1968

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Water Resources Data for Wisconsin

Part 1. Surface Water Records

Part 2. Water Quality Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the State of Wisconsin
and with other agencies

United States Department of the Interior
Geological Survey - Water Resources Division

WATER RESOURCES DATA FOR WISCONSIN

1968

Part 1: Surface Water Records

Prepared in cooperation with

Wisconsin Department of Natural Resources
Wisconsin Department of Transportation
Southeastern Wisconsin Regional Planning Commission
Corps of Engineers, U. S. Army
Fish and Wildlife Service, Department of the Interior
Soil Conservation Service, Department of Agriculture
University Extension - - The University of Wisconsin
Geological and Natural History Survey

Copies of this report may be obtained from
District Chief, Water Resources Division
U. S. Geological Survey
1815 University Avenue
Madison, Wisconsin, 53706

1970

CALENDAR FOR WATER YEAR 1968

OCTOBER 1967

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
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29	30	31				

NOVEMBER 1967

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DECEMBER 1967

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JANUARY 1968

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FEBRUARY 1968

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MARCH 1968

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APRIL 1968

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JUNE 1968

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JULY 1968

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AUGUST 1968

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SEPTEMBER 1968

S	M	T	W	T	F	S
1	2	3	4	5	6	7
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WATER RESOURCES DATA FOR WISCONSIN, 1968

Part 1: Surface Water Records

INTRODUCTION

The surface-water records for the 1968 water year for gaging stations, partial-record stations, and miscellaneous sites within the State of Wisconsin are given in this report. For convenience there are also included records for a few pertinent gaging stations in bordering States. The records were collected and computed by the Water Resources Division of the U. S. Geological Survey, under the direction of C. L. R. Holt, Jr., district chief.

This report is a continuation of a new method of presenting, annually, basic data on surface-water records by States. Through September 30, 1960, the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U. S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Since 1951 there have been 20 volumes in the series; each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records in Wisconsin were contained in Parts 4 and 5 of that series.

Beginning with the 1961 water year, streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these basic-data reports is limited and primarily for local needs. Records will be published in Geological Survey water supply papers at 5-year intervals.

COOPERATION

Cooperative agreements between the U. S. Geological Survey and organizations of the State of Wisconsin for the systematic collection of streamflow records began in 1913. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreements with the Survey are:

Wisconsin Department of Natural Resources, L. P. Voigt, secretary.

Wisconsin Department of Transportation, G. H. Bakke, secretary, and W. A. Kline, chief bridge engineer.

Southeastern Wisconsin Regional Planning Commission, Kurt W. Bauer, executive director.

Assistance in the form of funds or services was given by the Corps of Engineers, U. S. Army, in collecting records for 24 gaging stations published in this report.

Assistance was also furnished by the Fish and Wildlife Service of the United States Department of Interior and the Soil Conservation Service of the United States Department of Agriculture.

The following organizations aided in collecting records:

Wisconsin Valley Improvement Co.; Lake Superior District Power Co.; Wisconsin-Michigan Power Co.; Wisconsin Public Service Corp.; Northern States Power Co.; Dairyland Power Cooperative; Wisconsin Power and Light Co.; Nekoosa-Edwards Paper Co.; Wisconsin River Power Co.; and Milwaukee County Part Commission.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height, or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

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

Add the following under COOPERATION:

University of Wisconsin Geological and Natural History Survey, George F. Hanson, state geologist and director.

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

Cubic foot per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

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.

Runoff in inches (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.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

Stage-discharge relation is the relation between gage height and the amount of water flowing in a channel, expressed as volume per unit of time.

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, a long reach of the channel, or an artificial structure.

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.

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

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

DOWNSTREAM ORDER AND STATION NUMBERS

Stations are listed in the same downstream order used in the water-supply papers. Records are listed in a downstream direction along the main stem with all stations on a tributary entering above a main-stem station listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indention in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indention shows which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. The numbers have been assigned in the same downstream order used in the annual series of water-supply papers. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations, so that the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the 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 04-0255.00, includes the part number "04" and a six digit number. In this report, the nonessential zeros are not shown. For example, the complete number 04-0255.00 would appear as 4-0255, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. The records of stage are obtained either from a water-stage recorder that gives a continuous record of fluctuations (for digital recorders, a tape punched at 15- or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is in effect the shifting-control method.

At some gaging stations the stage-discharge relation is affected by 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 determining discharge. Information required for determining the slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the state-discharge relation is affected by changing stage. For such stations, the rate of change in stage is used as a factor in determining discharge.

At some gaging stations the stage-discharge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for other stations in the same or nearby basins.

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 the daily discharge. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins.

The data in this report generally comprise a description of the station, and a table showing the daily discharge and monthly and yearly discharge of the stream. For regular continuing gaging stations, records are published for the water year which begins on October 1 and ends on September 30. A calendar for the 1968 water year is shown on page II to facilitate finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage given under "Location" for some stations, is that determined and used by the Corps of Engineers unless otherwise noted. Under "Records available" are given periods for which there are published records for the present station or for stations generally equivalent to the present one. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. The references to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U. S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height if it is significant. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

The daily table gives the discharge corresponding to the daily mean gage height unless there are large or rapid changes in discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharges for several parts of a day. For digital records, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "Mean" gives the average flow in cubic feet per second during the month. Discharge for the month may be expressed in cubic feet per second per square mile (line headed "Cfsm"), or in inches (line headed "In."). Figures for cubic feet per second per square mile and runoff in inches are omitted if the drainage area includes large noncontributing areas, or if the flow is appreciably affected by regulation by reservoirs upstream.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges when the water was at crest stage. Likewise, the minimums in this summary are the minimum daily discharges.

Peak discharges and the times of their occurrence and corresponding gage height for most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any stream 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.

In a general footnote, introduced by the word "Note", certain periods are indicated for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For gaging stations on lakes the data presented comprise a description of the station and a table of stage observations. For reservoirs a brief description and a table showing month-end contents are given.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

The station description under "Remarks" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Discharge at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to 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 diversion, 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 when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

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The data normally collected at partial-record stations and at miscellaneous sites are given at the end of this report. Data for partial-record 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. Discharge measurements at miscellaneous sites are given in a third table. 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 given in special tables after the list of measurements at miscellaneous sites.

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Many gaging-station records in the State through 1960 have been analyzed with an electronic computer to give: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year. These data are in a report "Flow Characteristics of Wisconsin Streams," and "Supplement to Report on Flow Characteristics of Wisconsin Streams," copies of which are available from the district office.

At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. These data are given in Part 2 of this report. Under the "Remarks" paragraph of the gaging-station description, reference is made to water-quality records collected on a regular basis.

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Corbett, D. M., and others, 1945, Stream-gaging Procedure U. S. Geol. Survey, Water-Supply Paper 888, 245 p.

Ericson, D. W., 1961, Floods in Wisconsin, Magnitude and Frequency, 109 p.

Holt, C. L. R., Young, K. B., and Cartwright, W. H., 1964, The Water Resources of Wisconsin: Wisconsin Blue Book: State of Wisconsin, Madison, Wisconsin, p. 178-198.

Young, K. B., 1963, Flow Characteristics of Wisconsin Streams: 151 p.

_____1965, Supplement to report on flow characteristics of Wisconsin Streams: 81 p.

HYDROLOGIC CONDITIONS

Streamflow in Wisconsin for the water year ending Sept. 30, 1968, varied from about 50% of long-term average as measured in the upper Rock River basin to nearly 150% of average as measured at several gaging stations in the north (see figure 1). The flow of the Jump River, a tributary of the Chippewa River, and the Spirit and Big Eau Pleine Rivers, tributaries of the Wisconsin River, exceeded the average by over 140%, largely due to high flows in May, June, and July.

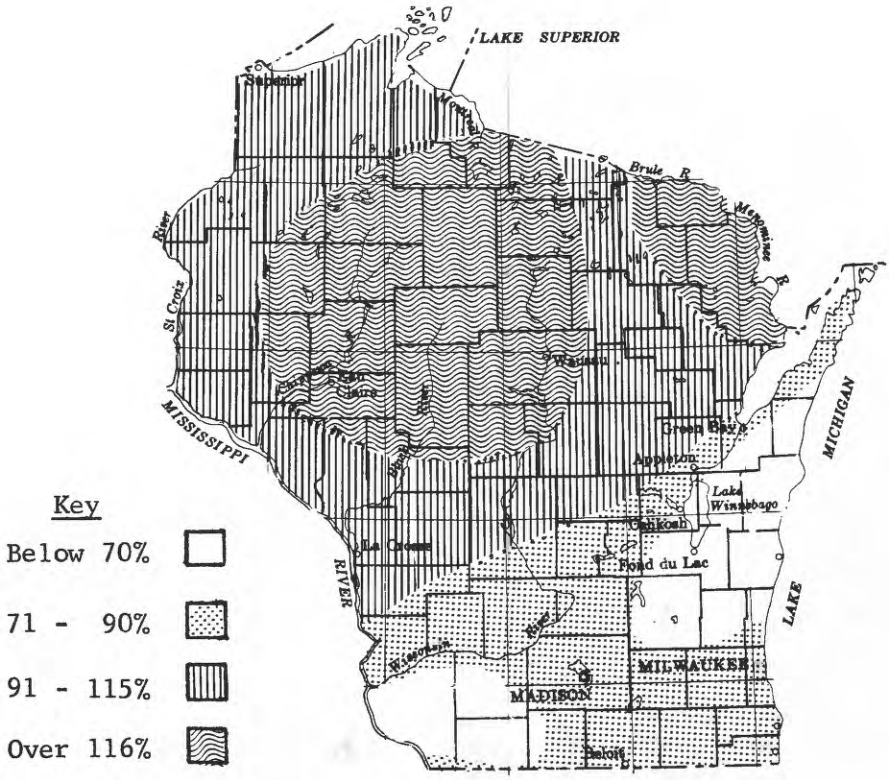

Figure 1. Variation of the 1968 mean annual streamflow as a percent of the long-term average flow.

Streamflow was near or above normal in October. During the late fall and through the winter, flows were generally decreasing and by late winter were below normal over much of the state. Snow accumulation was below average and disappeared gradually in March. Spring breakup occurred on most rivers with only minor rises. Runoff increased markedly during the summer months due to frequent and substantial rainfalls. No new peaks of record were recorded, however. The high runoff rate was sustained for most of May, June, and July. Streamflow dropped to near and below normal in August, increased in September.

Streamflow of the Jump River for May was the highest for that month in 52 years of record, for June the second highest, and for July the highest. These high flows offset below normal flows from October through April and in August. The average flow for the 1968 water year was the fifth highest in the period of record for the Jump River.

The low yearly streamflow in the extreme southwest was a result of consistently low flow throughout the year. The Grant River 1968 average flow was the fifth lowest in twenty years of record. Discharges were below average for every month but August which was only slightly above average.

Low annual discharge was also measured in the east, especially on the Sheboygan, Kewaunee, and upper Rock Rivers, and Cedar Creek. Flow was below normal every month, except June on the upper Rock. Flow was at or below normal for nine months on the Sheboygan River.

Most peak flows occurred in late June, the highest in the southeast, but all were well below record high.

Figures 3 and 4 indicate for selected lakes the extremes of stage for the water year 1968 compared with those of each year since 1937. No new maximum or minimum stage occurred on these lakes during the 1968 water year.

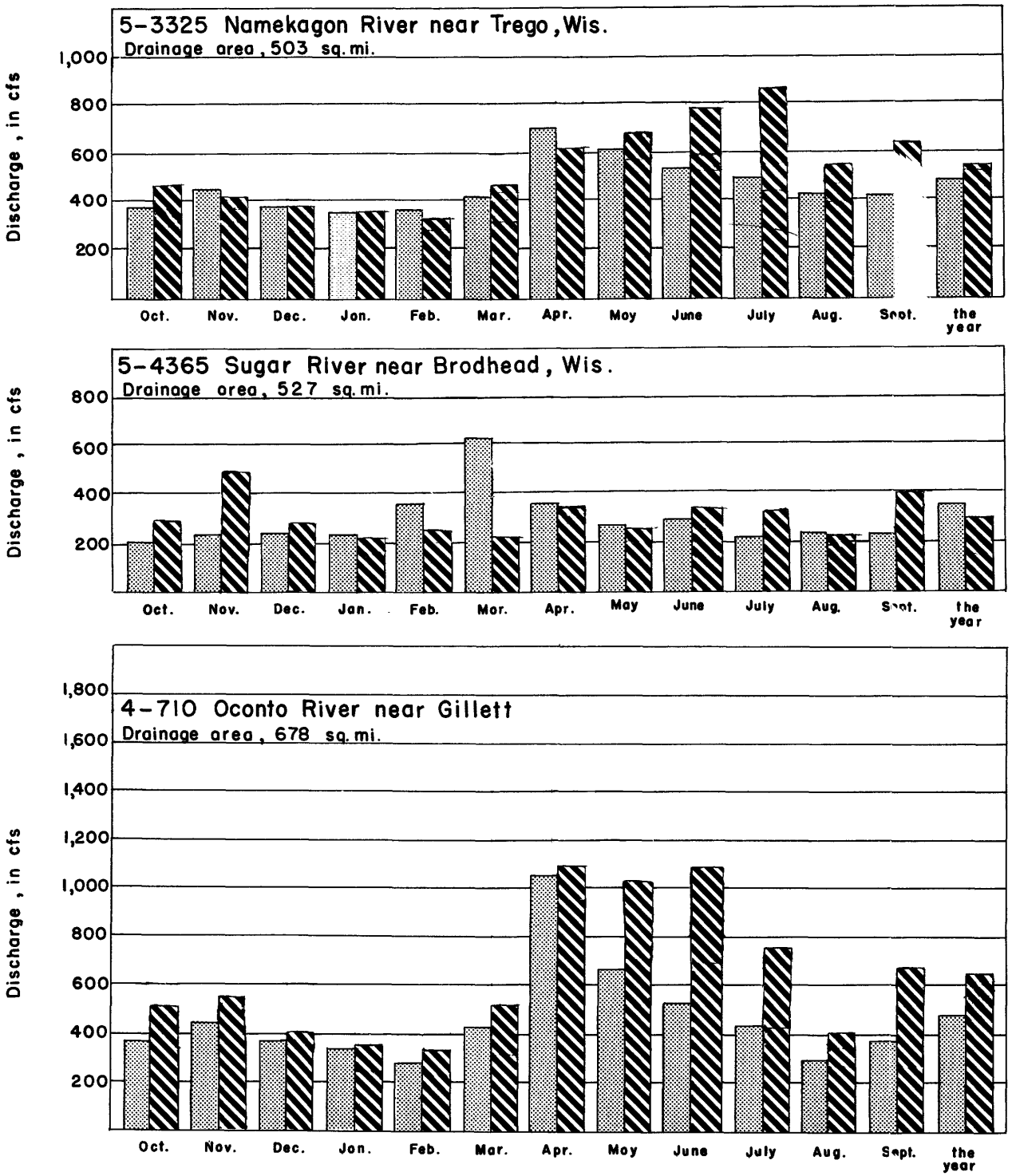

Figure 2. Comparison of discharge at three long-term representative gaging stations during 1968 water year with median discharge for period 1931-60.

Median of monthly and yearly mean discharge for period 1931-60.

Monthly and yearly mean discharge for 1968 water year.

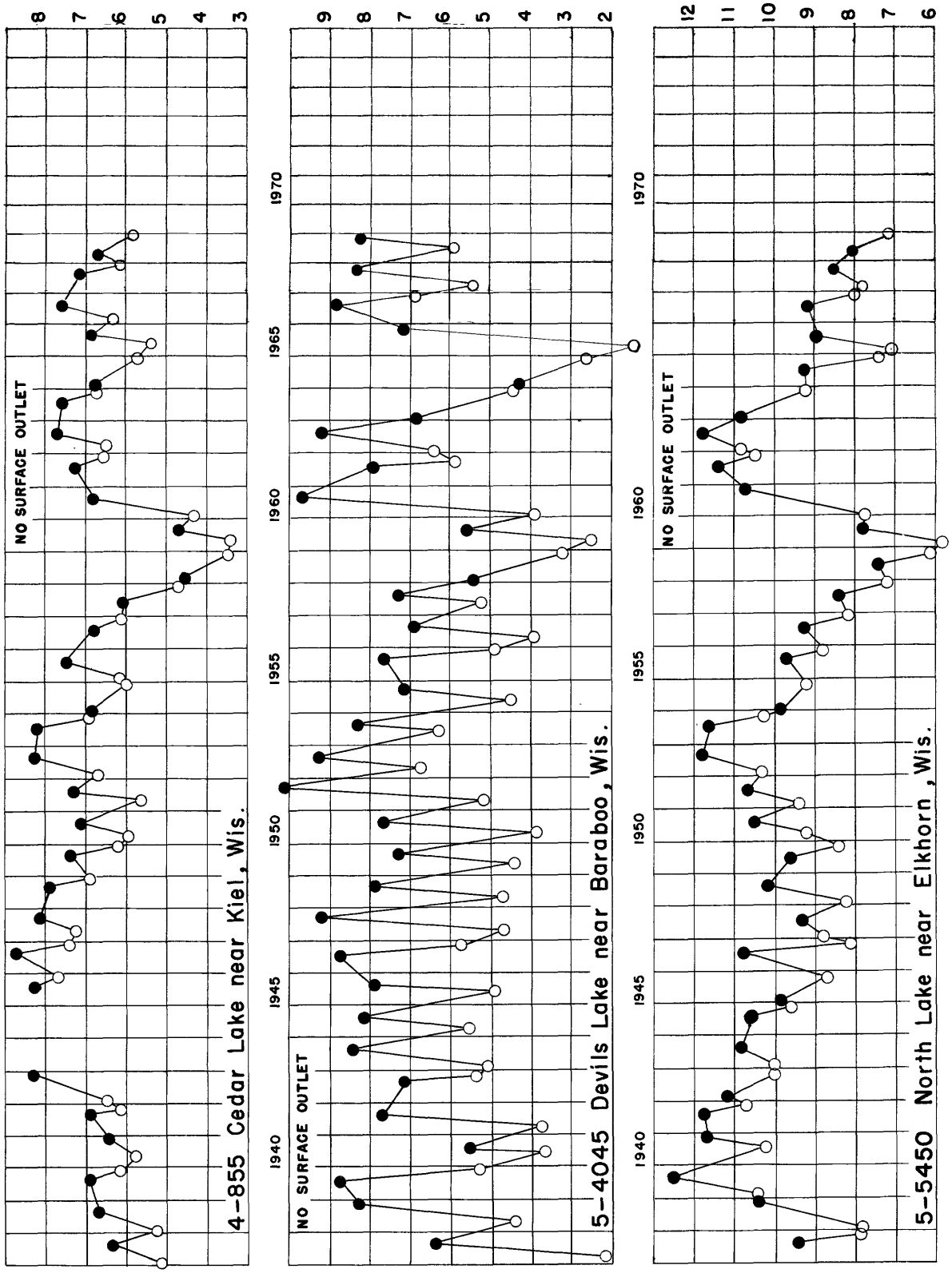

Figure 3. A comparison of extremes of stage of three southern lakes for each water year since 1937.

● Maximum stage observed ○ Minimum stage observed Connecting lines do not indicate actual stage between extremes.

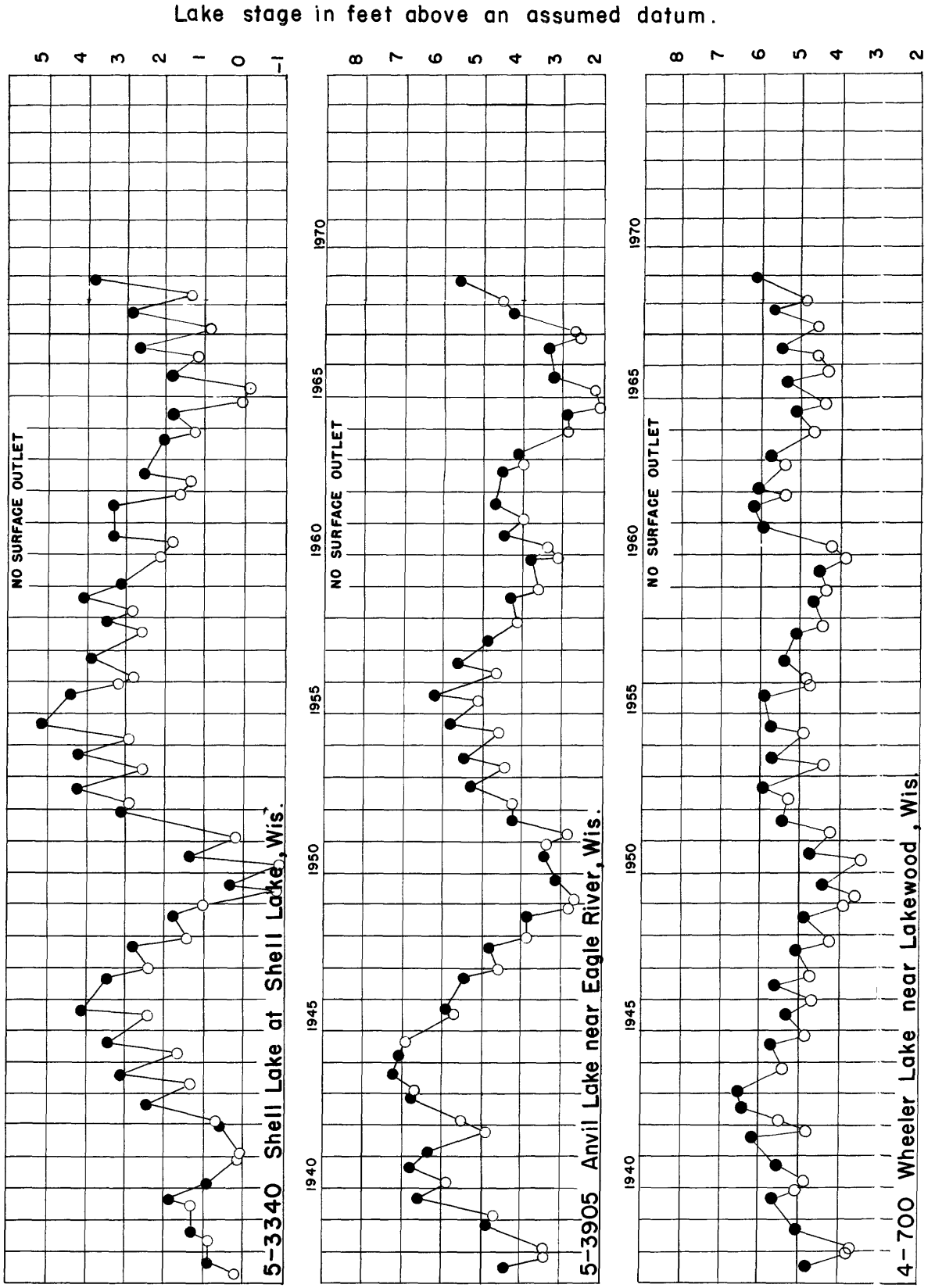

Figure 4. A comparison of extremes of stage of three northern lakes for each water year since 1937.
● Maximum stage observed. ○ Minimum stage observed. Connecting lines do not indicate actual stage between extremes.

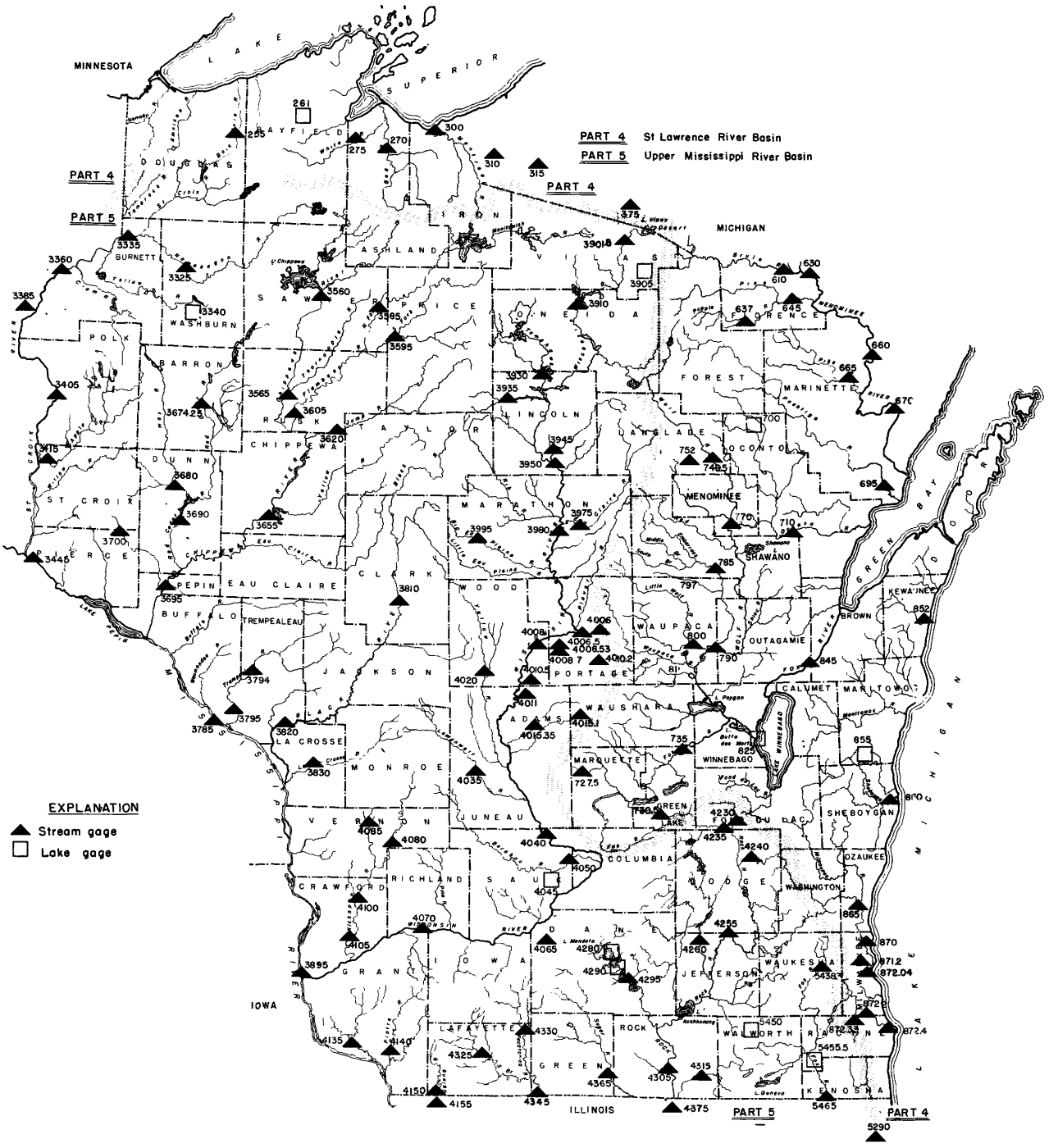

Figure 5. Map of Wisconsin showing location of lake and stream gaging stations.

4-0255. Bois Brule River at Brule, Wis.

Location.--Lat 46°32'15", long 91°35'45", in NW 1/4 SW 1/4 sec. 23, T. 47 N., R. 10 W., on right bank, 1.4 miles southwest of Brule Post Office, 1.4 miles downstream from Nebagamon Creek, and 1.7 miles upstream from Little Brule River.

Drainage area.--113 sq mi.

Records available.--October 1942 to September 1968. Prior to January 1943 monthly discharge only, published in WSP 1307.

Gage.--Digital water-stage recorder. Datum of gage is 948.49 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1964, chain gage at same site and datum supplemented by graphic water-stage recorder part of 1959-62. Oct. 1, 1964, to July 11, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--26 years, 169 cfs.

Extremes.--Maximum discharge during year, 428 cfs Apr. 23 (gage height, 2.90 ft); minimum daily, 110 cfs Jan. 30 to Feb. 2, Feb. 7-23.

1942-68: Maximum discharge, 1,520 cfs June 5, 1944 (gage height, 5.2 ft, from graph based on gage readings), from rating curve extended above 750 cfs; minimum observed, 67 cfs Mar. 13, 1943.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	139	135	130	110	120	188	300	245	223	164	131
2	125	137	131	130	110	120	179	282	234	211	154	128
3	125	134	131	128	112	120	178	268	224	200	147	127
4	125	133	130	128	112	122	198	261	212	188	144	155
5	124	133	129	128	114	125	192	252	203	173	142	152
6	124	130	129	128	112	131	194	241	229	163	143	146
7	129	130	130	126	110	134	202	237	215	157	144	142
8	147	130	131	126	110	140	222	238	211	153	144	145
9	154	131	131	126	110	153	220	242	226	147	142	167
10	151	132	130	126	110	145	214	232	268	143	139	159
11	144	134	130	126	110	137	206	223	304	140	135	152
12	132	138	130	124	110	134	204	218	281	159	133	146
13	138	138	128	124	110	133	202	212	261	174	131	140
14	137	136	130	124	110	129	222	210	246	302	131	136
15	134	134	130	124	110	135	225	236	224	304	132	133
16	133	134	130	122	110	138	223	260	211	291	137	131
17	132	135	130	122	110	142	219	251	207	276	134	134
18	131	140	131	122	110	180	213	256	205	259	134	163
19	131	139	132	122	110	216	204	247	209	240	144	165
20	130	135	132	120	110	202	224	235	198	221	139	160
21	130	136	133	120	110	190	259	223	249	216	135	155
22	130	135	134	118	110	167	259	211	250	198	133	158
23	129	135	136	118	110	158	346	202	245	190	131	200
24	135	134	134	116	112	154	368	225	228	182	129	191
25	137	133	132	116	114	156	355	218	209	174	128	184
26	135	132	130	114	116	158	388	221	194	160	126	176
27	132	134	130	114	118	174	385	250	184	157	125	167
28	131	138	130	112	118	214	366	254	176	150	125	157
29	134	140	130	112	120	218	345	253	169	146	123	154
30	141	138	130	110	------	209	321	243	188	150	123	150
31	142	------	130	110	------	201	------	232	------	191	126	------
TOTAL	4,147	4,047	4,059	3,766	3,238	4,855	7,521	7,433	6,705	6,038	4,217	4,604
MEAN	134	135	131	121	112	157	251	240	224	195	136	153
MAX	154	140	136	130	120	218	388	300	304	304	164	200
MIN	124	130	128	110	110	120	178	202	169	140	123	127
CFSM	1.18	1.19	1.16	1.08	.99	1.39	2.22	2.12	1.98	1.72	1.20	1.36
IN.	1.36	1.33	1.34	1.24	1.07	1.60	2.48	2.45	2.21	1.99	1.39	1.52

CAL YR 1967 TOTAL 60,875 MEAN 167 MAX 709 MIN 115 CFSM 1.48 IN 20.03
WTR YR 1968 TOTAL 60,630 MEAN 166 MAX 388 MIN 110 CFSM 1.47 IN 19.95

4-0261. Long Lake near Iron River, Wis.

Location.--Lat 46°35'30", long 91°20'30", in SW 1/4 sec. 35, T. 48 N., R. 8 W., at residence of Stanley Wilcox, on north end of lake 3.6 miles northeast of Iron River.

Drainage area.--1.28 sq mi. Area of Long Lake, 184 acres.

Records available.--October 1964 to September 1968 (fragmentary).

Gage.--Staff gage read once weekly during open water. Altitude of gage is 1,096 ft (from topographic map).

Extremes.--Maximum gage height observed during year, 1.82 ft June 8; minimum observed, 1.39 ft Aug. 28.
1964-68: Maximum gage height observed, 2.24 ft Mar. 31, 1966; minimum observed, that of Aug. 28, 1968.

Remarks.--Lake has no surface outlet. Lake ice covered early Nov. to Apr. 13.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									1.80			
2		1.52	1.52									
3											1.56	
4		1.56						1.70				
5			1.53									
6				1.53						1.70		
7	1.68				1.53							1.50
8									1.82			
9			1.53									
10											1.54	
11		1.52		1.52			1.74	1.74				
12												
13										1.66		
14	1.64					1.52		1.75				1.50
15									1.80			
16			1.53									
17									1.80		1.52	
18		1.52						1.78				
19												
20							1.62			1.60		
21	1.62											1.50
22									1.78	1.66		
23			1.53									
24											1.52	
25		1.50						1.80				
26												
27							1.66			1.60		
28	1.60										1.39	1.52
29									1.74			
30			1.53		------							
31		------			------		------		------		1.50	------

4-0270. Bad River near Odanah, Wis.

Location.--Lat 46°29'15", long 90°41'45", in SE 1/4 sec. 2, T. 46 N., R. 3 W., on left bank just downstream from Elm Hoist Bridge, 5.0 miles downstream from Potato River, 8.5 miles south of Odanah, and 23 miles from mouth.

Drainage area.--611 sq mi.

Records available.--July 1914 to December 1922, May 1948 to September 1968. Monthly discharge only for some periods, published in WSP 1307.

Gage.--Water-stage recorder. Datum of gage is 668.3 ft above mean sea level, datum of 1929. May 17, 1948, to Nov. 6, 1959, water-stage recorder, Nov. 7, 1959, to Oct. 18, 1960, wire-weight gage, Oct. 19, 1960, to Nov. 23, 1961, Bristol pressure gage, and Nov. 24, 1961, to July 12, 1962, wire-weight gage at same site and datum. Prior to Nov. 11, 1922, water-stage recorder at site 2 miles downstream at different datum.

Average discharge.--28 years (1914-22, 1948-68), 605 cfs.

Extremes.--Maximum discharge during year, 4,840 cfs May 16 (gage height, 8.84 ft); minimum daily, 90 cfs Jan. 3-7.

1914-22, 1948-68: Maximum discharge, 27,700 cfs Apr. 24, 1960 (gage height, 21.7 ft, from floodmarks), from rating curve extended above 12,000 cfs and comparison with contracted-opening measurement of peak flow (45,600 cfs) at Odanah, drainage area 970 sq mi, approximately; minimum, 49 cfs Aug. 8, 1964 (gage height, 2.03 ft).

Flood of June 24, 1946, reached a stage of at least 22.2 ft (top of bridge submerged), from information by Indian Service.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	866	225	94	107	130	1,400	1,650	1,530	932	360	122
2	150	866	235	92	108	135	1,150	1,370	1,530	932	372	127
3	150	808	240	90	110	140	974	1,110	1,290	878	380	130
4	150	726	235	90	112	150	1,020	950	1,030	714	447	154
5	150	610	230	90	114	155	962	854	836	550	360	303
6	150	560	225	90	119	160	1,150	780	714	475	265	332
7	150	530	220	90	119	165	1,580	720	676	352	239	303
8	150	505	215	92	117	170	1,680	645	655	340	221	329
9	200	470	210	94	115	175	1,750	640	655	325	206	630
10	530	451	205	96	113	180	1,450	650	720	310	191	808
11	490	451	200	96	112	180	1,210	595	1,240	315	177	682
12	460	456	195	96	110	180	1,070	535	2,230	360	166	530
13	450	456	190	98	110	184	980	555	1,980	700	163	402
14	447	456	185	100	110	185	1,000	555	1,880	1,010	157	321
15	440	456	180	102	110	200	1,190	630	1,830	980	154	268
16	410	456	180	104	110	320	1,110	3,210	1,680	900	154	236
17	380	460	180	105	110	370	1,070	4,150	1,320	760	157	218
18	360	480	185	106	110	600	1,020	3,470	872	640	154	212
19	335	495	185	106	110	2,500	914	3,710	620	530	152	227
20	305	490	180	106	110	1,900	950	2,940	545	450	154	233
21	285	424	170	106	110	1,200	2,700	2,210	575	370	154	230
22	275	410	160	105	112	750	2,620	1,650	610	329	152	227
23	265	321	150	105	113	655	2,360	1,340	610	275	146	360
24	259	310	140	105	116	814	3,590	1,570	610	272	132	500
25	270	300	130	105	118	1,000	2,840	1,680	610	252	124	764
26	315	280	125	105	120	1,400	2,460	1,410	615	227	119	615
27	390	240	115	106	123	1,900	2,670	3,270	645	243	106	490
28	500	215	110	106	125	2,520	2,680	3,490	726	236	108	410
29	555	210	105	106	127	2,480	2,370	3,030	956	215	108	360
30	460	215	100	106	------	2,030	1,970	2,190	908	206	103	321
31	878	------	96	106	------	1,680	------	1,760	------	318	97	------
TOTAL	10,458	13,973	5,501	3,098	3,300	24,608	49,890	53,319	30,698	15,396	5,978	10,844
MEAN	337	466	177	99.9	114	794	1,663	1,720	1,023	497	193	361
MAX	878	866	240	106	127	2,520	3,590	4,150	2,230	1,010	447	808
MIN	149	210	96	90	107	130	914	535	545	206	97	122
CFSM	.552	.763	.290	.164	.187	1.30	2.72	2.82	1.67	.813	.316	.591
IN.	.64	.85	.33	.19	.20	1.50	3.04	3.25	1.87	.94	.36	.66

CAL YR 1967:	TOTAL	226,987	MEAN	622	MAX	10,000	MIN	96	CFSM	1.02	IN.	13.82
WTR YR 1968:	TOTAL	227,063	MEAN	620	MAX	4,150	MIN	90	CFSM	1.01	IN.	13.83

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-19	1600	10.30	4,500	5-16	2100	8.84	4,840
4-21	1800	7.15	3,240	5-27	2100	7.98	3,990

4-0275. White River near Ashland, Wis.

Location.--Lat 46°29'50", long 90°54'15", in sec. 6, T. 46 N., R. 4 W., at downstream end of powerplant of Lake Superior District Power Co., 0.3 mile downstream from bridge on State Highway 112 over dam, and 4.5 miles south of Ashland city limits.

Drainage area.--269 sq mi.

Records available.--May 1948 to September 1968.

Gage.--Chain gage read twice daily or more often when plant load is changed. Datum of gage is 660.15 ft above mean sea level, datum of 1929 (Lake Superior District Power Co. bench mark).

Average discharge.--20 years, 289 cfs.

Extremes.--Maximum discharge during year, 1,270 cfs Apr. 21 (gage height, 3.00 ft); minimum observed, 68 cfs Dec. 23 and Jan. 25 (gage height, 0.60 ft).
1948-68: Maximum discharge, 6,270 cfs July 1, 1953 (gage height, 7.90 ft), from rating curve extended above 3,000 cfs; minimum, 3.1 cfs Apr. 28-30, 1949 (gage height, 0.09 ft).

Remarks.--Records good except those for winter months, which are fair. Diurnal fluctuation caused by powerplant at gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	197	208	138	166	140	299	379	334	300	334	172
2	169	180	197	130	170	142	248	334	334	370	327	172
3	164	180	186	140	160	144	265	334	334	276	576	178
4	158	174	174	150	148	146	265	282	316	268	279	204
5	164	176	174	156	144	150	325	279	274	252	228	215
6	158	172	174	160	139	156	334	243	252	227	207	236
7	164	169	172	162	136	200	585	240	258	198	200	220
8	198	174	170	170	136	270	488	240	247	176	196	204
9	227	174	168	176	132	310	397	224	243	176	191	231
10	238	176	164	178	120	300	425	256	425	184	189	268
11	221	178	160	182	122	280	425	251	535	199	179	242
12	204	177	154	180	128	225	361	229	434	449	174	226
13	186	176	148	170	130	168	361	234	443	713	171	193
14	174	176	95	168	134	189	361	240	425	881	166	182
15	186	174	74	166	136	198	361	245	397	830	169	182
16	186	174	158	164	138	267	370	348	322	751	166	172
17	180	180	180	162	132	267	379	425	307	630	172	177
18	169	197	190	158	114	496	338	488	284	564	174	182
19	180	203	160	158	116	648	307	527	264	473	172	193
20	174	197	146	160	122	608	272	512	249	388	175	188
21	163	186	152	164	130	385	1,160	492	301	345	169	182
22	169	180	130	166	132	290	912	463	434	289	169	182
23	169	176	71	158	134	224	932	425	434	268	169	271
24	163	175	101	136	134	253	804	374	416	242	169	182
25	174	170	137	103	134	264	961	402	338	235	155	252
26	169	150	135	129	136	235	926	397	313	213	158	236
27	174	120	132	141	138	286	563	747	276	209	158	193
28	146	87	134	150	140	420	520	689	260	202	158	193
29	192	85	138	160	140	434	492	667	276	201	160	188
30	175	202	140	154	------	434	449	379	245	201	172	188
31	204	------	140	148	------	325	------	344	------	274	161	------
TOTAL	5,567	5,135	4,662	4,837	3,941	8,854	14,885	11,689	9,970	10,984	6,243	6,104
MEAN	180	171	150	156	136	286	496	377	332	354	201	203
MAX	238	203	208	182	170	648	1,160	747	535	881	576	271
MIN	146	85	71	103	114	140	248	224	243	176	155	172
CFSM	.669	.636	.558	.580	.506	1.06	1.84	1.40	1.23	1.32	.747	.755
IN.	.77	.71	.64	.67	.54	1.22	2.06	1.62	1.38	1.52	.86	.84

CAL YR 1967:	TOTAL	94,954	MEAN	260	MAX	3,110	MIN	71	CFSM	.967	IN.	13.14
WTR YR 1968:	TOTAL	92,871	MEAN	254	MAX	1,160	MIN	71	CFSM	.944	IN.	12.83

4-0300. Montreal River near Saxon, Wis.

Location.--Lat 46°32'45", long 90°24'05", in NW 1/4 sec. 23, T. 48 N., R. 49 W., Michigan meridian, on right bank 2 miles upstream from mouth and 3.5 miles north of Saxon.

Drainage area.--262 sq mi.

Records available.--September 1938 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage is 760 ft (from power company data). Prior to Aug. 8, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--30 years, 326 cfs.

Extremes.--Maximum discharge during year, 1,740 cfs May 16 (gage height, 4.18 ft); minimum daily discharge, 114 cfs Feb. 13.
1938-68: Maximum discharge, 6,600 cfs Apr. 24, 1960 (gage height, 7.50 ft); minimum, 2 cfs Sept. 21, Oct. 8, 1939, Sept. 9, 1965.

Remarks.--Records good except those for winter months and no gage-height record, which are fair. Diurnal fluctuation caused by Saxon Falls powerplant 1.5 miles upstream. Flow regulated by Gile Reservoir on West Branch Montreal River (capacity, 1,290,000,000 cu ft) since April 1941.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	635	220	178	196	204	626	472	641	752	250	215
2	200	670	246	174	196	200	514	383	655	769	286	211
3	195	639	238	180	194	200	426	322	573	656	330	216
4	194	535	174	190	192	208	437	400	474	535	250	255
5	192	420	188	204	190	208	420	404	371	305	216	247
6	191	370	200	210	191	202	456	380	313	217	202	225
7	210	340	200	224	190	206	555	345	268	222	202	204
8	254	320	200	234	189	204	579	204	264	183	206	225
9	218	350	200	240	186	180	650	218	543	254	190	503
10	298	450	198	246	170	158	560	198	559	183	208	549
11	312	746	196	250	160	170	462	203	618	178	204	423
12	276	1,070	190	252	124	235	397	209	811	225	202	313
13	277	925	184	254	114	250	354	200	935	283	204	237
14	270	665	180	256	136	266	346	216	886	313	214	191
15	234	488	180	258	180	290	384	254	753	360	240	182
16	214	360	184	258	178	350	359	1,130	542	288	212	181
17	190	350	190	256	162	410	344	1,550	353	226	206	189
18	184	350	190	252	152	540	347	1,440	259	365	202	208
19	258	310	192	248	156	610	311	1,450	279	483	204	190
20	236	280	200	240	180	616	306	1,220	282	310	212	197
21	199	260	198	232	188	560	441	1,000	344	254	206	201
22	188	240	194	228	186	520	443	906	588	203	204	199
23	186	230	188	220	192	478	451	1,050	612	181	202	302
24	194	220	186	212	196	427	777	773	622	186	200	305
25	230	218	186	206	194	458	704	685	549	190	202	245
26	284	212	192	204	192	500	633	602	391	210	206	234
27	350	202	202	202	200	678	805	1,030	554	310	208	228
28	428	186	206	200	204	1,100	884	1,380	631	470	208	214
29	358	188	204	198	206	1,170	709	1,310	518	320	208	201
30	324	200	194	196	------	954	565	943	492	256	207	189
31	620	------	184	196	------	775	------	682	------	242	207	------
TOTAL	7,967	12,489	6,084	6,898	5,194	13,327	15,245	21,558	15,680	9,929	6,698	7,479
MEAN	257	416	196	223	179	430	508	695	523	320	216	249
MAX	620	1,070	246	258	206	1,170	884	1,550	935	769	330	549
MIN	184	186	174	174	114	158	306	198	259	178	190	181
CFSM	.98	1.59	.75	.85	.68	1.64	1.94	2.65	1.99	1.22	.82	.95
IN.	1.13	1.77	.86	.98	.74	1.89	2.16	3.06	2.23	1.41	.95	1.06

CAL YR 1967 TOTAL 134,754 MEAN 369 MAX 3,900 MIN 115 CFSM 1.41 IN 19.13
WTR YR 1968 TOTAL 128,548 MEAN 351 MAX 1,550 MIN 114 CFSM 1.34 IN 18.25

Note.--No gage-height record Dec. 31 to Feb. 5, Feb. 19 to Mar. 13, July 24 to Aug. 27.

4-0310. Black River near Bessemer, Mich.

Location.--Lat 46°30'41", long 90°04'28", in NE 1/4 SE 1/4 sec. 32, T. 48 N., R. 46 W., on right bank 450 ft downstream from bridge on county highway, 500 ft downstream from Powder Mill Creek, and 2.5 miles northwest of Bessemer.

Drainage area.--200 sq mi.

Records available.--October 1954 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage is 1,150 ft (from topographic map). Prior to July 15, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--14 years, 233 cfs.

Extremes.--Maximum discharge during year, 3,470 cfs Mar. 19 (gage height, 8.21 ft); maximum gage height, 10.84 ft Mar. 19 (ice backwater); minimum daily discharge, 26 cfs Feb. 22-25.

1954-68: Maximum discharge, 14,800 cfs Apr. 24, 1960 (gage height, 14.27 ft, from floodmark), from rating curve extended above 5,300 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs July 19, 1962, July 28, 29, 1965.

Remarks.--Records good except those for winter months, which are fair. Prior to 1967, some ground water pumped from mines at Bessemer.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	831	180	50	33	30	834	333	644	503	389	37
2	41	856	180	48	33	31	645	284	672	485	233	37
3	40	727	170	45	34	32	515	250	492	398	361	37
4	38	603	150	43	34	34	565	226	383	305	248	133
5	36	526	140	40	34	36	498	200	303	233	168	262
6	35	489	140	38	34	38	483	179	373	182	132	225
7	39	441	140	37	34	40	450	165	370	149	113	238
8	129	412	140	35	34	44	498	154	329	166	108	327
9	261	439	140	34	33	47	620	148	337	187	93	1,050
10	329	523	130	33	33	50	536	137	347	140	83	990
11	346	873	120	32	32	52	458	129	475	112	70	685
12	326	1,250	120	31	32	52	409	118	1,160	239	62	500
13	385	925	110	30	31	50	376	109	1,090	244	142	388
14	317	682	110	30	31	50	405	111	874	315	98	303
15	288	558	120	30	30	54	447	178	678	321	74	235
16	256	487	120	30	30	90	418	1,010	505	264	68	184
17	226	427	130	30	29	180	436	1,070	405	264	58	154
18	347	401	120	30	28	1,000	442	957	323	430	51	146
19	388	362	110	30	28	3,000	392	869	263	382	48	139
20	325	352	110	30	27	2,460	381	707	208	286	49	129
21	291	345	110	30	27	1,310	449	545	325	212	46	138
22	259	290	110	31	26	864	412	435	402	157	46	128
23	229	320	110	31	26	629	433	409	449	123	45	365
24	259	268	100	31	26	529	632	515	354	107	41	458
25	1,270	235	90	32	26	558	574	448	260	91	41	382
26	1,250	219	80	32	27	687	560	451	255	79	38	310
27	1,050	210	70	32	28	1,090	654	908	477	140	35	257
28	784	190	65	32	29	1,890	555	901	481	139	33	219
29	663	170	60	32	29	1,810	462	795	374	99	31	185
30	850	170	57	32	------	1,350	387	629	373	90	30	162
31	792	------	54	33	------	1,180	------	502	------	621	29	------
TOTAL	11,892	14,581	3,586	1,054	878	19,267	14,926	13,872	13,981	7,463	3,063	8,803
MEAN	384	486	116	34.0	30.3	622	498	447	466	241	98.8	293
MAX	1,270	1,250	180	50	34	3,000	834	1,070	1,160	621	389	1,050
MIN	35	170	54	30	26	30	376	109	208	79	29	37
CFSM	1.92	2.43	.58	.17	.15	3.11	2.49	2.24	2.33	1.20	.49	1.47
IN.	2.21	2.71	.67	.20	.16	3.58	2.78	2.58	2.60	1.39	.57	1.64

CAL YR 1967: TOTAL 116,463 MEAN 319 MAX 3,700 MIN 29 CFSM 1.60 IN. 21.66
WTR YR 1968: TOTAL 113,366 MEAN 310 MAX 3,000 MIN 26 CFSM 1.55 IN. 21.08

4-0315. Presque Isle River at Marenisco, Mich.

Location.--Lat 46°22'20", long 89°41'32", in SE 1/4 NW 1/4 sec. 21, T. 46 N., R. 43 W., on left bank 0.3 mile upstream from highway bridge in Marenisco and 1 1/2 miles downstream from confluence of East and West Branches.

Drainage area.--171 sq mi.

Records available.--February 1945 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 1,489.30 ft above mean sea level, datum of 1929 (levels by Michigan Department of Natural Resources). Prior to May 27, 1949, wire-weight gage at site 0.3 mile downstream at different datum. May 27, 1949, to July 15, 1968, graphic water-stage recorder at present site and datum.

Average discharge.--23 years, 174 cfs.

Extremes.--Maximum discharge during year, 812 cfs June 13 (gage height, 6.83 ft); minimum, 40 cfs Aug. 31 (gage height, 3.23 ft). 1945-68: Maximum discharge, 3,520 cfs Apr. 25, 1960 (gage height, 11.25 ft); minimum observed, 13 cfs Sept. 30, 1948 (gage height, 2.25 ft, site and datum then in use).

Remarks.--Records good except those for winter months, which are fair. Occasional regulation for lake or pond level control at several places above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	395	200	88	79	70	379	233	440	430	181	83
2	64	379	190	85	80	70	315	199	438	415	164	93
3	63	363	180	82	80	71	289	207	377	371	154	86
4	58	339	170	80	80	72	301	205	343	315	143	167
5	56	317	150	80	80	74	301	204	273	285	130	335
6	50	292	142	80	80	76	300	192	242	207	121	377
7	52	228	133	80	80	78	283	197	249	155	114	337
8	100	194	130	80	80	80	301	205	250	172	104	315
9	143	215	120	80	80	80	315	178	351	181	99	440
10	162	232	115	80	80	82	307	173	448	178	94	565
11	173	262	110	80	80	76	292	162	488	170	92	550
12	161	300	110	80	80	72	283	154	655	210	84	455
13	152	357	110	80	80	72	273	149	764	228	82	375
14	137	349	115	80	80	74	303	139	740	341	75	323
15	143	271	130	80	80	78	341	164	655	351	74	189
16	148	225	150	80	80	90	341	321	411	307	77	127
17	140	235	170	80	80	120	349	448	232	250	72	144
18	158	235	161	80	80	200	361	482	283	267	69	164
19	175	226	158	80	80	350	347	462	319	242	68	164
20	168	240	132	80	80	450	331	419	276	213	73	168
21	149	220	139	80	78	370	345	385	301	196	72	168
22	142	202	135	80	76	250	331	298	333	158	75	167
23	129	213	140	80	74	190	335	282	331	118	68	271
24	133	184	135	80	73	150	389	383	329	123	69	389
25	317	178	130	78	72	116	419	395	401	123	63	371
26	419	175	120	76	71	155	411	383	283	123	61	313
27	442	160	115	76	70	257	391	556	353	160	59	266
28	401	150	110	76	70	417	321	622	403	154	57	244
29	357	165	105	76	70	505	287	622	399	134	54	186
30	373	180	95	78	------	512	282	574	391	132	50	162
31	393	------	90	78	------	490	------	500	------	183	47	------
TOTAL	5,626	7,481	4,190	2,473	2,253	5,747	9,823	9,893	11,758	6,892	2,745	7,994
MEAN	181	249	135	79.8	77.7	185	327	319	392	222	88.5	266
MAX	442	395	200	88	80	512	419	622	764	430	181	565
MIN	50	150	90	76	70	70	273	139	232	118	47	83
CFSM	1.06	1.46	.789	.467	.454	1.08	1.91	1.87	2.29	1.30	.518	1.56
IN.	1.22	1.63	.91	.54	.49	1.24	2.13	2.16	2.56	1.50	.60	1.74

CAL YR 1967: TOTAL 79,781 MEAN 219 MAX 1,400 MIN 50 CFSM 1.28 IN. 17.34
WTR YR 1968: TOTAL 76,875 MEAN 210 MAX 764 MIN 47 CFSM 1.23 IN. 16.72

Note.--No gage-height record Jan. 7 to Feb. 7.

4-0375. Cisco Branch Ontonagon River at Cisco Lake Outlet, Mich.

Location.--Lat 46°15'12", long 89°27'05", in E 1/2 sec. 32, T. 45 N., R. 41 W., on right bank 80 ft downstream from Cisco Lake Dam, 2 1/2 miles upstream from Langford Creek, 5 miles upstream from U. S. Highway 2, and 13 miles west of Watersmeet.

Drainage area.--50.7 sq mi.

Records available.--October 1944 to September 1968.

Gage.--Staff gage read once daily. Datum of gage is 1,676.69 ft above mean sea level, datum of 1929.

Average discharge.--24 years, 46.1 cfs.

Extremes.--Maximum discharge during year, 240 cfs Oct. 27, 28 (gage height, 1.98 ft); minimum daily, 0.35 cfs Oct. 6.
1944-68: Maximum discharge, 288 cfs May 1-4, 1951 (gage height, 2.10 ft); minimum daily, 0.20 cfs May 20 to Jure 17, 1948, Nov. 8, 9, 1961.

Remarks.--Records fair except those below 5 cfs, which are poor. Flow regulated by Cisco Lake (usable capacity, 15,6C0 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	200	27	40	45	19	85	2.2	66	155	14	2.0
2	.75	186	22	40	45	19	69	1.6	69	151	22	2.0
3	.60	176	22	40	45	19	61	1.6	66	151	22	2.0
4	.50	171	22	40	45	19	61	1.6	66	146	22	38
5	.40	171	22	40	45	26	64	1.6	61	187	22	132
6	.35	166	22	38	45	29	64	1.9	64	183	23	178
7	.40	153	22	23	45	29	64	1.9	64	137	26	160
8	15	153	23	14	45	40	66	1.6	61	71	29	127
9	35	144	23	14	45	45	48	1.6	66	29	26	164
10	40	140	29	14	34	45	36	1.6	154	19	11	198
11	58	136	31	14	29	45	36	1.6	181	19	2.4	188
12	66	132	31	14	29	34	14	1.6	164	22	2.0	165
13	66	128	31	14	29	29	1.3	1.6	164	43	2.0	178
14	22	124	31	15	29	29	1.6	1.9	160	116	2.0	136
15	2.4	120	39	15	29	29	1.6	1.6	155	155	2.0	115
16	2.0	117	42	15	29	29	1.6	1.6	151	146	2.0	54
17	2.0	113	42	16	29	29	1.9	3.7	151	142	2.0	18
18	2.0	113	42	16	29	29	1.9	5.1	142	178	2.0	19
19	2.0	113	42	25	29	66	1.9	5.1	134	193	2.0	27
20	76	95	42	28	29	99	1.9	2.8	130	155	25	31
21	109	79	45	28	29	108	1.9	1.6	134	142	75	31
22	124	75	42	28	29	104	1.9	2.7	128	58	98	31
23	140	75	42	28	29	88	1.9	14	126	14	94	88
24	149	64	42	28	29	80	2.2	65	126	7.0	45	122
25	153	61	42	28	29	77	2.2	115	122	2.4	7.1	111
26	166	59	42	28	29	56	2.2	127	130	2.4	2.0	68
27	216	59	42	28	25	45	2.2	154	134	2.4	2.0	45
28	240	59	42	39	22	72	2.2	169	126	2.4	2.0	45
29	230	56	42	45	19	88	2.2	151	122	2.4	2.0	45
30	216	42	40	45	------	88	2.2	114	122	2.4	1.7	45
31	206	------	40	45	------	85	------	79	------	2.4	1.7	------
TOTAL	2,341.30	3,480	1,068	845	969	1,599	702.8	1,036.1	3,539	2,635.8	590.9	2,565.0
MEAN	75.5	116	34.5	27.3	33.4	51.6	23.4	33.4	118	85.0	19.1	85.5
MAX	240	200	45	45	45	108	85	169	181	193	98	198
MIN	.35	42	22	14	19	19	1.3	1.6	61	2.4	1.7	2.0

CAL YR 1967: TOTAL 20,273.10 MEAN 55.5 MAX 240 MIN .35 CFSM 1.09 IN. 14.80
WTR YR 1968: TOTAL 21,371.90 MEAN 58.4 MAX 240 MIN .35 CFSM 1.15 IN. 15.65

4-0610. Brule River near Florence, Wis.

Location.--Lat 45°57'31", long 88°15'57", in SE 1/4 SE 1/4 sec. 11, T. 41 N., R. 32 W., Michigan meridian, on left bank 40 ft upstream from highway bridge, 1 mile upstream from Paint River, 2.5 miles north of Florence, and 5 miles upstream from confluence with Michigamme River.

Drainage area.--389 sq mi.

Records available.--January 1914 to February 1916, June 1944 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage is 1,210 ft (from topographic map). Prior to Aug. 29, 1944, wire-weight or chain gages at bridge 40 ft downstream at present datum. Aug. 29, 1944, to Sept. 29, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--25 years (1914-15, 1944-68), 349 cfs.

Extremes.--Maximum discharge during year, 1,640 cfs July 1 (gage height, 4.03 ft); maximum gage height, 7.05 ft Dec. 28 (ice jam); minimum daily discharge, 200 cfs Dec. 15, 29-31, Jan. 1.
1914-16, 1944-68: Maximum discharge, 4,700 cfs July 2, 1953 (gage height, 6.57 ft); maximum gage height, 8.01 ft Jan. 8, 1960 (ice jam); minimum discharge, 118 cfs Dec. 2, 1963 (discharge measurement); minimum gage height, 1.79 ft July 24, 1964.

Remarks.--Records good except those for winter months, which are fair. Discharge includes mine pumpage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	255	473	290	200	260	240	557	403	611	1,630	407	424
2	251	440	300	210	255	240	491	383	664	1,450	377	463
3	255	414	300	220	250	240	454	379	582	1,090	353	392
4	251	392	290	225	250	240	458	396	510	847	339	372
5	251	373	285	225	245	240	428	378	459	701	331	662
6	251	349	280	225	240	245	410	358	432	602	331	621
7	259	344	280	225	240	250	389	343	490	544	331	520
8	462	335	280	225	240	255	391	332	499	512	325	519
9	586	339	280	225	235	260	398	322	809	484	319	933
10	501	335	280	215	235	260	389	325	961	454	311	1,110
11	424	335	280	210	235	255	372	318	813	429	301	859
12	377	339	270	210	230	250	370	313	755	481	295	663
13	368	335	250	210	230	245	436	307	666	534	295	544
14	387	330	220	210	230	240	505	314	601	625	289	483
15	368	340	200	210	230	245	630	380	553	656	285	439
16	353	340	220	215	225	260	596	447	488	573	295	405
17	335	353	240	220	225	300	562	461	452	518	295	385
18	326	317	260	220	220	350	550	405	440	605	290	405
19	326	313	245	225	220	520	520	364	491	717	314	450
20	317	310	230	230	220	540	517	343	440	619	440	450
21	308	310	250	230	220	510	674	333	569	600	374	436
22	299	320	245	230	220	460	639	323	742	606	352	404
23	295	304	235	230	220	400	583	385	660	523	335	395
24	326	304	230	235	220	370	650	622	605	478	315	410
25	731	299	225	240	225	360	610	545	540	444	297	430
26	864	295	220	245	230	370	548	460	522	422	293	430
27	717	270	215	250	240	407	507	543	816	472	287	410
28	586	245	205	260	240	670	470	665	975	436	281	370
29	501	250	200	270	240	768	442	755	843	399	276	354
30	517	260	200	270	------	643	422	669	1,210	390	275	346
31	512	------	200	265	------	603	------	577	------	422	275	------
TOTAL	12,559	9,963	7,705	7,080	6,770	11,236	14,968	13,148	19,198	19,263	9,883	15,084
MEAN	405	332	249	228	233	362	499	424	640	621	319	503
MAX	864	473	300	270	260	768	674	755	1,210	1,630	440	1,110
MIN	251	245	200	200	220	240	370	307	432	390	275	346
CFSM	1.04	.85	.64	.59	.60	.93	1.28	1.09	1.65	1.60	.82	1.29
IN.	1.20	.95	.74	.68	.65	1.07	1.43	1.26	1.84	1.84	.94	1.44

CAL YR 1967:	TOTAL	152,456	MEAN	418	MAX	1,920	MIN	200	CFSM	1.07	IN.	14.58
WTR YR 1968:	TOTAL	146,857	MEAN	401	MAX	1,630	MIN	200	CFSM	1.03	IN.	14.04

GPO 817-102-3

4-0630. Menominee River near Florence, Wis.

Location.--Lat 45°57'04", long 88°11'13", in NE 1/4 sec. 16, T. 41 N., R. 31 W., Michigan meridian, on left bank 0.5 mile downstream from confluence of Brule and Michigamme Rivers, 3.5 miles northeast of Florence, and at mile 117.

Drainage area.--1,780 sq mi.

Records available.--January 1914 to September 1968. Published as "at Twin Falls near Iron Mountain, Mich." 1914-57. Records published for both sites July 1950 to September 1957.

Gage.--Digital water-stage recorder. Altitude of gage is 1,120 ft (from topographic map). Prior to July 1950, headwater and tailwater gages and generation data entered hourly in daily log sheets by company employees at the Twin Falls Powerplant of Wisconsin-Michigan Power Co., 10.4 miles downstream. July 5, 1950, to Aug. 14, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--54 years, 1,777 cfs.

Extremes.--Maximum discharge during year, 7,640 cfs Sept. 10 (gage height, 8.42 ft); minimum, 179 cfs Aug. 15 (gage height, 1.80 ft); minimum daily, 601 cfs Jan. 28.
1914-68: Maximum discharge, 19,500 cfs Apr. 26, 1960 (gage height, 14.15 ft); minimum daily, 154 cfs Aug. 9, 1925.

Remarks.--Records excellent. Prior to July 1950 discharge determined from powerplant records computed on basis of load-discharge rating of hydroelectric units and rating for tailwater gage during periods of spill. Rating developed by Geological Survey. Flow regulated by powerplants, and by Michigamme Reservoir (capacity, 119,950 acre-ft) and Peavy Pond (capacity, 33,860 acre-ft) on Michigamme River, and by many smaller reservoirs above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	623	3,420	1,610	1,080	1,300	1,290	1,920	2,370	3,090	5,660	2,560	969
2	1,380	2,720	1,320	1,510	1,390	1,190	2,250	2,410	2,920	4,750	2,410	1,350
3	1,230	2,340	1,480	1,400	1,340	1,170	2,980	2,060	2,670	4,300	2,410	1,710
4	1,270	2,610	1,580	1,490	1,130	1,670	2,780	1,940	2,480	3,350	2,420	1,630
5	1,020	2,620	1,510	1,390	1,520	2,040	2,040	1,990	2,390	3,170	2,140	2,940
6	1,280	2,700	1,500	1,250	1,530	1,660	1,650	1,910	2,420	2,400	1,920	2,710
7	736	2,320	1,620	1,070	1,750	1,400	1,700	1,920	2,730	1,750	1,900	2,570
8	1,250	2,340	1,490	1,880	2,070	1,710	1,740	1,470	2,780	2,100	1,740	3,060
9	1,820	2,300	1,560	1,470	1,890	1,430	1,780	1,420	3,410	1,990	1,610	5,140
10	1,680	2,720	1,360	1,570	1,680	1,630	1,640	1,070	4,130	1,830	1,470	7,130
11	1,410	2,620	1,490	1,460	1,670	1,840	1,720	1,180	4,120	1,770	1,120	6,560
12	1,330	2,340	1,490	1,690	1,700	1,850	1,610	775	4,160	1,800	1,400	4,820
13	1,570	2,620	1,420	1,400	1,650	1,500	1,730	1,150	4,140	2,050	1,420	4,450
14	1,250	2,300	1,510	689	1,780	1,360	1,740	1,450	4,150	2,530	1,450	4,870
15	840	2,310	1,570	1,680	1,670	1,340	1,890	1,430	3,250	2,270	1,310	4,600
16	1,200	2,290	1,490	1,440	1,690	1,490	2,090	1,510	2,360	2,340	1,330	3,060
17	1,420	2,280	1,390	1,530	1,610	2,060	2,200	1,540	2,130	2,060	919	2,580
18	1,630	2,220	1,780	1,180	1,670	2,540	2,690	1,450	2,000	2,500	979	2,760
19	1,570	2,180	1,690	1,430	1,830	1,960	2,930	1,470	2,120	2,510	1,780	2,940
20	1,670	2,230	1,790	1,020	1,740	2,080	2,860	1,660	2,440	2,490	1,800	3,070
21	1,450	2,150	1,880	808	1,780	1,560	2,940	1,690	3,450	2,680	2,100	3,020
22	1,320	2,030	1,810	1,570	1,870	1,770	2,800	1,630	3,790	2,740	2,010	2,900
23	1,570	2,010	1,420	1,340	1,650	1,290	3,310	1,600	3,090	2,990	1,750	2,840
24	1,840	2,190	1,370	1,260	1,320	1,060	3,620	1,670	2,860	2,530	1,100	2,690
25	2,500	2,190	1,280	1,310	1,090	1,290	2,910	1,470	3,460	2,030	1,120	2,770
26	3,250	2,020	1,670	1,200	1,630	1,290	2,780	2,110	3,610	1,940	1,490	2,750
27	3,250	2,110	1,710	1,020	1,410	1,130	2,750	2,490	4,170	1,870	1,450	2,620
28	2,910	2,060	1,770	601	1,400	1,470	2,410	2,620	4,320	1,900	1,250	2,230
29	2,880	1,460	1,670	1,460	1,400	1,630	2,340	2,480	4,110	1,900	1,150	1,450
30	3,160	1,600	1,300	1,580	------	1,800	2,430	2,910	5,200	2,070	1,030	2,270
31	3,530	------	1,430	1,410	------	1,570	------	2,840	------	2,440	1,000	------
TOTAL	53,839	69,300	47,960	41,188	46,160	49,070	70,230	55,685	97,950	78,710	49,538	94,459
MEAN	1,737	2,310	1,547	1,329	1,592	1,583	2,341	1,796	3,265	2,539	1,598	3,149
MAX	3,530	3,420	1,880	1,880	2,070	2,540	3,620	2,910	5,200	5,660	2,560	7,130
MIN	623	1,460	1,280	601	1,090	1,060	1,610	775	2,000	1,750	919	969

CAL YR 1967: TOTAL 802,965 MEAN 2,200 MAX 11,100 MIN 479
WTR YR 1968: TOTAL 754,089 MEAN 2,060 MAX 7,130 MIN 601

4-0637. Popple River near Fence, Wis.

(Hydrologic bench-mark gaging station)

Location.--Lat 45°45'50", long 88°27'50", in NW 1/4 sec. 23, T. 38 N., R. 16 E., on left bank 20 ft upstream from U. S. Forest Service Road 2159, 1.8 miles downstream from Mud Creek, 2.6 miles northwest of Fence, and 11 1/2 miles upstream from mouth.

Drainage area.--131 sq mi.

Records available.--October 1963 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 1,406.16 ft above mean sea level, datum of 1929. Prior to June 18, 1964, wire-weight gage at present site and datum.

Extremes.--Maximum discharge during year, 664 cfs Sept. 11 (gage height, 3.23 ft); minimum daily, 36 cfs Feb. 19-23.
1963-68: Maximum discharge, 1,100 cfs May 10, 1965 (gage height, 4.17 ft); minimum, 15 cfs July 19, 23, 24, 1964 (gage height, 1.04 ft).

Remarks.--Records excellent except those for winter months, which are fair. Records of chemical analysis, water temperatures, and suspended sediment loads for the water year 1968 are published in Part 2 of this report. Hydrologic bench-mark stations are installed in specially selected areas where water resources have not yet been affected by works of man. Continuous records of natural hydrologic conditions, such as streamflow and water quality, will make possible assessment of changes which occur as a result of the vagaries of climate and other natural factors. These data will provide a frame of reference against which hydrologic changes wrought by man may be evaluated.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	271	64	41	45	39	153	175	428	533	200	114
2	69	246	64	41	44	39	138	153	424	528	188	153
3	64	223	66	40	43	40	131	145	411	502	164	164
4	66	194	66	40	42	42	138	145	378	450	143	164
5	66	164	63	40	41	44	138	145	335	394	126	268
6	63	156	64	40	40	46	135	135	290	338	112	278
7	61	135	66	41	40	46	123	128	250	282	106	282
8	110	124	66	41	39	47	123	119	216	236	101	312
9	169	116	64	42	39	47	123	117	200	188	95	454
10	197	108	62	42	39	47	119	112	178	140	90	569
11	200	106	60	42	38	47	114	110	169	121	84	650
12	181	104	58	42	37	46	117	106	184	110	78	636
13	172	100	56	42	37	46	128	99	178	110	75	574
14	167	96	54	43	37	46	158	101	172	194	70	515
15	167	94	52	44	37	47	203	131	172	257	64	467
16	161	92	50	44	37	54	213	178	153	275	64	411
17	150	92	52	44	37	64	220	210	145	257	66	358
18	135	90	50	44	37	80	220	203	138	229	63	327
19	123	90	49	44	36	100	213	188	133	200	99	312
20	117	90	48	44	36	110	216	164	126	167	133	308
21	108	88	49	42	36	106	286	140	181	164	164	297
22	103	86	50	42	36	98	278	131	253	156	172	278
23	103	82	48	40	36	90	297	153	286	143	169	253
24	110	80	46	37	38	84	335	297	290	128	156	233
25	257	78	46	37	38	80	338	346	286	110	135	210
26	346	74	46	38	39	82	323	335	319	101	117	191
27	378	70	46	39	40	93	293	350	437	153	99	172
28	374	68	46	40	39	135	268	403	480	200	90	156
29	342	66	44	41	39	161	240	441	489	213	82	145
30	319	64	43	42	------	164	206	454	511	200	77	138
31	301	------	42	44	------	161	------	428	------	203	72	------
TOTAL	5,253	3,447	1,680	1,283	1,122	2,331	5,987	6,342	8,212	7,282	3,454	9,389
MEAN	169	115	54.2	41.4	38.7	75.2	200	205	274	235	111	313
MAX	378	271	66	44	45	164	338	454	511	533	200	650
MIN	61	64	42	37	36	39	114	99	126	101	63	114
CFSM	1.29	.878	.414	.316	.295	.574	1.53	1.56	2.09	1.79	.847	2.39
IN.	1.49	.98	.48	.36	.32	.66	1.70	1.80	2.33	2.07	.98	2.67

CAL YR 1967: TOTAL 54,169 MEAN 148 MAX 852 MIN 41 CFSM 1.13 IN. 15.37
WTR YR 1968: TOTAL 55,782 MEAN 153 MAX 650 MIN 36 CFSM 1.16 IN. 15.84

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-27	1800	2.60	386	7- 1	1000	2.95	538
4-25	1800	2.54	342	9-11	2000	3.23	664
5-30	1000	2.77	458				

4-0645. Pine River at Pine River powerplant, near Florence, Wis.

Location.--Lat 45°49'40", long 88°14'55", in sec. 28, T. 39 N., R. 18 E., at powerplant of Wisconsin-Michigan Power Co., 5.0 miles downstream from Popple River and 6.5 miles south of Florence.

Drainage area.--528 sq mi.

Records available.--October 1923 to September 1968.

Average discharge.--45 years, 423 cfs.

Extremes.--Maximum daily discharge during year, 2,220 cfs July 1; minimum daily, 155 cfs Nov. 28, Feb. 24, 25.
1923-68: Maximum daily discharge, 4,380 cfs Apr. 9, 1929; no flow at times during 1924, 1926-27, 1930-31, 1933, 1940.

Remarks.--Records good except those above 700 cfs and those below 100 cfs, which are fair. Daily discharge determined from powerplant records. Flow regulated by powerplant at station, but pondage is small and monthly discharge is very nearly natural flow.

Cooperation.--Records of daily discharge computed by Wisconsin-Michigan Power Co., on basis of load-discharge rating of hydroelectric units as developed by Geological Survey and gate ratings based on theoretical formulas.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	259	744	312	200	211	177	624	624	1,360	2,220	744	430
2	282	744	312	200	267	177	602	602	1,400	2,020	664	624
3	281	664	222	200	200	177	559	559	1,100	1,800	559	624
4	229	624	312	200	222	177	494	559	1,100	1,600	494	624
5	252	624	267	200	200	177	494	559	944	1,260	494	934
6	229	529	222	177	222	177	494	529	864	1,020	494	1,100
7	252	416	312	200	222	200	494	498	724	864	416	1,020
8	378	442	312	177	211	200	494	477	764	824	416	984
9	540	378	312	200	200	227	494	416	864	714	416	1,610
10	744	468	267	177	200	184	494	416	864	624	364	2,140
11	744	468	222	177	200	205	424	416	824	624	312	1,930
12	664	390	312	200	200	205	442	364	804	572	446	1,820
13	624	442	312	200	200	184	494	423	724	560	281	1,660
14	602	416	267	200	200	184	601	404	724	1,050	333	1,350
15	581	319	177	200	200	184	764	520	684	1,140	281	1,100
16	494	382	222	200	188	184	864	644	624	1,030	307	944
17	494	378	267	200	200	269	864	814	624	904	307	864
18	468	416	222	200	200	357	824	704	572	864	281	864
19	494	312	312	200	177	537	744	624	498	804	378	864
20	381	342	267	200	177	624	824	624	559	824	520	864
21	381	326	222	200	177	559	1,020	591	681	824	505	844
22	333	420	312	188	177	433	1,020	494	1,040	824	516	744
23	369	333	289	267	177	342	1,070	516	1,100	664	494	704
24	378	356	222	177	155	312	1,100	914	1,060	624	494	704
25	884	333	222	200	155	312	1,040	1,100	944	602	484	624
26	1,180	333	267	200	177	403	944	1,100	984	555	406	624
27	1,220	307	177	200	177	414	864	1,220	1,520	603	381	613
28	1,160	155	222	200	177	624	739	1,350	1,700	684	333	546
29	1,010	177	267	177	177	764	744	1,580	1,560	744	333	494
30	904	222	177	200	------	804	684	1,520	1,880	684	304	494
31	864	------	200	222	------	684	------	1,400	------	684	251	------
TOTAL	17,675	12,460	8,007	6,139	5,646	10,457	21,313	22,561	29,090	28,810	13,008	28,741
MEAN	570	415	258	198	195	337	710	728	970	929	420	958
MAX	1,220	744	312	267	267	804	1,100	1,580	1,880	2,220	744	2,140
MIN	229	155	177	177	155	177	424	364	498	555	251	430
CFSM	1.08	.786	.489	.375	.369	.638	1.34	1.38	1.84	1.76	.795	1.81
IN.	1.24	.88	.56	.43	.40	.74	1.50	1.59	2.05	2.03	.92	2.02

CAL YR 1967:	TOTAL	194,363	MEAN	532	MAX	2,800	MIN	155	CFSM	1.01	IN.	13.69
WTR YR 1968:	TOTAL	203,907	MEAN	557	MAX	2,220	MIN	155	CFSM	1.05	IN.	14.36

4-0660. Menominee River near Pembine, Wis.

Location.--Lat 45°35'25", long 87°46'35", in sec. 21, T. 37 N., R. 28 W., Michigan meridian, on left bank 700 ft upstream from Pemene Creek, 4 miles west of Nathan, Mich., 15 miles southeast of Pembine, and at mile 65.3.

Drainage area.--3,240 sq mi, approximately.

Records available.--October 1949 to September 1968. Monthly discharge only for some periods, published in WSP 1307.

Gage.--Digital water-stage recorder. Altitude of gage is 745 ft (from river-profile map). Prior to Oct. 18, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--19 years, 2,947 cfs.

Extremes.--Maximum discharge during year, 12,400 cfs Sept. 11 (gage height, 8.84 ft); maximum gage height, 11.92 ft Dec. 25 (backwater from ice); minimum discharge, 1,020 cfs Oct. 7 (gage height, 2.05 ft).
1949-68: Maximum discharge, 26,900 cfs May 8, 1960 (gage height, 13.90 ft); minimum, 708 cfs Sept. 1, 1965 (gage height, 1.68 ft).

Remarks.--Records good except those for winter months, which are fair. Flow regulated by powerplants and by Michigamme Reservoir (capacity, 119,950 acre-ft) and Peavy Pond (capacity, 33,860 acre-ft) on the Michigamme River, and by many smaller reservoirs above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,410	5,590	2,200	1,700	2,000	1,700	3,320	4,140	6,320	11,300	4,180	1,750
2	1,370	4,510	2,100	1,600	2,000	1,500	3,370	3,920	6,230	10,300	3,730	1,700
3	1,890	4,540	2,000	1,700	1,900	1,250	3,660	3,350	6,080	9,850	3,960	1,900
4	1,760	3,930	2,100	1,900	1,800	1,300	4,180	3,350	5,440	8,080	3,230	3,170
5	1,640	3,960	2,200	1,800	1,700	2,300	3,560	3,340	4,930	7,270	3,440	4,320
6	1,620	3,870	2,100	1,900	1,900	2,400	3,180	3,420	4,640	5,810	3,240	5,290
7	1,380	3,800	2,250	1,650	2,200	2,200	3,070	3,190	4,700	4,960	3,020	5,220
8	1,810	3,240	2,200	1,550	2,200	2,000	2,570	2,980	4,660	3,890	2,700	5,870
9	2,650	3,310	2,150	1,600	2,400	2,200	2,830	2,600	4,510	3,980	2,520	7,110
10	2,670	3,600	2,200	2,200	2,500	2,000	2,750	2,310	5,640	3,690	2,490	11,100
11	2,710	3,650	1,900	1,950	1,900	2,100	2,630	2,280	5,980	3,230	2,340	12,100
12	2,610	3,060	2,000	1,900	2,300	2,500	2,590	1,760	5,950	3,150	1,950	10,300
13	2,530	3,640	2,100	1,800	2,000	2,600	2,770	1,800	6,080	3,370	1,710	8,140
14	2,610	3,390	2,200	1,800	2,300	2,200	3,860	2,290	6,040	3,670	2,040	7,780
15	2,210	3,350	2,100	1,700	2,460	1,900	3,990	2,900	5,760	4,450	2,010	7,640
16	2,090	3,390	2,000	1,600	2,300	2,100	4,200	3,280	4,770	4,930	2,110	6,490
17	2,180	3,100	2,100	2,050	2,100	2,700	4,770	4,200	4,000	4,360	1,920	4,870
18	2,290	3,040	2,000	2,000	2,000	3,100	4,620	3,630	3,460	4,060	1,720	4,290
19	2,450	2,880	2,200	1,950	2,000	3,400	4,860	3,550	3,450	4,000	1,840	4,530
20	2,640	3,030	2,500	1,750	2,050	3,600	5,060	3,800	3,550	3,840	3,300	5,130
21	2,660	2,860	2,700	1,350	2,100	3,600	5,390	3,450	5,040	4,180	3,900	5,220
22	2,250	2,810	2,300	1,700	2,200	2,900	5,410	3,070	5,760	4,760	4,100	4,470
23	1,960	2,840	2,300	1,750	2,300	2,600	5,800	2,940	6,490	4,680	3,600	4,730
24	2,190	2,860	2,000	1,800	2,100	2,200	6,470	3,240	5,650	4,680	3,000	4,540
25	3,800	2,850	1,700	1,850	1,400	1,900	6,520	3,580	5,760	3,820	2,400	4,380
26	4,840	2,800	1,600	1,800	1,300	2,500	5,650	4,040	6,400	3,620	2,200	3,940
27	5,960	2,700	1,900	1,700	1,900	2,700	5,420	4,630	7,700	3,240	2,600	4,180
28	5,470	2,600	2,000	1,500	1,950	2,810	5,050	5,520	9,200	3,740	2,400	4,030
29	4,960	2,400	2,200	1,400	2,000	3,040	4,350	5,860	8,950	3,310	2,100	3,020
30	5,110	2,300	2,050	1,800	------	3,510	4,330	6,660	8,900	3,410	2,000	2,830
31	5,510	------	1,900	1,700	------	3,270	------	6,340	------	3,730	1,800	------
TOTAL	87,230	99,910	65,250	54,450	59,260	76,080	126,230	111,420	172,040	151,360	83,550	160,040
MEAN	2,814	3,330	2,105	1,756	2,043	2,454	4,208	3,594	5,735	4,883	2,695	5,335
MAX	5,960	5,590	2,700	2,200	2,500	3,600	6,520	6,660	9,200	11,300	4,180	12,100
MIN	1,370	2,300	1,600	1,350	1,300	1,250	2,570	1,760	3,450	3,150	1,710	1,700

CAL YR 1967 TOTAL 1,270,670 MEAN 3,481 MAX 16,600 MIN 1,190
WTR YR 1968 TOTAL 1,246,820 MEAN 3,407 MAX 12,100 MIN 1,250

4-0665. Pike River at Amberg, Wis.

Location.--Lat 45°29'50", long 87°59'40", in SW 1/4 sec. 15, T. 35 N., R. 20 E., on left bank 500 ft upstream from Chicago, Milwaukee, St. Paul and Pacific Railroad bridge, 0.2 mile south of Amberg, and 1.2 miles downstream from confluence of North and South Branches.

Drainage area.--253 sq mi.

Records available.--February 1914 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage is 865 ft above mean sea level (from survey level line along railroad). Prior to May 23, 1931, chain gage at railway bridge at datum 1 ft higher. May 23, 1931, to Aug. 4, 1934, chain gage at highway bridge three-quarters of a mile downstream at different datum. Aug. 5, 1934, to Oct. 6, 1946, staff gage, and Oct. 7, 1946, to June 8, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--54 years, 216 cfs.

Extremes.--Maximum discharge during year, 851 cfs June 28 (gage height, 4.22 ft); minimum daily, 106 cfs Jan. 7 (backwater from ice).
1914-68: Maximum discharge, 2,800 cfs Apr. 10, 1922 (gage height, 7.8 ft, from graph based on gage readings, site and datum then in use), from rating curve extended above 1,100 cfs; minimum observed, 26 cfs Dec. 27, 1925 (gage height, 1.30 ft, site and datum then in use).

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	281	160	124	146	116	213	260	533	554	170	155
2	122	259	156	120	144	118	194	241	548	459	167	198
3	120	239	156	116	142	120	182	237	479	363	146	202
4	119	221	158	114	140	126	241	269	394	305	137	184
5	116	205	154	110	138	134	252	277	324	280	142	283
6	114	188	150	108	134	140	234	252	288	254	149	421
7	114	180	150	106	132	146	217	233	264	232	149	402
8	144	172	148	108	130	150	217	221	240	223	152	422
9	200	168	144	108	128	150	218	213	223	269	152	543
10	199	168	142	110	126	150	209	204	226	260	145	656
11	179	172	140	110	120	148	200	198	222	228	139	634
12	163	179	138	112	116	144	197	192	235	211	134	496
13	161	175	136	114	114	140	341	190	229	206	132	371
14	173	166	138	116	114	140	498	201	259	238	129	284
15	171	160	150	120	111	146	554	320	318	291	127	245
16	163	154	170	124	110	150	511	387	281	262	135	219
17	155	152	160	126	110	160	452	453	240	237	151	204
18	148	150	150	128	110	170	421	427	219	239	148	206
19	142	148	146	133	110	178	384	348	213	226	216	251
20	139	144	140	134	108	180	374	291	200	204	324	318
21	135	140	136	136	108	180	515	256	306	193	346	348
22	134	136	130	136	110	170	552	234	455	203	281	318
23	134	136	140	138	110	160	514	230	446	192	239	280
24	149	136	144	138	110	150	615	251	376	183	203	256
25	324	136	148	140	110	148	662	269	316	173	177	234
26	471	138	150	140	112	142	552	253	348	165	161	216
27	455	140	150	140	114	156	445	385	615	192	153	205
28	390	156	148	144	114	212	374	579	807	253	146	196
29	322	170	142	144	116	253	329	704	760	223	141	191
30	296	164	136	146	------	231	312	701	624	191	135	183
31	302	------	130	146	------	222	------	605	------	174	133	------
TOTAL	6,078	5,133	4,540	3,889	3,487	4,930	10,979	9,881	10,988	7,683	5,259	9,121
MEAN	196	171	146	125	120	159	366	319	366	248	170	304
MAX	471	281	170	146	146	253	662	704	807	554	346	656
MIN	114	136	130	106	108	116	182	190	200	165	127	155
CFSM	.77	.68	.58	.50	.48	.63	1.45	1.26	1.45	.98	.67	1.20
IN.	.89	.75	.67	.57	.51	.72	1.61	1.45	1.62	1.13	.77	1.34

CAL YR 1967 TOTAL 80,762 MEAN 221 MAX 1,130 MIN 98 CFSM .87 IN 11.87
WTR YR 1968 TOTAL 81,968 MEAN 224 MAX 807 MIN 106 CFSM .89 IN 12.05

4-0670. Menominee River below Koss, Mich.

Location.--Lat 45°21'50", long 87°39'20", in sec. 9, T. 34 N., R. 27 W., Michigan meridian, on left bank at powerplant of Wisconsin Public Service Corp., 0.5 mile upstream from Little Cedar River, 3.6 miles southeast of Koss, and at mile 24.7.

Drainage area.--3,790 sq mi, approximately.

Records available.--July 1907 to March 1909 (published as "at Koss"), July 1913 to September 1968.

Gage.--Headwater and tailwater gages and generation data entered hourly in daily log sheet by company employees. Prior to June 1913, chain gage on railroad bridge 4 miles upstream.

Average discharge.--56 years (1907-8, 1913-68), 3,112 cfs.

Extremes.--Maximum daily discharge during year, 12,600 cfs Sept. 12; minimum daily, 1,260 cfs Oct. 2.
1908, 1913-68: Maximum daily discharge, 33,000 cfs May 10, 1960; minimum daily, 162 cfs Sept. 15, 1931.

Remarks.--Records fair. Daily discharge computed on basis of average daily load and load-discharge rating of combined hydroelectric units. Flow regulated by powerplants, and by Michigamme Reservoir (capacity, 119,950 acre-ft) and Peavy Pond (capacity 33,860 acre-ft) on Michigamme River, and by many smaller reservoirs above station.

Cooperation.--Records of daily discharge furnished by Wisconsin Public Service Corp. since 1913.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.830	6.530	2.430	1.860	1.790	1.800	3.720	4.470	6.470	10.600	3.760	1.870
2	1.260	6.620	2.440	1.710	2.170	1.800	3.720	4.350	6.920	11.300	4.070	1.920
3	1.850	5.400	2.400	1.700	2.020	1.510	3.660	4.110	6.370	11.600	4.070	2.670
4	1.650	5.280	2.250	1.680	2.090	1.340	3.720	3.720	5.930	9.630	3.760	2.970
5	1.920	4.680	2.350	1.780	2.020	1.570	4.070	3.760	5.320	7.810	3.240	3.970
6	1.710	4.790	2.640	1.850	1.800	2.230	3.820	3.720	4.830	6.280	3.120	4.910
7	1.510	4.750	2.620	1.850	2.020	2.350	3.660	3.570	4.630	4.890	3.150	5.270
8	1.740	4.030	2.500	1.650	2.200	2.100	3.720	3.530	4.470	4.660	3.030	5.790
9	2.280	4.130	2.150	1.580	2.230	2.120	3.100	3.150	4.110	4.160	2.690	7.080
10	2.700	4.520	2.410	1.510	2.650	2.110	3.300	2.860	5.260	3.560	2.560	8.450
11	3.120	3.520	2.300	2.060	2.250	2.080	3.120	2.740	5.560	3.420	2.210	11.200
12	2.740	3.620	2.150	2.000	2.050	2.200	3.150	2.530	5.890	3.360	2.420	12.600
13	2.400	3.570	2.270	1.980	2.160	2.500	3.360	2.350	6.330	3.410	2.150	10.400
14	2.810	3.800	1.830	2.030	2.020	2.520	4.420	2.350	5.520	3.480	1.670	8.320
15	2.480	3.970	1.870	1.740	2.180	2.180	4.910	2.840	6.410	4.070	2.130	8.490
16	2.300	3.710	2.170	1.750	2.130	2.030	4.820	2.880	5.420	4.050	2.080	7.620
17	2.210	3.540	2.500	1.660	2.160	2.120	4.900	3.980	4.260	4.300	2.100	5.600
18	2.230	3.280	2.350	2.020	1.980	2.860	4.970	4.220	3.870	4.300	1.950	4.780
19	2.480	3.160	2.300	2.080	2.000	3.650	5.360	3.040	3.360	4.030	2.180	4.250
20	2.500	3.120	2.210	1.980	2.040	3.920	5.390	3.000	3.360	3.360	2.870	4.240
21	3.280	3.000	2.770	1.870	1.970	3.900	5.790	3.760	4.330	3.360	3.870	5.000
22	3.190	3.120	2.640	1.400	2.150	3.530	6.420	4.030	5.530	4.560	3.590	4.510
23	2.110	3.000	2.080	1.620	2.180	3.680	6.350	3.930	6.790	4.240	3.720	4.380
24	2.170	2.880	2.300	1.780	2.220	3.170	7.400	3.120	5.940	4.560	3.200	4.560
25	4.150	3.000	2.090	1.870	2.150	2.470	7.280	3.240	6.120	4.300	2.250	4.460
26	4.990	3.120	1.680	1.820	1.360	2.590	6.510	3.360	6.600	3.240	2.520	4.330
27	5.470	2.560	1.690	1.870	1.420	2.760	5.470	4.220	7.940	3.610	2.450	4.030
28	6.640	2.340	1.890	1.730	1.990	3.000	5.750	5.140	9.160	3.240	2.280	4.330
29	5.760	2.500	2.040	1.470	1.950	2.780	5.060	6.080	10.700	3.360	2.120	3.360
30	6.340	2.480	2.130	1.520	------	3.240	4.780	7.060	10.900	3.600	2.320	2.890
31	6.220	------	1.870	1.840	------	3.300	------	7.180	------	3.720	1.980	------
TOTAL	94,040	114,020	69,320	55,260	59,350	79,410	141,700	118,290	178,300	154,060	85,510	164,250
MEAN	3,034	3,801	2,236	1,783	2,047	2,562	4,723	3,816	5,943	4,970	2,758	5,475
MAX	6,640	6,620	2,770	2,080	2,650	3,920	7,400	7,180	10,900	11,600	4,070	12,600
MIN	1,260	2,340	1,680	1,400	1,360	1,340	3,100	2,350	3,360	3,240	1,670	1,870

CAL YR 1967: TOTAL 1,315,390 MEAN 3,604 MAX 16,900 MIN 1,100
WTR YR 1968: TOTAL 1,313,510 MEAN 3,589 MAX 12,600 MIN 1,260

4-0695. Peshtigo River at Peshtigo, Wis.

Location.--Lat 45°02'50", long 87°44'40", in NE 1/4 sec. 30, T. 30 N., R. 22 E., on left bank 75 ft downstream from Chicago and Northwestern Railway bridge, 0.5 mile downstream from Wisconsin Public Service Corp. powerplant in Peshtigo, and 11 1/2 miles upstream from mouth.

Drainage area.--1,124 sq mi.

Records available.--June 1953 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 584.64 ft above mean sea level, datum of 1929. Prior to Aug. 21, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--15 years, 865 cfs.

Extremes.--Maximum discharge during year, 4,860 cfs June 28 (gage height, 8.81 ft); minimum, 40 cfs Oct. 23 (gage height, 1.17 ft); minimum daily, 180 cfs Feb. 26.

1953-68: Maximum discharge, 9,790 cfs May 9, 1960 (gage height, 11.59 ft), from rating curve extended above 5,000 cfs on basis of computation of peak flow through dam gates; minimum, 17 cfs Nov. 29, 1966 (gage height, 1.00 ft); minimum daily, 84 cfs Aug. 5, 1957.

Remarks.--Records good except those for winter months, which are fair. Diurnal fluctuation caused by powerplant upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	499	1,830	430	470	494	300	1,080	1,460	3,170	3,720	771	592
2	347	1,710	490	420	500	360	997	1,250	3,080	3,300	765	777
3	438	1,480	460	470	480	190	1,070	1,090	2,630	2,490	751	844
4	394	1,430	369	400	450	250	1,230	927	2,320	2,180	729	843
5	479	1,320	480	430	420	346	1,650	1,080	1,950	2,040	720	891
6	493	1,210	470	430	460	420	1,270	825	1,710	1,450	783	1,320
7	402	1,120	450	410	450	420	1,280	1,130	1,130	1,450	801	1,670
8	438	686	440	350	450	380	1,170	1,010	1,200	980	590	1,510
9	828	753	480	400	460	546	1,170	1,080	1,400	1,030	658	1,920
10	586	904	480	430	470	659	1,120	1,040	1,390	936	730	2,280
11	858	917	460	440	430	592	988	1,090	1,410	866	483	2,460
12	798	821	490	400	440	637	943	876	1,460	929	559	2,510
13	836	735	430	380	470	563	1,100	877	1,180	996	510	2,270
14	798	790	331	440	440	484	1,810	948	1,330	1,010	556	2,410
15	884	824	348	400	400	535	2,260	1,790	1,250	948	464	1,950
16	918	843	425	390	390	662	2,280	2,060	1,120	1,010	574	1,660
17	736	636	460	280	380	731	2,420	2,120	1,070	1,070	654	1,220
18	665	856	480	420	320	676	2,870	2,370	1,150	1,100	550	1,090
19	612	862	500	410	290	917	2,700	1,820	998	1,140	479	1,300
20	521	777	510	480	410	1,420	2,440	1,700	911	937	1,070	1,260
21	593	627	520	480	280	1,720	2,940	1,520	1,240	906	1,110	1,280
22	495	736	460	410	360	1,280	3,150	1,320	1,760	807	1,030	1,200
23	348	728	420	410	330	1,090	2,780	938	1,870	889	1,090	1,060
24	789	650	400	430	370	956	3,390	973	1,860	741	900	1,190
25	1,300	774	410	430	270	1,000	3,440	978	1,940	784	710	969
26	2,150	784	420	440	180	883	3,280	1,260	1,810	758	724	908
27	2,080	505	380	460	340	830	2,910	1,910	3,440	849	666	1,010
28	2,260	363	460	470	280	975	2,430	2,500	4,250	851	451	744
29	2,180	430	448	470	230	1,150	2,020	3,050	4,210	739	688	847
30	1,860	504	370	440	------	1,290	1,680	3,260	3,910	699	708	848
31	1,730	------	460	450	------	1,080	------	3,350	------	819	594	------
TOTAL	28,315	26,695	13,731	13,140	11,244	23,342	59,868	47,602	58,149	38,424	21,868	40,833
MEAN	913	890	443	424	388	753	1,996	1,536	1,938	1,239	705	1,361
MAX	2,260	1,830	520	480	500	1,720	3,440	3,350	4,250	3,720	1,110	2,510
MIN	347	363	331	280	180	190	943	825	911	699	451	592
CFSM	.81	.79	.39	.38	.34	.67	1.78	1.37	1.72	1.10	.63	1.21
IN.	.94	.88	.45	.43	.37	.77	1.98	1.58	1.92	1.27	.72	1.35

CAL YR 1967 TOTAL 387,621 MEAN 1,062 MAX 6,830 MIN 311 CFSM .94 IN 12.83
WTR YR 1968 TOTAL 383,211 MEAN 1,047 MAX 4,250 MIN 180 CFSM .93 IN 12.68

4-0700. Wheeler Lake near Lakewood, Wis.

Location.--Lat 45°19'05", long 88°29'00", in NW 1/4 sec. 27, T. 33 N., R. 16 E., on west shore of lake at Arthur Anderken's cottage, 2 1/4 miles northeast of Lakewood.

Drainage area.--2 sq mi, approximately.

Records available.--August 1936 to September 1968 (fragmentary).

Gage.--Staff gage. Prior to Apr. 19, 1939, gage was located at Chas. J. Voigt's on east shore of lake. Apr. 20, 1939, to June 13, 1960, gage was located on southwest shore of lake.

Extremes.--Maximum elevation observed during year, 96.15 ft Sept. 24; minimum observed, 94.92 ft Oct. 17, Nov. 14.
1936-68: Maximum elevation observed, 96.50 ft Oct. 5, Nov. 9, 1943; minimum observed, 93.45 ft Feb. 5, 1950.

Remarks.--Gage heights have been reduced to elevations above datum assumed for this lake by Wisconsin Department of Natural Resources. No outlet. Lake ice covered Nov. 28 to Apr. 1.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2										6.01		
3	5.22											5.76
4									5.83			
5												
6											5.45	
7		5.17						5.63				
8												
9										5.98		
10	5.12											6.11
11							5.39		5.91			
12				5.06		5.61						
13											5.65	
14		4.92			5.42			5.63				
15												
16										6.00		
17	4.92											6.08
18							5.59		5.90			
19												
20											5.86	
21		5.07						5.65				
22												
23							5.69			5.95		
24	5.22								5.94			6.15
25									5.95			
26												
27											5.81	
28								5.85			5.79	
29												
30					------		5.66			5.91		
31	5.12	------			------		------		------			------

Note.--Add 90 ft to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources.

4-0710. Oconto River near Gillett, Wis.

Location.--Lat 44°51'55", long 88°18'00", in NW 1/4 sec. 34, T. 28 N., R. 18 E., on left bank just upstream from highway bridge, 2 miles upstream from Christy Brook, 2 miles south of Gillett, and at mile 29.

Drainage area.--678 sq mi.

Records available.--June 1906 to March 1909, October 1913 to September 1968. Monthly discharge only for some periods, published in WSP 1307.

Gage.--Digital water-stage recorder. Altitude of gage is 735 ft (from river-profile map). Prior to March 1909, chain gage on bridge at datum 4.0 ft lower. Jan. 6, 1914, to Aug. 24, 1938, chain gage on bridge at present datum, and Aug. 25, 1938, to July 11, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--57 years (1906-8, 1913-68), 572 cfs.

Extremes.--Maximum discharge during year, 2,750 cfs June 30 (gage height, 4.79 ft); minimum, 264 cfs Nov. 27 (gage height, 0.82 ft), result of freezeup.

1906-9, 1913-68: Maximum discharge, 8,400 cfs Apr. 10, 1922 (gage height, 11.2 ft from floodmarks), caused by failure of dam at Pulcifer 4 miles above station; minimum, 93 cfs Nov. 26, 1941 (gage height, 0.13 ft), flow retarded by anchor ice above station.

Remarks.--Records excellent except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	338	862	430	330	490	275	612	1,120	1,590	2,080	429	359
2	335	850	450	320	510	280	594	1,020	1,480	1,830	417	406
3	325	813	460	320	500	285	549	933	1,360	1,520	407	448
4	305	780	470	320	470	290	681	873	1,250	1,290	398	438
5	303	735	460	320	460	295	762	857	1,160	1,150	398	508
6	300	689	460	320	450	310	776	859	1,050	1,010	399	603
7	304	655	470	320	440	330	738	844	956	874	417	671
8	364	612	480	320	430	370	713	807	887	786	423	780
9	448	563	480	320	410	560	703	764	814	740	431	898
10	510	566	470	320	380	590	681	737	744	692	425	1,000
11	492	574	460	330	360	570	634	711	785	636	415	1,010
12	450	578	410	333	340	540	616	689	864	615	401	1,060
13	441	558	390	330	320	470	703	679	864	602	385	1,090
14	448	556	380	330	306	420	888	806	849	586	366	1,040
15	480	532	370	340	300	420	1,040	997	831	570	340	877
16	472	491	390	340	300	450	1,180	1,160	849	559	356	716
17	448	470	420	350	290	500	1,340	1,390	830	554	379	639
18	433	501	430	350	280	600	1,350	1,480	760	600	384	608
19	419	505	430	350	270	700	1,290	1,400	710	674	386	614
20	386	499	414	360	270	720	1,320	1,270	678	633	415	633
21	379	479	390	370	270	720	1,350	1,130	744	558	510	652
22	382	460	370	370	270	760	1,340	1,000	855	529	531	658
23	381	450	320	360	265	780	1,480	922	958	508	520	644
24	445	440	310	350	265	740	1,740	882	1,040	486	488	617
25	673	420	320	330	265	680	1,870	866	1,070	465	443	587
26	842	430	340	330	265	544	1,880	935	1,180	440	383	551
27	905	370	340	340	265	510	1,770	1,060	1,510	474	369	508
28	958	360	340	360	270	589	1,570	1,130	1,730	534	359	502
29	991	350	340	380	270	641	1,390	1,310	1,970	523	343	491
30	985	360	340	400	------	658	1,240	1,530	2,390	473	339	473
31	919	------	330	450	------	644	------	1,610	------	449	335	------
TOTAL	15,861	16,498	12,464	10,663	9,981	16,241	32,790	31,771	32,758	23,440	12,591	20,081
MEAN	512	550	402	344	344	524	1,093	1,025	1,092	756	406	669
MAX	991	862	480	450	510	780	1,880	1,610	2,390	2,080	531	1,090
MIN	300	350	310	320	265	275	549	679	678	440	335	359
CFSM	.75	.81	.59	.51	.51	.77	1.61	1.51	1.61	1.12	.60	.99
IN.	.87	.90	.68	.58	.55	.89	1.80	1.74	1.80	1.29	.69	1.10

CAL YR 1967 TOTAL 239,073 MEAN 655 MAX 3,450 MIN 297 CFSM .97 IN 13.11
WTR YR 1968 TOTAL 235,129 MEAN 642 MAX 2,390 MIN 265 CFSM .95 IN 12.90

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-25	2400	3.71	1,900	5-31	0900	3.31	1,620
5-18	0700	3.13	1,500	6-30	0400	4.79	2,750

4-0727.5 Lawrence Creek near Wesfield, Wis.

Location.--Lat 43°53'52", long 89°34'52" in SW 1/4 sec. 32, T. 17 N., R. 8 E., on left bank .75 mile upstream from Lawrence Lake and 4 miles northwest of Westfield, Wis.

Drainage area.--Not computed (see remarks).

Records available.--November 1967 to September 1968.

Gage.--Water-stage recorder. Altitude of gage is 900 ft (from topographic map).

Extremes.--Maximum discharge for period, 46 cfs Sept. 8 (gage height, 8.78 ft), minimum daily, 12 cfs Jan. 23-26, 28, 31, Feb. 5.

Remarks.--Records good except those for winter months, which are fair. Flow includes large ground water inflow. No regulation or diversions.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		18	15	14	15	15	15	15	16	16	16	18
2		18	16	14	13	15	16	15	15	16	17	16
3		16	16	14	13	15	17	15	15	15	16	16
4		16	15	14	13	15	18	15	15	18	16	16
5		15	15	14	12	15	16	15	15	18	17	17
6		15	16	13	13	15	15	15	14	15	16	16
7		15	21	13	13	16	14	15	14	15	17	17
8		15	16	13	13	16	16	15	14	15	16	26
9		15	16	13	13	16	15	15	14	16	17	30
10		15	15	13	13	16	15	15	15	17	16	19
11		15	16	13	14	15	15	15	16	18	16	17
12		15	16	13	15	15	15	15	14	20	16	17
13		15	16	13	15	15	15	15	14	20	16	16
14		15	15	13	15	15	17	16	14	19	17	16
15		15	15	13	15	15	16	15	15	16	18	16
16		15	15	13	15	16	16	19	15	15	17	16
17		16	15	13	15	16	19	15	15	23	16	16
18		16	15	13	15	16	16	16	17	16	16	22
19		16	15	13	15	17	16	17	16	16	18	18
20		16	15	13	15	16	20	15	15	16	21	17
21		15	15	13	15	15	16	15	19	16	15	17
22		15	16	13	15	15	15	15	15	16	15	16
23		15	15	12	15	15	18	15	16	17	15	17
24		15	15	12	15	15	17	15	17	15	15	17
25		16	15	12	15	15	16	15	17	14	15	16
26		16	15	12	15	15	15	16	26	14	15	16
27		15	15	13	15	15	15	16	20	15	15	16
28		15	14	12	15	16	15	16	17	14	15	16
29		15	14	16	15	16	16	16	16	14	15	16
30		15	14	13	------	15	15	16	16	16	15	16
31		------	14	12	------	17	------	15	------	16	15	------
TOTAL		464	476	405	415	479	480	478	477	507	500	525
MEAN		15.5	15.4	13.1	14.3	15.5	16.0	15.4	15.9	16.4	16.1	17.5
MAX		18	21	16	15	17	20	19	26	23	21	30
MIN		15	14	12	12	15	14	15	14	14	15	16

4-0730.5 Grand River near Kingston, Wis.

Location.--Lat 43°41'09", long 89°05'09", between secs. 16, 17, T. 14 N., R. 12 E., on left bank just upstream of town road bridge, 2 miles east of Kingston and 1 mile above Grand Lake.

Drainage area.--73.7 sq mi.

Records available.--April to September 1968.

Gage.--Water-stage recorder. Altitude of gage is 795 ft (from topographic map).

Extremes.--Maximum discharge during period, 128 cfs June 27 (gage height, 3.13 ft); minimum, 4.9 cfs Aug. 18 (gage height, 1.25 ft).

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							20	22	24	52	10	7.0
2							20	20	20	36	11	6.6
3							30	20	19	26	8.9	11
4							39	18	16	22	7.7	12
5							43	16	14	28	8.5	13
6							27	20	14	22	9.2	15
7							22	16	13	28	11	16
8							21	16	12	29	12	15
9							19	18	8.9	24	12	22
10							18	18	12	20	9.2	25
11							18	15	12	20	7.3	21
12							16	14	13	18	7.3	19
13							18	16	13	16	11	16
14							18	17	14	13	11	11
15							25	16	11	18	11	9.2
16							22	18	9.2	13	10	12
17							29	19	12	13	8.9	11
18							56	18	13	22	6.2	12
19							43	33	13	21	9.2	14
20							48	46	13	19	21	20
21							64	36	20	14	18	22
22							50	28	21	15	16	16
23							41	22	20	17	13	14
24							60	21	27	17	11	14
25							61	18	26	18	9.2	12
26							44	18	59	16	13	12
27							34	25	115	16	11	12
28							26	27	99	11	10	12
29							26	38	81	13	11	12
30					------		22	33	68	12	11	14
31		------			------		------	30	------	11	9.2	------
TOTAL							980	692	812.1	620	334.8	427.8
MEAN							32.7	22.3	27.1	20.0	10.8	14.3
MAX							64	46	115	52	21	25
MIN							16	14	8.9	11	6.2	6.6
CFSM							.444	.303	.368	.271	.147	.194
IN.							.49	.35	.41	.31	.17	.22

4-0735. Fox River at Berlin, Wis.

Location.--Lat 43°57'15", long 88°57'10", in NE 1/4 sec. 16, T. 17 N., R. 13 E., on left bank, 0.4 mile downstream from government dam, 1 mile south of Huron Street bridge in Berlin, 2.5 miles upstream from Barnes Creek, and at mile 89.0.

Drainage area.--1,430 sq mi, approximately.

Records available.--January 1898 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 744.52 ft above mean tide at New York City (by Corps of Engineers). Prior to Oct. 27, 1954, staff gage at site 0.3 mile upstream at same datum. Oct. 28, 1954, to June 7, 1964, a graphic water-stage recorder, at present site and datum.

Average discharge.--70 years, 1,081 cfs.

Extremes.--Maximum discharge during year, 1,970 cfs July 4 (gage height, 10.74 ft); minimum, 436 cfs Oct. 7 (gage height, 7.66 ft); minimum gage height, 7.62 ft Apr. 2, 3.
1898-1968: Maximum discharge observed, 6,900 cfs Mar. 17, 18, 1946 (gage height, 15.5 ft); minimum observed, 248 cfs Sept. 16, 1948 (gage height, 6.1 ft).

Remarks.--Records good except those for winter months, which are fair. An average of about 10 to 15 cfs was diverted into the basin from the Wisconsin River at Portage Canal throughout the year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	484	848	730	660	600	460	656	1,710	1,320	1,840	818	504
2	500	955	760	640	620	465	540	1,630	1,300	1,910	773	498
3	503	1,000	800	620	630	470	506	1,550	1,240	1,940	760	509
4	481	1,020	860	620	640	480	644	1,460	1,180	1,960	737	544
5	479	1,050	1,000	610	640	500	716	1,380	1,120	1,950	719	604
6	459	1,080	1,070	600	640	530	830	1,320	1,040	1,910	708	629
7	453	1,110	1,080	590	640	570	920	1,240	965	1,880	697	637
8	531	1,230	1,070	580	630	620	1,040	1,190	895	1,870	701	692
9	577	1,340	1,050	560	610	690	1,090	1,160	840	1,830	692	742
10	606	1,380	1,030	550	600	740	1,070	1,080	820	1,790	688	758
11	588	1,400	1,010	540	580	760	1,030	1,010	825	1,730	642	778
12	598	1,390	1,010	520	570	770	1,040	939	845	1,670	645	920
13	597	1,340	1,010	520	560	800	1,060	869	780	1,560	633	995
14	586	1,300	990	510	550	900	990	839	800	1,430	606	998
15	580	1,240	940	500	550	1,000	1,010	842	752	1,330	585	974
16	572	1,190	920	490	550	1,040	1,000	1,040	716	1,240	593	945
17	596	1,170	900	490	540	990	1,080	1,080	702	1,210	545	927
18	598	1,120	900	490	540	910	1,200	1,080	694	1,250	496	922
19	561	1,060	920	500	520	1,010	1,260	1,200	694	1,220	515	941
20	599	1,030	920	510	500	970	1,350	1,240	656	1,220	582	952
21	607	1,010	920	520	480	752	1,490	1,260	707	1,210	579	956
22	580	984	920	520	470	734	1,580	1,250	775	1,190	586	947
23	611	934	900	520	460	689	1,660	1,250	790	1,160	600	943
24	653	916	870	520	455	664	1,750	1,220	785	1,150	586	936
25	671	920	850	520	450	712	1,790	1,150	785	1,120	571	904
26	737	902	820	520	450	730	1,830	1,100	920	1,080	490	870
27	719	820	780	520	455	684	1,840	1,120	1,220	1,040	496	839
28	706	760	730	530	455	760	1,840	1,160	1,420	976	506	805
29	733	720	710	550	455	725	1,810	1,230	1,580	923	508	787
30	757	720	700	570	------	672	1,760	1,290	1,730	913	495	766
31	783	------	680	580	------	743	------	1,310	------	903	507	------
TOTAL	18,505	31,939	27,850	16,970	15,840	22,540	36,382	37,199	28,896	44,405	19,059	24,222
MEAN	597	1,065	898	547	546	727	1,213	1,200	963	1,432	615	807
MAX	783	1,400	1,080	660	640	1,040	1,840	1,710	1,730	1,960	818	998
MIN	453	720	680	490	450	460	506	839	656	903	490	498
CFSM	.42	.74	.63	.38	.38	.51	.85	.84	.67	1.00	.43	.56
IN.	.48	.83	.72	.44	.41	.59	.95	.97	.75	1.15	.50	.63

CAL YR 1967 TOTAL 304,024 MEAN 833 MAX 2,960 MIN 359 CFSM .58 IN 7.91
WTR YR 1968 TOTAL 323,807 MEAN 885 MAX 1,960 MIN 450 CFSM .62 IN 8.42

4-0749.5 Wolf River at Langlade, Wis.

Location.--Lat 45°11'15", long 88°44'00", between secs. 3 and 10, T. 31 N., R. 14 E., near left bank on upstream side of bridge handrail, on State Highway 64 at Langlade, 1 1/2 miles east of White Lake, 3 miles upstream from White Lake Creek, and at about mile 170 above mouth.

Drainage area.--460 sq mi.

Records available.--March 1966 to September 1968.

Gage.--Type A wire-weight. A staff gage mounted on wingwall and is used intermittently by Wisconsin Department of Natural Resources. Altitude of gage is about 1,240 ft (from topographic map).

Extremes.--Maximum discharge observed during year, 1,510 cfs June 28 (gage height, 8.99 ft); maximum gage height observed, 9.98 ft Dec. 5 (backwater from ice); minimum daily discharge, 248 cfs Feb. 14.
1966-68: Maximum discharge, 1,730 cfs Apr. 17, 1967 (gage height, 9.20 ft); minimum observed 166 cfs July 25, 1966 (gage height, 7.25 ft).

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305	590	350	295	305	260	710	675	1,020	1,380	594	470
2	296	580	360	285	300	265	670	628	990	1,320	594	476
3	276	560	365	280	300	270	620	575	926	1,300	581	464
4	272	540	370	275	295	280	600	500	882	1,210	549	453
5	262	530	360	270	290	290	570	500	849	1,170	549	581
6	257	510	365	265	280	300	524	488	833	1,100	543	704
7	253	490	380	260	280	305	488	476	793	980	543	689
8	464	470	380	255	275	320	500	470	711	953	543	865
9	447	450	360	250	265	330	482	459	689	849	543	1,000
10	402	450	340	250	260	350	470	442	689	793	530	1,100
11	397	440	340	250	260	360	464	424	648	747	518	1,160
12	386	436	350	255	255	373	447	436	704	668	506	1,200
13	470	360	355	260	250	390	436	482	732	601	494	1,190
14	453	320	355	265	248	400	530	494	793	556	476	1,120
15	424	291	350	270	250	400	634	588	800	641	459	1,050
16	419	300	350	275	250	410	704	661	808	682	464	962
17	408	310	350	280	250	420	675	689	778	689	464	935
18	397	310	345	285	250	450	641	732	732	718	464	926
19	397	310	340	290	250	470	621	675	747	785	464	908
20	392	310	330	295	250	500	634	628	725	833	424	917
21	371	305	325	300	250	520	661	568	857	816	392	908
22	360	300	330	295	250	540	704	512	1,000	865	386	874
23	360	300	340	290	250	540	808	500	944	857	386	857
24	413	300	340	285	250	540	882	824	935	808	386	816
25	588	305	330	280	250	530	926	824	908	785	386	718
26	628	300	325	285	250	520	865	833	1,090	711	397	648
27	607	285	320	290	250	530	808	849	1,360	675	413	601
28	601	290	320	295	250	700	770	953	1,510	882	436	588
29	594	320	315	300	255	790	732	1,000	1,440	1,060	413	575
30	607	330	310	310	------	790	704	1,050	1,430	1,060	413	648
31	621	------	305	310	------	750	------	953	------	594	360	------
TOTAL	13,127	11,592	10,655	8,650	7,618	13,893	19,280	19,888	27,323	27,088	14,670	24,403
MEAN	423	386	344	279	263	448	643	642	911	874	473	813
MAX	628	590	380	310	305	790	926	1,050	1,510	1,380	594	1,200
MIN	253	285	305	250	248	260	436	424	648	556	360	453
CFSM	.920	.839	.748	.607	.572	.974	1.40	1.40	1.98	1.90	1.03	1.77
IN.	1.06	.94	.86	.70	.62	1.12	1.56	1.61	2.21	2.19	1.19	1.97

CAL YR 1967: TOTAL 170,758 MEAN 468 MAX 1,730 MIN 234 CFSM 1.02 IN. 13.81
WTR YR 1968: TOTAL 198,187 MEAN 542 MAX 1,510 MIN 248 CFSM 1.18 IN. 16.03

4-0752. Evergreen Creek near Langlade, Wis.

Location.--Lat 45°10'11", long 88°48'12", in NW 1/4 sec. 18, T. 31 N., R. 14 E., at culvert on State Highway 64, 3 1/2 miles southwest of Langlade.

Drainage area.--8.0 sq mi, approximately.

Records available.--Annual maximum, water years 1959-66, and occasional low-flow measurements, water years 1961-64. June 1964 to September 1967, no winter records. Oct. 1, 1967, to Sept. 30, 1968.

Gage.--Water-stage recorder and crest-stage gage. Sept. 17, 1958, to June 16, 1964, crest-stage gage only.

Extremes.--Maximum discharge during water year, 35 cfs Sept. 9 (gage height, 10.56 ft); minimum discharge, 6.9 cfs Feb. 4 (gage height, 9.54 ft).
1959-68: Maximum discharge, 78 cfs Apr. 11, 1965 (gage height, 11.62 ft); 1964-68: minimum recorded, that of Feb. 4, 1968.

Remarks.--Records good except those of winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	13	11	11	8.1	8.2	9.9	11	14	12	11	16
2	9.9	13	11	11	8.0	8.2	9.9	10	12	11	11	13
3	9.9	13	11	11	8.0	8.4	10	10	12	11	11	12
4	9.9	13	10	11	8.0	8.5	13	11	11	11	10	13
5	9.9	13	9.9	11	8.0	8.7	13	10	11	11	11	21
6	9.9	12	9.5	11	8.0	8.8	11	10	11	11	11	14
7	11	12	9.7	11	8.0	9.0	11	12	11	11	12	13
8	15	12	9.5	11	8.0	9.0	11	10	11	11	11	17
9	12	12	9.5	11	8.0	9.0	11	10	16	11	11	28
10	11	12	9.5	11	8.0	9.0	11	10	12	11	11	21
11	10	13	9.5	11	8.1	9.0	9.9	10	13	11	11	14
12	10	12	9.5	11	8.2	14	9.9	11	12	11	12	13
13	11	12	9.2	11	8.4	14	24	10	11	11	12	12
14	10	12	9.3	11	8.3	8.4	19	16	16	12	12	12
15	9.9	13	9.3	11	8.2	9.0	17	16	12	11	12	12
16	9.9	12	9.3	11	8.2	9.5	12	17	11	11	12	12
17	9.7	12	9.2	10	8.1	9.7	12	14	11	12	12	12
18	9.7	12	9.2	10	8.0	12	12	11	12	11	12	13
19	9.9	12	9.2	9.7	8.0	16	11	11	13	10	16	14
20	9.9	13	9.2	9.5	8.0	12	15	10	12	10	15	14
21	10	12	9.2	9.5	8.0	10	18	10	22	10	16	13
22	10	12	9.4	9.2	8.0	9.7	13	10	14	10	12	12
23	10	12	9.6	9.1	8.0	12	16	14	12	10	12	12
24	15	12	9.7	8.9	8.1	9.5	17	21	12	11	12	13
25	25	12	9.8	8.8	8.1	9.7	13	13	12	10	12	12
26	16	12	10	8.6	8.2	9.9	12	13	18	10	12	12
27	13	12	10	8.5	8.2	11	11	16	23	12	12	12
28	13	12	10	8.4	8.2	12	11	15	15	11	12	11
29	13	12	10	8.3	8.2	11	11	15	12	10	12	11
30	14	12	11	8.2	------	10	11	13	12	11	12	11
31	13	------	11	8.1	------	10	------	12	------	11	12	------
TOTAL	360.4	368	303.2	310.8	234.6	315.2	385.6	382	396	337	372	415
MEAN	11.6	12.3	9.78	10.0	8.09	10.2	12.8	12.3	13.2	10.9	12.0	13.8
MAX	25	13	11	11	8.4	16	24	21	23	12	16	28
MIN	9.7	12	9.2	8.1	8.0	8.2	9.9	10	11	10	10	11
CFSM	1.45	1.54	1.22	1.25	1.01	1.28	1.60	1.54	1.65	1.36	1.50	1.72
IN.	1.68	1.71	1.41	1.44	1.09	1.46	1.79	1.78	1.84	1.57	1.73	1.93

WTR YR 1968: TOTAL 4,179.8 MEAN 11.4 MAX 28 MIN 8.0 CFSM 1.42 IN. 19.43

4-0770. Wolf River at Keshena Falls, Wis.

Location.--Lat 44°53'30", long 88°39'20", in E 1/2 sec. 22, T. 28 N., R. 15 E., on right bank 500 ft downstream from Keshena Falls, 1.7 miles upstream from Keshena, 3.1 miles downstream from West Branch Wolf River, and at mile 136.4.

Drainage area.--812 sq mi.

Records available.--May 1907 to March 1909, October 1910 to September 1968. Monthly discharge only for some periods, published in WSP 1307. Published as "at Keshena" prior to April 1928.

Gage.--Digital water-stage recorder. Datum of gage is 820.0 ft above mean sea level (levels by Wisconsin Power and Light Co.). Prior to March 1909, staff gage, and February 1911 to March 1928, chain gage, at bridge in Keshena 1.7 miles downstream at datum 4.03 ft lower and Mar. 23, 1928, to May 4, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--59 years (1907-8, 1910-68), 755 cfs.

Extremes.--Maximum discharge during year, 2,260 cfs June 28 (gage height, 7.51 ft); minimum, 300 cfs Nov. 28 (gage height, 5.15 ft), result of freezeup.

1907-9, 1910-68: Maximum discharge, 4,830 cfs May 7, 1960 (gage height, 9.67 ft) from rating curve extended above 3,300 cfs; instantaneous peak caused when earthfill wall near powerplant was dynamited to relieve pressure on dam; maximum discharge after flow stabilized, 4,430 cfs May 8 (gage height, 9.36 ft) from rating curve extended above 3,300 cfs; maximum gage height, 13.83 ft Nov. 17, 1943 (backwater from ice); minimum discharge, 91 cfs Dec. 22, 1939 (gage height, 4.67 ft), result of ice storage.

Remarks.--Records good except those for winter months, which are fair. Diurnal fluctuation caused by powerplant upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	567	973	600	520	580	450	822	1,090	1,540	1,910	810	625
2	527	930	610	500	600	460	740	1,040	1,520	1,820	796	681
3	443	910	620	490	610	470	710	982	1,470	1,710	781	680
4	467	870	622	480	620	490	843	916	1,370	1,630	773	674
5	483	830	630	470	610	510	916	860	1,290	1,550	751	909
6	470	800	628	470	590	540	842	830	1,230	1,450	756	1,080
7	471	760	620	465	560	580	806	781	1,160	1,370	751	1,040
8	606	744	600	450	540	610	805	759	1,080	1,310	741	1,120
9	750	740	577	460	520	630	758	754	1,040	1,240	729	1,510
10	762	740	549	455	510	640	750	716	1,050	1,160	699	1,890
11	701	720	550	442	490	650	765	684	1,030	1,100	679	1,850
12	629	700	550	450	478	640	714	673	1,020	1,040	665	1,660
13	670	640	560	455	470	620	1,010	715	1,050	960	654	1,470
14	739	621	560	460	470	580	1,430	794	1,150	878	634	1,390
15	737	536	560	470	470	570	1,530	1,140	1,230	876	618	1,320
16	681	497	560	480	470	580	1,460	1,470	1,180	953	647	1,230
17	647	540	560	490	470	620	1,290	1,650	1,100	1,100	642	1,150
18	643	580	550	500	460	660	1,230	1,450	1,010	1,220	612	1,140
19	638	560	550	510	440	750	1,150	1,300	991	1,110	609	1,220
20	628	523	538	520	420	820	1,140	1,210	972	1,090	749	1,180
21	623	493	580	520	410	830	1,460	1,030	1,180	1,150	707	1,210
22	612	510	660	520	405	830	1,560	911	1,460	1,160	716	1,160
23	594	520	670	520	410	820	1,510	851	1,450	1,140	611	1,070
24	640	520	660	510	420	806	1,710	948	1,390	1,110	612	1,050
25	1,070	520	650	500	430	794	1,740	1,240	1,320	1,070	603	978
26	1,330	510	630	490	430	764	1,600	1,240	1,480	996	589	894
27	1,240	480	600	490	430	820	1,370	1,420	2,040	1,070	604	819
28	1,080	480	580	500	430	908	1,280	1,530	2,230	1,010	623	773
29	1,020	520	560	520	440	909	1,210	1,640	2,090	911	628	748
30	1,030	580	550	540	------	927	1,150	1,740	2,010	849	622	759
31	1,040	------	540	560	------	880	------	1,630	------	815	588	------
TOTAL	22,538	19,347	18,274	15,217	14,183	21,158	34,301	33,994	40,133	36,758	20,999	33,280
MEAN	727	645	589	491	489	683	1,143	1,097	1,338	1,186	677	1,109
MAX	1,330	973	670	560	620	927	1,740	1,740	2,230	1,910	810	1,890
MIN	443	480	538	442	405	450	710	673	972	815	588	625
CFSM	.90	.79	.73	.60	.60	.84	1.41	1.35	1.65	1.46	.83	1.37
IN.	1.03	.89	.84	.70	.65	.97	1.57	1.56	1.84	1.68	.96	1.52

CAL YR 1967 TOTAL 295,448 MEAN 809 MAX 3,030 MIN 400 CFSM 1.00 IN 13.53
WTR YR 1968 TOTAL 310,182 MEAN 847 MAX 2,230 MIN 405 CFSM 1.04 IN 14.21

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-16	0100	6.81	1,550	5-30	0600	7.02	1,760
4-24	2400	7.06	1,780	6-28	1300	7.51	2,260
5-17	0100	6.98	1,700	9-10	1100	7.26	1,920

4-0785. Embarrass River near Embarrass, Wis.

Location.--Lat 44°43'30", long 88°44'10", in SW 1/4 sec. 18, T. 26 N., R. 15 E., on left bank 10 ft downstream from highway bridge, 1 1/4 mile downstream from Mill Creek, and 4 miles northwest of Embarrass.

Drainage area.--395 sq mi.

Records available.--June 1919 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage is 800 ft (from survey level line in vicinity). Prior to Aug. 23, 1938, chain gage on downstream side of bridge at same datum. Aug. 24, 1938, to July 11, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--49 years, 283 cfs.

Extremes.--Maximum discharge during year, 1,670 cfs June 28 (gage height, 5.89 ft); minimum, 56 cfs Nov. 28 (gage height, 2.58 ft), result of freezeup.
1919-68: Maximum discharge, 7,080 cfs Apr. 12, 1965 (gage height, 12.13 ft), affected by failure of dam near Pella, 9.2 miles above station; minimum observed, 23 cfs Aug. 3, 6, 7, 1931.

Remarks.--Records good except those for winter months, which are fair. Slight diurnal fluctuation caused by powerplants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	305	125	98	113	108	322	367	647	1,480	204	148
2	110	335	123	97	110	110	286	340	484	1,080	196	163
3	109	282	130	96	108	112	239	308	436	653	186	176
4	110	265	134	95	104	113	345	294	375	496	171	178
5	105	236	130	94	100	116	438	282	317	379	174	323
6	104	210	124	94	97	118	404	266	278	344	209	495
7	108	182	132	93	95	122	382	239	237	295	304	446
8	161	177	134	92	94	130	377	239	243	263	381	378
9	182	169	136	92	92	350	368	228	270	255	339	709
10	268	169	134	92	92	410	355	223	266	246	311	1,090
11	238	170	134	90	92	390	326	232	257	173	253	1,120
12	178	170	136	91	91	350	290	178	241	203	218	913
13	180	175	133	92	91	313	357	206	232	200	192	681
14	156	165	134	93	92	290	694	229	238	206	176	426
15	170	165	136	95	92	250	977	338	297	206	167	275
16	166	154	144	96	92	231	1,040	590	332	214	177	269
17	160	155	142	98	92	226	910	993	301	318	201	227
18	151	156	135	98	92	300	815	1,060	233	510	217	228
19	142	156	142	100	92	451	693	957	219	569	206	273
20	141	156	139	102	94	599	675	867	211	452	187	376
21	135	152	149	102	94	576	994	724	458	295	204	512
22	133	150	144	104	94	418	1,100	511	1,130	241	262	483
23	131	146	138	106	96	277	1,030	413	1,030	255	247	375
24	150	142	132	106	98	219	1,120	410	988	245	204	330
25	323	136	126	106	100	213	1,120	486	813	225	169	311
26	504	126	122	106	103	205	970	543	914	203	154	295
27	536	120	116	105	104	217	806	898	1,500	217	148	269
28	464	124	112	105	105	290	614	1,090	1,620	365	144	238
29	369	170	108	107	106	351	453	1,090	1,290	473	127	212
30	315	160	104	110	------	378	400	998	1,310	402	127	218
31	299	------	102	112	------	354	------	817	------	278	133	------
TOTAL	6,408	5,378	4,030	3,067	2,825	8,587	18,900	16,386	17,167	11,741	6,388	12,137
MEAN	207	179	130	98.9	97.4	277	630	529	572	379	206	405
MAX	536	335	149	112	113	599	1,120	1,090	1,620	1,480	381	1,120
MIN	104	120	102	90	91	108	239	178	211	173	127	148
CFSM	.52	.45	.33	.25	.25	.70	1.59	1.34	1.45	.96	.52	1.02
IN.	.60	.51	.38	.29	.27	.81	1.78	1.54	1.62	1.11	.60	1.14

CAL YR 1967 TOTAL 109,695 MEAN 301 MAX 3,300 MIN 48 CFSM .76 IN 10.33
WTR YR 1968 TOTAL 113,014 MEAN 309 MAX 1,620 MIN 90 CFSM .78 IN 10.64

PEAK DISCHARGE (BASE, 1,100 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-25	0200	5.03	1,160	6-28	0200	5.89	1,670
5-28	1800	4.98	1,130	9-10	1700	5.06	1,170
6-22	1600	5.71	1,570				

GPO 817-102-4

4-0790. Wolf River at New London, Wis.

Location.--Lat 44°23'30", long 88°44'25", in SE 1/4 sec. 12, T. 22 N., R. 14 E., on right bank 100 ft downstream from Pearl Street bridge in New London, 0.2 mile downstream from Embarrass River, and at mile 56.3.

Drainage area.--2,240 sq mi, approximately.

Records available.--March 1896 to September 1968. Prior to October 1913 monthly discharge only, published in WSP 1307.

Gage.--Digital water-stage recorder. Datum of gage is 749.0 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 4, 1951, staff gage, and Oct. 5, 1951, to June 7, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--72 years, 1,703 cfs.

Extremes.--Maximum discharge during year, 6,170 cfs July 5 (gage height, 8.51 ft); minimum daily, 580 cfs Feb. 28 to Mar. 2 (backwater from ice).
1896-68: Maximum daily discharge, 15,500 cfs Apr. 13, 1922 (gage height, 11.4 ft); minimum daily, 150 cfs Mar. 1, 1900. Maximum stage known, 11.6 ft Apr. 16, 1888, from information by Corps of Engineers.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	891	2,100	980	820	820	580	2,070	4,700	3,220	4,930	1,840	1,070
2	860	2,190	1,020	800	870	580	2,080	4,530	3,250	5,390	1,720	1,080
3	844	2,230	1,050	790	900	590	2,060	4,270	3,270	5,810	1,600	1,090
4	836	2,240	1,050	770	930	600	2,120	3,990	3,280	6,110	1,500	1,120
5	820	2,210	1,050	760	930	610	2,220	3,740	3,230	6,160	1,430	1,210
6	795	2,140	1,040	740	920	637	2,340	3,510	3,110	6,070	1,400	1,300
7	794	2,040	1,040	730	910	670	2,440	3,280	2,980	5,820	1,410	1,410
8	876	1,950	1,040	710	900	710	2,520	3,070	2,840	5,460	1,490	1,580
9	941	1,850	1,040	700	880	770	2,530	2,900	2,710	4,940	1,670	1,830
10	1,060	1,760	1,040	700	860	850	2,530	2,730	2,600	4,430	1,770	2,050
11	1,140	1,660	1,040	690	840	930	2,480	2,520	2,540	4,020	1,730	2,320
12	1,190	1,570	1,040	680	830	960	2,370	2,300	2,480	3,720	1,660	2,510
13	1,230	1,550	1,030	680	810	960	2,260	2,130	2,340	3,500	1,570	2,610
14	1,210	1,540	1,010	680	790	960	2,250	2,020	2,230	3,320	1,470	2,670
15	1,180	1,500	980	680	770	960	2,340	2,020	2,180	3,170	1,360	2,720
16	1,180	1,460	940	680	750	980	2,470	2,130	2,100	3,000	1,300	2,770
17	1,220	1,400	920	680	730	1,030	2,660	2,300	2,050	2,820	1,300	2,780
18	1,220	1,290	920	680	700	1,120	2,820	2,460	2,030	2,750	1,320	2,730
19	1,160	1,200	930	680	690	1,250	2,940	2,690	2,020	2,730	1,370	2,690
20	1,120	1,230	960	680	670	1,600	3,110	2,850	1,970	2,710	1,410	2,690
21	1,070	1,270	980	680	660	1,750	3,340	2,980	1,980	2,700	1,370	2,670
22	1,040	1,260	1,000	690	650	1,820	3,600	3,100	2,090	2,630	1,320	2,690
23	1,030	1,200	1,020	700	640	1,900	3,840	3,190	2,280	2,470	1,350	2,660
24	1,050	1,160	1,010	701	630	1,950	4,080	3,230	2,450	2,300	1,370	2,610
25	1,200	1,150	1,000	700	610	2,000	4,270	3,210	2,590	2,180	1,330	2,530
26	1,440	1,100	960	700	600	2,000	4,430	3,170	2,770	2,100	1,240	2,400
27	1,710	1,030	930	700	590	2,000	4,580	3,130	3,170	2,030	1,170	2,310
28	1,890	980	900	700	580	2,000	4,690	3,130	3,570	1,940	1,130	2,200
29	2,000	930	880	710	580	1,950	4,770	3,140	3,970	1,870	1,100	2,100
30	2,070	930	870	750	------	1,980	4,780	3,180	4,430	1,860	1,090	1,960
31	2,080	------	840	780	------	2,030	------	3,200	------	1,870	1,080	------
TOTAL	37,147	46,120	30,510	22,141	22,040	38,727	90,990	94,800	81,730	110,810	43,870	64,360
MEAN	1,198	1,537	984	714	760	1,249	3,033	3,058	2,724	3,575	1,415	2,145
MAX	2,080	2,240	1,050	820	930	2,030	4,780	4,700	4,430	6,160	1,840	2,780
MIN	794	930	840	680	580	580	2,060	2,020	1,970	1,860	1,080	1,070
CFSM	.53	.69	.44	.32	.34	.56	1.35	1.37	1.22	1.60	.63	.96
IN.	.62	.77	.51	.37	.37	.64	1.51	1.57	1.36	1.84	.73	1.07

CAL YR 1967 TOTAL 661,878 MEAN 1,813 MAX 10,100 MIN 740 CFSM .81 IN 10.99
WTR YR 1968 TOTAL 683,245 MEAN 1,867 MAX 6,160 MIN 580 CFSM .83 IN 11.34

4-0800. Little Wolf River at Royalton, Wis.

Location.--Lat 44°24'45", long 88°51'55", in NW 1/4 sec. 1, T. 22 N., R. 13 E., on right bank 50 ft upstream from highway bridge in Royalton and 6 miles upstream from mouth.

Drainage area.--514 sq mi.

Records available.--January 1914 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 774.00 ft above mean sea level, datum of 1929. Prior to Aug. 20, 1915, chain gage at highway bridge at datum 0.75 ft lower. Aug. 20, 1915, to Apr. 23, 1934, staff gage, and Apr. 24, 1934, to July 27, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--54 years, 395 cfs.

Extremes.--Maximum discharge during year, 1,860 cfs June 29 (gage height, 3.45 ft); minimum, 167 cfs Oct. 1, 6, 7 (gage height, 1.21 ft).

1914-68: Maximum discharge, 6,950 cfs Mar. 30, 1943 (gage height, 8.00 ft), from rating curve extended above 3,500 cfs; maximum gage height, 11.95 ft, Mar. 28, 1950 (backwater from ice); minimum discharge, 52 cfs Nov. 26, 1958 (gage height, 0.75 ft), result of freezeup.

Remarks.--Records good except those for winter months, which are fair. Occasional fluctuation caused by recreation dam 6 miles upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	433	230	190	265	185	379	469	720	1,310	271	199
2	173	492	235	190	280	188	360	448	540	927	243	224
3	173	472	234	185	290	192	345	390	430	765	225	233
4	172	433	232	185	260	200	421	345	350	643	226	235
5	173	414	227	180	220	205	504	391	320	502	232	347
6	171	368	232	180	205	208	596	393	324	445	228	357
7	174	265	248	180	195	212	558	326	322	405	242	352
8	229	273	264	180	185	220	490	303	292	352	383	517
9	321	303	262	180	180	300	472	316	294	324	478	646
10	465	373	259	180	180	420	448	285	329	315	330	944
11	231	299	255	180	175	470	416	283	364	309	314	1,180
12	241	265	257	185	170	410	366	280	353	297	302	1,070
13	249	281	245	188	170	320	316	284	300	279	276	897
14	249	285	235	190	170	275	490	292	351	343	253	546
15	257	281	225	200	170	255	656	339	378	405	248	377
16	257	294	220	210	170	265	707	555	353	312	268	336
17	249	358	220	220	170	282	878	686	298	293	302	324
18	241	273	225	230	170	355	685	767	275	624	324	323
19	238	277	230	240	170	460	656	1,080	283	819	306	349
20	234	281	230	250	170	516	711	1,070	273	919	292	418
21	227	277	258	250	170	510	977	1,050	328	744	281	612
22	223	269	260	245	170	383	1,150	915	596	423	263	473
23	220	234	255	240	170	287	1,190	722	641	323	249	395
24	241	249	245	230	172	271	1,280	510	612	340	232	386
25	384	257	225	225	175	280	1,230	455	604	339	216	370
26	660	265	215	220	175	289	1,110	483	879	324	204	352
27	577	260	205	220	178	274	896	698	1,530	315	182	311
28	499	245	200	225	180	310	713	1,080	1,760	316	183	283
29	458	240	200	230	180	371	587	1,060	1,850	321	186	283
30	363	235	195	230	------	382	502	1,100	1,710	311	186	280
31	318	------	190	245	------	353	------	890	------	292	188	------
TOTAL	8,839	9,251	7,213	6,483	5,535	9,648	20,089	18,265	17,658	14,636	8,113	13,619
MEAN	285	308	233	209	191	311	670	589	589	472	262	454
MAX	660	492	264	250	290	516	1,280	1,100	1,850	1,310	478	1,180
MIN	171	234	190	180	170	185	316	280	273	279	182	199
CFSM	.55	.60	.45	.41	.37	.61	1.30	1.15	1.15	.92	.51	.88
IN.	.64	.67	.52	.47	.40	.70	1.45	1.32	1.28	1.06	.59	.99

CAL YR 1967 TOTAL 150,080 MEAN 411 MAX 3,850 MIN 145 CFSM .80 IN 10.86
WTR YR 1968 TOTAL 139,349 MEAN 381 MAX 1,850 MIN 170 CFSM .74 IN 10.08

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-29	0100	3.45	1,860				

4-0825. Lake Winnebago at Oshkosh, Wis.

Location.--Lat 44°00'40", long 88°32'00", in sec. 24, T. 18 N., R. 17 E., in mouth of the Upper Fox River at Chicago and North Western Railway bridge, 0.2 mile downstream from Main Street Bridge in Oshkosh and 18 miles up the lake from Menasha Dam and outlet.

Drainage area.--6,030 sq mi, approximately, at lake outlet at Menasha Dam.

Records available.--October 1938 to September 1968 in reports of Geological Survey. Records from 1857 to 1938 in files of Corps of Engineers. A report on Fox River by Corps of Engineers, published as House Document No. 146, 67th Congress, 2nd session, contains semi-monthly records of inflow of Lake Winnebago for the period 1896-1917.

Gage.--Staff gage read once daily. Datum of gage is 745.05 ft above mean tide at New York City (levels by Corps of Engineers). Prior to 1882, lake levels were referred to Deuchman gage at lake outlet of Menasha Dam. Datum of Deuchman gage, which is still in existence, is 745.00 ft above mean tide at New York City.

Extremes.--Maximum gage height observed during year, 3.42 ft Aug. 7; minimum observed, 1.28 ft Mar. 17, 18.
1957-68: Maximum gage height observed, 5.33 ft (Deuchman gage) Nov. 8, 1881; minimum observed, -2.00 ft (Deuchman gage) Nov. 28, 1891.

Remarks.--Lake elevations controlled by dams at Menasha and Neenah, which are operated in the interest of navigation. Crests of both dams are at elevation 746.73 ft. Present limits of regulation are from 21 1/4 in. above the crest of Menasha Dam down to crest during navigation season, plus additional 18 in. below crest during winter. Oshkosh staff gage gives true level of lake, while Deuchman gage readings are affected by loss of head in the channel between lake and dam.

Cooperation.--Records furnished by Corps of Engineers.

Gage height, in feet, water year October 1967 to September 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.30	2.83	2.43	1.96	1.77	1.68	1.69	3.30	3.13	3.34	3.25	2.82
2	2.32	2.99	2.39	1.97	1.79	1.63	1.70	3.24	3.13	3.31	3.19	2.96
3	2.35	2.91	2.38	1.93	1.84	1.62	1.71	3.30	3.13	3.31	3.17	2.87
4	2.31	2.92	2.37	1.91	1.83	1.59	1.76	3.27	3.11		3.13	2.85
5	2.32	2.95	2.34	1.90	1.81	1.57	1.90	3.20	3.07	3.34	3.23	2.90
6	2.39	2.96	2.34	1.91	1.85	1.50	1.86	3.23	3.03	3.30	3.25	2.85
7	2.37	2.92	2.34	1.90	1.87	1.48	1.87	3.26	3.06	3.33	3.42	2.89
8	2.25	2.85	2.33	1.89	1.85	1.46	1.66	3.10	3.05	3.27	3.24	2.87
9	2.38	2.88	2.33	1.88	1.88	1.43	2.00	3.13	3.13	3.27	3.25	2.91
10	2.42	2.88	2.33	1.84	1.87	1.43	2.06	3.20	3.06	3.21	3.16	2.95
11	2.41	2.86	2.31	1.84	1.88	1.39	2.03	3.17	3.01	3.15	3.18	2.99
12	2.40	2.78	2.24	1.81	1.87	1.38	2.04	3.14	3.08	3.14	3.13	3.01
13	2.38	2.85	2.22	1.78	1.88	1.34	2.17	3.20	3.08	3.19	3.07	3.02
14	2.43	2.87	2.20	1.78	1.86	1.33	2.22	3.17	2.92	3.23	3.12	3.02
15	2.47	2.80	2.20	1.77	1.86	1.30	2.29	3.23	3.09	3.17	3.07	3.04
16	2.50	2.75	2.16	1.74	1.85	1.29	2.25	3.22	3.08	2.94	3.05	3.07
17	2.52	2.74	2.16	1.73	1.87	1.28	2.28	3.35	3.07	2.92	3.06	3.07
18	2.41	2.66	2.13	1.74	1.86	1.28	2.43	3.20	3.02	3.04	3.05	3.05
19	2.49	2.79	2.13	1.72	1.84	1.29	2.57	3.24	3.12	3.08	3.01	3.11
20	2.44	2.75	2.14	1.70	1.82	1.32	2.49	3.22	3.09	3.08	3.12	3.03
21	2.48	2.68	2.17	1.69	1.83	1.36	2.62	3.16	3.08	3.00	3.04	3.19
22	2.50	2.64	2.14	1.65	1.83	1.42	2.72	3.13	3.13	3.21	2.91	3.19
23	2.46	2.61	2.13	1.68	1.82	1.43	2.85	3.16	3.14	3.05	3.11	3.23
24	2.48	2.58	2.10	1.67	1.78	1.45	2.77	3.15	3.18	3.11	2.98	3.24
25	2.59	2.57	2.09	1.68	1.76	1.48	3.04	3.13	3.21	3.37	2.99	3.24
26	2.70	2.52	2.08	1.67	1.74	1.51	3.14	3.19	3.38	3.33	3.09	3.26
27	2.68	2.41	2.04	1.71	1.73	1.58	3.15	3.08	3.34	3.34	2.94	3.22
28	2.70	2.46	2.03	1.69	1.71	1.56	3.18	3.09	3.30	3.29	2.95	3.23
29	2.87	2.45	2.03	1.74	1.70	1.60	3.22	3.12	3.37	3.32	2.91	3.17
30	2.76	2.44	2.01	1.75	------	1.66	3.29	3.17	3.36	3.19	2.90	3.13
31	2.85	------	1.99	1.75	------	1.50	------	3.16	------	3.15	2.87	------

4-0845. Fox River at Rapide Croche Dam, near Wrightstown, Wis.

Location.--Lat 44°19'00", long 88°11'50", in SE 1/4 sec. 4, T. 21 N., R. 19 E., at Rapide Croche Dam, 2 miles upstream from Wrightstown, and 18 miles upstream from mouth.

Drainage area.--6,150 sq mi, approximately.

Records available.--March 1896 to September 1917 (monthly discharge only), October 1917 to September 1968.

Gage.--Recording headwater and tailwater gages and electric generation data taken each half hour are used to compute the discharge records.

Average discharge.--72 years, 4,143 cfs.

Extremes.--Maximum daily discharge during year, 12,500 cfs June 27; minimum daily, 1,000 cfs Apr. 13.
1918-68: Maximum daily discharge, 24,000 cfs Apr. 18, 1952; minimum daily, 138 cfs Aug. 2, 1936.

Remarks.--Records good. Flow regulated by storage in Lake Winnebago (see p. 43). Daily discharge determined from records of flow through turbines, head, gate openings, and lockages through navigation canal. An average of about 10 to 15 cfs diverted into basin from Wisconsin River at Portage Canal throughout the year.

Cooperation.--Figures of daily discharge furnished by Corps of Engineers. Records reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.490	3.060	4.420	3.100	2.370	3.490	1.430	8.230	7.270	10.100	2.820	2.230
2	1.710	3.990	4.390	3.460	2.420	4.130	1.490	9.010	7.050	10.500	3.340	2.360
3	1.570	4.450	4.030	3.160	2.440	3.760	1.730	8.530	7.230	11.700	3.200	2.350
4	1.670	4.620	3.970	3.210	2.330	3.860	1.670	8.900	7.200	11.500	3.100	2.440
5	1.350	4.520	4.120	3.380	2.320	3.790	1.610	8.640	7.110	11.700	3.220	2.340
6	1.370	4.640	4.000	3.130	2.200	3.940	1.790	9.060	6.050	11.500	3.270	2.260
7	1.270	4.520	4.090	3.120	2.220	3.880	1.900	9.170	4.480	11.400	4.210	2.340
8	1.880	5.960	4.160	3.090	2.360	3.960	2.080	9.290	4.350	12.300	6.020	2.660
9	1.410	5.090	5.150	2.880	2.230	4.460	1.650	5.280	4.430	12.000	5.720	2.450
10	1.280	5.980	5.070	3.000	2.290	4.600	1.670	4.580	4.600	11.600	5.410	1.920
11	1.440	5.810	5.250	3.240	1.840	4.380	1.920	4.620	5.260	11.500	5.240	2.150
12	1.720	5.540	5.100	3.090	2.120	4.320	1.870	4.590	2.450	9.660	4.460	2.400
13	1.770	5.470	4.970	3.160	2.400	4.330	1.000	4.420	3.060	6.490	2.870	2.530
14	1.440	5.620	3.560	3.090	2.260	4.340	1.120	3.790	3.270	6.510	2.620	2.560
15	1.730	4.870	5.130	2.920	2.400	4.240	1.260	3.420	2.820	6.580	2.700	2.540
16	1.460	5.800	4.080	3.070	2.080	4.190	1.430	4.740	2.880	5.070	3.180	2.710
17	1.690	5.700	4.100	3.000	2.200	4.240	2.020	7.560	2.850	3.930	2.420	2.910
18	1.360	4.630	3.510	2.990	2.170	4.380	1.960	9.650	2.770	3.330	2.310	2.800
19	1.620	5.100	3.650	3.140	2.220	3.090	1.500	9.380	2.580	3.030	2.970	2.790
20	1.630	5.330	3.870	3.150	1.640	1.190	2.770	9.400	2.900	3.540	2.940	2.800
21	1.650	5.180	3.820	3.260	1.990	2.160	2.010	9.470	3.670	3.810	2.920	2.820
22	1.650	4.980	2.710	2.690	2.010	1.770	2.020	9.160	2.660	3.380	2.970	2.800
23	1.700	4.970	3.810	1.550	2.620	1.820	2.980	7.870	3.080	3.530	3.010	3.100
24	2.490	5.260	3.670	2.110	3.420	1.910	2.580	7.520	3.270	3.680	3.050	3.050
25	2.030	4.670	3.380	1.940	3.400	1.970	2.610	7.330	4.180	3.370	2.480	3.040
26	1.950	4.640	3.770	1.740	3.390	1.600	3.220	7.230	6.200	3.390	2.280	3.620
27	2.580	4.060	3.350	1.700	3.300	1.190	4.480	7.500	12.500	3.470	2.240	5.690
28	2.620	4.830	3.290	2.170	3.180	1.540	4.120	7.250	10.300	2.860	2.490	5.050
29	2.850	3.970	3.570	2.760	3.310	1.450	4.740	7.080	9.320	3.320	2.180	5.000
30	2.900	3.990	3.470	2.320	------	1.470	6.490	7.000	9.350	3.880	2.270	5.290
31	2.770	------	2.790	2.270	------	1.480	------	7.250	------	3.710	2.190	------
TOTAL	56,050	147,250	124,250	86,890	71,130	96,930	69,120	226,920	155,140	212,340	100,100	89,000
MEAN	1,808	4,908	4,008	2,803	2,453	3,127	2,304	7,320	5,171	6,850	3,229	2,967
MAX	2,900	5,980	5,250	3,460	3,420	4,600	6,490	9,650	12,500	12,300	6,020	5,690
MIN	1,270	3,060	2,710	1,550	1,640	1,190	1,000	3,420	2,450	2,860	2,180	1,920

CAL YR 1967: TOTAL 1,453,710 MEAN 3,983 MAX 15,400 MIN 1,210
WTR YR 1968: TOTAL 1,435,120 MEAN 3,921 MAX 12,500 MIN 1,000

4-0852. Kewaunee River near Kewaunee, Wis.

Location.--Lat 44°27'30", long 87°33'23", in SW 1/4 sec. 14, T. 23 N., R. 24 E., on left bank just downstream from bridge on County Trunk F, about 7 miles upstream from mouth, and 2.3 miles west of Kewaunee.

Drainage area.--129 sq mi.

Records available.--Annual maximum, water years 1958-65, and occasional low-flow measurements, water years 1963-64. September 1964 to September 1968. No winter records for water years 1965 and 1966.

Gage.--Water-stage recorder and crest-stage gage. Apr. 3, 1957, to Sept. 2, 1964, crest-stage gage only. Altitude of gage is about 590 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,500 cfs June 28 (gage height, 12.40 ft); minimum, 9.0 cfs Nov. 27 (gage height, 8.17 ft). 1958-68: Maximum discharge, 6,500 cfs Mar. 30, 1960 (gage height, 16.03 ft); 1965-68: minimum, 4.5 cfs Nov. 3, 4, 1966 (gage height, 8.14 ft).

Remarks.--Records good except for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	76	24	19	260	10	75	71	84	188	22	21
2	13	148	23	18	415	11	61	63	76	137	22	24
3	13	187	22	17	100	12	53	52	62	92	26	24
4	12	108	22	16	72	20	99	57	52	72	37	23
5	12	75	22	15	58	38	124	56	45	62	39	39
6	11	57	22	15	50	56	85	52	40	54	77	35
7	12	47	38	14	45	80	71	47	35	49	153	26
8	24	41	80	13	40	150	96	44	32	46	106	29
9	30	38	69	13	35	600	131	42	31	41	70	44
10	24	37	52	13	30	500	92	41	29	38	52	42
11	21	37	45	14	25	240	70	39	47	34	41	32
12	19	43	43	15	22	155	63	39	61	32	32	28
13	19	43	40	16	18	130	60	47	47	32	29	24
14	21	39	36	17	16	84	56	77	41	31	26	22
15	23	35	32	17	14	60	70	165	36	30	25	20
16	31	31	28	17	13	70	75	136	32	29	28	19
17	31	31	26	17	12	90	168	141	29	32	49	19
18	26	40	37	18	11	130	472	100	29	38	42	20
19	22	58	35	19	11	190	223	77	32	38	32	21
20	21	55	32	20	11	215	210	66	32	33	31	24
21	20	46	72	20	11	120	491	57	37	30	28	24
22	18	43	70	20	11	88	223	51	41	31	25	23
23	18	42	60	19	10	63	200	47	35	29	23	22
24	19	39	45	18	10	54	406	42	37	28	21	21
25	34	38	33	17	10	50	464	40	36	26	20	19
26	52	44	29	18	10	53	225	109	190	24	19	19
27	45	32	27	19	10	60	153	196	1,170	32	19	18
28	36	28	25	20	10	74	112	169	1,160	36	19	18
29	32	26	23	50	10	82	90	155	401	29	19	18
30	36	25	22	150	------	69	80	128	242	26	18	17
31	69	------	20	105	------	69	------	99	------	23	18	------
TOTAL	777	1,589	1,154	779	1,350	3,623	4,798	2,505	4,221	1,422	1,168	735
MEAN	25.1	53	37.2	25.1	46.6	117	160	80.8	141	45.9	37.7	24.5
MAX	69	187	80	150	415	600	491	196	1,170	188	153	44
MIN	11	25	20	13	10	10	53	39	29	23	18	17
CFSM	.195	.411	.288	.195	.361	.907	1.24	.626	1.09	.356	.292	.190
IN.	.22	.46	.33	.22	.39	1.04	1.38	.72	1.22	.41	.34	.21

CAL YR 1967: TOTAL 23,049 MEAN 63.1 MAX 1,710 MIN 10 CFSM .489 IN. 6.63
WTR YR 1968: TOTAL 24,121 MEAN 65.9 MAX 1,170 MIN 10 CFSM .511 IN. 6.94

4-0855. Cedar Lake near Kiel, Wis.

Location.--Lat 43°55'35", long 87°56'25", in SW 1/4 sec. 24, T. 17 N., R. 21 E., at Cedar Lake Resort on narrows of Lake, 5.8 miles east of Kiel.

Drainage area.--1.33 sq mi.

Records available.--August 1936 to September 1942; April 1945 to September 1968 (fragmentary).

Gage.--Staff gage. Altitude of gage is 890 ft (from topographic map).

Extremes.--Maximum elevation observed during year, 96.70 ft Jan. 9; minimum observed, 95.86 ft Sept. 7, 21.
1936-42, 1945-68: Maximum elevation observed, 98.72 ft Mar. 9, 1946; minimum observed, 93.34 ft Oct. 4, Nov. 1, 1958, Jan. 17, 1959.
An elevation of 100.37 ft was observed May 20, 1929, by Wisconsin Department of Natural Resources.

Remarks.--Gage heights have been reduced to elevations above datum assumed for this lake by Wisconsin Department of Natural Resources. Lake ice covered about Dec. 2 to Mar. 30.

Elevation, in feet, water year October 1967 to September 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									6.35			
2			6.17									
3											6.18	
4		6.25						6.25				
5										6.50		
6							6.15		6.27			
7	5.97											5.86
8									6.24			
9			6.23	6.70								
10											6.20	
11	6.00	6.23						6.17				
12										6.45		
13							6.11			6.50		
14	5.97	6.23			6.25							5.88
15									6.24			
16			6.21				6.11					
17		6.21									6.12	
18								6.27				
19												5.88
20						6.16	6.17			6.40		
21	5.99											5.86
22									6.40		6.06	
23			6.21			6.17						
24											6.08	
25		6.21						6.33				
26												
27							6.29			6.30		
28	5.97											5.88
29									6.50			
30					------	6.15	6.18					5.88
31		------			------		------		------		5.98	------

Note.--Add 90 ft to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources.

4-0860. Sheboygan River at Sheboygan, Wis.

Location.--Lat 43°44'25", long 87°45'35", in E 1/2 sec. 29, T. 15 N., R. 23 E., on left bank 400 ft upstream from bridge on State Highway 28, near west city limits of Sheboygan, and 4.2 miles upstream from mouth.

Drainage area.--432 sq mi.

Records available.--June 1916 to September 1924 (published as "near Sheboygan"), October 1950 to September 1968. Monthly discharge only for some periods, published in WSP 1307, 1727.

Gage.--Digital water-stage recorder. Datum of gage is 584.00 ft above mean sea level, datum of 1929. June 1916 to June 1924, chain gage at site 0.7 mile downstream at different datum. November 1950 to June 1951, staff gage at site 0.3 mile downstream at datum 3.15 ft lower. June 1951 to June 9, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--26 years (1916-24, 1950-68), 229 cfs.

Extremes.--Maximum discharge during year, 1,330 cfs June 27 (gage height, 5.55 ft); minimum, 18 cfs Oct. 1, 3 (gage height, 1.52 ft). 1916-24, 1950-68: Maximum discharge observed, 7,140 cfs Mar. 26, 1920 (gage height, 9.40 ft, datum then in use); minimum observed, about 1 cfs Aug. 27, 1922 (gage height, 1.48 ft, datum then in use), caused by shutdown of powerplants.

Remarks.--Records good except those for winter months, which are fair. Diurnal fluctuation caused by numerous powerplants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	272	67	39	230	31	192	417	127	318	59	43
2	22	513	68	37	320	32	203	349	152	241	58	41
3	23	596	65	36	230	50	237	312	142	181	54	40
4	25	443	64	35	180	56	313	281	134	184	51	37
5	27	327	62	34	150	34	342	269	125	632	49	49
6	28	252	70	33	130	36	298	206	115	485	49	44
7	26	240	105	33	110	41	273	232	105	357	58	45
8	29	218	168	32	100	49	256	215	92	295	61	37
9	34	213	180	31	90	60	256	212	79	261	65	57
10	46	205	168	31	84	78	230	200	134	230	63	65
11	43	198	164	31	76	85	220	185	316	212	57	60
12	39	194	180	31	70	87	214	180	353	201	51	51
13	44	173	169	31	66	86	211	176	253	190	51	46
14	40	136	101	30	62	77	205	199	187	181	53	42
15	47	114	89	30	58	73	217	236	156	173	50	39
16	49	121	78	31	56	93	206	286	137	164	49	41
17	50	121	72	32	50	118	250	320	128	160	45	38
18	49	118	72	35	48	132	501	266	138	189	40	45
19	46	122	76	36	44	177	425	434	146	203	42	64
20	43	136	90	37	41	204	575	490	142	156	41	124
21	39	110	152	37	39	189	1,080	468	177	127	44	118
22	35	107	69	37	36	168	714	383	268	103	46	90
23	36	99	118	36	34	160	776	308	225	99	46	67
24	49	95	98	35	33	157	1,030	267	203	98	40	67
25	72	97	78	33	32	135	893	236	194	100	38	64
26	111	93	65	33	32	158	653	227	530	96	34	59
27	111	45	58	34	32	146	509	234	1,210	88	31	53
28	89	61	52	40	31	162	435	240	862	80	32	49
29	77	72	47	50	30	176	397	230	606	77	30	50
30	117	65	44	180	------	166	443	223	416	69	36	50
31	216	------	41	155	------	188	------	153	------	63	34	------
TOTAL	1,686	5,536	2,930	1,335	2,494	3,404	12,554	8,434	7,852	6,013	1,457	1,675
MEAN	54.4	185	94.5	43.1	86.0	110	418	272	262	194	47.0	55.8
MAX	216	596	180	180	320	204	1,080	490	1,210	632	65	124
MIN	22	45	41	30	30	31	192	153	79	63	30	37
CFSM	.13	.43	.22	.10	.20	.25	.97	.63	.61	.45	.11	.13
IN.	.15	.48	.25	.11	.21	.29	1.08	.73	.68	.52	.13	.14

CAL YR 1967 TOTAL 60,771 MEAN 166 MAX 2,020 MIN 22 CFSM .39 IN 5.23
WTR YR 1968 TOTAL 55,370 MEAN 151 MAX 1,210 MIN 22 CFSM .35 IN 4.77

Peak discharge (base, 1,500 cfs).--No peak above the base.

4-0865. Cedar Creek near Cedarburg, Wis.

Location.--Lat 43°19'25", long 87°58'50", on line between secs. 14 and 23, T. 10 N., R. 21 E., on upstream side of highway bridge, 2 miles north of Cedarburg and 6 miles upstream from mouth.

Drainage area.--121 sq mi.

Records available.--August 1930 to September 1968.

Gage.--Wire-weight gage and crest-stage indicator; gage read twice daily. Datum of gage is 795.33 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to June 11, 1958, chain gage at same site and datum.

Average discharge.--38 years, 62.1 cfs.

Extremes.--Maximum discharge during year, 296 cfs Apr. 24 (gage height, 6.61 ft); minimum discharge observed, 5.1 cfs Oct. 6, 7, (gage height, 5.15 ft).

1930-68: Maximum discharge observed, about 3,600 cfs Mar. 30, 1960 (gage height, 12.25 ft, from graph based on gage readings, backwater from ice); minimum observed, 0.2 cfs Aug. 9-12, 1936.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	46	15	9.2	58	13	34	65	60	106	12	9.0
2	10	139	16	8.6	170	13	34	62	55	64	12	9.0
3	10	149	16	8.0	130	14	44	60	49	55	10	8.5
4	9.0	154	17	7.0	90	15	62	60	49	46	9.0	8.0
5	8.0	106	19	6.2	60	16	60	60	44	39	9.0	9.0
6	5.4	47	22	5.8	45	16	53	55	33	34	9.0	10
7	5.4	42	24	5.6	36	17	46	49	29	32	12	9.5
8	9.0	36	39	5.6	30	28	44	46	25	29	17	9.0
9	11	35	40	5.6	25	30	40	43	24	27	14	11
10	11	37	43	5.6	18	26	37	37	26	24	17	12
11	9.5	40	44	6.0	15	23	35	36	35	22	13	11
12	9.0	42	49	6.4	12	21	33	34	39	22	12	10
13	9.0	39	50	8.8	14	20	32	36	30	19	12	9.0
14	12	39	41	10	15	21	34	34	25	18	9.0	8.5
15	17	37	37	10	14	22	42	44	25	17	8.0	8.0
16	19	47	32	10	13	25	47	80	26	16	8.0	8.0
17	18	44	29	10	12	35	53	96	30	26	8.0	8.0
18	18	47	26	10	11	39	92	114	36	102	8.0	10
19	18	44	23	11	10	43	89	199	39	89	8.0	15
20	11	43	21	11	10	43	136	215	34	53	21	23
21	9.5	42	19	11	9.6	38	254	152	52	39	62	21
22	9.5	40	17	11	9.6	33	192	109	89	32	44	17
23	10	25	15	11	9.4	30	184	89	53	27	28	17
24	12	21	14	11	9.4	26	290	74	71	34	22	23
25	22	15	13	11	9.6	28	272	64	122	35	17	50
26	26	13	12	11	10	29	186	64	162	28	13	29
27	22	12	12	13	11	32	119	71	249	24	12	23
28	19	11	12	16	11	34	92	78	262	21	10	24
29	19	10	11	76	12	36	85	87	223	18	9.5	17
30	22	12	10	120	------	34	71	82	154	16	8.5	16
31	46	------	10	50	------	34	------	69	------	15	8.0	------
TOTAL	446.3	1,414	748	501.4	879.6	834	2,792	2,364	2,150	1,129	462.0	442.5
MEAN	14.4	47.1	24.1	16.2	30.3	26.9	93.1	76.3	71.7	36.4	14.9	14.8
MAX	46	154	50	120	170	43	290	215	262	106	62	50
MIN	5.4	10	10	5.6	9.4	13	32	34	24	15	8.0	8.0
CFSM	.119	.389	.199	.134	.250	.222	.769	.631	.593	.301	.123	.122
IN.	.14	.43	.23	.15	.27	.26	.86	.73	.66	.35	.14	.14

CAL YR 1967:	TOTAL	17,824.3	MEAN	48.8	MAX	600	MIN	5.4	CFSM	.403	IN.	5.46
WTR YR 1968:	TOTAL	14,162.8	MEAN	38.7	MAX	290	MIN	5.4	CFSM	.320	IN.	4.36

4-0870. Milwaukee River at Milwaukee, Wis.

Location.--Lat 43°06'00", long 87°54'30", in NE 1/4 sec. 5, T. 7 N., R. 22 E., on left bank near northeast limits of Milwaukee in Estabrook Park, 2,000 ft downstream from Port Washington Road Bridge and 6 miles upstream from mouth.

Drainage area.--686 sq mi.

Records available.--April 1914 to September 1968. Published as "near Milwaukee" prior to 1936.

Gage.--Digital water-stage recorder. Datum of gage is 607.23 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Apr. 6, 1929, staff or chain gage near present site at different datum. Apr. 6, 1929, to Jan. 8, 1934, chain gage at bridge half a mile upstream at different datum. Jan. 8, 1934, to Aug. 14, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--54 years, 382 cfs.

Extremes.--Maximum discharge during year, 4,960 cfs June 23 (gage height, 6.08 ft, regulated); minimum 9.4 cfs May 22 (gage height, 1.63 ft).
1914-68: Maximum discharge, 15,100 cfs Mar. 20, 1918, Aug. 6, 1924 (gage height, 9.00 ft, datum then in use, from floodmark for 1918, from graph based on gage readings for 1924); no flow Sept. 8, 1943.

Remarks.--Records good except those for winter months, which are fair. Occasional regulation caused by dams above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	456	160	76	96	84	241	642	461	827	147	142
2	81	465	165	71	105	96	246	525	373	669	141	85
3	84	424	161	66	110	110	253	480	350	547	136	97
4	84	255	157	62	110	115	281	455	320	444	139	105
5	83	257	178	58	110	118	314	495	267	346	177	162
6	82	318	175	58	110	120	341	475	249	295	147	94
7	77	300	216	58	105	120	363	358	231	301	167	90
8	94	284	202	58	102	130	378	331	204	343	200	108
9	78	255	216	58	100	160	387	345	183	381	159	168
10	86	252	309	58	100	180	392	347	166	276	151	127
11	93	252	316	58	100	180	397	282	189	236	138	111
12	99	252	311	58	100	180	397	244	254	210	158	116
13	140	252	300	58	102	180	397	248	464	188	149	121
14	112	254	250	58	102	175	400	400	486	171	126	110
15	130	256	190	59	105	175	404	297	444	171	119	91
16	120	256	155	60	108	185	404	675	385	153	115	92
17	240	250	210	62	108	200	426	583	365	219	93	119
18	182	242	205	64	102	220	520	569	491	257	80	165
19	161	234	195	64	98	235	593	901	341	377	178	199
20	223	225	200	64	94	250	691	1,090	298	354	640	149
21	210	218	205	63	92	250	891	1,040	723	266	212	177
22	211	216	175	62	90	250	1,160	653	399	251	280	198
23	406	218	145	62	87	250	1,370	671	843	563	214	186
24	384	213	125	62	85	240	1,500	574	849	259	169	431
25	713	212	110	62	82	230	1,620	479	647	198	110	212
26	798	209	105	62	80	211	1,590	472	1,570	216	100	200
27	899	200	100	62	80	216	1,200	384	1,330	199	93	160
28	818	210	96	63	80	220	960	434	1,320	167	86	132
29	699	123	92	65	80	224	800	488	1,200	163	84	118
30	601	140	87	68	------	227	700	473	991	156	88	121
31	511	------	82	78	------	235	------	465	------	167	98	------
TOTAL	8,594	7,698	5,593	1,937	2,823	5,766	19,616	15,875	16,393	9,370	4,894	4,386
MEAN	277	257	180	62.5	97.3	186	654	512	546	302	158	146
MAX	899	465	316	78	110	250	1,620	1,090	1,570	827	640	431
MIN	77	123	82	58	80	84	241	244	166	153	80	85
CFSM	.40	.37	.26	.09	.14	.27	.95	.746	.80	.44	.23	.21
IN.	.47	.42	.30	.11	.15	.31	1.06	.86	.89	.51	.27	.24

CAL YR 1967 TOTAL 122,978 MEAN 337 MAX 2,300 MIN 52 CFSM .49 IN 6.67
WTR YR 1968 TOTAL 102,945 MEAN 281 MAX 1,620 MIN 58 CFSM .41 IN 5.58

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-23	2300	6.08	4,960	8-20	0100	5.54	3,850

4-0871.2 Menomonee River at Wauwatosa, Wis.

Location.--Lat 43°02'44", long 87°59'59", in NW 1/4 sec. 27, T. 7 N., R. 21 E., near left bank on downstream side of 70th Street bridge in Wauwatosa, 800 ft downstream from Honey Creek, and 6 1/4 miles upstream from mouth.

Drainage area.--123 sq mi.

Records available.--October 1961 to September 1968.

Gage.--Wire-weight gage and crest-stage indicator; gage read about five times weekly. Datum of gage is 630.86 ft above mean sea level, datum of 1929.

Average discharge.--7 years, 65.0 cfs.

Extremes.--Maximum discharge during year, 4,660 cfs Aug. 20 (gage height, 8.03 ft); minimum daily, 5.0 cfs Jan. 8.
1961-68: Maximum discharge, 6,010 cfs July 18, 1964 (gage height, 9.03 ft) from rating curve extended above 3,200 cfs on the basis of slope conveyance study; minimum daily, 2.8 cfs Jan. 18, 1964.

Remarks.--Records fair except those for winter months, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	318	14	9.6	200	17	24	58	107	153	25	30
2	11	480	17	8.6	110	13	22	47	56	106	23	27
3	12	92	22	7.6	94	16	23	54	48	78	21	22
4	12	45	24	7.0	58	19	87	135	42	52	21	19
5	11	36	21	6.0	44	15	56	48	36	93	52	46
6	10	30	23	5.6	36	12	40	44	33	51	28	20
7	21	29	28	5.4	30	11	33	39	30	62	22	19
8	23	28	33	5.0	27	11	30	36	27	42	162	21
9	13	26	28	5.1	25	15	28	34	70	93	25	46
10	14	27	45	5.2	22	14	34	32	54	42	19	28
11	13	36	50	5.4	21	13	30	30	40	37	14	20
12	12	30	39	5.6	20	12	27	29	32	36	17	21
13	66	26	32	5.8	18	15	26	28	21	33	17	18
14	18	27	23	6.2	16	16	54	135	20	25	15	20
15	32	22	20	6.8	14	12	30	50	18	29	13	17
16	50	24	19	7.2	13	12	54	284	16	24	21	19
17	18	23	25	8.0	12	13	474	150	34	29	14	20
18	14	21	23	10	11	15	180	77	364	162	13	128
19	13	19	24	12	11	29	64	567	107	91	28	102
20	12	24	24	15	11	25	226	336	30	58	984	56
21	12	23	45	15	11	24	180	150	460	42	144	28
22	11	21	36	14	11	20	123	129	400	52	60	20
23	18	19	23	14	11	18	327	102	210	436	40	29
24	474	19	19	13	11	18	292	89	500	156	32	385
25	156	18	17	12	11	18	187	66	1,000	66	22	95
26	21	16	15	13	11	19	141	77	1,100	46	24	47
27	26	14	15	47	11	22	99	99	773	39	27	47
28	18	14	14	85	11	23	70	80	415	28	20	27
29	16	13	13	220	12	24	77	102	406	25	17	23
30	135	13	12	130	------	22	66	87	252	22	18	20
31	150	------	11	62	------	29	------	72	------	46	20	------
TOTAL	1,423	1,533	754	772.1	893	542	3,104	3,266	6,701	2,254	1,958	1,420
MEAN	45.9	51.1	24.3	24.9	30.8	17.5	103	105	223	72.7	63.2	47.3
MAX	474	480	50	220	200	29	474	567	1,100	436	984	385
MIN	10	13	11	5.0	11	11	22	28	16	22	13	17
CFSM	.373	.415	.198	.202	.250	.142	.837	.854	1.81	.591	.514	.385
IN.	.43	.46	.23	.23	.27	.16	.94	.99	2.03	.68	.59	.43

CAL YR 1967:	TOTAL	17,060.6	MEAN	46.7	MAX	781	MIN	9.0	CFSM	.380	IN.	5.15
WTR YR 1968:	TOTAL	24,620.1	MEAN	67.3	MAX	1,100	MIN	5.0	CFSM	.547	IN.	7.44

PEAK DISCHARGE (BASE, 700 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11- 2	0400	4.13	1,290	7-23	0600	3.86	990
6-26	1000	6.03	2,510	8-20	0400	8.03	4,660
				9-24	0500	3.96	1,040

4-0872.04 Oak Creek at South Milwaukee, Wis.

Location.--Lat 42°55'30", long 87°52'15", in NW 1/4 sec. 2, T. 5 N., R. 22 E., on left bank 25 ft downstream from 15th Avenue bridge in South Milwaukee and 2 3/4 miles upstream from mouth.

Drainage area.--25.0 sq mi.

Records available.--October 1963 to September 1968.

Gage.--Water-stage recorder and crest-stage indicator. Altitude of gage is 630 ft (from topographic map).

Average discharge.--5 years, 16.4 cfs.

Extremes.--Maximum discharge during year, 606 cfs June 26 (gage height, 7.52 ft); minimum daily, 0.8 cfs Jan. 7, 8.
1963-68: Maximum discharge, 612 cfs June 26, 1968; minimum, 0.4 cfs Jan. 3, 1964 (gage height, 2.33 ft).

Remarks.--Records good except those for winter months, which are fair. Low flows may occasionally be affected by activity of gravel pit upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	26	2.7	1.5	124	1.4	3.5	7.9	7.4	180	5.8	4.7
2	2.2	54	3.4	1.3	42	1.3	3.3	7.9	6.7	67	5.0	3.5
3	2.2	31	3.9	1.3	15	1.3	6.0	6.5	5.4	39	4.2	3.1
4	2.2	12	4.8	1.2	9.6	1.2	13.0	6.2	4.8	23	3.8	2.7
5	2.1	7.2	6.7	1.0	7.6	1.7	8.4	6.5	4.4	22	6.2	7.4
6	2.2	5.6	5.4	.9	6.4	1.5	5.6	5.8	3.8	15	5.8	5.0
7	2.6	5.0	4.2	.8	5.8	1.3	4.8	5.2	3.5	9.5	4.4	3.1
8	2.9	4.8	3.6	.8	5.6	1.2	4.2	5.4	3.1	7.7	12	3.1
9	2.6	4.4	3.8	.9	5.4	1.4	3.8	5.4	2.9	7.0	14	8.6
10	2.4	4.8	4.2	.9	5.1	1.9	3.6	5.6	2.7	6.7	7.5	5.0
11	2.6	4.6	4.6	1.0	4.8	1.7	3.1	5.6	3.3	6.5	5.0	3.5
12	2.6	4.6	5.0	1.0	4.5	1.7	3.1	5.4	3.1	6.2	3.8	3.1
13	4.2	4.0	4.0	1.0	4.0	2.0	2.7	5.6	2.7	6.0	3.5	3.5
14	3.3	3.8	3.1	1.0	3.6	1.6	3.5	15	2.9	5.8	3.1	2.9
15	5.0	3.6	2.7	1.1	3.2	1.5	3.1	12	3.5	5.6	2.9	2.4
16	7.7	3.6	2.6	1.1	2.8	1.6	8.2	9.0	2.9	5.2	3.1	2.2
17	7.4	3.6	3.6	1.5	2.5	1.9	13	9.5	3.1	5.7	2.9	2.4
18	4.4	3.5	4.2	1.9	2.2	2.4	20	8.0	40	24	2.6	5.4
19	2.9	3.1	4.8	2.1	2.1	3.5	8.2	86	55	13	2.7	8.2
20	2.7	3.1	4.4	2.2	1.9	4.2	18	39	14	6.7	6.0	8.7
21	2.4	3.3	16	2.4	1.8	3.5	22	17	76	4.8	5.2	5.2
22	2.6	3.1	10	2.4	1.7	2.7	10	11	69	4.0	3.6	2.9
23	2.4	3.1	4.5	2.3	1.6	2.2	21	9.0	33	29	3.1	3.8
24	2.7	2.9	3.5	2.2	1.5	2.1	26	7.4	97	181	2.6	39
25	2.5	3.3	3.0	2.1	1.4	2.4	14	6.0	235	47	2.1	18
26	2.4	2.7	2.7	1.8	1.4	2.9	10	15	483	14	1.9	5.6
27	2.9	2.6	2.4	8.0	1.3	2.4	8.2	17	439	9.5	1.9	4.0
28	2.6	2.6	2.1	24	1.3	3.6	7.7	13	301	7.4	2.2	3.1
29	2.4	2.5	1.9	50	1.3	4.0	8.4	10	304	6.2	2.2	2.2
30	9.1	2.5	1.7	40	------	3.8	7.9	9.3	363	5.8	2.1	2.4
31	21	------	1.6	16	------	3.6	------	7.5	------	6.2	2.7	------
TOTAL	120.3	220.9	131.1	175.7	271.4	69.5	274.3	379.7	2,575.2	776.5	133.9	169.7
MEAN	3.88	7.36	4.23	5.67	9.36	2.24	9.14	12.2	85.8	25.0	4.32	5.66
MAX	21	54	16	50	124	4.2	26	86	483	181	14	39
MIN	2.1	2.5	1.6	.8	1.3	1.2	2.7	5.2	2.7	4.0	1.9	2.2
CFSM	.155	.294	.169	.227	.374	.090	.366	.488	3.43	1.00	.173	.226
IN.	.18	.33	.20	.26	.40	.10	.41	.56	3.83	1.16	.20	.25

CAL YR 1967: TOTAL 6,070.2 MEAN 16.6 MAX 450 MIN 1.6 CFSM .664 IN. 9.04
WTR YR 1968: TOTAL 5,298.2 MEAN 14.5 MAX 483 MIN .8 CFSM .580 IN. 7.88

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-26	1530	7.52	606	6-29	1330	6.87	448

4-0872.2 Root River near Franklin, Wis.

Location.--Lat 42°52'25", long 87°59'45", in SE 1/4 sec. 22, T. 5 N., R. 21 E., on right bank 400 ft upstream from State Highway 100, 2.1 miles upstream from Root River Canal, 2.4 miles southeast of Franklin, 5 1/2 miles southeast of Hales Corners and about 24 miles upstream from mouth.

Drainage area.--49.3 sq mi.

Records available.--October 1963 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 674.5 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 32.1 cfs.

Extremes.--Maximum discharge during year, 910 cfs June 27 (gage height, 7.44 ft); minimum 4.9 cfs Oct. 13 (gage height 1.88 ft).
1963-68: Maximum discharge, 1,600 cfs Mar. 5, 1965 (gage height, 8.43 ft, backwater from ice); minimum, 0.8 cfs Sept. 2, 1966 (gage height, 1.62 ft).
Flood of Mar. 30, 1960, reached a stage of 9.57 ft (discharge, 5,130 cfs, from rating curve extended above 1,400 cfs on basis of contracted-opening measurement of peak-flow).

Remarks.--Records good except those for winter months, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	41	8.9	7.2	158	10	17	27	24	123	23	19
2	8.4	122	8.4	6.8	74	9.4	17	23	22	75	17	20
3	7.2	57	9.5	6.2	59	8.6	20	22	17	45	15	18
4	6.8	28	8.4	5.8	39	10	44	22	16	32	15	17
5	5.7	20	8.4	5.6	24	13	30	24	15	36	18	31
6	4.5	17	7.8	5.4	20	15	22	22	14	30	18	23
7	4.5	14	10	5.3	19	13	20	22	13	26	16	18
8	6.8	14	20	5.2	18	13	18	20	11	23	25	18
9	6.4	11	15	5.2	17	14	15	21	25	20	42	24
10	5.3	13	15	5.2	16	16	14	20	93	20	22	22
11	4.5	18	23	5.2	15	12	13	19	36	18	18	18
12	3.8	18	20	5.2	14	9.4	13	18	21	17	18	17
13	4.5	14	15	5.3	13	8.4	14	18	16	14	18	16
14	11	12	12	5.6	12	8.4	13	36	14	13	18	15
15	10	9.5	10	5.8	12	8.4	17	33	11	12	18	15
16	29	10	7.8	6.0	11	11	15	62	9.5	11	19	15
17	18	9.5	8.4	9.6	10	12	32	43	8.9	13	20	15
18	9.5	10	15	11	10	14	69	29	38	44	20	17
19	6.8	10	15	11	9.4	19	34	164	143	20	20	25
20	5.3	9.5	13	11	9.1	20	62	117	41	11	42	33
21	4.5	11	40	9.4	8.8	17	92	54	93	9.5	36	17
22	4.5	11	31	7.8	8.7	15	43	40	214	9.5	20	13
23	4.5	9.5	20	7.2	8.6	14	66	33	69	21	18	13
24	5.3	8.9	14	6.6	8.6	14	93	28	241	274	17	70
25	19	8.4	13	6.2	8.6	14	53	22	405	136	17	70
26	15	10	12	6.2	8.8	17	40	22	660	51	17	22
27	11	9.6	11	7.3	9.1	17	33	45	820	36	17	15
28	9.5	8.4	10	20	9.3	17	28	31	375	29	17	12
29	7.8	7.2	9.2	80	9.5	18	35	30	269	22	18	11
30	16	8.4	8.6	160	------	18	31	27	187	17	17	11
31	57	------	8	100	------	16	------	23	------	22	17	------
TOTAL	363.4	555.9	427.4	544.3	639.5	421.6	1,013	1,117	3,921.4	1,230.0	633	650
MEAN	11.7	18.5	13.8	17.6	22.1	13.6	33.8	36.0	131	39.7	20.4	21.7
MAX	58	124	40	160	158	20	93	164	820	274	42	70
MIN	5.3	7.2	7.8	5.2	8.6	8.4	13	18	8.9	9.5	15	11
CFSM	.237	.375	.280	.357	.448	.276	.686	.730	2.66	.805	.414	.440
IN.	.27	.42	.32	.41	.48	.32	.76	.84	2.96	.93	.48	.49

CAL YR 1967:	TOTAL	11,086.0	MEAN	30.4	MAX	675	MIN	2.9	CFSM	.617	IN.	8.36
WTR YR 1968:	TOTAL	11,516.5	MEAN	31.5	MAX	820	MIN	5.2	CFSM	.639	IN.	8.68

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
2- 1	-	5.70	296	6-27	0100	7.41	910
5-19	2000	4.98	210	6-29	1300	6.38	368
6-19	1200	4.85	200	7-24	1500	5.87	325
6-22	1000	5.15	226				

Note.--No gage height record Dec. 26 to Feb. 1, Feb. 9 to Mar. 13.

4-0872.33 Root River Canal near Franklin, Wis.

Location.--Lat 42°48'55", long 87°59'40", in SE 1/4 sec. 10, T. 4 N., R. 21 E., on right bank 10 ft downstream from highway bridge 3.5 miles upstream from mouth, 5.5 miles southeast of intersection U. S. 45 and State 100 in Franklin, and 8.7 miles southeast of Hales Corners.

Drainage area.--57.2 sq mi.

Records available.--October 1963 to September 1968.

Gage.--Digital water-stage recorder. Prior to July 17, 1968, graphic water-stage recorder at same site and datum. Altitude of gage is 670 ft (from topographic map).

Average discharge.--5 years, 30.9 cfs.

Extremes.--Maximum discharge during year, 470 cfs June 29 (gage height, 9.25 ft); minimum, 0.9 cfs Oct. 12 (gage height, 2.12 ft).
1964-68: Maximum discharge, 774 cfs Feb. 11, 1966; minimum daily, 0.4 cfs Dec. 19, 1963, result of freezeup.

Remarks.--Records fair for the year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	22	3.6	3.0	110	3.7	11	18	9.8	328	17	3.7
2	1.1	68	3.6	2.8	70	3.5	10	14	8.2	240	13	3.6
3	1.2	60	3.6	2.6	39	3.2	12	13	6.3	146	11	3.7
4	1.7	37	3.4	2.4	29	3.5	28	13	5.7	98	9.2	3.6
5	1.7	23	3.5	2.3	23	4.0	23	11	5.4	72	11	4.7
6	1.7	15	3.5	2.2	17	4.3	17	8.7	5.4	52	12	5.1
7	1.7	13	4.1	2.1	15	4.4	15	8.7	5.4	43	10	4.5
8	2.4	10	6.3	2.1	12	4.4	14	8.7	5.4	36	51	3.9
9	2.4	9.2	5.2	2.1	10	5.4	12	7.7	5.4	28	181	4.3
10	2.5	8.5	5.4	2.1	9.0	5.9	9.5	7.0	5.9	19	146	5.0
11	2.7	9.0	7.7	2.1	7.8	4.2	8.7	6.8	5.9	13	94	5.1
12	2.1	8.0	9.2	2.1	7.2	5.0	8.5	6.5	5.5	9.2	60	5.0
13	1.1	6.5	7.5	2.2	6.6	3.4	8.0	5.9	5.0	6.5	41	4.5
14	1.9	6.5	5.7	2.4	6.0	3.5	8.5	13	4.8	3.5	28	3.4
15	1.8	5.9	4.6	2.5	5.4	4.1	8.7	18	4.4	4.1	21	3.3
16	4.0	5.5	4.6	2.6	5.0	4.8	7.5	15	4.4	3.2	21	3.4
17	5.2	5.7	5.2	2.7	4.7	5.0	11	13	4.4	3.8	22	3.1
18	3.5	5.9	6.8	2.7	4.4	5.0	24	11	10	46	21	3.8
19	3.0	5.2	7.3	2.8	4.1	5.0	19	38	17	57	17	5.6
20	3.2	4.4	6.3	2.8	3.9	9.0	36	43	5.7	26	13	9.1
21	2.7	4.6	12	2.9	3.8	7.7	64	31	9.0	14	11	8.7
22	2.8	5.4	16	3.2	3.7	6.8	44	22	15	9.2	9.0	5.9
23	2.8	5.2	12	3.8	3.5	5.7	48	19	7.7	12	7.8	4.9
24	3.5	4.4	7.4	5.0	3.5	5.9	57	15	20	108	6.7	6.5
25	4.6	4.4	5.8	4.6	3.4	5.9	48	12	52	108	5.8	13
26	4.4	4.2	4.9	4.1	3.3	7.5	39	11	140	58	5.4	8.6
27	4.8	3.5	4.6	6.3	3.4	8.2	31	24	340	44	5.0	6.5
28	5.2	3.2	4.2	34	3.5	10	25	18	301	41	4.8	5.6
29	4.6	2.9	3.8	67	3.6	12	26	16	358	26	4.3	4.8
30	5.5	3.2	3.5	110	------	13	22	14	418	19	4.2	4.2
31	17	------	3.2	49	------	13	------	11	------	19	3.9	------
TOTAL	103.8	369.3	184.5	338.5	420.8	187.0	695.4	473.0	1,790.7	1,692.5	867.1	157.1
MEAN	3.35	12.3	5.95	10.9	14.5	6.03	23.2	15.3	59.7	54.6	28.0	5.24
MAX	17	68	16	110	110	13	64	43	418	328	181	13
MIN	1.0	2.9	3.2	2.1	3.3	3.2	7.5	5.9	4.4	3.2	3.9	3.1
CFSM	.059	.215	.104	.191	.254	.105	.406	.267	1.04	.955	.490	.092
IN.	.07	.24	.12	.22	.27	.12	.45	.31	1.16	1.10	.56	.10

CAL YR 1967:	TOTAL	12,887.5	MEAN	35.3	MAX	557	MIN	1.0	CFSM	.617	IN.	8.40
WTR YR 1968:	TOTAL	7,279.7	MEAN	19.9	MAX	418	MIN	1.0	CFSM	.348	IN.	4.72

4-0872.4 Root River at Racine, Wis.

Location.--Lat 42°45'05", long 87°49'25", in NE 1/4 sec. 6, T. 3 N., R. 23 E., on left bank 30 ft downstream from State Highway 38 bridge in Racine, 350 ft downstream from Horlick Dam, and 5.2 miles upstream from mouth.

Drainage area.--187 sq mi.

Records available.--August 1963 to September 1968.

Gage.--Water-stage recorder. Altitude of gage is 610 ft (from topographic map). Prior to Feb. 5, 1964, wire-weight gage on bridge 30 ft upstream.

Average Discharge.--5 years, 100 cfs.

Extremes.--Maximum discharge during year, 1,470 cfs June 30 (gage height 5.42 ft); minimum discharge, 8.4 cfs Oct. 6, 7 (gage height, 2.20 ft).
1963-68: Maximum discharge, 2,500 cfs Feb. 12, 1966; minimum daily 1.3 cfs Oct. 12, Dec. 31, 1963, Jan. 1, 2, 1964.

Remarks.--Records good except those for winter months, which are fair, and those below 10 cfs, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	113	20	22	190	25	48	109	66	1,180	71	27
2	14	156	20	21	230	26	43	102	58	861	71	26
3	12	234	20	19	295	23	46	95	55	634	58	27
4	11	146	20	17	200	23	71	95	43	423	48	27
5	9.3	95	20	16	125	25	106	95	35	275	46	30
6	8.4	71	21	15	100	27	83	98	31	227	46	39
7	8.8	55	24	14	86	26	67	91	36	171	48	42
8	10	45	25	14	74	25	64	89	26	146	57	31
9	11	40	37	14	60	23	57	85	23	129	215	31
10	11	35	39	14	52	23	53	77	24	111	365	33
11	11	35	39	14	46	24	42	66	100	100	241	37
12	11	40	57	14	41	26	37	57	58	85	156	31
13	10	40	46	14	37	30	33	48	35	79	109	27
14	11	33	40	15	33	27	36	51	27	71	83	25
15	12	29	33	15	31	23	37	85	23	64	64	23
16	25	26	29	15	29	23	39	85	21	55	57	20
17	42	24	29	16	27	26	46	100	17	55	55	20
18	43	25	29	17	25	29	87	77	23	118	53	26
19	27	23	33	18	25	30	100	95	67	178	53	31
20	20	23	39	19	24	40	87	234	152	135	46	50
21	15	23	46	22	23	45	185	202	85	91	60	57
22	11	22	102	26	23	40	185	126	126	73	67	35
23	11	23	82	33	22	33	137	109	198	64	43	23
24	11	24	60	32	22	31	195	81	159	164	39	24
25	11	23	48	31	22	29	202	69	360	338	36	73
26	12	23	37	29	22	31	152	64	863	334	32	93
27	31	19	35	35	23	37	126	81	1,260	178	31	43
28	23	16	31	46	24	42	111	113	1,420	135	31	31
29	19	17	29	92	24	43	106	93	1,290	109	30	25
30	23	18	26	180	------	45	132	83	1,410	83	26	21
31	39	------	24	190	------	50	------	73	------	73	26	------
TOTAL	532.5	1,496	1,140	1,039	1,935	950	2,713	2,928	8,091	6,739	2,363	1,028
MEAN	17.2	49.9	36.8	33.5	66.7	30.6	90.4	94.5	270	217	76.2	34.3
MAX	43	234	102	190	295	50	202	234	1,420	1,180	365	93
MIN	8.4	16	20	14	22	23	33	48	17	55	26	20
CFSM	.092	.267	.197	.179	.357	.164	.483	.505	1.44	1.16	.407	.183
IN.	.11	.30	.23	.21	.38	.19	.54	.58	1.61	1.34	.47	.20

CAL YR 1967:	TOTAL	39,330.0	MEAN	108	MAX	1,900	MIN	7.3	CFSM	.578	IN.	7.83
WTR YR 1968:	TOTAL	30,954.5	MEAN	84.6	MAX	1,420	MIN	8.4	CFSM	.452	IN.	6.16

5-3325. Namekagon River near Trego, Wis.

Location.--Lat 45°56'50", long 91°53'15", in SW 1/4 sec. 17, T. 40 N., R. 12 W., at powerplant of the Northern States Power Co., 4 miles downstream from Potato Creek and 5 miles northwest of Trego.

Drainage area.--503 sq mi.

Records available.--October 1927 to September 1968.

Gage.--Headwater and tailwater gages read hourly.

Average discharge.--41 years, 469 cfs.

Extremes.--Maximum daily discharge during year, 1,380 cfs June 22; minimum daily, 253 cfs Nov. 28.
1927-68: Maximum daily discharge, 5,200 cfs Sept. 2, 1941; minimum daily, 113 cfs Aug. 17, Sept. 7, 1930.

Remarks.--Records good. Discharge computed from powerplant records on basis of ratings developed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	436	448	329	348	319	490	741	645	1,260	699	441
2	460	443	424	328	350	316	499	719	672	1,180	708	427
3	471	515	442	344	355	318	514	608	635	1,010	699	426
4	451	426	420	331	342	324	531	689	686	913	636	589
5	449	439	410	342	347	332	541	664	618	863	616	575
6	449	435	415	331	355	345	532	644	603	816	603	557
7	506	471	421	328	356	379	520	544	537	730	569	554
8	506	424	426	344	340	426	599	602	650	692	638	651
9	506	430	413	338	325	432	565	626	654	640	737	651
10	509	434	416	330	323	427	526	613	637	637	702	616
11	526	442	416	338	296	419	514	598	660	622	556	674
12	525	428	416	333	320	380	519	620	822	960	553	614
13	525	438	357	332	312	389	499	649	788	1,140	551	590
14	486	432	276	335	314	405	539	717	772	1,240	549	566
15	538	417	290	338	319	393	533	608	769	1,190	492	496
16	538	430	374	352	320	407	545	652	521	1,170	555	486
17	538	417	437	356	312	442	569	796	683	1,070	438	489
18	478	423	507	363	298	566	520	780	733	1,020	491	579
19	445	418	485	355	309	679	512	783	579	1,010	558	716
20	431	425	281	352	315	678	564	758	601	1,020	536	716
21	409	438	367	346	299	526	607	751	1,140	950	522	603
22	409	406	332	352	293	545	683	695	1,380	858	521	629
23	403	298	271	360	310	484	653	697	1,130	719	519	945
24	413	429	322	352	314	481	784	657	1,160	719	504	936
25	399	417	321	349	306	475	923	651	1,010	617	488	943
26	439	395	331	353	326	466	940	699	929	618	462	793
27	438	306	330	355	322	494	881	679	917	629	471	817
28	421	253	307	345	311	587	851	702	840	632	410	695
29	435	330	305	351	321	560	857	715	781	618	404	651
30	466	390	333	355	------	573	744	702	1,110	606	427	665
31	506	------	328	350	------	580	------	698	------	577	427	------
TOTAL	14,531	12,385	11,621	10,667	9,358	14,147	18,554	21,057	23,662	26,726	17,041	19,090
MEAN	469	413	375	344	323	456	618	679	789	862	550	636
MAX	538	515	507	363	356	679	940	796	1,380	1,260	737	945
MIN	399	253	271	328	293	316	490	544	521	577	404	426
CFSM	.932	.821	.746	.684	.642	.907	1.23	1.35	1.57	1.71	1.09	1.26
IN.	1.07	.92	.86	.79	.69	1.05	1.37	1.56	1.75	1.98	1.26	1.41

CAL YR 1967:	TOTAL	195,183	MEAN	535	MAX	1,740	MIN	253	CFSM	1.06	IN.	14.42
WTR YR 1968:	TOTAL	198,839	MEAN	543	MAX	1,380	MIN	253	CFSM	1.08	IN.	14.71

5-3335. St. Croix River near Danbury, Wis.

Location.--Lat 46°04'30", long 92°14'50", in sec. 33, T. 42 N., R. 15 W., on left bank at downstream side of bridge on State Highway 35, 3.5 miles downstream from Namekagon River, 10 miles northeast of Danbury, and at mile 129.2.

Drainage area.--1,588 sq mi.

Records available.--March 1914 to September 1968. Prior to October 1933 published as "at Swiss".

Gage.--Digital water-stage recorder. Datum of gage is 882.21 ft above mean sea level, datum of 1929. Prior to Apr. 23, 1937, staff or chain gage at old highway bridge 40 ft downstream at same datum. Apr. 23, 1937, to Jan. 5, 1939; chain gage at present site and datum. Jan. 6, 1939, to Oct. 13, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--54 years, 1,286 cfs.

Extremes.--Maximum discharge during year, 6,830 cfs July 15 (gage height, 6.00 ft); minimum daily discharge, 560 cfs Feb. 9-13.
1914-68: Maximum discharge, 10,200 cfs May 6, 1950 (gage height, 8.22 ft); minimum observed, 393 cfs Aug. 6, 13, 1934 (gage height, -0.20 ft, site then in use).

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,050	1,100	750	770	660	660	1,510	2,310	1,850	2,610	1,640	1,080
2	996	1,110	840	780	650	680	1,280	2,090	1,920	2,640	1,540	1,050
3	1,080	1,100	1,000	780	630	700	1,180	1,890	1,890	2,400	1,630	1,030
4	1,060	1,080	1,100	780	610	720	1,290	1,850	1,660	2,130	1,600	1,130
5	1,060	1,040	1,140	780	600	750	1,330	1,850	1,540	1,950	1,420	1,330
6	1,050	1,000	1,170	790	590	780	1,250	1,780	1,600	1,760	1,350	1,360
7	1,080	1,030	1,150	790	580	840	1,310	1,710	1,610	1,680	1,360	1,360
8	1,150	1,020	1,150	790	566	900	1,360	1,780	1,540	1,510	1,450	1,470
9	1,110	988	1,140	790	560	980	1,630	1,920	1,870	1,400	1,570	1,600
10	1,080	984	1,110	790	560	1,000	1,630	1,880	2,070	1,240	1,450	1,850
11	1,040	991	1,070	780	560	1,020	1,440	1,780	2,420	1,250	1,310	1,690
12	980	949	1,040	763	560	1,010	1,360	2,090	2,540	1,450	1,150	1,540
13	948	960	980	770	560	1,000	1,480	2,160	2,310	2,150	1,200	1,450
14	1,010	960	900	770	570	1,020	1,630	2,070	2,020	4,880	1,130	1,380
15	1,030	965	800	770	570	1,120	1,610	2,420	1,830	6,630	1,150	1,310
16	1,060	960	780	770	570	1,220	1,480	2,570	1,890	6,000	1,150	1,230
17	1,040	970	840	770	580	1,360	1,450	2,510	1,520	5,250	1,120	1,220
18	1,020	980	900	770	580	1,560	1,490	2,440	1,520	4,270	1,130	1,390
19	1,020	960	910	770	580	1,760	1,540	2,350	1,470	3,660	1,100	1,680
20	1,020	950	900	760	590	1,900	1,640	2,240	1,510	3,320	1,160	1,700
21	1,020	946	880	760	600	1,900	1,880	2,110	3,070	2,870	1,130	1,640
22	1,030	930	840	750	600	1,480	1,840	1,980	3,440	2,600	1,080	1,700
23	991	871	770	740	600	1,330	2,370	1,850	3,240	2,240	1,070	2,200
24	1,020	860	760	740	610	1,220	3,240	1,870	2,920	1,940	1,040	2,450
25	989	840	760	730	620	1,140	3,380	1,870	2,640	1,740	1,050	2,230
26	984	800	760	730	630	1,160	3,230	1,870	2,400	1,690	1,010	2,160
27	1,010	750	760	720	640	1,240	3,230	1,930	2,160	1,770	973	1,930
28	1,000	710	760	710	640	1,440	3,120	1,870	1,930	1,690	933	1,750
29	1,070	690	760	710	650	1,430	2,730	1,820	1,740	1,590	894	1,700
30	1,070	700	760	700	------	1,390	2,490	1,790	1,960	1,420	890	1,560
31	1,120	------	770	680	------	1,480	------	1,780	------	1,640	960	------
TOTAL	32,188	28,194	28,250	23,503	17,316	36,190	56,400	62,430	62,080	79,370	37,640	47,170
MEAN	1,038	940	911	758	597	1,167	1,880	2,014	2,069	2,560	1,214	1,572
MAX	1,150	1,110	1,170	790	660	1,900	3,380	2,570	3,440	6,630	1,640	2,450
MIN	948	690	750	680	560	660	1,180	1,710	1,470	1,240	890	1,030
CFSM	.65	.59	.57	.48	.38	.74	1.18	1.27	1.30	1.61	.76	.99
IN.	.75	.66	.66	.55	.41	.85	1.32	1.46	1.45	1.86	.88	1.10

CAL YR 1967 TOTAL 500,285 MEAN 1,371 MAX 5,900 MIN 690 CFSM .86 IN 11.72
WTR YR 1968 TOTAL 510,731 MEAN 1,395 MAX 6,630 MIN 560 CFSM .88 IN 11.96

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-25	0500	3.38	3,430	7-15	0700	6.00	6,830
6-22	0800	3.45	3,500				

GPO 817-102-5

5-3340. Shell Lake at Shell Lake, Wis.

Location.--Lat 45°44'40", long 91°55'05", in NE 1/4 sec. 25, T. 38 N., R. 13 W., attached to post in bed of lake near Petersons Boat House in the village of Shell Lake.

Drainage area.--34 sq mi, approximately. Area of Shell Lake, 3,200 acres.

Records available.--August 1936 to September 1968 (fragmentary).

Gage.--Staff gage read weekly except during winter. Datum of gage is 1,215.88 ft above mean sea level, datum of 1929. May 3, 1952, to Apr. 21, 1961, staff gage 2.3 miles southeast of village of Shell Lake at same datum.

Extremes.--Maximum gage height observed during year, 3.84 ft Aug. 12; minimum observed, 1.36 ft Jan 23, Feb. 14.
1936-68: Maximum gage height observed, 5.13 ft July 17, 1954; minimum observed, -0.92 ft Nov. 28, 1949.

Remarks.--Lake has no surface outlet. Lake frozen over Nov. 28 to early April.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3		1.54										
4		1.52							2.16			
5												
6									2.16			3.48
7	1.76											
8									2.25			
9												
10												
11		1.46										
12											3.84	3.44
13	1.70											
14	1.68				1.36							
15						1.40			2.40			
16												
17										3.63		
18		1.42										
19							1.42					
20												3.44
21	1.60											
22									2.18	3.58		
23				1.36								
24												
25												
26												
27								2.16				3.60
28	1.58								2.50			
29		1.45							3.32			
30					------						3.40	
31		------			------		------		------			------

5-3360. St. Croix River near Grantsburg, Wis.

Location.--Lat 45°55'25", long 92°38'20", near center of sec. 30, T. 40 N., R. 18 W., on left bank at Norway Point, 0.5 mile downstream from Sand Creek, 10 miles north of Grantsburg, and at mile 102.4.

Drainage area.--2,820 sq mi, approximately.

Records available.--April 1923 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 848.98 ft above mean sea level, adjustment of 1912 (levels by Northern States Power Co.). Prior to Aug. 15, 1934, chain gage, Aug. 15, 1934, to Oct. 21, 1938, staff gage, in stilling well at same site and datum, and Oct. 21, 1938, to Aug. 7, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--45 years, 2,300 cfs.

Extremes.--Maximum discharge during year, 9,320 cfs July 17 (gage height, 9.82 ft); minimum daily discharge, 880 cfs Feb. 10-16 (backwater from ice).
1923-68: Maximum discharge, 26,300 cfs May 7, 1950 (gage height, 15.06 ft); minimum, 510 cfs Aug. 14, 17, 1934.

Remarks.--Records good except those for winter months, which are fair. Diurnal fluctuation caused by powerplants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,590	1,690	1,220	1,260	1,050	1,050	2,410	4,920	3,550	4,600	2,800	1,520
2	1,520	1,680	1,500	1,250	1,020	1,080	2,270	4,330	3,940	5,410	2,700	1,500
3	1,440	1,660	1,600	1,250	980	1,120	1,990	3,660	3,920	5,370	2,520	1,540
4	1,550	1,600	1,600	1,240	970	1,180	2,020	3,290	3,620	4,740	2,490	1,560
5	1,550	1,560	1,600	1,240	940	1,240	2,090	3,140	3,090	4,130	2,380	1,770
6	1,480	1,520	1,600	1,240	930	1,300	2,030	2,990	2,930	3,740	2,220	1,980
7	1,560	1,540	1,540	1,240	920	1,360	1,990	2,860	3,090	3,450	2,180	1,980
8	1,640	1,560	1,520	1,240	892	1,400	2,180	2,730	2,780	3,280	2,210	1,980
9	1,660	1,560	1,520	1,240	890	1,440	2,500	3,030	3,260	2,950	2,330	2,190
10	1,570	1,570	1,540	1,250	880	1,480	2,660	3,320	3,900	2,760	2,380	2,470
11	1,600	1,580	1,530	1,250	880	1,500	2,500	3,240	4,430	2,490	2,240	2,580
12	1,570	1,550	1,500	1,250	880	1,560	2,290	3,460	4,840	2,470	2,040	2,340
13	1,550	1,540	1,440	1,250	880	1,600	2,160	4,170	4,830	2,920	1,940	2,180
14	1,540	1,580	1,360	1,240	880	1,640	2,380	4,530	4,280	4,640	1,930	1,980
15	1,560	1,560	1,200	1,230	880	1,760	2,610	4,560	3,570	6,950	1,760	1,910
16	1,600	1,570	1,160	1,210	880	1,900	2,540	4,870	3,140	8,800	1,930	1,820
17	1,590	1,600	1,260	1,200	890	2,100	2,350	5,140	3,130	9,220	1,870	1,790
18	1,580	1,580	1,400	1,200	900	2,300	2,360	5,040	2,770	8,550	1,810	1,950
19	1,560	1,550	1,440	1,200	900	2,500	2,380	4,870	2,710	7,860	1,840	2,210
20	1,590	1,540	1,440	1,200	900	2,800	2,560	4,650	2,540	6,140	1,780	2,510
21	1,570	1,500	1,400	1,200	910	3,100	3,080	4,320	5,190	5,320	1,770	2,510
22	1,570	1,480	1,340	1,180	920	3,000	3,520	3,980	7,660	4,680	1,590	2,630
23	1,580	1,440	1,260	1,170	920	2,810	3,920	3,600	8,820	4,250	1,580	3,560
24	1,540	1,400	1,200	1,160	930	2,400	5,520	3,320	8,240	3,680	1,550	4,800
25	1,550	1,360	1,180	1,150	950	2,110	6,790	3,310	6,600	3,180	1,490	5,390
26	1,550	1,320	1,180	1,140	970	1,960	7,250	3,180	5,000	2,860	1,560	5,130
27	1,570	1,240	1,180	1,130	1,000	2,080	6,970	3,400	4,120	2,890	1,450	4,610
28	1,570	1,160	1,200	1,120	1,010	2,450	6,620	3,500	3,520	3,020	1,400	4,070
29	1,600	1,120	1,230	1,100	1,020	2,640	6,220	3,450	3,090	2,800	1,380	3,710
30	1,660	1,100	1,240	1,080	------	2,480	5,500	3,310	3,350	2,450	1,330	3,530
31	1,660	------	1,260	1,060	------	2,390	------	3,170	------	2,450	1,390	------
TOTAL	48,720	44,720	42,640	37,170	26,972	59,730	101,660	117,340	125,910	137,950	59,840	79,700
MEAN	1,572	1,491	1,375	1,199	930	1,927	3,389	3,785	4,197	4,450	1,930	2,657
MAX	1,660	1,690	1,600	1,260	1,050	3,100	7,250	5,140	8,820	9,220	2,800	5,390
MIN	1,440	1,100	1,160	1,060	880	1,050	1,990	2,730	2,540	2,450	1,330	1,500
CFSM	.56	.53	.49	.43	.33	.68	1.20	1.34	1.49	1.58	.68	.94
IN.	.64	.59	.56	.49	.36	.79	1.34	1.55	1.66	1.82	.79	1.05

CAL YR 1967 TOTAL 869,640 MEAN 2,383 MAX 13,900 MIN 1,100 CFSM .84 IN 11.47
WTR YR 1968 TOTAL 882,352 MEAN 2,411 MAX 9,220 MIN 880 CFSM .85 IN 11.64

5-3385. Snake River near Pine City, Minn.

Location.--Lat 45°50'30", long 92°56'00", in SE 1/4 NW 1/4 sec. 26, T. 39 N., R. 21 W., on left bank at site of former powerplant and dam, half a mile downstream from Cross Lake and 1 1/2 miles northeast of Pine City.

Drainage area.--958 sq mi.

Records available.--June 1913 to September 1917, July 1951 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 919.00 ft above mean sea level, datum of 1929. June 25, 1913, to Sept. 30, 1917, staff gage at site 500 ft downstream at different datum. July 1 to Oct. 28, 1951, staff gage and Oct. 29, 1951, to May 10, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--21 years, 556 cfs.

Extremes.--Maximum discharge during year, 3,200 cfs June 26 (gage height, 5.95 ft); minimum, 35 cfs Oct. 6 (gage height, 2.78 ft).
1913-17, 1951-68: Maximum discharge, 11,500 cfs Apr. 18, 1965 (gage height, 9.56 ft); minimum, 5.5 cfs Oct. 1, 1964 (gage height, 2.57 ft).
A discharge measurement of 12,500 cfs was made May 9, 1950.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	85	78	66	87	52	328	1,410	1,470	2,590	341	133
2	50	89	78	65	86	52	282	1,240	1,430	2,640	341	116
3	48	89	78	64	87	52	250	1,070	1,400	2,770	313	115
4	59	93	78	63	81	58	296	888	1,370	2,840	299	129
5	49	81	78	63	80	76	280	750	1,270	2,790	273	121
6	38	71	81	63	79	100	247	622	1,140	2,610	248	113
7	49	71	85	64	78	123	256	568	978	2,330	230	94
8	80	74	85	64	74	153	316	593	919	1,990	273	101
9	74	85	89	65	70	171	311	575	997	1,590	279	111
10	64	89	94	67	67	221	393	572	1,160	1,240	279	104
11	62	100	97	69	64	280	471	608	1,390	994	273	109
12	55	108	97	73	60	325	494	658	1,600	832	242	101
13	93	97	90	76	57	333	440	635	1,760	736	224	97
14	68	93	83	75	55	321	498	678	1,890	802	184	101
15	78	74	80	75	53	310	449	719	1,870	818	167	96
16	76	85	79	76	52	288	435	833	1,810	807	201	91
17	93	95	80	78	52	269	442	892	1,690	793	167	139
18	76	97	81	78	52	311	429	910	1,530	802	148	181
19	61	78	81	78	52	383	404	984	1,350	769	162	182
20	96	78	80	81	52	408	514	991	1,230	717	162	211
21	55	80	80	77	52	389	684	1,010	1,770	699	148	239
22	55	79	81	80	52	359	787	998	2,210	613	158	398
23	64	77	80	82	52	342	1,040	938	2,600	561	144	1,050
24	116	78	80	80	52	316	1,180	898	2,890	510	162	1,790
25	108	79	80	81	52	305	1,330	835	3,070	470	125	2,260
26	64	80	76	81	52	283	1,520	847	3,170	438	100	2,390
27	64	81	73	82	52	313	1,640	896	3,140	438	96	2,350
28	53	81	72	82	52	356	1,700	976	2,930	385	92	2,210
29	74	81	72	83	52	370	1,690	1,110	2,590	327	90	2,000
30	81	78	71	83	------	375	1,560	1,260	2,540	306	88	1,730
31	81	------	70	83	------	396	------	1,370	------	355	107	------
TOTAL	2,130	2,526	2,507	2,297	1,806	8,090	20,666	27,334	55,164	36,562	6,116	18,862
MEAN	68.7	84.2	80.9	74.1	62.3	261	689	882	1,839	1,179	197	629
MAX	116	108	97	83	87	408	1,700	1,410	3,170	2,840	341	2,390
MIN	38	71	70	63	52	52	247	568	919	306	88	91
CFSM	.07	.09	.08	.08	.07	.27	.72	.92	1.92	1.23	.21	.66
IN.	.08	.10	.10	.09	.07	.31	.80	1.06	2.14	1.42	.24	.73

CAL YR 1967:	TOTAL	200,440	MEAN	549	MAX	7,600	MIN	33	CFSM	.57	IN.	7.78
WTR YR 1968:	TOTAL	184,060	MEAN	503	MAX	3,170	MIN	38	CFSM	.52	IN.	7.15

5-3405. St. Croix River at St. Croix Falls, Wis.

Location.--Lat 45°24'30", long 92°38'45", in NW 1/4 sec. 30, T. 34 N., R. 18 W., on left bank 1,800 ft downstream from powerplant of Northern States Power Co., in St. Croix Falls, and at mile 52.2.

Drainage area.--5,930 sq mi, approximately.

Records available.--January 1902 to September 1968 in reports of Geological Survey. Prior to January 1910, monthly discharge only, published in WSP 1308. Prior to October 1939, published as "near St. Croix Falls."

Gage.--Digital water-stage recorder. Datum of gage is 690.47 ft above mean sea level, adjustment of 1912. Prior to July 1905, gage heights and discharge measurements were used to determine flow. July 1905 to February 1940, records were computed from power generation at the St. Croix Falls powerplant 1,800 ft upstream. Mar. 16, 1940, to Nov. 30, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--66 years, 4,070 cfs.

Extremes.--Maximum discharge during year, 19,700 cfs June 23, 24 (gage height, 9.49 ft); minimum daily, 1,030 cfs Nov. 28.
1902-68: Maximum discharge, 54,900 cfs May 8, 1950 (gage height, 25.19 ft); minimum daily, 75 cfs July 17, 1910.

Remarks.--Records good except Nov. 1-7, June 30 to July 18, which are fair. Flow regulated by powerplant upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,770	2,400	1,920	1,650	1,720	1,400	4,020	10,200	7,760	12,800	3,980	2,130
2	2,130	2,200	2,040	1,470	1,750	1,450	3,600	8,990	8,430	13,400	4,110	2,020
3	1,990	2,500	2,010	1,310	1,850	1,560	3,590	7,790	8,510	12,200	4,190	2,170
4	1,900	2,700	2,460	1,570	1,780	1,580	2,840	7,060	8,230	11,600	3,610	2,650
5	2,110	2,200	2,080	1,750	1,870	1,620	3,200	5,870	7,300	10,500	3,910	1,800
6	2,110	2,000	2,190	1,950	1,720	1,220	3,260	5,850	6,690	9,400	3,420	2,530
7	2,080	2,400	2,130	1,740	2,050	1,830	2,870	4,960	6,090	8,300	3,450	2,380
8	2,150	2,320	1,860	1,310	1,690	2,170	3,360	5,170	7,020	7,600	3,420	2,680
9	2,170	2,460	2,270	1,830	1,890	2,150	3,700	4,790	7,000	6,400	3,380	2,650
10	2,120	1,990	2,020	1,690	1,640	2,360	4,600	5,070	9,110	5,800	3,170	3,030
11	2,120	2,040	1,980	1,490	1,660	2,530	4,570	5,520	11,300	5,200	3,430	3,210
12	2,110	2,180	2,060	1,680	1,920	2,800	4,330	5,710	12,200	4,800	3,230	3,230
13	2,060	2,080	2,120	1,840	1,410	2,940	4,000	6,200	13,100	4,700	3,340	2,890
14	2,170	2,120	1,650	1,570	1,480	2,670	3,840	7,140	12,300	8,000	2,300	2,790
15	2,130	2,230	1,800	1,760	1,530	2,440	4,190	7,640	10,800	10,600	3,010	2,150
16	2,150	1,940	1,100	1,930	1,850	2,480	4,210	8,300	9,140	13,600	2,730	2,690
17	2,100	2,020	1,640	1,720	1,380	2,570	4,170	9,020	8,400	15,400	2,560	2,240
18	2,010	2,310	1,860	1,790	1,380	3,430	4,000	9,100	7,570	14,000	2,290	2,850
19	2,240	2,120	2,050	1,690	1,640	3,720	4,510	8,910	7,030	13,200	2,760	3,060
20	1,980	2,080	2,170	1,670	1,510	3,930	4,250	8,970	6,970	11,600	2,720	3,290
21	2,210	2,190	2,180	1,780	1,380	4,580	4,650	8,510	8,840	9,710	3,190	3,840
22	1,910	2,190	1,920	1,720	1,390	4,970	6,200	7,920	15,000	8,500	2,110	4,050
23	2,280	1,730	1,450	1,790	1,180	3,800	7,250	7,320	18,600	7,570	2,530	10,100
24	2,360	2,260	1,560	1,780	1,600	3,620	9,330	6,760	19,300	7,070	1,810	12,600
25	2,330	1,770	1,550	1,600	1,250	3,750	13,100	6,320	17,100	5,750	1,750	13,400
26	2,000	1,790	1,490	2,030	1,390	3,370	14,600	6,960	14,600	5,380	2,460	12,700
27	2,120	1,520	1,740	1,540	1,530	3,610	14,700	6,640	11,500	4,760	1,640	11,600
28	1,690	1,030	1,620	1,720	1,270	3,830	13,900	6,990	10,100	4,430	2,180	10,100
29	2,200	1,360	1,640	1,720	1,290	3,860	13,000	7,460	9,030	4,730	1,680	8,980
30	2,500	1,100	1,520	1,950	------	4,190	11,800	7,730	11,300	4,720	1,900	8,020
31	2,260	------	1,800	1,700	------	3,890	------	7,460	------	4,220	1,730	------
TOTAL	65,460	61,230	57,880	52,740	46,000	90,320	185,640	222,330	310,320	265,940	87,990	147,830
MEAN	2,112	2,041	1,867	1,701	1,586	2,914	6,188	7,172	10,340	8,579	2,838	4,928
MAX	2,500	2,700	2,460	2,030	2,050	4,970	14,700	10,200	19,300	15,400	4,190	13,400
MIN	1,690	1,030	1,100	1,310	1,180	1,220	2,840	4,790	6,090	4,220	1,640	1,800
CFSM	.36	.34	.31	.29	.27	.49	1.04	1.21	1.74	1.45	.48	.83
IN.	.41	.38	.36	.33	.29	.57	1.16	1.39	1.95	1.67	.55	.93

CAL YR 1967 TOTAL 1,625,640 MEAN 4,454 MAX 31,500 MIN 1,030 CFSM .75 IN 10.20
WTR YR 1968 TOTAL 1,593,680 MEAN 4,354 MAX 19,300 MIN 1,030 CFSM .73 IN 9.99

5-3415. Apple River near Somerset, Wis.

Location.--Lat 45°09'30", long 92°43'00", in sec. 21, T. 31 N., R. 19 W., at powerplant of Northern States Power Co., 3.5 miles downstream from Somerset.

Drainage area.--555 sq mi.

Records available.--January 1901 to September 1914 (monthly discharge only), October 1914 to September 1968.

Gage.--Headwater and tailwater gages read hourly.

Average discharge.--67 years, 305 cfs.

Extremes.--Maximum daily discharge during year, 890 cfs Sept. 26; minimum daily, 99 cfs Dec. 23.
1901-68: Maximum daily discharge, 2,510 cfs Apr. 13, 1965; minimum daily, 7 cfs Aug. 21, 1927, Sept. 30, 1929, July 19, 1932, Aug. 2, 3, 1933.

Remarks.--Records good except those below 100 cfs, which are fair. Records of daily discharge computed on basis of gate openings, head, and plant efficiency. Flow regulated by many powerplants upstream.

Cooperation.--Records of daily discharge furnished by Northern States Power Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	245	232	150	195	170	275	535	450	430	240	236
2	195	205	230	150	230	185	285	445	355	640	340	125
3	205	190	235	160	225	215	265	301	235	735	360	205
4	180	243	100	175	225	170	270	365	300	735	495	220
5	160	240	240	210	185	245	264	360	320	736	420	215
6	189	120	200	130	285	215	285	260	255	660	445	220
7	190	255	175	150	205	210	285	355	299	660	440	225
8	235	210	214	100	206	255	215	270	310	510	350	310
9	115	223	215	180	190	320	285	280	365	475	340	245
10	220	184	230	160	165	350	280	247	285	345	335	240
11	195	235	390	190	205	370	293	275	355	455	195	220
12	200	255	190	180	185	300	298	290	375	400	190	235
13	210	125	200	200	225	360	275	250	520	355	375	287
14	200	225	185	220	200	280	290	280	635	320	360	165
15	245	210	120	110	185	270	265	300	629	355	195	230
16	110	215	155	200	190	290	285	330	630	350	199	120
17	230	207	285	210	190	250	260	290	525	530	200	230
18	195	210	210	205	185	275	250	315	525	520	235	210
19	230	250	235	205	175	405	220	450	460	489	250	210
20	201	115	195	220	165	325	250	515	345	445	400	315
21	215	225	209	260	180	400	255	355	522	530	210	325
22	230	180	145	205	165	362	260	250	531	505	280	230
23	115	200	99	205	175	360	505	395	540	355	208	315
24	210	177	160	205	190	350	440	301	670	350	225	580
25	220	205	195	195	190	265	525	310	525	490	185	805
26	210	235	205	235	150	320	537	440	520	368	130	890
27	210	120	140	225	175	305	520	415	540	350	175	871
28	205	150	170	250	175	290	465	300	533	325	240	865
29	245	140	167	220	170	304	510	485	532	255	200	870
30	115	185	180	210	------	305	515	530	545	450	174	365
31	250	------	180	200	------	370	------	459	------	470	205	------
TOTAL	6,140	5,979	6,086	5,915	5,586	9,091	9,927	10,953	13,631	14,593	8,596	10,579
MEAN	198	199	196	191	193	293	331	353	454	471	277	353
MAX	250	255	390	260	285	405	537	535	670	736	495	890
MIN	110	115	99	100	150	170	215	247	235	255	130	120
CFSM	.357	.359	.353	.344	.348	.528	.596	.636	.818	.849	.499	.636
IN.	.41	.40	.41	.40	.37	.61	.67	.73	.91	.98	.58	.71

CAL YR 1967:	TOTAL	118,733	MEAN	325	MAX	1,920	MIN	84	CFSM	.586	IN.	7.96
WTR YR 1968:	TOTAL	107,076	MEAN	293	MAX	890	MIN	99	CFSM	.528	IN.	7.18

5-3445. Mississippi River at Prescott, Wis.

Location.--Lat 44°44'45", long 92°48'00", in sec. 9, T. 26 N., R. 20 W., on left bank at Prescott, 200 ft downstream from St. Croix River, 300 ft south of Chicago, Burlington & Quincy Railroad bridge, 800 ft south of bridge on U. S. Highway 10, and at mile 811.4 upstream from Ohio River.

Drainage area.--44,800 sq mi, approximately.

Records available.--June 1928 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 600.00 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers). Prior to Aug. 2, 1932, staff gage at railroad bridge 300 ft upstream at following datums: June 3, 1928, to Sept. 30, 1929, 69.27 ft higher; Oct. 1, 1929, to Sept. 30, 1930, 67.68 ft higher; Oct. 1, 1930, to Aug. 1, 1932, 69.28 ft higher. Aug. 2, 1932, to Oct. 30, 1938, water-stage recorder at present site at daum 69.28 ft higher. Auxiliary water-stage recorder 10.7 miles downstream from base gage.

Average discharge.--40 years, 15,330 cfs.

Extremes.--Maximum discharge during year, 40,200 cfs June 26 (gage height, 79.44 ft); minimum daily, 3,200 cfs Dec. 1; minimum gage height, 74.54 ft Mar. 7.

1928-68: Maximum discharge 228,000 cfs Apr. 18, 1965 (gage height, 93.11 ft); minimum daily, 1,380 cfs July 13, 1940; minimum gage height, 65.08 ft Aug. 29, 1934, present datum.

Remarks.--Records good. Some regulation by reservoirs, navigation dams, and powerplants at low and medium stages. Flood flow not materially affected by artificial storage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,700	6,300	3,200	4,300	6,200	4,700	12,300	31,300	19,900	32,500	27,400	8,970
2	5,600	6,400	3,500	4,900	5,900	5,000	12,400	30,000	20,100	34,200	26,900	9,420
3	5,900	6,200	5,400	4,800	5,900	4,800	12,200	27,600	19,600	33,800	27,200	9,420
4	5,600	6,100	5,600	4,400	5,700	5,100	11,100	24,600	19,300	33,100	26,500	9,120
5	6,000	7,200	6,000	4,200	5,400	6,700	10,700	23,200	19,500	32,200	25,300	9,520
6	5,500	6,500	6,200	4,300	6,600	5,900	11,200	20,800	19,400	30,800	23,200	8,920
7	5,300	7,000	6,500	4,300	4,700	5,700	10,700	19,100	18,100	29,800	20,300	9,590
8	7,100	6,300	6,400	4,300	5,400	7,500	10,000	18,900	17,300	28,200	20,800	9,170
9	6,900	6,300	6,500	4,300	6,700	8,600	9,740	18,300	18,500	25,200	21,000	9,440
10	7,300	6,100	6,100	4,500	4,000	8,600	11,100	17,400	18,800	22,400	22,600	9,680
11	4,500	6,200	6,700	4,500	5,300	8,500	13,100	17,200	22,800	20,600	23,000	9,850
12	5,500	6,200	6,800	4,500	5,500	8,100	16,400	17,700	27,700	19,800	23,400	10,600
13	6,400	5,700	6,500	4,800	6,400	8,600	17,200	17,700	31,200	19,900	24,000	11,800
14	7,000	6,100	6,200	4,900	5,400	9,100	15,700	18,300	36,100	21,600	24,000	11,200
15	6,100	6,300	5,100	4,900	5,200	9,900	14,300	20,000	38,500	24,800	22,400	10,600
16	6,800	6,400	4,900	5,100	5,000	9,600	14,900	21,700	38,600	27,900	21,200	9,930
17	6,600	6,900	4,900	5,500	5,100	9,700	15,100	20,900	38,100	30,000	19,200	10,800
18	6,400	7,000	4,700	5,500	5,000	12,200	15,400	20,400	37,400	31,600	16,400	11,900
19	5,700	4,500	5,600	5,100	4,400	14,100	16,000	20,400	36,700	32,200	15,000	11,700
20	6,300	6,200	6,000	5,000	5,100	12,400	16,500	21,000	35,000	31,700	13,200	11,200
21	6,000	8,100	6,800	5,000	4,700	10,900	17,000	21,200	35,400	31,400	11,400	13,300
22	5,100	6,800	5,100	5,300	4,500	10,500	17,700	20,700	34,700	29,400	11,800	16,900
23	5,500	3,900	5,400	5,100	4,500	11,700	19,600	20,000	35,700	27,000	11,200	22,200
24	6,100	5,500	4,800	4,800	4,700	12,200	22,200	19,400	38,000	25,000	11,200	24,800
25	7,600	5,600	4,900	5,000	4,600	13,200	24,900	20,100	39,100	23,000	10,400	27,500
26	6,200	6,000	3,800	5,000	4,700	14,100	27,200	19,800	39,800	23,000	10,500	31,200
27	7,400	4,600	4,900	5,600	4,700	13,000	30,200	18,300	38,200	24,200	10,000	32,300
28	5,600	4,300	4,900	5,600	4,600	12,500	32,900	16,600	35,100	25,300	9,420	32,200
29	7,600	4,400	5,300	5,500	4,600	12,200	32,900	16,500	33,300	24,900	9,310	31,600
30	8,600	4,400	4,800	5,600	------	12,500	32,200	18,400	32,000	25,100	8,660	30,400
31	6,400	------	4,700	5,600	------	12,000	------	19,200	------	27,700	8,860	------
TOTAL	193,300	179,500	168,200	152,200	150,500	299,600	522,840	636,700	893,900	848,300	555,750	465,230
MEAN	6,235	5,983	5,426	4,910	5,190	9,665	17,430	20,540	29,800	27,360	17,930	15,510
MAX	8,600	8,100	6,800	5,600	6,700	14,100	32,900	31,300	39,800	34,200	27,400	32,300
MIN	4,500	3,900	3,200	4,200	4,000	4,700	9,740	16,500	17,300	19,800	8,660	8,920
CFSM	0.139	0.134	0.121	0.110	0.116	0.216	0.389	0.458	0.665	0.611	0.400	0.346
IN.	0.16	0.15	0.14	0.13	0.12	0.25	0.43	0.52	0.74	0.70	0.46	0.39

CAL YR 1967:	TOTAL	6,172,510	MEAN	16,910	MAX	86,800	MIN	3,200	CFSM	0.377	IN.	5.12
WTR YR 1968:	TOTAL	5,066,020	MEAN	13,840	MAX	39,800	MIN	3,200	CFSM	0.309	IN.	4.21

5-3560. Chippewa River at Bishops Bridge, near Winter, Wis.

Location.--Lat 45°50'55", long 91°04'45", in sec. 23, T. 39 N., R. 6 W., on right bank 15 ft upstream from highway bridge, 3.2 miles downstream from Lake Chippewa Dam, and 3.7 miles northwest of Winter.

Drainage area.--787 sq mi.

Records available.--February 1912 to September 1968. Monthly discharge only for winter of 1913, published in WSP 1308.

Gage.--Digital water-stage recorder. Altitude of gage is 1,270 ft (from Lake Chippewa Datum). Prior to Jan. 27, 1914, staff gage at same site at datum 3.44 ft higher. Jan. 27, 1914, to May 27, 1916, staff gage and May 28, 1916, to July 22, 1930, chain gage at same site and datum. July 23, 1930, to July 11, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--56 years, 709 cfs.

Extremes.--Maximum discharge during year, 4,780 cfs June 21 (gage height, 8.63 ft); minimum discharge, 32 cfs Apr. 20.
1912-68: Maximum discharge, 7,520 cfs Sept. 4, 5, 1941 (gage height, 11.05 ft); minimum, 14 cfs Apr. 17-20, 1925 (gage height, 3.25 ft).

Remarks.--Records good. Flow completely regulated by Moose Lake and Lake Chippewa (see p. 75).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	976	1,140	1,040	904	266	96	124	2,070	2,690	516	219
2	236	975	1,140	1,040	901	275	93	122	2,060	2,640	516	216
3	235	976	1,140	1,040	898	268	95	123	2,060	2,620	513	217
4	236	975	1,130	1,030	892	264	100	126	2,060	2,370	512	227
5	236	974	1,130	1,020	886	267	98	123	2,050	1,900	512	222
6	237	973	1,120	1,020	882	269	99	121	1,720	1,340	514	220
7	241	973	1,120	1,020	877	269	98	122	1,210	1,010	512	222
8	242	970	1,120	1,010	872	268	103	125	984	630	689	225
9	240	969	1,120	1,010	862	273	102	120	882	535	806	226
10	238	971	1,110	1,000	859	271	96	123	638	409	803	222
11	238	968	1,110	992	853	271	85	222	682	354	801	220
12	238	968	1,110	989	846	271	83	226	1,250	627	801	219
13	195	967	1,100	987	840	270	65	146	1,240	1,220	798	219
14	161	964	1,100	978	835	271	70	147	1,720	2,140	792	218
15	160	1,030	1,100	975	828	245	71	154	2,010	2,520	793	219
16	160	1,190	1,090	973	825	96	70	203	2,000	2,950	788	220
17	158	1,180	1,090	970	823	95	66	174	1,990	2,950	785	223
18	157	1,180	1,090	964	813	122	50	181	1,990	2,640	785	227
19	157	1,180	1,080	960	807	115	38	182	1,980	2,370	785	223
20	258	1,180	1,080	958	801	100	101	453	1,900	1,500	780	223
21	481	1,170	1,090	954	642	96	173	450	3,180	995	777	221
22	554	1,170	1,080	949	354	100	154	446	4,680	987	776	226
23	555	1,170	1,080	945	298	109	173	831	4,080	895	776	660
24	560	1,160	1,070	942	281	99	171	1,610	2,990	804	642	1,230
25	561	1,160	1,060	937	273	93	149	2,040	2,030	800	562	1,460
26	560	1,160	1,060	931	266	93	140	2,050	1,840	800	477	1,450
27	560	1,160	1,060	929	268	101	134	2,080	1,450	800	451	1,340
28	781	1,150	1,060	926	266	113	131	2,070	1,260	796	365	1,090
29	978	1,150	1,050	919	272	102	128	2,060	1,110	677	225	999
30	979	1,150	1,050	915	------	100	125	2,060	1,520	553	195	856
31	976	------	1,040	911	------	99	------	2,060	------	523	206	------
TOTAL	11,805	32,139	33,920	30,234	20,024	5,651	3,157	21,074	56,636	44,045	19,253	13,959
MEAN	381	1,071	1,094	975	690	182	105	680	1,888	1,421	621	465
MAX	979	1,190	1,140	1,040	904	275	173	2,080	4,680	2,950	806	1,460
MIN	157	964	1,040	911	266	93	38	120	638	354	195	216

CAL YR 1967 TOTAL 337,262 MEAN 924 MAX 6,400 MIN 128
WTR YR 1968 TOTAL 291,897 MEAN 798 MAX 4,680 MIN 38

5-3565. Chippewa River near Bruce, Wis.

Location.--Lat 45°27'05", long 91°15'40", in SE 1/4 sec. 5, T. 34 N., R. 7 W., on right bank 1 mile east of Bruce and 1 mile downstream from Thornapple River.

Drainage area.--1,630 sq mi, approximately.

Records available.--December 1913 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 1,059.62 ft above mean sea level, datum of 1929. Prior to May 28, 1935, chain gage at railroad bridge 0.8 mile upstream at datum 2.30 ft higher. May 29, 1935, to May 7, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--54 years (1914-68), 1,429 cfs.

Extremes.--Maximum discharge during year, 13,100 cfs July 1 (gage height, 13.37 ft); minimum discharge, 497 cfs Sept. 2 (gage height, 1.70 ft).

1913-68: Maximum discharge, 25,800 cfs Sept. 1, 1941 (gage height, 20.46 ft, from floodmarks), from rating curve extended above 20,000 cfs; minimum, 155 cfs June 10, 1932 (gage height, 0.9 ft, site and datum then in use).

Remarks.--Records good except those for winter months, which are fair. Flow from 48 percent of the drainage area regulated by Moose Lake and Lake Chippewa (see p. 75).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	500	1,410	1,400	1,330	1,220	580	981	1,190	3,670	12,500	1,500	577
2	500	1,390	1,400	1,330	1,210	560	805	1,100	3,710	10,800	1,350	553
3	500	1,300	1,400	1,320	1,200	550	746	977	3,420	7,940	1,190	570
4	515	1,340	1,400	1,320	1,200	550	821	912	3,140	6,100	1,250	724
5	520	1,270	1,400	1,310	1,200	546	809	897	2,960	4,620	1,210	1,020
6	525	1,270	1,400	1,310	1,200	570	777	842	2,960	3,430	1,140	956
7	540	1,280	1,400	1,310	1,200	580	703	785	2,820	2,640	1,120	817
8	640	1,290	1,370	1,310	1,200	610	782	823	2,250	2,060	1,130	900
9	730	1,260	1,370	1,310	1,200	640	860	905	2,490	1,660	1,320	1,300
10	740	1,250	1,350	1,310	1,200	690	818	888	2,940	1,400	1,360	1,330
11	680	1,250	1,340	1,300	1,200	700	766	859	3,700	1,210	1,300	1,160
12	640	1,260	1,340	1,300	1,200	700	726	960	4,670	1,880	1,260	1,020
13	670	1,260	1,350	1,300	1,200	710	711	1,210	4,550	2,970	1,240	888
14	710	1,260	1,320	1,300	1,180	760	790	1,200	4,460	6,370	1,190	829
15	740	1,240	1,320	1,300	1,180	850	945	1,610	5,320	9,410	1,180	802
16	740	1,330	1,320	1,290	1,170	940	922	4,610	4,520	7,750	1,220	726
17	720	1,440	1,330	1,280	1,030	1,100	869	6,230	3,730	6,180	1,190	641
18	700	1,440	1,340	1,270	1,000	1,280	840	4,980	3,340	5,740	1,170	1,090
19	700	1,440	1,350	1,270	1,000	2,400	791	4,370	3,110	5,030	1,180	2,010
20	710	1,410	1,350	1,270	1,050	2,500	1,080	3,770	2,970	4,150	1,270	1,640
21	760	1,440	1,340	1,260	1,100	2,100	2,610	3,200	6,380	2,860	1,210	1,280
22	820	1,420	1,330	1,260	1,100	1,650	2,790	2,590	11,300	2,370	1,190	1,170
23	920	1,400	1,320	1,260	1,020	1,510	2,660	2,170	10,700	2,100	1,200	4,760
24	940	1,430	1,330	1,260	900	1,370	4,490	2,640	8,390	1,850	1,150	8,910
25	930	1,390	1,330	1,240	770	1,140	4,010	3,520	5,820	1,670	1,100	6,240
26	929	1,430	1,320	1,230	680	819	2,890	3,550	4,530	1,580	869	4,440
27	924	1,400	1,310	1,230	630	723	2,300	3,880	5,040	1,630	824	3,540
28	916	1,400	1,310	1,230	610	1,160	1,920	4,540	4,530	1,580	815	2,880
29	1,200	1,400	1,320	1,230	600	1,450	1,620	4,400	3,630	1,470	723	2,310
30	1,430	1,400	1,320	1,220	------	1,170	1,410	4,020	5,220	1,320	591	2,070
31	1,460	------	1,320	1,220	------	1,100	------	3,710	------	1,430	525	------
TOTAL	23,949	40,500	41,800	39,680	30,650	32,008	43,242	77,338	137,270	123,700	34,967	57,153
MEAN	773	1,350	1,348	1,280	1,057	1,033	1,441	2,495	4,576	3,990	1,128	1,905
MAX	1,460	1,440	1,400	1,330	1,220	2,500	4,490	6,230	11,300	12,500	1,500	8,910
MIN	500	1,240	1,310	1,220	600	546	703	785	2,250	1,210	525	553

CAL YR 1967 TOTAL 680,290 MEAN 1,864 MAX 18,000 MIN 500
WTR YR 1968 TOTAL 682,257 MEAN 1,864 MAX 12,500 MIN 500

5-3585. Flambeau River at Babbs Island, near Winter, Wis.

Location.--Lat 45°46'10", long 90°45'45", in SE 1/4 sec. 17, T. 38 N., R. 3 W., on right bank 3.6 miles upstream from Connors Creek, 11.5 miles upstream from South Fork Flambeau River, 13 miles east of Winter, and at mile 61.9.

Drainage area.--1,000 sq mi.

Records available.--August 1929 to September 1968. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Digital water-stage recorder. Altitude of gage is 1,330 ft (from river profile map). Prior to Oct. 1, 1934, graphic water-stage recorder at bridge 300 ft upstream at datum 9.0 ft lower. Oct. 1, 1934, to Sept. 8, 1938, graphic water-stage recorder at bridge 300 ft upstream at present datum. Sept. 8, 1938, to Apr. 3, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--39 years, 974 cfs.

Extremes.--Maximum discharge during year, 5,070 cfs July 1 (gage height, 5.79 ft); minimum, 189 cfs Nov. 27 (gage height, 0.36 ft) result of freezeup.
1929-68: Maximum discharge, 9,440 cfs June 25, 1946 (gage height, 9.45 ft); minimum, 86 cfs Oct. 21, 22, 1948 (gage height, 0.20 ft); minimum daily, 118 cfs Oct. 10, 1948.

Remarks.--Records good except those for winter months or backwater from vegetation, which are fair. Flow regulated by Rest Lake and Flambeau Flowage (see p.75).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	525	791	908	720	780	700	790	791	2,610	4,900	1,110	960
2	418	786	860	640	790	700	647	691	2,420	4,530	1,060	927
3	480	772	860	700	790	730	668	709	2,240	3,550	1,040	866
4	551	767	855	800	790	770	759	710	1,850	2,880	1,080	1,120
5	516	747	855	850	776	800	825	686	1,720	2,460	890	1,420
6	521	728	840	850	780	800	741	672	1,570	2,020	1,090	1,080
7	556	700	840	850	750	800	731	646	1,510	1,950	1,080	1,040
8	587	700	840	860	740	830	616	628	1,590	1,610	1,020	1,110
9	651	718	840	872	730	880	792	734	1,680	1,580	994	1,510
10	630	737	840	860	730	900	789	674	1,910	1,630	1,000	1,470
11	654	769	800	850	730	917	726	673	2,310	1,860	960	1,260
12	647	770	760	830	720	900	724	696	4,130	2,100	898	1,160
13	651	767	760	800	720	860	749	605	3,980	2,610	1,020	996
14	692	782	770	680	720	800	814	787	3,930	3,370	923	1,030
15	698	839	780	620	720	720	711	913	3,370	3,370	994	1,060
16	710	885	740	720	720	700	845	1,810	2,780	2,980	1,030	986
17	735	900	620	800	720	700	855	2,660	2,260	2,310	969	987
18	719	922	560	800	720	780	966	2,140	1,970	2,600	1,000	1,000
19	605	714	640	800	720	1,100	826	2,340	2,030	1,900	885	1,100
20	575	485	740	800	720	1,140	872	1,910	1,780	1,530	1,070	1,050
21	562	706	780	750	720	1,080	1,400	1,700	3,310	1,520	975	1,100
22	552	780	750	700	720	1,020	1,540	1,360	4,380	1,290	1,100	1,020
23	555	840	720	750	720	960	1,460	1,430	3,700	1,250	1,030	1,300
24	560	840	760	790	720	920	1,350	1,870	2,960	1,270	998	1,510
25	593	840	740	790	710	870	1,240	2,240	2,560	1,230	955	1,240
26	644	936	760	790	680	840	1,130	2,260	2,410	1,280	896	1,260
27	653	458	760	790	680	784	999	2,650	2,890	1,220	918	1,150
28	707	840	760	730	680	816	901	3,230	3,160	1,020	894	1,060
29	727	940	760	640	690	1,150	904	3,390	2,890	1,000	888	1,050
30	736	930	750	700	------	844	877	3,110	3,500	1,100	965	1,000
31	784	------	750	780	------	871	------	2,580	------	980	962	------
TOTAL	19,194	23,389	23,998	23,912	21,186	26,682	27,247	47,295	79,400	64,900	30,694	33,822
MEAN	619	780	774	771	731	861	908	1,526	2,647	2,094	990	1,127
MAX	784	940	908	872	790	1,150	1,540	3,390	4,380	4,900	1,110	1,510
MIN	418	458	560	620	680	700	616	605	1,510	980	885	866

CAL YR 1967 TOTAL 431,218 MEAN 1,181 MAX 7,370 MIN 418
WTR YR 1968 TOTAL 421,719 MEAN 1,152 MAX 4,900 MIN 418

5-3595. South Fork Flambeau River near Phillips, Wis.

Location.--Lat 45°42'15", long 90°36'55", in NW 1/4 SW 1/4 sec. 10, T. 37 N., R. 2 W., on downstream side of bridge on left span, 0.4 mile downstream from Big Elk River and 12 miles west of Phillips.

Drainage area.--615 sq mi.

Records available.--August 1929 to September 1968. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Digital water-stage recorder with wire-weight gage and crest-stage indicator. Altitude of gage is 1,360 ft (by barometer). Prior to Oct. 5, 1939, chain or staff gage and Oct. 5, 1939, to Jan. 11, 1954, wire-weight gage at site 600 ft downstream at same datum. Jan. 12, 1954, to Sept. 2, 1968, wire-weight gage at present site and datum.

Average discharge.--39 years, 586 cfs.

Extremes.--Maximum discharge observed during year, 4,370 cfs June 22 (gage height, 10.62 ft); minimum daily, 104 cfs Oct. 4. 1929-68: Maximum discharge, 10,200 cfs June 18, 1943 (gage height, 14.32 ft); minimum, 39 cfs Aug. 31, Sept. 3-5, 1933.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	220	196	136	164	184	468	691	2,600	4,220	508	200
2	110	227	198	134	176	184	460	661	2,100	4,270	481	204
3	107	240	198	130	186	186	460	521	1,900	3,590	520	208
4	104	236	199	128	190	188	562	530	1,620	2,830	540	299
5	107	220	198	126	190	190	552	550	1,250	2,240	401	686
6	107	210	194	126	190	196	560	557	1,140	1,800	372	1,020
7	110	204	190	128	190	200	570	521	1,150	1,490	360	1,040
8	157	200	190	130	190	206	580	503	1,100	1,290	344	1,060
9	163	200	188	131	190	210	594	480	1,100	1,140	330	1,150
10	166	196	186	134	190	220	589	477	1,200	1,000	320	1,140
11	177	198	184	134	190	228	580	440	1,360	938	300	1,120
12	183	201	182	134	190	230	557	390	2,050	1,010	280	1,050
13	189	202	184	134	190	236	580	352	2,040	1,300	271	956
14	192	200	194	134	194	230	620	473	2,060	1,900	250	888
15	195	200	190	134	198	220	647	902	1,800	1,890	236	695
16	192	198	178	134	200	190	640	2,050	1,500	1,720	243	559
17	189	200	180	136	200	220	656	3,390	1,270	1,500	250	524
18	189	200	184	140	196	384	671	3,410	1,120	1,470	230	532
19	186	198	176	146	192	706	671	3,330	1,010	1,290	220	564
20	183	196	176	146	190	1,080	720	3,050	962	1,060	240	576
21	186	192	180	146	188	940	880	2,310	3,240	900	260	600
22	183	189	188	146	188	861	1,190	1,660	4,350	828	288	627
23	186	192	186	140	186	600	1,260	1,300	4,090	747	306	1,050
24	183	186	184	136	188	560	1,240	1,430	3,650	580	270	1,400
25	177	184	176	136	190	464	1,170	1,700	2,550	530	250	1,430
26	174	178	174	142	190	303	1,030	2,000	2,350	486	246	1,340
27	183	178	168	150	188	329	900	2,350	2,960	470	236	1,230
28	186	180	160	150	186	460	820	3,190	2,830	440	220	1,100
29	189	186	156	150	184	543	778	3,230	2,620	409	211	929
30	198	194	148	152	------	500	711	3,100	3,560	401	208	763
31	281	------	144	156	------	450	------	2,930	------	477	200	------
TOTAL	5,247	6,005	5,629	4,279	5,484	11,698	21,716	48,478	62,532	44,216	9,391	24,940
MEAN	169	200	182	138	189	377	724	1,564	2,084	1,426	303	831
MAX	281	240	199	156	200	1,080	1,260	3,410	4,350	4,270	540	1,430
MIN	104	178	144	126	164	184	460	352	962	401	200	200
CFSM	.275	.325	.296	.224	.307	.613	1.18	2.54	3.39	2.32	.493	1.35
IN.	.32	.36	.34	.26	.33	.71	1.31	2.93	3.78	2.67	.57	1.51

CAL YR 1967: TOTAL 221,318 MEAN 606 MAX 6,770 MIN 104 CFSM .985 IN. 13.38
WTR YR 1968: TOTAL 249,615 MEAN 682 MAX 4,350 MIN 104 CFSM 1.11 IN. 15.09

5-3605. Flambeau River near Bruce, Wis.

Location.--Lat 45°22'20", long 91°12'35", in lot 7 of NW 1/4 sec. 2, T. 33 N., R. 7 W., on right bank 2.5 miles downstream from Thornapple powerplant, 6 miles upstream from mouth, and 7 miles southeast of Bruce.

Drainage area.--1,897 sq mi.

Records available.--August 1951 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage 1,060 ft (by river survey, WSP 417). Prior to May 6, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--17 years, 1,790 cfs.

Extremes.--Maximum discharge during year, 11,900 cfs July 1 (gage height, 8.76 ft); minimum, 438 cfs Oct. 3 (gage height, 2.51 ft).
1951-68: Maximum discharge, 17,400 cfs May 1, 1954 (gage height, 10.90 ft); minimum, about 100 cfs Aug. 7, 9, 1957 (gage height, 2.06 ft).

Remarks.--Records good except those for winter months, which are fair. Flow regulated by several powerplants above station and by Rest Lake and Flambeau Flowage (see p. 75).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	896	1,340	980	950	1,000	920	1,630	1,810	5,790	11,500	1,800	1,380
2	742	1,350	1,120	880	1,030	920	1,240	1,800	5,730	10,600	1,670	1,310
3	575	1,010	1,270	538	1,030	910	1,290	1,750	4,940	8,800	1,710	1,390
4	742	1,040	1,100	690	1,010	920	1,440	1,510	4,320	7,230	1,730	2,290
5	812	1,190	983	1,030	1,010	930	1,620	1,390	3,880	5,240	1,720	3,660
6	777	1,030	1,090	1,070	1,010	977	1,710	1,400	3,400	4,880	1,630	1,950
7	742	1,040	1,170	1,030	1,010	1,020	1,800	1,290	3,750	4,190	1,330	1,890
8	803	1,140	1,150	1,020	1,010	1,080	1,790	1,100	3,000	3,870	1,710	2,630
9	915	875	1,060	1,020	1,020	1,050	1,780	1,040	3,190	3,090	1,680	3,840
10	924	1,040	1,090	1,050	1,010	1,160	1,770	1,090	4,080	2,930	1,310	2,820
11	1,080	777	1,150	1,020	960	1,180	1,780	1,010	5,000	2,740	1,400	2,800
12	943	775	1,240	1,050	980	1,270	1,770	1,020	7,450	3,730	1,320	2,740
13	915	762	901	1,030	1,000	1,230	1,770	1,030	8,130	4,280	1,300	2,450
14	886	898	1,130	1,050	940	1,270	1,780	1,180	7,970	7,430	1,250	2,350
15	1,080	1,120	1,000	1,050	950	1,150	1,750	2,290	6,180	7,540	1,300	2,100
16	1,010	1,180	960	850	950	1,000	1,670	5,480	5,630	6,030	1,390	2,050
17	1,010	1,230	1,050	770	950	1,100	1,680	8,000	4,740	4,950	1,350	1,970
18	905	1,220	1,100	1,010	950	1,300	1,720	8,150	3,830	4,690	1,380	2,050
19	1,040	1,330	1,050	1,020	920	1,550	1,740	7,180	3,590	4,650	1,280	1,960
20	868	1,040	814	1,020	900	2,000	2,060	6,900	3,770	3,340	1,370	1,870
21	777	661	1,100	1,020	920	2,710	2,690	5,470	7,780	3,110	1,490	1,830
22	795	753	1,250	990	920	2,680	3,250	4,250	11,300	2,400	1,460	1,990
23	803	1,040	1,000	920	920	2,560	4,130	3,730	10,700	2,400	1,460	3,310
24	933	1,120	880	880	920	1,810	4,210	3,820	8,030	2,030	1,430	4,480
25	821	1,180	860	950	910	1,360	3,740	4,290	6,030	2,190	1,250	4,190
26	889	1,100	800	1,020	880	1,090	2,900	4,450	5,720	1,910	1,340	3,620
27	913	1,030	560	1,010	860	1,010	2,640	5,450	7,100	1,770	1,430	3,000
28	948	838	550	1,010	870	1,280	2,660	7,320	8,490	1,930	1,290	2,950
29	1,320	650	940	1,020	890	1,530	2,650	7,650	8,350	1,590	1,010	2,670
30	1,140	886	960	870	------	1,690	2,390	7,510	10,100	1,600	1,180	2,270
31	1,240	------	960	880	------	1,650	------	6,050	------	1,870	1,190	------
TOTAL	28,244	30,645	31,268	29,718	27,730	42,307	65,050	116,410	181,970	134,510	44,160	75,810
MEAN	911	1,022	1,009	959	956	1,365	2,168	3,755	6,066	4,339	1,425	2,527
MAX	1,320	1,350	1,270	1,070	1,030	2,710	4,210	8,150	11,300	11,500	1,800	4,480
MIN	575	650	550	538	860	910	1,240	1,010	3,000	1,590	1,010	1,310

CAL YR 1967 TOTAL 753,085 MEAN 2,063 MAX 16,600 MIN 550
WTR YR 1968 TOTAL 807,822 MEAN 2,207 MAX 11,500 MIN 538

5-3620. Jump River at Sheldon, Wis.

Location.--Lat 45°18'30", long 90°57'20", in sec. 26, T. 33 N., R. 5 W., on right bank just downstream from highway bridge in Sheldon, 1,500 ft upstream from Shoulder Creek and 11 miles upstream from mouth.

Drainage area.--574 sq mi.

Records available.--July 1915 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 1,092.75 ft above mean sea level, datum of 1929. Prior to Feb. 9, 1939, and Sept. 1, 1941, to Apr. 1, 1953, chain gage, and Feb. 9, 1939, to Aug. 31, 1941, water-stage recorder, at same site and datum. Apr. 2, 1953, to Feb. 18, 1954, tape gage in creamery wellhouse 400 ft upstream at same datum, Feb. 19, 1954, to Sept. 27, 1964, wire-weight gage at same datum.

Average discharge.--53 years, 510 cfs.

Extremes.--Maximum discharge during year, 13,100 cfs May 17 (gage height, 12.16 ft); minimum daily, 33 cfs Dec. 31 to Jan. 7 (backwater from ice).

1915-68: Maximum discharge observed, 46,000 cfs Aug. 31, 1941 (gage height, 18.8 ft, floodmarks), from rating curve extended above 13,000 cfs on basis of contracted-opening measurement of peak flow; minimum observed, 11 cfs Dec. 18, 1943 (gage height, 3.99 ft).

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	210	66	33	56	49	765	588	2,090	6,560	378	56
2	46	194	66	33	57	50	600	488	2,030	5,030	356	61
3	46	175	66	33	57	50	477	408	1,660	3,070	276	119
4	44	160	64	33	58	51	460	394	1,240	1,830	240	243
5	44	135	64	33	58	52	523	389	908	1,130	221	1,060
6	42	125	62	33	58	56	471	359	668	739	215	1,320
7	46	115	62	33	57	62	413	317	482	563	196	1,080
8	52	110	62	34	56	80	428	296	376	466	191	810
9	58	115	60	34	55	120	517	283	529	393	173	1,080
10	89	122	58	35	54	180	511	240	894	332	155	991
11	99	114	56	35	53	250	449	235	1,850	270	124	934
12	97	112	54	36	52	220	404	235	3,500	367	109	728
13	89	110	52	37	51	200	394	243	2,900	523	109	532
14	89	108	50	38	50	180	449	317	2,560	2,590	97	405
15	81	99	48	39	49	170	745	1,360	2,300	4,250	90	318
16	77	95	46	40	48	170	852	8,220	1,610	3,340	88	258
17	75	104	45	41	47	220	846	11,800	1,070	1,950	85	232
18	73	104	44	42	46	590	1,050	7,150	785	1,310	83	249
19	73	100	44	44	46	1,200	995	4,900	588	1,080	95	367
20	71	98	45	45	45	1,000	1,030	3,800	439	786	152	490
21	71	94	50	47	45	900	2,450	2,760	4,230	560	183	499
22	71	92	54	49	45	745	2,560	1,920	10,300	420	175	495
23	71	86	52	50	45	680	2,160	1,360	8,720	332	139	756
24	74	82	46	51	45	580	1,970	1,540	4,940	276	109	991
25	85	78	42	52	46	394	1,710	1,890	2,940	243	95	810
26	144	74	38	53	46	313	1,420	1,630	2,640	205	83	589
27	194	72	37	53	47	324	1,190	3,290	5,630	221	74	466
28	179	70	36	54	47	700	980	4,520	6,500	367	69	382
29	163	68	35	54	48	1,230	818	4,430	4,860	349	69	332
30	165	66	34	55	------	966	694	3,680	5,520	270	63	292
31	192	------	33	56	------	839	------	2,730	------	276	59	------
TOTAL	2,746	3,287	1,571	1,305	1,467	12,621	28,331	71,772	84,759	40,098	4,551	16,945
MEAN	88.6	110	50.7	42.1	50.6	407	944	2,315	2,825	1,293	147	565
MAX	194	210	66	56	58	1,230	2,560	11,800	10,300	6,560	378	1,320
MIN	42	66	33	33	45	49	394	235	376	205	59	56
CFSM	.154	.192	.088	.073	.088	.709	1.64	4.03	4.92	2.25	.256	.984
IN.	.18	.21	.10	.08	.10	.82	1.84	4.65	5.49	2.60	.29	1.10

CAL YR 1967:	TOTAL	196,341	MEAN	538	MAX	18,300	MIN	33	CFSM	.937	IN.	12.70
WTR YR 1968:	TOTAL	269,453	MEAN	736	MAX	11,800	MIN	33	CFSM	1.28	IN.	17.46

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-17	0600	12.16	13,100	6-28	0400	9.97	6,750
5-28	2200	8.85	4,640	7- 1	0100	10.30	7,530
6-12	1700	8.23	3,640	7-15	1300	8.67	4,330
6-22	1800	11.49	11,100				

5-3655. Chippewa River at Chippewa Falls, Wis.

Location.--Lat 44°55'35", long 91°24'40", in lot 1, sec. 12, T. 28 N., R. 9 W., on right bank at Chippewa Falls, 1 mile downstream from Duncan Creek.

Drainage area.--5,600 sq mi, approximately.

Records available.--June 1888 to September 1968. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Digital water-stage recorder. Datum of gage is 798.46 ft above mean sea level, datum of 1929. Prior to January 1914, staff gage, and January 1914 to June 1932, graphic water-stage recorder, at site 1 mile upstream at different datum. June 19, 1932, to Aug. 22, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--80 years, 5,073 cfs.

Extremes.--Maximum discharge during year, 41,600 cfs May 17 (gage height, 15.87 ft); minimum, 204 cfs Nov. 8 (gage height, 1.13 ft); minimum daily, 439 cfs Oct. 7.

1888-68: Maximum discharge, 102,000 cfs Sept. 1, 1941 (gage height, 24.8 ft); minimum, 22 cfs Apr. 2, 1934 (gage height, 0.63 ft); minimum daily, 40 cfs Feb. 4, 1917.

Maximum stage known, 26.94 ft Sept. 10, 1884, site and datum in use to June 1932.

Remarks.--Records good. Flow completely regulated by many powerplants above station, especially Chippewa Falls hydroelectric plant, which is just upstream, and by Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota (see p. 75).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	748	4,330	2,770	1,310	2,130	2,400	4,530	6,320	14,600	38,600	4,600	1,440
2	2,780	4,020	1,850	3,660	2,810	1,760	4,390	5,520	14,700	38,700	4,690	1,570
3	1,910	4,100	2,700	2,280	1,620	1,080	4,310	5,290	14,100	33,200	4,400	3,230
4	1,970	1,340	4,000	1,920	1,240	2,400	4,030	3,930	11,300	22,400	2,250	4,770
5	1,060	2,170	3,330	2,050	3,380	3,910	3,360	1,070	9,540	16,600	4,730	6,010
6	1,330	2,920	3,720	2,110	2,340	4,180	3,260	4,030	9,260	13,100	5,030	8,170
7	439	3,060	2,990	2,260	3,270	2,630	2,420	4,070	8,380	10,500	4,620	4,570
8	734	2,910	3,170	3,150	2,220	3,310	4,400	3,110	8,330	8,320	2,970	5,820
9	2,430	3,290	2,460	3,210	3,580	3,260	4,480	3,280	8,900	8,520	2,890	5,560
10	2,710	3,270	2,210	1,280	988	1,870	4,060	2,780	11,100	6,730	2,620	7,390
11	1,730	2,600	3,720	2,260	565	4,500	4,130	2,790	14,300	5,680	1,910	6,530
12	2,010	1,770	4,260	1,280	3,560	4,060	4,040	1,440	22,400	5,610	5,030	6,110
13	2,220	3,220	3,290	3,720	2,220	3,620	3,250	4,300	26,800	9,120	4,360	5,950
14	1,010	3,120	2,510	3,300	2,810	1,800	3,180	4,200	22,500	18,200	2,810	3,400
15	494	3,270	1,660	2,610	2,500	1,970	4,820	7,020	20,100	29,200	2,570	2,490
16	2,490	2,270	1,410	3,300	2,220	2,320	4,850	26,100	15,500	27,400	3,580	4,690
17	2,570	3,120	1,390	1,960	1,120	2,160	3,690	40,800	14,100	21,500	1,900	4,340
18	2,720	1,780	2,480	2,520	760	2,620	5,070	37,800	10,900	15,500	1,980	4,870
19	1,580	2,750	3,380	2,480	4,010	5,860	5,330	26,200	9,880	14,800	4,490	7,480
20	1,920	4,500	3,810	1,340	3,340	6,920	5,500	22,800	9,900	13,700	3,940	7,740
21	464	2,790	3,420	1,280	3,200	5,270	9,090	18,100	13,700	9,950	4,340	6,310
22	696	4,100	2,170	3,470	3,500	4,720	12,000	15,000	35,600	8,390	3,720	5,740
23	1,890	1,130	1,560	2,290	2,150	2,540	14,900	10,900	40,100	5,980	4,500	8,200
24	2,570	3,510	1,510	3,270	2,680	862	14,900	9,610	34,100	5,920	836	14,600
25	2,960	2,470	600	2,340	831	3,610	14,400	13,900	25,100	4,440	1,190	18,300
26	1,400	1,900	4,010	2,740	3,880	2,340	12,000	12,900	19,800	5,700	3,030	15,200
27	2,940	2,180	3,660	1,170	3,010	2,870	9,800	14,600	28,900	4,400	3,330	10,300
28	1,440	3,770	2,800	1,270	2,410	2,930	8,410	21,100	31,300	6,600	2,780	8,520
29	1,280	2,540	1,500	2,960	2,940	3,610	7,470	22,900	29,700	4,500	2,590	7,700
30	3,120	780	1,170	3,860	------	4,310	6,550	21,400	25,000	5,000	2,550	6,280
31	4,210	------	1,100	2,990	------	2,580	------	16,900	------	4,100	858	------
TOTAL	57,825	85,040	80,610	75,640	71,284	98,272	192,620	390,160	559,890	422,360	101,094	203,280
MEAN	1,865	2,835	2,600	2,440	2,458	3,170	6,421	12,590	18,660	13,620	3,261	6,776
MAX	4,210	4,500	4,260	3,860	4,010	6,920	14,900	40,800	40,100	38,700	5,030	18,300
MIN	439	780	600	1,170	565	862	2,420	1,070	8,330	4,100	836	1,440

CAL YR 1967 TOTAL 2,112,869 MEAN 5,789 MAX 79,000 MIN 430
WTR YR 1968 TOTAL 2,338,075 MEAN 6,388 MAX 40,800 MIN 439

5-3674.25 Red Cedar River near Cameron, Wis.

Location.--Lat 45°24'05", long 91°46'39", in center sec. 30, T. 34 N., R. 11 W., on downstream side of bridge on U. S. Highway 8, 1 1/4 miles west of Cameron and 3 1/2 miles east of Junction with State Highway 25 in Barron.

Drainage area.--450 sq mi.

Records available.--April 1966 to September 1968.

Gage.--Wire-weight gage read once daily. Altitude of gage is about 1,080 ft (from topographic map).

Extremes.--Maximum discharge observed during year, 2,380 cfs July 1 (gage height, 8.40 ft); minimum daily, 135 cfs Feb. 11-22. 1966-68: Maximum discharge, 4,650 cfs Mar. 30, 1967 (gage height, 10.00 ft, from floodmark); minimum observed, 112 cfs Nov. 17, 1966 (gage height, 4.51 ft).

Remarks.--Records fair. Flow regulated by Birch, Red Cedar, Long, and Bear Lakes (see p. 75).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	296	198	250	220	180	170	255	584	600	2,230	633	292
2	296	198	245	214	170	180	235	558	579	1,870	309	309
3	296	201	240	205	165	190	224	538	548	1,540	423	296
4	292	198	230	195	155	210	175	371	259	1,210	482	326
5	288	198	225	185	145	215	182	406	309	1,130	569	346
6	276	198	216	175	145	225	195	477	414	1,040	486	338
7	255	209	243	165	140	255	198	432	500	970	468	359
8	280	213	239	160	140	290	216	441	548	900	477	321
9	284	198	239	160	138	350	216	450	679	667	477	354
10	280	195	232	160	135	370	224	459	703	709	428	384
11	268	232	220	160	135	350	216	482	745	769	454	363
12	256	239	228	165	135	330	216	468	928	745	510	346
13	251	232	230	165	135	305	209	423	1,350	739	524	338
14	251	228	255	170	135	259	209	427	914	1,130	529	329
15	247	243	235	175	135	251	188	419	984	1,800	514	321
16	239	228	240	180	135	239	141	823	881	1,410	514	313
17	224	228	205	185	135	232	145	799	811	1,240	514	280
18	220	228	192	185	135	259	153	894	709	1,070	468	389
19	213	235	205	190	135	419	153	805	595	861	436	367
20	205	228	195	190	135	380	202	757	628	998	754	346
21	192	220	185	185	135	338	205	787	1,180	1,030	359	367
22	195	228	215	185	135	309	224	600	1,320	1,030	359	799
23	182	198	265	180	140	284	325	600	1,140	1,020	359	1,870
24	195	188	290	180	140	268	823	649	1,030	977	359	2,030
25	185	180	280	180	145	251	787	606	867	928	350	1,430
26	182	185	260	185	150	239	781	661	914	874	333	1,260
27	179	190	245	185	155	247	727	649	1,010	921	213	1,260
28	179	200	235	190	155	296	685	649	1,010	861	268	1,260
29	179	250	230	190	160	292	644	534	867	811	276	1,240
30	205	260	225	190	------	284	611	628	2,080	703	292	1,210
31	209	------	225	185	------	284	------	606	------	835	296	------
TOTAL	7,299	6,426	7,219	5,639	4,178	8,571	9,764	17,982	25,102	33,018	13,033	19,443
MEAN	235	214	233	182	144	276	325	580	837	1,065	420	648
MAX	296	260	290	220	180	419	823	894	2,080	2,230	633	2,030
MIN	179	180	185	160	135	170	141	371	259	667	213	280
CFSM	.522	.476	.518	.404	.320	.613	.722	1.29	1.86	2.37	.933	1.44
IN.	.60	.53	.60	.47	.35	.71	.81	1.49	2.07	2.73	1.08	1.61

CAL YR 1967:	TOTAL	134,808	MEAN	369	MAX	3,430	MIN	120	CFSM	.820	IN.	11.13
WTR YR 1968:	TOTAL	157,674	MEAN	431	MAX	2,230	MIN	135	CFSM	.958	IN.	13.05

5-3680. Hay River at Wheeler, Wis.

Location.--Lat 45°02'50", long 91°54'40", in SW 1/4 sec. 25, T. 30 N., R. 13 W., on right bank 25 ft downstream from highway bridge in Wheeler, 1.8 miles upstream from Otter Creek, and 2.4 miles downstream from South Fork Hay River.

Drainage area.--426 sq mi.

Records available.--October 1950 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 893.66 ft above mean sea level, datum of 1929. Prior to Mar. 25, 1951, wire-weight gage on bridge at same datum, and Mar. 26, 1951, to Apr. 20, 1966, graphic water-stage recorder at same datum.

Average discharge.--18 years, 272 cfs.

Extremes.--Maximum discharge during year, 2,420 cfs Sept. 24, (gage height, 8.48 ft); minimum daily, 110 cfs Jan. 8-12 (backwater from ice).

1950-68: Maximum discharge, 13,600 cfs Mar. 31, 1967 (gage height, 15.04 ft), from rating curve extended above 9,000 cfs; minimum, 55 cfs Mar. 13, 1954 (gage height, 2.32 ft), result of freezeup.

Maximum stage known since at least 1915, 16.6 ft in April 1934, from floodmarks.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	174	170	135	145	125	214	290	268	1,040	461	220
2	160	169	170	130	145	130	205	274	253	1,170	411	211
3	159	167	169	125	150	135	201	260	235	847	342	209
4	156	165	174	120	150	141	211	248	228	581	295	245
5	156	164	166	118	155	150	212	240	219	470	281	281
6	156	160	167	115	155	155	200	238	210	416	293	244
7	162	160	164	115	160	175	196	231	210	383	311	230
8	176	158	166	110	160	300	204	232	212	357	384	229
9	177	159	166	110	160	400	208	230	335	344	489	249
10	175	158	165	110	160	350	199	224	553	324	310	239
11	171	159	165	110	160	320	193	220	849	289	270	223
12	168	158	166	110	158	292	191	250	1,110	302	254	202
13	164	158	160	115	155	287	191	261	929	328	245	195
14	164	158	157	115	150	287	206	248	782	596	235	191
15	164	158	160	115	145	284	218	267	839	920	227	178
16	165	157	170	120	140	278	201	627	578	642	231	174
17	163	157	170	130	140	268	193	523	443	575	225	175
18	161	159	170	140	135	272	189	361	388	524	219	202
19	161	160	169	150	130	629	187	388	347	424	230	242
20	161	159	171	155	130	626	271	360	324	385	292	220
21	161	159	170	155	125	326	445	309	831	362	295	206
22	160	159	170	155	125	255	317	277	1,230	334	244	325
23	159	158	175	155	120	222	610	259	911	320	230	1,270
24	161	158	180	155	120	216	1,510	264	686	312	221	2,230
25	164	159	180	155	120	206	1,090	316	536	302	212	1,650
26	165	156	175	150	120	203	592	311	602	296	210	940
27	165	152	165	150	120	215	461	324	1,200	307	207	593
28	162	155	160	150	125	316	389	342	1,100	304	204	469
29	169	160	150	150	125	283	346	314	690	291	202	394
30	191	170	145	145	------	250	309	280	602	282	203	350
31	189	------	140	145	------	230	------	260	------	367	208	------
TOTAL	5,126	4,803	5,145	4,113	4,083	8,331	10,159	9,228	17,700	14,394	8,441	12,786
MEAN	165	160	166	133	141	269	339	298	590	464	272	426
MAX	191	174	180	155	160	629	1,510	627	1,230	1,170	489	2,230
MIN	156	152	140	110	120	125	187	220	210	282	202	174
CFSM	.39	.38	.39	.31	.33	.63	.79	.70	1.38	1.09	.64	1.00
IN.	.45	.42	.45	.36	.36	.73	.89	.81	1.55	1.26	.74	1.12

CAL YR 1967 TOTAL 125,172 MEAN 343 MAX 13,000 MIN 116 CFSM .81 IN 10.93
WTR YR 1968 TOTAL 104,309 MEAN 285 MAX 2,230 MIN 110 CFSM .67 IN 9.11

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-24	1600	6.82	1,650	6-27	1900	5.89	1,310
6-12	1600	5.68	1,230	7- 2	1500	5.65	1,220
6-22	0600	5.95	1,340	9-24	1300	8.48	2,420

5-3690. Red Cedar River at Menomonie, Wis.

Location.--Lat 44°53'00", long 91°55'55", in NW 1/4 sec. 26, T. 28 N., R. 13 W., on right bank at Menomonie, 900 ft downstream from powerplant of Northern States Power Co., and 1,000 ft downstream from Wilson Creek.

Drainage area.--1,760 sq mi, approximately.

Records available.--June 1907 to September 1908, May 1913 to September 1968. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Digital water-stage recorder. Datum of gage is 780 ft above mean sea level (Northern States Power Co. bench mark). Prior to Sept. 3, 1908, chain gage at site 1 mile downstream at different datum. May 9, 1913, to Sept. 30, 1923, graphic water-stage recorder at same site at datum 0.42 ft lower than present datum. Oct. 1, 1923, to Aug. 13, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--56 years (1907-8, 1913-68), 1,205 cfs.

Extremes.--Maximum discharge during year, 11,400 cfs Sept. 25 (gage height, 6.53 ft); minimum, 158 cfs Aug. 20 (gage height, 0.79 ft). 1907-8, 1913-23, 1925-68: Maximum discharge, 40,000 cfs Apr. 4, 1934 (gage height, 16.0 ft, from floodmarks), from rating curve extended above 27,000 cfs on basis of computed flow over Cedar Falls Dam 6 miles upstream; minimum, 21 cfs Dec. 9, 1928 (gage height, 0.65 ft).

Remarks.--Records good except those for winter months, which are fair. Flow regulated by powerplants at Menomonie and Cedar Falls and by Birch, Cedar, Long, and Bear Lakes (see p. 75).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	847	960	1,050	680	814	724	1,210	1,730	1,660	3,610	2,180	1,270
2	1,250	960	873	640	800	688	881	1,760	1,930	6,600	2,120	1,290
3	835	950	925	700	760	747	1,300	1,630	1,750	6,430	1,670	1,270
4	857	860	949	620	702	960	793	1,420	1,560	5,030	1,530	1,690
5	731	760	856	600	924	1,100	1,000	1,530	1,460	4,130	1,530	1,630
6	1,000	820	993	660	857	1,190	1,140	1,530	1,310	3,200	1,730	1,670
7	897	860	965	700	767	1,500	1,090	1,370	2,350	2,910	1,980	1,440
8	961	1,160	914	720	828	1,930	1,180	1,420	1,920	2,530	1,780	1,600
9	841	916	1,050	700	626	2,220	946	1,370	1,720	2,610	1,770	1,470
10	931	886	886	640	728	2,170	1,130	1,600	1,760	2,370	1,780	1,690
11	832	698	909	720	629	2,190	991	1,440	2,860	2,220	1,490	1,390
12	962	1,160	907	693	707	2,000	1,400	1,500	3,180	2,250	1,430	1,440
13	878	913	838	820	689	1,410	917	1,930	3,740	1,900	1,350	1,610
14	961	981	706	745	780	1,490	1,110	1,600	3,400	2,710	1,400	1,240
15	832	844	450	698	700	1,390	1,100	2,210	3,210	3,030	1,410	1,370
16	928	729	560	733	720	984	1,050	3,760	2,920	3,420	1,400	1,210
17	829	902	748	760	586	1,170	1,060	3,480	2,670	3,630	1,480	1,410
18	953	911	1,100	770	700	1,420	810	3,190	2,510	3,160	1,510	1,950
19	794	824	848	780	690	2,110	1,080	2,930	2,280	3,030	1,440	1,750
20	964	837	924	740	595	2,220	1,530	2,900	1,920	2,690	1,800	1,700
21	911	923	942	720	667	2,200	1,850	2,800	3,150	2,280	1,510	1,490
22	761	854	562	740	639	1,420	2,200	2,620	3,390	2,460	1,550	2,300
23	943	900	500	731	635	1,130	2,750	2,340	3,670	2,170	1,300	3,190
24	884	840	540	740	566	796	3,690	2,160	3,820	2,380	1,340	3,900
25	920	800	640	740	655	1,100	3,580	2,150	3,310	2,130	1,050	7,660
26	860	693	696	760	680	1,030	3,340	2,180	3,310	2,210	1,360	5,070
27	780	560	790	851	734	1,210	2,850	2,360	3,540	2,020	1,230	4,200
28	880	440	680	822	677	1,340	2,600	2,480	3,620	1,950	1,290	3,390
29	1,060	520	640	871	676	1,320	2,280	2,220	3,340	1,800	1,190	3,240
30	920	772	620	686	------	1,090	2,340	1,930	3,390	1,830	1,190	2,970
31	920	------	600	842	------	663	------	2,240	------	2,020	1,310	------
TOTAL	27,922	25,233	24,661	22,622	20,531	42,912	49,198	65,780	80,650	90,710	47,100	67,500
MEAN	901	841	796	730	708	1,384	1,640	2,122	2,688	2,926	1,519	2,250
MAX	1,250	1,160	1,100	871	924	2,220	3,690	3,760	3,820	6,600	2,180	7,660
MIN	731	440	450	600	566	663	793	1,370	1,310	1,800	1,050	1,210

CAL YR 1967 TOTAL 549,203 MEAN 1,505 MAX 26,500 MIN 440
WTR YR 1968 TOTAL 564,819 MEAN 1,543 MAX 7,660 MIN 440

GPO 817-102-6

5-3695. Chippewa River at Durand, Wis.

Location.--Lat 44°37'45", long 91°58'10", in SW 1/4 sec. 21, T. 25 N., R. 13 W., on left bank at Durand, 75 ft downstream from highway bridge and 9.5 miles downstream from Red Cedar River.

Drainage area.--9,010 sq mi, approximately.

Records available.--July 1928 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 694.59 ft above mean sea level, datum of 1929. Prior to Dec. 9, 1930, chain or staff gage at bridge 400 ft downstream at same datum. Dec. 10, 1930, to May 5, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--40 years, 7,317 cfs.

Extremes.--Maximum discharge during year, 48,400 cfs July 3 (gage height, 11.94 ft); minimum daily, 2,100 cfs Feb. 19.
1928-68: Maximum discharge, 123,000 cfs Apr. 2, 1967 (gage height, 16.93 ft); minimum observed, 1,020 cfs Nov. 24, 1950 (gage height, 0.12 ft).
Maximum stage known, 18.4 ft Sept. 12, 1884.

Remarks.--Records good except those for winter months, which are fair. Flow partly regulated by powerplants, Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota on Chippewa and Flambeau Rivers, and by Birch, Cedar, Bear, and Long Lakes on upper Red Cedar River (see p. 75).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,630	5,590	3,330	2,500	4,000	4,400	5,400	10,900	20,700	34,200	7,990	3,300
2	2,950	6,450	4,110	3,400	3,600	3,600	6,770	9,900	18,800	40,800	9,100	3,360
3	4,130	5,770	3,820	4,700	4,300	3,100	6,620	8,640	18,900	47,300	7,670	3,460
4	3,630	5,650	4,160	3,700	3,900	2,700	6,590	8,420	17,400	40,900	7,120	5,670
5	3,450	3,710	5,370	3,200	3,800	4,000	6,070	7,200	14,000	29,200	5,210	7,150
6	2,950	3,820	4,940	3,200	4,800	5,400	5,390	4,810	13,000	21,500	6,930	8,820
7	2,820	4,760	5,480	3,400	4,000	6,400	5,370	6,670	13,300	17,900	7,810	10,100
8	2,810	4,680	4,740	3,600	4,600	5,800	5,030	6,800	13,000	13,900	7,200	8,080
9	2,810	4,480	4,840	3,900	4,100	6,300	7,170	6,410	11,700	12,900	6,390	8,700
10	3,510	5,060	4,280	4,100	4,800	6,200	5,910	5,980	12,100	11,700	6,640	8,600
11	4,260	4,960	4,160	2,900	2,800	5,900	6,250	5,510	15,700	10,600	5,120	9,970
12	3,590	4,190	5,260	3,200	2,260	8,000	6,220	5,680	19,800	10,000	4,900	9,160
13	3,740	3,750	5,720	2,900	4,700	7,200	6,590	4,650	26,700	10,500	6,240	8,430
14	3,500	4,580	4,600	5,000	4,000	5,600	5,150	6,820	30,100	13,500	6,230	8,110
15	3,070	4,850	4,000	4,700	4,200	4,100	5,860	7,730	26,500	25,100	5,370	5,850
16	2,700	4,900	3,300	4,800	4,000	4,100	6,870	16,900	24,100	31,700	5,170	4,970
17	3,750	4,030	2,750	4,890	3,400	4,100	7,100	30,500	19,700	33,800	5,190	6,670
18	3,960	4,510	2,650	3,500	2,300	4,300	6,310	40,500	17,200	29,200	4,440	6,980
19	4,200	3,650	4,050	4,200	2,100	5,800	7,410	46,100	14,400	21,700	4,320	8,080
20	3,390	4,420	5,060	3,900	5,200	9,760	8,160	36,300	13,500	21,500	6,240	11,000
21	3,500	5,690	5,490	2,850	4,900	9,880	9,830	29,500	14,700	18,200	6,190	11,300
22	2,700	4,610	4,690	2,500	4,700	7,610	12,800	24,500	22,200	13,300	6,370	10,500
23	2,720	5,390	3,700	4,700	5,000	7,230	18,800	20,600	34,400	12,600	5,900	11,000
24	3,170	3,430	2,800	4,000	3,500	4,990	22,300	15,100	41,400	10,000	6,000	15,000
25	3,860	4,740	2,500	4,500	3,800	3,410	21,500	15,700	40,400	9,900	3,740	22,500
26	4,570	4,260	2,500	4,000	2,400	5,960	21,300	18,500	30,600	8,540	3,190	24,500
27	3,240	3,500	6,000	4,300	4,000	5,080	17,400	17,700	28,200	9,110	5,070	19,700
28	3,980	3,850	5,000	2,700	5,200	5,280	15,000	21,000	34,500	8,040	4,850	14,600
29	3,280	4,870	3,600	3,000	4,100	5,320	12,300	26,300	39,100	8,050	4,650	12,900
30	3,430	4,780	3,000	4,500	------	6,460	11,500	27,100	39,600	7,120	4,520	11,900
31	4,720	------	2,650	5,000	------	6,480	------	26,200	------	8,370	4,280	------
TOTAL	107,020	138,940	128,550	117,740	114,460	174,460	288,970	518,520	685,700	591,130	179,040	300,360
MEAN	3,452	4,631	4,147	3,798	3,947	5,628	9,632	16,730	22,860	19,070	5,775	10,010
MAX	4,720	6,460	6,000	5,000	5,200	9,880	22,300	46,100	41,400	47,300	8,100	24,500
MIN	2,630	3,430	2,500	2,500	2,100	2,700	5,030	4,650	11,700	7,120	3,190	3,300

CAL YR 1967 TOTAL 3,198,770 MEAN 8,764 MAX 117,000 MIN 2,500
WTR YR 1968 TOTAL 3,344,890 MEAN 9,139 MAX 47,300 MIN 2,100

5-3700. Eau Galle River at Spring Valley, Wis.

Location.--Lat 44°51'00", long 92°14'15", between secs. 5 and 6, T. 27 N., R. 15 W., on downstream side near center of bridge at Spring Valley, 0.1 mile upstream from Mines Creek, 0.5 mile downstream from Lousy Creek, and at mile 29.96.

Drainage area.--64.8 sq mi.

Records available.--March 1944 to September 1968.

Gage.--Wire-weight gage and crest-stage indicator; gage read twice daily. Datum of gage is 909.45 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to July 31, 1957, chain gage at same site at datum 3.0 ft higher. Aug. 1, 1957, to June 6, 1966, wire-weight gage at same site at datum 1.00 ft higher.

Average discharge.--24 years, 25.9 cfs.

Extremes.--Maximum discharge during year, 975 cfs Sept. 23 (gage height, 5.15 ft); minimum daily, 0.10 cfs Sept. 12-19, flow shut off at flood-control dam upstream.

1944-68: Maximum discharge, 7,000 cfs Apr. 15, 1954 (gage height, present datum, 12.50 ft); minimum daily, that of Sept. 12-19, 1968; minimum observed prior to dam construction period, 5.8 cfs Sept. 25, 27, 28, 30, 1949.

Maximum stage known since at least 1894, 19.98 ft present datum Sept. 18, 1942, from floodmarks (discharge, 33,000 cfs estimated by Corps of Engineers on basis of slope-area measurement by Geological Survey of peak discharge of 39,000 cfs at Elmwood, drainage area, 91.9 sq mi).

Remarks.--Records poor. No gage-height record Sept. 12-21; discharge estimated on basis of observer's notes. Some pumpage of ground water into stream and some storage for short periods during construction of flood-control dam upstream by Army Engineers. Second-feet per square mile and runoff figures are not published.

Revisions (water years).--1967 Water Resources Data for Wisconsin: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	11	9.3	7.5	8.6	7.3	16	9.6	23	26	13	4.0
2	9.3	10	9.6	7.3	8.6	7.8	12	9.2	21	33	5.9	3.5
3	10	9.8	9.9	7.1	8.8	8.6	11	9.0	6.8	28	3.5	3.0
4	9.8	8.1	9.9	7.0	9.0	15	9.9	9.0	11	30	3.5	11
5	9.8	8.1	9.9	6.9	9.6	76	9.3	9.0	11	23	14	2.4
6	9.6	8.1	9.9	6.7	9.8	68	9.3	21	9.2	17	17	6.8
7	9.6	8.1	11	6.6	9.8	58	9.9	15	5.9	6.4	23	4.9
8	9.1	8.1	9.9	6.5	9.6	52	9.3	11	4.9	12	15	12
9	11	8.1	9.9	6.4	9.3	32	8.7	6.4	4.4	16	15	6.8
10	11	8.1	9.3	6.3	9.0	16	8.0	12	23	22	4.9	6.4
11	9.6	9.0	9.3	6.3	8.8	12	8.7	12	61	26	4.0	5.9
12	9.4	11	8.7	6.4	8.6	11	9.3	13	97	18	9.2	.10
13	9.4	9.3	8.0	6.5	8.4	11	9.9	13	33	15	9.2	.10
14	9.6	9.3	7.2	6.6	8.2	9.9	11	21	52	15	12	.10
15	8.7	8.7	6.7	6.8	8.1	9.9	9.9	63	50	21	12	.10
16	11	9.9	7.6	7.2	7.9	9.9	9.9	137	11	30	9.2	.10
17	9.6	9.9	8.8	7.7	7.8	11	9.3	55	26	14	9.2	.10
18	9.4	9.3	9.0	8.4	7.7	26	9.3	33	22	19	2.7	.10
19	9.4	9.3	9.0	8.6	7.5	84	9.9	38	23	13	14	.10
20	9.1	9.3	9.0	9.0	7.3	39	14	63	59	12	26	.20
21	9.3	9.3	9.0	9.2	7.2	12	14	38	48	12	11	.30
22	9.1	9.3	9.0	9.2	7.1	12	14	22	45	12	14	89
23	8.9	9.3	9.0	9.1	7.0	11	40	26	37	12	11	742
24	9.1	9.2	9.0	9.0	7.0	11	185	27	33	12	5.9	177
25	9.4	9.0	8.8	8.9	7.0	11	15	28	33	12	4.9	117
26	9.6	9.0	8.6	8.8	7.0	25	13	23	109	21	7.8	89
27	9.6	8.9	8.4	8.6	7.0	14	12	38	229	21	7.3	141
28	8.7	8.8	8.2	8.6	7.0	12	11	50	91	9.2	8.5	187
29	8.7	8.8	8.0	8.6	7.1	11	10	30	52	24	6.8	147
30	9.0	9.1	7.8	8.6	------	11	9.8	28	37	12	9.2	149
31	9.4	------	7.6	8.6	------	11	------	26	------	16	4.9	------
TOTAL	294.3	273.2	275.3	239.0	235.8	705.4	528.4	895.2	1,278.2	559.6	313.6	1,906.0
MEAN	9.49	9.11	8.88	7.71	8.13	22.8	17.6	28.9	42.6	18.1	10.1	63.5
MAX	11	11	11	9.2	9.8	84	185	137	229	33	26	742
MIN	8.7	8.1	6.7	6.3	7.0	7.3	8.0	6.4	4.4	6.4	2.7	.10

CAL YR 1967: TOTAL 11,018.4 MEAN 30.2 MAX 1,490 MIN 6.7
WTR YR 1968: TOTAL 7,504.0 MEAN 20.5 MAX 742 MIN .10

Peak discharge (base, 1,500 cfs).--No peak above the base.

Reservoirs in Chippewa River Basin

The nine reservoirs listed below are used to stabilize the flow of the Chippewa, Flambeau, and Red Cedar Rivers for power utilization, and are also used for recreational purposes. The first four are operated by the Chippewa-Flambeau Improvement Co. The remaining five are operated by the Northern States Power Co., which also furnishes the gage heights and capacity tables for all the above reservoirs. Month-end contents are computed by the Geological Survey. The usable capacity of these reservoirs is usually less in summer than in winter, because the allowable summer drawdown is limited by the Department of Natural Resources in the interest of riparian property owners. There are occasionally formal or informal changes in capacity and in minimum drawdown levels Usable capacity figures listed below are for winter regulation.

5-3554. Moose Lake on West Fork Chippewa River, lat 46°02'00", long 91°04'30", in NE 1/4 sec. 14, T. 41 N., R. 6 W., 15.0 miles north of Winter, Wis., completed in 1893, has a usable capacity of 400,000,000 cu ft. Datum of gage is at mean sea level (Northern States Power Co. bench mark).

5-3556. Lake Chippewa on Chippewa River, lat 45°53'20", long 91°04'40", in SE 1/4 sec. 2, T. 39 N., R. 6 W., 3.2 miles upstream from Geological Survey river-gaging station, 5.5 miles northwest of Winter, Wis., completed in 1923, has a usable capacity of 10,000,000,000 cu ft. Datum of gage is at mean sea level (Northern States Power Co. bench mark).

5-3573. Rest Lake on Manitowish River, lat 46°08'15", long 89°53'05", in NW 1/4 sec. 9, T. 42 N., R. 5 E., 6.2 miles east of Manitowish, Wis., used as a reservoir since 1887, has a capacity of 660,000,000 cu ft between gage heights 105.00 ft and 108.50 ft. This reservoir includes nine lakes controlled by the same dam. Altitude of gage is 1,490 ft (by U. S. Geological Survey bench mark near lake).

5-3574. Flambeau Flowage on North Fork Flambeau River, lat 46°04'15", long 90°13'30", in SE 1/4 sec. 34, T. 42 N., R. 2 E., 0.5 mile upstream from discontinued Geological Survey river-gaging station, 10.2 miles southwest of Mercer, Wis., completed in 1926, has a usable capacity of 5,895,000,000 cu ft. Datum of gage is at mean sea level (Northern States Power Co. bench mark).

5-3642. Lake Wissota on Chippewa River, lat 44°56'20", long 91°20'25", in NW 1/4 sec. 3, T. 28 N., R. 8 W., 2.0 miles east of Chippewa Falls, Wis., city limits, completed in 1917, has a usable capacity of 3,547,000,000 cu ft. Datum of gage is at mean sea level (Northern States Power Co. bench mark).

5-3671. Birch Lake on Red Cedar River, lat 45°39'35", long 91°33'25", in W 1/2 sec. 25, T. 37 N., R. 10 W., at Birchwood, Wis., used as a reservoir since 1882, has a usable capacity of 908,000,000 cu ft. Altitude of gage is 1,090 ft (from nearby bench marks).

5-3672. Red Cedar Lake on Red Cedar River, lat 45°35'20", long 91°36'05", on line between secs. 21 and 22, T. 36 N., R. 10 W., at south edge of Mikana, Wis., used as a reservoir since 1882, has a usable capacity of 577,000,000 cu ft. Altitude of gage is 1,080 ft (Northern States Power Co.).

5-3673. Long Lake on Brill River, lat 45°40'05", long 91°40'50", in SW 1/4 sec. 24, T. 37 N., R. 11 W., 1 mile east of Nobleton, Wis., used as a reservoir since 1883, has a usable capacity of 637,000,000 cu ft. Altitude of gage is 1,210 ft (from nearby bench marks).

5-3674. Bear Lake on Bear Creek, lat 45°36'30", long 91°46'25", in NE 1/4 sec. 18, T. 36 N., R. 11 W., at Haugen, Wis., used as a reservoir since 1880, has a capacity of 413,000,000 cu ft between gage heights 87.0 ft and 91.8 ft. Altitude of gage is 1,140 ft (from nearby bench marks).

Month-end contents, in millions of cubic feet, water year October 1967 to September 1968

Date	Moose Lake	Lake Chippewa	Rest Lake	Flambeau Flowage	Lake Wissota	Birch Lake	Red Cedar Lake	Long Lake	Bear Lake
Sept. 30.....	400	8,872	833	4,010	3,796	743	604	441	213
Oct. 31.....	198	9,246	407	5,016	4,032	711	528	424	205
Nov. 30.....	10	8,072	350	5,596	3,785	711	540	459	213
Dec. 31.....	5	6,102	350	4,872	3,812	711	516	441	213
Jan. 31.....	8	3,998	350	3,740	3,903	695	503	424	198
Feb. 29.....	5	2,620	350	2,610	2,906	679	491	371	190
Mar. 31.....	145	4,116	407	3,474	3,836	743	478	406	205
Apr. 30.....	400	7,160	700	4,980	4,005	824	640	424	213
May 31.....	400	9,856	1,029	5,900	3,973	808	665	511	238
June 30.....	407	9,928	1,048	5,900	3,908	841	753	511	263
July 31.....	396	9,604	991	5,710	3,919	792	665	511	230
Aug. 31.....	386	8,600	955	4,836	3,911	727	615	441	182
Sept. 30.....	386	9,820	867	5,748	3,991	841	740	547	213

5-3785. Mississippi River at Winona, Minn.

Location.--Lat 44°03'20", long 91°38'15", in sec. 23, T. 107 N., R. 7 W., on right bank at Winona pumping station in Winona, 9 1/2 miles upstream from Trempealeau River and at mile 725.7 upstream from the Ohio River.

Drainage area.--59,200 sq mi, approximately.

Records available.--June 1928 to September 1968. Gage-height records collected in this vicinity since 1878 are contained in reports of Mississippi River Commission.

Gage.--Water-stage recorder. Datum of gage is 639.64 ft above mean sea level, datum of 1929, June 10, 1928, to Apr. 15, 1931, staff gage at site 800 ft upstream. Prior to Oct. 1, 1929, at datum 0.20 ft higher and Oct. 1, 1929, to Apr. 15, 1931, at datum 0.12 ft lower. Apr. 16, 1931, to Nov. 12, 1934, staff gage at present site and datum. Since Mar. 31, 1937, auxiliary water-stage recorder 2.7 miles upstream at tailwater of navigation dam 5A.

Average discharge.--40 years, 24,920 cfs.

Extremes.--Maximum discharge during year, 75,000 cfs June 27 (gage height, 9.97 ft); minimum daily, 5,000 cfs Dec. 17; minimum gage height, 4.83 ft Dec. 17.
1928-68: Maximum discharge, 268,000 cfs Apr. 19, 1965 (gage height, 20.77 ft, from floodmark); minimum, 2,250 cfs Dec. 29, 1933 (gage height, -1.18 ft); minimum gage height, -3.38 ft Aug. 31, 1934.

Remarks.--Records good. Some regulation by reservoirs, navigation dams, and powerplants at low and medium stages. Flood flow not materially affected by artificial storage.

Cooperation.--Gage-height record at dam 5A furnished by Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.500	11.000	8.300	9.200	11.900	9.800	16.200	45.500	45.100	72.800	41.000	14.300
2	8.500	14.000	8.300	9.200	12.400	9.800	15.200	44.300	45.200	73.200	37.900	15.700
3	9.300	14.000	9.800	9.200	12.200	9.800	17.200	43.400	43.800	72.000	37.600	11.300
4	9.800	14.000	10.100	9.100	12.000	9.800	19.100	40.800	39.300	71.800	40.000	10.900
5	10.500	14.400	10.400	9.000	11.300	9.900	19.600	39.600	39.000	73.900	40.000	14.500
6	9.800	12.500	11.800	9.000	10.200	11.100	19.500	31.700	39.100	73.700	36.800	16.100
7	9.200	11.400	13.000	9.100	9.800	14.000	16.400	26.400	35.600	69.000	36.000	20.000
8	9.600	11.300	13.100	9.000	9.900	15.000	16.700	28.500	33.900	63.500	34.200	27.000
9	10.600	11.400	12.800	9.000	10.000	15.800	17.800	28.000	35.100	58.400	28.900	25.900
10	12.300	11.400	13.000	9.000	10.000	17.400	16.900	24.400	34.500	53.000	31.200	21.100
11	11.500	13.800	13.000	9.000	10.000	16.800	18.800	22.200	35.900	48.000	30.700	21.000
12	10.500	13.300	13.200	9.000	10.600	17.400	20.300	22.000	36.400	43.900	28.300	21.500
13	9.500	12.300	13.300	9.000	10.300	17.400	23.700	22.500	37.600	44.500	27.200	21.600
14	10.900	11.500	12.600	10.000	10.000	17.900	22.000	22.900	45.800	43.900	32.400	21.500
15	12.000	11.200	10.800	10.200	10.000	18.700	20.900	26.700	51.400	46.000	29.400	19.200
16	11.500	11.100	7.100	10.000	10.000	18.400	19.300	30.800	57.200	48.400	30.000	18.900
17	11.000	11.300	5.000	10.600	9.900	15.400	19.900	41.200	58.500	52.300	28.000	18.300
18	11.000	11.400	10.100	10.900	9.800	16.700	20.600	41.800	59.800	55.800	26.500	20.600
19	10.900	11.600	10.200	11.000	9.300	20.000	21.200	47.400	60.200	60.600	22.500	21.200
20	10.800	12.500	11.700	10.700	8.900	19.300	23.100	54.000	58.300	61.300	21.400	20.900
21	10.500	12.800	12.900	10.700	8.800	20.800	25.100	57.500	60.500	58.700	19.200	23.000
22	10.300	13.500	12.600	10.300	8.500	21.000	27.000	53.900	60.600	56.200	18.100	25.800
23	10.000	12.800	10.200	10.100	9.500	20.800	37.300	52.100	58.600	55.900	19.700	29.200
24	9.800	12.300	7.200	10.000	9.600	20.200	40.200	51.000	60.800	52.600	18.400	41.200
25	9.900	12.000	9.600	9.400	9.600	18.300	38.100	45.400	64.600	46.400	18.100	42.100
26	10.400	12.300	10.100	9.000	9.800	19.200	39.300	44.300	70.800	44.000	15.200	41.400
27	11.800	12.300	9.700	9.500	9.700	17.800	44.000	41.900	74.700	45.100	13.900	46.000
28	11.800	11.700	8.100	9.600	9.700	18.200	45.300	37.800	74.400	45.100	11.700	50.300
29	11.800	10.200	8.600	10.700	9.700	19.000	46.200	40.200	73.300	44.300	12.400	50.800
30	13.700	8.600	9.000	11.400	------	18.600	46.200	39.900	72.600	39.300	12.500	49.900
31	11.300	------	9.200	11.500	------	17.800	------	42.500	------	38.900	13.100	------
TOTAL	329,000	363,900	324,800	303,400	293,400	512,100	773,100	1,190,600	1,562,600	1,712,500	812,300	781,200
MEAN	10,600	12,100	10,500	9,790	10,100	16,500	25,800	38,400	52,100	55,200	26,200	26,000
MAX	13,700	14,400	13,300	11,500	12,400	21,000	46,200	57,500	74,700	73,900	41,000	50,800
MIN	8,500	8,600	5,000	9,000	8,500	9,800	15,200	22,000	33,900	38,900	11,700	10,900
CFSM	0.179	0.204	0.177	0.165	0.171	0.279	0.436	0.649	0.880	0.932	0.442	0.439
IN.	0.21	0.23	0.20	0.19	0.18	0.32	0.49	0.75	0.98	1.08	0.51	0.49

CAL YR 1967:	TOTAL	10,353,700	MEAN	28,400	MAX	165,000	MIN	5,000	CFSM	0.480	IN.	6.50
WTR YR 1968:	TOTAL	8,958,900	MEAN	24,480	MAX	74,700	MIN	5,000	CFSM	0.414	IN.	5.63

5-3794. Trempealeau River at Arcadia, Wis.

Location.--Lat 44°15'15", long 91°30'25", in SW 1/4 sec. 32, T. 21 N., R. 9 W., near right bank on downstream side of bridge on State Highways 93 and 95 in Arcadia, half a mile downstream from Turton Creek.

Drainage area.--552 sq mi.

Records available.--July 1960 to September 1968.

Gage.--Wire-weight gage read twice daily. Datum of gage is 719.61 ft above mean sea level, datum of 1929.

Average discharge.--8 years, 330 cfs.

Extremes.--Maximum discharge during year, 8,140 cfs July 27 (gage height, 6.84 ft); minimum daily, 115 cfs Dec. 31 to Jan. 5.
1960-68: Maximum discharge, 9,740 cfs Apr. 6, 1965 (gage height, 7.15 ft); maximum gage height observed, 8.04 ft Mar. 2, 1965 (backwater from ice); minimum discharge observed, 110 cfs Aug. 8, 9, 19, 1964.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	241	155	115	160	165	260	336	349	547	624	287
2	194	220	165	115	160	170	244	290	353	472	465	296
3	194	218	170	115	165	175	241	274	316	438	431	296
4	194	223	175	115	165	185	266	271	293	417	472	887
5	194	220	180	115	165	200	273	252	271	404	404	977
6	187	223	180	118	165	220	253	246	268	390	390	690
7	196	223	180	120	160	250	241	234	264	376	603	492
8	223	229	175	125	155	300	241	243	252	367	458	1,500
9	226	241	170	140	155	350	253	240	255	397	383	1,360
10	226	235	160	165	150	420	244	234	277	370	356	880
11	210	232	155	165	148	350	223	228	303	342	342	544
12	208	208	145	165	148	300	223	228	349	363	333	485
13	203	213	140	165	148	260	261	222	309	492	329	447
14	203	203	130	165	148	240	313	312	329	1,260	319	417
15	208	203	130	170	148	230	385	603	349	1,540	308	390
16	206	218	130	175	148	230	306	1,100	316	740	319	379
17	208	218	130	180	145	230	279	1,530	284	662	316	373
18	206	218	135	185	145	240	270	955	284	666	308	435
19	206	218	145	190	145	280	253	781	290	572	1,390	561
20	208	218	155	190	145	250	403	638	271	482	1,740	547
21	208	218	155	190	145	230	711	533	1,300	438	841	481
22	208	218	155	185	145	223	619	438	799	431	568	503
23	208	218	150	180	148	213	1,020	397	610	492	413	617
24	213	210	145	180	150	213	955	376	424	575	373	472
25	229	195	140	175	150	213	666	363	373	512	336	417
26	229	170	135	170	150	213	482	370	1,120	1,590	308	383
27	229	140	130	160	155	223	380	400	1,380	3,920	306	370
28	218	130	125	160	158	612	336	427	1,160	1,060	293	356
29	220	140	120	160	160	370	325	397	970	680	287	349
30	247	150	120	160	------	306	325	370	708	519	284	345
31	247	------	115	160	------	293	------	349	------	582	284	------
TOTAL	6,559	6,211	4,595	4,873	4,429	8,154	11,251	13,637	14,826	22,096	14,583	16,536
MEAN	212	207	148	157	153	263	375	440	494	713	470	551
MAX	247	241	180	190	165	612	1,020	1,530	1,380	3,920	1,740	1,500
MIN	187	130	115	115	145	165	223	222	252	342	284	287
CFSM	.384	.375	.268	.284	.277	.476	.679	.797	.895	1.29	.851	.998
IN.	.44	.42	.31	.33	.30	.55	.76	.92	1.00	1.49	.98	1.11

CAL YR 1967: TOTAL 127,586 MEAN 350 MAX 7,240 MIN 115 CFSM .634 IN. 8.58
WTR YR 1968: TOTAL 127,750 MEAN 349 MAX 3,920 MIN 115 CFSM .632 IN. 8.61

5-3795. Trempealeau River at Dodge, Wis.

Location.--Lat 44°07'55", long 91°33'10", in sec. 10, T. 19 N., R. 10 W., near left bank on downstream side of highway bridge in Dodge, 9 miles upstream from mouth.

Drainage area.--643 sq mi.

Records available.--December 1913 to September 1919, April 1934 to September 1968.

Gage.--Wire-weight gage and crest-stage indicator; gage read twice daily. Datum of gage is 661.42 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1966, datum 2.00 ft higher. Prior to July 16, 1941, chain gage at same site and datum 2.00 ft higher.

Average discharge.--39 years (1914-19, 1934-68), 387 cfs.

Extremes.--Maximum discharge during year, 3,220 cfs July 28 (gage height, 8.70 ft); minimum daily, 120 cfs Dec. 30 to Jan. 7.
1913-19, 1934-68: Maximum discharge, 17,400 cfs Apr. 4, 1956 (gage height, 10.35 ft); minimum daily, 98 cfs Jan. 10, 1938.

Remarks.--Records good except those for winter months, which are fair.

Cooperation.--Gage-height record collected in cooperation with Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204	223	160	120	170	170	320	395	399	673	652	284
2	204	243	175	120	170	175	304	368	392	554	526	274
3	188	208	180	120	170	180	298	354	377	461	455	288
4	199	208	180	120	175	190	314	343	349	448	658	470
5	200	214	185	120	178	205	317	338	324	422	434	907
6	202	219	185	120	178	230	311	328	306	399	400	741
7	223	217	185	120	170	250	293	327	298	388	466	509
8	244	217	180	125	165	300	288	328	287	382	526	738
9	250	232	175	135	160	340	288	327	287	366	426	1,360
10	247	242	165	145	155	500	284	319	304	368	388	1,170
11	236	232	155	150	155	460	276	311	311	360	356	738
12	228	218	150	160	155	350	269	309	358	351	349	545
13	228	195	140	165	155	305	276	304	346	455	341	446
14	221	202	135	170	155	285	328	308	348	581	330	426
15	219	193	135	175	155	270	404	606	353	1,290	322	404
16	217	208	135	180	155	260	370	1,060	353	1,390	336	385
17	214	217	135	180	150	250	328	1,150	320	1,220	325	382
18	214	214	145	185	150	270	314	1,170	311	695	319	464
19	214	213	155	190	150	300	300	986	320	643	390	516
20	217	212	160	195	150	280	320	777	395	539	1,210	547
21	217	213	160	195	150	265	554	645	1,340	470	1,910	504
22	214	217	160	195	155	250	484	541	1,620	436	873	477
23	213	213	155	190	155	255	1,080	480	1,180	445	509	731
24	214	210	145	185	155	258	1,270	443	612	577	412	530
25	228	200	145	180	155	258	992	443	507	543	358	452
26	225	175	140	175	158	258	712	433	804	526	327	424
27	235	145	135	175	160	266	548	455	1,250	1,450	314	404
28	233	130	130	170	160	404	477	477	1,410	3,080	301	392
29	229	140	125	170	165	455	436	473	1,350	1,530	293	378
30	252	150	120	170	------	370	417	438	989	667	285	370
31	249	------	120	170	------	338	------	404	------	558	280	------
TOTAL	6,878	6,120	4,750	4,970	4,634	8,947	13,172	15,640	17,800	22,267	15,081	16,256
MEAN	222	204	153	160	160	289	439	505	593	718	486	542
MAX	252	243	185	195	178	500	1,270	1,170	1,620	3,080	1,910	1,360
MIN	188	130	120	120	150	170	269	304	287	351	280	274
CFSM	.345	.317	.238	.249	.249	.449	.683	.785	.922	1.12	.756	.843
IN.	.40	.35	.27	.29	.27	.52	.76	.90	1.03	1.29	.87	.94

CAL YR 1967:	TOTAL	136,485	MEAN	374	MAX	5,950	MIN	120	CFSM	.582	IN.	7.89
WTR YR 1968:	TOTAL	136,515	MEAN	373	MAX	3,080	MIN	120	CFSM	.580	IN.	7.89

5-3810. Black River at Neillsville, Wis.

Location.--Lat 44°33'35", long 90°36'50", in sec. 15, T. 24 N., R. 2 W., on right bank at downstream side of bridge on U. S. Highway 10 in Neillsville, 1 mile downstream from O'Neill Creek and 2.6 miles upstream from Cunningham Creek.

Drainage area.--756 sq mi.

Records available.--April 1905 to March 1909, October 1913 to September 1968. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Digital water-stage recorder. Datum of gage is 962.77 ft above mean sea level, datum of 1929 (levels by U. S. Weather Bureau). Prior to Oct. 24, 1934, chain gage, and Oct. 24, 1934, to July 28, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--58 years (1905-8, 1913-68), 572 cfs.

Extremes.--Maximum discharge during year, 11,700 cfs May 16 (gage height, 12.56 ft); minimum daily, 8.5 cfs Jan. 5.
1905-9, 1913-68: Maximum discharge, 48,800 cfs Sept. 10, 1938 (gage height, 23.8 ft); minimum, 0.6 cfs Aug. 15, 1936 (gage height, 1.84 ft.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	162	56	9.4	31	32	591	421	2,060	2,000	799	88
2	39	168	56	9.2	31	34	452	351	2,200	1,410	676	142
3	38	165	56	8.8	30	36	375	301	1,720	1,090	429	180
4	37	150	54	8.6	28	39	397	263	1,170	848	271	195
5	37	136	54	8.5	26	43	422	233	796	584	189	2,260
6	34	121	54	8.6	24	52	428	211	548	424	373	2,200
7	41	103	54	9.0	23	150	386	192	395	343	1,070	1,280
8	70	98	52	9.6	22	700	359	193	304	279	869	1,190
9	72	91	52	10	20	2,900	393	181	289	230	1,400	2,330
10	75	93	50	11	18	1,800	468	169	587	196	1,340	1,690
11	83	92	50	11	17	800	454	160	929	170	590	1,340
12	89	92	46	12	15	540	402	149	2,520	635	291	897
13	87	89	43	13	15	430	744	140	3,100	518	190	619
14	83	89	40	14	15	340	1,030	185	2,900	2,390	139	426
15	79	88	38	15	15	300	1,020	395	1,740	4,810	114	311
16	75	86	38	16	15	280	1,010	7,770	1,110	3,310	100	241
17	72	87	39	17	15	310	949	9,610	771	2,890	93	199
18	70	91	41	17	15	544	847	7,090	537	2,390	86	1,340
19	66	89	45	17	15	1,110	803	5,240	391	1,650	87	1,640
20	64	84	49	17	15	1,120	1,510	3,520	313	944	147	1,430
21	61	81	51	16	15	796	2,510	2,220	1,120	606	472	1,090
22	58	83	48	15	15	570	2,300	1,420	2,900	424	427	772
23	57	78	43	15	16	354	1,980	958	2,420	347	284	579
24	72	83	35	15	18	319	2,210	758	1,690	282	174	448
25	117	75	26	15	20	296	1,620	970	2,620	218	123	365
26	117	67	22	16	23	260	1,250	1,730	6,230	181	96	305
27	132	61	18	17	26	349	976	5,150	10,900	250	80	259
28	155	54	15	20	27	1,340	770	6,300	9,100	609	72	221
29	154	52	13	24	30	1,620	627	5,210	5,750	395	65	193
30	161	52	11	29	------	1,170	522	3,290	3,220	273	61	172
31	159	------	9.7	30	------	799	------	2,280	------	582	58	------
TOTAL	2,493	2,860	1,258.7	453.7	595	19,433	27,805	67,060	70,330	31,278	11,165	24,402
MEAN	80.4	95.3	40.6	14.6	20.5	627	927	2,163	2,344	1,009	360	813
MAX	161	168	56	30	31	2,900	2,510	9,610	10,900	4,810	1,400	2,330
MIN	34	52	9.7	8.5	15	32	359	140	289	170	58	88
CFSM	.11	.13	.05	.02	.03	.83	1.23	2.86	3.10	1.33	.48	1.08
IN.	.12	.14	.06	.02	.03	.96	1.37	3.30	3.46	1.54	.55	1.20

CAL YR 1967 TOTAL 249,692.7 MEAN 684 MAX 24,400 MIN 9.7 CFSM .90 IN 12.28
WTR YR 1968 TOTAL 259,133.4 MEAN 708 MAX 10,900 MIN 8.5 CFSM .94 IN 12.75

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-16	1400	12.56	11,700	6-27	1600	12.34	11,300
5-28	0100	10.25	7,210	7-15	0100	9.32	5,550

5-3820. Black River near Galesville, Wis.

Location.--Lat 44°03'45", long 91°17'30", in sec. 2, T. 18 N., R. 8 W., on left bank 30 ft downstream from bridge on U. S. Highway 53, 4.5 miles southeast of Galesville, and 5 miles downstream from Fleming Creek.

Drainage area.--2,120 sq mi, approximately.

Records available.--December 1931 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 658.43 ft above mean sea level, unadjusted. Prior to Apr. 2, 1941, chain gage on bridge 30 ft upstream at same datum. Apr. 2, 1941, to Nov. 7, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--36 years (1932-68), 1,635 cfs.

Extremes.--Maximum discharge during year, 22,900 cfs June 29 (gage height, 12.54 ft); minimum daily, 230 cfs Jan. 4-6 (backwater from ice).
1931-68: Maximum discharge, 65,500 cfs Apr. 1, 1967 (gage height, 14.63 ft); minimum observed, 180 cfs Dec. 20, 1932.

Remarks.--Records good except those for winter months, which are fair. Flow partly regulated by Hatfield Dam powerplant where drainage area is 1,290 sq mi and storage capacity is 272 million cubic feet. Water diverted periodically from the basin into the Lemonweir River basin for cranberry culture.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	440	773	540	235	395	310	2,500	2,780	7,500	13,300	1,500	625
2	398	698	550	235	400	315	1,930	2,520	5,400	9,390	1,560	680
3	418	560	520	235	400	320	1,730	2,190	4,790	5,880	1,620	705
4	440	650	450	230	400	340	1,360	1,990	4,260	3,870	1,480	735
5	445	680	410	230	385	370	1,250	1,590	3,330	3,200	1,350	844
6	426	632	450	230	370	410	984	1,300	2,590	2,680	1,380	1,010
7	422	490	470	235	360	490	826	1,170	2,210	2,390	1,400	1,990
8	485	656	470	240	350	760	786	1,050	1,830	1,940	1,320	2,370
9	490	600	460	245	335	1,150	755	1,170	1,750	1,670	1,440	2,510
10	520	628	430	255	320	1,600	850	1,190	1,290	1,390	1,710	3,680
11	495	623	400	264	315	1,900	1,000	977	1,250	1,240	2,400	4,790
12	480	626	380	270	305	2,000	1,030	710	1,340	1,160	1,920	4,960
13	470	516	370	275	300	1,900	1,110	640	1,940	1,250	1,250	4,110
14	536	477	360	285	290	1,850	1,300	921	3,350	1,930	1,160	2,880
15	536	538	355	290	290	1,850	1,770	1,360	4,050	2,470	1,050	2,350
16	460	595	360	300	290	1,820	2,530	2,770	3,510	4,730	826	2,080
17	460	653	440	310	290	1,410	2,470	4,660	2,290	6,310	820	1,580
18	505	534	480	320	290	1,250	2,990	11,000	2,010	6,290	808	1,540
19	515	512	490	325	290	1,210	2,730	18,100	1,840	5,800	745	2,220
20	460	448	490	330	290	1,120	2,600	14,700	1,600	5,050	1,270	4,140
21	495	473	475	330	290	1,310	3,160	11,400	2,600	3,440	1,130	4,480
22	485	555	430	325	283	1,420	5,010	8,780	2,130	2,570	1,000	3,610
23	418	600	370	320	295	1,320	6,330	6,390	3,030	2,570	1,090	2,970
24	470	575	330	320	300	1,260	6,470	4,030	4,150	2,420	1,030	2,630
25	536	463	310	320	300	1,280	6,420	3,310	4,490	2,130	980	2,330
26	578	410	290	320	300	1,150	6,790	3,060	4,460	2,050	750	2,150
27	578	375	275	330	300	914	5,630	3,510	5,770	2,180	690	1,970
28	608	360	265	340	305	963	3,980	5,060	8,130	2,350	745	1,530
29	560	380	255	365	310	1,000	3,220	6,850	20,800	2,090	715	1,330
30	495	476	245	370	------	1,500	3,110	9,010	18,400	1,820	715	1,130
31	548	------	240	380	------	2,580	------	9,160	------	1,640	695	------
TOTAL	15,172	16,556	12,360	9,059	9,348	37,072	82,621	143,348	132,090	107,200	36,549	69,929
MEAN	489	552	399	292	322	1,196	2,754	4,624	4,403	3,458	1,179	2,331
MAX	608	773	550	380	400	2,580	6,790	18,100	20,800	13,300	2,400	4,960
MIN	398	360	240	230	293	310	755	640	1,250	1,160	690	625
CFSM	.23	.26	.19	.14	.15	.56	1.30	2.18	2.08	1.63	.56	1.10
IN.	.27	.29	.22	.16	.16	.65	1.45	2.51	2.32	1.88	.64	1.23

CAL YR 1967 TOTAL 754,608 MEAN 2,067 MAX 62,000 MIN 240 CFSM .98 IN 13.24
WTR YR 1968 TOTAL 671,304 MEAN 1,834 MAX 20,800 MIN 230 CFSM .87 IN 11.78

PEAK DISCHARGE (BASE, 12,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-19	0300	11.97	19,400	6-29	1500	12.54	22,900

5-3830. La Crosse River near West Salem, Wis.

Location.--Lat 43°54'05", long 91°07'05", in SE 1/4 sec. 32, T. 17 N., R. 6 W., on left bank 30 ft upstream from old highway bridge, 2 miles west of West Salem, and 6 miles downstream from Dutch Creek.

Drainage area.--398 sq mi.

Records available.--December 1913 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 668.0 ft above mean sea level, adjustment of 1912. Prior to Oct. 19, 1938, chain gage at site 30 ft downstream at same datum. Oct. 19, 1938, to Aug. 12, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--54 years (1914-68), 288 cfs.

Extremes.--Maximum discharge during year, 2,360 cfs June 21 (gage height, 9.85 ft); minimum, 62 cfs Jan. 1 (gage height, 2.63 ft), result of freezeup.

1913-68: Maximum discharge observed, 8,200 cfs Aug. 6, 1935 (gage height, 12.2 ft), from rating curve extended above 3,000 cfs; minimum, 30 cfs Sept. 5, 1948 (gage height, 0.45 ft).

Remarks.--Records good except winter months, which are fair. Diurnal fluctuation caused by powerplant a few miles above station.

Cooperation.--Water-stage recorder inspected by employee of Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	257	189	130	395	175	233	259	242	442	236	257
2	195	257	189	130	317	184	235	248	233	484	310	322
3	193	257	205	130	305	184	287	198	227	452	307	347
4	207	237	248	130	290	186	680	198	240	421	279	337
5	211	205	246	130	280	202	215	198	275	400	236	324
6	211	204	198	135	250	213	209	200	245	391	227	321
7	213	202	191	135	230	265	219	202	208	351	240	318
8	213	221	225	140	210	272	229	200	198	314	216	390
9	231	257	248	140	200	274	246	202	205	356	287	416
10	279	252	246	145	190	268	248	196	210	335	353	942
11	274	250	193	150	190	265	242	193	261	321	317	847
12	272	227	189	160	180	263	235	186	313	321	307	653
13	242	193	252	166	180	261	240	195	300	284	248	639
14	204	195	244	166	175	259	257	231	297	248	228	482
15	204	195	235	168	175	257	285	259	284	243	237	334
16	204	195	188	189	175	254	295	274	283	309	241	329
17	240	200	189	171	175	209	306	326	271	316	223	325
18	259	250	189	181	170	181	279	565	217	375	225	328
19	204	248	189	181	170	188	272	315	222	402	248	362
20	200	225	198	181	170	200	292	299	223	366	337	498
21	204	191	207	182	170	250	308	283	1,500	333	556	567
22	205	189	246	182	170	259	362	272	1,280	317	673	481
23	211	189	189	180	170	259	364	265	957	326	438	393
24	215	225	184	180	170	257	352	283	818	338	364	341
25	227	248	175	180	170	223	342	261	590	371	327	384
26	264	246	170	177	160	179	322	202	885	412	318	395
27	264	195	160	181	165	179	296	215	1,030	367	261	372
28	264	186	150	181	165	181	279	246	1,060	346	246	349
29	261	186	145	369	170	184	265	265	881	355	246	333
30	261	183	140	468	------	202	261	283	638	328	237	323
31	261	------	135	698	------	205	------	257	------	205	240	------
TOTAL	7,093	6,565	6,152	6,036	5,937	6,938	8,655	7,776	14,593	10,829	9,208	12,709
MEAN	229	219	198	195	205	224	289	251	486	349	297	424
MAX	279	257	252	698	395	274	680	565	1,500	484	673	942
MIN	193	183	135	130	160	175	209	186	198	205	216	257
CFSM	.57	.55	.50	.49	.51	.56	.72	.63	1.22	.88	.75	1.06
IN.	.66	.61	.57	.56	.55	.65	.81	.73	1.36	1.01	.86	1.19

CAL YR 1967 TOTAL 107,529 MEAN 295 MAX 2,890 MIN 135 CFSM .74 IN 10.05
WTR YR 1968 TOTAL 102,491 MEAN 280 MAX 1,500 MIN 130 CFSM .70 IN 9.58

5-3895. Mississippi River at McGregor, Iowa

Location.--Lat 43°01'30", long 91°10'20", in SE 1/4 SE 1/4 sec. 22, T. 95 N., R. 3 W., on right bank in city park at north end of Main Street in McGregor, 2.6 miles upstream from Wisconsin River, 4.3 miles downstream from Yellow River, and at mile 633.4 from Ohio River.

Drainage area.--67,500 sq mi, approximately.

Records available.--August 1936 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 605.30 ft above mean sea level, adjustment of 1912. Prior to Aug. 11, 1965, graphic water-stage recorder at same site and datum. Prior to June 1, 1937, and since June 2, 1939, auxiliary water-stage recorder; June 1, 1937, to June 1, 1939, auxiliary staff gage 14.1 miles upstream in tailwater of dam 9, at datum 5.30 ft lower.

Average discharge.--32 years, 32,230 cfs (23,330,000 acre-ft per year).

Extremes.--Maximum discharge during year, 97,900 cfs July 4; maximum gage height, 15.17 ft July 4; minimum daily discharge, 9,900 cfs Dec. 2; minimum gage height, 5.01 ft Nov. 9.

1936-68: Maximum daily discharge, 276,000 cfs Apr. 24, 1965; maximum gage height, 25.38 ft Apr. 24, 1965; minimum daily discharge, 6,200 cfs Dec. 9, 1936; minimum gage height, -0.86 ft Aug. 18, 1936.

Maximum stage known since at least 1828, that of Apr. 24, 1965.

Remarks.--Records good except those for winter periods, which are fair. Stage-discharge relation affected by backwater from Wisconsin River and Dam 10. Flow regulated by reservoirs and navigation dams.

Cooperation.--Gage-height record at Dam 9 collected in cooperation with Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.600	14.100	10.700	10.400	18.600	12.200	23.900	52.500	49.000	92.600	45.900	20.500
2	11.100	15.700	9.900	10.400	18.600	12.300	22.200	51.000	53.500	93.200	42.900	19.500
3	12.000	17.100	10.700	10.400	17.600	12.500	21.800	49.400	56.300	94.600	42.400	18.300
4	13.200	18.200	11.300	10.400	15.700	12.600	23.800	46.500	70.500	96.000	42.300	17.700
5	12.900	16.000	11.500	10.500	14.800	12.600	25.500	44.800	55.400	95.300	41.700	19.100
6	13.100	13.800	12.900	11.000	13.900	12.600	22.800	42.300	49.200	93.500	41.100	22.800
7	12.200	13.200	15.800	11.000	12.900	15.500	23.100	36.700	46.700	91.900	41.400	25.200
8	12.900	13.200	17.000	10.900	12.200	19.300	22.700	34.800	45.200	90.700	41.700	28.600
9	14.500	13.200	16.300	10.800	12.300	17.800	21.800	33.100	42.800	88.200	41.600	38.100
10	15.900	13.200	16.100	10.800	12.500	18.300	21.700	31.900	39.100	81.900	39.500	38.200
11	15.700	18.000	14.600	10.700	12.600	21.200	23.200	30.600	38.100	75.200	33.400	32.900
12	15.000	17.600	14.000	10.700	12.600	21.200	25.500	28.700	40.700	66.900	32.300	30.500
13	13.300	16.900	15.500	10.700	12.000	22.000	27.100	23.700	41.600	58.800	32.900	29.600
14	13.100	15.100	15.000	10.700	11.000	23.200	27.200	25.200	43.500	51.500	32.300	28.100
15	14.700	15.000	13.000	11.600	11.000	21.500	28.200	29.300	44.700	48.800	33.100	26.700
16	15.300	15.000	12.200	12.200	11.000	21.200	27.000	34.800	48.400	48.300	34.400	26.500
17	14.700	13.400	11.000	12.500	11.000	21.400	26.200	40.900	52.800	52.800	34.300	26.200
18	12.700	13.100	10.800	12.500	11.400	21.500	26.800	46.500	62.400	57.500	34.300	26.800
19	13.100	13.300	10.800	12.500	11.600	24.700	26.700	48.500	66.500	60.400	31.400	26.900
20	12.900	13.300	12.900	12.500	11.000	26.600	28.000	53.500	66.800	65.000	27.200	27.600
21	12.700	15.500	15.600	12.500	10.600	25.100	31.800	59.500	68.300	66.800	27.000	28.400
22	14.200	16.400	15.000	12.900	10.500	25.000	34.200	66.900	68.700	70.000	24.200	29.800
23	14.700	16.800	13.900	13.300	10.400	25.000	42.000	69.900	70.200	71.800	22.700	35.700
24	12.800	16.000	13.200	12.900	10.300	25.500	48.400	69.400	72.800	71.700	23.700	39.200
25	13.600	15.900	10.600	12.200	11.000	24.600	49.300	67.500	75.100	69.900	23.700	41.200
26	14.200	16.400	10.800	11.600	12.300	23.100	47.900	64.900	77.700	65.200	24.500	42.500
27	13.800	13.400	11.000	11.600	12.100	22.400	47.700	57.600	80.400	60.000	20.400	44.500
28	13.700	12.000	10.500	11.600	12.100	22.300	48.100	51.300	83.300	53.600	16.800	46.600
29	13.600	10.500	10.500	14.300	12.100	24.700	51.300	48.900	87.300	51.900	14.800	49.300
30	15.400	10.400	10.500	18.100	------	25.000	53.500	45.900	90.000	49.900	16.200	51.400
31	15.400	------	10.500	18.500	------	24.600	------	46.500	------	49.400	17.200	------
TOTAL	423,000	441,700	394,100	372,700	365,700	637,500	949,400	1,433,000	1,787,000	2,183,300	977,300	938,400
MEAN	13,650	14,720	12,710	12,020	12,610	20,560	31,650	46,230	59,570	70,430	31,530	31,280
MAX	15,900	18,200	17,000	18,500	18,600	26,600	53,500	69,900	90,000	96,000	45,900	51,400
MIN	10,600	10,400	9,900	10,400	10,300	12,200	21,700	23,700	38,100	48,300	14,800	17,700
CFSM	.20	.22	.19	.18	.19	.30	.47	.68	.88	1.04	.47	.46
IN.	.23	.24	.22	.21	.20	.35	.52	.79	.98	1.20	.54	.52

CAL YR 1967:	TOTAL	12,330,000	MEAN	33,780	MAX	165,000	MIN	9,400	CFSM	.50	IN.	6.79
WTR YR 1968:	TOTAL	10,903,100	MEAN	29,790	MAX	96,000	MIN	9,900	CFSM	.44	IN.	6.01

5-3901.8 Wisconsin River at Conover, Wis.

Location.--Lat 46°02'52", long 89°15'57", in NE 1/4 sec. 8, T. 41 N., R. 10 E., on left bank, 60 ft upstream from highway bridge on County Trunk K, 0.5 mile downstream from Pioneer Creek and 0.6 mile southwest of Conover, Wis.

Drainage area.--176 sq mi.

Records available.--September 1966 to September 1968.

Gage.--Graphic water-stage recorder. Prior to Oct. 19, 1966, staff gage at same site and gage datum.

Extremes.--Maximum discharge during year, 354 cfs July 1 (gage height 4.67 ft); minimum, 102 cfs Aug. 31 (gage height 2.63 ft).
1966-68: Maximum discharge, 520 cfs, Apr. 2, 1967 (gage height 5.17 ft); minimum that of Aug. 31, 1968.

Remarks.--Records good except for winter months, which are fair. Flow regulated by Lac Vieux Desert and Twin Lakes Reservoirs (see p. 111).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	294	160	126	138	120	162	133	165	344	158	118
2	191	276	164	124	138	120	151	128	166	310	146	129
3	186	260	168	122	138	120	145	126	154	249	139	125
4	186	244	170	120	138	122	149	125	142	206	135	133
5	182	230	172	120	138	122	145	122	131	186	132	198
6	177	218	178	120	138	122	141	119	126	175	132	201
7	178	193	184	122	136	122	138	118	127	166	130	192
8	212	182	190	126	134	122	146	118	126	163	127	188
9	226	182	190	128	132	120	146	118	212	161	125	233
10	222	177	190	130	130	120	139	118	210	159	124	315
11	219	176	188	134	126	118	135	115	219	162	121	326
12	220	175	182	140	120	116	134	114	302	200	120	282
13	218	171	178	146	116	112	143	112	260	208	119	237
14	215	169	172	148	114	112	170	116	225	244	118	212
15	222	166	172	151	110	114	191	136	199	254	116	193
16	232	162	178	154	108	118	186	147	178	227	118	182
17	229	160	184	156	106	128	178	146	166	207	115	178
18	233	160	188	156	106	140	169	139	155	242	113	182
19	234	160	190	154	106	152	158	133	153	242	114	183
20	230	160	190	152	106	160	153	130	144	217	126	182
21	222	162	184	150	106	154	161	130	170	202	122	182
22	215	160	176	148	106	142	158	126	180	194	122	175
23	209	156	170	142	108	136	155	129	173	185	129	176
24	212	152	164	140	112	132	167	158	169	180	122	187
25	294	148	156	140	114	134	166	152	161	174	118	182
26	344	148	150	138	116	138	158	145	166	169	114	172
27	332	152	148	136	116	150	154	168	233	178	110	166
28	324	160	142	136	118	205	146	185	251	170	109	163
29	320	166	138	136	118	203	141	194	218	159	106	160
30	320	164	134	138	------	186	136	182	260	149	104	155
31	310	------	130	138	------	177	------	164	------	158	103	------
TOTAL	7,310	5,483	5,280	4,271	3,492	4,237	4,621	4,246	5,541	6,240	3,787	5,707
MEAN	236	183	170	138	120	137	154	137	185	201	122	190
MAX	344	294	190	156	138	205	191	194	302	344	158	326
MIN	177	148	130	120	106	112	134	112	126	149	103	118
CFSM	1.34	1.04	.966	.784	.682	.778	.875	.778	1.05	1.14	.693	1.08
IN.	1.54	1.16	1.12	.90	.74	.90	.98	.90	1.17	1.32	.80	1.21

CAL YR 1967:	TOTAL	71,937	MEAN	197	MAX	503	MIN	108	CFSM	1.12	IN.	15.19
WTR YR 1968:	TOTAL	60,215	MEAN	164	MAX	344	MIN	103	CFSM	.932	IN.	12.74

5-3905. Anvil Lake near Eagle River, Wis.

Location.--Lat 45°56'22", long 89°03'35", in sec. 13, T. 40 N., R. 11 E., near home of Hans Schaffer on north side of lake, 11 miles northeast of Eagle River.

Drainage area.--3 sq mi, approximately. Area of Anvil Lake, 380 acres.

Records available.--August 1936 to September 1968 (fragmentary).

Gage.--Staff gage in lake bed. Datum of gage is 90.00 ft above datum assumed by Wisconsin Department of Natural Resources; gage readings have been reduced to elevations above this datum. Prior to Aug. 13, 1950, staff gage 0.3 mile south as same datum.

Extremes.--Maximum elevation observed during the year, 95.62 ft July 19; minimum observed, 93.54 ft Oct. 23.
1936-68: Maximum elevation observed, 97.20 ft May 3, 7, 17, 21, 24, 28, June 20, 24, 1943; minimum observed, 92.10 ft July 31, 1964.

Remarks.--Lake has no surface outlet. Lake was ice covered about Nov. 20 to Apr. 10.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2										5.10		
3												
4									3.98			
5		3.74										
6								3.88				
7						4.32						
8	3.62											4.46
9									4.04			
10												
11												
12		3.66						3.80		5.20		
13											4.34	
14												
15											4.34	
16	3.60											
17												
18							3.92		4.09			4.33
19										5.62		
20												
21												
22								3.78				
23	3.54											
24												
25									4.11	5.56		
26											4.30	
27									4.21			
28												4.36
29	3.74							3.94	4.44			
30					------		3.92			5.50		
31		------		3.71	------		------		------			------

Note.--Add 90 ft to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources.

5-3910. Wisconsin River at Rainbow Lake, near Lake Tomahawk, Wis.

Location.--Lat 45°50'00", long 89°32'50", in S 1/2 SW 1/4 sec. 30, T. 39 N., R. 8 E., on right bank 400 ft upstream from Gilmore Creek, 800 ft downstream from Rainbow Lake, and 2.5 miles northeast of Lake Tomahawk. Records include flow of Gilmore Creek.

Drainage area.--750 sq mi, approximately, includes that of Gilmore Creek.

Records available.--July 1936 to September 1968. Prior to October 1955, published as "at Rainbow Reservoir, near Lake Tomahawk."

Gage.--Digital water-stage recorder. July 1936 to May 17, 1967, graphic water-stage recorder at same site and datum. Datum of gage is 1,570.05 ft above mean sea level (Public Service Commission of Wisconsin bench mark).

Average discharge.--32 years, 693 cfs.

Extremes.--Maximum discharge during year, 2,550 cfs June 30 (gage height, 6.02 ft); minimum 181 cfs Apr. 24, 25, May 15, 16. 1936-68: Maximum discharge, 3,570 cfs Sept. 5, 1941 (gage height, 7.59 ft); minimum 17 cfs Oct. 10-12, 1940; minimum daily, 35 cfs Apr. 6, 1955.

Remarks.--Records good. Flow regulated by Rainbow Lake and 12 smaller reservoirs above station (see p. 111).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	563	610	842	790	796	735	274	238	968	2,290	970	540
2	561	605	678	786	790	717	343	286	1,090	2,070	916	557
3	570	604	600	785	791	707	387	334	1,010	1,470	713	638
4	578	598	663	806	789	686	361	538	833	1,980	481	635
5	584	597	753	855	786	720	346	598	885	2,160	572	535
6	597	597	786	852	781	731	384	337	916	1,400	940	474
7	607	627	785	856	794	771	404	263	931	833	960	615
8	470	645	786	864	804	768	370	258	894	998	702	665
9	368	642	786	910	791	743	308	245	1,550	1,300	620	551
10	455	663	786	905	788	724	285	212	1,670	1,160	773	772
11	572	673	756	903	784	709	285	201	1,860	937	868	983
12	587	668	727	885	774	725	286	251	1,990	840	847	1,120
13	520	645	762	862	763	725	285	353	1,280	1,070	758	1,220
14	503	627	834	860	791	693	262	320	1,250	1,910	682	1,240
15	516	629	871	857	824	698	210	208	1,320	1,970	632	1,230
16	562	653	870	860	821	721	188	190	1,310	1,750	582	1,220
17	580	667	872	840	824	701	200	196	1,310	2,130	553	1,030
18	574	654	828	821	809	590	212	282	856	2,150	554	1,110
19	581	646	734	822	795	437	248	282	470	1,570	570	1,140
20	557	649	747	816	779	315	264	252	338	1,390	563	803
21	542	664	787	815	775	396	244	268	926	1,330	531	719
22	573	676	809	804	767	579	231	284	1,440	1,300	535	930
23	613	681	831	800	756	652	211	272	1,320	1,410	557	1,040
24	609	681	831	819	747	642	187	226	1,220	1,460	572	994
25	438	679	828	839	737	551	191	200	1,120	1,040	571	679
26	382	681	809	831	735	525	217	192	1,210	648	569	590
27	593	722	777	827	757	514	226	192	1,880	828	659	692
28	639	857	785	827	761	393	226	194	1,610	880	725	745
29	565	938	793	812	751	225	232	641	1,210	702	728	759
30	508	933	784	806	------	238	231	1,110	1,940	1,050	692	738
31	564	------	786	810	------	268	------	940	------	978	638	------
TOTAL	16,931	20,211	24,286	25,925	22,660	18,599	8,098	10,363	36,607	43,004	21,033	24,964
MEAN	546	674	783	836	781	600	270	334	1,220	1,387	678	832
MAX	639	938	872	910	824	771	404	1,110	1,990	2,290	970	1,240
MIN	368	597	600	785	735	225	187	190	338	648	481	474

CAL YR 1967 TOTAL 298,690 MEAN 818 MAX 2,510 MIN 124
WTR YR 1968 TOTAL 272,681 MEAN 745 MAX 2,290 MIN 187

5-3930. Tomahawk River at Bradley, Wis.

Location.--Lat 45°32'20", long 89°44'45", in NW 1/4 sec. 9, T. 35 N., R. 6 E., at dam at outlet of Lake Nokomis, 0.5 mile east of Bradley, 4.0 miles upstream from Jersey powerplant, and 4.7 miles upstream from mouth.

Drainage area.--545 sq mi.

Records available.--January 1930 to September 1968. Prior to October 1951, published as "at Tomahawk".

Gage.--Lake staff gage read once daily, supplemented by frequent readings of tainter-gage openings. Datum of gage is 1,448.24 ft above mean sea level, datum of 1929. Prior to October 1951, powerplant records at site 4.0 miles downstream.

Average discharge.--38 years, 532 cfs.

Extremes.--Maximum discharge during year, 2,540 cfs June 25; minimum, 17 cfs Mar. 18, 19.
1930-68: Maximum discharge, 2,690 cfs Oct. 2, 1959; no flow at times in 1931, 1934, 1940, 1957.

Remarks.--Records good except those below 250 cfs, which are poor. Flow completely regulated by four reservoirs operated by Wisconsin Valley Improvement Company (see p. 111).

Cooperation.--Record of lake elevations and gate openings furnished by Wisconsin Valley Improvement Company.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	824	441	827	851	485	431	66	28	477	2,310	473	595
2	943	240	421	806	473	427	107	46	589	2,210	308	611
3	918	284	607	776	464	423	133	75	654	2,110	216	695
4	895	312	889	770	464	436	93	50	619	2,080	280	648
5	907	350	814	734	503	442	82	28	560	1,870	333	282
6	915	396	623	710	546	481	92	28	391	1,460	404	90
7	874	581	582	706	511	506	78	28	180	1,290	589	183
8	669	550	637	714	506	496	70	28	156	1,160	736	320
9	474	412	652	636	520	335	70	29	625	1,280	672	708
10	452	352	652	601	518	247	41	29	824	1,380	439	788
11	658	387	679	617	517	247	24	47	757	1,300	533	694
12	832	497	694	617	572	246	24	86	753	1,420	633	615
13	810	536	692	618	600	364	24	107	527	1,260	702	682
14	590	527	690	619	542	420	24	93	898	1,350	769	739
15	503	526	688	619	502	407	25	29	955	1,550	768	742
16	575	526	712	605	497	289	25	167	783	1,440	769	841
17	719	554	732	538	492	230	25	181	859	1,780	770	849
18	823	553	674	503	486	99	25	401	807	1,970	768	884
19	855	556	583	506	481	17	26	588	877	1,820	820	971
20	853	576	594	506	476	19	26	513	906	1,440	670	972
21	850	622	638	506	471	20	26	437	1,590	1,200	565	924
22	845	610	689	505	466	189	26	382	2,120	1,010	671	817
23	910	590	789	528	463	291	27	361	2,330	653	646	846
24	884	606	799	528	455	291	27	588	2,390	360	723	830
25	383	614	793	519	453	291	27	595	2,480	381	753	695
26	55	614	842	507	449	293	27	556	2,490	518	691	617
27	130	731	857	500	444	226	27	692	2,470	877	755	671
28	379	838	871	501	440	63	27	772	2,320	1,130	834	738
29	229	913	874	368	436	64	27	741	2,270	950	816	687
30	69	938	867	378	------	64	28	822	2,440	661	799	635
31	398	------	860	485	------	66	------	578	------	565	689	------
TOTAL	20,221	16,232	22,321	18,377	14,232	8,420	1,349	9,105	36,097	40,785	19,594	20,369
MEAN	652	541	720	592	491	272	45.0	294	1,203	1,316	632	679
MAX	943	938	889	851	600	506	133	822	2,490	2,310	834	972
MIN	55	240	421	368	436	17	24	28	156	360	216	90

CAL YR 1967:	TOTAL	211,460	MEAN	579	MAX	1,010	MIN	49
WTR YR 1968:	TOTAL	227,102	MEAN	620	MAX	2,490	MIN	17

5-3935. Spirit River at Spirit Falls, Wis.

Location.--Lat 45°26'55", long 89°58'50", in NW 1/4 sec. 10, T. 34 N., R. 4 E., near center of span on downstream side of bridge 0.2 mile south of town of Spirit Falls, 0.6 mile upstream from Squaw Creek, and 2.0 miles downstream from Richie Creek.

Drainage area.--82 sq mi, approximately.

Records available.--April 1942 to September 1968.

Gage.--Wire-weight gage and crest-stage indicator; gage read once daily. Altitude of gage is 1,450 ft (from dam and reservoir data). Prior to Oct. 19, 1955, chain gage at same site and datum.

Average discharge.--26 years, 82.3 cfs.

Extremes.--Maximum discharge during year, 1,840 cfs May 16 (gage height, 6.62 ft); minimum discharge observed, 5.4 cfs Jan. 9 (gage height, 1.17 ft).

1942-68: Maximum discharge observed, 4,180 cfs Sept. 18, 1942 (gage height, 10.00 ft), from rating curve extended above 2,500 cfs; minimum observed, 1.0 cfs Aug. 11, 1964 (gage height, 0.85 ft).

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	61	15	6.5	6.4	6.4	160	103	461	941	83	22
2	6.9	51	16	6.3	6.3	6.6	132	92	517	563	59	42
3	6.6	44	16	6.2	6.1	6.8	106	79	414	355	48	29
4	6.6	36	16	6.2	6.0	7.0	124	91	256	232	37	52
5	7.2	27	15	6.3	6.1	7.4	110	86	173	157	33	295
6	6.6	20	16	6.4	6.2	7.6	124	76	131	129	30	200
7	6.3	17	17	5.9	6.4	8.0	107	67	104	101	30	129
8	17	14	20	5.6	6.5	8.6	172	59	86	86	28	124
9	32	19	18	5.4	6.6	9.2	200	61	82	73	26	239
10	22	20	17	5.8	6.6	10	152	58	82	55	26	297
11	20	20	16	5.8	6.7	11	124	55	110	44	21	194
12	17	19	16	6.0	6.8	11	113	47	302	45	18	123
13	15	20	15	6.4	6.8	10	116	58	216	117	16	97
14	17	16	13	6.4	6.8	8.6	154	101	172	517	14	76
15	16	13	11	6.4	6.8	9.6	371	470	192	796	13	60
16	16	17	11	6.4	6.8	11	297	1,260	131	491	14	49
17	16	17	12	6.4	6.6	14	340	1,280	101	251	14	40
18	14	17	13	6.4	6.5	22	368	638	82	278	13	55
19	14	16	14	6.5	6.4	100	256	638	71	194	19	145
20	13	13	14	6.6	6.3	82	285	563	75	120	36	139
21	13	15	16	6.7	6.2	72	619	394	771	103	38	134
22	13	16	15	6.8	6.2	64	517	285	1,520	86	25	123
23	12	16	13	7.0	6.1	56	371	239	713	63	22	110
24	20	15	12	7.0	6.0	48	345	363	419	55	18	122
25	81	15	10	7.0	6.0	46	304	353	297	42	16	103
26	87	15	9	7.1	6.1	56	249	307	452	52	15	82
27	65	14	8	7.1	6.1	68	194	881	1,280	181	12	67
28	54	14	7.6	7.1	6.2	130	155	1,130	1,020	143	11	59
29	42	14	7.2	7.0	6.3	220	134	884	536	90	10	49
30	59	15	6.8	6.9	------	162	116	590	626	65	12	41
31	73	------	6.6	6.7	------	181	------	464	------	67	12	------
TOTAL	795.1	626	412.2	200.3	184.9	1,459.8	6,815	11,772	11,392	6,492	769	3,297
MEAN	25.6	20.9	13.3	6.46	6.38	47.1	227	380	380	209	24.8	110
MAX	87	61	20	7.1	6.8	220	619	1,280	1,520	941	83	297
MIN	6.3	13	6.6	5.4	6.0	6.4	106	47	71	42	10	22
CFSM	.312	.255	.162	.079	.078	.574	2.77	4.63	4.63	2.55	.302	1.34
IN.	.36	.28	.19	.09	.08	.66	3.09	5.34	5.17	2.94	.35	1.50

CAL YR 1967:	TOTAL	35,983.3	MEAN	98.6	MAX	2,530	MIN	6.0	CFSM	1.20	IN.	16.32
WTR YR 1968:	TOTAL	44,215.3	MEAN	121	MAX	1,520	MIN	5.4	CFSM	1.48	IN.	20.05

5-3945. Prairie River near Merrill, Wis.

Location.--Lat 45°14'10", long 89°38'50", on line between secs. 20 and 29, T. 32 N., R. 7 E., near center of span on downstream side of highway bridge, 1.5 miles upstream from Meadow Creek, 4.5 miles northeast of Merrill, and 8 miles upstream from mouth.

Drainage area.--181 sq mi.

Records available.--January 1914 to September 1931, August 1939 to September 1968. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Chain gage read once daily. Altitude of gage is 1,300 ft (from topographic map). January 1914 to June 1931 chain gage, and August 1939 to June 28, 1949, wire-weight gage at same site and datum.

Average discharge.--46 years (1914-31, 1939-68), 180 cfs.

Extremes.--Maximum observed discharge during year, 1,050 cfs June 28 (gage height, 4.50 ft); minimum daily 68 cfs Feb. 13, 14.
1914-31, 1939-68: Maximum discharge, 5,800 cfs Aug. 31, 1941 (gage height, 9.45 ft, from floodmarks), from rating curve extended above 2,200 cfs; minimum observed, 34 cfs Oct. 26, 1947 (gage height, 1.39 ft).

Remarks.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	210	120	80	78	82	257	212	624	794	265	135
2	79	186	114	80	80	82	268	188	504	704	259	142
3	80	164	110	80	84	84	205	179	473	604	171	175
4	80	144	102	80	84	86	230	193	363	628	146	473
5	81	133	95	80	82	87	251	188	282	297	146	416
6	82	130	92	78	82	88	230	175	232	262	154	384
7	88	119	94	76	80	90	177	158	228	215	168	419
8	100	119	94	76	78	94	200	154	175	182	166	401
9	220	130	84	85	76	98	205	150	232	182	162	700
10	200	130	84	88	74	126	186	146	243	173	162	1,020
11	178	126	84	88	72	120	173	139	280	140	158	960
12	160	126	82	90	70	114	191	139	343	144	124	726
13	150	126	80	90	68	108	212	139	288	177	121	560
14	142	123	77	90	68	106	300	257	337	297	118	384
15	138	116	82	90	70	110	588	461	294	300	118	259
16	136	118	86	90	73	124	540	722	238	285	114	225
17	134	118	85	88	74	180	532	739	218	271	118	200
18	130	114	84	88	74	246	453	654	222	285	121	215
19	128	106	84	86	74	492	431	544	282	262	162	246
20	126	82	84	84	74	423	394	291	291	191	158	257
21	120	96	82	80	74	262	469	331	564	168	158	285
22	116	107	82	76	76	205	431	248	588	162	158	271
23	112	106	80	74	76	152	477	238	612	154	131	248
24	150	103	78	72	78	152	484	524	540	146	114	238
25	258	98	76	74	80	144	453	658	508	142	114	232
26	190	90	76	76	80	152	373	691	628	139	114	228
27	200	82	76	76	80	186	297	762	944	158	107	218
28	220	150	76	76	80	469	321	857	1,050	166	97	196
29	235	140	76	76	82	492	240	804	892	154	97	182
30	220	126	78	76	------	380	230	658	823	158	94	156
31	215	------	78	76	------	315	------	576	------	259	94	------
TOTAL	4,546	3,718	2,675	2,519	2,221	5,849	9,798	12,175	13,298	8,199	4,389	10,551
MEAN	147	124	86.3	81.3	76.6	189	327	393	443	264	142	352
MAX	258	210	120	90	84	492	588	857	1,050	794	265	1,020
MIN	78	82	76	72	68	82	173	139	175	139	94	135
CFSM	.812	.685	.477	.449	.423	1.04	1.81	2.17	2.45	1.46	.785	1.94
IN.	.93	.76	.55	.52	.46	1.20	2.01	2.50	2.73	1.68	.90	2.17

CAL YR 1967:	TOTAL	71,598	MEAN	196	MAX	2,210	MIN	70	CFSM	1.08	IN.	14.70
WTR YR 1968:	TOTAL	79,938	MEAN	218	MAX	1,050	MIN	68	CFSM	1.20	IN.	16.41

GPO 817-102-7

5-3950. Wisconsin River at Merrill, Wis.

Location.--Lat 45°10'40", long 89°40'45", on line between secs. 12 and 13, T. 31 N., R. 6 E., on left bank 300 ft downstream from highway bridge at east end of Merrill and 0.5 mile downstream from Prairie River.

Drainage area.--2,780 sq mi, approximately.

Records available.--November 1902 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 1,228.85 ft above mean sea level, datum of 1929. Prior to June 18, 1903, staff gage at different datum. June 18, 1903, to Sept. 10, 1914, chain gage, and Sept. 11, 1914, to Aug. 13, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--65 years (1903-68), 2,682 cfs.

Extremes.--Maximum discharge during year, 15,600 cfs June 28 (gage height, 10.84 ft); minimum, 1,100 cfs May 1 (gage height, 4.12 ft). 1902-68: Maximum discharge, 49,400 cfs Aug. 31, 1941 (gage height, 18.26 ft) from rating curve extended above 20,000 cfs; minimum, about 90 cfs Sept. 26, 1908 (gage height, 2.45 ft).

Remarks.--Records excellent except those for winter months, which are good. Flow regulated by 20 reservoirs (see p. 114) and 9 powerplants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,020	2,130	2,250	2,200	1,700	1,560	2,190	2,320	6,920	12,900	3,220	2,430
2	1,970	2,470	2,260	2,000	1,700	1,500	2,000	2,240	7,580	10,700	2,790	2,240
3	1,960	2,340	2,300	1,850	1,750	1,500	2,050	1,890	6,280	9,620	2,550	1,820
4	1,900	2,190	1,910	1,800	1,800	1,540	2,390	1,940	5,220	8,730	2,080	2,300
5	2,010	2,000	2,070	1,800	1,700	1,600	2,180	1,870	5,050	6,950	2,190	3,250
6	1,900	1,930	2,250	1,800	1,700	1,700	2,120	1,900	3,330	5,850	2,420	3,090
7	2,070	2,060	2,200	1,900	1,700	1,840	2,040	1,850	2,930	5,060	2,330	2,300
8	2,370	2,190	1,860	2,000	1,750	1,980	2,050	1,570	3,140	4,720	2,560	2,590
9	2,280	2,380	2,180	1,920	1,750	2,100	2,030	1,910	3,460	3,920	2,800	4,320
10	2,220	2,000	2,160	1,900	1,750	2,280	1,840	1,680	4,930	4,410	2,490	6,250
11	1,760	1,920	2,040	1,800	1,700	2,180	1,820	1,460	5,600	4,210	2,140	5,110
12	2,000	2,190	2,080	1,900	1,700	2,080	1,790	1,630	6,830	3,620	1,980	4,950
13	2,230	1,910	2,270	1,800	1,700	2,050	2,000	1,590	5,850	4,700	1,960	4,270
14	2,290	2,180	2,100	1,800	1,700	2,090	2,600	2,110	5,520	7,660	2,190	4,700
15	1,990	2,230	2,120	1,800	1,750	2,180	3,150	3,170	5,970	11,300	2,340	3,690
16	1,890	2,040	2,240	1,800	1,640	2,300	4,020	8,680	4,410	8,720	2,310	3,930
17	1,990	2,190	1,910	1,800	1,660	2,490	4,300	9,830	4,010	7,850	2,340	3,640
18	2,240	1,980	2,000	1,750	1,660	2,850	4,220	8,300	4,480	7,760	2,090	4,350
19	1,950	2,010	2,000	1,750	1,660	3,620	4,080	7,090	3,780	7,510	1,970	4,200
20	2,100	1,970	1,950	1,750	1,680	3,300	3,470	5,700	3,230	5,500	2,740	3,930
21	2,160	2,030	1,850	1,750	1,680	2,250	5,260	5,560	7,490	5,690	2,320	4,240
22	2,010	1,910	1,850	1,750	1,700	1,790	5,480	3,850	12,600	4,410	1,640	4,410
23	2,060	2,000	1,900	1,750	1,700	1,860	4,520	2,890	12,500	3,860	2,150	3,590
24	2,390	1,930	2,000	1,750	1,680	1,660	5,000	4,250	10,100	3,090	2,200	3,660
25	3,100	2,250	2,100	1,750	1,600	1,620	4,520	5,560	8,890	3,060	2,110	4,160
26	3,330	2,030	2,000	1,750	1,600	1,620	3,850	4,920	10,300	2,720	2,220	3,790
27	2,590	2,210	1,950	1,750	1,600	2,000	2,940	8,120	13,300	3,300	2,140	2,760
28	2,280	2,040	2,000	1,700	1,580	3,150	2,820	9,960	15,100	4,540	1,820	2,460
29	2,310	2,240	2,050	1,750	1,580	3,280	2,560	9,290	12,400	3,380	2,000	2,820
30	2,690	2,250	2,200	1,800	------	2,930	2,810	8,280	11,600	2,750	2,390	2,660
31	2,420	------	1,950	1,750	------	2,580	------	7,290	------	3,240	2,140	------
TOTAL	68,480	63,200	64,000	56,370	48,870	67,480	92,100	138,700	212,800	181,730	70,620	107,910
MEAN	2,209	2,107	2,065	1,818	1,685	2,177	3,070	4,474	7,093	5,862	2,278	3,597
MAX	3,330	2,470	2,300	2,200	1,800	3,620	5,480	9,960	15,100	12,900	3,220	6,250
MIN	1,760	1,910	1,850	1,700	1,580	1,500	1,790	1,460	2,930	2,720	1,640	1,820

CAL YR 1967 TOTAL 1,090,270 MEAN 2,987 MAX 22,000 MIN 1,760 CFSM 1.07 IN 14.59
WTR YR 1968 TOTAL 1,172,260 MEAN 3,203 MAX 15,100 MIN 1,460 CFSM 1.15 IN 15.68

5-3975. Eau Claire River at Kelly, Wis.

Location.--Lat 44°55'05", long 89°33'00", on line between secs. 9 and 10, T. 28 N., R. 8 E., on right bank 50 ft downstream from highway bridge, 0.7 mile northeast of Kelly, 1.3 miles upstream from Big Sandy Creek, 4.5 miles upstream from mouth, and 5 miles southeast of Wausau.

Drainage area.--326 sq mi.

Records available.--January 1914 to November 1926, August 1939 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 1,177.88 ft above mean sea level, datum of 1929. Prior to November 1926, chain gage and August 1939 to September 16, 1953, wire-weight gage, at same site at datum 1.00 ft higher. Sept. 17, 1953, to June 11, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--41 years, 246 cfs.

Extremes.--Maximum discharge during year, 1,800 cfs Sept. 10 (gage height, 4.70 ft); minimum daily, 45 cfs Feb. 14-21 (backwater from ice), minimum gage height, 1.06 ft Nov. 16.

1914-26, 1939-68: Maximum discharge, 8,300 cfs Aug. 21, 1926 (gage height, 8.4 ft from graph based on gage readings), from rating curve extended above 6,000 cfs; minimum observed, 8 cfs July 17, 1944 (gage height, 0.17 ft), probably result of temporary regulation.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	308	92	61	62	52	310	312	618	584	196	105
2	85	274	93	57	62	53	300	274	690	502	203	127
3	83	238	94	55	61	54	270	246	651	411	171	132
4	81	210	92	54	60	55	308	231	507	325	152	124
5	80	187	90	53	59	56	321	224	370	270	163	242
6	80	168	88	53	57	58	304	206	282	228	196	308
7	83	154	86	53	55	60	286	187	231	200	196	254
8	112	146	85	53	53	62	291	174	190	180	210	250
9	166	144	84	53	52	64	291	166	196	180	213	742
10	190	136	84	54	50	66	270	160	242	187	154	1,630
11	168	132	84	54	49	68	242	152	228	157	134	1,570
12	152	134	84	55	48	72	228	146	235	146	122	1,370
13	146	130	84	56	46	74	603	152	238	149	114	840
14	149	116	84	57	45	76	1,130	206	421	210	107	502
15	152	105	84	58	45	80	1,410	579	522	474	105	366
16	141	99	84	58	45	90	1,180	965	379	488	109	291
17	134	124	84	59	45	110	965	935	274	430	109	250
18	124	118	84	60	45	160	738	722	210	622	103	299
19	118	106	84	60	45	230	598	845	180	800	115	398
20	114	92	84	61	45	390	550	574	171	656	379	493
21	109	100	80	62	45	290	860	421	825	375	206	440
22	105	106	80	62	46	270	795	334	1,310	262	149	375
23	101	104	80	62	46	260	742	304	920	224	124	321
24	109	102	81	62	46	260	925	656	752	200	112	299
25	246	98	80	62	48	260	930	680	603	177	103	274
26	469	93	78	62	49	263	825	646	835	163	97	250
27	445	90	75	62	50	270	618	1,040	1,420	388	96	224
28	384	90	72	62	50	280	493	1,060	1,280	330	92	206
29	321	90	70	62	51	290	402	1,080	1,180	210	90	190
30	299	92	68	62	------	300	348	970	845	166	87	177
31	325	------	65	62	------	310	------	757	------	168	87	------
TOTAL	5,358	4,086	2,557	1,806	1,460	4,983	17,533	15,404	16,805	9,862	4,494	13,049
MEAN	173	136	82.5	58.3	50.3	161	584	497	560	318	145	435
MAX	469	308	94	62	62	390	1,410	1,080	1,420	800	379	1,630
MIN	80	90	65	53	45	52	228	146	171	146	87	105
CFSM	.53	.42	.25	.18	.15	.49	1.79	1.52	1.72	.98	.44	1.33
IN.	.61	.47	.29	.21	.17	.57	2.00	1.76	1.92	1.13	.51	1.49

CAL YR 1967 TOTAL 97,556 MEAN 267 MAX 5,660 MIN 46 CFSM .82 IN 11.13
WTR YR 1968 TOTAL 97,397 MEAN 266 MAX 1,630 MIN 45 CFSM .82 IN 11.11

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-14	2400	4.35	1,540	9-10	1,00	4.70	1,800
6-21	2200	4.59	1,710				

5-3980. Wisconsin River at Rothschild, Wis.

Location.--Lat 44°53'10", long 89°37'50", in sec. 26, T. 28 N., R. 7 E., on left bank at Rothschild, 0.5 mile downstream from Rothschild Dam, 2 miles downstream from Eau Claire River, 5 miles upstream from Black Creek, and 5.5 miles south of bridge on State Highway 29, in Wausau.

Drainage area.--4,000 sq mi, approximately.

Records available.--October 1944 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 1,135.86 ft above mean sea level, datum of 1929. Prior to June 23, 1964, graphic water-stage recorder at present site and datum. Auxiliary digital water-stage recorder in Mosinee pond 8 miles downstream. Prior to July 23, 1964, auxiliary staff gage at present site and datum read hourly.

Average discharge.--24 years, 3,300 cfs.

Extremes.--Maximum discharge during year, 26,000 cfs June 27 (gage height, 13.23 ft); minimum daily, 1,320 cfs Mar. 3.

1944-68: Maximum discharge, 49,200 cfs Apr. 12, 1965, Mar. 31, 1967 (gage height, 18.46 ft); minimum daily, 680 cfs Oct. 17, 1948.

Flood of Sept. 1, 1941, reached a stage of 22.3 ft from tailwater data at Rothschild dam (discharge, 75,000 cfs, from rating curve extended above 45,000 cfs by logarithmic plotting).

Remarks.--Records good except those for winter months, or discharge below 1,500 cfs, which are fair. Flow regulated by 20 reservoirs (see p. 111) and 12 powerplants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,700	3,030	2,330	1,700	1,900	1,560	3,680	3,100	10,300	15,500	4,100	3,030
2	2,420	3,090	2,320	2,000	2,000	1,440	2,900	3,330	11,900	13,600	3,700	2,800
3	2,310	2,690	2,430	2,200	1,800	1,320	2,930	2,850	8,800	11,800	3,300	2,450
4	2,270	2,900	2,660	2,180	1,700	1,500	3,730	2,610	7,200	10,200	3,000	2,860
5	2,220	2,470	2,290	1,900	2,000	1,600	3,620	2,630	6,810	8,480	2,800	5,280
6	2,290	2,360	2,290	1,700	2,000	1,560	3,020	2,580	5,020	6,980	3,100	4,640
7	1,960	2,340	2,750	1,600	2,000	1,700	3,260	2,190	3,990	6,200	3,000	3,380
8	2,660	2,490	2,550	1,900	1,840	1,900	2,920	2,580	3,890	5,820	3,300	3,840
9	2,960	2,550	2,240	2,060	1,900	2,300	3,100	2,180	5,190	5,350	3,200	7,700
10	2,890	2,650	2,160	1,940	1,740	2,500	3,090	2,530	6,620	4,600	3,100	13,800
11	2,790	2,220	2,310	2,000	1,700	2,400	2,470	2,000	7,220	5,060	2,800	10,600
12	2,530	2,210	2,330	2,000	1,700	2,200	2,700	1,580	8,190	4,530	2,500	8,270
13	2,650	2,340	2,500	1,820	1,740	2,100	6,450	2,460	8,640	5,190	2,300	6,590
14	2,540	2,240	2,330	1,920	1,900	2,100	7,480	2,640	7,710	7,250	2,500	6,060
15	2,140	2,670	2,210	2,000	2,000	2,160	9,670	6,200	8,250	12,800	2,700	5,220
16	2,530	2,340	1,970	1,900	1,840	2,300	7,950	11,300	6,290	12,100	2,800	4,740
17	2,320	2,250	2,190	1,960	1,700	3,000	7,820	20,600	5,190	9,440	2,700	4,510
18	2,430	2,540	2,290	2,100	1,670	4,190	7,440	15,200	5,310	9,880	2,500	5,490
19	2,500	2,330	2,240	2,000	1,760	6,080	6,500	12,700	4,770	9,440	3,000	6,320
20	2,470	2,210	2,180	1,800	1,700	5,970	5,460	9,000	4,280	7,350	4,500	6,340
21	2,050	2,260	2,200	1,740	1,700	3,910	4,980	7,950	8,800	6,690	3,700	5,770
22	1,920	2,270	2,000	1,800	1,780	2,810	9,270	5,730	18,000	5,930	3,000	5,980
23	2,640	2,290	1,800	1,900	1,820	2,470	7,930	5,000	16,100	4,820	2,780	4,990
24	2,530	2,300	1,760	1,840	1,800	2,470	9,480	7,350	14,100	3,510	2,770	4,990
25	4,340	2,300	1,840	1,820	1,660	2,200	8,960	8,840	13,900	3,140	2,090	5,070
26	4,950	2,550	2,100	1,840	1,740	2,420	6,900	7,480	15,700	3,270	2,780	5,340
27	3,940	2,270	2,260	1,700	1,700	2,480	5,400	14,100	22,800	4,920	2,550	3,600
28	2,970	2,140	2,300	1,600	1,680	6,000	4,610	2,000	24,500	6,150	2,430	3,340
29	3,200	1,930	2,200	1,900	1,600	6,460	3,870	18,800	19,100	4,300	2,350	3,030
30	3,430	2,380	2,080	2,040	------	5,170	3,950	14,900	14,800	3,600	2,850	3,650
31	3,450	------	2,000	2,020	------	4,190	------	11,800	------	3,900	2,340	------
TOTAL	84,000	72,580	69,110	58,880	52,070	90,460	161,540	214,210	303,370	221,800	90,040	159,680
MEAN	2,710	2,419	2,229	1,899	1,796	2,918	5,385	6,910	10,110	7,155	2,905	5,323
MAX	4,950	3,090	2,750	2,200	2,000	6,460	9,670	20,600	24,500	15,500	4,500	13,800
MIN	1,700	1,900	1,760	1,600	1,600	1,320	2,470	1,580	3,890	3,140	2,090	2,450

CAL YR 1967 TOTAL 1,514,470 MEAN 4,149 MAX 44,500 MIN 1,610
WTR YR 1968 TOTAL 1,577,740 MEAN 4,311 MAX 24,500 MIN 1,320

5-3995. Big Eau Pleine River near Stratford, Wis.

Location.--Lat 44°49'15", long 90°04'35", on line between sec. 13, T. 27 N., R. 3 E., and sec. 18, T. 27 N., R. 4 E., on left bank 15 ft upstream from bridge on State Highway 97, 1 mile north of Stratford, and 1.4 miles downstream from small tributary.

Drainage area.--224 sq mi.

Records available.--July 1914 to December 1925, April 1937 to September 1968. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Digital water-stage recorder. Datum of gage is 1,154.24 ft above mean sea level, datum of 1929. July 24, 1914, to Dec. 31, 1925, staff gage at site 0.5 mile upstream at different datum. Apr. 30, 1937, to Sept. 15, 1938, chain gage at present site and datum. Sept. 16, 1938, to June 19, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--42 years (1914-25, 1937-68), 165 cfs.

Extremes.--Maximum discharge during year, 14,800 cfs May 16 (gage height, 19.01 ft); minimum daily, 0.5 cfs Feb. 19, 20 (backwater from ice).

1914-25, 1937-68: Maximum discharge, 41,000 cfs Sept. 9, 1938 (gage height, 24.5 ft, from floodmarks), from rating curve extended above 24,000 cfs; no flow Aug. 17, 1947, Jan. 22 to Feb. 5, 1961.

Flood of June 5, 1914, reached a stage of 20.7 ft, from floodmarks (discharge, 40,000 cfs), former site and datum.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	46	5.8	4.9	8.0	9.6	114	69	850	358	355	63
2	4.2	39	6.2	4.7	9.2	13	85	57	685	173	136	84
3	4.1	31	6.4	4.5	7.8	19	70	50	281	109	77	50
4	4.0	26	6.7	4.3	6.9	30	134	45	150	78	46	45
5	4.8	22	7.0	4.1	6.2	42	151	39	94	58	65	154
6	4.6	18	7.1	4.0	5.8	80	103	34	59	47	673	181
7	6.6	16	7.4	3.8	5.2	130	80	29	44	35	443	101
8	36	14	7.6	3.7	4.8	250	76	27	33	32	941	232
9	56	13	7.7	3.5	4.6	400	79	26	32	120	1,100	1,410
10	43	13	7.8	3.4	4.4	600	90	24	63	86	315	1,130
11	33	13	7.7	3.3	4.3	450	81	21	70	35	144	418
12	24	13	7.7	3.2	4.0	280	73	20	141	119	86	195
13	21	13	7.6	3.3	3.6	180	808	18	209	204	58	117
14	19	12	7.1	3.3	3.1	110	905	59	166	1,340	41	81
15	18	12	6.6	3.3	2.4	60	668	140	122	1,150	32	67
16	16	12	6.0	3.4	1.6	120	309	8,840	72	317	29	56
17	14	11	6.0	3.4	1.2	150	436	2,640	42	168	24	43
18	13	12	6.2	3.5	1.0	140	304	789	29	222	20	825
19	11	12	6.6	3.6	.50	410	185	657	21	139	44	939
20	9.9	11	6.8	3.6	.50	303	1,130	344	16	80	1,130	990
21	9.8	11	7.2	3.7	1.0	185	1,410	199	1,430	51	356	313
22	8.5	10	7.2	3.8	1.4	118	562	138	716	36	152	175
23	8.0	9.8	7.0	3.9	1.7	106	409	106	374	28	86	124
24	13	9.2	6.6	4.2	2.1	73	993	511	440	24	53	100
25	52	9.0	6.4	4.5	3.0	53	451	561	2,080	19	35	76
26	63	8.4	6.2	4.8	3.8	49	280	2,110	4,750	16	25	60
27	54	7.6	6.0	5.4	5.8	79	183	4,110	5,130	226	19	51
28	38	7.0	5.7	5.9	6.6	1,210	129	1,440	1,690	266	15	45
29	31	7.4	5.5	6.6	7.6	555	100	1,060	654	98	12	37
30	38	5.7	5.3	7.2	------	249	82	671	497	50	9.6	31
31	43	------	5.2	7.8	------	154	------	356	------	192	8.4	------
TOTAL	704.8	444.1	206.3	132.6	117.00	6,607.6	10,480	25,190	20,940	5,876	6,530.0	8,193
MEAN	22.7	14.8	6.65	4.28	4.03	213	349	813	698	190	211	273
MAX	63	46	7.8	7.8	8.2	1,210	1,410	8,840	5,130	1,340	1,130	1,410
MIN	4.0	5.7	5.2	3.2	.50	9.6	70	18	16	16	8.4	31
CFSM	.10	.07	.03	.02	.02	.95	1.56	3.63	3.12	.85	.94	1.22
IN.	.12	.07	.03	.02	.02	1.10	1.74	4.18	3.48	.98	1.08	1.36

CAL YR 1967 TOTAL 74,252.1 MEAN 203 MAX 11,900 MIN 2.3 CFSM .91 IN 12.33
WTR YR 1968 TOTAL 85,421.40 MEAN 233 MAX 8,840 MIN .50 CFSM 1.04 IN 14.18

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT	DISCHARGE
5-16	1115	19.01	14,800	6-26	2200	14.97	7,860
5-26	2400	13.85	6,360	7-14	2030	10.89	3,330

5-4006. Little Plover River near Arnott, Wis.

Location.--Lat 44°28'05", long 89°29'20", in NE 1/4 sec. 24, T. 23 N., R. 8 E., 150 ft below bridge on town road 2.2 miles northwest of Arnott and 3 1/2 miles upstream from mouth.

Drainage area.--1.5 sq mi, approximately, of which a portion is noncontributing.

Records available.--July 1959 to September 1968.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 1,087.37 ft above mean sea level, datum of 1929 (levels by Wisconsin Department of Natural Resources). Prior to April 1960 staff gage at same site at datum 0.26 ft higher.

Average discharge.--9 years, 3.22 cfs.

Extremes.--Maximum discharge during year, 24 cfs June 27 (gage height, 2.15 ft); minimum, 1.7 cfs Aug. 29, 30 (gage height, 0.73 ft), result of regulation; minimum gage height, 0.67 ft Feb. 22 (result of freezeup).
1959-68: Maximum discharge, 66 cfs Sept. 13, 1962; minimum daily, 0.8 cfs for many days in July, Aug., and Sept., 1959.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	4.0	3.0	2.6	3.0	2.2	3.3	3.4	4.4	5.2	2.5	3.6
2	3.3	4.1	3.1	2.5	2.9	2.2	3.3	3.3	4.1	4.6	2.7	2.7
3	3.2	3.8	3.1	2.5	2.8	2.2	3.5	3.2	3.9	4.3	2.8	2.5
4	3.1	3.6	3.1	2.5	2.8	2.2	3.6	3.2	3.8	4.4	2.8	3.0
5	3.0	3.5	3.1	2.5	2.7	2.3	3.1	3.1	3.6	4.0	2.6	3.4
6	3.0	3.4	3.1	2.5	2.8	2.4	3.1	3.0	3.6	3.8	3.1	3.0
7	3.6	3.4	3.3	2.5	2.7	2.6	3.2	3.0	3.5	3.8	3.2	2.8
8	4.6	3.4	3.2	2.5	2.5	3.1	3.2	3.1	3.4	3.8	3.6	4.1
9	3.9	3.3	3.1	2.5	2.4	3.4	2.9	3.1	3.5	3.6	3.2	7.3
10	3.6	3.3	3.2	2.5	2.3	2.6	2.9	3.0	3.6	3.5	3.0	5.2
11	3.4	3.4	3.2	2.6	2.3	2.4	2.8	2.9	3.6	3.5	3.0	4.1
12	3.4	3.4	3.2	2.7	2.3	2.4	2.9	2.8	3.4	3.6	3.0	3.7
13	3.6	3.2	3.0	2.7	2.3	2.3	3.2	2.8	3.3	3.5	2.6	3.6
14	3.4	3.2	2.9	2.8	2.3	2.3	3.9	3.5	3.9	3.6	2.5	3.5
15	3.3	3.1	2.9	2.8	2.4	2.3	3.5	3.5	3.4	3.3	2.7	3.2
16	3.2	3.2	3.1	2.8	2.3	2.3	3.5	9.0	3.3	3.2	2.9	3.1
17	3.2	3.3	3.2	2.8	2.3	2.4	3.6	5.5	3.3	4.2	2.8	3.1
18	3.2	3.2	3.2	2.8	2.3	3.0	3.4	5.2	3.6	3.8	2.8	3.0
19	3.1	3.1	3.0	2.7	2.3	3.4	3.2	11	3.4	3.6	3.0	3.2
20	3.1	3.1	3.1	2.8	2.3	3.2	4.4	5.7	3.3	3.4	2.9	3.2
21	3.0	3.2	3.4	2.7	2.3	3.0	4.3	4.7	4.4	3.4	2.6	3.0
22	3.1	3.2	3.0	2.8	2.2	3.0	3.9	4.2	3.7	3.3	2.6	2.9
23	3.1	3.2	3.0	2.7	2.2	2.9	4.5	4.1	4.1	3.6	2.3	3.0
24	4.1	3.2	2.9	2.7	2.2	3.0	4.5	4.1	3.9	3.4	2.2	3.1
25	5.2	3.1	2.8	2.7	2.2	3.0	4.2	3.8	4.2	3.2	2.2	2.8
26	4.1	3.1	2.8	2.7	2.2	2.9	3.9	4.9	12	3.2	2.1	2.8
27	3.9	3.0	2.7	2.7	2.2	3.1	3.6	6.3	18	3.2	2.1	2.7
28	3.7	3.0	2.7	2.7	2.2	3.3	3.6	7.1	8.1	3.0	2.0	2.7
29	3.6	3.0	2.6	3.0	2.2	3.2	3.5	5.8	6.2	3.0	1.8	2.7
30	4.1	3.1	2.6	2.7	------	3.3	3.5	5.0	5.7	2.7	1.9	2.7
31	3.8	------	2.6	2.8	------	3.4	------	4.5	------	2.6	2.2	------
TOTAL	109.1	99.1	93.0	82.8	69.9	85.3	106.0	137.8	142.2	111.3	81.7	99.7
MEAN	3.52	3.30	3.00	2.67	2.41	2.75	3.53	4.45	4.74	3.59	2.64	3.32
MAX	5.2	4.1	3.4	3.0	3.0	3.4	4.5	11	18	5.2	3.6	7.3
MIN	3.0	3.0	2.6	2.5	2.2	2.2	2.8	2.8	3.3	2.6	1.8	2.5

CAL YR 1967: TOTAL 1,499.5 MEAN 4.11 MAX 35 MIN 2.2
WTR YR 1968: TOTAL 1,217.9 MEAN 3.33 MAX 18 MIN 1.8

5-4006.5 Little Plover River at Plover, Wis.

Location.--Lat 44°28'20", long 89°31'40", in SW 1/4 sec. 14, T. 23 N., R. 8 E., on right bank at bridge on town road, 1 mile northeast of Plover and 1.2 miles upstream from mouth.

Drainage area.--15 sq mi, approximately, of which a large portion is noncontributing.

Records available.--July 1959 to September 1968.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 1,068.34 ft above mean sea level, datum of 1929 (levels by Wisconsin Department of Natural Resources. Prior to May 1960 staff gage at same site at datum 0.88 ft lower.

Average discharge.--9 years, 9.56 cfs.

Extremes.--Maximum discharge during year, 32 cfs June 27 (gage height, 2.09 ft); minimum daily, 6.3 cfs Feb. 19-21.
1959-68: Maximum discharge, 79 cfs Feb. 9, 1966; minimum, 2.4 cfs May 23, 1965; minimum daily, 4.3 cfs Aug. 19, 20, 1959.

Remarks.--Records good except those for period of no gage-height record, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	11	9.2	7.4	8.3	6.9	8.2	9.4	12	15	8.2	9.5
2	9.7	11	9.2	7.3	8.2	6.8	8.2	9.2	12	14	8.3	8.5
3	9.7	10	9.2	7.3	8.0	6.8	8.5	9.0	12	13	8.5	7.9
4	9.7	10	9.2	7.3	7.9	7.2	9.2	8.9	11	13	8.3	8.5
5	8.9	9.8	9.1	7.3	7.8	7.3	8.6	8.6	11	14	8.3	10
6	8.8	9.8	9.1	7.2	7.9	7.1	8.5	8.5	11	12	9.2	9.2
7	9.7	9.7	9.5	7.3	7.8	7.6	8.5	8.3	11	12	9.4	8.8
8	12	9.7	9.4	7.3	7.8	8.5	8.6	8.5	11	12	10	11
9	10	9.7	9.2	7.3	7.3	9.4	8.3	8.7	11	12	9.4	11
10	9.8	9.7	9.2	7.3	7.1	8.2	8.2	8.8	11	11	8.9	14
11	9.5	9.8	9.4	7.5	6.9	8.0	8.4	8.6	11	11	8.6	11
12	9.4	10	9.2	7.5	6.9	7.8	8.9	8.5	10	11	8.6	11
13	9.7	9.7	8.9	7.5	6.8	7.5	9.2	8.3	10	11	8.3	11
14	9.5	9.7	8.6	7.6	6.8	7.5	10	9.4	11	11	7.9	12
15	9.4	9.4	8.5	7.8	6.9	7.6	9.4	9.5	10	10	8.5	12
16	9.2	9.4	8.9	7.8	6.6	7.6	9.4	17	10	10	8.6	12
17	9.2	10	9.1	7.9	6.5	7.6	9.6	13	10	12	8.5	12
18	9.2	10	8.9	8.2	6.4	8.2	9.2	13	10	12	8.5	10
19	9.1	10	8.8	8.0	6.3	8.8	9.0	18	10	11	8.5	10
20	9.1	9.8	8.9	8.0	6.3	8.2	11	14	9.8	10	8.8	11
21	8.9	9.8	9.4	7.9	6.3	7.9	11	13	12	10	8.6	10
22	9.1	9.8	8.5	8.0	6.4	7.8	11	12	11	10	8.2	10
23	9.1	9.7	8.2	7.8	6.5	7.6	12	12	11	10	7.9	10
24	10	9.7	8.1	7.5	6.6	7.6	12	12	11	10	7.5	10
25	13	9.7	8.0	7.9	6.9	7.6	11	12	11	10	7.5	9.7
26	11	9.5	8.0	7.9	6.9	7.9	11	13	19	9.5	7.8	9.7
27	10	9.1	7.9	7.9	6.9	7.9	10	15	27	9.5	7.8	9.5
28	10	8.9	7.8	7.9	6.9	8.3	10	16	19	9.2	7.6	9.4
29	10	9.1	7.6	8.5	6.8	8.2	9.8	14	16	9.1	7.1	9.2
30	11	9.4	7.6	8.0	------	8.2	9.7	14	15	8.8	6.9	9.2
31	10	------	7.5	8.0	------	8.5	------	13	------	8.6	7.2	------
TOTAL	303.2	292.9	270.1	238.1	204.7	242.1	286.4	353.2	366.8	341.7	257.4	307.1
MEAN	9.78	9.76	8.71	7.68	7.06	7.81	9.55	11.4	12.2	11.0	8.30	10.2
MAX	13	11	9.5	8.5	8.3	9.4	12	18	27	15	10	14
MIN	8.8	8.9	7.5	7.2	6.3	6.8	8.2	8.3	9.8	8.6	6.9	7.9

CAL YR 1967: TOTAL 4,027.8 MEAN 11.0 MAX 55 MIN 6.8
WTR YR 1968: TOTAL 3,463.7 MEAN 9.46 MAX 27 MIN 6.3

PEAK DISCHARGE (BASE, 22 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-16	1100	1.68	22	6-27	1300	2.09	32

Note.--No gage-height record Apr. 11 to May 9.

5-4008. Wisconsin River at Wisconsin Rapids, Wis.

Location.--Lat 44°22'05", long 89°51'30", in SW 1/4 sec. 24, T. 22 N., R. 5 E., at Centralia powerplant of Nekoosa-Edwards Paper Co., 1.6 miles downstream from Chicago and Northwestern Railway bridge in Wisconsin Rapids.

Drainage area.--5,400 sq mi, approximately.

Records available.--May 1914 to March 1950 (published as "near Nekoosa"), October 1957 to September 1968.

Gage.--Water-stage recorders on headwater and tailwater. Elevation of powerplant pond is 980 ft and datum of powerplant gages is 887.83 ft above mean sea level (levels by Wisconsin Valley Improvement Co.). May 1914 to March 1950, water-stage recorder at site 7.0 miles downstream at different datum.

Average discharge.--46 years (1914-49, 1957-68), 4,881 cfs.

Extremes.--Maximum discharge during year, 35,000 cfs June 29; minimum daily, 895 cfs Dec. 24.
1914-50, 1957-68: Maximum discharge, 70,400 cfs Sept. 12, 1938 (gage height, 19.10 ft), from rating curve extended above 58,000 cfs; minimum, 26 cfs Sept. 7, 1942; minimum daily, 165 cfs Aug. 12, 1934.

Remarks.--Records good. Discharge computed from powerplant records on basis of load-discharge rating of hydroelectric units as developed by Geological Survey and tainter-gate ratings and spillway ratings based on theoretical formulas and discharge measurements. Flow regulated by 21 reservoirs (see p. 111) and many powerplants above station. Water diverted periodically from pond of Wisconsin Rapids powerplant 2.6 miles upstream into Cranberry Creek, a tributary of Yellow River, for cranberry culture. Probably most of the water diverted is lost by evaporation and transpiration. These diversions in cubic feet per second, for water year October 1967 to September 1968, were as follows:

Oct.	1	100	Oct.	16	100	Dec.	2	100	Mar.	10	100	Mar.	17	88	Aug. 12	100	Aug. 19	4
	2	100		17	100		3	100		11	13		18	8	13	100	Sept. 21	63
	3	100	Nov.	27	96		4	100		12	100	Aug.	7	96	14	100	22	88
	4	4		28	100		5	100		13	88		8	100	15	100	23	100
	13	85		29	100		6	27		14	79		9	100	16	100	24	100
	14	100		30	100	Mar.	8	96		15	79		10	100	17	100	25	100
	15	100	Dec.	1	100		9	100		16	83		11	100	18	100	26	8

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	958	4,380	2,600	1,700	3,040	2,720	4,510	4,370	13,100	19,600	4,570	2,110
2	2,390	4,210	2,480	2,820	3,040	2,350	5,000	4,600	15,000	18,400	5,040	3,430
3	2,590	3,840	1,860	3,000	2,670	1,520	5,580	4,670	15,000	15,300	5,070	3,690
4	2,960	3,430	2,640	3,180	1,700	2,390	6,890	4,280	11,000	14,000	3,840	3,810
5	2,940	1,540	2,680	3,020	2,610	2,520	4,900	2,860	7,210	12,900	4,170	5,390
6	3,230	3,310	2,950	2,840	2,790	2,590	4,310	3,560	7,040	6,270	3,810	6,240
7	3,780	3,310	3,490	1,970	2,950	2,780	3,660	3,760	5,480	7,870	4,450	4,480
8	1,860	3,390	3,490	2,750	2,900	2,790	3,980	3,540	5,420	6,830	4,650	5,500
9	2,730	3,430	3,320	3,210	2,920	3,200	4,260	3,960	5,390	6,910	7,080	9,550
10	3,260	3,680	2,030	2,940	2,360	2,000	4,020	3,800	7,070	5,250	4,700	15,800
11	3,440	3,440	3,260	2,850	1,850	3,420	3,790	3,550	10,900	6,130	4,080	15,800
12	3,570	2,110	3,190	3,160	2,600	3,510	3,670	2,480	11,600	5,830	3,570	12,900
13	3,750	3,420	3,150	2,800	2,580	2,920	4,700	3,430	10,500	6,640	3,860	8,000
14	3,610	3,350	2,840	1,290	2,490	4,270	10,100	3,840	12,800	10,200	3,600	7,540
15	993	3,340	3,060	2,700	2,590	4,590	11,800	5,300	11,800	16,000	3,830	5,380
16	2,870	3,320	2,750	2,980	2,530	4,280	11,600	16,000	8,060	18,300	3,970	5,390
17	2,960	3,470	2,000	3,090	2,390	4,140	11,800	24,600	6,160	16,700	3,200	6,560
18	3,150	3,360	2,900	3,020	1,630	4,630	12,000	27,000	6,550	13,300	2,890	8,890
19	2,950	1,170	3,150	2,940	2,410	5,200	9,280	23,300	5,560	9,850	3,220	8,710
20	3,110	3,310	3,380	2,520	2,600	5,630	9,210	17,900	5,100	9,110	4,700	8,620
21	3,240	3,470	3,390	1,790	2,590	4,840	12,700	12,200	12,500	8,830	4,360	8,140
22	1,160	3,080	3,220	2,610	2,480	4,560	14,500	8,790	19,200	6,990	4,260	7,650
23	2,840	2,960	2,500	2,820	2,580	4,210	15,100	8,780	20,200	5,300	3,840	6,710
24	3,280	3,280	895	3,000	2,190	3,030	14,700	11,500	19,100	4,790	3,110	6,430
25	4,240	3,420	1,030	3,050	1,590	3,030	14,100	11,900	17,800	4,890	2,920	5,510
26	4,450	2,300	2,860	3,070	2,430	3,490	10,300	15,200	25,600	4,760	3,420	5,470
27	5,740	3,240	3,530	2,680	2,570	3,270	7,320	23,500	32,000	4,600	3,050	4,790
28	4,720	2,940	3,240	1,860	2,720	4,430	5,210	29,400	34,700	6,560	3,040	4,490
29	2,180	2,820	3,280	2,910	2,660	4,560	4,780	30,700	32,700	5,160	3,090	4,410
30	4,010	2,580	3,260	2,860	------	4,830	4,570	28,600	25,900	4,730	2,680	3,390
31	4,330	------	1,660	2,907	------	2,460	------	20,100	------	4,590	2,850	------
TOTAL	97,291	94,900	86,085	84,340	72,460	110,160	238,340	367,470	420,440	286,590	120,920	204,780
MEAN	3,138	3,163	2,777	2,721	2,499	3,554	7,945	11,854	14,015	9,245	3,901	6,826
MAX	5,740	4,380	3,530	3,210	3,040	5,630	15,100	30,700	34,700	19,600	7,080	15,800
MIN	958	1,170	895	1,290	1,590	1,520	3,660	2,480	5,100	4,590	2,680	2,110

CAL YR 1967: TOTAL 2,016,486 MEAN 5,525 MAX 59,400 MIN 895
WTR YR 1968: TOTAL 2,183,776 MEAN 5,967 MAX 34,700 MIN 895

5-4010.2 Tenmile Creek Ditch 5 near Bancroft, Wis.

Location.--Lat 44°18'08", long 89°32'59", in NE 1/4 sec. 16, T. 21 N., R. 8 E., at bridge on country road, 1 1/4 miles west of U. S. Highway 51 and 1 3/4 miles southwest of Bancroft.

Drainage area.--8.8 sq mi, approximately.

Records available.--June 1964 to September 1968.

Gage.--Water-stage recorder and 90° V-notch sharp-crested weir. Datum of gage is 1,063.57 ft above mean sea level, datum of 1929 (levels by Wisconsin Works Progress Administration).

Extremes.--Maximum discharge during year, 31 cfs June 26 (gage height, 2.57 ft); minimum, 2.2 cfs Dec. 31 (gage height, 0.83 ft, result of freezeup); minimum daily, 3.6 cfs Feb. 23-26.
1964-68: Maximum discharge, 138 cfs Feb. 9, 1966; minimum, 2.1 cfs Jan. 18, 1967 (gage height, 0.81 ft); minimum daily, 2.2 cfs Aug. 11, 13, 14, 17-19, 1964.

Remarks.--Records good except those for winter months, which are fair. There is approximately 2 miles of dredged drainage ditching above this gage. Sprinkler irrigation from ground-water wells is quite extensive in the basin. Records of water temperatures for the period of October 1967 to September 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	7.4	5.7	4.0	4.7	3.7	5.5	6.6	8.3	14	7.3	9.0
2	5.3	8.5	5.7	4.0	4.6	3.7	5.4	6.8	7.7	13	7.2	9.0
3	5.3	7.7	5.7	4.0	4.6	3.8	5.6	6.7	7.4	12	7.1	7.6
4	5.2	7.4	5.6	4.0	4.6	4.1	6.2	6.6	7.1	12	7.1	7.6
5	5.2	7.1	5.5	4.0	4.6	4.3	6.0	7.0	6.7	11	6.8	9.8
6	5.1	6.8	5.6	4.0	4.6	4.3	6.1	7.4	6.5	11	6.6	8.8
7	5.3	6.7	6.0	4.0	4.5	4.4	6.0	7.4	6.3	10	6.8	8.2
8	7.7	6.6	6.0	4.0	4.4	4.4	6.1	7.6	6.1	9.8	6.8	16
9	6.8	6.6	5.9	4.0	4.3	4.7	5.9	8.3	6.0	9.3	6.7	19
10	6.3	6.6	5.8	4.0	4.1	4.9	5.7	6.0	6.0	8.8	6.4	17
11	6.0	6.7	5.9	4.0	4.0	4.9	5.6	5.6	6.1	8.5	6.3	15
12	5.8	7.2	5.8	4.0	4.0	4.9	5.4	5.3	5.9	8.3	5.4	14
13	5.9	6.8	5.5	4.0	4.0	5.1	5.7	5.2	6.0	8.7	6.0	13
14	5.8	6.7	5.3	4.0	3.9	5.0	7.0	5.9	6.5	8.7	5.9	12
15	5.7	6.4	5.1	4.0	3.8	4.9	7.0	6.2	6.0	8.2	6.1	11
16	5.5	6.4	5.2	4.0	3.7	4.7	6.4	13	5.9	7.5	7.1	11
17	5.4	6.6	5.4	4.1	3.7	4.6	6.6	11	5.7	15	6.8	11
18	5.3	6.6	5.3	4.2	3.7	4.9	6.4	10	6.0	16	6.4	12
19	5.3	6.4	5.0	4.4	3.7	5.6	6.1	14	5.9	12	6.3	13
20	5.2	6.3	5.1	4.5	3.7	5.4	7.7	11	5.6	11	6.7	13
21	5.1	6.3	5.7	4.7	3.7	5.2	8.5	10	7.4	10	6.2	12
22	5.0	6.3	5.2	4.7	3.7	5.0	7.6	9.7	6.5	11	6.0	11
23	5.0	6.1	4.9	4.6	3.6	4.9	8.6	9.0	6.6	11	5.9	11
24	6.0	6.1	4.6	4.2	3.6	5.0	8.8	8.5	7.0	11	5.7	11
25	8.5	6.1	4.5	4.0	3.6	5.0	8.3	8.1	10	9.8	5.6	10
26	7.5	6.0	4.4	4.2	3.6	5.0	8.0	9.1	22	9.3	5.6	9.8
27	7.0	5.9	4.3	4.5	3.7	5.0	7.6	10	22	9.0	5.4	9.5
28	6.6	5.6	4.3	4.5	3.7	5.3	7.5	10	18	8.5	5.3	9.4
29	6.5	5.5	4.1	4.6	3.7	5.3	7.1	9.8	16	7.9	5.3	9.1
30	7.3	5.6	4.1	4.6	------	5.3	6.8	9.5	16	7.6	5.2	8.8
31	7.2	------	4.0	4.6	------	5.9	------	9.1	------	7.5	5.1	------
TOTAL	185.2	197.0	161.2	130.4	116.1	149.2	201.2	260.4	259.2	317.4	193.1	338.6
MEAN	5.97	6.57	5.20	4.21	4.00	4.81	6.71	8.40	8.64	10.2	6.23	11.3
MAX	8.5	8.5	6.0	4.7	4.7	5.9	8.8	14	22	16	7.3	19
MIN	5.0	5.5	4.0	4.0	3.6	3.7	5.4	5.2	5.6	7.5	5.1	7.6

CAL YR 1967: TOTAL 2,575.2 MEAN 7.06 MAX 53 MIN 3.2
WTR YR 1968: TOTAL 2,509.0 MEAN 6.86 MAX 22 MIN 3.6

5-4010.5 Tenmile Creek near Nekoosa, Wis.

Location.--Lat 44°15'44", long 89°48'38", in NE 1/4 sec. 32, T. 21 N., R. 6 E., on left bank upstream from bridge on State Highway 13, 5.8 miles southeast of Nekoosa.

Drainage area.--64 sq mi, approximately.

Records available.--Occasional low-flow measurements, water years 1962-63. October 1963 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 967.39 ft above mean sea level, datum of 1929. Prior to May 13, 1964, staff gage and May 13, 1964, to Aug. 26, 1968, graphic water-stage recorder at present site and datum.

Average discharge.--5 years, 53.3 cfs.

Extremes.--Maximum discharge during year, 245 cfs June 28 (gage height, 5.69 ft); minimum, 15 cfs Feb. 29 (gage height, 3.71 ft). 1963-68: Maximum discharge, 275 cfs Mar. 31, 1967; minimum, 9.5 cfs Dec. 16, 1964.

Remarks.--Records good except those for winter months, which are fair. Approximately 40 miles of drainage ditches and 22 check dams are used to control the water table in the basin. Sprinkler irrigation from ground-water sources is developing rapidly in the area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	54	36	26	33	18	54	66	93	181	75	51
2	37	56	37	26	34	17	54	65	88	155	73	54
3	34	57	37	25	34	17	54	63	81	138	72	52
4	36	55	38	25	32	18	60	62	78	130	70	53
5	32	54	39	24	33	18	61	60	74	122	69	58
6	31	53	41	24	34	18	59	58	72	113	68	61
7	34	52	46	23	33	20	58	58	68	106	68	58
8	43	51	47	22	30	22	58	58	66	101	67	69
9	46	51	46	22	27	24	58	57	65	95	66	98
10	43	50	46	22	26	27	57	55	66	89	64	116
11	42	50	46	23	25	27	56	54	68	85	62	110
12	42	51	46	23	24	27	55	54	66	85	62	100
13	42	50	42	23	23	26	56	52	63	90	60	92
14	42	50	33	23	22	27	62	58	69	90	58	85
15	42	50	32	22	21	30	67	64	66	86	59	81
16	41	54	33	22	20	34	66	90	63	82	62	77
17	40	50	37	23	20	38	65	100	61	101	62	76
18	39	51	40	24	19	43	66	95	62	134	59	91
19	38	50	39	25	19	54	64	106	62	124	60	97
20	38	49	37	27	18	54	69	113	59	110	62	97
21	38	49	35	27	18	49	77	103	72	103	59	95
22	38	48	32	27	18	47	74	98	76	106	55	89
23	38	47	37	27	18	43	76	93	72	103	54	86
24	42	47	33	26	18	49	81	90	72	107	50	87
25	50	47	31	26	18	48	80	84	88	100	50	84
26	54	47	30	27	18	47	79	89	128	94	49	81
27	52	35	29	27	17	48	75	98	191	92	47	77
28	50	34	29	27	17	51	72	104	241	87	46	75
29	50	33	28	27	17	53	70	106	228	82	46	74
30	52	35	28	28	------	53	69	100	203	80	45	73
31	52	------	27	30	------	54	------	95	------	78	45	------
TOTAL	1,292	1,460	1,137	773	686	1,101	1,952	2,448	2,761	3,249	1,844	2,397
MEAN	41.7	48.7	36.7	24.9	23.7	35.5	65.1	79.0	92.0	105	59.5	79.9
MAX	54	57	47	30	34	54	81	113	241	181	75	116
MIN	31	33	27	22	17	17	54	52	59	78	45	51

CAL YR 1967: TOTAL 19,362 MEAN 53.0 MAX 247 MIN 14
WTR YR 1968: TOTAL 21,100 MEAN 57.7 MAX 241 MIN 17

5-4011. Fourteenmile Creek near New Rome, Wis.

Location.--Lat 44°12'15", long 89°48'29", in S 1/2 sec. 17, T. 20 N., R. 6 E., 50 feet above twin culverts on State Highway 13, and 2.7 miles southeast of New Rome.

Drainage area.--77 sq mi, approximately.

Records available.--Annual maximum and occasional low-flow measurements, water years 1961-64. March 1964 to September 1968.

Gage.--Water-stage recorder and crest-stage gage. Prior to Mar. 2, 1964, crest-stage gage only at datum 7.03 ft lower, and Mar. 2, 1964, to Aug. 27, 1964, staff gage and crest-stage gage.

Extremes.--Maximum discharge during year, 250 cfs Apr. 25 (gage height, 5.15 ft); minimum, 0.65 cfs Jan. 25, 26, 27 (gage height, 1.45 ft).
1961-68: Maximum discharge, 275 cfs Mar. 24, 1966; minimum, that of Jan. 25, 26, 27, 1968.

Remarks.--Records good except those for winter months, which ara fair. An earthfill recreation dam located just upstream was completed in November 1967 and storage was begun in December 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	52	38	21	64	9.4	3.1	42	78	190	62	29
2	29	54	39	20	30	9.4	3.1	37	74	150	57	28
3	29	52	38	19	28	9.4	3.1	18	64	111	55	27
4	71	51	39	19	27	9.4	3.3	8.6	55	98	54	30
5	21	52	15	19	25	9.4	2.9	14	30	90	50	37
6	21	53	22	18	24	9.4	2.9	14	40	84	46	36
7	22	50	7.9	18	22	10	3.1	18	40	78	44	33
8	28	46	60	18	20	10	3.9	24	40	73	45	49
9	32	46	46	18	15	10	4.5	29	30	70	39	69
10	34	44	40	20	9.7	10	4.2	30	35	67	41	86
11	34	44	58	58	9.5	11	4.5	28	24	70	35	90
12	34	43	46	63	9.4	27	4.5	28	23	72	33	86
13	32	42	39	66	9.3	26	4.5	26	24	73	31	78
14	30	44	31	66	9.3	23	4.8	33	31	74	30	70
15	25	39	57	61	9.2	23	4.8	39	30	74	31	66
16	24	41	60	56	9.2	23	4.8	64	32	72	34	62
17	27	41	43	55	9.2	23	5.1	76	33	89	32	62
18	28	40	38	58	9.2	23	7.5	80	34	116	30	71
19	28	39	35	60	9.2	23	9.4	93	34	124	31	79
20	27	38	36	63	9.1	23	9.4	108	32	110	36	82
21	27	38	39	64	9.0	16	9.4	100	36	97	31	81
22	26	37	37	57	9.0	12	9.8	88	31	89	30	77
23	26	36	52	45	9.0	12	12	88	32	89	36	74
24	32	51	32	1.2	9.0	12	15	88	39	91	25	74
25	43	47	30	1.1	9.0	13	100	82	51	90	22	70
26	45	36	27	1.0	9.4	13	50	72	96	82	22	67
27	43	46	26	.65	9.4	12	62	79	178	78	23	66
28	42	34	24	.79	9.4	12	62	43	240	74	22	63
29	41	34	23	1.1	9.4	7.2	38	51	239	70	22	62
30	50	36	22	10	------	3.1	42	60	218	67	22	62
31	47	------	21	35	------	3.1	------	61	------	66	22	------
TOTAL	1,025	1,306	1,120.9	1,012.84	439.9	436.8	493.6	1,621.6	1,943	2,778	1,093	1,866
MEAN	33.1	43.5	36.2	32.7	15.2	14.1	16.5	52.3	64.8	89.6	35.3	62.2
MAX	71	54	60	66	64	27	100	108	240	190	62	90
MIN	21	34	7.9	.65	9.0	3.1	2.9	8.6	23	66	22	27

CAL YR 1967: TOTAL 15,500.2 MEAN 42.5 MAX 226 MIN 5.9
WTR YR 1968: TOTAL 15,136.64 MEAN 41.4 MAX 240 MIN 0.65

5-4015.35 Big Roche a Cri Creek near Adams, Wis.

Location.--Lat 44°05'52", long 89°46'30", in SW 1/4 sec. 22, T. 19 N., R. 6 E., at culverts on Brown Deer Avenue, 1/2 mile upstream from Dry Creek, and 10 miles north of Adams.

Drainage area.--54 sq mi, approximately.

Records available.--October 1963 to September 1968.

Gage.--Digital water-stage recorder. Prior to May 15, 1964, staff gage at same site at datum 1.71 ft higher. May 15, 1964, to Sept. 4, 1968, graphic water-stage recorder at same site and datum.

Average discharge.--5 years, 54.5 cfs.

Extremes.--Maximum discharge during year, 150 cfs June 28 (gage height, 4.02 ft); minimum, 25 cfs Mar. 3 (gage height, 1.39 ft). 1963-68: Maximum discharge, 178 cfs Mar. 25, 1966; minimum, 24 cfs Dec. 31, 1964 (result of freezeup); minimum daily, 29 cfs Dec. 15, 1964.

Remarks.--Records good except those for winter months, which are fair. There is some irrigation from ground-water sources in the upper portion of basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	55	45	39	49	32	52	60	71	107	60	54
2	44	61	48	38	57	32	51	60	69	93	59	56
3	43	59	49	38	47	34	52	58	66	85	58	48
4	42	56	50	37	50	35	58	58	64	82	58	47
5	42	54	50	37	48	40	54	57	62	83	60	56
6	42	54	52	37	46	40	54	56	60	77	60	56
7	46	54	56	37	46	40	52	54	58	74	60	50
8	66	52	62	37	44	43	54	55	57	72	58	60
9	66	54	56	37	42	48	53	54	56	69	58	89
10	56	53	54	37	40	46	53	53	56	66	56	96
11	52	53	53	37	39	44	52	53	62	64	54	91
12	50	53	52	37	38	46	52	52	62	66	53	82
13	52	52	50	37	37	44	52	51	58	71	52	75
14	52	50	47	37	36	46	60	58	61	68	51	71
15	50	50	45	37	36	45	64	69	58	66	52	68
16	49	50	52	37	36	46	58	86	56	62	56	66
17	48	52	53	37	35	48	57	98	54	83	53	66
18	48	52	54	38	33	49	58	85	56	122	50	77
19	48	50	51	40	32	55	56	96	58	104	52	97
20	48	48	50	41	32	54	64	104	54	81	62	93
21	46	49	56	41	32	50	75	91	63	75	55	86
22	46	48	48	41	31	48	67	84	64	77	50	82
23	46	48	46	39	31	47	68	80	56	77	47	79
24	51	48	45	38	31	48	73	78	58	84	46	79
25	66	48	45	39	32	48	70	74	70	76	45	76
26	60	48	44	46	32	49	69	76	98	70	45	73
27	54	45	43	44	32	50	66	80	139	71	45	71
28	52	43	42	44	32	52	64	80	148	67	44	69
29	52	43	40	49	32	52	64	79	142	64	44	67
30	56	44	39	47	------	51	62	76	124	62	44	66
31	56	------	39	48	------	52	------	72	------	62	44	------
TOTAL	1,574	1,526	1,510	1,228	1,108	1,414	1,784	2,187	2,160	2,380	1,631	2,146
MEAN	50.8	50.9	48.7	39.6	38.2	45.6	59.5	70.5	72.0	76.8	52.6	71.5
MAX	66	61	62	49	57	55	75	104	148	122	62	97
MIN	42	43	39	37	31	32	51	51	54	62	44	47

CAL YR 1967: TOTAL 20,017 MEAN 54.8 MAX 142 MIN 35
WTR YR 1968: TOTAL 20,648 MEAN 56.4 MAX 148 MIN 31

5-4020. Yellow River at Babcock, Wis.

Location.--Lat 44°18'05", long 90°07'15", in NW 1/4 sec. 14, T. 21 N., R. 3 E., on right bank at downstream side of highway bridge at Babcock, 1.9 miles upstream from Hemlock Creek.

Drainage area.--223 sq mi.

Records available.--March 1944 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 954.75 ft above mean sea level, datum of 1929. Prior to Oct. 28, 1948, chain gage, and Oct. 29, 1948, to July 29, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--24 years, 129 cfs.

Extremes.--Maximum discharge during year, 7,890 cfs May 17 (gage height, 15.53 ft); minimum daily, 6.6 cfs Feb. 17, 18 (backwater from ice).

1944-68: Maximum discharge, 11,600 cfs Apr. 2, 1952 (gage height, 17.38 ft); minimum observed, 1.0 cfs Oct. 1, 1948 (gage height, 1.22 ft).

Remarks.--Records good except those for winter months, which are fair. There is a large recreation dam about 5 miles upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	74	15	11	12	9.4	115	119	552	480	42	12
2	9.6	89	17	10	13	9.2	82	137	329	273	43	12
3	11	73	18	10	13	9.1	98	82	299	190	44	14
4	14	38	19	10	14	10	100	73	190	115	48	15
5	18	42	20	10	15	10	144	68	180	78	41	22
6	21	42	22	10	15	12	185	62	80	56	34	27
7	26	40	27	10	14	15	140	59	78	52	34	36
8	30	37	31	10	13	150	155	56	68	51	79	38
9	28	36	35	10	12	300	109	30	59	62	149	78
10	43	34	38	11	10	310	105	27	50	34	91	293
11	47	35	40	11	9.0	180	95	32	44	25	74	466
12	40	40	40	11	8.0	140	73	34	73	27	45	321
13	41	39	37	11	7.0	90	98	32	29	100	41	195
14	41	35	30	11	6.9	82	210	40	28	215	35	177
15	21	40	24	12	6.8	78	523	87	34	152	32	107
16	22	35	22	12	6.7	75	643	1,310	46	171	25	88
17	24	38	20	12	6.6	52	509	6,770	52	258	20	38
18	29	40	20	12	6.6	40	371	2,640	53	232	19	95
19	33	41	20	12	6.7	179	328	1,060	46	227	19	328
20	29	37	21	12	6.8	184	308	1,010	27	215	22	495
21	34	41	24	12	7.0	162	738	693	63	169	20	284
22	34	40	27	12	7.4	114	1,580	457	63	112	16	256
23	34	44	25	11	7.8	58	1,130	271	99	118	14	187
24	39	44	20	11	8.5	50	689	241	73	89	13	183
25	58	38	18	11	9.8	47	877	130	139	50	12	169
26	65	30	16	11	9.8	45	622	166	263	46	12	121
27	102	25	14	11	9.9	46	445	1,520	2,010	48	11	79
28	78	19	13	11	10	69	246	2,240	2,330	44	10	69
29	44	15	13	11	9.8	75	238	1,960	1,610	42	9.9	59
30	53	14	12	12	------	112	148	1,500	844	44	9.6	54
31	59	------	11	12	------	204	------	929	------	38	9.6	------
TOTAL	1,137.3	1,195	709	343	282.1	2,916.7	11,104	23,835	9,811	3,813	1,074.1	4,318
MEAN	36.7	39.8	22.9	11.1	9.73	94.1	370	769	327	123	34.6	144
MAX	102	89	40	12	15	310	1,580	6,770	2,330	480	149	495
MIN	9.6	14	11	10	6.6	9.1	73	27	27	25	9.6	12
CFSM	.16	.18	.10	.05	.04	.42	1.66	3.45	1.47	.55	.16	.65
IN.	.19	.20	.12	.06	.05	.49	1.85	3.97	1.64	.64	.18	.72

CAL YR 1967 TOTAL 63,852.9 MEAN 175 MAX 10,000 MIN 6.4 CFSM .78 IN 10.65
WTR YR 1968 TOTAL 60,538.2 MEAN 165 MAX 6,770 MIN 6.6 CFSM .74 IN 10.10

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-22	0200	10.10	1,940	5-27	1800	11.31	2,790
5-17	0700	15.53	7,890	6-27	1800	11.56	2,990

5-4035. Lemonweir River at New Lisbon, Wis.

Location.--Lat 43°52'50", long 90°09'40", in sec. 8, T. 16 N., R. 3 E., near center of span on downstream side of bridge on State Highway 80 in New Lisbon, 200 ft downstream from recreation dam and 1 mile upstream from Webster Creek.

Drainage area.--500 sq mi, approximately.

Records available.--March 1944 to September 1968.

Gage.--Wire-weight gage read twice daily. Datum of gage is 867.05 ft above mean sea level, datum of 1929. Prior to May 5, 1948, chain gage at site 100 ft downstream at same datum. May 5, 1948, to June 30, 1958, chain gage at present site and datum.

Average discharge.--24 years, 342 cfs.

Extremes.--Maximum discharge during year, 3,210 cfs June 30 (gage height, 10.67 ft); minimum daily discharge, 75 cfs Feb. 25-29; minimum observed gage height, 1.14 ft on Feb. 25, 26, result of freezeup.

1944-68: Maximum discharge, 6,880 cfs May 8, 1960 (gage height, 12.94 ft, from graph based on gage readings); minimum observed, 36 cfs Aug. 15, 1944 (gage height, -0.06 ft).

Remarks.--Records good except those for winter months, which are fair. Occasional regulation by dam 200 ft upstream. Water diverted periodically into the basin from the Yellow and Black River basins for cranberry culture.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	216	130	105	280	77	223	562	859	2,800	371	154
2	135	278	140	105	280	78	198	438	791	2,190	285	163
3	129	290	153	105	270	80	188	379	643	1,720	247	155
4	110	272	143	105	245	84	223	334	507	1,330	221	147
5	102	258	141	105	220	90	260	308	426	979	150	168
6	96	249	143	102	200	95	281	253	392	717	143	219
7	98	238	159	102	180	105	305	252	319	564	165	254
8	132	216	196	102	165	115	353	311	261	433	191	347
9	154	206	211	102	150	140	347	331	254	409	224	574
10	167	197	218	104	140	170	339	300	198	395	240	890
11	169	197	218	104	130	190	339	271	185	358	216	1,330
12	184	191	220	104	120	193	340	264	214	305	196	1,900
13	188	192	205	104	115	181	334	233	207	295	177	2,080
14	197	188	195	105	105	160	337	225	267	264	160	1,780
15	193	177	185	110	100	166	460	288	179	287	151	1,400
16	183	175	180	110	95	173	471	453	131	375	150	1,110
17	173	182	188	112	90	185	446	749	212	542	157	867
18	166	191	195	114	87	197	530	908	249	622	157	829
19	152	190	193	114	85	235	498	1,180	208	576	150	952
20	153	185	184	112	83	251	492	1,330	186	477	191	1,030
21	132	182	206	110	80	221	615	1,340	303	404	229	1,110
22	147	180	250	110	78	197	742	1,150	353	331	264	1,280
23	148	171	177	108	77	182	890	1,010	390	303	302	1,300
24	158	173	150	106	76	172	1,050	903	503	312	402	1,180
25	192	171	135	106	75	169	1,100	735	896	342	505	1,080
26	213	171	130	106	75	167	1,050	655	985	392	486	965
27	218	148	120	106	75	173	954	717	1,560	417	316	890
28	211	137	115	106	75	187	852	784	2,420	416	205	844
29	205	130	110	115	75	190	695	872	3,050	419	169	772
30	218	130	105	150	------	186	632	906	3,180	462	134	673
31	211	------	105	230	------	221	------	895	------	460	119	------
TOTAL	5,064	5,881	5,200	3,479	3,826	5,030	15,544	19,336	20,328	19,896	7,073	26,443
MEAN	163	196	168	112	132	162	518	624	678	642	228	881
MAX	218	290	250	230	280	251	1,100	1,340	3,180	2,800	505	2,080
MIN	96	130	105	102	75	77	188	225	131	264	119	147
CFSM	.326	.392	.336	.224	.264	.324	1.04	1.25	1.36	1.28	.456	1.76
IN.	.38	.44	.39	.26	.28	.37	1.16	1.44	1.51	1.48	.53	1.97

CAL YR 1967: TOTAL 115,267 MEAN 316 MAX 2,990 MIN 76 CFSM .632 IN. 8.59
WTR YR 1968: TOTAL 137,100 MEAN 375 MAX 3,180 MIN 75 CFSM .750 IN. 10.21

5-4040. Wisconsin River near Wisconsin Dells, Wis.

Location.--Lat 43°36'20", long 89°45'25", in extreme western part of sec. 14, T. 13 N., R. 6 E., on right bank 0.5 mile downstream from Dell Creek and 3 miles downstream from Wisconsin Dells.

Drainage area.--7,830 sq mi, approximately.

Records available.--October 1934 to September 1968.

Gage.--Digital water-stage recorder. Altitude of gage is 805 ft (from topographic map). Prior to Oct. 1, 1963, graphic water-stage recorder at same site at datum 5.00 ft higher.

Average discharge.--34 years, 6,636 cfs.

Extremes.--Maximum discharge during year, 42,100 cfs June 28 (gage height, 17.30 ft); minimum daily, 1,500 cfs Oct. 1.
1934-68: Maximum discharge, 72,200 cfs Sept. 14, 1938 (gage height, 23.83 ft, present datum); minimum daily, 1,000 cfs Aug. 19, 1936.

Remarks.--Records good except those for winter months, which are fair. Flow regulated by 23 reservoirs above station (see p. 111). In 1938, when the maximum of record occurred, there were 21 reservoirs above station, the two large reservoirs, Peterwell and Castle Rock not yet in existence. Diurnal fluctuation caused by powerplant of Wisconsin Power & Light Co. at Wisconsin Dells, which shuts down frequently to 1,000 KWH, about 660 cfs, from powerplant records.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,500	5,750	4,250	2,000	5,300	3,800	4,820	8,080	25,100	29,300	6,690	3,610
2	1,970	5,690	3,440	2,900	5,050	3,950	5,360	8,790	19,900	26,700	6,340	3,220
3	2,590	5,780	3,780	3,150	4,900	3,550	5,560	8,980	16,500	25,500	6,390	3,620
4	2,760	5,540	3,460	3,300	4,570	3,300	5,100	8,950	17,100	21,100	6,130	4,160
5	2,780	5,040	3,740	3,300	3,960	3,600	4,770	8,670	12,000	17,900	5,740	4,260
6	2,880	4,510	3,420	3,200	4,460	4,800	5,050	7,440	10,700	17,100	5,760	4,880
7	2,840	4,790	3,600	2,700	4,800	5,500	4,050	6,190	10,200	11,300	5,220	6,220
8	3,180	4,120	3,960	2,800	4,700	6,070	4,920	6,190	10,500	9,510	5,140	6,190
9	3,660	3,970	3,860	3,050	4,670	5,860	5,850	6,020	9,170	10,100	5,240	8,700
10	3,640	3,940	3,800	3,150	4,500	6,170	6,050	6,070	8,860	10,400	6,440	16,600
11	3,840	3,970	3,660	3,300	4,500	5,320	5,860	6,000	10,300	9,220	6,100	16,400
12	3,820	3,490	4,500	3,300	3,800	6,280	5,750	6,000	10,400	9,100	6,600	15,600
13	3,760	3,360	4,670	3,300	4,900	6,200	5,130	5,500	11,600	8,760	5,640	13,600
14	3,740	3,780	4,420	3,000	4,800	6,770	4,760	5,880	14,600	9,260	5,690	11,100
15	3,410	3,720	4,540	2,600	4,500	6,740	4,670	6,060	19,200	11,000	5,660	10,500
16	3,050	3,940	4,670	3,250	4,700	6,660	4,920	6,540	16,900	15,200	5,660	10,500
17	3,550	3,970	4,440	3,500	3,800	6,700	5,490	12,300	11,700	18,900	5,680	10,300
18	3,710	3,880	4,480	3,600	4,000	6,530	6,710	16,800	9,970	20,100	5,300	9,850
19	3,730	3,880	4,460	3,600	4,200	7,000	7,090	20,600	9,480	15,100	4,680	14,100
20	3,590	3,120	4,420	3,600	4,150	6,490	8,060	26,300	9,430	10,400	6,020	11,900
21	3,710	3,790	4,820	3,100	4,050	6,810	9,420	24,100	9,090	10,100	5,650	10,200
22	3,470	4,040	3,680	3,300	4,100	6,800	12,300	18,000	12,400	10,800	5,630	10,100
23	2,990	4,600	4,210	3,700	4,100	5,870	13,400	13,000	18,000	11,000	5,210	10,100
24	4,040	4,390	4,400	3,550	4,100	4,760	13,600	13,900	19,700	10,300	5,310	10,300
25	4,980	4,430	3,800	3,500	3,500	3,980	16,300	17,500	23,000	9,970	4,900	10,700
26	5,620	3,590	2,960	3,800	3,000	4,790	17,800	15,200	25,800	9,560	5,170	10,500
27	6,140	3,360	3,880	3,600	3,600	4,520	14,100	22,100	31,800	9,490	5,020	10,000
28	6,750	3,970	3,500	3,350	3,750	4,480	11,700	27,400	38,700	8,980	4,860	10,100
29	6,840	4,170	3,250	3,200	3,800	4,610	8,960	29,400	39,300	7,840	4,120	8,420
30	6,490	3,900	2,500	3,600	------	5,130	8,020	30,000	34,700	6,980	3,830	7,380
31	5,570	------	2,400	4,100	------	4,750	------	26,800	------	6,430	3,250	------
TOTAL	120,600	126,480	120,970	101,400	124,260	167,790	235,570	424,760	516,100	407,400	169,070	283,110
MEAN	3,890	4,216	3,902	3,271	4,285	5,413	7,852	13,700	17,200	13,140	5,454	9,437
MAX	6,840	5,780	4,820	4,100	5,300	7,000	17,800	30,000	39,300	29,300	6,690	16,600
MIN	1,500	3,120	2,400	2,000	3,000	3,300	4,050	5,500	8,860	6,430	3,250	3,220

CAL YR 1967 TOTAL 2,534,940 MEAN 6,945 MAX 51,200 MIN 1,500
WTR YR 1968 TOTAL 2,797,510 MEAN 7,643 MAX 39,300 MIN 1,500

5-4045. Devils Lake near Baraboo, Wis.

Location.--Lat 43°25'20", long 89°43'30", in S 1/2 sec. 13, T. 11 N., R. 6 E., in Devils Lake State Park, 3 miles south of Baraboo.

Drainage area.--5.64 sq mi. Area of Devils Lake, 361 acres.

Records available.--June 1922 to August 1930, June to August 1932, June 1934 to September 1968 (fragmentary).

Gage.--Reference mark. Elevation of lake from reference mark read about twice a week except in winter.

Extremes.--Maximum gage height observed during year, 8.25 ft July 2; minimum observed, 5.89 ft Mar. 29.
1922-30, 1932, 1934-68: Maximum gage height observed, 10.6 ft June 1, 1927; minimum observed, 1.49 ft Feb. 8, 1965.

Remarks.--Lake has no surface outlet. Lake was ice covered Dec. 17 to Mar. 27.

Cooperation.--Observer services furnished by Ralph T. Tuttle, custodian, Devils Lake State Park.

Elevation, in feet, water year October 1967 to September 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			6.09						7.04			
2										8.25	7.75	
3		6.24					5.91		7.01	8.20		
4												7.34
5		6.35					6.10			8.19		7.15
6	6.26											
7												
8												
9				6.47				7.30				
10										8.09	7.50	7.50
11									6.94			
12												
13							6.35					
14	6.30											
15		6.29						7.34		7.97	7.37	
16												
17					6.05							
18	6.21						6.49					7.64
19												
20								7.21		7.94		
21									7.14			
22												
23							6.99				7.23	
24		6.24								7.79		
25									7.34			7.54
26	6.15						7.17		7.50			
27	6.09	6.20						7.15	7.95			
28									8.05			
29						5.89	7.29		8.11		7.09	7.42
30					------		7.25					7.41
31		------			------		------		------	7.61		------

5-4050. Baraboo River near Baraboo, Wis.

Location.--Lat 43°28'55", long 89°38'00", in NW 1/4 sec. 35, T. 12 N., R. 7 E., on left bank 50 ft downstream from highway bridge, 0.3 mile downstream from Rowley Creek and 4 miles east of Baraboo.

Drainage area.--600 sq mi.

Records available.--December 1913 to March 1922. September 1942 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 788.21 ft above mean sea level, datum of 1929. Dec. 18, 1913, to Mar. 31, 1922, chain gage at bridge 2.3 miles upstream at datum 7.6 ft higher. Sept. 24, 1942, to June 10, 1963, chain gage or wire-weight gage at present site and datum. June 11, 1963, to Apr. 26, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--33 years (1914-21, 1942-68), 364 cfs.

Extremes.--Maximum discharge during year, 2,180 cfs June 29 (gage height, 14.09 ft); minimum, 45 cfs Aug. 2 (gage height, 5.95 ft).

1913-22, 1942-68: Maximum discharge observed, 7,900 cfs Mar. 26, 1917 (gage height, 17.5 ft, estimated, site and datum then in use), from rating curve extended above 6,000 cfs; minimum observed, 9 cfs Feb. 17, 1944 (gage height, 5.08 ft); minimum daily, 26 cfs Oct. 6, 1950.

Flood of Aug. 6, 1935, reached a stage of 15.8 ft, from floodmarks, site and datum in use in 1922 (discharge, 5,100 cfs).

Remarks.--Records good except those for winter months, which are fair. Diurnal regulation from four powerplants at Baraboo.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	306	130	120	800	80	295	316	212	1,800	145	134
2	115	622	135	120	820	82	507	296	195	1,350	113	205
3	113	715	140	120	770	86	554	259	184	1,000	118	168
4	116	521	140	120	700	90	520	244	165	509	128	198
5	106	408	140	120	270	94	505	236	168	321	126	224
6	108	321	150	120	190	99	461	223	160	253	126	184
7	118	256	202	120	170	105	404	205	150	232	146	183
8	173	229	354	124	155	116	349	204	139	225	143	240
9	224	208	408	127	140	130	314	198	140	205	157	537
10	259	198	397	127	130	145	305	206	156	192	156	829
11	276	195	358	125	120	170	288	196	159	179	163	818
12	242	195	299	123	110	210	258	186	155	162	165	752
13	202	189	255	118	105	200	229	179	171	150	165	639
14	177	185	205	114	102	170	258	166	181	147	141	413
15	169	179	175	110	99	151	306	180	155	141	125	268
16	162	172	171	110	96	144	337	192	159	143	132	214
17	163	170	175	110	94	139	437	193	143	194	125	188
18	156	177	180	114	92	161	486	200	143	218	128	351
19	138	161	180	117	85	268	422	209	153	224	155	879
20	141	169	185	120	81	435	526	211	151	234	282	878
21	132	160	185	124	78	426	905	198	279	233	364	876
22	132	169	180	125	76	339	847	196	765	186	376	785
23	128	163	165	125	75	236	890	192	791	196	301	562
24	159	165	155	120	75	180	1,020	186	830	252	223	402
25	199	161	145	120	74	152	841	174	1,040	304	172	317
26	221	158	140	120	74	144	716	184	1,510	390	147	303
27	253	145	135	120	76	154	583	213	2,010	345	129	318
28	243	135	132	120	77	171	448	242	2,120	234	120	269
29	210	130	130	135	78	188	370	258	2,180	168	138	224
30	216	130	127	660	------	200	305	256	2,100	153	119	202
31	257	------	125	760	------	219	------	231	------	128	122	------
TOTAL	5,429	7,092	5,998	4,938	5,812	5,484	14,686	6,629	16,864	10,468	5,150	12,560
MEAN	175	236	193	159	200	177	490	214	562	338	166	419
MAX	276	715	408	760	820	435	1,020	316	2,180	1,800	376	879
MIN	106	130	125	110	74	80	229	166	139	128	113	134
CFSM	.29	.39	.32	.26	.33	.29	.82	.36	.94	.56	.28	.70
IN.	.34	.44	.37	.30	.36	.34	.91	.41	1.05	.65	.32	.78

CAL YR 1967 TOTAL 107,844 MEAN 295 MAX 3,200 MIN 81 CFSM .49 IN 6.68
WTR YR 1968 TOTAL 101,080 MEAN 276 MAX 2,180 MIN 74 CFSM .46 IN 6.27

GPO 817-702-8

5-4065. Black Earth Creek at Black Earth, Wis.

Location.--Lat 43°08'00", long 89°44'00", in SW 1/4 sec. 25, T. 8 N., R. 6 E., on right bank, 0.7 mile east of Black Earth and 2.1 miles upstream from Vermont Creek.

Drainage area.--46.4 sq mi of which 3.6 sq mi is probably non-contributing.

Records available.--February 1954 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 812.95 ft above mean sea level, datum of 1929. Prior to Aug. 1, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--14 years, 28.6 cfs.

Extremes.--Maximum discharge during year, 148 cfs Sept. 18 (gage height, 3.16 ft); minimum, 12 cfs Feb. 22 (gage height, 1.61 ft), result of freezeup.
1954-68: Maximum discharge, 1,750 cfs July 3, 1954 (gage height, 6.58 ft); minimum, 4.8 cfs Nov. 29, 1958 (gage height, 1.39 ft), result of freezeup.

Remarks.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	48	21	21	71	15	18	24	17	30	21	21
2	17	89	22	20	30	15	18	23	16	26	21	19
3	18	52	22	20	23	15	22	23	16	25	21	18
4	18	42	23	19	21	15	28	24	16	24	21	21
5	18	38	22	19	20	15	22	23	16	23	24	37
6	18	35	23	19	18	15	21	22	16	23	22	26
7	21	34	37	19	17	15	21	21	15	24	23	22
8	33	31	35	18	17	16	22	21	15	24	33	36
9	24	30	32	18	17	18	21	21	16	25	29	115
10	22	29	31	18	17	18	21	20	16	23	25	59
11	20	28	31	18	17	17	20	20	18	23	21	40
12	20	27	31	19	17	16	20	19	18	23	20	33
13	20	25	29	19	17	16	20	19	17	23	19	28
14	19	25	23	19	17	16	24	20	18	23	19	27
15	19	23	23	20	17	16	23	20	17	24	20	26
16	22	23	23	21	17	16	22	19	18	23	19	26
17	20	23	24	21	17	16	26	19	18	24	19	27
18	20	23	25	21	16	17	26	19	24	23	19	102
19	19	23	26	23	16	23	24	20	22	22	20	64
20	19	22	27	27	15	21	38	20	20	21	27	60
21	19	22	39	27	15	18	36	19	37	20	21	45
22	18	23	30	24	15	18	30	19	29	19	20	38
23	19	23	25	21	15	17	38	19	24	25	19	35
24	27	22	23	19	15	17	39	19	24	39	19	37
25	32	23	21	19	15	17	34	19	40	25	18	33
26	25	22	21	19	15	17	30	20	67	23	17	34
27	23	22	21	19	15	17	27	21	55	22	17	33
28	23	21	21	19	15	18	26	20	40	21	17	30
29	23	21	21	48	15	18	28	20	35	20	17	29
30	47	21	21	29	------	18	25	19	31	20	16	27
31	46	------	21	23	------	19	------	19	------	20	17	------
TOTAL	706	890	794	666	552	525	770	631	731	730	641	1,148
MEAN	22.8	29.7	25.6	21.5	19.0	16.9	25.7	20.4	24.4	23.5	20.7	38.3
MAX	47	89	39	48	71	23	39	24	67	39	33	115
MIN	17	21	21	18	15	15	18	19	15	19	16	18
CFSM	.49	.64	.55	.46	.41	.36	.55	.44	.53	.51	.45	.82
IN.	.57	.71	.64	.53	.44	.42	.62	.51	.59	.59	.51	.92

CAL YR 1967 TOTAL 9,120 MEAN 25.0 MAX 291 MIN 12 CFSM .54 IN 7.31
WTR YR 1968 TOTAL 8,784 MEAN 24.0 MAX 115 MIN 15 CFSM .52 IN 7.04

Peak discharge (base, 200 cfs).--No peak above the base.

5-4070. Wisconsin River at Muscoda, Wis.

Location.--Lat 43°12'00", long 90°26'25", in sec. 1, T. 8 N., R. 1 W., on left bank at bridge on State Highway 80, 0.5 mile upstream from Eagle Mill Creek and 1 mile north of Muscoda.

Drainage area.--10,300 sq mi, approximately.

Records available.--December 1902 to December 1903, October 1913 to September 1968. Monthly discharge only for October and November 1913, published in WSP 1308. Gage-height records collected at same site November 1908 to December 1912 are contained in reports of U. S. Weather Bureau.

Gage.--Digital water-stage recorder. Datum of gage is 667.05 ft above mean sea level, datum of 1929. Prior to Nov. 22, 1929, chain gage on bridge 200 ft upstream at same datum. Nov. 22, 1929, to Mar. 15, 1930, chain gage and Mar. 16, 1930, to Apr. 21, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--55 years (1913-68), 8,460 cfs.

Extremes.--Maximum discharge during year, 43,600 cfs July 2 (gage height, 8.46 ft); minimum daily, 3,200 cfs Nov. 29.
1902-3, 1913-68: Maximum discharge, 80,800 cfs Sept. 16, 1938 (gage height, 11.48 ft); minimum daily, 2,000 cfs Feb. 11, 1918.

Remarks.--Records good except those for winter months or no gage heights, which are fair. Flow regulated by 23 reservoirs and many powerplants above station (see p. 111). In 1938 when the maximum of record occurred, there were 21 reservoirs above station, the two large reservoirs, Petenwell and Castle Rock not yet in existence. An average of about 5 to 15 cfs diverted out of basin through Portage canal to Fox River throughout the year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,540	9,000	5,000	4,300	6,600	5,200	6,880	11,500	28,400	41,600	8,320	4,550
2	4,170	8,500	5,400	3,400	7,400	5,400	6,370	10,900	29,300	41,100	7,630	4,600
3	3,990	9,000	5,400	3,600	8,600	5,200	6,760	9,540	27,300	35,500	8,380	4,900
4	3,800	8,600	4,900	4,000	9,200	5,130	8,030	10,100	23,400	32,100	7,170	4,100
5	3,870	8,300	5,200	4,400	8,400	5,000	8,010	10,800	18,200	29,500	8,120	4,700
6	4,330	8,100	5,400	4,700	7,000	5,600	7,060	10,300	17,200	26,100	7,550	5,900
7	4,380	7,200	5,700	4,900	6,600	6,400	6,630	9,740	13,500	20,700	7,300	5,600
8	4,810	6,600	6,100	3,800	6,260	7,200	6,750	8,810	12,400	17,700	6,970	6,600
9	5,050	6,830	6,000	4,400	6,100	7,700	6,420	7,520	12,200	14,100	7,010	8,000
10	5,300	6,240	5,900	3,700	5,900	7,800	6,740	8,070	12,200	12,700	6,930	9,800
11	5,550	5,790	5,400	3,600	5,600	7,830	7,740	8,210	11,900	12,300	6,560	12,200
12	5,360	5,710	5,400	4,600	4,800	7,880	7,490	7,530	10,600	12,000	7,300	14,700
13	5,400	5,890	5,400	4,600	6,000	7,120	6,740	7,570	11,500	11,800	7,360	16,300
14	5,610	5,630	6,000	4,600	4,900	7,620	7,670	8,080	11,500	10,400	7,570	16,900
15	5,270	5,490	5,600	4,750	6,300	7,530	7,240	6,890	13,200	11,100	7,080	16,100
16	5,690	5,550	4,300	4,900	6,600	7,960	7,360	7,850	15,300	10,400	7,400	14,500
17	5,210	5,510	4,700	4,200	5,300	8,430	6,230	8,170	18,400	12,400	6,400	12,300
18	4,710	5,900	5,400	4,600	5,500	7,950	7,330	8,680	15,900	16,300	6,400	12,700
19	5,080	5,550	6,100	5,200	4,300	8,540	8,270	12,500	14,100	19,100	7,100	13,300
20	5,260	5,790	6,200	5,400	5,700	8,300	9,480	16,000	12,000	19,500	6,200	13,500
21	4,870	5,760	6,300	5,500	5,400	8,640	10,200	18,700	12,300	14,400	7,000	14,500
22	5,060	5,130	6,000	5,400	5,600	8,510	10,500	21,800	12,700	12,100	7,300	13,800
23	5,020	5,350	4,300	4,100	4,900	8,390	11,700	24,100	12,700	12,100	7,200	13,000
24	5,510	5,580	4,200	4,600	5,600	7,950	14,600	20,700	15,300	13,400	7,500	12,800
25	5,580	5,970	5,000	5,000	5,100	7,160	15,700	15,200	19,800	13,500	5,500	12,100
26	6,180	6,140	6,200	5,200	5,200	6,640	16,000	16,300	22,600	12,200	6,700	11,800
27	6,910	6,040	4,500	5,200	5,000	6,160	17,600	17,000	24,900	11,800	5,900	12,000
28	7,680	5,850	4,100	5,300	4,300	6,200	18,200	16,700	27,500	11,600	6,700	11,900
29	7,230	3,200	4,600	5,300	4,700	6,600	14,800	20,100	35,100	10,600	6,300	11,400
30	8,370	4,200	5,300	5,100	------	6,460	12,400	23,700	35,400	9,800	5,600	10,800
31	9,100	------	4,500	5,400	------	6,420	------	26,900	------	8,760	4,700	------
TOTAL	168,890	188,400	164,500	143,750	172,860	218,920	286,900	409,960	541,800	536,660	215,150	325,350
MEAN	5,448	6,280	5,306	4,637	5,961	7,062	9,563	13,220	18,060	17,310	6,940	10,850
MAX	9,100	9,000	6,300	5,500	9,200	8,640	18,200	26,900	35,400	41,600	8,380	16,900
MIN	3,800	3,200	4,100	3,400	4,300	5,000	6,230	6,890	10,600	8,760	4,700	4,100

CAL YR 1967 TOTAL 3,197,480 MEAN 8,760 MAX 51,200 MIN 3,200
WTR YR 1968 TOTAL 3,373,140 MEAN 9,216 MAX 41,600 MIN 3,200

Note.--No gage-height record Aug. 16 to Sept. 16.

5-4080. Kickapoo River at La Farge, Wis.

Location.--Lat 43°34'30", long 90°38'35", on east-west quarter section line in W 1/2 sec. 29, T. 13 N., R. 2 W., on left bank 10 ft upstream from bridge on State Highway 82, in La Farge, 0.3 mile upstream from Otter Creek, and 1 mile downstream from powerplant.

Drainage area.--266 sq mi.

Records available.--October 1938 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 782.00 ft above mean sea level, adjustment of 1912. Prior to Dec. 4, 1939, chain gage on highway bridge at same datum. Dec. 4, 1939, to May 14, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--30 years, 167 cfs.

Extremes.--Maximum discharge during year, 3,140 cfs June 22 (gage height, 10.95 ft); minimum, 18 cfs Aug. 27 (gage height, 0.85 ft); minimum daily, 42 cfs June 8.
1938-68: Maximum discharge, 9,910 cfs Feb. 9, 1966 (gage height, 13.67 ft); minimum discharge, 1.8 cfs Mar. 24, 1951; minimum daily, 36 cfs Nov. 3, 1939.

Remarks.--Records good except those for winter months, which are fair. Considerable diurnal fluctuation caused by operation of powerplant 1 mile upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	135	92	54	350	90	172	119	91	254	109	146
2	90	123	100	52	370	88	134	110	98	198	102	108
3	99	133	102	50	210	86	139	112	97	173	93	100
4	71	118	97	50	160	86	316	91	88	157	98	91
5	88	110	104	49	135	90	200	82	99	157	103	158
6	88	101	100	48	105	120	155	116	86	136	108	116
7	98	113	118	48	94	110	133	87	87	130	155	113
8	169	100	151	46	80	135	140	87	42	135	110	346
9	182	109	128	51	70	290	134	91	128	122	108	1,370
10	137	106	102	55	64	250	127	114	254	102	110	895
11	99	117	100	63	63	210	116	67	178	111	96	258
12	90	112	100	74	62	185	112	89	138	102	103	201
13	120	102	76	76	62	170	109	111	110	114	80	166
14	120	108	56	76	62	170	159	104	120	120	93	156
15	101	96	80	80	64	170	191	123	96	94	91	142
16	107	97	96	84	68	200	130	435	106	110	110	133
17	100	107	94	91	68	175	140	245	93	245	124	173
18	103	104	95	94	68	160	116	153	110	198	99	640
19	111	102	94	95	68	285	117	136	130	129	113	339
20	91	97	105	105	69	176	260	148	76	100	371	255
21	98	98	137	115	70	121	363	127	1,740	97	162	207
22	96	111	125	105	74	102	185	102	1,440	104	111	189
23	92	105	98	90	74	93	225	122	350	433	97	200
24	110	102	90	90	74	98	271	113	505	422	84	232
25	192	102	84	90	75	108	215	103	616	166	87	184
26	127	110	80	88	80	100	164	115	1,490	139	90	151
27	117	72	74	85	86	112	147	145	1,710	121	70	157
28	110	67	70	84	88	134	139	139	640	132	76	125
29	110	70	66	450	90	134	149	121	424	110	86	143
30	124	79	62	490	------	108	123	112	326	106	87	133
31	134	------	58	300	------	482	------	101	------	112	76	------
TOTAL	3,482	3,106	2,934	3,328	3,003	4,838	5,081	3,920	11,468	4,829	3,402	7,627
MEAN	112	104	94.6	107	104	156	169	126	382	156	110	254
MAX	192	135	151	490	370	482	363	435	1,740	433	371	1,370
MIN	71	67	56	46	62	86	109	67	42	94	70	91
CFSM	.42	.39	.36	.40	.39	.59	.64	.48	1.44	.59	.41	.96
IN.	.49	.43	.41	.47	.42	.68	.71	.55	1.60	.68	.48	1.07

CAL YR 1967 TOTAL 57,998 MEAN 159 MAX 3,360 MIN 56 CFSM .60 IN 8.11
WTR YR 1968 TOTAL 57,018 MEAN 156 MAX 1,740 MIN 42 CFSM .59 IN 7.97

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-22	0200	10.95	3,140	9-10	0115	8.39	1,710
6-27	0445	9.82	2,280				

5-4085. Knapp Creek near Bloomingdale, Wis.

Location.--Lat 43°40'05", long 90°46'55", in NW 1/4 sec. 30, T. 14 N., R. 3 W., on right bank, 0.4 mile upstream from confluence with West Fork Kickapoo River, 1.7 miles north of Bloomingdale, and 4 miles east of Westby.

Drainage area.--8.47 sq mi.

Records available.--October 1954 to September 1968.

Gage.--Digital water-stage recorder. Prior to July 19, 1968, graphic water-stage recorder at same site and datum. Altitude of gage is 960 ft (from topographic map).

Average discharge.--14 years, 5.01 cfs.

Extremes.--Maximum discharge during year, 790 cfs June 21 (gage height, 5.18 ft); minimum daily discharge, 1.0 cfs Dec. 4, 5, Jan. 7-10.

1954-68: Maximum discharge, 3,710 cfs Aug. 26, 1959 (gage height, 8.76 ft) from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; minimum discharge, 0.4 cfs Nov. 28, 1966 (gage height, 0.66 ft) result of freezeup. Flood in July 1954 reached a stage of about 10.5 ft from floodmarks.

Remarks.--Records good except those for winter months, which are fair. Two detention reservoirs completed during water year 1956 about three miles upstream control flood discharge from 3.88 sq mi of drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	3.8	1.4	1.6	95	1.7	5.2	2.6	2.9	9.2	2.5	4.9
2	2.4	3.2	1.2	1.4	24	3.0	4.0	2.4	2.4	6.4	2.4	2.1
3	2.4	2.9	1.1	1.3	5.4	2.0	12	2.3	2.2	4.6	2.3	1.8
4	2.4	2.6	1.0	1.2	4.0	2.3	17	2.3	2.0	4.0	2.2	3.4
5	2.4	2.6	1.0	1.1	3.4	6.0	6.8	2.3	1.8	3.2	2.3	2.9
6	2.4	2.6	1.1	1.1	2.7	2.3	4.9	2.2	1.7	2.8	2.2	2.3
7	4.9	2.4	6.0	1.0	2.3	8.0	4.6	2.0	1.7	3.2	4.9	2.2
8	6.0	2.4	4.0	1.0	2.0	9.0	4.9	2.3	1.6	2.8	2.5	23
9	3.8	2.4	3.2	1.0	1.7	17	3.8	2.0	6.5	2.4	2.4	49
10	3.0	2.4	3.1	1.0	1.5	3.8	3.5	2.0	14	2.2	2.3	11
11	2.8	2.8	2.7	1.1	1.4	3.0	3.2	1.8	8.8	2.2	2.0	5.7
12	2.4	2.4	2.4	1.2	1.4	2.5	3.0	1.8	3.8	3.5	1.9	4.1
13	2.9	2.4	2.2	1.2	1.3	2.2	3.2	1.6	2.8	8.4	1.8	3.1
14	2.2	2.4	2.2	1.1	1.3	2.0	6.8	4.0	8.4	3.0	1.7	2.7
15	2.2	2.3	2.3	1.1	1.3	2.5	4.9	2.6	3.0	2.4	2.2	2.5
16	2.0	2.4	2.3	1.1	1.2	3.5	3.8	28	2.4	21	2.3	2.6
17	2.0	2.6	2.3	1.2	1.2	5.4	3.5	7.2	2.3	41	2.8	6.1
18	2.2	2.8	2.5	1.4	1.2	9.6	3.0	5.7	6.0	10	2.0	25
19	2.0	2.8	2.7	1.9	1.1	8.4	2.9	4.9	3.2	4.6	4.2	9.2
20	2.0	2.9	3.5	2.5	1.1	3.8	26	4.3	2.6	4.2	11	7.2
21	2.2	3.0	4.0	2.4	1.1	2.8	12	4.0	224	3.7	2.3	5.0
22	2.2	3.0	3.3	2.1	1.1	2.6	7.2	3.2	37	3.5	1.9	5.6
23	2.2	3.0	2.8	1.7	1.2	2.8	19	3.2	21	62	1.8	8.4
24	4.9	3.0	2.4	1.5	1.2	2.9	10	3.2	37	11	1.7	6.8
25	3.5	3.0	2.2	1.5	1.2	3.0	7.2	2.8	39	8.2	1.6	4.5
26	2.6	2.9	2.1	1.6	1.2	3.0	5.2	5.2	141	5.9	1.6	3.6
27	2.4	2.6	2.0	1.8	1.2	4.3	4.0	4.9	44	4.9	1.6	3.1
28	2.3	2.2	1.9	2.2	1.3	4.9	4.0	3.5	22	3.7	1.6	2.8
29	2.4	1.9	1.8	80	1.3	3.8	3.8	3.0	17	3.1	1.6	2.7
30	4.3	1.6	1.8	10	------	6.8	2.9	2.9	12	2.9	1.6	2.6
31	2.9	------	1.8	3.0	------	18	------	2.4	------	2.8	1.7	------
TOTAL	86.7	79.3	74.3	133.3	165.3	152.9	202.3	122.6	674.1	252.8	76.9	215.9
MEAN	2.80	2.64	2.40	4.30	5.70	4.93	6.74	3.95	22.5	8.15	2.48	7.20
MAX	6.0	3.8	6.0	80	95	18	26	28	224	62	11	49
MIN	2.0	1.6	1.0	1.0	1.1	1.7	2.9	1.6	1.6	2.2	1.6	1.8
CFSM	.331	.312	.283	.508	.673	.582	.796	.466	2.66	.962	.293	.850
IN.	.38	.35	.33	.59	.73	.67	.89	.54	2.96	1.11	.34	.95

CAL YR 1967: TOTAL 1,510.6 MEAN 4.14 MAX 119 MIN 1.0 CFSM .489 IN. 6.63
WTR YR 1968: TOTAL 2,236.4 MEAN 6.11 MAX 224 MIN 1.0 CFSM .721 IN. 9.84

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
1-29	0800	3.25	228	6-26	0900	3.57	315
6-21	0400	5.18	790	7-23	1045	3.28	280

5-4100. Kickapoo River at Gays Mills, Wis.

Location.--Lat 43°19'10", long 90°51'10", in NE 1/4 sec. 28, T. 10 N., R. 4 W., on upstream side of State Highway 171 bridge 300 ft downstream from dam in Gays Mills and 3.3 miles downstream from Taintor Creek.

Drainage area.--616 sq mi.

Records available.--December 1913 to September 1934. Monthly discharge only July to September 1934, published in WSP 1308. April 1964 to September 1968.

Gage.--Wire-weight gage read twice-daily. Datum of gage is 685.75 ft above mean sea level, datum of 1929. Prior to July 25, 1964, chain gage at present site and datum.

Average discharge.--24 years (1914-34, 1964-68), 420 cfs.

Extremes.--Maximum discharge during year, 2,420 cfs June 29 (gage height, 12.05 ft); minimum observed, 165 cfs Nov. 28 (gage height, 3.20 ft).

1913-34, 1964-68: Maximum discharge, 10,600 cfs Feb. 10, 1966 (gage height 16.00 ft); minimum observed, 48 cfs July 27, 1931 (gage height, 0.51 ft).

Flood in 1913 reached a stage of 15.2 ft, from floodmark (backwater from ice probable).

Flood in 1961 reached a stage of 16.37 ft, from floodmark.

Remarks.--Records good except those for winter months, which are fair. Occasional regulation caused by dam 300 ft upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	236	276	215	195	910	205	641	348	296	1,020	312	260
2	246	292	210	190	780	205	435	342	281	670	315	309
3	230	266	205	185	580	205	354	342	290	508	299	266
4	236	276	200	180	450	210	403	348	290	502	286	273
5	226	258	200	180	330	220	533	290	290	482	289	266
6	222	260	205	180	290	240	348	290	281	428	289	335
7	214	258	215	180	250	270	348	303	240	406	328	312
8	276	260	235	175	230	285	341	283	234	399	352	324
9	338	242	250	175	222	300	344	281	228	399	287	696
10	358	254	240	175	220	310	344	286	255	364	296	1,200
11	260	258	230	180	220	305	332	286	316	335	270	1,230
12	238	258	225	180	220	300	309	270	392	332	266	848
13	266	258	210	180	220	292	309	286	386	332	260	474
14	273	250	200	185	215	292	318	273	382	351	254	399
15	273	260	200	187	210	276	399	296	382	335	258	367
16	254	242	200	190	205	292	381	322	386	339	266	344
17	254	246	205	195	200	286	341	312	356	799	270	371
18	254	258	210	200	195	292	332	312	429	686	289	476
19	248	246	215	205	190	432	328	338	364	384	254	897
20	250	242	225	210	190	450	442	320	325	292	395	740
21	248	248	245	215	190	354	672	333	647	326	499	641
22	250	254	270	220	190	292	548	307	1,260	335	338	516
23	254	246	300	220	200	254	499	281	1,400	771	273	428
24	248	242	290	215	200	260	563	287	2,040	1,100	258	482
25	296	250	275	210	200	265	579	281	2,190	719	254	474
26	344	248	250	205	205	276	479	296	1,990	469	238	426
27	296	242	235	220	205	286	414	278	2,190	447	224	389
28	273	188	225	260	205	286	389	307	2,140	447	224	361
29	263	210	210	840	205	309	382	307	2,340	348	224	341
30	273	210	200	920	------	302	391	286	1,920	344	224	335
31	280	------	200	960	------	318	------	299	------	326	230	------
TOTAL	8,177	7,498	6,995	8,212	8,127	8,869	12,498	9,390	24,520	14,995	8,821	14,780
MEAN	264	250	226	265	280	286	417	303	817	484	285	493
MAX	358	292	300	960	910	450	672	348	2,340	1,100	499	1,230
MIN	214	188	200	175	190	205	309	270	228	292	224	260
CFSM	.429	.406	.367	.430	.455	.464	.677	.492	1.33	.786	.463	.800
IN.	.49	.45	.42	.50	.49	.54	.75	.57	1.48	.91	.53	.89

CAL YR 1967: TOTAL 133,520 MEAN 366 MAX 3,270 MIN 188 CFSM .594 IN. 8.05
WTR YR 1968: TOTAL 132,882 MEAN 363 MAX 2,340 MIN 175 CFSM .589 IN. 8.02

5-4105. Kickapoo River at Steuben, Wis.

Location.--Lat 43°11'25", long 90°52'30", in NW 1/4 sec. 8, T. 8 N., R. 4 W., on right bank 0.8 mile upstream from Duffy Creek, 1 mile northwest of Steuben and 14 miles upstream from mouth.

Drainage area.--690 sq mi.

Records available.--May 1933 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 657.82 ft above mean sea level, adjustment of 1912. Prior to Oct. 20, 1938, chain gage at site 1 mile upstream at datum 1.3 ft higher. Oct. 20, 1938, to May 24, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--35 years, 453 cfs.

Extremes.--Maximum discharge during year, 2,420 cfs June 26 (gage height, 9.26 ft); minimum daily, 210 cfs Jan. 5-8.
1933-68: Maximum discharge, 10,800 cfs Mar. 28, 1961 (gage height, 12.33 ft); minimum observed, 161 cfs Aug. 9, 1936 (gage height, 0.76 ft, site and datum then in use).

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	259	352	275	235	1,020	260	483	388	294	2,090	378	297
2	276	373	280	230	1,080	260	532	360	287	1,350	367	322
3	284	369	295	220	860	260	373	348	274	764	358	341
4	271	349	290	215	640	265	399	336	274	611	349	308
5	279	344	282	210	500	270	513	326	262	560	340	308
6	263	329	284	210	420	280	513	307	253	521	343	344
7	280	318	310	210	370	320	401	298	251	486	353	342
8	327	310	338	210	360	380	390	311	245	469	364	338
9	368	316	362	215	330	442	397	306	242	472	388	550
10	400	307	362	215	315	498	369	305	233	444	342	957
11	379	314	340	220	305	498	355	295	385	414	330	1,030
12	339	315	321	220	290	427	336	297	359	394	324	1,010
13	310	317	295	220	290	336	332	268	343	390	317	629
14	313	312	270	225	280	310	347	294	353	404	314	496
15	323	304	250	225	270	315	382	321	341	388	299	440
16	320	305	245	235	265	320	425	331	304	378	308	412
17	310	299	250	240	260	323	390	390	274	650	315	402
18	306	304	260	245	250	348	357	570	388	807	324	449
19	299	306	270	250	240	434	349	400	438	647	328	758
20	300	302	280	255	240	502	406	356	343	499	329	834
21	303	299	300	255	240	442	580	345	433	420	506	621
22	289	299	338	245	240	360	681	332	936	405	501	545
23	295	301	378	235	250	319	578	313	1,110	729	347	502
24	306	307	370	230	250	303	562	301	1,260	1,110	329	527
25	347	305	355	230	260	299	591	304	1,500	1,020	294	535
26	374	306	330	230	260	292	536	311	2,270	674	288	503
27	395	304	290	255	260	291	470	322	2,150	507	285	456
28	339	270	270	270	260	312	423	333	2,010	460	286	424
29	326	260	260	310	260	325	407	335	2,120	421	270	417
30	333	270	245	890	------	331	409	328	2,280	406	273	397
31	344	------	240	920	------	330	------	306	------	386	279	------
TOTAL	9,857	9,366	9,235	8,575	10,865	10,652	13,286	10,337	22,212	19,276	10,428	15,494
MEAN	318	312	298	277	375	344	443	333	740	622	336	516
MAX	400	373	378	920	1,080	502	681	570	2,280	2,090	506	1,030
MIN	259	260	240	210	240	260	332	268	233	378	270	297
CFSM	.46	.45	.432	.40	.54	.50	.64	.48	1.07	.90	.49	.75
IN.	.53	.50	.50	.46	.59	.57	.72	.56	1.20	1.04	.56	.84

CAL YR 1967	TOTAL	153,017	MEAN	419	MAX	3,310	MIN	228	CFSM	.607	IN.	8.25
WTR YR 1968	TOTAL	149,583	MEAN	409	MAX	2,280	MIN	210	CFSM	.593	IN.	8.07

PEAK DISCHARGE (BASE, 1,900 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-26	1300	9.26	2,420	6-30	1700	9.24	2,370

Reservoirs in Wisconsin River Basin

The 24 reservoirs listed below are used to stabilize the flow of the Wisconsin and Tomahawk Rivers for power utilization and are also used for recreational purposes. The first 21 reservoirs are owned and operated by the Wisconsin Valley Improvement Co., which furnished the gage heights and capacity tables. Revised capacity tables for all 21 reservoirs were received from the company in April 1957 and were used to compute month-end usable contents beginning Sept. 30, 1955. Another revised capacity table for Burnt Rollways Reservoir was used to compute month-end usable contents beginning Sept. 30, 1964. Lake Dubay is owned by the Consolidated Water Power Co. Petenwell and Castle Rock are owned and operated by the Wisconsin River Power Co., which furnished the gage heights and capacity tables for these two reservoirs. Month-end contents are computed by the U. S. Geological Survey. The usable capacity of these reservoirs is usually less in summer than in winter because the allowable summer drawndown is limited by the Department of Natural Resources in the interest of riparian property owners. There are occesionally formal or informal changes in capacity and in minimum drawdown levels. Usable capacity figures listed below are for winter regulation.

5-3901. Lac Vieux Desert on Wisconsin River, lat 46°07'20", long 89°09'10", in SE 1/4 NE 1/4 sec. 17, T. 42 N., R. 11 E., 4.8 miles northwest of Phelps, Wis., used as a reservoir since 1908, has a usable capacity of 652,000,000 cu ft. Datum of gage is 1,679.53 ft above mean sea level, datum of 1929.

5-3901.5. Twin Lakes on Twin River, lat 46°01'20", long 89°10'10", in SW 1/4 NE 1/4 sec. 19, T. 41 N., R. 11 E., 5.0 miles southwest of Phelps, Wis., used as a reservoir since 1908, has a usable capacity of 313,000,000 cu ft. Altitude of gage is 1,640 ft (from river-profile map).

5-3902. Buckatabon Lakes on Buckatabon Creek, lat 46°01'15", long 89°18'35", in SE 1/4 NE 1/4 sec. 24, T. 41 N., R. 9 E., 3.3 miles southwest of Conover, Wis., used as a reservoir since 1908, has a usable capacity of 130,000,000 cu ft. Datum of gage is 1,637.85 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3902.5. Sevenmile Lake on Sevenmile Creek, lat 45°52'30", long 89°04'10", in SE 1/4 NE 1/4 sec. 11, T. 39 N., R. 11 E., 9.1 miles southeast of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 93,000,000 cu ft. Datum of gage is 1,646.30 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3903. Lower Ninemile Lake on Ninemile Creek, lat 45°53'35", long 89°07'15", in NE 1/4 NW 1/4 sec. 4, T. 39 N., R. 11 E., 6.6 miles southeast of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 121,000,000 cu ft. Datum of gage is 1,638.27 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3903.5. Burnt Rollways Reservoir on Eagle River, lat 45°53'40", long 89°08'30", in NE 1/4 NW 1/4 sec. 5, T. 39 N., R. 11 E., 5.3 miles southeast of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 779,000,000 cu ft (revised). This reservoir includes 18 lakes controlled by the same dam. Altitude of gage is 1,620 ft (from river-profile map).

5-3904. Long Lake on Deerskin River, lat 46°02'45", long 89°02'35", in NW 1/4 SE 1/4 sec. 7, T. 41 N., R. 12 E., 2.5 miles southeast of Phelps, Wis., used as a reservoir since 1908, has a usable capacity of 400,000,000 cu ft. Datum of gage is 1,695.14 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3906. Deerskin Lake on Deerskin Creek, lat 45°59'05", long 89°09'40", in SE 1/4 sec. 31, T. 41 N., R. 11 E., 6.3 miles northeast of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 22,000,000 cu ft. Datum of gage is 1,640.16 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3906.5. Sugar Camp Reservoir on Sugar Camp Creek, lat 45°52'15", long 89°23'35", in NE 1/4 sec. 17, T. 39 N., R. 9 E., 7.6 miles southwest of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 471,000,000 cu ft. Datum of gage is 1,591.94 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3907. Little St. Germain Lake on Little St. Germain Creek, lat 45°53'55", long 89°27'00", in SE 1/4 sec. 35, T. 40 N., R. 8 E., 9.6 miles west of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 79,000,000 cu ft Datum of gage is 1,611.54 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3907.5. Big St. Germain Lake on St. Germain River, lat 45°55'10", long 89°31'55", in SE 1/4 sec. 30, T. 40 N., R. 8 E., 5.0 miles south of Sayner, Wis., used as a reservoir since 1908, has a usable capacity of 202,000,000 cu ft. Datum of gage is 1,588 32 ft above mean sea level (levels by Public Service Commission of Wisconsin).

5-3908. Pickerel Lake on St. Germain River, lat 45°52'20", long 89°31'45", in NE 1/4 sec. 18, T. 39 N., R. 8 E., 5.0 miles northeast of town of Lake Tomahawk, Wis., used as a reservoir since 1935, has a usable capacity of 338,000,000 cu ft. Datum of gage is 1,582.00 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3909. Rainbow Lake on Wisconsin River, lat 45°50'00", long 89°32'40", in SW 1/4 sec. 30, T. 39 N., R. 8 E., 800 ft upstream from U. S. Geological Survey river gaging station, 2.7 miles northeast of town of Lake Tomahawk, Wis., used as a reservoir since 1935, has a usable capacity of 2,181,000,000 cu ft. Datum of gage is 1,570.00 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3911. Pelican Lake on Pelican River, lat 45°31'45", long 89°12'20", in S 1/2 sec. 11, T. 35 N., R. 10 E., 2.8 miles northwest of town of Pelican Lake, Wis., used as a reservoir since 1909, has a usable capacity of 305,000,000 cu ft. Datum of gage is 1,589.98 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3913. North Pelican Lakes (includes Moen Lakes) on North Branch Pelican River, lat 45°38'05", long 89°14'35", in SE 1/4 sec. 4, T. 36 N., R. 10 E., 8.0 miles east of Rhinelander, Wis., city limits, used as a reservoir since 1908, has a usable capacity of 218,000,000 cu ft. Datum of gage is 1,569.10 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3921. Minocqua Lake on Tomahawk River, lat 45°52'35", long 89°43'40", on line between secs. 10 and 15, T. 39 N., R. 6 E., 1 mile west of Minocqua, Wis., used as a reservoir since 1910, has a usable capacity of 628,000,000 cu ft. Datum of gage is 1,584.56 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3922. Squirrel Lake on Squirrel River, lat 45°50'35", long 89°54'15", in NE 1/4 sec. 30, T. 39 N., R. 5 E., 9.4 miles west of Minocqua, Wis., used as a reservoir since 1908, has a usable capacity of 182,000,000 cu ft. Datum of gage is 1,560.93 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-3923. Willow Reservoir on Tomahawk River, lat 45°42'45", long 89°50'40", in NE 1/4 sec. 10, T. 37 N., R. 5 E., 8.8 miles southwest of Hazelhurst, Wis., used as a reservoir since 1927, has a usable capacity of 3,302,000,000 cu ft. Datum of gage is 1,505.87 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

Reservoirs in Wisconsin River Basin--Continued

5-3925. Lake Nokomis on Tomahawk River, lat 45°32'20", long 89°44'45", in NW 1/4 sec. 9, T. 35 N., R. 6 E., at U. S. Geological Survey river gaging station, 0.5 mile east of Bradley, Wis., used as a reservoir since 1912, has a usable capacity of 1,808,000,000 cu ft. Datum of gage is 1,448.24 ft above mean sea level, datum of 1929.

5-3936. Spirit River Flowage on Spirit River, lat 45°26'20", long 89°44'30", in SE 1/4 sec. 9, T. 34 N., R. 6 E., 2.0 miles south of Tomahawk, Wis., used as a reservoir since 1923, has a usable capacity of 756,000,000 cu ft. Datum of gage is 1,420.53 ft above mean sea level, datum of 1929.

5-3996. Big Eau Pleine Reservoir on Big Eau Pleine River, lat 44°43'50", long 89°45'35", in SW 1/4 sec. 14, T. 26 N., R. 6 E., 3 miles northeast of Dancy, Wis., used as a reservoir since 1937, has a usable capacity of 4,457,000,000 cu ft. Datum of gage is 1,115.00 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

5-4002.95. Lake Dubay on Wisconsin River, lat 44°39'50", long 89°39'05", in sec. 10, T. 25 N., R. 7 E., 1 1/2 miles downstream from Little Eau Pleine River and 10 1/2 miles northwest of Stevens Point, has a usable capacity of 2,117,000,000 cu ft. Datum of gage is at mean sea level (power company levels).

5-4014. Petenwell Flowage on Wisconsin River, lat 44°03'25", long 90°01'15", in SE 1/4 sec. 4, T. 18 N., R. 4 E., 5 1/4 miles upstream from Roche a Cri Creek, 2.4 miles west of Strongs Prairie, Wis., and 3.5 miles northeast of Necedah, Wis., used as a reservoir since 1950, has a total capacity of 19,880,000,000 cu ft. Datum of gage is 790.2 ft above mean sea level (levels by Wisconsin River Power Co.).

5-4032. Castle Rock Flowage on Wisconsin River, lat 43°51'50", long 89°57'35", in sec. 13, T. 16 N., R. 4 E., 4 1/2 miles upstream from Duck Creek, and 2 miles south of Germantown, Wis., and 7 miles northeast of Mauston, Wis., used as a reservoir since 1950, has a total capacity of 7,630,000,000 cu ft. Datum of gage is 790.2 ft above mean sea level (levels by Wisconsin River Power Co.).

Month-end contents, in millions of cubic feet, water year October 1967 to September 1968

	Lac Vieux Desert	Twin Lakes	Buckatabon Lake	Sevenmile Lake	Lower Ninemile Lake	Burnt Rollways Reservoir	Long Lake	Deerskin Lake
Sept. 30.....	240	216	93	73	88	644	176	18
Oct. 31.....	210	130	56	50	54	570	119	10
Nov. 30.....	204	112	62	48	72	624	129	6
Dec. 31.....	88	0	32	0	13	389	50	4
Jan. 31.....	20	6	21	0	0	161	8	2
Feb. 29.....	8	0	17	0	0	0	0	0
Mar. 31.....	90	47	21	35	79	197	109	9
Apr. 30.....	186	117	97	71	118	658	174	10
May 31.....	246	180	120	86	125	779	212	14
June 30.....	371	306	124	87	128	779	304	19
July 31.....	376	275	118	85	122	752	275	15
Aug. 31.....	325	262	117	86	122	739	240	15
Sept. 30.....	367	271	118	85	122	752	264	19

	Sugar Camp Reservoir	Little St. Germain Lake	Big St. Germain Lake	Pickerel Lake	Rainbow Lake	Pelican Lake	North Pelican Lakes	Minocqua Lake
Sept. 30.....	391	58	158	278	1,006	222	116	529
Oct. 31.....	363	43	154	246	1,962	234	138	411
Nov. 30.....	411	12	120	245	1,913	146	47	260
Dec. 31.....	315	4	69	230	1,814	76	31	117
Jan. 31.....	49	6	26	207	1,366	35	29	189
Feb. 29.....	49	4	8	153	668	0	22	189
Mar. 31.....	196	25	56	168	588	76	112	112
Apr. 30.....	345	57	182	272	1,226	178	166	266
May 31.....	419	78	166	286	2,051	248	146	454
June 30.....	435	79	160	286	2,189	305	156	607
July 31.....	415	75	158	278	2,175	260	136	580
Aug. 31.....	407	76	158	275	1,835	228	136	475
Sept. 30.....	451	75	175	266	2,139	238	154	517

	Squirrel Lake	Willow Reservoir	Lake Nokomis	Spirit Lake Flowage	Big Eau Pleine Reservoir	Lake Dubay	Petenwell Flowage	Castle Rock Flowage
Sept. 30.....	161	1,899	1,299	379	3,079	4,301	18,266	6,357
Oct. 31.....	137	1,318	1,454	542	3,049	4,515	18,442	6,578
Nov. 30.....	72	1,350	1,348	494	2,622	4,194	18,764	6,424
Dec. 31.....	23	865	896	344	1,981	4,320	18,602	6,486
Jan. 31.....	2	167	816	194	907	4,304	18,746	6,534
Feb. 29.....	0	10	415	2	117	3,930	17,949	4,676
Mar. 31.....	62	558	565	365	1,484	4,811	17,536	4,220
Apr. 30.....	133	1,394	1,427	744	3,247	4,830	19,457	7,669
May 31.....	167	2,675	1,768	715	4,318	4,483	19,727	7,569
June 30.....	166	3,285	1,780	713	4,398	4,236	18,710	6,736
July 31.....	164	3,242	1,776	732	4,418	4,515	18,746	6,384
Aug. 31.....	161	2,790	1,648	566	4,074	4,486	18,424	6,563
Sept. 30.....	161	3,282	1,772	747	4,402	4,407	18,724	6,364

5-4135. Grant River at Burton, Wis.

Location.--Lat 42°43'10", long 90°49'10", in sec. 23, T. 3 N., R. 4 W., on right bank at downstream side of highway bridge at Burton, 6 miles northwest of Potosi and 9.5 miles upstream from mouth.

Drainage area.--267 sq mi.

Records available.--October 1934 to September 1968. Published as "near Burton" October 1934 to September 1947. Records published for both sites March to September 1947. October 1934, monthly discharge only, published in WSP 1308.

Gage.--Digital water-stage recorder. Datum of gage is 606.89 ft above mean sea level, adjustment of 1912. Oct. 17, 1934, to Sept. 30, 1947, wire-weight gage at site 6 miles upstream at datum 33.18 ft higher. Mar. 18, 1947, to July 27, 1949, wire-weight gage at present site and datum. July 28, 1949, to Nov. 13, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--34 years, 159 cfs.

Extremes.--Maximum discharge during year, about 1,080 cfs Aug. 8 (gage height, 13.28 ft); minimum daily, 35 cfs Feb. 24-26, backwater from ice.

1934-68: Maximum discharge, 25,000 cfs July 16, 1950 (gage height, 24.82 ft), from rating curve extended above 18,000 cfs on basis of slope-area measurement of peak flow; minimum, 21 cfs Mar. 4, 1954, result of freezeup.

Remarks.--Records good except those for winter months, which are fair.

Cooperation.--Six discharge measurements furnished by Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	101	57	51	500	39	67	108	79	163	97	82
2	50	241	58	51	400	42	66	99	78	139	85	79
3	50	158	56	51	110	45	70	96	73	121	82	74
4	49	110	55	51	70	48	151	92	71	113	81	73
5	49	92	55	51	63	50	119	88	70	107	195	76
6	49	84	56	51	60	53	93	85	68	99	143	78
7	56	80	75	50	54	56	87	80	67	94	102	73
8	150	76	110	50	50	150	84	77	66	94	362	73
9	113	74	81	50	48	390	82	78	102	91	378	83
10	70	73	78	50	46	270	79	77	231	84	164	88
11	60	71	77	50	46	190	77	75	102	81	126	79
12	57	68	76	50	49	89	76	74	82	78	115	73
13	57	66	66	50	52	76	74	70	76	77	108	72
14	59	64	62	50	51	73	82	74	74	75	102	71
15	57	63	60	51	48	71	100	79	73	75	96	70
16	55	61	60	51	46	70	83	80	70	74	98	70
17	54	61	62	52	44	72	81	80	68	472	95	71
18	51	61	75	53	42	75	88	72	83	351	90	104
19	51	60	88	55	40	90	82	71	88	141	88	116
20	51	60	73	68	38	84	162	71	76	106	118	90
21	51	60	148	140	38	73	260	68	70	97	101	79
22	51	60	90	110	37	67	179	66	70	94	88	80
23	51	60	74	74	36	66	178	66	68	145	84	84
24	57	59	65	60	35	65	221	65	70	356	81	187
25	82	59	60	54	35	68	176	65	212	148	78	100
26	69	61	56	54	35	67	156	79	402	117	77	86
27	61	60	55	58	36	67	140	97	346	113	77	82
28	58	60	54	90	36	68	129	82	196	102	75	79
29	57	60	53	720	37	69	127	123	206	93	75	78
30	91	58	52	250	------	67	118	98	215	90	74	77
31	106	------	52	165	------	66	------	81	------	91	74	------
TOTAL	1,972	2,321	2,139	2,811	2,182	2,776	3,487	2,516	3,552	4,081	3,609	2,527
MEAN	63.6	77.4	69.0	90.7	75.2	89.5	116	81.2	118	132	116	84.2
MAX	150	241	148	720	500	390	260	123	402	472	378	187
MIN	49	58	52	50	35	39	66	65	66	74	74	70
CFSM	.24	.29	.26	.34	.28	.34	.44	.30	.44	.49	.44	.32
IN.	.27	.32	.30	.39	.30	.39	.49	.35	.49	.57	.50	.35

CAL YR 1967	TOTAL 42,904	MEAN 118	MAX 5,000	MIN 42	CFSM .44	IN 5.98
WTR YR 1968	TOTAL 33,973	MEAN 92.8	MAX 720	MIN 35	CFSM .35	IN 4.73

Peak discharge (base, 2,400 cfs),--No peak above the base.

5-4140. Platte River near Rockville, Wis.

Location.--Lat 42°43'55", long 90°38'25", in SW 1/4 sec. 17, T. 3 N., R. 2 W., on right bank just downstream from highway bridge, 0.8 mile upstream from Blakely Branch, 2.2 miles east of Rockville, 4.5 miles northeast of Potosi, and 15.2 miles upstream from mouth.

Drainage area.--139 sq mi.

Records availeble.--October 1934 to September 1968. Monthly discharge only for October and November 1934, published in WSP 1308.

Gage.--Digital water-stage recorder. Datum of gage is 642.95 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1941, chain gage at site 1.3 miles upstream at datum 12.55 ft higher. Oct. 1, 1941, to June 29, 1949, chain gage at present site and datum. June 30, 1949, to June 27, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--34 years, 93.5 cfs.

Extremes.--Maximum discharge during year, 1,000 cfs Jan. 29 (gage height, 7.12 ft); minimum daily, 28 cfs Feb. 23-26.
1934-68: Maximum discharge, 43,500 cfs July 16, 1950 (gage height, 17.26 ft), from rating curve extended above 7,000 cfs on basis of slope-area measurement of peak flow; no flow Nov. 24, 1950.

Remarks.--Records good except those for winter months, which are fair.

Cooperation.--Seven discharge measurements furnished by Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	134	48	36	330	32	55	97	67	114	68	58
2	38	286	48	36	107	34	53	85	65	91	65	58
3	37	153	48	36	61	36	60	69	63	87	63	52
4	37	114	47	36	50	39	85	63	63	85	64	51
5	35	95	47	36	44	43	74	61	62	82	79	56
6	34	83	48	36	40	42	67	59	61	78	67	55
7	42	76	135	36	37	40	64	57	58	76	61	51
8	89	71	109	36	35	41	63	57	58	78	71	60
9	69	69	76	36	34	106	60	56	62	71	97	79
10	57	67	71	36	35	96	57	55	76	69	67	85
11	51	64	67	36	38	63	55	54	65	67	60	65
12	48	62	62	36	43	59	55	53	60	66	53	61
13	49	60	54	36	44	57	55	52	56	64	51	57
14	50	58	50	36	40	57	63	52	56	62	48	55
15	48	56	49	37	37	57	69	55	55	62	47	54
16	47	55	50	39	35	58	62	56	55	62	58	55
17	46	55	52	39	33	57	66	53	55	70	54	58
18	42	54	56	40	32	76	75	54	58	82	48	94
19	40	53	57	44	31	133	71	55	63	64	48	88
20	40	53	59	64	30	78	122	55	53	60	64	74
21	40	54	74	96	29	62	161	59	55	58	56	70
22	39	53	47	79	29	58	135	58	71	60	49	68
23	40	53	45	58	28	56	145	63	63	139	48	72
24	45	52	42	47	28	56	155	61	69	166	48	120
25	55	53	40	43	28	56	139	63	189	79	48	97
26	49	53	39	42	28	55	124	69	282	81	49	76
27	47	48	38	45	29	55	114	69	180	80	50	68
28	45	46	37	74	29	56	108	67	115	72	50	62
29	47	48	37	400	30	56	112	78	137	69	50	61
30	78	48	36	135	------	55	102	66	131	69	48	63
31	94	------	36	76	------	55	-----	64	------	69	47	------
TOTAL	1,517	2,226	1,704	1,862	1,394	1,824	2,626	1,915	2,503	2,432	1,776	2,023
MEAN	48.9	74.2	55.0	60.1	48.1	58.8	87.5	61.8	83.4	78.5	57.3	67.4
MAX	94	286	135	400	330	133	161	97	282	166	97	120
MIN	34	46	36	36	28	32	53	52	53	58	47	51
CFSM	.35	.53	.40	.43	.35	.42	.63	.44	.60	.56	.41	.49
IN.	.41	.60	.46	.50	.37	.49	.70	.51	.67	.65	.48	.54

CAL YR 1967 TOTAL 29,667 MEAN 81.3 MAX 2,820 MIN 33 CFSM .58 IN 7.94
WTR YR 1968 TOTAL 23,802 MEAN 65.0 MAX 400 MIN 28 CFSM .47 IN 6.37

Peak discharge (base, 2,100 cfs).--No peak above the base.

5-4150. Galena River at Buncombe, Wis.

Location.--Lat 42°30'50", long 90°22'40", near center of sec. 33, T. 1 N., R. 1 E., on left bank at Buncombe, 0.6 mile upstream from Coon Branch, 1.5 miles upstream from Scrabble Branch, 2 miles upstream from Wisconsin-Illinois State line, and 3.5 miles southeast of Hazel Green.

Drainage area.--128 sq mi.

Records available.--September 1939 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 682.77 ft above mean sea level, adjustment of 1912 (Corps of Engineers bench mark). Prior to Dec. 1, 1939, wire-weight gage at same site and datum. Dec. 2, 1939, to June 19, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--29 years, 73.1 cfs.

Extremes.--Maximum discharge during year, 2,340 cfs Feb. 1 (gage height, 9.35 ft); minimum discharge, 13 cfs Feb. 9 (gage height, 2.47 ft) result of freezeup.

1939-68: Maximum discharge, 12,400 cfs Feb. 20, 1953 (gage height, 15.68 ft), from rating curve extended above 8,100 cfs on basis of slope-area measurement of peak flow; minimum, 0.8 cfs Mar. 3, 1954.

Flood in February 1937 reached a stage of about 17.1 ft, from information by local resident (discharge, 18,000 cfs, from rating curve extended above 8,100 cfs by logarithmic plotting and on basis of slope-area measurement at gage height 15.68 ft for peak of Feb. 20, 1953).

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	176	41	27	746	22	32	63	33	73	32	58
2	26	395	40	27	99	24	30	58	31	49	27	92
3	25	180	41	26	45	26	43	57	28	39	25	41
4	24	128	42	25	40	29	65	53	26	35	29	34
5	24	104	45	25	36	33	47	51	25	35	537	42
6	23	93	45	24	33	30	39	48	24	30	129	44
7	29	80	57	24	31	34	39	44	24	29	75	35
8	114	77	61	24	29	37	37	46	23	33	131	44
9	61	77	51	25	28	41	33	43	23	51	113	228
10	40	73	52	26	26	42	32	42	32	32	67	110
11	35	71	51	26	26	34	31	41	72	27	56	67
12	35	62	50	27	25	31	29	42	38	25	49	57
13	36	57	45	27	24	31	29	39	26	25	45	51
14	30	57	40	27	24	29	41	39	27	25	41	47
15	48	55	39	26	25	31	49	39	25	24	43	45
16	46	53	39	26	25	31	36	47	24	24	41	44
17	39	55	40	28	25	32	50	42	26	27	44	47
18	34	53	43	30	23	34	55	39	30	29	42	123
19	33	49	49	33	23	53	47	43	30	26	42	90
20	32	49	46	38	22	47	151	41	25	23	124	72
21	29	50	93	98	22	36	122	39	23	23	61	62
22	29	50	45	78	22	33	92	32	23	23	42	73
23	31	48	39	46	22	31	113	30	21	152	39	196
24	37	49	36	40	23	32	127	29	24	391	36	244
25	53	49	34	37	24	32	101	30	70	63	35	137
26	40	45	33	35	24	32	88	45	143	40	34	107
27	35	50	32	37	24	32	77	47	96	38	33	92
28	35	50	31	42	23	36	78	38	48	34	33	81
29	34	42	30	404	22	34	92	53	47	31	32	75
30	141	41	29	124	------	32	70	41	90	27	32	70
31	125	------	27	64	------	33	------	34	------	31	33	------
TOTAL	1,350	2,418	1,346	1,546	1,561	1,034	1,875	1,335	1,177	1,514	2,102	2,508
MEAN	43.5	80.6	43.4	49.9	53.8	33.4	62.5	43.1	39.2	48.8	67.8	83.6
MAX	141	395	93	404	746	53	151	63	143	391	537	244
MIN	23	41	27	24	22	22	29	29	21	23	25	34
CFSM	.34	.63	.34	.39	.42	.26	.49	.34	.31	.38	.53	.65
IN.	.39	.70	.39	.45	.45	.30	.54	.39	.34	.44	.61	.73

CAL YR 1967 TOTAL 22,524 MEAN 61.7 MAX 1,870 MIN 17 CFSM .48 IN 6.54
WTR YR 1968 TOTAL 19,766 MEAN 54.0 MAX 746 MIN 21 CFSM .42 IN 5.74

Peak discharge (base, 3,000 cfs).--No peak above the base.

5-4155. East Fork Galena River at Council Hill, Ill.

Location.--Lat 42°28'05", long 90°20'20", in W 1/2 sec. 31, T. 29 N., R. 2 E., on left bank at Council Hill, 3 miles upstream from mouth and 6 miles northeast of Galena. Records include flow of unnamed creek which enters just below gage.

Drainage area.--20.1 sq mi, includes that of unnamed creek.

Records available.--September 1939 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 686.59 ft above mean sea level, adjustment of 1912 (Corps of Engineers benchmark). Prior to Dec. 1, 1939, wire-weight gage at same site and datum.

Average discharge.--29 years, 12.3 cfs.

Extremes.--Maximum discharge during year, 462 cfs Feb. 1 (gage height, 5.46 ft, backwater from ice); minimum 0.6 cfs Feb. 10 (gage height 2.47 ft), result of freezeup.

1939-68: Maximum discharge, 16,600 cfs Apr. 29, 1947 (gage height, 15.3 ft, from floodmarks), from rating curve extended above 1,500 cfs on basis of slope-area measurements of peak flows at gage heights 9.33 and 15.3 ft and contracted-opening measurements at gage height 9.85 and 15.3 ft; minimum, 0.3 cfs June 22, 1940.

Remarks.--Records good except those for winter months or those below 5 cfs, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	85	7.9	4.8	70	4.0	5.0	12	8.0	10	4.4	8.6
2	10	87	8.5	4.6	9.4	4.2	5.0	11	6.2	5.6	6.2	6.2
3	9.1	42	7.9	4.4	8.2	4.2	9.8	9.8	5.0	5.6	6.8	3.5
4	9.1	30	7.2	4.2	7.4	4.0	11	9.2	5.0	5.6	6.8	3.5
5	9.7	27	7.9	4.1	6.6	4.2	8.0	9.2	5.0	4.4	33	5.6
6	10	22	7.9	4.0	6.0	4.2	6.8	7.4	5.0	4.7	16	4.7
7	14	21	13	4.0	5.6	4.3	6.2	7.4	5.0	6.2	14	4.4
8	24	16	10	4.0	5.2	5.0	5.0	8.0	5.0	5.0	35	7.1
9	11	16	9.7	4.3	5.0	9.8	4.7	8.0	6.2	12	13	14
10	9.1	15	10	4.5	4.8	7.4	4.7	8.0	8.7	5.0	10	6.8
11	7.9	15	9.7	4.5	4.8	5.0	4.4	7.4	20	4.1	8.6	5.6
12	7.2	13	10	4.5	4.6	5.0	4.4	6.8	6.8	4.4	5.0	5.6
13	7.9	13	7.0	4.6	4.4	5.0	4.1	5.0	5.0	4.7	4.7	5.0
14	7.9	13	6.2	4.9	4.4	5.6	8.0	6.8	6.2	5.6	4.4	4.4
15	17	12	6.2	5.1	4.5	5.0	4.2	8.0	5.0	5.6	4.1	5.0
16	12	12	7.0	5.4	4.6	5.6	4.6	11	5.6	5.0	6.2	3.8
17	10	15	8.0	6.3	4.0	6.2	14	8.0	4.7	6.8	8.9	6.2
18	8.5	13	8.2	6.5	3.9	10	11	8.0	11	8.0	4.1	21
19	9.1	12	7.8	7.2	3.8	12	12	8.0	10	4.4	3.2	12
20	8.5	12	9.1	18	3.8	9.2	55	5.0	7.4	3.8	5.6	12
21	8.5	13	12	14	3.7	7.4	22	6.2	5.6	4.1	3.5	8.6
22	8.5	13	7.2	12	3.5	6.2	16	5.6	5.0	2.9	3.2	13
23	8.5	12	6.8	9.0	3.5	6.2	34	5.0	5.0	12	3.2	18
24	16	11	6.5	6.6	3.6	5.6	23	4.4	12	8.6	2.9	33
25	12	11	6.4	6.4	3.7	5.6	18	5.0	8.6	3.8	2.9	14
26	10	9.7	6.3	6.8	3.8	5.0	15	19	41	3.5	2.3	12
27	9.7	8.5	6.2	10	3.7	6.2	14	11	13	3.8	2.3	9.8
28	9.7	7.6	6.0	14	3.7	6.8	14	9.8	9.8	4.1	3.5	8.6
29	10	7.2	5.6	60	3.8	6.2	18	35	21	2.9	3.8	8.0
30	50	7.2	5.3	10	------	6.2	14	13	12	4.1	3.5	6.2
31	32	------	5.0	14	------	6.2	------	8.6	------	9.2	4.7	------
TOTAL	393.9	591.2	242.5	272.7	204.0	187.5	375.9	286.6	273.8	175.5	235.8	276.2
MEAN	12.7	19.7	7.82	8.80	7.03	6.05	12.5	9.25	9.13	5.66	7.61	9.21
MAX	50	87	13	60	70	12	55	35	41	12	35	33
MIN	7.2	7.2	5.0	4.0	3.5	4.0	4.1	4.4	4.7	2.9	2.3	3.5
CFSM	.632	.980	.389	.438	.350	.301	.622	.460	.454	.282	.379	.458
IN.	.73	1.09	.45	.50	.38	.35	.70	.53	.51	.32	.44	.51

CAL YR 1967:	TOTAL	3,845.4	MEAN	10.5	MAX	156	MIN	2.7	CFSM	.522	IN.	7.11
WTR YR 1968:	TOTAL	3,515.6	MEAN	9.61	MAX	87	MIN	2.3	CFSM	.478	IN.	6.51

Peak discharge (base, 700 cfs).--No peak above base.

5-4230. West Branch Rock River near Waupun, Wis.

Location.--Lat 43°40'05", long 88°39'10", in SW 1/4 sec. 24, T. 14 N., R. 15 E., on right bank 700 ft downstream from bridge on U. S. Highway 151, 4 miles upstream from South Branch Rock River, and 4.5 miles northeast of Waupun.

Drainage area.--41.4 sq mi.

Records available.--January 1949 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 870.53 ft above mean sea level, datum of 1929.

Average discharge.--19 years, 19.6 cfs.

Extremes.--Maximum discharge during year, 77 cfs Apr. 21 (gage height, 3.08 ft); minimum, 0.1 cfs Oct. 6, 7 (gage height, 1.55 ft). 1949-68: Maximum discharge, 949 cfs Mar. 27, 1950 (gage height, 6.56 ft); no flow Dec. 5, 1949, Feb. 6-13, 1959, Dec. 20-22, 1963, and many days in 1964-65.

Remarks.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	17	4.0	2.8	15	1.5	9.2	20	22	36	2.7	1.7
2	.40	45	4.1	2.6	11	1.5	8.2	18	19	29	2.4	1.8
3	.30	46	4.3	2.4	8.0	1.6	8.9	15	13	22	2.7	1.7
4	.20	31	4.5	2.4	5.0	1.7	16	15	12	22	4.6	1.7
5	.20	21	4.8	2.3	4.5	1.8	16	15	11	25	4.9	2.4
6	.10	17	5.2	2.2	3.6	1.8	13	14	9.2	21	4.6	2.7
7	.20	15	7.9	2.0	3.0	1.8	12	13	9.9	18	4.9	2.2
8	.80	13	16	1.7	2.6	2.1	11	12	9.2	18	4.9	2.2
9	1.1	12	14	1.5	2.5	3.0	12	12	8.2	15	4.4	3.5
10	.90	11	13	1.3	2.8	4.1	9.2	11	7.9	12	4.1	10
11	.90	11	12	1.3	3.5	3.9	8.6	11	13	11	3.4	6.7
12	.80	11	12	1.3	3.1	4.4	9.2	10	12	11	2.9	4.6
13	.90	10	9.9	1.2	2.7	3.9	11	9.2	9.2	11	2.4	3.4
14	.90	8.2	8.0	1.2	2.6	3.9	15	9.9	7.9	8.6	2.0	3.2
15	1.0	7.5	7.0	1.3	2.5	4.1	17	11	7.5	8.2	1.8	2.2
16	1.6	7.2	6.0	1.3	2.4	5.1	16	14	6.9	7.2	2.0	1.8
17	1.6	7.2	6.4	1.2	2.5	6.7	29	14	6.4	8.9	1.8	1.8
18	1.2	7.2	7.0	1.2	2.7	6.9	48	13	7.9	11	1.7	2.4
19	1.0	6.9	7.5	1.3	2.4	12	38	31	8.6	8.9	5.4	6.4
20	.90	6.4	7.5	1.4	2.3	12	50	31	7.5	8.2	6.7	7.9
21	.90	6.4	13	1.6	2.2	8.9	72	26	11	6.9	4.1	6.9
22	.60	6.9	15	1.7	2.1	7.5	52	22	13	6.2	3.2	5.6
23	.80	6.7	11	1.8	2.0	8.2	55	18	11	6.4	2.4	4.4
24	1.7	6.7	8.0	1.8	1.9	6.9	71	16	10	7.5	1.8	4.6
25	11	6.7	6.4	1.8	1.8	6.7	57	13	11	7.2	1.4	4.1
26	9.2	5.8	5.2	1.7	1.7	6.7	45	14	35	6.7	1.5	3.9
27	6.2	5.0	4.6	1.6	1.6	6.9	36	23	74	6.2	1.7	3.4
28	4.6	4.5	4.0	1.6	1.6	7.5	29	26	72	5.4	1.5	3.2
29	3.9	4.2	3.6	2.2	1.6	7.5	24	34	54	5.1	1.4	2.9
30	6.9	4.0	3.3	6.0	------	7.5	22	30	43	3.9	1.2	2.7
31	17	------	3.0	6.0	------	8.6	------	24	------	3.2	1.2	------
TOTAL	78.4	367.5	238.2	61.7	101.2	166.7	820.3	545.1	542.3	376.7	91.7	112
MEAN	2.53	12.2	7.68	1.99	3.49	5.38	27.3	17.6	18.1	12.2	2.96	3.73
MAX	17	46	16	6.0	15	12	72	34	74	36	6.7	10
MIN	.10	4.0	3.0	1.2	1.6	1.5	8.2	9.2	6.4	3.2	1.2	1.7
CFSM	.061	.295	.186	.048	.084	.130	.659	.425	.437	.295	.071	.090
IN.	.07	.33	.21	.06	.09	.15	.74	.49	.49	.34	.08	.10

CAL YR 1967:	TOTAL	2,981.4	MEAN	8.17	MAX	110	MIN	.10	CFSM	.197	IN.	2.69
WTR YR 1968:	TOTAL	3,501.8	MEAN	9.57	MAX	74	MIN	.10	CFSM	.231	IN.	3.15

Peak discharge (base, 250 cfs).--No peak above the base.

5-4235. South Branch Rock River at Waupun, Wis.

Location.--Lat 43°38'30", long 88°43'15", in NW 1/4 sec. 33, T. 14 N., R. 15 E., on left bank 100 ft upstream from U. S. Highway 151 at Waupun and 3 miles upstream from mouth.

Drainage area.--62.8 sq mi.

Records available.--October 1948 to September 1968. Monthly discharge only for October 1948, published in WSP 1308.

Gage.--Water-stage recorder. Datum of gage is 863.46 ft above mean sea level, datum of 1929.

Average discharge.--20 years, 23.6 cfs.

Extremes.--Maximum discharge during year, 170 cfs June 27 (gage height, 3.63 ft); minimum, 0.3 cfs Oct. 21 (gaga height, 1.38 ft). 1948-68: Maximum discharge, 1,500 cfs Apr. 3, 1959 (gage height, 7.97 ft), from rating curve extended above 650 cfs; no flow at times in 1949, 1953-54, 1958-59, 1963-64.

Remarks.--Records fair except those for winter months or those below 1.0 cfs, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.80	26	6.0	1.9	20	2.1	17	26	20	53	5.3	4.2
2	.40	64	6.0	1.8	12	2.1	16	24	17	38	4.3	2.5
3	1.1	48	6.0	1.9	8.4	2.2	22	21	15	29	2.4	2.2
4	1.7	35	6.4	2.0	7.0	2.3	33	20	13	28	1.9	5.0
5	2.2	27	6.7	2.0	6.0	2.4	30	20	10	25	4.6	9.0
6	2.2	23	7.2	2.0	5.2	2.5	24	18	9.1	22	5.2	5.0
7	3.5	20	14	2.0	4.6	2.6	22	17	7.7	20	6.3	3.2
8	5.5	20	19	2.0	4.0	2.8	24	16	5.8	19	4.5	3.5
9	1.4	16	16	2.0	3.7	3.1	23	16	5.5	15	4.3	11
10	2.0	16	14	2.0	3.5	3.8	22	14	12	14	2.5	8.2
11	.80	16	14	2.0	3.2	4.3	21	14	20	13	2.7	5.8
12	1.2	15	14	2.0	3.1	4.5	17	13	11	10	3.2	5.0
13	2.9	14	14	1.9	3.0	4.3	14	11	9.1	10	2.8	4.8
14	1.4	13	12	1.9	2.8	4.2	21	16	7.7	9.1	2.5	3.5
15	2.4	13	10	1.9	2.6	4.8	20	16	5.8	9.1	2.8	2.4
16	2.8	12	8.6	2.1	2.4	5.3	18	21	5.5	9.1	2.8	3.0
17	3.1	12	8.2	2.2	2.2	8.6	37	18	5.3	12	1.4	3.5
18	3.5	11	9.6	2.2	2.0	14	45	21	9.4	10	1.4	8.0
19	1.4	10	11	2.2	1.9	24	37	42	7.7	9.1	10	9.6
20	2.7	9.6	13	2.2	1.8	22	66	37	6.7	7.7	33	12
21	.70	9.6	28	2.2	1.7	16	66	30	33	6.7	13	9.1
22	.80	10	78	2.2	1.7	10	49	27	26	8.2	7.2	8.6
23	.80	9.6	19	2.2	1.7	8.6	65	24	17	11	5.5	7.2
24	20	9.1	14	2.1	1.8	9.1	80	20	17	11	3.5	6.7
25	19	10	12	2.0	1.8	9.6	64	18	18	10	2.5	5.3
26	8.2	9.1	10	1.9	1.9	9.6	50	18	90	9.6	2.5	5.0
27	5.5	8.2	7.2	1.9	2.0	12	41	18	148	8.2	3.0	4.5
28	3.5	7.2	5.5	2.1	2.0	16	34	22	97	7.2	2.8	3.8
29	3.0	6.7	3.8	11	2.1	14	30	26	78	5.8	2.7	2.4
30	16	6.1	2.5	9.0	------	13	28	25	65	5.8	2.4	2.8
31	21	------	2.1	8.0	------	16	------	23	------	5.5	1.1	------
TOTAL	141.5	506.2	397.8	84.8	116.1	255.8	1,036	652	792.3	451.1	150.1	166.8
MEAN	4.56	16.9	12.8	2.74	4.00	8.25	34.5	21.0	26.4	14.6	4.84	5.56
MAX	21	64	78	11	20	24	80	42	148	53	33	12
MIN	.40	6.1	2.1	1.8	1.7	2.1	14	11	5.3	5.5	1.1	2.2
CFSM	.073	.269	.204	.044	.064	.131	.549	.334	.420	.232	.077	.089
IN.	.08	.30	.24	.05	.07	.15	.61	.39	.47	.27	.09	.10

CAL YR 1967:	TOTAL	4,428.0	MEAN	12.1	MAX	171	MIN	.20	CFSM	.193	IN.	2.61
WTR YR 1968:	TOTAL	4,750.5	MEAN	13.0	MAX	148	MIN	.40	CFSM	.207	IN.	2.81

5-4240. East Branch Rock River near Mayville, Wis.

Location.--Lat 43°31'45", long 88°34'00", in NE 1/4 sec. 10, T. 12 N., R. 16 E., on left bank 500 ft downstream from Kekoskee dam, 0.5 mile upstream from Gill Creek, and 2 miles northwest of railroad bridge in Mayville.

Drainage area.--179 sq mi.

Records available.--May 1949 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 857.20 ft above mean sea level, datum of 1929. Prior to July 11, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--19 years, 84.6 cfs.

Extremes.--Maximum discharge during year, 630 cfs June 27 (gage height, 5.73 ft); minimum, 2.6 cfs Oct. 2 (gage height, 2.31 ft). 1949-68: Maximum discharge, 3,400 cfs Apr. 3, 1959; maximum gege height, 11.02 ft Apr. 3,1959 (backwater from ice): minimum discharge, 0.1 cfs June 6, 1949, Aug. 22, 23, 1962.

Remarks.--Records good except those for winter months, which are fair. Minor regulation by recreation dams.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	67	25	11	130	7.6	104	155	122	255	13	20
2	2.8	136	25	9.4	110	7.6	102	138	109	228	12	19
3	3.8	117	25	7.8	82	7.8	106	123	96	184	12	18
4	4.2	85	27	6.8	88	8.0	133	112	79	174	12	19
5	4.7	66	28	6.0	86	9.0	131	105	64	144	13	34
6	4.8	50	30	5.6	84	10	124	78	47	150	18	29
7	6.2	41	41	5.4	78	12	117	75	21	110	22	23
8	11	36	53	5.4	70	14	105	72	8.9	96	22	21
9	9.2	61	59	5.4	64	17	104	65	16	79	22	25
10	9.6	145	61	5.5	58	22	97	61	27	71	19	20
11	8.9	148	62	5.7	50	26	85	57	166	63	17	19
12	9.3	132	65	6.0	46	29	70	51	97	57	16	18
13	12	111	64	6.4	40	31	67	50	109	49	14	18
14	11	97	55	6.8	36	33	71	65	137	43	13	17
15	12	84	50	7.6	30	36	73	70	140	39	13	15
16	15	72	45	8.6	25	49	77	82	117	35	14	14
17	14	70	40	9.6	20	59	95	84	95	34	13	13
18	12	69	39	10	17	73	138	92	91	29	12	15
19	11	62	40	12	15	110	155	126	84	27	17	22
20	11	56	45	13	13	143	210	164	77	24	49	24
21	10	52	87	14	11	133	292	152	101	21	41	27
22	10	50	90	15	9.4	106	228	140	110	18	31	26
23	9.7	46	76	15	8.4	86	242	133	110	24	25	24
24	21	43	68	15	8.0	81	319	122	119	28	20	26
25	33	45	58	15	7.8	71	301	112	109	26	16	23
26	26	44	48	15	7.8	55	280	105	224	25	16	24
27	24	40	37	15	7.6	30	261	116	454	22	16	22
28	20	34	30	16	7.6	21	224	138	271	18	16	20
29	18	29	22	28	7.6	23	206	162	263	17	15	18
30	42	26	18	36	------	48	155	155	267	17	15	18
31	53	------	14	45	------	101	------	138	------	18	16	------
TOTAL	442.1	2,114	1,427	383.0	1,217.2	1,459.0	4,672	3,298	3,730.9	2,125	570	631
MEAN	14.3	70.5	46.0	12.4	42.0	47.1	156	106	124	68.5	18.4	21.0
MAX	53	148	90	45	130	143	319	164	454	255	49	34
MIN	2.8	26	14	5.4	7.6	7.6	67	50	8.9	17	12	13
CFSM	.08	.39	.26	.07	.23	.26	.87	.59	.69	.38	.10	.12
IN.	.09	.44	.30	.08	.25	.30	.97	.69	.78	.44	.12	.13

CAL YR 1967 TOTAL 23,959.3 MEAN 65.6 MAX 508 MIN 2.8 CFSM .37 IN 4.98
WTR YR 1968 TOTAL 22,069.2 MEAN 60.3 MAX 454 MIN 2.8 CFSM .34 IN 4.59

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-27	1800	5.73	630				

5-4255. Rock River at Watertown, Wis.

Location.--Lat 43°11'25", long 88°43'35", in sec. 4, T. 8 N., R. 15 E., on left bank at Watertown, 700 ft downstream from Milwaukee Street Bridge and 1.1 mile downstream from Silver Creek.

Drainage area.--971 sq mi.

Records available.--June 1931 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 792.58 ft above mean sea level, datum of 1929. Prior to Sept. 26, 1933, chain gage at site 700 ft upstream at different datum. Sept. 26, 1933, to Apr. 20, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--37 years, 417 cfs.

Extremes.--Maximum discharge during year, 1,310 cfs June 29 (gage height, 3.43 ft); minimum, 16 cfs Oct. 4, 5, 6 (gage height, 0.75 ft).

1931-68: Maximum discharge, 5,030 cfs Apr. 4, 1959 (gage height, 6.32 ft); minimum daily, 0.9 cfs Oct. 15, 1939, Sept. 9, 1944.

Remarks.--Records good except those for winter months, which are fair. Slight intermittent regulation caused by a small feed mill 0.2 mile upstream; considerable diurnal regulation caused by powerplant 1.6 miles upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	195	152	95	120	76	199	868	548	1,260	150	105
2	22	338	152	93	145	68	186	856	533	1,230	142	102
3	20	419	150	92	180	65	187	818	518	1,220	143	105
4	18	460	150	92	210	78	196	768	510	1,220	139	117
5	17	485	155	92	245	135	207	717	487	1,210	130	139
6	17	487	170	92	270	120	215	659	410	1,210	122	139
7	20	464	203	94	290	105	211	608	280	1,180	122	151
8	24	440	208	94	300	96	184	530	182	1,150	114	154
9	20	433	221	97	300	90	177	493	153	1,120	114	172
10	22	446	233	100	300	90	171	413	155	1,100	113	181
11	22	464	239	104	290	90	176	347	192	1,080	108	202
12	24	467	239	108	270	92	155	254	246	1,040	104	225
13	30	482	245	110	250	93	152	211	374	1,000	95	212
14	27	484	230	110	200	95	151	152	427	748	85	193
15	34	487	200	110	180	97	157	186	460	553	93	177
16	41	476	326	115	176	99	171	202	460	480	108	162
17	43	473	389	120	150	105	194	231	469	467	107	152
18	41	458	423	125	120	117	247	251	480	417	92	152
19	41	418	416	130	110	146	318	324	498	414	94	164
20	41	325	351	130	105	174	407	404	508	410	426	184
21	35	280	274	125	105	215	528	427	580	390	499	210
22	36	247	170	115	105	267	637	427	647	337	550	212
23	35	247	150	100	105	289	703	414	634	268	484	208
24	55	248	135	88	110	314	789	402	591	352	344	243
25	59	230	125	88	108	342	873	427	582	379	247	275
26	62	195	120	87	105	369	897	454	850	358	203	264
27	74	175	115	86	92	297	866	465	1,190	277	170	241
28	85	150	105	88	90	227	850	457	1,270	218	156	221
29	85	160	100	90	85	192	856	475	1,270	197	144	202
30	111	155	100	96	------	192	857	501	1,300	180	119	190
31	132	------	96	105	------	196	------	531	------	162	99	------
TOTAL	1,316	10,798	6,342	3,171	5,116	4,932	11,917	14,272	16,804	21,627	5,616	5,454
MEAN	42.5	360	205	102	176	159	397	460	560	698	181	182
MAX	132	487	423	130	300	369	897	868	1,300	1,260	550	275
MIN	17	155	96	86	85	66	151	152	153	162	85	102
CFSM	.04	.37	.21	.11	.18	.16	.41	.47	.58	.72	.19	.19
IN.	.05	.41	.24	.12	.20	.19	.46	.55	.64	.83	.22	.21

CAL YR 1967 TOTAL 99,532 MEAN 270 MAX 1,030 MIN 17 CFSM .28 IN 3.77
WTR YR 1968 TOTAL 107,365 MEAN 293 MAX 1,300 MIN 17 CFSM .30 IN 4.11

PEAK DISCHARGE (BASE, 1,100 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-29	2145	3.43	1,310				

GPO 817-102-9

5-4260. Crawfish River at Milford, Wis.

Location.--Lat 43°06'00", long 88°51'00", in sec. 4, T. 7 N., R. 14 E., near left bank on upstream side of highway bridge in Milford, 1 mile downstream from Rock Creek and 8 miles upstream from mouth.

Drainage area.--732 sq mi.

Records available.--June 1931 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 779.40 ft above mean sea level, datum of 1929. Prior to Nov. 19, 1959, chain gage, and Nov. 19, 1959, to July 28, 1966, wire-weight gage at present site and datum.

Average discharge.--37 years, 331 cfs.

Extremes.--Maximum discharge during year, 1,290 cfs July 2 (gage height, 4.70 ft); minimum, 8.4 cfs Oct. 2 (gage height, 1.41 ft). 1931-68: Maximum discharge, 6,140 cfs Apr. 6, 1959 (gage height, 11.15 ft); minimum observed, 0.2 cfs Sept. 15, 1958 (gage height, 1.11 ft).

Remarks.--Records good except for winter months, which are fair. Some diurnal fluctuation at low flow possible, due to small dams upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	334	160	61	90	72	215	650	388	1,270	206	125
2	34	464	160	60	105	72	202	587	380	1,280	169	115
3	46	540	160	58	160	72	216	573	362	1,230	159	97
4	43	570	160	57	195	71	245	514	316	1,150	149	94
5	63	590	170	56	200	71	308	468	296	1,110	119	148
6	50	580	180	56	205	71	285	420	275	1,000	126	152
7	37	580	205	56	200	72	239	349	250	905	137	136
8	58	568	262	56	185	75	278	312	221	830	130	129
9	62	599	308	57	165	80	358	365	207	791	139	182
10	71	548	346	58	145	90	351	338	184	718	153	223
11	60	507	369	57	125	96	260	316	164	636	128	212
12	43	530	387	64	115	100	198	282	262	573	107	205
13	44	465	393	66	105	107	281	262	294	486	118	190
14	77	420	375	68	98	116	275	239	330	426	118	180
15	85	395	310	68	93	125	265	231	373	366	99	168
16	99	375	240	66	87	134	198	274	364	317	92	149
17	82	350	220	66	83	145	322	286	342	283	109	142
18	114	315	210	68	78	160	376	254	299	295	93	152
19	73	300	210	72	74	245	388	312	319	273	67	148
20	59	264	215	73	73	297	391	322	281	244	185	173
21	72	269	240	75	72	307	536	331	284	209	199	174
22	38	272	265	74	72	291	589	333	325	228	211	176
23	21	234	260	70	72	283	611	339	351	219	232	165
24	69	210	230	66	72	217	747	331	393	254	209	200
25	126	195	165	66	72	168	791	321	491	273	245	194
26	161	185	105	66	72	217	799	304	683	286	214	181
27	214	170	93	67	72	143	800	304	833	294	187	174
28	198	165	80	68	72	203	776	315	979	276	163	154
29	163	160	71	70	72	243	738	343	1,130	244	144	143
30	243	160	66	74	------	169	698	372	1,210	182	124	118
31	277	------	62	80	------	260	------	376	------	198	115	------
TOTAL	2,819	11,314	6,677	2,019	3,229	4,772	12,736	11,023	12,586	16,846	4,646	4,799
MEAN	90.9	377	215	65.1	111	154	425	356	420	543	150	160
MAX	277	599	393	80	205	307	800	650	1,210	1,280	245	223
MIN	21	160	62	56	72	71	198	231	164	182	67	94
CFSM	.12	.52	.29	.09	.15	.21	.58	.49	.57	.74	.20	.22
IN.	.14	.57	.34	.10	.16	.24	.65	.56	.64	.86	.24	.24

CAL YR 1967 TOTAL 108,638 MEAN 298 MAX 1,370 MIN 21 CFSM .41 IN 5.52
WTR YR 1968 TOTAL 93,466 MEAN 255 MAX 1,280 MIN 21 CFSM .35 IN 4.75

PEAK DISCHARGE (BASE, 1,250 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-2	1300	4.70	1,290				

5-4280. Lake Mendota at Madison, Wis.

Location.--Lat 43°05'40", long 89°22'10", in SE 1/4 sec. 12, T. 7 N., R. 9 E., attached to left wall of lock of dam at outlet, in Madison.

Drainage area.--254 sq mi. Area of Lake Mendota, 15.2 sq mi.

Records available.--December 1902 to May 1903, January 1916 to September 1968 (incomplete).

Gage.--Staff gage read almost daily during periods of open water. Datum of gage is 847.65 ft above mean sea level, datum of 1929, or 2.00 ft above city of Madison datum.

Extremes.--Maximum gage height observed during year, 2.58 ft June 28; minimum observed, 1.55 ft Mar. 31.
1916-68: Maximum gage height observed, 4.19 ft Apr. 5, 1959; minimum observed, 0.20 ft Feb. 24 to Mar. 10, 1920.

Remarks.--Lake level regulated by concrete dam with two 12-foot tainter gates and 20-foot lock at outlet.

Cooperation.--Gage-height record furnished by city engineer of Madison.

Gage height, in feet, water year October 1967 to September 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.74	2.12					1.58	1.98	1.85	2.52	2.14	2.18
2	1.72	2.28					1.58		1.86	2.50	2.14	2.17
3	1.72	2.30					1.58		1.86	2.48	2.14	2.17
4	1.70	2.28	2.17	2.11			1.68		1.85	2.44	2.14	2.14
5	1.70	2.28					1.70		1.86	2.42	2.30	2.20
6	1.70	2.26					1.68		1.82	2.40	2.30	2.18
7	1.70	2.26			1.90	1.76	1.72		1.80	2.40	2.32	2.14
8	1.80	2.20					1.72		1.80	2.40	2.32	2.12
9	1.80	2.18					1.72		1.80	2.39	2.38	2.22
10	1.80	2.14		1.98			1.72		1.80	2.36	2.36	2.26
11	1.80	2.16	2.33				1.72		1.78	2.30	2.36	2.26
12	1.80	2.16					1.72		1.84	2.28	2.32	2.24
13	1.80	2.16					1.72	1.76	1.84	2.26	2.30	2.24
14	1.82	2.14			1.90	1.72	1.74		1.80	2.24	2.30	2.24
15	1.82	2.14					1.80	1.72	1.80	2.24	2.30	2.22
16	1.82	2.14					1.78	1.80	1.80	2.20	2.30	2.20
17	1.82			1.85			1.84	1.74	1.80	2.18	2.29	2.18
18	1.82		2.30				1.90	1.72	1.78	2.17	2.28	2.30
19	1.82						1.90	1.72	1.88	2.14	2.28	2.30
20	1.82						2.00	1.72	1.88	2.12	2.32	2.40
21	1.82				1.84	1.76	2.00	1.74	1.90	2.08	2.32	2.40
22	1.80						2.08	1.74	2.02	2.08	2.32	2.40
23	1.78						2.08	1.74	2.02	2.06	2.30	2.40
24	1.76			1.80			2.14	1.74	2.04	2.22	2.30	2.42
25	1.90	2.20				1.60	2.12	1.74	2.10	2.24	2.28	2.42
26	1.90		2.30				2.10	1.74	2.46	2.20	2.28	2.42
27	1.88						2.06	1.80	2.52	2.20	2.20	2.40
28	1.90				1.80		2.04	1.82	2.58	2.20	2.20	2.38
29	1.88						2.02	1.84	2.56	2.15	2.20	2.38
30	2.00				------	1.60	2.00	1.84	2.54		2.20	2.36
31		------		1.82	------	1.55	------	1.84	------		2.20	------

5-4290. Lake Monona at Madison, Wis.

Location.--Lat 43°03'50", long 89°23'45", in NW 1/4 sec. 23, T. 7 N., R. 9 E., at end of concrete storm sewer in Brittingham Park, in Madison.

Drainage area.--273 sq mi. Area of Lake Monona, 5.3 sq mi.

Records available.--September 1915 to September 1968 (fragmentary) in reports of the Geological Survey. For 1856 to March 1917 in reports of Wisconsin Railroad Commission, Volume 19.

Gage.--Reference point by which the stage is read almost daily during periods of open water. Datum of gage is 843.61 ft above mean sea level, datum of 1929, or 2.00 ft below city of Madison datum.

Extremes.--Maximum gage height observed during year, 2.55 ft July 1; minimum observed, 0.55 ft Mar. 4-8, 11-15, 18.
1915-68: Maximum gage height observed, 3.66 ft July 28, 1929; minimum observed, -0.39 ft Jan. 20, 1965.

Remarks.--Lake level regulated by concrete dam with four 12-foot stop-log sections and 12-foot lock at outlet of Lake Waubesa.

Cooperation.--Gage-height record furnished by city engineer of Madison.

Gage height, in feet, water year October 1967 to September 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		1.48	0.78		0.89	0.60	0.58			2.55		
2	1.27	1.71		0.88	.90		.60			2.50	1.76	
3	1.26			.86			.60			2.45		1.32
4	1.26		.73			.55	.68					
5	1.26	1.71	.71	.93	.90	.55				2.54	1.85	
6			.70	.96	.88	.55		1.56				
7		1.68	.81		.86	.55			1.44		1.81	
8	1.32		.79	1.03	.85	.55				2.54		
9	1.29	1.62		1.05	.85		.65			2.41	1.81	1.50
10	1.27	1.61		1.09			.65		1.38	2.36		
11		1.54	.75	1.08		.55	.68			2.38		
12			.74	1.05	.77	.55	.70			2.34	1.71	
13		1.40	.73		.76	.55		1.53			1.66	1.45
14		1.36	.71	1.02	.74	.55			1.36		1.63	
15		1.31	.68	1.00	.74	.55				2.34	1.59	
16					.73		.70			2.27		1.44
17	1.26	1.20		.98					1.39			
18	1.23		.72	.96		.55						
19	1.22	1.09	.71	.95	.70	.59	.90			2.14		
20	1.22	1.05	.69		.68	.57		1.41				
21	1.18	1.04	.73		.67	.56			1.59			
22		1.00	.71	.90	.65	.56	1.46			2.03		
23	1.18	.94	.69	.88	.64							1.68
24		.92	.69	.86				1.36	1.62			
25	1.32	.88	.74	.85		.58			1.83	2.14		
26	1.28		.72	.84	.63	.58	1.57		2.23	2.06	1.48	
27	1.25	.80	.72		.62	.60		1.42	2.36			1.59
28	1.25		.73		.62	.68					1.45	
29		.78	.72	.84	.61	.64	1.64			1.94		
30	1.34	.78		.83	------					1.87		1.48
31		------		.83	------		------		------			------

5-4295. Yahara River near McFarland, Wis.

Location.--Lat 43°00'30", long 89°18'15", in SW 1/4 sec. 3, T. 6 N., R. 10 E., on left bank just upstream from bridge on U. S. Highway 51, at dam at outlet of Lake Waubesa and 1 mile southwest of McFarland.

Drainage area.--351 sq mi.

Records available.--September 1930 to September 1968.

Gage.--Water-stage recorder. Datum of gage is 840.40 ft above mean sea level, datum of 1929 (levels by Wisconsin Department of Natural Resources). Prior to Dec. 23, 1934, chain gage at same site and datum.

Average discharge.--38 years, 148 cfs.

Extremes.--Maximum discharge during year, 313 cfs July 1 (gage height, 5.53 ft); minimum, 6.2 cfs Apr. 14.
1930-68: Maximum discharge, 867 cfs Apr. 10, 1959 (gage height, 5.82 ft); maximum gage height, 6.33 ft July 23, 24, 1950 (backwater from aquatic vegetation); minimum discharge, 1.0 cfs Oct. 18, 1964.

Remarks.--Records fair. Flow regulated by dams at outlets of Lake Mendota and Lake Waubesa. The Madison Metropolitan Sewerage District diverted an average of 25.95 million gallons per day of effluent into the Badfish Creek basin during 1968. Prior to 1958 the effluent was discharged into the Yahara River above McFarland.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	149	117	119	132	103	23	195	119	311	119	71
2	37	244	123	123	144	103	22	188	119	308	111	73
3	36	288	126	128	142	105	24	184	115	288	105	61
4	52	277	123	132	134	105	28	179	109	267	101	48
5	59	269	126	134	130	105	27	175	101	254	107	57
6	45	251	134	134	132	105	26	170	99	236	111	51
7	44	244	153	138	134	105	28	161	107	221	115	27
8	70	234	161	138	128	105	22	153	105	212	117	20
9	64	234	161	140	126	111	22	153	101	200	121	44
10	64	231	159	142	126	113	15	121	91	195	119	66
11	51	241	157	144	126	115	10	113	87	190	115	61
12	39	228	155	144	126	115	10	115	81	186	101	59
13	39	221	151	146	121	113	9.0	119	73	186	93	57
14	42	212	132	146	111	113	9.5	115	68	202	89	56
15	41	197	146	146	107	113	10	117	56	184	85	52
16	52	188	144	144	105	117	16	128	44	181	85	48
17	48	186	142	142	105	117	12	151	31	175	87	37
18	45	188	142	142	105	117	12	144	41	175	83	48
19	37	177	140	140	105	130	16	144	70	170	85	62
20	32	170	140	138	105	140	37	144	62	159	101	109
21	30	161	151	138	105	140	50	144	64	168	101	130
22	28	157	145	136	106	140	46	117	73	142	99	130
23	50	153	140	134	107	123	68	97	77	146	101	126
24	105	140	136	128	108	130	93	73	95	168	97	123
25	140	136	134	128	109	138	111	59	136	166	97	126
26	130	120	132	126	109	87	117	62	212	159	89	123
27	121	112	130	124	109	44	134	77	280	155	85	123
28	109	110	130	122	109	41	155	70	288	146	83	126
29	95	110	127	121	107	42	209	85	302	138	81	121
30	121	110	120	121	------	37	202	111	308	121	79	119
31	138	------	119	119	------	29	------	109	------	121	75	------
TOTAL	2,000	5,738	4,296	4,157	3,413	3,201	1,563.5	3,973	3,514	5,930	3,037	2,354
MEAN	64.5	191	139	134	118	103	52.1	128	117	191	98.0	75.9
MAX	140	288	161	146	144	140	209	195	308	311	121	130
MIN	28	110	117	119	105	29	9.0	59	31	121	75	20
CFSM	.184	.544	.396	.382	.336	.293	.148	.365	.333	.259	.279	.216
IN.	.21	.61	.46	.44	.36	.34	.17	.42	.37	.63	.32	.25

CAL YR 1967: TOTAL 51,150.6 MEAN 140 MAX 325 MIN 7.4 CFSM .399 IN. 5.41
WTR YR 1968: TOTAL 43,176.5 MEAN 118 MAX 311 MIN 9.0 CFSM .336 IN. 4.58

5-4305. Rock River at Afton, Wis.

Location.--Lat 42°36'40", long 89°04'10", in sec. 27, T. 2 N., R. 12 E., on right bank in Afton, 0.3 mile downstream from highway bridge and 0.8 mile upstream from Bass Creek.

Drainage area.--3,300 sq mi, approximately.

Records available.--January 1914 to September 1968. Monthly discharge only for January 1914, published in WSP 1308.

Gage.--Water-stage recorder. Datum of gage is 742.36 ft above mean sea level, datum of 1929. Prior to Aug. 21, 1932, a chain gage, and Aug. 21, 1932, to Sept. 30, 1933, water-stage recorder, at same site at datum 1 ft higher.

Average discharge.--54 years, 1,699 cfs.

Extremes.--Maximum discharge during year, 5,050 cfs July 3 (gage height, 7.67 ft); minimum, 178 cfs Oct. 1 (gage height, 1.91 ft).
1914-68: Maximum discharge, 13,000 cfs Mar. 23, 24, 1929 (gage height, 11.81 ft, present datum); maximum gage height observed, 13.05 ft, Feb. 5, 1916, present datum (backwater from ice); minimum discharge, 22 cfs Sept. 9, 1964, minimum daily, 42 cfs Aug. 25, 26, 1934; minimum gage height, 0.09 ft Aug. 26, 1934.

Remarks.--Records good except those for winter months, which are fair. Diurnal fluctuation caused by powerplants above station. Records of water temperature for water year 1968 and suspended sediment loads for water years 1967 and 1968 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	315	1,450	1,170	780	830	700	860	2,540	1,750	4,840	824	740
2	420	1,800	1,180	760	860	730	920	2,480	1,640	4,930	1,090	740
3	459	2,350	1,120	740	890	770	1,030	2,430	1,640	4,960	1,010	740
4	420	2,500	1,180	730	900	790	1,150	2,360	1,640	4,790	614	750
5	420	2,550	1,130	720	910	800	1,120	2,310	1,510	4,780	1,180	770
6	459	2,550	1,150	720	920	800	933	2,190	1,520	4,640	1,170	780
7	504	2,450	1,190	710	900	824	902	2,110	1,480	4,450	959	790
8	410	2,400	1,200	700	870	836	704	1,970	1,350	4,470	848	820
9	420	2,200	1,230	700	840	908	644	1,860	1,300	4,280	1,060	890
10	382	2,180	1,260	700	800	959	866	1,780	1,240	4,170	1,120	930
11	499	2,170	1,260	700	770	933	788	1,740	1,130	3,840	1,080	946
12	437	2,090	1,240	690	760	952	842	1,620	734	3,530	1,040	940
13	510	2,100	1,200	680	750	896	812	1,490	848	3,360	866	884
14	471	2,010	1,150	700	740	908	952	1,280	902	3,140	794	878
15	482	2,110	1,150	700	730	896	860	1,100	854	2,910	758	878
16	716	1,930	1,150	700	720	884	985	959	926	2,730	597	872
17	704	1,880	1,180	710	710	860	1,030	1,020	914	2,560	600	878
18	568	1,820	1,200	720	700	812	1,270	1,120	978	2,450	620	933
19	550	1,860	1,260	732	700	812	1,270	1,060	1,280	2,370	690	959
20	499	1,880	1,330	730	690	854	1,400	1,280	1,320	2,210	760	1,050
21	516	1,770	1,340	720	680	884	1,370	1,210	1,490	2,030	820	1,060
22	482	1,490	1,090	700	680	896	1,560	1,080	1,500	1,970	850	1,040
23	471	1,420	1,070	700	680	896	2,220	1,190	1,500	1,810	870	1,090
24	361	1,360	1,020	700	670	870	2,220	1,410	1,700	1,880	870	1,130
25	896	1,360	1,010	700	670	850	2,420	1,380	2,300	1,800	870	1,130
26	872	1,300	980	710	670	820	2,480	1,350	3,150	1,720	860	1,130
27	896	1,190	940	710	670	800	2,560	1,390	3,910	1,170	840	1,130
28	920	1,040	900	720	670	800	2,550	1,400	3,780	826	820	1,130
29	920	1,020	850	740	680	800	2,580	1,540	4,030	1,140	800	1,130
30	1,000	1,000	830	770	------	810	2,580	1,640	4,780	1,190	770	1,120
31	1,150	------	810	800	------	830	------	1,740	------	1,140	750	------
TOTAL	18,129	55,230	34,770	22,292	22,060	26,180	41,868	50,029	53,096	92,086	26,800	28,258
MEAN	585	1,841	1,122	719	761	845	1,396	1,614	1,770	2,971	865	942
MAX	1,150	2,550	1,340	800	920	959	2,580	2,540	4,780	4,960	1,180	1,130
MIN	315	1,000	810	680	670	700	644	959	734	826	597	740
CFSM	.177	.558	.340	.218	.231	.256	.423	.489	.536	.900	.262	.285
IN.	.20	.62	.39	.25	.25	.30	.47	.56	.60	1.04	.30	.32

CAL YR 1967:	TOTAL	521,529	MEAN	1,429	MAX	4,900	MIN	227	CFSM	.433	IN.	5.86
WTR YR 1968:	TOTAL	470,798	MEAN	1,286	MAX	4,960	MIN	315	CFSM	.390	IN.	5.30

5-4315. Turtle Creek near Clinton, Wis.

Location.--Lat 42°35'55", long 88°51'50", in SE 1/4 sec. 29, T. 2 N., R. 14 E., on left bank 15 ft downstream from highway bridge, 2.5 miles north of Clinton, 11 miles northeast of Beloit, and 14 miles upstream from mouth.

Drainage area.--186 sq mi.

Records available.--September 1939 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 817.00 ft above mean sea level (levels by Corps of Engineers). Prior to Aug. 2, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--29 years, 102 cfs.

Extremes.--Maximum discharge during year, 269 cfs Sept. 25 (gage height, 3.52 ft); minimum, 33 cfs Mar. 13 (gage height, 2.35 ft).
1939-68: Maximum discharge, 6,560 cfs Feb. 24, 1949 (gage height, 10.22 ft); minimum, 8 cfs Dec. 29, 1956 (gage height, 2.04 ft), result of freezeup.
Maximum stage known, 12.09 ft in February 1938, from floodmarks (discharge, 10,700 cfs, from rating curve extended above 5,500 cfs by logarithmic plotting).

Remarks.--Records good except those for winter months, which are fair. Some seasonal regulation caused by dams used to maintain levels of Turtle and Delavan Lakes.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	145	73	56	170	52	65	72	80	188	75	39
2	52	217	72	56	140	49	65	66	72	157	71	42
3	52	186	71	55	120	54	66	64	64	143	70	42
4	50	150	70	54	100	58	85	63	56	120	69	40
5	50	126	68	54	86	60	88	61	51	112	112	46
6	50	109	70	52	80	62	80	55	50	106	132	47
7	52	94	80	52	74	62	73	52	50	100	101	42
8	56	88	89	50	70	51	71	49	51	92	95	45
9	55	88	88	49	66	53	71	50	50	81	106	58
10	55	92	87	48	62	53	66	51	55	74	114	72
11	54	100	84	47	58	48	65	51	61	66	95	64
12	54	103	82	47	56	45	61	50	60	59	80	54
13	60	100	80	49	53	43	61	50	51	54	59	48
14	61	96	78	51	51	48	66	57	50	48	53	46
15	69	92	78	51	49	49	74	55	49	45	49	43
16	84	90	76	50	48	51	68	75	49	43	51	41
17	71	93	76	50	48	51	92	85	48	44	57	39
18	70	91	76	55	48	51	109	70	57	68	64	42
19	71	89	79	60	47	59	89	85	78	77	62	52
20	66	87	83	62	47	67	126	96	72	67	59	91
21	59	86	93	62	46	72	134	92	73	61	61	74
22	56	86	108	61	46	68	104	93	77	57	54	62
23	54	85	94	60	45	58	98	91	86	57	48	60
24	65	83	84	58	45	61	105	72	98	128	46	153
25	96	82	78	57	46	61	99	62	134	168	41	194
26	81	82	72	56	48	61	86	67	181	133	39	127
27	77	70	68	56	50	60	78	112	228	117	39	110
28	74	75	64	58	54	60	73	100	198	101	39	102
29	70	78	62	60	54	64	81	98	214	88	38	97
30	95	76	60	78	------	63	81	93	236	75	37	93
31	148	------	58	100	------	63	------	88	------	77	37	------
TOTAL	2,058	3,039	2,401	1,754	1,907	1,757	2,480	2,225	2,679	2,806	2,053	2,065
MEAN	66.4	101	77.5	56.6	65.8	56.7	82.7	71.8	89.3	90.5	66.2	68.8
MAX	148	217	108	100	170	72	134	112	236	188	132	194
MIN	50	70	58	47	45	43	61	49	48	43	37	39
CFSM	.36	.54	.42	.30	.35	.30	.44	.39	.48	.49	.36	.37
IN.	.41	.61	.48	.35	.38	.35	.50	.44	.54	.56	.41	.41

CAL YR 1967 TOTAL 32,156 MEAN 87.9 MAX 450 MIN 33 CFSM .47 IN 6.43
WTR YR 1968 TOTAL 27,224 MEAN 74.4 MAX 236 MIN 37 CFSM .40 IN 5.44

Peak discharge (base, 1,200 cfs).--No peak above base.

5-4325. Pecatonica River at Darlington, Wis.

Location.--Lat 42°40'30", long 90°06'55", in NE 1/4 sec. 3, T. 2 N., R. 3 E., on right bank in Darlington, 3 miles upstream from Otter Creek.

Drainage area.--274 sq mi.

Records available.--September 1939 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 802.42 ft above mean sea level, datum of 1929. Prior to Apr. 18, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--29 years, 178 cfs.

Extremes.--Maximum discharge during year, 1,470 cfs Feb. 1 (gage height, 9.37 ft); minimum, 38 cfs Nov. 27 (gage height, 2.33 ft).
1939-68: Maximum discharge, 22,000 cfs July 16, 1950 (gage height, 20.71 ft), from rating curve extended above 11,000 cfs on basis of slope-area determination of peak flow; minimum, 17 cfs Nov. 29, 1966 (gage height, 2.09 ft) result of freezeup; minimum gage height, 1.92 ft Mar. 4, 1954, result of freezeup.
Flood of Feb. 21, 1937, reached a stage of 17.6 ft from floodmarks.

Remarks.--Records good except those for winter months, which are fair, and those for period of unstable stage-discharge relation due to bridge construction June 25 to Sept. 30, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	175	59	44	1,270	54	68	132	80	265	86	110
2	54	476	61	43	882	59	64	122	77	183	81	120
3	53	343	62	43	199	56	79	117	69	156	65	100
4	52	183	66	43	145	56	140	110	65	142	65	90
5	51	152	72	43	106	64	117	104	63	137	107	105
6	50	138	70	43	88	65	91	96	61	142	112	130
7	57	128	82	43	72	60	83	91	60	125	105	110
8	169	118	129	44	64	69	79	92	59	193	143	130
9	144	117	104	45	59	112	75	90	58	142	181	394
10	90	110	91	46	57	167	71	88	66	99	127	280
11	73	107	80	48	56	97	69	86	98	92	99	160
12	66	99	70	50	54	75	67	84	73	103	96	120
13	67	90	62	52	55	62	67	80	63	110	93	110
14	70	89	60	54	54	66	92	80	61	95	89	110
15	73	86	59	55	57	64	122	82	61	89	86	100
16	73	82	59	57	58	65	96	88	58	85	93	90
17	68	82	62	58	48	66	107	82	57	102	93	160
18	63	81	66	59	45	74	134	78	81	118	86	270
19	62	78	73	65	44	164	116	81	122	92	88	390
20	60	77	81	89	43	158	267	85	89	75	300	250
21	59	77	226	143	43	96	411	79	72	70	200	210
22	59	75	81	135	44	77	253	76	79	66	130	185
23	60	75	74	105	45	68	246	76	79	133	100	250
24	70	73	68	74	46	71	323	75	68	481	90	350
25	104	71	62	60	47	70	241	73	261	189	85	270
26	88	67	58	56	48	71	201	96	415	106	80	210
27	75	57	55	54	51	72	178	111	416	92	80	165
28	69	59	53	57	53	74	160	95	313	89	80	150
29	68	59	50	501	53	73	156	99	414	83	76	135
30	154	59	47	779	------	71	146	90	288	81	72	125
31	186	------	46	256	------	69	------	79	------	90	75	------
TOTAL	2,441	3,483	2,288	3,244	3,886	2,465	4,319	2,817	3,826	4,025	3,263	5,379
MEAN	78.7	116	73.8	105	134	79.5	144	90.9	128	130	105	179
MAX	186	476	226	779	1,270	167	411	132	416	481	300	394
MIN	50	57	46	43	43	54	64	73	57	66	65	90
CFSM	.29	.42	.27	.38	.49	.29	.53	.33	.47	.47	.38	.65
IN.	.33	.47	.31	.44	.53	.33	.59	.38	.52	.55	.44	.73

CAL YR 1967 TOTAL 51,930 MEAN 142 MAX 4,230 MIN 40 CFSM .52 IN 7.05
WTR YR 1968 TOTAL 41,436 MEAN 113 MAX 1,270 MIN 43 CFSM .41 IN 5.62

Peak discharge (base, 2,000 cfs).--No peak above the base.

5-4330. East Branch Pecatonica River near Blanchardville, Wis.

Location.--Lat 42°47'10", long 89°51'40", in SE 1/4 sec. 26, T. 4 N., R. 5 E., on left bank at downstream side of bridge on State Highway 78, 1.5 miles south of Blanchardville and 3.5 miles upstream from Sawmill Creek.

Drainage area.--221 sq mi.

Records available.--September 1939 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 796.8 ft above mean sea level, unadjusted. Prior to Dec. 20, 1939, wire-weight gage at bridge 50 ft upstream at same datum. Dec. 20, 1939, to Sept. 20, 1964, graphic water-stage recorder at present site and datum. Auxiliary staff gage 2.7 miles upstream at same datum read every six hours or more often when stages exceed 10 ft.

Average discharge.--29 years, 136 cfs.

Extremes.--Maximum discharge during year, 587 cfs June 27 (gage height, 8.47 ft); minimum daily, 50 cfs Jan. 5-8.
1939-68: Maximum discharge, 11,700 cfs Feb. 28, 1948 (gage height, 15.74 ft); minimum, 18 cfs Nov. 29, 1966.

Remarks.--Records good except those for winter months, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	166	70	52	270	63	71	112	83	165	89	81
2	59	452	71	51	180	65	70	106	79	129	83	86
3	58	292	72	51	90	66	82	104	77	113	82	75
4	58	169	73	51	75	66	136	100	76	109	82	74
5	57	136	74	50	71	66	100	98	74	104	90	113
6	56	121	75	50	69	66	85	93	73	97	89	94
7	62	113	92	50	68	66	83	90	72	100	85	81
8	111	106	110	50	67	67	83	92	72	193	94	99
9	99	104	87	51	66	118	78	90	72	105	115	346
10	72	101	86	53	63	130	76	88	73	98	97	269
11	67	100	85	56	64	73	75	87	87	95	83	141
12	64	97	85	59	65	68	75	85	77	96	81	113
13	66	91	74	63	66	65	74	82	72	94	81	103
14	69	91	66	67	66	65	88	84	75	94	79	97
15	70	88	63	71	64	67	98	85	74	92	78	93
16	73	86	65	75	60	68	81	90	72	90	80	90
17	69	87	69	76	56	68	89	87	72	91	79	90
18	66	87	73	79	54	71	103	83	125	96	78	349
19	64	82	77	86	52	115	89	85	181	89	78	314
20	64	82	82	96	52	105	162	84	84	86	179	244
21	62	83	137	120	52	80	233	84	82	84	101	172
22	62	84	77	110	52	74	146	81	99	83	80	148
23	62	82	74	95	53	71	165	81	78	93	77	173
24	75	81	71	78	54	70	268	80	80	226	76	257
25	123	81	67	69	55	71	182	79	319	121	74	202
26	85	82	64	66	57	72	152	90	427	97	73	153
27	75	71	61	66	59	73	138	102	390	92	73	140
28	71	70	59	69	61	75	127	90	190	87	73	131
29	71	70	56	140	62	75	133	85	163	83	73	125
30	178	70	54	210	------	72	120	84	178	83	73	120
31	221	------	53	130	------	74	------	81	------	92	73	------
TOTAL	2,448	3,425	2,322	2,390	2,123	2,345	3,462	2,762	3,676	3,277	2,648	4,573
MEAN	79.0	114	74.9	77.1	73.2	75.6	115	89.1	123	106	85.4	152
MAX	221	452	137	210	270	130	268	112	427	226	179	349
MIN	56	70	53	50	52	63	70	79	72	83	73	74
CFSM	.36	.52	.34	.35	.33	.34	.52	.40	.55	.48	.39	.69
IN.	.41	.58	.39	.40	.36	.39	.58	.46	.62	.55	.45	.77

CAL YR 1967 TOTAL 41,244 MEAN 113 MAX 2,070 MIN 53 CFSM .51 IN 6.94
WTR YR 1968 TOTAL 35,451 MEAN 96.9 MAX 452 MIN 50 CFSM .44 IN 5.97

Peak discharge (base, 1,300 cfs).--No peaks above the base.

5-4345. Pecatonica River at Martintown, Wis.

Location.--Lat 42°30'35", long 89°48'00", in SE 1/4 sec. 32, T. 1 N., R. 6 E., on right bank about 400 ft downstream from highway bridge in Martintown, 0.3 mile upstream from Wisconsin-Illinois State line and 9 miles downstream from Skinner Creek.

Drainage area.--1,040 sq mi, approximately.

Records available.--October 1939 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 757.9 ft above mean sea level, datum of 1929. Prior to Jan. 6, 1940, wire-weight gage at same site and datum. Jan. 6, 1940, to May 5, 1966, graphic water-stage recorder at same site and datum. Auxiliary wire-weight gage 1 1/4 miles downstream read several times daily during high water.

Average discharge.--29 years, 675 cfs.

Extremes.--Maximum discharge during year, 1,810 cfs Feb. 3 (gage height, 10.11 ft, backwater from ice); minimum, 218 cfs Oct. 5 (gage height, 2.91 ft).
1939-68: Maximum discharge, 14,200 cfs Apr. 3, 1959 (gage height, 20.23 ft); maximum gage height, 20.24 ft Feb. 29, 1948; no flow for part of Dec. 14, 1939.

Remarks.--Records good except those for winter months, which are fair. Slight diurnal fluctuation from powerplant upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	253	1,060	365	260	1,500	280	307	569	380	972	353	321
2	240	1,420	365	250	1,750	290	293	521	368	940	365	347
3	238	1,690	365	245	1,800	300	306	488	345	759	359	376
4	240	1,610	365	245	1,000	305	401	467	330	608	352	353
5	235	1,270	363	245	700	310	486	445	312	541	405	341
6	230	955	391	245	520	315	445	425	300	503	541	358
7	234	790	410	245	450	320	384	411	293	483	506	360
8	280	698	461	250	410	325	350	400	284	476	457	349
9	408	645	485	250	370	330	335	393	291	528	546	442
10	460	612	477	260	343	340	321	391	277	542	597	877
11	363	592	435	260	330	340	312	381	333	449	536	989
12	309	568	390	270	310	330	301	374	380	407	455	656
13	286	536	370	280	300	317	297	365	363	393	425	473
14	293	519	350	290	285	282	313	361	320	383	416	490
15	313	503	340	295	275	277	364	365	305	374	411	489
16	385	489	335	300	270	280	387	363	291	363	404	449
17	382	481	330	303	270	289	394	376	296	360	408	389
18	343	480	330	315	270	307	417	370	304	369	409	678
19	313	470	330	340	270	325	429	361	361	383	402	1,190
20	289	456	335	360	270	443	571	357	449	372	618	1,410
21	293	450	350	410	270	476	871	359	387	345	1,170	1,170
22	277	454	380	470	270	382	1,000	352	334	331	880	843
23	277	464	420	520	270	318	904	344	323	342	523	804
24	291	449	450	460	270	294	987	334	341	512	433	1,230
25	434	440	455	400	270	297	1,050	328	397	961	396	1,450
26	482	429	410	360	275	303	922	347	818	777	373	1,130
27	434	417	370	340	275	315	777	467	1,400	478	351	829
28	376	368	350	360	280	316	681	454	1,360	404	350	667
29	347	365	310	400	280	333	633	414	1,080	377	345	598
30	447	365	280	470	------	325	611	396	955	362	326	548
31	847	------	270	840	------	307	------	386	------	356	311	------
TOTAL	10,599	20,045	11,637	10,538	14,153	9,971	15,849	12,364	13,977	15,450	14,423	20,606
MEAN	342	668	375	340	488	322	528	399	466	498	465	687
MAX	847	1,690	485	840	1,800	476	1,050	569	1,400	972	1,170	1,450
MIN	230	365	270	245	270	277	293	328	277	331	311	321
CFSM	.33	.64	.36	.33	.47	.31	.51	.38	.45	.48	.45	.66
IN.	.38	.72	.42	.38	.51	.36	.57	.44	.50	.55	.52	.74

CAL YR 1967 TOTAL 190,937 MEAN 523 MAX 5,950 MIN 198 CFSM .50 IN 6.83
WTR YR 1968 TOTAL 169,612 MEAN 463 MAX 1,800 MIN 230 CFSM .45 IN 6.07

Peak discharge (base, 4,000 cfs).--No peak above base.

5-4365. Sugar River near Brodhead, Wis.

Location.--Lat 42°36'40", long 89°23'50", in SW 1/4 sec. 26, T. 2 N., R. 9 E., on left bank at downstream side of highway bridge, 2 miles upstream from Jordan Creek, and 2 miles southwest of Brodhead.

Drainage area.--527 sq mi.

Records available.--January 1914 to September 1968. Monthly discharge only for January and February 1914, published in WSP 1308.

Gage.--Digital water-stage recorder. Datum of gage is 768.14 ft above mean sea level, datum of 1929. Prior to Oct. 17, 1938, chain gage at same site and datum. Oct. 17, 1938, to July 21, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--54 years, 334 cfs.

Extremes.--Maximum discharge during year, 1,430 cfs Nov. 4 (gage height, 4.08 ft); minimum, 161 cfs June 5 (gage height, 0.48 ft).
1914-68: Maximum discharge, 14,800 cfs Sept. 13, 1915 (gage height, 11.4 ft, from floodmarks), from rating curve extended above 7,500 cfs; minimum, 35 cfs Sept. 19, 1959 (gage height, -0.16 ft).

Remarks.--Records good except those for winter months and no gage-height record, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204	1,060	230	180	560	195	195	380	243	930	226	199
2	206	1,350	230	175	640	195	190	360	243	868	218	205
3	200	1,370	235	175	560	195	205	340	218	649	212	202
4	197	1,360	240	175	410	195	260	320	209	438	216	198
5	192	1,000	240	175	320	200	300	310	232	361	252	212
6	191	637	259	175	280	210	280	295	183	332	249	230
7	194	489	286	175	260	220	265	280	189	314	240	219
8	211	453	370	175	240	240	260	270	185	316	242	218
9	263	433	450	180	230	250	250	255	183	332	269	259
10	258	408	405	180	220	250	245	245	185	319	293	348
11	234	398	373	180	210	240	240	240	200	282	258	342
12	222	389	320	190	210	220	240	230	202	276	226	281
13	220	367	285	200	205	210	240	219	194	263	225	232
14	224	354	220	205	205	200	245	223	191	255	216	225
15	257	329	200	210	205	195	250	225	187	249	211	217
16	268	319	205	210	200	195	260	256	184	242	214	211
17	347	317	215	215	190	205	270	238	183	241	216	210
18	275	317	240	220	180	220	290	231	202	244	214	272
19	245	307	260	226	175	255	310	227	256	239	213	472
20	236	299	275	225	170	335	400	227	288	229	249	841
21	220	300	275	220	165	350	600	225	249	222	296	977
22	216	290	270	215	165	250	660	221	218	220	286	816
23	218	285	243	210	170	210	580	217	214	226	227	509
24	239	280	250	200	170	190	545	214	237	339	215	556
25	411	275	250	190	175	190	580	212	280	450	199	876
26	571	270	250	190	180	195	530	228	560	404	197	974
27	481	250	250	210	185	205	505	262	888	320	197	644
28	353	235	246	230	190	210	460	324	1,110	254	197	406
29	310	230	220	285	195	210	430	271	1,240	238	196	315
30	479	230	205	520	------	210	405	256	1,050	230	194	297
31	876	------	190	540	------	200	------	241	------	231	193	------
TOTAL	9,018	14,601	8,187	6,856	7,265	6,845	10,490	8,042	10,203	10,513	7,056	11,963
MEAN	291	487	264	221	251	221	350	259	340	339	228	399
MAX	876	1,370	450	540	640	350	660	380	1,240	930	296	977
MIN	191	230	190	175	165	190	190	212	183	220	193	198
CFSM	.55	.92	.50	.42	.48	.42	.66	.49	.65	.64	.43	.76
IN.	.64	1.03	.58	.48	.51	.48	.74	.57	.72	.74	.50	.84

CAL YR 1967	TOTAL 128,936	MEAN 353	MAX 3,030	MIN 130	CFSM .67	IN 9.10
WTR YR 1968	TOTAL 111,039	MEAN 303	MAX 1,370	MIN 165	CFSM .58	IN 7.84

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-4	0400	4.08	1,430	6-29	1300	3.80	1,300

Note.--No gage-height record Mar. 5 to May 12.

5-4375. Rock River at Rockton, Ill.

Location.--Lat 42°27'05", long 89°04'20", in SE 1/4 NW 1/4 sec. 24, T. 46 N., R. 1 E., on left bank at upstream side of bridge on State Highway 2 in Rockton, 0.8 mile downstream from Pecatonica River.

Drainage area.--6,290 sq mi, approximately.

Records available.--June 1903 to July 1906, October 1906 to March 1909, July 1914 to September 1919, October 1939 to September 1968. Published as "below mouth of Pecatonica River at Rockton" 1903-09; as "at Rockford" 1914-19. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Digital water-stage recorder. Datum of gage is 707.94 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1906, chain gage at same site at datum about 1 ft higher. Oct. 1, 1906, to Mar. 31, 1909, chain gage at same site at datum about 2 ft higher. July 30, 1914, to Apr. 30, 1919, chain gage at site at Rockford about 21 miles downstream, at different datum. Mar. 15, 1940, to Oct. 1, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--36 years (1903-5, 1914-19, 1939-68), 3,661 cfs (discharge for site at Rockford adjusted for difference in drainage area).

Extremes.--Maximum discharge during year, 8,190 cfs July 1 (gage height, 6.89 ft); minimum daily, 910 cfs Oct. 1.
1903-9, 1914-19, 1939-68: Maximum discharge, 32,500 cfs Mar. 30, 1916 (gage height, 13.06 ft, site and datum then in use); minimum daily, 501 cfs Sept. 14, 1958.
Flood in February 1937 reached a stage of 14.6 ft (backwater from ice), from painted floodmark.

Remarks.--Records good except those for winter periods, which are poor. Low flow regulated by powerplants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	910	3,920	2,340	2,150	3,500	1,780	1,870	4,650	3,330	7,970	1,720	1,720
2	1,250	5,180	2,580	2,200	4,000	1,910	1,830	4,440	3,030	7,960	2,170	1,670
3	1,350	6,370	2,460	2,220	4,370	1,870	1,930	4,340	2,980	7,780	1,960	1,670
4	1,180	6,500	2,510	1,900	4,690	1,860	2,340	4,150	2,910	7,570	1,470	1,660
5	1,280	6,590	2,480	1,830	4,920	1,810	2,580	4,010	2,710	7,110	2,330	1,750
6	1,180	6,570	2,450	1,860	4,780	1,990	2,550	3,840	2,660	6,720	2,550	1,780
7	1,110	6,440	2,600	1,840	4,270	1,960	2,450	3,680	2,520	6,330	2,330	1,750
8	1,280	5,820	2,500	1,900	3,520	1,940	2,400	3,480	2,360	6,180	2,010	1,720
9	1,180	5,150	2,400	1,800	3,210	1,990	2,090	3,270	2,320	6,220	2,430	1,910
10	960	4,760	2,600	1,850	2,440	2,070	2,150	3,150	2,090	5,920	2,480	1,970
11	1,430	4,590	2,700	1,800	2,460	1,990	2,160	3,150	2,260	5,610	2,590	2,140
12	1,390	4,460	3,250	1,700	2,600	2,050	1,940	2,870	1,840	5,200	2,330	2,350
13	1,400	4,260	3,100	1,800	2,510	2,040	1,830	2,840	1,680	4,850	2,180	2,340
14	1,510	4,130	2,850	1,750	2,590	1,890	2,050	2,550	1,850	4,540	1,900	2,270
15	1,330	3,980	2,900	1,800	2,350	1,940	1,870	2,360	1,770	4,270	1,830	1,980
16	1,890	3,930	2,800	1,780	2,390	1,790	2,040	2,530	1,820	3,950	1,670	1,910
17	1,880	3,630	2,700	1,740	1,920	1,720	2,320	2,620	1,810	3,860	1,770	1,900
18	1,830	3,660	2,550	1,800	2,000	1,720	2,830	2,700	1,790	3,790	1,830	2,090
19	1,770	3,470	2,550	1,800	2,040	1,830	2,980	2,490	2,130	3,670	1,770	2,550
20	1,640	3,660	2,700	1,900	2,010	2,000	3,270	2,580	2,360	3,550	1,900	3,600
21	1,510	3,510	2,850	1,850	1,760	2,190	3,720	2,690	2,380	3,280	2,130	3,940
22	1,390	3,130	2,550	2,000	1,910	2,380	4,100	2,240	2,730	3,020	2,520	4,040
23	1,370	3,010	2,500	1,950	1,720	2,330	4,940	2,360	2,610	3,040	2,010	4,000
24	1,210	2,890	2,350	1,910	1,660	2,140	5,250	2,600	2,660	3,290	2,300	4,430
25	1,930	2,880	2,450	2,100	1,690	2,080	5,380	2,550	3,660	3,260	2,200	5,200
26	2,210	2,840	2,400	2,150	1,680	1,760	5,460	2,580	4,550	3,230	1,960	4,960
27	2,460	2,660	2,300	2,200	1,650	1,650	5,440	2,630	6,260	3,130	1,960	4,920
28	2,530	2,310	2,200	2,100	1,670	1,720	5,280	2,760	6,660	2,270	1,930	4,610
29	2,500	2,280	2,200	2,450	1,740	1,600	5,000	2,950	7,020	2,390	1,860	4,190
30	2,700	2,160	2,100	2,700	------	1,680	4,780	3,220	7,860	2,350	1,710	3,620
31	3,490	------	2,100	3,000	------	1,830	------	3,180	------	2,270	1,640	------
TOTAL	51,050	124,740	79,020	61,830	78,050	59,510	94,830	95,460	92,610	144,580	63,440	84,640
MEAN	1,647	4,158	2,549	1,995	2,691	1,920	3,161	3,079	3,087	4,664	2,046	2,821
MAX	3,490	6,590	3,250	3,000	4,920	2,380	5,460	4,650	7,860	7,970	2,590	5,200
MIN	910	2,160	2,100	1,700	1,650	1,600	1,830	2,240	1,680	2,270	1,470	1,660
CFSM	.26	.66	.41	.32	.43	.31	.50	.49	.49	.74	.33	.45
IN.	.30	.74	.47	.37	.46	.35	.56	.56	.55	.85	.38	.50

CAL YR 1967:	TOTAL	1,123,953	MEAN	3,079	MAX	9,660	MIN	873	CFSM	.49	IN.	6.65
WTR YR 1968:	TOTAL	1,029,760	MEAN	2,814	MAX	7,970	MIN	910	CFSM	.45	IN.	6.09

5-5290. Des Plaines River near Des Plaines, Ill.

Location.--Lat 42°04'55", long 87°53'25", in SE 1/4 SE 1/4 sec. 25, T. 42 N., R. 11 E., on right bank 50 ft upstream from dam No. 2 of Cook County Forest Preserve, 0.3 miles downstream from Lake Avenue Bridge, 1.2 miles upstream from Central Road bridge, 2.5 miles north of Des Plaines, and at mile 69.30.

Drainage area.--359 sq mi.

Records available.--October 1940 to September 1968.

Gage.--Digital water-stage recorder and masonry dam. Datum of gage is 626.31 ft above mean sea level, datum of 1929. Prior to Apr. 8, 1941, staff gage and Apr. 8, 1941, to Mar. 30, 1965, graphic water-stage recorder, at same site and datum.

Average discharge.--28 years, 208 cfs.

Extremes.--Maximum discharge during year, 1,730 cfs Aug. 17 (gage height, 3.53 ft, from floodmark); minimum, 13 cfs Sept. 16, 17.
1940-68: Maximum discharge, 4,670 cfs Apr. 2, 1960 (gage height, 8.56 ft); no flow for many days in 1944, 1946, and Aug. 7, 8, 1962.
Flood of July 4, 1938, reached a stage of 9.0 ft, from floodmark (discharge, 5,000 cfs).

Remarks.--Records good except those for winter periods or no gage-height record, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	168	48	46	455	30	135	126	114	348	76	44
2	23	227	46	48	487	31	130	116	135	316	58	56
3	19	214	44	40	427	30	161	100	114	296	52	58
4	17	186	44	36	456	32	258	99	106	279	50	50
5	21	181	45	32	352	39	234	89	93	262	52	44
6	23	174	49	29	326	45	212	85	76	235	50	39
7	21	162	60	28	308	48	199	75	62	213	50	26
8	18	137	73	27	258	54	177	65	52	180	47	24
9	18	119	74	26	204	60	159	59	44	148	50	31
10	19	104	112	26	136	67	145	52	44	114	60	32
11	23	107	156	26	110	72	127	50	41	97	50	31
12	19	113	183	26	90	75	106	50	33	82	46	23
13	21	114	174	27	72	69	92	44	33	76	50	20
14	23	112	157	29	61	67	99	82	27	62	50	18
15	39	103	130	30	53	75	95	79	25	55	46	16
16	78	93	105	28	48	70	83	93	23	50	200	17
17	54	114	122	29	46	67	117	76	20	44	1,000	17
18	51	88	122	31	45	67	143	76	30	65	660	28
19	56	80	123	35	42	90	137	97	44	47	500	60
20	56	76	118	40	38	111	157	97	36	52	400	105
21	51	77	163	44	36	129	167	93	36	41	350	62
22	36	79	162	44	34	131	160	97	38	38	270	53
23	30	73	105	41	35	127	171	106	38	55	200	66
24	34	70	100	37	36	118	187	97	50	191	120	112
25	38	69	95	34	32	112	183	82	158	171	105	129
26	41	64	75	40	31	128	175	82	284	191	90	112
27	62	58	72	66	31	134	170	86	458	213	75	108
28	58	41	68	175	31	141	156	86	407	202	62	94
29	49	47	58	276	31	141	152	93	381	162	55	72
30	93	52	54	308	------	139	138	101	407	127	50	53
31	141	------	50	268	------	141	------	97	------	97	45	------
TOTAL	1,259	3,302	2,987	1,972	4,311	2,640	4,625	2,630	3,409	4,509	4,969	1,600
MEAN	40.6	110	96.4	63.6	149	85.2	154	84.8	114	145	160	53.3
MAX	141	227	183	308	487	141	258	126	458	348	1,000	129
MIN	17	41	44	26	31	30	83	44	20	38	45	16
CFSM	.11	.31	.27	.18	.41	.24	.43	.24	.32	.41	.45	.15
IN.	.13	.34	.31	.20	.45	.27	.48	.27	.35	.47	.51	.17

CAL YR 1967:	TOTAL	87,408	MEAN	239	MAX	2,590	MIN	12	CFSM	.67	IN.	9.05
WTR YR 1968:	TOTAL	38,213	MEAN	104	MAX	1,000	MIN	16	CFSM	.29	IN.	3.96

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
8-17	-	3.53	1,730				

Note.--No gage-height record Aug. 9 to Sept. 4.

5-5438.3 Fox River at Waukesha, Wis.

Location.--Lat 43°00'17", long 88°14'37", in SW 1/4 sec. 3, T. 6 N., R. 19 E., on left bank 20 ft downstream from Prairie Street bridge in Waukesha, 1.0 mile downstream from dam and 3.2 miles downstream from Pewaukee River.

Drainage area.--127 sq mi.

Records available.--January 1963 to September 1968.

Gage.--Digital water-stage recorder. Datum of gage is 793.04 ft above mean sea level, datum of 1929 (levels by city of Waukesha). Prior to Oct. 4, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--5 years, 60.2 cfs.

Extremes.--Maximum discharge during year, 542 cfs June 29 (gage height, 4.41 ft); minimum daily 7.0 cfs Jan. 8 (backwater from ice). 1963-68: Maximum discharge, 1,240 cfs Mar. 6, 1965 (gage height, 5.79 ft); minimum, 3.0 cfs Jan. 1, 1964 (gage height, 1.52 ft).

Remarks.--Records good except those for winter months, which are fair. Regulation from mill dam one mile upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	66	14	10	93	17	37	86	68	327	34	26
2	12	87	14	9.2	92	14	35	74	60	267	27	27
3	12	82	14	8.5	51	13	50	56	55	210	27	29
4	14	64	15	8.2	53	13	65	58	50	179	27	28
5	12	46	16	8.0	48	20	67	55	45	150	27	32
6	12	33	18	8.0	43	16	58	55	44	115	27	27
7	14	32	26	7.6	35	14	51	58	40	90	27	26
8	15	28	25	7.0	31	13	49	58	37	77	52	25
9	17	26	27	7.4	27	14	48	57	42	93	36	31
10	14	28	28	7.8	24	14	41	51	52	93	28	25
11	14	29	31	8.0	22	15	37	48	53	92	27	29
12	9.7	27	37	8.0	20	14	35	46	37	80	27	28
13	18	26	33	8.2	19	19	35	46	37	62	27	27
14	14	25	27	8.3	17	25	40	59	35	47	27	24
15	18	22	22	8.4	16	24	44	71	31	51	27	23
16	20	22	20	8.8	16	22	41	115	28	47	27	23
17	18	22	22	11	15	23	72	127	30	54	27	21
18	17	21	23	11	15	31	100	120	75	111	28	24
19	16	20	25	11	14	33	94	162	67	90	60	26
20	16	20	26	11	14	36	131	198	79	86	148	39
21	14	21	29	11	14	34	162	191	131	64	145	37
22	12	21	24	11	13	29	155	158	144	80	113	32
23	14	19	21	11	13	26	177	136	166	200	82	28
24	24	19	18	11	13	22	200	110	172	140	63	53
25	23	19	17	11	12	19	199	92	187	82	47	51
26	26	18	16	11	12	22	174	79	264	54	37	55
27	22	17	15	12	12	23	152	77	322	44	33	50
28	18	16	14	13	13	26	126	73	374	37	34	43
29	19	15	13	21	14	34	105	70	414	31	31	42
30	42	14	12	24	------	36	106	69	368	30	29	41
31	50	------	11	24	------	37	------	67	------	40	27	------
TOTAL	556.2	905	653	335.4	781	698	2,686	2,722	3,507	3,123	1,378	972
MEAN	17.9	30.2	21.1	10.8	26.9	22.5	89.5	87.8	117	101	44.5	32.4
MAX	50	87	37	24	93	37	200	198	414	327	148	55
MIN	9.5	14	11	7.0	12	13	35	46	28	30	27	21
CFSM	.14	.24	.17	.09	.21	.18	.70	.69	.92	.79	.35	.26
IN.	.16	.27	.19	.10	.23	.20	.79	.80	1.03	.91	.40	.28

CAL YR 1967 TOTAL 14,404.7 MEAN 39.5 MAX 248 MIN 9.5 CFSM .31 IN 4.22
WTR YR 1968 TOTAL 18,316.6 MEAN 50.0 MAX 414 MIN 7.0 CFSM .39 IN 5.36

5-5450. North Lake near Elkhorn, Wis.

Location.--Lat 42°44'35", long 88°38'00", in sec. 5, T. 3 N., R. 16 E., attached to post near shore line, 5 1/2 miles northwest of Elkhorn.

Drainage area.--1 sq mi, approximately. Area of North Lake, 350 acres, approximately, at high stage.

Records available.--May 1937 to September 1968 (fragmentary). Published as Holden Lake prior to October 1958.

Gage.--Staff gage read about once weekly or more often except during winter. Altitude of gage is 900 ft (from topographic map).

Extremes.--Maximum gage height observed during year, 8.06 ft Jan. 26; minimum observed, 7.10 ft Sept. 7, 14.
1937-68: Maximum gage height observed, 12.45 ft Mar. 25, 1939; lake dry for parts of period July to December 1958.

Remarks.--Lake has no surface outlet. Lake ice covered January through March.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									7.59			
2			7.98									
3	7.56										7.34	
4		7.99						7.63				
5						7.58						
6	7.57			7.98								
7	7.56											7.10
8									7.57			
9			8.00									
10											7.44	
11		8.01					7.60	7.59				
12												
13				7.98						7.52		
14	7.59											7.10
15								7.53				
16			7.97				7.54					
17											7.24	
18		7.99						7.63				
19												
20			7.98									
21	7.60								7.65			7.12
22									7.49			
23			7.97							7.52		
24											7.22	
25		7.98										
26				8.06								7.26
27							7.64			7.52		
28	7.69											7.24
29									7.79			
30			7.98		------							
31		------			------		------		------		7.17	------

5-5455.5 Rockland Lake near Burlington, Wis.

Location.--Lat 42°40'34", long 88°14'57", in NE 1/4, SE 1/4 sec. 33, T. 3 N., R. 19 E., about 3/4 mile east of Burlington at Camp MacLean.

Drainage area.--0.99 sq mi. Area of Rockland Lake, 45 acres.

Records available.--January 1967 to September 1968.

Gage.--Staff gage read once weekly.

Extremes.--Maximum gage height observed during year, 5.08 ft Feb. 7, Mar. 20 and June 27; minimum observed, 4.69 ft Sept. 5, 13.
1967-68: Maximum gage height observed, 5.44 ft June 28, 1967; minimum observed, 4.51 ft Jan. 12, 1967.

Remarks.--Lake has no surface outlet. Lake usually ice covered December through March.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2											4.91	
3	4.82											
4			4.89					4.95				
5				4.97		5.02			4.96			4.69
6							4.97			5.03		
7		4.95			5.08							
8				4.97		5.02	4.89					
9												
10								4.91			4.91	
11		4.99	4.95									
12						5.04				4.93		
13												
14							4.93					4.69
15		4.95							4.87			
16	4.91				5.06							
17										4.91	4.87	
18				5.00				4.99				
19			4.95				4.95		4.93	4.94		4.70
20			4.91			5.08						
21		4.91							4.90			
22					5.02			4.99			4.87	
23				5.00								
24	4.87			5.00								
25												
26			4.97									
27						5.02	4.99		5.08	4.96		4.79
28		4.89										
29					5.03			5.01				
30					------							
31	4.95	------		5.06	------		------		------		4.71	------

5-5465. Fox River at Wilmot, Wis.

Location.--Lat 42°30'40", long 88°10'45", in SW 1/4 sec. 30, T. 1 N., R. 20 E., on right bank 100 ft downstream from bridge on County Trunk C, 300 ft upstream from Wilmot Dam, 1 mile north of Wisconsin-Illinois State line, and 6 miles upstream from Fox chain of lakes.

Drainage area.--868 sq mi (revised).

Records available.--October 1939 to September 1968.

Gage.--Water-stage recorder and concrete control. Datum of gage is 735.22 ft above mean sea level, datum of 1929. Prior to Sept. 1, 1965, wire-weight gage and concrete control.

Average discharge.--29 years, 449 cfs.

Extremes.--Maximum discharge during year, 1,990 cfs July 1 (gage height, 6.60 ft); minimum daily, 115 cfs Jan. 9-11.
1939-68: Maximum discharge, 7,520 cfs Mar. 31, 1960 (gage height, 9.25 ft, from graph based on gage readings); no flow part of day Oct. 26, 1945; minimum daily discharge, 35 cfs Sept. 9, 1958.

Remarks.--Records good except those for winter months, which are fair. Three 6-foot lift gates in Wilmot Dam were in operation during the year; discharge through gates computed by weir and orifice formulas and added to flow over dam.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	750	234	140	520	200	321	755	556	1,980	449	210
2	206	933	234	145	560	205	289	701	408	1,940	419	219
3	202	1,040	234	145	577	200	289	578	455	1,790	387	210
4	193	900	229	140	588	205	393	572	427	1,620	360	188
5	180	780	234	135	577	210	456	478	357	1,450	356	210
6	176	670	234	130	534	215	462	403	313	1,310	366	223
7	172	560	248	120	488	230	411	376	282	1,120	366	210
8	176	500	288	120	354	235	384	331	245	1,010	376	197
9	172	441	309	115	300	240	369	326	249	982	565	210
10	180	402	325	115	260	240	389	326	291	904	594	242
11	180	392	336	115	290	240	354	317	347	722	621	247
12	172	402	354	120	275	230	312	293	337	682	528	233
13	172	402	359	125	255	200	307	261	282	608	466	214
14	184	360	348	130	240	220	339	280	245	421	391	205
15	220	346	243	135	225	235	340	289	227	414	326	201
16	293	321	283	135	200	244	335	331	223	387	326	192
17	309	315	309	135	200	249	366	426	203	346	336	197
18	277	331	320	135	185	244	535	437	215	426	321	210
19	262	325	336	135	185	268	590	587	310	902	293	242
20	245	298	331	140	175	305	636	844	358	734	275	276
21	230	280	365	155	165	321	785	762	358	608	275	287
22	220	284	336	165	160	315	861	701	398	458	234	276
23	220	284	283	175	160	299	853	662	375	454	223	271
24	240	266	260	170	165	278	1,000	608	495	658	237	313
25	290	261	225	170	170	259	1,030	595	906	850	237	411
26	281	271	205	160	170	259	982	584	1,270	769	247	393
27	270	237	210	140	170	268	911	613	1,520	669	228	335
28	270	202	195	200	170	278	834	619	1,680	608	223	308
29	265	224	180	280	175	310	806	637	1,740	487	219	292
30	400	229	170	350	------	305	798	637	1,840	414	214	282
31	550	------	160	450	------	299	------	608	------	426	210	------
TOTAL	7,427	13,006	8,377	5,025	8,478	7,806	16,737	15,937	16,912	26,149	10,668	7,504
MEAN	240	434	270	162	292	252	558	514	564	844	344	250
MAX	550	1,040	365	450	588	321	1,030	844	1,840	1,980	621	411
MIN	172	202	160	115	160	200	289	261	203	346	210	188
CFSM	.273	.493	.307	.184	.332	.286	.634	.584	.641	.959	.391	.284
IN.	.31	.55	.35	.21	.36	.33	.71	.67	.71	1.11	.45	.32

CAL YR 1967: TOTAL 155,765 MEAN 427 MAX 2,340 MIN 143 CFSM .485 IN. 6.59
WTR YR 1968: TOTAL 144,026 MEAN 394 MAX 1,980 MIN 115 CFSM .448 IN. 6.08

GPO 817-102-10

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 flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial record stations and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site. Measurements have been made at numerous other stations throughout the State since 1961. These measurements are published in preceding Water Resources Data for Wisconsin publications.

Discharge measurements made at low-flow partial-record stations during water year 1968

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Streams tributary to Lake Superior				
*4-0263	Sioux River near Washburn, Wis.	NE 1/4 sec. 35, T. 49 N., R. 5 W., at twin concrete box culvert on County Trunk C, 2 1/4 miles west of Washburn.	d 14.9	1962-64 1964-66≠ c1967-68	11- 2-67 4-11-68 5-14-68 6-18-68 7-22-68 8-28-68	12.1 21.7 12.5 10.3 8.36 7.92
*4-0272	Pearl Creek at Grandview, Wis.	NE 1/4 sec. 22, T. 45 N., R. 6 W., at box culvert on U. S. Highway 63, 0.8 mile east of Grandview.	15.9	1961-68	8-27-68	7.92
*4-0297	Boomer Creek near Saxon, Wis.	N 1/2 sec. 3, T. 46 N., R. 1 E., at concrete culvert pipe on U. S. Highway 2, 3 miles east of Saxon.	6.73	1961-64 1966-68	8-28-67	.23
		Streams tributary to Lake Michigan				
*4-0797	Spaulding Creek near Big Falls, Wis.	On common boundary sec. 14 and 15, T. 25 N., R. 12 E., at concrete culvert on County Trunk E, 1.5 miles north of Big Falls.	a 4.9	1962-64 1964-66≠ c1967-68	10-24-67 12-20-67 1-11-68 2-13-68 3-13-68 4-10-68 5-24-68 7-24-68 9-24-68	2.38 2.65 1.41 2.31 2.20 8.22 7.86 3.93 6.4
*4-0810	Waupaca River near Waupaca, Wis.	On north line of sec. 1, T. 21 N., R. 12 E., on right bank 10 ft downstream from highway bridge, 4 miles upstream from Weyauwega Lake dam, 4 1/2 miles southeast of Waupaca.	272	b1916-63 1964-66≠ c1967-68	10- 3-67 7- 5-68 8- 2-68	184 222 210
		St. Croix River Basin				
*5-3353.8	Bashaw Brook near Shell Lake, Wis.	SW 1/4 sec. 8, T. 38 N., R. 14 W., at twin box culvert on country road, 10.5 miles northwest of Shell Lake.	d 24.9	1962-64 1964-66≠ c1967-68	11- 6-67 4-19-68 8-30-68	3.92 6.33 5.20
5-3418.5	Kinnickinnic River near Hammond, Wis.	South boundary sec. 2, T. 28 N., R. 18 W., at culvert on County Trunk N, 4.5 miles southwest of Hammond.	47.8	1964 1966-68	8-15-68	6.42

* Also crest-stage station.
a Approximately.
b Operated as continuous-record gaging station.
c Operated as seasonal continuous-record gaging station without records being published.
d Revised.
≠ Operated as a seasonal continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1968

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Trimbelle Creek Basin				
5-3463	Trimbelle Creek near Ellsworth, Wis.	South boundary sec. 17, T. 26 N., R. 18 W., at bridge on U. S. Highway 10, 5.0 miles west of Ellsworth.	42.8	1964 1966-68	8-15-68	9.04
*5-3466	Little Trimbelle Creek near Bay City, Wis.	S 1/2 sec. 21, T. 25 N., R. 18 W., at bridge on County Trunk K, 7 miles northwest of Bay City.	19.9	1961 1963-68	10- 4-67 8-15-68	1.16 1.57
		Isabelle Creek Basin				
5-3553	Isabelle Creek near Bay City, Wis.	SE 1/4 sec. 28, T. 25 N., R. 17 W., at bridge on County Trunk EE, 2.5 miles north of Bay City.	31.2	1964 1966-68	8-15-68	4.53
		Chippewa River Basin				
*5-3596	Price Creek near Phillips, Wis.	SW 1/4 sec. 31, T. 38 N., R. 2 W., at culvert on County Trunk W, 13 miles west of Phillips.	14.7	1961-64 1964-66≠ c1967-68	10-30-67 4- 9-68 7-25-68 8-26-68	8.63 19.9 20.4 4.00
5-3694	Bear Creek near Durand, Wis.	SE 1/4 sec. 15, T. 25 N., R. 13 W., at bridge on State Highway 85, 1.6 miles northeast of Durand.	48.2	1964 1966-68	8-14-68	20.6
*5-3709	Spring Creek near Durand, Wis.	S 1/2 sec. 9, T. 24 N., R. 13 W., at bridge on country road, 4 miles south of Durand.	6.49	1962-68	8-14-68	2.31
5-3710	Plum Creek at Plum City, Wis.	NW 1/4 sec. 22, T. 25 N., R. 15 W., at bridge on U. S. Highway 10 in Plum City.	31.5	1964 1966-68	8-15-68	5.29
		Buffalo River Basin				
5-3720	Buffalo River at Tell, Wis.	NW 1/4 sec. 16, T. 16 N., R. 12 W., at bridge on County Trunk F, 1 mile northeast of Tell.	406	1932-51≠ 1964 1967-68	8-14-68	230
		Waumandee Creek Basin				
5-3781	Little Waumandee Creek near Cream, Wis.	SE 1/4 sec. 19, T. 21 N., R. 11 W., at bridge on State Highway 88, 2.8 miles south of Cream.	46.0	1964 1966-68	8-14-68	27.9
*5-3782	Eagle Creek near Fountain City, Wis.	SW 1/4 sec. 33, T. 20 N., R. 11 W., at bridge on County Trunk G, 2 1/2 miles north of Fountain City.	26.8	1961 1963-68	10-17-67 3-27-68 6- 6-68 8-14-68	8.66 8.64 9.40 12.0
		Trempealeau River Basin				
5-3792	Trempealeau River at Taylor, Wis.	East boundary sec. 5, T. 21 N., R. 6 W., at bridge on County Trunk P, 0.4 mile north of Taylor.	110	1964 1966-68	8-14-68	58.2
5-3793	Elk Creek at Elk Creek, Wis.	SW 1/4 sec. 31, T. 23 N., R. 8 W., at bridge on State Highway 93 in Elk Creek.	90.1	1964 1966-68	8-15-68	40.8
		Black River Basin				
*5-3809	Poplar River near Owen, Wis.	NW 1/4 sec. 25, T. 28 N., R. 2 W., at bridge on County Trunk N, 4 1/4 miles south of Owen.	159	1962-64 1964-66≠ c1967-68	10- 6-67 5- 8-68 8-20-68 9-26-68	3.86 22.3 235 31.6

* Also a crest-stage station.
c Operated as seasonal continuous-record gaging station without records being published.
≠ Operated as seasonal continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1968

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Black River Basin--Continued				
*5-3809.7	Cawley Creek near Neillsville, Wis.	SW 1/4 sec. 25, T. 25 N., R. 2 W., at bridge on State Highway 73, 3.7 miles north of Neillsville.	38.6	1962-68	10- 6-67	1.85
5-3813.5	Levis Creek near Black River Falls, Wis.	SE 1/4 sec. 12, T. 21 N., R. 4 W., at bridge on State Highway 54, 2.2 miles northeast of Black River Falls.	39.7	1964 1966-68	8-14-68	22.8
5-3814.5	Big Creek near Cataract, Wis.	SW 1/4 sec. 7, T. 19 N., R. 4 W., at bridge on country road, 4.6 miles northwest of Cataract.	64.0	1964 1966-68	8-15-68	46.6
5-3818	Fleming Creek at Stevenstown, Wis.	NW 1/4 sec. 13, T. 18 N., R. 7 W., at bridge on County Trunk T in Stevenstown.	28.5	1966-68	8-14-68	11.0
5-3821	South Fork Beaver Creek at Ettrick, Wis.	W 1/2 sec. 31, T. 20 N., R. 7 W., at bridge on County Trunk D in Ettrick.	33.1	1964 1966-68	8-14-68	10.3
*5-3822	French Creek near Ettrick, Wis.	NE 1/4 sec. 27, T. 20 N., R. 8 W., at bridge on County Trunk D and T, 2 1/2 miles west of Ettrick.	14.3	1961 1963-68	10-18-67 8-14-68	4.18 5.48
		La Crosse River Basin				
5-3822.8	Silver Creek near Sparta, Wis.	NW 1/4 sec. 24, T. 17 N., R. 3 W., at bridge on U. S. Highway 16, 6.5 miles east of Sparta.	14.7	1964 1966-68	8-15-68	8.58
*5-3825	Little La Crosse River near Leon, Wis.	NE 1/4 sec. 3, T. 16 N., R. 4 W., 30 ft upstream from country road bridge, 1.5 miles northwest of Leon.	77.1	1934-61≠ 1963-68	10-21-67 4- 2-68 6- 6-68 8-15-68	31.2 37.3 31.3 33.6
		Mormon Creek Basin				
*5-3863	Mormon Creek near La Crosse, Wis.	NE 1/4 sec. 19, T. 15 N., R. 6 W., at bridge on country road, 6 miles southeast of La Crosse.	25.5	1961 1963-68	10-19-67 8-14-68	9.96 11.3
		Bad Axe River Basin				
*5-3871	North Fork Bad Axe River near Genoa, Wis.	SW 1/4 sec. 36, T. 13 N., R. 7 W., at bridge on State Highway 56, 4.1 miles southeast of Genoa.	d 68.8	1961 1963-64 1964-66≠ c1967-68	10-20-67 12- 1-67 3-29-68 6- 4-68 8-29-68	26.8 26.2 29.5 28.1 25.7
5-3883.7	Rush Creek near Ferryville, Wis.	NW 1/4 sec. 32, T. 11 N., R. 6 W., at bridge on country road, 2.5 miles northwest of Ferryville.	44.8	1963 1966-68	8-15-68	21.1
		Copper Creek Basin				
5-3883.8	Copper Creek near Mt. Sterling, Wis.	NW 1/4 sec. 29, T. 10 N., R. 5 W., at bridge on country road, 4.2 miles west of Mt. Sterling.	14.1	1963 1966-68	8-15-68	7.65
		Wisconsin River Basin				
*5-3923.5	Bearskin Creek near Harshaw, Wis.	SW 1/4 sec. 36, T. 37 N., R. 6 E., at culvert on County Trunk K, 2 1/8 miles southwest of Harshaw.	c 27.8	1963-64 1964-66≠ c1967-68	10-17-67 4-11-68	32.2 31.6

* Also a crest-stage station.
c Operated as seasonal continuous-record gaging station without records being published.
d Revised.
≠ Operated as seasonal continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1968

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Wisconsin River Basin--Continued				
*5-4035.2	Webster Creek at New Lisbon, Wis.	NE 1/4 sec. 19, T. 16 N., R. 3 E., at bridge on State Highway 80, 1.2 miles south of New Lisbon.	11.6	1961 1963-68	10-23-67 6- 7-68	3.28 3.21
*5-4035.5	One Mile Creek near Mauston, Wis.	SE 1/4 sec. 24, T. 15 N., R. 3 E., at bridge on State Highway 58, 2.4 miles south of Mauston.	30.4	1961 1963-68	10-23-67	8.16
5-4041	Baraboo River near Union Center, Wis.	SW 1/4 sec. 9, T. 14 N., R. 2 E., at bridge on State Highways 80 and 82, 1.4 miles north of Union Center.	73.2	1964 1966-68	7-16-68	13.6
*5-4042	Narrows Creek at Loganville, Wis.	SE 1/4 sec. 8, T. 11 N., R. 4 E., at bridge on State Highway 23 and 154, and 1/4 mile north of Loganville.	40.0	1961,1963 1964-66≠ c1967-68	4-29-68 6-10-68 7- 3-68 8- 2-68 9- 5-68 9-30-68	15.5 7.31 13.6 5.35 8.32 8.61
5-4061	Otter Creek near Sauk City, Wis.	E 1/2 sec. 9, T. 9 N., R. 6 E., at bridge on State Highway 60, 2.8 miles west of Sauk City.	33.1	1963 1966-68	7-16-68	.04
5-4062	Honey Creek near Plain, Wis.	East boundary sec. 13, T. 9 N., R. 4 E., at bridge on country road, 5 miles east of Plain.	56.3	1963 1966-68	7-16-68 8-14-68	11.3 10.5
5-4063	Honey Creek near Sauk City, Wis.	NE 1/4 sec. 17, T. 9 N., R. 6 E., at bridge on State Highway 60, 4.3 miles west of Sauk City.	150	1963 1966-68	7-16-68 8-14-68	44.0 34.1
5-4066	Mill Creek near Spring Green, Wis.	SW 1/4 sec. 21, T. 8 N., R. 4 E., at bridge on country road, 2.3 miles southeast of Spring Green.	96.3	1963 1966-68	7-16-68 8-14-68	44.9 48.3
5-4066.5	Otter Creek near Clyde, Wis.	NE 1/4 sec. 2, T. 7 N., R. 2 E., at bridge on County Trunk I, 0.5 miles south of Clyde.	95.4	1963 1966-68	7-16-68 8-14-68	32.1 27.0
5-4067	Bear Creek near Lone Rock, Wis.	NW 1/4 sec. 35, T. 9 N., R. 2 E., at bridge on County Trunk JJ, 2.5 miles northeast of Lone Rock.	65.3	1963 1966-68	7-16-68	24.8
5-4068.2	Pine River near Richland Center, Wis.	SE 1/4 sec. 27, T. 10 N., R. 1 E., at bridge on County Trunk O, 2.5 miles southeast of Richland Center.	198	1963 1966-68	8-14-68	84.0
5-4068.5	Ash Creek near Richland Center, Wis.	NE 1/4 sec. 2, T. 9 N., R. 1 E., at bridge on County Trunk TB, 4 miles southeast of Richland Center.	18.4	1966-68	8-14-68	4.38
5-4068.9	Willow Creek near Richland Center, Wis.	SW 1/4 sec. 6, T. 9 N., R. 2 E., 100 ft above bridge on U. S. Highway 14, 6 miles southeast of Richland Center.	79.3	1966-68	8-14-68	32.9
5-4070.5	Fennimore Creek near Blue River, Wis.	South boundary sec. 31, T. 8 N., R. 1 W., at bridge on County Trunk M, 5 miles south of Blue River.	77.2	1963 1966-68	8-15-68	28.0
*5-4071	Richland Creek near Plugtown, Wis.	NW 1/4 sec. 9, T. 8 N., R. 3 W., at bridge on U. S. Highway 61, 2 miles south of Plugtown.	d 19.2	1961 1963-68	8-15-68	7.90
*5-4072	Crooked Creek near Boscobel, Wis.	SE 1/4 sec. 2, T. 7 N., R. 3 W., at bridge on U. S. Highway 61, 1.6 miles south of Boscobel.	13.1	1961 1963-68	8-15-68	5.91
*5-4074	Morris Creek tributary near Norwalk, Wis.	NW 1/4 sec. 21, T. 16 N., R. 2 W., at bridge on County Trunk T, 2 miles north of Norwalk.	4.67	1961 1963-68	10-21-67 6- 7-68	0.98 1.02
5-4087	West Fork Kickapoo River near Viroqua, Wis.	NW 1/4 sec. 32, T. 13 N., R. 3 W., at bridge on State Highway 82, 6.3 miles east of Viroqua.	63.6	1963 1964 1966-68	7-16-68 8-14-68	28.3 24.2
*5-4088	Bishops Branch near Viroqua, Wis.	N 1/2 sec. 2, T. 12 N., R. 4 W., at bridge on State Highways 56 and 82, 3 miles east of Viroqua.	7.08	1961 1963-68	10-20-67 6-16-68 8-14-68	2.43 3.32 2.73

* Also crest-stage station.
c Operated as seasonal continuous-record gaging station without records being published.
d Revised.
≠ Operated as seasonal continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1968

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Wisconsin River Basin--Continued				
5-4098	Tainter Creek near Gays Mills, Wis.	SW 1/4 sec. 4, T. 10 N., R. 4 W., at bridge on County Trunk B, 3.5 miles north of Gays Mills.	38.3	1963 1966-68	8-15-68	17.8
5-4106	Pine Creek near Steuben, Wis.	NE 1/4 sec. 18, T. 8 N., R. 4 W., at bridge on country road, 2.5 miles west of Steuben.	26.5	1963 1966-68	8-15-68	6.53
5-4110	Gran Grae Creek near Wauzeka, Wis.	NE 1/4 sec. 32, T. 7 N., R. 5 W., at bridge on State Highway 60, 6.0 miles southwest of Wauzeka.	17.1	1963 1966-68	7-16-68 8-14-68	5.36 4.54
		Sandy Creek Basin				
5-4115.1	Sandy Creek near Bagley, Wis.	NW 1/4 sec. 27, T. 5 N., R. 6 W., at bridge on County Trunk A, 2.1 miles southeast of Bagley.	18.9	1963 1966-68	7-16-68 8-14-68	1.88 3.07
		Grant River Basin				
5-4131	Little Grant River near Lancaster, Wis.	SW 1/4 sec. 36, T. 5 N., R. 4 W., at bridge on County Trunk A, 4.8 miles west of Lancaster.	46.6	1963 1966-68	7-16-68 8-14-68	10.6 15.1
*5-4134	Pigeon Creek near Lancaster, Wis.	SW 1/4 sec. 15, T. 4 N., R. 3 W., at culvert on country road, 2 miles south of Lancaster.	d 6.81	1961 1963-64 1964-66≠ c1967-68	11- 1-67 5- 1-68 5-21-68 7- 3-68 7-16-68 8- 9-68 9-25-68	2.88 3.47 1.65 5.31 2.43 5.17 4.29
5-4134.5	Rattlesnake Creek near Cassville, Wis.	SE 1/4 sec. 35, T. 4 N., R. 5 W., at bridge on State Highway 81, 5.0 miles northeast of Cassville.	44.7	1963 1966-68	7-16-68 8-14-68	4.91 11.9
5-4136	Boice Creek near Potosi, Wis.	SW 1/4 sec. 17, T. 3 N., R. 3 W., 600 ft below bridge on County Trunk U, 4.0 miles northwest of Potosi.	26.2	1966-68	7-16-68 8-14-68	5.53 5.70
		Platte River Basin				
5-4141.5	Little Platte River near Platteville, Wis.	SE 1/4 sec. 4, T. 3 N., R. 1 W., at bridge on State Highway 81, 1.9 miles northwest of Platteville.	54.0	1963 1966-68	8-15-68	13.7
*5-4142	Bear Branch near Platteville, Wis.	NW 1/4 sec. 4, T. 3 N., R. 1 W., at box culvert on State Highway 81, 2.3 miles northwest of Platteville.	2.80	1961 1963-68	8-15-68	1.05
5-4142.5	Blockhouse Creek near Dickeyville, Wis.	SW 1/4 sec. 11, T. 2 N., R. 2 W., at bridge on U. S. Highway 151, 2.5 miles north of Dickeyville.	36.3	1963 1966-68	8-15-68	10.9
		Sinsinawa River Basin				
5-4148	Sinsinawa River near Hazel Green, Wis.	NW 1/4 sec. 27, T. 1 N., R. 1 W., at bridge on State Highway 11, 2.5 miles west of Hazel Green.	24.8	1963 1966-68	8-15-68	5.87
		Galena River Basin				
*5-4149	Pats Creek near Elk Grove, Wis.	SW 1/4 sec. 4, T. 2 N., R. 1 E., at bridge on State Highway 81, 3/4 mile southeast of Elk Grove and 7 miles southeast of Platteville.	8.49	1961-68	8-15-68	2.63

* Also crest-stage station.
c Operated as seasonal continuous-record gaging station without records being published.
d Revised.
≠ Operated as seasonal continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1968

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Rock River Basin				
*5-4238	East Branch Rock River tributary near Slinger, Wis.	S 1/2 sec. 26, T. 11 N., R. 18 E., at culvert on U. S. Highway 41, 4 miles northwest of Slinger.	d 3.04	1961-68	10-12-67	1.86
*5-4278	Token Creek near Madison, Wis.	SW 1/4 sec. 4, T. 8 N., R. 11 E., at culvert on U. S. Highway 51, 8 miles north of State Capitol in Madison.	d 24.2	1961-64 1964-66≠ c1967-68	10-10-67 11-13-67 12-29-67 5- 8-68 8-19-68 9-25-68	14.9 17.5 17.0 14.5 16.2 22.4
5-4306	Bass Creek near Janesville, Wis.	NE 1/4 sec. 24, T. 2 N., R. 11 E., at bridge on country road, 6.7 miles southwest of Janesville.	d 58.1	1962-68	8-14-68	16.9
*5-4314	Little Turtle Creek at Allens Grove, Wis.	NE 1/4 sec. 6, T. 1 N., R. 15 E., at bridge on country road, 0.2 mile south of Allens Grove.	d 41.8	1961-68	8-14-68	8.96
5-4321	Pecatonica River near Mineral Point, Wis.	NE 1/4 sec. 21, T. 4 N., R. 2 E., at bridge on U. S. Highway 151, 5.0 miles southwest of Mineral Point.	68.8	1963 1966-68	8-15-68	18.1
*5-4323	Rock Branch near Mineral Point, Wis.	SE 1/4 sec. 8, T. 4 N., R. 3 E., at box culvert on State Highway 23, 2.5 miles south of Mineral Point.	d 4.83	1961 1963-68	8-15-68	1.00
5-4325.5	Ames Branch near Darlington, Wis.	SW 1/4 sec. 12, T. 2 N., R. 3 E., at bridge on County Trunk K, 2.2 miles southeast of Darlington.	44.3	1963 1966-68	7-16-68 8-14-68	8.89 12.8
5-4326.5	Spafford Creek at South Wayne, Wis.	SW 1/4 sec. 10, T. 1 N., R. 5 E., at bridge on State Highway 11, 0.6 mile west of South Wayne.	47.8	1963 1966 1968	7-16-68 8-14-68	12.5 12.2
5-4328	Dodge Branch at Hollandale, Wis.	NE 1/4 sec. 30, T. 5 N., R. 5 E., at bridge on State Highway 191, in Hollandale.	66.1	1963 1966-68	7-16-68 8-14-68	28.1 21.3
*5-4335	Yellowstone River near Blanchardville, Wis.	NE 1/4 sec. 34, T. 4 N., R. 4 E., 0.6 mile upstream from bridge on County Trunk H, 7 miles west of Blanchardville.	d 28.5	1954-65≠ 1966-68	7-16-68 8-14-68	9.18 7.78
5-4337	Whiteside Creek near Argyle, Wis.	SW 1/4 sec. 3, T. 2 N., R. 5 E., at bridge on State Highway 78, 2.4 miles southwest of Argyle.	19.9	1963 1966-68	7-16-68 8-14-68	8.28 6.58
5-4343	Jordan Creek near Browntown, Wis.	South boundary sec. 28, T. 2 N., R. 6 E., at bridge on County Trunk M, 2.3 miles north of Browntown.	14.4	1963 1966-68	7-16-68 8-14-68	4.98 4.24
5-4366	Sylvester Creek near Brodhead, Wis.	SW 1/4 sec. 34, T. 2 N., R. 9 E., at bridge on country road, 3.2 miles southwest of Brodhead.	44.9	1962-68	8-26-68	15.0
5-4367	Taylor Creek near Brodhead, Wis.	NW 1/4 sec. 31, T. 2 N., R. 10 E., at bridge on country road, 2.6 miles south of Brodhead.	d 26.5	1962-68	8-27-68	6.62
*5-4372	East Fork Raccoon Creek tributary near Beloit, Wis.	On common boundary of secs. 30 and 31, T. 1 N., R. 12 E., at culvert on State Highway 81, 2.9 miles west of Beloit.	d 4.67	1961-68	8-27-68	1.54
		Illinois River Basin				
*5-5453	White River near Burlington, Wis.	NW 1/4 sec. 1, T. 2 N., R. 18 E., at bridge on State Highway 36, 2 1/4 miles southwest of Burlington.	d 97.5	1961-64 1964-66≠ c1967-68	10- 3-67	21.9

* Also crest-stage station.
c Operated as seasonal continuous-record gaging station without records being published.
d Revised.
≠ Operated as a seasonal continuous-record gaging station.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Streams tributary to Lake Superior					
4-0244	Stony Brook near Superior, Wis.	SE 1/4 sec. 4, T. 47 N., R. 14 W., at box culvert on State Highway 35, 12 1/2 miles south of toll bridge on U. S. Highways 2 and 35 at St. Louis River in Superior.	2.20	1959-68	6- 6-68	13.46	128
4-0252	Pearson Creek near Maple, Wis.	Common boundary of secs. 11 and 14, T. 48 N., R. 11 W., at box culvert on State Highway 13, 4 miles north of Maple.	c 4.01	1957-68	6- 6-68	12.72	260
4-0262	Sand River tributary near Red Cliff, Wis.	NE 1/4 sec. 14, T. 51 N., R. 5 W., at box culvert on State Highway 13, 8 miles northwest of Red Cliff.	c 1.14	1959-68	4- -59 4-24-60 4-16-61 5-23-62 4- 2-63 1965 4- 8-66 3-30-67 6- 6-68	10.86 10.56 11.40 10.34 10.47 b 10.43 11.84 10.56	c 90 c 68 c 125 c 58 c 65 c <40 c 62 c 158 68
*4-0263	Sioux River near Washburn, Wis.	NE 1/4 sec. 35, T. 49 N., R. 5 W., on County Trunk C, 2 1/2 miles west of Washburn.	c 14.9	1959-65 1966≠ 1967-68	3-18-68	10.95	280
*4-0264	Spillerberg Creek near Cayuga, Wis.	NW 1/4 sec. 21, T. 43 N., R. 2 W., at concrete culvert pipe on State Highway 13, 4 1/4 miles southeast of Cayuga.	c 6.18	1958-68	5-16-68	11.48	58
4-0267	Trout Brook tributary near Marengo, Wis.	NE 1/4 sec. 7, T. 45 N., R. 3 W., at box culvert on State Highway 13, 2.6 miles southeast of Marengo.	c .77	1960-68	4-24-60 4-16-61 8-31-62 4- 2-63 5- 6-64 5-21-65 6- 6-66 3-30-67 7-12-68	11.99 11.49 10.00 11.41 13.23 10.00 10.47 12.22 12.77	g 192 g 154 g 48 g 148 g 295 g 48 g 80 g 210 255
*4-0272	Pearl Creek at Grandview, Wis.	NE 1/4 sec. 22, T. 45 N., R. 6 W., at box culvert on U. S. Highway 63, 0.8 mile east of Grandview.	c 10.5	1960-68	3-18-68	10.69	100
*4-0297	Boomer Creek near Saxon, Wis.	N 1/2 sec. 3, T. 46 N., R. 1 E., at concrete culvert pipe on U. S. Highway 2, 3 miles east of Saxon.	6.73	1958-68	9-15-59 4-16-61 5-15-62 5-24-64 5- 8-65 6- 6-66 3-19-68	12.87 13.91 13.37 15.8 13.89 12.83 14.30	c 78 c 130 c 120 c 300 c 170 c 75 200
		Streams tributary to Lake Michigan					
*4-0599	Allen Creek tributary near Alvin, Wis.	North boundary sec. 7, T. 40 N., R. 14 E., at culvert on State Highway 70, 2.2 miles southeast of Alvin.	a 1.9	1960-68	6-30-68	10.44	8

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
a Approximately
b Peak did not reach bottom of the gage.
c Revised.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Streams tributary to Lake Michigan--Continued					
*4-0638	Woods Creek near Fence, Wis.	SE 1/4 sec. 29, T. 39 N., R. 17 E., at box culvert on State Highway 101, 6 miles north of Fence.	c 41.4	1958-68	9- 9-68	11.22	160
*4-0663	Cole Creek near Dunbar, Wis.	South boundary sec. 34, T. 37 N., R. 19 E., at culvert on U. S. Highway 8, 3.6 miles southeast of Dunbar.	a 3.2	1960-68	6-26-68	10.1	10
4-0667	McCall Creek at Wausaukee, Wis.	NW 1/4 sec. 1, T. 33 N., R. 20 E., at culvert on U. S. Highway 141, 1 mile south of Wausaukee.	c 1.48	1959-68	9-22-59	11.51	g 24
					4-13-60	11.93	g 32
					4-21-61	11.61	g 25
					5-13-62	10.61	g 6
					5-10-63	10.2	g 1
					4-29-64	11.74	g 28
					5- 8-65	10.4	g 3
					7- 3-66	10.47	g 4
					3-30-67	e 12.38	g 30
					10-25-67	10.80	10
4-0675	Menominee River near McAllister, Wis.	Sec. 17, T. 33 N., R. 23 E., 300 ft above highway bridge on County Trunk JJ, 2.9 miles east of McAllister.	a 4,020	1945-61≠ 1962-68	9-12-68	15.08	16,400
*4-0678	Armstrong Creek near Armstrong Creek, Wis.	W 1/2 sec. 27, T. 37 N., R. 16 E., at bridge on U. S. Highway 8, 1 3/4 miles northwest of Armstrong Creek.	23.1	1958-68	5- 7-60	11.05	g 215
					9- 5-68	10.13	98
4-0717	North Branch Little River near Coleman, Wis.	On common boundary of sec. 2 and 3, T. 29 N., R. 20 E., at bridge on U. S. Highway 141, 3 3/4 miles south of Coleman.	23.3	1958-68	4- 6-58	12.49	c 195
					4- -59	12.90	c 250
					5- 7-60	13.72	g 405
					4-16-61	12.76	c 230
					6-17-62	12.19	c 160
					3-25-63	12.73	c 229
					5-15-65	12.7	c 225
					6-27-68	12.33	180
*4-0718	Pensaukee River near Pulaski, Wis.	NE 1/4 sec. 1, T. 26 N., R. 18 E., at bridge on State Highway 32 and 6.1 miles north of Pulaski.	c 41.8	1961-68	3-24-63	14.26	g 785
					4-11-65	15.29	gl,100
					6-26-68	13.48	595
*4-0734	Bird Creek at Wautoma, Wis.	S 1/2 sec. 34, T. 19 N., R. 10 E., at concrete culvert on State Highway 21, 1/4 mile west of Wautoma.	c 3.59	1959-68	5-20-59	12.14	c 105
					12-28-59	12.25	c 110
					6-26-68	11.66	75
*4-0747	Hunting River near Elcho, Wis.	N 1/2 sec. 24, T. 34 N., R. 10 E., at twin culverts on U. S. Highway 45 and State Highway 47, 1 1/2 miles south of Elcho.	ac 9.0	1958-68	9-10-68	12.20	100
*4-0797	Spaulding Creek near Big Falls, Wis.	On common boundary of secs. 14 and 15, T. 25 N., R. 12 E., at culvert on County Trunk E, 1.5 miles north of Big Falls.	a 4.9	1959-65 1966≠ 1967-68	6-26-68	10.84	42
*4-0810	Waupaca River near Waupaca, Wis.	On north line of sec. 1, T. 21 N., R. 12 E., on right bank 10 ft downstream from highway bridge, 4 miles upstream from Weyauwega Lake dam, 4 1/2 miles southeast of Waupaca.	272	1916-63≠ 1964-65 1966≠ 1967-68	6-27-68	2.44	535
4-0810.1	Waupaca River tributary near Waupaca, Wis.	NW 1/4 sec. 1, T. 21 N., R. 12 E., at culvert on U. S. Highway 10, 5 miles southeast of Waupaca.	a 1.0	1960-68	12-28-59	12.96	c 78
					3-25-61	12.51	45
					3-28-62	12.68	c 70
					3-24-63	cd12.77	c 45
					4-11-65	d12.31	c 40
					4-20-68	11.09	5
4-0819	Sawyer Creek at Oshkosh, Wis.	SW 1/4 sec. 15, T. 18 N., R. 16 E., at bridge on U. S. Highway 41, 1 mile southwest of Algoma Street Fox River bridge in Oshkosh.	c 15.3	1961-68	6-26-68	11.72	200

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
a Approximately.
c Revised.
d Peak may be ice affected.
e Backwater from ice.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Streams tributary to Lake Michigan--Continued					
4-0834	East Branch Fond du Lac River tributary near Eden, Wis.	NE 1/4 sec. 14, T. 14 N., R. 17 E., at culvert on U. S. Highway 41, 3 miles west of Eden.	1.19	1961-68	3-25-61	11.18	g 50
					10-29-62	10.65	g 30
					3-24-63	12.76	eg 50
					4- -64	10.4	g 20
					9-21-65	10.90	g 40
					5-23-66	11.72	g 48
					3- 2-67	12.44	eg 25
					6-26-68	12.0	85
*4-0850.3	Apple Creek near Kaukauna, Wis.	On west boundary sec. 2, T. 21 N., R. 18 E., at bridge on State Highway 55, 3 1/2 miles northeast of Kaukauna.	14.6	1960-68	6-26-68	14.43	940
4-0851	East River tributary at Greenleaf, Wis.	NE 1/4 sec. 8, T. 21 N., R. 20 E., at railroad box culvert, 1/2 mile south of Greenleaf.	8.00	1958-68	6-26-68	11.5	200
4-0853	Neshota River tributary near Denmark, Wis.	NE 1/4 sec. 7, T. 22 N., R. 22 E., at box culvert on U. S. Highway 141, 3 3/4 miles northwest of Denmark.	3.08	1959-68	4- 2-59	14.01	g 390
					4-17-60	14.20	g 430
					8- 9-61	13.28	g 250
					3-28-62	13.24	g 245
					5- 9-64	11.46	g 50
					2- 8-66	13.80	g 330
					3-26-67	e 13.81	g 250
					6-26-68	12.85	110
*4-0854	Killsnake River near Chilton, Wis.	E 1/2 sec. 6, T. 18 N., R. 20 E., at bridge on country road, 2.4 miles northeast of Chilton.	29.5	1961-68	1961	b	g <100
					3-25-63	d 13.4	g1,200
					2- 8-66	12.9	g1,100
					3-10-67	11.86	c 700
					6-26-68	10.6	250
*4-0857	Sheboygan River tributary near Plymouth, Wis.	On common boundary of secs. 2 and 11, T. 15 N., R. 21 E., at concrete culvert on County Trunk J, 3 1/2 miles northeast of Plymouth.	5.51	1959-68	4-17-60	11.19	g 180
					9-30-61	11.52	g 230
					11-16-61	10.48	g 100
					6- 9-63	10.2	g 75
					3-14-64	10.3	g 80
					9-20-65	10.68	g 120
					2- 8-66	11.22	g 185
					3-23-67	9.9	g 60
					1968	b	< 60
4-0864	Milwaukee River tributary near Fredonia, Wis.	SE 1/4 sec. 1, T. 11 N., R. 21 E., at culvert on country road, 2.3 miles southeast of Fredonia.	.84	1962-68	3-28-62	11.36	g 45
					1963	b	g <10
					9-18-64	10.41	g 15
					9- 9-65	14.68	g 210
					10-21-65	12.0	g 70
					3-23-67	10.57	g 20
					10-24-67	10.30	13
*4-0870.5	Little Menomonee River near Freistadt, Wis.	On common boundary of secs. 29 and 32, T. 9 N., R. 21 E., at bridge on Donges Bay Road, 2 miles south of Freistadt.	7.96	1958-68	3- -58	10.32	g 63
					4- 2-59	11.78	g 200
					9-19-60	12.70	g 305
					3-26-62	11.29	c 150
					7-18-64	12.96	g 340
					9- 9-65	12.00	g 225
					10-21-65	12.60	g 300
					6-11-67	10.35	g 70
					6-26-68	10.78	100
4-0871	Honey Creek at Milwaukee, Wis.	SE 1/4 sec. 15, T. 6 N., R. 21 E., 400 ft upstream from bridge on S. 68th Street, and 6 miles southwest from mouth of Milwaukee River in Milwaukee.	3.34	1959-68	7-18-59		gh 240
					8- 2-60		gh 285
					9-22-61		gh 230
					8-24-62		gh 140
					8-12-63		gh 115
					7-18-64	19.40	259
					8- 8-65		gh 185
					2- 9-66		gh 190
					6-11-67	19.03	g 210
					9-24-68	19.02	210

* Also a low-flow partial-record station.
b Peak did not reach bottom of the gage.
c Revised.
d Peak may be ice affected.
e Backwater from ice.
g Not previously published.
h Based on discharges at other crest-stage gages.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Streams tributary to Lake Michigan--Continued					
*4-0872	Oak Creek near South Milwaukee, Wis.	On common boundary of secs. 21 and 22, T. 5 N., R. 22 E., at bridge on West Nicholson Road, 3 miles southwest of South Milwaukee.	13.9	1958-68	6-26-68	16.23	255
4-0872.3	West Branch Root River Canal tributary near North Cape, Wis.	SE 1/4 sec. 33, T. 4 N., R. 21 E., at culvert on County Trunk U, 3 miles southeast of North Cape.	3.92	1962-68	3-25-62	11.93	g 108
					3-24-63	10.46	g 30
					7-18-64	11.37	g 70
					4- 3-65	10.94	g 47
					2- 9-66	12.49	g 150
					6-26-68	11.18	60
*4-0872.5	Pike Creek near Kenosha, Wis.	W 1/2 sec. 27, T. 2 N., R. 22 E., at box culvert on State Highway 43, 3 miles northwest of Kenosha.	7.25	1960-68	3-30-60	16.86	g 170
					3-21-61	14.06	c 65
					3-25-62	14.88	c 85
					7-19-63	13.30	c 43
					7-18-64	11.71	c 20
					4- 1-65	13.48	c 55
					10-21-65	17.47	g 210
					6-11-67	13.29	c 42
					6-26-68	13.18	40
		St. Croix River Basin					
*5-3331	Little Frog Creek near Minong, Wis.	NW 1/4 sec. 29, T. 42 N., R. 11 W., at culvert on country road, 2 1/2 miles east of Minong.	c 13.0	1961-68	7-11-68	12.89	105
5-3341	Sawyer Creek near Shell Lake, Wis.	SE 1/4 sec. 13, T. 38 N., R. 13 W., at box culvert on U. S. Highway 63, 2 miles north of Shell Lake.	c 1.04	1960-68	6-30-68	12.81	88
*5-3353.8	Bashaw Brook near Shell Lake, Wis.	SW 1/4 sec. 8, T. 38 N., R. 14 W., at twin box culvert on country road, 10.5 miles northwest of Shell Lake.	c 24.9	1959-65 1966≠ 1967-68	3- 4-66 9-23-68	13.13 12.54	c 132 98
*5-3403	Trade River near Frederic, Wis.	SW 1/4 sec. 4, T. 36 N., R. 17 W., at box culvert on State Highways 35 and 48, 2.5 miles southwest of Frederic.	c 6.34	1958-68	7-13-68	15.12	330
5-3417	Willow River tributary near New Richmond, Wis.	NW 1/4 sec. 17, T. 30 N., R. 17 W., at twin box culvert on County Trunk GG, 3.6 miles southeast of New Richmond.	1.40	1959-68	3- -59	10.54	g 4
					8-28-60	12.20	g 92
					9- 8-61	11.78	g 62
					8-23-62	11.88	g 70
					8- 2-63	11.34	g 25
					5-23-64	10.69	g 6
					7- 1-65	12.26	g 96
					6- 6-66	11.95	g 74
					3-29-67	e 12.72	g 70
					9-23-68	11.80	64
5-3419	Kinnickinnic River tributary at River Falls, Wis.	NE 1/4 sec. 14, T. 27 N., R. 19 W., at bridge on County Trunk FF, 1.6 miles southwest of River Falls.	7.26	1959-68	7- 8-59	11.98	g 580
					3-27-61	10.92	c 160
					3- 4-66	11.83	g 500
					3-27-67	11.04	g 200
					9-22-68	11.74	460
		Trimbelle Creek Basin					
*5-3466	Little Trimbelle Creek near Bay City, Wis.	S 1/2 sec. 21, T. 25 N., R. 18 W., at bridge on County Trunk K, 7 miles northwest of Bay City.	19.9	1961-68	5-15-68	13.29	2,300

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
c Revised.
e Backwater from ice.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Chippewa River Basin					
*5-3562	Kenyon Creek near Radisson, Wis.	NW 1/4 sec. 22, T. 38 N., R. 6 W., at bridge on State Highway 27, 5 miles east of Raddison.	a 7.5	1960-68	7-14-68	12.14	235
5-3592	South Fork Flambeau River tributary near Park Falls, Wis.	SW 1/4 sec. 15, T. 40 N., R. 1 E., at culvert on State Highway 182, 5.1 miles east of Park Falls.	c .86	1960-68	4-24-60	d 11.32	g 35
					3-27-61	d 11.02	g 44
					1962	b	g <12
					1963	b	g <12
					5- 8-64	10.23	g 18
					1965	b	g <12
					1966	b	g <15
					3-30-67	d 11.13	g 42
					1968	b	<15
*5-3596	Price Creek near Phillips, Wis.	SW 1/4 sec. 31, T. 38 N., R. 2 W., at culvert on County Trunk W, 13 miles west of Phillips.	14.7	1958-65 1966≠ 1967-68	6-20-68	12.02	130
5-3602	Flambeau River tributary at Ladysmith, Wis.	SW 1/4 sec. 27, T. 35 N., R. 6 W., at culvert on State Highway 27, 1 mile north of Ladysmith.	a 0.8	1960-68	6-30-68	11.26	15
*5-3614	Hay Creek near Prentice, Wis.	SE 1/4 sec. 4, T. 35 N., R. 1 E., at culvert on U. S. Highway 8, 3.5 miles west of Prentice.	c 21.9	1961-68	3-27-61	e 12.37	g 425
					5-13-62	11.62	g 390
					5-10-63	10.59	g 155
					4-11-64	e 11.08	g 110
					4-15-65	ce 14.84	g 720
					3-18-66	e 12.67	g 635
					3-30-67	e 15.41	g 975
					6-21-68	13.82	950
*5-3640	Yellow River at Cadott, Wis.	NE 1/4 sec. 31, T. 29 N., R. 6 W., at bridge on State Highway 27, in Cadott.	351	1943-61≠ 1962-68	5-16-68	10.81	4,700
5-3641	Seth Creek near Cadott, Wis.	SW 1/4 sec. 17, T. 29 N., R. 6 W., at culvert on State Highway 27, 3.1 miles north of Cadott.	3.04	1962-68	5-16-68	13.59	308
5-3645	Duncan Creek at Bloomer, Wis.	Sec. 8, T. 30 N., R. 9 W., 1/4 mile below Bloomer Dam at Bloomer.	49.2	1945-51≠ 1958-68	5-16-68	5.83	610
*5-3657	Goggle-eye Creek near Thorp, Wis.	West boundary sec. 19, T. 29 N., R. 3 W., at culvert on State Highway 73, 1.3 miles north of Thorp.	c 6.70	1958-68	7- 8-59	14.50	c 760
					5- 7-60	13.18	g 390
					10-31-60	17.0	g1,440
					9-16-62	12.63	g 250
					5-13-63	13.25	g 420
					9- 3-64	12.33	g 170
					6- 1-65	12.81	g 290
					3-18-66	12.86	g 310
					7-14-68	14.02	630
*5-3665	Eau Claire River near Fall Creek, Wis.	NW 1/4 sec. 19, T. 27 N., R. 7 W., 500 ft east of County Trunk K, 3 1/4 miles north of Fall Creek.	758	1943-55≠ 1958-68	7-14-68	11.25	8,500
5-3670.3	Willow Creek near Eau Claire, Wis.	On common boundary of secs. 14 and 15, T. 26 N., R. 9 W., at box culvert on State Highway 93, 4 miles south of Eau Claire.	4.38	1958-68	5-16-68	11.71	170
*5-3674.8	East Branch Pine Creek tributary near Dallas, Wis.	SW 1/4 sec. 1, T. 32 N., R. 12 W., at culvert on County Trunk O, 1 1/2 miles north of Dallas.	3.85	1960-68	8-28-60	18.75	g 735
					7- 1-68	13.74	236
5-3675	Red Cedar River near Colfax, Wis.	SW 1/4 sec. 22, T. 30 N., R. 11 W., 3.2 miles below Trout Creek and 4.7 miles north of Colfax.	a 1,100	1914-61≠ 1962-68	7- 1-68	6.48	8,600

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
a Approximately.
b Peak did not reach bottom of the gage.
c Revised.
d Peak may be ice affected.
e Backwater from ice.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Chippewa River Basin--Continued					
5-3677	Lightning Creek at Almena, Wis.	NW 1/4 sec. 19, T. 34 N., R. 13 W., at bridge on County Trunk P, in Almena.	19.8	1958-68	9-22-68	11.35	640
5-3698	Eau Galle River tributary near Hersey, Wis.	SW 1/4 sec. 5, T. 28 N., R. 15 W., at box culvert on Interstate Highway 94, 2 miles southwest of Hersey.	.65	1960-68	5-21-60	10.28	g 35
					3-28-61	10.47	g 45
					8-23-62	10.20	g 25
					5-10-63	10.41	g 40
					3-14-64	b	g <25
					6- 1-65	11.10	g 100
					12-12-65	10.58	g 55
					3-29-67	e 11.55	g 50
					9-22-68	11.57	140
5-3706	Arkansaw Creek tributary near Arkansaw, Wis.	SW 1/4 sec. 14, T. 25 N., R. 14 W., at box culvert on U. S. Highway 10, 1 1/4 miles northwest of Arkansaw.	2.56	1959-68	7-14-68	11.39	110
*5-3709	Spring Creek near Durand, Wis.	S 1/2 sec. 9, T. 24 N., R. 13 W., at bridge on country road, 4 miles south of Chippewa River bridge in Durand.	6.49	1962-68	3-28-62	12.21	g 250
					7-17-63	13.28	g 430
					10-25-63	10.68	g 50
					4- 7-65	12.92	c 370
					2- 8-66	12.63	c 310
					3-29-67	12.19	g 240
					6-21-68	12.79	340
		By Golly Creek Basin					
5-3713	By Golly Creek near Nelson, Wis.	SW 1/4 sec. 28, T. 23 N., R. 13 W., at culvert on County Trunk D, 3 miles northeast of Nelson.	.28	1962-68	8-31-62	10.10	g 12
					1963	b	g <12
					1964	b	g <12
					4- 7-65	e 11.0	g 20
					3- 4-66	10.07	g 11
					3-27-67	e 10.64	g 12
					7-26-68	11.58	64
		Buffalo River Basin					
5-3718	Buffalo River tributary near Osseo, Wis.	S 1/2 sec. 3, T. 24 N., R. 6 W., at culvert on U. S. Highway 10, 6 1/2 miles east of Osseo.	1.44	1960-68	7-14-68	10.81	70
		Waumandee Creek Basin					
*5-3782	Eagle Creek near Fountain City, Wis.	SW 1/4 sec. 33, T. 20 N., R. 11 W., at bridge on County Trunk G, 2 1/2 miles north of Fountain City.	26.8	1961-68	8-20-68	17.11	2,460
		Black River Basin					
5-3808	Black River tributary near Whittlesey, Wis.	SW 1/4 sec. 35, T. 32 N., R. 1 E., at bridge on State Highway 13, 1.1 mile south of Whittlesey.	c 2.12	1960-68	5- 7-60	11.31	g 98
					3-27-61	11.26	g 94
					3-29-62	11.14	g 85
					3-26-63	10.90	g 67
					9- 2-64	12.08	g 170
					4-26-65	12.19	g 182
					4- 1-66	12.08	g 170
					3-29-67	12.55	g 220
					5-16-68	11.97	160

* Also a low-flow partial-record station.
b Peak did not reach bottom of gage.
c Revised.
e Backwater from ice.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Black River Basin--Continued					
*5-3809	Poplar River near Owen, Wis.	NW 1/4 sec. 25, T. 28 N., R. 2 W., at bridge on County Trunk N, 4 1/4 miles south of Owen.	c 157	1958-65 1966≠ 1967-68	6- 5-58 5- 7-60 5-13-63 9- 3-64 4-11-65 6-27-68	19.46 16.06 14.68 14.63 17.95 16.13	c 10,000 c 5,100 c 3,410 c 3,380 c 7,800 5,100
*5-3809.7	Cawley Creek near Neillsville, Wis.	SW 1/4 sec. 25, T. 25 N., R. 2 W., at bridge on State Highway 73, 3.7 miles north of Neillsville.	38.6	1961-68	5-10-63 4-26-65 3- 4-66 3-30-67 5-16-68	14.06 14.78 14.98 17.11 14.94	g 970 g 1,330 g 1,450 g 3,400 1,430
5-3813	Allens Creek near Black River Falls, Wis.	SW 1/4 sec. 2, T. 21 N., R. 4 W., at culvert on U. S. Highway 12, 2 miles north of Black River Falls.	4.00	1958-68	1968	b	≠
*5-3822	French Creek near Ettrick, Wis.	NE 1/4 sec. 27, T. 20 N., R. 8 W., at bridge on County Trunk D and T, 2 1/2 miles west of Ettrick.	14.3	1960-68	8-29-60 3-27-61 8-31-62 3-23-63 9- 8-64 4- 6-65 2- 8-66 3-27-67 8-20-68	11.09 11.45 11.53 10.70 10.68 11.46 11.32 13.07 12.56	g 410 g 520 g 550 g 315 g 310 g 530 g 480 g 1,300 1,000
		La Crosse River Basin					
5-3823	Beaver Creek tributary near Sparta, Wis.	NW 1/4 sec. 11, T. 17 N., R. 4 W., at box culvert on State Highways 27 and 71, 1.9 miles north of Sparta.	1.72	1959-68	6-21-68	12.03	130
*5-3825	Little La Crosse River near Leon, Wis.	NE 1/4 sec. 3, T. 16 N., R. 4 W., 4 miles upstream from mouth and 1.5 miles northwest of Leon.	77.1	1934-61≠ 1962-68	6-21-68	7.90	1,570
		Mormon Creek Basin					
*5-3863	Mormon Creek near La Crosse, Wis.	NE 1/4 sec. 19, T. 15 N., R. 6 W., at bridge on country road, 6 miles southeast of La Crosse.	25.5	1961-68	3-25-61 8-31-62 7-13-63 9-10-64 9-28-65 2- 8-66 2-15-67 6-21-68	11.57 10.46 8.36 8.02 11.71 11.35 9.92 14.47	720 450 90 40 760 780 470 1,960
		Bad Axe River Basin					
*5-3871	North Fork Bad Axe River near Genoa, Wis.	SW 1/4 sec. 36, T. 13 N., R. 7 W., at bridge on State Highway 56, 4.1 miles southeast of Genoa.	c 68.8	1959-65 1966≠ 1967-68	6-21-68	13.30	930
		Du Charme Creek Basin					
5-3884.6	Du Charme Creek at Eastman, Wis.	NE 1/4 sec. 13, T. 8 N., R. 6 W., at culvert on County Trunk D in Eastman.	c .30	1961-68	9-30-61 7- 3-62 3-17-63 6-22-64 9- 7-65 7-14-66 7-17-67 6-23-68	10.47 a 11.5 10.46 12.31 11.35 11.28 a 12.6 11.29	30 105 30 175 95 90 200 90

* Also a low-flow partial-record station.
≠ Discharge not determined.
≠ Operated as a continuous-record gaging station.
a Approximately.
b Peak did not reach bottom of gage.
c Revised.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Wisconsin River Basin					
*5-3921.5	Mishonagon Creek near Woodruff, Wis.	NE 1/4 sec. 32, T. 40 N., R. 6 E., at twin culvert on State Highway 47, 3 miles northwest of Woodruff.	c 11.9	1958-68	6-30-68	10.42	70
*5-3923.5	Bearskin Creek near Harshaw, Wis.	SW 1/4 sec. 36, T. 37 N., R. 6 E., at culvert on County Trunk K, 2 1/8 miles southwest of Harshaw.	c 27.8	1958-65 1966≠ 1967-68	4- -59 3-27-61 6-21-68	9.81 9.59 10.37	c 90 c 75 132
*5-3940	New Wood River near Merrill, Wis.	E 1/2 sec. 15, T. 32 N., R. 5 E., at bridge on County Trunk E, 9.5 miles northwest of Merrill.	a 83.1	1953-61≠ 1962-68	5-13-62 5-10-63 4-22-64 4-11-65 6- 6-66 3-31-67 6-21-68	5.17 4.51 3.81 e 6.38 4.72 e 6.38 6.46	c 1,280 c 780 c 400 c 1,200 c 920 c 1,200 2,400
*5-3942	Devil Creek near Merrill, Wis.	N 1/2 sec. 30, T. 31 N., R. 6 E., at culvert on County Trunk F, 5.8 miles southwest of Merrill.	10.1	1961-68	11- 3-60 9-16-62 5-10-63 9-10-64 4-11-65 11-26-65 3-31-67 6-21-68	11.96 13.20 11.14 11.89 e 14.5 11.56 e 15.46 12.50	g 145 g 285 g 90 g 140 g 250 g 115 g 300 190
5-3951	Trappe River tributary near Merrill, Wis.	SW 1/4 sec. 28, T. 31 N., R. 8 E., at culvert on County Trunk P, 9 1/2 miles southeast of Merrill.	a 2.2	1959-68	8- 7-60 6-21-68	15.25 17.09	c 305 380
5-3961	Pet Brook tributary near Edgar, Wis. (f)	SE 1/4 sec. 31, T. 29 N., R. 5 E., at culvert on State Highway 29, 1.5 miles northeast of Edgar.	c 6.69	1962-68	6-21-68	13.87	420
5-3976	Big Sandy Creek near Wausau, Wis.	SE 1/4 sec. 31, T. 30 N., R. 9 E., at bridge on State Highway 52, 10 miles northeast of Wausau.	a 9.9	1959-68	6-21-68	13.47	1,200
5-3992	Randall Creek tributary near Abbotsford, Wis.	South boundary of sec. 36, T. 29 N., R. 2 E., at concrete culvert, on State Highway 29, 5.8 miles east of Abbotsford.	c .56	1959-68	9-27-59 5- 7-60 3-27-61 5-13-63 9- 2-64 9-28-65 6- 5-66 8-27-67 5-16-68	11.49 11.44 11.71 10.99 12.40 11.02 12.70 10.73 13.71	c 80 c 75 c 100 g 45 g 165 g 45 g 200 g 30 315
5-4018	Yellow River tributary near Pittsville, Wis.	On common boundary of secs. 11 and 14, T. 23 N., R. 3 E., at bridge on County Trunk C, 2 miles north of Pittsville.	c 7.27	1959-68	9-27-59 5- 6-60 3-27-61 3-29-62 5-13-63 5- 8-64 9-19-65 2- 8-66 3-31-67 5-16-68	12.40 11.82 12.07 11.90 11.90 12.13 13.3 11.96 12.85 13.05	g 350 c 260 c 320 c 280 c 280 c 340 g 600 g 300 g 540 590
*5-4035.2	Webster Creek at New Lisbon, Wis.	NE 1/4 sec. 19, T. 16 N., R. 3 E., at bridge on State Highway 80, 1.2 miles south of New Lisbon.	c 11.5	1961-68	6-26-68	13.07	120
*5-4035.5	One Mile Creek near Mauston, Wis.	SE 1/4 sec. 24, T. 15 N., R. 3 E., at bridge on State Highway 58, 2.4 miles south of Mauston.	30.4	1958-68	5- 7-60 3-26-61 3-28-62 2- 8-66 6-26-68	15.58 16.16 16.36 16.37 13.48	g 940 g 1,300 g 1,550 g 1,560 300

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
a Approximately.
c Revised.
e Backwater from ice.
f Published as Scotch Creek tributary prior to 1968.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Wisconsin River Basin--Continued					
5-4036.1	Wisconsin River tributary at Wisconsin Dells, Wis.	NE 1/4 sec. 3, T. 13 N., R. 6 E., at culvert on State Highway 13, 0.8 mile north of Wisconsin Dells.	c 1.16	1962-68	8-19-68	10.14	10
*5-4037	Dell Creek near Lake Delton, Wis.	NW 1/4 sec. 2, T. 12 N., R. 5 E., at bridge on town road, 1/4 mile north of State Highway 23, and 5 miles southwest of Lake Delton.	44.9	1957-65≠ 1966-68	1-29-68	8.76	1,130
*5-4042	Narrows Creek at Loganville, Wis.	SE 1/4 sec. 8, T. 11 N., R. 4 E., at bridge on State Highways 23 and 154, and 1/4 mile north of Loganville.	40.0	1958-65 1966≠ 1967-68	4- 5-58 4- 1-59 5- 7-60 9-30-61 3-28-62 3-23-63 6-21-64 9-17-65 1-25-67 1-29-68	10.10 14.22 15.90 14.97 14.88 14.55 11.30 15.66 14.89 14.35	c 250 c 1,580 g 4,600 g 2,550 g 2,400 g 1,950 c 400 g 3,950 g 2,450 1,700
*5-4056	Rowan Creek at Poynette, Wis.	S 1/2 sec. 35, T. 11 N., R. 9 E., at bridge on U. S. Highway 51, in Poynette.	c 10.1	1961-68	10-24-67	10.54	50
5-4068	Rocky Branch near Richland Center, Wis.	E 1/2 sec. 29, T. 10 N., R. 1 E., at culvert on State Highway 80, 1 1/2 miles south of Richland Center.	1.71	1960-68	7- 3-60 3- -61 11- 2-61 3-23-63 6-22-64 2- 8-66 6-28-67 6-26-68	12.65 12.75 12.82 10.2 10.5 13.4 17.2 11.32	g 150 g 160 g 170 g 30 g 40 g 220 g 1,020 70
*5-4071	Richland Creek near Plugtown, Wis.	NW 1/4 sec. 9, T. 8 N., R. 3 W., at bridge on U. S. Highway 61, 2 miles south of Plugtown.	c 19.2	1958-68	8-20-58 6-26-59 8- 9-60 3-26-61 7- 2-62 3-17-63 6-22-64 9- 9-65 2- 8-66 1-25-67 6-26-68	14.32 17.02 16.51 16.86 16.22 15.19 14.94 16.25 16.44 16.22 12.4	c 460 c 1,800 g 1,230 g 1,600 c 1,000 c 580 c 540 c 1,010 c 1,150 c 1,000 250
*5-4072	Crooked Creek near Boscobel, Wis.	SE 1/4 sec. 2, T. 7 N., R. 3 W., at bridge on U. S. Highway 61, 1.6 miles south of Boscobel.	13.1	1959-68	6-26-59 5- 7-60 4-23-61 11- 2-61 3-17-63 9- 9-65 2- 8-66 1-25-67 1-29-68	13.29 17.55 13.35 11.09 12.33 14.34 12.70 12.82 12.9	g 700 g 2,130 g 720 g 220 g 460 g 1,000 g 550 g 580 600
*5-4074	Morris Creek tributary near Norwalk, Wis.	NW 1/4 sec. 21, T. 16 N., R. 2 W., at bridge on County Trunk T, 2 miles north of Norwalk.	4.67	1960-68	6-23-68	13.00	910
*5-4088	Bishops Branch near Viroqua, Wis.	N 1/2 sec. 2, T. 12 N., R. 4 W., at bridge on State Highways 56 and 82, 3 miles east of Viroqua.	7.08	1959-68	8-27-59 7- 2-60 6-21-68	13.64 12.84 12.92	g 5,800 g 2,600 2,800
		Grant River Basin					
*5-4134	Pigeon Creek near Lancaster, Wis.	SW 1/4 sec. 15, T. 4 N., R. 3 W., at culvert on country road, 2 miles south of Lancaster.	c 6.81	1960-65 1966≠ 1967-68	8-21-66 5-28-68	19.71 10.41	c 2,000 110

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
c Revised.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Platte River Basin					
*5-4142	Bear Branch near Platteville, Wis.	NW 1/4 sec. 4, T. 3 N., R. 1 W., at box culvert on State Highway 81, 2.3 miles northwest of Platteville.	2.80	1958-68	8-24-62	14.66	g 495
					3-17-63	12.54	g 275
					9- 9-65	13.12	c 330
					6-26-68	12.24	250
		Galena River Basin					
*5-4149	Pats Creek near Elk Grove, Wis.	SW 1/4 sec. 4, T. 2 N., R. 1 E., at bridge on State Highway 81, 7 miles southeast of Platteville.	8.49	1960-68	3-28-60	13.77	g 720
					2-18-61	12.19	g 310
					11- 2-61	12.37	g 350
					3-20-63	11.05	g 140
					4- 2-64	12.38	g 350
					3- 1-65	13.01	g 500
					2- 8-66	12.72	g 420
					1-24-67	15.24	g 1,680
					7-23-68	11.93	265
		Rock River Basin					
*5-4233	South Branch Rock River tributary near Waupun, Wis.	S 1/2 sec. 22, T. 14 N., R. 14 E., at concrete culvert on country road, 4 1/2 miles northwest of Waupun.	11.9	1959-68	4- -59	14.42	g 575
					4-17-60	11.63	g 285
					3-14-61	12.12	g 400
					3-29-62	12.7	g 530
					3-26-63	10.46	g 40
					4- 2-64	10.38	g 25
					9-20-65	10.39	g 25
					2- 8-66	12.15	g 405
					3-27-67	10.76	g 90
					6-26-68	10.45	35
*5-4238	East Branch Rock River tributary near Slinger, Wis.	S 1/2 sec. 26, T. 11 N., R. 18 E., at culvert on U. S. Highway 41, 4 miles northwest of Slinger.	c 3.04	1960-68	6-26-68	10.49	50
5-4243	Rock River tributary near Watertown, Wis.	NE 1/4 sec. 18, T. 8 N., R. 16 E., at concrete culvert on old U. S. Highway 16, 5 miles east of Watertown.	4.58	1959-68	3-30-60	13.79	g 230
					3-22-61	12.60	g 95
					3-29-62	13.04	g 140
					4-19-63	11.33	g 25
					7-18-64	10.95	g 15
					9- 9-65	12.11	g 40
					2- 8-66	12.65	g 95
					3-10-67	11.89	g 45
					6-26-68	12.88	120
*5-4257	Robbins Creek near Columbus, Wis.	SE 1/4 sec. 11, T. 10 N., R. 12 E., at culvert on U. S. Highway 16, in Columbus.	8.54	1960-68	4- 2-60	13.74	g 300
					3-26-62	12.60	g 165
					9-10-65	13.48	g 190
					5-23-66	13.42	g 265
					1-25-67	12.50	g 85
					6-26-68	13.25	160
5-4261	Scuppernong Creek near Wales, Wis.	NE 1/4 sec. 6, T. 6 N., R. 18 E., at culvert on U. S. Highway 18, 1.8 miles northwest of Wales.	c 8.28	1962-68	3-29-62	10.19	g 100
					1963	b	g <80
					1964	b	g <80
					5-23-65	10.07	g 85
					2- 8-66	10.56	g 140
					1967	b	g <80
					8-20-68	10.32	110
*5-4272	Allen Creek near Fort Atkinson, Wis.	NE 1/4 sec. 17, T. 5 N., R. 14 E., at box culvert on State Highway 26, 2.5 miles southwest of Fort Atkinson.	c 10.2	1958-68	3- -59	e 12.95	g 100
					3-29-60	13.24	g 380
					3-19-63	e 12.40	g 200
					6-26-68	9.93	62
5-4272.5	Koshkonong Creek at Sun Prairie, Wis.	SW 1/4 sec. 33, T. 9 N., R. 11 E., at culvert on U. S. Highway 151 in Sun Prairie.	.46	1961-68	6-26-68	11.1	22

* Also a low-flow partial-record station.
b Peak did not reach bottom of the gage.
c Revised.
e Backwater from ice.
g Not previously published.

GPO 817-102-11

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rock River Basin--Continued					
*5-4278	Token Creek near Madison, Wis.	SW 1/4 sec. 4, T. 8 N., R. 10 E., at culvert on U. S. Highway 51, 8 miles northeast of State Capitol in Madison.	c 24.2	1961-65 1966≠ 1967-68	6-26-68	11.84	228
*5-4314	Little Turtle Creek at Allens Grove, Wis.	NE 1/4 sec. 6, T. 1 N., R. 15 E., at bridge on country road, 0.2 mile south of Allens Grove.	c 41.8	1962-68	11-16-61 3- 1-65 2- 9-66 3-10-67 8- 4-68	14.06 14.13 14.82 14.51 11.27	g 1,090 g 1,130 g 1,680 g 1,420 275
*5-4323	Rock Branch near Mineral Point, Wis.	SE 1/4 sec. 8, T. 4 N., R. 3 E., at box culvert on State Highway 23, 2 1/2 miles south of Mineral Point.	c 4.83	1959-68	1-31-68	11.7	210
*5-4335	Yellowstone River near Blanchardville, Wis.	NE 1/4 sec. 34, T. 4 N., R. 4 E., 0.6 mile upstream from bridge on County Trunk F, and 7 miles west-southwest of Blanchardville.	c 28.5	1954-65≠ 1966-68	1-31-68	7.69	982
5-4342	Skinner Creek tributary near Monroe, Wis.	S 1/2 sec. 14, T. 2 N., R. 7 E., at culvert on State Highway 69, 2.4 miles north of Monroe.	.48	1959-68	8-20-68	10.3	7
5-4359	Sugar River tributary near Pine Bluff, Wis.	SE 1/4 sec. 27, T. 7 N., R. 7 E., at culvert on County trunk J, 1.1 miles southeast of Pine Bluff.	c 7.46	1961-68	1-29-68	11.53	77
*5-4362	Sugar River tributary No. 2 near Brooklyn, Wis.	NW 1/4 sec. 16, T. 4 N., R. 9 E., at culvert on State Highway 92, 4.3 miles west of Brooklyn.	c 3.34	1961-68	6-26-68	12.72	80
*5-4372	East Fork Raccoon Creek tributary near Beloit, Wis.	On common boundary of secs. 30 and 31, T. 1 N., R. 12 E., at culvert on State Highway 81, 2.9 miles west of Beloit.	c 4.67	1958-68	6-26-68	10.86	25
		Illinois River Basin					
*5-5443	Mukwonago River tributary near Mukwonago, Wis.	S 1/2 sec. 36, T. 5 N., R. 18 E., at culvert on State Highway 83, 1 1/2 miles southeast of Mukwonago.	1.32	1960-68	3-30-60 3-21-61 3-27-62 1963 3-13-64 9- 9-65 2- 9-66 1-24-67 6-26-68	10.80 10.00 10.03 b 10.53 10.07 10.47 10.66 11.06	g 36 g 13 g 14 g <12 g 26 g 14 g 24 g 30 48
5-5451	Sugar Creek at Elkhorn, Wis.	SW 1/4 sec. 29, T. 3 N., R. 17 E., at culvert on State Highway 11, 2 miles northeast of Elkhorn.	c 6.68	1962-68	3-19-63 9-10-65 6-26-68	10.65 10.66 10.87	c 55 c 56 73
5-5452	White River tributary near Burlington, Wis.	On common boundary of secs. 27 and 34, T. 3 N., R. 18 E., at box culvert on State Highway 11, 4.5 miles west of Burlington.	c 2.42	1958-68	10- -57 7- 3-60 9-14-61 3-26-62 3-19-63 9- 9-65 10-21-65 6-17-67 7-18-68	10.60 13.46 11.42 11.01 10.82 11.25 13.35 13.2 11.03	g 40 g 235 g 80 g 57 g 50 g 70 g 225 g 215 58
*5-5453	White River near Burlington, Wis.	NW 1/4 sec. 1, T. 2 N., R. 18 E., at bridge on State Highway 36, 2 1/4 miles southwest of Burlington.	c 97.5	1958-65 1966≠ 1967-68	3-30-60 7-18-68	13.49 11.23	g 1,900 467
*5-5481.5	North Branch Nippersink Creek tributary near Genoa City, Wis.	E 1/2 sec. 32, T. 1 N., R. 18 E., at bridge on County Trunk B, 3 miles west of Genoa City.	c 13.8	1962-68	3-25-62 1963 1964 3-31-65 2- 9-66 6-17-67 1968	10.69 b b 10.77 11.34 12.05 b	g 112 g <60 g <60 g 120 g 175 g 255 <60

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
b Peak did not reach bottom of the gage.
c Revised.
g Not previously published.

Measurements at Miscellaneous Sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the followirg table. Measurements are made during periods of base flow except those designated by an asterisk (*).

Discharge measurements made at miscellaneous sites during water year 1968

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		St. Croix River Basin				
Willow River	St. Croix River	SE 1/4 SW 1/4 sec. 19, T. 30 N., R. 18 W., 150 feet upstream from bridge on country road, 0.8 mile west of Boardman, Wis.			6- 7-68	* 31.8
		Rush River Basin				
Rush River	Mississippi River	SW 1/4 SE 1/4 sec. 9, T. 24 N., R. 16 W., 150 feet upstream from bridge on State Highway 35, 1.1 miles northwest of Maiden Rock, Wis.		1935-37 1941	6- 7-68	* 60.8
		Pammel Creek Basin				
Pammel Creek	Mississippi River	SW 1/4 SW 1/4 sec. 10, T. 15 N., R. 7 W., at bridge on Ward Ave., at LaCrosse, Wis.		1963	6-26-68	* 28.0
		Wisconsin River Basin				
Little Plover River	Wisconsin River	SW 1/4 SE 1/4 sec. 13, T. 23 N., R. 8 E., 1/4 mile downstream from Kennedy Road bridge, 2 1/2 miles east of Plover, Wis.			9-12-68 9-19-68	* 4.90 * 4.23
do	do	SE 1/4 SW 1/4 sec. 13, T. 23 N., R. 8 E., 1/2 mile downstream from Kennedy Road bridge, 2 1/4 miles east of Plover, Wis.			9-12-68 9-19-68 9-21-68	* 5.86 * 5.30 * 5.10
do	do	SW 1/4 SW 1/4 sec. 13, T. 23 N., R. 8 E., 900 feet upstream from Eisenhower Road bridge, 2 miles east of Plover, Wis.			9-12-68 9-19-68	* 6.20 * 5.41
do	do	SW 1/4 SW 1/4 sec. 13, T. 23 N., R. 9 E., 200 feet upstream from Eisenhower Road bridge, 2 miles east of Plover, Wis.		1960-64	6-24-68 7-15-68 7-27-68 8- 2-68 8-20-68 8-26-68	* 5.09 * 4.70 * 4.39 3.55 * 4.05 2.62
do	do	SW 1/4 SE 1/4 sec. 14, T. 23 N., R. 8 E., 1/4 mile downstream from Eisenhower Road bridge, 1 1/2 miles east of Plover, Wis.			9-12-68 9-19-68 9-21-68	* 6.67 * 5.73 * 5.19
Kickapoo River	do	NE 1/4 sec. 24, T. 12 N., R. 3 W., at bridge on State Highway 56 at Viola, Wis.	340	1960-62 1964-65	6-27-68	* 2,080
do	do	NW 1/4 sec. 8, T. 11 N., R. 3 W., at bridge in Readstown, Wis.	485	1952 1960-62 1965	6-27-68	* 1,890
do	do	SE 1/4 sec. 30, T. 11 N., R. 3 W., at bridge on State Highway 131 in Soldiers Grove, Wis.	530	1938-39≠ 1960 1962 1965 1967	6-22-68	* 1,320
		Rock River Basin				
Little Oconomowoc River	Oconomowoc River	SW 1/4 NE 1/4 sec. 19, T. 8 N., R. 18 E., at bridge on County Trunk K, 0.2 mile east of Stonebank, Wis.		1966	7- 2-68	* 57.4
Fisher Creek	Rock River	NW 1/4 SE 1/4 sec. 3, T. 2 N., R. 12 E., at bridge on County Trunk D, 2.3 miles southwest of Janesville, Wis.	3.93		8-15-68	0.22

≠ Regular gaging station during this period.

Measurements at Miscellaneous Sites

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Rock River Basin--Continued				
Fisher Creek Tributary	Fisher Creek	NW 1/4 SE 1/4, sec. 3, T. 2 N., R. 12 E., at bridge on County Trunk D, and 2.2 miles southwest of Janesville, Wis.	1.62		8-15-68	0.13
Markham Creek	Rock River	NW 1/4 SW 1/4 sec. 10, T. 2 N., R. 12 E., at bridge on County Trunk D, and 3.4 miles southwest of Janesville, Wis.	9.99		8-15-68	0.91
Bass Creek	do	SW 1/4 NW 1/4 NW 1/4 sec. 31, T. 3 N., R. 11 E., at bridge on country road, and 2.2 miles northwest of Footville, Wis.	2.75		8-14-68	0.30
Bass Creek Tributary	Bass Creek	NW 1/4 NW 1/4 NW 1/4 sec. 31, T. 3 N., R. 11 E., at bridge on country road, and 2.2 miles northwest of Footville, Wis.	2.53		8-14-68	0.61
do	do	SW 1/4 SE 1/4 sec. 30, T. 3 N., R. 11 E., at bridge on County Trunk B, and 1.8 miles northwest of Footville, Wis.	2.50		8-14-68	0
Bass Creek	Rock River	NW 1/4 SW 1/4 sec. 4, T. 2 N., R. 11 E., at bridge on State Highway 11, 0.7 mile south of Footville, Wis.	14.0		8-14-68	5.61
Stevens Creek	Bass Creek	SE 1/4 SE 1/4 sec. 27, T. 3 N., R. 11 E., at bridge on Mineral Point Road, and 2.1 miles northeast of Footville, Wis.	7.37		8-14-68	0.63
Stevens Creek Tributary	Stevens Creek	SW 1/4 SW 1/4 sec. 26, T. 3 N., R. 11 E., at bridge on Mineral Point Road, and 2.2 miles northeast of Footville, Wis.	10.6		8-14-68	0.41
Stevens Creek	Bass Creek	SE 1/4 SW 1/4 sec. 2, T. 2 N., R. 11 E., at bridge on country road, and 2.6 miles southeast of Footville, Wis.	13.9		8-14-68	2.26
Bass Creek Tributary	do	NW 1/4 NE 1/4 sec. 18, T. 2 N., R. 11 E., at bridge on State Highway 11, and 2.6 miles southwest of Footville, Wis.	2.52		8-14-68	0.40
do	do	SW 1/4 SE 1/4 sec. 10, T. 2 N., R. 11 E., at bridge on country road, and 0.6 mile west of Hanover, Wis.	14.7		8-14-68	1.85
Bass Creek	Rock River	NE 1/4 NW 1/4 sec. 14, T. 2 N., R. 11 E., at bridge on County Trunk H, at Hanover, Wis.	47.0	1967	8-14-68	14.7
do	do	SW 1/4 SE 1/4 sec. 27, T. 2 N., R. 12 E., at Chicago and Northwestern Railroad crossing, 0.7 mile east of Afton, Wis.	65.7		8-15-68	18.7
Rock River Tributary	do	SW 1/4 NW 1/4 sec. 11, T. 1 N., R. 12 E., at bridge on Duggan at Walters Road, and 4.0 miles north of Beloit, Wis.	13.2		8-15-68	1.14
Turtle Creek	do	SE 1/4 NW 1/4 sec. 14, T. 3 N., R. 15 E., at culvert on country road, 1/4 mile downstream from outlet of Turtle Lake, and 6.4 miles north of Delavan, Wis.	1.46		8-14-68	0.11
do	do	NW 1/4 NE 1/4 sec. 35, T. 3 N., R. 15 E., at bridge on Island Road, and 4.5 miles northwest of Delavan, Wis.	14.3	1965	8-14-68	3.67
Turtle Creek Tributary	Turtle Creek	NW 1/4 SW 1/4 sec. 31, T. 3 N., R. 16 E., at bridge on County Trunk P, 0.4 mile upstream from mouth and 3.0 miles north of Delavan, Wis.	2.58		8-14-68	0
Turtle Creek	Rock River	NE 1/4 NW 1/4 sec. 18, T. 2 N., R. 16 E., at bridge on town road, at outlet of Comus Lake at Delavan, Wis.	33.1	1967	8-14-68	6.56

Measurements at Miscellaneous Sites

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Rock River Basin--Continued				
Jackson Creek	Delavan Lake	NE 1/4 SE 1/4 sec. 12, T. 2 N., R. 16 E., at bridge on State Highway 67 and 1.9 miles south of Elkhorn, Wis.	9.59		8-14-68	1.15
Delavan Lake Tributary	do	SE 1/4 SE 1/4 sec. 32, T. 2 N., R. 16 E., at culvert on Shore Drive, and 3.5 miles south of Delavan, Wis.	9.54		8-14-68	0.21
Delavan Lake Outlet	Turtle Creek	SW 1/4 SE 1/4 sec. 20, T. 2 N., R. 16 E., at bridge on country road, and 1.4 miles southeast of Delavan, Wis.	40.6	1967	8-14-68	0.85
Turtle Creek	Rock River	SE 1/4 SE 1/4 sec. 24, T. 2 N., R. 14 E., at bridge on country road, and 2.3 miles northwest of Allens Grove, Wis.	a 113	1965 1967	8-14-68	27.0
Little Turtle Creek	Turtle Creek	Common boundary of sec. 26 and 35, T. 1 N., R. 14 E., at bridge on County Trunk W, and 5.4 miles south of Allens Grove, Wis.	7.43		8-14-68	1.69
do	do	SE 1/4 SE 1/4 sec. 14, T. 1 N., R. 14 E., at bridge on County Trunk J, and 3.5 miles southwest of Allens Grove, Wis.	18.4		8-14-68	4.31
Ladd Creek	Little Turtle Creek	SW 1/4 SE 1/4 sec. 17, T. 1 N., R. 15 E., at bridge on Salt Box Road, and 3.0 miles south of Allens Grove, Wis.	6.33		8-14-68	0.75
do	do	NE 1/4 SW 1/4 sec. 7, T. 1 N., R. 15 E., about 70 feet upstream from mouth, and 1.9 miles south of Allens Grove, Wis.	12.1		8-14-68	2.87
Little Turtle Creek Tributary	do	SE 1/4 SE 1/4 sec. 1, T. 1 N., R. 14 E., at culvert on County Line Road, and 1.3 miles southwest of Allens Grove, Wis.	6.04		8-14-68	0.79
do	do	NE 1/4 SE 1/4 sec. 32, T. 2 N., R. 15 E., at culvert on State Highway 15, and 1.2 miles east of Allens Grove, Wis.	11.0		8-14-68	1.84
Little Turtle Creek	Turtle Creek	SE 1/4 SW 1/4 sec. 25, T. 2 N., R. 14 E., just upstream from mouth, and 1.8 miles northwest of Allens Grove, Wis.	68.1		8-14-68	15.9
Spring Brook	do	NE 1/4 SW 1/4 sec. 27, T. 2 N., R. 14 E., at bridge on north-south country road, and 3.5 miles northeast of Clinton, Wis.	9.29		8-14-68	0.77
Turtle Creek Tributary	do	SE 1/4 SW 1/4 sec. 35, T. 2 N., R. 13 E., at bridge on country road, 0.3 mile upstream from mouth, and 1.1 miles northeast of Shopiere, Wis.	7.28		8-14-68	0
do	do	SW 1/4 NE 1/4 sec. 2, T. 1 N., R. 13 E., at bridge on County Trunk J, and 0.9 mile northeast of Shopiere, Wis.	3.67		8-14-68	0.48
Turtle Creek	Rock River	NE 1/4 NW 1/4 sec. 9, T. 1 N., R. 13 E., at bridge on Lathers Road, and 1.3 miles west of Shopiere, Wis.	a 223	1967	8-14-68	49.3
do	do	SW 1/4 SW 1/4 sec. 30, T. 1 N., R. 13 E., at bridge on State Highway 15, at Beloit, Wis.	a 233	1967	8-14-68	49.2
Spring Brook	Turtle Creek	Center NW 1/4 sec. 31, T. 1 N., R. 13 E., at bridge on country road, 0.3 mile upstream from mouth at Beloit, Wis.	11.6		8-14-68	0.21
Honey Creek	Pecatonica River	SW 1/4 SE 1/4 sec. 33, T. 2 N., R. 7 E., just upstream from sewage disposal plant outlet on south side of State Highway 11, and 1.7 miles west of Monroe, Wis.	4.75		7-10-68	2.78

a Revised.

Measurements at Miscellaneous Sites

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Rock River Basin--Continued				
Honey Creek	Pecatonica River	SW 1/4 SE 1/4 sec. 33, T. 2 N., R. 7 E., just downstream from sewage disposal plant outlet, on south side of State Highway 11, and 1.7 miles west of Monroe, Wis.	4.75		7-10-68	5.26
do	do	SE 1/4 SE 1/4 sec. 8, T. 1 N., R. 7 E., at bridge on country road, and 3 miles southwest of Monroe, Wis.	8.55		7-10-68	6.24
Honey Creek Tributary	Honey Creek	NW 1/4 NW 1/4 sec. 16, T. 1 N., R. 7 E., at bridge on country road, and 3 miles southwest of Monroe, Wis.	3.45		7-10-68	0.38
Spring Creek	do	NE 1/4 SE 1/4 sec. 25, T. 1 N., R. 6 E., at bridge on County Trunk HK, and 6 miles southwest of Monroe, Wis.	4.61		7-11-68	1.03
Honey Creek	Pecatonica River	SW 1/4 NW 1/4 sec. 25, T. 1 N., R. 6 E., 0.1 mile east of bridge on country road, downstream from mouth of Spring Creek and upstream from mouth of small unnamed tributary, and 6.2 miles southwest of Monroe, Wis.	22.4		7-10-68	9.03
Whitehead Creek	Honey Creek	SE 1/4 SE 1/4 sec. 23, T. 1 N., R. 6 E., at bridge on country road, just upstream from unnamed tributary, and 6 miles southwest of Monroe, Wis.	3.18		7-11-68	0.09
Whitehead Creek Tributary	Whitehead Creek	SE 1/4 SE 1/4 sec. 23, T. 1 N., R. 6 E., near bridge on country road, just upstream from mouth, and 6 miles southwest of Monroe, Wis.	0.45		7-11-68	0.16
Honey Creek	Pecatonica River	SW 1/4 SW 1/4 sec. 23, T. 1 N., R. 6 E., at bridge on country road, and 7 miles southwest of Monroe, Wis.	29.7		7-11-68	10.6
Honey Creek Tributary	Honey Creek	SW 1/4 SW 1/4 sec. 23, T. 1 N., R. 6 E., at bridge on country road, and 0.1 mile upstream from mouth, and 7 miles southwest of Monroe, Wis.	0.86		7-11-68	0.07
Honey Creek	Pecatonica River	South line of sec. 34, T. 1 N., R. 6 E., at bridge on State Line Road, and 1.9 miles east of Martintown, Wis.	34.2		7-11-68	11.8
Richland Creek	do	SE 1/4 SW 1/4 sec. 31, T. 2 N., R. 8 E., 0.1 mile upstream from bridge on State Highway 11 and 81, just upstream from mouth of unnamed tributary, and 1.5 miles east of Monroe, Wis.	2.02		7-30-68 8-28-68	0.53 0.49
Richland Creek Tributary	Richland Creek	SE 1/4 SW 1/4 sec. 31, T. 2 N., R. 8 E., 0.1 mile upstream from bridge on State Highway 11 and 81, just upstream from mouth, and 1.5 miles east of Monroe, Wis.	1.26		7-30-68 8-28-68	0.20 0.25
Richland Creek	Pecatonica River	SE 1/4 SW 1/4 sec. 8, T. 1 N., R. 8 E., at bridge on country road, and 3.5 miles southeast of Monroe, Wis.	10.7		7-30-68 8-28-68	3.13 3.50
Richland Creek Tributary	Richland Creek	SE 1/4 SW 1/4 sec. 17, T. 1 N., R. 8 E., at bridge on County Trunk K, and 4.2 miles southeast of Monroe, Wis.	2.97		7-30-68 8-28-68	0.29 0.42
Twin Grove Branch	do	NE 1/4 NW 1/4 sec. 29, T. 1 N., R. 8 E., at bridge on County Trunk P, and 5.1 miles southeast of Monroe, Wis.	6.41		7-30-68 8-28-68	1.66 1.79
Richland Creek	Pecatonica River	SW 1/4 SW 1/4 sec. 26, T. 1 N., R. 7 E., just upstream from mouth of Little Richland Creek, and 5.4 miles south of Monroe, Wis.	28.2		8-27-68	8.36

Measurements at Miscellaneous Sites

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Rock River Basin--Continued				
Little Richland Creek	Richland Creek	SW 1/4 SW 1/4 sec. 14, T. 1 N., R. 7 E., at bridge on country road, and 3.5 miles south of Monroe, Wis.	5.63		8-27-68	1.51
do	do	SW 1/4 SW 1/4 sec. 26, T. 1 N., R. 7 E., just upstream from mouth, and 5.4 miles south of Monroe, Wis.	9.87		8-27-68	2.95
Richland Creek	Pecatonica River	SW 1/4 SE 1/4 sec. 34, T. 1 N., R. 7 E., 0.1 mile upstream from bridge on country road at Illinois state line, and 5.7 miles south of Monroe, Wis.	42.0		8-27-68	13.3
East Branch Richland Creek	Richland Creek	SE 1/4 SE 1/4 sec. 36, T. 1 N., R. 7 E., at bridge on country road, and 5.6 miles south of Monroe, Wis.	4.08		7-30-68 8-28-68	1.04 1.02
Searles Creek	Sugar River	SE 1/4 SE 1/4 sec. 11, T. 2 N., R. 8 E., at bridge on County Trunk S, and 4.8 miles north of Juda, Wis.	5.55		8-27-68	0.65
Norwegian Creek	do	SE 1/4 SE 1/4 sec. 29, T. 3 N., R. 10 E., at bridge on County Trunk B, and 5.2 miles northeast of Brodhead, Wis.	4.32		8-26-68	0.05
Sylvester Creek	do	SW 1/4 NE 1/4 sec. 20, T. 2 N., R. 8 E., at bridge on country road near intersection with State Highway 59, and 4 miles northeast of Monroe, Wis.	5.99		8-15-68 8-26-68	2.62 2.15
do	do	SE 1/4 SE 1/4 sec. 23, T. 2 N., R. 8 E., at bridge on County Trunk S, and 2.6 miles north of Juda, Wis.	15.3		8-26-68	5.27
Juda Branch	Sylvester Creek	SW 1/4 NE 1/4 sec. 2, T. 1 N., R. 8 E., at bridge on County Trunk S, and 0.2 mile south of Juda, Wis.	4.73		8-27-68	1.74
Riley School Branch	Juda Branch	SW 1/4 NW 1/4 sec. 6, T. 1 N., R. 9 E., at bridge on State Highway 11 and 81, and 1.0 mile east of Juda, Wis.	4.91		8-27-68	0.50
Juda Branch	Sylvester Creek	NW 1/4 SW 1/4 sec. 32, T. 2 N., R. 9 E., at bridge on County Trunk OK, and 2.4 miles northeast of Juda, Wis.	16.8		8-26-68	4.52
OK Creek	Sugar River	NE 1/4 SW 1/4 sec. 11, T. 1 N., R. 9 E., at bridge on country road, and 3.8 miles south of Brodhead, Wis.	8.37		8-15-68 8-27-68	0.86 1.23
Spring Creek	do	SE 1/4 SE 1/4 sec. 19, T. 1 N., R. 9 E., at bridge on County Trunk OK, and 7.5 miles southwest of Brodhead, Wis.			8-27-68	2.22
Oakley Branch	Spring Creek	NE 1/4 NE 1/4 sec. 30, T. 1 N., R. 9 E., at bridge on County Trunk OK, and 7.5 miles southwest of Brodhead, Wis.			8-27-68	0.42
Spring Creek	Sugar River	SE 1/4 SE 1/4 sec. 19, T. 1 N., R. 9 E., 200 feet downstream from bridge on County Trunk OK and 70 feet downstream from mouth of Oakley Branch, and 7.5 miles southwest of Brodhead, Wis.	11.5		8-27-68	2.64
do	do	SE 1/4 SW 1/4 sec. 11, T. 1 N., R. 9 E., at bridge on country road, and 4.2 miles south of Brodhead, Wis.	18.1		8-27-68	5.45
Taylor Creek	do	SE 1/4 SW 1/4 sec. 4, T. 2 N., R. 10 E., at culvert on country road, and 4.1 miles northeast of Brodhead, Wis.	2.99		8-26-68	0.21

Measurements at Miscellaneous Sites

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Rock River Basin--Continued				
Swan Creek	Taylor Creek	SE 1/4 SE 1/4 sec. 17, T. 2 N., R. 10 E., at bridge on State Highway 11, and 2.4 miles east of Brodhead, Wis.	8.71		8-26-68	0.73
Willow Creek	do	SW 1/4 NE 1/4 sec. 11, T. 1 N., R. 10 E., just upstream from mouth of unnamed tributary, and 4.5 miles south of Orfordville, Wis.	8.85		8-26-68	1.42
Willow Creek Tributary	Willow Creek	SW 1/4 NE 1/4 sec. 11, T. 1 N., R. 10 E., at bridge on Skinner Road, and 4.5 miles south of Orfordville, Wis.	6.94		8-26-68	1.10
Willow Creek	Taylor Creek	NE 1/4 NE 1/4 sec. 7, T. 1 N., R. 10 E., at bridge on State Highway 81, and 3.6 miles south of Brodhead, Wis.	22.8		8-27-68	4.15
Taylor Creek	Sugar River	SW 1/4 SE 1/4 sec. 7, T. 1 N., R. 10 E., at bridge on Smith Road, 1 mile upstream from mouth, and 4.3 miles south of Brodhead, Wis.	53.6		8-27-68	14.7
Sugar River	Pecatonica River	NW 1/4 SW 1/4 sec. 27, T. 1 N., R. 10 E., at bridge on Nelson Road, and 7.7 miles southeast of Brodhead, Wis.	671		8-26-68	240
Sugar River Tributary	Sugar Creek	NW 1/4 SW 1/4 sec. 34, T. 1 N., R. 10 E., at bridge on Nelson Road, and 8.7 miles southeast of Brodhead, Wis.	14.3		8-26-68	3.64
Sugar River	Pecatonica River	SW 1/4 NE 1/4 sec. 32, T. 29 N., R. 11 E., at bridge on Yale Bridge Road in Illinois, and 11.9 miles southeast of Brodhead, Wis.	705		8-26-68	249
Raccoon Creek	do	NW 1/4 SW 1/4 sec. 4, T. 1 N., R. 11 E., at bridge on Luther Valley Road, and 4.4 miles southeast of Orfordville, Wis.	6.02		8-27-68	0.75
do	do	SW 1/4 SE 1/4 sec. 8, T. 1 N., R. 11 E., at bridge on Cleopas Road, and 5.3 miles south of Orfordville, Wis.	8.01		8-27-68	1.89
do	do	NW 1/4 NE 1/4 sec. 28, T. 1 N., R. 11 E., at bridge on State Highway 81, and 7.5 miles southeast of Orfordville, Wis.	12.1		8-27-68	3.60
Raccoon Creek Tributary	Raccoon Creek	NW 1/4 NE 1/4 sec. 27, T. 1 N., R. 11 E., at bridge on State Highway 81, and 7.1 miles west of Beloit, Wis.	3.26		8-27-68	0.28
Raccoon Creek	Pecatonica River	SE 1/4 NW 1/4 sec. 35, T. 1 N., R. 11 E., at bridge on St. Lawrence Street, and 6.3 miles west of Beloit, Wis.	24.9		8-27-68	5.86
East Fork Raccoon Creek	Raccoon Creek	SE 1/4 SE 1/4 sec. 12, T. 1 N., R. 11 E., at bridge on country road, and 5.8 miles northwest of Beloit, Wis.	3.18		8-27-68	0.45
East Fork Raccoon Creek Tributary	East Fork Raccoon Creek	SE 1/4 SE 1/4 sec. 19, T. 1 N., R. 12 E., at bridge on country road, and 4.0 miles west of Beloit, Wis.	2.36		8-27-68	0.02
East Fork Raccoon Creek	Raccoon Creek	SE 1/4 SW 1/4 sec. 30, T. 1 N., R. 12 E., at bridge on State Highway 81, 3.3 miles west of Beloit, Wis.	10.7		8-27-68	2.01
East Fork Raccoon Creek Tributary	East Fork Raccoon Creek	SE 1/4 SE 1/4 sec. 20, T. 1 N., R. 12 E., at bridge on country road, and 3.1 miles west of Beloit, Wis.	3.01		8-27-68	0.65
East Fork Raccoon Creek	Raccoon Creek	SW 1/4 NE 1/4 sec. 31, T. 1 N., R. 12 E., at bridge on country road, and 2 miles west of Beloit, Wis.	16.3		8-27-68	4.08

United States Department of the Interior
Geological Survey - Water Resources Division

WATER RESOURCES DATA FOR WISCONSIN

1968

Part 2. Water Quality Records

Prepared in cooperation with
Wisconsin Department of Natural Resources
and
University Extension--The University of Wisconsin
Geological and Natural History Survey

CONTENTS

Symbols after station name designate type of data: c, chemical; t, water temperature; s, sediment; m, specific conductance

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WATER RESOURCES DATA FOR WISCONSIN, 1968

Part 2. Water Quality Records

INTRODUCTION

Water-resources investigations of the U. S. Geological Survey include the collection of water quality data on the chemical and physical characteristics of surface- and ground-water supplies of the Nation. These data for the 1968 water year for the quality of surface waters in Wisconsin are presented in this report. The data were collected by the Water Resources Division of the U. S. Geological Survey under the direction of C. L. P. Holt, Jr., district chief.

Water-quality information is presented for chemical quality, water temperatures, and fluvial sediment. Chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, sodium adsorption ratio, specific conductance, and pH. Water-temperature data represent once-daily observations except for stations where a continuous temperature recorder furnishes information from which daily minimums and maximums are obtained. Fluvial-sediment information is given for suspended-sediment discharges and concentrations and for particle size distribution of suspended sediment and bed material.

The Geological Survey, from 1941 through 1965, published an annual series of water-supply papers, "Quality of Surface Waters of the United States," which contained the chemical-quality, temperature, and suspended-sediment data of the water. Each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records for Wisconsin are contained in Parts 3-4, 5-6 of the water-supply paper series. (see table p.173). These publications are available in most public libraries. Beginning with the 1964 water year, water quality records for surface and ground water have been released by the Geological Survey on a state boundary basis. This report is primarily for local and immediate use, and its distribution is limited. These records will be published later in Geological Survey water-supply papers.

Prior to the 1968 water year, data for chemical constituents and concentration of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (^{o}F). In October 1967 the U. S. Geological Survey began to use the metric system; data for chemical constituents and concentrations of suspended sediment are now reported in milligrams per liter (mg/l) and water temperatures are given in degrees Celsius (centigrade, ^{o}C). In waters with a density of 1.000 g/ml (grams per milliliter), parts per million and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/ml, values in parts per million should be multiplied by the density to convert to milligrams per liter. To convert temperatures in degrees Fahrenheit to degrees Celsius, subtract 32° and divide by 1.8. (See section "Definition of Terms and Abbreviations" for further information.)

COOPERATION

Compilation of this report was done under cooperative agreements between the U. S. Geological Survey and the following organizations:

Wisconsin Department of Natural Resources, L. P. Voigt, secretary.

University Extension--The University of Wisconsin, Geological and Natural History Survey, George F. Hanson, state geologist and director.

In addition, analysis of samples collected in conjunction with project work done in cooperation with University Extension--The University of Wisconsin, Geological and Natural History Survey, George F. Hanson, state geologist and director, are listed.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms and abbreviations of water-quality and hydrologic data, as used in the text and tabular data of this report, are defined below:

Acre-foot (ac-ft) is a quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or 325,851 gallons.

Biochemical oxygen demand (BOD) is the amount of oxygen required by bacteria while stablizing decomposable organic matter under aerobic conditions.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons.

Chemical oxygen demand (COD) indicates the quantity of oxidizable compounds present in a water and will vary with water compositions, concentration of reagent, temperature, period of contact, and other factors.

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of the water. The number of coliform colonies per 100 milliters is determined by the delayed incubation membrane filter method.

Cubic foot per second (cfs) is the rate of discharge through a cross-sectional area of 1 square foot of a stream at an average velocity of 1 foot per second.

Discharge, in its simplest concept, means outflow; therefore, the use of this term is not restricted as to course or location. In this report it represents the total fluids measured in the stream.

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

Instantaneous discharge is the discharge at time of sampling. If this discharge is reported instead of the daily mean, the heading of the discharge column is "Discharge (cfs)."

Drainage area of a stream above a specified 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.

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 body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Hardness of water is the property of water attributable to the presence of alkaline earths and is expressed as equivalent calcium carbonate ($CaCO_3$). Hardness is a physical-chemical characteristic, not a substance.

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.

Milligrams per liter (mg/l) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the weight of solute per unit volume of water. Milligrams per liter may be converted to milliequivalents per liter by multiplying by the factors in table 1, page 6. Concentration of suspended sediment expressed in milligrams per liter is based on the weight of sediment in a liter of water-sediment mixture. Sediment concentrations that are expressed in parts per million may be converted to milligrams per liter by using the factors in table 2, page 6.

Most probable number (MPN) is computed from probability analysis based on the number of positive findings of coliform group organisms resulting from multiple-dilation decimal dilutions. (Standard Methods, 12th edition, p. 604.)

Partial-record station is a particular site where limited 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 sieve and sedimentation methods.

Particle size classification, used in this report agrees closely with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology (Lane and others, 1947, p. 937). The classification is as follows:

Clay:	Smaller than 0.004 mm.
Silt:	Between 0.004 and 0.062 mm.
Sand:	Between 0.062 and 2.0 mm.
Gravel:	Between 2.0 and 64.0 mm.

The particle size distributions given in this report are not necessarily representative of the particle sizes of sediment in transport in the natural stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis of the silt and clay.

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.

Table 1.--Factors for conversion of chemical constituents in milligrams per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})....	0.11119	Iodide (I^{-1}).....	0.00788
Ammonia as NH_4^{+1}...	.05544	Iron (Fe^{+3}).....	.05372
Barium (Ba^{+2}).....	.01456	Lead (Pb^{+2}).....	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})....	.14411
Bromide (Br^{-1}).....	.01251	Magnesium (Mg^{+2})..	.08226
Calcium (Ca^{+2}).....	.04990	Manganese (Mn^{+2})..	.03640
Carbonate (CO_3^{-2})..	.03333	Nickel (Ni^{+2}).....	.03406
Chloride (Cl^{-1})....	.02821	Nitrate (NO_3^{-1})...	.01613
Chromium (Cr^{+6})....	.11539	Nitrite (NO_2^{-1})...	.02174
Cobalt (Co^{+2}).....	.03394	Phosphate (PO_4^{-3}).	.03159
Copper (Cu^{+2}).....	.03148	Potassium (K^{+1})...	.02557
Cyanide (CN^{-1}).....	.03844	Sodium (Na^{+1}).....	.04350
Fluoride (F^{-1}).....	.05264	Strontium (Sr^{+2})..	.02283
Hydrogen (H^{+1}).....	.99209	Sulfate (SO_4^{-2})...	.02082
Hydroxide (OH^{-1})...	.05880	Zinc (Zn^{+2}).....	.03060

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Table 2.--Factors for conversion of sediment concentration in parts per million to milligrams per liter* (All values calculated to three significant figures)

Range of concentration (ppm)	Multiply by	Range of concentration (ppm)	Multiply by
0 - 15,900	1.00	322,000 - 341,000	1.26
16,000 - 46,800	1.02	342,000 - 361,000	1.28
46,900 - 76,500	1.04	362,000 - 380,000	1.30
76,600 - 105,000	1.06	381,000 - 399,000	1.32
106,000 - 133,000	1.08	400,000 - 416,000	1.34
134,000 - 159,000	1.10	417,000 - 434,000	1.36
160,000 - 185,000	1.12	435,000 - 451,000	1.38
186,000 - 210,000	1.14	452,000 - 467,000	1.40
211,000 - 233,000	1.16	468,000 - 483,000	1.42
234,000 - 256,000	1.18	484,000 - 498,000	1.44
257,000 - 279,000	1.20	499,000 - 514,000	1.46
280,000 - 300,000	1.22	515,000 - 528,000	1.48
301,000 - 321,000	1.24	529,000 - 542,000	1.50

*Based on water density of 1.000 g/ml and sediment density of 2.65 g/cc.

Sediment discharge 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 by volume, that is discharged in a given time.

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

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

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating farmland.

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." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

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.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph.

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 water year.

Tons per acre-foot indicates the dry weight 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 a substance in solution or suspension that passes a stream section during a 24-hour period.

Water year in Geological Survey reports dealing with surface water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1968, is called the "1968 water year."

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.

STATION NUMBERS

A station number has been assigned as an added means of identification for each stream location where regular measurements of streamflow and determination of water quality have been made. The numbers have been assigned to conform with the standard downstream order of listing gaging stations. The numbering system consists of 2 digits followed by a hyphen and a 6-digit number. The notation to the left of the hyphen identifies the Part or hydrologic region used by the Geological Survey for reporting hydrologic data. The number to the right of the hyphen represents the position or the location in the standard downstream order listing the stations within each of the parts. The assigned numbers are in numerical order but are not consecutive. They are so selected from the complete 6-digit-number scale that intervening numbers will be available for future assignments to new locations. The

identification number for each station in this report is printed to the left of the station name and contains only the essential digits. For example, the number is printed as 1-2345 for a station whose complete identification number is 01-2345.00.

SPECIAL NETWORKS

Some of the stations for which data are published in this report are included in special networks. These stations are identified by the network title, set in parentheses, under the station name. These networks are as follows:

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

International hydrological decade stations provide a general index of the role of runoff in the materials balance (discharge of water, dissolved and transported solids) of the conterminous United States, and of the general distribution of water in our principal river basins. These stations are a part of the Program for the International Hydrological Decade.

Pesticide program is a network of regularly sampled water-quality stations where additional monthly samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Radiochemical program is a network of regularly sampled water-quality stations where additional samples are collected twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

COLLECTION AND EXAMINATION OF SAMPLES

Water samples for analyses usually are collected at or near points on streams where gaging stations are maintained by the U. S. Geological Survey for measurement of water discharge. Discharge records for streams in Wisconsin have been released in the report "Water Resources Data for Wisconsin, 1968, Part 1. Surface Water Records." Most of these records are used in conjunction with the computations of the chemical constituents and sediment loads in this report. Data on the quality of surface water were collected daily at some sites and less frequently at other sites.

Solutes

The methods of collecting and analyzing water samples for determing the kinds and concentrations of solutes are described by Rainwater and Thatcher (1960). 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 the mixing of the stream. Some streams must be sampled at several verticals across the channel to determine accurately the solute load.

The daily chemical quality data in this report generally represent equal-volume composites for 2- to 30-day periods; the composite periods are selected on the basis of specific conductance of the daily samples and fluctuation of water discharge.

Temperature

Water temperatures were measured at most of the water-quality stations. For daily stations, the water temperatures were taken at about the same time each day in order that the data would not reflect diurnal variations in water temperature. Most large streams have a small diurnal temperature change; small, shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature.

At stations where thermographs are located, the records consist of maximum and minimum temperatures for each day and the monthly averages.

Sediment

At some stations, suspended-sediment samples were collected with depth-integrating cable-suspended samplers from verticals in the cross section. A hand sampler was used at many stations during periods of low flow.

During periods of high or rapidly changing flow, samples were taken twice or more often throughout the day at most stations. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

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

Table 3 below, shows the annual series of water-supply papers that give information on quality of surface waters in Wisconsin. Data for St. Lawrence River basin are given in parts 3-4 and for Hudson Bay and upper Mississippi River basins are given in parts 5-6.

Table 3.--Water-supply paper numbers and parts, water years, 1955-65

Year	Parts 5-6	Year	Parts 3-4	Parts 5-6
1955	1401	1961	----	1883
1956	1451	1962	----	1943
1957	1521	1963	----	1949
1958	1572	1964	1955	1956
1959	1643	1965	A1962	A1963
1960	1743	1966	A1992	A1993
		1967	A2012	A2013

A In preparation

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U. S. Inter-Agency Committee on Water Resources, Subcommittee on Sedimentation, A study of methods used in measurement and analysis of sediment loads in streams. Published by the St. Anthony Falls Hydraulic Laboratory, Minneapolis, Minn.

1957, The development and calibration of visual accumulation tube: Rept. 11.

1957, Some fundamentals of particle size analysis: Rept. 12.

1959, Federal Inter-agency sedimentation instruments and reports: Rept. AA.

1961, The single stage samples for suspended sediment: Rept. 13.

1963, Determinations of fluvial sediment discharge: Rept. 14.

1963, A summary of the work of the Inter-agency sedimentation project: Rept. S.

U. S. Public Health Service, 1962, Drinking water standards: U. S. Dept. Health, Education, and Welfare, Public Health Service: Pub. no. 956.

4-0637. POPPLE RIVER NEAR FENCE, WIS.
(Hydrologic bench-mark station)

LOCATION.--Lat 45°45'50", long 88°27'50", temperature recorder at gaging station on left bank, 20 feet upstream from U. S. Forest Service Road 2159, 1.8 miles downstream from Mud Creek, 2.6 miles northwest of Fence, Florence County, and 11.5 miles upstream from mouth.
DRAINAGE AREA.--131 square miles.
RECORDS AVAILABLE.--Water temperatures: June 1964 to September 1968.
EXTREMES, 1967-68.--Water temperatures: Maximum, 26°C July 17, Aug. 23; minimum, freezing point on many days during November to April.
EXTREMES, 1964-68.--Water temperatures: Maximum, 28°C July 24, 1964; minimum, freezing point on many days during winter months.
REMARKS.--No temperature record Sept. 21-26.

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	DIS-CHARGE (CFS)	SILICA (SIO2)	IRON (FE)	MAN-GANESE (MN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	CAR-BONATE (CO3)	SULFATE (SO4)	CHLO-RIDE (CL)
OCT.												
20...	110	--	--	--	--	--	--	--	--	--	--	--
DEC.												
09...	64	12	.16	.00	20	12	2.1	1.6	112	0	8.8	1.0
JAN.												
08...	41	14	.51	.08	27	14	1.6	1.0	140	0	10	1.0
19...	52	--	--	--	--	--	--	--	--	--	--	--
24	37	--	--	--	--	--	--	--	--	--	--	--
FEB.												
07...	40	14	.43	.06	26	13	1.9	1.0	138	0	8.4	1.0
MAR.												
11...	47	14	.41	.03	25	12	1.7	.9	130	0	9.2	1.0
APR.												
08...	117	6.8	.33	.03	12	5.5	1.3	.9	54	0	8.8	.5
22...	--	--	--	--	--	--	--	--	--	--	--	--
30...	216	4.0	.26	.12	9.5	4.3	1.1	.5	40	0	8.0	1.0
MAY												
13...	99	5.1	.35	.06	14	7.1	1.4	.5	70	0	7.2	1.0
JUNE												
17...	145	6.8	.85	.16	14	6.4	1.9	.3	66	0	5.6	.5
JULY												
17...	256	8.7	.72	.06	14	5.6	1.0	.3	62	0	4.4	1.0
AUG.												
16...	64	11	.63	.06	22	9.4	1.5	.5	106	0	7.6	1.0
21...	--	--	--	--	--	--	--	--	--	--	--	--
SEPT.												
20...	308	9.3	.95	.06	13	6.0	1.2	.6	57	0	8.0	.2

DATE	FLUO-RIDE (F)	NITRATE (NO3)	TOTAL PHOS-PHORUS (PO4)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
OCT.												
20...	--	--	--	--	--	--	--	--	--	--	--	7.2
DEC.												
09...	.2	1.0	.40	111	114	.15	--	100	8	.1	187	7.3
JAN.												
08...	.2	1.2	.05	146	139	.20	--	125	10	.1	232	7.3
19...	--	--	--	--	--	--	--	--	--	--	230	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
FEB.												
07...	.2	2.0	.06	141	136	.19	--	119	6	.1	229	7.4
MAR.												
11...	.2	1.7	.07	141	130	.19	--	112	6	.1	220	7.5
APR.												
08...	.2	1.4	.06	97	63	.13	--	52	8	.1	108	6.9
22...	--	--	--	--	--	--	--	--	--	--	--	--
30...	.3	1.0	.04	75	50	.10	--	41	8	.1	83	6.8
MAY												
13...	.2	.8	.07	65	71	.09	--	64	6	.1	126	7.3
JUNE												
17...	.3	1.4	.06	79	69	.11	--	62	8	.1	112	7.2
JULY												
17...	.2	1.6	.07	92	67	.13	63	58	7	.1	103	6.8
AUG.												
16...	.2	.9	.06	116	106	.16	--	94	6	.1	173	7.2
21	--	--	--	--	--	--	--	--	--	--	--	--
SEPT.												
20...	.3	.8	.07	130	68	.18	--	57	10	.1	103	6.7

04-0637.00 - POPPLE RIVER NEAR FENCE, WISCONSIN--CONTINUED

CHEMICAL ANALYSES IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DATE	TEMPERATURE (DEG C)	COLOR	COLIFORM (COLONIES PER 100 ML)	BIOCHEMICAL OXYGEN DEMAND	DISSOLVED OXYGEN	PERCENT SATURATION	PERCENT SODIUM	ALKALINITY AS CACO3	TOTAL CHROMIUM (CR)	NICKEL (NI)	COPPER (CU)	LEAD (PB)
OCT.												
20...	5	--	300	1.8	8.6	67	--	--	--	--	--	--
DEC.												
09...	1	--	--	--	--	--	4	92	--	--	--	--
JAN.												
08...	--	15	--	--	--	--	3	115	.00	.00	.02	01
19...	--	--	90	.5	1.0	73	--	--	--	--	--	--
FEB.												
07...	--	8	--	--	--	--	3	113	--	--	--	--
MAR.												
11...	--	8	100	--	--	--	3	107	--	--	--	--
APR.												
08...	--	60	--	--	--	--	5	44	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	80	--	--	--	--	5	33	--	--	--	--
MAY												
13...	--	60	--	--	--	--	4	57	--	--	--	--
JUNE												
17...	--	150	--	--	--	--	6	54	.00	.01	.05	.03
JULY												
17...	20	140	--	--	--	--	4	51	--	--	--	--
AUG.												
16...	--	80	--	--	--	--	3	87	--	--	--	--
21...	--	--	2,200	--	--	--	--	--	--	--	--	--
SEPT.												
20...	15	360	--	--	--	--	4	47	.00	.00	.00	.00

DATE	ZINC (ZN)	COBALT (CO)	CADMIUM (CD)	ALDRIN	DDD	DDE	DDT	DIELDRIN	ENDRIN	HEPTACHLOR	HEPTACHLOR EPOXIDE	LINDANE
OCT.												
20...	--	--	--	--	--	--	--	--	--	--	--	--
DEC.												
09...	--	--	--	--	--	--	--	--	--	--	--	--
JAN.												
08...	.01	.00	.00	--	--	--	--	--	--	--	--	--
19...	--	--	--	.00	.00	.00	.00	.00	.00	.00	.00	.00
FEB.												
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAR.												
11...	--	--	--	--	--	--	--	--	--	--	--	--
APR.												
08...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	.00	.00	.00	.00	.00	.00	.00	.00	.00
30...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
13...	--	--	--	--	--	--	--	--	--	--	--	--
JUNE												
17...	.05	.00	.00	--	--	--	--	--	--	--	--	--
JULY												
17...	--	--	--	--	--	--	--	--	--	--	--	--
AUG.												
16...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
SEPT.												
20...	.00	.00	.00	--	--	--	--	--	--	--	--	--

4-0637. POPPLE RIVER NEAR FENCE, WIS.--Continued

Temperature (°C) of water, water year October 1967 to September 1968
(Continuous ethyl alcohol-actuated thermograph)

MONTH	DAY 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	AVERAGE
OCTOBER																																
MAXIMUM	12	15	15	16	15	13	11	9	9	8	8	7	8	9	9	11	10	9	8	7	7	8	9	10	8	6	5	4	3	3	4	9
MINIMUM	9	12	13	13	13	11	9	9	8	8	7	6	7	8	9	9	9	8	7	7	6	5	7	9	6	4	4	3	3	3	3	8
NOVEMBER																																
MAXIMUM	4	4	4	3	2	1	1	1	1	2	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	1
MINIMUM	4	4	3	2	1	1	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	1
DECEMBER																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JANUARY																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEBRUARY																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	0
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	0
MARCH																																
MAXIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	6	6	6	1
MINIMUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	0
APRIL																																
MAXIMUM	5	5	4	3	4	4	7	6	6	7	8	12	11	7	7	8	8	7	8	7	6	6	6	5	3	4	7	7	8	8	--	6
MINIMUM	2	3	3	1	0	1	3	4	3	4	4	7	7	4	3	6	7	6	5	6	5	4	5	3	2	1	3	6	6	6	--	4
MAY																																
MAXIMUM	11	12	11	8	9	8	8	11	10	11	12	11	14	16	16	15	11	11	11	12	12	12	11	11	11	11	9	9	8	11	13	11
MINIMUM	6	9	8	6	5	6	6	7	9	8	8	9	8	11	9	10	8	9	9	10	9	9	8	7	9	10	9	8	8	8	10	8
JUNE																																
MAXIMUM	15	15	16	18	21	22	22	22	22	21	21	18	16	16	16	15	16	16	17	16	14	15	15	14	14	13	10	12	14	16	--	17
MINIMUM	12	13	12	14	18	19	19	20	20	19	18	16	13	14	13	13	13	14	13	13	12	11	14	13	13	10	9	9	11	14	--	14
JULY																																
MAXIMUM	16	16	14	16	17	16	17	19	19	18	19	19	19	19	20	22	26	19	21	21	21	21	21	19	20	20	20	19	17	18	18	19
MINIMUM	15	14	12	13	14	14	16	16	17	15	16	18	17	17	17	19	21	16	19	18	19	19	18	17	17	18	18	16	15	15	17	17
AUGUST																																
MAXIMUM	18	19	21	22	21	22	22	23	23	20	19	18	20	20	18	21	21	18	19	21	21	23	26	24	22	21	17	18	18	18	18	20
MINIMUM	16	16	18	19	21	19	20	16	20	18	16	16	17	17	17	21	18	16	16	18	21	19	19	22	21	16	13	14	16	16	14	18
SEPTEMBER																																
MAXIMUM	17	14	16	17	16	16	13	12	12	12	12	18	13	14	15	16	16	15	16	19	--	--	--	--	--	--	13	12	13	13	--	15
MINIMUM	14	14	14	16	14	13	12	12	12	12	11	12	12	13	13	14	15	15	14	13	--	--	--	--	--	--	11	11	11	11	--	13

Instantaneous Suspended Sediment, water year October 1967 to September 1968

Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)	Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)
Oct. 2, 1967	1715	67	6	1	Nov. 10, 1967	1930	108	9	3
Oct. 4, 1967	1715	67	10	2	Nov. 12, 1967	2000	104	6	2
Oct. 6, 1967	1705	64	4	1	Nov. 14, 1967	1900	96	10	3
Oct. 8, 1967	1700	126	5	2	Nov. 16, 1967	1700	92	8	2
Oct. 10, 1967	1910	229	6	4	Nov. 18, 1967	1930	90	10	2
Oct. 12, 1967	1900	191	2	1	Nov. 20, 1967	2130	90	1	T
Oct. 14, 1967	1705	178	1	T	Nov. 22, 1967	1645	86	1	T
Oct. 16, 1967	1730	172	1	T	Nov. 24, 1967	1650	80	1	T
Oct. 18, 1967	1810	135	1	T	Nov. 26, 1967	1700	74	1	T
Oct. 20, 1967	1905	121	1	T	Nov. 28, 1967	1645	68	1	T
Oct. 22, 1967	1745	117	1	T	Nov. 30, 1967	1700	64	2	T
Oct. 24, 1967	1800	117	8	3	Dec. 2, 1967	1640	64	1	T
Oct. 26, 1967	1645	386	1	1	Dec. 4, 1967	1800	66	12	2
Oct. 27, 1967	1705	420	2	2	Dec. 6, 1967	0745	64	12	2
Oct. 28, 1967	1445	394	1	1	Apr. 5, 1968	1700	138	2	1
Oct. 29, 1967	1805	354	4	4	Apr. 27, 1968	1505	319	2	2
Oct. 31, 1967	1755	308	4	3	Aug. 16, 1968	1345	63	1	T
Nov. 2, 1967	1730	264	4	3	Sept. 11, 1968	1445	659	1	T
Nov. 4, 1967	1630	210	4	2	Sept. 20, 1968	1130	308	0	0
Nov. 6, 1967	1740	156	14	6	Oct. 17, 1968	1540	131	0	0
Nov. 8, 1967	1840	124	11	4					

T Less than 0.50 ton.

Instantaneous Suspended Sediment, water year October 1967 to September 1968

Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)	Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)
STREAMS TRIBUTARY TO LAKE SUPERIOR									
4-0255. BOIS BRULE RIVER AT BRULE, WIS. (LAT 46°32'15" LONG 91°35'45")									
Oct. 1, 1967	1200	125	7	2	May 14, 1968	1330	208	15	8
Oct. 27, 1967	0910	133	8	3	May 14, 1968	1345	208	12	7
Mar. 28, 1968	1100	218	16	9	May 14, 1968	1400	208	18	10
Apr. 11, 1968	1110	202	5	3	June 17, 1968	2045	202	4	2
May 14, 1968	1200	208	10	6	July 22, 1968	1400	190	8	4
4-0263. SIOUX RIVER NEAR WASHBURN, WIS. (LAT 46°41'20" LONG 90°57'04")									
Mar. 28, 1968	1415	40	62	7	June 18, 1968	1115	10	4	T
Apr. 11, 1968	0745	22	12	1	July 22, 1968	1730	8.4	2	T
May 14, 1968	1800	12	6	T	Aug. 28, 1968	1420	7.9	4	T
4-0270. BAD RIVER NEAR ODANAH, WIS. (LAT 46°29'15" LONG 90°41'45")									
Mar. 28, 1968	1300	2520	430	2930	May 15, 1968	1515	635	23	39
May 15, 1968	1115	635	51	87					
STREAMS TRIBUTARY TO LAKE MICHIGAN									
4-0610. BRULE RIVER NEAR FLORENCE, WIS. (LAT 45°57'31" LONG 88°15'57")									
Oct. 5, 1967	0930	191	8	4	Oct. 17, 1967	0900	162	7	3
Oct. 9, 1967	0900	219	16	10	Oct. 25, 1967	0830	216	28	16
4-0635.9. SOUTH BRANCH PINE RIVER NEAR ALVIN, WIS. (LAT 45°53'45" LONG 88°49'55")									
Apr. 5, 1968	1510	71.6	8	2					
4-0635.92. NORTH BRANCH PINE RIVER NEAR ALVIN, WIS. (LAT 45°55'44" LONG 88°51'38")									
Apr. 5, 1968	1430	29.7	1	T					
4-0636. PINE RIVER NEAR TIPLER, WIS. (LAT 45°53'37" LONG 88°33'30")									
Apr.5, 1968	1220	230	2	1					
4-0636.8. NORTH BRANCH POPPLE RIVER NEAR FENCE, WIS. (LAT 45°45' LONG 88°27')									
Apr. 5, 1968	0900	103	5	1					
4-0636.9. SOUTH BRANCH POPPLE RIVER NEAR FENCE, WIS. (LAT 45°45' LONG 88°27')									
Apr. 5, 1968	0930	28	1	T					
4-0665. PIKE RIVER AT AMBERG, WIS. (LAT 45°29'50" LONG 88°27'50")									
Oct. 9, 1967	1130	140	4	2					
4-0727.50. LAWRENCE CREEK NEAR WESTFIELD, WIS. (LAT 43°53'52" LONG 89°34'52")									
Nov. 1, 1967	1330	16	42	2	Feb. 5, 1968	0815	12	16	1
Nov. 6, 1967	0930	15	47	2	Feb. 12, 1968	0820	16	16	1
Nov. 13, 1967	0750	15	53	2	Feb. 13, 1968	1045	16	6	T
Nov. 20, 1967	0800	16	47	2	Feb. 19, 1968	0745	16	17	1
Nov. 27, 1967	0750	15	59	2	Feb. 26, 1968	0800	15	7	T
Nov. 29, 1967	1240	15	18	1	Mar. 4, 1968	0800	15	8	T
Dec. 4, 1967	0750	15	55	2	Mar. 11, 1968	0815	15	6	T
Dec. 11, 1967	1105	16	62	3	Mar. 18, 1968	0800	15	17	1
Dec. 18, 1967	0930	15	60	2	Mar. 25, 1968	0805	15	12	T
Dec. 26, 1967	1045	15	50	2	Apr. 1, 1968	0805	15	12	T
Jan. 2, 1968	0815	14	39	1	Apr. 4, 1968	0730	18	73	4
Jan. 8, 1968	0830	14	18	1	Apr. 6, 1968	1000	15	17	1
Jan. 8, 1968	1030	14	15	1	Apr. 8, 1968	0754	16	11	T
Jan. 15, 1968	0815	12	15	T	Apr. 15, 1968	0750	16	6	T
Jan. 22, 1968	0815	13	14	T	Apr. 17, 1968	1155	25	10	1
Jan. 29, 1968	0820	13	46	2	Apr. 22, 1968	0748	16	10	T

T Less than 0.50 ton.

Instantaneous Suspended Sediment, water year October 1967 to September 1968--Continued

Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)	Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)
STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued									
4-0727.50. LAWRENCE CREEK NEAR WESTFIELD, WIS. (LAT 43°53'52" LONG 89°34'52")--Continued									
Apr. 29, 1968	0755	16	6	T	July 17, 1968	1430	26	200	14
May 13, 1968	0805	15	7	T	July 20, 1968	1210	16	8	T
May 13, 1968	1315	15	17	1	July 22, 1968	0815	16	14	T
May 14, 1968	0735	17	8	T	July 29, 1968	0810	16	14	T
May 16, 1968	0810	22	6	T	Aug. 5, 1968	0820	18	7	T
May 20, 1968	0815	16	4	T	Aug. 12, 1968	0945	16	6	T
June 3, 1968	0805	15	6	T	Aug. 19, 1968	0810	17	5	T
June 10, 1968	0800	15	23	1	Aug. 22, 1968	1450	16	1	T
June 17, 1968	0815	15	19	1	Aug. 26, 1968	0805	16	4	T
June 21, 1968	1020	22	8	T	Sept. 3, 1968	0805	17	3	T
June 24, 1968	0820	16	12	1	Sept. 9, 1968	0800	34	26	2
June 26, 1968	1105	36	56	5	Sept. 9, 1968	1020	29	5	T
July 1, 1968	0805	16	17	1	Sept.16, 1968	0755	17	15	1
July 8, 1968	0810	16	19	1	Sept.23, 1968	0755	17	8	T
July 15, 1968	0820	16	11	T	Sept.30, 1968	0810	17	4	T
4-0730.50. GRAND RIVER NEAR KINGSTON, WIS. (LAT 43°41'09" LONG 89°05'09")									
Apr. 25, 1968	1105	62	78	13	Aug. 27, 1968	1200	55	11	2
July 9, 1968	1100	21	26	2	Sept. 20, 1968	1500	19	38	2
Aug. 20, 1968	1300	25	38	3					
4-0735. FOX RIVER AT BERLIN, WIS. (LAT 43°57'15" LONG 88°57'10")									
Apr. 18, 1968	1300	1100	38	113					
4-0800. LITTLE WOLF RIVER AT ROYALTON, WIS. (LAT 44°24'45" LONG 88°51'55")									
May 23, 1968	1600	676	10	18	Aug. 22, 1968	1330	262	2	1
June 18, 1968	1545	280	8	6	Sept. 18, 1968	1140	322	2	2
July 24, 1968	1150	344	6	6					
4-0852. KEWAUNEE RIVER NEAR KEWAUNEE, WIS. (LAT 44°27'30" LONG 87°33'23")									
Apr. 17, 1968	1040	95	36	9	Aug. 20, 1968	1145	31	9	1
May 20, 1968	1150	68	16	3	Aug. 21, 1968	1245	29	30	2
June 14, 1968	1315	41	2	T	Sept. 16, 1968	1030	20	36	2
July 23, 1968	1130	29	26	2					
4-0860. SHEBOYGAN RIVER NEAR SHEBOYGAN, WIS. (LAT 43°44'25" LONG 87°45'35")									
Oct. 9, 1968	0815	34	50	5	Sept. 18, 1968	1520	46	9	1
Oct. 13, 1968	1500	45	60	7					
4-0862. EAST BRANCH MILWAUKEE RIVER NEAR NEW FANE, WIS. (LAT 43°33'01" LONG 88°11'18")									
July 15, 1968	1600	20	5	T	Sept. 23, 1968	1300	11	2	T
Aug. 23, 1968	1000	7.9	4	T					
4-0863.4. NORTH BRANCH MILWAUKEE RIVER NEAR FILLMORE, WIS. (LAT 43°28'58" LONG 88°03'39")									
Aug. 27, 1968	1000	16	102	4	Sept. 23, 1968	1720	40	36	4
Sept. 21, 1968	1100	87	114	27					
4-0863.6. MILWAUKEE RIVER AT WAUBEKA, WIS. (LAT 43°28'22" LONG 87°59'23")									
July 15, 1968	1200	114	7	2	Sept. 23, 1968	1430	112	6	2
4-0865. CEDAR CREEK NEAR CEDARBURG, WIS. (LAT 43°19'25" LONG 87°58'50")									
Apr. 23, 1968	1610	199	75	40	July 16, 1968	1200	16	14	1
Apr. 24, 1968	1150	290	68	53	Aug. 27, 1968	1700	12	3	T
June 7, 1968	1345	30	38	3	Sept. 16, 1968	1600	7.2	2	T
4-0870. MILWAUKEE RIVER AT MILWAUKEE, WIS. (LAT 43°06'00" LONG 87°54'30")									
Aug. 24, 1968	1000	158	45	19	Sept. 24, 1968	1600	313	32	27
4-0871.2. MENOMONEE RIVER AT WAUWATOSA, WIS. (LAT 43°02'44" LONG 87°59'59")									
Sept. 24, 1968	1800	228	485	299					
4-0872.4. ROOT RIVER AT RACINE, WIS. (LAT 42°45'05" LONG 87°49'25")									
May 17, 1968	1540	118	36	11	July 18, 1968	1245	143	160	62
June 19, 1968	1110	51	74	10	Aug. 21, 1968	1410	63	98	17

T Less than 0.50 ton.

The following table contains a series of periodic specific conductance measurements obtained as part of water-resources investigations at stream gaging stations in Wisconsin. The purpose of these measurements is to determine the range in specific conductance under various streamflow conditions.

Specific conductance (micromhos at 25°C), December 1966 to September 1968

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
STREAMS TRIBUTARY TO LAKE SUPERIOR							
4-0255. BOIS BRULE RIVER AT BRULE, WIS. (LAT 46°32'15" LONG 91°35'45")							
Dec. 8, 1966	0	140	118	Dec. 6, 1967	1	132	120
Jan. 10, 1967	0	146	60	Jan. 11, 1968	0	124	100
Feb. 14, 1967	0	125	100	Feb. 7, 1968	0	114	100
Mar. 22, 1967	3	137	140	Mar. 14, 1968	0	134	120
Apr. 29, 1967	9	194	100	Apr. 11, 1968	8	208	120
Sept.27, 1967	9	125	120	May 14, 1968	12	213	105
Nov. 2, 1967	4	140	110	July 22, 1968	20	204	100
4-0270. BAD RIVER NEAR ODANAH, WIS. (LAT 46°29'15" LONG 90°41'45")							
Dec. 7, 1966	0	284	118	Jan. 10, 1968	0	90.2	260
Jan. 11, 1967	0	209	90	Feb. 6, 1968	0	119	240
Mar. 23, 1967	0	193	150	Mar. 13, 1968	0	184	130
Apr. 14, 1967	6	2,290	75	Apr. 10, 1968	6	1,410	100
May 2, 1967	7	1,250	80	May 15, 1968	16	652	105
May 25, 1967	13	421	100	July 23, 1968	20	279	130
Dec. 5, 1967	0	218	120				
4-0275. WHITE RIVER NEAR ASHLAND, WIS. (LAT 46°29'50" LONG 90°54'15")							
Dec. 8, 1966	1	146	170	Jan. 11, 1968	0	167	140
Jan. 11, 1967	0	300	180	Feb. 6, 1968	0	328	140
Feb. 15, 1967	0	159	50	Feb. 14, 1968	0	165	180
Mar. 23, 1967	0	171	190	Mar. 12, 1968	1	160	130
Apr. 30, 1967	7	161	155	Apr. 10, 1968	9	412	135
Sept.26, 1967	13	160	180	May 15, 1968	14	171	165
Oct. 31, 1967	4	154	175	July 24, 1968	20	160	180
Dec. 4, 1967	0	152	170				
4-0300. MONTREAL RIVER NEAR SAXON, WIS. (LAT 46°32'45" LONG 90°24'05")							
Dec. 7, 1966	1	198	75	Nov. 1, 1967	4	695	75
Jan. 12, 1967	0	193	120	Dec. 5, 1967	1	212	100
Feb. 16, 1967	0	121	50	Jan. 10, 1968	0	246	90
Mar. 24, 1967	0	171	120	Feb. 6, 1968	0	191	95
May 1, 1967	8	718	80	Mar. 12, 1968	0	235	100
July 26, 1967	22	297	100	Apr. 10, 1968	10	598	140
Aug. 24, 1967	18	177	80	May 15, 1968	15	255	90
Sept.26, 1967	14	200	80	July 23, 1968	22	180	90
STREAMS TRIBUTARY TO LAKE MICHIGAN							
4-0637. POPPLE RIVER NEAR FENCE, WIS. (LAT 45°45'50" LONG 88°27'50")							
Dec. 7, 1966	0	63.4	180	Feb. 23, 1968	0	38.6	140
Aug. 1, 1967	14	-	158	Apr. 16, 1968	8	205	80
Sept.20, 1967	17	-	105	Apr. 29, 1968	7	227	80
Oct. 11, 1967	7	193	110	June 10, 1968	19	-	140
4-0660. MENOMINEE RIVER NEAR PEMBINE, WIS. (LAT 45°35'25" LONG 87°46'35")							
Jan. 6, 1967	0	-	215	July 10, 1968	18	3,250	185
Apr. 19, 1967	7	16,500	115	Aug. 15, 1968	21	1,930	205
Feb. 15, 1968	0	2,460	240	Sept. 4, 1968	18	3,130	210
Apr. 8, 1968	4	2,640	220				

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued							
4-0665. PIKE RIVER AT AMBERG, WIS. (LAT 45°29'50" LONG 87°59'40")							
Dec. 6, 1966	1	135	230	Apr. 8, 1968	6	227	190
Jan. 6, 1967	0	111	240	Apr. 30, 1968	6	274	200
Sept.13, 1967	13	105	350	May 15, 1968	12	335	180
Oct. 13, 1967	7	158	220	July 9, 1968	19	285	200
Jan. 2, 1968	0	120	180	Aug. 15, 1968	15	126	240
Jan. 19, 1968	0	133	300	Sept. 3, 1968	14	204	235
Feb. 15, 1968	0	111	260				
4-0695. PESHTIGO RIVER AT PESHTIGO, WIS. (LAT 45°02'50" LONG 87°44'40")							
Sept.13, 1967	18	494	380	Mar. 5, 1968	1	281	300
Oct. 12, 1967	10	409	270	Apr. 9, 1968	8	1,120	280
Dec. 29, 1967	1	427	380	July 11, 1968	21	854	320
Feb. 1, 1968	1	413	280	Sept.25, 1968	18	884	280
4-0710. OCONTO RIVER NEAR GILLET, WIS. (LAT 44°51'55" LONG 88°18'00")							
Dec. 5, 1966	0	362	275	Jan. 12, 1968	0	333	280
Jan. 4, 1967	0	331	275	Feb. 14, 1968	0	303	300
Apr. 18, 1967	9	2,920	150	Mar. 14, 1968	0	421	280
May 23, 1967	10	-	220	Apr. 9, 1968	7	691	220
Aug. 4, 1967	24	-	250	May 24, 1968	13	842	240
Sept.27, 1967	11	350	250	Aug. 27, 1968	19	360	255
Oct. 24, 1967	10	385	280	Sept.25, 1968	16	590	240
Dec. 20, 1967	0	406	280				
4-0735. FOX RIVER AT BERLIN, WIS. (LAT 43°57'15" LONG 88°57'10")							
Jan. 10, 1967	0	488	385	Dec. 11, 1967	1	1,030	365
Apr. 18, 1967	11	2,250	340	Jan. 23, 1968	0	521	340
June 8, 1967	20	648	360	Mar. 5, 1968	0	497	240
July 11, 1967	25	644	320	May 31, 1968	16	1,240	350
Aug. 22, 1967	20	351	300	July 5, 1968	21	1,890	360
Oct. 3, 1967	17	500	375	Aug. 2, 1968	22	771	350
Nov. 7, 1967	2	1,120	320				
4-0749.5. WOLF RIVER AT LANGLADE, WIS. (LAT 45°11'15" LONG 88°44'00")							
Dec. 6, 1966	-	331	220	Oct. 19, 1967	8	394	160
Jan. 4, 1967	0	285	215	Jan. 10, 1968	0	250	220
Feb. 7, 1967	0	268	220	Feb. 14, 1968	0	248	200
Aug. 4, 1967	20	418	160	Mar. 12, 1968	0	373	220
Sept. 6, 1967	18	330	170	Apr. 11, 1968	8	433	220
4-0752. EVERGREEN CREEK NEAR LANGLADE, WIS. (LAT 45°10'11" LONG 88°48'12")							
Jan. 10, 1968	0	11.2	300	Mar. 12, 1968	1	10.2	320
Feb. 13, 1968	0	8.36	300	Apr. 11, 1968	10	9.40	300
Feb. 14, 1968	0	-	300	May 23, 1968	7	-	290
4-0770. WOLF RIVER AT KESHENA FALLS, WIS. (LAT 44°53'30" LONG 88°39'20")							
Dec. 6, 1966	1	532	260	Feb. 12, 1968	0	474	300
Jan. 4, 1967	0	507	240	Mar. 14, 1968	0	588	260
Sept. 6, 1967	16	577	220	Apr. 10, 1968	8	709	220
Oct. 19, 1967	7	651	220	June 25, 1968	17	1,280	180
Dec. 21, 1967	1	620	300	Aug. 29, 1968	18	640	240
Jan. 11, 1968	0	446	200	Sept.24, 1968	18	1,050	240
4-0785. EMBARRASS RIVER NEAR EMBARRASS, WIS. (LAT 44°43'30" LONG 88°44'10")							
Dec. 5, 1966	0	97.2	400	Dec. 21, 1967	1	173	440
Jan. 3, 1967	0	106	420	Jan. 11, 1968	0	89.9	460
Mar. 28, 1967	1	-	140	Mar. 13, 1968	0	327	260
May 23, 1967	11	-	320	Apr. 10, 1968	7	359	320
Aug. 4, 1967	23	-	385	June 25, 1968	17	756	200
Sept. 5, 1967	20	106	380	Sept.24, 1968	18	323	320
Oct. 24, 1967	9	134	380				

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued							
4-0790. WOLF RIVER AT NEW LONDON, WIS. (LAT 44°23'30" LONG 88°44'25")							
Jan. 11, 1967	0	831	160	Dec. 11, 1967	1		305
Apr. 19, 1967	11	4,660	240	Jan. 24, 1968	0	707	325
June 7, 1967	21	1,050	280	Mar. 6, 1968	0	632	320
July 12, 1967	23	2,740	295	May 22, 1968	13	2,960	260
Aug. 23, 1967	18	916	290	June 18, 1968	19	1,960	290
Oct. 4, 1967	15	850	300	July 24, 1968	22	2,200	280
Nov. 7, 1967	2	2,010	295	Aug. 22, 1968	24	1,270	345
4-0800. LITTLE WOLF AT ROYALTON, WIS. (LAT 44°24'45" LONG 88°51'55")							
Jan. 11, 1967	0	199	265	Dec. 11, 1967	2	251	390
Apr. 18, 1967	12	1,210	300	Jan. 23, 1968	0	242	140
May 23, 1967	12	-	360	Mar. 5, 1968	0	185	400
June 6, 1967	21	207	395	May 22, 1968	14	868	260
July 11, 1967	24	365	360	June 18, 1968	19	280	345
Aug. 22, 1967	19	181	395	July 24, 1968	22	344	340
Oct. 3, 1967	16	173	400	Aug. 22, 1968	25	262	375
Nov. 7, 1967	3	270	355				
4-0852. KEWAUNEE RIVER NEAR KEWAUNEE, WIS. (LAT 44°27'30" LONG 87°33'23")							
Feb. 14, 1967	0	14.4	640	Jan. 16, 1968	0	16.7	600
Mar. 8, 1967	0	12.2	630	Mar. 26, 1968	8	58.0	540
June 13, 1967	19	948	300	Apr. 17, 1968	9	98.2	580
Aug. 15, 1967	24	11.0	435	May 20, 1968	13	70.6	665
Sept.19, 1967	21	11.8	500	June 17, 1968	19	28.6	570
Oct. 17, 1967	12	30.6	580	July 23, 1968	20	28.8	545
Nov. 14, 1967	4	38.6	610	Aug. 20, 1968	23	30.8	540
Dec. 19, 1967	1	39.0	585				
4-0860. SHEBOYGAN RIVER AT SHEBOYGAN, WIS. (LAT 43°44'25" LONG 87°45'35")							
Dec. 14, 1966	2	72.6	620	Nov. 15, 1967	2	121	610
Jan. 10, 1967	0	65.3	660	Jan. 9, 1968	0	33.0	910
Feb. 15, 1967	0	117	710	Feb. 15, 1968	0	60.4	850
Mar. 10, 1967	1	149	600	Mar. 20, 1968	1	190	440
Mar. 22, 1967	1	220	580	Apr. 25, 1968	5	893	595
Mar. 29, 1967	3	934	430	June 6, 1968	24	109	600
July 7, 1967	18	99.7	625	July 12, 1968	22	194	600
Aug. 8, 1967	23	39.6	590	Aug. 22, 1968	29	42.9	610
Sept.13, 1967	19	35.5	580	Sept.18, 1968	19	46.2	410
Oct. 11, 1967	9	46.2	700				
4-0865. CEDAR CREEK NEAR CEDARBERG, WIS. (LAT 43°19'25" LONG 87°58'50")							
Dec. 14, 1966	2	33.9	625	Oct. 20, 1967	8	10.8	750
Jan. 11, 1967	0	25.8	150	Nov. 15, 1967	1	32.2	780
Feb. 15, 1967	0	37.0	650	Feb. 15, 1968	0	14.2	570
Mar. 29, 1967	3	213	580	Mar. 13, 1968	0	19.9	510
Apr. 25, 1967	11	85.2	540	Apr. 23, 1968	12	194	630
July 7, 1967	19	22.8	600	Apr. 24, 1968	6	279	710
Aug. 8, 1967	23	14.4	570	June 7, 1968	28	30.1	640
Sept.18, 1967	18	7.81	600	July 16, 1968	27	15.6	600
Oct. 11, 1967	7	9.29	720	Aug. 27, 1968	22	12.4	1,200
Oct. 12, 1967	5	9.44	700	Sept.16, 1968	22	7.24	900
4-0870. MILWAUKEE RIVER AT MILWAUKEE, WIS. (LAT 43°06'00" LONG 87°54'30")							
Dec. 6, 1966	1	181	1,250	Feb. 16, 1968	0	106	760
Feb. 7, 1967	0	278	700	Mar. 25, 1968	7	217	510
Mar. 14, 1967	1	806	470	Apr. 25, 1968	8	1,510	640
June 6, 1967	21	177	600	June 10, 1968	26	164	590
Aug. 11, 1967	20	100	580	July 16, 1968	27	154	630
Sept.12, 1967	19	66.1	640	July 30, 1968	24	144	650
Oct. 12, 1967	9	104	750	Aug. 24, 1968	28	158	420
Nov. 16, 1967	3	264	690	Sept.24, 1968	21	314	480

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued

4-0871.2. MENOMONEE RIVER AT WAUWATOSA, WIS. (LAT 43°02'44" LONG 87°59'59")

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
Dec. 6, 1966	3	61.5	1,600	Jan. 8, 1968	0	5.15	890
Jan. 6, 1967	2	18.3	3,000	Feb. 16, 1968	0	12.6	1,400
Jan. 17, 1967	0	11.8	2,150	Mar. 25, 1968	9	17.1	1,420
Feb. 24, 1967	0	19.3	1,500	Apr. 26, 1968	6	140	1,300
Mar. 14, 1967	2	71.1	1,150	June 10, 1968	23	54.7	600
Apr. 17, 1967	12	58.9	1,100	June 26, 1968	14	1,130	590
Apr. 25, 1967	8	49.6	1,150	June 26, 1968	14	1,040	590
Aug. 11, 1967	17	17.6	880	July 17, 1968	25	27.3	1,175
Sept.12, 1967	17	11.4	950	July 30, 1968	23	22.1	1,050
Oct. 12, 1967	9	12.6	1,050	Aug. 24, 1968	25	28.3	800
Nov. 2, 1967	9	293	680	Sept.24, 1968	20	229	620
Nov. 15, 1967	2	22.4	1,250				

4-0872.04. OAK CREEK AT SOUTH MILWAUKEE, WIS. (LAT 42°55'30" LONG 87°52'15")

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
Dec. 7, 1966	3	13.4	1,260	Oct. 5, 1967	17	1.76	1,500
Jan. 6, 1967	3	2.70	1,600	Nov. 7, 1967	1	4.96	1,500
Jan. 20, 1967	3	3.49	1,700	Dec. 19, 1967	3	4.90	1,690
Feb. 9, 1967	3	5.36	1,800	Jan. 23, 1968	0	2.74	1,200
Feb. 23, 1967	3	5.26	1,900	Mar. 13, 1968	1	2.00	1,800
Mar. 16, 1967	1	25.4	1,100	Apr. 10, 1968	13	3.25	1,800
Apr. 17, 1967	12	13.1	1,300	May 6, 1968	15	8.84	1,275
Apr. 25, 1967	8	20.6	1,150	June 18, 1968	17	19.5	290
June 5, 1967	19	2.51	1,400	June 27, 1968	14	439	390
July 18, 1967	22	3.69	1,450	July 17, 1968	23	4.16	1,500
Aug. 3, 1967	23	2.46	1,500	Aug. 21, 1968	29	6.69	1,600
Aug. 31, 1967	18	3.09	1,250				

4-0872.20. ROOT RIVER NEAR FRANKLIN, WIS. (LAT 42°52'25" LONG 87°59'45")

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
Dec. 7, 1966	1	41.9	1,680	Aug. 31, 1967	17	9.88	950
Jan. 6, 1967	2	7.49	1,000	Oct. 5, 1967	18	6.73	875
Jan. 20, 1967	0	5.06	764	Nov. 8, 1967	1	13.2	1,200
Feb. 9, 1967	3	15.3	1,100	Dec. 18, 1967	3	16.0	1,120
Feb. 23, 1967	2	11.8	1,600	Jan. 23, 1968	1	8.42	1,600
Mar. 14, 1967	1	79.3	875	Mar. 14, 1968	4	8.43	1,100
Mar. 16, 1967	2	-	980	Apr. 10, 1968	12	12.6	1,200
Apr. 14, 1967	14	33.1	1,020	May 17, 1968	14	43.8	750
Apr. 25, 1967	10	42.8	975	June 19, 1968	20	163	480
June 5, 1967	20	11.2	975	July 17, 1968	28	9.29	990
June 13, 1967	23	294	700	July 30, 1968	23	15.9	950
July 19, 1967	19	10.3	950	Aug. 20, 1968	24	58.9	900
Aug. 3, 1967	24	12.8	920				

4-0872.33. ROOT RIVER CANAL NEAR FRANKLIN, WIS. (LAT 42°48'55" LONG 87°59'40")

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
Jan. 6, 1967	2	3.20	1,200	Sept. 1, 1967	14	2.31	1,200
Jan. 20, 1967	0	2.21	955	Oct. 5, 1967	17	1.60	1,300
Feb. 9, 1967	0	15.0	1,050	Nov. 8, 1967	1	10.1	1,175
Feb. 23, 1967	0	8.93	1,100	Dec. 19, 1967	0	7.47	1,125
Mar. 17, 1967	1	64.0	800	Jan. 24, 1968	0	5.17	1,110
Apr. 14, 1967	12	42.0	850	Mar. 14, 1968	0	3.60	1,200
Apr. 25, 1967	8	62.6	850	Apr. 10, 1968	12	9.85	1,120
May 18, 1967	9	28.3	860	May 17, 1968	12	12.0	1,150
June 5, 1967	19	6.91	850	June 19, 1968	18	14.3	850
June 13, 1967	25	557	620	June 27, 1968	14	330	690
June 27, 1967	17	24.2	875	July 18, 1968	23	20.9	960
July 19, 1967	19	5.93	1,040	Aug. 20, 1968	26	12.5	960
Aug. 3, 1967	22	3.58	1,040				

4-0872.40. ROOT RIVER AT RACINE, WIS. (LAT 42°45'05" LONG 87°49'25")

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
Dec. 1, 1966	0	34.2	750	Oct. 5, 1967	17	9.26	1,000
Jan. 6, 1967	2	16.3	1,100	Nov. 7, 1967	0	51.0	1,025
Feb. 10, 1967	0	47.0	1,150	Dec. 19, 1967	1	27.9	1,030
Mar. 15, 1967	0	352	650	Jan. 23, 1968	0	25.9	725
Mar. 16, 1967	0	-	690	Mar. 13, 1968	0	26.6	960
Apr. 14, 1967	11	129	825	Apr. 9, 1968	13	49.8	1,050
Apr. 26, 1967	8	194	825	May 17, 1968	16	118	1,000
May 17, 1967	18	82.9	860	June 19, 1968	17	50.6	950
June 5, 1967	22	24.8	950	June 20, 1968	18	166	820
June 27, 1967	21	86.1	925	July 18, 1968	24	158	740
Aug. 4, 1967	23	20.6	850	Aug. 21, 1968	30	63.2	900
Sept. 1, 1967	19	21.2	900				

WISCONSIN RIVER BASIN

5-4010.2. TENMILE CREEK DITCH 5, NEAR BANCROFT, WIS.

LOCATION.--Lat 44°18'08", long 89°32'59", temperature recorder at gaging station at bridge on county road, 1.2 miles west of U. S. Highway 51, and 1.8 miles southwest of Bancroft.
DRAINAGE AREA.--8.8 square miles, approximately.
RECORDS AVAILABLE.--Water temperatures: June 1965 to September 1968.
EXTREMES, 1967-68.--Water temperatures: Maximum, 19°C Aug. 22, 23; minimum, 1°C Jan. 4-12, Jan. 25, 26, Feb. 20, 21.
EXTREMES, 1965-68.--Water temperatures: Maximum, 22°C July 10, 1966; minimum, freezing point on many days during winter months in 1965-67.

Temperature (°F) of water, water year October 1967 to September 1968
(Continuous ethyl alcohol-actuated thermograph)

MONTH	DAY 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	AVERAGE
OCTOBER																																
MAXIMUM	12	12	12	14	13	11	9	9	9	8	8	8	10	10	9	10	9	9	8	7	7	9	12	12	8	7	7	7	7	8	8	9
MINIMUM	9	11	12	11	10	9	8	9	8	7	7	6	8	8	9	8	8	7	6	7	6	6	9	8	7	6	6	5	6	7	7	8
NOVEMBER																																
MAXIMUM	8	8	7	6	5	8	8	8	9	9	9	9	6	5	4	6	6	6	5	5	6	6	5	6	6	6	4	3	3	4	--	6
MINIMUM	8	7	6	5	4	7	7	6	8	6	8	6	5	4	3	3	6	5	4	4	5	4	5	5	6	4	3	3	3	3	--	5
DECEMBER																																
MAXIMUM	4	6	6	4	6	6	6	6	7	6	6	6	6	4	3	3	5	4	3	5	6	2	2	2	2	2	2	2	2	2	2	4
MINIMUM	4	4	4	4	4	6	4	6	5	5	6	6	4	3	3	3	3	2	2	3	2	2	2	2	2	2	2	2	2	2	2	3
JANUARY																																
MAXIMUM	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2	3	4	4	4	4	4	4	2	2	3	3	4	4	3	4	3
MINIMUM	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	4	2	2	1	1	3	3	3	2	3	2
FEBRUARY																																
MAXIMUM	4	4	2	4	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	3	2	--	--	2
MINIMUM	4	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	--	--	2
MARCH																																
MAXIMUM	3	3	2	4	2	3	5	6	5	5	5	4	4	4	6	7	7	7	9	8	4	4	5	8	9	9	10	11	10	10	10	6
MINIMUM	2	2	2	2	2	2	3	4	5	4	4	3	2	3	4	5	5	7	7	4	3	3	2	3	6	6	8	7	7	6	7	4
APRIL																																
MAXIMUM	8	9	8	7	8	9	8	8	10	9	11	13	12	8	11	11	10	11	11	9	12	12	11	8	8	12	12	10	12	12	--	10
MINIMUM	4	5	6	4	2	5	7	7	6	6	6	9	10	6	4	7	9	8	8	8	8	8	9	5	4	6	7	7	7	7	--	7
MAY																																
MAXIMUM	14	14	13	10	12	11	12	13	12	14	13	14	16	15	17	16	12	11	12	11	12	11	12	13	12	10	9	9	9	12	13	12
MINIMUM	7	8	9	8	6	7	7	9	9	8	9	11	9	12	11	9	8	9	8	9	8	8	9	9	9	9	9	9	9	9	9	9
JUNE																																
MAXIMUM	15	16	16	17	18	18	18	18	18	18	17	16	14	16	14	14	16	14	16	14	16	17	16	14	13	11	11	10	13	14	--	15
MINIMUM	11	11	11	12	13	13	14	14	14	14	14	12	9	12	11	11	11	12	11	11	12	12	12	13	11	11	10	9	9	11	--	12
JULY																																
MAXIMUM	14	13	14	13	14	16	14	17	16	14	16	14	17	16	18	18	17	17	14	14	17	15	14	14	14	13	16	14	14	16	15	15
MINIMUM	11	11	9	11	11	11	12	12	13	11	11	12	12	14	13	14	15	14	12	11	12	12	11	11	11	11	12	11	10	12	14	12
AUGUST																																
MAXIMUM	14	16	16	16	17	16	17	16	15	14	14	14	16	14	13	17	16	14	17	17	18	19	19	18	14	13	13	14	14	14	13	15
MINIMUM	11	11	13	13	14	14	13	13	13	12	10	11	12	12	11	13	13	12	13	13	14	16	16	14	12	11	9	10	11	11	12	12
SEPTEMBER																																
MAXIMUM	13	13	15	14	13	12	11	13	13	12	14	12	13	13	13	13	13	12	12	12	13	13	13	13	12	12	11	11	11	12	--	13
MINIMUM	12	11	11	13	11	11	11	11	12	11	9	10	11	11	11	12	12	12	11	11	10	12	12	12	9	10	9	9	9	9	--	11

GPO 817-102-13

5-4305. ROCK RIVER AT AFTON, WIS.

LOCATION.--Lat 42°36'40", long 89°04'10", temperature recorder at gaging station on right bank in Afton, Rock County, 0.3 mile downstream from highway bridge, and 0.8 mile upstream from Bass Creek.
DRAINAGE AREA.--3,300 square miles, approximately.
RECORDS AVAILABLE.--Water temperatures: September 1954 to September 1968.
EXTREMES, 1967-68.--Water temperatures: Maximum, 29°C Aug. 23; minimum, freezing point Jan. 7-18.
EXTREMES, 1954-68.--Water temperatures: Maximum, 32°C July 27-30, Aug. 4, 1955, July 26, 28, 1964; minimum, freezing point on many days during winter months.
REMARKS.--No temperature record Oct. 4, Oct. 30 to Nov. 9, Mar. 28 to Apr. 4.

Temperature (°C) of water, water year October 1967 to September 1968
(Continuous ethyl alcohol-actuated thermograph)

DAY

MONTH	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	AVERAGE
OCTOBER																																
MAXIMUM	18	20	20	--	18	17	16	16	15	14	14	14	14	14	14	14	15	14	14	14	13	14	14	14	14	12	12	11	11	--	--	15
MINIMUM	16	17	18	--	17	16	16	15	14	13	12	12	13	13	13	13	13	13	13	13	12	12	12	14	12	12	12	11	10	--	--	13
NOVEMBER																																
MAXIMUM	--	--	--	--	--	--	--	--	--	3	4	5	5	5	4	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	--	--
MINIMUM	--	--	--	--	--	--	--	--	--	2	3	4	4	4	3	3	3	3	3	3	3	3	2	2	2	2	2	1	2	2	--	--
DECEMBER																																
MAXIMUM	2	2	2	2	2	2	3	3	3	3	3	3	3	2	2	2	2	2	2	3	3	2	1	1	1	1	1	1	1	1	1	2
MINIMUM	2	2	1	2	2	2	2	3	3	3	3	3	2	2	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2
JANUARY																																
MAXIMUM	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	3	3	2	2	2	2	2	2	2	2	1
MINIMUM	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	1	1	2	2	2	1	1	1
FEBRUARY																																
MAXIMUM	2	3	3	3	3	3	2	3	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	--	--	2
MINIMUM	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	--	--	2
MARCH																																
MAXIMUM	4	3	4	5	5	6	6	6	6	6	7	6	6	6	7	8	9	8	9	9	8	7	7	8	9	11	12	--	--	--	--	7
MINIMUM	2	3	2	3	3	3	3	4	5	5	4	4	3	4	4	5	6	7	8	8	7	6	4	4	6	8	10	--	--	--	--	5
APRIL																																
MAXIMUM	--	--	--	--	10	10	11	10	12	12	13	14	13	13	13	13	12	12	13	13	14	16	14	13	11	11	12	12	13	14	--	12
MINIMUM	--	--	--	--	8	7	7	9	8	9	9	11	12	11	10	11	12	12	11	12	12	13	13	11	10	10	11	11	12	12	--	11
MAY																																
MAXIMUM	14	16	16	16	15	15	14	16	15	16	16	17	18	18	19	18	17	16	15	14	17	16	15	17	16	14	15	14	15	15	17	16
MINIMUM	13	13	14	14	14	13	13	14	14	14	14	14	15	17	17	16	14	14	13	13	14	14	14	14	15	13	14	14	14	14	14	14
JUNE																																
MAXIMUM	19	20	21	22	23	24	26	26	27	28	27	24	24	23	23	23	23	22	22	22	23	23	24	23	23	21	19	17	18	20	--	23
MINIMUM	16	17	18	19	20	22	23	23	24	25	24	22	19	20	20	19	19	19	19	20	20	21	22	23	21	19	16	15	17	18	--	20
JULY																																
MAXIMUM	22	21	20	21	22	23	23	22	23	23	23	24	25	26	26	27	27	27	27	27	27	27	26	25	26	26	26	26	25	24	23	25
MINIMUM	20	20	19	20	21	21	22	21	22	22	22	22	23	24	24	24	26	26	25	25	24	25	24	23	24	23	24	22	22	22	22	23
AUGUST																																
MAXIMUM	23	24	25	24	26	28	28	27	28	26	26	24	25	24	23	24	23	22	26	27	27	28	29	28	24	23	22	22	22	22	21	25
MINIMUM	20	21	21	21	23	24	24	24	24	23	22	22	21	21	21	22	21	20	21	22	23	24	24	24	22	21	19	19	19	18	19	22
SEPTEMBER																																
MAXIMUM	21	22	23	22	22	21	20	20	19	18	18	18	20	21	21	21	20	19	18	18	19	19	20	20	19	18	18	17	18	18	--	20
MINIMUM	19	18	19	20	19	19	18	18	18	17	16	16	16	17	17	18	19	18	17	17	16	18	18	18	18	17	17	16	16	16	--	18

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968

DATE	DIS-CHARGE (CFS)	SILICA (SIO2)	IRON (FE)	MAN-GANESE (MN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	CAR-BONATE (CO3)	SULFATE (SO4)	CHLO-RIDE (CL)
ST. CROIX RIVER BASIN												
05-3325.00 - NAMEKAGON RIVER NEAR TREGO, WISCONSIN (LAT 45 56 50 LONG 091 53 15)												
JUNE, 1968												
C6...	717	--	.35	.07	18	4.9	--	--	72	0	6.8	1.0
05-3335.00 - ST. CROIX RIVER NEAR DANBURY, WISCONSIN (LAT 46 04 30 LONG 092 14 50)												
JUNE, 1968												
C5...	1720	--	.27	.04	17	4.0	--	--	64	0	6.8	1.0
05-3355.00 - CLAM RIVER NR WEBSTER WISCONSIN (LAT 45 52 50 LONG 092 29 15)												
JUNE, 1968												
C6...	289	12	.35	.04	20	6.4	2.9	.6	86	4	4.4	.1
05-3405.00 - ST. CROIX RIVER AT ST. CROIX FALLS, WISCONSIN (LAT 45 24 30 LONG 092 38 45)												
JUNE, 1968												
C3...	4830	--	.50	.13	17	4.7	--	--	--	--	--	--
05-3415.00 - APPLE RIVER NEAR SOMERSET, WISCONSIN (LAT 45 09 30 LONG 092 43 00)												
JUNE, 1968												
C3...	--	--	.09	--	31	11	--	--	144	0	7.2	3.0
CHIPPEWA RIVER BASIN												
05-3417.10 - WILLOW RIVER NEAR BOARDMAN, WISCONSIN (LAT 45 03 55 LONG 092 36 52)												
JUNE, 1968												
C7...	32	12	.36	.18	34	16	5.7	1.2	183	0	6.0	2.0
05-3420.00 - KINNICKINNIC RIVER NEAR RIVER FALLS, WISCONSIN (LAT 44 49 50 LONG 092 44 00)												
JUNE, 1968												
C7...	90	13	.06	.00	51	25	3.4	.9	242	2	14	6.0
05-3553.30 - RUSH RIVER NR MAIDEN ROCK WISCONSIN (LAT 44 34 15 LONG 092 19 44)												
JUNE, 1968												
C7...	61	10	.11	.12	54	28	2.4	1.1	280	0	12	2.9
05-3560.00 - CHIPPEWA RIVER AT BISHOPS BRIDGE NR WINTER, WIS. (LAT 45 50 55 LONG 091 04 45)												
MAY , 1968												
29...	2080	--	.44	.04	8.6	1.6	--	--	22	0	8.4	1.0
05-3565.00 - CHIPPEWA RIVER NR BRUCE, WIS. (LAT 45 27 05 LONG 091 15 40)												
MAY , 1968												
28...	4940	--	.49	.08	6.7	1.8	--	--	21	0	3.6	.5
05-3585.00 - FLAMBEAU RIVER AT BABBS ISLAND NEAR WINTER, WIS (LAT 45 46 10 LONG 090 45 45)												
MAY , 1968												
29...	--	--	.50	.06	8.9	1.9	--	--	22	0	9.2	1.0
05-3595.00 - SOUTH FORK FLAMBEAU RIVER NEAR PHILLIPS, WIS (LAT 45 42 15 LONG 092 36 55)												
MAY , 1968												
29...	3160	--	.51	.06	7.3	1.8	--	--	20	0	8.8	2.0
05-3605.00 - FLAMBEAU RIVER NR BRUCE, WIS. (LAT 45 22 20 LONG 091 12 35)												
MAY , 1968												
28...	6610	--	.52	.06	8.2	1.9	--	--	24	0	9.6	.5
05-3620.00 - JUMP RIVER AT SHELDON, WISCONSIN (LAT 45 18 30 LONG 090 57 20)												
MAY , 1968												
28...	4770	--	.54	.05	8.2	1.8	--	--	20	0	8.4	1.0
05-3640.00 - YELLOW RIVER AT CADOTT, WISCONSIN (LAT 44 57 10 LONG 091 09 00)												
MAY , 1968												
28...	170	--	.56	.07	9.1	3.6	--	--	36	0	7.2	1.0

Additional parameters for above stations on page 191 and 196.

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	DIS-CHARGE (CFS)	SILICA (SIO2)	IRON (FE)	MAN-GANESE (MN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	CAR-BONATE (CO3)	SULFATE (SO4)	CHLO-RIDE (CL)
CHIPPEWA RIVER BASIN--Continued												
05-3665.00 - EAU CLAIRE RIVER NEAR FALL CREEK, WISCONSIN (LAT 44 48 35 LONG 091 16 50)												
MAY , 1968												
28...	2520	--	.83	.01	6.4	2.0	--	--	22	0	8.8	1.0
05-3674.25 - RED CEDAR RIVER NR CAMERON WISCONSIN (LAT 45 24 05 LONG 091 46 39)												
MAY , 1968												
28...	650	--	--	--	--	--	--	--	--	--	--	--
05-3680.00 - HAY RIVER AT WHEELER, WISCONSIN (LAT 45 02 50 LONG 091 54 50)												
MAY , 1968												
28...	341	--	.50	.08	35	17	--	--	176	0	12	3.0
05-3690.00 - RED CEDAR RIVER AT MENOMONIE, WIS. (LAT 44 53 00 LONG 091 55 55)												
MAY , 1968												
28...	2250	--	.29	.10	16	6.6	--	--	74	0	7.6	2.0
BLACK RIVER BASIN												
05-3810.00 - BLACK RIVER AT NEILLSVILLE, WISCONSIN (LAT 44 33 35 LONG 090 36 50)												
MAY , 1968												
08...	189	--	--	--	12	5.0	--	--	50	0	12	4.0
05-3813.60 - BLACK RIVER AT BLACK RIVER FALLS, WISCONSIN (LAT 44 17 18 LONG 090 50 56)												
DEC., 1967												
11...	--	34	1.4	.02	13	2.1	9.8	2.2	20	20	7.8	4.4
WISCONSIN RIVER BASIN												
05-3960.00 - RIB RIVER AT RIB FALLS, WISCONSIN (LAT 44 58 25 LONG 089 54 15)												
MAY , 1968												
07...	--	--	--	--	11	3.9	--	--	38	0	13	2.0
05-3995.00 - BIG EAU PLEINE RIVER NEAR STRATFORD, WISCONSIN (LAT 44 49 15 LONG 090 04 35)												
MAY , 1968												
07...	286	--	--	--	15	4.3	--	--	54	0	13	10
05-4001.00 - LITTLE EAU PLEINE RIVER NEAR MARSHFIELD, WIS. (LAT 44 43 18 LONG 090 05 77)												
MAY , 1968												
07...	--	--	--	--	16	4.7	--	--	60	0	19	4.0
05-4006.00 - LITTLE PLOVER RIVER NEAR ARNOTT, WISCONSIN (LAT 44 28 05 LONG 089 29 20)												
SEP., 1968												
12...	--	16	.21	.02	42	20	2.1	.7	190	0	16	6.0
05-4006.25 - LITTLE PLOVER RIVER NR PLOVER WIS (LAT 44 28 15 LONG 089 30 30)												
SEP., 1968												
12...	--	21	.07	.01	43	21	2.8	.6	200	0	15	6.0
05-4007.10 - MILL CREEK NEAR STEVENS POINT, WISCONSIN (LAT 44 31 08 LONG 089 39 58)												
MAY , 1968												
07...	--	--	--	--	18	7.0	--	--	62	0	19	18
05-4020.00 - YELLOW RIVER AT BABCOCK, WISCONSIN (LAT 44 18 05 LONG 090 07 15)												
MAY , 1968												
07...	58	--	--	--	10	3.9	--	--	30	0	16	6.0
05-4098.30 - NEDERLC CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 47 LONG 090 54 34)												
APR., 1968												
29...	--	--	.04	--	--	--	--	--	--	--	--	--
JULY												
10...	--	8.6	.03	.04	55	31	1.6	.9	304	2	12	3.0

Additional parameters for above stations on pages 192 and 197.

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	DIS-CHARGE (CFS)	SILICA (SIO2)	IRON (FE)	MAN-GANESE (MN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	CAR-BONATE (CO3)	SULFATE (SO4)	CHLO-RIDE (CL)
WISCONSIN RIVER BASIN--Continued												
05-4098.60 - NEDERLO CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 36 LONG 090 54 31)												
NOV., 1967												
14...	--	12	.06	.05	56	33	.9	.8	314	0	10	3.0
JAN., 1968												
08...	--	--	.04	--	--	--	--	--	322	0	--	--
APR.												
29...	--	--	.07	--	--	--	--	--	--	--	--	--
JULY												
10...	--	9.9	.11	.07	52	31	1.5	.7	294	0	12	2.0
05-4098.70 - NEDERLO CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 30 LONG 090 53 49)												
NOV., 1967												
14...	--	12	.07	.05	56	30	.9	.8	306	0	11	2.0
JAN., 1968												
08...	--	12	.03	.03	60	30	1.7	.8	324	0	12	3.0
FEB.												
13...	--	11	.04	.02	62	34	1.5	.8	340	0	11	3.0
MAR.												
25...	--	10	.10	.10	50	32	1.9	.9	294	0	13	2.0
APR.												
29...	--	9.4	.11	--	54	33	1.8	.8	316	0	14	3.0
JUNE												
03...	--	12	.03	--	52	35	1.5	.7	310	0	10	3.0
14...	--	--	--	--	54	30	--	--	288	0	11	2.0
18...	--	--	--	--	20	9.5	--	--	102	0	8.4	1.0
JULY												
10...	--	10	.04	.06	54	33	1.6	.8	304	0	12	3.0
SEP.												
10...	--	--	--	--	--	--	--	--	230	0	12	2.5
ROCK RIVER BASIN												
05-4230.00 - WEST BRANCH ROCK RIVER NEAR WAUPUN, WISCONSIN (LAT 43 40 05 LONG 088 39 10)												
FEB., 1968												
13...	2.5	11	.12	.06	102	52	9.2	4.1	400	0	116	29
05-4235.00 - SOUTH BRANCH ROCK RIVER AT WAUPUN, WISCONSIN (LAT 43 38 30 LONG 088 43 15)												
FEB., 1968												
13...	2.8	12	.60	.64	111	52	23	5.9	372	0	173	42
05-4238.20 - LIMESTONE CREEK NEAR ALLENTON, WISCONSIN (LAT 43 23 38 LONG 088 20 25)												
NOV., 1967												
14...	--	--	--	--	--	--	--	--	374	0	136	16
05-4238.50 - KOHLSVILLE RIVER NEAR KOHLSVILLE, WISCONSIN (LAT 43 29 02 LONG 088 22 03)												
NOV., 1967												
14...	--	--	--	--	--	--	--	--	338	0	98	14
05-4239.00 - LOMIRA CREEK NEAR THERESA, WISCONSIN (LAT 43 32 03 LONG 088 24 57)												
NOV., 1967												
28...	--	--	--	--	--	--	--	--	424	0	140	22
05-4239.50 - KUMMEL CREEK AT THERESA STATION, WISCONSIN (LAT 43 32 06 LONG 088 25 58)												
NOV., 1967												
28...	7.0	12	.17	.06	101	57	25	4.7	451	0	79	55
05-4240.95 - RUBICON RIVER NEAR SLINGER, WISCONSIN (LAT 43 19 17 LONG 088 19 48)												
NOV., 1967												
14...	3.0	--	--	--	--	--	--	--	320	0	112	27
05-4241.50 - RUBICON RIVER NEAR HUSTISFORD, WISCONSIN (LAT 43 19 25 LONG 088 33 56)												
NOV., 1967												
29...	--	11	.23	.02	95	47	38	5.0	382	0	100	58

Additional parameters for above stations on pages 193 and 198.

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	DIS-CHARGE (CFS)	SILICA (SIO2)	IRON (FE)	MAN-GANESE (MN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	CAR-BONATE (CO3)	SULFATE (SO4)	CHLO-RIDE (CL)
ROCK RIVER BASIN--Continued												
05-4242.50 - ASHIPPUM RIVER NEAR MONTEREY, WISCONSIN (LAT 43 10 20 LONG 088 32 48)												
DEC., 1967 01...	15	--	--	--	--	--	--	--	372	0	84	10
05-4244.00 - OCONOMOWOC RIVER NEAR RICHFIELD, WISCONSIN (LAT 43 15 50 LONG 088 14 29)												
NOV., 1967 14...	1.5	--	--	--	--	--	--	--	208	4	392	15
05-4253.00 - OCONOMOWOC RIVER NEAR PIPERSVILLE, WISCONSIN (LAT 43 06 30 LONG 088 37 05)												
DEC., 1967 01...	--	5.0	.28	.00	50	33	9.6	2.4	254	0	48	15
05-4254.00 - SILVER CREEK AT WATERTOWN, WISCONSIN (LAT 43 13 35 LONG 088 43 53)												
NOV., 1967 15...	5.5	--	--	--	--	--	--	--	430	0	156	64
05-4255.60 - JOHNSON CREEK AT JOHNSON CREEK, WISCONSIN (LAT 43 04 34 LONG 088 46 33)												
DEC., 1967 01...	10	9.4	.20	.04	129	64	6.4	1.8	411	0	213	13
05-4258.00 - CRAWFISH RIVER NEAR DANVILLE, WISCONSIN (LAT 43 18 24 LONG 088 55 17)												
NOV., 1967 15...	--	--	--	--	--	--	--	--	304	0	94	18
05-4258.50 - WATERLOO CREEK AT PORTLAND, WISCONSIN (LAT 43 11 47 LONG 088 58 31)												
NOV., 1967 30...	--	--	--	--	--	--	--	--	358	0	158	29
05-4263.00 - DUCK CREEK NEAR HEBRON, WISCONSIN (LAT 43 57 41 LONG 088 40 38)												
NOV., 1967 27...	8.0	13	.53	.12	135	58	5.4	2.6	374	0	233	13
05-4275.10 - KOSHKONONG CREEK NR. BUSSEYVILLE, WISCONSIN (LAT 42 54 44 LONG 089 00 15)												
DEC., 1967 01...	--	14	.22	.04	99	52	10	2.2	388	0	114	18
05-4275.30 - ROCK RIVER AT NEWVILLE, WISCONSIN (LAT 42 49 48 LONG 089 01 17)												
NOV., 1967 13...	--	8.3	1.7	.08	67	34	12	3.5	267	0	70	22
05-4275.50 - SAUNDERS CREEK AT EDGERTON, WISCONSIN (LAT 42 52 43 LONG 089 03 57)												
NOV., 1967 13...	8.5	--	--	--	--	--	--	--	375	0	90	11
05-4291.00 - EAST BRANCH STARKWEATHER CREEK AT MADISON, WIS. (LAT 43 05 57 LONG 089 19 54)												
NOV., 1967 13...	--	--	--	--	--	--	--	--	336	0	79	74
05-4292.00 - WEST BRANCH STARKWEATHER CREEK AT MADISON, WIS. (LAT 43 05 58 LONG 089 20 18)												
NOV., 1967 13...	--	--	--	--	--	--	--	--	406	0	170	17
05-4300.50 - BADFISH CREEK NR. OREGON, WISCONSIN (LAT 42 55 41 LONG 089 19 44)												
DEC., 1967 04...	--	19	.41	.00	69	40	130	15	328	0	52	173
05-4301.50 - BADFISH CREEK NEAR COOKSVILLE, WISCONSIN (LAT 42 50 00 LONG 089 11 48)												
NOV., 1967 15...	--	--	--	--	--	--	--	--	390	0	57	115

Additional parameters for above stations on pages 194 and 199.

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	DIS-CHARGE (CFS)	SILICA (SIO2)	IRON (FE)	MAN-GANESE (MN)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-TAS-SIUM (K)	BICAR-BONATE (HCO3)	CAR-BONATE (CO3)	SULFATE (SO4)	CHLO-RIDE (CL)
ROCK RIVER BASIN--Continued												
05-4302.00 - YAHARA RIVER NEAR FULTON, WISCONSIN (LAT 42 48 40 LONG 089 09 01)												
NOV., 1967 15...	--	14	.17	.02	56	29	24	3.8	264	0	36	34
05-4303.00 - MARSH CREEK NEAR JANESVILLE, WISCONSIN (LAT 42 43 15 LONG 089 03 30)												
NOV., 1967 13...	--	15	.20	.00	99	39	3.0	.9	301	0	128	7.0
ILLINOIS RIVER BASIN												
05-5438.30 - FOX RIVER AT WAUKESHA, WIS. (LAT 43 00 17 LONG 088 14 37)												
JAN., 1968 22...	--	12	.06	.20	100	42	71	4.8	360	0	112	108
05-5465.00 - FOX RIVER AT WILMOT, WISCONSIN (LAT 42 30 40 LONG 088 10 45)												
JAN., 1968 24...	--	11	.17	.04	87	42	25	3.1	362	0	78	40

Additional parameters for above stations on pages 195 and 200.

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	FLUORIDE (F)	NITRATE (NO3)	TOTAL PHOSPHORUS (PO4)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG)	NONCARBONATE HARDNESS	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH
ST. CROIX RIVER BASIN												
05-3325.00 - NAMEKAGON RIVER NEAR TREGO, WISCONSIN (LAT 45 56 50 LONG 091 53 15)												
JUNE, 1968												
C6...	--	.8	--	96	--	.13	186	65	6	--	130	7.4
05-3335.00 - ST. CROIX RIVER NEAR DANBURY, WISCONSIN (LAT 46 04 30 LONG 092 14 50)												
JUNE, 1968												
05...	--	.8	--	85	--	.12	395	59	6	--	113	7.4
05-3355.00 - CLAM RIVER NR WEBSTER WISCONSIN (LAT 45 52 50 LONG 092 29 15)												
JUNE, 1968												
C6...	.1	1.0	--	91	94	.12	71.0	76	0	.1	148	8.8
05-3405.00 - ST. CROIX RIVER AT ST. CROIX FALLS, WISCONSIN (LAT 45 24 30 LONG 092 38 45)												
JUNE, 1968												
03...	--	--	--	--	--	--	--	--	--	--	--	--
05-3415.00 - APPLE RIVER NEAR SOMERSET, WISCONSIN (LAT 45 09 30 LONG 092 43 00)												
JUNE, 1968												
C3...	--	2.2	--	153	--	.21	--	123	4	--	241	7.7
CHIPPEWA RIVER BASIN												
05-3417.10 - WILLOW RIVER NEAR BOARDMAN, WISCONSIN (LAT 45 03 55 LONG 092 36 52)												
JUNE, 1968												
C7...	.2	5.8	--	190	173	.26	16.4	151	1	.2	306	7.6
05-3420.00 - KINNICKINNIC RIVER NEAR RIVER FALLS, WISCONSIN (LAT 44 49 50 LONG 092 44 00)												
JUNE, 1968												
C7...	.1	10	--	266	244	.36	64.7	230	28	.1	401	8.3
05-3553.30 - RUSH RIVER NR MAIDEN ROCK WISCONSIN (LAT 44 34 15 LONG 092 19 44)												
JUNE, 1968												
07...	.2	3.3	--	257	252	.35	42.3	250	20	.1	438	8.1
05-3560.00 - CHIPPEWA RIVER AT BISHOPS BRIDGE NR WINTER, WIS. (LAT 45 50 55 LONG 091 04 45)												
MAY , 1968												
29...	--	1.4	--	56	--	.08	314	28	10	--	52	6.9
05-3565.00 - CHIPPEWA RIVER NR BRUCE, WIS. (LAT 45 27 05 LONG 091 15 40)												
MAY , 1968												
28...	--	1.3	--	61	--	.08	814	24	7	--	51	6.7
05-3585.00 - FLAMBEAU RIVER AT BABBS ISLAND NEAR WINTER, WIS (LAT 45 46 10 LONG 090 45 45)												
MAY , 1968												
29...	--	1.2	--	56	--	.08	--	30	12	--	58	6.9
05-3595.00 - SOUTH FORK FLAMBEAU RIVER NEAR PHILLIPS, WIS (LAT 45 42 15 LONG 092 36 55)												
MAY , 1968												
29...	--	1.4	--	60	--	.08	512	9	0	--	47	6.9
05-3605.00 - FLAMBEAU RIVER NR BRUCE, WIS. (LAT 45 22 20 LONG 091 12 35)												
MAY , 1968												
28...	--	1.3	--	74	--	.10	1320	9	0	--	62	6.7
05-3620.00 - JUMP RIVER AT SHELDON, WISCONSIN (LAT 45 18 30 LONG 090 57 20)												
MAY , 1968												
28...	--	1.4	--	62	--	.08	798	28	12	--	50	6.7
05-3640.00 - YELLOW RIVER AT CADOTT, WISCONSIN (LAT 44 57 10 LONG 091 09 00)												
MAY , 1968												
28...	--	1.4	--	77	--	.10	35.3	38	8	--	79	6.9

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	FLUORIDE (F)	NITRATE (NO3)	TOTAL PHOSPHORUS (PO4)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG)	NONCARBONATE HARDNESS	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH
CHIPPEWA RIVER BASIN--Continued												
05-3665.00 - EAU CLAIRE RIVER NEAR FALL CREEK, WISCONSIN (LAT 44 48 35 LONG 091 16 50)												
MAY , 1968												
28...	--	1.3	--	58	--	.08	395	24	6	--	60	6.8
05-3674.25 - RED CEDAR RIVER NR CAMERON WISCONSIN (LAT 45 24 05 LONG 091 46 39)												
MAY , 1968												
28...	--	--	--	--	--	--	--	--	--	--	--	--
05-3680.00 - HAY RIVER AT WHEELER, WISCONSIN (LAT 45 02 50 LONG 091 54 50)												
MAY , 1968												
28...	--	3.0	--	171	--	.23	157	158	14	--	296	7.8
05-3690.00 - RED CEDAR RIVER AT MENOMONIE, WIS. (LAT 44 53 00 LONG 091 55 55)												
MAY , 1968												
28...	--	1.8	--	89	--	.12	541	67	6	--	143	7.4
BLACK RIVER BASIN												
05-3810.00 - BLACK RIVER AT NEILLSVILLE, WISCONSIN (LAT 44 33 35 LONG 090 36 50)												
MAY , 1968												
08...	--	.8	.38	90	--	.12	45.9	50	9	--	116	7.1
05-3813.60 - BLACK RIVER AT BLACK RIVER FALLS, WISCONSIN (LAT 44 17 18 LONG 090 50 56)												
DEC., 1967												
11...	.5	.1	--	109	104	.15	--	41	0	.7	121	9.6
WISCONSIN RIVER BASIN												
05-3960.00 - RIB RIVER AT RIB FALLS, WISCONSIN (LAT 44 58 25 LONG 089 54 15)												
MAY , 1968												
07...	--	.8	--	73	--	.10	--	44	12	--	92	7.1
05-3995.00 - BIG EAU PLEINE RIVER NEAR STRATFORD, WISCONSIN (LAT 44 49 15 LONG 090 04 35)												
MAY , 1968												
07...	--	.9	.35	94	--	.13	72.6	55	11	--	141	7.2
05-4001.00 - LITTLE EAU PLEINE RIVER NEAR MARSHFIELD, WIS. (LAT 44 43 18 LONG 090 05 77)												
MAY , 1968												
07...	--	.9	--	111	--	.15	--	60	10	--	141	7.3
05-4006.00 - LITTLE PLOVER RIVER NEAR ARNOTT, WISCONSIN (LAT 44 28 05 LONG 089 29 20)												
SEP., 1968												
12...	.3	7.7	.06	216	--	.29	--	187	32	.1	357	7.7
05-4006.25 - LITTLE PLOVER RIVER NR PLOVER WIS (LAT 44 28 15 LONG 089 30 30)												
SEP., 1968												
12...	.4	9.1	.08	223	--	.30	--	194	30	.1	357	8.1
05-4007.10 - MILL CREEK NEAR STEVENS POINT, WISCONSIN (LAT 44 31 08 LONG 089 39 58)												
MAY , 1968												
07...	--	2.5	--	135	--	.18	--	74	23	--	203	7.0
05-4020.00 - YELLOW RIVER AT BABCOCK, WISCONSIN (LAT 44 18 05 LONG 090 07 15)												
MAY , 1968												
07...	--	1.4	.28	86	--	.12	136	41	16	--	105	6.7
05-4098.30 - NEDERLO CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 47 LONG 090 54 34)												
APR., 1968												
29...	--	.2	--	253	--	.34	--	254	--	--	438	8.2
JULY												
10...	.1	.0	--	242	263	.33	--	265	12	.0	463	8.3

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	FLUORIDE (F)	NITRATE (NO3)	TOTAL PHOSPHORUS (PO4)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG)	NONCARBONATE HARDNESS	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH
WISCONSIN RIVER BASIN--Continued												
05-4098.60 - NEDERLO CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 36 LONG 090 54 31)												
NOV., 1967												
14...	.2	.0	--	260	270	.35	--	275	18	.0	468	8.2
JAN., 1968												
08...	--	2.8	--	282	--	.38	--	282	18	--	473	8.1
APR.												
29...	--	.2	--	230	--	.31	--	246	--	--	418	8.1
JULY												
10...	.1	.0	--	236	253	.32	--	257	16	.0	446	8.2
05-4098.70 - NEDERLO CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 30 LONG 090 53 49)												
NOV., 1967												
14...	.2	.0	--	253	263	.34	--	263	12	.0	458	8.1
JAN., 1968												
08...	.3	2.8	--	284	282	.39	--	273	8	.0	474	8.1
FEB.												
13...	.2	3.3	--	276	294	.38	--	295	16	.0	501	8.2
MAR.												
25...	.1	.0	--	253	254	.34	--	257	16	.1	453	8.1
APR.												
29...	.1	.5	--	266	272	.36	--	270	11	.0	476	8.0
JUNE												
03...	.1	.5	--	248	267	.34	--	274	20	.0	467	8.2
14...	--	2.5	--	250	--	.34	--	258	22	--	442	8.2
18...	--	1.8	--	114	--	.16	--	89	6	--	177	7.4
JULY												
10...	.1	.0	--	250	264	.34	--	270	21	.0	468	8.1
SEP.												
10...	.1	1.8	--	192	--	.26	--	208	19	--	364	8.2
ROCK RIVER BASIN												
05-4230.00 - WEST BRANCH ROCK RIVER NEAR WAUPUN, WISCONSIN (LAT 43 40 05 LONG 088 39 10)												
FEB., 1968												
13...	.7	10	--	548	531	.75	3.70	469	141	.2	827	7.5
05-4235.00 - SOUTH BRANCH ROCK RIVER AT WAUPUN, WISCONSIN (LAT 43 38 30 LONG 088 43 15)												
FEB., 1968												
13...	.2	4.5	--	640	607	.87	4.84	491	186	.5	926	7.5
05-4238.20 - LIMESTONE CREEK NEAR ALLENTON, WISCONSIN (LAT 43 23 38 LONG 088 20 25)												
NOV., 1967												
14...	--	2.9	--	558	--	.76	--	410	103	--	827	8.0
05-4238.50 - KOHLSVILLE RIVER NEAR KOHLSVILLE, WISCONSIN (LAT 43 29 02 LONG 088 22 03)												
NOV., 1967												
14...	--	1.9	--	460	--	.63	--	367	90	--	703	8.0
05-4239.00 - LOMIRA CREEK NEAR THERESA, WISCONSIN (LAT 43 32 03 LONG 088 24 57)												
NOV., 1967												
28...	--	1.0	--	598	--	.81	--	472	124	--	890	8.0
05-4239.50 - KUMMEL CREEK AT THERESA STATION, WISCONSIN (LAT 43 32 06 LONG 088 25 58)												
NOV., 1967												
28...	.1	3.8	.16	591	560	.80	11.2	487	117	.5	965	7.8
05-4240.95 - RUBICON RIVER NEAR SLINGER, WISCONSIN (LAT 43 19 17 LONG 088 19 48)												
NOV., 1967												
14...	--	4.5	--	512	--	.70	4.15	413	151	--	755	7.9
05-4241.50 - RUBICON RIVER NEAR HUSTISFORD, WISCONSIN (LAT 43 19 25 LONG 088 33 56)												
NOV., 1967												
29...	.2	2.7	.90	581	546	.79	--	431	118	.8	908	8.1

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	FLUORIDE (F)	NITRATE (NO3)	TOTAL PHOSPHORUS (PO4)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG)	NONCARBONATE HARDNESS	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH
ROCK RIVER BASIN--Continued												
05-4242.50 - ASHIPPUM RIVER NEAR MONTEREY, WISCONSIN (LAT 43 10 20 LONG 088 32 48)												
DEC., 1967												
01...	--	1.6	--	447	--	.61	18.1	395	90	--	703	8.2
05-4244.00 - OCONOMOWOC RIVER NEAR RICHFIELD, WISCONSIN (LAT 43 15 50 LONG 088 14 29)												
NOV., 1967												
14...	--	9.8	--	846	--	1.15	3.43	480	303	--	1050	8.3
05-4253.00 - OCONOMOWOC RIVER NEAR PIPERSVILLE, WISCONSIN (LAT 43 06 30 LONG 088 37 05)												
DEC., 1967												
01...	.2	2.0	.92	302	291	.41	--	261	52	.3	516	7.9
05-4254.00 - SILVER CREEK AT WATERTOWN, WISCONSIN (LAT 43 13 35 LONG 088 43 53)												
NOV., 1967												
15...	--	1.8	--	698	--	.95	10.4	487	134	--	1060	7.7
05-4255.60 - JOHNSON CREEK AT JOHNSON CREEK, WISCONSIN (LAT 43 04 34 LONG 088 46 33)												
DEC., 1967												
01...	.2	1.4	.03	702	640	.95	19.0	586	248	.1	963	8.0
05-4258.00 - CRAWFISH RIVER NEAR DANVILLE, WISCONSIN (LAT 43 18 24 LONG 088 55 17)												
NOV., 1967												
15...	--	5.4	--	450	--	.61	--	380	131	--	682	8.2
05-4258.50 - WATERLOO CREEK AT PORTLAND, WISCONSIN (LAT 43 11 47 LONG 088 58 31)												
NOV., 1967												
30...	--	7.7	--	603	--	.82	--	500	206	--	888	8.2
05-4263.00 - DUCK CREEK NEAR HEBRON, WISCONSIN (LAT 43 57 41 LONG 088 40 38)												
NOV., 1967												
27...	.2	1.8	.12	687	646	.93	14.8	576	269	.1	955	8.0
05-4275.10 - KOSHKONONG CREEK NR. BUSSEYVILLE, WISCONSIN (LAT 42 54 44 LONG 089 00 15)												
DEC., 1967												
01...	.3	5.5	.75	531	507	.72	--	461	143	.2	814	8.0
05-4275.30 - ROCK RIVER AT NEWVILLE, WISCONSIN (LAT 42 49 48 LONG 089 01 17)												
NOV., 1967												
13...	.2	5.4	.53	374	354	.51	--	307	88	.3	611	7.6
05-4275.50 - SAUNDERS CREEK AT EDGERTON, WISCONSIN (LAT 42 52 43 LONG 089 03 57)												
NOV., 1967												
13...	--	3.6	--	467	--	.64	10.7	415	107	--	730	7.9
05-4291.00 - EAST BRANCH STARKWEATHER CREEK AT MADISON, WIS. (LAT 43 05 57 LONG 089 19 54)												
NOV., 1967												
13...	--	29	--	441	--	.60	--	398	122	--	734	7.4
05-4292.00 - WEST BRANCH STARKWEATHER CREEK AT MADISON, WIS. (LAT 43 05 58 LONG 089 20 18)												
NOV., 1967												
13...	--	8.2	--	733	--	1.00	--	542	209	--	1140	7.4
05-4300.50 - BADFISH CREEK NR. OREGON, WISCONSIN (LAT 42 55 41 LONG 089 19 44)												
DEC., 1967												
04...	.8	48	21	724	729	.98	--	337	68	3.1	1320	7.5
05-4301.50 - BADFISH CREEK NEAR COOKSVILLE, WISCONSIN (LAT 42 50 00 LONG 089 11 48)												
NOV., 1967												
15...	--	27	--	614	--	.84	--	365	45	--	1070	7.5

Chemical analyses. in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	FLUO-RIDE (F)	NITRATE (NO3)	TOTAL PHOS-PHORUS (PO4)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH
ROCK RIVER BASIN--Continued												
05-4302.00 - YAHARA RIVER NEAR FULTON, WISCONSIN (LAT 42 48 40 LONG 089 09 01)												
NOV., 1967												
15...	.4	8.6	3.5	348	339	.47	--	259	42	.6	589	7.8
05-4303.00 - MARSH CREEK NEAR JANESVILLE, WISCONSIN (LAT 42 43 15 LONG 089 03 30)												
NOV., 1967												
13...	.2	4.9	.02	461	447	.63	--	408	161	.1	705	8.2
ILLINOIS RIVER BASIN												
05-5438.30 - FOX RIVER AT WAUKESHA, WIS. (LAT 43 00 17 LONG 088 14 37)												
JAN., 1968												
22...	.4	1.2	--	672	640	.91	--	422	127	1.5	1060	7.5
05-5465.00 - FOX RIVER AT WILMOT, WISCONSIN (LAT 42 30 40 LONG 088 10 45)												
JAN., 1968												
24...	.5	10	--	476	475	.65	--	390	93	.6	779	7.6

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	TEMP-ERATURE (DEG C)	COLOR	PERCENT SODIUM	ALKA-LINITY AS CACO3
ST. CROIX RIVER BASIN				
05-3325.00 - NAMEKAGON RIVER NEAR TREGO, WISCONSIN (LAT 45 56 50 LONG 091 53 15)				
JUNE, 1968				
06...	15	--	--	59
05-3335.00 - ST. CROIX RIVER NEAR DANBURY, WISCONSIN (LAT 46 04 30 LONG 092 14 50)				
JUNE, 1968				
05...	14	--	--	52
05-3355.00 - CLAM RIVER NR WEBSTER WISCONSIN (LAT 45 52 50 LONG 092 29 15)				
JUNE, 1968				
06...	16	26	8	77
05-3405.00 - ST. CROIX RIVER AT ST. CROIX FALLS, WISCONSIN (LAT 45 24 30 LONG 092 38 45)				
DEC., 1967				
11...	--	--	--	--
05-3415.00 - APPLE RIVER NEAR SOMERSET, WISCONSIN (LAT 45 09 30 LONG 092 43 00)				
JUNE, 1968				
03...	--	--	--	118
CHIPPEWA RIVER BASIN				
05-3417.10 - WILLOW RIVER NEAR BOARDMAN, WISCONSIN (LAT 45 03 55 LONG 092 36 52)				
JUNE, 1968				
07...	15	15	8	150
05-3420.00 - KINNICKINNIC RIVER NEAR RIVER FALLS, WISCONSIN (LAT 44 49 50 LONG 092 44 00)				
JUNE, 1968				
07...	15	2	3	202
05-3553.30 - RUSH RIVER NR MAIDEN ROCK WISCONSIN (LAT 44 34 15 LONG 092 19 44)				
JUNE, 1968				
07...	15	0	2	230
05-3560.00 - CHIPPEWA RIVER AT BISHOPS BRIDGE NR WINTER, WIS. (LAT 45 50 55 LONG 091 04 45)				
MAY , 1968				
29...	12	120	--	18
05-3565.00 - CHIPPEWA RIVER NR BRUCE, WIS. (LAT 45 27 05 LONG 091 15 40)				
MAY , 1968				
28...	11	80	--	17
05-3585.00 - FLAMBEAU RIVER AT BABBS ISLAND NEAR WINTER, WIS (LAT 45 46 10 LONG 090 45 45)				
MAY , 1968				
29...	--	120	--	18
05-3595.00 - SOUTH FORK FLAMBEAU RIVER NEAR PHILLIPS, WIS (LAT 45 42 15 LONG 092 36 55)				
MAY , 1968				
29...	11	120	--	16
05-3605.00 - FLAMBEAU RIVER NR BRUCE, WIS. (LAT 45 22 20 LONG 091 12 35)				
MAY , 1968				
28...	12	80	--	20
05-3620.00 - JUMP RIVER AT SHELDON, WISCONSIN (LAT 45 18 30 LONG 090 57 20)				
MAY , 1968				
28...	10	120	--	16
05-3640.00 - YELLOW RIVER AT CADOTT, WISCONSIN (LAT 44 57 10 LONG 091 09 00)				
MAY , 1968				
28...	12	80	--	30

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	TEMP-ERATURE (DEG C)	COLOR	PERCENT SODIUM	ALKA-LINITY AS CACO3
CHIPPEWA RIVER BASIN--Continued				
05-3665.00 - EAU CLAIRE RIVER NEAR FALL CREEK, WISCONSIN (LAT 44 48 35 LONG 091 16 50)				
MAY , 1968				
28...	13	70	--	18
05-3674.25 - RED CEDAR RIVER NR CAMERON WISCONSIN (LAT 45 24 05 LONG 091 46 39)				
MAY , 1968				
28...	--	--	--	--
05-3680.00 - HAY RIVER AT WHEELER, WISCONSIN (LAT 45 02 50 LONG 091 54 50)				
MAY , 1968				
28...	13	13	--	144
05-3690.00 - RED CEDAR RIVER AT MENOMONIE, WIS. (LAT 44 53 00 LONG 091 55 55)				
MAY , 1968				
28...	13	20	--	61
BLACK RIVER BASIN				
05-3810.00 - BLACK RIVER AT NEILLSVILLE, WISCONSIN (LAT 44 33 35 LONG 090 36 50)				
MAY , 1968				
08...	14	75	--	41
05-3813.60 - BLACK RIVER AT BLACK RIVER FALLS, WISCONSIN (LAT 44 17 18 LONG 090 50 56)				
DEC., 1967				
11...	--	7	33	49
WISCONSIN RIVER BASIN				
05-3960.00 - RIB RIVER AT RIB FALLS, WISCONSIN (LAT 44 58 25 LONG 089 54 15)				
MAY , 1968				
07...	--	50	--	31
05-3995.00 - BIG EAU PLEINE RIVER NEAR STRATFORD, WISCONSIN (LAT 44 49 15 LONG 090 04 35)				
MAY , 1968				
07...	14	40	--	44
05-4001.00 - LITTLE EAU PLEINE RIVER NEAR MARSHFIELD, WIS. (LAT 44 43 18 LONG 090 05 77)				
MAY , 1968				
07...	--	75	--	49
05-4006.00 - LITTLE PLOVER RIVER NEAR ARNOTT, WISCONSIN (LAT 44 28 05 LONG 089 29 20)				
SEP., 1968				
12...	--	0	2	156
05-4006.25 - LITTLE PLOVER RIVER NR PLOVER WIS (LAT 44 28 15 LONG 089 30 30)				
SEP., 1968				
12...	--	5	3	164
05-4007.10 - MILL CREEK NEAR STEVENS POINT, WISCONSIN (LAT 44 31 08 LONG 089 39 58)				
MAY , 1968				
07...	--	50	--	51
05-4020.00 - YELLOW RIVER AT BABCOCK, WISCONSIN (LAT 44 18 05 LONG 090 07 15)				
MAY , 1968				
07...	12	75	--	25
05-4098.30 - NEDERLO CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 47 LONG 090 54 34)				
NOV., 1967				
14...	--	--	--	--
JULY, 1968				
10...	--	5	1	253

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	TEMPERATURE (DEG C)	COLOR	PERCENT SODIUM	ALKALINITY AS CACO3
WISCONSIN RIVER BASIN--Continued				
05-4098.60 - NEDERLO CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 36 LONG 090 54 31)				
NOV., 1967				
14...	--	2	1	258
JAN., 1968				
08...	--	--	--	264
FEB.				
13...	--	--	--	--
JULY				
10...	--	5	1	241
05-4098.70 - NEDERLO CREEK NEAR GAYS MILLS, WISCONSIN (LAT 43 21 30 LONG 090 53 49)				
NOV., 1967				
14...	--	2	1	251
JAN., 1968				
08...	--	--	1	266
FEB.				
13...	--	4	1	279
MAR.				
25...	--	2	2	241
APR.				
29...	--	5	1	259
JUNE				
03...	--	3	1	254
14...	--	--	--	236
18...	--	--	--	84
JULY				
10...	5	--	1	249
SEP.				
10...	11	--	--	189
ROCK RIVER BASIN				
05-4230.00 - WEST BRANCH ROCK RIVER NEAR WAUPUN, WISCONSIN (LAT 43 40 05 LONG 088 39 10)				
FEB., 1968				
13...	--	8	4	328
05-4235.00 - SOUTH BRANCH ROCK RIVER AT WAUPUN, WISCONSIN (LAT 43 38 30 LONG 088 43 15)				
FEB., 1968				
13...	--	23	9	305
05-4238.20 - LIMESTONE CREEK NEAR ALLENTON, WISCONSIN (LAT 43 23 38 LONG 088 20 25)				
NOV., 1967				
14...	3	--	--	307
05-4238.50 - KOHLSVILLE RIVER NEAR KOHLSVILLE, WISCONSIN (LAT 43 29 02 LONG 088 22 03)				
NOV., 1967				
14...	3	--	--	277
05-4239.00 - LOMIRA CREEK NEAR THERESA, WISCONSIN (LAT 43 32 03 LONG 088 24 57)				
NOV., 1967				
28...	1	--	--	348
05-4239.50 - KUMMEL CREEK AT THERESA STATION, WISCONSIN (LAT 43 32 06 LONG 088 25 58)				
NOV., 1967				
28...	0	5	10	370
05-4240.95 - RUBICON RIVER NEAR SLINGER, WISCONSIN (LAT 43 19 17 LONG 088 19 48)				
NOV., 1967				
14...	3	--	--	262
05-4241.50 - RUBICON RIVER NEAR HUSTISFORD, WISCONSIN (LAT 43 19 25 LONG 088 33 56)				
NOV., 1967				
29...	0	20	16	313

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	TEMP-ERATURE (DEG C)	COLOR	PERCENT SODIUM	ALKA-LINITY AS CACO3
ROCK RIVER BASIN--Continued				
05-4242.50 - ASHIPPUM RIVER NEAR MONTEREY, WISCONSIN (LAT 43 10 20 LONG 088 32 48)				
DEC., 1967				
01...	0	--	--	305
05-4244.00 - OCONOMOWOC RIVER NEAR RICHFIELD, WISCONSIN (LAT 43 15 50 LONG 088 14 29)				
NOV., 1967				
14...	2	--	--	177
05-4253.00 - OCONOMOWOC RIVER NEAR PIPERSVILLE, WISCONSIN (LAT 43 06 30 LONG 088 37 05)				
DEC., 1967				
01...	1	5	7	208
05-4254.00 - SILVER CREEK AT WATERTOWN, WISCONSIN (LAT 43 13 35 LONG 088 43 53)				
NOV., 1967				
15...	2	--	--	353
05-4255.60 - JOHNSON CREEK AT JOHNSON CREEK, WISCONSIN (LAT 43 04 34 LONG 088 46 33)				
DEC., 1967				
01...	0	25	2	337
05-4258.00 - CRAWFISH RIVER NEAR DANVILLE, WISCONSIN (LAT 43 18 24 LONG 088 55 17)				
NOV., 1967				
15...	1	--	--	249
05-4258.50 - WATERLOO CREEK AT PORTLAND, WISCONSIN (LAT 43 11 47 LONG 088 58 31)				
NOV., 1967				
30...	1	--	--	294
05-4263.00 - DUCK CREEK NEAR HEBRON, WISCONSIN (LAT 43 57 41 LONG 088 40 38)				
NOV., 1967				
27...	1	25	2	307
05-4275.10 - KOSHKONONG CREEK NR. BUSSEYVILLE, WISCONSIN (LAT 42 54 44 LONG 089 00 15)				
DEC., 1967				
01...	1	10	4	318
05-4275.30 - ROCK RIVER AT NEWVILLE, WISCONSIN (LAT 42 49 48 LONG 089 01 17)				
NOV., 1967				
13...	4	15	8	219
05-4275.50 - SAUNDERS CREEK AT EDGERTON, WISCONSIN (LAT 42 52 43 LONG 089 03 57)				
NOV., 1967				
13...	4	--	--	308
05-4291.00 - EAST BRANCH STARKWEATHER CREEK AT MADISON, WIS. (LAT 43 05 57 LONG 089 19 54)				
NOV., 1967				
13...	6	--	--	276
05-4292.00 - WEST BRANCH STARKWEATHER CREEK AT MADISON, WIS. (LAT 43 05 58 LONG 089 20 18)				
NOV., 1967				
13...	5	--	--	333
05-4300.50 - BADFISH CREEK NR. OREGON, WISCONSIN (LAT 42 55 41 LONG 089 19 44)				
DEC., 1967				
04...	12	10	44	269
05-4301.50 - BADFISH CREEK NEAR COOKSVILLE, WISCONSIN (LAT 42 50 00 LONG 089 11 48)				
NOV., 1967				
15...	4	--	--	320

Chemical analyses, in milligrams per liter, water year October 1967 to September 1968--Continued

DATE	TEMPERATURE (DEG C)	COLOR	PERCENT SODIUM	ALKALINITY AS CACO3
ROCK RIVER BASIN--Continued				
05-4302.00 - YAHARA RIVER NEAR FULTON, WISCONSIN (LAT 42 48 40 LONG 089 09 01)				
NOV., 1967				
15...	2	5	17	217
05-4303.00 - MARSH CREEK NEAR JANESVILLE, WISCONSIN (LAT 42 43 15 LONG 089 03 30)				
NOV., 1967				
13...	6	5	2	247
ILLINOIS RIVER BASIN				
05-5438.30 - FOX RIVER AT WAUKESHA, WIS. (LAT 43 00 17 LONG 088 14 37)				
JAN., 1968				
22...	6	6	26	295
05-5465.00 - FOX RIVER AT WILMOT, WISCONSIN (LAT 42 30 40 LONG 088 10 45)				
JAN., 1968				
24...	0	10	12	297

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Instantaneous Suspended Sediment, water year October 1967 to September 1968

Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)	Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)
ST. CROIX RIVER BASIN									
5-3353.8 BASHAW BROOK NEAR SHELL LAKE, WIS. (LAT 45°47'02" LONG 92°07'51")									
Apr. 19, 1968	1430	6.3	2	T	July 19, 1968	1600	8.0	6	T
May 27, 1968	1245	11	13	T	Aug. 30, 1968	1045	5.2	6	T
June 28, 1968	1100	7.6	6	T					
CHIPPEWA RIVER BASIN									
5-3595. SOUTH FORK FLAMBEAU RIVER NEAR PHILLIPS, WIS. (LAT 45°42'15" LONG 90°36'55")									
Apr. 9, 1968	0900	604	2	3	Aug. 18, 1968	1410	353	3	3
Apr. 16, 1968	0745	651	6	11	Aug. 26, 1968	1645	243	2	1
May 16, 1968	1015	2060	14	78	Sept. 5, 1968	1515	890	4	10
May 19, 1968	1715	3540	12	115	Sept. 10, 1968	1230	1140	3	9
June 25, 1968	0945	2510	7	47					
5-3680. HAY RIVER AT WHEELER, WIS. (LAT 45°02'50" LONG 91°54'40")									
Apr. 16, 1968	1445	198	7	4	May 3, 1968	0845	261	20	14
Apr. 17, 1968	0850	191	4	2	May 23, 1968	1745	256	4	3
Apr. 23, 1968	1230	560	68	103	June 20, 1968	1240	325	28	25
May 1, 1968	1450	289	10	8	July 18, 1968	1420	505	34	46
TREMPEALEAU RIVER BASIN									
5-3794. TREMPEALEAU RIVER AT ARCADIA, WIS. (LAT 44°15'15" LONG 91°30'25")									
Apr. 23, 1968	1700	1090	1190	3500	Aug. 3, 1968	1305	421	99	113
Apr. 24, 1968	0930	984	523	1390	Aug. 3, 1968	1335	421	104	118
Apr. 24, 1968	1005	980	511	1350	Aug. 27, 1968	0920	300	121	98
June 27, 1968	1000	1530	516	2130	Aug. 27, 1968	0925	300	99	80
June 27, 1968	1110	1500	444	1800	Sept. 26, 1968	1015	417	49	55
5-3795. TREMPEALEAU RIVER AT DODGE, WIS. (LAT 44°07'55" LONG 91°33'10")									
Aug. 2, 1968	1100	526	69	98	Sept. 14, 1968	1015	426	61	70
Aug. 6, 1968	1500	400	47	51					
BAD AXE RIVER BASIN									
5-3871. NORTH FORK BAD AXE RIVER NEAR GENOA, WIS. (LAT 43°33'10" LONG 91°08'58")									
Oct. 4, 1967	0900	40	27	3	July 19, 1968	0945	40	152	16
Apr. 26, 1968	1015	40	46	5	Aug. 29, 1968	0915	26	112	8
June 4, 1968	0950	28	46	3	Aug. 29, 1968	1015	26	66	5
July 19, 1968	0915	40	143	15	Sept. 24, 1968	1220	37	46	5
WISCONSIN RIVER BASIN									
5-3935. SPIRIT RIVER AT SPIRIT FALLS, WIS. (LAT 45°26'55" LONG 89°58'50")									
Nov. 7, 1967	1430	17	3	T	June 14, 1968	1330	207	8	4
Mar. 27, 1968	1745	100	6	2	June 21, 1968	1030	619	48	80
Mar. 28, 1968	1210	130	32	11	June 21, 1968	1425	869	36	84
Mar. 28, 1968	1600	130	28	10	June 21, 1968	1535	980	32	85
Apr. 3, 1968	1445	107	5	1	July 5, 1968	1100	160	6	3
Apr. 23, 1968	1500	366	5	5	July 15, 1968	1000	884	8	19
Apr. 24, 1968	1600	345	10	9	Aug. 1, 1968	0900	83	3	1
May 8, 1968	1000	60	3	T	Aug. 6, 1968	1130	30	2	T
May 16, 1968	0930	995	5	13	Aug. 16, 1968	1600	14	9	T
May 16, 1968	1110	1180	60	191	Aug. 20, 1968	1000	36	6	1
May 16, 1968	1305	1330	68	244	Sept. 3, 1968	1500	29	5	T
May 16, 1968	1305	1330	74	266	Sept. 5, 1968	1215	335	14	13
May 22, 1968	0930	295	6	5	Sept. 10, 1968	1000	302	12	10
May 27, 1968	1000	869	28	66					
5-3945. PRAIRIE RIVER NEAR MERRILL, WIS. (LAT 45°14'10" LONG 89°38' 50")									
July 31, 1967	1530	86	8	2	Nov. 10, 1967	1000	130	2	1
Aug. 28, 1967	0945	235	8	5	Dec. 5, 1968	0915	95	1	T
Sept. 21, 1967	1400	90	2	T	May 16, 1968	0940	748	46	93
Oct. 27, 1967	1000	200	4	2	June 21, 1968	1735	612	14	23

T Less than 0.50 ton.

Instantaneous Suspended Sediment, water year October 1967 to September 1968--Continued

Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)	Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)
WISCONSIN RIVER BASIN--Continued									
5-3995. BIG EAU PLEINE RIVER NEAR STRATFORD, WIS. (LAT 44°49'15" LONG 90°04'35")									
Mar. 28, 1968	0930	1520	59	242	June 21, 1968	0800	1310	127	449
Mar. 28, 1968	1340	1480	68	272	June 21, 1968	1215	1680	63	286
Apr. 2, 1968	1520	83	14	3	June 25, 1968	0850	2580	46	320
Apr. 4, 1968	1430	27	6	T	June 26, 1968	2000	7690	58	1200
Apr. 13, 1968	0900	1040	89	250	June 27, 1968	0800	6260	23	387
Apr. 14, 1968	1145	1150	58	180	June 28, 1968	1620	1410	9	34
Apr. 17, 1968	1000	234	34	21	July 12, 1968	1100	128	32	11
Apr. 20, 1968	1315	1300	79	277	July 15, 1968	1605	873	17	40
Apr. 20, 1968	1930	2070	74	414	July 14, 1968	1645	2080	69	388
May 7, 1968	1710	28	20	2	July 27, 1968	0850	378	70	71
May 14, 1968	1645	84	26	6	Aug. 6, 1968	1050	747	22	44
May 16, 1968	1425	12800	245	8470	Aug. 8, 1968	1240	247	8	5
May 17, 1968	0730	3810	60	617	Aug. 8, 1968	1710	1930	74	386
May 19, 1968	0800	706	24	46	Aug. 8, 1968	2000	2100	78	442
May 24, 1968	0830	314	13	11	Aug. 19, 1968	1600	23	12	1
May 24, 1968	1220	543	14	21	Aug. 20, 1968	0800	1640	47	208
May 24, 1968	1710	782	12	25	Sept. 5, 1968	1610	154	12	5
May 26, 1968	2005	5480	133	1970	Sept. 9, 1968	1000	1300	22	77
May 27, 1968	0745	5400	42	612	Sept. 18, 1968	1020	239	20	13
June 1, 1968	0755	571	8	12	Sept. 18, 1968	1620	1620	44	192
June 10, 1968	1345	79	30	6	Sept. 27, 1968	1245	53	1	T
5-4006.5. LITTLE PLOVER RIVER AT PLOVER, WIS. (LAT 44°28'20" LONG 89°31'40")									
Apr. 4, 1968	1330	9.2	18	T	July 18, 1968	1125	12	4	T
Apr. 4, 1968	1335	9.2	14	T	July 19, 1968	1800	11	4	T
May 10, 1968	1525	9.7	16	T	Aug. 22, 1968	1100	8.9	10	T
May 14, 1968	0910	9.2	13	T	Sept. 25, 1968	1130	10	1	T
June 14, 1968	0815	12	6	T					
5-4010.5. TENMILE CREEK NEAR NEKOOSA, WIS. (LAT 44°15'44" LONG 89°48'38")									
Apr. 5, 1968	1555	60	172	28	June 13, 1968	1725	63	42	7
Apr. 6, 1968	0815	58	81	13	July 19, 1968	0845	128	93	32
May 14, 1968	1030	56	94	14	Aug. 27, 1968	1045	47	13	2
May 16, 1968	1310	90	259	63	Sept. 30, 1968	1530	72	24	5
5-4020. YELLOW RIVER AT BABCOCK, WIS. (LAT 44°18'05" LONG 90°07'15")									
Sept. 1, 1967	0922	20	9	T	Nov. 27, 1967	0825	25	6	T
Oct. 11, 1967	1407	46	6	1					
5-4042. NARROWS CREEK AT LOGANVILLE, WIS. (LAT 43°26'32" LONG 90°02'06")									
Apr. 29, 1968	1300	16	20	1	Sept. 5, 1968	1450	8.3	16	T
June 10, 1968	1530	7.3	30	1	Sept. 30, 1968	1155	8.6	26	1
5-4050. BARABOO RIVER NEAR BARABOO, WIS. (LAT 43°28'55" LONG 89°38'00")									
Oct. 10, 1967	1600	240	32	21					
5-4066.4. OTTER CREEK NEAR HIGHLAND, WIS. (LAT 43°01'40' LONG 90°16'40")									
July 24, 1968	1130	8.2	192	4	Sept. 27, 1968	1050	5.0	8	T
July 24, 1968	1255	3.9	20	T	Sept. 27, 1968	1150	5.0	20	T
Aug. 20, 1968	1340	3.9	64	1					
5-4098.3. NEDERLO CREEK NEAR GAYS MILLS, WIS. #7 (LAT 43°21'47" LONG 90°54'34")									
Mar. 14, 1968	1030	.62	8	T	June 14, 1968	1230	.75	42	T
Apr. 15, 1968	1230	.75	1	T	July 11, 1968	1045	.77	14	T
5-4098.6. NEDERLO CREEK NEAR GAYS MILLS, WIS. #4 (LAT 43°21'36" LONG 90°54'31")									
Mar. 14, 1968	1120	.81	10	T	July 11, 1968	1115	1.02	12	T
Mar. 25, 1968	1800	.79	12	T					
5-4098.7. NEDERLO CREEK NEAR GAYS MILLS, WIS. #3 (LAT 43°21'30" LONG 90°53'49")									
Nov. 14, 1967	1400	2.41	30	T	June 14, 1968	1200	2.25	142	1
Mar. 14, 1968	1300	2.09	18	T	June 18, 1968	1145	3.20	1910	16
Mar. 25, 1968	1245	2.20	13	T	July 11, 1968	1130	2.32	5	T
Apr. 16, 1968	1630	2.36	24	T	Aug. 8, 1968	0815	2.31	10	T
Apr. 23, 1968	1600	2.30	35	T	Sept. 4, 1968	1100	2.15	38	T

T Less than 0.50 ton.

GPO 817-102-15

Instantaneous Suspended Sediment, water year October 1967 to September 1968--Continued

Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)	Date	Time	Discharge	Concentration	Suspended Sediment Discharge (tons/day)
GRANT RIVER BASIN									
5-4135. GRANT RIVER AT BURTON, WIS. (LAT 42°43'10" LONG 90°49'10")									
June 18, 1968	1630	90	310	75	June 27, 1968	0810	377	572	582
June 26, 1968	1425	400	874	944	July 24, 1968	1445	306	743	614
June 26, 1968	1650	503	998	1360	Aug. 16, 1968	1000	98	208	55
June 26, 1968	2050	554	1020	1530					
ROCK RIVER BASIN									
5-4230. WEST BRANCH ROCK RIVER NEAR WAUPUN, WIS. (LAT 43°40'05" LONG 88°39'10")									
Mar. 26, 1968	1530	7.9	76	2	June 4, 1968	1600	13	56	2
Apr. 24, 1968	1445	74	42	8	July 11, 1968	1300	11	82	2
May 20, 1968	1145	34	150	14	Aug. 21, 1968	1045	4.9	58	1
5-4240. EAST BRANCH ROCK RIVER NEAR MAYVILLE, WIS. (LAT 43°31'45" LONG 88°34'00")									
Oct. 5, 1967	1325	4.4	60	1	Oct. 27, 1967	1030	26	18	1
5-4260. CRAWFISH RIVER AT MILFORD, WIS. (LAT 43°06'00" LONG 88°51'00")									
Oct. 1, 1968	1650	19	86	4	Oct. 27, 1968	1000	54	60	9
5-4278. TOKEN CREEK NEAR MADISON, WIS. (LAT 43°10'52" LONG 89°19'28")									
Apr. 4, 1968	1330	18	116	6	July 24, 1968	0920	21	204	12
May 8, 1968	1405	14	108	4	Aug. 19, 1968	1655	16	47	2
June 26, 1968	1005	122	656	216	Sept. 25, 1968	1715	22	69	4
5-4305. ROCK RIVER NEAR AFTON, WIS. (LAT 42°36'40" LONG 89°04'10")									
Mar. 26, 1966	1430	5120	104	1440	Sept. 28, 1966	1430	464	58	73
Apr. 9, 1966	1545	3900	116	1220	Mar. 22, 1967	1615	2460	108	717
May 27, 1966	1630	1860	158	793	June 11, 1967	1735	2790	166	1250
July 15, 1966	1500	1440	100	389	Oct. 27, 1967	1345	878	81	192
5-4335. YELLOWSTONE RIVER NEAR BLANCHARDVILLE, WIS. (LAT 42°46'55" LONG 89°59'50")									
Aug. 1, 1968	1340	8.9	46	1	Aug. 21, 1968	1415	9.1	2.0	T
Aug. 2, 1968	1145	8.4	23	1	Aug. 22, 1968	1500	8.4	18	T
Aug. 3, 1968	1125	8.1	32	1	Aug. 23, 1968	1540	8.1	33	1
Aug. 4, 1968	1100	8.1	22	T	Aug. 24, 1968	1515	7.8	44	1
Aug. 5, 1968	1130	10	38	1	Aug. 25, 1968	1510	7.6	28	1
Aug. 6, 1968	1130	8.4	34	1	Aug. 26, 1968	1300	7.6	37	1
Aug. 7, 1968	1400	12	34	1	Aug. 27, 1968	1435	7.3	30	1
Aug. 8, 1968	1305	13	40	1	Aug. 28, 1968	1500	7.6	26	1
Aug. 9, 1968	1305	10	46	1	Aug. 29, 1968	1430	7.3	26	1
Aug. 10, 1968	1300	10	43	1	Aug. 30, 1968	1415	7.3	41	1
Aug. 11, 1968	1300	8.9	30	1	Aug. 31, 1968	1450	7.3	90	2
Aug. 12, 1968	1300	8.4	34	1	Sept. 4, 1968	1445	7.8	130	3
Aug. 13, 1968	1300	8.4	21	T	Sept. 12, 1968	0820	14	36	1
Aug. 14, 1968	1500	7.8	17	T	Sept. 18, 1968	1125	58	109	17
Aug. 15, 1968	1440	8.1	24	1	Sept. 18, 1968	1630	32	58	5
Aug. 16, 1968	1350	8.4	23	1	Sept. 25, 1968	1125	43	7	1
Aug. 17, 1968	1400	8.1	17	T	Oct. 2, 1968	1100	12	10	1
Aug. 18, 1968	1405	7.8	26	1	Oct. 9, 1968	1430	12	34	1
Aug. 19, 1968	1315	8.1	23	1	Oct. 16, 1968	1600	11	18	1
Aug. 20, 1968	1415	19	101	5					
ILLINOIS RIVER BASIN									
5-5438.3. FOX RIVER AT WAUKESHA, WIS. (LAT 43°00'17" LONG 88°14'37")									
May 9, 1968	1505	55	20	3	Aug. 20, 1968	1155	161	122	53
June 20, 1968	1440	85	18	4	Sept. 30, 1968	1245	6.9	2	T
July 16, 1968	1230	52	6	1					

T Less than 0.50 ton.

The following table contains a series of periodic specific conductance measurements obtained as part of water-resources investigations at stream gaging stations in Wisconsin. The purpose of these measurements is to determine the range in specific conductance under various streamflow conditions.

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
ST. CROIX RIVER BASIN							
5-3325. NAMEKAGON RIVER NEAR TREGO, WIS. (LAT 45°56'50" LONG 91°53'15")							
Apr. 26, 1967	7	-	115	June 5, 1967	19	-	150
5-3335. ST. CROIX RIVER NEAR DANBURY, WIS. (LAT 46°04'30" LONG 92°14'50")							
Dec. 9, 1966	0	1,100	140	Sept.28, 1967	9	972	130
Jan. 9, 1967	0	955	145	Nov. 3, 1967	3	1,092	140
Feb. 13, 1967	0	976	140	Jan. 12, 1968	0	756	160
Mar. 21, 1967	0	1,170	145	Feb. 8, 1968	0	569	100
Apr. 28, 1967	10	1,800	190	Mar. 14, 1968	0	1,020	140
June 7, 1967	16	1,140	115	Apr. 12, 1968	12	1,410	160
July 27, 1967	23	1,150	130	July 19, 1968	23	3,480	100
Aug. 22, 1967	18	921	150				
5-3360. ST. CROIX RIVER NEAR GRANTSBURG, WIS. (LAT 45°55'25" LONG 92°38'20")							
Dec. 10, 1966	0	1,560	70	Nov. 6, 1967	1	1,514	155
Jan. 10, 1967	0	1,450	90	Dec. 6, 1967	1	-	160
Feb. 14, 1967	0	1,570	170	Jan. 12, 1968	0	1,260	200
Mar. 21, 1967	0	1,660	180	Feb. 8, 1968	0	906	140
Apr. 28, 1967	11	2,980	115	Mar. 14, 1968	0	166	170
June 6, 1967	19	1,680	140	Apr. 12, 1968	13	2,350	220
July 21, 1967	27	1,500	130	May 13, 1968	15	4,500	105
Sept.28, 1967	12	1,375	140	July 19, 1968	23.5	7,250	120
5-3405. ST. CROIX RIVER AT ST. CROIX FALLS, WIS. (LAT 45°24'30" LONG 92°38'45")							
Jan. 11, 1967	2	-	200	Jan. 5, 1968	0	-	240
May 7, 1967	8	-	145	Apr. 18, 1968	12	-	170
June 10, 1967	17	-	240	July 18, 1968	23	-	125
Nov. 7, 1967	6	-	260	Aug. 29, 1968	19	-	180
Nov. 29, 1967	3	-	230				
CHIPPEWA RIVER BASIN							
5-3560. CHIPPEWA RIVER AT BISHOPS BRIDGE NEAR WINTER, WIS. (LAT 45°50'55" LONG 91°04'45")							
Dec. 6, 1966	1	-	70	Aug. 28, 1967	20	608	60
Jan. 12, 1967	2	-	75	Oct. 2, 1967	16	232	70
Feb. 16, 1967	1	-	90	Oct. 13, 1967	6	-	65
Mar. 25, 1967	3	-	115	Apr. 8, 1968	5	96.2	80
May 4, 1967	8	1,040	80	July 26, 1968	22	838	55
5-3565. CHIPPEWA RIVER NEAR BRUCE, WIS. (LAT 45°27'05" LONG 91°15'40")							
Dec. 14, 1966	0	1,410	140	Feb. 5, 1968	0	1,230	100
May 4, 1967	7	2,270	65	Mar. 5, 1968	0	560	140
July 18, 1967	23	1,339	80	Apr. 15, 1968	6	957	120
Aug. 16, 1967	23	872	80	May 10, 1968	13	876	90
Sept.22, 1967	18	728	85	July 30, 1968	23	1,360	85
Oct. 26, 1967	5	942	100	Aug. 26, 1968	18	878	90
Nov. 30, 1967	0	-	80	Sept.23, 1968	17	4,710	60
Jan. 3, 1968	0	1,340	78				
5-3595. SOUTH FORK FLAMBEAU RIVER NEAR PHILLIPS, WIS. (LAT 45°42'15" LONG 90°36'55")							
Dec. 5, 1966	1	302	84	Dec. 4, 1967	2	199	110
Jan. 13, 1967	0	231	105	Jan. 9, 1968	0	131	140
Feb. 17, 1967	0	175	50	Feb. 5, 1968	0	190	95
Mar. 25, 1967	1	378	115	Mar. 12, 1968	0	230	145
May 3, 1967	6	1,050	50	Apr. 9, 1968	6	604	100
Aug. 28, 1967	19	469	62	May 16, 1968	12	1,940	75
Sept.12, 1967	16	131	90	July 11, 1968	21	931	70
Sept.25, 1967	17	145	90	July 25, 1968	22	547	60
Oct. 31, 1967	3	367	90				

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
CHIPPEWA RIVER BASIN--Continued							
5-3605. FLAMBEAU RIVER NEAR BRUCE, WIS. (LAT 45°22'20" LONG 91°12'35")							
Jan. 12, 1967	1	1,440	100	Feb. 5, 1968	1	863	125
May 3, 1967	8	3,360	60	Mar. 6, 1968	-	801	140
June 8, 1967	16	3,240	130	Apr. 15, 1968	9	1,800	85
Aug. 16, 1967	26	768	90	May 22, 1968	11	4,530	55
Sept.25, 1967	17	787	75	July 25, 1968	23	2,160	25
Oct. 26, 1967	7	795	75	Aug. 26, 1968	19	1,010	100
Nov. 30, 1967	1	753	110	Sept.23, 1968	17	3,960	50
Jan. 3, 1968	-	412	110				
5-3620. JUMP RIVER AT SHELDON, WIS. (LAT 45°18'30" LONG 90°57'20")							
Dec. 14, 1966	0	87.5	230	Jan. 4, 1968	0	32.9	50
Jan. 12, 1967	1	87.0	160	Feb. 6, 1968	0	56.8	210
May 3, 1967	5	384	80	Mar. 18, 1968	1	575	115
June 8, 1967	16	425	120	Apr. 19, 1968	12	961	105
Aug. 18, 1967	19	45.5	160	May 16, 1968	11	9,880	55
Sept.22, 1967	20	43.6	175	July 25, 1968	20	242	120
Oct. 27, 1967	4	200	175	Aug. 27, 1968	19	70.9	160
Dec. 1, 1967	1	66.3	195	Sept.24, 1968	15	992	95
5-3655. CHIPPEWA RIVER AT CHIPPEWA FALLS, WIS. (LAT 44°55'35" LONG 91°24'40")							
Apr. 2, 1967	2	79,600	90	Feb. 6, 1968	1	-	100
June 7, 1967	18	8,720	155	Apr. 5, 1968	5	-	160
July 17, 1967	21	8,380	90	July 26, 1968	23	-	100
Aug. 25, 1967	19	230	150	Aug. 28, 1968	19	232	160
Oct. 7, 1967	11	220	125	Sept.24, 1968	18	-	105
Dec. 8, 1967	2	-	120				
5-3674.25. RED CEDAR RIVER NEAR CAMERON, WIS. (LAT 45°24'05" LONG 91°46'39")							
Mar. 29, 1967	4	1,000	140	Jan. 2, 1968	0	214	140
Mar. 31, 1967	3	3,700	100	Feb. 9, 1968	0	138	50
Apr. 1, 1967	7	1,430	100	Mar. 4, 1968	1	210	190
May 4, 1967	11	336	150	Apr. 8, 1968	5	228	100
June 5, 1967	18	-	155	May 10, 1968	10	424	145
June 9, 1967	16	328	280	July 15, 1968	23	-	110
July 17, 1967	23	330	150	July 26, 1968	20	846	135
Aug. 4, 1967	20	266	140	Aug. 23, 1968	26	344	155
Sept. 7, 1967	19	201	100	Sept. 6, 1968	17	324	160
Sept.21, 1967	19	343	155	Sept.20, 1968	15	340	160
Nov. 13, 1967	1	224	130				
5-3680. HAY RIVER AT WHEELER, WIS. (LAT 45°02'50" LONG 91°54'40")							
Jan. 9, 1967	1	150	310	Nov. 8, 1967	1	159	315
Feb. 28, 1967	0	130	140	Dec. 8, 1967	3	163	330
Mar. 29, 1967	2	2,360	95	Jan. 5, 1968	0	119	180
Mar. 30, 1967	3	8,780	75	Feb. 12, 1968	0	158	50
Apr. 1, 1967	3	5,260	80	Apr. 12, 1968	14	198	330
May 5, 1967	8	279	60	Apr. 16, 1968	12	-	350
June 9, 1967	16	353	370	May 24, 1968	16	265	300
July 18, 1967	17	188	320	July 18, 1968	22	491	280
Aug. 14, 1967	20	196	320	Aug. 30, 1968	16	200	310
Oct. 3, 1967	13	154	325				
5-3690. RED CEDAR RIVER AT MENOMONIE, WIS. (LAT 44°53'00" LONG 91°55'55")							
Jan. 10, 1967	1	-	200	Dec. 8, 1967	2	-	160
Mar. 30, 1967	2	8,660	120	Apr. 16, 1968	8	-	220
May 5, 1967	9	2,620	120	May 1, 1968	10	2,020	180
May 8, 1967	9	1,440	120	May 23, 1968	15	2,800	150
June 10, 1967	18	2,460	330	June 26, 1968	18	3,060	140
July 18, 1967	22	2,650	180	Aug. 2, 1968	22	2,520	170
Aug. 15, 1967	22	738	170	Aug. 28, 1968	21	2,260	180
Oct. 3, 1967	18	562	170	Sept.26, 1968	14	-	180
Nov. 8, 1967	4	1,570	180	Sept.27, 1968	16	4,520	180

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
CHIPPEWA RIVER BASIN--Continued							
5-3695. CHIPPEWA RIVER AT DURAND, WIS. (LAT 44°37'45" LONG 91°58'10")							
Jan. 23, 1967	0	4,300	155	Feb. 12, 1968	0	2,170	100
Feb. 23, 1967	0	7,150	125	Mar. 19, 1968	7	5,750	160
Apr. 3, 1967	3	104,000	100	Apr. 17, 1968	10	7,150	145
Apr. 11, 1967	6	34,490	80	May 20, 1968	14	33,500	90
May 16, 1967	12	10,400	100	June 27, 1968	16	28,300	75
Aug. 24, 1967	24	5,700	115	Aug. 2, 1968	22	8,980	110
Oct. 4, 1967	17	4,150	130	Aug. 28, 1968	21	4,140	130
Nov. 9, 1967	5	5,000	140	Sept.26, 1968	15	24,200	105
Dec. 15, 1967	0	-	150				
5-3700. EAU GALLE RIVER AT SPRING VALLEY, WIS. (LAT 44°51'00" LONG 92°14'15")							
Jan. 10, 1967	1	10.1	360	Mar. 7, 1968	1	58.0	260
Feb. 22, 1967	1	8.35	350	Apr. 18, 1968	8	9.04	350
Mar. 30, 1967	8	1,400	80	May 23, 1968	16	24.9	200
May 6, 1967	16	13.7	370	June 27, 1968	12	230	180
June 11, 1967	14	14.8	550	July 31, 1968	23	23.6	330
Aug. 15, 1967	23	14.0	360	Aug. 15, 1968	16	12.7	390
Oct. 3, 1967	16	9.58	380	Aug. 29, 1968	21	6.11	380
Feb. 7, 1968	0	9.84	420				
TREMPEALEAU RIVER BASIN							
5-3794. TREMPEALEAU RIVER AT ARCADIA, WIS. (LAT 44°15'15" LONG 91°30'25")							
Dec. 20, 1966	1	179	225	Oct. 17, 1967	12	211	260
Jan. 24, 1967	0	212	275	Nov. 29, 1967	0	147	260
Mar. 2, 1967	0	217	200	Jan. 10, 1968	0	166	205
Apr. 12, 1967	9	494	220	Feb. 21, 1968	0	147	245
May 17, 1967	13	310	220	Mar. 27, 1968	10	230	260
June 13, 1967	24	389	400	Mar. 27, 1968	10	230	272
July 12, 1967	23	252	230	June 5, 1968	26	276	260
Aug. 7, 1967	22	226	275	Aug. 27, 1968	16	303	205
Sept.11, 1967	23	208	220	Sept.26, 1968	12	358	225
5-3795. TREMPEALEAU RIVER AT DODGE, WIS. (LAT 44°07'55" LONG 91°33'10")							
Dec. 20, 1966	1	248	240	Nov. 29, 1967	0	140	240
Jan. 24, 1967	0	217	250	Jan. 11, 1968	0	145	150
Mar. 3, 1967	0	225	240	Feb. 21, 1968	0	150	280
Mar. 28, 1967	2	6,350	90	Apr. 24, 1968	6	1,300	270
Apr. 12, 1967	9	555	280	June 5, 1968	26	318	280
June 13, 1967	24	465	250	July 30, 1968	21	619	240
Aug. 8, 1967	19	253	300	Aug. 27, 1968	19	315	245
Sept.12, 1967	23	204	230	Sept.25, 1968	15	454	270
Oct. 18, 1967	8	209	260				
BLACK RIVER BASIN							
5-3810. BLACK RIVER AT NEILLSVILLE, WIS. (LAT 44°33'35" LONG 90°36'50")							
Dec. 13, 1966	0	134	205	Jan. 11, 1968	0	10.6	400
Jan. 13, 1967	1	66.4	180	Feb. 18, 1968	0	15.5	430
Feb. 27, 1967	0	98.0	180	Mar. 29, 1968	7	-	135
May 1, 1967	13	319	110	Apr. 3, 1968	7	364	120
June 6, 1967	22	93.3	140	May 8, 1968	14	189	120
July 26, 1967	28	156	115	June 11, 1968	23	633	105
Aug. 31, 1967	19	245	120	July 16, 1968	23	3,150	90
Oct. 6, 1967	13	34.7	175	Aug. 20, 1968	23	85.6	180
Dec. 1, 1967	0	54.8	220	Sept.27, 1968	14	283	100
5-3820. BLACK RIVER NEAR GALESVILLE, WIS. (LAT 44°03'45" LONG 91°17'30")							
Dec. 20, 1966	1	377	130	Oct. 18, 1967	9	469	120
Jan. 24, 1967	0	457	135	Nov. 30, 1967	0	460	140
Mar. 2, 1967	0	566	130	Jan. 11, 1968	0	264	150
Apr. 13, 1967	7	7,530	80	Feb. 22, 1968	0	287	140
June 5, 1967	19	-	115	Mar. 28, 1968	9	969	120
June 20, 1967	21	6,400	220	Apr. 25, 1968	9	6,370	85
July 13, 1967	19	1,070	100	June 4, 1968	20	4,000	85
Aug. 8, 1967	21	561	150	Aug. 27, 1968	22	678	100
Sept.12, 1967	23	395	120	Sept.25, 1968	16	2,330	70

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
LA CROSSE RIVER BASIN							
5-3830. LA CROSSE RIVER NEAR WEST SALEM, WIS. (LAT 43°54'05" LONG 91°07'05")							
Dec. 19, 1966	3	254	360	Sept.12, 1967	23	302	230
Jan. 25, 1967	1	340	240	Oct. 19, 1967	9	196	260
Mar. 1, 1967	1	172	285	Nov. 30, 1967	2	172	260
Mar. 27, 1967	2	1,610	135	Jan. 13, 1968	2	171	270
Apr. 13, 1967	9	-	180	Mar. 28, 1968	9	182	240
June 5, 1967	20	-	280	Apr. 25, 1968	7	342	280
June 13, 1967	24	376	220	June 5, 1968	23	277	270
June 20, 1967	22	393	340	June 21, 1968	22	203	220
July 10, 1967	23	215	250	Aug. 28, 1968	23	231	225
Aug. 8, 1967	22	238	280	Sept.24, 1968	19	328	240
Aug. 11, 1967	19	231	270				
WISCONSIN RIVER BASIN							
5-3901.8. WISCONSIN RIVER AT CONOVER, WIS. (LAT 46°02'52" LONG 89°15'57")							
Dec. 8, 1966	1	234	80	Nov. 6, 1967	0	207	70
Jan. 5, 1967	0	232	95	Jan. 15, 1968	0	150	100
Aug. 3, 1967	19	145	80	Feb. 26, 1968	0	115	120
Aug. 29, 1967	16	166	70	Apr. 12, 1968	11	128	80
Sept.28, 1967	9	196	80				
5-3910. WISCONSIN RIVER AT RAINBOW LAKE NEAR LAKE TOMAHAWK, WIS. (LAT 45°50'00" LONG 89°32'50")							
Dec. 16, 1966	1	878	72	Mar. 7, 1968	1	749	100
Jan. 18, 1967	1	-	80	Apr. 12, 1968	6	256	70
Apr. 13, 1967	3	817	50	May 14, 1968	12	296	70
Aug. 2, 1967	22	642	70	June 18, 1968	18	422	60
Sept.11, 1967	17	639	70	July 18, 1968	24	1,870	55
Oct. 17, 1967	8	438	75	Aug. 28, 1968	19	659	65
Jan. 30, 1968	1	684	80	Sept.17, 1968	17	907	80
5-3935. SPIRIT RIVER AT SPIRIT FALLS, WIS. (LAT 45°26'55" LONG 89°58'50")							
Dec. 17, 1966	0	19.3	180	Sept. 8, 1967	18	8.37	160
Jan. 17, 1967	0	16.0	50	Oct. 17, 1967	8	14.9	140
Feb. 28, 1967	0	18.4	135	Feb. 17, 1968	0	6.63	160
Apr. 13, 1967	3	342	70	Mar. 27, 1968	1	-	85
May 16, 1967	9	99.3	60	Mar. 28, 1968	1	-	85
June 21, 1967	17	259	90	Apr. 3, 1968	3	99.1	80
Aug. 2, 1967	19	18.1	110				
5-3945. PRAIRIE RIVER NEAR MERRILL, WIS. (LAT 45°14'10" LONG 89°38'50")							
Dec. 15, 1966	0	89.2	180	Aug. 23, 1967	18	-	170
Jan. 18, 1967	0	78.9	180	Sept. 8, 1967	14	83.8	180
Mar. 1, 1967	0	76.9	220	Oct. 18, 1967	8	135	150
Apr. 12, 1967	3	741	60	Jan. 9, 1968	0	85.2	190
May 18, 1967	13	166	120	Feb. 16, 1968	0	73.0	195
June 22, 1967	19	232	160	Mar. 27, 1968	7	183	150
Aug. 1, 1967	19	95.5	155	Apr. 4, 1968	4	-	115
5-3950. WISCONSIN RIVER AT MERRILL, WIS. (LAT 45°10'40" LONG 89°40'45")							
Dec. 16, 1966	1	2,120	92	Dec. 5, 1967	1	1,820	120
Jan. 18, 1967	0	1,920	90	Jan. 9, 1968	0	1,740	110
Mar. 1, 1967	0	2,100	100	Feb. 16, 1968	0	1,700	120
Apr. 12, 1967	3	8,060	60	Mar. 27, 1968	4	1,800	120
May 18, 1967	12	2,515	60	Apr. 29, 1968	11	2,650	80
June 22, 1967	20	4,480	100	June 13, 1968	19	6,750	80
July 31, 1967	25	1,900	75	July 2, 1968	16	11,100	50
Sept. 7, 1967	18	2,170	160	Sept. 6, 1968	19	3,080	120

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
WISCONSIN RIVER BASIN--Continued							
5-3975. EAU CLAIRE RIVER AT KELLEY, WIS. (LAT 44°55'05" LONG 89°33'00")							
Dec. 15, 1966	0	58.5	310	Feb. 15, 1968	0	44.7	300
Jan. 19, 1967	0	51.3	50	Mar. 26, 1968	3	263	145
Apr. 11, 1967	6	1,140	90	Apr. 4, 1968	5	311	135
May 22, 1967	14	165	165	May 10, 1968	10	167	155
June 23, 1967	19	261	205	May 16, 1968	12	1,170	115
July 25, 1967	21	75.5	225	May 17, 1968	11	-	70
Aug. 31, 1967	14	136	185	June 12, 1968	18	237	140
Oct. 5, 1967	13	80.9	220	July 16, 1968	26	472	105
Nov. 30, 1967	0	92.3	265	Aug. 21, 1968	21	214	150
Jan. 10, 1968	0	53.5	265	Sept.25, 1968	13	267	160
5-3980. WISCONSIN RIVER AT ROTHSCHILD, WIS. (LAT 44°53'10" LONG 89°37'50")							
Apr. 11, 1967	4	14,500	65	June 20, 1967	18	8,890	180
May 22, 1967	13	4,420	100	Sept.25, 1968	16	4,950	100
5-3995. BIG EAU PLEINE RIVER NEAR STRATFORD, WIS. (LAT 44°49'15" LONG 90°04'35")							
Dec. 20, 1966	0	13.0	180	Feb. 19, 1968	0	0.46	360
Jan. 17, 1967	0	6.68	140	Apr. 2, 1968	9	84.7	155
Feb. 28, 1967	0	9.67	250	May 7, 1968	14	28.6	140
Apr. 11, 1967	4	547	110	May 16, 1968	12	12,300	70
May 19, 1967	14	34.9	120	May 16 1968	12	11,600	70
June 20, 1967	17	1,300	150	May 17, 1968	11	-	70
July 25, 1967	27	20.5	150	July 10, 1968	26	72.1	110
Aug. 28, 1967	18	181	180	July 15, 1968	23	829	115
Oct. 12, 1967	6	22.9	200	Aug. 19, 1968	24	23.4	190
Nov. 30, 1967	0	7.32	260	Sept.27, 1968	14	51.0	160
Jan. 12, 1968	0	2.98	310				
5-4006. LITTLE PLOVER RIVER NEAR ARNOTT, WIS. (LAT 44°28'05" LONG 89°29'20")							
July 18, 1968	18	4.00	360	Aug. 22, 1968	18	2.74	350
5-4006.5. LITTLE PLOVER RIVER AT PLOVER, WIS. (LAT 44°28'20" LONG 89°31'40")							
July 18, 1968	14	-	310	Aug. 22, 1968	13	8.91	445
July 19, 1968	15	11.2	320	Sept. 4, 1968	13	-	340
July 25, 1968	13	-	305	Sept.24, 1968	12	10.0	330
5-4010.5 TENMILE CREEK NEAR NEKOOSA, WIS. (LAT 44°15'44" LONG 89°48'38")							
July 18, 1968	17	133	260	Aug. 27, 1968	12	47.0	255
July 19, 1968	17	-	280	Sept.30, 1968	13	74.5	290
5-4011. FOURTEEN MILE CREEK NEAR NEW ROME, WIS. (LAT 44°12'15" LONG 89°48'29")							
July 19, 1968	22	125	320	Aug. 27, 1968	21	22.6	310
5-4015.35. BIG ROCHE A CRI CREEK NEAR ADAMS, WIS. (LAT 44°05'52" LONG 89°46'30")							
July 20, 1968	16	79.1	220	Sept. 5, 1968	15	60.6	225
5-4020. YELLOW RIVER AT BABCOCK, WIS. (LAT 44°18'05" LONG 90°07'15")							
Jan. 12, 1968	0	9.98	130	May 17, 1968	12	-	65
Feb. 19, 1968	0	6.89	150	Aug. 19, 1968	19	17.4	105
Apr. 2, 1968	8	79.3	140	Sept.30, 1968	13	56.5	95
May 7, 1968	12	58.5	105				
5-4035. LEMONWEIR RIVER AT NEW LISBON, WIS. (LAT 43°52'50" LONG 90°09'40")							
Dec. 19, 1966	1	110	160	Oct. 25, 1967	10	192	140
Jan. 26, 1967	1	182	155	Dec. 5, 1967	1	140	150
Mar. 3, 1967	0	147	150	Feb. 20, 1968	0	83.0	110
July 12, 1967	22	-	120	Apr. 4, 1968	6	238	160
July 14, 1967	19	166	140	May 3, 1968	16	378	110
Aug. 12, 1967	19	107	200	June 10, 1968	24	226	140
Sept.15, 1967	24	411	140	Sept. 4, 1968	21	146	140
Oct. 23, 1967	10	140	140				

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
WISCONSIN RIVER BASIN--Continued							
5-4040. WISCONSIN RIVER NEAR WISCONSIN DELLS, WIS. (LAT 43°36'20" LONG 89°45'25")							
Dec. 20, 1966	0	-	200	Sept.26, 1967	17	4,930	160
Jan. 24, 1967	0	-	200	Oct. 6, 1967	2	4,580	170
Feb. 28, 1967	0	-	210	Oct. 27, 1967	7.5	6,600	160
Apr. 4, 1967	3	49,300	160	Apr. 9, 1968	6	6,400	220
Apr. 18, 1967	8	22,890	80	June 11, 1968	24	10,200	155
June 22, 1967	21	19,000	200	Aug. 6, 1968	25	6,300	100
July 21, 1967	24	4,070	240	Sept. 3, 1968	21	4,280	110
Aug. 29, 1967	21	6,270	125				
5-4050. BARABOO RIVER NEAR BARABOO, WIS. (LAT 43°28'55" LONG 89°38'00")							
Dec. 20, 1966	1	80.2	320	Sept.19, 1967	19	299	210
Jan. 24, 1967	1	217	410	Oct. 27, 1967	7	272	340
Feb. 28, 1967	0	137	360	Dec. 6, 1967	2	158	365
Mar. 30, 1967	3	2,777	290	Jan. 9, 1968	0	141	400
Apr. 18, 1967	11	392	310	Feb. 19, 1968	0	75.9	365
May 24, 1967	17	-	280	Apr. 4, 1968	8	541	260
June 22, 1967	-	655	240	June 11, 1968	24	157	200
July 12, 1967	22	-	340	Aug. 6, 1968	26	84.1	310
July 18, 1967	23	89.1	340	Sept. 3, 1968	19	131	310
Aug. 29, 1967	21	123	340				
5-4065. BLACK EARTH CREEK AT BLACK EARTH, WIS. (LAT 43°08'00" LONG 89°44'00")							
Dec. 20, 1966	4	18.0	525	Dec. 27, 1967	0	20.6	494
Jan. 25, 1967	0	14.5	185	Jan. 16, 1968	2	19.1	540
Mar. 1, 1967	3	17.6	570	Feb. 27, 1968	3	18.9	510
May 19, 1967	13	-	500	Apr. 4, 1968	8	26.9	520
May 24, 1967	15	20.4	580	Apr. 26, 1968	9	31.4	530
June 30, 1967	16	28.0	510	May 29, 1968	13	19.7	520
July 18, 1967	18	17.8	520	June 12, 1968	19	16.8	520
Aug. 22, 1967	16	17.0	510	July 10, 1968	20	21.0	460
Sept.12, 1967	15	15.9	540	July 24, 1968	21	31.3	450
Sept.27, 1967	11	17.2	510	Aug. 6, 1968	22	20.2	520
Oct. 10, 1967	9	20.9	540	Aug. 19, 1968	17	19.4	530
Oct. 24, 1967	12	19.7	575	Sept. 3, 1968	20	18.0	520
Nov. 7, 1967	7	40.1	520	Sept.16, 1968	15	27.9	550
5-4070. WISCONSIN RIVER AT MUSCODA, WIS. (LAT 43°12'00" LONG 90°26'25")							
Dec. 13, 1966	1	-	260	Feb. 8, 1968	0	6,140	245
Jan. 24, 1967	1	5,500	230	Mar. 4, 1968	0	4,930	280
Mar. 3, 1967	0	6,300	260	Apr. 19, 1968	11	8,960	290
May 16, 1967	14	10,900	120	May 27, 1968	14	16,500	190
Sept.29, 1967	13	4,870	200	July 1, 1968	22	41,600	140
Dec. 11, 1967	2	6,510	210	Aug. 15, 1968	23	6,310	195
Jan. 16, 1968	0	4,730	270	Sept.20, 1968	17	13,800	185
5-4080. KICKAPOO RIVER AT LA FARGE, WIS. (LAT 43°34'30" LONG 90°38'35")							
Dec. 14, 1966	0	-	410	Dec. 1, 1967	0	33.2	430
Mar. 11, 1967	1	-	250	Jan. 12, 1968	0	164	350
Apr. 14, 1967	11	187	440	Feb. 23, 1968	0	69.7	460
May 19 1967	16	197	420	Mar. 30, 1968	10	111	430
June 12, 1967	22	264	360	Apr. 26, 1968	10	39.2	440
July 11, 1967	23	158	430	June 3, 1968	18	217	450
July 14, 1967	18	208	400	June 22, 1968	24	1,770	185
Aug. 9, 1967	19	27.1	470	July 29, 1968	20	198	420
Sept.13, 1967	23	25.6	380	Aug. 30, 1968	17	207	430
Oct. 24, 1967	7	52.5	445				
5-4085. KNAPP CREEK NEAR BLOOMINGDALE, WIS. (LAT 43°40'05" LONG 90°46'55")							
Dec. 23, 1966	1	1.46	360	Aug. 10, 1967	16	1.82	400
Jan. 25, 1967	1	39.4	105	Sept.14, 1967	23	3.15	280
Mar. 1, 1967	1	1.80	320	Oct. 20, 1967	9.5	1.92	330
Mar. 11, 1967	1	-	220	Dec. 4, 1967	0	2.65	310
Mar. 11, 1967	1	13.6	190	Jan. 12, 1968	0	1.10	225
Mar. 25, 1967	1	83.8	105	Feb. 29, 1968	0	1.35	360
Apr. 14, 1967	14	4.54	290	Mar. 30, 1968	10	2.78	320
May 19, 1967	17	1.91	260	June 21, 1968	20	201	90
July 11, 1967	22	1.75	320	Aug. 29, 1968	19	1.70	320

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
WISCONSIN RIVER BASIN--Continued							
5-4100. KICKAPOO RIVER AT GAYS MILLS, WIS. (LAT 43°19'10" LONG 90°51'10")							
Dec. 14, 1966	0	-	400	Dec. 4, 1967	1	200	450
Jan. 17, 1967	0	248	460	Jan. 15, 1968	0	187	380
Mar. 27, 1967	3	3,200	170	Mar. 25, 1968	7	253	430
July 17, 1967	21	251	455	May 24, 1968	14	325	470
Aug. 29, 1967	18	281	700	June 22, 1968	21	1,250	210
Sept.19, 1967	19	247	440	Aug. 13, 1968	19	259	500
Oct. 31, 1967	7	277	450	Sept.26, 1968	15	406	500
5-4105. KICKAPOO RIVER AT STEUBEN, WIS. (LAT 43°11'25" LONG 90°52'30")							
Dec. 13, 1966	0	286	420	Mar. 25, 1968	7	305	440
Jan. 16, 1967	0	287	460	May 24, 1968	14	308	465
Mar. 28, 1967	4	3,300	180	July 1, 1968	19	2,050	380
May 4, 1967	11	320	460	Aug. 12, 1968	22	314	460
Jan. 15, 1968	0	232	470	Sept.26, 1968	15	489	480
Feb. 9, 1968	0	335	350				
GRANT RIVER BASIN							
5-4135. GRANT RIVER AT BURTON, WIS. (LAT 42°43'10" LONG 90°49'10")							
Dec. 15, 1966	0	60.2	565	Feb. 12, 1968	-	49.3	610
Jan. 18, 1967	0	44.0	560	Mar. 20, 1968	8	81.3	515
Feb. 23, 1967	0	70.9	530	Apr. 16, 1968	13	77.8	540
Mar. 27, 1967	7	299	420	May 21, 1968	17	66.7	570
July 18, 1967	23	50.4	520	June 18, 1968	22	93.8	560
Aug. 30, 1967	21	43.1	525	June 26, 1968	20	451	400
Sept.20, 1967	20	58.0	500	July 24, 1968	23	286	405
Oct. 18, 1967	9	53.8	540	Aug. 16, 1968	21	100	610
Dec. 19, 1967	1	81.0	570	Sept.25, 1968	17	99.6	540
Jan. 18, 1968	0	53.2	570				
PLATTE RIVER BASIN							
5-4140. PLATTE RIVER NEAR ROCKVILLE, WIS. (LAT 42°43'55" LONG 90°38'25")							
Dec. 15, 1966	0	41.0	560	Mar. 20, 1968	7	70.8	500
Jan. 18, 1967	0	38.3	360	Apr. 16, 1968	13	55.8	530
Feb. 24, 1967	-	30.3	540	May 21, 1968	16	53.5	550
Mar. 27, 1967	7	171	415	June 19, 1968	19	69.6	540
Aug. 30, 1967	21	35.0	500	July 25, 1968	21	86.5	420
Oct. 18, 1967	10	41.7	500	Aug. 21, 1968	26	53.5	530
Dec. 19, 1967	1	58.5	550	Sept.25, 1968	16	89.9	580
Jan. 16, 1968	0	38.0	555				
GALENA RIVER BASIN							
5-4150. GALENA RIVER AT BUNCOMBE, WIS. (LAT 42°30'50" LONG 90°22'40")							
Dec. 15, 1966	3	38.6	800	Jan. 17, 1968	0	27.9	840
Jan. 19, 1967	0	21.7	670	Feb. 10, 1968	0	22.9	850
Feb. 24, 1967	-	28.0	600	Mar. 14, 1968	2	30.5	800
May 5, 1967	11	29.5	770	Apr. 17, 1968	13	46.2	760
July 19, 1967	25	26.3	775	May 22, 1968	14	38.0	800
Aug. 31, 1967	17	19.5	890	June 25, 1968	20	74.7	700
Sept.14, 1967	20	506	365	Aug. 8, 1968	23	116	610
Sept.20, 1967	22	35.9	780	Aug. 8, 1968	25	179	700
Nov. 1, 1967	9	115	710	Sept.24, 1968	20	232	500
Dec. 5, 1967	2	44.9	800				
5-4155. EAST FORK GALENA RIVER AT COUNCIL HILL, ILL. (LAT 42°28'05" LONG 90°20'20")							
Dec. 15, 1966	1	3.87	950	Dec. 5, 1967	2	8.06	850
Jan. 19, 1967	0	5.46	910	Jan. 17, 1968	0	7.22	900
Apr. 13, 1967	9	6.31	800	Feb. 10, 1968	0	6.05	930
May 5, 1967	11	5.09	850	Mar. 14, 1968	1	5.90	900
July 19, 1967	25	6.61	625	Apr. 17, 1968	12	20.1	760
Aug. 31, 1967	16	3.77	1,200	May 22, 1968	16	5.28	720
Sept.14, 1967	19	41.9	300	June 25, 1968	19	8.61	770
Sept.20, 1967	21	5.28	860	Aug. 8, 1968	23	66.2	530
Nov. 1, 1967	9	83.4	540	Sept.24, 1968	20	27.5	650

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
ROCK RIVER BASIN							
5-4230. WEST BRANCH ROCK RIVER NEAR WAUPUN, WIS. (LAT 43°40'05" LONG 88°39'10")							
Jan. 9, 1967	0	1.60	750	Jan. 10, 1968	0	1.30	720
Feb. 13, 1967	0	2.43	800	Feb. 13, 1968	0	2.46	810
Mar. 20, 1967	1	7.82	700	Feb. 27, 1968	0	1.60	740
Apr. 27, 1967	8	12.6	660	Mar. 19, 1968	6	13.1	530
July 6, 1967	19	2.18	790	Apr. 29, 1968	13	23.8	730
Aug. 7, 1967	22	0.92	650	May 20, 1968	11	33.6	750
Sept.11, 1967	18	0.29	600	June 4, 1968	26	11.5	660
Oct. 10, 1967	8	0.95	750	July 11, 1968	21	10.3	760
Nov. 2, 1967	7	50.7	680	Aug. 21, 1968	27	4.36	780
Nov. 13, 1967	4	9.34	880	Sept.21, 1968	16	6.90	760
Dec. 13, 1967	1	10.8	820				
5-4235. SOUTH BRANCH ROCK RIVER AT WAUPUN, WIS. (LAT 43°38'30" LONG 88°43'15")							
Dec. 13, 1966	1	2.73	695	Dec. 13, 1967	1	12.9	950
Jan. 9, 1967	0	15.4	930	Jan. 10, 1968	0	1.89	850
Feb. 14, 1967	0	4.06	875	Feb. 13, 1968	0	2.85	1,000
Mar. 20, 1967	1	20.0	800	Feb. 27, 1968	0	2.05	850
Apr. 27, 1967	12	18.0	850	Mar. 19, 1968	3	24.3	480
July 6, 1967	16	1.34	750	Apr. 24, 1968	6	77.0	760
Aug. 7, 1967	22	0.69	660	Apr. 29, 1968	14	-	910
Sept.11, 1967	12	0.18	690	May 20, 1968	13	34.9	850
Oct. 10, 1967	7	3.38	620	June 5, 1968	21	11.5	900
Oct. 20, 1967	9	3.32	680	July 11, 1968	22	11.1	870
Nov. 13, 1967	6	14.3	1,000	Aug. 20, 1968	26	28.2	530
5-4240. EAST BRANCH ROCK RIVER NEAR MAYVILLE, WIS. (LAT 43°31'45" LONG 88°34'00")							
Oct. 26, 1966	9	-	660	Dec. 13, 1967	1	61.3	820
Dec. 13, 1966	3	69.0	550	Jan. 10, 1968	0	5.67	1,000
Jan. 9, 1967	0	18.9	920	Feb. 14, 1968	0	35.8	760
Feb. 13, 1967	0	44.5	840	Mar. 19, 1968	3	122	540
Mar. 21, 1967	0	99.8	650	Apr. 29, 1968	13	207	690
Apr. 26, 1967	9	113	700	June 5, 1968	24	60.1	710
July 6, 1967	20	64.1	750	July 11, 1968	22	58.5	710
Aug. 7, 1967	22	11.3	725	Aug. 21, 1968	29	40.5	640
Oct. 10, 1967	10	8.85	900	Sept.18, 1968	18	14.2	740
Nov. 14, 1967	4	97.2	790				
5-4255. ROCK RIVER AT WATERTOWN, WIS. (LAT 43°11'25" LONG 88°43'35")							
Dec. 15, 1966	2	256	670	Nov. 16, 1967	2	487	600
Jan. 11, 1967	0	112	630	Jan. 11, 1968	0	103	890
Feb. 16, 1967	0	254	760	Feb. 16, 1968	0	137	1,000
Mar. 10, 1967	1	279	850	Mar. 18, 1968	2	116	580
Mar. 23, 1967	1	542	600	Apr. 26, 1968	9	851	640
Apr. 28, 1967	7	809	710	June 13, 1968	21	389	690
June 5, 1967	22	97.0	675	July 17, 1968	28	454	645
Aug. 9, 1967	23	39.2	640	Aug. 28, 1968	22	154	560
Sept.14, 1967	20	28.2	670	Sept.24, 1968	21	243	600
Oct. 12, 1967	9	24.1	580				
5-4260. CRAWFISH RIVER AT MILFORD, WIS. (LAT 43°06'00" LONG 88°51'00")							
Dec. 5, 1966	1	55.9	740	Oct. 12, 1967	8	29.2	600
Jan. 5, 1967	1	255	440	Nov. 20, 1967	1	264	780
Feb. 16, 1967	0	189	775	Jan. 11, 1968	0	55.9	960
Mar. 13, 1967	0	-	415	Feb. 19, 1968	0	76.7	850
Mar. 23, 1967	1	638	520	Mar. 18, 1968	2	168	430
Apr. 28, 1967	8	461	630	June 17, 1968	22	327	485
June 5, 1967	22	119	650	July 17, 1968	27	263	620
Aug. 9, 1967	22	96.3	590	Aug. 28, 1968	24	165	550
Sept.14, 1967	19	37.4	650	Sept.25, 1968	20	183	660

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
ROCK RIVER BASIN--Continued							
5-4295. YAHARA RIVER NEAR MC FARLAND, WIS. (LAT 43°00'30" LONG 89°18'15")							
Dec. 23, 1966	2	113	435	Nov. 21, 1967	3	157	480
Jan. 25, 1967	1	210	460	Dec. 5, 1967	1	124	440
Mar. 1, 1967	2	208	440	Dec. 29, 1967	0	117	376
Apr. 12, 1967	7	189	400	Feb. 27, 1968	2	106	460
Apr. 26, 1967	12	174	420	Apr. 26, 1968	12	112	440
May 24, 1967	14	126	440	May 28, 1968	14	66.6	450
July 18, 1967	24	91.0	415	June 12, 1968	22	72.8	430
July 27, 1967	24	115	420	June 25, 1968	21	131	430
Aug. 7, 1967	23	86.3	400	July 2, 1968	20	301	500
Aug. 21, 1967	24	17.0	380	July 10, 1968	24	188	430
Sept. 5, 1967	26	8.03	360	July 15, 1968	25	191	410
Sept.12, 1967	18	9.68	380	July 24, 1968	26	167	440
Sept.19, 1967	23	21.5	325	Aug. 1, 1968	25	118	430
Sept.27, 1967	16	39.2	390	Aug. 6, 1968	26	112	420
Oct. 3, 1967	18	29.8	380	Aug. 13, 1968	24	93.2	420
Oct. 11, 1967	9	50.0	405	Aug. 19, 1968	26	80.8	420
Oct. 17, 1967	14	48.5	400	Sept. 3, 1968	24	55.4	410
Oct. 24, 1967	11	89.5	420	Sept.16, 1968	21	51.7	440
Nov. 7, 1967	4	236	410	Sept.24, 1968	20	123	410
5-4305. ROCK RIVER AT AFTON, WIS. (LAT 42°36'40" LONG 89°04'10")							
Dec. 22, 1966	1	1,139	645	Jan. 19, 1968	1	739	675
Jan. 23, 1967	1	934	650	Mar. 4, 1968	4	822	700
May 19, 1967	17	1,870	680	Apr. 16, 1968	14	918	590
Sept. 4, 1967	18	182	600	May 6, 1968	14	2,140	570
Oct. 4, 1967	17	494	630	June 28, 1968	17	3,720	565
Nov. 10, 1967	2	2,094	640	July 15, 1968	25	2,900	560
Dec. 28, 1967	1	-	564	Aug. 16, 1968	24	603	590
5-4315. TURTLE CREEK NEAR CLINTON, WIS. (LAT 42°35'55" LONG 88°51'50")							
Nov. 29, 1966	1	48.0	625	Dec. 15, 1967	0	67.4	640
Feb. 14, 1967	1	58.5	650	Jan. 25, 1968	0	57.1	680
Mar. 22, 1967	4	75.3	585	Mar. 5, 1968	1	58.8	580
Apr. 12, 1967	9	116	560	Apr. 17, 1968	10	76.8	590
May 19, 1967	18	92.6	610	May 20, 1968	14	98.8	600
Aug. 2, 1967	26	51.7	600	June 26, 1968	15	244	425
Sept. 1, 1967	16	38.1	650	July 25, 1968	26	152	480
Oct. 9, 1967	9	55.1	580	Sept.27, 1968	17	104	600
Nov. 11, 1967	1	97.2	650				
5-4325. PECATONICA RIVER AT DARLINGTON, WIS. (LAT 42°40'30" LONG 90°06'55")							
Dec. 16, 1966	1	85.4	580	Dec. 5, 1967	3	71.0	570
Jan. 20, 1967	0	49.1	650	Jan. 18, 1968	0	60.0	645
Mar. 1, 1967	-	65.3	670	Feb. 13, 1968	0	58.2	690
Mar. 29, 1967	7	204	520	Apr. 17, 1968	13	105	600
May 17, 1967	14	101	600	May 23, 1968	14	77.9	600
July 20, 1967	24	62.0	600	June 26, 1968	17	269	370
Aug. 31, 1967	19	45.1	600	July 25, 1968	23	159	425
5-4330. E. BRANCH PECATONICA RIVER NEAR BLANCHARDVILLE, WIS. (LAT 42°47'10" LONG 89°51'40")							
Dec. 16, 1966	2	84.3	500	Jan. 18, 1968	0	80.3	500
Jan. 20, 1967	0	62.0	530	Feb. 10, 1968	0	70.9	540
May 18, 1967	16	100	565	Mar. 15, 1968	1	68.3	500
July 20, 1967	25	71.0	580	Apr. 17, 1968	13	93.0	500
Sept. 1, 1967	18	55.7	550	May 23, 1968	14	82.9	510
Sept.21, 1967	20	66.6	520	June 27, 1968	14	320	365
Oct. 19, 1967	7	64.7	500	Aug. 6, 1968	27	90.5	510
Dec. 20, 1967	1	80.9	500	Sept.23, 1968	18	149	460

Specific conductance (micromhos at 25°C), December 1966 to September 1968--Continued

Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)	Date	Water temperature (°C)	Discharge (cfs)	Specific conductance (micromhos at 25°C)
ROCK RIVER BASIN--Continued							
5-4345. PECATONICA RIVER AT MARTINTOWN, WIS. (LAT 42°30'35" LONG 89°48'00")							
Jan. 19, 1967	0	232	600	Feb. 10, 1968	0	354	540
Mar. 1, 1967	0	285	550	Mar. 15, 1968	1	295	560
May 17, 1967	18	443	540	Apr. 18, 1968	13	481	545
Sept. 1, 1967	18	254	560	May 23, 1968	15	373	570
Sept.21, 1967	20	299	520	June 27, 1968	17	1,350	265
Dec. 12, 1967	2	397	550	Aug. 7, 1968	27	513	440
Jan. 17, 1968	0	305	570	Sept.23, 1968	18	828	580
5-4365. SUGAR RIVER NEAR BRODHEAD, WIS. (LAT 42°36'40" LONG 89°23'50")							
Dec. 22, 1966	1	180	505	Jan. 19, 1968	0	226	520
Jan. 23, 1967	0	194	500	Mar. 4, 1968	2	196	490
May 10, 1967	12	226	475	Apr. 12, 1968	16	242	445
July 24, 1967	27	445	450	May 13, 1968	18	232	460
Sept. 4, 1967	21	191	510	June 28, 1968	16	1,030	340
Oct. 5, 1967	20	198	480	July 25, 1968	23	473	440
Nov. 14, 1967	1	350	480	Aug. 23, 1968	28	237	440
Dec. 28, 1967	0	611	241	Sept.27, 1968	14	621	410
ILLINOIS RIVER BASIN							
5-5438.3. FOX RIVER AT WAUKESHA, WIS. (LAT 43°00'17" LONG 88°14'37")							
Dec. 5, 1966	4	11.1	1,100	Dec. 18, 1967	1	23.2	1,175
Jan. 5, 1967	5	12.8	1,300	Jan. 22, 1968	6	13.5	1,125
Feb. 7, 1967	3	29.3	1,100	Mar. 7, 1968	8	12.2	1,175
Mar. 13, 1967	2	96.3	690	Apr. 10, 1968	11	41.7	945
Apr. 17, 1967	13	65.6	650	May 9, 1968	17	54.4	860
May 25, 1967	19	27.0	770	June 20, 1968	21	85.3	700
June 6, 1967	21	21.8	800	July 16, 1968	26	51.5	800
June 26, 1967	21	45.4	800	Aug. 20, 1968	23	163	440
Oct. 4, 1967	22	12.5	1,075	Sept.30, 1968	17	6.92	790
Nov. 6, 1967	3	22.3	1,000				
5-5465. FOX RIVER AT WILMOT, WIS. (LAT 42°30'40" LONG 88°10'45")							
Mar. 23, 1967	1	386	650	Jan. 24, 1968	0	-	800
Mar. 25, 1967	1	680	650	Feb. 6, 1968	1	-	640
Apr. 13, 1967	9	-	650	Mar. 8, 1968	0	-	650
May 17, 1967	16	-	650	May 10, 1968	17	-	690
Sept. 7, 1967	22	-	650	June 21, 1968	21	-	600
Oct. 3, 1967	20	-	640	July 19, 1968	26	1,020	550
Nov. 9, 1967	1	250	840	Sept.26, 1968	18	-	650
Dec. 15, 1967	0	-	725				

Part 1. Surface Water Records

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