	3.0	1.0	4.5	2.5	10.0	13.5	14.5	16.0	14.0
13	10.5	6.0	1.0	1.5	1.5	5.5	3.0	9.0	13.0	15.0	16.0	14.0
14	11.0	7.0	1.0	1.0	3.0	5.5	4.0	9.0	14.5	15.5	16.5	15.5
15	11.0	7.5	1.0	2.0	2.0	8.0	6.0	12.0	14.5	16.5	16.0	14.5
16	11.5	8.0	1.0	4.0	3.0	9.0	6.5	13.0	17.0	16.0	16.0	12.0
17	13.0	6.5	1.5	5.0	1.0	11.0	8.0	12.0	17.0	16.0	16.5	10.0
18	10.0	4.0	1.0	3.5	.0	7.0	4.5	12.0	16.0	16.5	18.0	10.5
19	9.5	4.0	.5	2.5	1.0	6.0	5.0	9.5	17.0	16.5	17.5	12.0
20	9.5	4.5	2.0	1.5	.0	4.5	8.0	9.0	15.5	17.0	16.0	11.0
21	7.5	2.5	2.0	1.0	1.0	3.0	8.5	8.5	16.0	17.0	14.5	13.0
22	7.0	1.5	2.0	1.5	2.0	4.0	7.0	9.0	16.0	17.0	15.0	12.5
23	7.5	1.0	2.0	1.5	3.0	4.0	8.0	9.5	16.0	17.5	14.5	11.0
24	7.0	1.0	2.0	3.0	1.0	4.0	9.0	9.5	15.5	17.0	15.0	10.0
25	8.5	3.0	2.0	3.0	1.0	4.0	9.0	13.5	15.5	17.0	16.0	10.5
26	9.0	4.0	2.0	3.0	.0	3.5	9.5	12.5	13.5	17.0	15.5	12.0
27	9.5	3.0	1.0	1.5	.0	5.0	9.5	11.5	14.0	17.0	16.0	11.0
28	10.5	5.0	3.0	2.0	1.0	4.5	14.0	12.0	14.0	16.5	16.5	11.0
29	10.0	3.5	2.5	2.0	---	3.0	13.5	14.0	14.5	16.5	17.0	13.0
30	10.0	3.0	3.0	2.0	---	5.0	14.0	11.5	17.0	17.0	17.0	14.0
31	11.0	---	4.0	1.0	---	4.0	---	11.0	---	17.0	17.0	---
MEAN	10.0	5.8	1.7	2.1	1.5	4.1	---	10.9	14.4	16.5	16.0	12.9
MAX	13.0	12.5	4.0	5.0	3.5	11.0	---	14.0	17.0	18.5	18.0	15.5
MIN	7.0	1.0	.5	1.0	.0	.0	---	8.0	11.0	14.5	14.5	10.0

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

AVERAGE DISCHARGE.--47 years (water years 1939–64, 1970–90), 265 ft^3/s, 24.48 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)
Feb. 17	0100	*2,910	*6.00	Apr. 11	0630	2,780	5.85

Minimum discharge, 11 ft^3/s, Sept. 5, gage height, 0.32 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	368	e280	185	e360	e320	239	164	175	203	47	19
2	100	260	e220	193	584	e310	257	148	152	173	40	18
3	92	232	e210	e150	494	e310	649	133	139	130	37	16
4	82	228	e205	155	e440	e230	788	126	130	108	34	12
5	79	202	e200	237	e360	e190	698	352	121	96	40	13
6	78	207	e210	e200	e340	e170	583	265	108	87	67	14
7	72	204	e180	e180	e310	e135	486	215	99	80	59	20
8	71	255	e150	e165	316	e140	423	344	92	71	45	26
9	71	321	e130	e150	397	e150	366	263	122	126	39	23
10	72	398	e140	155	1020	167	484	421	107	93	37	25
11	71	341	e150	158	674	266	2160	686	91	71	36	25
12	66	336	e140	155	499	612	1030	435	82	81	34	22
13	61	281	e130	e125	425	992	674	982	73	90	38	20
14	275	257	e100	e124	423	1270	533	1190	69	70	85	18
15	219	243	e90	e130	452	818	479	681	131	64	58	57
16	276	676	e100	132	2150	584	398	680	97	176	45	52
17	356	732	e100	269	2110	587	376	1440	76	105	38	38
18	266	483	e94	1160	e930	591	360	1450	84	84	35	31
19	325	388	e88	741	e680	438	301	993	109	70	43	28
20	1170	429	e82	e480	e500	476	267	745	79	68	35	28
21	1500	775	e78	e430	e400	453	388	1240	70	93	32	26
22	774	495	e76	384	469	450	324	880	119	74	31	25
23	573	424	e74	329	1210	535	275	639	127	83	29	25
24	438	357	e72	330	860	424	244	500	133	107	27	23
25	360	330	e70	421	569	362	282	400	116	79	27	22
26	309	391	e68	988	e410	330	274	355	95	65	25	23
27	269	412	e67	581	e370	272	229	329	82	57	23	26
28	241	400	e66	467	e380	239	207	268	74	52	22	24
29	219	372	e70	409	---	232	189	243	70	47	22	22
30	197	314	e76	542	---	230	173	271	415	43	21	25
31	184	---	87	e390	---	237	---	210	---	45	20	---
TOTAL	8965	11111	3803	10515	18132	12520	14136	17048	3437	2791	1171	746
MEAN	289	370	123	339	648	404	471	550	115	90.0	37.8	24.9
MAX	1500	775	280	1160	2150	1270	2160	1450	415	203	85	57
MIN	61	202	66	124	310	135	173	126	69	43	20	12
CFSM	1.97	2.52	.83	2.31	4.41	2.75	3.21	3.74	.78	.61	.26	.17
IN.	2.27	2.81	.96	2.66	4.59	3.17	3.58	4.31	.87	.71	.30	.19

CAL YR 1989 TOTAL 97971.5 MEAN 268 MAX 2480 MIN 7.5 CFSM 1.83 IN. 24.79
WTR YR 1990 TOTAL 104375 MEAN 286 MAX 2160 MIN 12 CFSM 1.95 IN. 26.41

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

AVERAGE DISCHARGE.--77 years (water years 1914–90), 2,399 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)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Feb. 17	0630	*15,800	*8.95	No peak greater than base discharge.			

Minimum discharge, 252 ft^3/s Sept. 5-7, gage height, 2.57 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	811	2540	e2900	e1500	4140	e3500	2550	1670	2060	1980	407	346
2	774	2810	e2500	e1900	5670	e3100	2540	1530	1720	1500	387	328
3	753	2240	e2200	e1800	6820	3300	4230	1410	1560	1080	372	312
4	712	2130	e2000	e1800	5340	2930	7030	1330	1440	906	358	296
5	606	1940	e1900	e1700	e4400	e2300	7110	2240	1350	823	390	259
6	599	1770	e1800	e2000	e3600	e1900	6000	2840	1260	772	637	253
7	624	1740	e1900	e1900	e3800	e1800	4950	2320	1090	694	669	254
8	602	1940	e1700	e1800	3620	e1750	4170	2210	976	603	588	280
9	584	2280	e1500	e1700	4030	1710	3610	2540	1080	655	511	286
10	564	3110	e1300	e1600	8640	1730	3340	2430	1610	877	472	347
11	533	3000	e1400	e1700	9280	2140	9340	6240	1320	748	438	384
12	558	2820	e1300	e1800	6490	3800	10300	4610	1130	742	416	379
13	547	2610	e1200	e1700	4850	6190	6850	4680	978	870	399	358
14	569	2270	e1100	e1600	4870	7790	5420	9640	831	806	478	331
15	655	2120	e900	e1500	4680	7230	4630	6970	1020	687	590	359
16	1320	4090	e880	e1400	11900	5470	3950	5370	1250	593	599	479
17	1260	8370	e940	e2000	14900	4920	3510	7960	1090	635	526	481
18	1840	5330	e1000	e5100	11600	5880	3490	9910	938	685	458	433
19	2410	3980	e970	e7000	10300	4610	3110	8600	1130	622	444	395
20	4930	3630	e940	e5000	8300	4590	2710	6830	1010	515	481	389
21	10300	5430	e920	e4200	e6300	4660	3350	9510	885	559	433	371
22	8870	5070	e900	e4000	e6000	4570	3540	9250	993	650	412	364
23	5380	3820	e880	e3400	7650	4730	3010	6840	1030	663	401	354
24	3960	3470	e860	e3100	8770	4590	2610	5270	1170	696	395	346
25	3310	3040	e840	4200	e6600	3910	2540	4140	1090	762	407	328
26	2710	3130	e820	7690	e4200	3480	2860	3590	1000	664	379	308
27	2390	3760	e800	7540	e4100	3030	2480	3080	909	566	359	405
28	2170	3650	e900	5270	e3900	2550	2160	2720	794	468	369	376
29	1960	3630	e1000	4360	---	2460	1990	2600	743	436	513	359
30	1750	3260	e1100	5860	---	2420	1840	3030	1140	415	405	364
31	1650	---	e1200	5090	---	2480	---	2690	---	406	365	---
TOTAL	65701	98980	40550	101210	184750	115520	125220	144050	34597	23078	14058	10524
MEAN	2119	3299	1308	3265	6598	3726	4174	4647	1153	744	453	351
MAX	10300	8370	2900	7690	14900	7790	10300	9910	2060	1980	669	481
MIN	533	1740	800	1400	3600	1710	1840	1330	743	406	358	253

CAL YR 1989 TOTAL 838670 MEAN 2298 MAX 14300 MIN 262
WTR YR 1990 TOTAL 958238 MEAN 2625 MAX 14900 MIN 253

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, Water years 1988 to current year.
CHEMICAL DATA: 1967 (a), 1988-90 (b).
MINOR ELEMENT DATA: 1967 (a), 1988-90 (b).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT										
11	0800	540	310	8.1	9.5	752	9.6	85	130	41
APR										
17	1200	3850	201	7.7	8.0	737	10.5	92	--	--
MAY										
08	1000	2450	222	8.1	12.0	740	10.8	103	--	--
JUN										
20	0900	1180	308	8.0	21.0	740	7.1	82	--	--
AUG										
28	1200	370	354	7.7	24.5	739	7.8	97	--	--
SEP										
25	1000	355	381	8.3	13.5	742	8.6	--	--	--

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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)
OCT									
11	7.6	13	1.5	109	16	23	0.1	60	< 1
APR									
17	--	--	--	--	--	--	--	410	< 1
MAY									
08	--	--	--	--	--	--	--	190	< 1
JUN									
20	--	--	--	--	--	--	--	330	< 1
AUG									
28	--	--	--	--	--	--	--	340	< 1
SEP									
25	--	--	--	--	--	--	--	70	< 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)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT									
11	4	230	2	20	< 0.1	1	< 10	3	4.4
APR									
17	8	660	3	40	< 0.1	--	20	16	166
MAY									
08	3	40	1	30	< 0.1	1	< 10	10	66
JUN									
20	11	540	1	80	< 0.1	2	< 10	21	67
AUG									
28	6	540	2	80	< 0.1	3	< 10	14	14
SEP									
25	5	219	2	50	< 0.1	< 1	< 10	8	7.7

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 1982-83.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum daily, 27.0°C July 30, 31; minimum daily, 0.0°C on many days during the winter period.

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

(ONCE DAILY AT 0800)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	11.0	1.0	1.0	.0	.0	6.0	17.0	16.0	22.0	23.0	23.0
2	14.0	9.0	1.0	1.0	1.0	.0	6.0	16.0	17.0	21.0	23.0	24.0
3	15.0	8.0	1.0	1.0	1.0	1.0	7.0	14.0	19.0	21.0	24.0	23.0
4	12.0	6.0	1.0	1.0	1.0	1.0	7.0	15.0	19.0	22.0	24.0	22.0
5	11.0	6.0	1.0	1.0	.0	.0	6.0	14.0	16.0	24.0	26.0	23.0
6	12.0	7.0	1.0	1.0	.0	1.0	6.0	12.0	17.0	24.0	23.0	22.0
7	13.0	8.0	1.0	1.0	.0	1.0	6.0	12.0	18.0	21.0	22.0	23.0
8	11.0	8.0	1.0	1.0	1.0	1.0	6.0	12.0	19.0	22.0	22.0	21.0
9	10.0	9.0	1.0	1.0	2.0	1.0	6.0	14.0	18.0	22.0	22.0	20.0
10	8.0	8.0	1.0	1.0	3.0	2.0	7.0	16.0	19.0	23.0	22.0	19.0
11	10.0	7.0	1.0	1.0	1.0	4.0	7.0	13.0	18.0	23.0	22.0	21.0
12	9.0	6.0	1.0	1.0	1.0	5.0	6.0	11.0	16.0	21.0	23.0	22.0
13	11.0	5.0	1.0	1.0	1.0	5.0	5.0	11.0	18.0	19.0	24.0	23.0
14	12.0	6.0	1.0	1.0	2.0	6.0	6.0	11.0	19.0	21.0	24.0	23.0
15	12.0	7.0	1.0	1.0	2.0	7.0	7.0	13.0	21.0	22.0	23.0	22.0
16	14.0	9.0	1.0	1.0	1.0	9.0	8.0	14.0	22.0	23.0	24.0	20.0
17	14.0	8.0	1.0	1.0	1.0	11.0	9.0	14.0	23.0	23.0	25.0	18.0
18	12.0	6.0	1.0	1.0	.0	11.0	8.0	14.0	24.0	24.0	26.0	16.0
19	11.0	4.0	1.0	1.0	1.0	8.0	8.0	13.0	23.0	25.0	26.0	16.0
20	10.0	3.0	1.0	.0	1.0	7.0	9.0	13.0	22.0	26.0	22.0	15.0
21	9.0	3.0	1.0	.0	.0	5.0	10.0	12.0	22.0	26.0	21.0	15.0
22	8.0	1.0	1.0	1.0	1.0	5.0	10.0	12.0	21.0	25.0	21.0	17.0
23	7.0	1.0	1.0	1.0	3.0	7.0	11.0	12.0	23.0	26.0	21.0	15.0
24	7.0	1.0	1.0	1.0	2.0	6.0	12.0	12.0	21.0	24.0	21.0	14.0
25	8.0	1.0	1.0	1.0	2.0	4.0	14.0	13.0	20.0	24.0	22.0	14.0
26	9.0	2.0	1.0	2.0	.0	4.0	15.0	14.0	19.0	24.0	23.0	15.0
27	10.0	2.0	1.0	1.0	1.0	3.0	17.0	15.0	21.0	25.0	24.0	15.0
28	11.0	3.0	1.0	1.0	.0	3.0	18.0	16.0	22.0	26.0	24.0	16.0
29	11.0	3.0	1.0	1.0	---	3.0	18.0	17.0	22.0	26.0	24.0	17.0
30	10.0	2.0	1.0	1.0	---	5.0	17.0	15.0	22.0	27.0	23.0	19.0
31	11.0	---	3.0	.0	---	4.0	---	15.0	---	27.0	23.0	---
MEAN	10.8	5.3	1.1	.9	1.0	4.2	9.3	13.6	19.9	23.5	23.1	19.1
MAX	15.0	11.0	3.0	2.0	3.0	11.0	18.0	17.0	24.0	27.0	26.0	24.0
MIN	7.0	1.0	1.0	.0	.0	.0	5.0	11.0	16.0	19.0	21.0	14.0

WTR YR 1990 MEAN 11.0 MAX 27.0 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, Water years 1988 to current year.
CHEMICAL DATA: 1972-74 (a), 1988-90 (b).
MINOR ELEMENT DATA: 1972-74 (a), 1988-90 (b).
SEDIMENT DATA: 1988-90 (a).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM, DIS-SOLVED (MG/L AS CA)
OCT										
10	1100	1150	303	7.8	10.0	747	10.0	90	120	38
APR										
18	1100	10600	181	7.7	7.0	753	10.8	90	--	--
MAY										
10	0900	7000	206	7.5	15.5	730	9.5	100	--	--
JUN										
20	1100	2900	267	6.9	25.5	741	8.0	101	--	--
AUG										
29	1000	1750	261	7.9	24.0	742	8.2	101	--	--
SEP										
26	0900	920	302	7.6	15.0	741	7.4	--	--	--

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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)
OCT									
10	6.3	15	1.8	96	18	24	0.1	80	< 1
APR									
18	--	--	--	--	--	--	--	400	< 1
MAY									
10	--	--	--	--	--	--	--	240	< 1
JUN									
20	--	--	--	--	--	--	--	250	1
AUG									
29	--	--	--	--	--	--	--	550	< 1
SEP									
26	--	--	--	--	--	--	--	120	< 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)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT									
10	4	220	3	30	< 0.1	1	20	2	6.2
APR									
18	7	710	2	40	< 0.1	--	20	17	487
MAY									
10	8	50	2	40	< 0.1	1	< 10	14	265
JUN									
20	9	430	4	30	< 0.1	3	10	14	110
AUG									
29	8	820	5	100	< 0.1	2	< 10	21	99
SEP									
26	9	220	3	30	0.1	1	20	5	12

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

AVERAGE DISCHARGE.--53 years (water years 1938–90), 7,522 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)
Feb. 17	2100	*40,800	*11.13	No peak greater than base discharge.			

Minimum discharge, 906 ft^3/s, Sept. 30, minimum gage height, 1.15 ft, Aug. 5, Sept. 9, 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1970	6700	8530	e3500	16900	e9800	8890	5800	8890	4050	1360	1850
2	1800	7410	7540	e4500	17300	e9400	8890	5370	7360	6110	1270	1700
3	1770	7230	6620	e5300	25200	e8800	10800	5060	6370	4800	1100	1480
4	1690	6840	5540	e5300	23300	e8600	18900	4710	5690	3630	1010	1300
5	1580	6430	e4700	e5200	19800	e7800	24500	6050	5230	2960	1040	1210
6	1420	6090	e4600	e5500	15300	e7000	21900	7730	4890	2560	1460	1160
7	1320	5760	e4900	e5600	13600	6630	18000	7980	4520	2300	2340	1080
8	1270	5580	e4600	e5100	13100	6240	15100	7530	4050	2000	2590	1010
9	1260	5880	e4100	e4800	13300	5790	13000	7020	3700	1930	3060	957
10	1220	7460	e3400	e4700	20200	5590	11600	7630	3610	1980	2760	1010
11	1200	8830	e3300	e4600	28500	5880	18000	13300	4480	2130	2250	1070
12	1160	9230	e3200	e4900	25000	7430	27300	15700	4960	2370	1960	1160
13	1140	8450	e3000	e4600	18200	11100	24100	13900	3980	3330	2050	1170
14	1140	7670	e2800	e4200	15200	16500	17800	20100	3420	3530	2120	1140
15	1130	7070	e2600	e3600	14600	18500	14900	23100	3280	3110	2060	1160
16	1180	8560	e2300	e3600	26600	16700	13200	18500	3210	2600	1990	1340
17	1790	22900	e2400	e3900	38000	14400	11600	19900	3290	2260	2210	1270
18	2420	24300	e2500	e7600	37500	15700	10900	24200	3080	2090	2020	1230
19	3570	17600	e2600	e14000	31900	16300	10300	25300	3170	2090	1670	1200
20	9810	13200	e2500	15900	24900	15400	9410	21700	3150	1970	1540	1200
21	22700	12200	e2500	13500	19100	16800	8970	20800	3230	1900	1590	1160
22	26800	14000	e2400	13800	15800	17800	10200	25900	2970	1790	2100	1110
23	20800	12700	e2400	12000	15300	16500	10100	23400	2860	1850	2250	1030
24	14000	10800	e2300	10700	19700	17000	9010	18600	3050	2010	2130	974
25	10900	9660	e2300	12200	20600	16800	8100	15000	3070	1950	1820	940
26	9420	8900	e2200	17800	15900	14200	8250	12700	2930	1890	1880	946
27	8130	9260	e2200	25100	12200	12600	8190	11000	2740	1800	1820	1030
28	7310	9750	e2300	22200	e10000	11000	7530	9700	2450	1640	1730	970
29	6560	9700	e2500	17000	---	9680	6680	8960	2270	1420	2680	983
30	6090	9230	e2700	18300	---	9080	6170	9910	3520	1290	3010	946
31	5660	---	e2900	20800	---	8920	---	9750	---	1190	2220	---
TOTAL	178210	299390	108430	299800	567000	363940	392290	426300	119420	76530	61090	34786
MEAN	5749	9980	3498	9671	20250	11740	13080	13750	3981	2469	1971	1160
MAX	26800	24300	8530	25100	38000	18500	27300	25900	8890	6110	3060	1850
MIN	1130	5580	2200	3500	10000	5590	6170	4710	2270	1190	1010	940
CFSM	1.20	2.09	.73	2.03	4.24	2.46	2.74	2.88	.83	.52	.41	.24
IN.	1.39	2.33	.85	2.34	4.42	2.84	3.06	3.32	.93	.60	.48	.27

CAL YR 1989 TOTAL 2630441 MEAN 7207 MAX 47700 MIN 680 CFSM 1.51 IN. 20.50
WTR YR 1990 TOTAL 2927186 MEAN 8020 MAX 38000 MIN 940 CFSM 1.68 IN. 22.81

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

AVERAGE DISCHARGE.--60 years, 793 ft^3/s, 13.97 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)
Apr. 11	1400	*8,160	*10.85	No peak greater than base discharge.			

Minimum discharge, 76 ft^3/s Oct. 4, 6-8, gage height, 3.00 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	225	e240	e145	953	e540	565	376	594	197	173	173
2	104	293	e200	e150	3370	e540	547	373	500	263	171	164
3	96	297	e190	e155	3910	e520	748	358	473	279	128	146
4	78	296	e180	e160	3190	e500	1180	356	422	194	125	111
5	78	282	e170	e170	2520	e490	1710	545	371	189	139	146
6	77	198	e160	e190	1920	e450	2850	736	321	182	181	209
7	77	160	e160	e180	1750	e430	2750	705	263	110	206	364
8	77	194	e150	e160	1940	e430	1860	500	259	106	171	625
9	78	200	e145	e140	2390	e450	1700	471	258	116	152	605
10	78	204	e140	e130	5490	502	1670	381	255	141	94	664
11	80	202	e140	e125	3540	501	6420	596	253	141	97	641
12	79	244	e135	e120	2380	574	4060	811	203	1700	110	557
13	80	261	e135	e120	1790	527	2030	650	167	3090	157	539
14	80	202	e135	e120	1550	494	1620	759	182	1270	155	695
15	78	196	e130	e120	1650	451	1610	726	222	672	149	1190
16	78	371	e130	e130	4970	435	1380	992	200	1400	147	490
17	86	827	e130	e270	3990	456	895	2140	303	1380	147	1060
18	94	726	e135	e700	1940	466	652	1920	267	723	144	651
19	112	581	e140	e800	e1700	453	628	1610	445	428	142	388
20	625	573	e140	e490	e1300	529	620	1160	487	319	120	435
21	1910	495	e145	786	e940	700	647	1930	254	314	134	405
22	925	382	e150	1250	e880	923	646	1600	309	328	138	447
23	604	e360	e150	980	e800	1190	612	984	286	435	247	470
24	404	e300	e140	767	e750	1050	535	824	235	489	549	482
25	372	e185	e130	1120	e700	1050	419	698	211	420	347	376
26	210	e235	e120	1980	e640	944	407	581	176	304	272	309
27	190	e260	e120	1270	e540	817	397	553	173	125	169	296
28	182	e270	e120	1060	e520	842	386	437	159	115	190	294
29	182	276	e130	984	---	625	380	588	126	115	225	283
30	193	270	e135	1040	---	569	379	1950	134	144	302	270
31	198	---	e140	1050	---	568	---	928	---	181	197	---
TOTAL	7605	9565	4565	16862	58013	19016	40303	27238	8508	15870	5678	13485
MEAN	245	319	147	544	2072	613	1343	879	284	512	183	449
MAX	1910	827	240	1980	5490	1190	6420	2140	594	3090	549	1190
MIN	77	160	120	120	520	430	379	356	126	106	94	111
CFSM	.32	.41	.19	.71	2.69	.80	1.74	1.14	.37	.66	.24	.58
IN.	.37	.46	.22	.81	2.80	.92	1.94	1.31	.41	.77	.27	.65

CAL YR	1989	TOTAL	297626	MEAN	815	MAX	9550	MIN	66	CFSM	1.06	IN. 14.36
WTR YR	1990	TOTAL	226708	MEAN	621	MAX	6420	MIN	77	CFSM	.81	IN. 10.94

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.--53 years, 34.9 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, 559 ft^3/s, Feb. 16 at 2330 hours, gage height, 2.90 ft; minimum discharge, 1.4 ft^3/s, Aug. 3, 4, 12, gage height, 0.65 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	11	e14	e10	49	e21	33	14	21	4.4	2.1	2.5
2	3.5	9.6	e13	e17	168	e19	86	13	16	4.0	1.7	2.4
3	3.5	8.9	e12	e20	89	e24	113	11	14	2.8	1.5	2.4
4	3.1	8.8	e11	e30	124	e20	88	19	13	2.2	1.5	2.0
5	2.9	8.2	e11	e60	76	e17	92	214	12	2.2	2.3	15
6	2.9	8.1	e10	e40	54	e13	105	61	10	2.0	3.1	8.8
7	2.7	8.6	e9.0	e25	55	e12	81	37	8.5	1.9	2.8	5.1
8	2.7	14	e10	e20	79	e11	76	27	8.1	1.7	2.3	6.3
9	2.5	28	e9.0	e18	223	e10	111	22	9.3	4.4	2.0	30
10	2.4	33	e8.6	e17	333	24	251	20	7.2	3.9	1.9	45
11	2.7	27	e8.2	e15	88	62	498	27	7.6	2.6	1.8	14
12	2.7	25	e7.6	e13	51	85	98	22	6.5	4.7	1.6	8.3
13	2.6	19	e7.4	e10	46	67	58	61	5.2	7.4	2.4	5.1
14	2.6	16	e7.2	e16	67	47	47	103	4.4	4.8	2.6	3.9
15	2.7	14	e7.0	e7.0	113	36	43	41	4.0	4.2	2.0	13
16	3.0	52	e6.8	e6.0	501	29	36	106	3.6	6.5	1.9	9.8
17	5.3	44	e6.6	211	404	216	36	153	3.3	4.2	1.7	13
18	5.7	28	e6.4	258	67	88	35	108	3.6	2.9	1.7	7.6
19	9.5	21	e6.2	71	e48	60	30	70	3.8	2.3	2.3	5.6
20	86	24	e6.0	38	e37	60	25	53	3.2	3.8	2.4	5.5
21	45	53	e5.8	39	e30	45	50	166	2.9	6.1	2.4	4.6
22	27	27	e5.6	37	28	40	40	68	2.9	3.7	3.3	4.4
23	19	20	e5.4	32	65	34	30	45	3.9	15	3.6	4.7
24	14	e16	e5.2	58	51	28	25	34	3.3	11	3.4	5.6
25	12	17	e5.0	89	37	24	33	27	3.3	5.7	2.7	4.9
26	10	29	e4.9	117	e35	22	28	23	2.9	3.3	2.8	4.5
27	9.0	27	e4.8	50	e30	17	22	19	2.5	2.5	2.4	4.0
28	7.9	24	e4.7	38	e24	17	19	17	2.3	2.1	3.2	3.4
29	7.2	19	e4.6	27	---	16	17	40	2.4	2.0	4.2	3.2
30	6.8	15	e4.5	29	---	19	15	86	2.6	1.8	3.5	20
31	6.7	---	e4.7	60	---	22	---	31	---	1.9	3.0	---
TOTAL	316.6	655.2	232.2	1478.0	2972	1205	2221	1738	193.3	128.0	76.1	264.6
MEAN	10.2	21.8	7.49	47.7	106	38.9	74.0	56.1	6.44	4.13	2.45	8.82
MAX	86	53	14	258	501	216	498	214	21	15	4.2	45
MIN	2.4	8.1	4.5	6.0	24	10	15	11	2.3	1.7	1.5	2.0

CAL YR 1989 TOTAL 11184.6 MEAN 30.6 MAX 661 MIN 1.5
WTR YR 1990 TOTAL 11480.0 MEAN 31.5 MAX 501 MIN 1.5

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 good except those for estimated daily discharges, which are fair. 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.--48 years (1940–42, 1944–90), 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, 975 ft^3/s, Apr. 11 at 0430 hours, gage height, 2.78 ft; minimum daily, 3.8 ft^3/s, Sept. 2-4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	15	e29	e10	53	55	63	33	48	12	9.3	4.7
2	9.1	21	e16	e30	378	34	101	26	40	17	5.8	3.8
3	9.9	19	e15	e35	344	38	255	6.0	36	15	8.3	3.8
4	10	16	e14	e40	163	42	171	3.9	32	12	10	3.8
5	10	16	e13	126	170	44	200	251	29	11	10	27
6	10	16	e12	74	188	39	202	139	24	9.3	11	32
7	10	16	e11	51	121	28	213	73	19	7.8	11	13
8	10	16	e13	46	112	23	174	33	19	12	11	9.6
9	11	26	e12	35	411	27	155	33	19	15	11	34
10	10	41	e10	31	668	29	346	35	19	19	8.0	87
11	10	52	e9.0	28	254	107	857	29	19	17	6.1	16
12	10	56	e8.8	29	146	153	397	21	19	15	6.0	4.8
13	10	48	e8.8	15	86	131	155	22	16	36	6.1	7.3
14	9.4	37	e8.6	6.6	153	86	110	74	14	31	8.7	7.4
15	9.1	27	e8.4	5.8	210	64	81	76	17	22	11	38
16	8.7	60	e8.2	33	892	54	73	112	15	17	8.3	54
17	13	81	e8.0	187	705	369	71	265	13	13	6.1	40
18	17	50	e7.8	634	276	238	69	300	14	9.6	6.0	30
19	24	44	e7.6	252	134	133	63	228	14	7.7	6.0	21
20	107	38	e7.4	65	78	107	59	98	11	9.9	5.7	11
21	118	49	e7.2	66	57	106	71	214	10	18	5.3	6.7
22	55	51	e7.0	98	60	106	83	224	17	18	5.3	5.7
23	32	42	e6.8	98	103	80	61	117	21	15	13	8.9
24	24	32	e6.8	105	111	66	37	78	16	17	18	12
25	21	24	e6.6	208	71	48	38	58	12	16	13	8.6
26	12	22	e6.4	271	50	41	40	52	13	12	9.1	6.6
27	6.3	28	e6.2	134	47	42	39	46	16	11	9.1	6.6
28	10	38	e6.0	106	68	39	39	39	11	11	8.8	6.6
29	13	41	e6.0	70	---	38	34	76	5.3	10	8.0	6.5
30	10	e37	e5.8	52	---	38	31	145	8.8	10	8.0	10
31	12	---	e5.6	52	---	38	---	93	---	10	6.3	---
TOTAL	630.7	1059	298.0	2993.4	6109	2443	4288	2999.9	567.1	456.3	269.3	526.4
MEAN	20.3	35.3	9.61	96.6	218	78.8	143	96.8	18.9	14.7	8.69	17.5
MAX	118	81	29	634	892	369	857	300	48	36	18	87
MIN	6.3	15	5.6	5.8	47	23	31	3.9	5.3	7.7	5.3	3.8

CAL YR 1989 TOTAL 24907.6 MEAN 68.2 MAX 1180 MIN 5.6
WTR YR 1990 TOTAL 22640.1 MEAN 62.0 MAX 892 MIN 3.8

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 (1989 average 3.4 ft^3/s); effluent from wastewater treatment plant 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.--48 years, 157 ft^3/s, 13.49 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, 2,550 ft^3/s, Apr. 11 at 0215 hours, gage height, 3.97 ft; minimum daily, 23 ft^3/s, Dec. 30, 31 and Aug. 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	53	e81	e40	163	146	167	94	171	39	27	25
2	35	54	e60	e95	714	130	273	81	133	42	23	24
3	34	52	e55	e80	653	144	664	69	115	38	26	24
4	34	47	e51	e75	526	122	506	85	103	32	28	25
5	32	45	e48	426	445	115	580	702	83	32	43	83
6	32	45	e45	140	411	102	641	355	71	29	40	81
7	31	43	e41	100	345	76	576	220	57	26	31	46
8	30	48	e46	84	392	73	498	146	50	28	29	40
9	30	88	e43	64	880	82	570	125	52	44	31	104
10	29	126	e39	55	1380	103	1070	117	53	43	37	184
11	29	127	e36	50	625	239	2050	119	55	38	24	e64
12	28	134	e34	47	414	384	862	101	51	60	23	e28
13	28	113	e34	e40	312	330	447	161	46	87	e33	e27
14	28	86	e33	e39	414	227	347	350	47	65	e31	e25
15	28	70	e32	42	444	182	282	217	47	55	29	e78
16	28	184	e32	45	1950	172	231	402	42	56	27	e93
17	35	178	e31	740	1380	800	222	812	39	42	24	e91
18	39	e135	e30	1300	591	594	207	769	44	34	24	59
19	50	e115	e30	530	366	367	186	552	42	e28	25	50
20	344	e110	e29	250	223	348	173	364	38	e36	26	42
21	307	e160	e28	242	189	285	217	803	35	e57	25	38
22	158	e135	e27	283	202	273	218	565	41	45	36	37
23	97	e110	e27	254	321	219	175	378	50	59	33	38
24	72	e90	e26	292	301	183	135	283	44	53	38	40
25	62	e80	e25	517	199	154	172	229	34	46	36	38
26	53	e90	e25	656	169	138	158	191	33	31	31	36
27	44	e98	e24	341	149	123	136	163	35	27	32	35
28	44	e108	e24	283	167	112	121	139	30	30	28	34
29	44	e104	e24	215	---	110	104	234	28	29	e28	34
30	42	e92	e23	174	---	113	96	432	34	29	e26	52
31	42	---	e23	159	---	125	---	256	---	42	27	---
TOTAL	1923	2920	1106	7658	14325	6571	12084	9514	1703	1302	921	1575
MEAN	62.0	97.3	35.7	247	512	212	403	307	56.8	42.0	29.7	52.5
MAX	344	184	81	1300	1950	800	2050	812	171	87	43	184
MIN	28	43	23	39	149	73	96	69	28	26	23	24

CAL YR 1989 TOTAL 60662 MEAN 166 MAX 2420 MIN 23
WTR YR 1990 TOTAL 61602 MEAN 169 MAX 2050 MIN 23

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

AVERAGE DISCHARGE.--72 years, 1,365 ft^3/s, 13.46 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)
Apr. 11	1000	*15,200	*9.70	No peak greater than base discharge.			

Minimum discharge, 135 ft^3/s, Oct. 11, 17, gage height, 0.74 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	393	e440	e300	1500	e1050	996	703	1230	449	315	290
2	190	512	e380	e320	4630	e1000	1120	679	978	672	289	256
3	184	496	e360	e340	7510	e980	1800	642	894	535	245	233
4	160	488	e330	e370	4920	e940	2400	619	800	381	216	189
5	152	473	e310	e400	4290	e900	3300	1680	717	335	222	199
6	147	380	e300	e480	3280	e800	4870	2030	627	311	275	331
7	146	319	e300	e420	2910	e700	4990	1540	530	238	322	409
8	144	347	e320	e380	3240	e680	3560	1120	503	207	287	712
9	142	415	e300	e330	4700	e700	3000	952	488	216	260	703
10	140	700	e280	e280	11300	813	3090	812	481	276	202	782
11	145	583	e270	e270	6990	917	12400	933	462	272	182	981
12	142	554	e260	e270	4180	1350	8020	1240	428	1350	179	751
13	141	585	e260	e270	3030	1480	3910	997	348	4260	221	658
14	141	465	e270	e280	2820	1320	2950	1330	346	1810	291	686
15	141	435	e260	e290	2880	1160	2700	1360	650	972	264	1280
16	140	816	e250	e330	11000	1010	2420	1730	512	1670	246	871
17	157	1670	e260	e560	10400	1140	1750	4640	495	1810	231	1140
18	173	1270	e260	e2500	4600	2300	1430	4320	448	1010	224	1100
19	234	959	e270	e2200	3400	1480	1280	3320	650	645	224	634
20	954	896	e270	1250	2600	1610	1200	2290	749	496	198	621
21	3240	e820	e280	1390	1830	1690	1230	4550	428	516	210	583
22	1500	e720	e280	2110	1710	1880	1310	3750	469	513	235	602
23	992	e620	e290	1710	e1600	2140	1210	2330	459	621	314	613
24	670	e500	e280	1470	e1500	1780	1050	1830	428	733	702	637
25	612	e430	e270	2310	e1400	1700	890	1500	372	643	581	557
26	417	e470	e250	3910	e1200	1540	986	1220	314	520	454	482
27	361	e530	e240	2450	e1000	1290	867	1130	289	299	336	453
28	328	e540	e240	1910	e1000	1300	804	936	277	237	295	446
29	318	e520	e250	1700	---	1080	759	1030	264	215	300	434
30	327	e470	e260	1590	---	961	723	3320	343	233	407	407
31	328	---	e280	1560	---	1000	---	1880	---	292	348	---
TOTAL	13046	18376	8870	33950	111420	38691	77015	56413	15979	22737	9075	18040
MEAN	421	613	286	1095	3979	1248	2567	1820	533	733	293	601
MAX	3240	1670	440	3910	11300	2300	12400	4640	1230	4260	702	1280
MIN	140	319	240	270	1000	680	723	619	264	207	179	189
CFSM	.31	.44	.21	.80	2.89	.91	1.86	1.32	.39	.53	.21	.44
IN.	.35	.50	.24	.92	3.01	1.05	2.08	1.52	.43	.61	.25	.49

CAL YR 1989 TOTAL 505043 MEAN 1384 MAX 18300 MIN 108 CFSM 1.00 IN. 13.64
WTR YR 1990 TOTAL 423612 MEAN 1161 MAX 12400 MIN 140 CFSM .84 IN. 11.44

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.--53 years, 75.2 ft^3/s, 15.28 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)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Jan. 17	2030	ice jam	*4.63	Feb. 16	2400	*1,200	4.56

Minimum discharge, 1.6 ft^3/s Sept. 3, 4, gage height, 0.86 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	58	e44	e58	e80	e66	73	37	52	18	9.6	2.1
2	12	48	e42	e62	205	e60	108	33	42	22	8.6	2.0
3	12	42	e50	e68	236	e50	156	30	37	16	8.0	1.9
4	10	45	e60	e80	192	e48	236	33	33	12	6.7	1.9
5	10	40	e80	e86	184	e46	259	315	30	10	6.2	3.1
6	9.1	38	e70	e86	149	e42	300	201	26	9.6	7.2	3.8
7	8.8	37	e60	e84	131	e36	243	128	24	12	6.9	4.2
8	8.3	40	e56	e70	147	e36	196	94	22	10	6.4	3.2
9	8.1	73	e50	e64	276	37	180	71	23	11	6.0	4.5
10	8.3	123	e48	e60	783	44	246	60	23	13	5.8	7.0
11	8.0	94	e44	e60	612	84	700	57	21	10	5.0	7.6
12	7.2	74	e40	e56	243	169	448	47	19	12	5.0	6.3
13	6.6	61	e36	e60	178	202	201	79	17	16	4.7	5.4
14	7.2	52	e34	e60	226	152	149	257	18	14	5.4	5.3
15	7.4	47	e30	e68	192	111	125	127	66	12	5.2	6.1
16	6.8	131	e28	e80	818	90	110	248	27	16	4.4	5.5
17	6.7	171	e26	e200	1030	242	94	554	19	13	4.6	6.0
18	7.7	96	e24	e350	425	324	84	457	19	11	4.5	5.2
19	14	72	e22	e240	212	172	76	238	25	12	4.6	4.8
20	158	71	e20	e110	144	195	66	166	20	14	4.6	4.7
21	205	115	e20	e80	127	154	109	439	16	33	4.0	4.4
22	105	e86	e18	80	108	175	114	294	15	21	4.7	4.8
23	61	e65	e20	73	213	130	83	164	26	16	4.5	4.3
24	48	e50	e22	83	185	104	68	117	26	19	4.1	4.5
25	40	e52	e26	164	e100	84	68	90	18	17	3.8	4.2
26	33	70	e30	263	e90	77	63	74	15	14	3.2	5.4
27	29	78	e30	137	e80	65	55	65	13	12	2.9	5.9
28	26	66	e40	100	e70	56	47	55	12	9.9	2.8	4.5
29	23	58	e40	77	---	55	41	58	11	8.6	2.4	4.3
30	23	50	e48	e70	---	59	40	130	11	8.1	2.1	5.3
31	22	---	e54	e78	---	70	---	79	---	10	2.1	---
TOTAL	942.2	2103	1212	3207	7436	3235	4738	4797	726	432.2	156.0	138.2
MEAN	30.4	70.1	39.1	103	266	104	158	155	24.2	13.9	5.03	4.61
MAX	205	171	80	350	1030	324	700	554	66	33	9.6	7.6
MIN	6.6	37	18	56	70	36	40	30	11	8.1	2.1	1.9
CFSM	.45	1.05	.59	1.55	3.98	1.56	2.36	2.32	.36	.21	.08	.07
IN.	.52	1.17	.67	1.79	4.14	1.80	2.64	2.67	.40	.24	.09	.08

CAL YR 1989 TOTAL 27350.3 MEAN 74.9 MAX 1050 MIN 5.1 CFSM 1.12 IN. 15.23
WTR YR 1990 TOTAL 29122.6 MEAN 79.8 MAX 1030 MIN 1.9 CFSM 1.19 IN. 16.22

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.--24 years, 19.6 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, 65 ft^3/s, Feb. 12; no flow many days.

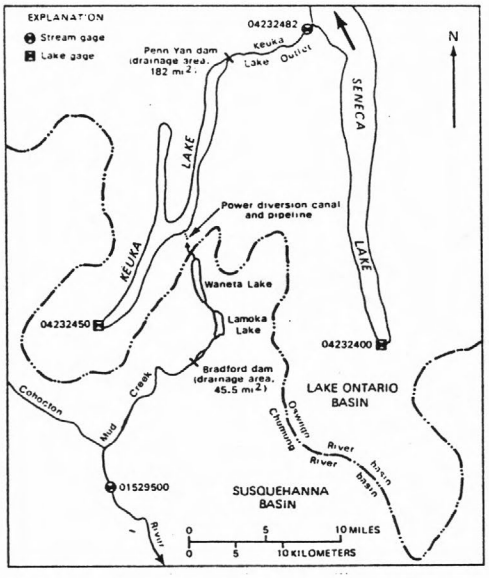


Figure 5.--Gaging stations and transbasin diversion, Cohocton River-Keuka Lake area.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	20	.00	.00	60	43	.00	51	.00	.00	.00
2	.00	.00	.00	.00	.00	46	45	.00	51	.00	.00	.00
3	.00	.00	.00	.00	.00	46	48	.00	51	.00	.00	.00
4	.00	.00	21	.00	.00	46	48	.00	51	.00	.00	.00
5	.00	.00	38	.00	30	51	48	.00	33	.00	.00	.00
6	.00	.00	38	.00	55	51	63	.00	.00	.00	.00	.00
7	.00	.00	38	.00	55	51	63	31	.00	.00	.00	.00
8	.00	.00	35	.00	63	51	63	54	.00	.00	.00	.00
9	.00	.00	35	.00	63	31	63	54	.00	.00	.00	.00
10	27	.00	35	.00	63	.00	42	54	.00	.00	.00	.00
11	56	.00	35	.00	63	.00	62	26	.00	.00	.00	.00
12	56	.00	19	.00	65	27	62	.00	.00	.00	.00	.00
13	33	25	15	.00	63	49	62	.00	.00	.00	.00	.00
14	.00	43	20	.00	63	49	62	36	.00	.00	.00	.00
15	.00	43	.00	.00	63	49	62	60	.00	.00	.00	.00
16	20	43	.00	.00	63	49	62	60	.00	.00	.00	.00
17	35	18	.00	.00	63	49	62	60	.00	.00	.00	.00
18	19	32	.00	.00	63	49	62	60	.00	.00	.00	.00
19	.00	32	.00	.00	59	49	62	60	.00	.00	.00	.00
20	15	18	.00	.00	59	49	63	60	35	.00	.00	.00
21	34	32	.00	.00	59	49	63	60	60	.00	.00	.00
22	34	20	.00	.00	59	49	63	60	35	.00	.00	.00
23	34	.00	.00	.00	59	45	51	60	.00	.00	.00	.00
24	34	.00	.00	.00	59	45	51	60	.00	.00	.00	.00
25	40	.00	.00	.00	59	45	51	60	18	.00	.00	.00
26	40	.00	.00	.00	60	43	51	60	48	.00	.00	.00
27	23	.00	.00	.00	60	43	25	62	48	.00	.00	.00
28	.00	17	.00	.00	60	43	.00	62	48	.00	.00	.00
29	.00	34	.00	.00	---	43	.00	62	.00	.00	.00	.00
30	.00	34	.00	.00	---	43	.00	54	.00	.00	.00	.00
31	.00	---	.00	.00	---	43	---	54	---	.00	.00	---
TOTAL	500.00	391.00	349.00	0.00	1428.00	1343.00	1502.00	1269.00	529.00	0.00	0.00	0.00
MEAN	16.1	13.0	11.3	.000	51.0	43.3	50.1	40.9	17.6	.000	.000	.000
MAX	56	43	38	.00	65	60	63	62	60	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR	1989	TOTAL	5450.00	MEAN	14.9	MAX	69	MIN .00
WTR YR	1990	TOTAL	7311.00	MEAN	20.0	MAX	65	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. Telephone and satellite gage-height telemeters at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--72 years, 446 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)
Feb. 17	0100	*5,570	*5.46	No other peak greater than base discharge.			

Minimum daily discharge, 27 ft^3/s, Sept. 4; minimum recorded gage height, 0.07 ft, Aug. 31 to Sept. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	256	e200	e160	464	e460	471	343	417	150	90	33
2	122	247	e180	e170	1080	e440	596	321	357	175	77	30
3	126	215	e160	e180	1220	e410	900	295	335	140	69	28
4	113	218	e145	e200	e1000	e390	1120	301	301	115	64	27
5	105	201	e140	e230	e880	e360	1420	1110	282	107	62	43
6	99	191	e140	e230	e760	e320	1600	803	255	101	70	61
7	95	184	e160	e220	e740	e280	1370	639	232	100	70	54
8	94	193	e170	e180	e780	e270	1150	554	215	94	63	47
9	90	269	e150	e170	e1500	e290	1050	479	222	100	58	52
10	88	445	e140	e160	3740	e310	1340	439	217	115	56	158
11	85	359	e130	e160	2700	e460	3590	427	201	97	52	124
12	83	315	e125	e150	1740	684	2520	384	189	120	50	86
13	79	272	e120	e160	1400	796	1810	420	171	198	52	70
14	77	252	e120	e160	1530	685	1480	782	165	143	63	61
15	77	234	e125	e180	1380	588	1240	551	566	123	59	98
16	80	461	e130	e210	4340	533	1040	748	364	136	51	109
17	83	621	e125	e350	4560	949	916	1630	209	120	46	98
18	104	438	e120	1540	2480	1170	772	1520	210	96	45	87
19	132	362	e110	975	1860	853	658	1110	241	87	47	77
20	510	337	e110	614	1370	1000	597	922	191	105	47	71
21	712	e350	e120	568	1100	865	697	2020	160	262	49	70
22	421	e310	e110	521	1040	913	661	1540	151	162	55	72
23	312	e280	e110	459	e1000	765	578	1220	239	152	60	71
24	255	e270	e115	476	e840	652	522	1030	201	173	56	70
25	223	e260	e120	745	e680	582	532	751	160	151	52	63
26	202	e270	e130	1120	e580	543	515	601	143	124	51	66
27	186	e300	e130	705	e540	481	460	535	131	109	45	83
28	176	e280	e130	598	e500	437	417	472	118	105	42	77
29	161	e250	e140	523	---	424	385	491	122	92	45	69
30	156	e220	e145	475	---	430	365	853	128	83	41	74
31	151	---	e150	459	---	459	---	531	---	89	35	---
TOTAL	5317	8860	4200	13048	41804	17799	30772	23822	6893	3924	1722	2129
MEAN	172	295	135	421	1493	574	1026	768	230	127	55.5	71.0
MAX	712	621	200	1540	4560	1170	3590	2020	566	262	90	158
MIN	77	184	110	150	464	270	365	295	118	83	35	27

CAL YR	1989	TOTAL	154556	MEAN	423	MAX	5590	MIN	45
WTR YR	1990	TOTAL	160290	MEAN	439	MAX	4560	MIN	27

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

AVERAGE DISCHARGE.--16 years, 2,042 ft^3/s, 13.82 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)
Feb. 17	0200	*21,200	*21.68	No peak greater than base discharge.			

Minimum discharge, 221 ft^3/s, Sept. 4-5, minimum gage height, 14.50 ft, Oct. 13-17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	335	614	e660	e450	e1700	e1500	1580	1160	1790	630	422	331
2	331	772	e600	e470	e5300	e1500	1840	1120	1400	886	383	304
3	325	723	e560	e500	9440	e1400	e2800	1040	1280	714	328	278
4	291	709	e520	e540	6140	e1350	3810	1020	1150	538	288	234
5	276	687	e480	e620	5620	e1250	5180	2980	1040	468	314	269
6	273	608	e470	e780	4420	e1100	7080	3220	921	433	351	442
7	247	536	e470	e700	3920	e1000	6570	2510	803	365	411	534
8	239	542	e490	e620	4260	e960	5040	1920	747	323	362	857
9	239	607	e470	e520	6250	e1000	4370	1620	736	319	328	815
10	239	1070	e460	e440	16100	1090	4710	1420	727	386	265	1010
11	239	949	e430	e420	10700	1360	17500	1520	681	393	242	1210
12	239	853	e420	e420	6430	2050	11300	1780	638	1530	241	881
13	232	851	e400	e420	4760	2350	6200	1520	547	4970	307	765
14	227	724	e430	e440	4640	2110	4850	2290	554	2250	386	836
15	227	681	e410	e450	4420	1770	4280	2140	1430	1170	349	1780
16	227	1070	e400	e540	16200	1610	3790	2610	1010	2210	320	1050
17	241	2300	e410	e640	16700	2040	2980	6760	769	2290	293	1590
18	251	1760	e410	e3500	7750	3720	2520	6430	697	1180	293	1310
19	324	1330	e420	e3000	5660	2530	2200	4880	905	761	280	776
20	889	1240	e430	2070	4330	2810	2000	3520	986	631	263	761
21	3860	e1200	e430	2030	3160	2780	2110	7350	640	780	279	720
22	2030	e1050	e440	2800	2980	3060	2240	5910	630	723	322	736
23	1380	e900	e450	2360	e2800	3220	2000	3970	676	840	432	743
24	996	e760	e430	2020	e2500	2740	1740	3200	653	971	871	765
25	880	e630	e410	3190	e2200	2500	1560	2610	565	865	662	680
26	689	e680	e400	5250	e2000	2300	1680	2070	495	691	525	595
27	606	e780	e380	3480	e1800	1940	1480	1840	452	446	369	585
28	564	e780	e370	2780	e1700	1870	1370	1560	428	365	361	582
29	534	e760	e390	e2400	---	1630	1280	1580	435	328	364	559
30	524	e740	e410	e2000	---	1500	1210	4440	550	337	499	520
31	528	---	e430	e1800	---	1580	---	2720	---	388	397	---
TOTAL	18482	26906	13880	47650	163880	59620	117270	88710	24335	29181	11507	22518
MEAN	596	897	448	1537	5853	1923	3909	2862	811	941	371	751
MAX	3860	2300	660	5250	16700	3720	17500	7350	1790	4970	871	1780
MIN	227	536	370	420	1700	960	1210	1020	428	319	241	234
CFSM	.30	.45	.22	.77	2.92	.96	1.95	1.43	.40	.47	.19	.37
IN.	.34	.50	.26	.88	3.04	1.11	2.17	1.65	.45	.54	.21	.42

CAL YR 1989 TOTAL 703405 MEAN 1927 MAX 26100 MIN 195 CFSM .96 IN. 13.04
WTR YR 1990 TOTAL 623939 MEAN 1709 MAX 17500 MIN 227 CFSM .85 IN. 11.57

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. Since August 1989, high flows regulated by detention in upstream reservoir. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years, 85.2 ft^3/s, 14.93 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)
Feb. 16	0345	*1,100	*9.92	No peak greater than base discharge.			

Minimum daily discharge, 8.8 ft^3/s, Sept. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	43	24	e9.8	85	e40	48	34	53	78	22	11
2	12	35	20	e9.8	337	e43	50	32	44	48	16	11
3	17	30	e18	e9.8	263	e50	103	30	41	33	13	11
4	16	31	e16	e11	249	46	221	33	36	27	12	10
5	22	29	e16	e23	182	41	261	137	35	27	15	13
6	23	27	e15	e22	135	37	325	87	30	24	19	12
7	24	27	e15	e22	137	31	251	75	30	22	16	13
8	23	29	e14	e21	144	31	119	63	27	20	14	11
9	26	32	e14	e20	261	32	107	51	29	22	13	9.1
10	25	41	e14	e20	665	33	123	62	26	20	12	11
11	25	34	e13	e20	299	49	568	127	26	18	12	11
12	34	30	e13	e19	175	84	228	70	25	50	11	11
13	46	27	e12	e18	135	83	149	74	25	95	15	12
14	48	26	e12	e18	136	72	124	141	28	47	22	12
15	56	25	e12	e18	181	63	109	82	42	38	16	42
16	51	161	e12	e18	801	57	91	109	33	83	13	25
17	55	132	e11	42	597	70	78	239	28	44	14	18
18	44	83	e11	137	222	88	77	209	29	32	19	14
19	57	69	e11	98	160	64	61	131	30	27	18	12
20	188	65	e11	62	119	85	54	98	27	28	17	13
21	146	e60	e11	100	e80	93	71	281	26	32	18	12
22	60	e46	e10	133	e70	140	69	186	27	26	23	13
23	39	e36	e10	84	e66	131	57	128	27	44	27	12
24	31	32	e10	132	e56	93	49	102	26	50	23	10
25	26	29	e10	172	e52	79	55	82	25	23	20	8.8
26	23	30	e10	199	e47	69	53	70	24	19	16	11
27	21	30	e10	120	e45	59	45	60	23	18	16	16
28	20	30	e10	104	e43	52	41	52	22	16	16	16
29	18	29	e9.8	89	---	51	37	62	47	22	15	17
30	17	26	e9.8	115	---	50	36	118	139	19	13	18
31	18	---	e9.8	96	---	52	---	71	---	21	12	---
TOTAL	1222	1324	394.4	1962.4	5742	1968	3660	3096	1030	1073	508	415.9
MEAN	39.4	44.1	12.7	63.3	205	63.5	122	99.9	34.3	34.6	16.4	13.9
MAX	188	161	24	199	801	140	568	281	139	95	27	42
MIN	11	25	9.8	9.8	43	31	36	30	22	16	11	8.8
CFSM	.51	.57	.16	.82	2.65	.82	1.57	1.29	.44	.45	.21	.18
IN.	.59	.64	.19	.94	2.76	.94	1.76	1.49	.49	.52	.24	.20

CAL YR 1989 TOTAL 24000.0 MEAN 65.8 MAX 1260 MIN 6.9 CFSM .85 IN. 11.52
WTR YR 1990 TOTAL 22395.7 MEAN 61.4 MAX 801 MIN 8.8 CFSM .79 IN. 10.75

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.

WATER-DISCHARGE RECORDS

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. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--84 years (water years 1906–13, 1915–90), 2,522 ft^3/s, 13.67 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)
Feb. 17	1000	*25,500	*12.00	No peak greater than base discharge.			

Minimum discharge, 251 ft^3/s, Oct. 14-16, gage height, 3.11 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	386	815	e840	e560	2800	e2000	2020	1600	2700	1260	493	405
2	370	930	e760	e600	4430	e2000	2100	1540	2040	1270	472	355
3	377	977	e700	e640	13100	e1800	3080	1460	1790	1100	439	321
4	362	929	e660	e680	7720	e1700	5300	1430	1620	862	374	297
5	332	902	e620	e700	8200	e1600	6790	2880	1450	666	358	271
6	314	851	e600	e1050	6120	e1500	8510	4740	1310	577	407	317
7	303	743	e600	e900	5300	e1300	8600	3670	1170	528	424	465
8	290	688	e620	e780	5510	e1200	6730	3060	1050	436	455	604
9	288	727	e600	e680	6650	e1200	5550	2520	1000	412	401	802
10	278	1030	e580	e560	16700	1390	5450	2400	980	417	365	839
11	276	1320	e550	e540	17500	1580	16100	2690	932	456	304	1130
12	276	1120	e520	e540	8840	2340	16600	2570	878	974	277	1020
13	276	1070	e500	e560	6440	2980	8390	2390	791	5370	280	852
14	264	994	e540	e580	5820	2830	6280	2980	701	3420	460	782
15	263	886	e520	e580	5660	2480	5450	3210	1510	1790	435	1300
16	266	1180	e500	608	14900	2190	5000	2930	1800	2170	393	1630
17	278	3000	e510	767	23400	2120	4000	6800	1170	2820	362	1120
18	301	2650	e520	3670	12300	4110	3450	8340	1030	1770	334	1730
19	363	1980	e520	5720	7400	3370	2900	6580	1060	1200	336	1070
20	1250	1700	e540	3220	6080	3250	2630	4910	1220	934	326	853
21	4490	e1500	e540	2470	4380	3510	2600	7130	1060	961	314	847
22	3390	e1300	e550	3510	3910	3870	2830	8430	792	999	343	803
23	2080	e1150	e560	3190	e3600	4400	2610	5560	801	964	448	815
24	1450	e960	e540	2760	e3200	3700	2330	4430	844	1240	720	821
25	1150	e800	e520	3840	e2800	3260	2110	3610	772	1150	894	790
26	1000	e860	e500	5900	e2600	3000	2180	2880	668	932	675	706
27	802	e980	e480	5240	e2200	2610	2020	2500	591	766	564	646
28	705	e970	e460	3850	e2200	2360	1850	2210	554	537	431	632
29	650	e960	e490	3330	---	2190	1740	2100	565	462	424	611
30	606	e940	e520	3230	---	1970	1660	4620	1090	413	420	669
31	605	---	e560	2940	---	1990	---	4280	---	422	509	---
TOTAL	24041	34912	17520	64195	209760	75800	146860	116450	33939	37278	13437	23503
MEAN	776	1164	565	2071	7491	2445	4895	3756	1131	1203	433	783
MAX	4490	3000	840	5900	23400	4400	16600	8430	2700	5370	894	1730
MIN	263	688	460	540	2200	1200	1660	1430	554	412	277	271
CFSM	.31	.46	.23	.83	2.99	.98	1.95	1.50	.45	.48	.17	.31
IN.	.36	.52	.26	.95	3.11	1.13	2.18	1.73	.50	.55	.20	.35

CAL YR	1989	TOTAL	894532	MEAN	2451	MAX	31900	MIN	191	CFSM	.98	IN. 13.28
WTR YR	1990	TOTAL	797695	MEAN	2185	MAX	23400	MIN	263	CFSM	.87	IN. 11.84

e Estimated

01531000 CHEMUNG RIVER AT CHEMUNG, NY--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--April 1953-54, July 1962, March 1970-78, Water years 1988 to current year.
CHEMICAL DATA: 1953-54 (a), 1962 (a), 1970-71 (a), 1972 (b), 1974 (b), 1975-77 (d), 1988-90 (b).
MINOR ELEMENT DATA: 1953-54 (a), 1972 (b), 1973 (a), 1974 (b), 1975-77 (d), 1988-90 (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), 1988-90 (a).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. 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)	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)
OCT												
02	1200	369	438	8.5	17.0	741	8.2	160	46	11	23	2.5
APR												
03	1200	2790	--	7.8	8.5	754	11.2	--	--	--	--	--
MAY												
14	1200	3040	--	8.5	14.0	752	11.6	--	--	--	--	--
JUN												
12	1200	888	--	8.3	17.0	754	10.7	--	--	--	--	--
AUG												
20	1100	321	--	8.3	20.0	--	9.2	--	--	--	--	--

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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	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)	IRON, DIS-SOLVED (UG/L AS FE)
OCT												
02	109	38	37	0.1	50	< 10	< 1.0	1	3	6	160	8
APR												
03	--	--	--	--	110	--	--	< 1	--	5	260	--
MAY												
14	--	--	--	--	150	--	--	< 1	--	6	300	--
JUN												
12	--	--	--	--	290	--	--	< 1	--	10	580	--
AUG												
20	--	--	--	--	390	--	--	< 1	--	10	650	--

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)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT											
02	< 1	2	20	6	0.2	2	2	4	20	5	5.0
APR											
03	--	2	70	--	< 0.1	--	3	--	10	7	53
MAY											
14	--	3	60	--	< 0.1	--	4	--	< 10	9	74
JUN											
12	--	2	90	--	< 0.1	--	3	--	< 10	23	55
AUG											
20	--	3	180	--	< 0.1	--	4	--	20	25	22

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. Telephone gage-height telemeter and satellite gage-height and precipitation telemeter 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, 6,300 acre-ft, Feb. 18, elevation, 1,161.20 ft; minimum, 1,370 acre-ft, Feb. 3, elevation, 1,137.82 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. Telephone gage-height telemeter and satellite gage-height and precipitation telemeter 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, 21,920 acre-ft, Feb. 18, elevation, 979.78 ft; minimum, 5,080 acre-ft, Mar. 5, elevation, 965.86 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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	1,150.23	3,330	--	973.30	13,066	--
Oct. 31	1,151.22	3,541	+ 3.4	973.21	12,950	- 1.9
Nov. 30	1,139.60	1,581	- 32.9	972.10	11,600	- 22.7
Dec. 31	1,140.58	1,705	+ 2.0	966.23	5,440	- 100
CAL YR 1989	--	--	0.0	--	--	+ 0.1
Jan. 31	1,140.29	1,668	- 0.6	966.08	5,290	- 2.4
Feb. 28	1,140.85	1,740	+ 1.3	966.34	5,550	+ 4.7
Mar. 31	1,140.36	1,677	- 1.0	966.27	5,480	- 1.1
Apr. 30	1,150.23	3,330	+ 27.8	973.05	12,750	+ 122
May 31	1,150.45	3,376	+ 0.7	973.06	12,760	+ 0.2
June 30	1,150.81	3,452	+ 1.3	973.44	13,240	+ 8.1
July 31	1,150.70	3,429	- 0.4	973.14	12,860	- 6.2
Aug. 31	1,150.85	3,460	+ 0.5	973.22	12,960	+ 1.6
Sept. 30	1,150.73	3,435	- 0.4	973.15	12,880	- 1.3
WTR YR 1990	--	--	+ 0.1	--	--	- 0.3

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, 11,060 acre-ft, Nov. 17, elevation, 1,084.13 ft; minimum, 6,240 acre ft, Sept. 15, elevation, 1,073.22 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, 9,940 acre-ft, Nov. 18, elevation, 1,087.65 ft; minimum, 3,910 acre-ft, Sept. 29, elevation, 1,077.52 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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	1,081.12	9,560	--	1,085.86	8,740	--
Oct. 31	1,081.86	9,920	+ 5.9	1,086.00	8,850	+ 1.8
Nov. 30	1,083.66	10,830	+ 15.3	1,087.15	9,570	+ 12.1
Dec. 31	1,081.63	9,810	- 16.6	1,085.97	8,830	- 12.0
CAL YR 1989	--	--	+ 0.4	--	--	0.0
Jan. 31	1,083.00	10,500	+ 11.2	1,086.44	9,120	+ 4.7
Feb. 28	1,081.42	9,710	- 14.2	1,086.68	9,260	+ 2.5
Mar. 31	1,081.59	9,790	+ 1.3	1,086.26	9,010	- 4.1
Apr. 30	1.082.71	10,350	+ 9.4	1,086.79	9,330	+ 5.4
May 31	1,081.38	9,690	- 10.7	1,086.50	9,160	- 2.8
June 30	1,082.22	10,100	+ 6.9	1,086.71	9,280	+ 2.0
July 31	1,081.91	9,950	- 2.4	1,086.65	9,250	- 0.5
Aug. 31	1,081.46	9,720	- 3.7	1,086.42	9,110	- 2.3
Sept. 30	1,075.93	7,290	- 40.8	1,077.72	4,000	- 85.9
WTR YR 1990	--	--	- 3.1	--	--	- 6.5

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, 34,080 acre-ft, July 13, 1990, elevation, 1,081.40 ft; minimum, 65 acre-ft, June 23, 1980, elevation, 1,011.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 34,080 acre-ft, July 13, elevation, 1,081.40 ft; minimum, 7,700 acre-ft, Oct. 17, elevation, 1,045.87 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 precipitation telemeter 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, 189 acre-ft, May 5, elevation, 1,232.61 ft; minimum recorded, 0.62 acre-ft, Aug. 28-Sept. 1, and Sept. 29-30, elevation, 1,226.62 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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	1,046.31	7,880	--	1,227.37	3.6	--
Oct. 31	1,048.18	8,700	+ 13.3	1,227.08	1.6	0.0
Nov. 30	1,058.86	14,420	+ 96.1	1,227.32	3.2	0.0
Dec. 31	1,059.64	14,880	+ 7.5	1,227.11	1.8	0.0
CAL YR 1989	--	--	+ 10 3	--	--	0.0
Jan. 31	1,060.18	15,230	+ 5.7	1,227.61	5.3	+ 0.1
Feb. 28	1,065.52	19,060	+ 69.0	1,227.79	6.5	0.0
Mar. 31	1,070.41	23,130	+ 66.2	1,228.00	8.0	0.0
Apr. 30	1,080.21	32,810	+163	1,227.99	7.9	0.0
May 31	1,080.72	33,320	+ 8.3	1,228.05	10.2	0.0
June 30	1,080.72	33,320	0.0	1,227.83	6.8	- 0.1
July 31	1,080.49	33,090	- 3.7	1,227.84	6.9	0.0
Aug. 31	1,080.53	33,130	+ 0.7	1,226.62	0.6	- 0.1
Sept. 30	1,080.49	33,090	- 0.7	1,226.62	0.6	0.0
WTR YR 1990	--	--	+ 34.8	--	--	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. Telephone and satellite 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, 2,820 acre-ft, Feb. 16, elevation, 1,265.81 ft; minimum, 1,720 acre-ft, Jan. 29, elevation, 1,259.81 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in cfs)
Sept. 30	1,260.07	1,761	--
Oct. 31	1,260.17	1,777	+ 0.3
Nov. 30	1,260.52	1,833	+ 0.9
Dec. 31	1,260.14	1,772	- 1.0
CAL YR 1989	--	--	+ 0.1
Jan. 31	1,260.12	1,769	0.0
Feb. 28	1,260.13	1,771	0.0
Mar. 31	1,260.48	1,827	+ 0.9
Apr. 30	1,260.93	1,899	+ 1.2
May 31	1,261.00	1,910	+ 0.2
June 30	1,260.95	1,902	- 0.1
July 31	1,260.78	1,875	- 0.4
Aug. 31	1,260.79	1,876	0.0
Sept. 30	1,260.71	1,864	- 0.2
WTR YR 1990	--	--	+ 0.1

DIVERSION OF WATER AFFECTING THE SUSQUEHANNA RIVER BASIN

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

OHIO RIVER MAIN STEM

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.

WATER-DISCHARGE RECORDS

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, which are fair. U.S. Army Corps of Engineers telephone gage-height telemeter and satellite gage-height and precipitation telemeter at station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--87 years, 2,779 ft^3/s, 23.47 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)
Feb. 16	2300	*19,800	*10.86	No other peak greater than base discharge.			

Minimum daily discharge, 310 ft^3/s, Oct. 16.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	428	1690	2280	e1200	3180	e2400	2090	1520	1920	811	668	1130
2	428	1840	2010	e2000	6590	e2400	2350	1410	1630	653	622	940
3	470	1530	2010	e1800	10800	e2200	3020	1300	1480	535	560	805
4	445	1350	1600	e1700	10200	e2000	3230	1270	1420	482	509	696
5	420	1230	1430	5080	9460	e1800	3920	4100	1360	435	596	690
6	377	1160	e1200	4940	7640	e1500	4920	4030	1210	396	1130	785
7	352	1370	e1100	3930	6420	e1300	4720	2960	1080	374	1120	1350
8	337	2160	e1000	3150	5550	e1200	4330	2390	1000	355	769	1980
9	324	2510	e940	e2400	5760	e1300	4250	2050	990	899	642	3040
10	312	3210	e880	e2000	9230	e1500	5400	2040	941	1470	546	5740
11	322	3410	e840	e1800	9100	3450	12400	2690	903	945	499	3860
12	347	3140	e800	e1600	7300	4480	12000	2410	831	1260	467	2520
13	388	2680	e760	e1500	6000	4260	10800	4170	757	5280	463	1920
14	361	2300	e740	e1500	5490	3830	8940	6800	699	4660	911	1570
15	330	2110	e720	e1400	6230	3420	7110	5260	661	3320	825	3150
16	310	3270	e700	e1600	17600	3090	5390	6340	625	3790	577	4820
17	365	5440	e700	e2000	17900	4440	4460	10200	594	3020	487	6000
18	417	4370	e680	11800	13900	6790	3960	12200	1530	2130	430	4330
19	871	3670	e660	11000	10900	5660	3340	10200	2750	1660	408	3350
20	2060	3490	e660	7710	8190	5490	2900	7700	1380	1420	392	4100
21	3160	4270	e640	7010	5700	4710	3490	9440	947	1400	386	3840
22	2660	3680	e640	6650	4710	4280	3480	8360	773	1260	377	3310
23	2190	2930	e640	5410	5260	3850	2990	6250	709	2520	379	3650
24	1710	2510	e620	4970	5150	3480	2650	4960	735	2970	533	3900
25	1410	2230	e620	6040	e3700	3150	2480	4010	751	1970	916	3270
26	1210	2410	e600	6940	e3000	2890	2320	3280	685	1410	648	2690
27	1060	2710	e600	5960	e2800	2610	2110	2760	615	1120	539	2330
28	947	2710	e580	5090	e2600	2320	1910	2380	543	942	633	1980
29	860	2830	e580	4470	---	2140	1740	2160	515	830	1960	1710
30	794	2490	e580	4120	---	2060	1610	3070	642	744	2510	2200
31	783	---	e600	3520	---	2100	---	2540	---	704	1500	---
TOTAL	26448	80700	28410	130290	210360	96100	134310	140250	30676	49765	23002	81656
MEAN	853	2690	916	4203	7513	3100	4477	4524	1023	1605	742	2722
MAX	3160	5440	2280	11800	17900	6790	12400	12200	2750	5280	2510	6000
MIN	310	1160	580	1200	2600	1200	1610	1270	515	355	377	690
CFSM	.53	1.67	.57	2.61	4.67	1.93	2.78	2.81	.64	1.00	.46	1.69
IN.	.61	1.87	.66	3.01	4.87	2.22	3.11	3.24	.71	1.15	.53	1.89

CAL YR	1989	TOTAL	1048176	MEAN	2872	MAX	31700	MIN	200	CFSM	1.79	IN. 24.25
WTR YR	1990	TOTAL	1031967	MEAN	2827	MAX	17900	MIN	310	CFSM	1.76	IN. 23.87

e Estimated

03011020 ALLEGHENY RIVER AT SALAMANCA, NY--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--July to September 1967, March 1971-1974, Water years 1988 to current year.
CHEMICAL DATA: 1967 (a), 1971-72 (a), 1988-90 (b).
MINOR ELEMENT DATA: 1967 (a), 1971 (a), 1972-74 (a), 1988-90 (b).
NUTRIENT DATA: 1967 (a), 1971-72 (a).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM, DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT												
17	0900	340	250	6.8	14.0	761	7.0	--	86	26	5.1	19
NOV												
08	0930	2220	150	7.3	8.0	--	10.0	--	49	15	2.9	8.9
MAR												
28	1200	2250	110	8.3	3.0	767	12.2	90	41	12	2.7	6.4
APR												
10	0900	4180	110	8.4	6.0	755	11.0	89	--	--	--	--
MAY												
01	1000	1440	140	8.2	1.5	768	8.2	58	--	--	--	--
22	1000	8520	76	8.1	12.0	765	9.6	89	--	--	--	--
JUN												
27	0900	606	195	8.2	21.0	770	7.6	84	--	--	--	--
JUL												
18	1200	2060	71	7.1	22.0	765	7.4	84	--	--	--	--
AUG												
21	1000	383	248	7.6	17.5	728	8.0	88	--	--	--	--
SEP												
19	1000	3340	110	7.6	12.0	767	7.4	68	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	CADMIUM 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)
OCT												
17	1.7	63	13	32	0.1	50	10	< 1.0	< 1	2	< 1	330
NOV												
08	1.4	34	13	13	0.1	530	--	--	< 1	--	3	1400
MAR												
28	1.2	27	12	11	0.1	90	--	--	3	--	3	320
APR												
10	--	--	--	--	--	510	20	< 1.0	< 1	< 10	4	890
MAY												
01	--	--	--	--	--	160	--	--	< 1	--	3	550
22	--	--	--	--	--	1000	--	--	< 1	--	3	2000
JUN												
27	--	--	--	--	--	180	20	< 1.0	< 1	--	1	670
JUL												
18	--	--	--	--	--	670	--	--	< 1	--	--	1600
AUG												
21	--	--	--	--	--	150	--	--	< 1	--	3	450
SEP												
19	--	--	--	--	--	290	--	--	< 1	--	3	800

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	IRON, DIS-SOLVED (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)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT												
17	59	< 1	<1	50	30	< 0.1	1	1	8	10	4	3.7
NOV												
08	--	--	3	110	--	< 0.1	--	3	--	20	28	168
MAR												
28	--	--	1	80	--	< 0.1	--	1	--	10	4	24
APR												
10	68	< 10	1	60	24	< 0.1	< 10	2	17	< 10	21	237
MAY												
01	--	--	4	50	--	< 0.1	--	2	--	10	8	31
22	--	--	3	160	--	< 0.1	--	3	--	20	54	1240
JUN												
27	73	< 1	1	80	34	< 0.1	1	1	4	< 10	14	23
JUL												
18	--	--	3	140	--	< 0.1	--	3	--	20	43	239
AUG												
21	--	--	1	70	--	< 0.1	--	1	--	< 10	10	10
SEP												
19	--	--	1	80	--	< 0.1	--	4	--	10	16	144

CHEMICAL QUALITY OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLA-TILE IN BOTTOM MA-TERIAL (MG/KG)	ALUM-INUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	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)
AUG											
21	1000	38700	4100	< 1	10	20	290	10	6	9900	0.11

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 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.--52 years, 538 ft^3/s, 25.19 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)
Feb. 18	1700	*3,300	*9.45	No other peak greater than base discharge.			

Minimum discharge, 64 ft^3/s, Oct. 16, gage height, 3.10 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	267	573	e600	e640	e450	424	e270	333	127	136	130
2	85	251	448	e700	e1200	e450	610	e240	274	119	117	106
3	84	224	408	e650	e1600	e470	761	e210	245	107	106	99
4	81	226	349	e740	e1900	e440	730	e240	237	101	99	94
5	77	210	e340	e1000	e1800	e390	868	e580	237	98	98	90
6	73	196	e320	e1200	e1600	e330	1080	e660	220	91	102	117
7	73	212	e300	e1100	e1400	e290	1070	e560	202	88	108	291
8	74	449	e290	e1000	e1300	e300	905	e540	190	88	111	537
9	70	500	e280	e850	e1200	e320	750	363	193	236	102	792
10	68	518	e260	e700	e1600	581	953	315	183	369	94	1080
11	73	569	e250	e590	1810	1140	1740	353	181	263	86	878
12	76	522	e240	e510	1700	1260	1950	363	177	205	86	624
13	72	422	e240	e460	1400	1230	2060	858	161	233	145	360
14	71	342	e230	e420	1210	1050	1930	1460	148	195	232	252
15	70	304	e230	e440	1290	801	1800	1450	139	334	193	450
16	66	508	e220	e600	2250	583	1560	1520	133	486	141	921
17	146	718	e210	e1000	2930	743	1290	1860	123	333	117	1200
18	181	650	e200	e1700	3260	935	1060	2070	257	229	105	942
19	199	562	e190	e2200	3200	842	790	1990	404	170	98	644
20	366	694	e190	e2400	2810	808	541	1680	348	148	99	557
21	380	1200	e180	e2500	2060	673	e760	1780	236	151	105	450
22	431	1030	e180	e2400	1590	576	e660	1510	178	139	102	372
23	365	774	e180	e2100	1760	504	e540	1250	161	649	99	861
24	271	535	e180	e1800	1710	467	e520	979	203	643	96	1320
25	217	432	e170	e1800	1450	428	e520	664	217	384	93	1160
26	183	612	e180	e1700	e1000	394	e560	438	182	249	87	884
27	155	897	e190	e1600	e700	362	e480	358	151	148	85	572
28	141	1010	e190	e1400	e540	337	e400	322	134	129	143	406
29	131	1040	e200	e1100	---	320	e330	311	136	e126	244	332
30	123	802	e220	e950	---	330	e290	460	137	e120	233	429
31	124	---	e240	e760	---	379	---	426	---	e135	171	---
TOTAL	4607	16676	7878	36970	46910	18183	27932	26080	6120	6893	3833	16950
MEAN	149	556	254	1193	1675	587	931	841	204	222	124	565
MAX	431	1200	573	2500	3260	1260	2060	2070	404	649	244	1320
MIN	66	196	170	420	540	290	290	210	123	88	85	90
CFSM	.51	1.92	.88	4.11	5.78	2.02	3.21	2.90	.70	.77	.43	1.95
IN.	.59	2.14	1.01	4.74	6.02	2.33	3.58	3.35	.79	.88	.49	2.17

CAL YR	1989	TOTAL	183821	MEAN	504	MAX	2910	MIN	48	CFSM	1.74	IN. 23.58
WTR YR	1990	TOTAL	219032	MEAN	600	MAX	3260	MIN	66	CFSM	2.07	IN. 28.10

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. Telephone 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, 1,309.59 ft, Feb. 17, minimum, 1,307.14 ft, Dec. 30, 31.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1307.41	1307.47	1307.75	1307.31	1308.32	1308.72	1307.64	1308.31	1308.32	1308.14	1308.10	1308.07
2	1307.43	1307.46	1307.71	1307.38	1308.54	1308.63	1307.80	1308.26	1308.31	1308.12	1308.08	1308.06
3	1307.42	1307.44	1307.73	1307.39	1308.78	1308.55	1307.89	1308.23	1308.30	1308.11	1308.07	1308.05
4	1307.37	1307.43	1307.67	1307.43	1308.83	1308.46	1307.95	1308.25	1308.30	1308.09	1308.06	1308.03
5	1307.35	1307.40	1307.66	1307.61	1308.82	1308.37	1307.99	1308.55	1308.29	1308.09	1308.07	1308.03
6	1307.33	1307.38	1307.66	1307.67	1308.76	1308.29	1308.03	1308.55	1308.28	1308.08	1308.07	1308.05
7	1307.31	1307.38	1307.66	1307.67	1308.71	1308.20	1308.00	1308.45	1308.27	1308.06	1308.08	1308.24
8	1307.29	1307.42	1307.64	1307.65	1308.65	1308.12	1307.96	1308.37	1308.27	1308.04	1308.07	1308.30
9	1307.28	1307.45	1307.60	1307.62	1308.64	1308.07	1307.91	1308.29	1308.27	1308.16	1308.06	1308.37
10	1307.26	1307.47	1307.57	1307.62	1308.84	1308.08	1307.99	1308.21	1308.26	1308.22	1308.05	1308.47
11	1307.28	1307.49	1307.54	1307.60	1308.83	1308.19	1308.43	1308.15	1308.25	1308.22	1308.04	1308.43
12	1307.26	1307.48	1307.51	1307.61	1308.76	1308.21	1308.48	1308.10	1308.23	1308.24	1308.05	1308.36
13	1307.26	1307.45	1307.48	1307.61	1308.68	1308.21	1308.44	1308.28	1308.22	1308.24	1308.11	1308.32
14	1307.25	1307.43	1307.44	1307.59	1308.63	1308.16	1308.39	1308.46	1308.21	1308.23	1308.15	1308.31
15	1307.24	1307.42	1307.41	1307.56	1308.74	1308.10	1308.41	1308.43	1308.20	1308.36	1308.14	1308.35
16	1307.24	1307.48	1307.42	1307.56	1309.39	1308.05	1308.36	1308.52	1308.19	1308.45	1308.13	1308.40
17	1307.33	1307.57	1307.39	1307.74	1309.56	1308.04	1308.29	1308.72	1308.18	1308.39	1308.12	1308.49
18	1307.34	1307.58	1307.36	1308.29	1309.48	1308.04	1308.23	1308.76	1308.25	1308.31	1308.11	1308.42
19	1307.37	1307.58	1307.33	1308.45	1309.38	1308.00	1308.15	1308.72	1308.29	1308.25	1308.11	1308.36
20	1307.41	1307.59	1307.32	1308.45	1309.26	1307.96	1308.09	1308.66	1308.25	1308.25	1308.10	1308.35
21	1307.43	1307.71	1307.32	1308.52	1309.14	1307.89	1308.20	1308.69	1308.21	1308.25	1308.08	1308.37
22	1307.47	1307.71	1307.31	1308.56	1309.10	1307.84	1308.23	1308.64	1308.17	1308.25	1308.07	1308.33
23	1307.48	1307.68	1307.29	1308.52	1309.21	1307.78	1308.23	1308.57	1308.16	1308.34	1308.05	1308.39
24	1307.48	1307.66	1307.27	1308.51	1309.19	1307.73	1308.26	1308.49	1308.18	1308.31	1308.04	1308.59
25	1307.47	1307.62	1307.24	1308.57	1309.13	1307.66	1308.28	1308.41	1308.18	1308.24	1308.04	1308.60
26	1307.46	1307.64	1307.22	1308.63	1309.06	1307.60	1308.31	1308.34	1308.16	1308.19	1308.03	1308.57
27	1307.45	1307.69	1307.20	1308.60	1309.05	1307.55	1308.33	1308.27	1308.15	1308.17	1308.02	1308.52
28	1307.44	1307.73	1307.18	1308.54	1308.83	1307.51	1308.34	1308.26	1308.14	1308.16	1308.07	1308.46
29	1307.44	1307.77	1307.16	1308.50	---	1307.49	1308.34	1308.29	1308.15	1308.15	1308.10	1308.39
30	1307.43	1307.76	1307.15	1308.46	---	1307.53	1308.32	1308.32	1308.15	1308.14	1308.09	1308.37
31	1307.43	---	1307.17	1308.39	---	1307.57	---	1308.32	---	1308.14	1308.08	---
MEAN	1307.37	1307.54	1307.43	1307.99	1308.94	1308.02	1308.18	1308.42	1308.23	1308.21	1308.08	1308.33
MAX	1307.48	1307.77	1307.75	1308.63	1309.56	1308.72	1308.48	1308.76	1308.32	1308.45	1308.15	1308.60
MIN	1307.24	1307.38	1307.15	1307.31	1308.32	1307.49	1307.64	1308.10	1308.14	1308.04	1308.02	1308.03

CAL YR 1989 MEAN 1307.85 MAX 1309.40 MIN 1307.15
WTR YR 1990 MEAN 1308.05 MAX 1309.56 MIN 1307.15

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

AVERAGE DISCHARGE.--55 years (water years 1936–90), 358 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, 1,300 ft^3/s, Feb. 16 at 1900 hours, gage height, 3.24 ft; minimum, 17 ft^3/s, Sept. 25, gage height, 0.39 ft, (due to regulation at Warner Dam).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	172	515	362	777	928	118	215	91	66	55	50
2	91	255	493	364	878	901	135	308	127	65	56	49
3	94	258	516	366	920	875	356	244	125	65	53	48
4	111	253	421	441	942	848	404	101	124	64	53	46
5	96	248	242	493	930	819	556	512	121	62	57	52
6	81	251	305	522	924	791	705	821	121	61	52	74
7	81	283	420	520	907	742	691	775	120	60	52	111
8	79	341	454	519	887	725	685	687	121	58	52	199
9	77	350	451	515	890	713	610	705	114	85	54	298
10	77	352	443	534	945	713	618	653	110	49	55	576
11	77	350	450	530	931	740	831	643	114	55	55	567
12	75	351	458	524	914	744	833	326	113	73	63	563
13	84	346	446	437	889	741	811	485	112	64	79	234
14	71	346	430	446	880	732	794	764	100	64	55	83
15	54	344	410	460	938	719	803	742	101	355	58	430
16	57	370	385	470	1180	704	792	815	101	642	58	525
17	105	359	380	507	1220	725	806	885	97	590	55	682
18	150	355	375	735	1170	732	778	910	170	583	53	669
19	149	411	370	828	1160	695	711	871	282	282	53	661
20	143	485	363	819	1110	695	618	819	286	59	55	279
21	140	546	356	854	1060	667	527	826	286	69	55	189
22	143	504	355	841	1050	637	522	792	203	81	56	675
23	137	501	351	831	1090	645	174	781	131	315	57	703
24	137	493	345	852	1070	605	103	740	129	510	57	456
25	137	486	340	849	1080	593	84	695	129	502	57	437
26	137	498	339	883	1010	569	55	668	94	236	55	474
27	105	494	332	857	977	381	58	415	67	57	54	429
28	108	496	325	854	962	381	113	39	67	55	65	692
29	108	528	319	828	---	211	207	65	68	55	53	684
30	108	542	317	827	---	121	138	75	66	57	50	698
31	122	---	341	804	---	112	---	63	---	57	50	---
TOTAL	3219	11568	12047	19672	27691	20204	14636	17440	3890	5396	1732	11633
MEAN	104	386	389	635	989	652	488	563	130	174	55.9	388
MAX	150	546	516	883	1220	928	833	910	286	642	79	703
MIN	54	172	242	362	777	112	55	39	66	49	50	46

CAL YR	1989	TOTAL	137508	MEAN	377	MAX	1100	MIN 50
WTR YR	1990	TOTAL	149128	MEAN	409	MAX	1220	MIN 39

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. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years (water years 1941–90), 740 ft^3/s, 23.05 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)
Feb. 16	0630	10,800	7.79	Apr. 11	0300	*13,600	*8.57

Minimum discharge, 97 ft^3/s, gage height, 1.32 ft, Oct. 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	447	e460	e660	790	e680	658	407	500	220	e180	232
2	141	308	e390	e1000	4180	e660	854	374	438	220	e170	221
3	142	288	e420	e800	2310	e740	1100	353	423	218	e160	210
4	132	290	e385	e1050	1940	e600	1140	429	452	207	e160	203
5	119	267	e420	e2400	1470	e550	1430	2280	435	210	e180	330
6	125	255	e400	1630	1210	e500	1570	1300	380	219	e320	418
7	116	259	e370	1120	1150	e410	1340	793	354	214	e220	700
8	116	641	e355	870	1210	e430	1130	602	335	206	e190	594
9	121	615	e350	752	2260	541	1620	498	351	805	e180	595
10	112	629	e330	e620	4450	841	4640	575	330	390	e180	821
11	132	659	e325	e660	2020	1730	8220	859	372	246	e260	695
12	130	606	e320	e600	1340	1930	2650	643	314	243	207	411
13	120	458	e310	e540	1110	1630	1640	2620	288	278	252	299
14	112	365	e300	e380	1340	1190	1530	3130	269	231	337	261
15	111	322	e290	e440	2420	906	1910	1380	258	425	219	1120
16	115	665	e285	e900	9650	763	1290	2080	234	443	186	888
17	202	1040	e280	e2000	5040	1660	1120	4130	236	327	171	726
18	252	733	e275	e4000	2000	1480	1020	3270	428	234	165	468
19	242	598	e270	e2500	1680	1130	863	2060	345	225	174	389
20	567	888	e265	1620	1170	1210	770	1420	264	224	232	455
21	565	2110	e260	1580	969	931	1640	2110	245	230	218	357
22	499	923	e255	1300	1360	863	1270	1410	234	229	199	330
23	358	624	e250	1060	2400	787	932	1030	238	697	187	990
24	274	537	e250	1580	1720	728	778	843	277	408	176	1350
25	230	480	e245	1960	1120	626	719	722	265	270	170	669
26	210	1030	e240	2710	899	590	661	629	247	235	170	486
27	199	1180	e235	1430	e780	519	579	564	218	e220	167	415
28	189	1140	e230	1210	e720	487	518	522	199	e210	410	343
29	178	973	e230	1000	---	474	470	629	205	e200	942	306
30	171	642	e230	882	---	504	435	960	214	e190	303	829
31	174	---	e320	773	---	620	---	631	---	e220	240	---
TOTAL	6283	19972	9545	40027	58708	26710	44497	39253	9348	8894	7325	16111
MEAN	203	666	308	1291	2097	862	1483	1266	312	287	236	537
MAX	567	2110	460	4000	9650	1930	8220	4130	500	805	942	1350
MIN	111	255	230	380	720	410	435	353	199	190	160	203
CFSM	.46	1.53	.71	2.96	4.81	1.98	3.40	2.90	.71	.66	.54	1.23
IN.	.54	1.70	.81	3.42	5.01	2.28	3.80	3.35	.80	.76	.62	1.37

CAL YR 1989 TOTAL 248160 MEAN 680 MAX 6290 MIN 90 CFSM 1.56 IN. 21.17
WTR YR 1990 TOTAL 286673 MEAN 785 MAX 9650 MIN 111 CFSM 1.80 IN. 24.46

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), 1983-90 (b).
MINOR ELEMENTS DATA: 1972-74 (a), 1975 (b), 1976-77 (c), 1978-90 (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), 1983-90 (b).
BIOLOGICAL DATA:
Bacterial--1978-80 (d), 1981-82 (c), 1983-90 (b).
Phytoplankton--1978 (b), 1979-80 (c), 1981 (b).
SEDIMENT DATA: 1964 (b), 1978-82 (c), 1983-90 (b).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1958 to September 1959, unpublished; January 1978 to September 1981.
pH: October 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 microsiemens Oct. 7, 1958; minimum daily, 150 microsiemens 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 the New York State Department of Environmental Conservation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
* 19	0900	212	400	8.0	8.0	--	757	12.0	--	--	--
23	1100	351	338	8.5	5.5	16	758	12.6	101	680	60
MAR											
21	1100	897	261	8.2	2.5	20	754	14.1	105	94	K20
APR											
* 09	0900	1300	240	7.8	4.5	--	753	7.2	56	--	--
MAY											
* 21	0900	2340	200	7.3	12.5	--	765	10.0	93	--	--
JUN											
* 25	0900	247	330	7.8	17.0	--	739	9.2	98	--	--
28	1000	177	383	8.5	20.0	5.1	751	9.3	104	K75	K10
AUG											
21	1000	201	448	8.5	17.5	0.90	752	9.4	100	390	60
* 29	0900	934	252	8.1	20.5	--	783	7.2	78	--	--

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	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)
OCT										
19	180	55	9.8	17	2.0	--	141	41	24	0.1
23	160	49	8.3	11	2.0	142	--	35	15	0.1
MAR										
21	130	39	7.2	8.5	1.2	78	--	23	14	0.1
APR										
09	--	--	--	--	--	--	--	--	--	--
MAY										
21	--	--	--	--	--	--	--	--	--	--
JUN										
25	--	--	--	--	--	--	--	--	--	--
28	190	58	10	12	1.6	132	--	26	18	0.3
AUG										
21	190	58	11	20	2.1	161	--	35	32	0.9
29	--	--	--	--	--	--	--	--	--	--

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

04213500 - CATTARAUGUS CREEK AT GOWANDA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, 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)
OCT										
19.....	--	--	233	--	--	--	--	--	--	--
23.....	4.9	199	214	0.69	0.07	0.21	< 0.01	0.50	0.04	< 0.01
MAR										
21.....	4.3	170	147	1.20	0.07	0.08	< 0.01	0.50	0.02	< 0.01
APR										
09.....	--	--	--	--	--	--	--	--	--	--
MAY										
21.....	--	--	--	--	--	--	--	--	--	--
JUN										
25.....	--	--	--	--	--	--	--	--	--	--
28.....	3.1	236	214	1.30	0.08	0.09	0.02	0.70	0.03	< 0.01
AUG										
21.....	4.6	255	264	1.00	0.29	0.28	0.03	0.50	0.07	0.07
29.....	--	--	--	--	--	--	--	--	--	--

DATE	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM 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)
OCT										
19.....	--	130	--	--	--	--	--	< 1	--	--
23.....	< 0.01	--	30	< 1	57	< 0.5	5.0	--	< 1	< 3
MAR										
21.....	< 0.01	--	20	< 1	39	< 0.5	1.0	--	< 5	< 3
APR										
09.....	--	1800	--	--	--	--	--	< 1	--	--
MAY										
21.....	--	6300	--	--	--	--	--	< 1	--	--
JUN										
25.....	--	280	--	--	--	--	< 1.0	--	--	--
28.....	< 0.01	--	10	< 1	68	< 0.5	1.0	--	< 1	< 3
AUG										
21.....	0.05	--	20	< 1	72	< 0.5	< 1.0	--	1	< 3
29.....	--	16000	--	--	--	--	--	< 1	--	--

STREAMS TRIBUTARY TO LAKE ERIE

04213500 - CATTARAUGUS CREEK AT GOWANDA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
OCT										
19.....	--	1	650	--	--	1	--	140	--	--
23.....	1	--	--	19	1	--	<4	--	7	<0.1
MAR										
21.....	<10	--	--	19	<10	--	<4	--	10	<0.1
APR										
09.....	--	5	3500	--	--	2	--	60	--	--
MAY										
21.....	--	6	13000	--	--	9	--	300	--	--
JUN										
25.....	--	2	550	--	--	1	--	20	--	--
28.....	2	--	--	5	<1	--	6	--	4	<0.1
AUG										
21.....	2	--	--	6	<1	--	6	--	5	<0.1
29.....	--	14	34000	--	--	22	--	890	--	--

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)
OCT										
19.....	<0.1	--	--	1	--	--	--	--	--	<10
23.....	--	<10	1	--	<1	<1.0	89	<6	3	--
MAR										
21.....	--	<10	<10	--	<1	<1.0	66	<6	4	--
APR										
09.....	<0.1	--	--	4	--	--	--	--	--	10
MAY										
21.....	<0.1	--	--	12	--	--	--	--	--	50
JUN										
25.....	<0.1	--	--	<1	--	--	--	--	--	<10
28.....	--	<10	1	--	<1	<1.0	100	<6	6	--
AUG										
21.....	--	<10	3	--	<1	<1.0	110	<6	9	--
29.....	<0.1	--	--	40	--	--	--	--	--	130

04213500 - CATTARAUGUS CREEK AT GOWANDA, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
OCT								
23.....	1110	20	1.4	1.0	338	--	5.5	12.6
23.....	1112	40	1.3	1.0	337	--	5.5	12.5
23.....	1114	60	1.2	1.0	338	--	5.5	12.3
23.....	1116	80	1.7	1.0	339	--	5.5	12.7
23.....	1118	100	1.6	1.0	336	--	5.5	12.5
23.....	1120	120	1.3	1.0	338	--	5.5	12.4
MAR								
21.....	1105	20	1.4	1.0	261	8.2	2.5	14.1
21.....	1107	40	1.4	1.0	263	8.2	2.5	14.0
21.....	1109	60	1.1	1.0	261	8.1	2.0	14.2
21.....	1111	80	1.6	1.0	259	8.2	2.5	14.4
21.....	1113	100	1.7	1.0	260	8.2	2.5	14.3
21.....	1115	120	1.2	1.0	260	8.2	2.5	14.0
JUN								
28.....	1005	10	1.1	0.5	342	8.5	20.0	9.3
28.....	1007	30	1.0	0.5	383	8.5	20.0	9.5
28.....	1009	50	1.0	0.5	382	8.5	20.0	9.5
28.....	1011	70	0.9	0.5	382	8.4	20.0	9.2
28.....	1013	90	1.2	0.5	383	8.4	20.0	9.3
AUG								
21.....	1007	10	1.3	0.5	448	8.6	17.5	9.9
21.....	1009	25	1.2	0.5	447	8.5	17.5	9.4
21.....	1011	40	1.0	0.5	447	8.5	17.5	9.3
21.....	1013	55	0.9	0.5	448	8.4	17.5	9.3
21.....	1015	70	0.7	0.5	447	8.5	17.5	9.3
21.....	1017	85	1.4	0.5	448	8.5	17.5	9.3
21.....	1019	100	1.3	0.5	448	8.4	17.5	9.4

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
19.....	0900	212	8	4.6	--
23.....	1100	351	25	24	98
MAR					
21.....	1100	897	30	73	99
APR					
09.....	0900	1300	70	246	--
MAY					
21.....	0900	2340	412	2600	--
JUN					
25.....	0900	247	17	11	--
28.....	1000	177	22	11	95
AUG					
21.....	1000	201	24	13	98
29.....	0900	934	896	2260	--

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 recorded elevation, 582.46 ft, Feb. 25, 1985; minimum recorded, 569.82 ft, Aug. 19, 1990, but may have been lower during period of no gage-height record, Dec. 2, 14-31, and Sept. 21-30.

EXTREMES FOR CURRENT YEAR.--Maximum recorded elevation, 575.83 ft, Jan. 17; minimum recorded, 569.82 ft, Aug. 19, but may have been lower during period of no gage-height record, Dec. 2, 14-31, and Sept. 21-30.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	570.67	571.16	570.20	571.43	570.27	571.34	570.99	571.31	571.37	571.33	571.09	571.06
2	570.90	570.63	---	571.10	571.32	571.38	571.10	571.13	571.42	571.28	571.10	571.10
3	571.06	570.48	571.09	570.58	570.72	571.08	571.26	571.00	571.82	571.25	571.09	570.73
4	571.36	570.33	570.37	570.73	570.58	571.03	571.49	570.76	571.82	571.58	571.04	570.94
5	570.87	570.43	570.41	572.39	571.04	570.54	571.55	571.48	571.49	571.27	571.18	571.05
6	571.28	570.73	570.49	571.08	570.69	570.27	571.20	571.44	571.50	571.07	571.08	571.01
7	571.10	570.21	570.40	570.66	570.50	570.38	571.47	571.53	571.44	571.03	571.11	571.29
8	570.66	570.25	570.19	570.27	570.49	570.67	571.21	571.37	571.38	571.08	571.09	570.84
9	570.59	571.42	570.20	570.17	570.79	570.92	571.17	571.23	571.57	571.29	571.00	571.01
10	570.73	570.89	570.56	570.57	571.65	570.94	571.57	571.95	571.52	571.20	571.02	571.23
11	570.69	571.31	570.28	570.85	570.77	571.00	573.06	572.21	571.49	571.01	571.02	571.10
12	570.71	570.60	570.29	571.12	570.53	571.20	571.71	571.04	571.40	570.55	571.00	571.08
13	570.56	570.35	570.37	570.80	570.63	571.21	571.31	571.40	571.42	570.60	571.12	571.02
14	570.39	570.44	---	570.45	570.30	571.02	571.31	571.69	571.47	570.90	571.16	571.25
15	570.49	570.34	---	570.48	570.42	570.99	571.53	571.36	571.44	571.19	571.25	571.70
16	570.53	572.21	---	570.67	572.99	571.05	571.23	571.51	571.40	571.30	571.21	570.99
17	570.13	571.66	---	573.15	571.90	571.30	571.67	572.32	571.37	571.32	571.09	571.06
18	570.22	571.66	---	572.68	571.30	571.53	571.44	572.27	571.66	571.26	571.12	571.03
19	570.18	570.94	---	570.97	571.32	571.11	571.17	571.68	571.61	571.20	570.44	571.10
20	571.00	571.72	---	570.22	570.88	571.23	571.21	571.36	571.40	571.29	570.79	571.13
21	571.26	571.15	---	570.61	570.78	571.16	571.31	571.44	571.57	571.19	570.83	---
22	571.02	570.33	---	570.72	570.84	571.20	571.31	571.40	571.34	570.87	570.87	---
23	570.47	570.49	---	570.20	571.19	571.34	571.22	571.51	571.95	571.29	570.90	---
24	570.48	570.87	---	570.62	571.07	571.02	571.19	571.45	571.63	571.19	571.00	---
25	570.46	570.72	---	570.89	571.67	571.25	571.32	571.38	571.43	571.21	571.05	---
26	570.43	570.60	---	571.50	571.36	571.24	571.29	571.36	571.33	571.19	571.10	---
27	570.42	570.34	---	570.44	571.51	570.92	571.19	571.44	571.37	571.06	571.17	---
28	570.43	571.18	---	570.54	571.33	570.98	571.15	571.33	571.10	571.09	571.38	---
29	570.41	570.90	---	570.07	---	570.66	571.18	571.23	571.29	571.11	571.26	---
30	570.42	571.43	---	570.32	---	570.89	571.13	571.52	571.26	571.15	571.04	---
31	570.80	---	---	570.24	---	570.97	---	571.46	---	571.21	570.95	---
MEAN	570.67	570.86	---	570.86	571.03	571.03	571.36	571.47	571.48	571.15	571.05	---
MAX	571.36	572.21	---	573.15	572.99	571.53	573.06	572.32	571.95	571.58	571.38	---
MIN	570.13	570.21	---	570.07	570.27	570.27	570.99	570.76	571.10	570.55	570.44	---

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

AVERAGE DISCHARGE.--52 years, 202 ft^3/s, 19.33 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)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Feb. 16	2300	5,000	6.35	Apr. 11	0530	*5,580	*6.68

Minimum discharge, 12 ft^3/s, Sept. 4; minimum gage height, 0.59 ft, Sept. 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	65	e90	e400	192	e160	176	83	108	28	39	18
2	20	68	e60	e700	1330	e140	315	76	86	29	22	17
3	22	49	e70	e500	545	e130	461	69	166	27	17	15
4	23	46	e70	e800	408	e110	542	73	244	23	15	13
5	20	43	e100	e1500	299	e100	798	370	135	20	18	125
6	20	43	e110	416	263	e90	770	350	89	29	28	122
7	20	70	e100	250	311	e76	519	170	74	25	27	85
8	20	241	e96	208	613	e74	391	124	66	21	20	95
9	20	178	e96	180	1260	e110	564	98	67	81	17	50
10	20	179	e92	316	1250	237	1540	88	63	52	15	44
11	21	142	e90	306	427	554	3010	178	59	30	15	41
12	21	162	e88	e230	253	874	739	133	56	22	14	28
13	22	110	e86	144	214	544	393	1090	52	21	73	22
14	21	82	e82	181	301	343	325	1170	48	23	51	25
15	20	79	e78	195	e190	239	675	320	45	28	34	45
16	19	332	e76	557	2540	187	334	415	42	68	23	63
17	28	417	e74	1510	1740	356	318	1520	38	41	20	39
18	79	228	e72	2280	e370	374	325	779	55	25	18	29
19	68	e150	e70	590	e250	254	235	527	58	20	18	24
20	140	407	e66	290	e210	367	188	298	44	20	20	26
21	201	1000	e62	250	e170	221	521	332	38	19	20	28
22	150	e180	e60	228	887	205	374	262	35	18	19	29
23	100	e100	e58	203	1810	188	227	180	42	21	19	33
24	59	e90	e56	656	622	176	178	142	52	67	18	70
25	46	e100	e54	663	e270	135	158	119	52	33	25	55
26	40	339	e52	752	e220	129	157	103	39	22	23	37
27	38	338	e50	301	e200	102	126	94	33	18	19	44
28	35	360	e48	265	e180	95	109	134	30	15	40	37
29	33	290	e47	e190	---	101	95	193	29	15	34	30
30	32	e125	e46	e170	---	109	87	412	29	14	29	194
31	33	---	e100	e160	---	165	---	170	---	154	22	---
TOTAL	1411	6013	2299	15391	17325	6945	14650	10072	1974	1029	772	1483
MEAN	45.5	200	74.2	496	619	224	488	325	65.8	33.2	24.9	49.4
MAX	201	1000	110	2280	2540	874	3010	1520	244	154	73	194
MIN	19	43	46	144	170	74	87	69	29	14	14	13
CFSM	.32	1.41	.52	3.50	4.36	1.58	3.44	2.29	.46	.23	.18	.35
IN.	.37	1.58	.60	4.03	4.54	1.82	3.84	2.64	.52	.27	.20	.39

CAL YR	1989	TOTAL	71728	MEAN	197	MAX	2310	MIN	14	CFSM	1.38	IN. 18.79
WTR YR	1990	TOTAL	79364	MEAN	217	MAX	3010	MIN	13	CFSM	1.53	IN. 20.79

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

AVERAGE DISCHARGE.--46 years (water years 1939–68, 1975–90) 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)
Feb. 16	2215	3,200	7.03	Apr. 11	0230	*4,600	*7.83
Feb. 22	2215	3,270	7.07	May 13	1700	3,170	7.01

Minimum discharge, 3.9 ft^3/s, Oct. 9, minimum gage height, 2.63 ft, Sept. 4, 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	26	e48	e100	e110	e120	119	49	53	12	48	5.8
2	5.1	26	e34	e300	e900	e116	197	43	42	12	18	5.4
3	5.8	21	e45	e250	e300	e100	278	36	110	9.7	11	4.9
4	5.3	18	e40	e500	e210	e80	295	39	191	8.0	8.2	4.4
5	4.7	17	e43	e900	e180	e56	507	266	96	7.1	10	14
6	4.5	16	e47	e270	e160	e41	502	177	54	10	18	26
7	4.4	20	e44	e140	e190	e36	348	98	41	12	13	21
8	4.3	87	e42	e120	e450	e43	272	74	36	9.3	9.0	21
9	4.1	81	e40	e100	1020	e69	532	55	42	58	6.8	13
10	4.4	98	e39	e160	890	219	1560	49	35	30	5.9	12
11	4.7	74	e38	e150	e260	453	2180	108	34	14	5.3	10
12	4.5	69	e37	e100	e140	699	498	68	26	11	4.7	8.3
13	4.3	50	e36	e74	e120	374	271	1250	24	10	40	7.1
14	4.5	37	e35	e70	e100	239	231	746	21	9.4	40	6.8
15	4.5	37	e33	e90	e98	172	441	205	19	19	17	9.4
16	4.3	148	e32	e350	e1300	136	216	501	17	44	11	11
17	5.9	214	e31	e650	1200	236	246	1220	15	18	8.3	9.3
18	26	112	e30	e1300	e280	225	228	510	22	11	7.1	7.7
19	24	e60	e29	356	e210	183	154	321	28	8.7	7.1	7.2
20	51	318	e28	179	e130	254	127	237	20	8.2	8.7	8.1
21	78	533	e28	157	e90	157	456	289	16	9.9	7.8	7.9
22	84	e110	e27	144	e1000	139	241	208	15	8.2	7.1	7.7
23	52	e66	e27	129	1680	139	156	135	18	9.2	7.1	10
24	29	e50	e26	454	e380	132	122	103	20	19	6.6	8.8
25	22	e53	e26	420	e190	102	125	82	19	12	6.9	11
26	17	153	e26	389	e177	93	123	67	16	8.4	6.3	9.1
27	15	168	e25	177	e160	71	92	58	13	6.7	5.8	8.5
28	12	204	e25	158	e140	64	74	56	11	5.9	7.2	8.0
29	14	144	e24	e100	---	68	61	85	11	5.9	12	7.6
30	12	e68	e23	e95	---	73	53	172	11	5.5	8.0	48
31	12	---	e40	e90	---	117	---	82	---	168	6.6	---
TOTAL	528.0	3078	1048	8472	12065	5006	10705	7389	1076	580.1	378.5	339.0
MEAN	17.0	103	33.8	273	431	161	357	238	35.9	18.7	12.2	11.3
MAX	84	533	48	1300	1680	699	2180	1250	191	168	48	48
MIN	4.1	16	23	70	90	36	53	36	11	5.5	4.7	4.4
CFSM	.18	1.06	.35	2.83	4.47	1.68	3.70	2.47	.37	.19	.13	.12
IN.	.20	1.19	.40	3.27	4.66	1.93	4.13	2.85	.42	.22	.15	.13

CAL YR	1989	TOTAL	45580.1	MEAN	125	MAX	1850	MIN	3.2	CFSM	1.30	IN. 17.59
WTR YR	1990	TOTAL	50664.6	MEAN	139	MAX	2180	MIN	4.1	CFSM	1.44	IN. 19.55

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

AVERAGE DISCHARGE.--50 years (water years 1941–90), 232 ft^3/s, 23.34 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)
Jan. 1	1500	ice jam	*11.80	Feb. 16	2030	5,080	8.25
Jan. 18	0830	5,090	8.26	Apr. 11	0200	*6,410	9.33

Minimum discharge, 12 ft^3/s, Sept. 5; minimum gage height 1.97 ft, Oct. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	126	e110	e500	223	e170	179	82	102	26	38	20
2	21	98	e100	e800	1630	e150	384	74	82	25	24	16
3	24	69	e120	e600	586	e140	400	68	166	23	18	14
4	20	65	e110	e900	410	e130	556	78	268	20	16	13
5	16	56	e100	e1600	313	e120	1000	591	137	18	21	83
6	16	57	e110	452	265	e110	758	319	91	26	51	242
7	15	114	e105	266	306	e100	498	163	75	21	35	86
8	14	246	e100	209	567	e100	363	122	68	19	26	221
9	14	204	e98	178	1460	e150	505	97	66	80	21	75
10	15	175	e96	355	1590	e250	2230	93	64	61	18	69
11	18	163	e94	322	485	675	3380	148	65	30	16	73
12	19	183	e90	e220	283	953	780	121	59	24	14	42
13	17	126	e86	e170	235	594	418	1820	52	25	72	32
14	15	96	e82	e200	373	365	430	1330	46	25	46	36
15	15	105	e78	e220	e320	252	774	366	43	46	34	214
16	16	440	e74	e600	e2800	196	355	771	40	94	22	142
17	31	414	e70	e1700	1560	441	391	1690	36	46	18	73
18	95	210	e66	3430	e370	371	336	880	55	29	16	48
19	74	190	e62	777	e250	287	248	580	48	23	18	38
20	200	347	e60	375	e200	402	203	323	38	23	21	42
21	221	1080	e58	305	193	232	755	367	34	20	22	43
22	180	e190	e56	259	1360	211	403	283	32	19	18	36
23	112	e120	e54	220	1760	205	250	192	34	34	16	53
24	70	e100	e50	618	639	182	193	149	43	79	15	388
25	54	e105	e50	651	300	137	165	116	46	37	21	107
26	44	327	e48	807	e230	131	145	101	37	25	24	87
27	37	338	e46	327	e200	102	125	94	30	20	16	72
28	33	383	e44	e250	e190	96	108	136	27	18	48	48
29	30	293	e42	e190	---	101	96	191	27	16	74	50
30	27	e130	e40	e170	---	110	88	420	25	15	55	449
31	33	---	e100	e160	---	156	---	156	---	113	28	---
TOTAL	1511	6550	2399	17831	19098	7619	16516	11921	1936	1080	882	2912
MEAN	48.7	218	77.4	575	682	246	551	385	64.5	34.8	28.5	97.1
MAX	221	1080	120	3430	2800	953	3380	1820	268	113	74	449
MIN	14	56	40	160	190	96	88	68	25	15	14	13
CFSM	.36	1.62	.57	4.26	5.05	1.82	4.08	2.85	.48	.26	.21	.72
IN.	.42	1.80	.66	4.91	5.26	2.10	4.55	3.28	.53	.30	.24	.80

CAL YR	1989	TOTAL	73472	MEAN	201	MAX	3240	MIN	13	CFSM	1.49	IN. 20.25
WTR YR	1990	TOTAL	90255	MEAN	247	MAX	3430	MIN	13	CFSM	1.83	IN. 24.87

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 mi^2

PERIOD OF RECORD.--Water years 1971-74, 1987 to current year.
CHEMICAL DATA: 1987-90 (c).
MINOR ELEMENT DATA: 1972 (b), 1973-74 (a), 1987-90 (c).
SEDIMENT DATA: 1987-90 (c).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT 18	0905	360	6.0	12.0	760	7.6	--	160	46
APR 11	0800	170	8.4	5.0	755	1.2	--	--	--
MAY 23	1300	315	8.1	15.0	765	9.0	89	--	--
JUN 26	1200	387	7.9	22.0	767	3.6	41	--	--
AUG 29	1300	392	7.2	23.5	783	3.6	41	--	--

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
OCT 18	11	24	3.3	120	44	37	0.20	200	< 1
APR 11	--	--	--	--	--	--	--	22000	< 1
MAY 23	--	--	--	--	--	--	--	590	< 1
JUN 26	--	--	--	--	--	--	--	160	< 1
AUG 29	--	--	--	--	--	--	--	370	1

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)
OCT 18	2	530	2	50	< 0.1	7	10	11
APR 11	23	48000	30	720	< 0.1	44	160	1040
MAY 23	7	1300	3	90	< 0.1	4	10	27
JUN 26	2	430	1	160	< 0.1	3	< 10	9
AUG 29	4	810	4	130	< 0.1	2	20	20

LAKE ERIE

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, 574.78 ft, Nov. 16; minimum elevation, 567.83 ft, Oct. 19.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	570.81	571.28	570.16	570.57	570.27	571.30	571.12	571.53	571.51	571.57	571.40	571.42
2	571.06	570.75	571.22	570.42	569.85	571.34	571.19	571.24	571.62	571.56	571.42	571.43
3	571.09	570.53	570.73	569.91	569.89	570.95	571.37	571.11	572.20	571.56	571.40	570.99
4	571.53	570.43	570.31	570.11	570.26	571.04	571.61	570.78	571.96	572.02	571.36	571.33
5	571.05	570.66	570.36	569.99	570.58	570.46	571.70	571.44	571.72	571.51	571.53	571.42
6	571.51	570.94	570.48	570.07	570.62	570.17	571.22	571.56	571.74	571.30	571.37	571.40
7	571.19	570.18	570.39	570.18	570.44	570.34	571.60	571.72	571.62	571.29	571.46	571.57
8	570.74	570.16	570.11	569.91	570.44	570.71	571.39	571.54	571.55	571.42	571.40	571.17
9	570.71	571.72	570.10	569.93	570.56	570.98	571.31	571.35	571.78	571.52	571.32	571.37
10	570.97	571.00	570.58	570.39	570.78	571.00	571.18	572.36	571.74	571.49	571.34	571.64
11	570.81	571.76	570.17	570.70	570.45	570.90	571.49	572.43	571.62	571.28	571.35	571.41
12	570.92	570.61	570.17	570.87	570.45	571.11	571.60	571.18	571.59	570.77	571.34	571.47
13	570.70	570.46	569.97	570.43	570.62	571.18	571.35	571.25	571.61	570.84	571.44	571.39
14	570.46	570.57	570.57	569.92	570.08	571.04	571.44	571.35	571.67	571.24	571.53	571.75
15	570.58	570.49	570.18	570.09	569.41	571.04	571.57	571.40	571.64	571.54	571.64	571.99
16	570.66	572.86	570.95	569.97	571.16	571.12	571.29	571.52	571.58	571.67	571.60	571.28
17	569.84	571.98	570.82	570.08	571.19	571.34	571.84	572.27	571.57	571.66	571.46	571.37
18	570.12	571.81	570.70	570.35	570.75	571.62	571.61	572.23	571.91	571.62	571.47	571.39
19	569.16	571.23	570.11	570.06	571.29	571.14	571.30	571.64	571.80	571.52	570.55	571.51
20	571.29	571.96	570.96	569.86	570.84	571.28	571.36	571.40	571.59	571.63	571.16	571.50
21	571.50	570.61	570.85	570.44	570.74	571.22	571.34	571.34	571.86	571.52	571.17	571.33
22	571.08	570.31	570.33	570.74	570.75	571.29	571.39	571.49	571.55	571.09	571.21	572.04
23	570.58	570.53	570.04	570.06	570.81	571.37	571.32	571.64	572.38	571.63	571.24	572.10
24	570.57	571.02	570.41	570.52	570.86	571.06	571.30	571.57	571.93	571.53	571.32	572.33
25	570.55	570.98	570.73	570.63	571.35	571.37	571.45	571.49	571.70	571.48	571.39	571.80
26	570.53	570.62	570.45	571.08	571.04	571.30	571.40	571.48	571.61	571.47	571.48	571.33
27	570.52	570.28	570.03	570.29	571.26	571.02	571.29	571.58	571.61	571.37	571.54	571.19
28	570.52	571.23	570.11	570.44	571.15	571.08	571.26	571.48	571.28	571.38	571.85	571.19
29	570.50	571.07	569.47	569.93	---	570.73	571.30	571.30	571.62	571.42	571.51	571.05
30	570.51	571.43	569.43	570.28	---	570.99	571.23	571.65	571.50	571.48	571.41	571.39
31	571.03	---	570.19	570.26	---	571.07	---	571.68	---	571.48	571.29	---
MEAN	570.74	570.98	570.36	570.27	570.64	571.05	571.39	571.55	571.70	571.45	571.39	571.48
MAX	571.53	572.86	571.22	571.08	571.35	571.62	571.84	572.43	572.38	572.02	571.85	572.33
MIN	569.16	570.16	569.43	569.86	569.41	570.17	571.12	570.78	571.28	570.77	570.55	570.99

CAL YR 1989 MEAN 571.00 MAX 572.86 MIN 569.11
WTR YR 1990 MEAN 571.08 MAX 572.86 MIN 569.16

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.--130 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, 245,000 ft^3/s, May 11; minimum daily, 162,000 ft^3/s, Dec. 22.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200000	216000	186000	202000	191000	213000	208000	219000	218000	211000	208000	212000
2	204000	200000	207000	195000	184000	216000	210000	214000	223000	212000	209000	213000
3	207000	195000	202000	185000	176000	208000	212000	210000	229000	211000	209000	204000
4	214000	195000	189000	189000	187000	205000	232000	204000	232000	222000	209000	209000
5	207000	198000	191000	189000	193000	198000	239000	216000	224000	210000	212000	213000
6	219000	206000	195000	189000	202000	187000	223000	226000	222000	204000	209000	212000
7	205000	187000	193000	192000	196000	195000	222000	225000	220000	206000	209000	217000
8	200000	190000	187000	186000	197000	201000	218000	221000	220000	206000	210000	206000
9	199000	220000	185000	187000	204000	206000	212000	217000	222000	212000	208000	212000
10	201000	207000	198000	195000	208000	209000	215000	230000	222000	206000	208000	218000
11	205000	225000	187000	201000	202000	210000	225000	245000	219000	206000	209000	213000
12	203000	201000	189000	209000	200000	215000	226000	214000	217000	192000	209000	214000
13	201000	193000	183000	196000	201000	220000	220000	215000	217000	193000	212000	213000
14	193000	198000	192000	186000	192000	216000	220000	219000	217000	201000	213000	219000
15	196000	196000	192000	188000	179000	212000	224000	219000	217000	211000	217000	227000
16	198000	236000	204000	186000	206000	213000	215000	224000	216000	214000	214000	209000
17	182000	239000	203000	190000	222000	215000	224000	238000	214000	213000	212000	211000
18	188000	228000	193000	200000	204000	222000	219000	243000	219000	212000	213000	213000
19	164000	211000	174000	197000	217000	210000	212000	229000	218000	211000	197000	215000
20	209000	226000	190000	189000	205000	212000	215000	219000	212000	213000	203000	215000
21	219000	207000	177000	198000	203000	214000	216000	219000	217000	210000	206000	212000
22	211000	191000	162000	204000	206000	211000	217000	219000	210000	203000	208000	225000
23	197000	196000	179000	191000	216000	209000	215000	223000	227000	210000	208000	231000
24	197000	208000	184000	198000	212000	210000	214000	222000	222000	211000	209000	231000
25	196000	207000	201000	192000	222000	212000	217000	219000	214000	210000	212000	225000
26	196000	199000	195000	209000	216000	211000	216000	219000	212000	210000	214000	214000
27	195000	189000	182000	194000	219000	206000	214000	221000	213000	207000	215000	209000
28	195000	214000	196000	197000	215000	207000	212000	218000	206000	208000	220000	208000
29	196000	201000	180000	183000	---	200000	214000	214000	212000	209000	217000	206000
30	196000	225000	178000	191000	---	204000	211000	220000	211000	211000	212000	213000
31	202000	---	187000	189000	---	206000	---	223000	---	209000	209000	---
TOTAL	6195000	6204000	5861000	5997000	5675000	6473000	6537000	6864000	6542000	6464000	6520000	6439000
MEAN	199800	206800	189100	193500	202700	208800	217900	221400	218100	208500	210300	214600
MAX	219000	239000	207000	209000	222000	222000	239000	245000	232000	222000	220000	231000
MIN	164000	187000	162000	183000	176000	187000	208000	204000	206000	192000	197000	204000

CAL YR 1989 TOTAL 74749000 MEAN 204800 MAX 239000 MIN 162000
WTR YR 1990 TOTAL 75771000 MEAN 207600 MAX 245000 MIN 162000

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 567.95 ft, Oct. 19, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 574.70 ft, Nov. 16; minimum, 567.95 ft, Oct. 19.

ELEVATION, (FEET IGLD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	570.97	571.46	570.20	e570.70	e570.40	e571.50	e571.30	571.62	571.62	571.60	571.58	571.72
2	571.05	570.82	571.12	e570.60	e570.00	e571.50	e571.40	571.37	571.70	571.60	571.66	571.74
3	571.27	570.60	570.77	e570.10	e570.00	e571.10	e571.50	571.20	572.20	571.62	571.64	571.28
4	571.71	570.51	e570.40	e570.20	e570.40	e571.20	e571.70	570.89	572.17	572.08	571.58	571.57
5	571.25	570.71	e570.60	e570.10	e570.70	e570.60	e571.70	571.51	571.81	571.64	571.72	571.69
6	571.60	571.05	e570.70	e570.20	e570.80	e570.30	e571.30	571.65	571.81	571.39	571.55	571.65
7	571.32	570.23	e570.50	e570.30	e570.60	e570.50	e571.70	571.82	571.76	571.41	571.64	571.85
8	570.92	570.28	e570.30	e570.10	e570.60	e570.80	e571.50	571.61	571.68	571.49	571.63	571.36
9	570.91	571.73	e570.30	e570.10	e570.70	e571.10	e571.40	571.48	571.88	571.71	571.50	571.60
10	571.12	571.08	e570.80	e570.50	e570.90	e571.10	e571.30	572.26	571.84	571.63	571.53	571.86
11	571.05	571.81	e570.30	e570.80	e570.60	e571.10	e571.60	572.63	571.76	571.45	571.55	571.64
12	571.12	570.71	e570.30	e571.00	e570.60	e571.40	e571.70	571.18	571.71	570.91	571.51	571.68
13	570.91	570.53	e570.20	e570.60	e570.80	e571.30	e571.50	571.29	571.73	571.02	571.75	571.60
14	570.62	570.67	e570.70	e570.10	e570.50	e571.20	e571.60	571.42	571.78	571.39	571.74	571.90
15	570.77	570.56	e570.40	e570.20	e569.60	e571.20	e571.70	571.50	571.76	571.70	571.91	572.22
16	570.83	572.68	e571.10	e570.10	e571.20	e571.30	e571.50	571.59	571.69	571.81	571.92	571.45
17	570.01	572.05	e571.00	e570.20	e571.30	e571.50	e571.90	572.26	571.66	571.82	571.77	571.53
18	570.32	571.85	e570.80	e570.50	e570.80	e571.80	e571.80	572.37	572.01	571.77	571.79	571.59
19	569.24	571.21	e570.30	e570.20	e571.40	e571.30	e571.40	571.81	571.91	571.67	570.92	571.66
20	571.34	571.97	e571.10	e570.00	e571.00	e571.40	e571.50	571.41	571.68	571.80	571.42	571.79
21	571.60	570.78	e571.00	e570.60	e570.90	e571.30	e571.50	571.42	571.93	571.65	571.53	571.66
22	571.26	570.33	e570.60	e570.80	e570.90	e571.40	e571.60	571.56	571.63	571.27	571.56	572.39
23	570.68	570.54	e570.30	e570.30	e571.00	e571.50	e571.50	571.74	572.42	571.90	571.57	572.40
24	570.70	571.08	e570.60	e570.60	e570.90	e571.20	e571.50	571.68	572.03	571.65	571.68	572.63
25	570.64	571.06	e570.80	e570.60	e571.50	e571.70	e571.60	571.60	571.77	571.63	571.72	572.13
26	570.60	570.67	e570.60	e571.30	e571.20	e571.50	e571.60	571.60	571.65	571.63	571.80	571.72
27	570.61	570.29	e570.20	e570.40	e571.40	e571.20	e571.40	571.70	571.70	571.51	571.88	571.50
28	570.55	571.17	e570.30	e570.60	e571.30	e571.20	571.35	571.57	571.35	571.57	572.04	571.51
29	570.52	570.92	e569.70	e570.10	---	e571.00	571.42	571.40	571.61	571.67	571.86	571.36
30	570.54	571.54	e569.60	e570.50	---	e571.10	571.40	571.75	571.58	571.68	571.68	571.71
31	570.96	---	e570.40	e570.40	---	e571.20	---	571.74	---	571.70	571.59	---
MEAN	570.87	571.03	570.52	570.41	570.79	571.21	571.53	571.63	571.79	571.59	571.65	571.75
MAX	571.71	572.68	571.12	571.30	571.50	571.80	571.90	572.63	572.42	572.08	572.04	572.63
MIN	569.24	570.23	569.60	570.00	569.60	570.30	571.30	570.89	571.35	570.91	570.92	571.28

CAL YR 1989 MEAN 571.06 MAX 572.68 MIN 569.18
WTR YR 1990 MEAN 571.23 MAX 572.68 MIN 569.24

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, 568.35 ft, Nov. 16; minimum, 563.73 ft, Feb. 15.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	565.56	e566.00	e565.10	565.51	565.15	566.13	565.95	566.19	566.19	566.06	566.08	566.16
2	565.73	e565.40	e565.80	565.43	564.83	566.11	566.03	565.96	566.11	566.01	566.10	566.19
3	566.04	e565.40	e565.70	564.91	564.93	565.76	566.39	565.85	566.55	565.99	566.11	565.89
4	566.19	e565.30	e565.10	565.12	565.47	565.92	566.50	565.69	566.96	566.33	566.07	566.08
5	566.06	e565.30	e565.10	565.05	565.90	565.44	566.66	566.16	566.59	566.07	566.23	566.20
6	566.21	e565.70	e565.20	565.18	565.71	565.14	e566.30	566.34	566.48	565.86	566.14	566.15
7	565.92	e565.10	e565.10	565.25	565.33	565.23	e566.40	566.55	566.27	565.84	566.19	e566.40
8	565.57	e565.20	e565.00	564.97	565.33	565.43	e566.30	566.26	566.21	565.86	566.22	e566.10
9	565.53	e566.10	e565.00	564.98	565.49	565.69	e566.20	565.99	566.26	566.29	566.11	e566.20
10	565.62	e565.80	e565.30	565.35	565.64	565.73	e566.10	566.92	566.44	566.00	566.12	e566.40
11	565.75	e566.20	e565.10	565.46	565.45	565.72	566.50	566.79	566.31	565.85	566.12	e566.20
12	565.81	565.48	e565.00	565.76	565.36	565.98	566.41	565.89	566.28	565.74	566.11	e566.20
13	565.62	565.33	e564.90	565.32	565.42	566.01	566.19	566.15	566.19	565.56	566.31	e566.20
14	565.22	565.42	e565.20	565.17	565.21	565.83	566.08	566.12	566.26	565.77	566.24	e566.30
15	565.43	565.29	e565.00	565.07	564.46	565.73	566.27	566.13	566.21	566.01	566.30	e566.60
16	565.53	566.73	e565.70	564.97	565.55	565.83	566.02	566.33	566.12	566.11	566.30	e566.10
17	565.40	e566.50	e565.30	565.04	566.07	565.98	566.35	566.99	566.17	566.20	566.21	e566.20
18	565.35	e566.20	e565.20	565.29	565.61	566.50	566.21	566.83	566.53	566.12	566.30	e566.20
19	564.58	e565.70	565.02	565.23	566.07	565.99	566.02	566.17	566.50	566.02	566.32	e566.20
20	565.87	e566.30	565.82	564.98	565.76	565.97	566.06	566.22	566.12	566.11	566.23	e566.30
21	566.11	e565.50	565.66	565.36	565.61	565.93	566.08	566.13	566.30	566.01	566.11	566.18
22	565.92	e565.20	564.93	565.52	565.59	565.88	566.08	566.17	566.04	565.89	566.05	566.63
23	565.59	e565.30	565.01	565.13	565.73	566.22	565.99	566.26	566.73	566.11	566.06	566.69
24	565.46	e565.60	565.50	565.30	565.64	566.40	565.95	566.19	566.68	566.08	566.16	566.76
25	565.52	e565.50	565.91	565.21	567.35	566.29	566.08	566.14	566.69	566.09	566.21	566.43
26	565.48	e565.40	565.88	566.44	566.50	566.04	566.03	566.14	566.41	566.08	566.26	566.12
27	565.43	e565.20	565.51	565.25	566.08	565.68	566.02	566.18	566.12	565.99	566.35	565.97
28	565.42	e565.70	565.35	565.25	565.93	565.79	566.02	566.09	565.89	566.03	566.73	565.98
29	565.43	e565.50	564.62	564.82	---	565.48	565.95	566.07	566.07	566.05	566.43	565.93
30	565.41	e566.10	564.49	565.06	---	565.59	565.94	566.29	566.03	566.12	566.19	566.21
31	565.63	---	565.07	565.11	---	565.70	---	566.54	---	566.16	566.12	---
MEAN	565.63	565.65	565.24	565.24	565.61	565.84	566.17	566.25	566.32	566.01	566.21	566.24
MAX	566.21	566.73	565.91	566.44	567.35	566.50	566.66	566.99	566.96	566.33	566.73	566.76
MIN	564.58	565.10	564.49	564.82	564.46	565.14	565.94	565.69	565.89	565.56	566.05	565.89

CAL YR 1989 MEAN 565.68 MAX 567.07 MIN 564.16
WTR YR 1990 MEAN 565.87 MAX 567.35 MIN 564.46

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. Telephone 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.--33 years, 31.9 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,820 ft^3/s, June 22, 1987, gage height, 15.17 ft; minimum, 0.56 ft^3/s, July 29-30, 1990, gage height, 1.38 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)
Jan. 18	0430	736	5.82	May 13	1115	*804	*6.17
Feb. 22	1630	784	6.07				

Minimum discharge, 0.56 ft^3/s, July 29-30; minimum gage height, 1.35 ft, Oct. 9.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	10	e3.6	e7.0	37	e5.5	6.2	2.9	3.4	1.5	2.2	1.0
2	8.0	2.5	e2.8	e10	93	e5.3	22	2.7	2.9	1.3	1.2	.90
3	2.6	3.3	e2.6	e12	28	e5.1	16	2.5	85	1.4	.91	.87
4	1.6	2.4	e2.7	e140	e12	e5.0	160	14	52	1.2	.84	.91
5	1.5	1.7	e2.8	e80	e9.0	e4.5	152	47	8.0	1.2	19	65
6	3.3	6.0	e2.8	e22	18	e3.5	71	8.5	4.5	7.5	2.6	4.2
7	1.5	42	e2.9	e10	34	e3.0	23	6.2	3.7	1.6	1.4	81
8	1.2	19	e2.8	e10	79	e4.0	11	3.9	12	1.2	1.2	5.3
9	1.2	43	e2.7	11	133	15	7.7	3.4	5.1	70	1.0	4.4
10	3.4	74	e2.6	45	37	31	200	4.2	4.2	2.5	.95	3.0
11	9.2	11	e2.5	e34	12	55	181	3.4	4.6	1.6	.87	1.8
12	2.2	6.1	e2.4	e20	8.0	58	26	2.8	3.8	1.6	3.1	1.8
13	1.7	3.8	e2.4	e10	8.2	26	11	332	2.7	1.2	133	1.8
14	1.4	3.5	e2.3	e8.0	31	17	18	54	2.5	1.1	7.7	6.7
15	1.6	15	e2.3	e15	12	10	17	11	2.9	14	2.1	17
16	2.4	109	e2.3	43	223	7.3	8.3	162	2.3	2.6	1.6	2.5
17	18	22	e2.2	89	94	37	14	86	2.3	1.2	1.3	1.7
18	8.5	10	e2.2	220	25	16	8.0	20	28	1.1	1.3	1.4
19	14	7.3	e2.2	23	16	31	5.2	11	8.6	1.1	13	5.3
20	37	69	e2.1	9.8	10	22	14	37	3.0	13	3.0	4.0
21	33	35	e2.1	9.0	9.0	9.7	74	30	3.1	3.0	1.6	1.7
22	10	e8.0	e2.1	9.7	318	7.5	13	11	3.6	3.0	1.3	2.8
23	4.1	e4.2	e2.0	10	211	9.5	7.2	6.4	24	13	1.2	6.2
24	2.5	3.7	e2.0	45	34	5.8	5.3	5.0	14	2.1	14	1.8
25	2.0	3.2	e2.0	22	e12	4.6	13	4.1	3.5	1.2	12	1.6
26	1.5	15	e1.9	20	e9.0	4.3	5.3	3.6	2.2	.95	1.7	9.8
27	1.3	9.0	e1.9	10	e7.0	3.7	4.2	3.3	2.2	.89	1.5	3.4
28	1.2	25	e1.9	8.3	e6.0	4.1	3.8	3.1	1.9	.81	32	2.1
29	1.1	e8.0	e1.8	7.0	---	4.2	3.7	25	2.6	.68	2.5	4.1
30	1.1	e4.8	e1.8	9.3	---	8.4	3.0	8.5	1.8	.72	1.5	56
31	13	---	e3.0	7.5	---	6.7	---	4.4	---	83	1.2	---
TOTAL	192.5	576.5	73.7	976.6	1525.2	429.7	1103.9	918.9	300.4	237.25	268.77	300.08
MEAN	6.21	19.2	2.38	31.5	54.5	13.9	36.8	29.6	10.0	7.65	8.67	10.0
MAX	37	109	3.6	220	318	58	200	332	85	83	133	81
MIN	1.1	1.7	1.8	7.0	6.0	3.0	3.0	2.5	1.8	.68	.84	.87

CAL YR	1989	TOTAL	6120.4	MEAN	16.8	MAX	458	MIN	1.1
WTR YR	1990	TOTAL	6903.50	MEAN	18.9	MAX	332	MIN	.68

e Estimated

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, 567.67 ft, Oct. 19, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 574.94 ft, Nov. 18; minimum, 567.67 ft, Oct. 19.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	570.84	571.44	570.19	570.59	570.32	571.35	571.15	e571.50	e571.50	571.58	571.55	571.55
2	571.07	570.78	571.19	570.47	569.90	571.39	571.26	e571.30	e571.60	571.62	571.56	571.55
3	571.12	570.56	570.76	569.96	569.93	570.99	571.39	e571.10	e572.10	571.65	571.51	571.13
4	571.51	570.48	570.33	570.16	570.30	571.08	571.63	e570.80	e572.10	572.06	571.46	571.44
5	571.06	570.71	570.39	570.02	570.61	570.51	571.69	e571.40	e571.70	571.59	571.60	571.57
6	571.59	571.03	570.53	570.11	570.69	570.23	571.22	e571.60	e571.70	571.33	571.44	571.51
7	571.22	570.34	570.41	570.23	570.49	570.42	571.62	e571.80	e571.70	571.35	571.54	571.69
8	570.77	570.25	570.14	569.95	570.49	570.71	571.43	e571.50	e571.60	571.41	571.51	571.24
9	570.75	571.72	570.14	569.98	570.61	571.04	571.33	e571.40	e571.80	571.59	571.40	571.50
10	570.97	571.06	570.63	570.43	570.83	571.06	571.25	e572.20	e571.70	571.49	571.44	571.76
11	570.91	571.81	570.21	570.71	570.50	570.95	571.56	e572.60	e571.70	571.28	571.45	571.54
12	570.99	570.67	570.21	570.90	570.51	571.19	571.65	e571.10	e571.60	570.78	571.43	571.57
13	570.77	570.50	570.01	570.47	570.68	571.24	571.42	e571.20	e571.60	570.84	571.53	571.49
14	570.49	570.64	570.55	569.97	570.14	571.10	571.51	e571.30	e571.70	571.21	571.60	571.77
15	570.64	570.52	570.23	570.14	569.45	571.10	571.64	e571.40	e571.70	571.57	571.73	572.07
16	570.72	572.65	570.97	570.03	571.14	571.19	571.36	e571.50	e571.60	571.71	571.68	571.40
17	569.88	572.09	570.86	570.12	571.24	571.39	571.88	e572.20	e571.60	571.71	571.55	571.49
18	570.21	571.87	570.73	570.39	570.76	571.67	571.67	e572.30	e572.00	571.61	571.58	571.55
19	569.15	571.22	570.13	570.13	571.33	571.15	571.34	e571.70	571.91	571.54	570.74	571.64
20	571.28	571.98	570.95	569.93	570.88	571.29	571.43	e571.30	571.69	571.68	571.24	571.63
21	571.55	570.75	570.85	570.48	570.79	571.27	571.41	e571.30	571.92	571.60	571.31	571.47
22	571.22	570.33	570.36	570.76	570.79	571.32	571.48	e571.50	571.65	571.19	571.31	572.13
23	570.61	570.56	570.06	570.14	570.86	571.42	571.41	e571.60	572.38	571.59	571.32	572.19
24	570.64	571.09	570.41	570.56	570.84	571.11	571.38	e571.60	572.03	571.55	571.43	572.18
25	570.61	571.07	570.73	570.57	571.42	571.64	571.55	e571.50	571.78	571.47	571.49	571.96
26	570.58	570.68	570.50	571.23	571.07	571.44	e571.50	e571.50	571.66	571.50	571.60	571.54
27	570.58	570.31	570.03	570.34	571.29	571.06	e571.30	e571.60	571.69	571.40	571.68	571.29
28	570.58	571.30	570.16	570.53	571.18	571.14	571.33	e571.50	571.34	571.43	571.68	571.32
29	570.56	571.03	569.51	569.96	---	570.78	571.39	e571.30	571.60	571.45	571.74	571.18
30	570.57	571.60	569.42	570.36	---	571.04	e571.30	e571.70	571.57	571.52	571.50	571.52
31	570.96	---	570.19	570.31	---	571.11	---	e571.70	---	571.55	571.40	---
MEAN	570.79	571.03	570.38	570.32	570.68	571.11	571.45	571.55	571.74	571.48	571.48	571.60
MAX	571.59	572.65	571.19	571.23	571.42	571.67	571.88	572.60	572.38	572.06	571.74	572.19
MIN	569.15	570.25	569.42	569.93	569.45	570.23	571.15	570.80	571.34	570.78	570.74	571.13

CAL YR 1989 MEAN 570.99 MAX 572.65 MIN 569.11
WTR YR 1990 MEAN 571.13 MAX 572.65 MIN 569.15

e Estimated

ST. LAWRENCE RIVER MAIN STEM

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, 562.84 ft, Oct. 19, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum recorded elevation, 567.28 ft, Nov. 16; minimum recorded, 562.84 ft, Oct. 19.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	564.79	565.17	564.21	564.62	564.27	565.14	564.89	565.14	565.09	565.13	e565.10	565.23
2	564.92	564.60	564.84	564.57	563.97	e565.10	564.91	565.05	565.12	565.11	e565.10	565.30
3	564.99	564.53	564.75	564.06	564.12	e564.80	565.13	564.91	565.43	565.09	565.16	564.99
4	565.15	564.40	564.29	564.27	564.65	e565.00	565.48	564.70	565.71	565.38	565.14	565.13
5	564.89	564.45	564.37	564.21	565.07	e564.40	565.55	565.09	565.26	565.15	565.25	565.25
6	565.21	564.73	564.45	564.34	564.83	e564.20	565.15	565.20	565.29	564.95	565.17	565.21
7	564.94	564.21	564.38	564.41	564.44	e564.30	565.25	565.32	565.22	564.96	565.20	565.46
8	564.75	564.30	564.19	564.13	564.45	564.46	565.09	565.13	565.13	564.96	565.26	565.07
9	564.70	565.19	564.18	564.13	564.60	564.71	565.01	565.07	565.25	565.17	565.17	565.19
10	564.78	564.86	564.52	564.47	564.77	564.75	565.02	565.52	565.28	565.08	565.18	565.38
11	564.80	565.28	564.28	564.54	564.56	564.75	565.34	566.09	565.25	564.92	565.21	565.23
12	564.81	564.55	564.23	564.83	564.45	565.03	565.25	564.98	565.15	564.56	565.20	565.25
13	564.65	564.39	564.13	564.41	564.51	565.03	565.07	565.01	565.16	564.62	565.32	565.20
14	564.38	564.52	564.41	564.31	564.30	564.88	565.06	565.09	565.25	564.85	565.30	565.32
15	564.61	564.42	564.26	564.23	563.58	564.77	565.19	565.12	565.23	565.05	565.38	565.65
16	564.68	565.80	564.74	564.13	564.53	564.87	564.98	565.15	565.14	565.15	565.34	565.09
17	564.14	565.76	564.62	564.20	565.13	565.00	565.34	565.55	565.18	565.16	565.29	565.21
18	564.32	565.32	564.47	564.45	564.68	565.33	565.26	565.78	565.36	565.13	565.32	565.22
19	563.41	564.75	564.26	564.39	565.10	564.91	565.08	565.39	565.30	565.04	564.75	565.23
20	564.94	565.47	564.99	564.15	564.80	565.02	565.08	565.04	565.14	565.12	564.93	565.28
21	565.11	564.72	564.90	564.48	564.68	564.97	e565.10	565.05	565.30	565.04	565.10	565.14
22	564.97	564.29	564.14	564.60	564.62	564.92	e565.20	565.10	565.07	564.86	565.10	565.61
23	564.56	564.43	564.21	564.28	564.78	565.23	e565.10	565.23	565.58	565.08	565.13	565.69
24	564.59	564.75	564.74	564.41	564.63	565.12	e565.00	565.18	565.42	565.09	565.22	565.75
25	564.60	564.64	565.15	564.34	565.30	565.02	e565.20	565.14	565.23	565.13	565.28	565.49
26	564.55	564.52	565.16	565.55	564.87	565.09	e565.10	565.14	565.11	565.11	565.32	565.18
27	564.54	564.21	564.83	564.41	565.12	564.74	e565.00	565.20	565.14	565.02	565.40	565.03
28	564.56	564.94	564.58	564.40	564.96	564.86	565.01	565.09	564.90	565.08	565.51	565.04
29	564.56	564.64	563.82	563.96	---	564.55	565.03	564.96	565.08	565.09	565.39	565.01
30	564.54	565.41	563.65	564.14	---	564.67	564.98	565.21	565.10	565.13	565.19	565.26
31	564.68	---	564.18	564.23	---	564.75	---	565.23	---	565.15	565.20	---
MEAN	564.68	564.77	564.45	564.38	564.63	564.85	565.13	565.19	565.23	565.04	565.21	565.27
MAX	565.21	565.80	565.16	565.55	565.30	565.33	565.55	566.09	565.71	565.38	565.51	565.75
MIN	563.41	564.21	563.65	563.96	563.58	564.20	564.89	564.70	564.90	564.56	564.75	564.99

CAL YR 1989 MEAN 564.85 MAX 566.27 MIN 563.41
WTR YR 1990 MEAN 564.90 MAX 566.09 MIN 563.41

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.--13 years, 114 ft^3/s, 20.13 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)
Jan. 4	2030	1,600	*a7.93	May 13	1715	1,540	6.10
Jan. 18	0515	1,620	6.20	May 17	1515	1,860	6.49
Apr. 10	2300	*2,610	7.32				

a Ice jam

Minimum recorded discharge, 6.1 ft^3/s, Aug. 28, 31, Sept. 1-4, gage height, 3.35 ft, but may have been lower during period of no gage-height record, Sept. 4-27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	38	e45	e94	114	e94	111	50	61	24	13	6.1
2	15	31	e40	e80	524	e98	153	46	53	22	9.5	6.1
3	16	26	e38	e120	246	e110	168	42	60	18	8.3	6.1
4	13	25	e35	e500	190	e80	167	46	75	16	8.3	e5.3
5	13	23	e45	489	143	e60	205	281	62	19	14	e7.0
6	14	25	e55	150	130	e50	215	150	49	24	20	e18
7	14	35	e52	104	137	e45	177	89	45	20	14	e15
8	14	91	e48	83	241	e54	164	72	41	16	11	e13
9	14	64	e43	73	641	70	352	59	43	64	9.5	e13
10	14	56	e40	98	367	179	1110	76	39	32	8.5	e10
11	15	60	e38	e80	222	302	1040	107	41	20	8.2	e9.8
12	18	67	e34	e48	138	472	387	73	36	16	7.5	e9.1
13	16	49	e32	e38	125	303	231	691	32	19	12	e7.7
14	17	42	e31	e45	178	196	211	514	28	17	24	e7.7
15	18	47	e31	e50	e100	142	269	173	27	21	14	e8.4
16	17	126	e31	266	e300	115	165	397	25	32	9.7	e13
17	30	113	e30	777	307	225	169	827	23	20	8.5	e12
18	54	81	e30	956	e210	161	152	409	32	14	7.4	e9.1
19	40	67	e30	264	e170	135	126	293	33	12	7.1	e9.1
20	104	272	e29	146	e110	148	108	212	26	11	8.6	e10
21	77	288	e29	127	e100	111	305	283	22	13	9.0	e9.8
22	83	e85	e29	110	208	111	175	188	22	13	7.3	e9.8
23	53	e62	e28	99	388	104	126	126	23	40	7.1	e10
24	38	53	e28	292	e250	94	103	103	30	31	7.1	e13
25	32	57	e28	340	e130	79	115	86	29	18	8.7	e15
26	28	133	e27	343	e120	74	101	76	24	13	7.2	e13
27	29	110	e27	159	e110	59	82	69	20	11	7.1	e12
28	26	176	e27	140	e100	58	68	64	18	11	9.2	17
29	21	99	e26	100	---	60	60	97	18	9.8	11	17
30	20	73	e26	108	---	73	54	146	18	9.5	8.3	53
31	20	---	e36	96	---	97	---	78	---	28	7.0	---
TOTAL	897	2474	1068	6375	5999	3959	6869	5923	1055	634.3	312.1	365.1
MEAN	28.9	82.5	34.5	206	214	128	229	191	35.2	20.5	10.1	12.2
MAX	104	288	55	956	641	472	1110	827	75	64	24	53
MIN	13	23	26	38	100	45	54	42	18	9.5	7.0	5.3
CFSM	.38	1.07	.45	2.67	2.79	1.66	2.98	2.48	.46	.27	.13	.16
IN.	.43	1.20	.52	3.08	2.90	1.92	3.32	2.87	.51	.31	.15	.18

CAL YR	1989	TOTAL	37611	MEAN	103	MAX	1270	MIN	12	CFSM	1.34	IN. 18.19
WTR YR	1990	TOTAL	35930.5	MEAN	98.4	MAX	1110	MIN	5.3	CFSM	1.28	IN. 17.38

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.--68 years (water years 1913–19, 1921–68, 1978–90), 27.5 ft^3/s, 16.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,900 ft^3/s, June 23, 1989, from rating curve extended above 1,500 ft^3/s on basis of critical-depth computation of peak flow at gage height 16.99 ft; maximum gage height, 16.99 ft, from floodmark; minimum discharge, 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)
Feb. 17	0145	622	5.86	Apr. 11	0330	*1,050	*7.97

Minimum daily discharge, 0.35 ft^3/s, Sept. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	4.8	e12	e33	35	e29	29	14	14	2.5	1.6	.63
2	1.6	4.4	e11	30	141	e27	38	12	12	2.7	1.5	.52
3	1.5	3.8	e11	23	77	e23	42	11	14	2.3	1.3	.47
4	1.6	4.0	e10	63	58	e21	46	13	18	2.0	.93	.39
5	1.2	3.9	e10	166	45	e20	61	83	15	2.9	1.5	e.95
6	1.4	3.7	e10	58	43	e19	70	47	11	2.8	1.6	e2.2
7	1.2	5.9	e11	35	53	e18	57	28	9.2	2.4	1.4	e1.7
8	1.3	13	e10	29	87	17	52	21	8.6	2.0	1.2	e1.6
9	1.3	11	e9.2	25	224	19	94	16	10	11	.92	e1.6
10	1.2	10	e9.1	27	226	50	267	17	7.9	4.7	1.2	e1.3
11	1.2	9.5	e8.8	26	79	91	524	22	7.8	2.3	1.1	e1.4
12	1.2	9.2	e8.2	e22	46	159	131	17	6.8	1.9	1.0	e1.1
13	1.1	7.9	e7.5	e16	42	99	75	164	5.7	1.9	2.0	e.96
14	1.1	7.3	e7.0	e15	52	59	62	174	4.6	1.5	3.4	e.80
15	1.2	7.4	e6.8	19	30	43	73	53	4.1	2.1	1.6	e.90
16	1.1	16	e6.6	57	204	35	49	103	3.6	2.8	1.4	e1.2
17	2.0	20	e6.4	159	298	57	51	301	3.6	1.7	1.2	e.90
18	5.2	15	e6.2	293	87	50	45	152	4.0	1.5	1.1	e.70
19	4.0	11	e6.0	109	e50	39	35	91	4.3	1.4	1.1	e.60
20	16	34	e5.8	45	e35	43	31	70	3.8	1.3	.90	e.65
21	14	69	e5.6	38	37	35	73	117	3.5	1.3	1.1	e.62
22	12	25	e5.4	33	111	32	49	70	3.2	1.3	1.1	e.60
23	8.4	17	e5.2	29	301	31	35	45	3.5	3.6	.94	e.59
24	5.8	13	e5.0	54	110	30	29	35	4.1	3.0	.92	e.60
25	4.4	13	e4.8	82	e47	26	31	28	3.7	1.6	.85	e.70
26	3.6	27	e4.6	124	e40	24	27	24	3.0	1.4	.74	e.60
27	2.7	23	e4.4	53	e36	19	22	21	2.6	1.2	.76	e.50
28	3.0	30	e4.3	47	e33	18	19	18	2.5	1.2	.95	.35
29	3.0	21	e4.2	34	---	19	17	21	2.4	1.2	.80	.38
30	2.6	14	e4.1	33	---	22	15	33	2.4	1.3	.69	.96
31	3.3	---	e4.0	33	---	26	---	19	---	3.6	.56	---
TOTAL	110.9	453.8	224.2	1810	2627	1200	2149	1840	198.9	74.4	37.36	26.47
MEAN	3.58	15.1	7.23	58.4	93.8	38.7	71.6	59.4	6.63	2.40	1.21	.88
MAX	16	69	12	293	301	159	524	301	18	11	3.4	2.2
MIN	1.1	3.7	4.0	15	30	17	15	11	2.4	1.2	.56	.35
CFSM	.16	.68	.33	2.64	4.25	1.75	3.24	2.69	.30	.11	.05	.04
IN.	.19	.76	.38	3.05	4.42	2.02	3.62	3.10	.33	.13	.06	.04

CAL YR 1989 TOTAL 11155.15 MEAN 30.6 MAX 680 MIN .86 CFSM 1.38 IN. 18.78
WTR YR 1990 TOTAL 10752.03 MEAN 29.5 MAX 524 MIN .35 CFSM 1.33 IN. 18.10

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.--46 years, 212 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)
Jan. 19	0245	1,930	6.06	Feb. 23	1845	2,200	6.54
Feb. 17	2045	2,590	7.20	Apr. 11	1930	*4,020	*9.43

Minimum discharge, 7.9 ft^3/s, Sept. 3, 4, 5, gage height, 1.32 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	37	e105	184	197	e220	188	110	135	34	52	11
2	20	58	e76	322	591	e210	271	100	110	38	24	9.2
3	20	48	e74	235	730	e190	350	93	100	32	18	8.6
4	19	42	e72	234	542	e170	330	89	132	27	16	8.2
5	18	41	e80	627	404	e150	442	272	144	28	19	11
6	17	39	e88	851	325	e130	573	426	105	32	26	45
7	17	43	e94	532	317	e120	494	237	88	34	27	30
8	17	93	e80	310	436	e110	396	173	79	29	22	28
9	16	118	e74	248	765	e130	462	139	84	45	18	29
10	17	110	e70	233	1450	253	819	120	80	79	15	21
11	17	95	e66	258	1100	531	2880	196	71	39	14	21
12	18	98	e62	e220	433	780	2250	169	70	29	14	17
13	18	93	e56	e150	306	868	817	278	61	28	19	15
14	19	71	e52	e140	346	538	479	1200	53	29	31	13
15	17	64	e52	e160	271	360	537	1070	47	29	32	13
16	17	83	e52	260	454	280	435	452	43	42	22	28
17	23	231	e50	657	1620	286	349	1020	39	39	18	24
18	52	154	e50	1250	1590	425	368	1550	39	28	15	18
19	62	117	e49	1540	653	289	286	1130	54	22	16	16
20	75	126	e49	561	359	314	247	633	45	24	17	18
21	181	557	e48	329	271	264	378	609	38	22	16	18
22	116	e290	e48	274	372	248	444	577	36	24	16	17
23	120	e140	e47	242	1600	224	295	379	39	30	15	18
24	75	116	e47	290	1460	233	243	282	40	65	14	24
25	58	126	e46	648	e550	188	211	225	45	38	13	31
26	47	138	e45	670	e320	174	228	185	40	26	15	23
27	42	257	e45	484	e260	147	179	163	34	21	14	21
28	42	217	e44	325	e230	130	155	144	31	18	16	21
29	38	281	e44	259	---	134	136	134	30	17	19	19
30	34	146	e44	212	---	136	119	261	31	16	17	26
31	33	---	e43	213	---	186	---	198	---	48	13	---
TOTAL	1285	4029	1852	12918	17952	8418	15361	12614	1943	1012	603	602.0
MEAN	41.5	134	59.7	417	641	272	512	407	64.8	32.6	19.5	20.1
MAX	181	557	105	1540	1620	868	2880	1550	144	79	52	45
MIN	16	37	43	140	197	110	119	89	30	16	13	8.2

CAL YR	1989	TOTAL	80772	MEAN	221	MAX	2780	MIN	15
WTR YR	1990	TOTAL	78589.0	MEAN	215	MAX	2880	MIN	8.2

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--7 years (water years 1984-90), 69.6 ft^3/s, 16.07 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)
Feb. 24	2000	721	4.49	Apr. 12	0700	*781	*4.60

Minimum daily discharge, 2.6 ft^3/s, Oct. 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	16	e36	e20	55	e90	52	38	47	11	8.3	5.3
2	3.5	12	e34	e31	107	e70	57	31	37	9.6	7.6	4.4
3	3.6	13	e30	e52	e100	e60	67	28	49	9.6	6.8	4.0
4	3.9	12	e24	e82	e90	e54	101	27	97	9.1	5.1	5.6
5	7.2	11	e22	e130	e86	e44	159	43	104	7.5	7.1	7.1
6	7.3	15	e19	e220	e84	e33	268	82	80	7.2	11	6.7
7	6.9	17	e18	e220	101	e24	293	89	58	6.3	7.2	6.2
8	6.9	20	e17	e140	125	e24	244	67	50	5.7	6.7	3.9
9	7.0	23	e16	e100	236	e29	217	56	41	8.0	6.1	3.7
10	7.6	34	e15	e98	358	73	243	45	39	6.7	6.6	5.2
11	8.9	33	e15	e110	374	181	571	40	36	5.5	5.5	4.8
12	8.8	30	e15	e100	230	337	709	43	31	5.1	5.3	4.6
13	8.6	29	e14	e84	130	399	397	105	28	6.0	23	4.8
14	8.0	26	e13	e66	110	337	226	281	25	5.1	16	4.6
15	8.6	24	e13	e56	99	223	173	388	22	5.7	12	5.2
16	11	28	e12	e68	116	150	154	264	17	6.4	9.7	3.9
17	14	38	e12	e120	e230	120	139	302	16	6.0	9.3	4.5
18	14	48	e12	e260	e310	120	121	392	15	5.3	7.2	4.3
19	13	42	e11	e370	384	117	115	403	15	5.2	8.4	4.9
20	16	46	e11	e240	e190	117	92	263	21	7.1	9.3	5.2
21	13	77	e11	e160	e120	110	115	236	21	5.2	9.5	4.4
22	16	e80	e10	e120	159	94	144	203	21	4.7	8.8	3.9
23	21	e55	e10	e100	433	80	146	160	27	6.7	8.4	4.2
24	19	e45	e10	e100	587	73	100	108	27	6.8	8.5	4.7
25	18	40	e9.6	e130	e450	70	77	74	22	5.7	7.2	5.0
26	15	36	e9.4	e200	e210	62	66	58	21	5.7	6.2	5.5
27	13	43	e9.3	146	e130	56	60	49	19	4.9	7.7	4.5
28	11	54	e9.1	107	e110	50	54	45	15	3.9	12	4.2
29	11	50	e8.9	84	---	45	48	41	14	3.7	8.4	3.9
30	12	47	e8.7	60	---	44	43	41	13	4.8	6.9	7.4
31	13	---	e11	50	---	46	---	51	---	21	7.0	---
TOTAL	329.4	1044	466.0	3824	5714	3332	5251	4053	1028	211.2	268.8	146.6
MEAN	10.6	34.8	15.0	123	204	107	175	131	34.3	6.81	8.67	4.89
MAX	21	80	36	370	587	399	709	403	104	21	23	7.4
MIN	2.6	11	8.7	20	55	24	43	27	13	3.7	5.1	3.7
CFSM	.18	.59	.26	2.10	3.47	1.83	2.98	2.22	.58	.12	.15	.08
IN.	.21	.66	.29	2.42	3.61	2.11	3.32	2.56	.65	.13	.17	.09

CAL YR	1989	TOTAL	22855.1	MEAN	62.6	MAX	917	MIN	2.6	CFSM	1.06	IN. 14.46
WTR YR	1990	TOTAL	25668.0	MEAN	70.3	MAX	709	MIN	2.6	CFSM	1.20	IN. 16.24

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.--21 years (water years 1956–65, 1980–90), 392 ft^3/s, 15.25 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)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Apr. 13	1330	*3,950	*11.98	No other peak greater than base discharge.			

Minimum discharge, 18 ft^3/s, Sept. 4-5; gage height, 1.10 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	54	291	e100	e441	e507	310	242	353	52	52	27
2	31	57	228	e274	e490	e456	352	220	256	56	54	25
3	28	57	e170	e359	e984	e418	450	216	220	58	65	22
4	27	70	e150	e424	e1030	e380	626	211	289	54	44	19
5	26	68	e140	e586	e1070	e342	1010	254	374	47	36	19
6	25	61	e150	e1070	e902	e301	1460	472	338	42	41	21
7	25	62	e160	e1180	e749	e264	1540	670	261	39	54	23
8	24	70	e150	e1020	e732	e240	1330	489	208	40	44	40
9	24	93	e140	e761	e931	e226	1100	372	194	42	40	51
10	24	170	e130	e598	e1460	e278	1090	312	188	45	36	38
11	26	190	e125	e518	e2180	e467	2030	284	179	58	31	41
12	28	169	e115	e501	e1780	e816	2930	314	164	82	27	37
13	27	150	e105	e412	e1120	e1230	3780	406	151	59	34	31
14	30	147	e98	e330	e878	e1440	2660	997	140	48	69	28
15	37	136	e94	e312	e726	1440	1410	1570	125	41	69	26
16	46	131	e94	e338	e633	946	1090	1810	110	42	54	26
17	53	178	e92	e530	e1110	706	951	1710	100	46	51	23
18	62	270	e90	e1070	e2230	684	781	1860	87	48	44	23
19	68	284	e90	e1850	e2110	767	717	2200	95	49	37	31
20	99	236	e90	e2170	e1500	681	595	2150	98	43	36	30
21	115	304	e89	e1260	e999	641	625	1720	101	41	36	27
22	178	586	e88	e949	e739	566	800	1410	90	42	35	25
23	180	567	e87	e657	e1020	491	887	1190	79	41	30	24
24	153	282	e86	e556	e2210	457	658	851	89	39	29	24
25	132	246	e85	e678	e1850	435	501	591	80	41	28	23
26	99	231	e83	e1060	e1320	387	421	458	75	60	27	24
27	80	227	e82	e1060	e902	343	402	379	72	52	25	34
28	67	344	e81	e980	e630	308	355	324	66	38	28	40
29	59	347	e80	e748	---	273	305	288	58	31	35	33
30	56	398	e80	e589	---	262	269	291	55	27	33	34
31	55	---	e79	e475	---	271	---	369	---	31	30	---
TOTAL	1917	6185	3622	23415	32726	17023	31435	24630	4695	1434	1254	869
MEAN	61.8	206	117	755	1169	549	1048	795	156	46.3	40.5	29.0
MAX	180	586	291	2170	2230	1440	3780	2200	374	82	69	51
MIN	24	54	79	100	441	226	269	211	55	27	25	19
CFSM	.18	.59	.33	2.16	3.35	1.57	3.00	2.28	.45	.13	.12	.08
IN.	.20	.66	.39	2.50	3.49	1.81	3.35	2.63	.50	.15	.13	.09

CAL YR	1989	TOTAL	150121	MEAN	411	MAX	4230	MIN	24	CFSM	1.18	IN. 16.00
WTR YR	1990	TOTAL	149205	MEAN	409	MAX	3780	MIN	19	CFSM	1.17	IN. 15.90

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

AVERAGE DISCHARGE.--18 years, 130 ft^3/s, 21.63 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)
Feb. 17	2015	1,040	5.38	Apr. 12	0130	*1,540	*6.69
Feb. 23	2315	*1,540	6.68	May 14	1500	1,130	5.61

Minimum discharge, 8.3 ft^3/s, July 30; minimum gage height, 1.51 ft, May 25 (result of regulation).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	34	e70	e90	117	e130	104	84	79	39	64	12
2	19	30	e80	e120	303	e120	116	79	63	39	51	16
3	31	36	e56	201	371	e110	156	76	111	37	36	16
4	13	30	e52	239	300	e100	243	82	204	35	14	16
5	16	20	e48	405	194	e80	416	125	219	34	22	57
6	20	37	e48	620	180	e60	644	188	120	37	25	26
7	12	55	e49	298	177	e46	489	145	85	36	39	64
8	16	64	e47	174	267	e60	310	108	75	36	17	39
9	13	90	e46	144	583	e80	289	90	67	52	14	26
10	13	120	e44	161	761	136	457	86	65	38	27	23
11	18	93	e42	205	474	351	1160	82	60	32	14	21
12	12	82	e40	217	214	594	1060	80	55	31	18	19
13	11	69	e39	165	160	578	364	304	50	31	94	18
14	15	62	e38	131	186	336	237	938	47	29	74	21
15	18	53	e37	119	190	217	241	452	46	38	56	26
16	23	107	e37	162	303	163	236	297	42	33	40	20
17	25	162	e36	363	761	164	185	629	40	34	30	20
18	23	147	e35	782	699	222	205	764	47	34	22	18
19	48	92	e34	710	375	192	170	382	46	29	33	20
20	49	115	e33	271	213	216	140	256	48	42	27	20
21	52	300	e33	179	154	190	229	306	46	32	23	19
22	51	240	e32	149	355	144	327	276	42	32	20	17
23	58	e100	e32	148	1210	135	195	183	51	39	19	18
24	49	e84	e31	162	1110	131	145	133	50	35	15	17
25	40	e70	e30	316	376	119	127	92	45	31	23	17
26	29	80	e30	268	e200	101	117	91	44	27	23	19
27	25	111	e30	205	e170	92	109	81	42	23	22	15
28	19	128	e29	155	e150	87	98	75	40	13	32	20
29	17	122	e29	133	---	83	89	81	43	9.5	21	16
30	33	92	e28	109	---	85	83	87	41	10	19	54
31	26	---	e45	100	---	90	---	100	---	38	14	---
TOTAL	806	2825	1260	7501	10553	5212	8741	6752	2013	1005.5	948	710
MEAN	26.0	94.2	40.6	242	377	168	291	218	67.1	32.4	30.6	23.7
MAX	58	300	80	782	1210	594	1160	938	219	52	94	64
MIN	11	20	28	90	117	46	83	75	40	9.5	14	12
CFSM	.32	1.15	.50	2.97	4.62	2.06	3.57	2.67	.82	.40	.37	.29
IN.	.37	1.29	.57	3.42	4.81	2.38	3.98	3.08	.92	.46	.43	.32

CAL YR	1989	TOTAL	41183	MEAN	113	MAX	953	MIN	10	CFSM	1.38	IN. 18.77
WTR YR	1990	TOTAL	48326.5	MEAN	132	MAX	1210	MIN	9.5	CFSM	1.62	IN. 22.03

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 Nov. 7 to May 3. 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 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	154	137	---	---	---	---	e3.0	155	257	245	305
2	197	153	143	---	---	---	---	e5.0	162	259	241	303
3	203	152	146	---	---	---	---	e10	159	253	243	287
4	200	154	147	---	---	---	---	e20	165	274	246	287
5	199	152	147	---	---	---	---	e30	178	283	241	273
6	201	148	146	---	---	---	---	e40	183	293	254	270
7	197	145	e390	---	---	---	---	e50	176	309	234	261
8	205	144	e300	---	---	---	---	64	184	307	230	268
9	193	147	e240	---	---	---	---	95	197	291	238	264
10	192	146	e180	---	---	---	---	103	178	275	241	281
11	200	145	e120	---	---	---	---	102	195	274	253	267
12	199	143	e70	---	---	---	---	113	181	278	252	263
13	196	145	---	---	---	---	---	100	190	268	242	268
14	197	142	---	---	---	---	---	104	182	289	238	276
15	194	148	---	---	---	---	---	107	161	274	256	270
16	181	145	---	---	---	---	---	99	219	282	282	271
17	179	140	---	---	---	---	---	106	207	277	268	277
18	175	138	---	---	---	---	---	139	187	273	261	269
19	177	136	---	---	---	---	---	169	202	275	262	273
20	173	139	---	---	---	---	---	142	199	275	250	275
21	174	137	---	---	---	---	---	143	170	280	261	275
22	178	137	---	---	---	---	---	147	206	286	257	279
23	168	137	---	---	---	---	---	147	201	262	265	272
24	178	136	---	---	---	---	---	143	209	257	288	271
25	173	135	---	---	---	---	---	147	191	257	311	266
26	177	136	---	---	---	---	---	159	209	262	317	267
27	179	134	---	---	---	---	---	153	200	263	272	271
28	175	133	---	---	---	---	---	171	204	265	277	267
29	172	133	---	---	---	---	---	146	214	259	287	271
30	159	134	---	---	---	---	---	147	251	260	296	261
31	155	---	---	---	---	---	---	151	---	254	289	---
TOTAL	5759	4268	---	---	---	---	---	3255.0	5715	8471	8097	8208
MEAN	186	142	---	---	---	---	---	105	190	273	261	274
MAX	213	154	---	---	---	---	---	171	251	309	317	305
MIN	155	133	---	---	---	---	---	3.0	155	253	230	261

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), 1983-90 (b).
MINOR ELEMENT DATA: 1971 (a), 1972-90 (b).
ORGANIC DATA: OC--1973 (a), 1974-75 (b), 1978-80 (c), 1981 (b).
NUTRIENT DATA: 1971 (a), 1973-74 (b), 1975-82 (c), 1983-90 (b).
BIOLOGICAL DATA:
Bacteria--1973 (b), 1974 (d), 1975-82 (c), 1983-90 (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), 1983-90 (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 Detroit for the Niagara River at Queenstown. Water-quality samples collected by New York State Department ofEnvironmental Conservation were grab samples collected from the Coast Guard wharf at Fort Niagara.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DISSOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
*18	1115	191000	240	7.3	11.5	--	--	10.0	--	--	--
25	1500	196000	272	7.9	11.5	1.5	771	11.3	103	K38	K8
APR											
*11	1200	233000	250	8.2	6.0	--	755	12.0	97	--	--
MAY											
01	1500	220000	275	8.2	9.5	1.4	760	13.1	115	44	K4
*23	1100	228000	250	8.2	12.0	--	765	11.2	104	--	--
JUN											
*26	1000	220000	240	8.3	20.0	--	769	8.6	94	--	--
27	1500	219000	270	7.8	19.0	1.6	760	9.7	105	K16	<1
AUG											
20	1500	204000	276	8.2	22.0	1.5	755	9.5	110	52	K2
*29	1200	222000	260	8.4	24.0	--	783	7.6	88	--	--

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	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)
OCT										
18	120	35	8.2	8.8	1.3	--	97	24	14	0.1
25	130	37	8.5	8.8	1.2	107	97	24	14	0.1
APR										
11	--	--	--	--	--	--	--	--	--	--
MAY										
01	120	36	8.4	10	1.3	82	90	25	15	0.1
23	--	--	--	--	--	--	--	--	--	--
JUN										
26	--	--	--	--	--	--	--	--	--	--
27	130	36	8.6	9.8	1.3	91	92	23	16	0.3
AUG										
20	120	35	8.4	9.2	1.4	99	93	25	16	0.9
29	--	--	--	--	--	--	--	--	--	--

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 1989 TO SEPTEMBER 1990

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, 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)
OCT										
18	--	--	150	--	--	--	--	--	--	--
25	0.34	156	159	< 0.10	0.02	0.04	0.01	0.30	0.02	0.01
APR										
11	--	--	--	--	--	--	--	--	--	--
MAY										
01	0.11	155	148	0.50	0.03	0.03	< 0.01	0.20	0.02	0.02
23	--	--	--	--	--	--	--	--	--	--
JUN										
26	--	--	--	--	--	--	--	--	--	--
27	0.25	178	151	0.40	0.04	0.04	< 0.01	1.0	0.01	< 0.01
AUG										
20	0.25	151	152	0.20	0.03	0.03	< 0.01	< 0.20	< 0.01	< 0.01
29	--	--	--	--	--	--	--	--	--	--

DATE	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM 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)
OCT										
18	--	20	--	--	--	--	--	< 1	--	--
25	< 0.01	--	< 10	< 1	22	< 0.5	< 1.0	--	< 1	< 3
APR										
11	--	650	--	--	--	--	--	< 1	--	--
MAY										
01	< 0.01	--	< 10	< 1	21	< 0.5	3.0	--	< 1	< 3
23	--	130	--	--	--	--	--	< 1	--	--
JUN										
26	--	--	--	--	--	--	--	--	--	--
27	< 0.01	--	< 10	< 1	22	< 0.5	< 1.0	--	< 1	< 3
AUG										
20	< 0.01	--	< 10	< 1	21	< 0.5	< 1.0	--	< 1	< 3
29	--	40	--	--	--	--	--	< 1	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
OCT										
18	--	< 1	130	--	--	1	--	< 10	--	--
25	2	--	--	< 3	1	--	< 4	--	< 1	< 0.1
APR										
11	--	4	750	--	--	1	--	20	--	--
MAY										
01	5	--	--	14	< 1	--	< 4	--	2	< 0.1
23	--	2	220	--	--	1	--	60	--	--
JUN										
26	--	--	--	--	--	--	--	--	--	--
27	2	--	--	5	< 1	--	4	--	2	< 0.1
AUG										
20	4	--	--	< 3	< 1	--	< 4	--	< 1	< 0.1
29	--	3	70	--	--	1	--	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)
OCT										
18	< 0.10	--	--	2	--	--	--	--	--	< 10
25	--	< 10	2	--	< 1	< 1.0	160	< 6	6	--
APR										
11	< 0.10	--	--	3	--	--	--	--	--	<1 0
MAY										
01	--	< 10	1	--	< 1	< 1.0	170	< 6	130	--
23	< 0.10	--	--	2	--	--	--	--	--	< 10
JUN										
26	--	--	--	--	--	--	--	--	--	--
27	--	< 10	1	--	< 1	< 1.0	160	< 6	5	--
AUG										
20	--	< 10	1	--	< 1	< 1.0	160	< 6	< 3	--
29	< 0.10	--	--	2	--	--	--	--	--	< 10

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
OCT								
25	1505	1000	40.0	3.0	263	--	11.5	--
25	1510	1000	40.0	10.0	267	--	11.5	--
25	1515	1000	40.0	22.0	267	--	11.5	--
25	1520	1000	40.0	35.0	272	--	11.5	11.4
25	1525	1700	45.0	3.0	273	8.37	12.0	--
25	1530	1700	45.0	10.0	273	8.37	11.5	11.3
25	1535	1700	45.0	25.0	273	--	11.5	11.3
25	1540	1700	45.0	40.0	272	--	11.5	11.3
MAY								
01	1505	1350	50.0	3.0	275	8.15	9.5	13.2
01	1510	1350	50.0	10.0	275	8.25	9.5	13.5
01	1515	1350	50.0	25.0	275	8.35	9.5	13.1
01	1520	1350	50.0	40.0	274	8.34	9.5	12.9
JUN								
27	1505	1000	35.0	3.0	270	7.65	19.0	10.4
27	1510	1000	35.0	10.0	270	7.70	19.0	9.7
27	1515	1000	35.0	20.0	270	7.76	19.0	9.7
27	1520	1000	35.0	30.0	269	7.79	19.0	9.7
27	1525	1700	45.0	3.0	270	7.70	19.0	10.4
27	1530	1700	45.0	10.0	270	7.76	19.0	9.8
27	1535	1700	45.0	25.0	269	7.76	19.0	9.7
27	1540	1700	45.0	40.0	269	7.80	19.0	9.6
AUG								
20	1510	1000	36.0	3.0	276	8.42	22.0	9.5
20	1515	1000	36.0	10.0	276	8.36	22.0	9.4
20	1520	1000	36.0	20.0	277	8.35	22.0	9.3
20	1525	1000	36.0	30.0	276	8.32	22.0	9.3
20	1530	1700	52.0	3.0	276	8.24	22.0	9.6
20	1535	1700	52.0	15.0	276	8.22	22.0	9.6
20	1540	1700	52.0	30.0	276	8.20	22.0	9.6
20	1545	1700	52.0	45.0	275	8.20	22.0	9.5

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
18.....	1115	191000	2	1030	--
25.....	1500	196000	4	2120	100
APR					
11.....	1200	233000	16	10100	--
MAY					
01.....	1500	220000	6	3560	67
23.....	1100	228000	6	3690	--
JUN					
26.....	1000	220000	6	3560	--
AUG					
20.....	1500	204000	3	1650	88
29.....	1200	222000	2	1200	--

0422026250 NORTHRUP CREEK AT NORTH GREECE, NY

LOCATION.--Lat 43°15'13", long 77°43'33", Monroe County, Hydrologic Unit 04130001, on right bank 75 ft downstream from bridge on State Highway 18 (Latta Road), 0.5 mi west of North Greece and 5.1 mi upstream from mouth.

DRAINAGE AREA.--11.7 mi^2.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 306 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Unpublished water-quality records are available in files of Monroe County Health Department.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 758 ft^3/s, May 17, 1974, from rating curve extended above 15 ft^3/s on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Minimum discharge, 276 ft^3/s, May 17 at 1645 hours, gage height, 2.91 ft; minimum, 1.0 ft^3/s, Aug. 3, gage height, 0.62 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	14	e9.0	e22	20	17	10	5.7	6.3	7.2	3.8	2.9
2	16	13	e9.6	e17	39	16	13	5.4	5.8	4.9	2.7	2.9
3	15	14	e8.6	e15	43	21	12	5.2	7.5	4.3	2.6	3.0
4	15	13	e7.8	e27	40	17	93	5.5	9.4	4.0	2.9	2.9
5	15	13	e6.6	e42	e32	12	128	19	6.9	4.2	4.9	5.7
6	15	13	e7.0	e35	28	e10	75	13	5.9	4.0	5.0	4.1
7	15	15	e6.0	e28	27	e8.5	27	11	5.3	3.5	3.6	7.8
8	14	16	e5.4	e22	42	7.3	17	9.9	5.9	3.5	3.2	5.3
9	14	15	e5.0	e21	70	8.5	13	8.2	6.7	4.7	3.0	5.2
10	14	15	e4.7	e22	69	15	32	8.3	5.3	3.7	2.8	4.8
11	14	14	e4.4	e30	32	44	125	7.9	4.9	3.6	2.8	3.9
12	14	14	e4.4	e24	23	86	31	6.9	4.4	3.2	2.9	3.7
13	14	14	e4.0	e19	21	41	20	81	4.2	3.5	11	3.6
14	15	13	e3.7	e16	24	22	16	40	4.0	3.4	6.6	3.5
15	15	13	e3.5	e17	20	15	17	16	3.9	5.4	3.8	3.6
16	14	16	e3.5	e20	49	12	12	79	3.7	4.4	3.4	3.6
17	15	16	e3.5	29	71	32	11	150	3.7	3.5	3.5	3.5
18	15	15	e3.5	46	57	19	9.4	48	4.1	3.1	3.2	3.5
19	14	14	e3.5	23	27	13	8.0	31	4.2	2.9	3.7	3.5
20	20	18	e3.5	15	26	16	8.9	56	4.3	4.8	3.5	3.7
21	17	18	e3.5	14	31	13	45	101	3.9	4.1	3.4	3.5
22	15	15	e3.3	13	81	10	17	35	4.3	3.6	3.4	3.7
23	14	e13	e3.3	14	103	11	12	18	6.7	5.8	3.4	3.6
24	14	e12	e3.1	16	30	9.9	9.5	13	5.2	4.3	3.3	3.5
25	14	e11	e2.9	22	20	8.5	8.7	11	4.8	3.7	3.2	3.4
26	14	15	e2.9	21	25	7.9	7.6	9.2	4.4	3.3	3.2	3.6
27	14	14	e2.9	19	e19	7.0	6.7	8.4	4.2	3.2	2.9	3.3
28	14	14	e2.7	18	e19	6.6	6.5	8.0	4.2	3.5	3.6	3.3
29	14	e13	e2.7	18	---	6.4	6.0	9.9	4.5	3.0	3.1	3.0
30	14	e11	e2.7	18	---	7.5	5.8	11	4.9	3.3	2.9	6.1
31	14	---	e6.0	18	---	9.9	---	7.5	---	6.6	3.2	---
TOTAL	456	424	143.2	681	1088	530.0	803.1	839.0	153.5	126.2	114.5	117.7
MEAN	14.7	14.1	4.62	22.0	38.9	17.1	26.8	27.1	5.12	4.07	3.69	3.92
MAX	20	18	9.6	46	103	86	128	150	9.4	7.2	11	7.8
MIN	14	11	2.7	13	19	6.4	5.8	5.2	3.7	2.9	2.6	2.9

WTR YR 1990 TOTAL 5476.2 MEAN 15.0 MAX 150 MIN 2.6

e Estimated

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

AVERAGE DISCHARGE.--21 years (water years 1956–58, 1973–90), 388 ft^3/s, 18.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,800 ft^3/s, Mar. 8, 1956, from graph based on gage readings and Oct. 28, 1981; 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)
Feb. 16	0830	3,790	8.07	May 21	0500	3,940	8.17
Apr. 11	0330	*5,880	*9.39				

Minimum discharge, 33 ft^3/s, Oct. 16, gage height, 4.30 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	123	e170	e180	425	e360	341	206	303	99	81	51
2	46	108	e180	e150	1610	e330	427	185	262	123	67	46
3	46	97	e150	e140	1380	e310	580	169	249	85	61	44
4	43	97	e120	e240	1200	289	602	191	235	72	56	43
5	41	91	e140	e300	946	261	615	662	213	64	65	91
6	39	90	e130	e250	800	240	723	384	184	56	89	121
7	37	89	e140	e200	758	219	699	304	166	53	67	92
8	37	113	e150	e180	762	236	683	266	148	52	59	97
9	37	221	e130	e170	1120	211	799	240	151	114	52	98
10	36	296	e115	e160	1990	245	1620	241	144	102	48	198
11	38	239	e110	e160	1180	395	4590	251	137	69	46	123
12	39	224	e100	e150	928	429	2080	220	121	694	44	93
13	37	196	e92	e140	794	404	1320	268	109	621	58	80
14	37	179	e86	e130	812	368	1030	361	98	350	79	78
15	37	175	e84	e120	1050	341	881	260	127	287	56	365
16	35	502	e82	e180	3410	323	717	617	100	435	48	352
17	40	458	e80	e600	2200	714	657	1020	89	270	45	475
18	58	330	e78	e1100	1220	628	573	1120	239	219	41	280
19	88	295	e76	826	1010	543	487	848	212	188	41	247
20	439	300	e76	622	755	601	432	714	122	169	44	324
21	327	e360	e74	756	619	530	506	2320	101	170	44	239
22	215	e260	e74	679	597	561	439	1190	95	141	46	254
23	171	e240	e72	539	e740	493	375	866	97	192	61	243
24	141	e210	e72	602	e580	439	336	700	103	165	96	245
25	124	e200	e70	816	e460	407	316	579	93	124	63	205
26	113	231	e70	1110	e410	377	293	490	83	107	53	197
27	100	229	e80	688	e390	334	266	433	72	92	46	183
28	92	243	e90	618	e380	303	244	372	66	84	56	159
29	87	231	e100	554	---	293	222	427	88	77	119	142
30	81	e170	e110	517	---	300	213	666	148	71	73	165
31	79	---	e130	435	---	306	---	379	---	78	57	---
TOTAL	2784	6597	3231	13312	28526	11790	23066	16949	4355	5423	1861	5330
MEAN	89.8	220	104	429	1019	380	769	547	145	175	60.0	178
MAX	439	502	180	1110	3410	714	4590	2320	303	694	119	475
MIN	35	89	70	120	380	211	213	169	66	52	41	43
CFSM	.31	.76	.36	1.49	3.54	1.32	2.67	1.90	.50	.61	.21	.62
IN.	.36	.85	.42	1.72	3.68	1.52	2.98	2.19	.56	.70	.24	.69

CAL YR	1989	TOTAL	136640	MEAN	374	MAX	8390	MIN	27	CFSM	1.30	IN. 17.65
WTR YR	1990	TOTAL	123224	MEAN	338	MAX	4590	MIN	35	CFSM	1.17	IN. 15.92

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

AVERAGE DISCHARGE.--82 years (water years 1909-90), 1,254 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)
Feb. 16	2400	*18,000	*16.56	Apr. 11	0930	17,300	16.32

Minimum discharge, 108 ft^3/s, Sept. 4, 5, gage height, 8.22 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	803	678	e640	e600	1350	e1000	1100	640	1010	311	184	150
2	378	541	e560	e800	4460	e940	1570	653	826	291	186	130
3	216	438	e540	e1100	5680	e900	2430	579	751	283	172	118
4	207	665	e700	e1600	4540	e840	2490	536	738	235	157	110
5	194	681	e900	e2800	4030	e800	2820	4060	706	233	161	239
6	187	666	e1050	e2100	3000	e720	3460	2330	623	213	289	442
7	609	683	e1000	e1600	2700	e640	2910	1370	560	197	292	333
8	706	897	e660	e960	2890	e800	2530	1050	503	184	211	307
9	700	840	e540	e840	4760	1250	2790	893	493	263	170	442
10	293	1270	e620	e800	8480	1420	4870	898	452	441	151	1920
11	178	1120	e560	781	4910	1830	13700	1270	439	289	137	786
12	175	1040	e520	755	3610	2790	6340	1070	411	280	129	503
13	173	975	e500	e900	2760	2500	4140	1860	367	1340	134	354
14	310	1110	e470	e1000	2780	1850	3200	3850	326	852	175	269
15	410	1040	e460	696	2450	1460	2550	1810	308	655	186	514
16	257	1610	e450	845	14100	1240	2100	2590	310	702	162	926
17	216	2680	e450	3870	10600	3190	1780	6110	289	703	135	1560
18	310	1750	e440	8230	4510	3870	1770	5420	277	453	123	1030
19	318	1360	e430	4820	4010	2270	1500	3590	620	404	122	594
20	1410	1080	e420	2400	2950	2480	1280	2350	466	364	135	552
21	2440	2060	e400	1990	2300	1920	1710	4960	346	447	171	577
22	1380	e1200	e400	2190	2380	1880	1830	3670	299	386	149	459
23	908	e920	e390	1730	3620	1600	1380	2510	306	1020	146	502
24	651	e780	e380	1810	2670	1410	1080	1970	298	996	145	658
25	523	e720	e380	3470	e1600	1230	1010	1540	292	576	171	805
26	442	913	e370	4710	e1300	1140	982	1310	299	378	164	711
27	390	1090	e390	3060	e1200	1020	880	1130	272	287	140	430
28	511	991	e420	2300	e1100	917	869	1000	253	244	164	481
29	529	1030	e430	1900	---	888	779	1050	221	218	281	692
30	508	774	e450	1760	---	894	652	2520	240	203	241	928
31	493	---	e470	1550	---	1050	---	1530	---	192	192	---
TOTAL	16825	31602	16390	63967	110740	46739	76502	66119	13301	13640	5375	17522
MEAN	543	1053	529	2063	3955	1508	2550	2133	443	440	173	584
MAX	2440	2680	1050	8230	14100	3870	13700	6110	1010	1340	292	1920
MIN	173	438	370	600	1100	640	652	536	221	184	122	110

CAL YR	1989	TOTAL	500335	MEAN	1371	MAX	27200	MIN	104
WTR YR	1990	TOTAL	478722	MEAN	1312	MAX	14100	MIN	110

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, 666.19 ft, Feb. 21, contents, 90,500 acre-ft; minimum, 584.38 ft, Sept. 14, contents 501.7 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 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	590.02	589.70	591.93	589.92	596.58	633.54	593.84	589.38	593.26	588.19	589.32	585.16
2	589.86	590.10	591.12	592.49	601.69	625.28	595.43	589.58	592.06	588.17	589.07	585.13
3	589.00	589.32	590.77	593.50	619.70	619.24	599.73	589.40	591.34	588.15	588.32	585.12
4	588.44	589.76	590.82	593.23	623.28	611.52	603.40	589.26	591.09	588.12	587.72	585.52
5	588.18	590.34	591.65	600.23	625.72	596.89	605.72	600.50	591.02	588.32	587.33	586.01
6	588.00	590.18	593.37	610.15	624.97	591.99	608.53	608.98	590.54	588.26	587.09	586.96
7	588.47	590.15	594.07	613.24	622.92	591.03	610.37	596.70	590.17	588.16	587.06	586.86
8	589.67	596.55	592.64	613.87	620.83	592.87	609.42	592.61	589.88	588.01	587.07	586.51
9	589.72	606.06	590.89	611.43	621.12	593.87	607.79	591.86	589.70	587.95	587.07	586.45
10	589.51	603.66	590.28	607.70	631.08	594.51	610.71	591.32	589.56	588.70	587.07	589.68
11	588.75	597.39	590.92	601.92	639.14	595.49	632.41	592.93	589.42	589.33	587.07	588.54
12	588.20	594.46	590.89	596.20	639.80	600.98	648.81	593.15	589.31	589.04	587.07	586.24
13	587.86	593.98	590.32	595.26	638.58	604.62	652.45	594.17	589.21	593.02	587.07	584.94
14	587.65	593.34	589.96	595.54	637.12	601.76	652.14	610.25	589.15	593.38	587.06	584.47
15	587.79	592.95	589.68	596.75	634.30	594.89	649.15	614.26	589.06	591.28	586.82	584.71
16	588.16	593.46	589.53	594.50	640.24	594.52	645.06	609.37	588.93	591.09	586.56	587.86
17	588.30	603.58	589.43	605.10	658.04	597.01	639.62	618.05	588.82	591.94	586.17	589.67
18	588.54	604.36	589.37	625.98	663.98	613.54	634.12	630.55	589.23	589.92	585.91	589.74
19	588.72	599.27	589.34	636.72	664.81	612.76	627.58	635.62	590.20	589.30	585.91	588.51
20	591.28	593.88	589.34	637.09	665.31	609.52	620.37	635.55	590.61	589.21	585.90	588.56
21	605.06	599.04	589.32	635.04	666.07	605.70	609.00	634.87	589.53	589.41	585.74	588.81
22	605.55	598.09	589.30	633.02	665.05	597.95	595.18	636.60	589.32	589.25	585.54	588.35
23	599.79	594.40	589.29	630.54	662.28	595.15	592.74	635.66	589.40	590.11	585.53	588.29
24	590.31	593.40	589.28	626.80	661.38	594.38	591.57	633.42	589.22	595.54	585.44	588.71
25	589.77	592.51	589.25	624.17	658.15	594.32	590.98	629.71	589.13	591.57	585.41	589.44
26	589.40	591.94	589.22	625.09	653.18	594.11	591.10	624.54	589.00	589.64	585.45	589.64
27	589.29	594.21	589.17	625.87	646.64	593.59	590.75	618.45	588.79	589.23	585.22	588.24
28	589.22	593.91	589.12	623.21	640.78	593.04	590.64	610.02	588.56	589.75	585.27	587.93
29	589.30	593.85	589.05	619.09	---	592.83	590.34	595.80	588.45	590.26	585.35	589.03
30	589.28	593.40	589.01	613.81	---	592.77	589.58	599.40	588.32	589.90	585.39	589.47
31	589.26	---	589.00	607.36	---	593.37	---	599.56	---	589.60	585.04	---
MEAN	590.40	594.91	590.24	612.09	640.10	600.74	612.62	609.40	589.74	589.80	586.52	587.48
MAX	605.55	606.06	594.07	637.09	666.07	633.54	652.45	636.60	593.26	595.54	589.32	589.74
MIN	587.65	589.32	589.00	589.92	596.58	591.03	589.58	589.26	588.32	587.95	585.04	584.47

CAL YR 1989 MEAN 606.78 MAX 692.80 MIN 586.27
WTR YR 1990 MEAN 600.06 MAX 666.07 MIN 584.47

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

AVERAGE DISCHARGE.--16 years, 96.2 ft^3/s, 14.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,050 ft^3/s, June 20, 1989, gage height, 5.70 ft, from rating curve extended above 1,400 ft^3/s; 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)
Feb. 16	2130	2,100	3.68	Apr. 11	0300	*2,260	*3.85
Mar.17	1315	1,040	2.61	May 15	0545	1,190	2.74

Minimum daily discharge, 9.9 ft^3/s, Sept. 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	e110	e96	e200	137	e84	148	103	101	34	16	11
2	22	e90	e88	e240	e230	e80	214	94	82	33	14	11
3	22	68	e84	e170	e160	e74	325	87	71	23	14	10
4	20	67	e88	e200	e175	e66	272	100	75	19	13	9.9
5	18	63	e94	e220	e160	e60	309	689	69	23	14	18
6	18	63	e88	e140	e166	e56	341	303	62	24	16	21
7	17	67	e82	e135	162	e54	265	240	57	20	15	15
8	17	85	e76	e120	177	e52	257	178	54	17	14	16
9	17	110	e72	e110	e450	e56	322	128	65	24	12	52
10	17	138	e66	e96	e860	99	655	138	55	26	12	140
11	17	119	e62	e95	e360	205	1370	182	57	18	12	41
12	17	118	e56	e94	226	222	536	127	50	26	12	27
13	16	104	e54	e90	197	216	293	270	44	47	13	20
14	15	95	e49	e86	225	199	261	430	44	31	14	18
15	15	91	e47	e90	301	184	263	255	41	28	13	40
16	14	175	e44	e90	1490	159	221	326	36	30	12	35
17	24	182	e42	e300	925	456	202	523	32	24	13	41
18	45	150	e39	e400	e320	316	177	438	37	19	12	30
19	44	131	e37	222	e240	247	153	288	38	17	12	23
20	261	142	e36	191	e170	253	144	251	32	42	12	22
21	e250	220	e32	177	e160	219	220	363	28	59	12	21
22	e200	143	e31	146	169	201	182	262	33	30	13	19
23	e120	130	e34	137	e220	185	148	214	47	175	14	18
24	e94	124	e36	159	e180	153	139	162	36	85	14	19
25	e80	114	e39	207	e120	132	204	128	31	49	13	18
26	e64	140	e43	216	e110	128	182	107	27	35	12	17
27	e56	139	e47	161	e100	115	147	90	23	27	11	18
28	e50	134	e50	159	e92	109	135	85	20	23	13	16
29	e45	118	e56	146	---	109	121	159	20	20	13	15
30	e45	e100	e62	143	---	113	109	302	19	17	12	57
31	e43	---	e70	138	---	121	---	141	---	17	11	---
TOTAL	1704	3530	1800	5078	8282	4723	8315	7163	1386	1062	403	818.9
MEAN	55.0	118	58.1	164	296	152	277	231	46.2	34.3	13.0	27.3
MAX	261	220	96	400	1490	456	1370	689	101	175	16	140
MIN	14	63	31	86	92	52	109	85	19	17	11	9.9
CFSM	.62	1.32	.65	1.84	3.33	1.71	3.12	2.60	.52	.39	.15	.31
IN.	.71	1.48	.75	2.12	3.47	1.98	3.48	3.00	.58	.44	.17	.34

CAL YR	1989	TOTAL	37315	MEAN	102	MAX	1470	MIN	12	CFSM	1.15	IN. 15.61
WTR YR	1990	TOTAL	44264.9	MEAN	121	MAX	1490	MIN	9.9	CFSM	1.36	IN. 18.52

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

AVERAGE DISCHARGE.--27 years (water years 1960–70, 1975–90), 289 ft^3/s, 11.72 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)
Feb. 10	0900	3,160	a10.16	Apr. 11	0500	4,420	11.69
Feb. 16	2230	*4,820	*12.17				

a Backwater from Genesee River.

Minimum discharge, 34 ft^3/s, Sept. 2, gage height, 3.49 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	171	e160	e360	302	e280	327	239	325	89	67	41
2	87	149	e140	402	1510	e260	423	226	254	110	61	39
3	90	135	e135	272	1070	e240	852	218	237	92	58	37
4	82	134	e120	358	840	e220	1020	257	226	78	55	38
5	82	126	e115	1280	782	e210	1640	1690	223	84	55	59
6	83	124	e110	790	576	e200	1470	931	189	87	65	74
7	81	128	e105	512	648	e200	1000	545	174	80	69	56
8	79	192	e100	417	946	e210	751	419	162	71	60	57
9	75	226	e100	339	1900	e240	794	348	182	89	56	65
10	71	309	e98	315	2760	e280	1430	362	171	97	52	263
11	69	254	e96	310	1790	e460	3850	482	168	80	51	111
12	73	236	e94	e300	1230	763	2460	358	152	76	50	75
13	73	202	e92	e180	790	703	1510	741	134	120	52	63
14	70	178	e90	e170	793	525	1010	1560	123	100	69	56
15	67	166	e88	e200	656	403	e820	645	186	89	57	88
16	68	311	e87	e240	3790	356	e700	826	125	100	54	87
17	134	416	e86	e800	3810	1060	e620	1990	110	94	53	90
18	206	277	e86	1360	2160	1170	e560	1390	118	80	48	78
19	188	234	e85	746	1680	598	e440	843	126	73	48	65
20	742	246	e85	394	1190	648	e400	558	108	73	51	70
21	709	467	e84	345	708	494	404	1530	100	162	50	62
22	347	281	e83	335	545	448	414	898	97	89	50	60
23	263	e226	e82	341	918	397	369	574	136	275	59	60
24	216	e196	e81	523	706	382	337	441	109	284	55	60
25	181	e190	e81	771	e460	353	373	333	102	129	49	57
26	161	243	e80	994	e400	332	399	277	95	97	47	60
27	148	260	e80	529	e340	265	327	239	87	83	45	64
28	134	238	e78	408	e300	255	293	216	82	75	51	58
29	127	217	e80	297	---	257	267	319	81	70	54	54
30	121	e165	e86	268	---	263	251	804	82	66	45	99
31	116	---	e90	254	---	304	---	406	---	73	44	---
TOTAL	5028	6697	2977	14810	33600	12776	25511	20665	4464	3165	1680	2146
MEAN	162	223	96.0	478	1200	412	850	667	149	102	54.2	71.5
MAX	742	467	160	1360	3810	1170	3850	1990	325	284	69	263
MIN	67	124	78	170	300	200	251	216	81	66	44	37
CFSM	.48	.67	.29	1.43	3.58	1.23	2.54	1.99	.44	.30	.16	.21
IN.	.56	.74	.33	1.64	3.73	1.42	2.83	2.29	.50	.35	.19	.24

CAL YR	1989	TOTAL	109705	MEAN	301	MAX	4250	MIN	50	CFSM	.90	IN. 12.18
WTR YR	1990	TOTAL	133519	MEAN	366	MAX	3850	MIN	37	CFSM	1.09	IN. 14.83

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

AVERAGE DISCHARGE.--80 years (water years 1909–13, 1916–90), 1,673 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, 6,480 ft^3/s, Feb. 16 at 1015 hours, gage height, 12.26 ft; minimum, 73 ft^3/s, Aug. 28, gage height, 1.31 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	860	772	891	e700	2520	e5600	1530	940	1680	394	267	230
2	726	786	e800	e900	3900	e5400	2040	943	1290	467	277	195
3	354	631	e760	e1000	4800	e4200	2930	890	1120	418	232	174
4	315	690	e790	e950	4830	e3500	3580	849	1050	391	217	165
5	306	825	e950	e1500	4880	e2200	4690	3990	1030	342	264	219
6	288	806	e1100	e2400	4710	e1100	4670	5250	915	371	262	485
7	442	805	e1200	e2200	4680	e1000	4300	3240	821	288	402	476
8	756	645	e1000	e2100	4820	e1200	3960	1850	747	294	371	405
9	757	823	e720	e2000	5550	e1550	3910	1490	739	312	252	392
10	579	2120	e700	e1900	5750	e1800	4700	1320	706	515	209	2010
11	306	1610	e720	e1700	5440	2330	5290	1880	674	479	226	1170
12	265	1380	e700	e1500	5670	3330	4050	1710	639	388	218	701
13	259	1190	e630	e1200	5630	3600	4940	1930	575	1060	215	518
14	266	1360	e620	e1100	5510	3260	5810	4430	522	1240	216	402
15	461	1290	e610	e1200	5270	2300	6100	3410	547	821	243	438
16	437	1500	e600	e1300	6010	1880	6140	4010	475	795	235	1000
17	354	2750	e600	e1500	5780	2710	6000	5200	469	864	220	1420
18	542	2670	e590	e1800	4840	4580	5930	3820	454	631	183	1510
19	516	2240	e580	e3000	e4500	4030	5720	3820	582	534	189	771
20	1410	1480	e570	4320	3440	3870	5240	4870	738	501	240	638
21	2840	2400	e570	4180	3280	3510	4910	5790	543	616	198	678
22	2450	2120	e560	4080	5930	2930	3210	5670	468	546	240	585
23	1770	1300	e560	4310	5820	2360	2230	5260	512	749	209	557
24	960	1120	e550	4620	5820	2100	1730	4970	478	1790	215	648
25	778	1010	e550	4790	e6100	1860	1640	4680	518	864	198	831
26	672	1080	e540	5000	e6000	1720	1660	4370	461	585	236	921
27	596	1470	e560	4680	e5800	1520	1410	3990	425	459	248	574
28	603	1320	e590	4410	e5700	1360	1310	3490	401	370	210	492
29	687	1380	e610	4110	---	1300	1210	2260	353	317	242	723
30	656	1120	e630	3800	---	1290	1020	3100	346	319	350	907
31	635	---	e660	3410	---	1440	---	2920	---	304	284	---
TOTAL	22846	40693	21511	81660	142980	80830	111860	102342	20278	18024	7568	20235
MEAN	737	1356	694	2634	5106	2607	3729	3301	676	581	244	674
MAX	2840	2750	1200	5000	6100	5600	6140	5790	1680	1790	402	2010
MIN	259	631	540	700	2520	1000	1020	849	346	288	183	165

CAL YR 1989 TOTAL 679526 MEAN 1862 MAX 8750 MIN 165
WTR YR 1990 TOTAL 670827 MEAN 1838 MAX 6140 MIN 165

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, Water years 1988 to current year.
CHEMICAL DATA: 1988-90 (b).
MINOR ELEMENT DATA: 1972-74 (a), 1988-90 (b).

REMARKS.--Water-discharge data are based on records for station 04227500 Genesee River near Mount Morris.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT										
04	1000	316	--	362	7.7	9.5	761	8.8	--	150
NOV										
01	1000	717	--	340	8.9	11.0	763	8.6	--	150
MAR										
21	1000	3550	--	458	6.8	3.5	755	11.9	--	150
APR										
05	0900	4720	--	--	6.8	3.5	754	12.0	--	--
25	1100	1560	--	--	7.6	17.5	754	9.1	--	--
MAY										
17	1000	5250	--	--	7.7	16.0	752	10.2	--	--
JUN										
14	0900	522	--	--	7.6	21.5	754	8.9	--	--
JUL										
18	1000	630	--	--	8.0	16.5	754	8.3	--	--
AUG										
21	1700	204	422	--	8.2	20.0	751	9.5	106	--
SEP										
12	1100	705	--	--	7.3	17.5	755	8.8	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)
OCT									
04	45	9.9	13	2.0	117	29	20	0.1	490
NOV									
01	43	9.4	12	2.0	109	29	19	0.1	440
MAR									
21	44	9.5	28	2.3	97	48	48	0.2	2800
APR									
05	--	--	--	--	--	--	--	--	4400
25	--	--	--	--	--	--	--	--	2000
MAY									
17	--	--	--	--	--	--	--	--	3400
JUN									
14	--	--	--	--	--	--	--	--	210
JUL									
18	--	--	--	--	--	--	--	--	740
AUG									
21	--	--	--	--	--	--	--	--	330
SEP									
12	--	--	--	--	--	--	--	--	2000

04227510 GENESEE RIVER NEAR GENESEO, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	CADMIUM DISSOLVED (UG/L AS CD)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	COPPER, DISSOLVED (UG/L AS CU)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
OCT									
04	< 10	< 1.0	< 1	3	7	980	24	< 1	3
NOV									
01	--	--	< 1	--	4	1000	--	--	2
MAR									
21	--	--	< 1	--	8	5800	--	--	5
APR									
05	80	< 1.0	< 1	4	11	9200	90	1	7
25	--	--	< 1	--	8	4400	--	--	4
MAY									
17	--	--	< 1	--	10	6900	--	--	7
JUN									
14	--	--	< 1	--	5	520	--	--	1
JUL									
18	--	--	< 1	--	5	1500	--	--	2
AUG									
21	10	< 1.0	< 1	3	5	650	6	< 1	2
SEP									
12	--	--	< 1	--	6	4200	--	--	3

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, DISSOLVED (UG/L AS NI)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
04	60	27	< 0.1	< 1	2	5	< 10	25	21
NOV									
01	60	--	< 0.1	--	1	--	< 10	25	52
MAR									
21	120	--	< 0.1	--	6	--	20	183	1730
APR									
05	180	20	< 0.1	1	7	< 10	40	296	3750
25	150	--	< 0.1	--	6	--	20	114	505
MAY									
17	160	--	< 0.1	--	13	--	40	253	3550
JUN									
14	70	--	< 0.1	--	1	--	< 10	12	17
JUL									
18	70	--	< 0.1	--	2	--	< 10	43	73
AUG									
21	60	23	< 0.1	1	2	5	< 10	17	9.1
SEP									
12	130	--	< 0.1	--	4	--	10	101	192

CHEMICAL QUALITY OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLATILE IN BOTTOM MATERIAL (MG/KG)	ALUMINUM, RECOV. FM BOTTOM MATERIAL (UG/G)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	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. FM BOTTOM MATERIAL (UG/G AS HG)
AUG											
21	1700	25900	4300	< 1	5	10	310	10	100	11000	0.02

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, 816.11 ft, Dec. 22, 24, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 819.49 ft, Apr. 11; minimum, 817.21 ft, Dec. 28, 29.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	817.71	817.78	817.47	817.26	817.80	817.27	818.64	818.90	818.78	818.43	818.29	817.88
2	817.71	817.78	817.46	817.26	817.83	817.29	818.69	818.89	818.77	818.43	818.26	817.86
3	817.69	817.78	817.45	817.26	817.81	817.34	818.78	818.88	818.78	818.41	818.24	817.84
4	817.66	817.78	817.44	817.27	817.74	817.38	818.95	818.88	818.77	818.40	818.23	817.81
5	817.63	817.76	817.43	817.33	817.66	817.40	819.07	818.88	818.75	818.43	818.23	817.82
6	817.61	817.75	817.43	817.37	817.57	817.42	819.07	818.92	818.72	818.42	818.23	817.83
7	817.59	817.74	817.43	817.40	817.59	817.43	818.93	818.97	818.72	818.41	818.21	817.82
8	817.56	817.76	817.42	817.40	817.65	817.44	818.89	819.00	818.71	818.39	818.19	817.81
9	817.54	817.77	817.41	817.41	817.82	817.45	818.84	818.99	818.71	818.44	818.17	817.79
10	817.52	817.78	817.40	817.42	818.10	817.49	818.90	819.01	818.70	818.43	818.14	817.78
11	817.50	817.78	817.39	817.45	818.21	817.54	819.41	819.04	818.68	818.41	818.12	817.76
12	817.48	817.76	817.38	817.46	818.17	817.64	819.40	819.02	818.67	818.41	818.11	817.75
13	817.46	817.74	817.37	817.47	818.06	817.73	819.17	819.01	818.65	818.40	818.11	817.74
14	817.45	817.72	817.36	817.47	817.96	817.79	818.92	819.03	818.65	818.39	818.11	817.73
15	817.45	817.70	817.35	817.47	817.91	817.84	818.71	818.99	818.64	818.39	818.09	817.74
16	817.44	817.72	817.36	817.48	818.08	817.88	818.71	818.95	818.63	818.39	818.07	817.72
17	817.51	817.73	817.35	817.53	818.48	817.98	818.76	819.01	818.61	818.37	818.06	817.70
18	817.55	817.71	817.34	817.63	818.46	818.12	818.79	818.97	818.61	818.35	818.05	817.67
19	817.57	817.67	817.32	817.70	818.32	818.21	818.80	818.81	818.60	818.34	818.03	817.65
20	817.65	817.65	817.32	817.73	818.13	818.29	818.82	818.78	818.58	818.33	818.02	817.64
21	817.73	817.64	817.31	817.77	817.93	818.35	818.88	818.69	818.57	818.33	817.99	817.63
22	817.76	817.61	817.29	817.78	817.77	818.39	818.87	818.66	818.55	818.31	817.98	817.62
23	817.77	817.58	817.28	817.80	817.71	818.44	818.83	818.68	818.55	818.33	817.98	817.60
24	817.76	817.55	817.27	817.82	817.62	818.46	818.85	818.71	818.53	818.33	817.97	817.57
25	817.77	817.51	817.26	817.86	817.51	818.48	818.87	818.73	818.50	818.32	817.96	817.54
26	817.77	817.48	817.25	817.91	817.38	818.49	818.88	818.75	818.47	818.31	817.94	817.55
27	817.77	817.47	817.23	817.94	817.30	818.50	818.90	818.77	818.44	818.29	817.94	817.55
28	817.76	817.47	817.23	817.95	817.28	818.52	818.90	818.77	818.41	818.27	817.95	817.54
29	817.76	817.47	817.22	817.97	---	818.57	818.91	818.77	818.40	818.26	817.94	817.55
30	817.76	817.47	817.23	818.00	---	818.56	818.91	818.80	818.39	818.24	817.92	817.60
31	817.76	---	817.23	817.91	---	818.59	---	818.79	---	818.29	817.90	---
MEAN	817.63	817.67	817.34	817.60	817.85	817.94	818.90	818.87	818.62	818.36	818.08	817.70
MAX	817.77	817.78	817.47	818.00	818.48	818.59	819.41	819.04	818.78	818.44	818.29	817.88
MIN	817.44	817.47	817.22	817.26	817.28	817.27	818.64	818.66	818.39	818.24	817.90	817.54

CAL YR 1989 MEAN 817.81 MAX 819.51 MIN 816.20
WTR YR 1990 MEAN 818.05 MAX 819.41 MIN 817.22

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

AVERAGE DISCHARGE.--35 years (water years 1956–90), 1,941 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, 9,350 ft^3/s, Apr. 11 at 1300 hours, gage height, 31.43 ft; minimum, 189 ft^3/s, Aug. 24, gage height, 14.14 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	703	759	e1000	e900	3450	e6200	1650	1110	2510	419	317	286
2	966	958	e960	e1100	3560	e5900	1900	1060	1660	486	291	243
3	640	852	e900	e1400	5220	e5000	2650	1030	1390	501	297	218
4	399	710	e840	e1100	5380	e4000	3640	1010	1280	450	247	204
5	368	884	e1000	e1900	5300	e3200	5610	2320	1230	420	266	215
6	361	946	e1150	e2800	5180	e1800	6050	5190	1170	413	313	292
7	328	944	e1250	e2600	4900	e1300	5630	4460	1050	375	324	536
8	352	1000	e1300	e2400	5040	e1250	4790	2550	964	335	420	467
9	408	646	e1000	e2300	6290	e1640	4570	1870	916	379	375	413
10	451	1530	e900	e2200	7360	e1850	4880	1550	906	423	266	838
11	459	2030	e800	e2100	6540	2470	8530	1740	848	597	247	1790
12	350	1590	e760	e2000	6050	3480	7380	2020	816	481	252	986
13	311	1450	e750	e1700	6020	4140	6180	2190	746	443	262	669
14	307	1370	e740	e1500	5840	3910	6480	4810	667	1370	257	524
15	325	1460	e720	e1600	5640	3130	7240	4330	621	1070	243	417
16	393	1420	e700	e1700	6740	2280	7420	4420	621	887	268	662
17	430	2160	e700	e1800	8610	2230	7170	6630	566	899	258	1080
18	502	2860	e700	e3100	6740	4400	6800	6350	540	882	238	1610
19	643	2670	e680	e4000	6500	4420	6300	4760	543	631	219	1180
20	774	2040	e680	5710	5600	4160	5380	4930	796	557	223	779
21	2360	1960	e660	4860	3780	3910	5160	6350	736	578	259	695
22	2800	2640	e640	4200	5660	3470	4550	6510	590	650	224	730
23	2410	1870	e630	4180	8590	2800	2940	5810	579	589	271	614
24	1540	1390	e620	4560	7220	2410	2190	5290	582	1370	224	633
25	1050	1270	e620	4940	e7100	2090	1790	4860	572	1290	236	783
26	887	1230	e610	5040	e7000	1870	1800	4540	588	826	232	947
27	767	1420	e660	4970	e6900	1760	1670	4230	514	584	251	882
28	678	1530	e660	4620	e6800	1540	1460	3850	479	473	256	586
29	744	1440	e680	4350	---	1440	1390	3170	450	372	239	579
30	783	1400	e740	4060	---	1410	1250	2620	407	338	300	845
31	749	---	e760	3920	---	1490	---	3370	---	355	335	---
TOTAL	24238	44429	24810	93610	169010	90950	134450	114930	25337	19443	8410	20703
MEAN	782	1481	800	3020	6036	2934	4482	3707	845	627	271	690
MAX	2800	2860	1300	5710	8610	6200	8530	6630	2510	1370	420	1790
MIN	307	646	610	900	3450	1250	1250	1010	407	335	219	204

CAL YR 1989 TOTAL 753964 MEAN 2066 MAX 9310 MIN 223
WTR YR 1990 TOTAL 770320 MEAN 2110 MAX 8610 MIN 204

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, 804.82 ft, Apr. 11; minimum, 802.78 ft, Oct. 14, 15, 16.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	803.05	803.41	803.59	803.57	803.94	803.85	803.86	803.65	803.75	803.34	803.57	802.96
2	803.04	803.42	803.60	803.55	804.09	803.82	803.87	803.61	803.70	803.31	803.51	802.93
3	803.03	803.42	803.57	803.56	804.12	803.81	803.97	803.59	803.66	803.29	803.47	802.91
4	802.98	803.41	803.56	803.58	804.12	803.78	804.13	803.58	803.63	803.26	803.41	802.89
5	802.96	803.40	803.58	803.64	804.11	803.74	804.23	803.74	803.58	803.27	803.40	802.98
6	802.94	803.37	803.63	803.66	804.09	803.71	804.26	803.81	803.55	803.26	803.43	803.12
7	802.91	803.37	803.68	803.68	804.09	803.68	804.24	803.81	803.54	803.23	803.41	803.12
8	802.91	803.42	803.69	803.68	804.10	803.65	804.20	803.81	803.54	803.21	803.37	803.11
9	802.90	803.45	803.67	803.68	804.19	803.64	804.17	803.80	803.52	803.24	803.36	803.09
10	802.90	803.47	803.66	803.69	804.34	803.64	804.27	803.79	803.51	803.23	803.33	803.15
11	802.88	803.51	803.65	803.72	804.34	803.67	804.76	803.77	803.50	803.21	803.29	803.13
12	802.87	803.51	803.65	803.73	804.29	803.74	804.80	803.74	803.49	803.20	803.26	803.11
13	802.83	803.56	803.64	803.72	804.25	803.75	804.70	803.82	803.47	803.18	803.27	803.08
14	802.82	803.57	803.63	803.73	804.21	803.75	804.57	803.97	803.45	803.16	803.34	803.05
15	802.78	803.57	803.63	803.73	804.21	803.75	804.46	803.96	803.42	803.16	803.29	803.12
16	802.79	803.59	803.63	803.74	804.45	803.75	804.33	803.97	803.42	803.16	803.27	803.13
17	803.08	803.60	803.62	803.79	804.62	803.84	804.21	804.12	803.42	803.13	803.23	803.13
18	803.23	803.60	803.61	803.89	804.57	803.90	804.11	804.17	803.44	803.11	803.18	803.10
19	803.22	803.58	803.61	803.94	804.49	803.91	804.04	804.16	803.48	803.08	803.17	803.09
20	803.30	803.59	803.59	803.96	804.38	803.92	803.97	804.20	803.48	803.09	803.18	803.09
21	803.39	803.62	803.58	803.98	804.30	803.91	803.96	804.26	803.42	803.12	803.16	803.07
22	803.41	803.64	803.57	803.98	804.26	803.91	803.94	804.25	803.44	803.11	803.15	803.05
23	803.47	803.65	803.57	803.97	804.24	803.87	803.89	804.24	803.45	803.27	803.12	803.05
24	803.49	803.65	803.56	803.99	804.20	803.86	803.85	804.20	803.39	803.32	803.09	803.03
25	803.46	803.65	803.55	803.98	804.08	803.85	803.84	804.14	803.41	803.27	803.07	802.99
26	803.45	803.66	803.54	803.99	804.00	803.81	803.80	804.08	803.38	803.25	803.04	802.98
27	803.45	803.66	803.52	803.97	803.95	803.78	803.76	804.00	803.38	803.20	803.02	803.00
28	803.44	803.64	803.51	803.95	803.90	803.77	803.73	803.96	803.36	803.16	803.04	802.99
29	803.38	803.62	803.50	803.94	---	803.79	803.70	803.95	803.30	803.12	803.04	803.01
30	803.36	803.61	803.52	803.95	---	803.83	803.67	803.95	803.28	803.10	803.01	803.14
31	803.38	---	803.54	803.94	---	803.83	---	803.81	---	803.48	802.98	---
MEAN	803.13	803.54	803.60	803.80	804.21	803.79	804.11	803.93	803.48	803.21	803.24	803.05
MAX	803.49	803.66	803.69	803.99	804.62	803.92	804.80	804.26	803.75	803.48	803.57	803.15
MIN	802.78	803.37	803.50	803.55	803.90	803.64	803.67	803.58	803.28	803.08	802.98	802.89

CAL YR 1989 MEAN 803.51 MAX 804.70 MIN 802.78
WTR YR 1990 MEAN 803.59 MAX 804.80 MIN 802.78

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.--43 years (water years 1946–70, 1973–90), 123 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, 2,750 ft^3/s, Apr. 11 at 1600 hours, gage height, 4.59 ft; minimum recorded, 5.0 ft^3/s, Sept. 25, 27, gage height, 0.29 ft, but may have been lower during period of no gage-height record July 19-Sept. 19.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	45	e56	e70	126	e140	130	125	160	20	e70	e9.0
2	12	52	e62	e80	435	e150	161	97	130	26	e60	e8.2
3	18	45	e60	e72	492	e200	414	86	116	24	e25	e6.4
4	36	44	e56	e90	401	e160	542	82	110	19	e16	e5.4
5	16	42	e52	e250	271	e130	709	186	96	20	e17	e9.0
6	11	41	e60	e200	246	e100	833	353	81	23	e20	e9.0
7	9.6	46	e54	e180	246	e82	714	241	73	20	e19	e12
8	9.2	66	e52	132	321	e74	590	204	63	16	e18	e9.0
9	8.7	79	e44	108	725	e80	611	173	61	19	e14	e8.2
10	8.2	106	e50	92	1030	e100	730	146	60	31	e12	e11
11	7.5	95	e46	e105	693	e160	2240	217	52	24	e9.8	e30
12	7.3	78	e42	e90	363	312	2160	190	47	16	e9.6	e15
13	7.6	66	e40	e82	269	323	1320	274	41	14	e9.2	e10
14	7.5	57	e35	e76	270	234	924	876	36	13	e12	e8.0
15	8.5	56	e31	e80	221	183	764	525	33	12	e24	e8.2
16	6.7	68	e35	e80	457	156	645	384	29	12	e16	e8.0
17	11	126	e42	165	1470	246	587	909	27	13	e13	e15
18	78	102	e40	295	1050	432	538	934	25	10	e9.0	e9.0
19	76	76	e38	252	565	250	457	670	26	e9.0	e8.4	e8.6
20	113	72	e37	163	388	235	403	530	27	e8.4	e9.2	7.2
21	262	169	e35	138	285	227	411	703	26	e10	e8.0	7.2
22	160	121	e33	127	335	210	441	623	26	e14	e11	7.0
23	94	e70	e31	127	785	188	336	501	27	e20	e11	6.3
24	66	e66	e28	145	e500	165	274	400	26	e25	e10	5.6
25	54	e62	e26	224	e300	148	243	325	27	e40	e9.0	5.2
26	48	69	e28	214	e200	135	243	272	25	e21	e8.0	5.6
27	43	81	e30	170	e170	122	239	239	20	e15	e7.0	5.7
28	39	e70	e32	140	160	110	217	206	17	e13	e6.2	7.5
29	36	e66	e33	117	---	106	205	182	16	e12	e6.0	6.1
30	34	58	e35	87	---	105	170	220	17	e11	e12	12
31	33	---	e44	132	---	127	---	207	---	e20	e10	---
TOTAL	1332.8	2194	1287	4283	12774	5390	18251	11080	1520	550.4	489.4	274.4
MEAN	43.0	73.1	41.5	138	456	174	608	357	50.7	17.8	15.8	9.15
MAX	262	169	62	295	1470	432	2240	934	160	40	70	30
MIN	6.7	41	26	70	126	74	130	82	16	8.4	6.0	5.2

CAL YR	1989	TOTAL 44581.0	MEAN	122	MAX	1420	MIN	3.1
WTR YR	1990	TOTAL 59426.0	MEAN	163	MAX	2240	MIN	5.2

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

AVERAGE DISCHARGE.--26 years (water years 1965–90), 53.8 ft^3/s, 18.69 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)
Feb. 16	2000	*1,670	*5.84	Apr. 11	0045	1,500	5.50

Minimum discharge, 4.5 ft^3/s, Sept. 3, 4, gage height, 0.83 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	17	e34	e40	66	e78	39	29	57	8.6	5.3	4.7
2	8.1	12	e32	e25	295	e86	48	28	47	8.4	5.0	4.7
3	8.0	11	e29	e25	e140	e88	54	27	40	8.5	4.9	4.6
4	7.7	11	e28	e100	e120	e76	60	27	36	8.0	5.0	4.6
5	7.4	10	e30	278	e110	e64	95	185	34	7.7	6.3	9.5
6	7.3	12	e32	e100	91	e58	136	137	30	7.7	6.5	6.7
7	7.2	20	e38	e52	105	e54	129	90	27	7.7	5.9	6.4
8	7.2	41	e33	37	171	e52	101	63	25	7.5	5.4	6.3
9	7.2	25	e30	31	418	50	118	47	24	8.1	5.2	6.1
10	7.2	25	e27	36	338	115	371	40	23	8.4	5.0	6.8
11	7.7	30	e25	34	181	166	648	43	21	8.3	4.9	6.0
12	8.6	34	e24	e26	129	230	270	41	20	7.9	4.9	5.6
13	7.3	20	e23	e23	121	172	184	171	18	7.9	6.6	5.2
14	7.3	16	e22	e22	146	106	154	269	16	7.7	6.9	5.4
15	7.4	18	e22	27	e100	68	153	145	15	7.5	5.5	8.8
16	7.1	60	e22	112	e770	52	126	209	14	7.6	5.1	6.6
17	20	45	e22	371	387	114	116	409	12	7.5	5.0	6.4
18	21	31	e21	433	e200	92	104	277	12	6.6	4.9	5.7
19	17	26	e21	132	e160	60	79	223	12	5.9	5.2	5.8
20	69	158	e20	86	e110	66	60	190	12	6.3	5.5	6.4
21	34	165	e20	65	e70	53	84	e178	11	6.4	5.3	5.7
22	39	58	e20	48	e160	53	86	e110	10	5.9	5.4	5.8
23	20	e38	e19	32	334	44	63	e79	11	9.4	5.4	7.9
24	14	e34	e19	75	192	40	50	e63	11	7.5	5.0	7.9
25	12	e32	e19	147	e100	36	50	e53	10	6.1	5.1	6.4
26	11	86	e19	241	e92	34	51	e47	9.8	5.6	5.2	6.4
27	10	62	e19	115	e84	30	44	e42	9.1	5.6	5.2	6.4
28	10	88	e18	96	e80	29	38	e38	8.9	5.1	6.2	6.1
29	9.6	51	e18	50	---	28	34	57	8.6	5.7	5.4	6.5
30	9.5	37	e18	46	---	31	32	77	8.4	5.2	4.9	11
31	10	---	e17	45	---	38	---	69	---	5.2	4.8	---
TOTAL	426.8	1273	741	2950	5270	2263	3577	3463	592.8	221.5	166.9	192.4
MEAN	13.8	42.4	23.9	95.2	188	73.0	119	112	19.8	7.15	5.38	6.41
MAX	69	165	38	433	770	230	648	409	57	9.4	6.9	11
MIN	7.1	10	17	22	66	28	32	27	8.4	5.1	4.8	4.6
CFSM	.35	1.09	.61	2.43	4.81	1.87	3.05	2.86	.51	.18	.14	.16
IN.	.41	1.21	.70	2.81	5.01	2.15	3.40	3.29	.56	.21	.16	.18

CAL YR	1989	TOTAL	20963.9	MEAN	57.4	MAX	782	MIN	7.1	CFSM	1.47	IN. 19.95
WTR YR	1990	TOTAL	21137.4	MEAN	57.9	MAX	770	MIN	4.6	CFSM	1.48	IN. 20.11

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

AVERAGE DISCHARGE.--45 years, 215 ft^3/s, 14.60 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, 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. 12	1315	*1,850	*5.83	No other peak greater than base discharge.			

Minimum discharge, 32 ft^3/s, Sept. 24, 25, gage height, 2.28 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	65	e120	e76	e220	e360	262	203	277	86	56	36
2	55	63	e94	e110	402	e350	290	197	231	79	53	35
3	53	75	e90	e190	493	e320	318	190	207	79	49	35
4	52	69	e88	e190	e540	e280	372	187	205	76	48	35
5	51	66	e95	e330	e480	e260	538	247	204	73	54	40
6	51	65	e105	e380	e400	e240	751	459	200	72	51	37
7	50	65	e113	e420	382	e210	716	471	182	71	50	38
8	51	74	e103	439	457	e210	591	332	173	69	48	36
9	62	103	e100	302	697	e220	507	258	171	76	49	36
10	73	131	e97	229	1080	e260	556	230	170	76	49	36
11	58	112	e94	216	1170	480	1210	222	162	81	45	34
12	51	106	e91	e210	836	730	1690	231	155	74	45	34
13	49	110	e89	e190	502	815	1110	293	143	68	50	34
14	50	100	e87	e160	432	740	707	758	133	65	48	34
15	50	89	e85	166	427	560	542	764	125	68	45	35
16	49	91	e84	187	396	425	496	682	117	78	44	34
17	55	115	e83	336	818	418	432	929	112	94	44	34
18	60	173	e82	643	1240	538	420	1110	106	73	43	33
19	66	131	e82	827	1140	470	377	1090	104	62	43	33
20	101	120	e80	775	677	409	344	861	106	63	42	33
21	135	192	e78	416	e410	392	349	757	102	63	41	33
22	179	321	e76	294	e420	348	405	704	100	59	41	33
23	137	e260	e75	268	1060	334	358	570	102	60	41	33
24	124	e130	e74	262	1200	311	300	439	96	58	40	32
25	104	e135	e73	438	944	285	280	384	98	57	39	32
26	82	e140	e72	489	558	264	278	336	93	65	38	34
27	74	176	e71	483	e440	252	268	305	82	56	38	33
28	69	213	e70	438	e420	229	240	277	76	53	39	33
29	65	207	e69	319	---	226	225	284	76	50	38	34
30	63	198	e68	e230	---	229	212	295	79	50	38	38
31	62	---	e68	e220	---	241	---	310	---	58	36	---
TOTAL	2234	3895	2656	10233	18241	11406	15144	14375	4187	2112	1385	1037
MEAN	72.1	130	85.7	330	651	368	505	464	140	68.1	44.7	34.6
MAX	179	321	120	827	1240	815	1690	1110	277	94	56	40
MIN	49	63	68	76	220	210	212	187	76	50	36	32
CFSM	.36	.65	.43	1.65	3.26	1.84	2.52	2.32	.70	.34	.22	.17
IN.	.42	.72	.49	1.90	3.39	2.12	2.82	2.67	.78	.39	.26	.19

CAL YR	1989	TOTAL	84272	MEAN	231	MAX	2850	MIN	49	CFSM	1.15	IN. 15.67
WTR YR	1990	TOTAL	86905	MEAN	238	MAX	1690	MIN	32	CFSM	1.19	IN. 16.16

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 gage-height 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, 16.64 ft, Apr 12; minimum, 9.27 ft, Dec. 5.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.62	11.34	11.19	11.59	11.82	13.40	12.15	11.93	11.97	11.54	11.54	11.58
2	11.70	11.57	11.67	11.95	12.05	13.40	12.14	11.91	11.64	11.56	11.65	11.55
3	11.39	11.17	11.46	11.76	13.32	13.20	12.33	11.56	11.60	11.81	11.76	11.45
4	11.30	11.07	11.53	11.91	13.40	12.84	12.79	11.09	11.68	11.53	11.77	11.33
5	11.23	11.29	10.58	12.26	12.99	12.51	13.70	11.98	11.65	11.51	11.79	11.46
6	11.22	11.28	10.84	12.49	13.06	11.81	13.98	13.21	11.60	11.60	11.65	11.57
7	11.40	11.12	10.18	12.36	12.72	11.93	13.86	13.18	11.80	11.61	11.63	11.51
8	11.31	11.01	10.61	11.89	12.92	12.02	13.00	12.33	11.77	11.51	11.75	11.71
9	11.33	11.05	10.30	11.95	13.90	12.14	13.09	11.90	11.77	11.72	11.82	11.69
10	11.28	11.41	10.03	11.98	14.63	12.22	13.16	11.76	11.78	11.57	11.72	11.73
11	11.20	11.52	10.37	12.03	14.34	12.52	15.47	11.76	11.65	11.73	11.49	11.87
12	11.53	11.24	10.85	11.81	13.51	12.87	16.24	11.78	11.68	11.66	11.54	11.55
13	11.65	11.52	11.05	11.62	13.13	13.68	14.83	11.70	11.64	11.53	11.78	11.49
14	11.62	11.26	11.32	11.70	13.27	13.48	14.13	13.13	11.73	11.93	11.65	11.34
15	11.63	11.06	10.84	11.99	13.45	12.89	14.16	13.24	11.69	11.94	11.50	11.19
16	11.46	10.94	10.37	11.89	13.59	12.04	14.11	12.93	11.70	11.76	11.58	11.31
17	11.28	11.15	10.40	12.09	14.87	12.05	13.72	14.13	11.61	11.80	11.62	11.37
18	11.16	11.50	11.13	12.40	14.46	13.14	13.46	14.79	11.79	11.75	11.60	11.35
19	11.62	11.23	11.24	12.99	13.88	13.10	13.26	13.67	11.67	11.77	11.62	11.43
20	11.36	11.21	11.29	13.02	13.31	12.70	12.77	13.61	11.79	11.53	11.52	11.20
21	11.68	10.98	11.17	13.07	12.03	12.83	12.63	14.18	11.77	11.79	11.45	11.25
22	12.08	11.33	11.09	12.50	12.74	12.77	12.67	14.46	11.82	11.82	11.40	11.32
23	11.60	11.18	11.05	12.65	14.99	12.38	11.67	13.84	11.71	11.71	11.47	11.18
24	11.74	10.75	11.07	12.75	15.01	12.09	11.95	13.47	11.81	11.59	11.61	11.28
25	11.44	10.86	11.44	12.81	14.45	12.29	11.70	13.20	11.77	11.94	11.61	11.27
26	11.28	11.02	11.62	12.97	14.26	11.91	12.07	12.81	11.56	11.61	11.61	11.34
27	11.14	11.04	11.17	13.08	13.95	11.74	11.75	12.68	11.47	11.64	11.65	11.34
28	11.12	11.11	11.03	12.77	13.64	11.87	10.86	12.46	11.49	11.56	11.63	11.29
29	11.16	11.40	11.25	12.68	---	12.05	11.44	12.34	11.48	11.73	11.60	11.32
30	11.17	11.39	11.34	12.37	---	12.19	11.56	12.22	11.45	11.71	11.58	11.28
31	11.14	---	11.66	12.16	---	12.14	---	12.49	---	11.65	11.60	---
MEAN	11.41	11.20	11.00	12.31	13.56	12.52	13.02	12.77	11.68	11.68	11.62	11.42
MAX	12.08	11.57	11.67	13.08	15.01	13.68	16.24	14.79	11.97	11.94	11.82	11.87
MIN	11.12	10.75	10.03	11.59	11.82	11.74	10.86	11.09	11.45	11.51	11.40	11.18

CAL YR	1989	MEAN	12.00	MAX	15.95	MIN	9.55
WTR YR	1990	MEAN	12.01	MAX	16.24	MIN	10.03

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

AVERAGE DISCHARGE.--45 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)
Feb. 24	1900	990	5.08	Apr. 12	1130	1,000	5.11
Mar. 13	0300	845	4.73	May 18	2000	*1,050	*5.22
Apr. 6	2300	840	4.72				

Minimum discharge, 7.3 ft^3/s, Sept. 4, 5, gage height, 1.28 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	22	e38	e30	97	e210	130	89	118	67	30	10
2	18	25	e34	45	161	e190	147	80	91	88	24	9.1
3	21	25	e33	53	206	e200	168	76	87	54	19	7.9
4	15	24	e28	71	275	e190	242	82	109	39	16	7.6
5	12	23	e28	137	229	e180	484	138	120	32	20	8.7
6	17	23	e29	186	207	e100	771	212	106	29	26	12
7	19	25	e31	251	206	e94	702	200	86	28	25	16
8	20	40	e30	240	264	e90	463	147	77	25	20	18
9	21	53	e28	159	433	e100	324	117	89	33	17	18
10	23	55	e24	124	656	142	290	103	88	38	15	18
11	22	56	e24	127	624	343	577	105	77	30	15	16
12	26	48	e23	136	392	684	944	97	72	26	16	14
13	25	41	e23	130	237	811	590	199	62	25	21	13
14	16	37	e23	98	209	623	364	434	54	24	42	12
15	16	34	e22	88	185	429	293	582	49	28	35	13
16	20	42	e22	108	199	314	266	414	43	34	23	11
17	27	50	e21	187	360	280	231	589	39	30	18	11
18	37	53	e22	385	528	284	201	975	39	24	16	10
19	45	44	e22	505	567	262	181	854	52	20	14	11
20	53	55	e20	392	349	239	161	561	59	24	17	11
21	70	98	e20	227	212	230	212	585	48	34	19	9.3
22	69	111	e19	152	260	199	263	678	48	28	17	12
23	54	e66	e19	134	540	177	229	504	56	32	15	11
24	39	e48	e19	144	890	169	174	333	56	42	14	10
25	31	e46	e18	183	638	152	147	231	50	33	13	8.7
26	26	45	e18	233	e390	135	130	178	44	25	12	9.5
27	24	55	e17	194	e300	121	117	143	37	20	11	8.9
28	22	59	e17	147	e250	109	108	124	34	16	12	9.4
29	21	59	e16	115	---	104	98	120	32	15	13	9.2
30	20	e50	e16	92	---	105	92	143	35	14	12	16
31	21	---	e20	88	---	119	---	150	---	24	10	---
TOTAL	865	1412	724	5161	9864	7385	9099	9243	1957	981	577	351.3
MEAN	27.9	47.1	23.4	166	352	238	303	298	65.2	31.6	18.6	11.7
MAX	70	111	38	505	890	811	944	975	120	88	42	18
MIN	12	22	16	30	97	90	92	76	32	14	10	7.6
CFSM	.21	.36	.18	1.28	2.71	1.83	2.33	2.29	.50	.24	.14	.09
IN.	.25	.40	.21	1.48	2.82	2.11	2.60	2.64	.56	.28	.17	.10

CAL YR	1989	TOTAL	37533.3	MEAN	103	MAX	1560	MIN	8.0	CFSM	.79	IN. 10.74
WTR YR	1990	TOTAL	47619.3	MEAN	130	MAX	975	MIN	7.6	CFSM	1.00	IN. 13.63

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 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.--83 years (water years 1905–18, 1921–90), 2,796 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, 17,800 ft^3/s, Apr. 5 at 1500 hours, gage height, 14.49 ft, result of regulation; minimum daily 450 ft^3/s, Sept. 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	830	961	1760	e1280	4290	7650	2390	1120	4150	e890	e670	e540
2	1180	1320	1200	e1400	3940	7170	2740	1220	2720	e950	e630	e500
3	1260	1550	1480	1560	6230	6670	3500	1100	2450	e880	e590	e470
4	e700	1230	e1200	1280	6950	5770	4950	890	2340	e780	e530	e450
5	e650	1210	e1190	2230	6290	4680	8250	1950	2200	e740	e560	e470
6	e640	e1300	e1200	3120	6690	3140	9290	6390	2050	e740	e610	e550
7	e610	1460	1410	3420	6220	1780	9090	6030	1920	e690	e620	e800
8	e630	1420	1660	3200	6220	1750	7330	4750	1630	e640	e710	e730
9	e1000	1370	e1140	2630	8040	2260	6720	3110	1560	e710	e660	e680
10	e900	1660	e1140	2770	10400	2620	6640	2620	1670	e770	e540	1050
11	e750	2680	e1120	2310	9770	3550	11300	2650	1630	934	e520	2100
12	e630	2360	e1100	2470	8320	5610	12600	3300	e1400	e800	e520	e1250
13	e590	1720	e1090	1860	7570	6950	10300	3740	e1300	e750	e540	e930
14	e580	2180	e1060	1720	7010	6440	9190	6600	e1100	1380	e560	e780
15	e600	1900	e1050	1660	7180	5220	9120	7640	e1200	1310	e550	e670
16	e1000	2030	e1040	1900	8040	3780	9150	7120	e1100	1290	e550	916
17	e800	2270	e1050	2140	10700	3520	8850	9720	e1050	1150	e530	1450
18	e890	3500	e1050	3740	10100	5750	8260	10900	e910	1320	e510	1840
19	e1030	3300	e1020	5440	9290	6310	7590	8770	e920	e920	e480	1420
20	e1240	2750	e1020	5650	8380	5160	6910	8120	1180	e850	e490	e1030
21	2370	2440	e990	5830	5300	5400	6660	9150	1350	e880	e530	e940
22	3640	2770	e970	5170	6500	4410	6500	9540	e1000	e940	e490	e980
23	3040	2680	e950	4590	10900	4110	4830	8590	1350	e890	e540	e860
24	1930	2080	e930	5230	10700	3370	3360	7540	e1000	1340	e490	e880
25	1760	1580	e940	5580	9660	3070	2870	6780	e1160	1650	e500	e1030
26	e1300	1770	e940	5840	9450	2980	2570	6060	e1060	e1140	e490	1100
27	1180	2050	e980	6020	9000	2570	2500	5530	e1100	e880	e510	1260
28	1170	2090	e970	5620	8350	2030	1420	4960	e900	e760	e510	e840
29	1040	2040	e1000	4960	---	1970	1290	4480	1040	e650	e500	e830
30	1170	2180	e1060	4670	---	2070	1310	3510	1050	e610	e560	e1100
31	1190	---	e1090	4450	---	2170	---	4720	---	e660	e590	---
TOTAL	36300	59851	34800	109740	221490	129930	187480	168600	45490	28894	17080	28446
MEAN	1171	1995	1123	3540	7910	4191	6249	5439	1516	932	551	948
MAX	3640	3500	1760	6020	10900	7650	12600	10900	4150	1650	710	2100
MIN	580	961	930	1280	3940	1750	1290	890	900	610	480	450

CAL YR 1989 TOTAL 984738 MEAN 2698 MAX 12400 MIN 483
WTR YR 1990 TOTAL 1068101 MEAN 2926 MAX 12600 MIN 450

e Estimated

04232006 GENESEE RIVER AT CHARLOTTE DOCKS AT ROCHESTER, NY

(National stream-quality accounting network station)

WATER QUALITY RECORDS

LOCATION.--Lat 43°13'26", 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.--2,467 mi^2 at station 04232000.

PERIOD OF RECORD.--Water years 1971 to current year.

CHEMICAL DATA: 1971-72 (a), 1974 (b), 1975-82 (c), 1983-90 (b).

MINOR ELEMENTS DATA: 1971-73 (a), 1974-90 (b).

ORGANIC DATA: OC--1974 (a), 1975 (b), 1977 (b), 1978-80 (c), 1981 (b).

NUTRIENT DATA: 1971 (a), 1974 (b), 1975-82 (c), 1983-90 (b).

BIOLOGICAL DATA:

Bacteria--1974 (b), 1975-82 (c), 1983-90 (b).
Phytoplankton--1974 (b), 1975-77 (c), 1978-81 (b).
Periphyton--1975-80 (b).

SEDIMENT DATA: 1974 (b), 1975-82 (c), 1983-90 (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 were grab samples collected from the dock at Genesee Docks.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
OCT											
* 05	1300	700	--	788	8.2	16.0	--	761	9.2	--	--
25	1100	1760	510	--	8.2	9.0	39	768	10.9	93	K1100
* 31	1200	1190	--	873	7.7	14.5	--	761	8.6	--	--
MAR											
* 20	1300	5160	--	238	7.8	6.0	--	754	12.9	--	--
APR											
* 04	1300	4950	--	--	7.8	6.5	--	754	12.1	--	--
* 24	1400	3360	--	--	7.8	16.5	--	755	11.0	--	--
MAY											
01	1000	1120	690	--	7.8	20.0	21	761	7.9	87	190
* 16	1300	7120	--	--	7.9	15.0	--	753	9.8	--	--
JUN											
* 13	1300	1300	--	--	8.1	21.5	--	754	9.5	--	--
27	1100	1100	820	--	8.0	22.5	10	760	7.2	84	94
JUL											
* 16	1400	1290	--	--	7.9	11.5	--	753	7.9	--	--
AUG											
20	1100	480	800	--	7.8	25.0	4.7	753	6.2	76	340
* 22	1400	490	804	--	7.8	23.0	--	751	7.8	92	--
SEP											
* 11	1400	2100	--	--	7.0	22.0	--	754	16.8	--	--

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	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)
OCT											
05	--	210	63	13	73	3.6	--	126	86	120	0.2
25	100	170	51	10	38	3.3	92	--	61	57	0.1
31	--	220	68	13	75	3.4	--	130	98	130	0.2
MAR											
20	--	90	26	6.0	9.5	1.4	--	65	22	16	0.3
APR											
04	--	--	--	--	--	--	--	--	--	--	--
24	--	--	--	--	--	--	--	--	--	--	--
MAY											
01	K10	230	67	14	48	2.6	130	--	81	74	0.1
16	--	--	--	--	--	--	--	--	--	--	--

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 1989 TO SEPTEMBER 1990

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JUN											
13	--	--	--	--	--	--	--	--	--	--	--
27	K16	270	82	16	68	2.8	138	--	110	110	< 0.1
JUL											
16	--	--	--	--	--	--	--	--	--	--	--
AUG											
20	K30	250	75	15	63	3.0	154	--	110	94	1.0
22	--	--	--	--	--	--	--	--	--	--	--
SEP											
11	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)
OCT										
05	--	--	434	--	--	--	--	--	--	--
25	4.1	293	283	0.66	0.11	0.14	0.02	0.70	0.09	0.02
31	--	--	466	--	--	--	--	--	--	--
MAR										
20	--	--	120	--	--	--	--	--	--	--
APR										
04	--	--	--	--	--	--	--	--	--	--
24	--	--	--	--	--	--	--	--	--	--
MAY										
01	2.2	404	375	1.10	0.09	0.11	0.02	0.60	0.06	0.02
16	--	--	--	--	--	--	--	--	--	--
JUN										
13	--	--	--	--	--	--	--	--	--	--
27	3.3	531	480	1.20	0.12	0.13	0.05	1.3	0.07	0.01
JUL										
16	--	--	--	--	--	--	--	--	--	--
AUG										
20	1.8	471	462	1.10	0.21	0.24	0.03	0.70	0.04	0.05
22	--	--	--	--	--	--	--	--	--	--
SEP										
11	--	--	--	--	--	--	--	--	--	--

DATE	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
OCT										
05	--	1400	10	--	--	--	< 1.0	< 1	--	--
25	0.01	--	< 10	1	38	< 0.5	< 1.0	--	< 1	< 3
31	--	580	--	--	--	--	--	1	--	--
MAR										
20	--	9500	--	--	--	--	--	< 1	--	--
APR										
04	--	1100	50	--	--	--	< 1.0	< 1	--	--
24	--	1700	--	--	--	--	--	3	--	--
MAY										
01	< 0.01	--	< 10	1	49	< 0.5	4.0	--	< 1	< 3
16	--	2400	--	--	--	--	--	< 1	--	--
JUN										
13	--	250	--	--	--	--	--	2	--	--
27	< 0.01	--	10	1	52	0.8	< 1.0	--	1	< 3
JUL										
16	--	480	--	--	--	--	--	< 1	--	--
AUG										
20	0.03	--	20	2	49	< 0.5	< 1.0	--	2	< 3
22	--	310	10	--	--	--	1.0	1	--	--
SEP										
11	--	420	--	--	--	--	--	< 1	--	--

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 1989 TO SEPTEMBER 1990

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)
OCT										
05	9	11	2800	15	1	8	--	160	72	--
25	2	--	--	23	3	--	9	--	29	< 0.1
31	--	6	1600	--	--	5	--	110	--	--
MAR										
20	--	15	25000	--	--	11	--	290	--	--
APR										
04	7	6	2200	30	1	4	--	70	20	--
24	--	6	3600	--	--	4	--	90	--	--
MAY										
01	7	--	--	38	1	--	11	--	36	0.2
16	--	10	4700	--	--	7	--	120	--	--
JUN										
13	--	5	600	--	--	2	--	70	--	--
27	8	--	--	5	< 1	--	27	--	13	< 0.1
JUL										
16	--	6	980	--	--	3	--	100	--	--
AUG										
20	6	--	--	7	< 1	--	17	--	5	< 0.1
22	6	8	700	6	< 1	3	--	80	8	--
SEP										
11	--	6	1000	--	--	2	--	60	--	--

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)
OCT										
05	0.2	--	2	5	--	--	--	--	23	40
25	--	< 10	2	--	< 1	< 1.0	480	< 6	7	--
31	0.1	--	--	4	--	--	--	--	--	40
MAR										
20	< 0.1	--	--	17	--	--	--	--	--	60
APR										
04	< 0.1	--	1	4	--	--	--	--	30	20
24	< 0.1	--	--	5	--	--	--	--	--	30
MAY										
01	--	< 10	2	--	< 1	< 1.0	670	< 6	75	--
16	< 0.1	--	--	8	--	--	--	--	--	20
JUN										
13	< 0.1	--	--	2	--	--	--	--	--	10
27	--	< 10	1	--	< 1	< 1.0	1100	< 6	14	--
JUL										
16	< 0.1	--	--	3	--	--	--	--	--	20
AUG										
20	--	< 10	1	--	< 1	< 1.0	1100	< 6	13	--
22	< 0.1	--	2	3	--	--	--	--	21	30
SEP										
11	< 0.1	--	--	4	--	--	--	--	--	10

CHEMICAL QUALITY OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLA-TILE IN BOTTOM MA-TERIAL (MG/KG)	ALUM-INUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	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)
AUG											
22	1400	25900	5300	< 1	10	20	610	20	40	14000	0.01

04232006 GENESEE RIVER AT CHARLOTTE DOCKS, ROCHESTER, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
OCT								
25	1105	40	25.0	3.0	509	7.60	9.0	10.8
25	1110	40	25.0	10.0	509	7.76	9.0	10.8
25	1115	40	25.0	15.0	509	7.85	9.0	10.7
25	1120	40	25.0	20.0	509	7.91	9.0	10.5
25	1125	100	18.0	3.0	510	8.36	9.0	11.1
25	1130	100	18.0	10.0	510	8.27	9.0	11.0
25	1135	100	18.0	13.0	510	8.25	9.0	10.9
25	1140	100	18.0	16.0	509	8.21	9.0	10.9
25	1145	180	12.0	3.0	510	7.97	9.0	11.2
25	1150	180	12.0	7.0	510	8.00	9.0	11.1
25	1155	180	12.0	10.0	510	8.02	9.0	10.9
MAY								
01	1105	40	27.0	3.0	692	7.84	20.0	7.9
01	1110	40	27.0	10.0	692	7.84	20.0	7.9
01	1115	40	27.0	17.0	580	7.83	17.0	7.8
01	1120	40	27.0	24.0	471	7.82	14.0	8.4
01	1125	100	18.0	3.0	690	7.86	20.0	8.3
01	1130	100	18.0	7.0	691	7.83	20.0	7.9
01	1135	100	18.0	12.0	692	7.83	20.0	7.7
01	1140	100	18.0	16.0	691	7.81	20.0	7.9
01	1145	180	14.0	3.0	563	7.87	20.0	8.2
01	1150	180	14.0	8.0	563	7.85	20.0	8.1
01	1155	180	14.0	13.0	564	7.83	20.0	8.1
JUN								
27	1105	40	26.0	3.0	821	7.96	23.0	6.8
27	1110	40	26.0	10.0	820	7.97	22.5	7.2
27	1115	40	26.0	16.0	819	7.95	22.5	--
27	1120	40	26.0	22.0	820	--	22.5	--
27	1125	100	16.0	3.0	819	7.60	22.5	7.8
27	1130	100	16.0	7.0	820	7.65	22.5	--
27	1135	100	16.0	11.0	820	--	22.5	--
27	1140	100	16.0	15.0	820	--	22.5	--
27	1145	180	13.0	3.0	820	--	22.5	--
27	1150	180	13.0	7.0	820	--	22.5	--
27	1155	180	13.0	11.0	822	--	22.5	--
AUG								
20	1105	40	23.0	3.0	799	7.94	25.0	5.5
20	1110	40	23.0	10.0	801	7.90	25.0	5.7
20	1115	40	23.0	15.0	801	7.86	25.0	5.6
20	1120	40	23.0	20.0	801	7.81	25.0	5.6
20	1125	100	15.0	3.0	799	7.82	25.0	6.1
20	1130	100	15.0	9.0	800	7.76	25.0	6.0
20	1135	100	15.0	15.0	800	7.77	25.0	5.5
20	1140	180	12.0	3.0	795	7.78	25.0	6.5
20	1145	180	12.0	6.0	798	7.76	25.0	6.2
20	1150	180	12.0	9.0	798	7.72	25.0	6.2

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE IN CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. DISCHARGE, SUSPENDED (T/DAY)	SIEVE DIAM. % FINER THAN .062 MM
OCT					
05	1300	700	84	159	--
25	1100	1760	44	209	100
31	1200	1190	46	148	--
MAR					
20	1300	5160	384	5350	--
APR					
04	1300	4950	49	655	--
24	1400	3360	80	726	--
MAY					
01	1000	1120	29	88	100
16	1300	7120	90	1730	--
JUN					
13	1300	1300	15	53	--
27	1100	1100	21	62	99
JUL					
16	1400	1290	27	94	--
AUG					
20	1100	490	15	20	99
22	1400	490	22	29	--
SEP					
11	1400	2100	39	221	--

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 good except those for estimated daily discharges, which are 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.--10 years (water years 1981–90), 39.9 ft^3/s, 12.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 640 ft^3/s, revised, 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)
Apr. 11	1730	*522	*7.76	No other peak greater than base discharge.			

Minimum daily discharge, 10 ft^3/s, Aug. 30, Sept. 1-4.

REVISIONS.--The maximum discharges for some water years have been revised, as shown in the following table. They supersede figures published in reports for 1966, 1968-70, 1972, 1980 (maximum discharge for the water year 1962), 1982, and 1984.

Water Year	Date	Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Discharge (ft^3/s)	Gage height (ft)
1962	Mar. 12, 1962	640	8.6	1968	Jan. 30, 1968	368	6.51	1972	June 23, 1972	610	8.39
1963	Mar. 17, 1963	594	8.28	1969	Apr. 19, 1969	555	8.00	1982	Mar. 14, 1982	483	7.46
1966	Feb. 11, 1966	487	7.49	1970	Dec. 11, 1969	445	7.16	1984	Dec. 14, 1983	459	7.27

04232040 IRONDEQUOIT CREEK NEAR PITTSFORD, NY--continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	27	e25	e58	e28	e36	46	32	38	e37	15	e10
2	16	32	e30	33	e77	e44	51	29	36	26	12	e10
3	15	27	e22	30	e50	e48	113	29	36	e20	10	e10
4	13	27	e21	e50	e48	e48	150	32	37	18	10	e10
5	12	25	e21	85	e51	e38	240	87	41	e50	e80	e40
6	12	24	e23	e28	e49	e29	267	75	39	e24	e90	18
7	12	25	e21	e32	e58	e30	160	72	33	e20	23	e55
8	12	34	e19	e35	e79	e33	102	59	34	19	16	18
9	12	e30	e19	34	e152	e34	89	48	42	23	13	15
10	12	e29	e20	35	e258	e49	102	43	34	19	12	15
11	14	e28	e19	42	e99	78	428	50	32	15	13	12
12	13	e26	e18	e40	e57	126	201	46	31	13	13	11
13	13	e25	e18	e31	e51	101	96	146	30	14	30	12
14	15	24	e17	e25	e47	74	81	228	29	13	24	13
15	32	25	e17	e28	e45	58	78	78	27	13	17	e22
16	22	34	e17	e32	e120	54	70	96	24	13	13	16
17	31	e28	e16	e56	e218	81	63	266	24	12	13	15
18	38	e22	e16	e108	e128	91	55	187	e28	11	12	14
19	29	e26	e16	e68	e66	60	50	95	e39	11	e13	e14
20	55	36	e16	e41	e45	71	48	114	e32	e30	12	e14
21	60	54	e16	e38	e44	66	97	173	e29	17	12	e14
22	36	38	e15	e35	e74	56	76	91	e32	13	12	e15
23	28	e28	e15	e35	e254	e46	60	65	e50	e30	e11	e14
24	25	e24	e15	e46	e133	e41	51	54	e33	e22	e11	e14
25	23	26	e15	59	e39	e39	47	47	e29	14	e10	e14
26	21	30	e15	52	e25	e36	47	45	e27	13	e11	18
27	20	35	e15	42	e25	e31	50	44	e28	13	e13	e15
28	19	e25	e15	36	e26	e30	44	41	e26	13	e13	e14
29	19	e28	e15	33	---	e29	37	41	24	11	e12	e14
30	19	e26	e18	31	---	e35	34	49	e28	10	e12	31
31	20	---	e38	e30	---	44	---	42	---	e24	e11	---
TOTAL	681	868	583	1328	2346	1636	3033	2504	972	581	569	507
MEAN	22.0	28.9	18.8	42.8	83.8	52.8	101	80.8	32.4	18.7	18.4	16.9
MAX	60	54	38	108	258	126	428	266	50	50	90	55
MIN	12	22	15	25	25	29	34	29	24	10	10	10
CFSM	.49	.65	.42	.96	1.89	1.19	2.28	1.82	.73	.42	.41	.38
IN.	.57	.73	.49	1.11	1.97	1.37	2.54	2.10	.81	.49	.48	.42

CAL YR	1989	TOTAL	11917	MEAN	32.6	MAX	260	MIN	10	CFSM	.74	IN.	9.98
WTR YR	1990	TOTAL	15608	MEAN	42.8	MAX	428	MIN	10	CFSM	.96	IN.	13.08

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 February 1990 (discontinued).

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.

AVERAGE DISCHARGE.--9 years (water years 1981-89), 16.1 ft^3/s, 7.92 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, 1.2 ft^3/s, Sept. 12, 1989; minimum gage height, 1.22 ft, June 7, 8, 13, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October 1989 to February 1990, 107 ft^3/s, Feb. 10; maximum gage height, 2.60 ft, Feb. 18 (ice jam); minimum daily discharge, 1.8 ft^3/s, Dec. 22-30 (backwater from ice).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	5.3	e3.9	e18	e23	---	---	---	---	---	---	---
2	5.3	4.8	e4.3	e10	e36	---	---	---	---	---	---	---
3	3.7	6.3	e3.4	e9.4	e50	---	---	---	---	---	---	---
4	2.7	5.8	e3.4	e20	e34	---	---	---	---	---	---	---
5	2.6	4.3	e3.4	e31	e27	---	---	---	---	---	---	---
6	3.4	3.5	e3.9	e29	e28	---	---	---	---	---	---	---
7	2.8	5.3	e3.4	e23	e36	---	---	---	---	---	---	---
8	2.7	9.9	e3.4	e17	e50	---	---	---	---	---	---	---
9	3.0	8.9	e3.4	e14	73	---	---	---	---	---	---	---
10	2.9	8.5	e3.1	e18	96	---	---	---	---	---	---	---
11	4.2	7.0	e2.7	e23	83	---	---	---	---	---	---	---
12	2.8	7.9	e2.7	e20	e50	---	---	---	---	---	---	---
13	2.7	6.8	e2.4	e16	e40	---	---	---	---	---	---	---
14	3.4	5.7	e2.4	e14	e35	---	---	---	---	---	---	---
15	12	6.5	e2.4	e14	e30	---	---	---	---	---	---	---
16	4.2	15	e2.1	e16	e50	---	---	---	---	---	---	---
17	12	9.2	e2.1	e18	e80	---	---	---	---	---	---	---
18	11	7.1	e2.1	e40	e60	---	---	---	---	---	---	---
19	7.4	5.9	e2.1	e45	e45	---	---	---	---	---	---	---
20	31	13	e2.1	e30	e36	---	---	---	---	---	---	---
21	22	25	e2.1	e17	e31	---	---	---	---	---	---	---
22	12	15	e1.8	e13	---	---	---	---	---	---	---	---
23	6.8	11	e1.8	e10	---	---	---	---	---	---	---	---
24	4.8	8.5	e1.8	e12	---	---	---	---	---	---	---	---
25	4.3	7.0	e1.8	e13	---	---	---	---	---	---	---	---
26	3.9	11	e1.8	e14	---	---	---	---	---	---	---	---
27	4.3	10	e1.8	e13	---	---	---	---	---	---	---	---
28	3.9	9.3	e1.8	e11	---	---	---	---	---	---	---	---
29	3.9	6.7	e1.8	e9.2	---	---	---	---	---	---	---	---
30	3.9	6.2	e1.8	e13	---	---	---	---	---	---	---	---
31	4.3	---	e6.3	e17	---	---	---	---	---	---	---	---
TOTAL	196.0	256.4	83.3	567.6	---	---	---	---	---	---	---	---
MEAN	6.32	8.55	2.69	18.3	---	---	---	---	---	---	---	---
MAX	31	25	6.3	45	---	---	---	---	---	---	---	---
MIN	2.1	3.5	1.8	9.2	---	---	---	---	---	---	---	---
CFSM	.23	.31	.10	.66	---	---	---	---	---	---	---	---
IN.	.26	.35	.11	.77	---	---	---	---	---	---	---	---

CAL YR 1989 TOTAL 5284.0 MEAN 14.5 MAX 123 MIN 1.6 CFSM .52 IN. 7.12

e Estimated

0423204920 EAST BRANCH ALLEN CREEK AT PITTSFORD, NY

LOCATION.--Lat 43°06'11", long 77°32'01", Monroe County, Hydrologic Unit 04140101, on left bank 25 ft upstream from culvert of abandoned Conrail railroad, 0.2 mi downstream from State Highway 31, 0.7 mi northeast of Pittsford and 1.8 mi upstream from mouth.

DRAINAGE AREA.--9.37 mi^2.

PERIOD OF RECORD.--April to September 1990.

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Unpublished water-quality records are available in files of Monroe County Health Department. Discharge includes undetermined diversion from Erie (Barge) Canal upstream from station. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April 28 to September, 185 ft^3/s, Aug. 5, gage height, 5.15 ft; minimum discharge, 1.0 ft^3/s, Aug. 23-24, 28, gage height, 1.11 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	7.9	7.9	4.1	4.0	2.7
2	---	---	---	---	---	---	---	7.8	7.9	2.9	3.4	2.6
3	---	---	---	---	---	---	---	7.0	7.9	1.6	3.2	2.5
4	---	---	---	---	---	---	---	6.0	6.9	e4.0	2.9	2.5
5	---	---	---	---	---	---	---	9.0	6.1	e9.7	43	14
6	---	---	---	---	---	---	---	8.4	5.1	e4.7	8.8	4.6
7	---	---	---	---	---	---	---	9.2	3.8	e3.8	1.7	20
8	---	---	---	---	---	---	---	8.3	6.3	e3.3	1.7	1.9
9	---	---	---	---	---	---	---	8.2	6.5	e5.4	1.2	1.8
10	---	---	---	---	---	---	---	8.2	4.6	e4.0	2.1	1.8
11	---	---	---	---	---	---	---	8.2	3.4	e3.7	3.0	2.8
12	---	---	---	---	---	---	---	8.1	2.8	e3.6	4.4	3.1
13	---	---	---	---	---	---	---	62	2.6	e3.6	13	2.7
14	---	---	---	---	---	---	---	32	2.5	3.6	2.7	4.6
15	---	---	---	---	---	---	---	8.7	2.6	4.0	2.3	6.2
16	---	---	---	---	---	---	---	54	2.3	3.9	2.7	3.0
17	---	---	---	---	---	---	---	67	2.1	3.3	3.3	2.9
18	---	---	---	---	---	---	---	13	3.1	3.3	2.6	2.7
19	---	---	---	---	---	---	---	9.7	6.5	3.1	2.7	3.5
20	---	---	---	---	---	---	---	11	3.4	9.1	2.5	3.3
21	---	---	---	---	---	---	---	55	2.5	4.2	2.9	3.1
22	---	---	---	---	---	---	---	24	2.4	3.5	2.8	3.4
23	---	---	---	---	---	---	---	8.7	6.7	7.1	1.9	2.9
24	---	---	---	---	---	---	---	8.7	4.8	4.0	2.1	2.7
25	---	---	---	---	---	---	---	8.7	2.5	3.6	3.1	3.4
26	---	---	---	---	---	---	---	8.4	1.8	3.5	2.8	3.9
27	---	---	---	---	---	---	---	8.4	1.6	3.6	2.4	3.1
28	---	---	---	---	---	---	7.9	8.4	1.4	3.4	2.6	3.0
29	---	---	---	---	---	---	7.9	8.4	1.5	3.1	2.4	4.1
30	---	---	---	---	---	---	7.9	8.4	2.5	3.0	2.0	12
31	---	---	---	---	---	---	---	8.2	---	7.2	2.4	---
TOTAL	---	---	---	---	---	---	---	509.0	122.0	130.9	138.6	130.8
MEAN	---	---	---	---	---	---	---	16.4	4.07	4.22	4.47	4.36
MAX	---	---	---	---	---	---	---	67	7.9	9.7	43	20
MIN	---	---	---	---	---	---	---	6.0	1.4	1.6	1.2	1.8
CFSM	---	---	---	---	---	---	---	2.67	.66	.69	.73	.71
IN.	---	---	---	---	---	---	---	3.07	.74	.79	.84	.79

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.--30 years (water years 1961-90), 32.2 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)
Apr. 11	0400	564	4.34	May 17	1530	529	4.28
May 13	1600	618	4.43	Aug. 5	2030	*660	*4.50

Minimum daily discharge, 4.0 ft^3/s, Dec. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	19	e10	e26	34	e32	42	8.9	18	29	16	12
2	28	14	e11	e16	123	e40	49	15	18	19	14	13
3	15	18	e11	15	e60	e36	83	15	23	16	13	12
4	13	15	e11	46	e48	e32	234	23	29	16	13	12
5	13	14	e9.8	75	e36	e28	326	87	19	44	166	54
6	15	14	e12	44	49	e24	233	50	17	20	91	20
7	13	25	e10	30	69	e20	114	41	17	17	22	79
8	12	28	e8.0	27	98	e25	75	34	26	15	17	22
9	13	24	e6.6	27	191	30	64	23	22	31	15	18
10	13	21	e6.0	34	188	66	114	28	17	17	14	15
11	14	18	e5.6	39	76	104	315	23	16	15	15	15
12	12	16	e5.4	e33	58	160	78	19	15	15	32	15
13	12	15	e5.2	e20	49	92	48	255	15	15	66	14
14	17	14	e4.9	e19	43	69	40	96	16	15	31	15
15	43	20	e4.8	22	32	58	40	46	16	19	17	27
16	17	45	e4.7	37	141	50	29	149	14	17	19	15
17	56	23	e4.6	56	155	88	24	281	14	14	16	14
18	41	17	e4.5	121	84	64	19	96	19	14	16	14
19	27	14	e4.5	58	64	57	17	64	31	14	16	14
20	84	35	e4.5	38	50	62	21	105	16	39	14	14
21	32	32	e4.4	30	46	51	87	146	17	20	14	14
22	23	17	e4.4	30	135	44	38	65	29	16	14	15
23	18	14	e4.3	30	221	45	24	44	45	40	14	14
24	16	12	e4.2	39	96	35	19	35	22	20	12	14
25	15	11	e4.2	33	60	30	23	30	18	17	14	14
26	14	17	e4.2	35	60	29	16	26	17	15	13	22
27	14	13	e4.1	25	51	26	13	25	18	15	13	15
28	13	13	e4.1	24	e40	25	12	22	16	14	16	15
29	13	11	e4.1	18	---	25	11	27	16	14	15	16
30	13	12	e4.0	24	---	32	9.6	28	22	13	13	43
31	13	---	e10	27	---	34	---	21	---	32	12	---
TOTAL	654	561	196.1	1098	2357	1513	2217.6	1927.9	598	617	773	596
MEAN	21.1	18.7	6.33	35.4	84.2	48.8	73.9	62.2	19.9	19.9	24.9	19.9
MAX	84	45	12	121	221	160	326	281	45	44	166	79
MIN	12	11	4.0	15	32	20	9.6	8.9	14	13	12	12

CAL YR	1989	TOTAL	9221.4	MEAN	25.3	MAX	318	MIN	4.0
WTR YR	1990	TOTAL	13108.6	MEAN	35.9	MAX	326	MIN	4.0

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.--9 years (water years 1982–90), 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, 1986 (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)
Apr. 5	2130	1,050	7.82	May 17	2100	962	7.63
Apr. 11	1000	*1,070	*7.85				

Minimum discharge, 29 ft^3/s, Aug. 3, gage height, 2.04 ft (result of regulation).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	69	e67	180	e103	e162	107	90	110	91	54	38
2	85	65	e59	105	e322	e175	132	87	101	74	46	38
3	59	72	e59	92	e236	e214	318	86	109	63	42	37
4	51	70	e55	148	e202	e176	641	89	126	60	42	37
5	49	62	e56	280	e176	e150	931	263	104	118	250	115
6	54	60	e58	e177	e177	e131	985	221	97	61	319	66
7	49	74	e55	e117	216	e106	683	211	90	53	93	171
8	47	104	e52	e106	286	e99	421	171	97	49	61	80
9	47	88	e50	99	490	e108	300	140	109	78	49	59
10	47	88	e50	112	731	e167	365	124	90	56	45	58
11	51	82	e48	132	479	314	1020	137	83	49	45	52
12	48	75	e48	e133	276	498	806	147	78	50	59	49
13	46	68	e46	e97	211	432	402	492	76	51	146	49
14	50	64	e43	e88	204	323	297	596	72	49	104	50
15	131	69	e43	e84	169	240	268	306	73	51	61	76
16	67	93	e43	108	405	199	224	354	68	51	58	54
17	128	75	e43	162	622	272	199	775	66	48	53	59
18	139	62	e43	373	e450	296	172	682	74	45	51	54
19	92	56	e42	282	e322	221	154	413	101	44	49	53
20	222	80	e42	e178	e233	242	152	382	72	92	49	55
21	170	123	e42	e148	e177	216	342	634	70	68	47	51
22	105	96	e42	e133	e307	179	256	409	78	51	46	52
23	82	79	e42	e132	687	169	182	255	121	86	45	52
24	71	69	e41	154	573	150	155	192	83	62	42	49
25	66	67	e41	166	e312	135	146	165	72	52	41	47
26	61	79	e41	158	e232	126	132	146	68	49	40	60
27	60	66	e41	124	e200	113	127	137	69	46	43	51
28	57	67	e41	105	e183	107	118	126	64	46	44	48
29	56	77	e43	91	---	104	107	126	62	45	44	47
30	55	72	e54	95	---	108	97	144	70	45	39	98
31	55	---	e104	e94	---	94	---	124	---	76	39	---
TOTAL	2347	2271	1534	4453	8981	6026	10239	8224	2553	1859	2146	1805
MEAN	75.7	75.7	49.5	144	321	194	341	265	85.1	60.0	69.2	60.2
MAX	222	123	104	373	731	498	1020	775	126	118	319	171
MIN	46	56	41	84	103	94	97	86	62	44	39	37

CAL YR	1989	TOTAL	39510	MEAN	108	MAX	736	MIN	36
WTR YR	1990	TOTAL	52438	MEAN	144	MAX	1020	MIN	37

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.--33 years (water years 1958-90), 65.2 ft^3/s, 19.94 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, 542 ft^3/s, May 21, maximum gage height, 3.74 ft, Jan. 18 (ice jam); minimum, 1.9 ft^3/s, Oct. 2, gage height 1.64 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	52	e31	e80	e80	e110	94	58	54	16	9.0	4.0
2	2.7	47	e35	e62	e110	e100	108	53	43	14	9.3	3.3
3	3.0	43	e27	e56	e150	e92	129	50	41	12	8.3	2.6
4	3.1	41	e22	e52	e140	e86	295	47	38	9.7	6.2	2.2
5	2.7	34	e20	e140	e120	e80	460	99	33	8.6	6.5	2.5
6	3.2	34	e20	e120	e110	e70	429	107	29	8.0	8.6	2.7
7	3.4	36	e20	e110	e90	e64	330	98	28	7.5	6.1	5.2
8	3.3	45	e19	e100	e110	e56	221	122	28	6.8	4.6	4.7
9	4.3	59	e19	e98	e200	e50	162	111	29	7.0	4.1	4.1
10	4.6	74	e18	e96	e380	e52	164	103	26	6.7	3.7	4.6
11	5.0	67	e18	e94	e350	108	506	105	26	6.1	3.4	3.7
12	5.1	61	e17	e90	e230	431	440	83	22	6.1	3.2	3.2
13	4.8	55	e17	e88	e180	405	298	233	20	6.2	3.3	2.9
14	4.9	47	e17	e86	180	343	197	305	18	7.9	4.1	2.6
15	13	48	e16	e84	e100	264	206	192	16	8.7	3.7	4.5
16	11	71	e16	e90	e200	187	177	186	16	9.1	3.3	5.6
17	10	88	e16	e160	e300	309	147	401	18	7.2	3.2	4.1
18	18	74	e15	e400	e250	318	122	421	24	6.4	2.8	3.6
19	16	60	e15	e450	e200	221	106	384	22	6.5	4.1	3.3
20	27	60	e15	e260	e170	275	96	317	18	9.1	5.0	3.2
21	47	77	e14	e190	e150	306	187	469	15	7.8	4.7	2.9
22	39	63	e14	e140	e140	274	157	298	14	7.1	4.8	2.7
23	35	e52	e14	e110	343	206	125	216	18	8.8	4.1	2.5
24	30	e48	e13	124	e220	162	104	160	17	9.8	3.3	3.1
25	28	45	e13	147	e150	133	109	118	15	8.4	2.9	3.0
26	26	48	e12	156	e240	116	103	91	15	6.6	2.8	4.4
27	23	51	e12	125	e200	98	89	75	14	4.9	2.8	5.9
28	21	49	e12	111	e120	86	78	62	12	4.2	6.3	4.9
29	18	45	e12	e80	---	78	70	53	14	3.9	21	4.6
30	16	e38	e12	e66	---	80	63	55	15	3.7	9.4	5.3
31	16	---	e45	e74	---	95	---	58	---	5.9	6.1	---
TOTAL	446.3	1612	566	4039	5213	5255	5772	5130	698	240.7	170.7	111.9
MEAN	14.4	53.7	18.3	130	186	170	192	165	23.3	7.76	5.51	3.73
MAX	47	88	45	450	380	431	506	469	54	16	21	5.9
MIN	2.2	34	12	52	80	50	63	47	12	3.7	2.8	2.2
CFSM	.32	1.21	.41	2.93	4.19	3.82	4.33	3.73	.52	.17	.12	.08
IN.	.37	1.35	.47	3.38	4.37	4.40	4.84	4.30	.58	.20	.14	.09

CAL YR	1989	TOTAL	15563.6	MEAN	42.6	MAX	404	MIN	1.7	CFSM	.96	IN. 13.04
WTR YR	1990	TOTAL	29254.6	MEAN	80.1	MAX	506	MIN	2.2	CFSM	1.81	IN. 24.51

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, 445.92 ft, May 22; minimum, 443.76 ft, Jan. 9.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	444.75	444.93	444.83	444.03	444.26	445.12	444.44	445.08	445.52	445.20	445.20	444.89
2	444.73	444.92	444.69	444.00	444.40	445.07	444.50	445.11	445.51	445.20	445.14	444.88
3	444.84	444.94	444.68	443.94	444.47	445.07	444.56	445.13	445.54	445.15	445.12	444.94
4	444.79	444.95	444.56	443.89	444.58	445.01	444.74	445.16	445.57	445.11	445.10	444.78
5	444.75	444.91	444.52	443.92	444.61	444.96	444.96	445.28	445.54	445.24	445.05	444.81
6	444.73	444.90	444.51	443.89	444.59	444.91	445.13	445.33	445.47	445.26	445.11	444.87
7	444.75	444.95	444.54	443.83	444.57	444.81	445.17	445.37	445.43	445.22	445.16	444.85
8	444.75	445.00	444.51	443.82	444.52	444.72	445.16	445.35	445.35	445.17	445.10	444.90
9	444.71	444.99	444.48	443.81	444.58	444.65	445.13	445.32	445.37	445.20	445.11	444.79
10	444.65	444.99	444.47	443.85	444.88	444.66	445.15	445.30	445.41	445.29	445.06	444.88
11	444.64	444.96	444.49	443.85	445.03	444.69	445.38	445.29	445.49	445.25	445.07	444.87
12	444.66	445.03	444.49	443.87	445.03	444.71	445.43	445.28	445.40	445.24	445.05	444.87
13	444.65	444.98	444.48	443.88	444.97	444.70	445.42	445.38	445.28	445.32	445.04	444.85
14	444.66	444.97	444.40	443.86	445.03	444.67	445.39	445.47	445.21	445.26	445.09	444.79
15	444.68	444.97	444.32	443.85	445.06	444.64	445.40	445.44	445.20	445.22	445.04	444.87
16	444.66	445.01	444.31	443.87	445.36	444.58	445.38	445.47	445.22	445.30	445.02	444.92
17	444.75	445.04	444.30	443.87	445.69	444.61	445.35	445.59	445.21	445.23	445.04	444.87
18	444.80	445.04	444.27	443.94	445.64	444.66	445.31	445.68	445.21	445.23	445.03	444.86
19	444.81	445.04	444.21	443.97	445.66	444.66	445.25	445.70	445.25	445.24	445.10	444.77
20	444.85	445.05	444.16	443.96	445.63	444.70	445.20	445.69	445.29	445.20	445.02	444.83
21	444.88	445.13	444.09	444.02	445.53	444.69	445.24	445.84	445.25	445.26	444.99	444.80
22	444.94	445.06	444.04	444.02	445.47	444.65	445.21	445.89	445.22	445.27	445.01	444.72
23	444.93	445.06	443.99	444.03	445.50	444.69	445.19	445.87	445.26	445.30	444.98	444.79
24	444.88	445.03	443.96	444.03	445.47	444.65	445.14	445.84	445.28	445.28	445.01	444.74
25	444.89	445.02	443.96	444.08	445.42	444.60	445.10	445.80	445.29	445.19	444.99	444.66
26	444.91	445.06	443.97	444.12	445.31	444.57	445.05	445.74	445.22	445.20	444.98	444.70
27	444.87	445.04	443.94	444.11	445.21	444.51	445.00	445.69	445.20	445.16	444.95	444.76
28	444.86	445.01	443.93	444.15	445.19	444.44	445.01	445.64	445.21	445.17	444.94	444.72
29	444.87	444.97	443.96	444.20	---	444.40	445.03	445.65	445.13	445.11	444.95	444.75
30	444.85	444.88	443.98	444.27	---	444.34	445.06	445.67	445.15	445.09	444.97	444.81
31	444.86	---	443.95	444.26	---	444.40	---	445.59	---	445.18	444.89	---
MEAN	444.79	444.99	444.29	443.97	445.06	444.69	445.12	445.50	445.32	445.22	445.04	444.82
MAX	444.94	445.13	444.83	444.27	445.69	445.12	445.43	445.89	445.57	445.32	445.20	444.94
MIN	444.64	444.88	443.93	443.81	444.26	444.34	444.44	445.08	445.13	445.09	444.89	444.66

CAL YR 1989 MEAN 444.70 MAX 446.47 MIN 443.49
WTR YR 1990 MEAN 444.90 MAX 445.89 MIN 443.81

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, 715.16 ft, May 21, 22; minimum, 711.97 ft, Jan. 11.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	713.50	713.21	712.93	712.63	712.49	714.44	714.21	714.61	714.81	713.85	713.67	713.44
2	713.49	713.21	712.87	712.53	712.61	714.30	714.22	714.57	714.76	713.82	713.64	713.44
3	713.49	713.22	712.85	712.45	712.66	714.28	714.28	714.53	714.71	713.77	713.63	713.45
4	713.43	713.23	712.81	712.33	712.73	714.25	714.41	714.50	714.67	713.71	713.61	713.38
5	713.40	713.19	712.79	712.19	712.74	714.21	714.57	714.59	714.62	713.73	713.60	713.40
6	713.38	713.19	712.76	712.11	712.79	714.18	714.69	714.62	714.55	713.72	713.63	713.41
7	713.35	713.22	712.75	712.07	712.84	714.16	714.73	714.62	714.50	713.68	713.62	713.42
8	713.32	713.24	712.72	712.04	712.90	714.16	714.74	714.59	714.45	713.62	713.59	713.40
9	713.29	713.25	712.70	712.02	713.03	714.19	714.73	714.57	714.39	713.60	713.58	713.41
10	713.23	713.27	712.66	712.01	713.39	714.21	714.76	714.54	714.35	713.61	713.57	713.46
11	713.22	713.26	712.65	712.00	713.60	714.25	714.97	714.51	714.34	713.59	713.56	713.46
12	713.22	713.28	712.63	712.00	713.68	714.30	715.03	714.47	714.27	713.61	713.55	713.45
13	713.20	713.27	712.60	712.04	713.73	714.30	715.02	714.48	714.20	713.62	713.55	713.44
14	713.20	713.28	712.56	712.02	713.83	714.29	715.00	714.56	714.18	713.60	713.56	713.41
15	713.18	713.29	712.53	711.99	713.90	714.29	714.99	714.56	714.23	713.61	713.53	713.46
16	713.16	713.34	712.50	712.00	714.20	714.32	714.97	714.63	714.21	713.61	713.53	713.46
17	713.21	713.35	712.46	712.08	714.54	714.43	714.93	714.79	714.16	713.60	713.52	713.45
18	713.21	713.31	712.44	712.19	714.56	714.51	714.90	714.88	714.13	713.60	713.51	713.42
19	713.22	713.27	712.41	712.13	714.56	714.50	714.85	714.89	714.12	713.60	713.55	713.40
20	713.23	713.22	712.40	712.13	714.55	714.54	714.82	714.90	714.10	713.63	713.52	713.40
21	713.25	713.24	712.41	712.17	714.50	714.54	714.83	715.05	714.06	713.70	713.51	713.38
22	713.24	713.21	712.45	712.17	714.47	714.53	714.80	715.11	714.05	713.70	713.50	713.38
23	713.22	713.18	712.49	712.20	714.51	714.52	714.78	715.09	714.05	713.71	713.50	713.37
24	713.19	713.14	712.53	712.21	714.52	714.50	714.75	715.07	714.00	713.71	713.50	713.34
25	713.18	713.09	712.57	712.27	714.49	714.45	714.76	715.04	713.98	713.71	713.49	713.31
26	713.16	713.07	712.57	712.32	714.45	714.42	714.77	714.99	713.95	713.70	713.48	713.34
27	713.17	713.03	712.59	712.33	714.45	714.37	714.77	714.94	713.92	713.69	713.47	713.35
28	713.18	712.99	712.61	712.35	714.45	714.32	714.73	714.90	713.91	713.68	713.48	713.34
29	713.17	712.97	712.62	712.41	---	714.29	714.69	714.90	713.85	713.67	713.49	713.35
30	713.17	712.94	712.63	712.47	---	714.25	714.65	714.93	713.85	713.65	713.49	713.36
31	713.18	---	712.66	712.48	---	714.23	---	714.87	---	713.67	713.46	---
MEAN	713.26	713.20	712.62	712.20	713.76	714.34	714.74	714.75	714.25	713.67	713.54	713.40
MAX	713.50	713.35	712.93	712.63	714.56	714.54	715.03	715.11	714.81	713.85	713.67	713.46
MIN	713.16	712.94	712.40	711.99	712.49	714.16	714.21	714.47	713.85	713.59	713.46	713.31

CAL YR 1989 MEAN 713.54 MAX 715.77 MIN 712.04
WTR YR 1990 MEAN 713.64 MAX 715.11 MIN 711.99

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.--25 years (water years 1966-90), 194 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 730 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; minimum gage height, 1.44 ft, Mar. 22, 23, 1989, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft^3/s , Feb. 16 at 2045 hours, gage height, 4.86 ft; minimum daily, 12 ft^3/s, Sept. 3-4; minimum gage height, 1.63 ft, Jan. 16.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	28	e220	e160	43	406	401	267	433	191	20	13
2	122	25	e218	161	188	408	411	260	420	176	18	13
3	121	27	e214	155	264	400	581	255	419	159	17	12
4	123	27	e210	191	281	387	780	240	433	156	16	12
5	121	24	e205	184	200	378	837	253	414	156	16	17
6	117	23	e200	162	54	284	655	240	407	153	16	29
7	116	23	e200	157	56	30	533	272	396	153	15	19
8	113	25	e200	154	66	34	492	293	378	154	15	15
9	114	32	e195	152	262	27	468	286	374	122	15	22
10	116	32	e200	90	427	30	495	284	361	72	15	43
11	116	29	e200	30	79	33	677	282	291	70	15	22
12	117	26	e200	29	48	201	529	274	240	68	14	15
13	115	25	e198	31	47	428	503	304	235	62	17	14
14	115	25	e198	30	145	422	494	317	247	33	19	14
15	114	25	e195	25	445	198	476	296	231	20	17	28
16	115	176	e190	26	1060	35	456	369	222	51	16	22
17	121	299	e188	34	629	382	450	563	222	32	16	18
18	118	285	e186	46	501	514	435	533	232	22	15	19
19	124	277	e184	34	480	487	414	489	227	18	15	18
20	239	279	e182	30	450	520	409	501	220	18	16	23
21	261	272	e180	30	441	510	437	740	219	19	16	19
22	231	263	e170	30	441	502	421	573	217	19	15	17
23	220	257	e168	30	456	480	405	523	217	23	14	17
24	215	255	e164	40	439	460	237	495	204	24	13	16
25	211	250	e160	42	424	456	131	482	196	21	13	14
26	112	249	e156	43	423	439	128	467	200	18	13	20
27	25	246	e154	35	420	420	213	456	202	17	13	36
28	24	248	e150	33	410	414	280	444	196	17	15	19
29	24	237	e150	33	---	403	274	460	192	16	40	16
30	23	e230	e130	38	---	405	270	483	191	15	21	33
31	24	---	e150	42	---	400	---	450	---	19	15	---
TOTAL	3847	4219	5715	2277	9179	10493	13292	12151	8436	2094	511	595
MEAN	124	141	184	73.5	328	338	443	392	281	67.5	16.5	19.8
MAX	261	299	220	191	1060	520	837	740	433	191	40	43
MIN	23	23	130	25	43	27	128	240	191	15	13	12

CAL YR	1989	TOTAL	58855	MEAN	161	MAX	945	MIN	12
WTR YR	1990	TOTAL	72809	MEAN	199	MAX	1060	MIN	12

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

AVERAGE DISCHARGE.--53 years (water years 1938–90), 37.9 ft^3/s, 14.62 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.

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)
Feb. 16	0145	*502	*2.56	No peak greater than base discharge.			

Minimum daily discharge, 5.1 ft^3/s, Aug. 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e9.8	31	14	e40	48	46	38	27	26	14	8.7	5.8
2	e10	22	15	30	120	47	39	25	33	11	7.0	6.5
3	e14	21	14	23	81	47	67	24	28	8.8	6.2	5.9
4	e12	21	13	27	89	39	111	28	21	7.7	5.3	5.2
5	e11	19	13	39	73	37	120	56	20	6.8	12	10
6	e12	17	e13	24	64	35	102	38	17	8.3	13	9.8
7	e12	16	e14	20	60	32	84	35	16	7.3	10	8.7
8	e11	21	17	20	66	35	72	32	15	6.2	8.2	7.7
9	e9.6	23	13	17	161	34	64	27	16	7.7	6.8	7.5
10	e9.4	25	14	19	304	38	74	41	15	6.6	6.5	12
11	e11	22	15	19	143	42	230	54	15	5.4	5.9	8.2
12	e13	19	15	19	97	51	109	40	14	19	5.1	5.9
13	e12	17	14	15	82	47	85	45	12	20	14	6.1
14	e11	16	13	17	83	44	72	55	12	10	16	5.9
15	e15	15	e13	16	119	42	67	41	38	8.2	9.8	33
16	e20	43	e13	20	375	40	58	47	19	22	7.6	16
17	28	40	e12	39	206	51	56	75	14	9.9	7.3	12
18	25	30	e12	61	116	49	52	71	26	7.0	9.8	9.5
19	34	26	e12	44	97	42	45	58	23	5.7	13	8.6
20	137	26	e11	37	71	51	43	57	17	11	9.5	9.0
21	62	29	e11	45	63	53	57	96	19	11	13	7.5
22	35	24	e11	45	63	57	49	76	26	e7.3	12	8.7
23	26	22	e10	40	74	55	43	59	19	e10	11	7.6
24	22	19	e10	58	61	48	39	50	15	e20	9.5	6.9
25	19	19	e9.6	67	50	46	40	43	13	e12	8.4	6.2
26	15	23	e9.4	90	45	44	38	38	11	e10	7.7	7.4
27	14	21	e9.2	58	48	41	34	34	10	e8.8	7.3	8.1
28	12	21	e9.0	52	47	39	32	30	9.5	7.9	9.1	7.1
29	11	17	e8.8	48	---	38	30	35	10	7.5	12	6.4
30	9.8	16	e8.8	55	---	40	28	52	15	7.0	8.1	8.1
31	9.5	---	e11	51	---	39	---	33	---	9.4	6.7	---
TOTAL	652.1	681	377.8	1155	2906	1349	1978	1422	544.5	313.5	286.5	267.3
MEAN	21.0	22.7	12.2	37.3	104	43.5	65.9	45.9	18.1	10.1	9.24	8.91
MAX	137	43	17	90	375	57	230	96	38	22	16	33
MIN	9.4	15	8.8	15	45	32	28	24	9.5	5.4	5.1	5.2
CFSM	.60	.64	.35	1.06	2.95	1.24	1.87	1.30	.52	.29	.26	.25
IN.	.69	.72	.40	1.22	3.07	1.43	2.09	1.50	.58	.33	.30	.28

CAL YR	1989	TOTAL	10550.5	MEAN	28.9	MAX	510	MIN	4.8	CFSM	.82	IN. 11.15
WTR YR	1990	TOTAL	11932.7	MEAN	32.7	MAX	375	MIN	5.1	CFSM	.93	IN. 12.61

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, 383.63 ft, May 22; minimum, 379.08 ft, Dec. 31.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	381.80	381.58	380.76	379.44	380.40	381.96	380.49	382.38	382.79	382.63	382.45	382.26
2	381.78	381.49	380.61	379.39	380.55	381.81	380.51	382.36	382.67	382.57	382.37	382.29
3	381.89	381.47	380.73	379.41	380.63	381.75	380.65	382.31	382.53	382.47	382.35	382.35
4	381.84	381.40	380.63	379.45	380.74	381.62	380.93	382.30	382.49	382.44	382.29	382.18
5	381.76	381.24	380.49	379.52	380.75	381.49	381.24	382.41	382.48	382.55	382.23	382.20
6	381.73	381.15	380.41	379.55	380.80	381.39	381.53	382.44	382.44	382.53	382.30	382.19
7	381.76	381.15	380.36	379.54	380.90	381.19	381.73	382.45	382.46	382.46	382.33	382.19
8	381.74	381.13	380.22	379.58	380.96	381.03	381.86	382.50	382.42	382.36	382.28	382.19
9	381.70	381.09	380.14	379.56	381.09	380.87	381.95	382.51	382.42	382.38	382.27	382.03
10	381.62	381.08	380.01	379.62	381.56	380.70	382.09	382.53	382.42	382.45	382.23	382.13
11	381.62	381.03	379.95	379.61	381.81	380.51	382.49	382.60	382.47	382.39	382.26	382.11
12	381.62	381.09	379.92	379.67	381.89	380.37	382.60	382.56	382.39	382.37	382.25	382.10
13	381.63	380.94	379.92	379.70	381.85	380.34	382.61	382.64	382.35	382.44	382.24	382.05
14	381.64	380.90	379.91	379.65	381.96	380.30	382.59	382.81	382.38	382.36	382.33	381.99
15	381.68	380.86	379.93	379.62	381.94	380.27	382.64	382.81	382.44	382.34	382.26	382.13
16	381.64	380.88	379.96	379.65	382.40	380.21	382.62	382.88	382.44	382.43	382.27	382.16
17	381.74	381.00	379.88	379.67	382.82	380.26	382.59	383.06	382.39	382.39	382.26	382.13
18	381.78	380.98	379.81	379.83	382.78	380.30	382.54	383.20	382.37	382.40	382.27	382.13
19	381.76	380.92	379.81	379.95	382.88	380.25	382.47	383.29	382.43	382.44	382.33	382.00
20	381.85	380.92	379.85	379.95	382.86	380.36	382.44	383.28	382.47	382.46	382.23	382.08
21	382.11	381.07	379.83	380.02	382.66	380.35	382.57	383.50	382.47	382.54	382.22	382.05
22	382.21	380.97	379.83	380.04	382.51	380.29	382.61	383.58	382.48	382.54	382.23	381.98
23	382.15	380.94	379.77	380.06	382.56	380.46	382.63	383.56	382.50	382.61	382.22	382.05
24	382.07	380.85	379.69	380.06	382.51	380.45	382.62	383.51	382.53	382.65	382.23	382.02
25	382.03	380.77	379.63	380.15	382.53	380.43	382.61	383.42	382.56	382.61	382.23	381.91
26	381.98	380.76	379.61	380.27	382.33	380.46	382.62	383.33	382.57	382.57	382.21	381.90
27	381.89	380.68	379.52	380.27	382.20	380.44	382.58	383.24	382.56	382.49	382.23	381.93
28	381.81	380.72	379.51	380.36	382.14	380.44	382.51	383.12	382.65	382.47	382.26	381.90
29	381.72	380.79	379.47	380.42	---	380.47	382.44	383.09	382.61	382.40	382.34	381.90
30	381.60	380.77	379.45	380.53	---	380.46	382.38	383.07	382.62	382.38	382.34	381.92
31	381.53	---	379.36	380.46	---	380.52	---	382.91	---	382.45	382.28	---
MEAN	381.80	381.02	379.97	379.84	381.82	380.70	382.14	382.89	382.49	382.47	382.28	382.08
MAX	382.21	381.58	380.76	380.53	382.88	381.96	382.64	383.58	382.79	382.65	382.45	382.35
MIN	381.53	380.68	379.36	379.39	380.40	380.21	380.49	382.30	382.35	382.34	382.21	381.90

CAL YR 1989 MEAN 381.38 MAX 383.64 MIN 379.35
WTR YR 1990 MEAN 381.62 MAX 383.58 MIN 379.36

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.--65 years (water years 1926–90), 184 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)
Jan. 18	0330	ice jam	*6.62	Apr. 11	1030	1,900	3.67
Feb. 16	1200	*2,360	4.02				

Minimum discharge, 8.8 ft^3/s, Sept. 14, gage height, 0.25 ft, result of momentary regulation.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	349	e140	e100	e230	e190	187	137	141	64	47	23
2	53	236	e120	e92	654	e180	214	127	123	55	28	21
3	65	177	e110	e90	543	e230	490	116	118	44	24	20
4	52	194	e100	e84	e430	e180	737	117	109	38	22	18
5	45	162	e100	e200	e360	e150	660	311	105	41	31	20
6	46	149	e96	e180	e290	e130	615	250	95	44	75	24
7	48	139	e94	e150	303	e110	512	173	91	48	55	25
8	44	164	e92	e130	301	e100	428	168	86	37	36	41
9	41	169	e90	e110	585	e98	366	145	105	45	29	30
10	41	230	e86	e100	1180	e140	392	144	145	48	27	46
11	45	200	e82	e120	e590	213	1470	374	105	35	27	44
12	44	181	e76	e110	e390	330	749	206	93	43	25	31
13	41	156	e74	e100	318	348	466	303	78	62	39	27
14	38	137	e72	e96	364	314	370	677	75	43	116	22
15	35	129	e70	e94	381	257	337	328	107	37	58	110
16	49	385	e68	e110	2030	217	297	362	117	61	38	94
17	68	515	e66	e300	1580	254	276	795	80	51	37	53
18	128	277	e64	e660	e520	371	299	762	80	36	32	40
19	118	207	e62	510	e350	247	238	531	119	30	46	34
20	570	199	e60	274	e260	282	212	396	80	31	41	41
21	1050	358	e60	275	e240	298	409	975	66	62	33	40
22	408	264	e58	266	302	359	354	665	58	52	32	36
23	297	e210	e56	230	429	414	255	407	58	59	31	37
24	203	e170	e54	275	424	302	212	314	73	73	30	34
25	169	e180	e54	418	288	240	250	259	65	48	28	30
26	149	249	e52	545	e180	216	270	217	56	34	25	40
27	135	328	e50	353	222	186	195	191	48	28	23	105
28	122	248	e50	289	229	164	172	170	44	27	30	56
29	113	215	e48	242	---	169	155	183	44	26	66	42
30	104	e160	e47	302	---	173	143	251	58	23	39	50
31	100	---	e60	e240	---	193	---	178	---	37	28	---
TOTAL	4474	6737	2311	7045	13973	7055	11730	10232	2622	1362	1198	1234
MEAN	144	225	74.5	227	499	228	391	330	87.4	43.9	38.6	41.1
MAX	1050	515	140	660	2030	414	1470	975	145	73	116	110
MIN	35	129	47	84	180	98	143	116	44	23	22	18
CFSM	1.15	1.78	.59	1.80	3.96	1.81	3.10	2.62	.69	.35	.31	.33
IN.	1.32	1.99	.68	2.08	4.13	2.08	3.46	3.02	.77	.40	.35	.36

CAL YR	1989	TOTAL	61172	MEAN	168	MAX	1830	MIN	16	CFSM	1.33	IN. 18.06
WTR YR	1990	TOTAL	69973	MEAN	192	MAX	2030	MIN	18	CFSM	1.52	IN. 20.66

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, 689.51 ft, Apr. 12, 14; minimum, 687.01 ft, Dec. 31 and Jan. 21.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	687.91	687.88	687.47	687.26	687.33	688.66	688.26	688.60	688.72	688.51	688.48	688.09
2	687.90	687.89	687.50	687.26	687.41	688.61	688.28	688.57	688.68	688.50	688.48	688.05
3	687.87	687.87	687.39	687.25	687.51	688.56	688.34	688.57	688.65	688.51	688.46	688.01
4	687.85	687.87	687.38	687.27	687.55	688.52	688.50	688.57	688.60	688.51	688.46	688.01
5	687.81	687.93	687.35	687.29	687.60	688.46	688.70	688.70	688.57	688.51	688.48	688.01
6	687.81	687.90	687.33	687.29	687.61	688.40	688.80	688.78	688.58	688.49	688.45	688.02
7	687.78	687.86	687.31	687.28	687.63	688.35	688.86	688.83	688.57	688.49	688.44	688.00
8	687.75	687.88	687.31	687.26	687.67	688.30	688.88	688.83	688.58	688.49	688.42	687.98
9	687.73	687.91	687.32	687.24	687.78	688.26	688.90	688.81	688.58	688.51	688.42	687.99
10	687.76	687.92	687.31	687.23	688.03	688.23	688.94	688.78	688.57	688.50	688.39	687.99
11	687.70	687.95	687.30	687.24	688.18	688.21	689.29	688.74	688.53	688.48	688.37	687.97
12	687.70	687.91	687.30	687.22	688.23	688.23	689.45	688.69	688.57	688.47	688.35	687.96
13	687.66	687.94	687.29	687.19	688.28	688.24	689.45	688.68	688.57	688.46	688.35	687.95
14	687.66	687.90	687.29	687.17	688.24	688.24	689.43	688.75	688.56	688.48	688.35	687.99
15	687.65	687.88	687.29	687.15	688.31	688.22	689.38	688.74	688.55	688.48	688.34	687.94
16	687.67	687.89	687.32	687.12	688.53	688.21	689.33	688.75	688.54	688.48	688.32	687.91
17	687.71	687.86	687.31	687.15	688.87	688.29	689.30	688.90	688.55	688.47	688.31	687.88
18	687.74	687.82	687.29	687.22	688.99	688.42	689.23	688.98	688.59	688.45	688.30	687.85
19	687.75	687.78	687.29	687.25	688.99	688.45	689.18	688.96	688.56	688.43	688.25	687.85
20	687.85	687.76	687.28	687.26	688.95	688.46	689.12	688.97	688.55	688.44	688.27	687.82
21	687.91	687.72	687.28	687.27	688.93	688.47	689.09	689.06	688.56	688.44	688.23	687.81
22	687.87	687.72	687.26	687.29	688.92	688.50	689.06	689.10	688.56	688.43	688.22	687.81
23	687.86	687.70	687.25	687.28	688.88	688.45	689.00	689.09	688.59	688.48	688.22	687.79
24	687.86	687.67	687.24	687.30	688.87	688.44	688.96	689.06	688.57	688.50	688.20	687.77
25	687.86	687.65	687.23	687.30	688.84	688.42	688.91	689.02	688.54	688.48	688.19	687.76
26	687.87	687.61	687.23	687.30	688.80	688.37	688.86	688.97	688.54	688.46	688.18	687.74
27	687.86	687.65	687.21	687.32	688.76	688.35	688.81	688.92	688.51	688.44	688.16	687.72
28	687.86	687.59	687.21	687.29	688.71	688.32	688.77	688.87	688.48	688.43	688.17	687.72
29	687.86	687.53	687.20	687.31	---	688.28	688.72	688.82	688.50	688.43	688.15	687.71
30	687.87	687.51	687.21	687.34	---	688.30	688.66	688.79	688.48	688.42	688.13	687.77
31	687.88	---	687.24	687.33	---	688.27	---	688.77	---	688.49	688.11	---
MEAN	687.80	687.80	687.30	687.26	688.30	688.37	688.95	688.83	688.57	688.47	688.31	687.90
MAX	687.91	687.95	687.50	687.34	688.99	688.66	689.45	689.10	688.72	688.51	688.48	688.09
MIN	687.65	687.51	687.20	687.12	687.33	688.21	688.26	688.57	688.48	688.42	688.11	687.71

CAL YR 1989 MEAN 687.90 MAX 689.72 MIN 686.69
WTR YR 1990 MEAN 688.15 MAX 689.45 MIN 687.12

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

AVERAGE DISCHARGE.--50 years (water years 1941–90), 153 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, 939 ft^3/s, Apr. 11 at 0400 hours, gage height, 5.82 ft; minimum daily, 30 ft^3/s, many days in December.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	45	e190	e150	211	e470	301	373	467	49	44	51
2	46	42	e180	150	246	e480	310	157	388	46	42	50
3	44	44	e170	164	252	482	339	136	372	45	41	49
4	44	44	e160	110	249	449	425	130	340	45	40	50
5	43	43	e140	236	243	425	546	110	95	50	41	52
6	43	42	e100	e220	250	404	622	94	59	47	44	49
7	43	42	e60	215	258	388	573	125	58	47	44	49
8	43	47	e32	211	273	371	553	374	61	45	43	48
9	42	46	e31	207	348	356	548	402	62	51	43	48
10	42	43	e30	209	389	351	575	426	58	46	42	48
11	42	41	e30	e200	320	349	846	490	54	45	41	47
12	42	38	e30	e200	309	382	751	477	51	46	41	46
13	41	55	e30	e190	306	375	741	546	49	46	42	46
14	41	235	e31	e188	293	354	729	569	47	49	42	46
15	41	252	e32	192	294	314	712	499	46	49	41	47
16	38	267	e32	192	424	304	686	535	45	48	40	44
17	54	267	e34	208	581	353	673	636	44	48	40	45
18	52	256	e34	231	500	352	652	588	46	48	40	41
19	44	246	e33	217	469	336	632	556	46	47	40	33
20	94	256	e33	211	489	356	612	574	45	50	40	33
21	254	270	e32	211	498	347	615	668	45	49	37	33
22	258	244	e32	212	592	341	595	599	46	48	35	33
23	201	236	e31	214	643	335	571	583	47	55	35	33
24	51	231	e31	224	e590	328	550	571	45	52	39	33
25	42	228	e30	220	e540	323	532	559	45	50	55	32
26	42	227	e30	222	e500	317	514	546	45	49	55	33
27	41	224	e31	214	e480	309	497	529	46	49	54	32
28	41	230	e32	208	e470	306	481	516	45	49	54	32
29	41	213	e40	194	---	297	465	499	45	48	55	32
30	41	e200	e80	207	---	298	451	495	46	49	53	36
31	41	---	e110	211	---	301	---	484	---	48	52	---
TOTAL	1976	4654	1891	6238	11017	11153	17097	13846	2888	1493	1355	1251
MEAN	63.7	155	61.0	201	393	360	570	447	96.3	48.2	43.7	41.7
MAX	258	270	190	236	643	482	846	668	467	55	55	52
MIN	38	38	30	110	211	297	301	94	44	45	35	32

CAL YR	1989	TOTAL	59019	MEAN	162	MAX	895	MIN	20
WTR YR	1990	TOTAL	74859	MEAN	205	MAX	846	MIN	30

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.--31 years, 87.6 ft^3/s, 11.66 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)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Feb. 10	1600	1,060	4.34	Apr. 6	0330	879	4.11
Feb. 17	0600	*1,550	*4.88	Apr. 11	1000	1,160	4.45

Minimum discharge, 3.8 ft^3/s, Sept. 4-5; gage height, 1.08 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	40	e30	e30	78	e90	115	57	85	18	57	6.1
2	11	40	e30	e40	214	e100	143	52	68	26	22	5.8
3	11	41	e29	e50	225	e140	286	47	59	21	15	4.6
4	10	49	e29	e55	245	e90	568	47	52	16	12	4.1
5	9.5	44	e29	e130	205	e80	699	177	47	19	13	6.6
6	9.3	40	e28	90	216	e60	774	239	43	17	21	7.1
7	8.9	38	e28	72	212	e50	555	211	39	15	17	8.7
8	8.2	53	e29	62	247	e50	410	168	37	15	14	8.2
9	7.9	69	e28	59	487	e56	335	128	38	18	11	7.2
10	7.0	86	e27	65	946	67	348	103	36	17	9.9	8.7
11	7.5	76	e26	78	713	108	1020	89	33	16	9.2	21
12	8.2	63	e25	73	420	213	733	75	31	13	8.1	12
13	8.0	52	e25	73	255	252	412	182	27	13	8.5	8.4
14	8.9	46	e26	60	243	212	279	350	25	18	8.7	6.9
15	19	43	e25	43	215	160	226	232	23	16	8.1	8.1
16	10	66	e26	48	769	131	187	251	23	17	8.4	8.0
17	41	97	e26	e103	1260	352	161	563	21	14	7.6	11
18	68	81	e25	e240	592	467	139	499	20	12	7.0	8.6
19	54	62	e20	248	371	295	119	341	27	10	7.2	8.3
20	143	66	e20	157	229	283	108	262	28	11	7.3	7.9
21	185	105	e19	107	161	261	187	468	22	14	6.9	7.1
22	110	e74	e18	93	159	234	180	446	21	16	7.9	7.6
23	72	e58	e17	86	240	191	143	306	29	29	8.0	6.9
24	53	e40	e15	103	231	154	116	194	40	35	7.5	6.4
25	43	e48	e16	142	e140	129	106	147	27	25	7.0	6.1
26	36	e62	e16	146	e100	115	101	119	22	17	6.5	7.0
27	32	74	e17	127	e98	99	88	101	20	13	5.9	7.1
28	29	69	e17	100	e96	87	78	86	17	11	5.5	8.2
29	27	e54	e17	84	---	82	69	80	17	9.1	5.5	8.1
30	25	e40	e20	53	---	87	62	132	17	9.2	7.9	14
31	25	---	e25	73	---	115	---	130	---	55	7.3	---
TOTAL	1098.4	1776	728	2890	9367	4810	8747	6282	994	555.3	347.9	245.8
MEAN	35.4	59.2	23.5	93.2	335	155	292	203	33.1	17.9	11.2	8.19
MAX	185	105	30	248	1260	467	1020	563	85	55	57	21
MIN	7.0	38	15	30	78	50	62	47	17	9.1	5.5	4.1
CFSM	.35	.58	.23	.91	3.28	1.52	2.86	1.99	.32	.18	.11	.08
IN.	.40	.65	.27	1.05	3.42	1.75	3.19	2.29	.36	.20	.13	.09

CAL YR	1989	TOTAL	25573.7	MEAN	70.1	MAX	1030	MIN	2.7	CFSM	.69	IN.	9.33
WTR YR	1990	TOTAL	37841.4	MEAN	104	MAX	1260	MIN	4.1	CFSM	1.02	IN.	13.80

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 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, 0.36 ft^3/s, Oct. 1, 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)
Oct. 20	1830	184	2.21	Apr. 11	0730	325	3.04
Feb. 10	--	e314	ice jam	May 14	0030	269	2.73
Feb. 17	0030	*438	*3.63	May 17	1930	238	2.55
Mar. 17	2130	176	2.16	May 21	1100	222	2.45
Apr. 5	0530	309	2.95				

Minimum daily discharge, 0.87 ft^3/s, Sept. 1-3, gage height, 0.28 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.89	29	e14	e16	e15	e12	24	9.2	11	1.8	1.3	.87
2	.97	24	e12	e20	e30	e12	31	8.4	7.6	1.6	1.2	.87
3	.97	24	e10	e24	e40	e10	51	7.6	6.1	1.6	1.1	.87
4	.98	32	e8.7	e30	e45	e9.0	185	7.5	4.8	2.1	1.0	.89
5	.96	24	e8.2	e36	e50	e8.0	291	33	4.2	2.7	1.6	1.0
6	1.1	19	e9.2	e32	e40	e7.6	232	47	3.8	1.8	2.0	1.1
7	1.0	17	e11	e28	e36	e7.2	101	30	3.3	2.5	1.9	1.3
8	.97	34	e9.0	e20	e42	e7.2	56	25	3.6	2.3	1.5	1.3
9	.99	56	e7.8	e18	e90	e8.0	40	21	3.3	2.3	1.6	1.4
10	1.1	63	e7.0	e28	e200	9.1	48	16	2.9	1.6	2.0	1.7
11	1.2	45	e6.2	e50	e100	14	275	13	2.6	1.4	1.5	2.0
12	1.2	33	e5.6	e50	e70	35	115	11	2.6	1.6	1.7	1.8
13	1.2	24	e5.4	e48	e45	46	70	92	2.5	1.4	1.8	2.3
14	1.3	19	e5.0	e38	54	51	51	191	2.4	1.4	1.7	1.8
15	2.7	18	e4.4	e28	36	41	46	66	2.3	1.3	1.5	1.7
16	2.4	45	e4.2	e20	232	31	36	59	2.2	1.3	1.4	1.6
17	15	55	e4.0	e50	323	90	28	185	2.1	1.2	1.3	1.3
18	26	36	e3.8	e110	e110	106	22	152	2.2	1.1	1.2	1.1
19	19	25	e3.8	e70	e56	52	19	62	2.1	1.1	1.2	1.3
20	86	24	e3.8	e46	e40	91	16	50	2.1	2.6	1.4	1.1
21	89	56	e4.0	32	e34	87	34	191	4.0	2.1	1.4	1.1
22	40	39	e4.4	28	e20	67	36	104	4.0	1.4	1.4	1.1
23	23	e26	e4.6	26	e30	46	26	51	3.2	11	1.3	.98
24	17	e20	e5.0	36	e26	33	20	33	2.5	6.4	1.2	.94
25	12	e14	e5.4	44	e24	25	20	24	2.0	2.5	1.1	1.1
26	10	25	e6.0	41	e20	21	21	19	2.0	1.9	1.1	1.1
27	7.7	33	e6.0	31	e16	18	17	19	3.3	1.5	.95	1.1
28	6.4	28	e6.4	26	e14	15	13	16	3.0	1.3	.99	1.0
29	5.4	e20	e6.6	e19	---	14	11	13	2.5	1.2	1.2	2.0
30	4.4	e16	e7.0	e14	---	14	10	15	2.1	1.1	1.0	2.0
31	4.8	---	e12	e14	---	22	---	15	---	1.6	.89	---
TOTAL	385.63	923	210.5	1073	1838	1009.1	1945	1585.7	102.3	66.7	42.43	39.72
MEAN	12.4	30.8	6.79	34.6	65.6	32.6	64.8	51.2	3.41	2.15	1.37	1.32
MAX	89	63	14	110	323	106	291	191	11	11	2.0	2.3
MIN	.89	14	3.8	14	14	7.2	10	7.5	2.0	1.1	.89	.87
CFSM	.65	1.62	.36	1.82	3.45	1.71	3.41	2.69	.18	.11	.07	.07
IN.	.76	1.81	.41	2.10	3.60	1.98	3.81	3.10	.20	.13	.08	.08

CAL YR	1989	TOTAL	5707.63	MEAN	15.6	MAX	206	MIN	.57	CFSM	.82	IN. 11.17
WTR YR	1990	TOTAL	9221.08	MEAN	25.3	MAX	323	MIN	.87	CFSM	1.33	IN. 18.05

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 observed elevation, 713.35 ft, Feb. 18; minimum observed, 710.04 ft, Jan. 4.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	712.24	712.84	712.23	e710.06	e711.10	e711.63	e711.43	712.96	712.84	e712.38	e712.17	e711.90
2	712.13	712.91	712.12	e710.08	e711.13	e711.49	e711.43	712.88	712.83	e712.40	e712.13	e711.86
3	711.98	712.83	712.03	e710.08	711.32	e711.45	711.48	712.82	712.80	e712.40	e712.11	e711.83
4	711.87	712.84	711.96	e710.04	711.41	e711.40	711.70	712.75	712.68	e712.39	e712.10	e711.81
5	711.80	712.79	711.92	e710.12	711.52	e711.34	711.91	712.75	712.61	e712.38	e712.08	e711.80
6	711.76	712.71	711.89	e710.20	e711.51	e711.29	712.05	712.78	712.60	e712.40	e712.07	e711.77
7	711.70	712.72	711.75	e710.29	e711.52	e711.24	712.13	712.78	712.48	e712.41	e712.08	e711.77
8	711.69	712.72	711.68	e710.40	e711.58	e711.19	712.18	712.76	712.50	e712.43	e712.06	e711.77
9	711.68	712.76	711.64	e710.41	e711.66	e711.14	712.26	712.77	712.40	e712.44	e712.05	e711.78
10	711.69	712.81	711.62	e710.32	e712.25	e711.12	712.34	712.75	712.32	e712.43	e712.03	e711.79
11	711.69	712.83	711.51	e710.38	e712.50	e711.10	712.78	712.65	e712.27	e712.41	e712.03	e711.80
12	711.69	712.77	711.46	e710.32	e712.59	e711.08	712.97	712.66	e712.22	e712.41	e712.03	e711.80
13	711.70	712.74	711.40	e710.28	e712.61	e711.13	712.93	712.70	e712.15	e712.42	e712.03	e711.80
14	711.72	712.80	711.34	e710.25	e712.50	e711.19	712.97	712.92	e712.17	e712.39	e712.07	e711.79
15	711.75	712.72	711.29	e710.22	e712.48	e711.19	712.93	713.01	e712.20	e712.40	e712.10	e711.81
16	711.85	712.79	711.20	e710.13	e712.80	e711.18	712.89	712.99	e712.21	e712.40	e712.07	e711.80
17	711.82	712.88	711.13	e710.16	e713.32	e711.21	712.88	713.16	e712.23	e712.41	e712.06	e711.80
18	711.89	712.86	711.07	e710.35	e713.35	e711.40	712.83	713.27	e712.25	e712.41	e712.05	e711.79
19	711.95	712.77	711.02	e710.62	e713.24	e711.47	712.91	713.21	e712.27	e712.40	e712.02	e711.79
20	712.18	712.69	710.89	e710.63	e713.03	e711.53	712.92	713.12	e712.26	e712.40	e711.99	e711.75
21	712.79	712.71	710.81	e710.72	e712.85	e711.54	712.99	713.18	e712.29	e712.45	e711.96	e711.72
22	712.91	712.70	710.73	e710.81	e712.65	e711.55	713.10	713.20	e712.29	e712.50	e711.96	e711.70
23	713.08	712.63	710.65	e710.81	e712.49	e711.61	713.13	713.08	e712.31	e712.54	e711.94	e711.69
24	713.10	712.59	e710.56	e710.85	e712.29	e711.58	713.15	712.93	e712.34	712.63	e711.92	e711.67
25	713.04	712.52	e710.52	e710.87	e712.17	e711.54	713.17	712.83	e712.36	712.64	e711.91	e711.66
26	713.01	712.42	e710.42	e710.95	e712.05	e711.52	713.12	712.81	e712.39	712.65	e711.91	e711.66
27	713.00	712.42	e710.31	e710.98	e711.82	e711.52	713.09	712.84	e712.36	712.61	e711.90	e711.65
28	712.95	712.40	e710.23	e711.01	e711.75	e711.49	713.07	712.87	e712.36	712.55	e711.87	e711.65
29	712.91	712.41	e710.14	e711.05	---	e711.46	713.07	712.82	e712.31	e712.44	e711.94	711.68
30	712.89	712.35	e710.11	e711.12	---	e711.45	713.03	712.84	e712.36	e712.37	e711.93	711.69
31	712.86	---	e710.06	e711.12	---	e711.45	---	712.85	---	e712.28	e711.91	---
MEAN	712.24	712.70	711.15	710.50	712.20	711.37	712.63	712.90	712.39	712.44	712.02	711.76
MAX	713.10	712.91	712.23	711.12	713.35	711.63	713.17	713.27	712.84	712.65	712.17	711.90
MIN	711.68	712.35	710.06	710.04	711.10	711.08	711.43	712.65	712.15	712.28	711.87	711.65

CAL YR 1989 MEAN 711.86 MAX 713.31 MIN 709.22
WTR YR 1990 MEAN 712.02 MAX 713.35 MIN 710.04

e Estimated

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 fair. 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.--77 years (water years 1914–90), 288 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, 1,440 ft^3/s, Feb. 16 at 1900 hours, gage height, 3.54; minimum, 14 ft^3/s, Oct. 14, gage height, 0.98 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	376	374	563	389	428	946	457	409	379	55	301	47
2	376	363	555	388	457	940	420	390	379	58	63	47
3	372	309	521	370	442	597	396	481	378	60	59	47
4	367	388	511	279	448	475	505	552	375	60	54	47
5	364	385	503	80	455	469	622	553	372	68	74	48
6	228	375	519	73	479	465	649	390	372	58	57	46
7	53	368	526	72	385	465	656	398	369	56	58	59
8	51	366	464	195	483	463	659	397	372	55	58	60
9	51	332	393	378	504	443	662	389	366	59	57	59
10	63	375	388	387	537	376	739	480	366	56	56	62
11	107	389	377	390	513	372	1030	452	365	56	55	50
12	43	386	369	384	655	377	1140	398	364	55	67	48
13	24	384	301	383	759	381	925	534	196	54	62	48
14	36	383	393	380	744	391	781	596	65	57	57	47
15	58	380	391	380	898	384	775	608	65	59	56	57
16	43	528	389	380	1180	384	708	835	65	56	51	47
17	84	626	386	390	1370	417	623	1160	64	55	55	47
18	87	692	386	408	1390	399	505	1200	71	57	56	50
19	84	685	386	400	1300	397	390	1160	61	52	64	50
20	127	684	386	400	1200	544	385	1130	61	83	54	41
21	128	680	386	396	1140	660	398	1170	70	66	51	48
22	143	681	386	394	1080	672	405	1150	65	62	50	51
23	158	668	386	386	1030	668	411	1100	70	90	50	49
24	384	654	386	371	999	676	414	1040	63	76	50	49
25	361	635	386	382	949	671	617	624	61	68	52	48
26	345	527	386	383	951	496	584	375	57	59	50	53
27	311	463	386	384	946	390	475	371	60	146	50	47
28	376	538	386	384	946	387	347	294	59	343	64	47
29	371	598	386	386	---	385	427	394	61	347	50	51
30	368	581	386	445	---	426	424	384	56	362	50	69
31	309	---	386	444	---	460	---	379	---	379	49	---
TOTAL	6248	14797	12953	10861	22668	15576	17529	19793	5727	3167	1980	1519
MEAN	202	493	418	350	810	502	584	638	191	102	63.9	50.6
MAX	384	692	563	445	1390	946	1140	1200	379	379	301	69
MIN	24	309	301	72	385	372	347	294	56	52	49	41

CAL YR	1989	TOTAL	102389	MEAN	281	MAX	1390	MIN	24
WTR YR	1990	TOTAL	132818	MEAN	364	MAX	1390	MIN	24

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, 865.15 ft, May 22; minimum observed, 861.67 ft, Oct. 13, 14.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	861.95	862.20	862.75	862.53	863.25	864.00	864.20	864.56	864.88	864.34	864.10	863.58
2	861.93	862.20	862.75	862.56	863.28	863.97	864.25	864.56	864.83	864.31	864.08	863.55
3	861.90	862.24	862.75	862.57	863.37	863.93	864.25	864.55	864.80	864.29	864.05	863.53
4	861.87	862.23	862.71	862.57	863.38	863.89	864.37	864.53	864.73	864.28	864.02	863.51
5	861.84	862.21	862.71	862.61	863.43	863.85	864.45	864.65	864.70	864.30	864.00	863.49
6	861.82	862.21	862.73	862.62	863.47	863.80	864.48	864.63	864.66	864.28	864.00	863.47
7	861.82	862.25	862.71	862.65	863.50	863.78	864.48	864.63	864.62	864.26	863.98	863.45
8	861.78	862.24	862.75	862.68	863.47	863.75	864.50	864.61	864.59	864.24	863.95	863.42
9	861.76	862.25	862.73	862.67	863.50	863.72	864.50	864.60	864.59	864.26	863.93	863.40
10	861.75	862.29	862.78	862.64	863.62	863.71	864.50	864.58	864.51	864.24	863.90	863.40
11	861.72	862.31	862.77	862.62	863.73	863.75	864.73	864.59	864.46	864.22	863.88	863.38
12	861.69	862.34	862.73	862.65	863.72	863.78	864.82	864.59	864.40	864.20	863.85	863.35
13	861.67	862.34	862.72	862.68	863.75	863.83	864.83	864.59	864.38	864.18	863.85	863.33
14	861.67	862.34	862.70	862.67	863.74	863.85	864.83	864.71	864.35	864.16	863.90	863.31
15	861.80	862.32	862.68	862.68	863.78	863.86	864.85	864.71	864.34	864.14	863.88	863.38
16	861.75	862.35	862.70	862.68	864.00	863.86	864.81	864.72	864.32	864.12	863.86	863.36
17	861.71	862.40	862.68	862.69	864.20	863.85	864.85	864.85	864.30	864.10	863.87	863.33
18	861.75	862.42	862.66	862.73	864.20	863.88	864.83	864.95	864.28	864.09	863.85	863.30
19	861.75	862.46	862.66	862.80	864.20	863.90	864.83	865.00	864.33	864.06	863.83	863.28
20	861.79	862.50	862.65	862.81	864.20	863.97	864.81	864.99	864.35	864.04	863.81	863.24
21	862.00	862.55	862.62	863.05	864.18	864.15	864.80	865.09	864.33	864.18	863.79	863.21
22	862.13	862.60	862.60	863.05	864.15	864.20	864.80	865.15	864.35	864.16	863.76	863.19
23	862.15	862.63	862.58	863.02	864.14	864.25	864.77	865.13	864.38	864.18	863.73	863.16
24	862.19	862.65	862.56	863.02	864.12	864.27	864.75	865.10	864.35	864.25	863.70	863.13
25	862.17	862.65	862.54	863.05	864.10	864.27	864.75	865.07	864.35	864.23	863.68	863.11
26	862.17	862.66	862.52	863.07	864.08	864.27	864.70	865.04	864.34	864.20	863.65	863.08
27	862.15	862.69	862.50	863.07	864.09	864.25	864.66	865.04	864.33	864.17	863.63	863.05
28	862.13	862.69	862.47	863.07	864.03	864.23	864.63	865.01	864.32	864.14	863.60	863.02
29	862.13	862.70	862.45	863.07	---	864.19	864.61	865.00	864.31	864.11	863.65	862.99
30	862.13	862.75	862.44	863.20	---	864.20	864.58	864.96	864.29	864.09	863.63	862.97
31	862.13	---	862.49	863.22	---	864.25	---	864.92	---	864.07	863.60	---
MEAN	861.91	862.42	862.65	862.81	863.81	863.98	864.64	864.81	864.46	864.19	863.84	863.30
MAX	862.19	862.75	862.78	863.22	864.20	864.27	864.85	865.15	864.88	864.34	864.10	863.58
MIN	861.67	862.20	862.44	862.53	863.25	863.71	864.20	864.53	864.28	864.04	863.60	862.97

CAL YR 1989 MEAN 861.05 MAX 862.78 MIN 858.66
WTR YR 1990 MEAN 863.56 MAX 865.15 MIN 861.67

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.-- Water years 1988 to current year.
CHEMICAL DATA: 1988-90 (b).
MINOR ELEMENT DATA: 1988-90 (b).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT												
19	1400	739	8.2	11.0	757	10.3	94	220	65	15	59	2.5
NOV												
06	1300	588	7.7	9.0	--	9.4	--	220	64	14	38	2.5
MAR												
27	0800	610	8.1	4.0	764	11.7	89	210	62	14	43	2.3
APR												
09	0900	507	7.7	5.0	758	11.3	90	210	59	14	27	2.2
MAY												
01	0900	622	8.4	16.5	750	10.2	106	--	--	--	--	--
23	0800	531	7.8	13.0	749	8.1	78	--	--	--	--	--
JUN												
26	1300	809	7.8	21.0	756	7.4	84	--	--	--	--	--
JUL												
23	1700	782	8.1	22.0	750	8.3	97	--	--	--	--	--
AUG												
13	1300	704	8.5	25.5	748	11.4	143	--	--	--	--	--
SEP												
19	1200	777	8.5	17.0	753	10.6	111	--	--	--	--	--

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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	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)
OCT											
19	124	94	95	0.2	160	< 10	< 1.0	< 1	3	4	300
NOV											
06	131	69	64	0.1	140	--	--	< 1	--	3	270
MAR											
27	137	66	76	< 0.1	190	--	--	< 1	--	5	300
APR											
09	143	--	--	--	690	--	--	< 1	--	7	840
MAY											
01	--	--	--	--	210	--	--	< 1	--	5	460
23	--	--	--	--	260	--	--	< 1	--	5	470
JUN											
26	--	--	--	--	150	--	--	1	--	13	230
JUL											
23	--	--	--	--	140	--	--	< 1	--	5	330
AUG											
13	--	--	--	--	130	< 10	1.0	< 1	15	10	240
SEP											
19	--	--	--	--	130	--	--	< 1	--	4	580

STREAMS TRIBUTARY TO LAKE ONTARIO

04237410 SENECA RIVER AT JACKS' REEF NEAR MEMPHIS, NY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	IRON, DIS-SOLVED (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)
OCT											
19	8	8	7	30	3	0.4	3	2	11	40	9
NOV											
06	--	--	1	30	--	0.3	--	1	--	20	6
MAR											
27	--	--	1	20	--	0.2	--	2	--	< 10	11
APR											
09	--	--	2	30	--	0.2	--	4	--	10	15
MAY											
01	--	--	3	50	--	< 0.1	--	1	--	10	16
23	--	--	3	50	--	< 0.1	--	1	--	20	15
JUN											
26	--	--	3	20	--	0.1	--	1	--	10	10
JUL											
23	--	--	1	40	--	< 0.1	--	1	--	< 10	15
AUG											
13	20	6	3	40	< 10	< 0.1	1	2	20	10	9
SEP											
19	--	--	2	110	--	< 0.1	--	< 1	--	30	10

CHEMICAL QUALITY OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLA-TILE IN BOTTOM MA-TERIAL (MG/KG)	ALUM-INUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	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)
JUL											
23	1700	44700	2200	< 1	10	20	200	20	20	6000	0.04

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. Telephone 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.

COOPERATION.--Records of lockages at Lock 24 furnished by New York State Department of Transportation (since November 1949).

AVERAGE DISCHARGE.--40 years (water years 1951–90), 3,385 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, 10,200 ft^3/s, Feb. 20 and May 23; maximum gage height, 5.80 ft, May 22; minimum daily discharge, 472 ft^3/s, Aug. 28; minimum gage height, 1.10 ft, Oct. 16.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	3390	3890	2610	3170	8820	4170	3280	7430	1700	1530	673
2	779	3820	4200	2890	3850	8750	3620	2410	7080	1720	1080	741
3	1620	3930	4200	2960	4610	8670	4120	2000	6470	1850	998	892
4	2290	3830	4240	3100	4970	8550	5860	2040	5810	1500	972	1040
5	1030	3620	3940	3300	5240	8360	7530	2980	4940	1080	1060	1500
6	778	3560	3790	3460	5230	8140	8070	3440	3920	1290	1170	1680
7	1220	3520	3900	3460	5060	7890	8470	3180	3200	1010	1090	1400
8	1210	3460	4350	3400	5050	7640	8530	3060	3390	818	663	1430
9	1000	3370	4390	3260	6100	7550	8270	3620	3360	1190	608	1430
10	522	3630	4080	3010	7590	7480	7760	3980	3200	1380	1070	1470
11	1080	3700	3830	2900	8330	7470	8320	4080	3110	1010	1080	1350
12	1060	3600	3320	2930	8420	7860	9150	4020	3070	847	804	1370
13	779	3330	2980	2850	8200	7980	9750	4180	2850	710	525	1170
14	659	3290	2530	2830	7960	7940	9930	6100	2660	565	580	785
15	572	3180	2200	2380	7800	7850	9990	6840	2300	782	702	784
16	686	3380	2450	1540	8030	7650	9620	6990	1890	1390	893	765
17	1090	3790	2600	1920	9230	7670	9120	7830	1640	1120	906	709
18	1610	3710	2500	4010	9920	8000	8670	8690	1340	625	887	684
19	2400	3700	2320	5070	10100	8080	8110	9070	1370	781	903	570
20	2880	3710	2150	4750	10200	8060	7480	9270	1260	1100	607	514
21	3830	3840	2380	4380	10000	8280	6930	9920	1090	1330	539	804
22	4190	3930	2560	3710	9790	8310	6650	10100	732	928	792	1080
23	3890	3860	2620	2980	9860	8130	6480	10200	733	1150	908	1050
24	3820	4010	2610	2340	9890	7660	6570	9970	1000	2770	946	1150
25	4100	3700	2260	2170	9810	7180	6630	9620	1270	3190	826	1360
26	3700	3640	1900	2660	9520	6820	6400	8960	984	2500	740	1360
27	3550	3700	1850	3040	9280	6320	6460	8500	1320	2100	628	1170
28	3570	3710	1740	3010	9030	5530	5860	8200	1910	1350	472	1120
29	3340	3710	1850	2870	---	4610	5380	8060	1630	1080	1050	1390
30	3430	3710	1960	2480	---	4400	4450	8090	1650	1460	1070	1420
31	3580	---	2280	2630	---	4290	---	7740	---	1790	758	---
TOTAL	65345	109330	91870	94900	216240	231940	218350	196420	82609	42116	26857	32861
MEAN	2108	3644	2964	3061	7723	7482	7278	6336	2754	1359	866	1095
MAX	4190	4010	4390	5070	10200	8820	9990	10200	7430	3190	1530	1680
MIN	522	3180	1740	1540	3170	4290	3620	2000	732	565	472	514

CAL YR	1989	TOTAL 1022893	MEAN	2802	MAX	10700	MIN	282
WTR YR	1990	TOTAL 1408838	MEAN	3860	MAX	10200	MIN	472

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, 472.59 ft, Feb. 17, contents, 1,310 acre-ft; minimum elevation, 459.38 ft, Sept. 29-30, 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 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	459.93	463.00	462.02	463.57	461.50	461.52	461.67	460.83	461.56	460.02	459.63	459.66
2	459.87	461.81	462.27	463.72	463.26	461.59	462.21	460.74	461.24	460.00	459.61	459.61
3	459.86	461.52	461.81	462.53	463.43	461.87	462.68	460.63	461.01	459.91	459.57	459.57
4	459.78	461.73	461.43	462.47	462.89	461.35	464.66	460.55	460.86	459.84	459.54	459.52
5	459.71	461.28	461.89	465.52	462.41	461.05	465.85	461.66	460.81	459.80	459.51	459.48
6	459.67	461.13	461.54	464.80	462.16	460.91	465.12	462.03	460.67	459.77	459.54	459.46
7	459.65	461.01	462.25	463.13	462.19	460.74	464.05	461.28	460.53	459.73	459.57	459.44
8	459.61	461.17	462.03	462.54	462.43	460.75	463.19	462.35	460.39	459.70	459.56	459.44
9	459.59	461.27	461.81	461.79	464.35	460.78	462.83	461.91	460.44	459.68	459.54	459.43
10	459.59	461.81	461.35	461.38	468.44	460.83	462.88	461.26	460.40	459.66	459.52	459.82
11	459.59	462.00	461.30	461.77	469.20	461.38	466.87	461.64	460.31	459.64	459.49	459.85
12	459.58	461.78	461.18	461.61	465.54	462.57	467.84	461.33	460.23	459.63	459.47	459.78
13	459.55	461.45	461.03	461.07	462.81	462.91	464.66	462.24	460.13	459.62	459.64	459.71
14	459.52	461.19	461.08	460.91	462.93	462.24	463.08	466.07	460.06	459.61	460.85	459.64
15	461.01	461.05	460.75	460.87	462.50	461.76	463.21	463.65	460.02	459.59	460.25	459.70
16	460.77	462.83	460.70	461.03	467.37	461.44	462.79	462.85	459.98	459.59	459.96	459.80
17	460.66	465.23	460.66	462.71	472.14	462.46	462.55	466.09	459.94	459.59	459.83	459.75
18	462.02	462.91	460.56	466.02	470.68	464.41	462.58	467.14	459.91	459.57	459.75	459.69
19	461.45	462.05	460.52	465.25	467.23	462.43	462.15	466.34	459.88	459.55	459.69	459.62
20	463.01	462.44	460.54	462.43	463.21	462.63	461.85	464.21	459.87	459.57	459.65	459.58
21	468.90	465.49	460.40	462.12	462.32	462.95	462.37	466.25	459.85	460.23	459.61	459.54
22	466.77	464.06	460.35	462.12	462.57	463.23	462.46	467.63	460.06	460.03	459.58	459.50
23	463.26	462.96	460.29	461.95	463.33	463.53	461.96	465.60	460.53	460.02	459.55	459.47
24	462.22	462.42	460.21	462.23	462.80	462.60	461.64	463.23	460.58	460.86	459.52	459.44
25	461.68	462.23	460.22	462.90	462.03	462.17	461.62	462.50	460.31	460.60	459.49	459.42
26	461.36	463.13	460.24	463.40	461.56	461.94	461.78	462.11	460.10	460.18	459.47	459.41
27	461.12	464.16	460.19	462.50	461.73	461.57	461.48	461.87	459.98	459.97	459.44	459.40
28	460.94	463.43	460.16	462.02	461.71	461.39	461.24	461.63	459.91	459.85	459.44	459.39
29	460.78	462.78	460.15	461.70	---	461.35	461.07	461.46	459.89	459.77	459.65	459.38
30	460.64	462.22	460.15	461.65	---	461.39	460.93	462.02	460.10	459.71	459.76	459.38
31	460.57	---	460.36	461.49	---	461.78	---	461.95	---	459.66	459.72	---
MEAN	461.05	462.38	460.95	462.55	464.10	461.92	462.98	462.94	460.32	459.84	459.66	459.56
MAX	468.90	465.49	462.27	466.02	472.14	464.41	467.84	467.63	461.56	460.86	460.85	459.85
MIN	459.52	461.01	460.15	460.87	461.50	460.74	460.93	460.55	459.85	459.55	459.44	459.38
†	+4.05	+13.95	-9.10	+2.00	+0.30	+1.20	-8.05	+8.05	-12.15	-0.25	0	0
††	+0.07	+0.23	-0.15	+0.03	+0.01	+0.02	-0.14	+0.13	-0.20	0	0	0

CAL YR 1989 MEAN 461.00 MAX 468.90 MIN 459.12
WTR YR 1990 MEAN 461.50 MAX 472.14 MIN 459.38

† 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.--39 years, 126 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, 1,200 ft^3/s, Feb. 16 at 2400 hours, gage height, 4.65 ft; minimum, 32 ft^3/s, Sept. 4, 5; gage height, 1.69 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	292	e160	e280	178	181	208	139	151	83	50	38
2	68	191	e145	e230	334	191	250	132	136	77	43	36
3	69	181	e140	e170	314	207	300	126	129	64	40	36
4	64	188	e135	193	278	164	488	125	135	58	37	33
5	61	158	e130	358	246	147	531	268	129	62	48	33
6	62	147	143	259	226	e130	453	216	117	59	72	35
7	62	140	180	182	231	e125	366	171	107	54	58	38
8	58	153	e150	164	255	e120	308	297	104	51	47	41
9	64	156	e120	151	453	129	279	206	122	58	41	43
10	63	178	e125	176	857	142	305	181	104	55	40	98
11	63	183	131	197	739	180	742	212	99	49	39	54
12	59	173	122	184	457	299	648	168	92	51	38	44
13	55	146	e110	145	295	275	403	349	85	55	85	39
14	54	134	e100	e140	300	223	302	553	80	49	130	35
15	185	129	e110	137	275	192	312	327	83	48	70	84
16	124	296	e115	156	864	172	270	327	77	60	50	66
17	148	380	e110	302	990	296	262	612	72	51	45	49
18	214	235	e108	522	813	389	253	635	71	45	41	42
19	174	186	e108	421	586	251	219	531	73	42	44	40
20	455	225	e110	247	309	275	201	384	73	53	45	44
21	756	416	e105	223	241	300	261	665	79	100	42	40
22	558	289	e100	220	261	320	238	617	104	67	43	39
23	287	234	e97	210	328	340	204	400	131	95	41	39
24	215	199	e95	229	277	264	185	276	103	134	40	37
25	181	186	e98	276	219	232	206	237	83	82	39	35
26	162	250	e98	301	e200	216	199	213	75	58	38	35
27	147	276	e94	243	e190	190	174	196	70	50	36	37
28	135	234	e93	206	193	179	162	178	69	46	45	36
29	127	200	e92	186	---	177	151	182	74	45	93	34
30	120	178	e92	182	---	192	144	236	93	41	62	44
31	118	---	e105	174	---	217	---	181	---	46	44	---
TOTAL	4979	6333	3621	7064	10909	6715	9024	9340	2920	1888	1586	1304
MEAN	161	211	117	228	390	217	301	301	97.3	60.9	51.2	43.5
MAX	756	416	180	522	990	389	742	665	151	134	130	98
MIN	54	129	92	137	178	120	144	125	69	41	36	33

CAL YR	1989	TOTAL	54215	MEAN	149	MAX	756	MIN	29
WTR YR	1990	TOTAL	65683	MEAN	180	MAX	990	MIN	33

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. WRD NY-89-3: 1971(M), 1972(M), 1974-1980(M), 1982-1984(M), 1986(M), 1988(M).

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.--20 years, 186 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,050 ft^3/s, July 3, 1974, gage height, 8.73 ft, from rating curve extended above 1,600 ft^3/s on basis of runoff comparisons with nearby stations; minimum, 20 ft^3/s, Sept. 26, 1985, gage height, 2.16 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,410 ft^3/s, Aug. 28 at 2100 hours, gage height, 7.69 ft; minimum, 51 ft^3/s, Aug. 27-28, gage height, 2.46 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	e342	e201	322	220	238	268	179	205	105	68	62
2	100	e225	e185	267	391	246	308	171	187	102	63	57
3	97	e225	e180	207	375	266	359	162	176	89	60	55
4	92	e231	e175	233	332	219	576	166	178	84	55	54
5	91	e198	e169	424	286	198	607	314	174	83	157	53
6	94	e188	178	313	276	188	539	260	158	81	90	53
7	96	e180	215	227	279	162	434	214	149	77	76	60
8	92	e195	181	206	307	169	369	344	150	73	67	60
9	98	e197	144	191	513	178	338	247	168	81	64	74
10	100	e221	166	218	863	187	387	212	144	78	61	116
11	101	e225	163	243	752	227	776	247	137	71	57	76
12	100	e214	150	227	538	411	696	205	134	71	55	65
13	95	e186	141	184	350	349	490	444	123	75	158	59
14	109	e174	109	176	358	301	385	588	127	71	156	56
15	266	e168	129	175	324	254	398	387	119	70	90	134
16	165	e345	135	194	880	231	348	389	113	97	69	87
17	204	e409	135	357	968	440	327	676	108	77	63	70
18	280	e272	125	589	830	461	316	679	132	72	58	63
19	231	e230	123	482	686	316	280	609	103	68	74	63
20	598	e271	126	290	e400	340	259	521	103	146	60	65
21	777	e453	114	267	e297	361	320	790	112	127	57	62
22	629	e321	112	267	345	389	298	737	135	85	57	59
23	349	e277	112	252	421	408	261	e516	198	216	57	60
24	260	e242	105	281	363	326	238	e330	137	149	56	59
25	227	e229	112	328	295	289	275	e288	111	103	55	58
26	e204	e295	112	363	246	269	252	281	102	79	54	58
27	e188	e316	103	293	251	239	222	257	105	71	53	59
28	e175	e274	103	256	254	225	207	233	99	72	240	57
29	e166	e242	103	232	---	223	196	275	99	65	131	57
30	e158	e220	106	228	---	240	184	296	121	62	90	81
31	e156	---	154	218	---	266	---	233	---	69	71	---
TOTAL	6401	7565	4366	8510	12400	8616	10913	11250	4107	2769	2522	1992
MEAN	206	252	141	275	443	278	364	363	137	89.3	81.4	66.4
MAX	777	453	215	589	968	461	776	790	205	216	240	134
MIN	91	168	103	175	220	162	184	162	99	62	53	53

CAL YR	1989	TOTAL	65706	MEAN	180	MAX	777	MIN	52
WTR YR	1990	TOTAL	81411	MEAN	223	MAX	968	MIN	53

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), WDR-NY-88-3: 1986-87 (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 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.--31 years, 8.84 ft^3/s, 12.00 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, 0.73 ft, Jan. 7, 9 and Feb. 24, 1989, result of regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 192 ft^3/s, Aug. 28 at 2115 hours, gage height, 4.80 ft, from rating curve extended above 70 ft^3/s on basis of computation of peak flow through culvert; minimum daily, 3.9 ft^3/s, Sept. 27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5.9	15	7.8	18	9.0	14	19	9.9	11	5.5	8.9	6.7
2	e6.8	9.5	7.7	9.5	26	14	23	9.5	10	5.5	10	6.9
3	e6.0	11	7.4	6.7	18	14	26	9.2	10	5.6	11	6.8
4	e5.6	9.7	6.9	14	15	12	37	10	10	5.6	11	6.7
5	e5.5	8.0	6.6	29	13	12	35	18	9.1	6.1	21	6.6
6	e5.9	7.8	7.3	13	12	11	32	10	8.9	6.5	9.5	7.0
7	5.5	9.2	7.1	10	13	10	26	12	8.6	6.9	8.8	7.8
8	5.4	8.7	6.6	9.9	18	9.7	23	19	9.3	7.3	9.0	5.8
9	5.6	9.8	6.6	9.2	47	9.9	21	9.7	9.7	7.9	8.9	9.9
10	4.9	9.0	6.2	15	54	10	26	10	8.1	7.9	9.4	6.7
11	4.8	8.5	6.1	13	30	13	47	9.3	7.5	7.8	9.5	5.9
12	4.8	8.5	6.1	11	24	32	28	8.3	7.3	7.3	9.8	5.7
13	4.5	7.3	6.1	9.7	24	19	24	38	7.3	7.7	19	7.5
14	5.7	7.1	5.9	8.8	25	19	24	24	7.5	7.9	11	7.0
15	14	7.1	5.8	9.0	22	15	25	14	7.5	8.9	9.2	13
16	4.8	27	5.8	12	72	13	21	22	7.3	9.1	9.2	7.2
17	14	14	5.8	31	43	45	22	35	7.3	6.8	9.4	5.6
18	9.5	9.5	5.6	37	29	28	19	25	9.6	7.2	9.7	5.5
19	7.5	8.2	5.6	20	28	22	17	22	6.3	8.2	13	5.7
20	56	18	5.6	13	23	29	15	35	6.1	18	9.8	5.2
21	30	23	5.5	12	22	27	22	52	6.9	8.9	10	5.3
22	21	13	4.8	11	26	28	16	29	7.0	6.4	11	4.7
23	15	11	4.8	9.8	30	24	14	24	11	32	10	8.1
24	12	9.7	4.8	15	23	21	13	18	6.4	7.2	11	6.0
25	10	9.1	4.8	13	19	19	17	14	5.7	6.4	11	4.0
26	9.9	19	4.8	13	17	17	13	13	5.6	6.7	11	4.3
27	9.0	14	4.8	9.9	16	15	12	12	5.9	6.8	10	3.9
28	8.8	11	4.8	9.5	15	15	11	11	5.5	7.6	31	4.1
29	8.5	9.7	4.8	8.8	---	14	11	18	5.9	7.9	16	4.4
30	8.0	8.7	4.8	8.4	---	18	10	19	5.5	8.7	7.2	8.5
31	12	---	10	8.2	---	17	---	12	---	9.7	6.9	---
TOTAL	326.9	341.1	187.3	417.4	713.0	566.6	649	571.9	233.8	262.0	352.2	192.5
MEAN	10.5	11.4	6.04	13.5	25.5	18.3	21.6	18.4	7.79	8.45	11.4	6.42
MAX	56	27	10	37	72	45	47	52	11	32	31	13
MIN	4.5	7.1	4.8	6.7	9.0	9.7	10	8.3	5.5	5.5	6.9	3.9
CFSM	1.05	1.14	.60	1.35	2.55	1.83	2.16	1.84	.78	.85	1.14	.64
IN.	1.22	1.27	.70	1.55	2.65	2.11	2.41	2.13	.87	.97	1.31	.72

CAL YR	1989	TOTAL	2804.6	MEAN	7.68	MAX	79	MIN	2.5	CFSM	.77	IN. 10.43
WTR YR	1990	TOTAL	4813.7	MEAN	13.2	MAX	72	MIN	3.9	CFSM	1.32	IN. 17.91

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 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.--20 years, 13.1 ft^3/s, 15.74 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 76 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, 573 ft^3/s, Aug. 28, gage height, 6.70 ft, from rating curve extended above 76 ft^3/s on basis of step-backwater computation; minimum daily, 4.8 ft^3/s, Oct. 8 and Sept. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	12	8.2	16	9.5	14	18	12	13	7.7	6.4	9.3
2	6.7	7.9	7.8	9.8	26	14	20	11	13	7.3	6.3	5.5
3	5.8	9.6	7.8	7.4	17	14	25	11	12	7.1	6.0	5.2
4	5.4	8.5	7.8	13	15	12	45	11	13	7.1	5.9	5.3
5	5.1	7.4	7.6	28	13	12	39	19	11	6.7	23	5.3
6	5.3	7.5	8.0	12	13	11	35	12	11	6.7	8.5	5.1
7	4.9	8.7	8.0	9.2	14	10	26	17	10	6.7	7.8	6.6
8	4.8	7.7	7.8	9.1	16	10	22	19	11	6.5	7.5	5.0
9	5.3	8.5	7.6	8.7	52	10	20	9.8	12	7.6	7.1	9.1
10	5.0	7.8	7.6	12	66	10	27	10	9.3	6.7	7.1	5.9
11	5.5	7.5	7.6	12	29	12	54	9.6	8.7	6.7	7.1	5.0
12	5.3	7.7	7.4	10	22	37	28	8.8	8.3	6.4	7.3	5.0
13	5.2	6.9	7.4	9.0	21	17	23	45	8.2	6.5	19	5.4
14	7.9	6.9	7.3	8.4	22	18	23	24	9.0	6.4	9.8	5.6
15	19	6.7	7.1	8.1	20	14	24	14	8.1	6.4	e8.6	14
16	6.1	33	7.1	9.9	78	13	19	25	7.8	9.7	e8.5	7.2
17	14	12	6.9	28	51	57	21	39	7.8	6.5	e8.5	6.8
18	10	8.9	6.7	40	28	25	17	25	14	6.3	e11	6.4
19	8.8	8.0	6.7	18	27	19	16	21	7.7	6.0	e14	6.7
20	69	17	6.5	12	21	26	15	39	7.8	25	e11	6.9
21	26	21	6.2	12	19	24	20	61	9.3	12	e11	6.3
22	15	12	6.2	12	22	25	15	31	8.1	5.9	e12	5.7
23	12	10	6.2	11	29	21	14	24	16	43	e11	e8.8
24	10	9.0	6.0	16	21	19	13	19	8.5	7.7	e12	e6.8
25	8.8	8.7	6.0	14	17	17	20	15	7.4	6.6	e12	e5.0
26	8.1	16	6.0	14	15	16	15	15	7.4	6.3	e12	e5.3
27	7.6	13	5.8	11	15	14	14	14	9.2	6.1	e11	4.9
28	7.4	11	5.8	11	15	14	14	13	7.1	6.9	e40	4.8
29	7.3	9.3	5.8	9.7	---	13	13	25	8.2	6.4	e20	5.4
30	7.0	8.6	5.8	9.5	---	16	12	22	7.8	6.2	13	9.5
31	14	---	12	9.4	---	15	---	14	---	7.5	11	---
TOTAL	328.9	318.8	220.7	410.2	713.5	549	667	635.2	291.7	270.6	355.4	193.8
MEAN	10.6	10.6	7.12	13.2	25.5	17.7	22.2	20.5	9.72	8.73	11.5	6.46
MAX	69	33	12	40	78	57	54	61	16	43	40	14
MIN	4.8	6.7	5.8	7.4	9.5	10	12	8.8	7.1	5.9	5.9	4.8
CFSM	.94	.94	.63	1.17	2.26	1.57	1.97	1.81	.86	.77	1.01	.57
IN.	1.08	1.05	.73	1.35	2.35	1.81	2.20	2.09	.96	.89	1.17	.64

CAL YR	1989	TOTAL	3163.9	MEAN	8.67	MAX	85	MIN	2.7	CFSM	.77	IN. 10.42
WTR YR	1990	TOTAL	4954.8	MEAN	13.6	MAX	78	MIN	4.8	CFSM	1.20	IN. 16.31

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 "I" 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.--17 years (water years 1974–90), 43.8 ft^3/s, 19.89 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)
Aug.29	0230	*727	*4.39	No other peak greater than base discharge.			

Minimum discharge, 9.4 ft^3/s, July 19, gage height, 1.13 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	118	27	98	41	e45	79	22	e22	18	17	22
2	20	59	22	54	130	e49	132	21	e24	16	14	18
3	18	68	20	45	85	e57	142	22	22	14	14	16
4	17	52	20	74	70	e43	235	21	26	13	13	16
5	18	38	22	127	62	e38	234	89	19	13	65	15
6	19	34	23	80	62	e37	e134	47	17	14	58	16
7	15	33	34	60	73	e31	e92	43	15	13	21	26
8	14	42	22	50	90	31	e69	69	34	12	16	18
9	17	44	19	44	176	28	e57	41	31	19	15	37
10	18	41	18	71	272	29	79	40	20	14	15	47
11	16	36	17	82	e168	38	224	41	17	13	14	20
12	15	42	e17	68	e85	229	e115	30	15	13	14	17
13	16	34	e16	49	e51	161	e80	198	15	13	65	16
14	23	29	e16	41	91	153	e56	165	16	13	63	14
15	92	27	15	36	64	105	e58	98	19	13	21	83
16	30	142	15	45	194	72	e45	126	14	31	16	25
17	65	100	15	90	e237	219	e38	219	13	14	19	18
18	75	70	15	178	e126	165	e36	e139	54	12	26	16
19	58	42	16	140	e126	e80	e34	e61	26	9.8	45	23
20	189	56	15	79	e42	156	33	e100	18	46	19	27
21	160	118	15	50	e27	e152	69	e186	17	104	14	17
22	99	66	e15	43	e72	e81	43	e81	18	19	20	18
23	63	48	e14	43	e158	e55	35	e67	79	178	17	15
24	43	37	14	53	e65	e54	34	e42	30	71	15	18
25	36	30	14	56	e54	58	86	e38	18	28	13	15
26	31	49	e14	64	e46	52	57	e35	16	18	13	31
27	25	47	e14	52	e46	47	42	e34	32	15	33	19
28	24	41	14	42	e47	40	32	e31	20	15	70	16
29	21	34	14	34	---	38	26	e50	18	14	397	18
30	21	30	14	36	---	62	23	e72	17	13	96	96
31	29	---	57	38	---	73	---	e27	---	25	36	---
TOTAL	1302	1607	583	2022	2760	2478	2419	2255	702	823.8	1274	753
MEAN	42.0	53.6	18.8	65.2	98.6	79.9	80.6	72.7	23.4	26.6	41.1	25.1
MAX	189	142	57	178	272	229	235	219	79	178	397	96
MIN	14	27	14	34	27	28	23	21	13	9.8	13	14
CFSM	1.40	1.79	.63	2.18	3.30	2.67	2.70	2.43	.78	.89	1.37	.84
IN.	1.62	2.00	.73	2.52	3.43	3.08	3.01	2.81	.87	1.02	1.59	.94

CAL YR	1989	TOTAL	14144.5	MEAN	38.8	MAX	340	MIN	9.5	CFSM	1.30	IN. 17.60
WTR YR	1990	TOTAL	18978.8	MEAN	52.0	MAX	397	MIN	9.8	CFSM	1.74	IN. 23.61

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.

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 fair. 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.--26 years (water years 1965-90), 39.6 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, 304 ft^3/s, Feb. 16 at 2100 hours, gage height, 5.40 ft; minimum daily, 5.2 ft^3/s, Sept. 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	67	98	25	78	112	49	43	82	11	9.4	7.0
2	88	63	98	17	97	111	53	38	52	9.9	9.3	6.8
3	88	64	98	16	88	111	61	35	50	9.7	9.2	6.4
4	88	63	98	20	90	109	91	34	48	9.5	9.1	6.0
5	88	63	97	25	89	108	111	52	45	11	11	5.6
6	88	61	98	17	102	108	127	50	44	10	9.3	5.2
7	88	61	99	16	115	107	130	50	41	10	9.0	5.5
8	87	72	97	15	116	107	130	58	43	10	8.9	5.7
9	87	102	97	15	136	106	128	55	41	11	9.1	7.9
10	86	101	97	17	161	107	140	56	40	9.9	8.8	8.2
11	85	101	96	17	142	108	261	55	40	9.7	8.8	6.4
12	56	100	95	16	136	113	271	53	33	10	9.2	6.7
13	14	99	95	15	134	78	248	82	16	10	15	6.6
14	14	97	95	14	131	51	226	103	15	10	10	6.5
15	23	97	95	14	137	48	210	106	15	10	8.9	12
16	16	113	95	17	241	47	191	131	14	11	8.9	8.3
17	36	102	95	36	258	64	180	198	14	9.6	8.9	7.8
18	52	99	94	44	228	50	167	243	14	9.5	8.8	7.7
19	52	98	94	22	209	48	155	239	13	9.5	12	7.8
20	90	107	93	18	189	50	145	226	12	12	9.0	7.7
21	64	109	93	18	171	50	150	269	12	10	8.7	7.4
22	56	102	93	18	160	50	141	277	12	9.7	8.9	7.7
23	59	101	93	17	155	47	105	248	13	18	8.8	7.5
24	68	100	93	46	146	44	71	220	11	11	8.5	7.1
25	66	99	92	72	138	45	71	195	11	9.6	8.6	6.9
26	65	106	92	73	129	45	63	174	11	9.5	8.6	6.8
27	65	104	64	70	123	44	56	154	10	9.5	9.0	6.3
28	65	103	16	70	117	44	55	138	9.7	9.4	14	6.0
29	64	100	13	70	---	44	52	129	9.4	9.4	11	5.9
30	64	99	13	70	---	48	48	123	10	9.4	7.7	8.6
31	64	---	21	69	---	46	---	112	---	9.9	7.4	---
TOTAL	2014	2753	2607	989	4016	2250	3886	3946	781.1	318.7	293.8	212.0
MEAN	65.0	91.8	84.1	31.9	143	72.6	130	127	26.0	10.3	9.48	7.07
MAX	90	113	99	73	258	113	271	277	82	18	15	12
MIN	14	61	13	14	78	44	48	34	9.4	9.4	7.4	5.2

CAL YR	1989	TOTAL	16768.7	MEAN	45.9	MAX	250	MIN	3.7
WTR YR	1990	TOTAL	24066.6	MEAN	65.9	MAX	277	MIN	5.2

04240200 NINEMILE CREEK AT CAMILLUS, NY

LOCATION.--Lat 43°02'20", long 76°18'30", Onondaga County, Hydrologic Unit 04140201, on right bank 150 ft downstream from highway bridge on State Highway 5 (Main Street) in Camillus, 7.2 mi upstream from Onondaga Lake.

DRAINAGE AREA.--84.3 mi^2.

PERIOD OF RECORD.--July 1958 to September 1982, June 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 398.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow regulated by Otisco Lake from which water is diverted for city of Syracuse water supply.

AVERAGE DISCHARGE.--26 years (1959-82, 1990), 114 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,760 ft^3/s, Mar. 30, 1960, gage height, 8.25 ft; maximum gage height, 10.83 ft, Sept. 26, 1975, backwater from construction activities; minimum discharge, 16 ft^3/s, Sept. 30, Oct. 1, 2, 1961.

EXTREMES FOR CURRENT PERIOD.--Maximum discharge, 1,220 ft^3/s, Feb. 17 at 0030 hours, gage height, 6.72 ft; minimum, 42 ft^3/s, Sept. 25, 26; minimum gage height, 1.11 ft, Oct. 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	140	168	212	145	223	127	99	182	77	57	46
2	117	117	163	131	304	225	173	94	133	73	54	45
3	116	122	165	99	250	234	175	90	130	70	53	45
4	115	125	161	120	228	211	346	90	129	68	52	44
5	115	115	161	244	209	199	364	157	124	72	63	45
6	117	113	165	121	205	190	362	128	120	68	62	46
7	115	111	185	95	244	178	303	116	117	66	54	47
8	115	121	170	89	263	177	272	169	117	64	52	47
9	118	170	163	86	458	179	252	129	122	67	51	48
10	115	184	161	100	733	187	262	124	116	64	51	57
11	113	173	160	108	423	209	616	129	118	62	51	49
12	115	171	158	98	302	295	514	116	114	63	51	47
13	55	160	154	86	282	238	437	268	81	63	65	45
14	50	153	146	84	291	150	390	351	78	61	72	44
15	82	154	149	84	274	127	391	214	78	61	54	66
16	61	279	150	92	737	115	334	235	78	63	51	50
17	83	263	149	190	885	296	315	427	78	59	52	46
18	132	183	145	322	541	237	291	473	87	57	51	44
19	114	165	144	151	482	151	261	435	84	56	55	44
20	298	197	144	104	409	179	242	414	83	83	54	46
21	432	339	137	101	351	184	290	668	98	85	51	43
22	168	214	e136	99	344	196	257	557	105	59	51	44
23	143	191	136	94	389	178	220	443	117	177	51	44
24	133	178	e134	121	325	141	156	371	96	120	50	43
25	123	174	133	176	286	129	158	321	84	67	50	42
26	117	231	134	175	263	124	143	286	79	60	49	46
27	112	229	120	151	251	115	123	256	76	57	49	46
28	109	202	74	143	236	112	116	231	74	56	55	45
29	107	182	65	138	---	111	110	228	74	55	80	44
30	106	174	65	138	---	123	104	247	76	54	50	61
31	106	---	88	136	---	132	---	205	---	60	47	---
TOTAL	3917	5330	4383	4088	10110	5545	8104	8071	3048	2167	1688	1409
MEAN	126	178	141	132	361	179	270	260	102	69.9	54.5	47.0
MAX	432	339	185	322	885	296	616	668	182	177	80	66
MIN	50	111	65	84	145	111	104	90	74	54	47	42

CAL YR	1989	TOTAL	42433	MEAN	116	MAX	504	MIN	40
WTR YR	1990	TOTAL	57860	MEAN	159	MAX	885	MIN	42

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.--17 years (1972–73, 1976–90), 196 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, 13 ft^3/s, Aug. 18, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,110 ft^3/s, Feb. 17; maximum gage height, 6.22 ft, Feb. 17; minimum daily, 47 ft^3/s, Sept. 24, 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e130	e202	e200	264	174	439	193	155	e250	e94	e65	e51
2	e126	e176	e187	195	e350	453	241	137	e200	e92	e60	e50
3	e127	e181	e190	136	e310	467	257	127	e170	e88	e59	e49
4	131	e185	e180	168	e280	442	e460	127	e155	e87	e58	e50
5	131	e172	e185	316	e260	396	e500	244	e150	e94	e72	e50
6	131	e170	e190	162	e250	373	e460	266	e150	e90	e70	e51
7	134	e167	205	155	299	330	e420	230	e140	e85	63	e52
8	137	185	e185	151	316	306	e380	257	131	e88	e59	e53
9	139	218	e185	139	516	311	e340	213	148	e92	e56	e55
10	e126	266	181	148	880	318	e400	218	131	e87	e55	64
11	e124	268	e175	172	749	347	782	239	137	e84	e55	e56
12	e124	271	e170	166	570	522	789	224	126	e82	e60	e54
13	e71	224	e165	139	511	476	726	394	e120	e85	e70	e50
14	e61	203	166	129	479	380	706	576	e110	e86	80	e60
15	124	230	e175	120	439	301	739	409	e110	e89	e68	77
16	75	357	e168	126	680	282	680	420	e105	e90	e56	e62
17	93	378	e165	232	1110	479	601	e500	e105	e86	e55	e54
18	174	271	e160	476	856	555	528	e600	e120	e84	e58	e50
19	162	246	e160	282	803	418	456	e530	e110	e90	e62	e50
20	320	278	e155	181	749	448	388	e510	e110	e120	e59	e52
21	573	380	e155	195	674	496	407	e780	e120	e140	e57	e50
22	332	e292	e150	168	655	499	362	e650	e130	e98	e56	e49
23	e202	e248	e150	159	719	445	318	e520	e150	e220	e55	e48
24	e192	e240	e150	170	658	335	313	e420	e140	e170	e55	47
25	e183	e250	e145	232	595	273	342	e380	e120	e125	e55	e47
26	e175	266	e140	230	522	255	304	e350	e100	e70	e55	e50
27	e169	294	e129	207	508	259	264	e320	e98	e64	e56	e55
28	e166	268	104	197	473	209	237	e300	e94	e62	e70	e52
29	e164	e229	73	189	---	183	201	e300	e90	e62	e98	e50
30	e162	e210	75	185	---	213	172	e340	e90	e63	e70	e80
31	e162	---	109	153	---	218	---	e300	---	71	e54	---
TOTAL	5120	7325	4927	5942	15385	11428	12966	11036	3910	2938	1921	1618
MEAN	165	244	159	192	549	369	432	356	130	94.8	62.0	53.9
MAX	573	380	205	476	1110	555	789	780	250	220	98	80
MIN	61	167	73	120	174	183	172	127	90	62	54	47

CAL YR	1989	TOTAL	58393	MEAN	160	MAX	786	MIN	47
WTR YR	1990	TOTAL	84516	MEAN	232	MAX	1110	MIN	47

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, 365.84 ft, May 21-22; minimum, 361.99 ft, Dec. 18.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	362.64	363.69	363.16	363.21	362.87	364.66	362.99	362.87	364.06	363.13	362.97	362.73
2	362.57	363.66	363.13	363.05	363.23	364.71	362.85	362.76	364.21	363.14	362.77	362.84
3	362.95	363.78	363.12	362.92	363.62	364.74	363.10	362.76	363.88	363.11	362.64	362.91
4	363.11	363.74	363.05	362.93	363.79	364.69	363.92	362.78	363.58	363.10	362.61	362.97
5	363.13	363.38	363.01	363.15	363.81	364.55	364.63	363.13	363.51	362.92	362.75	363.00
6	362.90	363.19	363.04	363.26	363.55	364.38	364.73	363.60	363.20	362.91	362.87	363.03
7	362.93	363.15	363.03	363.25	363.29	364.18	364.74	363.49	362.89	362.87	362.80	362.95
8	362.98	363.14	363.15	363.21	363.26	363.99	364.71	363.10	363.20	362.74	362.65	362.91
9	362.96	363.15	363.15	363.11	363.69	364.01	364.60	363.21	363.29	362.74	362.73	362.89
10	362.65	363.42	363.12	362.91	364.52	364.01	364.27	363.37	363.22	362.86	362.91	362.94
11	362.62	363.50	362.99	362.86	364.83	364.02	364.70	363.46	363.12	362.84	362.98	362.81
12	362.56	363.51	362.82	362.97	364.75	364.34	364.99	363.57	363.05	362.81	362.84	362.83
13	362.48	363.15	362.65	362.99	364.53	364.50	365.14	363.62	362.93	362.82	362.70	362.88
14	362.66	363.05	362.39	362.94	364.41	364.46	365.21	364.11	362.89	362.74	362.71	362.74
15	362.74	363.25	362.66	362.84	364.28	364.43	365.30	364.08	362.71	362.73	362.66	362.73
16	362.49	363.50	362.99	362.61	364.42	364.29	365.20	364.08	362.64	362.92	362.71	362.70
17	362.80	363.45	362.52	362.86	365.12	364.36	364.89	364.54	362.84	363.03	362.75	362.63
18	363.09	363.25	362.15	363.66	365.42	364.68	364.58	365.01	362.92	362.84	362.79	362.59
19	363.22	363.23	362.76	363.91	365.48	364.69	364.36	365.16	362.94	362.77	362.81	362.68
20	363.48	363.30	362.95	363.55	365.51	364.56	364.00	365.25	362.96	362.97	362.74	362.74
21	363.91	363.56	362.64	363.19	365.37	364.79	363.79	365.72	363.06	363.16	362.58	362.80
22	363.82	363.60	362.58	363.01	365.18	364.86	363.51	365.82	362.85	362.76	362.77	362.94
23	363.59	363.47	362.68	363.03	365.18	364.68	363.37	365.76	362.77	362.76	362.91	362.95
24	363.36	363.69	362.76	362.85	365.26	364.39	363.88	365.61	362.78	363.28	362.96	362.84
25	363.36	363.21	362.75	362.75	365.17	363.98	364.11	365.38	362.88	363.34	362.85	362.86
26	363.49	363.01	362.57	362.79	365.02	363.71	363.86	365.05	362.84	362.94	362.76	362.90
27	363.54	363.11	362.43	362.97	364.92	363.95	363.81	364.75	362.74	362.59	362.65	362.89
28	363.65	363.13	362.36	363.01	364.79	363.61	363.64	364.60	363.09	362.83	362.45	362.78
29	363.27	363.20	362.66	363.01	---	363.30	363.32	364.60	363.11	362.86	362.99	362.82
30	363.21	363.48	362.83	362.97	---	363.48	363.02	364.71	363.11	362.91	362.99	362.94
31	363.66	---	362.96	362.80	---	363.28	---	364.41	---	363.04	362.80	---
MEAN	363.09	363.36	362.81	363.05	364.47	364.27	364.17	364.21	363.11	362.92	362.78	362.84
MAX	363.91	363.78	363.16	363.91	365.51	364.86	365.30	365.82	364.21	363.34	362.99	363.03
MIN	362.48	363.01	362.15	362.61	362.87	363.28	362.85	362.76	362.64	362.59	362.45	362.59

CAL YR 1989 MEAN 363.20 MAX 366.10 MIN 362.15
WTR YR 1990 MEAN 363.42 MAX 365.82 MIN 362.15

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.--41 years, 165 ft^3/s, 19.83 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)
Feb. 17	0300	*2,890	*10.14	No other peak greater than base discharge.			

Minimum discharge, 29 ft^3/s, Sept. 5, gage height, 1.70 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	174	e160	e400	215	e200	296	126	144	113	42	35
2	63	126	e155	e350	564	e220	371	116	128	96	37	33
3	65	122	e150	e380	415	e230	909	109	120	76	35	32
4	63	134	e150	e400	e320	e170	993	106	123	68	34	31
5	59	111	e140	e500	e300	e150	702	251	115	71	49	31
6	60	104	e140	e460	e280	e140	555	241	105	62	67	31
7	58	100	e130	e420	260	e130	445	175	101	57	51	38
8	55	120	e120	e350	318	e130	357	286	96	54	43	42
9	56	160	e110	e330	774	e120	299	180	119	60	39	42
10	55	204	e105	e260	1250	e130	313	153	106	55	41	99
11	54	167	e100	194	624	199	1170	225	98	50	42	50
12	52	180	e100	170	399	1150	539	159	92	51	37	43
13	50	152	e98	e130	316	689	388	495	82	55	86	39
14	51	135	e96	e140	334	515	324	563	106	50	151	35
15	114	124	e96	e145	274	389	311	283	251	51	72	97
16	83	575	e94	e150	1460	309	263	516	112	66	57	61
17	139	430	e92	434	1630	355	272	976	93	52	48	47
18	219	248	e92	916	602	358	248	755	104	47	42	42
19	144	177	e90	515	463	262	205	614	97	44	51	39
20	697	306	e90	305	e330	372	187	610	85	51	45	43
21	730	632	e88	253	e310	452	233	1270	76	85	40	38
22	337	308	e86	234	e300	407	209	703	82	54	40	38
23	229	244	e85	217	575	427	178	457	100	104	37	37
24	171	199	e84	349	405	334	156	352	89	98	38	36
25	142	178	e84	348	e270	278	295	280	78	62	36	35
26	125	291	e82	487	e250	247	235	232	72	52	34	35
27	114	289	e80	354	e280	204	179	205	71	47	38	36
28	106	242	e78	279	e250	185	155	179	70	44	52	34
29	99	206	e78	225	---	179	143	160	128	40	110	33
30	93	e170	e80	247	---	234	132	242	210	37	46	72
31	92	---	e160	222	---	337	---	171	---	40	38	---
TOTAL	4438	6608	3293	10164	13768	9502	11062	11190	3253	1892	1578	1304
MEAN	143	220	106	328	492	307	369	361	108	61.0	50.9	43.5
MAX	730	632	160	916	1630	1150	1170	1270	251	113	151	99
MIN	50	100	78	130	215	120	132	106	70	37	34	31
CFSM	1.27	1.95	.94	2.90	4.35	2.71	3.26	3.19	.96	.54	.45	.38
IN.	1.46	2.18	1.08	3.35	4.53	3.13	3.64	3.68	1.07	.62	.52	.43

CAL YR	1989	TOTAL	55814	MEAN	153	MAX	1080	MIN	23	CFSM	1.35	IN. 18.37
WTR YR	1990	TOTAL	78052	MEAN	214	MAX	1630	MIN	31	CFSM	1.89	IN. 25.69

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.--32 years, 49.3 ft^3/s, 20.79 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)
Feb. 16	2130	*775	*7.70	No other peak greater than base discharge.			

Minimum discharge, 7.2 ft^3/s, Aug. 28, 31, and Sept. 1-7; minimum gage height, 5.15 ft, Sept. 2-5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	108	e54	e84	66	72	71	43	46	30	11	7.3
2	24	63	e50	e56	119	69	82	40	43	24	9.6	7.3
3	24	67	e48	50	e90	69	140	38	41	18	8.7	7.2
4	22	61	e46	59	e83	e52	206	39	45	16	8.3	7.2
5	21	56	e44	89	e72	e48	170	99	40	17	17	7.5
6	22	55	e43	62	e68	e46	154	60	37	16	20	7.9
7	21	53	e50	58	74	e44	129	56	34	14	13	11
8	20	56	e46	49	78	e44	115	101	35	13	11	10
9	25	61	e45	46	171	47	106	58	40	18	9.9	20
10	22	63	e47	54	382	52	135	67	32	14	10	34
11	23	60	e43	54	170	68	356	85	32	12	9.9	14
12	21	59	e39	e47	113	124	179	59	28	14	9.9	10
13	19	52	e37	e42	102	98	135	161	26	15	34	9.2
14	21	49	e36	e40	108	89	116	184	24	12	31	8.3
15	97	48	e36	44	118	73	114	106	32	12	13	35
16	48	142	e35	53	578	64	96	175	25	16	9.9	17
17	67	102	e34	128	409	110	97	250	23	12	9.4	12
18	68	73	e34	223	178	99	88	194	24	10	8.6	10
19	66	62	e33	125	145	75	76	154	23	9.5	9.9	10
20	240	94	e32	85	105	93	70	150	22	18	9.5	12
21	252	129	e32	84	104	96	91	298	29	23	8.7	9.8
22	126	85	e31	79	105	124	75	158	32	13	9.6	9.9
23	95	76	e30	70	145	146	65	120	43	32	9.1	9.8
24	77	69	e29	93	106	103	59	100	27	25	8.6	9.1
25	67	65	e28	103	e70	90	73	86	23	16	8.3	8.5
26	61	98	e28	143	e66	82	62	76	20	12	7.9	9.6
27	57	89	e27	94	e74	68	54	69	20	11	8.0	9.5
28	54	86	e26	81	77	64	51	61	19	10	12	8.8
29	50	71	e25	72	---	62	46	62	37	10	15	8.7
30	47	65	e25	74	---	72	45	70	38	9.7	8.6	18
31	50	---	e32	71	---	74	---	53	---	12	7.6	---
TOTAL	1830	2217	1145	2412	3976	2417	3256	3272	940	484.2	367.0	358.6
MEAN	59.0	73.9	36.9	77.8	142	78.0	109	106	31.3	15.6	11.8	12.0
MAX	252	142	54	223	578	146	356	298	46	32	34	35
MIN	19	48	25	40	66	44	45	38	19	9.5	7.6	7.2
CFSM	1.83	2.30	1.15	2.42	4.41	2.42	3.37	3.28	.97	.49	.37	.37
IN.	2.11	2.56	1.32	2.79	4.59	2.79	3.76	3.78	1.09	.56	.42	.41

CAL YR	1989	TOTAL	19590.4	MEAN	53.7	MAX	384	MIN	8.5	CFSM	1.67	IN. 22.63
WTR YR	1990	TOTAL	22674.8	MEAN	62.1	MAX	578	MIN	7.2	CFSM	1.93	IN. 26.20

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.--13 years (water years 1972, 1979–90), 2.20 ft^3/s, 10.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 418 ft^3/s, July 3, 1974, gage height, 6.51 ft, from rating curve extension above 47 ft^3/s on basis of computation of peak flow through culvert (Type IV flow); minimum discharge, 0.02 ft^3/s, Sept. 11, 1972, Aug. 24, 1990.

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)
Aug. 5	1430	145	3.58	Aug. 28	2045	*402	*6.36
Aug. 13	1400	161	3.78				

Minimum discharge, 0.02 ft^3/s, Aug. 24, gage height, 0.99 ft.

REVISIONS.--The peaks greater than base discharge for the period of record have been revised, as shown in the following table. They supersede figures published in corresponding annual reports and in Professional Paper 924.

Water Year	Date	Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Discharge (ft^3/s)	Gage height (ft)
1971	July 1, 1971	99	2.97	1975	Sept. 26, 1975	197	4.21	1985	Sept. 27, 1985	142	3.54
1971	Mar. 15, 1971	75	2.68	1976	June 23, 1976	89	2.85	1986	June 7, 1986	248	4.79
1971	June 8, 1971	91	2.87	1977	Oct. 24, 1976	297	5.31	1986	Aug. 15, 1986	146	3.59
1971	July 24, 1971	109	3.10	1978	Sept. 19, 1978	198	4.22	1986	Sept. 29, 1986	116	3.20
1972	May 15, 1972	150	3.64	1979	Sept. 6, 1979	81	2.76	1987	June 22, 1987	97	2.94
1972	Mar. 2, 1972	93	2.90	1979	Sept. 14, 1979	117	3.21	1988	Apr. 1, 1988	112	3.14
1972	June 15, 1972	124	3.30	1980	June 15, 1980	106	3.05	1988	July 17, 1988	91	2.87
1972	June 21, 1972	128	3.35	1981	May 15, 1981	100	2.98	1988	July 21, 1988	186	4.08
1973	June 5, 1973	149	3.62	1982	Oct. 28, 1981	134	3.43	1988	July 26, 1988	149	3.62
1973	June 12, 1973	143	3.55	1982	June 29, 1982	128	3.35	1988	Sept. 20, 1988	95	2.92
1973	June 21, 1973	130	3.38	1983	Apr. 30, 1983	83	2.78	1989	July 20, 1989	122	3.27
1973	July 4, 1973	134	3.43	1984	June 14, 1984	93	2.90	1989	July 27, 1989	103	3.01
1973	Aug. 9, 1973	143	3.55	1984	July 4, 1984	190	4.13	1989	Sept. 14, 1989	106	3.05
1974	July 3, 1974	418	6.51	1984	Aug. 12, 1984	281	5.14	1989	Sept. 19, 1989	106	3.05

04245236 MEADOW BROOK AT HURLBURT ROAD, SYRACUSE, NY--continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	5.1	e1.8	4.7	2.4	1.9	5.5	2.7	1.9	1.6	.98	.84
2	1.4	1.6	1.6	1.6	9.3	2.5	4.3	2.8	2.0	1.5	.94	.81
3	1.0	3.4	1.6	1.4	2.9	2.4	7.0	3.1	1.8	1.5	.93	.76
4	.86	1.8	1.8	5.6	2.5	1.9	11	4.3	2.7	1.3	.87	.76
5	.78	1.6	1.8	3.8	2.1	1.9	7.0	9.2	2.0	1.3	20	.90
6	1.1	2.0	2.2	1.7	2.2	1.8	4.6	3.3	1.9	1.5	2.6	.86
7	.74	2.5	1.8	1.5	3.0	1.8	3.0	5.7	1.9	1.5	1.2	2.4
8	.83	1.9	1.4	1.5	4.6	1.9	2.8	6.7	2.1	1.5	1.1	.99
9	1.3	2.3	1.2	1.5	9.9	1.9	2.4	3.2	35	2.8	1.0	4.2
10	.78	1.9	1.2	3.2	11	1.9	8.6	3.4	17	1.8	1.0	2.0
11	.78	2.0	1.2	2.7	3.2	2.1	9.6	2.2	2.3	1.8	1.0	.99
12	.79	2.4	1.2	2.0	2.5	12	3.1	1.6	1.7	2.1	1.7	.86
13	.78	1.8	1.1	1.5	2.4	2.7	3.0	19	1.6	2.2	21	.84
14	2.3	1.8	1.2	1.3	2.4	3.8	3.5	4.0	2.9	2.1	3.4	1.1
15	8.5	1.8	1.2	1.4	3.7	2.2	3.6	2.4	2.3	2.1	1.9	7.4
16	1.2	10	1.2	2.2	21	2.2	2.9	7.6	1.6	6.6	1.8	.99
17	8.5	2.3	1.2	3.3	7.6	15	3.8	9.8	1.4	2.0	1.8	.93
18	2.6	1.8	1.2	4.4	3.2	3.2	2.6	3.7	4.8	1.4	1.9	.93
19	3.0	1.6	1.2	2.2	3.4	2.8	2.4	3.0	1.6	1.1	7.0	1.2
20	19	5.8	1.2	1.9	2.7	6.6	2.5	13	1.2	11	2.6	1.0
21	3.5	4.0	e1.3	2.0	2.4	5.6	4.3	11	2.3	5.6	2.6	.84
22	2.4	2.2	e1.3	2.1	3.6	3.4	2.4	3.5	3.3	.99	3.8	.93
23	1.7	1.9	1.3	2.1	3.7	3.0	2.2	2.9	7.3	20	4.1	.79
24	1.4	1.8	1.2	3.1	2.5	3.1	2.2	2.6	1.8	1.2	1.8	.76
25	1.3	1.8	1.2	2.0	2.3	2.6	5.2	2.4	1.4	.79	4.2	.76
26	1.3	3.7	1.1	2.6	2.1	2.4	2.4	2.4	1.4	.67	4.4	.99
27	1.2	2.2	1.1	1.8	2.0	2.2	2.2	2.4	2.2	.68	5.3	.79
28	1.2	2.1	1.3	1.8	1.9	2.2	2.3	2.4	1.6	.69	27	.76
29	1.1	2.1	1.1	1.9	---	1.9	3.2	14	2.0	.89	30	1.3
30	1.2	2.2	1.1	1.7	---	3.2	2.9	4.9	1.8	.97	1.1	4.5
31	5.0	---	8.4	1.8	---	2.4	---	2.2	---	3.9	.97	---
TOTAL	78.14	79.4	48.7	72.3	122.5	104.5	122.5	161.4	114.8	85.08	159.99	43.18
MEAN	2.52	2.65	1.57	2.33	4.37	3.37	4.08	5.21	3.83	2.74	5.16	1.44
MAX	19	10	8.4	5.6	21	15	11	19	35	20	30	7.4
MIN	.60	1.6	1.1	1.3	1.9	1.8	2.2	1.6	1.2	.67	.87	.76
CFSM	.87	.91	.54	.80	1.51	1.16	1.41	1.80	1.32	.95	1.78	.50
IN.	1.00	1.02	.62	.93	1.57	1.34	1.57	2.07	1.47	1.09	2.05	.55

CAL YR	1989	TOTAL	1079.76	MEAN	2.96	MAX	19	MIN	.42	CFSM	1.02	IN. 13.85
WTR YR	1990	TOTAL	1192.49	MEAN	3.27	MAX	35	MIN	.60	CFSM	1.13	IN. 15.30

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, 371.57 ft, May 20; minimum, 367.35 ft, Dec. 31.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	369.68	369.53	369.62	367.50	368.43	369.35	369.63	369.62	370.20	369.96	369.90	369.75
2	369.69	369.70	369.68	367.55	368.44	369.27	369.63	369.54	370.13	369.93	369.87	369.71
3	369.39	369.63	369.24	367.59	368.51	369.18	369.61	369.62	370.02	369.91	369.85	369.70
4	369.18	369.70	369.23	367.61	368.51	369.13	369.73	369.69	369.83	369.87	369.88	369.74
5	369.37	369.72	369.18	367.65	368.51	369.06	369.87	369.82	369.90	369.83	369.90	369.72
6	369.36	369.61	369.09	367.72	368.48	368.96	370.01	369.81	369.99	369.83	369.88	369.74
7	369.21	369.67	369.01	367.76	368.47	368.88	370.01	369.90	369.90	369.80	369.86	369.74
8	369.24	369.69	368.95	367.76	368.45	368.79	369.96	370.06	370.00	369.80	369.86	369.81
9	369.22	369.67	368.91	367.76	368.46	368.71	369.99	370.10	369.94	369.73	369.86	369.85
10	369.28	369.68	368.83	367.75	368.58	368.63	369.94	370.15	369.87	369.64	369.88	369.79
11	369.24	369.73	368.74	367.76	368.77	368.56	369.97	369.97	369.90	369.68	369.79	369.77
12	369.33	369.64	368.66	367.75	368.88	368.73	370.05	370.20	369.88	369.69	369.77	369.75
13	369.31	369.86	368.56	367.74	368.93	369.02	370.21	370.27	369.89	369.68	369.78	369.73
14	369.42	369.81	368.48	367.75	368.92	369.29	370.23	370.44	369.86	369.75	369.81	369.73
15	369.51	369.79	368.39	367.72	369.04	369.55	370.15	370.53	369.88	369.71	369.80	369.62
16	369.56	369.72	368.30	367.69	369.09	369.76	370.12	370.59	369.93	369.66	369.79	369.69
17	369.60	369.79	368.24	367.69	369.24	369.98	369.92	370.63	369.98	369.70	369.78	369.61
18	369.65	369.86	368.17	367.81	369.44	370.24	369.94	370.68	370.01	369.68	369.73	369.58
19	369.89	369.92	368.10	368.03	369.49	370.44	369.98	370.76	370.03	369.67	369.76	369.64
20	369.91	369.89	368.02	368.19	369.51	370.43	369.88	371.15	370.09	369.69	369.80	369.51
21	369.86	369.83	367.96	368.27	369.50	370.44	369.79	371.22	370.09	369.71	369.73	369.59
22	369.84	370.20	367.90	368.29	369.45	370.54	369.75	371.22	370.08	369.75	369.64	369.56
23	370.01	370.14	367.84	368.30	369.47	370.27	369.67	371.24	370.13	369.84	369.61	369.44
24	370.00	370.04	367.78	368.30	369.57	370.37	369.62	371.17	370.12	369.99	369.60	369.43
25	369.95	370.03	367.74	368.32	369.60	370.30	369.56	371.06	370.16	370.03	369.52	369.47
26	369.90	369.88	367.65	368.33	369.59	370.09	369.55	370.93	370.18	370.04	369.49	369.49
27	369.83	369.96	367.62	368.41	369.51	370.01	369.58	370.77	370.12	370.04	369.47	369.46
28	369.76	369.63	367.57	368.41	369.42	369.93	369.65	370.62	370.04	370.03	369.51	369.46
29	369.69	369.71	367.54	368.47	---	369.89	369.77	370.46	370.07	370.03	369.60	369.48
30	369.65	369.56	367.50	368.48	---	369.90	369.75	370.26	369.99	370.01	369.69	369.54
31	369.63	---	367.49	368.46	---	369.69	---	370.20	---	369.93	369.73	---
MEAN	369.59	369.79	368.39	367.96	369.01	369.59	369.85	370.41	370.01	369.83	369.75	369.64
MAX	370.01	370.20	369.68	368.48	369.60	370.54	370.23	371.24	370.20	370.04	369.90	369.85
MIN	369.18	369.53	367.49	367.50	368.43	368.56	369.55	369.54	369.83	369.64	369.47	369.43

CAL YR 1989 MEAN 369.10 MAX 370.31 MIN 367.09
WTR YR 1990 MEAN 369.48 MAX 371.24 MIN 367.49

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.--53 years (water years 1903–12, 1948–90), 2,537 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, 8,260 ft^3/s, May 21; minimum daily, 143 ft^3/s, Aug. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1830	2470	4790	2120	3420	4790	5280	1800	4130	2810	1030	159
2	1810	2480	4840	2180	3410	4650	5290	1350	4110	2800	1010	177
3	1800	2500	4390	2240	3510	4500	5240	819	4080	2170	1010	187
4	1790	2480	4320	2260	3500	4420	5460	828	2860	1670	1010	198
5	1810	2430	4350	2310	3520	4310	5700	887	1640	1640	1010	193
6	1800	2410	4350	2400	3470	4150	5960	944	1630	1640	1010	203
7	1790	2400	4080	2470	3450	4040	5970	901	1650	1640	1000	175
8	1800	2410	4010	2480	3430	3910	5870	1780	1700	1630	1000	182
9	1790	2420	3890	2490	3430	3780	5870	2420	1730	1610	1000	175
10	774	2460	3770	2470	3580	3660	5710	2430	1720	1610	1020	769
11	164	2480	3630	2490	3870	3560	5760	3600	1710	927	1040	1070
12	165	2450	3520	2460	4030	3820	5900	4180	1720	442	1010	1070
13	153	2420	3550	2440	4120	4250	6220	4200	1730	488	996	1080
14	180	2420	3440	2470	4090	4690	6260	4930	1730	504	999	1060
15	178	3340	3320	2440	4310	5130	6090	5470	1030	500	999	1060
16	441	3650	3190	2390	4360	5520	6040	5500	633	514	1000	1050
17	711	3710	3130	2400	4580	5920	5660	7060	643	530	1010	1030
18	1750	3760	3040	2540	4940	6390	5690	7130	655	508	1010	1030
19	2440	3800	2940	2850	4990	6780	5790	7290	565	305	1010	1040
20	2510	3790	2840	3070	5040	6750	5600	8110	1160	236	990	1030
21	3140	3780	2750	3180	5030	6770	5420	8260	1470	289	975	1050
22	3520	4520	2660	3200	4960	6970	5350	8240	1440	190	990	1060
23	3500	5280	2570	3210	4990	6440	5210	8260	1460	194	999	1050
24	3470	5170	2490	3220	5160	6650	5130	8120	1420	827	1000	1040
25	3460	5210	2420	3250	5210	6510	5030	7910	1410	1090	988	1030
26	3460	5070	2320	3250	5200	6130	5020	7640	1420	1030	972	1030
27	3470	5140	2280	3380	5070	5970	2740	7310	1950	1010	446	1030
28	3460	4810	2220	3380	4900	5840	1790	7030	2800	1050	143	613
29	3380	4880	2180	3470	---	5770	1800	6690	2820	1050	209	193
30	2860	4710	2140	3470	---	5780	1800	6330	2810	1040	204	223
31	2470	---	2140	3460	---	5390	---	6250	---	1030	165	---
TOTAL	61876	104850	101560	85440	119570	163240	154650	153669	55826	32974	27255	21257
MEAN	1996	3495	3276	2756	4270	5266	5155	4957	1861	1064	879	709
MAX	3520	5280	4840	3470	5210	6970	6260	8260	4130	2810	1040	1080
MIN	153	2400	2140	2120	3410	3560	1790	819	565	190	143	159

CAL YR	1989	TOTAL	864024	MEAN	2367	MAX	6370	MIN	95
WTR YR	1990	TOTAL	1082167	MEAN	2965	MAX	8260	MIN	143

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.-- Water years 1988 to current year
CHEMICAL DATA: 1988-90 (b).
MINOR ELEMENT DATA: 1988-90 (b).

REMARKS.--Water-discharge data are based on records for station 04249000 Oswego River at Lock 7 Oswego.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT												
19	1300	6140	951	7.6	11.5	760	9.8	90	260	80	15	81
NOV												
08	1300	7110	599	7.7	9.0	750	10.8	105	210	61	13	40
MAR												
28	1300	13500	585	7.9	3.0	758	12.0	90	200	59	12	38
APR												
10	1300	15800	538	7.3	5.5	750	11.4	92	210	61	13	35
MAY												
01	1100	6530	658	8.0	16.0	752	9.9	102	--	--	--	--
22	1200	22100	527	7.7	12.0	757	--	--	--	--	--	--
JUN												
27	1300	3910	773	7.5	22.5	755	6.1	72	--	--	--	--
JUL												
25	1000	4890	1080	7.7	24.5	760	6.4	77	--	--	--	--
AUG												
15	1100	1890	669	8.0	24.0	758	9.2	110	210	62	13	54
SEP												
19	1000	1380	727	8.6	18.0	756	10.3	110	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	CADMIUM 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)
OCT												
19	3.5	122	91	160	0.2	220	10	2.0	< 1	4	4	350
NOV												
08	2.6	121	66	76	0.1	200	--	--	1	--	4	2500
MAR												
28	2.3	121	63	77	< 0.1	120	--	--	3	--	4	220
APR												
10	2.0	123	--	--	--	410	--	--	< 1	--	5	580
MAY												
01	--	--	--	--	--	220	--	--	< 1	--	5	350
22	--	--	--	--	--	440	--	--	< 1	--	7	980
JUN												
27	--	--	--	--	--	130	--	--	1	--	10	170
JUL												
25	--	--	--	--	--	110	--	--	< 1	--	4	260
AUG												
15	2.2	--	--	--	--	340	10	< 1.0	< 1	12	9	13000
SEP												
19	--	--	--	--	--	130	--	--	< 1	--	8	340

STREAMS TRIBUTARY TO LAKE ONTARIO

04248250 OSWEGO RIVER AT LOCK 5, MINETTO, NY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	IRON, DIS-SOLVED (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)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT												
19	13	8	6	50	3	< 0.1	9	6	8	20	14	232
NOV												
08	--	--	21	40	--	< 0.1	--	100	--	20	12	230
MAR												
28	--	--	1	30	--	< 0.1	--	1	--	10	6	219
APR												
10	--	--	2	40	--	< 0.1	--	2	--	20	19	811
MAY												
01	--	--	2	50	--	< 0.1	--	4	--	20	14	247
22	--	--	3	80	--	< 0.1	--	1	--	20	50	2980
JUN												
27	--	--	2	20	--	0.1	--	< 1	--	< 10	8	84
JUL												
25	--	--	1	50	--	< 0.1	--	2	--	< 10	15	198
AUG												
15	40	5	5	110	10	0.1	1	3	30	20	56	275
SEP												
19	--	--	2	110	--	< 0.1	--	3	--	20	9	34

CHEMICAL QUALITY OF BOTTOM MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SOLIDS, VOLA-TILE IN BOTTOM MA-TERIAL (MG/KG)	ALUM-INUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	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)
JUL											
25	1000	10000	5000	< 1	10	40	160	10	20	17000	0.02

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 fair. 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 the flow from 14 mi^2 of the Tioughnioga River basin may be diverted into De Ruyter Reservoir, in Oswego River basin. Telephone 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.--57 years (1933–90), 6,643 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, 22,100 ft^3/s, May 22; maximum gage height, 10.20 ft, May 21; minimum daily, 599 ft^3/s, Sept. 2.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4390	7020	10300	5290	7360	15200	11600	6530	12700	5120	2870	970
2	2610	7420	10100	6810	7930	14700	11100	4700	11800	4850	3020	599
3	2780	7320	9750	6260	9000	14800	9900	3440	12200	4400	2370	665
4	3470	7750	9370	6630	9500	14700	12100	3320	10600	3230	2150	1060
5	3140	8280	9200	6930	10400	14400	16100	3210	7580	3530	1990	1420
6	3120	7630	8640	7520	10700	13900	17200	4830	7880	2790	2470	2110
7	2660	7290	8300	7360	10600	13600	17100	5940	6030	2810	2510	1950
8	2810	7110	9470	7100	9480	12800	16800	6590	4950	2950	2630	1240
9	3430	7190	8980	7260	10400	11900	16600	6790	5850	2990	1220	1530
10	2410	6950	8540	7570	13900	12100	15800	6970	5580	2840	1440	2150
11	890	7330	8840	6930	15800	12200	16600	7700	5720	2340	2470	3100
12	1550	7780	7830	6430	15300	15100	17700	9420	5450	1750	2370	2250
13	1420	8060	7260	6310	14900	16500	18600	10200	5340	1620	1880	2290
14	981	7150	6770	6180	14400	16200	18700	13400	4980	1490	2250	2340
15	1380	6100	3940	6100	14300	15900	18800	14800	4340	1260	1820	2030
16	1850	8660	5410	5120	14600	15500	18600	14500	2950	1410	2130	1830
17	1380	10100	8300	3790	16800	15700	18100	16100	1920	2210	2270	2170
18	3270	9680	6180	8360	18100	16400	16800	18700	2810	2160	2300	1950
19	6140	8860	3650	11300	18300	17200	16100	19000	2470	684	2200	1380
20	5950	8960	5830	11000	18000	17400	15400	19400	2420	702	2350	1140
21	8080	9410	6320	9970	17800	16800	14800	21600	2840	2310	1690	1720
22	9790	10200	5010	8830	17600	17500	14300	22100	3260	2380	1220	1910
23	10300	10600	5090	7750	18500	17200	12300	21600	3130	1320	1920	1850
24	9430	10800	5550	7780	18500	16600	11600	21000	3060	2090	1760	2350
25	8840	11500	5510	7470	17900	16000	13000	20300	2930	4890	2520	2260
26	8690	10400	5060	7680	17200	13800	13000	19300	3420	4920	2080	2640
27	7630	10000	4950	7860	16500	13300	11000	17300	3910	4180	1850	2400
28	8190	10200	4110	7920	16300	13500	9450	16700	3570	1510	1330	1920
29	8940	9480	3170	7680	---	11800	8970	15200	4470	2170	1320	1640
30	6960	9610	3620	7900	---	11000	8020	15700	5310	2460	1720	1810
31	5470	---	4020	7500	---	12100	---	15000	---	3040	1690	---
TOTAL	147951	258840	209070	228590	400070	455800	436140	401340	159470	82406	63810	54674
MEAN	4773	8628	6744	7374	14290	14700	14540	12950	5316	2658	2058	1822
MAX	10300	11500	10300	11300	18500	17500	18800	22100	12700	5120	3020	3100
MIN	890	6100	3170	3790	7360	11000	8020	3210	1920	684	1220	599

CAL YR	1989	TOTAL 2155782	MEAN	5906	MAX	18200	MIN	302
WTR YR	1990	TOTAL 2898161	MEAN	7940	MAX	22100	MIN	599

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), 1983-90 (b).
MINOR ELEMENTS DATA: 1971-73 (a), 1975 (b), 1976 (a), 1977-90 (b).
ORGANIC DATA: OC--1975 (b), 1978-81 (d).
NUTRIENT DATA: 1971 (a), 1974 (a), 1975 (c), 1976-81 (d), 1982 (c), 1983-90 (b).
BIOLOGICAL DATA:
Bacteria--1974 (a), 1975 (c), 1976-81 (d), 1982 (c), 1983-90 (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), 1983-90 (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 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
24	0900	9550	741	8.1	9.5	4.2	771	10.7	93	K30000	86
MAR											
22	0900	17200	486	8.1	5.0	6.3	765	13.6	106	160	K28
JUN											
26	0900	3100	656	7.7	21.5	5.0	762	6.7	76	K65	K4
AUG											
22	0900	1700	733	8.1	23.0	3.7	751	8.1	96	K70	K12

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT										
24	230	68	14	58	2.9	118	81	110	0.10	2.4
MAR										
22	180	54	12	31	2.0	120	48	59	0.10	2.0
JUN										
26	220	66	13	52	2.2	124	65	100	< 0.10	0.90
AUG										
22	220	65	14	59	2.7	119	78	110	1.2	1.3

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 1989 TO SEPTEMBER 1990

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L)	NITRO-GEN, AMMONIA TOTAL (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L)	PHOS-PHOROUS TOTAL (MG/L)	PHOS-PHOROUS DIS-SOLVED (MG/L)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L)
OCT										
24.....	431	409	0.47	0.14	0.23	0.05	0.80	0.09	0.04	0.03
MAR										
22.....	288	283	0.80	0.09	0.10	0.01	0.60	0.03	< 0.01	< 0.01
JUN										
26.....	407	377	0.70	0.16	0.16	0.04	2.0	0.05	0.01	< 0.01
AUG										
22.....	414	404	0.40	0.06	0.05	0.01	0.80	0.04	0.01	< 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)
OCT										
24.....	< 10	< 1	43	< 0.5	< 1.0	< 1	< 3	2	10	< 1
MAR										
22.....	10	< 1	35	< 0.5	< 1.0	< 5	< 3	< 10	26	< 10
JUN										
26.....	< 10	< 1	48	0.8	1.0	< 1	< 3	3	16	<1
AUG										
22.....	< 10	< 1	47	< 0.5	< 1.0	1	< 3	2	4	< 1

DATE	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT										
24.....	12	3	< 0.1	< 10	2	< 1	< 1.0	790	< 6	7
MAR										
22.....	8	8	0.1	< 10	< 10	< 1	< 1.0	500	< 6	< 3
JUN										
26.....	13	8	< 0.1	< 10	1	< 1	< 1.0	740	< 6	7
AUG										
22.....	14	2	< 0.1	< 10	1	< 1	< 1.0	820	< 6	5

04249000 OSWEGO RIVER AT LOCK 7, OSWEGO, NY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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)
OCT								
24.....	0905	30	11.5	3.0	773	8.1	9.5	10.7
24.....	0910	30	11.5	7.0	776	8.1	9.5	10.5
24.....	0915	100	12.3	3.0	770	8.1	10.0	10.6
24.....	0920	100	12.3	7.0	769	8.2	9.5	10.7
24.....	0925	200	11.9	3.0	771	8.2	9.5	10.5
24.....	0930	200	11.9	7.0	770	8.1	9.5	10.4
24.....	0935	300	4.0	2.0	775	8.1	9.5	10.6
JUN								
26.....	0905	30	12.1	3.0	653	7.7	21.5	6.8
26.....	0910	30	12.1	10.0	655	7.7	21.5	6.6
26.....	0915	100	12.6	3.0	658	7.7	21.5	6.7
26.....	0920	100	12.6	10.0	656	7.7	21.5	6.4
26.....	0925	200	11.4	3.0	657	7.8	21.5	6.6
26.....	0930	200	11.4	10.0	656	7.7	21.5	6.8
26.....	0935	300	4.5	2.0	658	7.7	21.5	6.8
AUG								
22.....	0905	30	11.1	3.0	731	8.1	23.0	8.1
22.....	0910	30	11.1	7.0	731	8.1	23.0	8.3
22.....	0915	100	10.7	3.0	733	8.1	23.0	8.2
22.....	0920	100	10.7	7.0	732	8.2	23.0	8.0
22.....	0925	200	10.1	3.0	734	8.2	23.0	8.0
22.....	0930	200	10.1	7.0	737	8.1	23.0	8.1
22.....	0935	300	3.7	2.0	740	8.1	23.0	8.2

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
24.....	0900	9550	25	645	72
MAR					
22.....	0900	17200	12	557	91
JUN					
26.....	0900	3100	8	67	97
AUG					
22.....	0900	1700	10	46	100

LAKES AND RESERVOIRS IN STREAMS TRIBUTARY TO LAKE ONTARIO

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, 246.34 ft, June 3; minimum, 243.58 ft, Dec. 31.

ELEVATION (FEET IGLD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	244.74	244.58	244.39	244.21	244.10	244.63	245.05	245.70	246.12	245.88	245.38	244.88
2	244.78	244.38	244.24	244.07	244.18	244.58	245.04	245.70	246.07	245.85	245.38	244.87
3	244.98	244.46	244.54	243.94	244.08	244.66	245.12	245.68	246.08	245.82	245.34	244.78
4	245.00	244.34	244.36	243.99	244.16	244.62	245.24	245.63	246.21	245.84	245.27	244.69
5	244.77	244.23	244.22	244.05	244.12	244.56	245.28	245.71	246.15	245.90	245.25	244.72
6	244.76	244.32	244.29	244.06	244.16	244.53	245.29	245.67	246.09	245.82	245.28	244.70
7	244.84	244.32	244.36	243.99	244.14	244.49	245.33	245.68	246.12	245.76	245.26	244.75
8	244.75	244.32	244.19	243.95	244.08	244.46	245.33	245.66	246.07	245.67	245.24	244.60
9	244.65	244.40	244.16	243.92	244.11	244.48	245.26	245.65	246.11	245.72	245.18	244.53
10	244.51	244.39	244.20	244.01	244.28	244.48	245.36	245.66	246.13	245.73	245.14	244.59
11	244.58	244.41	244.18	243.98	244.22	244.48	245.53	245.80	246.12	245.65	245.14	244.57
12	244.52	244.53	244.18	244.17	244.19	244.57	245.55	245.69	246.07	245.64	245.12	244.54
13	244.55	244.26	244.16	244.16	244.16	244.63	245.47	245.77	246.01	245.53	245.21	244.55
14	244.55	244.30	244.12	243.95	244.24	244.65	245.46	245.78	246.02	245.43	245.21	244.51
15	244.52	244.31	244.09	243.95	244.14	244.69	245.55	245.78	246.01	245.46	245.21	244.75
16	244.50	244.48	244.39	243.97	244.36	244.73	245.55	245.81	245.97	245.47	245.20	244.66
17	244.52	244.58	244.30	243.95	244.51	244.77	245.68	245.89	245.95	245.46	245.21	244.67
18	244.47	244.54	244.25	244.12	244.31	244.86	245.65	245.97	245.93	245.49	245.20	244.58
19	244.32	244.44	244.14	244.12	244.62	244.89	245.59	246.00	246.02	245.47	245.03	244.50
20	244.47	244.63	244.28	244.04	244.47	245.07	245.59	245.99	245.98	245.54	244.94	244.54
21	244.43	244.79	244.24	244.02	244.35	245.06	245.70	246.12	245.94	245.53	244.90	244.40
22	244.58	244.51	244.16	244.11	244.35	244.95	245.68	246.10	245.90	245.51	244.88	244.42
23	244.43	244.51	244.10	244.06	244.52	245.15	245.69	246.12	245.91	245.54	244.89	244.54
24	244.41	244.50	244.13	244.06	244.53	245.07	245.68	246.13	245.95	245.50	244.87	244.50
25	244.44	244.40	244.06	244.03	244.70	245.03	245.70	246.11	245.90	245.47	244.88	244.40
26	244.44	244.54	244.21	244.28	244.51	245.13	245.71	246.11	245.88	245.46	244.87	244.40
27	244.45	244.34	243.96	244.01	244.60	245.09	245.71	246.12	245.89	245.42	244.94	244.40
28	244.41	244.60	244.08	244.15	244.66	245.03	245.68	246.11	245.87	245.39	244.99	244.36
29	244.39	244.47	243.93	244.04	---	244.98	245.66	246.16	245.86	245.35	245.05	244.34
30	244.37	244.61	243.93	244.18	---	244.95	245.67	246.19	245.86	245.31	244.98	244.44
31	244.35	---	243.95	244.14	---	245.02	---	246.13	---	245.38	244.91	---
MEAN	244.56	244.45	244.19	244.05	244.32	244.78	245.49	245.89	246.01	245.58	245.11	244.57
MAX	245.00	244.79	244.54	244.28	244.70	245.15	245.71	246.19	246.21	245.90	245.38	244.88
MIN	244.32	244.23	243.93	243.92	244.08	244.46	245.04	245.63	245.86	245.31	244.87	244.34

CAL YR 1989 MEAN 244.78 MAX 246.60 MIN 243.34
WTR YR 1990 MEAN 244.92 MAX 246.21 MIN 243.92

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 1990

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	1978-90	10-20-89	15.96	75
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	1988-90	2-17-90	8.58	8,270
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	1988-90	2-17-90	13.98	19,000
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, 1979-90	2- 17-90	11.53	19,500
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	1988-90	2-17-90	13.31	19,700
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	1988-90	2-17-90	e6.62	e20,600

e Estimated.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		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, 1967-90	2-17-90	7.12	761
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‡, 1971-90	2-17-90	11.37	7,280
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‡, 1987-90	2-16-90	5.29	877
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	1988-90	2-17-90	6.05	6,370
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, 1983-90	10-20-89	1.60	380
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‡, 1968-90	2-17-90	6.66	7,300
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, 1974-90	2-17-90	16.69	34,400
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	1988-90	2-17-90	24.07	36,600

‡ Operated as a continuous-record gaging station.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		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‡, 1979-90	10-20-89	4.98	2,630
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	1988-90	2-17-90	7.95	1,900
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	1977-90	2-16-90	<13.96	<56
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, 1974-90	4-11-90	11.10	5,930
01525981	Tuscarora Creek above South Addison, NY	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	1989-90	4-11-90	7.92	5,250
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 State Highway 415 at Cohocton, 800 ft downstream from small tributary, and 1.4 mi upstream from Reynolds Creek.	52.2	1951-81‡, 1982-90	5-17-90	5.61	546
01528320	Cohocton River at Bath, NY	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	1988-90	2-16-90	8.06	4,300

‡ Operated as a continuous-record gaging station.
< Less than.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Susquehanna River basin--Continued					
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, 1983-90	3-30-89 2-16-90	14.19 13.86	R212 169
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	1988-90	2-17-90	10.22	22,300
		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, 1983-90	4-11-90	8.72	211
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‡, 1969-90	2-16-90	8.52	3,800
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, 1977-90	2-16-90	13.35	3,600
03013110	Hatch Creek at Gerry, NY	Lat 42°11'42", long 79°15'03", Chautauqua County, Hydrologic Unit 05010002, at bridge on State Highway 60 in Gerry, and 1.2 mi upstream from mouth.	6.11	1979b, 1984b, 1986, 1989-90	2-17-90	<24.25	<800
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‡, 1975-90	2-17-90	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, 1987-90	4-11-90	4.64	c

‡ Operated as a continuous-record gaging station.
§ Operated as a low-flow partial-record station.
< Less than.
b Miscellaneous measurements made.
c Discharge not determined.
R Revised

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum: Date	Annual maximum: Gage height (feet)	Annual maximum: Discharge (ft^3/s)
		Streams tributary to Lake Erie--Continued					
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	1963-90	2-16-90 4-11-90	6.73 5.95	a 1,360
		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	1985-90	2-22-90	<6.07	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	1985-90	2-22-90	5.37	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, 1976-90	4-11-90	5.89	1,350
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	1978-90	4-11-90	5.90	1,420
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 upstream from mouth, and 0.9 mi west of South Dansville.	3.15	1977-82, 1984-90	4-11-90	8.57	50
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, 1975-90	4-11-90	11.50	69

< Less than.
a Ice jam.
d No stage-discharge relationship defined at this site.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Streams tributary to Lake Ontario--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‡, 1987-90	2-17-90	5.54	778
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	1966-90	2-17-90	4.32	373
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‡, 1969-90	2-17-90	5.44	610
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, 1975-90	2-16-90	<7.95	<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	1983-90	2-16-90	19.61	289
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	1980-90	4-11-90	12.88	336
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, 1976-90	2-17-90	6.56	1,330

‡ Operated as a continuous-record gaging station.
§ Operated as a low-flow partial-record station.
< Less than.

Annual maximum discharge at crest-stage partial-record stations during water year 1990--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Streams tributary to Lake Ontario--Continued					
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	1978-90	4-11-90	7.06	89
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‡, 1987-90	2-16-90	4.76	1,560
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, 1971-90	3-15-90	5.37	610
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, 1968-90	5- 3-72 3- 8-73 4-16-76 3-15-90	6.71 7.85 7.02 5.37	R949 R1,350 R1,050 472

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Susquehanna River basin				
*01497805 Little Elk Creek	Elk Creek	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	1983	11- 8-89	4.63
*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	1988-89	11- 8-89 1-17-90 3- 7-90 5-22-90 7-24-90 9-10-90	660 697 1,250 4,440 265 220
*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, 1987-89	11-27-89 3-15-90 5-24-90 9-12-90	4,270 8,610 7,620 500

‡ Operated as a continuous-record gaging station.
* Also a crest-stage partial-record station.
R Revised

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Susquehanna River basin--Continued				
*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, 1988-89	11-15-89 3-14-90 5-15-90	2,380 9,410 8,310
*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	1987-89	11-17-89 3-14-90 5-16-90	13,300 8,930 6,830
*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	1987-89	3- 2-90 5-14-90	5,540 11,400
*01503980 Chenango River	Susquehanna River	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, 1970-72, 1974, 1977-81, 1983	11-14-89	36.3
*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	1937-70‡, 1971-79, 1982-83, 1986, 1988-89	10-18-89 3-14-90 5-15-90 9-11-90	510 3,200 2,500 134
*01508803 West Branch Tioughnioga River	Tioughnioga River	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	11- 2-89 11-13-89 3-13-90 4-11-90	139 126 230 620
*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	1987-89	11- 2-89 1-23-90 2-23-90 4-30-90 7-12-90	1,030 1,150 2,260 601 238
*01510610 Merrill Creek Tributary	Merrill Creek	Lat 42°28'03", long 75°59'19", Cortland County, Hydrologic Unit 02050102, at bridge on road, 0.3 mi upstream from mouth, and 1.4 mi southwest of Texas Valley.	5.32	1977, 1980-81, 1984	10-19-89 2-23-90	4.06 53.7

‡ Operated as a continuous-record gaging station.

* Also a crest-stage partial-record station.

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		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, 1986-89	10-18-89 11-15-89 1-16-90 3-16-90 5-26-90 7-12-90 9-14-90	1,260 1,090 702 2,960 1,900 384 167
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	1988-89	5- 3-90 5-14-90	1,560 10,700
*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, 1988-89	11-20-89 3-12-90 4-30-90	10,700 6,770 5,210
*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	1987-89	11-13-89 2-22-90 4-19-90	6,910 15,000 9,680
*01514000 Owego Creek	Susquehanna River	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‡, 1979-89	11-13-89 4-20-90	194 230
*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	1987-89	10-17-89 1- 3-90 3- 1-90 4-20-90	28.7 55.5 171 184
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	1988-89	4-12-90 4-19-90 6- 8-90 7-11-90	26,900 10,000 3,710 2,050
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, 1988-89	11-17-89 1-24-90 4-12-90 5-23-90 7-17-90	289 231 706 349 59.3
*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, 1987-89	10- 2-89 3-18-90 8- 3-90 9-27-90	62.4 1,560 48.6 83.5

‡ Operated as a continuous-record gaging station.

* Also a crest-stage partial-record station.

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Susquehanna River basin--Continued				
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	1989	11-14-89 3-13-90 5-21-90 7-23-90 9-26-90	32.2 118 778 51.9 17.5
*01527000 Cohocton River	Chemung River	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‡, 1985	11- 2-89 2- 6-90	35.3 118
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	1988-89	11- 2-89 12-21-89 2- 6-90 6- 4-90 7-16-90 9-12-90	177 116 620 231 110 62.4
*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	1988-89	11-16-89 2- 5-90 4-23-90 5-24-90 7-18-90 9-27-90	640 5,400 2,150 3,530 1,400 611
		Ohio River Main Stem				
*03011000 Great Valley Creek	Allegheny River	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‡, 1973, 1975-77, 1986	11- 6-89	142
03010632 Allegheny River	Ohio River	Lat 42°01'05", long 78°20'31", Cattaraugus County, Hydrologic Unit 05010001, at bridge on West River Road, at Mill Grove and 0.9 mi upstream from Oswayo Creek.	638	1989	3-26-90 5-15-90 9-26-90	1,250 1,320 1,090
		Streams tributary to Lake Erie				
*04213490 South Branch Cattaraugus Creek	Cattaraugus Creek	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	1963-64, 1970-72, 1974, 1979	11- 7-89	17.1

‡ Operated as a continuous-record gaging station.
* Also a crest-stage partial-record station.

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Streams tributary to Lake Ontario				
04219767 Eighteenmile Creek	Lake Ontario	Lat 43°16'43", long 78°42'32", Niagara County, Hydrologic Unit 04130001, at bridge on Jaques Road, at Corwin, and approximately 4.0 mi upstream from Lake Ontario.	75.4	1989	10-24-89 10-27-89 5- 3-90 6-14-90 8- 7-90 9-18-90 9-28-90	91.3 90.6 123 84.8 80.6 82.4 69.4
0422016550 Oak Orchard Creek	Lake Ontario	Lat 43°18'04", long 78°18'39", Orleans County, Hydrologic Unit 04130001, at bridge on Knowlesville Road, 1.0 mi southwest of Kenyonville, and 2.0 upstream from Otter Creek.	f	1989	10-24-89 10-27-89 6-14-90 8- 7-90 9-18-90 9-28-90	153 183 286 217 208 183
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, 1988-89	11- 8-89	14.4
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	1988-89	11- 8-89 4-26-90	0.97 0.82
*04224807 Stony Brook Tributary	Stony Brook	Lat 42°28'16", long 77°40'21", Steuben County, Hydrologic Unit 04130002, at culvert on Willey Road, 0.6 mi upstream the mouth, and 0.9 mi west of South Dansville.	3.29	1977	4-24-90	4.21
0423205025 Irondequoit Creek	Lake Ontario	Lat 43°10'34", long 77°31'37", Monroe County, Hydrologic Unit 04140101, on right bank 25 ft upstream of bridge on Empire Blvd., and 200 ft upstream of mouth at south end of Irondequoit Bay.	151	1980-81, 1989	3-22-90 4- 9-90 4-10-90 4-19-90 5-24-90 8- 1-90 8-30-90 9-14-90 9-18-90 9-20-90 9-25-90	243 360 257 153 210 91.6 63.5 47.6 36.2 61.6 39.3
*042320578 Bear Creek	Lake Ontario	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	1979, 1985, 1987	4-18-90	11.0
*04232200 Catharine Creek	Seneca Lake	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§, 1975, 1976-77‡,	11- 9-89	15.9

§ Operated as low-flow partial-record station.
‡ Operated as a continuous-record gaging station.
* Also a crest-stage partial-record station.
f Drainage area not determined.

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Streams tributary to Lake Ontario--continued				
*04232460 Sugar Creek	Keuka Lake	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	1955, 1964-66, 1970-72, 1977-80	2-12-90 6- 1-90	71.6 27.1
*04232630 Kendig Creek	Seneca River	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, 1979, 1986	10-18-89 4- 5-90	24.0 314
04232722 Seneca River	Lake Ontario	Lat 42°54'33", long 76°48'04", Seneca County, Hydrologic Unit 04140201, at bridge on River Road at Seneca Falls, 0.8 mi upstream from Lock No. 2, and 0.2 mi upstream of Van Cleef Lake.	f	--	4- 6-90 6-11-90 9-13-90	1,790 1,940 316
*04234138 Schaeffer Creek	Mud Creek	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	1979, 1981, 1986	11- 7-89 4- 5-90	2.42 50.4
*04234200 Mud Creek	Ganargua Creek	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	1957, 1958-68‡, 1969, 1980, 1982-83, 1987	4-18-90 6- 5-90	89.2 25.8
*04235255 Canandaigua Outlet Tributary	Canandaigua Outlet	Lat 43°00'21", long 77°00'54", Ontario County, Hydrologic Unit 04140201, at bridge on Preemption 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	1981, 1986	4- 3-90 6-11-90	11.9 1.06
04237957 Onondaga Creek	Onondaga Lake	Lat 42°37'57", long 76°09'14", Onondaga County, Hydrologic Unit 04140201, at bridge on Webster Road, 0.4 mi south of Bailey's Settlement, and 13.5 mi upstream of Onondaga Lake.	f	1989	10- 4-89 5-31-90 8- 1-90	27.1 57.5 13.3
*04245000 Limestone Creek	Lake Ontario	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	1939, 1940-86‡	10-20-89 4-13-90 6-11-90	219 337 83.3

‡ Operated as a continuous-record gaging station.
* Also a crest-stage partial-record station.
f Drainage area not determined.

Discharge measurements made at miscellaneous sites during water year 1990

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Streams tributary to Lake Ontario--continued				
*04245840 Scriba Creek	Oneida Lake	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, 1978-81	10-18-89 4-12-90 6- 6-90	81.6 264 50.9
*04249050 Catfish Creek	Lake Ontario	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	1961-65, 1968, 1971-73, 1978-81	4- 6-90	226

‡ Operated as a continuous-record gaging station.
* Also a crest-stage partial-record station.

BROOME COUNTY

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.--Digital recorder--60-minute punch.
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 recorded, 10.21 ft below land-surface datum, Feb. 23; lowest recorded, 12.02 ft below land-surface datum, Oct. 18, 19.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.77	11.57	11.48	11.90	11.32	10.38	10.75	10.73	10.60	11.00	11.35	11.34
2	11.75	11.57	11.45	11.93	11.25	10.37	10.75	10.79	10.60	10.99	11.36	11.34
3	11.79	11.56	11.44	11.92	11.18	10.41	10.73	10.83	10.59	10.98	11.38	11.38
4	11.81	11.59	11.47	11.89	11.04	10.47	10.66	10.81	10.62	10.96	11.39	11.40
5	11.83	11.58	11.49	11.94	11.00	10.52	10.67	10.75	10.69	10.99	11.38	11.39
6	11.83	11.56	11.50	11.91	10.92	10.55	10.66	10.79	10.70	11.02	11.34	11.41
7	11.88	11.58	11.57	11.91	10.88	10.59	10.63	10.81	10.73	11.06	11.31	11.42
8	11.89	11.59	11.57	11.91	10.87	10.57	10.64	10.83	10.76	11.07	11.32	11.50
9	11.92	11.57	11.55	11.93	10.82	10.57	10.63	10.84	10.76	11.07	11.32	11.50
10	11.93	11.59	11.55	11.92	10.79	10.61	10.56	10.81	10.80	11.11	11.31	11.48
11	11.93	11.57	11.58	11.92	10.78	10.64	10.54	10.85	10.85	11.15	11.32	11.49
12	11.94	11.60	11.60	11.93	10.77	10.65	10.57	10.88	10.89	11.14	11.48	11.50
13	11.96	11.59	11.61	12.00	10.72	10.67	10.56	10.82	10.91	11.11	---	11.52
14	11.97	11.57	11.64	12.00	10.73	10.70	10.52	10.81	10.92	11.08	---	11.51
15	11.97	11.57	11.63	11.98	10.69	10.72	10.49	10.76	10.94	11.08	---	11.50
16	11.97	11.52	11.65	11.99	10.55	10.73	10.51	10.71	10.98	11.12	---	11.54
17	11.98	11.53	11.70	11.98	10.51	10.71	10.51	10.64	11.01	11.15	---	11.58
18	12.01	11.49	11.72	11.96	10.42	10.76	10.58	10.63	10.98	11.17	---	11.60
19	11.96	11.46	11.74	12.00	10.32	10.79	10.59	10.62	10.98	11.18	---	11.58
20	11.80	11.36	11.74	11.94	10.35	10.75	10.58	10.60	11.01	11.18	---	11.60
21	11.66	11.42	11.76	11.89	10.33	10.74	10.56	10.58	11.02	11.19	---	11.62
22	11.61	11.45	11.81	11.85	10.26	10.72	10.59	10.58	11.04	11.21	---	11.60
23	11.59	11.42	11.83	11.84	10.24	10.71	10.61	10.56	11.04	11.21	---	11.61
24	11.56	11.44	11.81	11.77	10.27	10.74	10.63	10.58	11.08	11.25	---	11.65
25	11.55	11.41	11.80	11.72	10.36	10.71	10.63	10.59	11.13	11.27	---	11.67
26	11.55	11.41	11.81	11.68	10.40	10.72	10.64	10.57	11.15	11.29	---	11.66
27	11.55	11.44	11.82	11.65	10.34	10.74	10.66	10.57	11.16	11.30	---	11.68
28	11.56	11.40	11.86	11.58	10.37	10.74	10.67	10.59	11.19	11.31	---	11.68
29	11.56	11.46	11.92	11.50	---	10.76	10.71	10.58	11.18	11.33	---	11.69
30	11.56	11.43	11.92	11.45	---	10.74	10.72	10.58	11.08	11.34	11.36	11.68
31	11.54	---	11.88	11.41	---	10.73	---	10.59	---	11.35	11.35	---
MEAN	11.78	11.51	11.67	11.85	10.66	10.65	10.62	10.70	10.91	11.15	---	11.54
LOW	12.01	11.60	11.92	12.00	11.32	10.79	10.75	10.88	11.19	11.35	---	11.69
HIGH	11.54	11.36	11.44	11.41	10.24	10.37	10.49	10.56	10.59	10.96	---	11.34

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 recorded, 21.67 ft below land-surface datum, Feb. 20; lowest, 29.11 ft below land-surface datum, Sept. 30.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

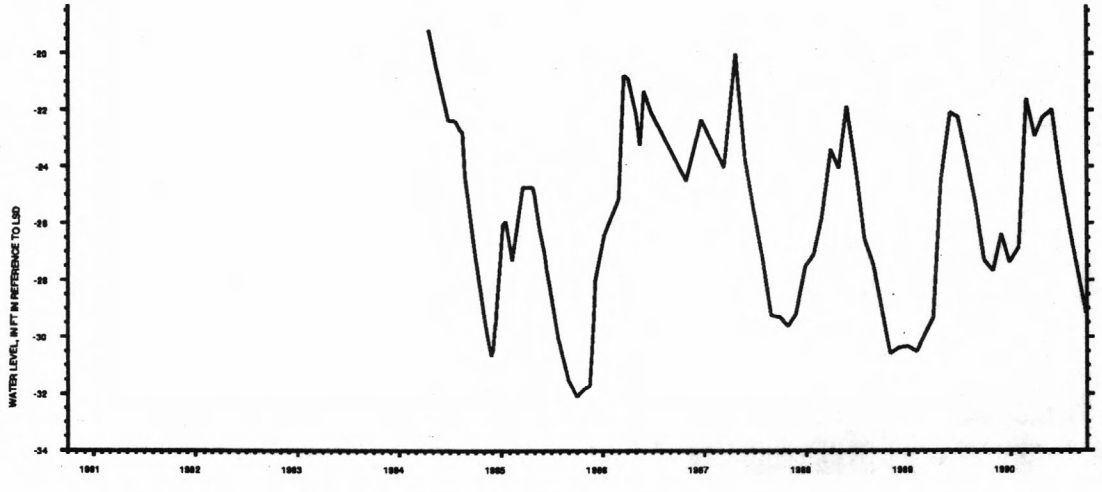
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.33	26.59	25.60	28.62	25.30	23.03	23.83	25.27	23.89	26.66	27.97	28.32
2	28.38	26.59	25.68	28.63	25.24	23.21	23.91	25.40	24.04	26.56	28.02	28.33
3	28.43	26.56	25.80	28.58	25.01	23.38	23.95	25.53	24.19	26.52	28.08	28.37
4	28.48	26.58	25.93	28.51	24.71	23.55	23.79	25.65	24.31	26.55	28.15	28.42
5	28.54	26.60	26.07	28.47	24.55	23.73	23.50	25.71	24.47	26.63	28.21	28.46
6	28.61	26.62	26.23	28.42	24.51	23.92	23.26	25.74	24.63	26.71	28.19	28.51
7	28.67	26.65	26.39	28.36	24.56	24.13	23.17	25.73	24.79	26.81	28.16	28.55
8	28.73	26.67	26.54	28.32	24.62	24.30	23.20	25.76	24.96	26.88	28.13	28.60
9	28.77	26.68	26.70	28.31	24.66	24.46	23.30	25.79	25.12	26.96	28.09	28.64
10	28.82	26.64	26.89	28.31	24.58	24.63	23.40	25.79	25.26	27.02	28.08	28.62
11	28.88	26.55	27.07	28.33	24.24	24.77	23.43	25.70	25.36	27.08	28.11	28.64
12	28.94	26.45	27.23	28.32	23.89	24.86	23.13	25.46	25.43	27.11	28.12	28.67
13	28.98	26.39	27.37	28.31	23.77	24.80	22.87	25.28	25.53	27.07	28.13	28.70
14	29.03	26.37	27.50	28.31	23.83	24.57	22.87	25.05	25.64	27.04	28.15	28.73
15	29.07	26.39	27.58	28.33	23.89	24.29	23.01	24.61	25.76	27.04	28.18	28.76
16	29.09	26.40	27.67	28.36	23.71	24.08	23.19	24.31	25.87	27.10	28.21	28.77
17	29.09	26.11	27.77	28.38	23.18	23.97	23.38	24.10	25.95	27.16	28.22	28.79
18	29.05	25.50	27.84	28.33	22.37	23.89	23.59	23.79	26.04	27.20	28.24	28.80
19	28.96	25.15	27.88	28.12	21.81	23.78	23.78	23.41	26.11	27.25	28.28	28.82
20	28.75	25.02	27.92	27.79	21.69	23.70	23.95	23.16	26.18	27.30	28.33	28.83
21	28.35	25.05	27.97	27.53	21.82	23.60	24.12	23.05	26.25	27.34	28.37	28.86
22	27.65	25.03	28.03	27.34	22.00	23.49	24.23	22.84	26.33	27.39	28.35	28.89
23	26.98	25.01	28.10	27.21	22.18	23.42	24.31	22.61	26.40	27.44	28.34	28.91
24	26.64	25.08	28.15	27.14	22.22	23.33	24.43	22.60	26.46	27.49	28.36	28.94
25	26.52	25.18	28.21	27.07	22.22	23.20	24.55	22.75	26.53	27.54	28.39	28.97
26	26.46	25.29	28.28	26.91	22.36	23.18	24.66	22.92	26.60	27.59	28.40	29.00
27	26.42	25.38	28.35	26.52	22.57	23.25	24.78	23.12	26.64	27.64	28.42	29.03
28	26.42	25.42	28.40	26.08	22.82	23.37	24.88	23.32	26.69	27.70	28.44	29.06
29	26.45	25.48	28.46	25.85	---	23.51	25.00	23.51	26.77	27.77	28.38	29.08
30	26.48	25.52	28.52	25.70	---	23.63	25.14	23.66	26.72	27.85	28.30	29.11
31	26.54	---	28.56	25.47	---	23.74	---	23.78	---	27.92	28.29	---
MEAN	28.08	25.96	27.38	27.74	23.51	23.83	23.82	24.37	25.63	27.17	28.23	28.74
LOW	29.09	26.68	28.56	28.63	25.30	24.86	25.14	25.79	26.77	27.92	28.44	29.11
HIGH	26.42	25.01	25.60	25.47	21.69	23.03	22.87	22.60	23.89	26.52	27.97	28.32

WTR YR 1990 MEAN 26.23 HIGH 21.69 LOW 29.11

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, 21.59 ft below land-surface datum, Feb. 27; lowest measured, 29.17 ft below land-surface datum, Sept. 27.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

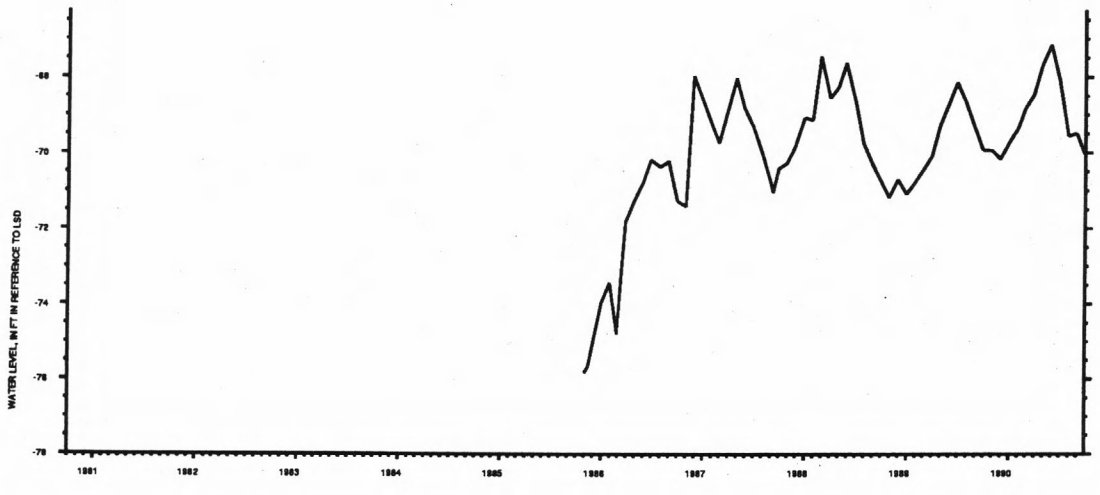
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	27.68	JAN 30	26.85	APR 25	22.27	JUL 31	26.18
NOV 29	26.38	FEB 27	21.59	MAY 29	21.98	AUG 30	27.73
DEC 28	27.37	MAR 29	22.92	JUN 29	24.28	SEP 27	29.17



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, 67.15 ft below land-surface datum, May 29, 1990; lowest measured, 75.83 ft below land-surface datum, Nov. 1, 1985.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 67.15 ft below land-surface datum, May 29; lowest measured, 70.16 ft below land-surface datum, Nov. 29.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	69.93	JAN 30	69.36	APR 26	67.71	JUL 31	69.55
NOV 29	70.16	FEB 26	68.82	MAY 29	67.15	AUG 30	69.49
DEC 28	69.75	MAR 29	68.45	JUN 28	68.06	SEP 27	70.02

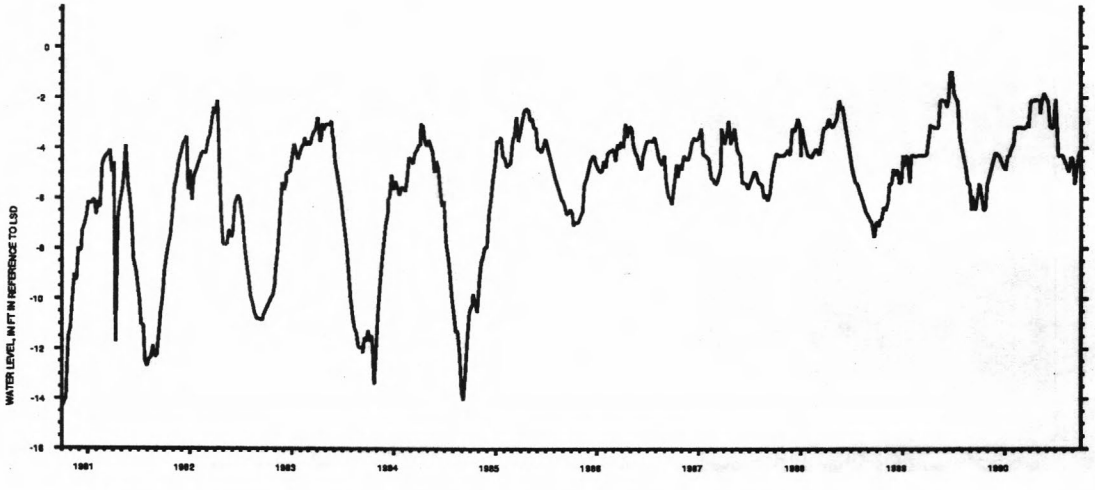


420530078445201. Local number, Ct 121.
LOCATION.--Lat 42°05'30", long 78°44'52", Hydrologic Unit 05010001, near Red House. Owner: New York State Department of Environmental Conservation.
AQUIFER.--Confined aquifer in sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in, depth 53 ft, cased to 53 ft, open end.
INSTRUMENTATION.--Float tape read weekly by observer; periodic measurement with chalked tape by USGS personnel.
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, 0.97 ft below land-surface datum, June 26, 1989; lowest measured, 34.87 ft below land-surface datum, Nov. 21, 1972.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 1.83 ft below land-surface datum, May 22; lowest measured, 6.46 ft below land-surface datum, Oct. 23.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	5.40	JAN 22	4.07	APR 10	2.12	JUN 23	3.20
09	5.83	FEB 01	3.83	17	2.09	JUL 02	2.07
16	6.45	07	3.19	24	2.09	11	4.31
23	6.46	14	3.18	30	2.10	26	4.28
30	5.42	27	3.16	MAY 07	2.11	AUG 14	4.83
NOV 13	4.84	MAR 06	3.21	08	2.61z	18	4.93
28	4.18	13	3.18	14	2.12	25	4.38
DEC 12	4.30	20	3.17	22	1.83	SEP 01	4.40
26	4.72z	26	2.97z	31	2.08	08	5.41
JAN 04	4.85	27	3.17	JUN 05	2.11	22	4.28
11	4.29	APR 04	2.12	12	3.18	26	4.12z
17	4.31						

z Measured by USGS personnel.

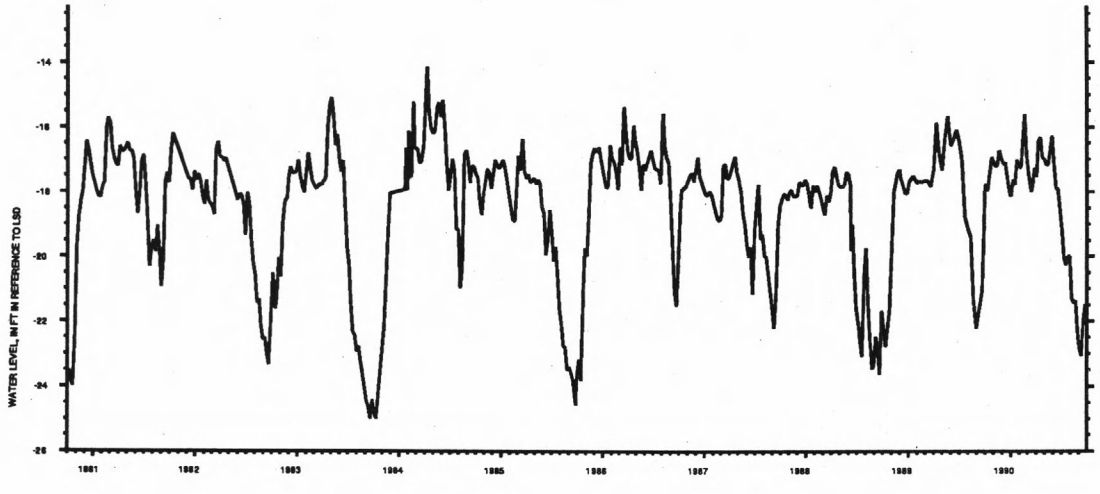


424158076251901. Local number, Cy 7.
LOCATION.--Lat 42°41'58", long 76°25'19", Hydrologic Unit 04140201, near Moravia. Owner: Earl Van Pelt.
AQUIFER.--Water-table aquifer in clayey gravel of Pleistocene age.
WELL CHARACTERISTICS.--Bored observation well, diameter 2.5 in, depth 28 ft, cased to 26 ft 1.25-in well point (60-gauze screen 26 ft to 28 ft).
INSTRUMENTATION.--Weekly measurement with chalked tape by observer; periodic measurement by USGS personnel.
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, 15.62 ft below land-surface datum, Feb. 19; lowest measured, 23.07 ft below land-surface datum, Sept. 10.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	17.79	JAN 08	17.63	APR 09	16.46	JUL 02	19.17
03	17.77z	15	17.78	16	16.32	09	20.03
09	17.96	22	17.02	23	16.94	16	20.26
24	16:95	29	17.19z	26	16.96z	23	19.99
30	17.07z	FEB 06	17.25	28	16.98z	30	20.00
NOV 06	17.21	12	16.46	30	16.98	AUG 06	21.30
13	17.17	19	15.62	MAY 07	17.17	13	21.46
20	16.73	26	16.87z	14	17.16	20	21.37
27	16.97	MAR 05	17.47	28	16.29	27	22.29
29	17.00z	06	17.62z	30	16.58z	29	22.49z
DEC 04	17.13	14	17.99	JUN 04	17.19	SEP 03	22.84
11	17.10	19	17.81	11	17.88	10	23.07
18	17.52	26	17.27	18	17.93	17	21.94
25	17.94	29	17.37z	27	18.72	24	21.49
28	18.10z	APR 02	17.53	28	18.83z	28	21.86z
JAN 01	18.12						

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, Oct. 1 to Apr. 17; electronic data recorder--60-minute average, Apr. 18 to Sept. 30.
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 recorded, 0.75 ft below land-surface datum, July 15; lowest recorded, 4.27 ft below land-surface datum, July 8, 9.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

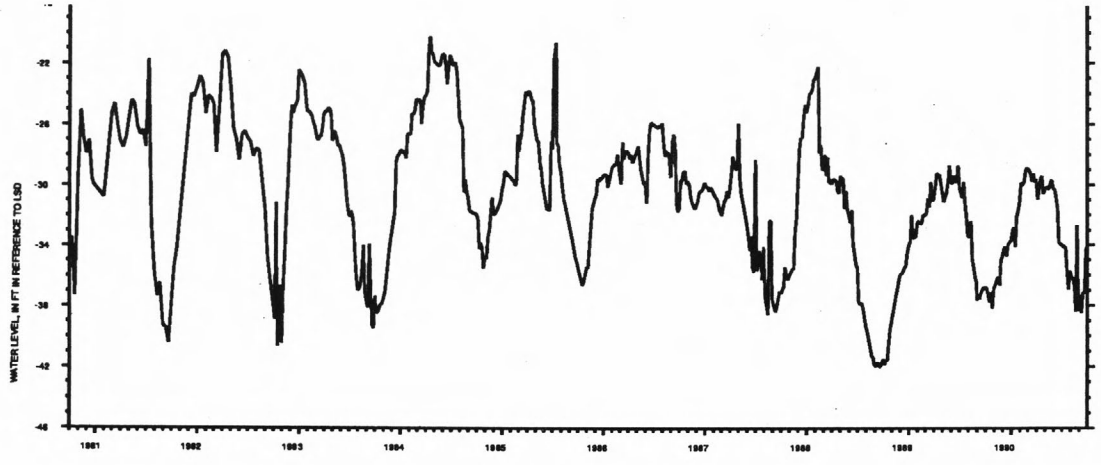
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	3.11	---	3.97	3.11	2.88
2	---	---	---	---	---	---	---	3.18	---	4.01	3.18	2.96
3	---	---	---	---	---	---	---	3.27	---	4.05	3.24	3.03
4	---	---	---	---	---	---	---	3.27	---	4.09	3.30	3.12
5	---	---	---	---	---	---	---	1.90	---	4.13	3.36	3.18
6	---	---	---	---	---	---	---	2.11	---	4.17	3.40	3.21
7	---	1.79z	---	---	---	---	---	2.40z	---	4.21	3.43	1.27z
8	---	---	---	---	---	---	---	---	---	4.25	3.47	---
9	---	---	---	---	---	---	---	---	3.59	3.09	3.52	---
10	---	---	---	---	---	---	---	---	3.61	2.60	3.56	---
11	---	---	---	---	---	---	---	---	3.66	2.71	3.60	---
12	---	---	---	---	---	---	---	---	3.71	2.67	3.62	---
13	---	---	---	---	---	---	---	---	3.76	2.55	3.01	---
14	---	---	---	---	---	---	---	---	3.80	2.64	2.46	---
15	---	---	---	---	---	---	---	---	3.86	1.38	2.56	2.15
16	---	---	---	---	---	---	---	---	3.90	1.72	2.70	1.53
17	---	---	---	---	---	---	---	---	3.95	2.27	2.80	1.59
18	---	---	---	---	---	---	2.31z	---	3.91	2.49	2.88	2.21
19	---	---	---	---	---	---	2.46	---	3.84	2.64	2.95	2.31
20	---	---	---	---	---	---	2.53	---	3.85	2.75	3.02	2.18
21	---	---	---	---	---	---	1.85	---	3.88	2.84	3.08	2.43
22	---	---	---	---	---	---	1.96	---	3.90	2.87	3.14	2.45
23	---	---	---	---	---	2.78z	2.18	---	3.91	1.80	3.20	1.50
24	---	---	---	---	---	---	2.38	---	3.91	2.15	3.26	1.24
25	---	---	---	---	---	---	2.54	---	3.91	2.46	3.32	1.99
26	---	---	---	---	---	---	2.67	---	3.90	2.63	3.37	2.37
27	---	---	3.42z	---	---	---	2.78	---	3.90	2.76	3.42	2.59
28	---	---	---	---	---	---	2.86	---	3.91	2.87	3.18	2.72
29	---	---	---	---	---	---	2.94	---	3.93	2.95	2.79	2.81
30	---	---	---	---	---	---	3.03	---	3.95	3.01	2.75	2.01
31	---	---	---	---	---	---	---	---	---	3.06	2.82	---
MEAN	---	---	---	---	---	---	---	---	---	2.96	3.15	---
LOW	---	---	---	---	---	---	---	---	---	4.25	3.62	---
HIGH	---	---	---	---	---	---	---	---	---	1.38	2.46	---

z Measured by USGS personnel.

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.
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, 28.88 ft below land-surface datum, Feb. 25; lowest measured, 38.47 ft below land-surface datum, Sept. 10.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	36.86	DEC 30	33.74	MAR 30	29.61	JUL 15	34.20
10	37.35	JAN 05	33.08	APR 05	30.95	20	35.72
15	37.77	10	32.83	10	30.25	25	36.94
20	37.16	15	34.10	15	29.56	30	35.71
25	38.18	20	32.10	20	29.46	AUG 05	36.13
30	36.91	25	31.76	25	30.59	10	36.20
NOV 05	36.62	30	31.17	30	30.37	15	36.79
10	36.33	FEB 05	29.85	MAY 05	30.12	20	38.40
15	36.11	10	29.95	10	30.25	25	32.71
20	36.67	15	29.90	15	30.27	30	38.35
25	35.01	20	29.12	20	29.90	SEP 05	37.33
30	34.74	25	28.88	25	29.68	10	38.47
DEC 05	34.30	MAR 05	29.02	30	30.22	15	37.08
10	34.13	10	29.24	JUN 05	30.32	20	37.23
15	34.74	15	29.76	10	30.83	25	34.37
20	34.01	20	29.27	15	31.56	30	34.08
25	33.83	25	29.81	20	33.86		



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 stage of Conewango Creek, which is within 100 ft of the well.
PERIOD OF RECORD.--March 1983 to current year.
REVISED RECORDS.--WDR NY-88-3: 1987.
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.
EXTREMES FOR CURRENT YEAR.--Highest water level, 1.08 ft above land-surface datum, Feb. 18; lowest, 13.35 ft below land-surface datum, Oct. 12.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.11	10.75	6.80	8.47	4.09	4.33	6.35	8.46	6.62	8.76	8.18	9.53
2	11.79	10.69	5.73	8.22	2.99	4.88	6.00	8.59	6.90	8.86	8.56	9.38
3	12.12	10.44	6.56	8.06	1.98	4.72	6.25	8.48	6.31	9.26	8.79	9.06
4	12.10	9.87	6.96	8.45	.94	4.79	6.04	8.59	7.08	8.20	8.69	9.70
5	12.19	9.67	6.39	8.11	2.15	5.33	6.12	6.94	7.37	8.83	8.09	9.94
6	12.44	10.20	6.98	7.48	2.00	5.98	6.28	6.79	7.62	8.68	8.09	10.02
7	11.48	10.09	7.59	7.08	1.98	6.40	4.92	6.87	7.54	9.11	8.86	9.42
8	11.25	10.24	7.96	7.18	2.03	6.79	4.75	7.38	7.93	8.38	8.72	8.96
9	11.74	9.68	7.27	7.47	2.15	6.68	5.36	7.27	8.10	8.87	8.73	7.92
10	12.03	9.52	6.39	7.40	1.38	6.47	4.85	7.59	7.61	8.96	8.84	7.72
11	11.46	9.63	7.25	7.19	1.66	5.53	4.83	7.66	7.83	8.99	8.56	7.59
12	12.40	8.31	7.96	7.23	1.54	5.46	3.54	6.65	8.23	8.56	8.52	7.43
13	12.44	8.79	8.07	7.42	1.64	4.97	2.91	6.79	8.44	8.83	8.36	7.58
14	11.57	9.16	8.44	6.58	2.55	5.49	2.12	6.15	8.78	7.83	8.73	7.61
15	11.61	9.03	8.46	7.09	1.67	5.01	1.27	5.95	9.42	8.14	8.66	6.78
16	11.83	8.96	7.58	7.55	1.33	5.06	2.05	5.37	9.41	7.84	9.01	6.81
17	11.94	8.27	8.33	6.54	-.29x	5.39	2.69	4.69	9.45	8.18	8.66	6.33
18	11.81	9.04	8.21	5.78	-.44x	4.38	2.02	4.60	9.13	8.65	8.69	6.25
19	12.12	7.97	8.41	4.22	.12	5.17	3.42	3.56	9.42	8.39	8.47	6.26
20	12.31	7.30	8.59	3.59	-.42x	4.74	4.35	2.21	8.74	8.78	9.18	6.62
21	11.55	7.92	8.71	1.38	.29	5.05	3.31	2.61	8.87	8.89	9.19	6.82
22	10.92	7.61	8.87	1.52	.75	5.47	3.33	2.72	8.93	8.16	8.98	6.62
23	11.20	6.66	8.22	1.69	.90	5.64	4.32	2.93	9.11	7.93	9.48	6.09
24	11.60	6.48	8.20	1.38	.37	5.45	4.49	3.30	8.07	8.12	9.58	6.45
25	11.65	6.47	7.89	1.80	1.18	5.34	5.16	4.00	8.63	7.91	8.63	5.50
26	11.33	6.12	8.20	1.48	1.82	6.07	5.62	4.72	8.91	8.18	9.58	6.19
27	11.26	6.80	8.57	.84	2.42	6.71	6.07	5.02	8.86	8.24	10.14	6.51
28	10.57	6.16	8.83	1.10	3.17	6.39	6.78	5.38	9.07	8.22	9.42	7.00
29	10.14	6.86	8.94	2.22	---	6.93	8.30	6.09	9.21	7.51	9.91	6.34
30	10.76	6.37	9.11	2.36	---	7.08	8.62	6.12	9.40	7.87	8.97	6.76
31	10.73	---	8.49	3.00	---	6.54	---	6.35	---	8.64	9.95	---
MEAN	11.60	8.50	7.87	5.16	1.50	5.62	4.74	5.80	8.37	8.44	8.91	7.51
LOW	12.44	10.75	9.11	8.47	4.09	7.08	8.62	8.59	9.45	9.26	10.14	10.02
HIGH	10.14	6.12	5.73	.84	-.44	4.33	1.27	2.21	6.31	7.51	8.09	5.50

CAL YR	1989	MEAN	8.58	HIGH	.44	LOW	13.59
WTR YR	1990	MEAN	7.04	HIGH	-.44	LOW	12.44

x Water level, in feet, above land-surface datum

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.--Electronic data recorder--60-minute average.
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, 22.02 ft below land-surface datum, Feb. 17; lowest, 25.39 ft below land-surface datum, Sept. 4.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.24	24.72	24.67	24.85	23.99	23.70	23.94	23.85	23.68	24.17	24.86	25.31
2	25.25	24.65	24.70	24.84	23.72	23.73	23.95	23.89	23.77	24.26	24.93	25.33
3	25.24	24.67	24.69	24.83	23.32	23.71	23.83	23.93	23.83	24.38	24.97	25.35
4	25.24	24.66	24.73	24.83	23.37	23.76	23.48	23.94	23.86	24.50	25.01	25.36
5	25.24	24.69	24.74	24.76	23.36	23.82	23.20	23.60	23.93	24.57	25.01	25.34
6	25.26	24.71	24.76	24.70	23.50	23.86	23.01	23.53	24.00	24.62	24.96	25.33
7	25.25	24.72	24.75	24.69	23.53	23.93	22.95	23.58	24.07	24.68	24.99	25.33
8	25.25	24.72	24.77	24.70	23.56	23.96	23.20	23.67	24.10	24.73	25.02	25.31
9	25.25	24.71	24.77	24.71	23.40	23.98	23.35	23.73	24.16	24.77	25.05	25.30
10	25.26	24.64	24.79	24.71	22.78	24.02	23.34	23.74	24.18	24.79	25.09	25.29
11	25.27	24.64	24.81	24.72	22.76	23.99	22.67	23.50	24.22	24.81	25.12	25.30
12	25.28	24.67	24.80	24.69	23.04	23.89	22.72	23.59	24.27	24.69	25.15	25.31
13	25.28	24.70	24.80	24.73	23.24	23.82	22.95	23.63	24.32	24.36	25.15	25.31
14	25.27	24.72	24.82	24.76	23.31	23.83	23.10	23.47	24.35	24.43	25.08	25.31
15	25.24	24.74	24.82	24.76	23.35	23.88	23.20	23.53	24.28	24.53	25.11	25.11
16	25.22	24.48	24.82	24.78	22.40	23.91	23.30	23.54	24.30	24.42	25.16	25.04
17	25.18	24.14	24.83	24.71	22.13	23.89	23.36	23.24	24.37	24.45	25.19	25.10
18	25.17	24.25	24.85	24.38	22.54	23.78	23.41	23.07	24.39	24.55	25.16	25.15
19	25.12	24.31	24.85	24.25	22.77	23.83	23.49	23.20	24.38	24.63	25.16	25.20
20	24.80	24.35	24.86	24.33	22.96	23.80	23.55	23.33	24.44	24.67	25.16	25.21
21	24.29	24.33	24.86	24.29	23.16	23.73	23.55	23.10	24.48	24.65	25.16	25.23
22	24.49	24.37	24.87	24.06	23.26	23.62	23.54	23.01	24.50	24.70	25.13	25.22
23	24.62	24.43	24.87	24.12	23.30	23.54	23.60	23.15	24.52	24.66	25.09	25.20
24	24.69	24.52	24.87	24.13	23.30	23.61	23.66	23.28	24.55	24.56	25.10	25.21
25	24.74	24.58	24.87	23.87	23.39	23.69	23.68	23.40	24.59	24.65	25.15	25.23
26	24.78	24.60	24.87	23.75	23.54	23.74	23.67	23.48	24.64	24.74	25.20	25.21
27	24.80	24.62	24.88	23.85	23.59	23.80	23.72	23.56	24.69	24.80	25.22	25.16
28	24.83	24.63	24.89	23.93	23.63	23.86	23.76	23.64	24.73	24.85	25.23	25.14
29	24.83	24.63	24.91	23.99	---	23.90	23.79	23.64	24.70	24.89	25.24	25.13
30	24.85	24.65	24.91	23.96	---	23.91	23.82	23.48	24.17	24.92	25.26	25.11
31	24.85	---	24.91	23.96	---	23.92	---	23.55	---	24.89	25.28	---
MEAN	25.03	24.57	24.82	24.44	23.22	23.82	23.43	23.51	24.28	24.62	25.11	25.24
LOW	25.28	24.74	24.91	24.85	23.99	24.02	23.95	23.94	24.73	24.92	25.28	25.36
HIGH	24.29	24.14	24.67	23.75	22.13	23.54	22.67	23.01	23.68	24.17	24.86	25.04

CAL YR	1989	MEAN	24.48	HIGH	21.54	LOW	25.38
WTR YR	1990	MEAN	24.35	HIGH	22.13	LOW	25.36

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.--Digital recorder--60-minute punch.
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 recorded, 6.06 ft below land-surface datum, Feb. 20; lowest recorded, 10.99 ft below land-surface datum, Oct. 18, 19.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.76	9.10	8.59	9.74	6.76	8.07	8.41	9.18	8.23	9.66	9.95	9.66
2	9.84	9.19	8.70	9.70	6.68	8.25	8.58	9.23	8.40	9.66	10.04	9.66
3	9.95	9.26	8.81	9.62	6.49	8.41	8.71	9.28	8.55	9.63	10.06	9.68
4	10.08	9.31	8.90	9.55	6.30	8.55	8.82	9.32	8.70	9.61	10.03	9.72
5	10.21	9.35	8.98	9.48	6.23	8.67	8.85	9.36	8.84	9.60	10.04	9.77
6	10.33	9.38	9.05	9.39	6.25	8.78	8.78	9.38	8.96	9.61	10.08	9.83
7	10.44	9.40	9.10	9.31	6.35	8.88	8.62	9.38	9.07	9.63	10.14	9.92
8	10.54	9.42	9.16	9.27	6.51	8.97	8.49	9.36	9.16	9.67	10.10	10.00
9	10.63	9.44	9.22	9.24	6.72	9.06	8.43	9.34	9.24	9.70	9.99	10.08
10	10.70	9.45	9.27	9.23	6.88	9.14	8.42	9.32	9.31	9.72	9.88	10.12
11	10.76	9.43	9.32	9.22	6.89	9.20	8.43	9.30	9.35	9.73	9.80	10.13
12	10.82	9.40	9.36	9.21	6.82	9.26	8.19	9.25	9.38	9.72	9.73	10.13
13	10.87	9.36	9.40	9.23	6.77	9.29	7.60	9.14	9.40	9.71	9.68	10.09
14	10.91	9.32	9.44	9.27	6.80	9.29	7.30	8.90	9.42	9.68	9.64	10.07
15	10.94	9.29	9.48	9.32	6.91	9.26	7.24	8.37	9.45	9.62	9.62	10.09
16	10.96	9.23	9.53	9.36	7.06	9.21	7.29	7.85	9.49	9.58	9.61	10.15
17	10.97	8.24	9.56	9.38	7.02	9.15	7.41	7.51	9.52	9.55	9.60	10.18
18	10.99	7.02	9.59	9.35	6.52	9.10	7.59	7.26	9.54	9.54	9.62	10.16
19	10.97	6.36	9.61	9.30	6.14	9.04	7.80	7.06	9.54	9.54	9.64	10.14
20	10.71	6.18	9.63	9.22	6.06	8.95	8.02	6.92	9.53	9.55	9.68	10.15
21	9.85	6.22	9.65	9.14	6.14	8.79	8.22	6.87	9.51	9.58	9.72	10.18
22	9.07	6.40	9.67	9.05	6.33	8.40	8.40	6.79	9.50	9.61	9.75	10.25
23	8.56	6.67	9.68	8.99	6.61	8.00	8.55	6.69	9.49	9.62	9.77	10.32
24	8.30	6.97	9.69	8.94	6.91	7.75	8.67	6.63	9.49	9.63	9.77	10.38
25	8.24	7.28	9.70	8.89	7.18	7.63	8.77	6.66	9.50	9.62	9.78	10.45
26	8.29	7.59	9.71	8.68	7.43	7.60	8.86	6.77	9.52	9.62	9.77	10.51
27	8.41	7.88	9.72	8.12	7.65	7.63	8.94	6.96	9.54	9.63	9.74	10.56
28	8.56	8.12	9.73	7.62	7.87	7.72	9.01	7.20	9.57	9.65	9.72	10.61
29	8.72	8.32	9.73	7.33	---	7.87	9.07	7.48	9.60	9.70	9.70	10.65
30	8.86	8.47	9.74	7.14	---	8.05	9.13	7.77	9.64	9.76	9.69	10.67
31	8.99	---	9.74	6.89	---	8.23	---	8.03	---	9.85	9.67	---
MEAN	9.91	8.37	9.40	8.97	6.72	8.59	8.35	8.15	9.28	9.64	9.81	10.14
LOW	10.99	9.45	9.74	9.74	7.87	9.29	9.13	9.38	9.64	9.85	10.14	10.67
HIGH	8.24	6.18	8.59	6.89	6.06	7.60	7.24	6.63	8.23	9.54	9.60	9.66

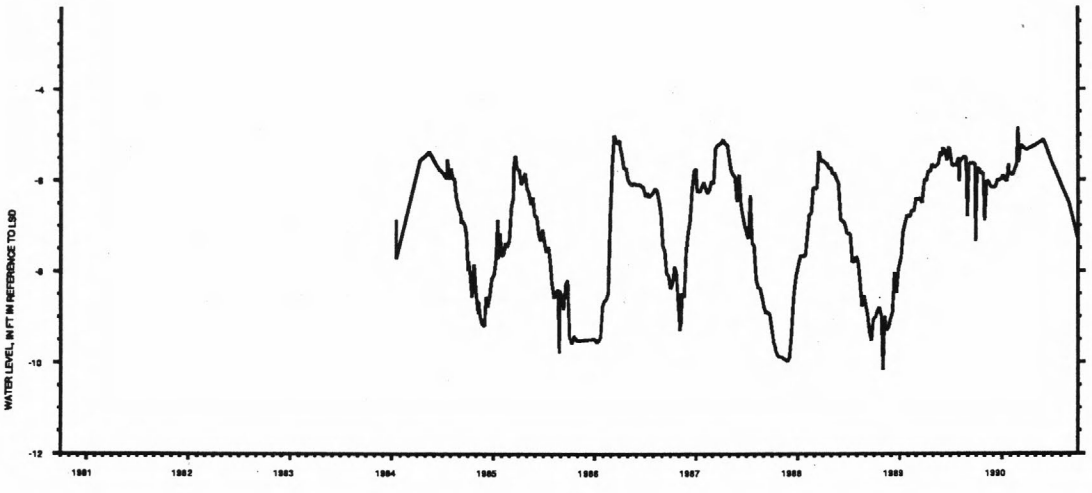
WTR YR 1990 MEAN 8.96 HIGH 6.06 LOW 10.99

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; periodic measurement by USGS personnel.
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, 4.85 ft below land-surface datum, Feb. 27, 1990; lowest measured, 10.17 ft below land-surface datum, Nov. 1, 1988.
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, 4.85 ft below land-surface datum, Feb. 27; lowest measured, 7.27 ft below land-surface datum, Sept. 28.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	5.74	DEC 07	6.16	JAN 25	5.87	MAR 28	5.33z
11	5.75	14	6.01	FEB 01	5.85	APR 25	5.25z
18	5.86	27	5.98z	08	5.89	MAY 29	5.11z
25	5.84	28	5.98	15	5.76	JUN 29	5.62z
30	6.89z	JAN 04	5.90	22	5.64	AUG 30	6.52z
NOV 07	6.02	11	5.98	27	4.85z	SEP 12	6.85z
14	6.03	18	6.02	MAR 01	5.60	28	7.27z
21	6.15	24	5.65z	08	5.23		

z Measured by USGS personnel.

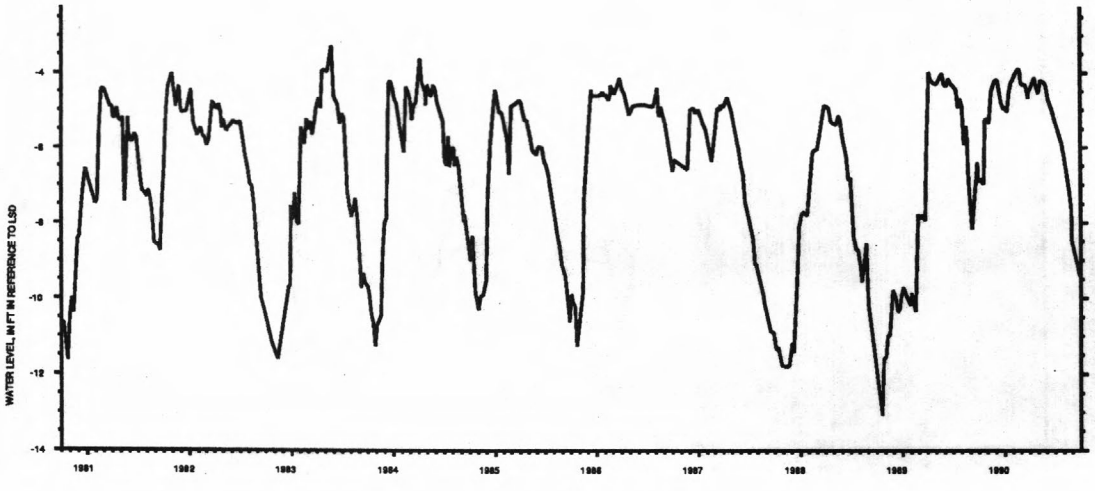


423541076114701. Local number, C 102.
LOCATION.--Lat 42°35'41", long 76°11'47", Hydrologic Unit 02050102, at Municipal Water Works, Cortland. Owner: City of Cortland.
AQUIFER.--Water-table aquifer in gravel of Pleistocene age.
WELL CHARACTERISTICS.--Driven unused well, diameter 1.25 in, depth 45 ft, 1.25 in well point.
INSTRUMENTATION.--Weekly measurement with chalked tape by USGS personnel; monthly measurements by Cortland County Health Department 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, 3.88 ft below land-surface datum, Feb. 22; lowest measured, 9.42 ft below land-surface datum, Sept. 27.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06	6.84	DEC 29	4.97y	MAR 16	4.30	JUN 22	5.02
20	6.97	JAN 05	4.90	21	4.38	28	5.20
25	5.27y	12	5.04	28	4.67y	JUL 26	5.89
27	5.25	19	4.52	29	4.52	30	6.12
NOV 02	5.22	26	4.25	APR 20	4.13	31	6.11y
08	5.34	30	4.22y	26	4.38	AUG 22	7.20
17	4.47	FEB 09	4.03	MAY 04	4.54	28	7.63y
29	4.20y	22	3.88	11	4.20	30	8.48
DEC 08	4.18	27	3.97y	25	4.26	SEP 27	9.42y
22	4.80	MAR 02	4.27	30	4.34	28	9.32
28	4.92	09	4.31	JUN 08	4.72		

y Measured by Cortland County Health Department personnel.



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.--Electronic data recorder--60-minute average.
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, 2.25 ft below land-surface datum, Feb. 16, 17, 18, 1990; lowest, 10.97 ft below land-surface datum, Oct. 24, 25, 1980.
EXTREMES FOR CURRENT YEAR.--Highest water level, 2.25 ft below land-surface datum, Feb. 16, 17, 18; lowest, 9.98 ft below land-surface datum, Sept. 30.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

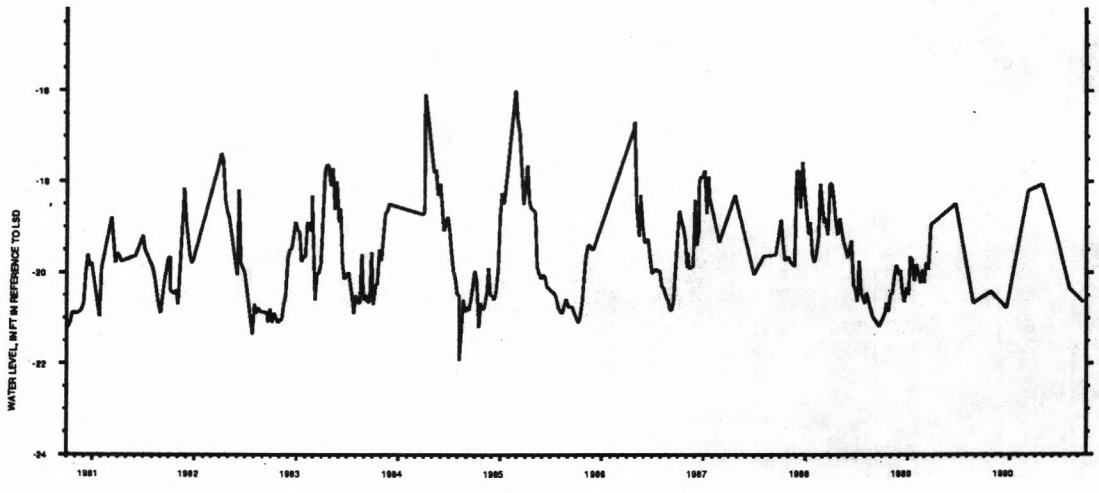
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.52	7.11	6.20	7.69	6.50	5.75	6.55	7.24	6.40	7.89	9.06	9.59
2	7.62	7.12	6.31	7.49	6.37	5.85	6.57	7.01	6.53	7.93	9.11	9.62
3	7.73	7.18	6.41	7.45	5.87	5.83	6.15	7.09	6.67	7.99	9.16	9.64
4	7.78	7.21	6.50	7.42	5.79	5.97	5.38	7.82	6.93	8.04	9.19	9.66
5	7.82	7.22	6.60	6.89	5.82	6.11	5.11	7.67	6.90	8.10	9.23	9.68
6	7.93	7.28	6.75	6.68	5.86	6.23	5.13	7.41	7.03	8.15	9.26	9.69
7	7.99	7.34	6.82	6.69	5.83	6.35	5.04	7.38	7.15	8.22	9.29	9.73
8	8.08	7.43	6.86	6.76	5.62	6.45	5.18	7.47	7.25	8.26	9.32	9.75
9	8.19	7.51	6.94	6.83	5.07	6.54	5.33	7.43	7.34	8.29	9.36	9.77
10	8.21	7.45	7.01	7.10	4.80	6.72	5.46	7.48	7.42	8.34	9.38	9.76
11	8.29	7.41	7.12	7.11	4.62	6.81	4.80	7.54	7.52	8.39	9.39	9.76
12	8.29	7.37	7.20	6.98	4.79	6.62	4.78	7.50	7.59	8.43	9.41	9.78
13	8.32	7.30	7.23	6.99	4.96	6.04	5.00	7.65	7.67	8.48	9.42	9.79
14	8.55	7.27	7.33	7.08	5.19	5.97	5.14	7.31	7.73	8.52	9.25	9.81
15	8.77	7.27	7.40	7.16	5.28	5.80	5.34	6.98	7.50	8.56	9.20	9.79
16	8.46	7.17	7.49	7.26	2.26	5.82	5.44	7.02	7.47	8.61	9.18	9.75
17	8.45	6.56	7.60	7.40	3.17	5.94	5.52	6.91	7.51	8.63	9.19	9.76
18	8.39	6.40	7.64	7.12	3.93	5.90	5.64	6.27	7.56	8.67	9.22	9.77
19	8.30	6.39	7.66	6.76	4.30	5.96	5.79	5.99	7.62	8.71	9.26	9.80
20	8.14	6.44	7.72	6.62	4.52	6.06	5.90	5.89	7.70	8.74	9.31	9.83
21	7.05	6.07	7.75	6.69	4.75	5.86	6.14	5.24	7.76	8.76	9.36	9.84
22	6.67	5.95	7.83	6.85	4.91	5.69	6.18	5.08	7.80	8.80	9.39	9.86
23	6.63	5.95	7.91	6.90	4.98	5.71	6.23	5.11	7.86	8.82	9.42	9.88
24	6.57	6.00	7.95	6.81	5.07	5.81	6.34	5.25	7.90	8.83	9.44	9.87
25	6.59	6.08	7.98	6.55	5.20	5.90	6.57	5.40	7.96	8.84	9.46	9.92
26	6.67	6.13	8.03	6.54	5.42	6.01	6.39	5.54	8.01	8.87	9.49	9.94
27	6.76	5.91	8.02	6.36	5.45	6.11	6.49	5.71	8.06	8.90	9.51	9.95
28	6.85	5.92	8.14	6.27	5.61	6.23	6.68	5.88	8.11	8.92	9.53	9.96
29	6.93	6.01	8.18	6.38	---	6.36	6.70	6.02	8.11	8.97	9.54	9.97
30	6.96	6.08	8.25	6.48	---	6.50	6.80	6.18	7.90	8.99	9.55	9.98
31	7.05	---	8.49	6.46	---	6.51	---	6.26	---	9.02	9.57	---
MEAN	7.66	6.75	7.40	6.90	5.07	6.11	5.79	6.60	7.50	8.54	9.34	9.80
LOW	8.77	7.51	8.49	7.69	6.50	6.81	6.80	7.82	8.11	9.02	9.57	9.98
HIGH	6.57	5.91	6.20	6.27	2.26	5.69	4.78	5.08	6.40	7.89	9.06	9.59

CAL YR	1989	MEAN	7.56	HIGH	4.71	LOW	9.73
WTR YR	1990	MEAN	7.30	HIGH	2.26	LOW	9.98

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.--Periodic measurement with chalked tape by USGS personnel.
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.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 18.06 ft below land-surface datum, Apr. 26; lowest measured, 20.78 ft below land-surface datum, Dec. 20.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	20.42	MAR 07	18.20	JUN 13	19.12	SEP 19	20.65
DEC 20	20.78	APR 26	18.06	AUG 01	20.35		

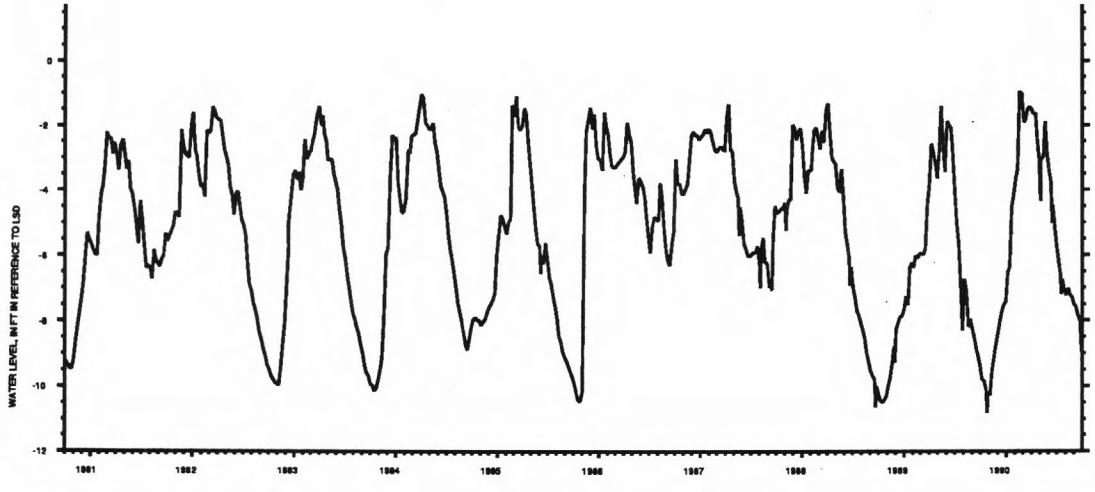


431308078544501. Local number, Ni 70.
LOCATION.--Lat 43°13'08", long 78°54'45", Hydrologic Unit 04130001, near Ransomville. Owner: Calvin C. Schultz.
AQUIFER.--Water-table aquifer in sand of Pleistocene age.
WELL CHARACTERISTICS.--Dug unused well, diameter 4 ft to 5 ft (reported), stone-lined, depth 24 ft.
INSTRUMENTATION.--Weekly measurement with chalked tape by observer; periodic measurement by USGS personnel.
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, 0.97 ft below land-surface datum, Feb. 17, 1990; lowest measured, 10.83 ft below land-surface datum, Oct. 25, 1989.
EXTREMES FOR CURRENT YEAR.--Highest water level measured, 0.97 ft below land-surface datum, Feb. 17; lowest measured, 10.83 ft below land-surface datum, Oct. 25.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07	9.82	JAN 13	6.37	APR 21	2.43	JUL 14	6.61
14	9.84	20	4.52	28	3.06	16	7.20z
21	10.14	27	4.16	MAY 03	4.35z	21	6.74
25	10.83z	FEB 03	3.65	05	3.04	28	7.07
28	10.22	10	3.37	13	3.00	AUG 04	7.23
NOV 04	10.28	17	0.97	19	1.90	11	7.03
11	10.26	25	1.03	26	2.86	18	7.23
18	9.54	MAR 04	1.90	JUN 02	3.39	25	7.30
25	8.74	10	1.87	09	3.74	SEP 01	7.51
DEC 02	8.41	17	1.52	14	5.02z	08	7.60
09	8.02	24	1.43	16	4.49	15	7.85
16	7.71	APR 01	1.53	23	5.13	22	8.02
23	7.52	07	1.65	30	5.71	28	8.96z
30	7.42	15	1.64	JUL 07	6.18	29	7.98
JAN 06	6.54						

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; periodic measurement with chalked tape by USGS personnel.

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.

REMARKS.--Water in well is subject to freezing during extreme cold periods.

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

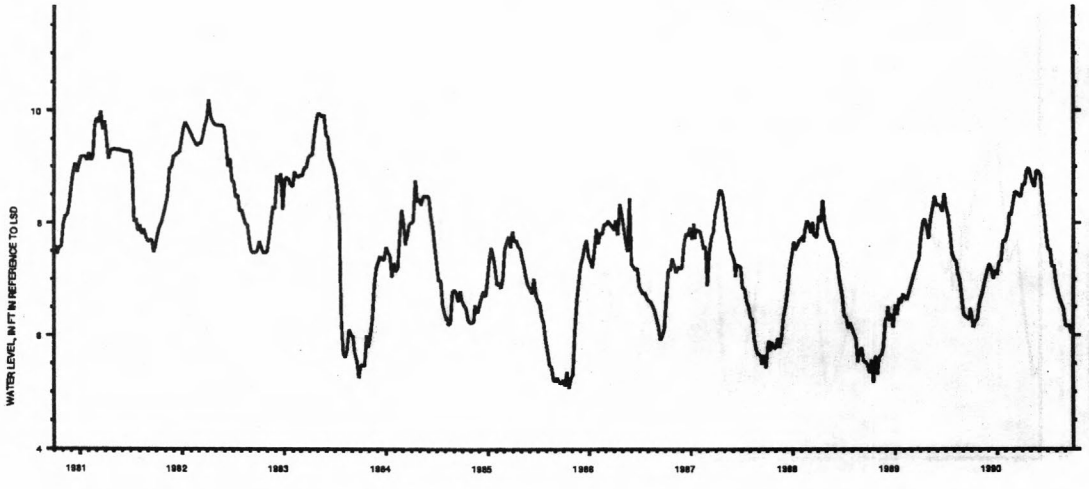
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.14 ft above land-surface datum, Mar. 15, 1976; lowest measured, 4.59 ft above land-surface datum, Nov. 11, 1957.

EXTREMES FOR CURRENT YEAR.--Highest water level measured, 8.98 ft above land-surface datum, Apr. 23; lowest measured, 6.04 ft above land-surface datum, Sept. 24.

WATER LEVEL, IN FEET ABOVE LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	6.38	JAN 01	7.08	APR 09	8.67	JUL 09	7.53
09	6.14	08	7.32	16	8.93	16	7.22
16	6.25	15	7.32	23	8.98	23	7.25
23	6.28	22	7.69	26	8.94z	30	6.95
30	6.57	29	7.67	30	8.84	AUG 06	6.78
NOV 06	6.69	FEB 05	7.79	MAY 07	8.71	13	6.63
08	6.72z	12	7.99	14	8.64	20	6.56
13	6.84	13	8.18z	21	8.93	27	6.45
20	7.02	19	8.13	28	8.91	SEP 03	6.17
27	7.15	MAR 05	8.55	JUN 04	8.85	10	6.16
DEC 04	7.27	12	8.54	11	8.43	17	6.18
11	7.18	19	8.49	18	8.15	19	6.12z
18	7.01	26	8.46	25	7.78	24	6.04
25	7.16	APR 02	8.69	JUL 02	7.52		

z Measured by USGS personnel.

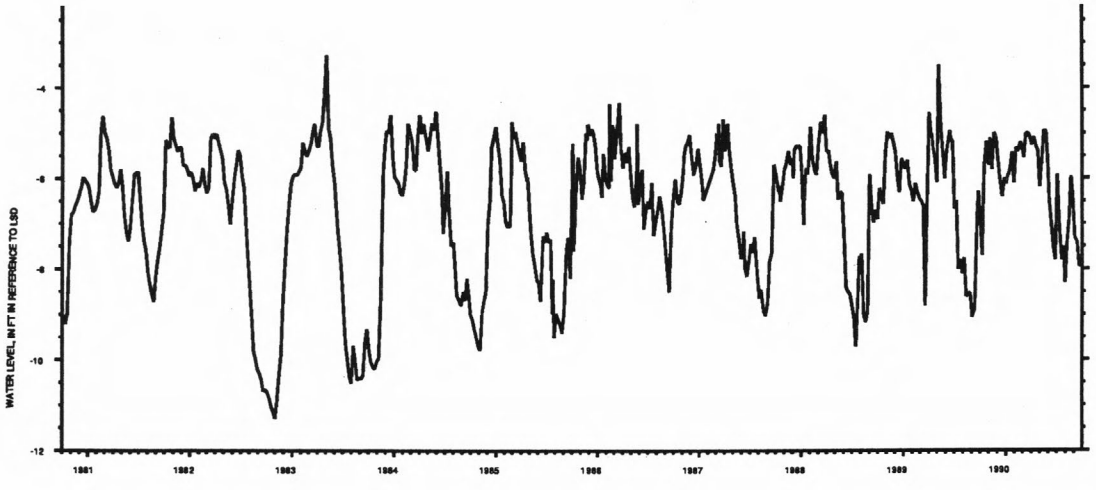


424136075025101. Local number, Og 23.
LOCATION.--Lat 42°41'36", long 75°02'51", Hydrologic Unit 02050101, at "Wild Creek Farm", 0.6 mi northeast of intersection of State Highway 205 and Kallan Road, 2.2 mi north of Hartwick, and 3.2 mi southeast of Oaksville. Owner: Thomas Kallan.
AQUIFER.--Water-table 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; periodic measurement by USGS personnel.
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, 4.95 ft below land-surface datum, May 15; lowest measured, 8.30 ft below land-surface datum, July 31.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01	6.92	JAN 08	5.90	APR 09	5.09	JUL 10	6.90
08	7.70	10	5.92z	17	5.28	18	7.80
15	5.70	15	5.77	24	5.39	25	7.51z
23	5.18	22	5.42	MAY 01	6.18	31	8.30
30	5.70	29	6.09	08	5.65	AUG 07	7.40
NOV 04	5.12	FEB 05	5.32	15	4.95	14	6.94
11	5.80	12	5.40	23	4.96z	21	5.97
19	5.00	20	5.20	29	5.56	28	6.42
26	5.12	28	5.35	JUN 04	6.44	SEP 04	7.32
DEC 03	5.60	MAR 05	5.53	11	6.95	11	7.40z
10	6.02	12	5.02	19	7.55	12	7.40
18	6.40	20	5.00	26	7.80	19	7.95
26	6.00	27	5.10	JUL 03	5.93	26	7.90
JAN 01	6.12	APR 02	5.26				

z Measured by USGS personnel.

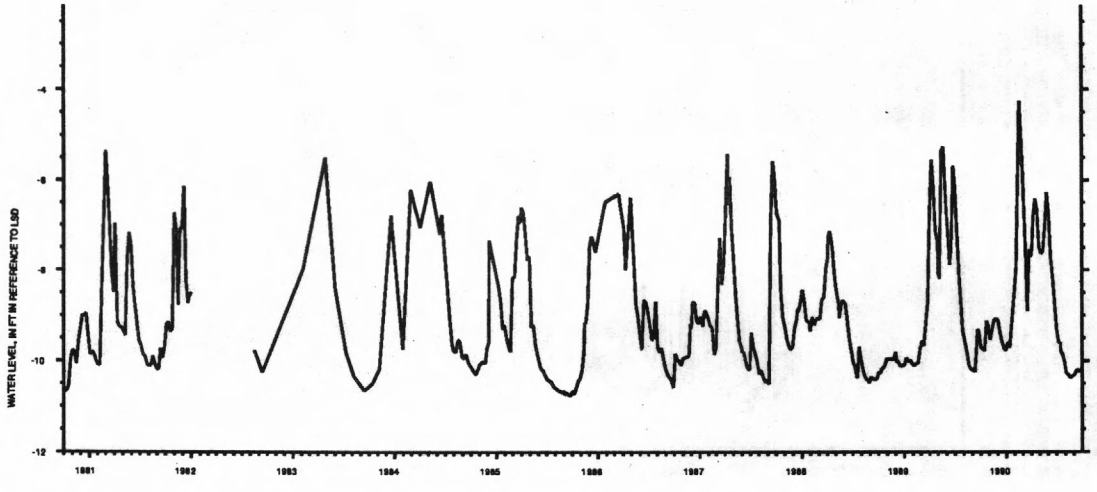


422445077203301. Local number, Sb 472.
LOCATION.--Lat 42°24'45", long 77°20'33", Hydrologic Unit 02050105, near Kanona. Owner: David Owens.
AQUIFER.--Water-table aquifer in gravel of Pleistocene age.
WELL CHARACTERISTICS.--Bored observation well, diameter 2.5 in, depth 17 ft, filled in from original 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; periodic measurement by USGS personnel.
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, 4.26 ft below land-surface datum, Feb. 18; lowest measured, 10.38 ft below land-surface datum, Aug. 19.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02	9.70	DEC 31	9.77	APR 15	6.43	JUL 15	9.59
08	9.74	JAN 07	9.59	22	6.64	16	9.81z
15	9.77	14	9.70	29	7.50	22	9.84
22	9.12	FEB 04	8.14	MAY 06	7.64	29	10.02
29	9.24	06	7.95z	13	7.60	AUG 05	10.28
NOV 02	9.48z	11	6.39	20	7.03	12	10.30
05	9.53	18	4.26	27	6.29	19	10.38
12	9.30	25	5.09	JUN 03	6.74	27	10.32
19	9.09	MAR 04	6.20	04	6.91z	SEP 02	10.32
26	9.08	11	7.42	10	7.73	10	10.21
DEC 03	9.11	18	8.91	18	8.24	12	10.19z
10	9.39	25	7.55	24	8.75	16	10.22
17	9.58	31	7.71	JUL 01	9.30	23	10.23
20	9.62z	APR 04	7.51z	08	9.59	30	10.15
24	9.72	08	6.86				

z Measured by USGS personnel.



420811077021501. Local number, Sb 473.
LOCATION.--Lat 42°08'11", long 77°02'15", Hydrologic Unit 02050105, Denison Park, at Corning. Owner: City of Corning.
AQUIFER.--Water-table aquifer in outwash sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in, depth 83 ft, cased to 83 ft, open end.
INSTRUMENTATION.--Electronic data recorder--60-minute average.
DATUM.--Elevation of land-surface datum is 914.79 ft above National Geodetic Vertical Datum of 1929 (levels of Susquehanna River Basin Commission). Measuring point: Top of well casing, 3.20 ft above land-surface datum.
REMARKS.--Water level affected by stage of Chemung River.
PERIOD OF RECORD.--September 1989 to current year. Records for December 1985 to August 1987 are published and available in files of the Susquehanna River Basin Commission.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.41 ft below land-surface datum, Feb. 17, 18, 1990; lowest recorded, 8.30 ft below land-surface datum, Feb. 24, 1987.
EXTREMES FOR CURRENT YEAR.--Highest water level recorded, 1.41 ft below land-surface datum, Feb. 17, 18; lowest recorded, 7.60 ft below land-surface datum, Oct. 18-19.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.03	6.78	6.68	7.21	5.02	4.02	4.68	4.78	4.05	5.81	5.92	6.44
2	7.05	6.77	6.68	7.20	4.90	4.34	4.70	4.87	4.20	5.81	5.98	6.48
3	7.09	6.77	6.71	7.17	4.13	4.45	4.63	4.97	4.31	5.84	6.04	6.54
4	7.12	6.78	6.73	7.13	3.80	4.57	4.37	5.01	4.43	5.92	6.11	6.59
5	7.17	6.78	6.71	7.07	3.61	4.65	4.03	4.85	4.57	6.01	6.16	6.65
6	7.22	6.82	6.70	6.94	3.61	4.73	3.63	4.59	4.68	6.09	6.19	6.66
7	7.25	6.86	6.75	6.81	3.70	4.80	3.26	4.47	4.80	6.16	6.19	6.64
8	7.30	6.91	6.77	6.72	3.73	4.88	3.18	4.48	4.92	6.23	6.03	6.59
9	7.35	6.94	6.78	6.67	3.53	4.95	3.24	4.53	5.03	6.31	6.02	6.47
10	7.38	6.91	6.81	6.65	2.86	5.02	3.25	4.58	5.11	6.39	6.08	6.38
11	7.41	6.85	6.85	6.64	2.30	5.05	2.53	4.66	5.20	6.42	6.15	6.28
12	7.45	6.84	6.89	6.65	2.39	5.02	1.95	4.68	5.31	6.29	6.21	6.21
13	7.48	6.83	6.91	6.72	2.61	4.95	2.10	4.67	5.41	5.62	6.21	6.19
14	7.50	6.86	6.95	6.75	2.88	4.91	2.35	4.68	5.48	5.26	6.06	6.19
15	7.52	6.90	6.99	6.76	3.01	4.92	2.59	4.61	5.34	5.21	6.08	6.01
16	7.54	6.85	7.03	6.77	2.41	4.97	2.81	4.58	5.26	5.11	6.15	5.87
17	7.57	6.63	7.06	6.76	1.49	4.97	3.03	4.17	5.32	5.00	6.20	5.83
18	7.58	6.43	7.07	6.52	1.54	4.76	3.26	3.60	5.38	5.00	6.27	5.73
19	7.55	6.35	7.08	6.10	1.90	4.64	3.45	3.42	5.43	5.11	6.31	5.71
20	7.40	6.31	7.09	5.95	2.26	4.57	3.58	3.46	5.44	5.22	6.34	5.78
21	6.85	6.32	7.11	5.91	2.61	4.50	3.71	3.30	5.48	5.29	6.36	5.84
22	6.41	6.32	7.13	5.81	2.85	4.43	3.81	2.99	5.54	5.33	6.36	5.86
23	6.27	6.35	7.15	5.72	3.06	4.34	3.93	3.09	5.57	5.36	6.32	5.87
24	6.27	6.41	7.16	5.64	3.22	4.30	4.05	3.27	5.60	5.36	6.26	5.90
25	6.32	6.48	7.19	5.51	3.42	4.28	4.16	3.48	5.66	5.38	6.21	5.93
26	6.39	6.56	7.21	5.25	3.58	4.30	4.27	3.64	5.73	5.44	6.21	5.99
27	6.48	6.61	7.23	5.03	3.71	4.35	4.38	3.83	5.78	5.51	6.24	6.05
28	6.56	6.63	7.25	4.97	3.85	4.41	4.47	4.00	5.86	5.60	6.31	6.10
29	6.63	6.66	7.24	4.92	---	4.49	4.58	4.11	5.92	5.69	6.37	6.15
30	6.69	6.65	7.24	4.97	---	4.54	4.69	3.99	5.88	5.78	6.39	6.19
31	6.76	---	7.21	5.01	---	4.61	---	3.90	---	5.86	6.41	---
MEAN	7.05	6.67	6.98	6.26	3.14	4.64	3.62	4.17	5.22	5.66	6.20	6.17
LOW	7.58	6.94	7.25	7.21	5.02	5.05	4.70	5.01	5.92	6.42	6.41	6.66
HIGH	6.27	6.31	6.68	4.92	1.49	4.02	1.95	2.99	4.05	5.00	5.92	5.71

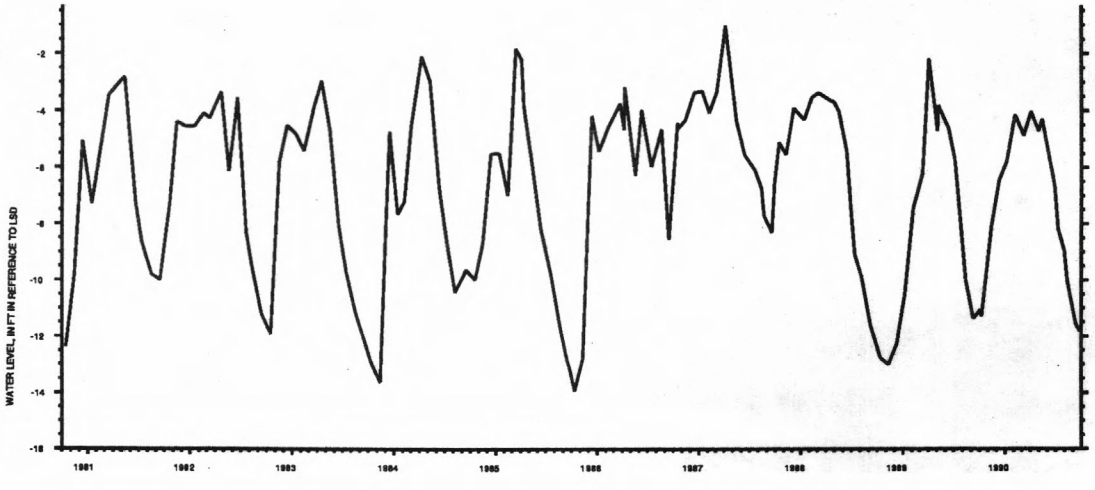
WTR YR 1990 MEAN 5.50 HIGH 1.49 LOW 7.58

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; periodic measurement by USGS personnel.
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, 4.03 ft below land-surface datum, Apr. 3; lowest measured, 11.81 ft below land-surface datum, Sept. 24.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	11.05z	FEB 05	4.14	MAY 13	4.29	JUL 31	8.94z
09	11.29	MAR 08	4.85	JUN 15	6.01	AUG 11	10.02
NOV 12	8.12	APR 03	4.03	27	6.66z	SEP 10	11.53
DEC 10	6.45	30	4.70z	JUL 09	8.18	24	11.81z
JAN 06	5.78						

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.--Digital recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 1,606.76 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 2.62 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). Water level may be affected by periodic water-quality sampling from health department.
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 water level, 10.09 ft, below land-surface datum, Feb. 18; lowest, 13.65 ft, below land-surface datum, Sept. 3, 4, 5.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.10	13.42	12.98	13.36	12.16	11.00	12.03	11.87	11.45	12.69	13.28	13.64
2	13.13	13.42	13.01	13.31	12.04	11.13	12.04	11.92	11.51	12.71	13.29	13.64
3	13.16	13.44	13.02	13.29	11.92	11.20	12.05	11.98	11.55	12.73	13.31	13.64
4	13.19	13.46	13.04	13.26	11.86	11.28	12.04	12.01	11.61	12.72	13.33	13.65
5	13.21	13.47	13.07	12.98	11.87	11.35	12.03	11.90	11.66	12.76	13.34	13.63
6	13.24	13.49	13.08	12.76	11.90	11.39	11.99	11.90	11.71	12.78	13.35	13.59
7	13.27	13.50	13.10	12.68	11.93	11.47	11.96	11.94	11.77	12.81	13.36	13.59
8	13.30	13.45	13.12	12.67	11.90	11.54	11.94	11.99	11.82	12.84	13.38	13.58
9	13.33	13.42	13.13	12.69	11.72	11.60	11.87	12.03	11.86	12.84	13.40	13.59
10	13.35	13.39	13.14	12.72	11.43	11.64	11.74	12.07	11.92	12.87	13.44	13.56
11	13.38	13.37	13.16	12.75	11.26	11.65	11.22	12.11	11.97	12.89	13.49	13.56
12	13.39	13.35	13.19	12.76	11.24	11.59	10.80	12.14	12.02	12.91	13.51	13.57
13	13.42	13.33	13.18	12.76	11.27	11.53	10.75	12.11	12.07	12.93	13.52	13.59
14	13.44	13.31	13.18	12.83	11.35	11.50	10.79	11.97	12.11	12.95	13.55	13.61
15	13.46	13.31	13.18	12.91	11.38	11.50	10.86	11.91	12.16	12.98	13.56	13.56
16	13.47	13.30	13.18	12.89	11.00	11.53	10.94	11.87	12.21	12.99	13.57	13.54
17	13.46	13.27	13.28	12.67	10.20	11.54	11.01	11.70	12.26	13.02	13.58	13.54
18	13.41	13.24	13.33	12.28	10.12	11.54	11.10	11.45	12.31	13.05	13.59	13.56
19	13.40	13.22	13.34	12.05	10.21	11.58	11.17	11.34	12.34	13.08	13.58	13.57
20	13.36	13.21	13.36	11.96	10.35	11.60	11.23	11.33	12.39	13.09	13.58	13.58
21	13.29	13.18	13.37	11.97	10.47	11.63	11.29	11.26	12.43	13.07	13.59	13.60
22	13.27	13.18	13.39	12.03	10.55	11.65	11.35	11.23	12.47	13.09	13.60	13.61
23	13.26	13.11	13.40	12.10	10.57	11.69	11.40	11.22	12.48	13.09	13.59	13.60
24	13.27	12.94	13.41	12.14	10.60	11.73	11.47	11.26	12.51	13.10	13.59	13.57
25	13.29	12.95	13.42	12.11	10.67	11.77	11.52	11.31	12.55	13.13	13.60	13.56
26	13.31	12.97	13.43	12.03	10.81	11.81	11.57	11.36	12.58	13.15	13.60	13.58
27	13.34	12.98	13.44	11.95	10.87	11.86	11.63	11.42	12.61	13.18	13.61	13.60
28	13.36	12.97	13.46	11.96	10.89	11.90	11.69	11.48	12.65	13.20	13.61	13.62
29	13.38	12.97	13.46	11.99	---	11.94	11.75	11.45	12.67	13.23	13.61	13.63
30	13.40	12.97	13.47	12.03	---	11.97	11.81	11.37	12.67	13.25	13.62	13.62
31	13.42	---	13.46	12.10	---	12.00	---	11.40	---	13.27	13.63	---
MEAN	13.32	13.25	13.25	12.52	11.16	11.58	11.50	11.69	12.14	12.98	13.51	13.59
LOW	13.47	13.50	13.47	13.36	12.16	12.00	12.05	12.14	12.67	13.27	13.63	13.65
HIGH	13.10	12.94	12.98	11.95	10.12	11.00	10.75	11.22	11.45	12.69	13.28	13.54

WTR YR 1990 MEAN 12.55 HIGH 10.12 LOW 13.65

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

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
INT 413

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
521 W. Seneca Street
Ithaca, NY 14850

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

SPECIAL 4TH CLASS BOOK RATE