

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Prepared in cooperation with the
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ESTIMATING
MAGNITUDE AND FREQUENCY
OF FLOODS IN WISCONSIN

By
DUANE H. CONGER



Open-file report 71-0076

MADISON, WISCONSIN
1971



United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
1815 University Avenue
Madison, Wisconsin 53706

Dear Sir:

Attached is the report "Estimating Magnitude and Frequency of Floods in Wisconsin." This report was prepared by the U.S. Geological Survey, Water Resources Division, in cooperation with the State of Wisconsin, Department of Transportation, Division of Highways.

The Log Pearson Type III method was used in this report for determining flood-flow frequencies as outlined in Bulletin No. 15 "A Uniform Technique for Determining Flood Flow Frequencies," by the Water Resources Council (1967).

Somewhat different flood-flow frequencies can be determined using the above method because of varying interpretations in the use of skew, expected probability, and outliers (as described in Bulletin No. 15 above). We believe that the flood frequency analysis method used by the U.S. Geological Survey conforms to that outlined in Bulletin No. 15 and is based on sound hydrologic principles.

The Wisconsin legislature incorporated flood-plain zoning legislation in the Wisconsin Water Resources Act (Section 31, Chapter 614, Laws of Wisconsin, 1965). The Wisconsin Department of Natural Resources has been delegated the responsibility of establishing and upgrading minimum statewide standards for flood-plain regulations. The Department of Natural Resources is the agency responsible for designating the regional flood that will be used for such purposes. Minimum standards for specific sites may be obtained from the Bureau of Water and Shoreland Management of that Department.

Sincerely yours,

C.L.R. Holt, Jr.
District Chief

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DEPARTMENT OF THE INTERIOR
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ESTIMATING MAGNITUDE AND FREQUENCY OF FLOODS IN WISCONSIN

By Duane H. Conger

ABSTRACT

This report provides methods for estimating flood characteristics at most sites where flood information may be needed for planning and design and summarizes the significant flood data and related information available on Wisconsin streams.

Individual equations are presented for estimating flood discharges for selected recurrence intervals up to a 25-year flood for drainage areas 0.5 square miles and larger, a 50-year flood for drainage areas 20 square miles and larger, and a 100-year flood for drainage areas 50 square miles and larger. A ratio method is used for estimating a 50-year flood for drainage areas 0.5 to 20 square miles. The equations were defined from multiple-regression analysis of flood peak records and basin characteristics for 119 continuous-record gaging stations and 114 crest-stage partial-record stations in Wisconsin and adjoining States.

Of the several basin characteristics used in this study, only drainage area, main-channel slope, lake and marsh area, and areal factors were found to be statistically significant at the 99 percent effectiveness level for all flood frequencies.

Solution of a hypothetical problem is given for using the flood-frequency equations. Graphs are presented for solution of flood discharges on regulated streams where the formulas are not applicable.

Flood-frequency characteristics, 2-year flood to 100-year flood, and drainage basin characteristics for stations used in the multiple regression are presented in the appendices of this report.

INTRODUCTION

A knowledge of flood characteristics is an essential tool for designing culverts, bridges, and drainage systems; for planning use of flood-prone lands; and for establishing flood insurance rates. Only through reliable estimates of the magnitude of flooding and the related frequency of occurrence is it possible to obtain economically optimum designs, to prepare realistic zoning ordinances, or to establish equitable flood insurance rates.

The purposes of this report are to provide methods for estimating flood characteristics at most sites where flood information may be needed for planning and design and to summarize the significant flood data and related information presently available on Wisconsin streams.

Previous reports (Ericson, 1961, Wiitala, 1965, Patterson and Gamble, 1968) also have proposed flood-estimating techniques. Since preparation of those earlier reports, several years of additional flood data have been accumulated, particularly on small streams, and methods of flood analysis have been improved and perfected. This report uses new data and improved analytical techniques that provide more reliable flood estimates than older methods.

The defined relations apply only to sites on streams where flood flows are virtually natural and where the drainage area exceeds about 0.5 square mile. The relations cannot be applied to streams draining areas with significant urban development, and to streams containing man-made storage reservoirs or significant channel changes. Only runoff and snowmelt floods are considered. Floods caused by channel obstructions such as ice and debris jams, and by dam failures defy rational analysis.

Cooperation

This report was prepared by the Water Resources Division of the U.S. Geological Survey in cooperation with the State of Wisconsin, Department of Transportation, Division of Highways.

The flood data in this report were collected by the U.S. Geological Survey through cooperative agreements with several organizations, particularly the Wisconsin Department of Transportation; Wisconsin Department of Natural Resources; Southeastern Wisconsin Regional Planning Commission; and U.S. Department of the Army, Corps of Engineers.

Hydrologic Definitions

Hydrologic terms and concepts used in this report:

1. Cubic feet per second (cfs).--One cfs is the rate of discharge of a stream having a cross sectional area of 1 square foot and an average velocity of 1 foot per second. One cfs equals 0.646 million U.S. gallons per day or 449 gallons per minute.
2. Continuous-record gaging station.--A site on a stream where stage and discharge data are obtained continuously over a period of time.
3. Crest-stage partial-record gaging station.--A site on a stream where flood peak data only are collected systematically over a period of years.
4. Water year.--The 12-month period from October 1 through September 30, designated by the calendar year in which it ends.
5. Recurrence interval.--The average interval of time, in years, within which the given flood event is expected to be equaled or exceeded once. The reciprocal of the recurrence interval is the probability of occurrence during any year. (A 50-year flood, Q_{50} , has a 2 percent chance of being equaled or exceeded in any given year.) Recurrence intervals imply no regularity of occurrence; a 50-year flood event might be exceeded in consecutive years, or it might not be exceeded in a 100-year period.
6. Flood-frequency curve.--A graph showing the relationship between recurrence interval plotted as abscissa and flood-magnitude plotted as ordinate.
7. Multiple regression.--A statistical technique for defining the relationship between a dependent variable and two or more independent variables. In this report the dependent variable is the flow characteristic (flood discharge of a given frequency), and the independent variables are drainage-basin characteristics, such as main-channel slope and drainage area.
8. Standard error of estimate (Se).--A range of error such that the value estimated by the regression equation is within this range at about two out of three sites and is within twice this range at about 19 out of 20 sites (Thomas and Benson, 1969, p. 20).

Areal Differences in Flood Discharges

Flood discharges for drainage areas of similar size differ significantly within the State because of areal variations in topography, geology, soils, and vegetative cover. Floods with high runoff per square mile occur in southwestern Wisconsin because of the rugged, unglaciated topography; deeply incised streams; and steep slopes. Flood peaks in south-central Wisconsin are generally broad and flat because of gentle topography and slow draining marsh areas. Similar broad and flat flood peaks occur in the central sand plain area because of a generally level topography and thick and extensive deposits of permeable sand and gravel. Flat-crested flood peaks of small magnitude occur in the gently rolling topography of eastern Wisconsin. Floods are flashy in the north-central part of the State where the glacial drift is thin and consists of clay till. Farther north, where there are many lakes and marsh areas, flood peaks are low. Runoff from floods is rapid in the Lake Superior area because of steep topography and large areas of impermeable lake clay. In addition to these areal differences, floods also vary according to size of the drainage basin as shown in appendix I.

FLOOD-FREQUENCY ANALYSIS

The multiple-regression analysis used in this study defines the relation between flood discharge and basin characteristics. The regression model used to define this relationship is expressed by the equation,

$$Q_n = c A^{b_1} B^{b_2} \dots$$

where Q_n is a flow characteristic, c is a regression constant, A and B are basin characteristics, and b_1 and b_2 are regression coefficients. The analysis defines the regression coefficients and regression constant, evaluates significance of each basin characteristic, and provides a standard error of estimate.

Computation of Flood Characteristics

Data from 160 continuous-record and 115 crest-stage partial-record gaging stations in Wisconsin and adjoining States were considered for this analysis. Station descriptions and annual flood peaks for these stations are listed in appendix II. The locations of 124 continuous-record and 113 crest-stage partial-record gaging stations in Wisconsin are shown in figures 1 and 2 respectively. Location of stations in adjacent States are not shown.



Figure 1.--Map of Wisconsin showing location of continuous-record gaging stations with 6 or more years of record.



Figure 2.--Map of Wisconsin showing location of crest-stage partial-record gaging stations with 6 or more years of record.

The criteria for selecting stations used in the regression analysis were that the station have at least 6 years of record, that flood peaks are not materially affected by regulation, and that more than 25 percent difference in drainage area exist between gaging stations located on the same stream. Of the 275 stations considered, 233 met the above criteria and were used in the final regression analysis.

Flood-frequency relationships were developed for all of the above stations using the log-Pearson Type III method as recommended by the United States Water Resources Council (1967). These relationships were used except when low outlier peaks caused unreasonable frequency curve skews. In these instances, the frequency curves were revised on the basis of historical data and/or other flood-frequency methods. Discharges for selected recurrence intervals, to about twice the period of station record, are listed in appendix III.

Drainage-Basin Characteristics

Thirteen basin characteristics, called independent variables, were used in the multiple-regression analysis. Values of these characteristics, except for areal factors, are listed for 233 stations in appendix IV and are defined as follows:

1. Drainage area (A), in square miles, is the area contributing directly to surface runoff.
2. Main-channel slope (S), in feet per mile, is the slope of the stream between points that are 10 percent and 85 percent of the distance along the channel from the gaging station to the basin divide.
3. Lake and marsh area (St), expressed as percent of the drainage area, includes lakes, ponds, and wetlands determined from U.S. Geological Survey maps and U.S. Soil Conservation Service data. To avoid zero values, a constant of 1 percent is added to each value of St used in the regression equation.
4. Main-channel length (L), in miles, measured from the gaging station to the basin divide.
5. Forest cover (F), expressed as a percentage of the basin drainage area as shown on U.S. Geological Survey maps, determined by the grid method and data from the U.S. Soil Conservation Service. A constant of 1 percent is added to each value of F used in the regression equation.

6. Mean annual precipitation (P), 1931-60 average in inches, determined from an isohyetal map published by the U.S. Weather Bureau (1960). A constant of 20 inches is subtracted from each value of P used in the regression equation to provide manageable constants and exponents in the equation.
7. Mean minimum January temperature (T_1), 1931-52 average in degrees Fahrenheit, determined from isothermal maps published by the U.S. Weather Bureau (1960).
8. Mean annual snowfall (S_n), 1951-60 average in inches, determined from a map of seasonal snowfall in Wisconsin Statistical Reporting Service (1967, p. 27) and reproduced in figure 5 of this report. A constant of 20 inches is subtracted from each value of S_n used in the regression equation to provide manageable constants and exponents in the equation.
9. Soil index (S_i), in inches, is an index of soil infiltration capacity calculated by the U.S. Soil Conservation Service from information on soil type, vegetal cover, and agricultural practices (U.S. Soil Conservation Service, 1964).
10. Mean frost depth on February 28 (F_d), 1961-68 average in inches, determined from a map of frost depth in a report by the Wisconsin Statistical Reporting Service (1970, p. 13).
11. Mean snow depth on February 28 (S_d), in inches, determined from map of snow depth in Wisconsin Statistical Reporting Service (1970, p. 13).
12. Precipitation intensity index (I) (2-year, 24-hour rainfall), expressed in inches, determined from U.S. Weather Bureau Technical Paper (Hershfield, 1961). This maximum 24-hour rainfall has a recurrence interval of 2 years.
13. Areal factor was defined by study of the areal grouping of residuals from preliminary regression relations. Two areal factors (Af_1) and (Af_2) were defined and are shown in figures 3 and 4. Where a stream crosses areal-factor boundaries, the factor should be areally weighted using drainage area size.

Significance of Basin Parameters used
in Multiple-Regression Analysis

Multiple-regression analysis was used to correlate the flood discharges for given frequencies with the above drainage-basin characteristics for the 233 selected sites. The regression equation, the standard error of estimate (Se), and the significance of each basin parameter were calculated. Calculations were repeated, eliminating the least significant parameter each time, until only the most significant parameter remained. The procedure was repeated for each of the six flood frequencies, Q_2 through Q_{100} .

Residuals, or differences in log units between observed and computed statistical values, were plotted on State maps to determine areal significance. Groupings of like residual values indicated areal patterns. These areas are mainly defined by soils (Soils of Wisconsin, 1968), geology, and/or physiography. Values called "areal factors" (Af) were computed from the residual groupings and were assigned to the areas (figures 3 and 4). The areal factors were considered as a drainage-basin characteristic and were used in another multiple-regression analysis.

The drainage area, main-channel slope, lake and marsh area, and "areal factors" are statistically significant at the 99 percent effectiveness level for all flood frequencies. Soil index, annual snowfall, annual precipitation, forest cover, and main-channel length were significant in some relationships but not in others.

A ratio method was determined for a 50-year flood for drainage areas less than 20 square miles. This was done because the 50-year flood has not been adequately defined for stations with less than 20 square miles. Equations were obtained for the ratio of the 50-year flood to the 2-year flood (Q_{50}/Q_2). Significant parameters in this relationship were main-channel slope, lake and marsh area, annual snowfall, and main-channel length.

The regression analysis was done with and without the main-channel slope parameter because more than one-third of the State does not have adequate topographic map coverage for determining slope. Therefore, the regression equations that follow are for both with and without the slope parameter. The equations with main-channel slope should usually provide the best results.

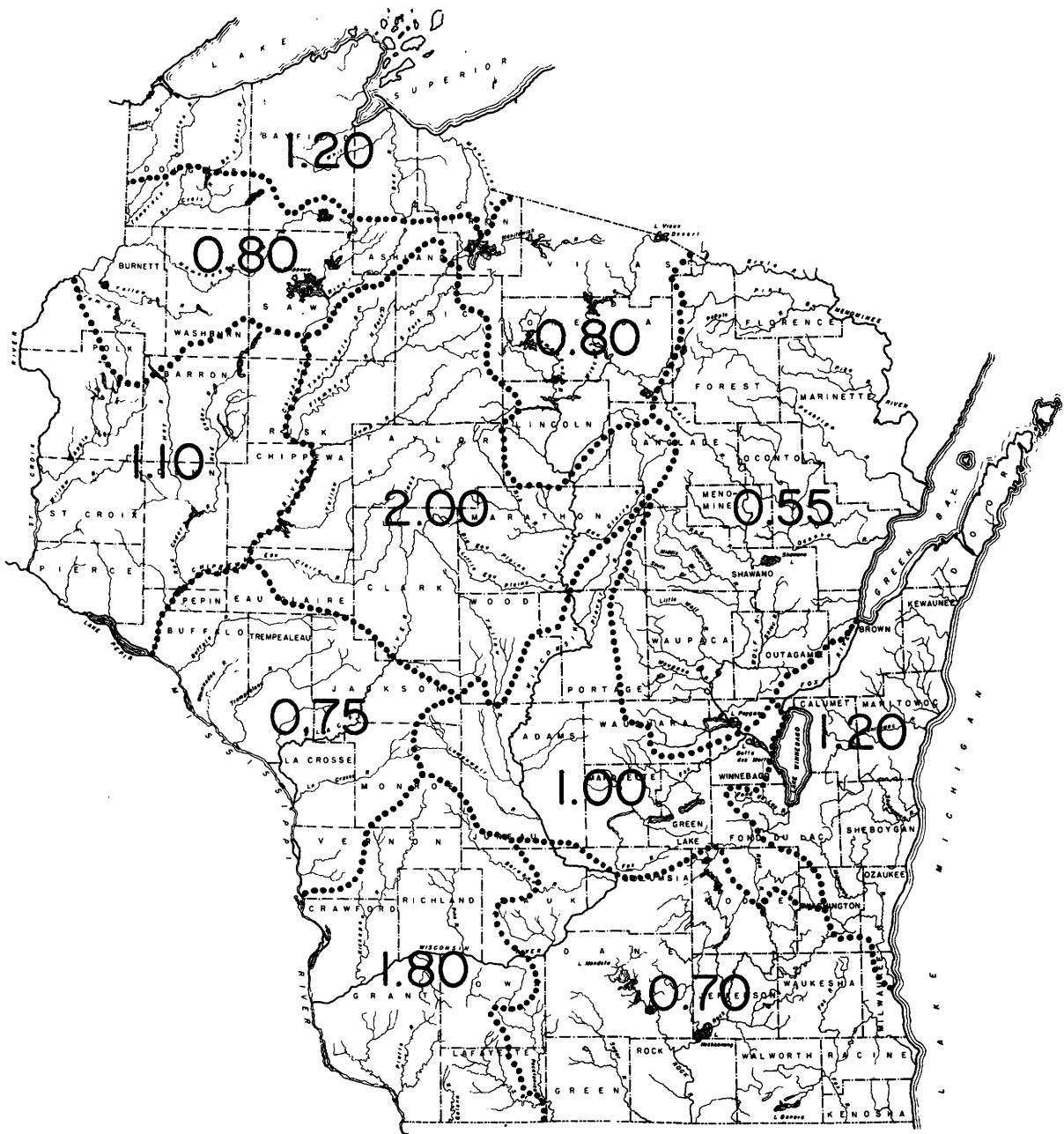


Figure 3.--Map of Wisconsin showing areal factors (Af_1) and their boundaries for flood-frequency equations with the main-channel slope parameter.

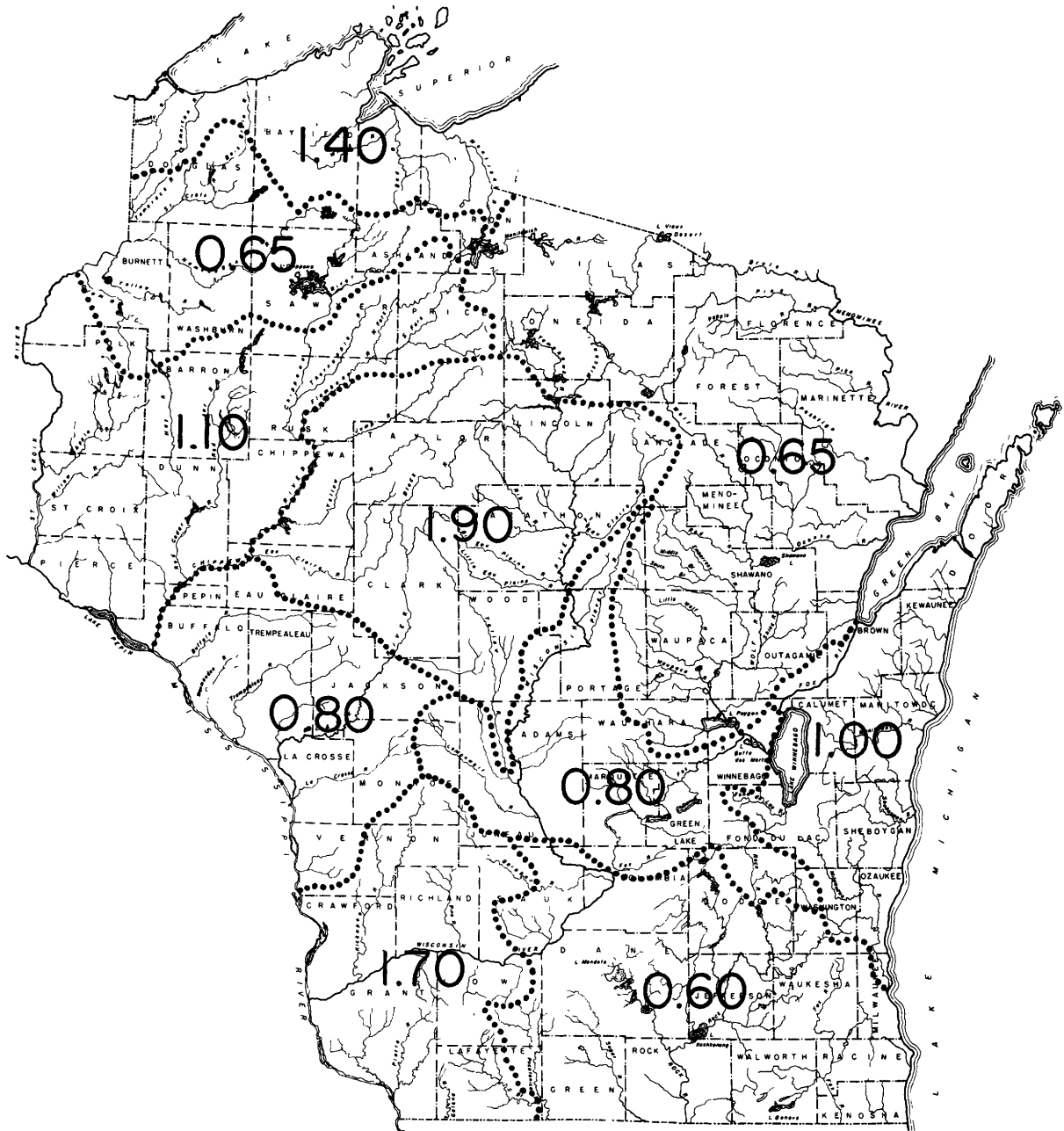


Figure 4.--Map of Wisconsin showing areal factors (Af_2) and their boundaries for flood-frequency equations without the main-channel slope parameter.

Flood-Frequency Equations

Flood-frequency equations have been developed for use in estimating magnitude and frequency of floods on nonregulated streams in Wisconsin. Following each equation is the standard error of estimate (Se) so that the user can evaluate the accuracy of results. Flood discharges can be computed for natural-flow streams with drainage areas of 0.5 square miles and larger except as indicated in the second column. Additional equations, given in appendix V, combine other variables that might meet special needs of some users (see page 26 for determination of flood discharges at some regulated streams). The following equations give the best estimates with a minimum number of independent variables:

Equations with the Main-Channel Slope Parameter

Equation ^{1/}		Basin Size to which relation applies (sq mi)	Se (percent)
Q_2	$= 14.5A^{.89}S^{.36}St^{-.30}Af_1^{.93}$	0.5 and larger	34.7
Q_5	$= 23.6A^{.89}S^{.38}St^{-.34}Af_1^{.98}$	0.5 and larger	35.0
Q_{10}	$= 28.9A^{.89}S^{.41}St^{-.35}Af_1^{1.00}$	0.5 and larger	38.4
Q_{25}	$= 49.1A^{.84}S^{.41}St^{-.36}Af_1^{1.06}$	0.5 and larger	40.6
Q_{50}	$= 145A^{.71}S^{.40}St^{-.43}Af_1^{1.03}$	20 and larger	33.0
Q_{100}	$= 188A^{.70}S^{.41}St^{-.45}Af_1^{1.04}$	50 and larger	36.2
Q_{50}/Q_2	$= 10.52S^{.21}St^{-.09}Sn^{-.46}$	0.5 - 20	18.4

^{1/} Add 1.0 to percent lake and marsh area (St) and subtract 20 from mean annual snowfall (Sn).

Equations Without the Main-Channel Slope Parameter

Equation <u>1/</u>	Basin size to which relation applies (sq mi)	Se (percent)
$Q_2 = 68.7A^{.76}St^{-.36}Af_2^{1.10}$	0.5 and larger	36.4
$Q_5 = 126A^{.75}St^{-.40}Af_2^{1.14}$	0.5 and larger	38.7
$Q_{10} = 174A^{.74}St^{-.42}Af_2^{1.16}$	0.5 and larger	43.0
$Q_{25} = 298A^{.68}St^{-.42}Af_2^{1.22}$	0.5 and larger	44.1
$Q_{50} = 855A^{.55}St^{-.44}Af_2^{1.15}$	20 and larger	36.9
$Q_{100} = 1150A^{.53}St^{-.46}Af_2^{1.15}$	50 and larger	40.3
$Q_{50}/Q_2 = 8.03St^{-.13}L^{-.19}$	0.5 - 20	20.4

1/ Add 1.0 to percent lake and marsh area (St).

Application of Equations

Use of the flood-frequency equations is illustrated by a hypothetical problem. Assume that a State agency is required to compute the magnitude of a 50-year flood (Q_{50}) at a known location:

1. Determine the size of the contributing drainage area (A) from the best map available. For this example, assume the drainage area is 80 square miles. $A=80$.
2. Compute the main-channel slope (S) from a map as follows: (a) Measure the river length from the desired location to the basin divide. If the stream forks, follow the fork with the greater drainage area. (b) Determine altitudes at points that are 10 percent and 85 percent of the total river length. (c) Determine the difference between these altitudes and divide by the distance, in miles, between the points. For this example, assume the total river-mile distance from the known location to the basin divide is 20.0 miles,

the altitude at the 10 percent point (2.0 miles) is 1,000 feet, and the altitude at the 85 percent point (17.0 miles) is 1,150 feet. The average slope is $\frac{1,150 \text{ feet} - 1,000 \text{ feet}}{17 \text{ miles} - 2 \text{ miles}}$, or 10.0 feet per mile. $S=10$

3. Determine the lake and marsh area from an adequate map. Compute lake and marsh area as a percentage of the total drainage area and add 1 percent. If there is no lake or marsh area, St is equal to $0 + 1.0 = 1.0$ percent. Assume the lake and marsh area for this example is 4.0 percent plus 1.0 percent, or 5.0 percent.
 $St = 5.0$ percent
4. The areal factor (Af_1) is determined from figure 3 if main-channel slope can be measured. Af_2 is determined from figure 4 if main-channel slope cannot be measured. Where a stream crosses areal factor boundaries, the factor should be areally weighted. For this example, main-channel slope is available, so assume Af_1 is equal to 1.10.
5. Select the applicable equation for Q_{50} from page 12 and compute the flood magnitude. For this problem the equation is:

$$\begin{aligned}
 Q_{50} &= 145A^{.71}S^{.40}St^{-.43}Af_1^{1.03} \\
 &= (145)(80)^{.71}(10)^{.40}(5)^{-.43}(1.10)^{1.03} \\
 &= (145)(22.4)(2.51)(0.50)(1.1) \\
 &= 4,500 \text{ cfs.}
 \end{aligned}$$

See figures 8, 10, 11 and table 1 for solution of the above basin parameters to a power.

If the drainage area is less than 20 square miles, the discharge for the 50-year flood would be determined by using the equation for Q_2 and the ratio equation, Q_{50}/Q_2 . The only additional parameter needed to solve these equations is mean annual snowfall (Sn), which can be obtained from figure 5. Twenty inches is subtracted from this value for use in the equation. Determine Q_2 and Q_{50}/Q_2 , as explained in steps 1 through 4, and multiply the value of Q_2 times the ratio Q_{50}/Q_2 . This product is the discharge for 50-year flood (Q_{50}).

Use of the equations on pages 12 and 13 is facilitated by tables 1 and 2 and graphs in figures 6 through 13, which eliminate need for calculating basin parameters raised to a power.

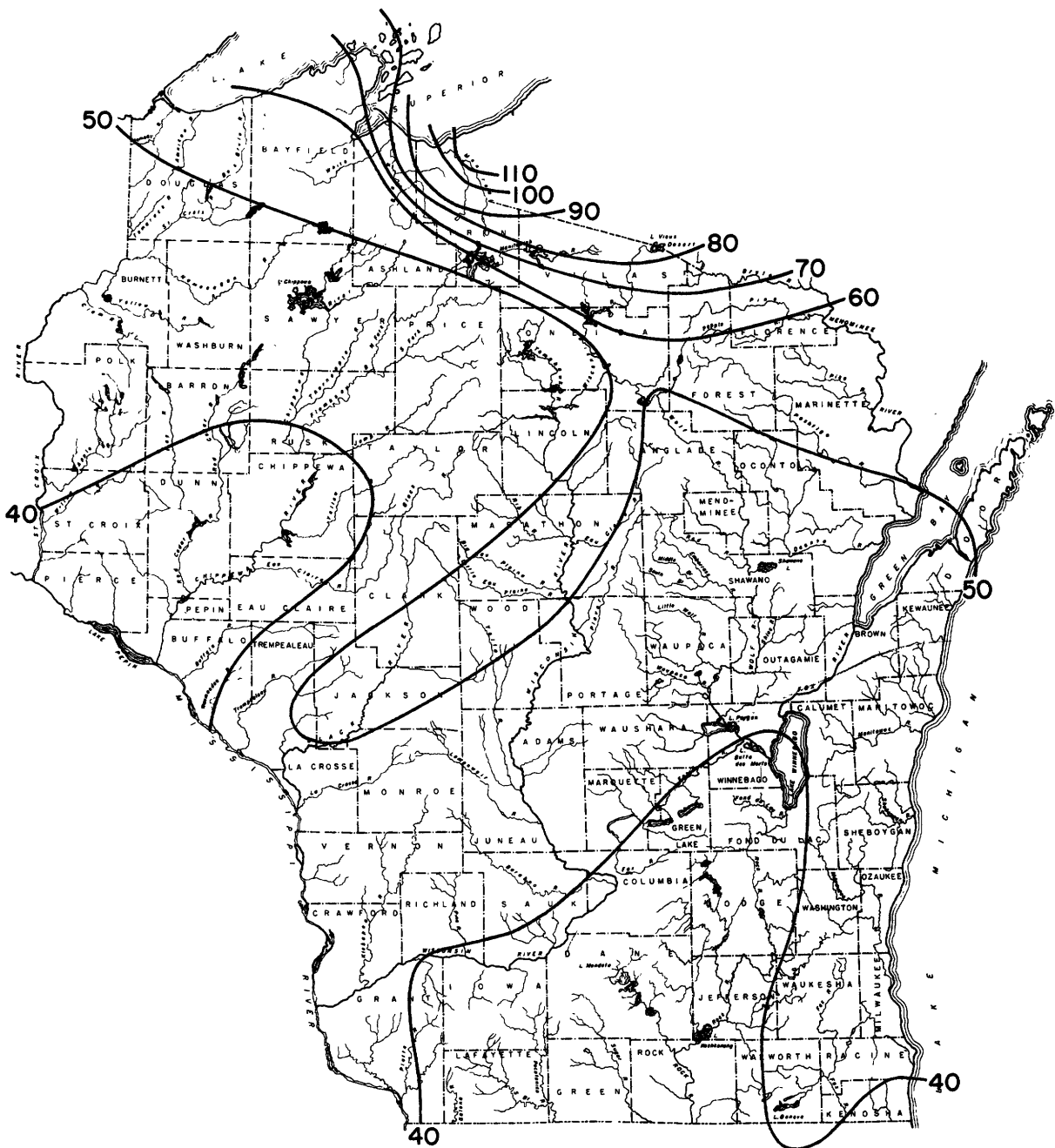


Figure 5.--Map of Wisconsin showing mean annual snowfall in inches (based on records of Wisconsin Statistical Reporting Service, 1951-60).

Table 1.--Values of areal factors Af_1^x and Af_2^x used in the regression equations.

Areal factors $\frac{1}{\lambda}$	$Af_1^{.93}$	$Af_1^{.98}$	$Af_1^{1.03}$	$Af_1^{1.04}$	$Af_1^{1.06}$	$Af_2^{1.10}$	$Af_2^{1.14}$	$Af_2^{1.15}$	$Af_2^{1.16}$	$Af_2^{1.22}$
0.55	0.574	0.557	0.540	0.537	0.531	0.518	0.506	0.503	0.500	0.482
.60	.622	.606	.591	.588	.582	.570	.559	.556	.553	.536
.65	.670	.656	.652	.639	.633	.623	.612	.609	.607	.591
.70	.718	.705	.692	.690	.685	.676	.666	.664	.661	.647
.75	.765	.754	.744	.742	.737	.729	.720	.718	.716	.704
.80	.813	.804	.795	.793	.789	.782	.775	.774	.772	.762
1.10	1.09	1.10	1.10	1.10	1.11	1.11	1.12	1.12	1.12	1.12
1.20	1.19	1.20	1.21	1.21	1.21	1.22	1.23	1.23	1.24	1.25
1.40	1.37	1.39	1.41	1.42	1.43	1.45	1.47	1.47	1.48	1.51
1.70	1.64	1.68	1.73	1.74	1.76	1.79	1.83	1.84	1.85	1.91
1.80	1.73	1.78	1.83	1.84	1.87	1.91	1.95	1.97	1.98	2.05
1.90	1.82	1.88	1.94	1.95	1.98	2.03	2.08	2.09	2.11	2.19
2.00	1.91	1.97	2.04	2.06	2.09	2.14	2.20	2.22	2.24	2.33

1/ See figures 3 and 4.

Table 2.--Values of mean annual snowfall $Sn^{-.46}$ used in the regression equation.

Sn (inches)	0	1	2	3	4	5	6	7	8	9
10	0.347	0.332	0.319	0.307	0.297	0.288	0.279	0.272	0.265	0.258
20	.252	.245	.241	.236	.232	.227	.223	.220	.216	.212
30	.209	.206	.203	.200	.197	.195	.192	.190	.188	.185
40	.183	.181	.179	.177	.175	.173	.172	.170	.168	.167
50	.165	.164	.162	.161	.160	.158	.157	.156	.154	.153
60	.152	.151	.150	.149	.148	.147	.146	.145	.144	.143
70	.142	.141	.140	.139	.138	.137	.136	.136	.135	.134
80	.133	.132	.132	.131	.130	.130	.129	.128	.127	.127
90	.126	.126	.125	.124	.124	.123	.123	.122	.121	.121
100	.120	.120	.119	.119	.118	.118	.117	.117	.116	.116
110	.115	.115	.114	.114	.113	.113	.112	.112	.111	.111

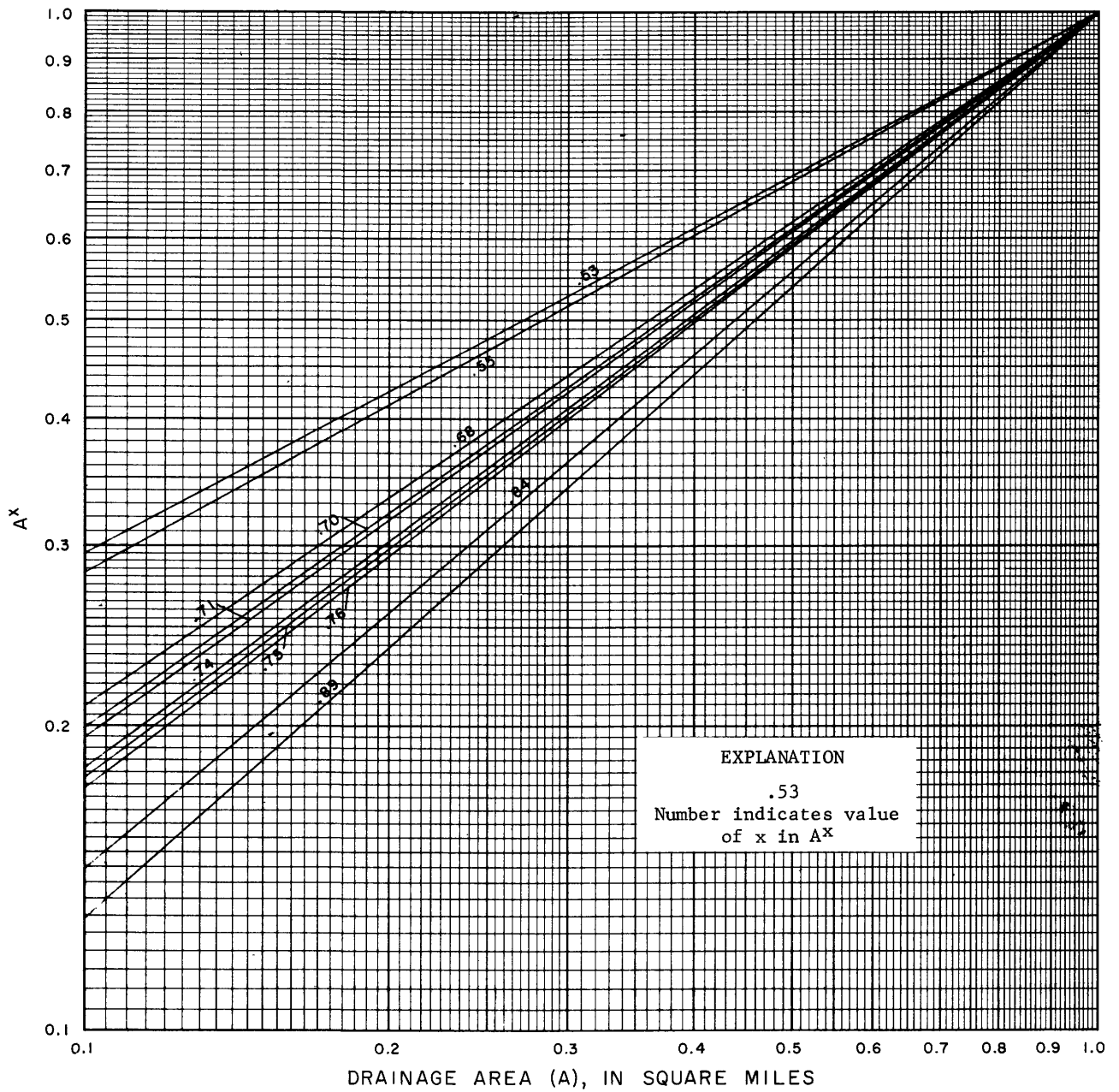


Figure 6.--Graph showing solution of A^x for A equals 0.1 through 1.0 square mile.

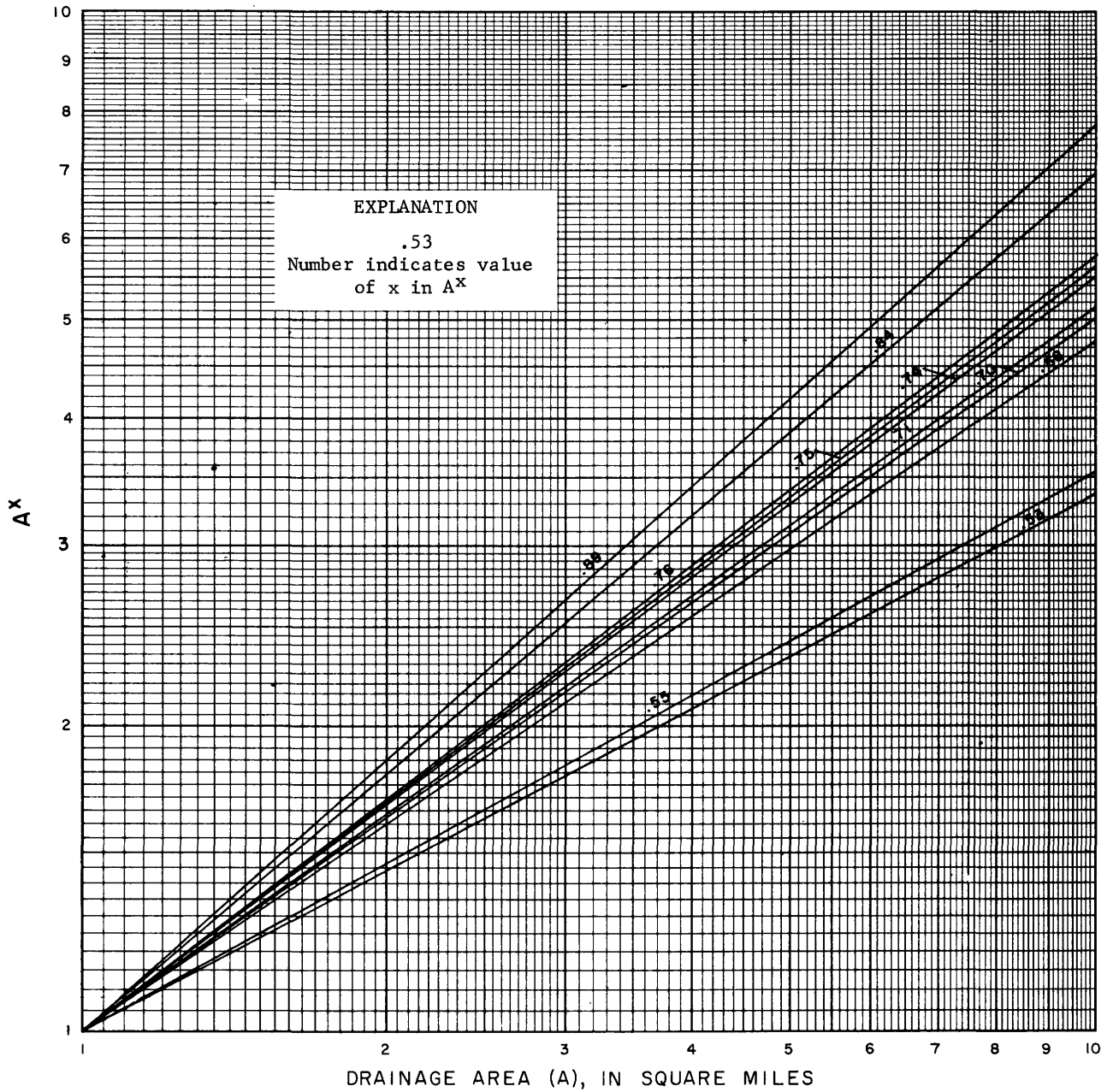


Figure 7.--Graph showing solution of A^x for A equals 1.0 through 10 square miles.

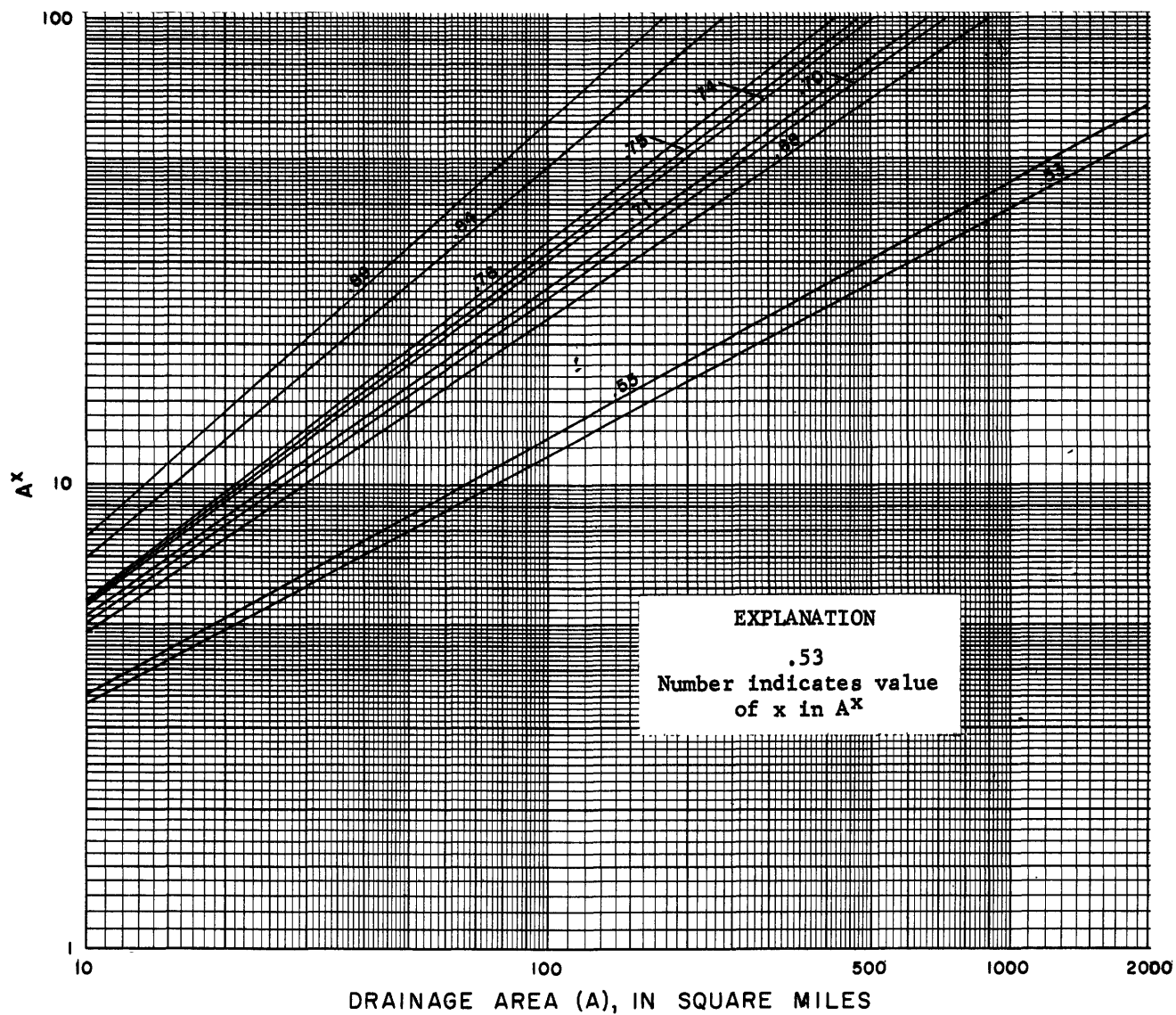


Figure 8.--Graph showing solution of A^x for A equals 10 through 2,000 square miles.

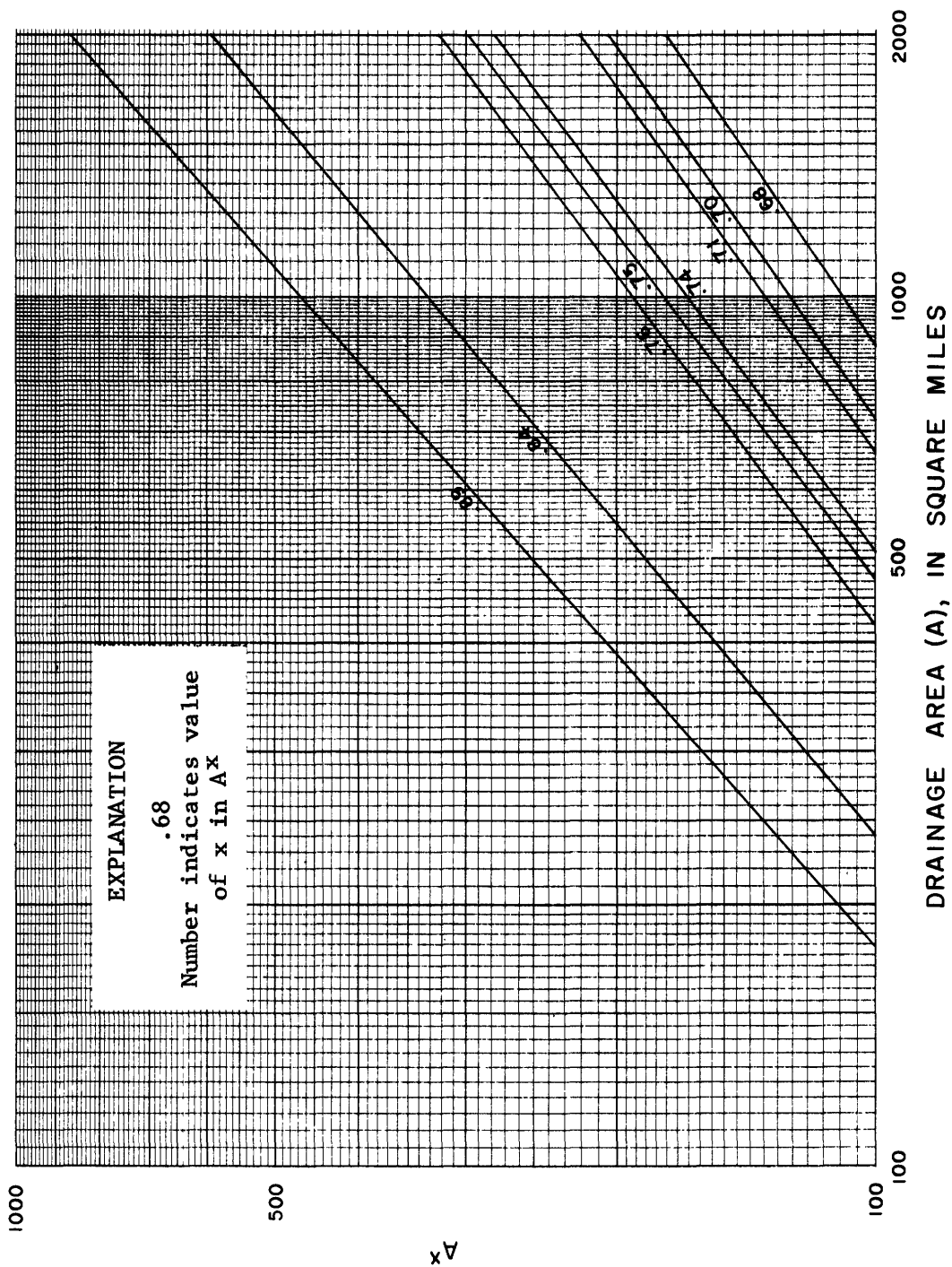


Figure 9.--Graph showing solution of A^x for A equals 100 through 2,000 square miles.

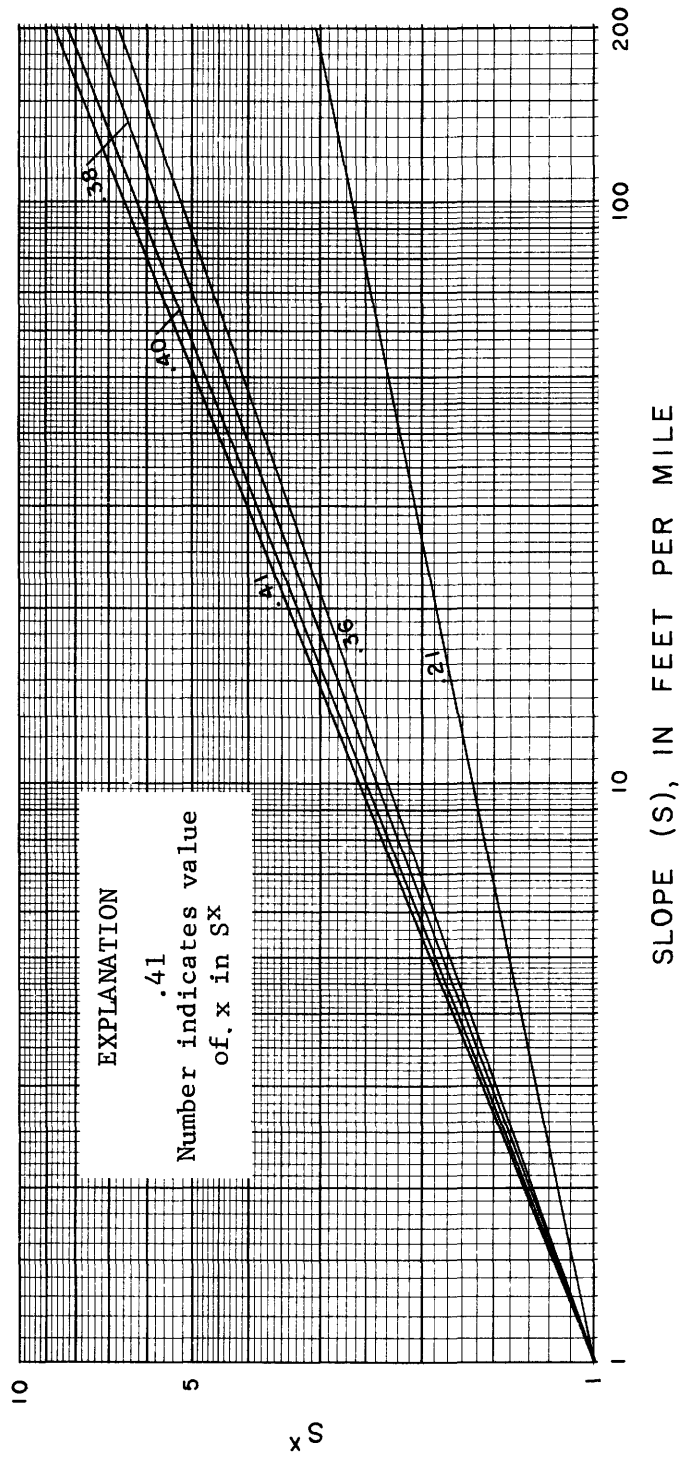


Figure 10.--Graph showing solution of S^x .

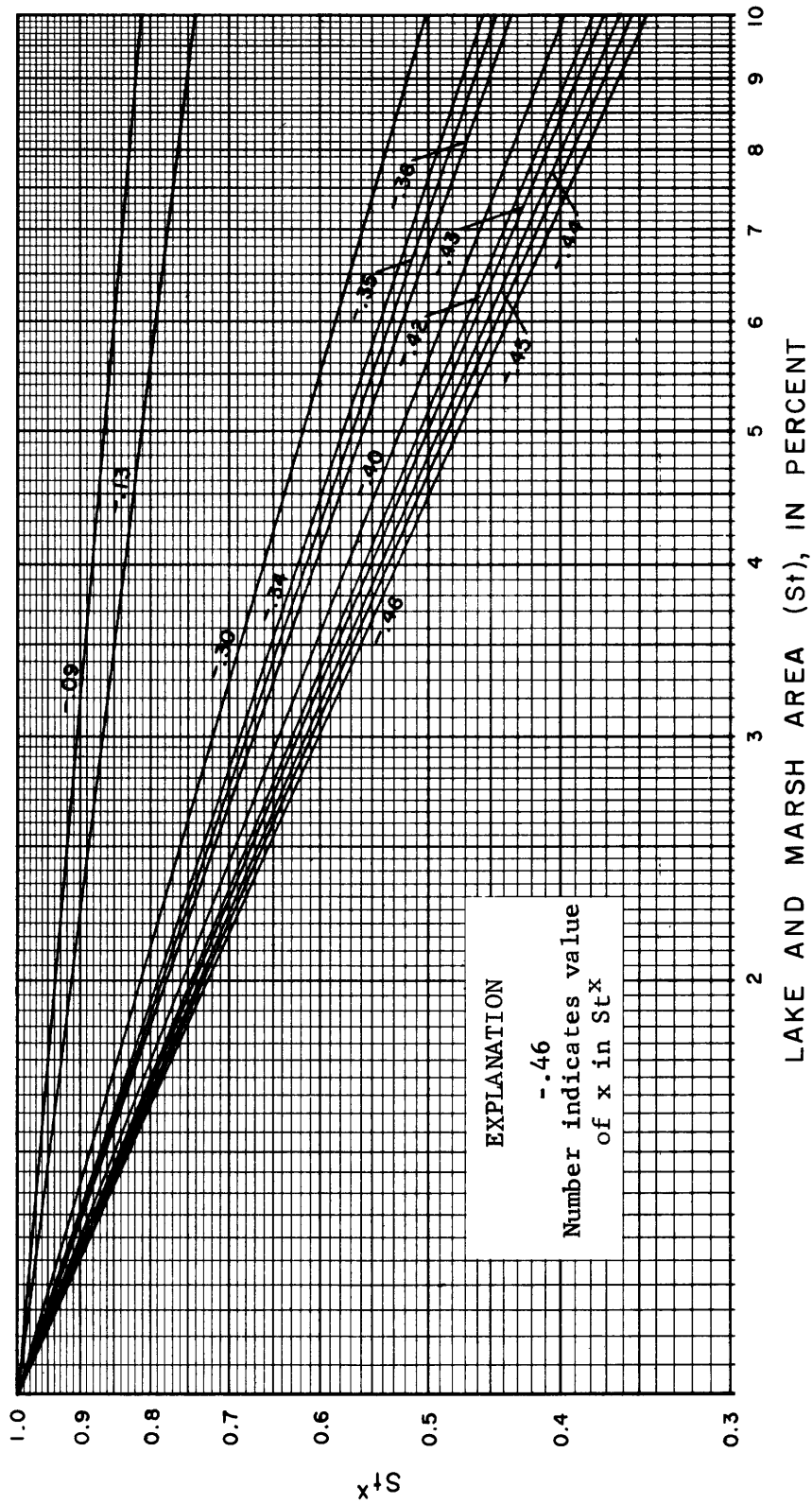


Figure 11.--Graph showing solution of St^x for St less than 10 percent.

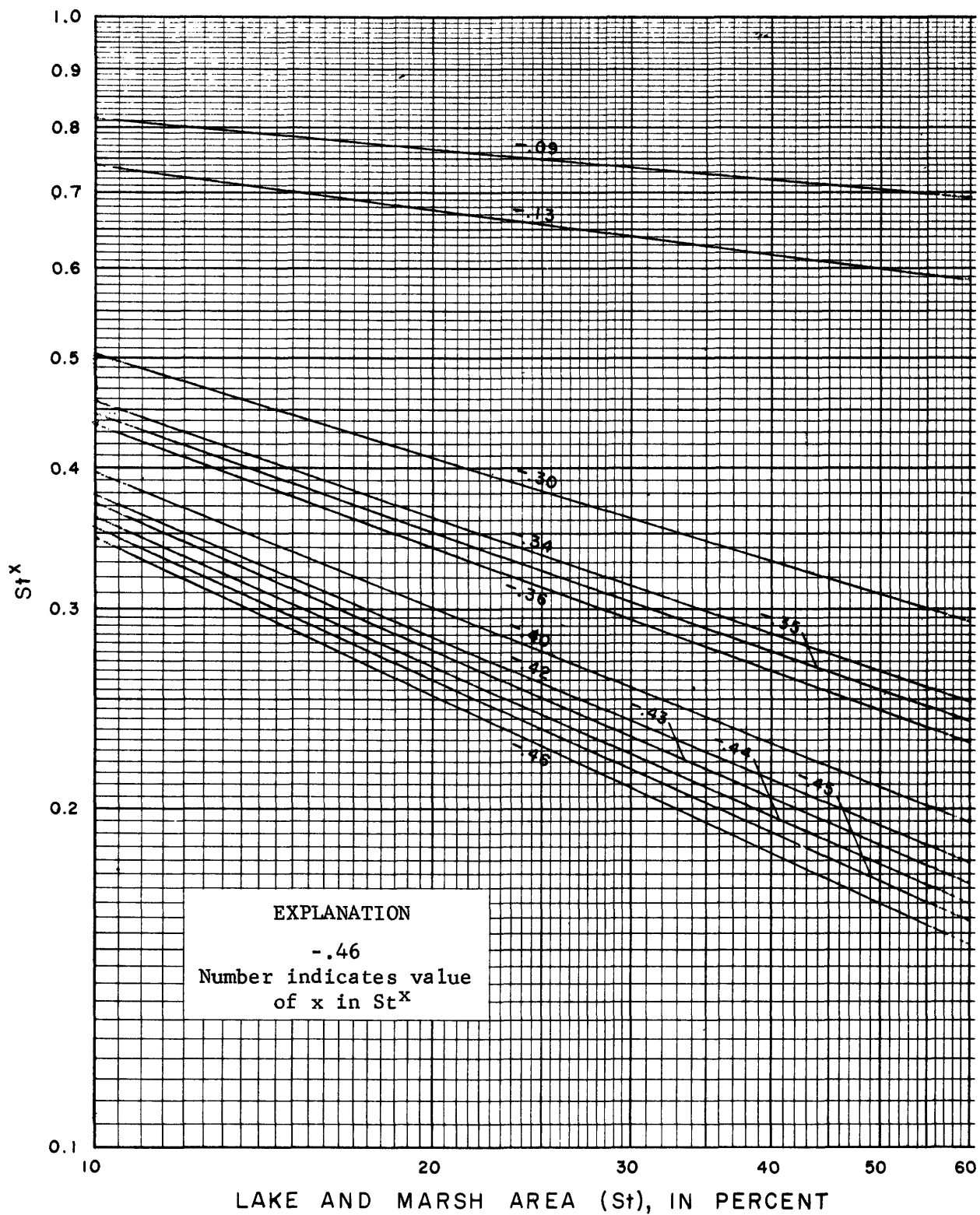


Figure 12.--Graph showing solution of St^x for St greater than 10 percent.

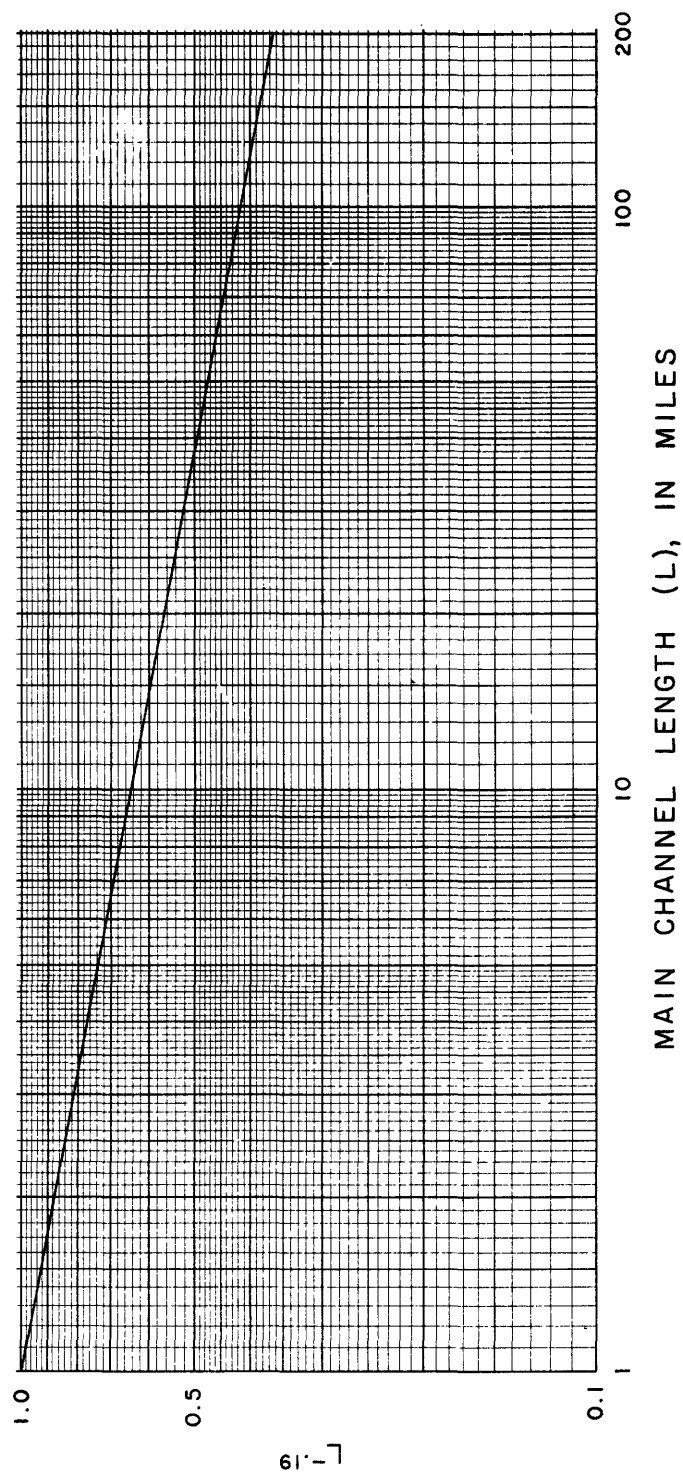


Figure 13.--Graph showing solution of $L^{-0.19}$.

Frequency Characteristics of Some Regulated Streams

The flood-frequency equations in this report may be used to estimate magnitude and frequency of floods on Wisconsin streams only where the flood is virtually natural. For some regulated-flow streams, sufficient information is available to interpolate flood characteristics between gaged sites. The reaches of streams where this is possible are:

- (a) Menominee River along the boundary between Wisconsin and Michigan,
- (b) Wisconsin River from its mouth to Rainbow Lake near Tomahawk,
- (c) Chippewa River from its mouth to Lake Chippewa in Sawyer County,
- (d) Flambeau River from its mouth to Flambeau Flowage northeast of Park Falls,
- (e) Lower Fox River between Lake Winnebago and Green Bay,
- (f) Kickapoo River for drainage areas greater than 250 square miles, and
- (g) Black River for drainage areas greater than 650 square miles.

Flood-frequency curves and graphs showing the magnitude of floods at selected recurrence intervals versus drainage area for the above streams are presented in figures 14 through 20.

Limitations of Flood Estimates

Flood-frequency equations are applicable for estimating magnitude of floods up to a 25-year frequency for streams where floods are virtually natural and where the drainage area exceeds about 0.5 square miles. The ratio equations (Q_{50}/Q_2) can be used to estimate a 50-year flood for streams with drainage areas between 0.5 and 20 square miles, whereas the 50-year equation (Q_{50}) is used for those streams with drainage areas of 20 square miles or more. The 100-year (Q_{100}) equation should be used only for streams where the drainage areas are larger than 50 square miles. The relations cannot be considered applicable to streams having drainage areas with significant urban development, or to streams containing man-made storage reservoirs or significant channel changes.

Useful estimates should be obtained in most cases; however, results should be studied carefully to determine whether the computed flood magnitude is reasonable. Some areas, such as those with indeterminate non-contributing drainage areas, may not fit the regional flood-frequency analysis.

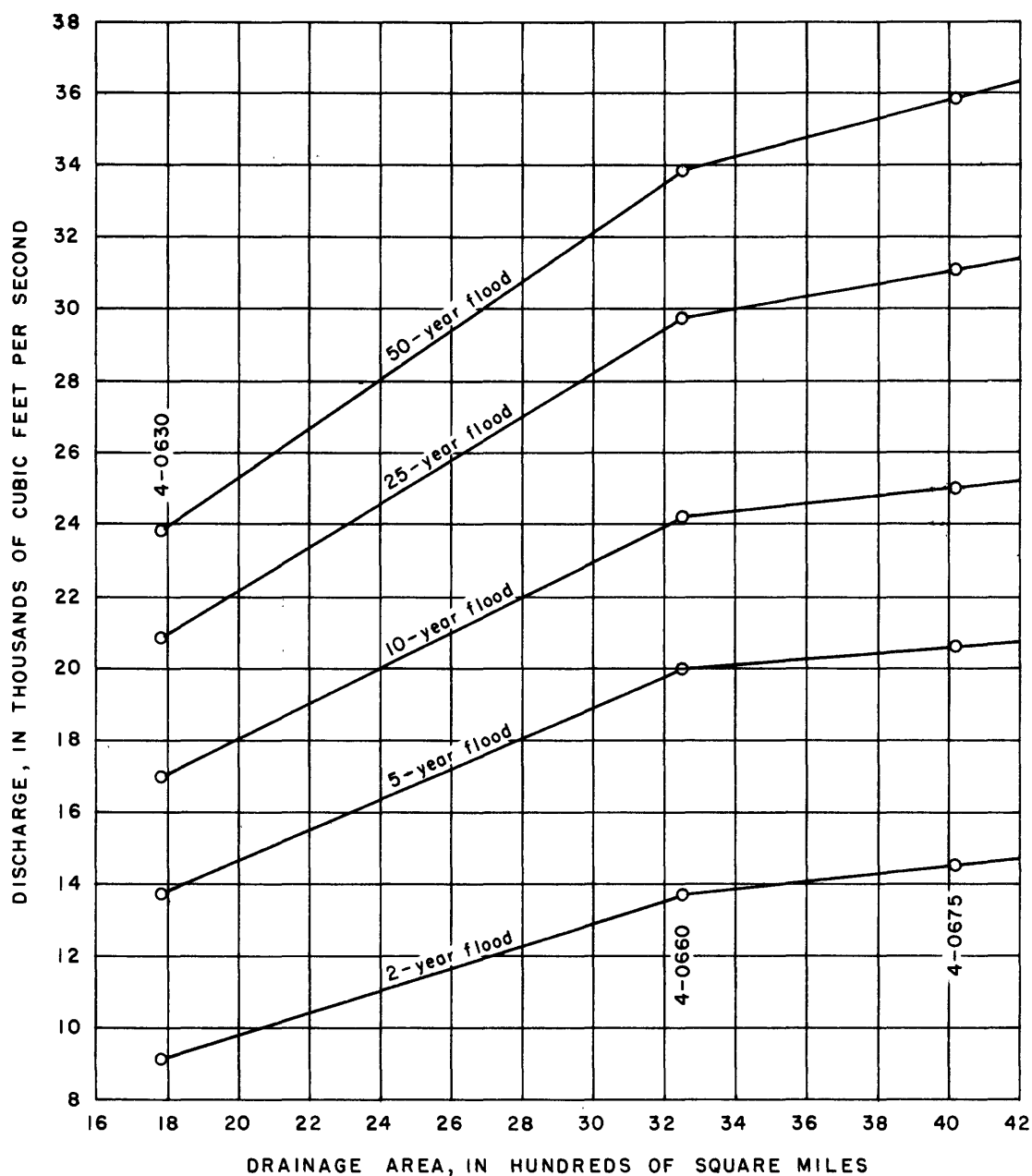


Figure 14.--Relation of discharge to drainage area for selected flood frequencies along main stem of Menominee River.

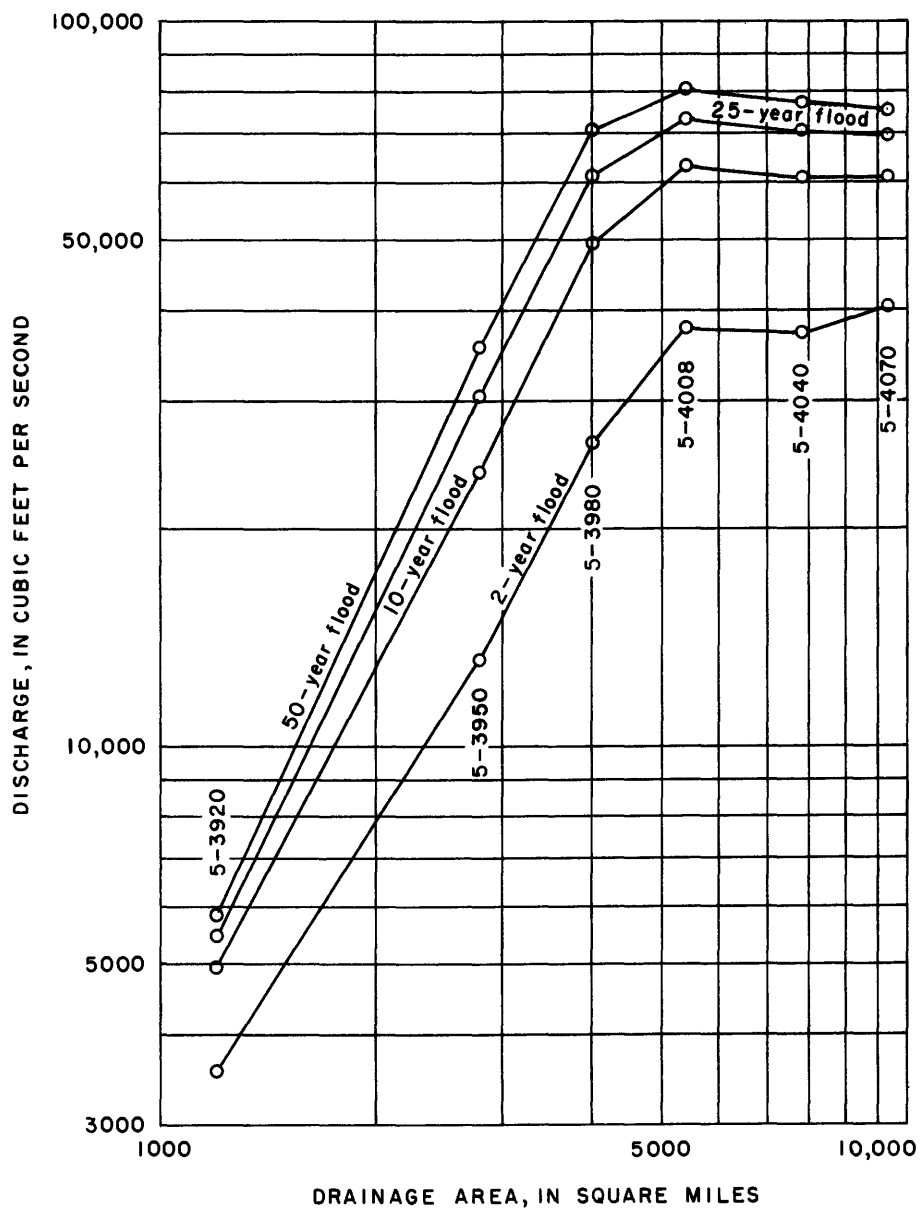


Figure 15.--Relation of discharge to drainage area for selected flood frequencies along main stem of Wisconsin River.

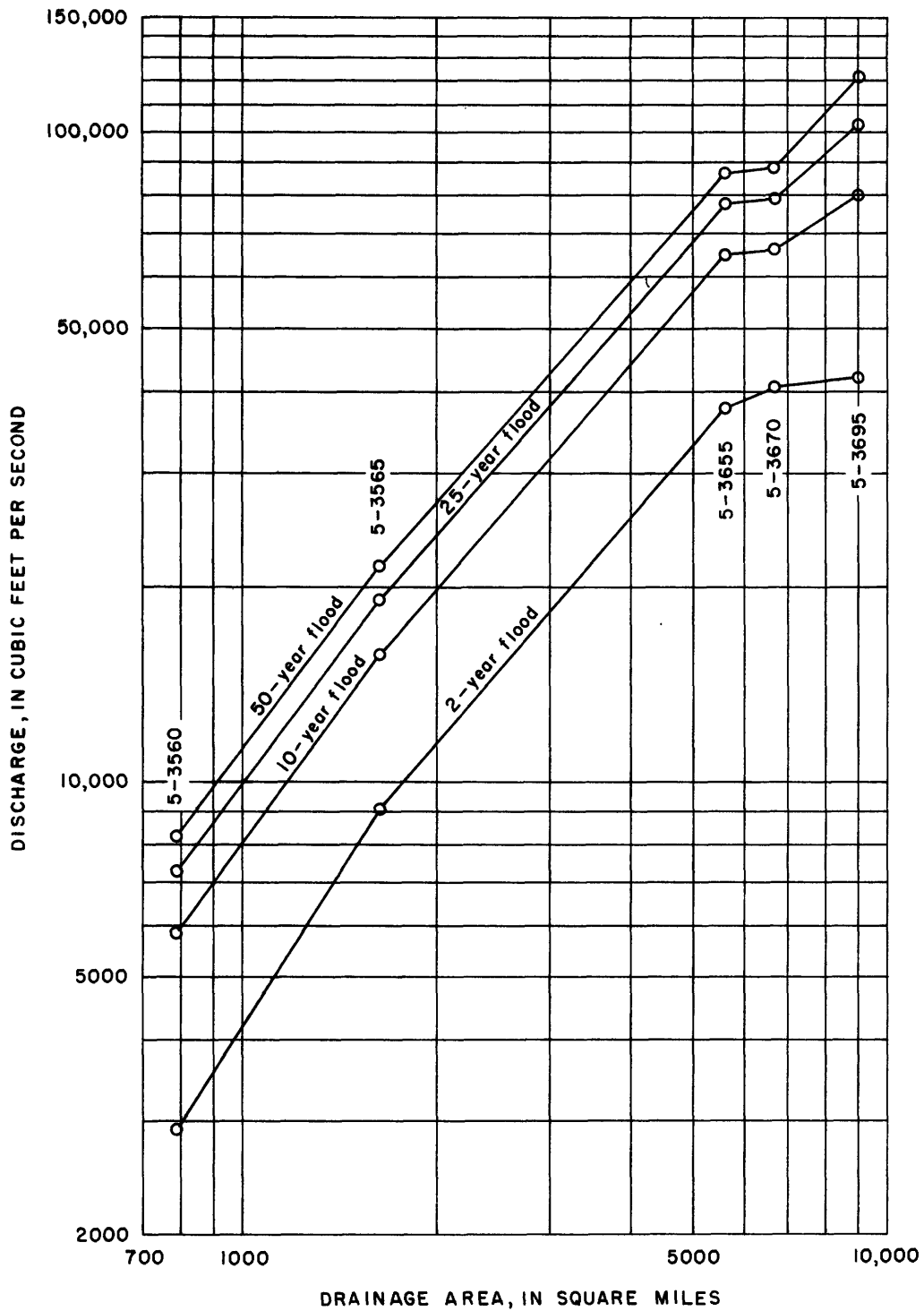


Figure 16.--Relation of discharge to drainage area for selected flood frequencies along main stem of Chippewa River.

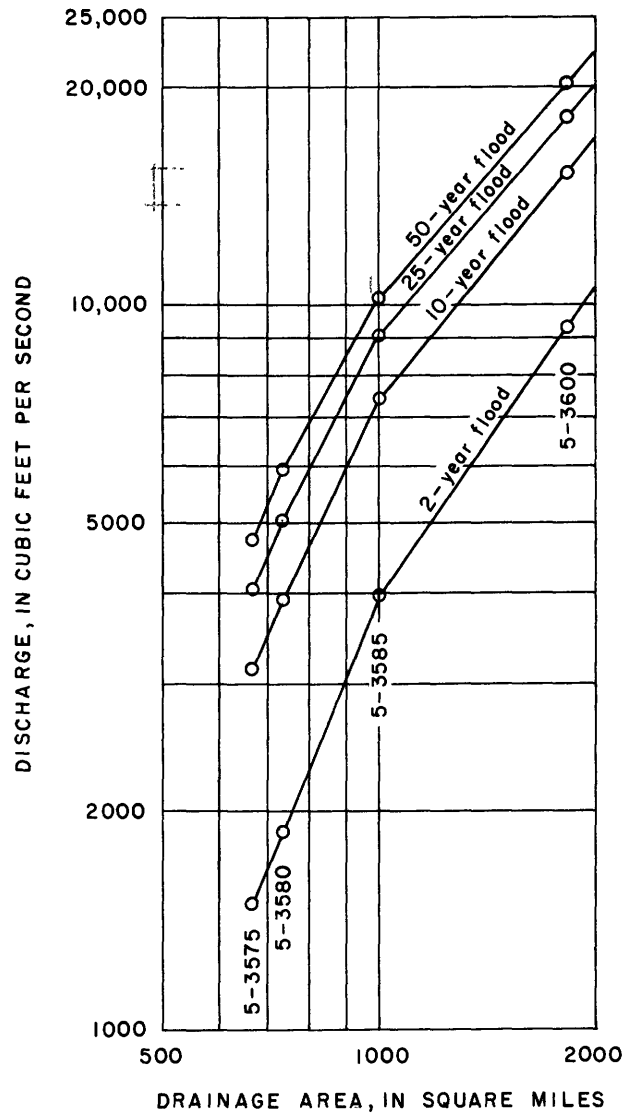


Figure 17.--Relation of discharge to drainage area for selected flood frequencies along main stem of Flambeau River.

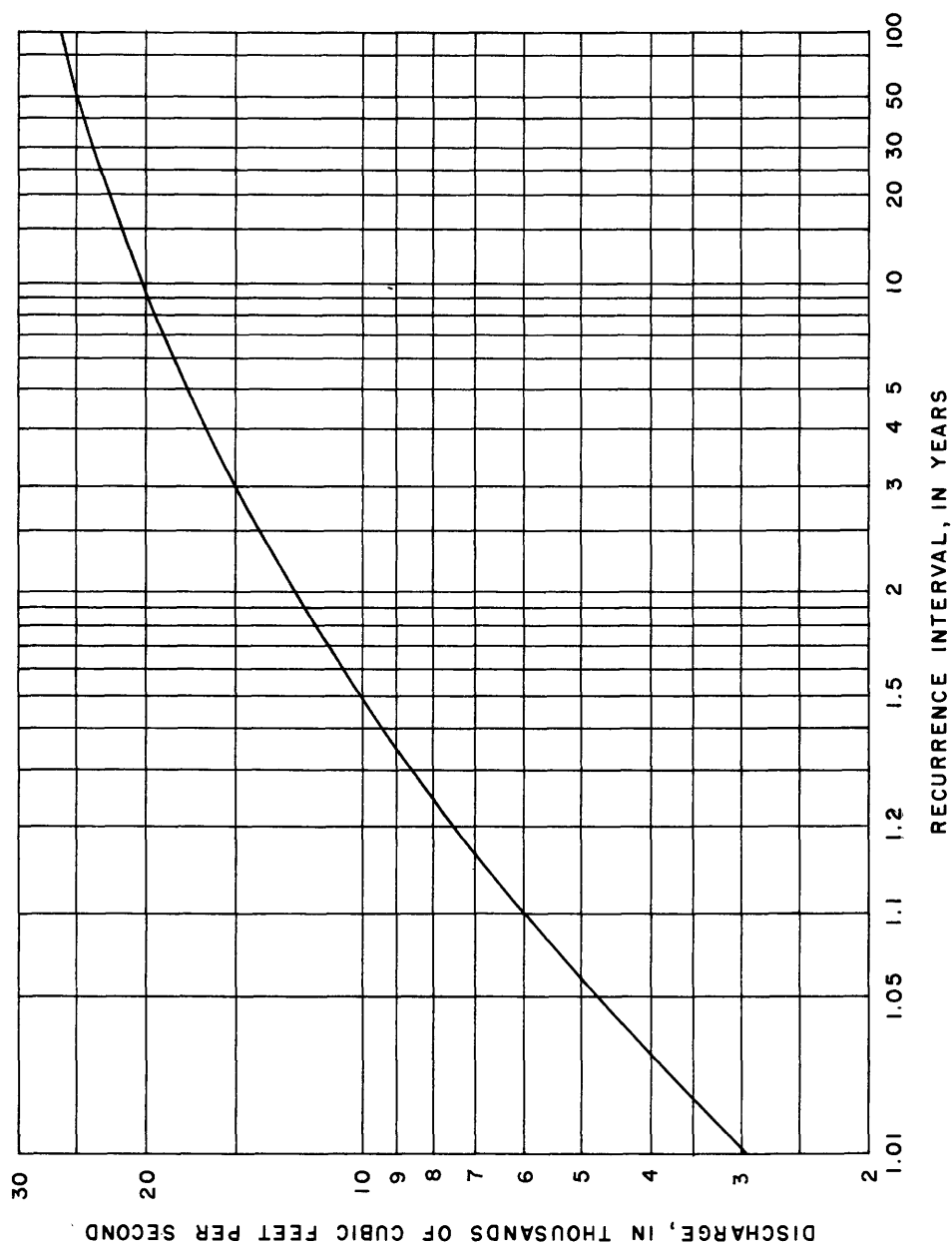


Figure 18.--Flood-frequency curve for Fox River at Rapid Croche Dam, near Wrightstown, Wis., 1896-1968.

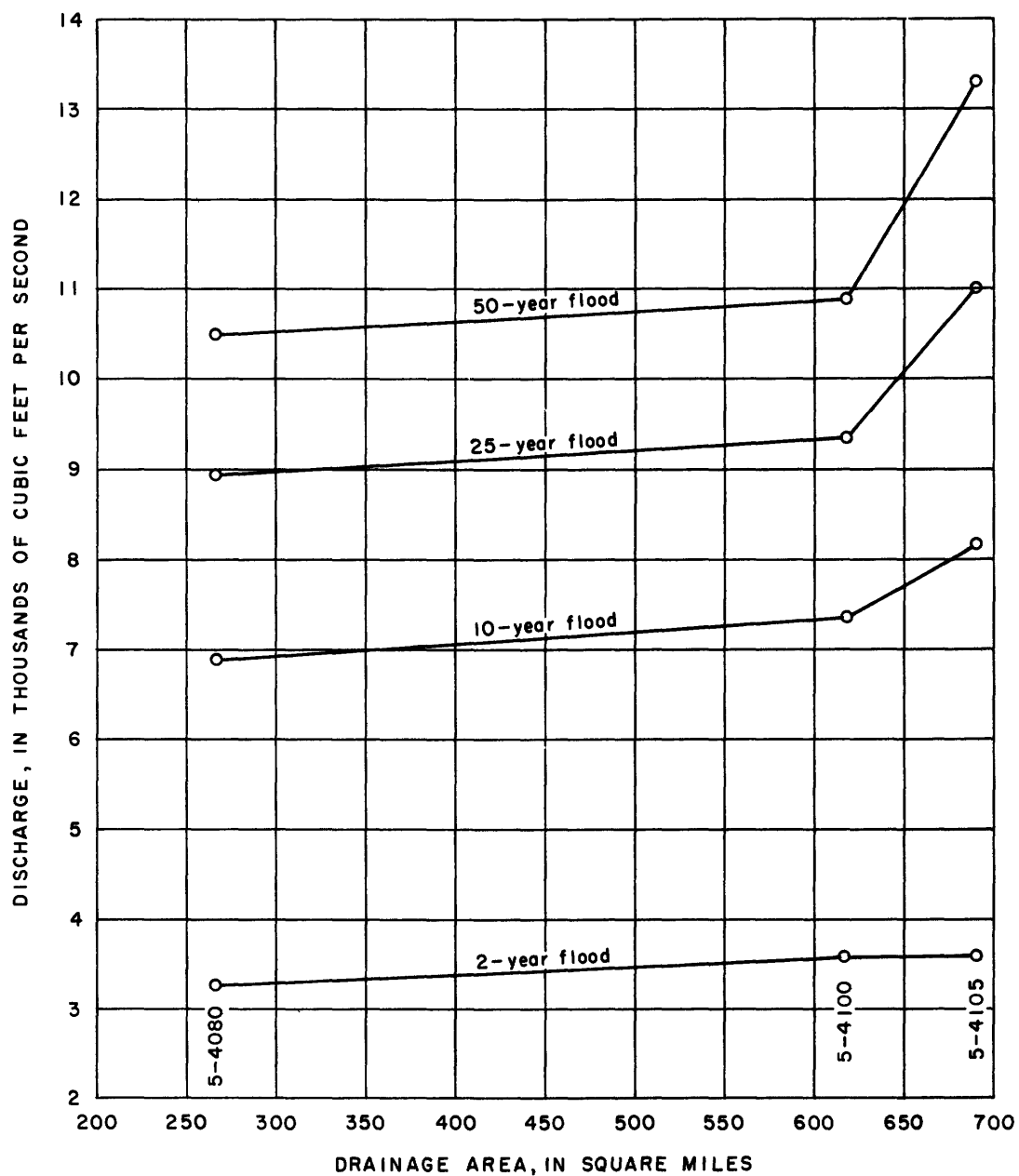


Figure 19.--Relation of discharge to drainage area for selected flood frequencies along main stem of Kickapoo River.

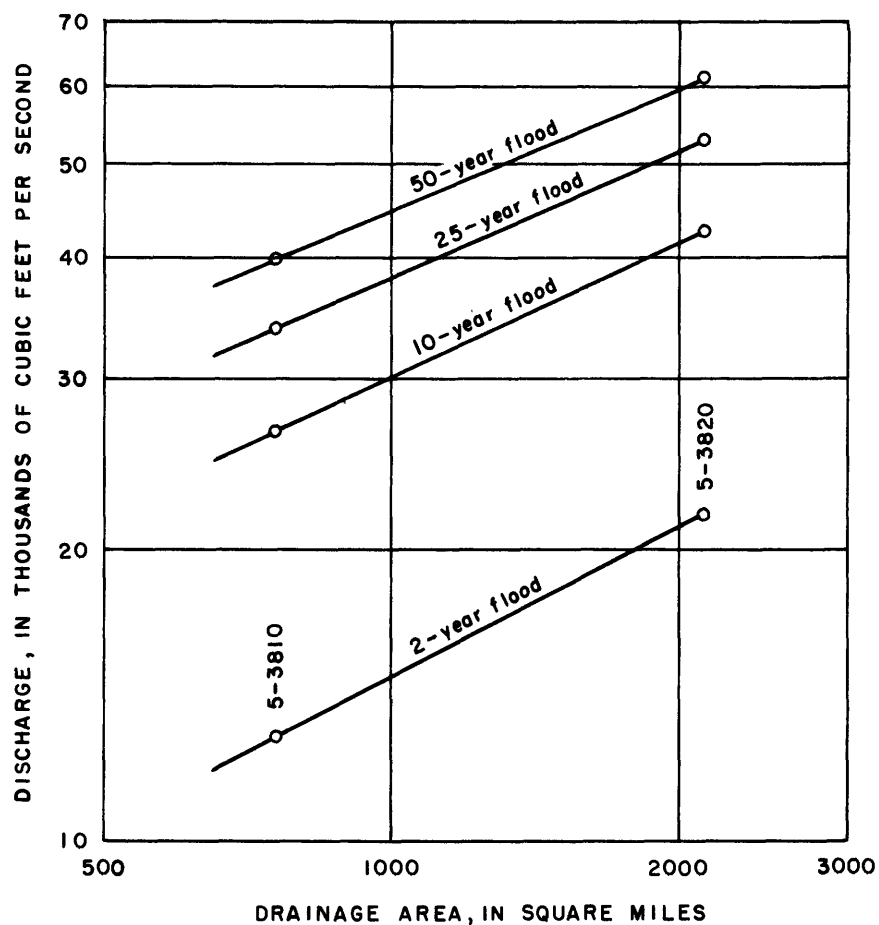


Figure 20.--Relation of discharge to drainage area for selected flood frequencies along main stem of Black River.

RECOMMENDATIONS FOR FLOOD-PEAK DATA PROGRAM

The flood-peak data program for small drainage basins should be continued until an accuracy goal is met as described by Campbell and Dreher (1970, p. 13). The current standard error of estimate for a 50-year flood that meets this goal is 35 percent. A study of regression models and new independent variables, including geology and field-measured variables such as channel geometry should be continued. Crest-stage gages should be relocated to give the most representative areal coverage including urban sites.

Continuous-recording stage-rainfall gages should be moved to new sites to determine parameters in a rainfall-runoff model. Records of annual peak flow at these stations can be extended in time by use of the Dawdy model and long-term rainfall records.

It is also recommended that a model study of flood peaks be developed for the major regulated streams that have been excepted from the regional equations. With such a model a frequency curve could be prepared for any point on these streams.

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APPENDIX I
MAXIMUM RECORDED FLOODS

The maximum recorded discharge for the period of record at most gaging stations in Wisconsin are shown in figure 21. This figure shows the range of maximum flood discharges that have been recorded for drainage areas of different sizes. Discharge usually is greatest for the largest areas but may differ by a factor of 100 in areas of equal size less than 100 square miles, and by a factor of 10 for drainage areas of about 1,000 square miles.

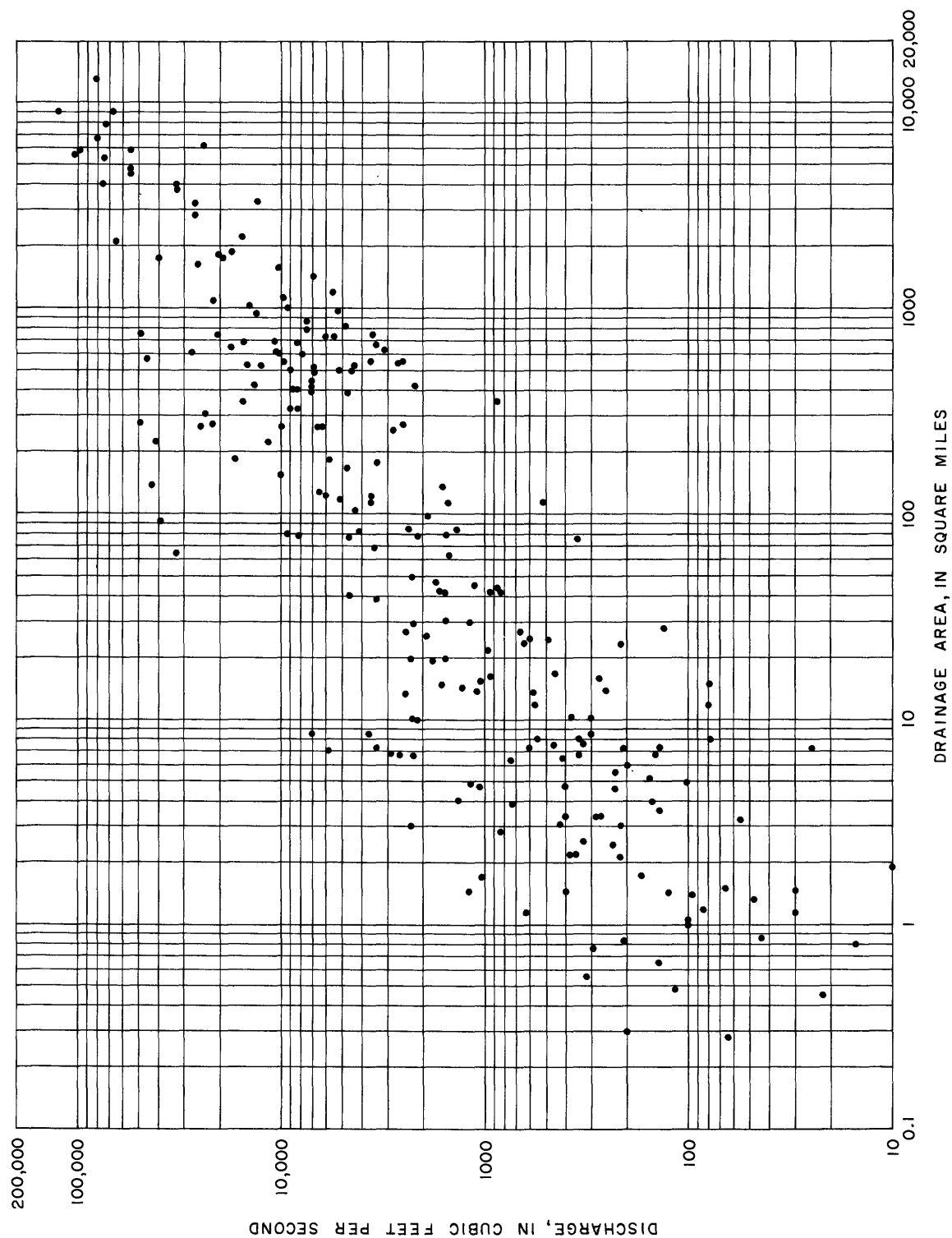


Figure 21.--Relation of maximum recorded discharge to drainage area at gaging stations in Wisconsin.

APPENDIX II
FLOOD RECORDS AT CONTINUOUS-RECORD AND CREST-STAGE
PARTIAL-RECORD GAGING STATIONS

This appendix contains a compilation of flood records for all continuous-record and crest-stage partial-record stations in Wisconsin that had 6 or more years of record prior to 1968. Records of stations located in adjacent States and used in the regression analysis also are included. Stations are listed in the same down-stream order used in U.S. Geological Survey Water-Supply Papers.

A brief description including pertinent flood information is given for each station. Whenever continuous recorder data were available, the peak stages resulting from ice jams have been included if they exceeded the stage for the annual maximum discharge for that particular year. Underlines in the table of peak stages and discharges have the following meanings:

1. Line in water year column means a discontinuous record.
2. Line from date column through discharge column means change in site and datum.
3. Line from gage height column through discharge column means change in datum only.

STREAMS TRIBUTARY TO LAKE SUPERIOR

4-0244. Stoney Brook near Superior, Wis.

Location.--Lat 46°35'01", long 92°07'10", in 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.

Drainage area.--2.20 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert and indirect measurement at 165 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	May 31, 1959	11.02	35	1964	Sept. 7, 1964	17.3	275
1960	Apr. 23, 1960	13.71	140	1965	Sept. 30, 1965	12.55	90
1961	Apr. 16, 1961	14.24	165	1966	July 8, 1966	26.6	460
1962	May 23, 1962	17.59	280	1967	June 14, 1967	15.04	200
1963	June 25, 1963	10.80	30	1968	June 6, 1968	13.46	128

4-0252. Pearson Creek near Maple, Wis.

Location.--Lat 46°38'51", long 91°42'55", on 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.

Drainage area.--4.01 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect culvert flow measurements and current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1957	July 20, 1957	22.65	1,030	1963	Apr. 2, 1963	11.04	150
1958	July 2, 1958	25.71	1,190	1964	Sept. 7, 1964	23.21	1,060
1959	Sept. 7, 1959	12.31	230	1965	Apr. 13, 1965	14.07	380
1960	Sept. 2, 1960	14.13	400	1966	Apr. 1, 1966	12.04	210
1961	May 15, 1961	14.25	415	1967	Mar. 31, 1967	13.73	340
1962	May 15, 1962	29.60	1,360	1968	June 6, 1968	12.72	260

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.

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.

Stage-discharge relation.--Defined by current-meter measurement below 770 cfs and extended above by logarithmic plotting.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	June 14, 1943	3.1	450	1956	Apr. 16, 1956	2.93	482
1944	June 5, 1944	5.2	1,520	1957	Apr. 20, 1957	3.02	513
1945	Mar. 27, 1945	3.1	501	1958	July 1, 1958	3.8	832
1946	Mar. 21, 1946	2.7	415	1959	June 29, 1959	2.46	339
1947	Apr. 23, 1947	2.7	387	1960	Apr. 23, 1960	4.20	1,020
1948	Apr. 11, 1948	2.9	565	1961	May 15, 1961	4.00	923
1949	May 6, 1949	3.9	870	1962	May 15, 1962	3.68	779
1950	May 6, 1950	4.7	1,270	1963	Apr. 2, 1963	2.30	305
1951	June 24, 1951	3.66	779	1964	May 6, 1964	2.92	487
1952	July 18, 1952	4.22	1,020	1965	Apr. 18, 1965	4.09	855
1953	June 20, 1953	4.78	1,320	1966	Mar. 17, 1966	3.35	549
1954	May 1, 1954	4.4	1,120	1967	Mar. 31, 1967	4.31	963
1955	July 30, 1955	2.65	394	1968	Apr. 23, 1968	2.90	428

STREAMS TRIBUTARY TO LAKE SUPERIOR

4-0262. Sand River Tributary near Red Cliff, Wis.

Location.--Lat 46°53'53", long 90°56'47", in NE 1/4 sec. 14, T. 51 N., R. 5 W., at box culvert on State Highway 13, 8 miles northwest of Red Cliff.

Drainage area.--1.14 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 20 cfs, indirect measurement at 624 cfs, and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Apr. 1959	10.86	90	1964	May 23, 1964	16.86	624
1960	Apr. 24, 1960	10.56	68	1965	-	a	<40
1961	Apr. 16, 1961	11.40	125	1966	Apr. 8, 1966	10.43	62
1962	May 23, 1962	10.34	58	1967	Mar. 30, 1967	11.84	158
1963	Apr. 2, 1963	10.47	65	1968	June 6, 1968	10.56	68

a Peak did not reach bottom of gage.

4-0263. Sioux River near Waeshburn, Wis.

Location.--Lat 46°41'20", long 90°57'02", in NE 1/4 sec. 35, T. 49 N., R. 5 W., at culvert on County Trunk C, 2 1/2 miles west of junction with State Highway 13 in Washburn, 4 1/2 miles upstream from Lake Superior, and 7 1/2 miles northwest of Ashland.

Drainage area.--14.9 sq mi.

Gage.--Crest-stage gage and seasonal recording gage. Prior to Oct. 29, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 375 cfs, indirect measurement at 1,620 cfs, and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	May 26, 1959	11.05	310	1964	May 23, 1964	17.5	1,630
1960	Apr. 24, 1960	17.48	1,620	1965	Apr. 19, 1965	10.73	260
1961	June 12, 1961	11.74	430	1966	Mar. 17, 1966	12.47	525
1962	May 23, 1962	13.85	820	1967	Mar. 30, 1967	12.85	580
1963	Apr. 2, 1963	11.46	380	1968	Mar. 18, 1968	10.95	280

4-0264. Spillerberg Creek near Cayuga, Wis.

Location.--Lat 46°11'48", long 90°37'32", in 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, and 4 3/4 miles northwest of Glidden.

Drainage area.--6.18 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 85 cfs, indirect measurement at 157 cfs, and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	July 2, 1958	13.86	157	1964	Apr. 13, 1964	12.03	78
1959	May 1959	10.87	35	1965	Apr. 15, 1965	11.98	76
1960	Sept. 1, 1960	12.32	84	1966	Apr. 19, 1966	11.34	53
1961	May 14, 1961	11.11	44	1967	June 14, 1967	12.20	84
1962	May 18, 1962	11.07	43	1968	May 16, 1968	11.48	58
1963	Apr. 2, 1963	11.18	47				

STREAMS TRIBUTARY TO LAKE SUPERIOR

4-0265. Bad River at Mellen, Wis.

Location.--Lat 46°19'30", long 90°39'35", in sec. 6, T. 44 N., R. 2 W., on upstream side of bridge on U. S. Highway 13 in Mellen, 0.4 mile upstream from Devils Creek and 3.1 miles downstream from Rocky Run.

Drainage area.--101 sq mi.

Gage.--Nonrecording gage. Datum of gage is 1,217.49 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 3,800 cfs.

Historical data.--Flood of June 24, 1946, reached a stage of 18.60 ft, from floodmarks, from information by local residents.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1946	June 24, 1946	18.6	—	1952	Apr. 19, 1952	9.50	2,270
1949	July 4, 1949	14.0	4,340	1953	July 1, 1953	8.11	1,650
1950	May 6, 1950	10.12	2,540	1954	May 1, 1954	11.30	3,050
				1955	Apr. 10, 1955	7.00	1,180
1951	Apr. 28, 1951	12.00	3,400				

4-0267. Trout Brook Tributary near Marengo, Wis.

Location.--Lat 46°23'04", long 90°47'04", in NE 1/4 sec. 7, T. 45 N., R. 3 W., at box culvert on State Highway 13, 2.6 miles southeast of Marengo.

Drainage area.--0.77 sq mi (includes .11 sq mi without surface drainage).

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Apr. 24, 1960	11.99	192	1965	May 21, 1965	10.00	48
1961	Apr. 16, 1961	11.49	154	1966	June 6, 1966	10.47	80
1962	Aug. 31, 1962	10.00	48	1967	Mar. 30, 1967	12.22	210
1963	Apr. 2, 1963	11.41	148	1968	July 12, 1968	12.77	255
1964	May 6, 1964	13.23	295				

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., at Elm Hoist Bridge, 5.0 miles downstream from Potato River and 8.5 miles south of Odanah.

Drainage area.--611 sq mi. Prior to Nov. 11, 1922, 618 sq mi, approximately.

Gage.--Recording gage. Datum of gage is 668.3 ft above mean sea level, datum of 1929. Prior to Nov. 11, 1922, recording gage at site 2 miles downstream at different datum.

Stage-discharge relation.--Defined by current-meter measurements below 15,700 cfs.

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

STREAMS TRIBUTARY TO LAKE SUPERIOR,

4-0270. Bad River near Odanah, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1915	May 16, 1915			3,900	1955	Apr. 3, 1955 Apr. 10, 1955	10.77 10.18	1.7	- 6,770
1916	Apr. 22, 1916	6.66		12,200	1956	May 14, 1956	9.29		5,500
1917	Apr. 21, 1917	4.05		4,060	1957	Apr. 20, 1957	9.55		5,930
1918	June 1, 1918	5.61		8,590	1958	July 2, 1958	10.00		6,410
1919	Apr. 10, 1919	5.01		6,680	1959	June 1, 1959	7.24		3,480
1920	Mar. 24, 1920	5.5		8,230	1960	Apr. 24, 1960	21.7		27,700
1921	Apr. 28, 1921	5.43		8,010	1961	May 16, 1961	9.7		6,670
1946	June 24, 1946	22.2		-	1962	May 14, 1962	8.34		4,970
1949	July 4, 1949	17.3		16,500	1963	Apr. 2, 1963	10.10		7,190
1950	May 6, 1950	14.00		11,700	1964	May 6, 1964	11.90		9,660
					1965	Apr. 23, 1965	10.23		6,520
1951	Apr. 29, 1951	14.30		12,200	1966	Mar. 18, 1966	10.65		7,110
1952	Apr. 19, 1952	13.90		11,500	1967	Apr. 2, 1967	14.5	1.2	11,000
1953	July 1, 1953	15.50		13,800	1968	May 16, 1968	8.84		4,840
1954	May 1, 1954	16.05		14,600					

4-0272. Pearl Creek at Grandview, Wis.

Location--Lat 46°22'05", long 91°05'27", in NE 1/4 sec. 22, T. 45 N., R. 6 W., at box culvert on State Highway 63, 0.8 mile east of Grandview.

Drainage area--10.5 sq mi, approximately.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 110 cfs, indirect measurement at 278 cfs, and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Apr. 24, 1960	12.99	278	1965	Apr. 16, 1965	11.88	190
1961	May 14, 1961	11.59	165	1966	June 6, 1966	11.80	180
1962	May 23, 1962	12.63	250	1967	Mar. 30, 1967	12.74	260
1963	Apr. 2, 1963	10.52	85	1968	Mar. 18, 1968	10.69	100
1964	May 6, 1964	12.90	270				

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 powerplant of Lake Superior District Power Co., 0.3 mile downstream from bridge on State Highway over dam and 4.5 miles south of Ashland city limits.

Drainage area--269 sq mi.

Gage--Nonrecording gage. Datum of gage is 660.15 ft above mean sea level, datum of 1929 (Lake Superior District Power Co. benchmark).

Stage-discharge relation--Defined by current-meter measurements below 3,000 cfs.

Remarks--Slight regulation.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1949	May 5, 1949	5.53	3,720	1959	June 28, 1959	2.56	940
1950	Apr. 17, 1950	5.26	3,480	1960	Apr. 24, 1960	6.40	4,630
1951	July 4, 1951	5.29	3,480	1961	May 15, 1961	3.73	1,900
1952	June 24, 1952	7.10	5,390	1962	May 23, 1962	4.70	2,860
1953	July 1, 1953	7.90	6,270	1963	Mar. 29, 1963	4.50	2,660
1954	May 1, 1954	5.60	3,800	1964	May 6, 1964	5.04	3,200
1955	Apr. 1, 1955	3.80	2,200	1965	Apr. 12, 1965	4.80	2,960
1956	Apr. 3, 1956	3.90	2,060	1966	Mar. 17, 1966	4.00	2,160
1957	Mar. 30, 1957	2.66	1,010	1967	Mar. 30, 1967	6.00	4,210
1958	July 1, 1958	3.2	1,430	1968	Apr. 21, 1968	3.00	1,270

STREAMS TRIBUTARY TO LAKE SUPERIOR

4-0280. Montreal River at Ironwood, Mich.

Location.--Lat 46°27'00", long 90°10'40", in sec. 24, T. 46 N., R. 2 E., at downstream side of main highway bridge on State line between Hurley, Wis., and Ironwood, Mich., 8 miles upstream from West Branch Montreal River.

Drainage area.--63 sq mi, approximately.

Gage.--Nonrecording gage. Datum of gage is 1,464.13 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 1,100 cfs.

Historical data.--Flood of Apr. 24, 1960, reached a discharge of 3,400 cfs (computed estimate) at a site about 2 miles downstream.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1918	June 2, 1918	3.2	610	1950	May 6, 1950	4.7	1,490
1919	Apr. 12, 1919	3.2	610				
1920	June 30, 1920	3.9	960	1951	June 25, 1951	4.20	1,110
				1952	Apr. 19, 1952	5.10	1,810
1921	Apr. 5, 1921	3.9	960	1953	May 21, 1953	4.16	1,110
1922	Apr. 10, 1922	3.8	910	1954	May 2, 1954	4.15	1,080
1925	Apr. 23, 1925	2.4	255				
				1960	Apr. 24, 1960	a	3,400

a Computed estimate.

4-0290. West Branch Montreal River at Gile, Wis.

Location.--Lat 46°25'35", long 90°13'35", in sec. 34, T. 46 N., R. 2 E., immediately below outlet structure of Gile Reservoir at Gile and 4 miles upstream from mouth.

Drainage area.--72.2 sq mi.

Gage.--Nonrecording gage. Datum of gage is 1,468.0 ft above mean sea level, by Lake Superior Power Co. levels. Prior to Nov. 30, 1925, site 1,600 ft downstream at different datum.

Stage-discharge relation.--Defined by current-meter measurements below 710 cfs.

Remarks.--Flow completely regulated by Gile Reservoir since 1941.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1918	May 28, 1918	5.65	490	1925	Mar. 27, 1925	4.9	270
1919	Apr. 12, 1919	6.2	780				
1920	Mar. 27, 1920	6.3	850	1943	Apr. 22, 1943	5.7	1,030
				1944	June 6-7, 1944	6.4	1,220
1921	Apr. 5-7, 1921		900	1945	June 14, 1945	5.58	1,000
1922	Apr. 10, 1922	6.9	1,270				
1923	Apr. 21, 1923	7.3	1,550	1946	June 28, 1946		975
1924	Apr. 18, 1924	6.5	990	1947	June 14-15, 1947		553

4-0297. Boomer Creek near Saxon, Wis.

Location.--Lat 46°29'40", long 90°21'02", 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.

Drainage area.--6.73 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurement, indirect measurements, and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Aug. 30, 1958	12.81	48	1964	May 24, 1964	15.8	300
1959	Sept. 15, 1959	12.87	78	1965	May 8, 1965	13.89	170
1960	Apr. 24, 1960	16.60	349				
				1966	June 6, 1966	12.83	75
1961	Apr. 16, 1961	13.91	130	1967	July 23, 1967	12.47	53
1962	May 15, 1962	13.37	120	1968	Mar. 19, 1968	14.30	200
1963	Apr. 30, 1963	11.41	19				

STREAMS TRIBUTARY TO LAKE SUPERIOR

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., on right bank 2 miles upstream from mouth and 3.5 miles north of Saxon.

Drainage area.--262 sq mi.

Gage.--Recording gage. Altitude of gage is 760 ft (from power-company data).

Stage-discharge relation.--Defined by current-meter measurements below 4,400 cfs.

Remarks.--Flow regulated by Gile Reservoir on West Branch Montreal River (capacity, 1.29 billion cu ft) since Apr. 1, 1941.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1939	Mar. 26, 1939	6.48	-1.4		1955	Apr. 1, 1955	5.55	-2.0	
	Apr. 26, 1939	5.88		4,200		May 2, 1955	5.16		3,100
1940	May 20, 1940	6.24		4,650	1956	Dec. 18, 1955	5.35	-3.0	
1941	Aug. 31, 1941	6.25		4,650		Apr. 11, 1956	5.20		3,160
1942	July 18, 1942	6.93		5,700	1957	Apr. 20, 1957	5.03		2,920
1943	Oct. 3, 1942	5.54		a 3,680	1958	Apr. 15, 1958	5.27		3,260
1944	June 5, 1944	5.60		3,750	1959	Apr. 8, 1959	4.15		1,700
1945	Mar. 18, 1945	4.94		2,800	1960	Apr. 24, 1960	7.50		6,600
1946	June 25, 1946	6.62		5,250	1961	Dec. 23 or 24, 1960	5.07	-2.9	
1947	Dec. 28-29, 1946	4.85	-2.5			Nov. 2, 1960	4.74		2,490
	Apr. 23, 1947	4.48		2,140	1962	Mar. 30, 1962	5.00	-2.0	
1948	Mar. 26, 1948	4.82	-0.2	2,300		May 13, 1962	4.11		1,650
	Apr. 5, 1948	5.13	-1.0		1963	Mar. 30, 1963	6.86	-2.0	
1949	July 6, 1949	5.41		3,460		Apr. 3, 1963	5.07		2,970
1950	May 6, 1950	5.42		3,460	1964	Apr. 14, 1964	6.60		5,250
					1965	Apr. 23, 1965	4.89		2,710
1951	Apr. 29, 1951	6.53		5,100	1966	Apr. 21, 1966	4.69		2,420
1952	Apr. 20, 1952	6.25		4,650	1967	Mar. 31, 1967	6.74	0.4	4,920
1953	June 21, 1953	6.07		4,500	1968	May 16, 1968	4.18		1,740
1954	May 1, 1954	6.10		4,500					

a Result of regulation.

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 1/2 miles north of Bessemer.

Drainage area.--200 sq mi.

Gage.--Recording. Altitude of gage is 1,150 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 5,300 cfs and extended above on basis of slope-area measurement at 14,800 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1955	Apr. 11, 1955	8.59	3,620	1962	Apr. 23, 1962	5.91	1,970
1956	Apr. 12, 1956	6.36	2,240	1963	Apr. 2, 1963	9.84	5,290
1957	Apr. 20, 1957	9.76	5,420	1964	Apr. 13, 1964	9.88	5,240
1958	Apr. 15, 1958	6.13	2,090	1965	Apr. 23, 1965	8.52	3,750
1959	Apr. 7, 1959	6.00	2,020	1966	Mar. 18, 1966	8.43	3,670
1960	Apr. 24, 1960	14.27	14,800	1967	Mar. 31, 1967	9.05	4,250
				1968	Mar. 19, 1968	8.21	3,470
1961	Apr. 21, 1961	6.40	2,240				

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 of Presque Isle River.

Drainage area.--171 sq mi.

Gage.--Recording gage. Datum of gage is 1,489.30 ft above mean sea level, datum of 1929 (levels by Michigan Department of Conservation). Prior to May 27, 1949, nonrecording gage at site 0.3 mile downstream at different datum.

Stage-discharge relation.--Defined by current-meter measurements below 2,000 cfs.

STREAMS TRIBUTARY TO LAKE SUPERIOR

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1945	Mar. 27, 1945	7.34	1,140	1957	Apr. 21, 1957	8.17	1,540
1946	June 26, 1946	9.4	1,860	1958	July 3, 1958	7.00	762
1947	Apr. 13, 1947	7.27	a 1,030	1959	Nov. 27, 1958	b 6.70	-
1948	Apr. 12, 1948	5.86	518		Sept. 23, 1959	6.23	559
1949	May 7, 1949	7.77	1,350	1960	Apr. 25, 1960	11.25	3,520
1950	May 7, 1950	8.45	1,750	1961	Apr. 22, 1961	7.37	1,040
1951	Apr. 29, 1951	9.84	2,600	1962	May 25, 1962	6.58	662
1952	Apr. 21, 1952	9.90	2,670	1963	Apr. 3, 1963	7.37	975
1953	June 21, 1953	7.50	1,230	1964	May 10, 1964	7.53	1,070
1954	Apr. 28, 1954	8.29	1,680	1965	May 10, 1965	8.38	1,620
1955	Apr. 11, 1955	7.32	1,060	1966	Mar. 19, 1966	c 8.6	d 1,000
				1967	Apr. 18, 1967	8.04	1,410
1956	Apr. 12, 1956	6.35	648	1968	June 13, 1968	6.83	812

a Ice affected.

b Backwater from ice.

c Occurred Mar. 24, 1966 (backwater from ice).

d Maximum daily discharge.

4-0320. Presque Isle River near Tula, Mich.

Location.--Lat 46°32'49", long 89°46'38", in NW 1/4 sec. 23, T. 48 N., R. 44 W., on downstream handrail of bridge on State Highway 28, 2 miles east of Tula, 5 1/2 miles downstream from Little Presque Isle River, and 7 miles southwest of Merriweather.

Drainage area.--261 sq mi.

Gage.--Nonrecording gage. Datum of gage is 1,299.66 ft above mean sea level, datum of 1929 (levels by Michigan Department of Conservation).

Stage-discharge relation.--Defined by current-meter measurements below 4,100 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1945	Mar. 26, 1945	11.74	2,530	1957	Apr. 21, 1957	12.77	3,430
1946	June 25, 1946	12.45	3,170	1958	Apr. 16, 1958	9.93	1,660
1947	Apr. 25, 1947	a 10.45	1,940	1959	Apr. 18, 1959	8.88	1,200
1948	Apr. 12, 13, 1948	8.82	1,030	1960	Apr. 25, 1960	14.04	4,640
1949	May 7, 1949	11.82	2,600	1961	Apr. 22, 1961	10.24	1,820
1950	May 7, 1950	12.17	3,260	1962	Apr. 23, 1962	9.62	1,510
1951	Apr. 30, 1951	13.55	4,200	1963	Apr. 24, 1963	12.26	3,040
1952	Apr. 22, 1952	13.63	4,130	1964	Apr. 18, 1964	11.80	2,730
1953	June 22, 1953	10.06	1,700	1965	Apr. 24, 1965	11.44	2,690
1954	Apr. 16, 1954	12.09	2,870	1966	Mar. 19, 1966	b 11.77	c 2,200
1955	Apr. 11, 1955	11.58	2,610	1967	Apr. 18, 1967	11.41	2,560
				1968	Mar. 21, 1968	d 10.59	-
1956	Apr. 12, 1956	9.75	1,600		Mar. 29, 1968	9.46	1,430

a Occurred Apr. 18, 1947 (backwater from ice).

b Occurred Mar. 19, 1966 (ice jam).

c Maximum daily discharge.

d Backwater from ice.

4-0330. Middle Branch Ontonagon River near Paulding, Mich.

Location.--Lat 46°21'25", long 89°04'38", in SE 1/4 NE 1/4 sec. 29, T. 46 N., R. 38 W., on right bank 25 ft downstream from highway bridge, 2 1/4 miles upstream from Bond Falls Reservoir, and 5 3/4 miles southeast of Paulding.

Drainage area.--164 sq mi.

Gage.--Recording gage. Datum of gage is 1,485.66 ft above mean sea level, datum of 1929 (levels by Michigan Department of Conservation).

Stage-discharge relation.--Defined by current-meter measurements below 1,500 cfs.

STREAMS TRIBUTARY TO LAKE SUPERIOR

4-0330. Middle Branch Ontonagon River near Paulling, Mich.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Apr. 26, 1943	8.08	1,040	1956	May 31, 1956	6.08	572
1944	June 6, 1944	9.15	1,320	1957	Apr. 21, 1957	8.02	1,080
1945	May 23, 1945	7.37	872	1958	July 2, 1958	6.67	698
				1959	Apr. 18, 1959	6.18	579
1946	June 25, 1946	8.13	1,160	1960	Apr. 25, 1960	10.07	1,700
1947	Apr. 24, 1947	6.56	728				
1948	Apr. 28, 1948	a 5.49	343	1961	Apr. 22, 1961	6.84	742
1949	May 6, 1949	6.16	596	1962	Apr. 23, 1962	6.06	550
1950	May 7, 1950	9.09	1,400	1963	Apr. 3, 1963	6.11	529
				1964	May 25, 1964	6.76	768
1951	Apr. 30, 1951	10.0	2,050	1965	May 10, 1965	8.49	1,220
1952	Apr. 21, 1952	8.84	1,480				
1953	July 2, 1953	9.42	1,640	1966	Apr. 22, 1966	6.65	719
1954	Apr. 28, 1954	8.00	1,120	1967	Apr. 18, 1967	8.28	1,150
1955	Oct. 16, 1954	8.00	1,120	1968	Sept. 10, 1968	5.93	519

a Occurred Mar. 27, 1948 (ice jam).

4-0350. East Branch Ontonagon River near Mass, Mich.

Location--Lat 46°41'24", long 89°04'24", in SW 1/4 NW 1/4 sec. 33, T. 50 N., R. 38 W., on right bank 700 ft downstream from abandoned highway bridge, 1,000 ft downstream from Adventure Creek, 5 miles south of Mass, and 7 1/2 miles upstream from mouth.

Drainage area--272 sq mi.

Gage--Recording gage. Datum of gage is 873.55 ft above mean sea level, datum of 1929 (levels by Michigan Department of Conservation). Prior to Oct. 1, 1949, wire-weight gage at bridge 700 ft upstream at same datum.

Stage-discharge relation--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	May 6, 1943	9.36	2,610	1956	Apr. 4, 1956	7.75	1,970
1944	June 5, 1944	10.19	3,330	1957	Apr. 20, 1957	9.58	3,380
1945	Mar. 26, 1945	a 8.68	1,780	1958	June 26, 1958	6.75	1,300
				1959	Apr. 7, 1959	7.68	1,890
1946	June 25, 1946	10.25	3,060	1960	Apr. 24, 1960	10.65	4,410
1947	Apr. 23, 1947	9.04	2,230				
1948	Apr. 28, 1948	7.42	1,340	1961	May 15, 1961	8.26	2,380
1949	July 4, 1949	11.5	4,160	1962	Apr. 22, 1962	6.67	1,330
1950	May 6, 1950	9.47	3,430	1963	Apr. 1, 1963	9.36	3,250
				1964	Apr. 13, 1964	9.78	3,560
1951	Apr. 28, 1951	9.62	3,530	1965	May 9, 1965	8.52	2,580
1952	Apr. 18, 1952	10.32	4,260				
1953	July 1, 1953	10.57	4,590	1966	Mar. 18, 1966	8.90	2,880
1954	Apr. 26, 1954	10.33	4,060	1967	Mar. 31, 1967	9.20	3,120
1955	Oct. 15, 1954	9.04	2,880	1968	Mar. 19, 1968	8.51	2,570

a Occurred Mar. 17, 1945 (ice jam).

4-0405. Sturgeon River near Sidnaw, Mich.

Location--Lat 46°35'03", long 88°34'33", in NE 1/4 SE 1/4 sec. 5, T. 48 N., R. 34 W., on right bank 30 ft downstream from highway bridge, 3 miles downstream from Rock River, 3 1/2 miles northwest of Covington, 6 1/2 miles upstream from Perch River, and 8 1/2 miles northeast of Sidnaw.

Drainage area--171 sq mi.

Gage--Water-stage recorder. Datum of gage is 1,214.40 ft above mean sea level, datum of 1929. October 1912 to September 1915, staff gage at site 200 ft upstream at different datum. Apr. 2, 1943, to Oct. 1, 1946, chain and staff gages at old timber bridge 20 ft upstream at present datum.

Stage-discharge relation--Defined by current-meter measurements.

STREAMS TRIBUTARY TO LAKE SUPERIOR

4-0405. Sturgeon River near Sidnaw, Mich.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1913	Apr. 24, 1913	-	a 3,180	1955	Apr. 14, 1955	9.22	2,500
1914	Apr. 29, 1914	-	a 3,050	1956	Apr. 12, 1956	7.24	1,170
1915	Apr. 17, 1915	-	a 1,410	1957	Apr. 21, 1957	10.40	3,670
1943	May 7, 1943	10.15	3,280	1958	Apr. 17, 1958	7.89	1,630
1944	June 6, 1944	10.18	3,160	1959	Apr. 18, 1959	8.68	2,120
1945	Mar. 27, 1945	9.22	2,190	1960	Apr. 24, 1960	11.63	4,630
1946	Mar. 23, 1946	7.45	1,040	1961	Apr. 22, 1961	8.63	2,080
1947	May 1, 1947	9.31	2,430	1962	Apr. 26, 1962	7.48	1,330
1948	Apr. 28, 1948	7.16	975	1963	Apr. 4, 1963	9.15	2,460
1949	May 7, 1949	9.28	2,430	1964	Apr. 18, 1964	8.77	2,180
1950	May 10, 1950	9.49	2,520	1965	May 9, 1965	9.63	2,840
1951	Apr. 30, 1951	10.35	3,670	1966	Apr. 25, 1966	8.76	2,170
1952	Apr. 20, 1952	10.03	3,260	1967	Apr. 18, 1967	9.02	2,360
1953	July 2, 1953	8.41	1,960	1968	July 16, 1968	9.76	3,070
1954	Apr. 16, 1954	9.73	2,960				

a Maximum daily discharge.

4-0425. Otter River near Elo, Mich.

Location--Lat 46°50'09", long 88°38'12", in NE 1/4 NE 1/4 sec. 8, T. 51 N., R. 34 W., 50 feet upstream from highway bridge, 1.6 miles north of Pelkie, 2.5 miles south of Elo, and 5 1/2 miles upstream from Otter Lake.

Drainage area--162 sq mi.

Gage--Recording gage. Altitude of gage is 630 ft (from topographic map). Prior to Nov. 1, 1962, located at site 2.5 miles downstream at datum 617.88 ft above mean sea level. Nov. 1, 1962, to Nov. 7, 1965, nonrecording gage at site 50 ft downstream at present datum.

Stage-discharge relation--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Apr. 24, 1943	12.27	3,490	1956	Apr. 12, 1956	8.56	1,320
1944	Apr. 24, 1944	13.30	4,300	1957	Apr. 21, 1957	13.01	4,030
1945	Mar. 27, 1945	11.85	2,840	1958	Apr. 16, 1958	9.18	1,520
1946	Mar. 22, 1946	8.92	1,340	1959	Apr. 18, 1959	10.11	1,920
1947	Apr. 30, 1947	11.47	2,710	1960	Apr. 24, 1960	12.08	3,160
1948	Apr. 20, 1948	10.76	2,030	1961	May 16, 1961	11.67	2,830
1949	May 6, 1949	10.35	1,870	1962	Apr. 22, 1962	8.96	1,450
1950	May 10, 1950	13.30	4,340	1963	Apr. 2, 1963	8.68	2,810
1951	Apr. 29, 1951	12.98	4,040	1964	May 23, 1964	9.90	3,540
1952	Apr. 19, 1952	13.52	4,540	1965	Apr. 30, 1965	8.61	2,770
1953	July 1, 1953	13.01	4,040	1966	Apr. 25, 1966	6.88	1,890
1954	Apr. 27, 1954	13.33	4,340	1967	Apr. 18, 1967	9.71	3,430
1955	Aug. 3, 1955	11.33	2,480	1968	Mar. 19, 1968	7.74	2,270

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0599. Allen Creek Tributary near Alvin, Wis.

Location.--Lat 45°58'05", long 88°47'24", on north boundary of sec. 7, T. 40 N., R. 14 E., at culvert on State Highway 70, 2.2 miles southeast of Alvin.

Drainage area.--1.9 sq mi (includes 1.5 sq mi without surface drainage).

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	May 17, 1960	10.65	10	1965	May 8, 1965	10.51	9
1961	July 30, 1961	10.23	6	1966	Aug. 7, 1966	10.32	7
1962	Sept. 10, 1962	10.15	5	1967	Sept. 15, 1967	10.45	8
1963	-	a	<4	1968	June 30, 1968	10.44	8
1964	Aug. 1, 1964	10.0	4				

a Peak did not reach bottom of gage.

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 1/2 miles north of Florence, and 5 miles upstream from confluence with Michigamme River.

Drainage area.--389 sq mi.

Gage.--Recording gage. Altitude of gage is 1,210 ft (from topographic map). Prior to Aug. 29, 1944, nonrecording gage at bridge 40 ft downstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 4,300 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	May 1, 1914	4.6		2,050	1956	Nov. 22, 1955	5.94	3.8	-
1915	Jan. 10, 11, 29, 30, 1915	4.6	2.6	-		July 9, 1956	3.53		1,150
	May 9, 1915	-	-	1,150	1957	Dec. 14, 1956	7.66	5.6	-
						Apr. 21, 1957	3.23		881
1945	Mar. 20, 1945	7.25	4.5	-	1958	Nov. 28, 1957	6.82	4.9	-
	Apr. 25, May 23, 1945	3.83		1,260		July 2, 1958	3.77		1,360
1946	Nov. 27, 1945	6.40	4.1	-	1959	Nov. 26, 1958	4.91	2.9	-
	June 26, 1946	4.93		2,480		Sept. 29, 1959	3.99		1,580
1947	Dec. 15, 1946	5.60	3.4	-	1960	Jan. 8, 1960	8.01	6.0	-
	Apr. 25, 1947	3.73		1,270		Apr. 26, 1960	4.78		2,470
1948	Nov. 14, 1947	5.87	3.7	-	1961	Dec. 14, 1960	7.53	5.3	-
	Apr. 25, 1948	2.98		712		Mar. 28, 1961	-		b 1,200
1949	Dec. 14, 1948	5.88	4.0	-	1962	Dec. 10, 1961	6.34	4.2	-
	May 7, 1949	3.13		811		Apr. 24, 1962	3.48		1,190
1950	Apr. 1950	a 6.11	-	-	1963	Nov. 24, 1962	6.12	4.1	-
	May 7, 1950	4.81		2,290		May 9, 1963	3.26		978
1951	Nov. 13, 1950	6.61	4.6	-	1964	Dec. 3, 1963	5.59	4.0	-
	Apr. 13, 1951	4.82		2,290		May 25, 1964	3.42		1,060
1952	Nov. 20, 1951	7.1	4.6	-	1965	Nov. 20, 1964	5.09	3.1	-
	July 24, 1952	4.66		2,110		May 9, 1965	4.65		2,320
1953	Dec. 20, 1952	7.02	4.9	-	1966	Nov. 28, 1965	6.94	4.8	-
	July 2, 1953	6.57		4,700		Apr. 21, 1966	3.44		1,070
1954	Apr. 5, 1954	7.70	5.5	-	1967	Mar. 31, 1967	7.99	5.0	-
	Apr. 28, 1954	4.92		2,510		Apr. 10, 1967	4.36		2,010
1955	Dec. 7, 1954	7.45	5.2	-	1968	Dec. 28, 1967	7.05	5.0	-
	Apr. 11, 1955	3.89		1,490		July 1, 1968	4.03		1,640

a From recorded range in stage during no gage-height record Apr. 7-19, 1950.

b Maximum daily discharge.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0615. Paint River at Crystal Falls, Mich.

Location.--Lat 46°06'21", long 88°20'05", in SE 1/4 sec. 20, T. 43 N., R. 32 W., on right bank 150 ft downstream from municipal powerplant at Crystal Falls and 14 1/2 miles upstream from mouth.

Drainage area.--597 sq mi.

Gage.--Recording gage. Datum of gage is 1,306.1 ft above mean sea level (Wisconsin-Michigan Power Co. benchmark).

Stage-discharge relation.--Defined by current-meter measurements below 9,700 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1945	Mar. 29, 1945	5.58	4,160	1957	Apr. 22, 1957	6.05	4,060
1946	Mar. 21, 1946	5.57	4,050	1958	July 2, 1958	5.17	2,860
1947	Sept. 16, 1947	5.61	4,160	1959	Apr. 19, 1959	5.58	3,390
1948	Oct. 8, 1947	4.81	2,610	1960	Apr. 25, 1960	9.82	10,900
1949	July 7, 1949	5.63	4,400	1961	May 16, 1961	5.34	3,180
1950	May 7, 1950	8.10	7,400	1962	May 11, 1962	5.11	2,880
1951	Apr. 11, 1951	7.85	6,900	1963	June 7, 1963	5.10	2,870
1952	Apr. 20, 1952	7.21	5,960	1964	May 25, 1964	5.80	3,970
1953	July 2, 1953	9.70	10,700	1965	May 10, 1965	7.69	6,780
1954	Apr. 28, 1954	7.45	6,260	1966	Apr. 21, 22, 1966	5.88	3,910
1955	Apr. 15, 1955	6.88	5,420	1967	Apr. 6, 1967	6.84	5,420
1956	Mar. 4, 1956	5.02	2,650	1968	Sept. 10, 1968	4.72	2,490

4-0630. Menomonee River near Florence, Wis.

(Published as "at Twin Falls, near Iron Mountain, Mich." prior to July 1950)

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 half a mile downstream from confluence of Brule and Michigamme Rivers, 3 1/2 miles northeast of Florence, and at mile 117.

Drainage area.--1,780 sq mi, approximately.

Gage.--Recording gage. Altitude of gage is 1,120 ft (from topographic map). Prior to 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.

Stage-discharge relation.--Defined by current-meter measurements. Prior to 1950, discharge computed from daily log sheets.

Remarks.--Prior to 1950, record of daily discharge furnished by Wisconsin Power Co. Flow regulated by powerplants and by Michigamme Reservoir (capacity 119,950 acre-ft) since 1940 and Peavy Pond (capacity 33,860 acre-ft) since 1943 on Michigamme River and by smaller reservoirs above station. Figures shown prior to 1950 are maximum daily discharges.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0630. Menomonee River near Florence, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1915	May 11, 1915	-	4,290	1942	June 7, 1942	-	5,460
1916	Apr. 23, 24, 1916	-	16,700	1943	June 18, 1943	-	10,100
1917	Apr. 22, 1917	-	8,740	1944	June 7, 1944	-	6,090
1918	June 2, 1918	-	5,230	1945	May 24, 1945	-	6,540
1919	Apr. 13, 1919	-	7,080	1946	June 26, 1946	-	7,950
1920	Mar. 28, 1920	-	7,920	1947	Apr. 25, 1947	-	5,320
1921	Apr. 29, 1921	-	13,100	1948	Apr. 29, 1948	-	4,590
1922	Apr. 11, 1922	-	9,560	1949	July 8, 1949	-	6,630
1923	Apr. 23, 1923	-	10,000	1950	May 8, 1950	11.52	14,300
1924	May 17, 1924	-	5,050	1951	Apr. 13, 1951	10.46	12,100
1925	Apr. 25, 1925	-	3,500	1952	Apr. 21, 1952	9.77	10,400
1926	Apr. 23, 1926	-	7,280	1953	July 2, 1953	13.81	18,800
1927	Mar. 19, 1927	-	7,400	1954	Apr. 28, 1954	10.92	12,900
1928	May 6, 1928	-	10,600	1955	Apr. 16, 1955	9.44	9,520
1929	Apr. 9, 1929	-	13,500	1956	July 11, 1956	7.67	6,350
1930	May 8, 1930	-	7,290	1957	Apr. 22, 1957	6.33	4,240
1931	Apr. 23, 25, 1931	-	2,270	1958	July 1, 1958	10.12	11,100
1932	Aug. 31, 1932	-	5,380	1959	Sept. 29, 1959	8.57	7,860
1933	Apr. 21, 1933	-	11,200	1960	Apr. 26, 1960	14.15	19,500
1934	May 3, 4, 1934	-	10,000	1961	May 15, 1961	8.84	8,480
1935	Apr. 28, 1935	-	5,600	1962	Apr. 30, 1962	6.10	4,050
1936	May 4, 1936	-	7,770	1963	June 3, 1963	5.99	3,770
1937	Apr. 27, 1937	-	8,530	1964	May 26, 1964	6.90	5,100
1938	Apr. 1, 1938	-	11,900	1965	May 11, 1965	11.86	14,500
1939	Apr. 28, 1939	-	10,600	1966	June 9, 1966	7.35	5,790
1940	May 2, 1940	-	9,630	1967	Apr. 20, 1967	10.36	11,600
1941	Apr. 15, 1941	-	4,100	1968	Sept. 10, 1968	8.42	7,640

a Figures given for water years 1915 to 1949 are maximum daily discharges.

4-0638. Woods Creek near Fence, Wis.

Location--Lat 45°49'53", long 88°23'17", in SE 1/4 sec. 29, T. 39 N., R. 17 E., at box culvert on State Highway 101, 6 miles north of Fence.Drainage area--41.4 sq mi.Gage--Crest-stage gage.Stage-discharge relation--Defined by current-meter measurements below 290 cfs, indirect measurement at 853 cfs, and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	July 2, 1958	9.95	130	1964	Aug. 1, 1964	10.0	130
1959	Sept. 27, 1959	10.52	170	1965	May 7, 1965	15.80	853
1960	June 8, 1960	11.65	275	1966	Apr. 17, 1966	11.62	170
1961	Apr. 16, 1961	11.86	295	1967	Mar. 30, 1967	11.83	190
1962	May 13, 1962	10.35	155	1968	Sept. 9, 1968	11.22	160
1963	Mar. 25, 1963	10.45	160				

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0640. Pine River near Florence, Wis.

Location.--Lat 45°50'20", long 88°20'20", in sec. 23, T. 39 N., R. 17 E., at highway bridge 200 ft downstream from Popple River, 8 miles southwest of Florence and 12 miles above mouth.

Drainage area.--500 sq mi approximately.

Gage.--Nonrecording gage. Altitude of gage is 1,200 ft (from dam elevation 4 miles downstream).

Stage-discharge relation.--Defined by current-meter measurement below 1,600 cfs.

Remarks.--Powerplant 4 miles downstream was put in operation in February 1922.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1916	Apr. 23, 1916	9.3	4,570	1920	Mar. 28, 1920	7.1	2,690
1917	June 8, 1917	7.0	2,540				
1918	May 31, 1918	6.0	1,840	1921	Apr. 28, 1921	7.5	3,000
1919	Apr. 13, 1919	5.17	1,530	1922	Apr. 9, 1922	7.3	2,840
				1923	Apr. 23, 1923		a 2,220

a Maximum daily discharge.

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 miles downstream from Popple River and 6 1/2 miles south of Florence.

Drainage area.--528 sq mi.

Gage.--Headwater and tailwater gage readings and generation data entered hourly in daily log sheet by company employees.

Stage-discharge relation.--Powerplant rating.

Remarks.--Flow regulated by powerplant at station, but pondage is small. Records furnished by Wisconsin-Michigan Power Company.

Maximum daily discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1924	May 11, 1924		1,870	1946	June 27, 1946		1,830
1925	June 5, 1925		1,320	1947	May 3, 1947		1,440
				1948	Apr. 28, 1948		866
1926	May 3, 4, 1926		1,840	1949	July 7, 1949		1,460
1927	Mar. 18, 1927		1,740	1950	May 9, 1950		2,900
1928	May 5, 1928		2,730				
1929	Apr. 9, 1929		4,380	1951	Apr. 13, 1951		3,440
1930	Apr. 19, 1930		1,220	1952	Apr. 21, 1952		2,440
				1953	July 2, 1953		2,090
1931	Sept. 28, 1931		819	1954	Apr. 28, 29, 1954		2,420
1932	May 11, 1932		1,380	1955	Apr. 14, 1955		2,340
1933	May 19, 1933		2,070				
1934	May 3, 1934		1,600	1956	July 9, 1956		1,340
1935	June 21, 22, 1935		1,490	1957	Apr. 21, 25, 1957		1,440
				1958	July 5, 1958		1,600
1936	May 8, 1936		1,960	1959	Sept. 30, 1959		1,760
1937	Apr. 27, 1937		2,110	1960	May 7, 1960		3,220
1938	Mar. 31, 1938		2,590				
1939	Apr. 26, 1939		2,380	1961	May 16, 1961		1,720
1940	May 22, 1940		1,910	1962	Apr. 28, 1962		1,730
				1963	May 11, 1963		1,300
1941	Sept. 1, 1941		2,160	1964	May 1, 1964		1,280
1942	July 18, 1942		3,230	1965	May 8, 1965		4,300
1943	June 18, 1943		2,410				
1944	May 15, 1944		1,460	1966	Apr. 21, 1966		1,580
1945	Mar. 28, 1945		1,680	1967	Apr. 18, 1967		2,800
				1968	July 1, 1968		2,220

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0650. Menominee River near Iron Mountain, Mich.
(Published as "at Lower Quinnesec Falls" prior to 1902)

Location.--Lat 45°47'10", long 88°05'00", in NE 1/4 sec. 11, T. 38 N., R. 19 E., Wisconsin meridian, at Homestead highway bridge, 3 1/2 miles south of Iron Mountain, and 5 miles downstream from Pine River.

Drainage area.--2,420 sq mi, approximately.

Gage.--Nonrecording. Altitude of gage is 1,040 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 11,000 cfs.

Remarks.--No large reservoirs above station, but occasionally extreme regulation occurred from operation of logging dams upstream.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1903	May 29, 1903	12.9	13,000	1909	July 25, 1909	9.9	8,950
1904	May 10, 1904	12.3	12,200	1910	May 22, 1910	7.7	6,400
1905	June 19, 1905	11.7	11,400				
1906	Apr. 21, 1906	14.4	15,200	1911	May 23, 1911	11.5	10,900
1907	May 17, 1907	14.8	15,100	1912	May 7, 1912	11.1	10,400
1908	Apr. 28, 1908	13.0	12,800	1913	Mar. 24, 1913	12.4	12,000
				1914	May 2, 1914	12.4	11,800

4-0653. West Branch Sturgeon River near Randville, Mich.

Location.--Lat 46°00'45", long 87°58'41", in NE 1/4 sec. 30, T. 42 N., R. 29 W., on right bank 500 ft downstream from county highway bridge, 3 miles downstream from Tom Kings Creek, and 4 miles northeast of Randville.

Drainage area.--56.1 sq mi.

Gage.--Recording gage. Altitude of gage is 1,170 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurement.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Sept. 23, 1959	4.41	231	1964	May 25, 1964	5.16	328
1960	May 7, 1960	6.40	570	1965	May 8, 1965	5.25	314
1961	Apr. 17, 1961	5.08	290	1966	June 7, 1966	4.66	231
1962	Apr. 23, 1962	4.48	222	1967	Apr. 2, 1967	5.29	320
1963	May 9, 1963	5.14	298	1968	July 1, 1968	6.18	507

4-0655. Sturgeon River near Foster City, Mich.

Location.--Lat 45°54'30", long 87°45'15", in NW 1/4 sec. 36, T. 41 N., R. 28 W., on left bank 30 ft downstream from bridge on County Highway 569, 1 3/4 miles downstream from confluence of East and West Branches, and 4 miles south of Foster City.

Drainage area.--237 sq mi.

Gage.--Recording. Datum of gage is 966.6 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--7 ft.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1955	Apr. 15, 1955	-	a 1,400	1962	Apr. 26, 1962	6.87	958
1956	Apr. 10, 1956	b 6.54	690	1963	May 11, 1963	7.18	1,040
1957	Apr. 22, 1957	7.06	1,020	1964	May 27, 1964	6.81	1,000
1958	July 6, 1958	6.91	927	1965	May 10, 1965	9.22	1,810
1959	Sept. 24, 1959	6.72	877	1966	June 6, 1966	7.17	1,110
1960	May 8, 1960	10.35	2,570	1967	Apr. 3, 1967	8.74	1,550
1961	Apr. 19, 1961	6.69	914	1968	July 2, 1968	8.52	1,470

a Maximum daily mean discharge.

b Occurred on Apr. 8, 1956.

STREAMS TRIBUTARY TO LAKE MICHIGAN

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, 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.

Gage.--Recording gage. Altitude of gage is 745 ft (from river-profile map).

Stage-discharge relation.--Defined by current-meter measurements below 22,000 cfs.

Remarks.--Flow regulated by powerplants, by Michigamme Reservoir (capacity, 119,950 acre-ft) and Peavy Pond (capacity, 33,860 acre-ft), and by other reservoirs upstream.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1950	May 10, 1950	11.60		20,500	1960	May 8, 1960	13.90		26,900
1951	Apr. 14, 1951	11.84		21,100	1961	Dec. 29, 1960	a 10.47		
1952	Dec. 23, 1951	11.52	7.5			May 16, 1961	8.76		12,200
	Apr. 22, 1952	10.50		17,100	1962	Dec. 15, 1961	a 8.50		
1953	July 3, 1953	13.06		25,500		May 1, 1962	6.83		8,160
1954	Apr. 29, 1954	11.36		19,800	1963	Jan. 29, 1963	a 9.98		
1955	Apr. 17, 1955	9.82		15,100		May 13, 1963	5.80		6,370
1956	July 12, 1956	6.68		7,840	1964	May 26, 1964	7.02		8,340
1957	Jan. 13, 1957	a 8.65			1965	May 11, 1965	12.10		21,500
	Apr. 23, 1957	7.23		9,110	1966	Apr. 23, 1966	7.49		9,480
1958	Jan. 9, 1958	a 9.61		13,200	1967	Apr. 20, 1967	10.52		16,900
	July 2, 1958	9.15			1968	Sept. 11, 1968	8.84		12,400
1959	Dec. 19, 1958	a 9.74		9,720					
	Sept. 30, 1959	7.63							

a Backwater from ice.

4-0663. Cole Creek near Dunbar, Wis.

Location.--Lat 45°37'42", long 88°06'09", on south boundary of sec. 34, T. 37 N., R. 19 E., at culvert on U. S. Highway 8, 3.6 miles southeast of Dunbar.

Drainage area.--3.2 sq mi, approximately.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 30 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	May 7, 1960	11.60	56	1965	May 7, 1965	10.69	24
1961	Apr. 16, 1961	10.60	21	1966	Apr. 20, 1966	10.2	12
1962	May 13, 1962	10.64	22	1967	Mar. 30, 1967	10.80	27
1963	Mar. 25, 1963	10.68	24	1968	June 26, 1968	10.1	10
1964	Apr. 29, 1964	10.31	14				

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., 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.

Gage.--Recording gage. Altitude of gage is 865 ft above mean sea level (from survey level line along railroad). Prior to May 23, 1931, chain gage at railroad 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 in present well at present datum.

Stage-discharge relation.--Defined by current-meter measurements below 1,440 cfs and extended above by logarithmic plotting.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0665. Pike River at Amberg, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	July 14, 1914	4.7		1,220	1942	Apr. 6, 1942	4.2		875
1915	Apr. 11, 1915	3.7		778	1943	Apr. 10, 1943	4.1		837
1916	June 3, 1916	4.7		1,200	1944	Apr. 25, 1944	3.7		691
1917	June 8, 1917	4.6		1,160	1945	Mar. 20, 1945	4.6		1,060
1918	May 28, 1918	3.9		862	1946	Mar. 17, 1946	4.1		837
1919	Apr. 12, 1919	4.3		1,040	1947	Apr. 7, 1947	4.79		1,160
1920	Mar. 27, 1920	5.2		1,450	1948	Mar. 24, 1948	4.40	1.2	
1921	Mar. 21, 1921	5.8		1,750		Mar. 26, 1948	3.51		619
1922	Apr. 10, 1922	7.8		2,800	1949	July 5, 1949	4.10		800
1923	Apr. 21, 1923	6.2		1,950	1950	Apr. 19, 1950	5.51		1,450
1924	May 11, 1924	4.8		1,250	1951	Apr. 9, 1951	6.50		1,980
1925	Apr. 24, 1925	3.2		582	1952	July 22, 1952	4.77		1,080
1926	Apr. 23, 1926	3.7		778	1953	Mar. 23, 1953	4.40	.8	
1927	Mar. 18, 1927	4.3		1,040		Mar. 25, 1953	4.25		860
1928	Apr. 5, 1928	4.1		947	1954	Apr. 28, 1954	4.85		1,120
1929	Apr. 8, 1929	4.8		1,250	1955	Apr. 15, 1955	4.23		852
1930	Apr. 19, 1930	3.2		582	1956	Aug. 5, 1956	4.24		856
1931	May 11, 1931	2.6		376	1957	Apr. 21, 1957	4.75		1,080
1932	Apr. 10, 1932	6.2		1,410	1958	July 6, 1958	4.27		788
1933	June 7, 1933	6.4		1,480	1959	Sept. 23, 1959	3.73		664
1934	Apr. 10, 1934	5.5		1,160	1960	May 7, 1960	7.00		2,290
1935	Mar. 25, 1935	4.2		920	1961	May 9, 1961	3.83		687
1936	Apr. 15, 1936	3.9		785	1962	May 15, 1962	5.06		1,230
1937	Apr. 26, 1937	4.3		970	1963	May 11, 1963	3.53		598
1938	Mar. 31, 1938	5.8		1,600	1964	Apr. 30, 1964	3.88		716
1939	June 13, 1939	5.7		1,730	1965	May 18, 1965	5.08		1,240
1940	May 21, 1940	3.9		763	1966	Mar. 19, 1966	3.80		676
1941	Sept. 1, 1941	4.5		1,010	1967	Apr. 3, 1967	4.95		1,140
					1968	June 28, 1968	4.22		851

4-0667. McCall Creek at Wausaukee, Wis.

Location.--Lat 45°21'37", long 87°57'16", in NW 1/4 sec. 1, T. 33 N., R. 20 E., at culvert on U. S. Highway 141, 1 mile south of Wausaukee.

Drainage area.--1.48 sq mi (includes .15 sq mi without surface drainage).

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 2 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1959	Sept. 22, 1959	11.51		24	1964	Apr. 29, 1964	11.74		28
1960	Apr. 13, 1960	11.93		32	1965	May 8, 1965	10.4		3
1961	Apr. 21, 1961	11.61		25	1966	July 3, 1966	10.47		4
1962	May 13, 1962	10.61		6	1967	Mar. 30, 1967	12.38	0.5	30
1963	May 10, 1963	10.2		1	1968	Oct. 25, 1968	10.80		10

4-0670. Menominee River below Koss, Mich.
(Published as "at Koss" prior to 1913)

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

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

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

Stage-discharge relation.--Powerplant rating.

Remarks.--Flow regulated by powerplants; by Michigamme Reservoir (capacity, 119,950 acre-ft) since 1940 and Peavy Pond (capacity, 33,860 acre-ft) since 1943, and by smaller reservoirs upstream. Records of daily discharge furnished by Wisconsin Public Service Corp. since July 1, 1913.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0670. Menominee River below Koss, Mich.--Continued

Maximum daily discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1908	May 1, 1908		14,600	1941	Sept. 2, 1941		9,180
1914	May 3, 1914		20,800	1942	Apr. 19, 1942		10,800
1915	Apr. 13, 1915		8,650	1943	June 20, 1943		18,900
1916	Apr. 23, 25, 1916		23,200	1944	May 16, 1944		8,380
1917	Apr. 24, 1917		13,800	1945	Mar. 23, 1945		10,800
1918	May 30, 1918		15,000	1946	Mar. 19, 1946		10,900
1919	Apr. 14, 1919		14,100	1947	May 4, 1947		8,870
1920	Mar. 29, 1920		21,800	1948	Mar. 30, 1948		6,720
1921	Apr. 30, 1921		20,300	1949	July 10, 1949		8,420
1922	Apr. 12, 1922		20,500	1950	May 11, 1950		16,900
1923	Apr. 23, 1923		18,700	1951	Apr. 15, 1951		19,000
1924	May 11, 1924		11,800	1952	Apr. 21, 1952		14,700
1925	Apr. 29, 1925		4,310	1953	July 5, 1953		19,300
1926	Apr. 27, 1926		10,900	1954	Apr. 30, 1954		16,700
1927	Mar. 20, 1927		13,500	1955	Apr. 18, 1955		14,800
1928	May 8, 1928		16,900	1956	Apr. 10, 1956		7,360
1929	Apr. 11, 1929		19,700	1957	Apr. 24, 1957		8,370
1930	Apr. 21, 1930		9,380	1958	July 3, 1958		10,700
1931	Apr. 25, 1931		4,060	1959	Sept. 30, 1959		9,650
1932	Apr. 12, 1932		11,100	1960	May 10, 1960		33,000
1933	Apr. 23, 1933		14,700	1961	May 17, 1961		11,400
1934	Apr. 11, 1934		13,400	1962	May 2, 1962		9,370
1935	Mar. 28, 1935		13,600	1963	May 14, 15, 1963		7,120
1936	May 9, 1936		13,000	1964	May 28, 1964		5,640
1937	Apr. 29, 1937		13,800	1965	May 12, 1965		26,600
1938	Apr. 2, 1938		20,700	1966	Mar. 24, 1966		8,400
1939	May 30, 1939		16,900	1967	Apr. 21, 1967		16,900
1940	May 24, 1940		13,700	1968	Sept. 12, 1968		12,600

4-0675. Menominee River near McAllister, Wis.

Location.--Lat 45°19'20" long 87°39'40", in sec. 17, T. 33 N., R. 23 E., on right bank 300 ft above highway bridge on County Trunk JJ, 2 1/4 miles downstream from Little Cedar River, 2.9 miles east of McAllister, 14.5 miles east of Wausaukee, and at mile 22.3.

Drainage area.--4,020 sq mi, approximately.

Gage.--Converted to crest-stage gage partial record site Oct. 1, 1961. May 15, 1945 to Oct. 1, 1961, recording gage. Prior to May 15, 1945, nonrecording gage. Altitude of gage is 630 ft (from river-profile map).

Stage-discharge relation.--Defined by current-meter measurements below 24,000 cfs.

Remarks.--Flow regulated by powerplants, by Michigamme Reservoir (capacity, 119,950 acre-ft), by Peavy Pond (capacity, 33,860 acre-ft) above station, and by other reservoirs upstream.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1945	June 4, 1945	13.82	11,700	1957	Apr. 24, 1957	13.39	11,000
1946	June 28, 1946	14.33	12,800	1958	July 4, 1958	13.84	12,300
1947	Apr. 7, 1947	13.71	11,400	1959	Sept. 27, 1959	13.68	11,800
1948	Apr. 29, 1948	12.66	9,240	1960	May 9, 1960	20.0	32,500
1949	July 8, 1949	13.42	10,800	1961	May 18, 1961	14.0	13,300
1950	May 11, 1950	16.70	21,600	1962	May 13, 1962	13.91	13,000
1951	Apr. 15, 1951	17.83	25,700	1963	May 14, 1963	b	8,700
1952	Apr. 23, 1952	15.98	19,300	1964	May 28, 1964	b	6,900
1953	July 5, 1953	17.43	24,200	1965	May 12, 1965	18.27	27,000
1954	Apr. 30, 1954	16.77	21,900	1966	Apr. 23, 1966	13.73	12,400
1955	Apr. 18, 1955	15.24	16,700	1967	Apr. 21, 1967	16.92	22,500
1956	Apr. 10, 1956	13.35	10,800	1968	Sept. 12, 1968	15.08	16,400

a Discharge estimated by comparison with similar peaks at Menominee River below Koss, Mich.

b Peak did not reach bottom of gage.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0678. Armstrong Creek near Armstrong Creek, Wis.

Location.--Lat 45°39'29", long 88°28'44", 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.

Drainage area.--23.1 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 90 cfs and extended above by step backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Sept. 1958	10.04	90	1964	Apr. 29, 1964	10.01	88
1959	Sept. 29, 1959	9.52	53	1965	June 28, 1965	10.16	99
1960	May 7, 1960	11.05	215				
1961	May 8, 1961	9.80	72	1966	-	a	<80
1962	May 13, 1962	10.18	100	1967	Mar. 30, 1967	10.20	102
1963	Mar. 25, 1963	10.04	90	1968	Sept. 5, 1968	10.13	98

a Peak did not reach bottom of gage.

4-0680. Peshtigo River at High Falls, near Crivitz, Wis.

Location.--Lat 45°16'50", long 88°12'00", in sec. 1, T. 32 N., R. 18 E., at High Falls powerhouse of Wisconsin Public Service Corp., one mile above Thunder River and 10 miles west of Crivitz.

Drainage area.--554 sq mi, approximately.

Gage.--Headwater and tailwater gages and generation data entered hourly in daily log sheet by company employees. Altitude of tailwater gage is 810 ft (from river-profile map). Prior to Sept. 30, 1922, recording gage at site half a mile downstream at different datum.

Stage-discharge relation.--Powerplant rating.

Remarks.--Flow regulated by storage in High Falls service pond, which has an area of 1,750 acres, and by Caldron Falls Service pond, which has an area of 1,212 acres. Record of daily discharge furnished by Wisconsin Public Service Corp. since 1923.

Maximum daily discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1913	Apr. 21, 1913		2,480	1936	May 9, 1936		1,550
1914	May 2, 1914		2,070	1937	Apr. 26, 1937		2,500
1915	Apr. 12, 1915		1,310	1938	Mar. 31, 1938		3,430
				1939	May 29, 1939		2,520
1916	June 5, 1916		2,850	1940	June 11, 1940		1,760
1917	June 9, 1917		2,590				
1918	May 31, 1918		2,140	1941	Apr. 17, 1941		2,030
1919	Apr. 12, 1919		2,290	1942	Apr. 6, 1942		2,060
1920	Apr. 3, 1920		1,830	1943	June 20, 1943		2,160
				1944	May 16, 17, 1944		1,720
1921	Apr. 29, 1921		3,430	1945	Mar. 24, 1945		2,190
1922	Apr. 11, 1922		3,670				
1923	Apr. 26, 1923		2,330	1946	Mar. 20, 1946		2,280
1924	May 15, 1924		2,430	1947	Apr. 12, 1947		1,690
1925	Apr. 28, May 6, 1925		1,200	1948	Mar. 27, 1948		1,550
				1949	July 8, 9, 1949		1,820
1926	Apr. 27, 1926		1,980	1950	May 8, 1950		2,850
1927	Mar. 21, 1927		1,790				
1928	Sept. 15, 1928		2,510	1951	Apr. 14, 1951		3,280
1929	Apr. 9, 1929		3,380	1952	Apr. 23, 1952		2,120
1930	Aug. 20, 1930		1,440	1953	Mar. 28, 1953		1,610
				1954	Apr. 30, 1954		1,610
1931	Nov. 20, 1930		905		Sept. 21, 1954		1,610
1932	Apr. 12, 13, 1932		1,270	1955	Apr. 22, 1955		1,720
1933	Apr. 21, 1933		1,470				
1934	Apr. 16, 1934		1,320	1956	Apr. 8, 1956		1,470
1935	Apr. 1, 1935		1,410				

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0695. Peshtigo River at Peshtigo, Wis.

Location.--Lat $45^{\circ}02'50''$, long $87^{\circ}44'40''$, 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.

Gage.--Recording gage. Datum of gage is 584.64 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 6,240 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1954	May 3, 1954	7.78	4,380	1961	Mar. 29, 1961	7.50	3,750
1955	Apr. 1, 1955	6.73	3,360	1962	Apr. 9, 1962	8.00	4,020
				1963	Apr. 3, 1963	6.87	3,140
1956	Apr. 8, 1956	7.32	3,920	1964	May 7, 1964	7.08	3,240
1957	Apr. 20, 1957	7.07	3,680	1965	Apr. 13, 1965	10.04	6,440
1958	Apr. 8, 1958	6.66	3,290				
1959	Sept. 24, 1959	7.90	4,400	1966	Oct. 3, 1965	7.48	3,470
1960	May 9, 1960	11.59	9,790	1967	Apr. 1, 1967	10.55	7,280
				1968	June 28, 1968	8.81	4,860

4-0710. Oconto River near Gillett, Wis.

Location.--Lat $44^{\circ}51'55''$, long $88^{\circ}18'00''$, 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, approximately.

Gage.--Recording gage. Altitude of gage is 735 ft (from river-profile map). Prior to March 1909, non-recording gage at datum 4.0 ft lower. Jan. 6, 1914, to Aug. 24, 1938, non-recording gage at present datum.

Stage-discharge relation.--Defined by current-meter measurements below 6,300 cfs.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0710. Oconto River near Gillett, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1907	May 26, 1907	8.2		2,570	1943	Mar. 31, 1943	8.22	2.0	
1908	May 1, 1908	8.7		2,700		Apr. 1, 1943	6.30		4,020
					1944	June 18, 1944	2.65		1,200
1914	May 1, 1914	3.9		2,090	1945	Mar. 19, 1945	7.74	3.6	
1915	Apr. 14, 1915	3.5		1,790		Mar. 20, 1945	5.0	0.9	2,300
	June 21, 1915	3.5		1,790					
1916	Apr. 25, 1916	5.4		3,310	1946	Mar. 17, 1946	6.80		4,420
1917	Apr. 2, 1917	5.9	1.0	3,000	1947	Apr. 8, 1947	3.30		1,660
1918	May 30, 1918	4.5		2,550	1948	Mar. 25, 1948	4.95		2,980
1919	Apr. 13, 1919	4.3		2,390	1949	Dec. 8, 1948	3.21	2.0	
1920	Mar. 28, 1920	5.4		3,310		Mar. 29, 1949	2.58		1,150
					1950	Apr. 12, 1950	6.04	2.5	
1921	Apr. 29, 1921	4.9		2,970		Apr. 21, 1950	3.87		2,060
1922	Apr. 10, 1922	11.2		8,400	1951	Apr. 3, 1951	6.08	1.0	
1923	Apr. 27, 1923	6.2		4,010		Apr. 14, 1951	6.02		4,050
1924	Apr. 19, 1924	5.6		3,440	1952	Apr. 2, 1952	9.95	4.0	4,000
1925	June 24, 1925	3.3		1,640	1953	Mar. 23, 1953	8.39	.8	
						Mar. 23, 1953	7.75		5,630
1926	Apr. 15, 1926	4.3		2,400	1954	May 1, 1954	3.11		1,520
1927	Mar. 16, 1927	4.3		2,400	1955	Jan. 17, 1955	5.51	4.5	
1928	Mar. 25, 1928	5.7		3,520		Apr. 15, 1955	3.18		1,570
1929	Apr. 9, 1929	6.9		4,490					
1930	Apr. 18, 1930	2.3		975	1956 ^a	Apr. 8, 1956			a 3,000
						Apr. 6, 1956	8.73	4.0	
1931	Oct. 9, 1930	1.9		761	1957	Apr. 23, 1957	3.05		1,480
1932	Apr. 10, 1932	3.8		1,870	1958	Dec. 5, 1957	4.27	2.9	
1933	Apr. 1, 1933	3.4		1,600		Apr. 10, 1958	3.08		1,500
1934	Apr. 5, 1934	7.0	2.1	3,000	1959	Apr. 7, 1959	6.06	2.3	
1935	Mar. 22, 1935	7.2	1.9	3,400		Apr. 7, 1959	5.31		3,400
					1960	May 10, 1960	6.37		4,340
1936	Mar. 29, 1936	4.0	0.2	2,100					
1937	Oct. 22, 1936	5.0		3,180	1961	Mar. 30, 1961	7.69	2.8	3,000
1938	Apr. 2, 1938	4.9		3,090	1962	Apr. 11, 1962	3.75		2,030
1939	Mar. 26, 1939	9.31	4.0		1963	Mar. 29, 1963	6.47	3.2	
	Mar. 28, 1939	7.8	1.6	4,200		Mar. 30, 1963	3.40		1,750
1940	Dec. 30, 1939	3.45	2.5		1964	May 12, 1964	3.51		1,840
	June 10, 1940	3.17		1,540	1965	Apr. 13, 1965	8.37	1.8	4,200
1941	Apr. 4, 1941	4.95	2.0		1966	June 8, 1966	3.63		1,880
	Apr. 18, 1941	3.64		1,900	1967	Mar. 31, 1967	8.18	2.5	
1942	Jan. 7, 1942	5.85	4.2			Mar. 31, 1967	5.83		3,580
	Apr. 6, 7, 1942	4.16		2,340	1968	June 30, 1968	4.79		2,750

a About, ice affected.

4-0717. North Branch Little River near Coleman, Wis.

Location--Lat 45°00'37", long 88°02'43", 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.

Drainage area--23.3 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 560 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Apr. 6, 1958	12.49	195	1964	Apr. 30, 1964	11.78	120
1959	Apr. 1959	12.90	250	1965	Apr. 11, 1965	a 14.00	-
1960	May 7, 1960	13.72	405		May 15, 1965	12.7	225
1961	Apr. 16, 1961	12.76	230	1966	June 4, 1966	11.22	75
1962	June 17, 1962	12.19	160	1967	Mar. 30, 1967	14.50	640
1963	Mar. 25, 1963	12.73	229	1968	June 27, 1968	12.33	180

a Ice affected.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0718. Pensaukee River near Pulaski, Wis.

Location.--Lat 44°45'48", long 88°15'07", in NE 1/4 sec. 1, T. 26 N., R. 18 E., at bridge on State Highway 32, and 6.1 miles north of Pulaski.

Drainage area.--41.8 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 1,180 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1961	Mar. 27, 1961	12.98	-	490	1965	Apr. 11, 1965	15.29	-	1,100
1962	Apr. 5, 1962	13.04	-	500					
1963	Mar. 24, 1963	14.26	-	785	1966	Mar. 23, 1966	13.15	-	520
1964	May 9, 1964	11.7	-	290	1967	Mar. 29, 1967	17.0	0.4	1,600
					1968	June 26, 1968	13.48	-	595

4-0734. Bird Creek at Wautoma, Wis.

Location.--Lat 44°06', long 89°18', on south boundary of sec. 34, T. 19 N., R. 10 E., at concrete culvert on State Highway 21, 1/4 mile west of Wautoma.

Drainage area.--3.59 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 70 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	May 20, 1959	12.14	105	1964	Sept. 3, 1964	a 11.28	50
1960	Dec. 28, 1959	12.25	110	1965	Mar. 2, 1965	12.47	130
1961	Aug. 10, 1961	12.57	140	1966	Feb. 8, 1966	11.78	75
1962	Mar. 29, 1962	11.19	52	1967	June 15, 1967	11.54	66
1963	Mar. 24, 1963	11.20	53	1968	June 26, 1968	11.66	75

a Backwater from weeds, 0.2 ft.

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 1/2 miles upstream from Barnes Creek, and at mile 89.0.

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

Gage.--Recording gage. Datum of gage is 744.52 ft above mean tide at New York City (by Corps of Engineers). Prior to Oct. 27, 1954, nonrecording gage at site 0.3 mile upstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 5,100 cfs.

Historical.--The flood of Mar. 17-18, 1946, was the highest since 1888 according to the Berlin Journal-Courant. The Corps of Engineers lists the maximum stage as 16.2 ft in 1881.

Remarks.--Only annual maximum daily discharges are shown prior to 1942; daily stages and discharges 1942-49, 1951-55, and momentary peaks 1950, 1956-68. Records computed by Corps of Engineers and reviewed by Geological Survey 1898 to 1939.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0735. Fox River at Berlin, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1881		16.2			1935	Mar. 21,22, 1935			4,340
1898	Mar. 16, 1898			2,730	1936	Mar. 27, 1939			4,340
1899	Apr. 9,11, 1899			2,800	1937	Mar. 20, 1937			3,260
1900	Apr. 2, 1900			2,830	1938	Sept.21-23, 1938			6,190
1901	Mar. 29, 1901			4,800	1939	Mar. 26, 1939			4,910
1902	May 25, 1902			2,450	1940	June 28, 1940			4,720
1903	Mar. 24,25, 1903			2,670	1941	Apr. 3-6, 1941			3,540
1904	Mar. 27, 1904			5,400	1942	Mar. 20,21, 1942	11.8		2,740
1905	June 10,11, 1905			5,920	1943	Mar.31,Apr.1, 1943	14.7		5,080
1906	Mar. 30, 1906			4,450	1944	Apr. 28,29, 1944	11.1		2,290
1907	Mar.28-31, 1907			2,520	1945	Mar.18,19, 1945	12.8		3,460
1908	Mar.14,15, 1908			4,020	1946	Mar.17,18, 1946	15.5		6,900
1909	May 3-6, 1909			2,910	1947	Apr. 12, 1947	12.2		3,160
1910	Mar. 17, 1910			3,080	1948	Mar. 22, 1948	13.7		4,540
1911	Feb.26,27, 1911			2,600	1949	Apr. 4, 1949	11.6		2,600
1912	Mar.31,Apr.1, 1912			4,100	1950	Mar. 28, 1950	13.85		4,780
1913	Mar. 31, 1913			4,340	1951	Apr.10,11,13-16,1951	13.1		4,020
1914	June11,12, 1914			2,750	1952	Apr.4-6, 1952	14.1		4,900
1915	Mar. 18, 1915			3,000	1953	Mar. 20, 1953	13.4		4,100
1916	Mar.28,30, 1916			6,400	1954	May 3-7, 1954	10.4		1,870
1917	Mar. 27, 1917			5,650	1955	Oct.10-12, 1954	12.20		3,020
1918	Mar.21-23, 1918			6,050	1956	Apr. 4, 1956	13.47		4,000
1919	Mar.20-21, 1919			2,670	1957	June18,19, 1957	10.24		1,690
1920	Mar. 29, 1920			5,150	1958	Mar. 16, 1958	9.68	0.6	-
1921	May 1,2, 1921			2,450	1959	Apr. 10, 1958	9.31		1,380
1922	Mar. 16, 1922			5,920	1960	Apr. 12, 1959	13.06		3,670
1923	Apr. 12, 1923			6,050	1961	May10,11, 1960	13.60		4,100
1924	Apr.9,10, 1924			4,020	1962	Mar. 6, 1961	11.70	0.8	-
1925	Mar.23,25, 1925			2,520	1963	Apr. 1, 1961	11.19		2,210
1926	Apr.1,2, 1926			3,440	1964	Mar. 30, 1962	14.21		5,160
1927	Mar. 12, 1927			3,170	1965	Mar. 28, 1963	12.88		3,480
1928	Mar.23,24, 1928			5,920	1966	May 9, 1964	9.63		1,430
1929	Mar.21,23, 1929			6,620	1967	Mar. 14, 1965	12.05	0.8	-
1930	Mar. 5, 1930			3,000	1968	Sept.30, 1965	11.95		2,760
1931	Apr.5,8, 1931			1,140	1966	Feb. 13, 1966	13.37	1.8	-
1932	Jan. 23, 1932			1,910	1967	Mar. 8, 1966	12.47		3,140
1933	Apr. 11, 1933			2,600	1968	Mar. 28, 1967	12.27		2,990
1934	Apr.6-8, 1934			1,910		July 4, 1968	10.74		1,970

4-0747. Hunting River near Elcho, Wis.

Location---Lat 45°25'10", long 89°11'15", 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.

Drainage area---9.0 sq mi, approximately.

Gage---Crest-stage gage.

Stage-discharge relation---Defined by current-meter measurements below 100 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	July 2, 1958	11.58	50	1964	Apr. 22, 1964	11.44	50
1959	Sept.28, 1959	12.98	200	1965	Sept.27, 1965	11.73	66
1960	May 8, 1960	12.41	120	1966	Apr. 19, 1966	11.84	74
1961	Mar. 28, 1961	11.94	80	1967	June 28, 1967	11.91	78
1962	May 13, 1962	12.30	110	1968	Sept.10, 1968	12.20	100
1963	Mar. 24, 1963	11.56	57				

STREAMS TRIBUTARY TO LAKE MICHIGAN

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 (includes 3.1 sq mi without surface drainage).

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

Stage-discharge relation.--Defined by current-meter measurements below 40 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Sept. 27, 1959	10.79	42	1964	May 8, 1964	10.53	33
1960	Aug. 7, 1960	11.27	63	1965	Apr. 11, 1965	11.62	78
1961	Mar. 27, 1961	11.35	66	1966	Dec. 12, 1965	10.96	50
1962	May 13, 1962	10.30	25	1967	June 28, 1967	10.60	36
1963	Sept. 12, 1963	10.5	32	1968	Sept. 10, 1968	10.55	34

4-0755. Wolf River above West Branch Wolf River, Wis.

Location.--Lat 44°56'10", long 88°39'15", E 1/2 sec. 3, T. 28 N., R. 15 E., on highway bridge, half a mile upstream from West Branch of Wolf River, 4 miles north of Keshena and at mile 140.1.

Drainage area.--633 sq mi, approximately.

Gage.--Nonrecording gage. Datum of gage is 856.57 ft above mean sea level (levels by Wisconsin Power and Light Co.).

Stage-discharge relation.--Defined by current-meter measurements below 2,300 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1928	Mar. 29, 1928	4.67	1,740	1946	Mar. 19, 1946	5.7	2,330
1929	Apr. 8, 1929	6.2	2,640	1947	Apr. 7, 1947	4.4	1,540
1930	Apr. 19, 1930	3.8	1,240	1948	Mar. 27, 1948	4.3	1,480
				1949	July 5, 1949	4.3	1,480
1931	June 14, 15, 1931	4.00	1,350	1950	Apr. 26, 1950	4.7	1,710
1932	Apr. 10, 1932	4.44	1,570				
1933	May 2, 1933	3.90	1,290	1951	Apr. 13, 1951	5.65	2,440
1934	Apr. 10, 1934	4.6	1,680	1952	Apr. 19-22, 1952	4.40	1,590
1935	Mar. 25, 1935	6.1	1,960	1953	Mar. 24, 1953	5.74	2,540
				1954	Apr. 28, 1954	4.40	1,580
1936	May 7, 1936	4.52	1,620	1955	Apr. 15, 1955	4.18	1,450
1937	May 1, 1937	5.07	1,960				
1938	Mar. 31, 1938	5.56	2,260	1956	Apr. 7, 1956	4.60	1,680
1939	Mar. 31, 1939	5.4	2,140	1957	Apr. 21, 1957	4.35	1,520
1940	June 9, 1940	4.44	1,540	1958	July 6, 1958	3.97	1,300
				1959	Sept. 30, 1959	4.74	1,760
1941	Apr. 16, 1941	5.8	2,390	1960	May 8, 1960	6.60	3,120
1942	Apr. 6, 1942	4.57	1,660				
1943	June 19, 20, 1943	4.90	1,830	1961	Mar. 30, Apr. 22, 1961		a 1,400
1944	May 13, 1944	4.6	1,660	1962	May 15, 1962	5.00	2,000
1945	Mar. 23, 1945	4.9	1,830				

a Daily mean discharge.

4-0770. Wolf River at Keshena Falls, Wis.
(Published as "at Keshena" prior to April 1928)

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, approximately.

Gage.--Recording gage. Datum of gage is 820.00 ft above mean sea level (levels by Wisconsin Power and Light Co.). May 1907 to March 1909, nonrecording gage, and February 1911 to March 1928, nonrecording gage, 1.7 miles downstream at datum 4.03 ft lower.

Stage-discharge relation.--Defined by current-meter measurements below 3,300 cfs.

Historical data.--The April 10, 1922, flood was the highest in many years---from the Shawano County Advocate.

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1908	Apr. 28, 1908	6.2		3,520	1942	Nov. 2, 1941	7.51		2,250
1912	Sept. 2, 1912	6.9		4,070	1943	Nov. 25, 1941	8.27	1.6	-
1913	Apr. 6, 21, 1913	4.7		2,400	1944	June 1, 1943	8.11		2,920
1914	Apr. 30, 1914	4.2		2,060	1944	Nov. 17, 1943	13.83	7.5	-
1915	June 19, 1915	3.7		1,720	1945	May 14, 1944	7.12		1,840
					1945	Mar. 24, 1945	7.66		2,420
1916	Apr. 21, 1916	6.0		3,370	1946	Nov. 27, 1945	9.70	3.5	-
1917	June 8, 9, 1917	4.5		2,260	1946	Mar. 18, 1946	7.67		2,420
1918	May 28, 1918	5.0		2,620	1947	Apr. 6, 1947	7.43		2,200
1919	Apr. 15, 1919	4.6		2,470	1948	Mar. 27, 1948	7.23		1,990
1920	Apr. 2, 1920	4.89		2,550	1949	July 6, 1949	7.23		1,990
					1950	Apr. 18, 1950	7.77	0.8	-
1921	Apr. 28-30, 1921	6.5		3,760	1950	May 6, 1950	7.56		2,300
1922	Apr. 10, 1922	7.30		4,390					
1923	Apr. 21, 1923	5.7		3,260	1951	Apr. 13, 1951	8.76		3,590
1924	May 15, 1924	5.78		3,320	1952	Apr. 20, 1952	7.46		2,080
1925	June 14, 1925	3.4		1,510	1953	Mar. 24, 1953	7.84		2,500
					1954	Apr. 29, 1954	7.26		1,890
1926	Apr. 25, 1926	5.2		2,850	1955	Apr. 7, 1955	7.29		1,920
1927	May 18, 1927	4.40		2,210					
1928	Sept. 15, 1928	8.15		2,940	1956	Apr. 10, 1956	7.09		1,730
1929	Apr. 8, 1929		a	4,100	1957	Apr. 21, 1957	7.44		2,070
1930	Apr. 19, 1930		a	1,620	1958	Jan. 3, 1958	7.10	1.6	-
					1959	Apr. 6, 1958	6.94		1,600
1931	June 14-16, 1931	6.90		1,530	1960	Sept. 30, 1959	7.26		1,990
1932	Apr. 9, 10, 1932	7.45		2,110	1960	May 7, 1960	9.67	b	4,830
1933	May 2, 1933	7.04		1,710					
1934	Apr. 10, 1934	7.02		2,120	1961	Mar. 29, 1961	8.17		2,100
1935	Mar. 28, 1935	7.48		2,160	1962	Dec. 16, 1961	7.51	1.9	-
					1963	May 15, 1962	7.50		2,250
1936	May 8, 1936	7.65		2,320	1963	Mar. 27, 1963	7.52	1.1	-
1937	May 2, 1937	8.25		2,940	1964	Apr. 1, 1963	6.87		1,620
1938	Mar. 31, 1938	8.60		3,330	1964	May 9, 1964	7.21		1,950
1939	May 29, 1939	7.73		2,640	1965	May 17, 1965	8.50		3,400
1940	June 9, 1940	7.50		2,250					
					1966	June 6, 1966	7.04		1,780
1941	Sept. 1, 1941	8.50		3,400	1967	Apr. 17, 1967	8.35		3,220
					1968	June 28, 1968	7.51		2,260

a Estimated.

b Result of release when part of dam dynamited.

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 bridge, 1 1/4 miles downstream from Mill Creek, and 4 miles northwest of Embarrass.

Drainage area.--395 sq mi, approximately.

Gage.--Recording gage. Altitude of gage is 800 ft (from survey level line in vicinity). Prior to Aug. 23, 1938, nonrecording gage at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 5,700 cfs.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0785. Embarrass River near Embarrass, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1920	Mar. 27, 1920	7.7		2,800	1946	Mar. 16, 1946	7.55		2,920
1921	Mar. 21, 1921	8.4		3,600	1947	Apr. 5, 1947	6.94		2,390
1922	Apr. 10, 1922	11.6		6,920	1948	Mar. 19, 20, 21, 1948	6.10	1.0	-
1923	Apr. 22, 1923	8.8		3,970		Mar. 24, 1948	5.65		1,580
1924	Apr. 18, 1924	7.3		2,570	1949	Mar. 24, 1949	5.36		1,390
1925	June 15, 1925	5.3		1,290	1950	Mar. 27, 1950	11.05	5.5	-
						Apr. 12, 1950	5.64		1,490
1926	Aug. 23, 1926	5.9		1,650	1951	Apr. 9, 1951	7.80		3,070
1927	Mar. 15, 1927	5.8		1,590	1952	Apr. 2, 1952	9.02		4,170
1928	Sept. 16, 1928	7.8		2,930	1953	Mar. 23, 1953	8.79		3,970
1929	Apr. 8, 1929	8.5		3,480	1954	Apr. 28, 1954	5.02		1,120
1930	Apr. 18, 1930	4.6		890	1955	Apr. 1, 1955	5.40		1,340
1931	June 24, 1931	4.50		800	1956	Apr. 5, 1956	8.0	a	3,000
1932	Apr. 9, 1932	5.70		1,510	1957	Apr. 21, 1957	5.35		1,310
1933	Mar. 31, 1933	5.8		1,570	1958	Apr. 8, 1958	5.10		1,160
1934	Apr. 5, 1934	6.9		2,310	1959	Mar. 31, 1959	7.75	2.1	-
1935	Mar. 24, 1935	6.10		1,810		Apr. 5, 1959	6.86		2,320
					1960	May 7, 1960	9.72		4,890
1936	Mar. 25, 1936	6.0		1,610	1961	Mar. 28, 1961	8.50		3,690
1937	Apr. 25, 1937	6.0		1,740	1962	Apr. 9, 1962	5.77		1,560
1938	Mar. 22, 1938	8.1		3,130	1963	Mar. 26, 1963	8.46	2.2	-
1939	Mar. 26, 1939	9.64	1.5	-		Mar. 28, 1963	6.46		a 2,020
	Mar. 27, 1939	8.76		3,970	1964	May 10, 1964	4.69		940
1940	June 9, 10, 1940	6.82		2,310	1965	Apr. 12, 1965	12.13		7,080
1941	May 31, 1941	6.38		2,030	1966	June 6, 1966	5.85		1,660
1942	June 1, 1942	6.84		2,310	1967	Mar. 31, 1967	9.00		3,760
1943	June 1, 1943	9.35		4,560	1968	June 28, 1968	5.89		1,670
1944	June 14, 1944	6.95		2,460					
1945	Mar. 18, 1945	7.38		2,760					

a About, ice affected.

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.

Gage.--Recording gage. Datum of gage is 749.0 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 4, 1951, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 11,600 cfs.

Historical data.--The flood of April 13, 1922, was the highest since April 16, 1888, according to the New London Newspaper. The Corps of Engineers reported the gage height of the April 16, 1888, flood as 11.6 ft.

Remarks.--Daily maximums are listed prior to Oct. 4, 1951, with momentary maximums thereafter. Records for 1896 to 1913 computed by Corps of Engineers.

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1888	Apr. 16, 1888	11.6		1931	June 25, 26, 1931	4.3	2,160
1896	May 7-9, 1896		3,420	1932	Apr. 15, 1932	7.4	4,260
1897	Mar. 27, 1897		4,390	1933	Apr. 5, 6, 1933	7.9	5,320
1898	Apr. 1-4, 26-28, 1898		2,865	1934	Apr. 8, 9, 1934	8.4	6,000
1899	May 5, 6, 1899		5,430	1935	Mar. 25, 26, 1935	9.6	9,570
1900	July 26, 27, 1900		2,750	1936	Mar. 28, 1936	8.8	7,450
1901	Apr. 1, 1901		6,230	1937	May 1-3, 1937	8.3	6,360
1902	May 13, 28, 1902		3,050	1938	Mar. 23-25, 1938	9.8	11,500
1903	Mar. 26, 27, 1903		5,100	1939	Mar. 29, 30, 1939	9.8	11,100
1904	June 1-4, 1904		5,160	1940	July 1, 2, 1940	7.2	4,880
1905	Apr. 1, 1905		6,470	1941	Apr. 6-8, 1941	8.6	7,140
1906	Apr. 1-6, 1906		7,250	1942	June 5, 7, 1942	9.0	7,940
1907	Mar. 30, 31, 1907		5,100	1943	Apr. 2, 3, 1943	9.9	11,700
1908	Mar. 18, 19, 1908		4,350	1944	June 22, 1944	8.3	6,080
1909	May 16, 17, 22-24, 1909		3,420	1945	Mar. 23, 1945	8.4	7,600
1910	May 1-4, 1910		3,500	1946	Mar. 18, 1946	9.6	10,300
1911	May 25, 26, 1911		3,120	1947	Apr. 12, 13, 1947	8.1	5,970
1912	July 29, 30, 1912		9,180	1948	Mar. 23, 24, 1948	7.8	5,460
1913	Mar. 19, 1913		8,170	1949	Mar. 31, Apr. 1, 7, 9, 1949	6.8	4,020
1914	June 9, 10, 1914	9.9	8,490	1950	Mar. 31, 1950	9.6	a 7,000
1915	Mar. 27, 1915	7.6	4,260	1951	Apr. 14, 1951	9.82	10,500
1916	Apr. 4, June 12, 13, 1916	9.7	8,960	1952	Apr. 5, 1952	11.0	15,200
1917	Apr. 1, 1917	9.45	8,060	1953	Mar. 26, 27, 1953	9.80	10,400
1918	May 30, 31, 1918	9.5	7,270	1954	May 6, 7, 1954	6.61	3,980
1919	Apr. 14, 15, 1919	8.7	6,350	1955	Apr. 9, 1955	8.21	5,830
1920	Mar. 28, 29, 1920	10.3	10,800	1956	Apr. 9, 1956	8.86	7,470
1921	May 3, 1921	8.8	6,560	1957	Apr. 28, 1957	6.11	3,320
1922	Apr. 13, 1922	11.4	15,500	1958	Apr. 14, 1958	5.78	3,210
1923	Apr. 24, 1923	10.2	10,100	1959	Apr. 8, 1959	9.00	7,840
1924	May 16-18, 1924	9.3	7,280	1960	May 12, 1960	10.52	13,300
1925	June 19, 20, 1925	7.4	4,270	1961	Apr. 1, 1961	8.92	7,430
1926	May 1-3, 1926	7.6	4,470	1962	Apr. 2, 1962	9.26	8,490
1927	Mar. 16-19, 1927	8.9	6,340	1963	Mar. 30, 1963	9.02	7,700
1928	Mar. 26, 27, 1928	9.5	7,810	1964	May 16, 1964	6.44	3,450
1929	Mar. 21, 22, 1929	11.0	11,300	1965	Apr. 16, 1965	9.68	9,990
1930	Mar. 18-21, 1930	5.6	2,900	1966	Mar. 26, 1966	8.06	5,190
				1967	Apr. 4, 1967	9.94	10,200
				1968	July 5, 1968	8.51	6,170

a Ice affected.

4-0797. Spaulding Creek near Big Falls, Wis.

Location.--Lat 44°38'13", long 89°01'20", 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.

Drainage area.--4.9 sq mi, approximately.

Gage.--Crest-stage gage and seasonal recording gage. Prior to June 16, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 70 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Apr. 3, 1959	10.50	28	1964	Sept. 10, 1964	10.94	57
1960	May 7, 1960	11.64	101	1965	Apr. 12, 1965	11.55	92
1961	Mar. 27, 1961	10.81	40	1966	Dec. 13, 1965	10.74	38
1962	Sept. 13, 1962	10.72	37	1967	Apr. 2, 1967	11.03	51
1963	-	a	<20	1968	June 26, 1968	10.84	42

a Peak did not reach bottom of gage.

STREAMS TRIBUTARY TO LAKE MICHIGAN

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.

Gage.--Recording gage. Datum of gage is 774.00 ft above mean sea level, datum of 1929. Prior to Aug. 20, 1915, nonrecording gage at datum 0.75 ft lower. Aug. 20, 1915, to Apr. 23, 1934, nonrecording gage at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 4,600 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	June 7, 1914	7.6		5,470	1942	June 1, 1942	4.47		2,810
1915	Apr. 8, 1915	3.3		1,300	1943	Mar. 30, 1943	8.00		6,950
					1944	June 20, 1944	4.55		2,860
1916	Mar. 30, 1916	10.0	2.8	6,000	1945	Mar. 17, 1945	6.5		5,080
1917	Mar. 26, 1917	8.5		4,800					
1918	May 19, 1918	4.8		2,980	1946	Mar. 15, 1946	9.21	2.1	
1919	Mar. 16, 1919	5.9	1.0	3,100		Mar. 15, 1946	8.7	1.5	5,900
1920	Mar. 26, 1920	5.6		3,950	1947	Apr. 7, 1947	4.6		2,860
					1948	Mar. 21, 1948	7.93	1.5	5,000
1921	Apr. 28, 1921	4.1		2,180	1949	Mar. 22, 1949	3.21		1,480
1922	Apr. 11, 1922	7.0		5,900	1950	Mar. 28, 1950	11.95	4.0	6,800
1923	Apr. 15, 1923	5.5		3,820					
1924	Aug. 22, 1924	6.1		4,600	1951	Apr. 9, 1951	4.61		2,860
1925	June 15, 1925	4.1		2,180	1952	Apr. 2, 1952	7.00		5,690
					1953	Mar. 23, 1953	6.28		4,840
1926	Apr. 11, Sept. 25, 1926	3.6		1,670	1954	Mar. 15, 1954	2.62		1,010
1927	Mar. 11, 1927	3.9		1,970	1955	Oct. 3, 1954	4.67		2,890
1928	Mar. 24, 1928	8.0	2.5	4,000					
1929	Mar. 18, 1929	7.0		5,900	1956	Apr. 4, 1956	8.88	4.3	
1930	Feb. 23, 1930	4.5	1.2	1,600		Apr. 5, 1956	7.30		6,000
					1957	Dec. 9, 1956	2.88	1.1	
1931	June 22, 1931	2.3		670		Apr. 21, 1957	2.71		1,080
1932	Apr. 9, 1932	3.1		1,250	1958	Sept. 6, 1958	2.81		1,150
1933	Apr. 2, 1933	4.5		2,660	1959	Apr. 5, 1959	9.10	3.5	4,000
1934	Apr. 4, 1934	5.2		3,500	1960	Mar. 31, 1960	6.00	1.7	
1935	Mar. 22, 1935	7.82	2.5	3,500		May 8, 1960	5.82		4,260
					1961	Mar. 28, 1961	4.13		2,890
1936	Mar. 25, 1936	5.00		3,420	1962	Mar. 29, 1962	3.97		2,380
1937	Mar. 7, 1937	4.90	0.6	2,500	1963	Mar. 26, 1963	7.78	2.6	3,700
1938	Mar. 19, 1938	9.50	5.5	-	1964	Sept. 11, 1964	2.86		1,320
	Sept. 11, 1938	5.75		4,380	1965	Apr. 13, 1965	6.03		4,680
1939	Mar. 25, 1939	10.33	3.0	-					
	Mar. 25, 1939	10.32	2.0	6,500	1966	Feb. 10, 1966	5.96	2.0	2,400
1940	June 26, 1940	4.14		2,500	1967	Mar. 28, 1967	6.35	2.0	-
						Apr. 1, 1967	5.45		4,000
1941	Apr. 2, 1941	6.55	2.5	-	1968	June 29, 1968	3.45		1,860
	Apr. 3, 1941	4.04		2,390					

4-0810. Waupaca River near Waupaca, Wis.

(Published as "near Weyauwega" June 28, 1916 to Oct. 18, 1917)

Location.--Lat 44°19'50", long 88°59'45", near 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, and about 5 miles downstream from Crystal River.

Drainage area.--272 sq mi.

Gage.--Seasonal recording gage. Altitude of gage is 780 ft (from survey level line along railroad). Prior to Oct. 19, 1917, nonrecording gage at site 1 mile downstream at different datum. Oct. 19, 1917, to Nov. 23, 1938, nonrecording gage at present site and datum. Nov. 24, 1938, to Dec. 2, 1963, recording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 2,000 cfs.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0810. Waupaca River near Waupaca, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1917	Mar. 25, 1917	5.8		1,000	1946	Mar. 7, 1946	5.70	2.0	-
1918	Mar. 19, 1918	6.2		1,400		Mar. 14, 1946	4.48		1,360
1919	Mar. 17, 1919	5.7		1,900	1947	Dec. 4, 1946	3.76	1.5	-
1920	Mar. 26, 1920	3.7		1,080		Apr. 6, 1947	3.45		855
					1948	Mar. 20, 1948	6.90		2,520
1921	Apr. 27, 1921	3.3		900	1949	Dec. 9, 1948	3.50	1.5	-
1922	Apr. 11, 1922	4.7		1,440		Mar. 15, 1949	3.90		652
1923	Apr. 13, 1923	5.5		1,800	1950	Mar. 28, 1950	8.06	2.5	-
1924	Aug. 22, 1924	4.7		1,440		Mar. 28, 1950	7.92	1.9	2,100
1925	July 9, 1925	3.2		784					
					1951	Mar. 19, 1951	3.23	1.0	-
1926	Mar. 24, 1926	5.1	1.3	1,100		Apr. 8, 1951	2.96		740
1927	May 10, 1927	2.7		521	1952	Apr. 2, 1952	4.67		1,440
1928	Mar. 23, 1928	5.0		1,490	1953	Mar. 23, 1953	5.19		1,660
1929	Mar. 16, 1929	6.1		a 1,590	1954	Mar. 14, 1954	3.08	1.0	-
1930	Feb. 25, 1930	3.5		876		June 1, 1954	2.25		455
					1955	Oct. 4, 1954	3.52		950
1931	Oct. 8, 1930	2.1		322		Mar. 12, 22, 1955	4.45	1.5	-
1932	May 7, 1932	2.55		488					
1933	Apr. 2, 1933	4.9		1,490	1956	Apr. 5, 1956	5.18		1,650
1934	Apr. 4, 1934	5.9		2,040	1957	Apr. 21, 1957	1.96		353
1935	June 19, 1935	3.1		710	1958	Apr. 6, 1958	2.02		375
					1959	Apr. 1, 1959	4.92	0.7	1,250
1936	Mar. 25, 1936	3.9		980	1960	Dec. 28, 1959	4.04		1,180
1937	Mar. 25, 1937	3.3		758					
1938	Sept. 10, 1938	4.7		1,440	1961	Mar. 27, 1961	3.78		1,070
1939	Mar. 23, 1939	5.52		1,660	1962	Apr. 8, 1962	2.65		620
1940	June 24, 1940	5.69		1,900	1963	Mar. 26, 1963	5.00		1,570
					1964	Dec. 12, 1963	b 3.30		-
1941	Jan. 6, 1941	3.72	2.0	-		Sept. 4, 1964	1.87		328
	Apr. 3, 1941	2.92		665	1965	Mar. 8, 1965	b 6.2		-
1942	Jan. 3, 1942	4.17	2.5	-		Apr. 12, 1965	4.51		1,360
	June 7, 1942	3.49		960					
1943	Mar. 26, 1943	5.00		1,570	1966	Feb. 11, 1966	6.15	2.0	1,220
1944	Mar. 12, 1944	3.98		1,160	1967	Mar. 30, 1967	3.74		1,060
1945	Mar. 14, 1945	3.76	1.2	-	1968	June 27, 1968	2.44		535
	Mar. 16, 1945	3.60		1,000					

a Ice affected daily.

b Ice affected.

4-0810.1 Waupaca River Tributary near Waupaca, Wis.

Location--Lat 44°19'34", long 88°59'40", in NW 1/4 sec. 1, T. 21 N., R. 12 E., at culvert on U. S. Highway 10, 5 miles southeast of Waupaca.

Drainage area--1.0 sq mi, approximately.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 80 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Dec. 28, 1959	12.96	78	1965	Apr. 11, 1965	12.31	40
1961	Mar. 25, 1961	12.51	45	1966	Mar. 29, 1966	11.18	19
1962	Mar. 28, 1962	12.68	70	1967	Mar. 28, 1967	a 14.44	100
1963	Mar. 24, 1963	12.77	45	1968	Apr. 20, 1968	11.09	5
1964	Aug. 21, 1964	10.99	14				

a Ice affected.

4-0819. Sawyer Creek at Oshkosh, Wis.

Location--Lat 44°02', long 88°35', in 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.

Drainage area--15.3 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 760 cfs.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0819. Sawyer Creek at Oshkosh, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Sept. 30, 1961	11.55	130	1965	Apr. 11, 1965	12.90	470
1962	Mar. 29, 1962	14.60	1,050				
1963	Mar. 24, 1963	13.69	780	1966	Feb. 9, 1966	13.46	670
1964	May 8, 1964	11.4	175	1967	Apr. 16, 1967	11.39	175
				1968	June 26, 1968	11.72	200

4-0830. West Branch Fond du Lac River at Fond du Lac, Wis.

Location.--Lat 43°45'45", long 88°29'00", on line between secs. 17 and 20, T. 15 N., R. 17 E., on left bank 25 ft upstream from highway bridge, 0.7 mile west of Fond du Lac and 2.5 miles upstream from confluence with East Branch.

Drainage area.--84.5 sq mi.

Gage.--Recording gage. Datum of gage is 766.78 ft above mean sea level (Corps of Engineers benchmark).

Stage-discharge relation.--Defined by current-meter measurements below 870 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1939	Mar. 25, 1939	3.79		602	1948	Mar. 15, 1948	3.98	2.0	-
1940	June 22, 1940	5.28		1,000		Mar. 21, 1948	3.21		457
					1949	Mar. 14, 1949	4.49	3.0	-
1941	Mar. 27, 1941	5.29		1,000		Mar. 27, 1949	3.42		501
1942	May 31, 1942	6.16		1,320	1950	Mar. 25, 1950	5.41	2.5	-
1943	Mar. 27, 1943			a 1,390		Mar. 27, 1950	4.51		642
1944	Mar. 23, 1944	2.70	1.5	-					
	June 23, 1944	2.02		202	1951	May 3, 1951	4.28		741
1945	June 1, 1945	4.31		686	1952	Mar. 21, 1952	5.60	1.5	-
						Mar. 24, 1952	4.58		894
1946	Mar. 14, 1946	5.78		1,210	1953	Mar. 17, 1953	5.10		1,040
1947	June 13, 1947	4.42		770	1954	Apr. 24, 1954	1.12		56

a Ice affected, daily discharge.

4-0834. East Branch Fond du Lac River Tributary near Eden, Wis.

Location.--Lat 43°41'13", long 88°26'29", in NE 1/4 sec. 14, T. 14 N., R. 17 E., at culvert on U. S. Highway 41, 3 miles west of Eden.

Drainage area.--1.19 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1961	Mar. 25, 1961	11.18		50	1965	Sept. 21, 1965	10.90		40
1962	Oct. 29, 1961	10.65		30					
1963	Mar. 24, 1963	12.76	1.6	50	1966	May 23, 1966	11.72		48
1964	Apr. 1964	10.4		20	1967	Mar. 2, 1967	12.44	1.9	25
					1968	June 26, 1968	12.0		85

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0835. East Branch Fond du Lac River at Fond du Lac, Wis.

Location.--Lat 43°45'15", long 88°27'10", in sec. 22, T. 15 N., R. 17 E., on left bank at highway bridge, 0.1 mile west of U. S. Highway 41, 0.5 mile south of Fond du Lac, and 2.5 miles upstream from confluence with West Branch.

Drainage area.--77.9 sq mi.

Gage.--Recording gage. Datum of gage is 762.82 ft above mean sea level (Corps of Engineers benchmark).

Stage-discharge relation.--Defined by current-meter measurements below 1,800 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1939	Mar. 17, 1939	4.93	3.0	142	1948	Mar. 15, 1948	5.23	0.8	1,100
	Mar. 25, 1939	2.85		397	1949	Mar. 6, 1949	5.85	3.5	
1940	June 23, 1940	5.87		2,140		Mar. 27, 1949	2.87		403
					1950	Mar. 26, 1950	6.40	1.9	1,100
1941	Mar. 23, 1941	4.96		1,090					
	Mar. 26, 1941	6.13	2.5	-	1951	Mar. 6, 1951	5.46	2.0	-
1942	May 31, 1942	4.12		920		Apr. 26, 1951	3.97		899
1943	Mar. 16, 1943	10.74	5.7	1,500	1952	Mar. 19, 1952	5.85	2.5	
1944	Feb. 23, 1944	-		a 170		Mar. 21, 1952	4.21		964
1945	Mar. 14, 1945	8.21	3.0	1,600	1953	Feb. 20, 1953	5.25	2.0	-
						Mar. 15, 1953	3.70		745
1946	Mar. 13, 1946	4.72		1,460	1954	Feb. 16, 1954	2.30	.8	
1947	June 13, 1947	4.65		1,220		July 7, 1954	1.93		110

a. Ice affected, daily discharge.

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.

Gage.--Recording headwater and tailwater gages, and since 1925, electric generation data taken each half hour are used to compute discharge records.

Remarks.--Flow regulated by storage in Lake Winnebago pool, area 263 sq mi at elevation of Menasha Dam Crest. Figures of daily discharge furnished by Corps of Engineers.

Maximum daily discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1918	May 25, 1918		16,300	1944	June 23, 1944		10,800
1919	Apr. 18, 1919		13,100	1945	June 6, 7, 1945		15,800
1920	Apr. 10, 1920		16,600				
				1946	Mar. 27, 1946		21,300
1921	Apr. 28, 1921		14,200	1947	June 16, 1947		11,000
1922	Apr. 23, 1922		20,100	1948	Apr. 3, 1948		10,300
1923	May 1-3, 1923		13,700	1949	Apr. 26, 1949		6,360
1924	May 13, 1924		15,500	1950	Apr. 18, 1950		10,900
1925	July 9, 1925		8,340				
				1951	Apr. 26, 1951		20,400
1926	June 17, 1926		9,060	1952	Apr. 18, 1952		24,000
1927	Mar. 30, 1927		13,300	1953	Apr. 22, 1953		12,000
1928	Apr. 11, 1928		15,100	1954	June 28, 1954		5,530
1929	Apr. 4, 1929		20,600	1955	Oct. 8, 1954		12,800
1930	Mar. 8, 1930		6,600				
				1956	May 14, 1956		10,900
1931	Dec. 2, 1930		3,100	1957	May 29, 1957		5,830
1932	Mar. 4, 1932		9,900	1958	Jan. 3, 1958		4,220
1933	May 19, 1933		8,900	1959	May 1, 1959		11,600
1934	Apr. 3, 1934		6,650	1960	May 18, 20, 1960		23,600
1935	Apr. 4, 6, 1935		11,100				
				1961	Apr. 20, 1961		9,950
1936	Apr. 4, 1936		6,290	1962	Apr. 17, 1962		15,400
1937	May 4, 1937		13,500	1963	Apr. 10, 1963		9,470
1938	Mar. 30, 1938		a 11,500	1964	May 26, 1964		4,070
1939	Oct. 1, 1938		18,200	1965	Apr. 30, 1965		12,400
1940	June 26, 1940		17,500				
				1966	Mar. 29-31, 1966		14,200
1941	Apr. 20, 1941		16,600	1967	Apr. 17, 1967		15,400
1942	June 2, 1942		19,800	1968	June 27, 1968		12,500
1943	June 6, 1943		21,300				

a Discharge of 18,000 cfs Sept. 22, 1938, occurred as part of flood event which did not peak until Oct. 1, 1938.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0850.3 Apple Creek near Kaukauna, Wis.

Location.--Lat 44°19'15", long 88°17'33", on west boundary of sec. 2, T. 21 N., R. 18 E., at bridge on State Highway 55, 3 1/2 miles northeast of Kaukauna.

Drainage area.--14.6 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements and a contracted opening measurement at 1,200 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Sept. 19, 1960	14.58	1,040	1965	Apr. 11, 1965	13.35	380
1961	Aug. 9, 1961	14.84	1,200	1966	Mar. 22, 1966	14.15	770
1962	Mar. 29, 1962	14.75	1,150	1967	June 15, 1967	14.06	720
1963	Mar. 24, 1963	14.58	1,040	1968	June 26, 1968	14.43	940
1964	May 9, 1964	13.26	340				

4-0851. East River Tributary near Greenleaf, Wis.

Location.--Lat 44°18'24", long 88°05'47", NE 1/4 sec. 8, T. 21 N., R. 20 E., at railroad box culvert, 1/2 mile south of Greenleaf.

Drainage area.--8.00 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 370 cfs, an indirect measurement at 493 cfs, and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Apr. 1958	a 12.77	<80	1964	May 9, 1964	10.19	80
1959	Apr. 3, 1959	13.38	445	1965	Sept. 20, 1965	10.24	80
1960	Mar. 30, 1960	14.15	550	1966	Feb. 8, 1966	11.98	260
1961	Aug. 9, 1961	13.76	493	1967	June 14, 1967	13.0	390
1962	Mar. 28, 1962	12.99	390	1968	June 26, 1968	11.50	200
1963	May 10, 1963	10.54	105				

a Ice affected.

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., 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.

Gage.--Recording gage and crest-stage gage. Apr. 3, 1957, to Sept. 2, 1964, crest-stage gage only. Sept. 2, 1964, to Sept. 30, 1966, seasonal recording gage.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1958	Apr. 1958	12.16		1,310	1964	Mar. 16, 1964	12.58		1,640
1959	Apr. 7, 1959	14.02		3,220	1965	Apr. 12, 1965	13.84		2,980
1960	Mar. 30, 1960	16.03		6,500	1966	Feb. 8, 1966	16.05		4,000
1961	Mar. 26, 1961	11.84		1,100	1967	Mar. 27, 1967	13.19		2,230
1962	Mar. 29, 1962	13.59		2,670	1968	Mar. 9, 1968	12.08		1,260
1963	Mar. 26, 1963	15.73	0.7	4,700					

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0853. Neshota River Tributary near Denmark, Wis.

Location.--Lat 44°23'43", long 87°52'13", in 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.

Drainage area.--3.08 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 210 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1959	Apr. 2, 1959	14.01		390	1964	May 9, 1964	11.46		50
1960	Apr. 17, 1960	14.20		430	1965	Sept. 21, 1965	11.82		22
1961	Aug. 9, 1961	13.28		250	1966	Feb. 8, 1966	13.80		330
1962	Mar. 28, 1962	13.24		245	1967	Mar. 26, 1967	13.81	0.5	250
1963	Mar. 25, 1963	13.92	0.7	250	1968	June 26, 1968	12.85		110

4-0854. KILLSNAKE RIVER near Chilton, Wis.

Location.--Lat 44°03'33", long 88°08'36", in E 1/2 sec. 6, T. 18 N., R. 20 E., at bridge on country road, 2.4 miles northeast of Chilton.

Drainage area.--29.5 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 1,020 cfs and extended above by indirect computations of flow.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1961	-	a		<100	1965	Apr. 11, 1965	10.5		200
1962	Mar. 28, 1962	12.81		1,060					
1963	Mar. 25, 1963	13.4	0.3	1,200	1966	Feb. 8, 1966	12.9		1,100
1964	May 9, 1964	10.10		100	1967	Mar. 10, 1967	11.86		700
					1968	June 26, 1968	10.60		250

a Peak did not reach bottom of gage.

4-0857. Sheboygan River Tributary near Plymouth, Wis.

Location.--Lat 43°47'26", long 87°56'31", 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.

Drainage area.--5.51 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 65 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	May 1959	10.49	80	1964	Mar. 14, 1964	10.3	80
1960	Apr. 17, 1960	11.19	180	1965	Sept. 20, 1965	10.68	120
1961	Sept. 30, 1961	11.52	230	1966	Feb. 8, 1966	11.22	185
1962	Nov. 16, 1961	10.48	100	1967	Mar. 23, 1967	9.9	60
1963	June 9, 1963	10.2	75	1968	-	a	<60

a Peak did not reach bottom of gage.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0860. Sheboygan River at Sheboygan, Wis.
(Published as "near Sheboygan" June 1916 to September 1924)

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.

Gage--Recording gage. Datum of gage is 584.00 ft above mean sea level, datum of 1929. June 1916 to June 1924 nonrecording gage at site 0.7 mile downstream at different datum. November 1950 to June 1951, nonrecording gage at site 0.3 mile downstream at datum 3.15 ft lower.

Stage-discharge relation--Defined by current-meter measurements below 6,300 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1917	June 3, 1917	5.7		2,080	1956	May 6, 1956	7.66		2,870
1918	Mar. 20, 1918	8.9		6,340	1957	Apr. 7, 1957	4.26		694
1919	Mar. 16, 1919	7.1		3,670	1958	Apr. 7, 1958	3.43		379
1920	Mar. 26, 1920	9.4		7,140	1959	Apr. 3, 1959	9.48		4,790
					1960	Mar. 30, 1960	10.65		6,300
1921	Apr. 26, 1921	8.1		5,140					
1922	Mar. 27, 1922	7.2		3,500	1961	Sept. 30, 1961	6.53		1,990
1923	Apr. 6, 1923	7.9		4,200	1962	Mar. 26, 1962	9.11		4,340
					1963	Mar. 25, 1963	8.33	1.1	2,500
1951	Mar. 30, 1951	8.20		4,310	1964	Apr. 7, 1964	4.54		814
1952	July 20, 1952	8.61		3,780	1965	Apr. 7, 1965	9.55		4,880
1953	Mar. 13, 1953	6.26		1,830					
1954	June 22, 1954	5.39		1,320	1966	Feb. 10, 1966	9.76		5,150
1955	Apr. 25, 1955	8.92		4,010	1967	Apr. 17, 1967	7.86		2,710
					1968	June 27, 1968	5.55		1,330

4-0864. Milwaukee River Tributary near Fredonia, Wis.

Location--Lat 43°26'28", long 87°55'38", in SE 1/4 sec. 1, T. 11 N., R. 21 E., at culvert on country road, 2.3 miles southeast of Fredonia.

Drainage area--0.84 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Mar. 28, 1962	11.36	45	1966	Oct. 21, 1965	12.00	70
1963	-	a	<10	1967	Mar. 23, 1967	10.57	20
1964	Sept. 18, 1964	10.41	15	1968	Oct. 24, 1967	10.30	13
1965	Sept. 9, 1965	14.68	210				

a Peak did not reach bottom of gage.

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.

Gage--Nonrecording gage. Datum of gage is 795.33 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation--Defined by current-meter measurements below 3,200 cfs.

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0865. Cedar Creek near Cedarburg, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1931	June 23, 1931	5.9		177	1951	Mar. 30, 1951	8.80		1,470
1932	Nov. 25, 1931	6.7		450	1952	Mar. 20, 1952	11.40		3,500
1933	Apr. 1, 1933	9.0		1,470	1953	June 6, 1953	8.86		1,540
1934	Apr. 4, 1934	6.5		352	1954	June 23, 1954	8.2		1,000
1935	Mar. 6, 1935	9.8	1.5	1,100	1955	Oct. 4, 1954	9.45		1,920
1936	Mar. 14, 1936	9.0	1.6	710	1956	July 13, 1956	6.85		433
1937	Apr. 22, 1937	8.8		1,350	1957	May 31, 1957	6.40		273
1938	Sept. 19, 1938	9.1		1,520	1958	Mar. 1, 1958	6.55	0.5	180
1939	Mar. 24, 1939	7.4		702	1959	Apr. 1, 1959	11.7	0.5	3,400
1940	June 23, 1940	11.05		3,180	1960	Mar. 30, 1960	12.25	0.8	3,600
1941	Mar. 24, 1941	8.9	2.1	410	1961	Mar. 22, 1961	7.14		525
1942	June 13, 1942	7.9		850	1962	Mar. 28, 1962	10.30		2,530
1943	Mar. 25, 1943	8.9	0.6	1,100	1963	Mar. 25, 1963	8.90		1,540
1944	Mar. 16, 1944	8.2	1.3	440	1964	July 20, 1964	7.90		945
1945	Mar. 15, 1945	6.8		406	1965	Apr. 7, 1965	10.4	0.8	2,000
1946	Mar. 7, 1946	11.0		3,140	1966	Oct. 23, 1965	7.92		917
1947	Mar. 25, 1947	8.2	0.9	580	1967	Mar. 26, 1967	7.65	0.3	613
1948	Mar. 19, 1948	9.0		1,610	1968	Apr. 24, 1968	6.61		296
1949	Apr. 1, 1949	6.7		386					
1950	Mar. 27, 1950	11.10		3,230					

a Peak did not reach bottom of gage.

4-0870. Milwaukee River at Milwaukee, Wis.
(Published as "near Milwaukee" prior to 1936)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, 2,000 ft downstream from Port Washington Road Bridge, and 6 miles upstream from mouth.Drainage area.--686 sq mi.Gage.--Recording gage. Datum of gage is 607.23 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Apr. 6, 1929, nonrecording gage near present site at different datum. Apr. 6, 1929, to Jan. 8, 1934, nonrecording gage at bridge half a mile upstream at different datum.Stage-discharge relation.--Defined by current-meter measurements below 9,200 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1915	Feb. 24, 1915	5.7	5,460	1941	Mar. 27, 1941	4.85	2,500
1916	Mar. 29, 1916	5.0	4,410	1942	Mar. 17, 1942	4.74	2,360
1917	Mar. 25, 1917	5.6	5,310	1943	Mar. 16, 1943	6.81	5,860
1918	Mar. 20, 1918	9.0	15,100	1944	Feb. 27, 1944	4.52	2,030
1919	Mar. 18, 1919	5.6	5,310	1945	Mar. 16, 1945	4.33	1,840
1920	June 17, 1920	6.6	7,050	1946	Mar. 15, 1946	7.00	6,330
1921	Apr. 23, 1921	4.8	4,470	1947	Mar. 25, 1947	4.80	2,500
1922	Feb. 24, 1922	4.7	4,310	1948	Mar. 19, 1948	7.55	8,080
1923	Apr. 7, 1923	5.8	7,060	1949	July 28, 1949	4.10	1,620
1924	Aug. 6, 1924	9.0	15,100	1950	Mar. 28, 1950	6.42	5,540
1925	Feb. 11, 1925	3.4	3,350	1951	Mar. 30, 1951	6.54	5,740
1926	Mar. 25, 1926	4.1	4,740	1952	Mar. 22, 1952	7.13	7,010
1927	Mar. 13, 1927	3.7	3,940	1953	June 5, 1953	6.89	6,580
1928	Mar. 15, 1928	4.4	5,350	1954	June 22, 1954	5.62	4,030
1929	Mar. 15, 1929	7.1	11,000	1955	Oct. 4, 1954	5.92	4,590
1930	Feb. 26, 1930	3.8	4,180	1956	May 10, 1956	5.65	3,940
1931	Apr. 7, 1931	2.0	945	1957	May 13, 1957	4.34	2,040
1932	Nov. 24, 1931	2.8	2,200	1958	Sept. 24, 1958	4.63	2,440
1933	Apr. 2, 1933	4.5	6,370	1959	Apr. 3, 1959	7.92	8,780
1934	Apr. 4, 1934	5.46	2,260	1960	Mar. 31, 1960	8.05	9,300
1935	Mar. 17, 1935	5.60	3,300	1961	Sept. 13, 1961	5.41	3,740
1936	Mar. 24, 1936	4.62	2,990	1962	Mar. 28, 1962	6.28	5,400
1937	Feb. 21, 1937	5.93	6,640	1963	Mar. 28, 1963	4.96	2,980
1938	Feb. 12, 1938	6.19	7,360	1964	July 18, 1964	5.92	4,690
1939	Mar. 26, 1939	4.83	2,440	1965	Apr. 8, 1965	6.45	5,740
1940	June 24, 1940	7.10	6,570	1966	Feb. 12, 1966	6.27	5,380
				1967	Aug. 6, 1967	5.18	3,470
				1968	June 23, 1968	6.08	4,960

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0870.5 Little Menomonee River near Freistadt, Wis.

Location.--Lat 43°12'24", long 88°02'24", 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.

Drainage area.--7.96 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 120 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Mar. 1958	10.32	63	1964	July 18, 1964	12.96	340
1959	Apr. 2, 1959	11.78	200	1965	Sept. 9, 1965	12.00	225
1960	Sept. 19, 1960	12.70	305				
				1966	Oct. 21, 1965	12.60	300
1961	Oct. 31, 1960	10.88	105	1967	June 11, 1967	10.35	70
1962	Mar. 26, 1962	11.29	150	1968	June 28, 1968	10.78	100
1963	Mar. 24, 1963	11.10	123				

4-0871. Honey Creek at Milwaukee, Wis.

Location.--Lat 42°58'41", long 87°59'52", in SE 1/4 sec. 15, T. 6 N., R. 21 E., 400 ft upstream from bridge on South 68th Street, and 6 miles southwest from mouth of Milwaukee River in Milwaukee.

Drainage area.--3.34 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements, slope area measurement at 259 cfs, and backwater curve for gage 400 ft below Morgan Street bridge.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	July 18, 1959		a 240	1964	July 18, 1964	19.40	259
1960	Aug. 2, 1960		a 285	1965	Aug. 8, 1965		a 185
1961	Sept. 22, 1961		a 230	1966	Feb. 9, 1966		a 190
1962	Aug. 24, 1962		a 140	1967	June 11, 1967	19.03	210
1963	Aug. 12, 1963		a 115	1968	Sept. 24, 1968	19.02	210

a Based on backwater curve for crest gage 400 ft below Morgan Street Bridge.

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.

Gage.--Nonrecording gage. Datum of gage is 630.86 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurement below 3,200 cfs and extended above on the basis of slope conveyance study.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1962	Mar. 25, 1962	4.50		1,560	1966	Feb. 9, 1966	6.04		2,520
1963	Mar. 16, 1963	5.78	2.3	900	1967	June 10, 1967	4.81		1,700
1964	July 18, 1964	9.03		6,010	1968	Aug. 20, 1968	8.03		4,660
1965	Mar. 5, 1965	5.59		2,190					

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0872. Oak Creek near South Milwaukee, Wis.

Location--Lat 42°52'58", long 87°53'31", 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.

Drainage area--13.9 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	June 1, 1958	11.11	57	1964	July 18, 1964	14.38	130
1959	Apr. 1, 1959	15.25	170	1965	Mar. 5, 1965	15.17	165
1960	Mar. 30, 1960	17.49	1,100	1966	Feb. 9, 1966	16.09	235
1961	Sept. 22, 1961	12.60	85	1967	June 11, 1967	15.15	165
1962	Mar. 25, 1962	15.46	185	1968	June 26, 1968	16.23	255
1963	Mar. 24, 1963	12.08	75				

4-0872.3 West Branch Root River Canal Tributary near North Cape, Wis.

Location--Lat 42°45'44", long 88°01'04", in SE 1/4 sec. 33, T. 4 N., R. 21 E., at culvert on County Trunk U, 3 miles southeast of North Cape.

Drainage area--3.92 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Mar. 25, 1962	11.93	108	1966	Feb. 9, 1966	12.49	150
1963	Mar. 24, 1963	10.46	30	1967	June 11, 1967	11.3	65
1964	July 18, 1964	11.37	70	1968	June 26, 1968	11.18	60
1965	Apr. 3, 1965	10.94	47				

4-0872.5 Pike Creek near Kenosha, Wis.

Location--Lat 42°36'12", long 87°53'41", in W 1/2 sec. 27, T. 2 N., R. 22 E., at box culvert on State Highway 43, 3 miles northwest of Kenosha.

Drainage area--7.25 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Based on current-meter measurements below 100 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Mar. 30, 1960	16.86	170	1965	Apr. 1, 1965	13.48	55
1961	Mar. 21, 1961	14.06	65	1966	Oct. 21, 1965	17.47	210
1962	Mar. 25, 1962	14.88	85	1967	June 11, 1967	13.29	42
1963	July 19, 1963	13.30	43	1968	June 26, 1968	13.18	40
1964	July 18, 1964	11.71	20				

STREAMS TRIBUTARY TO LAKE MICHIGAN

4-0873. Lake Michigan Tributary at Winthrop Harbor, Ill.

Location.--Lat 42°29'10", long 87°49'20", in SW 1/4 SW 1/4 sec. 3, T. 46 N., R. 12 E., at culvert on State Highway 42, 0.2 mile north of center of Winthrop Harbor.

Drainage area.--1.51 sq mi.

Gage.--Crest-stage gage. Datum of gage is 596.57 ft.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1956	Mar. 19, 1956	11.99	78	1963	July 19, 1963	12.15	29
1957	Feb. 25, 1957	11.59	51	1964	July 18, 1964	11.28	33
1958	Feb. 22, 1958	11.94	55	1965	Apr. 6, 1965	12.02	80
1959	Apr. 28, 1959	11.96	76				
1960	Apr. 17, 1960	12.85	145	1966	Apr. 23, 1966	12.23	95
				1967	Apr. 22, 1967	11.55	51
1961	Mar. 13, 1961	11.44	42	1968	July 24, 1968	11.38	39
1962	May 26, 1962	12.21	94				

RUM RIVER BASIN

5-2860. Rum River near St. Francis, Minn.

Location.--Lat 45°19'40", long 93°22'20", in SE 1/4 sec. 19, T. 33 N., R. 24 W., at upstream side of highway bridge, 4 miles south of St. Francis and 15 3/4 miles upstream from mouth.

Drainage area.--1,360 sq mi, approximately.

Gage.--Recording gage. Datum of gage is 861.12 ft above mean sea level, adjustment of 1912. Prior to Nov. 9, 1933, nonrecording gage at site 50 ft downstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 7,800 cfs.

Remarks.--Flow regulated occasionally by Mille Lacs, Ogechie, and Onamia Lakes.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1930	May 17, 1930	6.56	3,910	1950	May 11, 1950	9.45	7,540
1931	Mar. 30, 1931	4.15	1,140	1951	Apr. 16, 1951	8.30	5,650
1932	Apr. 12, 1932	4.53	1,520	1952	Apr. 13, 1952	11.03	9,260
1933	May 12-13, 1933	3.52	600	1953	June 26, 1953	6.73	3,760
1934	Apr. 10, 1934	2.80	260	1954	May 2, 1954	9.86	8,200
1935	Mar. 25, 1935	4.86	1,760	1955	Apr. 7, 1955	6.39	3,500
1936	Apr. 18, 1936	6.11	3,180	1956	Apr. 11, 1956	9.48	7,560
1937	Apr. 10, 1937	4.33	1,200	1957	June 28, 1957	8.89	6,580
1938	May 14, 1938	8.80	5,550	1958	Apr. 14, 1958	4.57	1,570
1939	Mar. 31, 1939	8.45	5,000	1959	June 6, 1959	3.93	1,000
1940	Apr. 12, 1940	5.94	2,630	1960	Apr. 5, 1960	5.60	2,600
1941	Apr. 12, 1941	7.89	4,530	1961	May 19, 1961	4.23	1,270
1942	May 21, 1942	6.42	3,100	1962	May 29, 1962	7.65	4,900
1943	Apr. 6, 1943	8.46	5,100	1963	June 14, 1963	7.07	4,160
1944	June 19, 1944	9.35	6,780	1964	May 13, 1964	7.02	4,100
1945	Mar. 22, 1945	9.03	5,800	1965	Apr. 20, 1965	11.57	10,100
1946	Mar. 23, 1946	7.66	4,300	1966	Mar. 22, 1966	8.30	5,720
1947	Apr. 18, 1947	6.29	3,010	1967	Apr. 5, 1967	8.05	5,400
1948	Mar. 31, 1948	8.27	4,910	1968	Sept. 30, 1968	5.17	2,150
1949	Apr. 2, 1949	5.90	2,520				

ST. CROIX RIVER BASIN

5-3325. Namekagon River near Trego, Wis.
(Published as "at Trego" prior to October 1927)

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

Drainage area.--503 sq mi.

Gage.--Powerplant records. Prior to Oct. 1927, nonrecording gage at site 5 miles upstream at different datum.

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	July 1, 1914	2.7	1,090	1941	Sept. 2, 1941		5,200
1915	May 19, 1915	2.7	1,090	1942	June 7, 1942		1,280
				1943	June 6, 1943		1,190
1916	Apr. 22-25, 1916	3.0	1,330	1944	June 7, 1944		2,210
1917	Apr. 4, 1917	2.4	873	1945	June 17, 1945		1,760
1918	June 6, 1918	2.6	1,020				
1919	Apr. 13, 1919	2.35	838	1946	June 28, 1946		1,120
1920	June 30, 1920	3.3	1,570	1947	Apr. 24, 1947		959
				1948	Mar. 27, 1948		957
1921	Apr. 10, 1921	2.4	873	1949	July 9, 1949		1,170
1922	Apr. 10, 11, 1922	3.6	1,810	1950	Apr. 19, 20, 1950		2,160
1923	Apr. 23, 1923	2.7	1,090				
1924	May 13, 1924	2.4	873	1951	Apr. 15, July 8, 1951		1,500
1925	Mar. 26, 1925	2.3	803	1952	July 22, 1952		1,480
				1953	May 23, 1953		1,330
1926	Apr. 14, 1926	2.2	733	1954	May 4, 1954		2,140
1927	Mar. 18, 1927	3.0	1,330	1955	July 6, 1955		1,120
1928	Sept. 14, 1928		1,360				
1929	Oct. 20, 1928		1,150	1956	June 16, 1956		1,630
1930	Feb. 24, 1930		844	1957	June 24, 1957	a	1,120
				1958	July 3, 1958	a	2,380
1931	June 28, 1931		855	1959	May 7, 1959	a	886
1932	Apr. 11, 1932		727	1960	May 23, 1960	a	1,420
1933	May 1, 1933		751				
1934	Apr. 7, 1934		867	1961	May 17, 18, 1961	a	1,480
1935	Mar. 28, 1935		957	1962	May 26, 1962	a	1,200
				1963	Apr. 2, 3, 1963	a	657
1936	Apr. 15, 1936		1,340	1964	May 9, 1964	a	1,280
1937	Apr. 24, 1937		893	1965	Apr. 13, 1965	a	1,640
1938	May 7-8, 1938		1,300				
1939	Mar. 28, 1939		1,020	1966	Mar. 18, 1966	a	1,280
1940	May 21, 1940		773	1967	Apr. 3, 1967	a	1,740
				1968	June 22, 1968	a	1,380

a Maximum daily discharge.

5-3331. Little Frog Creek near Minong, Wis.

Location.--Lat 46°05'48", long 91°46'39", in NW 1/4 sec. 29, T. 42 N., R. 11 W., at culvert on country road, 2 1/2 miles east of Minong.

Drainage area.--13.0 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 180 cfs and indirect measurement at 580 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	May 15, 1961	15.06	260	1965	Apr. 15, 1965	14.31	190
1962	May 23, 1962	12.99	116				
1963	Mar. 25, 1963	11.80	60	1966	June 3, 1966	16.30	580
1964	May 6, 1964	14.30	188	1967	Mar. 30, 1967	15.89	465
				1968	July 11, 1968	12.89	105

ST. CROIX RIVER BASIN

5-3335. St. Croix River near Danbury, Wis.
(Published as "at Swiss" prior to October 1933)

Location.--Lat 46°04'30", long 92°14'50", in sec. 33, T. 42 N., R. 15 W., on left bank, 20 ft downstream from 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.

Gage.--Recording gage. Datum of gage is 882.21 ft above mean sea level, datum of 1929. Prior to Jan. 5, 1939, nonrecording gage at present datum.

Stage-discharge relation.--Defined by current-meter measurements below 8,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1915	June 19, 1915	4.47		4,640	1943	Apr. 2, 1943	4.97	-2.5	-
1916	Apr. 22, 1916	6.73		8,480		June 4, 1943	4.06		4,250
1917	July 21, 1917	3.05		2,840	1944	June 6, 1944	7.47		8,990
1918	June 2, 1918	3.15		3,000	1945	Mar. 19, 1945	7.95	-2.5	-
1919	Apr. 11, 1919	3.50		3,330		Mar. 19, 1945	5.50		5,600
1920	July 2, 1920	5.55		6,300	1946	June 25, 1946	6.25		6,900
1921	Apr. 8, 1921	2.78		2,630	1947	Dec. 15, 1946	4.03	-2.5	-
1922	Apr. 11, 1922	6.15		7,380		Apr. 13, 1947	3.73		3,530
1923	Apr. 23, 1923	3.41		3,290	1948	Mar. 27, 1948	4.52		4,450
1924	May 11, 1924	3.24		3,100	1949	May 7, 1949	4.64		4,580
1925	Mar. 28, 1925	3.12		2,970	1950	May 6, 1950	8.22		10,200
1926	Apr. 17, 18, 1926	2.20		2,030	1951	Apr. 14, 1951	5.32		5,840
1927	Mar. 19, 1927	5.70		6,540	1952	July 21, 1952	6.12		6,980
1928	Sept. 17, 1928	3.80		3,690	1953	May 22, 1953	6.05		6,540
1929	Mar. 31, 1929	3.60		3,460	1954	May 2, 1954	7.38		8,900
1930	May 14, 1930	3.28		3,130	1955	Dec. 10, 1954	6.20	-4.5	-
1931	June 24, 1931	3.25		3,080		Apr. 6, 1955	4.06		4,200
1932	Apr. 8, 1932	3.35		3,240	1956	Nov. 20, 1955	5.19	-3.5	-
1933	Apr. 3, 1933	3.55	-0.6	3,160		Apr. 13, 1956	4.64		4,950
1934	Apr. 8, 1934	5.45	-1.0	5,090	1957	Nov. 30, 1956	4.80	-3.5	-
1935	Mar. 23, 1935	5.50		5,630		June 24, 1957	3.62		3,600
1936	Apr. 16, 1936	5.07		4,980	1958	July 2, 1958	7.11		8,500
1937	Apr. 22, 1937	3.45		3,400	1959	May 12, 1959	3.37		3,420
1938	May 7, 1938	4.12		4,000	1960	Apr. 25, 1960	3.82		3,910
1939	Mar. 30, 1939	5.16	-1.0	-	1961	May 16, 1961	6.20		7,130
	Mar. 31, 1939	4.67		4,920	1962	May 24, 1962	4.84		5,160
1940	Apr. 10, 1940	4.55	-1.8	-	1963	Mar. 30, 1963	2.50		2,460
	May 16, 1940	3.01		2,930	1964	May 7, 1964	4.38		4,600
1941	Sept. 4, 1941	7.16		8,630	1965	Apr. 19, 1965	5.74		6,460
1942	Dec. 15, 1941	5.25	-4.1	-	1966	Mar. 19, 1966	7.13	-2.0	-
	May 3, 1942	3.45		3,480		Mar. 20, 1966	5.19		5,700
					1967	Apr. 1, 1967	5.60		6,260
					1968	July 15, 1968	6.00		6,830

5-3341. Sawyer Creek near Shell Lake, Wis.

Location.--Lat 45°46'08", long 91°54'40", in 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.

Drainage area.--1.04 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Apr. 26, 1960	11.61	53	1965	Apr. 11, 1965	13.11	97
1961	Mar. 27, 1961	11.59	52	1966	Mar. 31, 1966	10.63	28
1962	-	a	< 20	1967	Mar. 30, 1967	13.19	100
1963	Mar. 25, 1963	10.63	28	1968	June 30, 1968	12.81	88
1964	July 28, 1964	10.81	32				

a Peak did not reach bottom of gage.

ST. CROIX RIVER BASIN

5-3353.8 Bashaw Brook near Shell Lake, Wis.

Location.--Lat 45°47'02", long 92°07'51", in SW 1/4 sec. 8, T. 38 N., R. 14 W., at culvert on town road, 2.7 miles southeast of Hertel, and 10.5 miles northwest of Shell Lake.

Drainage area.--24.9 sq mi (includes 2.1 sq mi without surface drainage).

Gage.--Crest-stage gage and seasonal recording gage. Prior to June 25, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 300 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Apr. 1959	11.32	50	1964	May 8, 1964	11.43	53
1960	Mar. 30, 1960	13.35	172	1965	Apr. 11, 1965	14.90	600
1961	May 14, 1961	12.36	89	1966	Mar. 4, 1966	13.13	132
1962	May 19, 1962	11.72	64	1967	Mar. 30, 1967	13.93	273
1963	Mar. 25, 1963	12.06	77	1968	Sept. 23, 1968	12.54	98

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.

Gage.--Recording gage. Datum of gage is 848.98 ft above mean sea level, adjustment of 1912 (levels by Northern States Power Co.); prior to Oct. 21, 1938, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 20,800 cfs.

Historical data.--The flood of May 7, 1950, was the highest in 40 years from information by local residents.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1923	Apr. 24, 25, 1923	7.65		5,920	1946	June 27, 1946	12.5		15,100
1924	May 4, 1924	8.25		7,000	1947	Apr. 14-16, 1947	8.30		7,060
1925	Mar. 27, 1925	7.9		6,460	1948	Mar. 29, 1948	9.56		8,700
					1949	May 8, 1949	11.44		13,400
1926	Sept. 20, 1926	6.68		4,180	1950	May 7, 1950	15.06		26,300
1927	Mar. 18, 1927	11.4		13,300					
1928	Apr. 1, 1928	9.05		8,500	1951	Apr. 15, 1951	11.78		14,500
1929	Apr. 1, 1929	8.64		7,740	1952	July 22, 1952	13.2		19,000
1930	June 7, 1930	7.70		5,850	1953	May 23, 1953	12.42		16,300
					1954	May 3, 1954	13.81		21,100
1931	June 25, 1931	8.7		7,560	1955	Apr. 3, 1955	9.64		9,660
1932	Apr. 10, 1932	9.06		8,280					
1933	Apr. 2, 1933	7.06		4,890	1956	Apr. 6, 1956	11.31	0.5	-
1934	Apr. 9, 1934	7.84		6,020		Apr. 6, 1956	11.05		12,600
1935	Mar. 24, 1935	11.24		12,600	1957	June 25, 1957	9.92		10,000
					1958	July 3, 1958	13.00		18,300
1936	Apr. 13, 14, 1936	11.42		13,300	1959	June 2, 1959	8.57		7,550
1937	Apr. 16, 24, 1937	8.20		6,730	1960	Apr. 5, 1960	9.44	1.0	-
1938	May 8, 1938	11.08		12,600		Apr. 16, 1960	8.70		7,770
1939	Mar. 29, 1939	11.14	.8	-					
	Mar. 30, 1939	10.50		10,500	1961	May 17, 1961	12.48		16,500
1940	Apr. 10, 1940	9.13		7,850	1962	May 26, 1962	10.75		11,500
					1963	Mar. 31, 1963	7.37		5,360
1941	Sept. 17, 1941	11.67		12,700	1964	May 8, 1964	10.88		11,800
1942	May 4, 1942	9.08		7,850	1965	Apr. 16, 1965	13.01	0.9	-
1943	Apr. 3, 1943	10.75	2.4	-		Apr. 18, 1965	12.64		16,800
	June 4, 1943	10.75		9,800					
1944	June 7, 1944	12.79		15,900	1966	Mar. 20, 1966	b 12.08		a 11,700
1945	Mar. 20, 1945	12.19		14,400	1967	Apr. 2, 1967	11.92		14,700
					1968	July 17, 1968	9.82		9,320

a Maximum daily discharge.

b Ice affected.

ST. CROIX RIVER BASIN

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.

Gage.--Recording gage. Datum of gage is 919.00 ft above mean sea level, datum of 1929. Prior to Sept. 30, 1917, nonrecording gage at site 500 ft downstream at different datum. July 1 to Oct. 28, 1951, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	July 2, 1914	-	a 4,140	1957	June 26, 1957	7.72	6,730
1915	May 22, 1915	-	a 1,890	1958	Apr. 12, 1958	4.80	1,500
				1959	June 5, 1959	4.88	1,600
1916	Apr. 25, 1916	5.40	7,315	1960	Apr. 5, 1960	5.10	2,000
1917	Apr. 6, 1917	-	a 4,580				
1950	May 9, 1950	-	12,500	1961	May 20, 1961	5.33	2,290
				1962	May 28, 1962	8.11	7,730
1952	Apr. 12, 1952	8.30	7,550	1963	June 13, 1963	5.77	2,910
1953	June 25, 1953	7.09	5,380	1964	May 11, 1964	7.86	6,820
1954	May 4, 1954	8.13	7,710	1965	Apr. 18, 1965	9.56	11,500
1955	Apr. 7, 1955	6.65	4,480				
1956	Apr. 9, 1956	8.09	7,670	1966	Mar. 21, 1966	7.43	6,050
				1967	June 20, 1967	8.10	7,670
				1968	June 26, 1968	5.95	3,200

a Maximum daily discharge.

5-3395. St. Croix River near Rush City, Minn.

Location.--Lat 45°42'15", long 92°52'20", in SW 1/4 sec. 8, T. 37 N., R. 20 W., 200 ft upstream from old site of Northern Pacific Railway bridge, 5 miles east of Rush City, 10 miles downstream from Snake River, and at mile 80.6.

Drainage area.--5,120 sq mi, approximately.

Gage.--Recording gage. Datum of gage is 772.47 ft above mean sea level, datum of 1929. Prior to Aug. 18, 1934, nonrecording gage 200 ft downstream at same datum. Aug. 18, 1934, to Feb. 22, 1950, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 46,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1923	Apr. 24, 25, 1923	5.4	8,300	1943	June 3, 1943	12.00	26,000
1924	May 14, 15, 1924	6.3	9,320	1944	June 7, 1944	15.3	38,900
1925	Apr. 25, 1925	4.6	5,700	1945	Mar. 20, 1945	15.0	37,600
1926	Sept. 20, 21, 1926	4.5	4,780	1946	June 27, 1946	13.24	30,500
1927	Mar. 17, 1927	10.3	20,300	1947	Apr. 14, 1947	8.56	15,300
1928	Mar. 27, 1928	9.9	19,100	1948	Apr. 8, 9, 1948	8.64	15,300
1929	Mar. 30, 31, Apr. 1, 1929	7.6	12,700	1949	May 8, 1949	10.46	20,900
1930	May 15, 1930	8.36	15,900	1950	May 8, 1950	19.04	60,600
1931	June 25, 1931	8.40	15,400	1951	Apr. 14, 1951	14.50	35,100
1932	Apr. 9, 1932	8.2	14,600	1952	July 22, 1952	16.10	43,100
1933	May 3, 1933	4.44	5,610	1953	June 22, 23, 1953	12.25	26,700
1934	Apr. 9, 1934	5.78	8,740	1954	May 3, 1954	16.22	43,700
1935	Mar. 25, 1935	10.66	21,400	1955	Apr. 3, 1955	9.70	18,500
1936	Apr. 14, 1936	12.44	27,700	1956	Apr. 7, 1956	12.28	28,100
1937	Apr. 16, 1937	7.18	11,700	1957	Apr. 1, 1957	a 11.38	a 23,000
1938	May 8, 1938	11.60	24,600	1958	July 4, 1958	12.03	27,200
1939	Apr. 1, 1939	11.2	23,200	1959	June 2, 1959	7.61	13,200
1940	Apr. 12, 1940	10.1	19,700	1960	Apr. 16, 1960	6.83	11,100
1941	Apr. 10, 1941	11.49	24,200	1961	May 17, 1961	11.31	24,700
1942	May 16, 1942	8.96	16,400				

a Gage height affected by backwater from ice jam and discharge by release of storage behind ice jam.

ST. CROIX RIVER BASIN

5-3400. Sunrise River near Stacy, Minn.

Location.--Lat 45°24'30", long 92°55'55", in NW 1/4 NW 1/4 sec. 26, T. 34 N., R. 21 W., at upstream side of highway bridge, 2 1/2 miles northeast of Stacy and 2 1/2 miles upstream from Minnesota Game and Fish dam and 3 miles downstream from West Branch Sunrise River.

Drainage area.--167 sq mi.

Gage.--Recording gage. Altitude of gage is 865 ft (from topographic map). Prior to Nov. 10, 1949, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 630 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1949	Mar. 29, 1949	5.24	168	1957	June 26, 1957	6.99	378
1950	May 7, 1950	6.77	384	1958	Apr. 11, 1958	4.85	124
				1959	May 11, 1959	4.50	120
1951	Apr. 15, 1951	6.85	325	1960	May 25, 1960	6.76	324
1952	Apr. 12, 1952	7.88	806				
1953	Mar. 24, 1953	6.65	322	1961	May 20, 1961	6.77	326
1954	May 3, 1954	7.54	481	1962	Apr. 9, 1962	6.70	314
1955	Apr. 3, 1955	5.77	202	1963	May 16, 1963	6.27	252
				1964	May 11 or 12, 1964	6.72	290
1956	Apr. 7, 1956	6.64	296	1965	July 15, 16, 1965	4.27	141

5-3403. Trade River near Frederic, Wis.

Location.--Lat 45°37'41", long 92°29'19", in 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.

Drainage area.--6.34 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements, indirect measurement at 750 cfs, and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	July 9, 1958	10.26	45	1964	May 5, 1964	10.26	45
1959	July 8, 1959	11.67	123	1965	May 6, 1965	11.68	124
1960	Aug. 28, 1960	17.85	750				
1961	Mar. 27, 1961	11.44	110	1966	Mar. 29, 1966	11.86	130
1962	May 19, 1962	10.94	78	1967	Mar. 30, 1967	13.25	223
1963	Aug. 12, 1963	10.4	50	1968	July 13, 1968	15.12	330

5-3405. St. Croix River at St. Croix Falls, Wis.
(Published as "near St. Croix Falls" prior to Oct. 1939)

Location.--Lat 45°24'30", long 92°38'45", in NW 1/4 sec. 30, T. 34 N., R. 18 W., 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.

Gage.--Recording gage. 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 by Loweth and Wolff, consulting engineers of St. Paul, Minn., to determine the flow. July 1905 to February 1940, records were computed from power generation at the St. Croix Falls powerplant.

Stage-discharge relation.--Defined by current-meter measurements below 50,000 cfs.

Historical data.--The May 8, 1950, flood was the highest since 1888 from the St. Croix Falls Standard-Press.

Remarks.--Flow regulated by powerplant upstream, and by Nevers Reservoir (capacity, 500,000,000 cu ft) 10 miles upstream from 1889 until spring of 1950. Peaks prior to 1940 are maximum daily discharge.

ST. CROIX RIVER BASIN

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1902	July 10, 1902		12,900	1937	Apr. 15, 16, 1937		12,500
1903	Apr. 12, 1903		a 20,200	1938	May 9, 1938		30,000
1904	Oct. 12, 1903		b 23,600	1939	Mar. 31, Apr. 1, 1939		24,800
1905	Oct. 22, 1904		18,700	1940	May 18, 1940	7.12	14,300
1910	Mar. 21, 1910		9,870	1941	Apr. 8, 1941	13.88	29,600
1911	May 23, 1911		7,500	1942	May 16, 1942	8.97	18,600
1912	May 6, 1912		33,500	1943	June 4, 1943	13.42	28,500
1913	May 22, 1913		8,980	1944	June 7, 1944	17.20	37,100
1914	June 29, 1914		15,300	1945	Mar. 20, 1945	20.53	44,600
1915	June 22, 1915		15,100	1946	June 27, 1946	16.50	35,500
1916	Apr. 23, 1916		35,100	1947	Apr. 14, 1947	8.90	18,400
1917	Apr. 5, 1917		17,700	1948	Apr. 10-13, 1948	8.93	18,500
1918	June 3, 4, 1918		10,100	1949	May 8, 1949	11.26	23,800
1919	Apr. 12, 1919		14,900	1950	May 8, 1950	25.19	54,900
1920	Mar. 26, 1920		35,800	1951	Apr. 15, 1951	15.70	33,700
1921	Apr. 9, 1921		11,500	1952	July 23, 1952	19.80	43,000
1922	Apr. 10, 11, 1922		18,600	1953	May 24, 1953	15.20	32,600
1923	Apr. 28, 1923		8,880	1954	May 4, 1954	20.40	44,400
1924	May 15, 1924		9,800	1955	Apr. 4, 1955	10.48	22,000
1925	Apr. 26, 1925		c 5,860	1956	Apr. 7, 1956	14.77	31,600
1926	Sept. 22, 1926		6,140	1957	June 24, 1957	12.19	25,800
1927	Mar. 18, 1927		27,600	1958	July 4, 1958	13.25	28,200
1928	Mar. 30, 1928		21,800	1959	June 3, 1959	7.16	14,500
1929	Apr. 1, 2, 1929		16,900	1960	Apr. 3, 1960	8.13	16,700
1930	May 16, 1930		17,500	1961	May 18, 1961	12.95	27,500
1931	June 26, 1931		16,600	1962	May 26, 1962	14.12	30,100
1932	Apr. 10, 1932		18,500	1963	Mar. 30, 1963	5.40	10,500
1933	May 4, 1933		7,060	1964	May 9, 1964	13.05	27,700
1934	Apr. 12, 1934		12,100	1965	Apr. 18, 1965	20.98	45,700
1935	Mar. 25, 1935		26,400	1966	Mar. 18, 1966	16.53	35,600
1936	Apr. 15, 1936		31,000	1967	Apr. 2, 1967	15.64	33,600
				1968	June 23, 24, 1968	9.49	19,700

a Maximum day; may have been exceeded in September during period of missing record.

b Maximum day; may have been exceeded during 3-day period of missing record prior to this maximum day.

c On Oct. 1, 1924, the maximum daily discharge was 6,820 cfs, but from the falling stage of Sept. 30, 1924 peak.

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., 1.8 miles upstream from mouth, 3.5 miles downstream from Somerset.

Drainage area.--555 sq mi.

Gage.--Headwater and tailwater gages read hourly. Daily discharge computed from hourly records of gate openings, head, and plant efficiency.

Remarks.--Flow regulated by many powerplants upstream. Records of daily discharge furnished by Northern States Power Co.

ST. CROIX RIVER BASIN

5-3415. Apple River near Somerset, Wis.--Continued

Maximum daily discharge

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1905	June 1905		2,280	1937	May 27, 1937		558
1906	May 1906		2,250	1938	Sept. 12, 1938		2,160
1907	Mar. 1907		1,640	1939	Mar. 26, 1939		1,570
1908	May 1908		1,380	1940	Apr. 9, 1940		1,010
1909	June 1909		1,060	1941	Apr. 4, 1941		1,400
1910	Dec. 1909		603	1942	June 9, 1942		1,020
1911	Apr. 20, 1911		540	1943	June 17, 1943		2,460
1912	May 24, 1912		930	1944	June 7, 1944		1,930
1913	Apr. 3, 19, 1913		990	1945	Mar. 18, 1945		1,890
1914	June 29, 1914		870	1946	June 27, 1946		1,870
1915	Apr. 7, 1915		824	1947	Apr. 13, 1947		1,150
1916	Apr. 23, 1916		1,800	1948	Mar. 28, 1948		1,780
1917	Apr. 6, 1917		966	1949	Mar. 29, 1949		942
1918	June 3, 1918		1,160	1950	Apr. 3, May 8, 1950		1,290
1919	Apr. 12, 1919		1,120	1951	Apr. 14-16, 1951		1,930
1920	Mar. 26, 1920		1,370	1952	Apr. 10, 1952		2,380
1921	Mar. 29, 1951		671	1953	Mar. 23, 1953		1,300
1922	Apr. 11, 1922		1,420	1954	May 5, 1954		2,200
1923	Apr. 14, 1923		1,060	1955	Apr. 7, 1955		760
1924	Apr. 8, 1924		537	1956	Apr. 8, 1956		1,540
1925	Mar. 24, 1925		598	1957	Mar. 25, 1957		890
1926	Mar. 25, 1926		932	1958	Apr. 10, 1958		703
1927	Mar. 18, 1927		982	1959	Sept. 3, 1959		495
1928	Mar. 27, 1928		1,160	1960	May 27, 1960		1,060
1929	Mar. 20, 1929		1,140	1961	Mar. 31, 1961		981
1930	Feb. 26, 1930		919	1962	Sept. 13, 1962		1,400
1931	Nov. 21, 1930		381	1963	May 15, 1963		1,040
1932	Apr. 8, 1932		1,220	1964	Apr. 20, 1964		860
1933	Apr. 1, 1933		1,300	1965	Apr. 13, 1965		2,510
1934	Apr. 5, 1934		1,670	1966	Mar. 20, 1966		1,060
1935	Mar. 24, 1935		814	1967	Apr. 2, 3, 1967		1,920
1936	Apr. 12, 1936		1,690	1968	Sept. 26, 1968		890

5-3417. Willow River Tributary near New Richmond, Wis.

Location.--Lat 45°05'23", long 92°28'41", in 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.

Drainage area.--1.40 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1959	Mar. 1959	10.54		4	1964	May 23, 1964	10.69		6
1960	Aug. 28, 1960	12.20		92	1965	July 1, 1965	12.26		96
1961	Sept. 8, 1961	11.78		62	1966	June 6, 1966	11.95		74
1962	Aug. 23, 1962	11.88		70	1967	Mar. 29, 1967	12.72	0.85	70
1963	Aug. 2, 1963	11.34		25	1968	Sept. 23, 1968	11.80		64

ST. CROIX RIVER BASIN

5-3419. Kinnickinnic River Tributary at River Falls, Wis.

Location--Lat 44°49'57", long 92°38'23", in NE 1/4 sec. 14, T. 27 N., R. 19 W., at bridge on County Trunk FF, 1.6 miles southwest of River Falls.

Drainage area--7.26 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurement at 84 cfs, indirect measurement at 3,420 cfs, and step-backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	July 8, 1959	11.98	580	1964	-	a	<60
1960	May 20, 1960	10.46	80	1965	June 1, 1965	15.06	3,420
1961	Mar. 27, 1961	10.92	160	1966	Mar. 4, 1966	11.83	500
1962	July 2, 1962	10.72	105	1967	Mar. 27, 1967	11.04	200
1963	May 10, 1963	10.67	100	1968	Sept. 22, 1968	11.74	460

a Peak did not reach bottom of gage.

5-3420. Kinnickinnic River near River Falls, Wis.

Location--Lat 44°49'50", long 92°44'00", in sec. 18, T. 27 N., R. 19 W., at Clifton Hollow Bridge, a quarter of a mile downstream from abandoned plant of Clifton Falls Power Co., 1.9 miles upstream from mouth, and 5.5 miles west of River Falls.

Drainage area--167 sq mi.

Gage--Recording gage. Altitude of gage is 690 ft (by topographic map).

Stage-discharge relation--Defined by current-meter measurements below 400 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1917	Mar. 27, 1917	5.67	1,970	1920	Mar. 15, 1920	7.98	4,760
1918	June 5, 1918	6.60	3,080	1921	June 14, 1921	5.35	410
1919	Mar. 12, 1919	7.00	3,560				

TRIMBELLE CREEK BASIN

5-3466. Little Trimble Creek near Bay City, Wis.

Location--Lat 44°38'01", long 92°34'05", in S 1/2 sec. 21, T. 25 N., R. 18 W., at bridge on County Trunk K, 7 miles northwest of Bay City.

Drainage area--19.9 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 1,100 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 27, 1961	10.84	470	1966	Mar. 4, 1966	12.84	1,780
1962	Mar. 28, 1962	11.60	810	1967	Mar. 28, 1967	12.60	1,550
1963	Mar. 25, 1963	10.84	470	1968	May 15, 1968	13.29	2,300
1964	Mar. 13, 1964	10.47	350				
1965	Apr. 7, 1965	12.74	1,700				

CHIPPEWA RIVER BASIN

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., 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.

Gage.--Recording gage. Altitude of gage is 1,270 ft (from Lake Chippewa datum). Prior to Jan. 27, 1914, nonrecording gage at same site at datum 3.44 ft higher; Jan. 27, 1914, to July 22, 1930, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 6,500 cfs.

Remarks.--Flow completely regulated since 1923 by Lake Chippewa and Moose Lake.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1912	May 6-19, 1912	6.9	a 2,820	1941	Sept. 4, 5, 1941	11.05	7,520
1913	Apr. 11, 1913	8.2	a 4,410	1942	June 6, 7, 1942	7.56	3,260
1914	May 3, 4, 1914	7.7	a 3,280	1943	June 15, 1943	8.19	4,130
1915	June 9, 1915	7.7	3,680	1944	June 8-12, 1944	8.85	a 5,060
				1945	June 16, 1945	7.70	3,340
1916	Apr. 22, 1916	9.6	7,020				
1917	Apr. 21, 1917	7.4	3,260	1946	June 29, 1946	10.70	7,220
1918	June 1, 1918	7.3	3,120	1947	June 17-23, 1947	6.52	a 2,030
1919	Apr. 15, 1919	7.35	3,190	1948	Oct. 27-31, 1947	5.41	a 919
1920	Mar. 31, 1920	7.7	a 3,680		Nov. 1, 2, 4, 5, 1947	5.41	a 919
				1949	Nov. 13, 14, 1948	5.16	722
1921	Apr. 30, 1921	7.2	a 2,980	1950	May 11, 1950	10.07	6,650
1922	Apr. 12, 1922	9.3	6,420				
1923	Aug. 15, 1923	7.75	3,750	1951	July 9, 10, 1951	7.89	3,620
1924	Sept. 14, 1924	6.7	2,310	1952	July 22-25, 1952	7.72	3,340
1925	Feb. 14, 1925	6.3	1,800	1953	July 5-7, 1953	8.18	4,070
				1954	Mar. 4, 1954	10.25	6,800
1926	Sept. 20-24, 1926	8.5	a 4,920	1955	Oct. 15, 1954	7.02	2,490
1927	Nov. 16, 1926	7.6	3,360				
1928	Sept. 17, 1928	7.9	3,810	1956	Oct. 4, 1955	5.67	1,100
1929	Oct. 18, 1928	7.9	3,810	1957	Oct. 1, 1956	5.34	818
1930	Nov. 29, 1929	6.4	1,870	1958	July 9, 1958	7.84	3,480
				1959	Sept. 1, 1959	7.35	2,890
1931	Dec. 12, 1930	5.95	a 1,450	1960	Sept. 3, 1960	8.52	4,630
1932	Dec. 1931, Feb. 1932	5.80	a 1,250				
1933	Nov., Dec., 1932	5.20	a 746	1961	May 23, 1961	6.29	1,670
	June, July, 1933	5.20	a 746	1962	Sept. 11, 1962	7.01	2,480
1934	Aug. 3-6, 1934	5.30	a 819	1963	Nov. 6, 1962	5.82	1,240
1935	Jan. 18, 19, 1935	6.30	a 1,780	1964	Nov. 25, 1963	5.64	1,080
				1965	May 19, 1965	7.35	2,890
1936	May 14, 15, 1936	7.00	2,600				
1937	Nov. 20-25, 1936	5.75	a 1,200	1966	Apr. 28, 1966	7.46	2,940
1938	May 5, 1938	7.83	3,650	1967	June 18, 1967	9.92	6,460
1939	June 15, 1939	8.55	4,660	1968	June 21, 1968	8.63	4,780
1940	Sept. 5, 6, 1940	6.75	2,050				

a Maximum daily discharge.

5-3562. Kenyon Creek near Radisson, Wis.

Location.--Lat 45°46'02", long 91°06'40", in NW 1/4 sec. 22, T. 38 N., R. 6 W., at bridge on State Highway 27, 5 miles east of Radisson.

Drainage area.--7.5 sq mi, approximately.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Apr. 26, 1960	11.07	105	1965	Apr. 14, 1965	12.42	280
1961	Apr. 17, 1961	11.35	130	1966	Apr. 20, 1966	b 10.93	<100
1962	May 19, 1962	10.95	95	1967	Mar. 31, 1967	12.85	330
1963	-	a	<50	1968	July 14, 1968	12.14	235
1964	Sept. 2, 1964	10.41	60				

a Peak did not reach bottom of gage.

b Backwater from beaver dam.

CHIPPEWA RIVER BASIN

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., 1 mile east of Bruce and 1 mile downstream from Thornapple River.

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

Gage.--Recording gage. Datum of gage is 1,059.62 ft above mean sea level, datum of 1929. Prior to May 28, 1935, nonrecording gage at railroad bridge 0.8 mile upstream at datum 2.30 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 20,000 cfs.

Historical data.--The flood of September 1, 1941, was the highest ever; at least 40 years---from the Ladysmith news.

Remarks.--Flow regulated by Moose Lake since 1893 and by Lake Chippewa since 1923.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	Apr. 30, 1914	9.4	8,720	1941	Sept. 1, 1941	20.46	25,800
1915	May 18, 1915	7.1	6,000	1942	May 31, 1942	11.52	10,200
				1943	June 28, 1943	15.84	17,000
1916	Apr. 22, 1916	12.4	13,600	1944	Apr. 25, 1944	9.82	7,990
1917	Apr. 21, 1917	8.2	7,240	1945	June 3, 1945	14.04	13,900
1918	June 2, 1918	9.8	9,520				
1919	Apr. 11, 1919	9.2	8,680	1946	June 28, 1946	12.12	11,000
1920	Mar. 27, 1920	12.7	14,100	1947	June 5, 1947	7.60	5,410
				1948	Mar. 27, 1948	8.09	5,960
1921	Apr. 29, 1921	9.3	8,780	1949	May 6, 1949	9.27	7,360
1922	Apr. 10, 1922	13.8	15,100	1950	Apr. 18, 1950	12.70	11,900
1923	Apr. 21, 1923	10.0	9,060				
1924	Apr. 26, 1924	11.0	11,300	1951	Apr. 12, 1951	13.06	12,500
1925	Mar. 28, 1925	4.9	3,620	1952	Apr. 9, 1952	11.11	9,630
				1953	May 22, 1953	14.44	14,500
1926	Sept. 19, 1926	12.0	12,900	1954	May 2, 1954	17.0	19,400
1927	Mar. 17, 1927	10.8	11,000	1955	Oct. 16, 1954	8.72	6,660
1928	Mar. 27, 1928	8.8	8,080				
1929	Oct. 19, 1928	7.9	6,920	1956	Apr. 6, 1956	12.72	11,900
1930	June 14, 1930	4.9	3,380	1957	June 23, 1957	6.82	4,620
				1958	July 2, 1958	11.00	9,500
1931	June 11, 1931	5.0	3,480	1959	July 9, 1959	8.82	6,780
1932	Apr. 8, 1932	8.7	7,950	1960	Aug. 29, 1960	12.41	11,500
1933	Apr. 1, 1933	6.20	4,470				
1934	Apr. 6, 1934	8.7	7,950	1961	May 16, 1961	9.50	7,600
1935	Mar. 24, 1935	12.5	13,800	1962	May 20, 1962	7.94	5,980
				1963	Mar. 31, 1963	5.73	3,700
1936	Apr. 12, 1936	13.00	12,100	1964	Apr. 22, 1964	6.40	4,350
1937	Apr. 22, 1937	8.38	5,890	1965	Apr. 15, 1965	15.19	12,300
1938	May 6, 1938	12.94	12,000				
1939	Mar. 27, 1939	13.18	12,400	1966	Mar. 18, 1966	10.16	8,510
1940	Apr. 10, 1940	9.15	7,040	1967	Apr. 1, 1967	a 17.48	19,000
				1968	July 1, 1968	13.37	13,100

a Backwater from ice.

5-3575. Flambeau River at Flambeau Flowage, Wis.
(Published as "at Flambeau Reservoir" prior to 1956)

Location.--Lat 46°04'05", long 90°13'45", near north line of sec. 3, T. 41 N., R. 2 E., 0.5 mile downstream from Flambeau Flowage dam, 10.6 miles southwest of Mercer, and at mile 114.5.

Drainage area.--666 sq mi.

Gage.--Recording gage. Datum of gage is 1,540.0 ft above mean sea level (Northern States Power Co. benchmark). Prior to Oct. 25, 1947, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 3,500 cfs.

Remarks.--Flow completely regulated by Flambeau Flowage and Rest Lake Reservoir which have a combined capacity of 6,560 million cubic feet. Peaks prior to 1948 are maximum observed.

CHIPPEWA RIVER BASIN

5-3575. Flambeau River at Flambeau Flowage, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1928	Feb. 14, 1928	5.8	1,410	1945	June 8, 1945	6.75	2,420
1929	Oct. 21, 22, 1928	6.76	2,140				
1930	Aug. 14-31, 1930	4.75	714	1946	July 25, 1946	5.22	964
				1947	June 11-17, 1947	6.29	1,760
1931	Oct. 4, 7, 10, 1930	4.58	616	1948	May 24-27, 1948	4.64	585
1932	Feb. 3-12, 15-21, 1932	4.80	727	1949	July 6, 1949	5.67	1,250
1933	Oct. 1, 2, 1932	4.75	643	1950	May 21, 22, 1950	6.08	1,580
1934	May 26, 1934	4.52	565				
	June 5, 10-18, 1934	4.52	565	1951	June 28, 1951	7.32	2,460
1935	July 6-8, 1935	7.00	2,300	1952	July 22-27, 1952	8.40	3,440
				1953	July 2, 1953	7.10	2,200
1936	May 8, 9, 1936	7.37	2,600	1954	May 3, 4, 1954	8.38	3,420
1937	Sept. 17, 18, 1937	4.68	630	1955	Oct. 21, 1954	6.71	1,910
1938	June 4-9, 1938	7.28	2,520				
1939	May 28, 1939	8.39	3,440	1956	Feb. 13, 14, 1956	5.65	1,180
1940	June 5-9, 1940	6.31	1,740	1957	Mar. 20, 1957	5.01	761
				1958	Feb. 13, 1958	5.00	755
1941	Oct. 1-5, 1940	5.28	1,030	1959	Mar. 4, 1959	4.95	724
1942	July 22-25, 1942	8.25	3,260	1960	Oct. 31, 1959	6.99	2,190
1943	June 15, 16, 1943	7.92	3,000				
1944	June 12, 13, 1944	6.89	2,200	1961	Oct. 1, 1960	6.14	1,530

5-3580. Flambeau River near Butternut, Wis.

Location.--Lat 46°00'35", long 90°22'10", in lot 10, sec. 28, T. 41 N., R. 1 E., 2.5 miles downstream from Deer Creek and 6 miles east of Butternut.

Drainage area.--737 sq mi.

Gage.--Nonrecording gage. Altitude of gage is 1,500 ft above mean sea level (from elevation of dams).

Stage-discharge relation.--Defined by current-meter measurements below 3,000 cfs.

Remarks.--Flow regulated by Rest Lake (capacity 260 million cubic feet in summer and 660 million cubic feet in winter) since 1887 and by Flambeau Flowage (capacity, 5,900 million cubic feet) since March 1926.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1915	June 10, 1915	6.20	2,840	1927	July 17, 1927	5.2	2,160
1916	Apr. 22, 1916	9.1	5,530	1928	May 5, 1928	4.6	1,830
1917	Apr. 26, 1917	4.2	1,500	1929	Oct. 22, 1928	5.7	2,580
1918	June 3, 1918	4.55	1,720	1930	Nov. 2, 1929	2.7	808
1919	July 7, 1919	6.25	2,880				
1920	June 12, 1920	6.50	3,080	1931	Oct. 11, 1930	2.7	808
				1932	June 11, 1932	2.85	855
1921	Apr. 8, 1921	5.80	2,560	1933	Apr. 19, 1933	2.6	762
1922	Apr. 9, 1922	7.16	3,620	1934	June 26, 1934	2.8	808
1923	Apr. 25, 1923	6.9	3,400	1935	July 7, 1935	5.7	2,510
1924	May 14, 1924	5.25	2,180				
1925	Apr. 25, 1925	3.15	962	1936	May 9, 1936	6.5	3,370
				1937	Sept. 2, 1937	2.95	855
1926	July 10, 1926	3.60	1,170	1938	June 6, 1938	6.10	2,960

5-3585. Flambeau River at Babb's 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., 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 (Geological Survey river-profile map).

Drainage area.--1,000 sq mi, approximately.

Gage.--Recording gage. Altitude of gage is 1,330 ft (from river-profile map). Prior to Oct. 1, 1934, at bridge 300 ft upstream at datum 9.0 ft lower. Oct. 1, 1934, to Sept. 8, 1938, at bridge 300 ft upstream at present datum.

Stage-discharge relation.--Defined by current-meter measurements below 8,000 cfs.

Remarks.--Flow regulated by Flambeau Flowage and Rest Lake.

CHIPPEWA RIVER BASIN

5-3585. Flambeau River at Babb's Island, near Winter, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1930	May 18, Sept. 27, 1930	11.3		1,170	1950	Apr. 19, 1950	6.64		6,050
1931	June 27, 1931	12.40		2,010	1951	Apr. 11, 1951	5.77		5,080
1932	Apr. 13, 1932	11.85		1,550	1952	July 23, 1952	6.52		5,930
1933	Apr. 20, 1933	12.37		2,010	1953	May 22, 1953	7.26		6,890
1934	Sept. 26, 1934	13.21		2,550	1954	May 1, 1954	6.70		6,170
1935	July 3, 1935	4.98		4,200	1955	Apr. 3, 1955	4.93	.3	3,600
1936	Apr. 16, 1936	5.47		4,900	1956	Apr. 7, 1956	5.42	1.0	-
1937	Apr. 25, 1937	3.19		1,870	1956	Apr. 8, 1956	4.66		3,700
1938	May 7, 1938	5.49		4,900	1957	Mar. 29, 1957	a 3.67		-
1939	June 12, 1939	6.52		6,400	1957	Apr. 21, 1957	3.12		1,960
1940	Apr. 17, 1940	4.87	1.0	-	1958	July 2, 1958	5.99		5,310
	June 7, 1940	4.04		2,960	1959	Sept. 7, 1959	4.89		3,740
					1960	Apr. 24, 1960	5.18		4,330
1941	Sept. 1, 1941	7.08		7,250	1961	May 15, 1961	4.19		3,130
1942	Dec. 12, 1941	5.05	2.5	-	1962	Mar. 18, 1962	4.01	2.0	-
	June 13, 1942	4.80		3,920	1962	May 19, 1962	2.98		1,830
1943	June 17, 1943	7.67		7,380	1963	Mar. 19, 1963	3.63	1.6	-
1944	June 6, 1944	6.18		5,560	1963	Mar. 31, 1963	3.15		1,980
1945	June 3, 1945	5.74		4,960	1964	Apr. 13, 1964	3.54		2,370
1946	June 25, 1946	9.45		9,440	1965	Apr. 17, 1965	6.03		5,360
1947	Apr. 6, 1947	5.70	1.8	3,000	1966	Mar. 18, 1966	7.01	1.3	5,000
1948	Mar. 27, 1948			a 2,200	1967	Apr. 2, 1967	8.58		8,540
	Mar. 28, 1948	3.86	.8	-	1968	July 1, 1968	5.79		5,070
1949	July 6, 1949	7.34		6,770					

a Ice affected.

5-3592. South Fork Flambeau River Tributary near Park Falls, Wis.

Location.--Lat 45°46'35", long 90°20'55", in SW 1/4 sec. 15, T. 40 N., R. 1 E., at culvert on State Highway 182, 5.1 miles east of Park Falls.Drainage area.--0.86 sq mi.Gage.--Crest-stage gage.Stage-discharge relation.--Defined by current-meter measurements and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Apr. 24, 1960	11.32	35	1965	-	a	<12
1961	Mar. 27, 1961	11.02	44	1966	-	a	<15
1962	-	a	<12	1967	Mar. 30, 1967	11.13	42
1963	-	a	<12	1968	-	a	<15
1964	May 8, 1964	10.23	18				

a Peak did not reach bottom of gage.

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, 0.4 mile downstream from Big Elk River and 12 miles west of Phillips.Drainage area.--615 sq mi.Gage.--Nonrecording gage. Altitude of gage is 1,360 ft (by barometer).Stage-discharge relation.--Defined by current-meter measurements below 10,000 cfs.

CHIPPEWA RIVER BASIN

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1930	June 15, 1930	9.4	3,180	1950	Apr. 19, 1950	11.7	5,490
1931	June 22, 1931	10.1	3,820	1951	Apr. 12, 1951	11.88	5,750
1932	Apr. 11, 1932	10.7	4,380	1952	Apr. 20, 1952	11.29	5,030
1933	Apr. 16, 1933	9.4	3,180	1953	May 22, 1953	9.30	3,020
1934	Apr. 10, 1934	13.6	8,680	1954	May 3, 1954	12.4	6,230
1935	Mar. 21-31, 1935		a 5,000	1955	Oct. 16, 1954	10.50	4,240
1936	Apr. 16, 1936	12.1	5,780	1956	Apr. 8, 1956	9.6	3,250
1937	Apr. 16, 1937	9.3	2,870	1957	Apr. 21, 1957	8.1	1,900
1938	June 2, 1938	10.7	4,400	1958	July 3, 1958	11.20	5,070
1939	Mar. 27, 1939	10.9	4,600	1959	Sept. 23, 1959	11.66	5,420
1940	May 22, 1940	9.4	3,100	1960	Aug. 30, 1960	10.30	4,020
1941	Aug. 31, 1941	12.0	5,630	1961	May 17, 1961	9.81	3,480
1942	June 1, 1942	9.2	2,930	1962	May 24, 1962	8.55	2,260
1943	June 18, 1943	14.32	10,200	1963	Apr. 3, 1963	7.92	1,760
1944	June 7, 1944	10.8	4,500	1964	May 10, 1964	8.45	2,180
1945	June 3, 1945	11.36	5,140	1965	Apr. 19, 1965	11.64	5,690
1946	June 26, 1946	13.0	7,460	1966	Mar. 23, 1966	9.90	3,580
1947	Apr. 7, 1947	9.5	3,210	1967	Apr. 2, 1967	12.45	6,900
1948	Apr. 27, 1948	7.4	1,480	1968	June 22, 1968	10.62	4,370
1949	July 6, 1949	10.9	4,600				

a Estimated.

5-3596. Price Creek near Phillips, Wis.

Location.--Lat 45°43'33", long 90°40'12", in SW 1/4 sec. 31, T. 38 N., R. 2 W., at culvert on County Trunk W, 13 miles west of Phillips.

Drainage area.--14.7 sq mi.

Gage.--Crest-stage gage and seasonal recording gage. Prior to June 23, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter and indirect measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	July 2, 1958	13.79	235	1964	May 8, 1964	10.65	70
1959	Sept. 22, 1959	15.78	400	1965	Apr. 19, 1965	12.72	178
1960	Apr. 24, 1960	12.66	165				
1961	May 15, 1961	11.18	90	1966	Mar. 18, 1966	11.35	112
1962	May 19, 1962	10.71	70	1967	Mar. 31, 1967	11.54	120
1963	June 10, 1963	11.34	98	1968	June 20, 1968	12.02	130

5-3600. Flambeau River near Ladysmith, Wis.

Location.--Lat 45°33'20", long 90°57'30", in S 1/2 sec. 35, T. 36 N., R. 5 W., at Big Falls powerplant of Lake Superior District Power Co., 2.3 miles upstream from Josie Creek, 4 miles upstream from highway bridge, and 8.5 miles northeast of Ladysmith.

Drainage area.--1,823 sq mi.

Gage.--Headwater and tailwater gages read hourly. Feb. 15, 1903, to Dec. 2, 1906, nonrecording gage in Ladysmith at different datum. Jan. 1, 1914, to Sept. 30, 1923, nonrecording gage at site 8 miles downstream at different datum. Oct. 1, 1923, to Sept. 24, 1943, headwater and tailwater gages at present site. Sept. 25, 1943, to Sept. 30, 1950, recording gage at site 4 miles downstream at datum 1,150.28 ft above mean sea level, datum of 1929 (levels by Fargo Engineering Co.).

Stage-discharge relation.--Defined by current-meter measurements below 20,000 cfs.

Historical data.--The flood of April 11, 1922, was the highest since June 1880---from WSP 771.

Remarks.--Flow regulated by Rest Lake and since 1926 by Flambeau Flowage.

CHIPPEWA RIVER BASIN

5-3600. Flambeau River near Ladysmith, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1903	May 28, 1903			13,500	1936	Apr. 15, 1936			a 10,900
1904	July 4, 1904			9,270	1937	Apr. 14, 1937			a 5,460
1905	June 7, 1905			9,000	1938	June 2, 1938			a 10,000
					1939	Nov. 6, 1938			a 9,900
1906	Apr. 15, 1906			11,000	1940	May 21, 1940			a 5,490
1914	Apr. 29, 1914			12,200	1941	Aug. 31, 1941			a 17,900
1915	May 18, 1915			11,000	1942	Oct. 8, 1941			a 6,000
					1943	June 17, 1943			a 17,800
1916	Apr. 23, 1916			18,100	1944	June 6, 1944			10,200
1917	June 8, 1917			8,400	1945	Mar. 21, 1945	15.00	8.0	
1918	June 1, 1918			10,400		June 2, 1945			13,500
1919	Apr. 12, 1919			10,100					
1920	Mar. 31, 1920			12,000	1946	June 25, 1946			18,600
					1947	Apr. 7, 1947	9.75	3.0	
1921	Apr. 30, 1921			7,880		Oct. 28, 1946			6,650
1922	Apr. 11, 1922			20,200	1948	Mar. 26, 1948	8.34	2.5	
1923	Apr. 23, 1923			13,200		Apr. 28, 1948			4,440
1924	Apr. 18, 1924			9,520	1949	July 6, 1949			14,100
1925	Apr. 27, 1925			4,140	1950	Apr. 20, 1950			13,000
1926	Sept. 19, 1926			8,860	1951	Apr. 12, 1951			14,200
1927	Mar. 18, 1927			8,350	1952	Apr. 23, 1952			10,600
1928	Apr. 6, 1928			8,120	1953	May 22, 1953			10,600
1929	Apr. 7, 1929			7,240	1954	May 2, 1954			13,700
1930	June 15, 1930			5,710	1955	Oct. 16, 1954			7,100
1931	June 22, 1931			a 5,440	1956	Apr. 8, 1956			6,370
1932	Apr. 10, 1932			a 7,460	1957	Apr. 21, 1957			a 4,110
1933	Apr. 20, 1933			a 5,140	1958	July 2, 1958			a 10,700
1934	Apr. 9, 1934			a 7,080	1959	Sept. 23, 1959			a 9,520
1935	Mar. 27, 1935			a 8,160	1960	Apr. 25, Aug. 29, 1960			a 8,050
					1961	May 16, 1961			a 7,270

a Maximum daily discharge.

5-3602. Flambeau River Tributary near Ladysmith, Wis.

Location.--Lat 45°28'54", long 91°06'40", in SW 1/4 sec. 27, T. 35 N., R. 6 W., at culvert on State Highway 27, 1 mile north of Ladysmith.

Drainage area.--0.8 sq mi, approximately.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Aug. 28, 1960	11.19	14	1965	May 15, 1965	10.6	9
1961	Mar. 27, 1961	11.30	15	1966	June 12, 1966	10.63	9
1962	May 19, 1962	10.6	9	1967	June 14, 1967	11.14	13
1963	May 10, 1963	10.87	11	1968	June 30, 1968	11.26	15
1964	May 8, 1964	10.48	8				

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.

Gage.--Recording gage. Altitude of gage is 1,060 ft (by river survey, WSP 417).

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs.

Remarks.--Flow regulated by several powerplants above station and by Rest Lake and Flambeau Flowage.

5-3605. Flambeau River near Bruce, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1952	Apr. 23, 1952	8.36		11,000	1961	May 15, 1961	7.92		9,830
1953	May 22, 1953	8.82		12,000	1962	Dec. 12, 1962	7.20	2.4	-
1954	May 1, 1954	10.90		17,400		May 24, 1962	5.81		5,030
1955	Oct. 16, 1954	7.33		8,100	1963	Mar. 26, 1963	6.50	2.1	
						Apr. 1, 1963	5.60		4,610
1956	Apr. 10, 1956	6.81		7,170	1964	Sept. 16, 1964	6.07		5,340
1957	Apr. 3, 1957	5.65		4,710	1965	Apr. 20, 1965	8.19		10,500
1958	July 2, 1958	9.55		14,000					
1959	Sept. 22, 1959	8.28		10,600	1966	Mar. 20, 1966	7.83		9,620
1960	Aug. 28, 1960	9.41		13,600	1967	Apr. 2, 1967	10.67		17,000
					1968	July 1, 1968	8.76		11,900

5-3610. Chippewa River near Holcombe, Wis.

Location.--Lat 45°18'05", long 91°12'30", in NW 1/4 sec. 35, T. 33 N., R. 7 W., at Flambeau Store, 1.4 miles downstream from Flambeau River and 6.9 miles northwest of Holcombe.

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

Gage.--Nonrecording gage. Altitude of gage is 1,040 ft (from river-profile map).

Stage-discharge relation.--Defined by current-meter measurements below 23,000 cfs.

Remarks.--Flow regulated by Lake Chippewa, Moose Lake, Flambeau Flowage and Rest Lake.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	June 7, 1944	11.0	18,100	1947	Apr. 8, 1947	11.0	18,100
1945	June 3, 1945	13.0	28,100	1948	Mar. 27, 1948	Ice Jam	a 10,200
				1949	Apr. 1, 1949	11.9	22,300
1946	Mar. 17, 1946	13.8	32,500				

a Maximum daily discharge.

5-3614. Hay Creek near Prentice, Wis.

Location.--Lat 45°32'32", long 90°21'37", in SE 1/4 sec. 4, T. 35 N., R. 1 E., at culvert on U. S. Highway 8, 3.5 miles west of Prentice.

Drainage area.--21.9 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 450 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1961	Mar. 27, 1961	12.37	0.5	425	1965	Apr. 15, 1965	14.84	1.8	720
1962	May 13, 1962	11.62		390					
1963	May 10, 1963	10.59		155	1966	Mar. 18, 1966	12.67		635
1964	Apr. 11, 1964	11.08	0.7	110	1967	Mar. 30, 1967	15.41	1.5	975
					1968	June 21, 1968	13.82		950

CHIPPEWA RIVER BASIN

5-3615. South Fork Jump River near Ogema, Wis.

Location.--Lat 45°23'20", long 90°30'30", in NW 1/4 sec. 33, T. 34 N., R. 1 W., 2.1 miles downstream from Mondeaux River and 11 miles southwest of Ogema.

Drainage area.--328 sq mi.

Gage.--Nonrecording gage. Altitude of gage is 1,300 ft (from planimetric map).

Stage-discharge relation.--Defined by current-meter measurements below 8,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	May 13, 1944	9.4	3,600	1950	Apr. 18, 1950	12.6	6,760
1945	Mar. 19, 1945	11.7	6,160	1951	Apr. 12, 1951	12.2	6,320
1946	June 25, 1946	14.56	9,020	1952	Apr. 9, 1952	10.0	4,110
1947	Apr. 7, 1947	9.1	3,300	1953	June 21, 1953	10.5	4,560
1948	Mar. 26, 1948	8.6	2,850	1954	May 3, 1954	11.00	5,050
1949	July 7, 1949	9.4	3,570				

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 downstream side of highway bridge in Sheldon, 1,500 ft upstream from Shoulder Creek and 11 miles upstream from mouth.

Drainage area.--574 sq mi.

Gage.--Recording gage. Datum of gage is 1,092.75 ft above mean sea level, datum of 1929. Prior to Sept. 27, 1964, nonrecording gage, except Feb. 9, 1939, to Aug. 21, 1941, when a recording gage was at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 21,000 cfs and contracted opening measurement at 46,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1916	Apr. 22, 1916	9.5		8,800	1943	June 27, 1943	11.7		11,000
1917	Apr. 22, 1917	7.0		4,200	1944	June 5, 1944	10.16		6,900
1918	May 27, 1918	9.0		7,800	1945	Mar. 19, 1945	9.6		6,920
1919	Apr. 11, 1919	8.4		6,600	1946	June 25, 1946	12.9		17,200
1920	Mar. 26, 1920	11.5		15,700	1947	Apr. 6, 1947	9.89		7,430
1921	Mar. 20, 1921	9.0		7,800	1948	Mar. 27, 1948	8.4		4,250
1922	Apr. 10, 1922	9.4		8,600	1949	July 6, 1949	9.0		5,450
1923	Apr. 21, 1923	10.7		13,300	1950	Apr. 18, 1950	11.5		12,000
1924	Apr. 25, 1924	8.7		7,660	1951	Apr. 12, 1951	11.57		11,900
1925	June 14, 1925	7.0		4,200	1952	Apr. 9, 1952	10.50		8,350
1926	Sept. 19, 1926	8.6		7,470	1953	Mar. 23, 1953	10.2		7,600
1927	Mar. 16, 1927	10.1		11,500	1954	May 1, 1954	11.4		11,100
1928	Mar. 26, 1928	9.5		9,800	1955	Apr. 3, 1955	9.58		6,260
1929	Mar. 18, 1929	8.7		7,720	1956	Apr. 6, 1956	10.4		8,090
1930	June 14, 1930	9.3		9,260	1957	Mar. 26, 1957	7.80	0.9	2,000
1931	June 21, 1931	7.7		5,390	1958	July 2, 1958	9.35		5,830
1932	Apr. 8, 1932	9.7		10,400	1959	Sept. 28, 1959	9.95		6,700
1933	May 2, 1933	8.9		8,220	1960	May 6, 1960	10.10		7,300
1934	Apr. 8, 1934	8.4		6,650	1961	Mar. 28, 1961	15.00	4.4	8,500
1935	Mar. 23, 1935	9.9		10,800	1962	May 14, 1962	9.25		5,350
1936	May 7, 1936	9.9		10,800	1963	Mar. 29, 1963	8.20		3,800
1937	Apr. 14, 1937	7.4		4,490	1964	Apr. 23, 1964	7.40		2,540
1938	Sept. 10, 1938	10.2		11,700	1965	Apr. 13, 1965	11.59		11,400
1939	Nov. 5, 1938	11.28		15,200	1966	Mar. 19, 1966	15.00	4.3	8,700
1940	May 21, 1940	8.26		6,150	1967	Apr. 1, 1967	14.14		20,900
1941	Aug. 31, 1941	18.8		46,000	1968	May 17, 1968	12.16		13,100
1942	Sept. 18, 1942	12.8		14,900					

CHIPPEWA RIVER BASIN

5-3625. Chippewa River at Holcombe, Wis.

Location.--Lat 45°13'40", long 91°07'15", in sec. 28, T. 32 N., R. 6 W., 500 ft upstream from highway bridge at west edge of Holcombe, 3.6 miles upstream from Fisher River, and 3.6 miles downstream from Jump River.

Drainage area.--4,700 sq mi, approximately.

Gage.--Nonrecording gage. Datum of gage is 998.00 ft above mean sea level, datum of 1929. Prior to Dec. 14, 1944, nonrecording gage 500 ft downstream at same datum; used as auxiliary gage thereafter.

Stage-discharge relation.--Defined by current-meter measurements below 50,000 cfs.

Remarks.--Flow regulated by Lake Chippewa, Moose Lake, Flambeau Flowage and Rest Lake.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	June 28, 1943	16.60	55,000	1946	Mar. 17, 1946	22.2	51,000
1944	June 6, 1944	10.6	23,600	1947	Apr. 8, 1947	21.2	a 24,000
1945	June 3, 1945	12.66	34,000	1948	Mar. 27, 1948	13.2	18,400
				1949	July 7, 1949	20.5	44,200

a Maximum daily discharge.

5-3640. Yellow River at Cadott, Wis.

Location.--Lat 44°57'21", 91°08'48", in NE 1/4 sec. 31, T. 29 N., R. 6 W., at bridge on State Highway 27 in Cadott.

Drainage area.--351 sq mi.

Gage.--Crest-stage indicator. Datum of gage is at 10 ft (assumed), which is 949.81 ft above mean sea level, datum of 1929 (by Corps of Engineers). Prior to Sept. 30, 1961, nonrecording gage at site 1/4 mile downstream with datum of gage at 946.54 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 16,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1943	June 28, 1943	12.2		15,900	1956	Apr. 5, 1956	7.1		4,350
1944	May 12, 1944	6.2		3,560	1957	Mar. 24, 1957	3.77	0.7	
1945	Mar. 19, 1945	6.9		4,110		Mar. 26, 1957	3.68		651
					1958	June 5, 1958	9.85		10,000
1946	Mar. 16, 1946	8.6		6,670	1959	July 9, 1959	6.80		4,240
1947	Apr. 6, 1947	6.5		3,460	1960	May 7, 1960	6.14		3,300
1948	Mar. 27, 1948	4.7		1,410					
1949	July 6, 1949	5.6		2,320	1961	Mar. 28, 1961	6.80		4,240
1950	Apr. 11, 1950	6.9		4,050	1962	Aug. 25, 1962	9.9		3,000
					1963	May 13, 1963	10.63		4,400
1951	Apr. 9, 1951			6,170	1964	Sept. 3, 1964	9.30		2,100
1952	Apr. 9, 1952			3,600	1965	Apr. 11, 1965	15.6	2.0	11,000
1953	Mar. 23, 1953			4,200					
1954	June 18, 1954			9,050	1966	Mar. 18, 1966	a10.50		4,100
1955	Apr. 15, 1955	8.30		6,170	1967	Mar. 31, 1967	14.18	0.2	12,000
					1968	May 16, 1968	10.81		4,700

a Peak may be ice effected.

CHIPPEWA RIVER BASIN

5-3641. Seth Creek near Cadott, Wis.

Location.--Lat 44°59'24", long 91°08'48", in SW 1/4 sec. 17, T. 29 N., R. 6 W., at culvert on State Highway 27, 3.1 miles north of Cadott.

Drainage area.--3.04 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 250 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Mar. 28, 1962	12.76	185	1966	Dec. 12, 1965	12.82	192
1963	May 13, 1963	13.53	300	1967	Mar. 30, 1967	13.93	355
1964	Apr. 1964	11.11	43	1968	May 16, 1968	13.59	308
1965	Apr. 10, 1965	13.53	300				

5-3645. Duncan Creek at Bloomer, Wis.

Location.--Lat 45°06'00", long 91°29'20", in sec. 8, T. 30 N., R. 9 W., 0.3 mile below Bloomer Dam at Bloomer.

Drainage area.--49.2 sq mi.

Gage.--Crest-stage gage. Datum of gage is 979.46 ft above mean sea level, datum of 1929. Prior to June 24, 1945, nonrecording gage at same site and datum. June 24, 1945, to Dec. 13, 1951, recording gage at same site and datum. Re-established May 15, 1957, as crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 800 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1945	Mar. 15, 1945	7.7	1,130	1960	Dec. 28, 1959	7.65	1,120
1946	Mar. 16, 1946	7.18	990	1961	Mar. 27, 1961	6.45	775
1947	Apr. 6, Sept. 1, 1947	6.7	846	1962	May 19, 1962	6.33	740
1948	Mar. 20, 1948	7.43	1,050	1963	May 10, 1963	6.04	665
1949	Mar. 24, 1949	7.38	1,050	1964	Sept. 20, 1964	3.08	138
1950	June 13, 1950	7.40	1,050	1965	Apr. 10, 1965	7.37	1,020
1951	Sept. 12, 1951	8.01	1,220	1966	Feb. 9, 1966	7.18	980
1958	June 5, 1958	6.49	790	1967	Mar. 31, 1967	9.56	1,780
1959	July 8, 1959	10.83	2,300	1968	May 16, 1968	5.83	610

5-3650. Duncan Creek at Chippewa Falls, Wis.

Location.--Lat 44°56'50", long 91°24'00", in SW 1/4 sec. 31, T. 29 N., R. 8 W., on downstream side of bridge in Irvin Park at Chippewa Falls, 1.7 miles upstream from mouth.

Drainage area.--114 sq mi.

Gage.--Nonrecording gage. Datum of gage is 851.61 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 3,000 cfs.

Historical data.--Flood of Apr. 3, 1934, reached a stage of about 15.4 ft, from floodmarks.

Remarks.--Diurnal fluctuation caused by three powerplants upstream.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Mar. 31, 1943	8.35	3,310	1950	Mar. 27, 1950	7.5	2,420
1944	Feb. 26, 1944	5.6	1,040	1951	Apr. 8, 1951	6.42	1,560
1945	Mar. 16, 1945	7.94	2,810	1952	Apr. 2, 1952	8.70	3,640
1946	Mar. 17, 1946	6.5	1,560	1953	Mar. 22, 1953	6.18	1,430
1947	Apr. 6, 1947	6.1	1,350	1954	June 18, 1954	8.31	3,220
1948	Mar. 21, 1948	7.1	2,080	1955	Oct. 15, 1954	4.00	459
1949	Mar. 25, 1949	6.5	1,630				

CHIPPEWA RIVER BASIN

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., at Chippewa Falls, 1 mile downstream from Duncan Creek.

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

Gage.--Recording gage. Datum of gage is 798.46 ft above mean sea level, datum of 1929. Prior to January 1914, nonrecording gage, and January 1914 to June 1932, recording gage at site 1 mile upstream at different datum.

Stage-discharge relation.--Defined by current-meter measurements below 100,000 cfs.

Remarks.--Flow regulated by many powerplants above station especially Wissota powerplant since 1917 and Chippewa Falls powerplant since 1928 and by Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota.

Historical data.--The greatest known flood since 1838 occurred Sept. 10, 1884, stage 29.64 ft, site and datum in use to June 1932.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1888	July 19, 1888	8.6	25,700	1929	Apr. 7, 1929	12.20	44,000
1889	May 14, 1889	8.2	24,200	1930	June 15, 1930	11.70	40,200
1890	Apr. 13, 1890	9.1	27,600				
1891	Apr. 24, 1891	9.2	28,000	1931	June 23, 1931	6.66	19,000
1892	May 21, 1892	11.3	38,400	1932	Apr. 9, 1932	13.1	50,100
1893	May 13, 1893	12.1	43,400	1933	Apr. 6, 1933	11.80	24,300
1894	May 16, 1894	14.4	59,000	1934	Sept. 27, 1934	13.5	33,700
1895	June 13, 1895	7.2	20,500	1935	Mar. 24, 1935	17.13	48,000
1896	Apr. 19, 1896	12.1	43,400	1936	Apr. 14, 1936	16.0	43,400
1897	Apr. 2, 1897	17.1	78,800	1937	Apr. 23, 1937	12.9	27,800
1898	May 28, 1898	7.0	19,800	1938	Sept. 10, 1938	19.07	64,600
1899	May 6, 1899	8.8	27,400	1939	Nov. 6, 1938	17.93	55,900
1900	Sept. 13, 1900	13.2	50,700	1940	June 8, 1940	13.76	31,600
1901	Oct. 5, 1900	13.5	52,800	1941	Sept. 1, 1941	24.8	102,000
1902	Apr. 28, 1902	8.0	24,200	1942	May 31, 1942	19.30	60,100
1903	Sept. 16, 1903	13.4	52,100	1943	June 28, 1943	22.20	81,000
1904	May 27, 1904	10.4	33,900	1944	May 13, 1944	13.32	29,900
1905	June 6, 1905	17.5	82,000	1945	June 4, 1945	15.67	40,900
1906	Apr. 15, 1906	11.6	40,200	1946	June 26, 1946	17.54	50,400
1907	Mar. 30, 1907	11.2	37,800	1947	Apr. 8, 1947	12.59	26,700
1908	Apr. 29, 1908	9.0	28,200	1948	Apr. 1, 1948	7.6	9,860
1909	May 18, 1909	8.6	26,600	1949	July 7, 1949	12.87	28,000
1910	Nov. 15, 1909	7.8	23,000	1950	Apr. 19, 1950	16.17	43,400
1911	May 24, 1911	4.8	12,800	1951	Apr. 13, 1951	18.50	56,200
1912	Oct. 8, 1911	11.4	39,000	1952	Apr. 9, 1952	14.96	37,600
1913	Apr. 4, 1913	11.2	37,800	1953	May 23, 1953	14.41	34,800
1914	Apr. 30, 1914	11.0	36,700	1954	May 2, 1954	20.65	69,400
1915	May 23, 1915	8.10	24,100	1955	Oct. 15, 1954	13.88	32,400
1916	Apr. 23, 1916	13.45	52,400	1956	Apr. 7, 1956	13.92	32,600
1917	Apr. 23, 1917	8.32	24,900	1957	June 24, 1957	8.53	12,300
1918	June 1, 1918	12.4	45,400	1958	July 2, 1958	13.72	31,400
1919	Apr. 13-18, 1919	10.7	45,000	1959	July 9, 1959	14.25	33,600
1920	Mar. 27, 1920	17.0	78,000	1960	Aug. 29, 1960	14.22	33,500
1921	Apr. 29, 1921	10.41	33,600	1961	May 16, 1961	13.20	29,300
1922	Apr. 11, 1922	15.5	66,800	1962	May 14, 1962	12.81	27,700
1923	Apr. 22, 1923	14.40	59,000	1963	May 13, 1963	11.90	24,100
1924	Apr. 26, 1924	14.40	59,000	1964	Apr. 25, 1964	8.50	12,600
1925	June 15, 1925	7.19	20,800	1965	Apr. 16, 1965	16.47	44,700
1926	Sept. 20, 1926	12.55	46,400	1966	Mar. 19, 1966	14.12	33,000
1927	Mar. 16, 1927	13.40	52,100	1967	Apr. 1, 1967	22.49	83,300
1928	Mar. 26, 1928	12.86	48,700	1968	May 17, 1968	15.87	41,600

CHIPPEWA RIVER BASIN

5-3657. Goggle-Eye Creek near Thorp, Wis.

Location.--Lat 44°58'40", long 90°48'00", on west boundary sec. 19, T. 29 N., R. 3 W., at culvert on State Highway 73, 1.3 miles north of Thorp.

Drainage area.--6.70 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements, indirect measurement at 2,610 cfs, and indirect computation of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	June 5, 1958	20.99	2,610	1964	Sept. 3, 1964	12.33	170
1959	July 8, 1959	14.50	760	1965	June 1, 1965	12.81	290
1960	May 7, 1960	13.18	390				
1961	Oct. 31, 1960	17.00	1,440	1966	Mar. 18, 1966	12.86	310
1962	Sept. 16, 1962	12.63	250	1967	Mar. 30, 1967	15.83	1,150
1963	May 13, 1963	13.25	420	1968	July 14, 1968	14.02	630

5-3660. Eau Claire River near Augusta, Wis.

Location.--Lat 44°44'50", long 91°03'15", in sec. 12, T. 26 N., R. 6 W., at Trouble Water Bridge, 5.6 miles northeast of Augusta and 6 miles downstream from South Fork.

Drainage area.--500 sq mi, approximately.

Gage.--Nonrecording gage. Altitude of gage is 910 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 5,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1915	May 23, 1915	7.9	4,630	1921	Mar. 21, 1921	9.1	5,620
1916	Apr. 1, 1916	10.7	7,290	1922	Apr. 10, 1922	10.9	7,510
1917	Apr. 3, 1917	7.2	3,800	1923	Apr. 14, 1923	7.3	3,900
1918	May 27, 1918	9.2	5,720	1924	Apr. 26, 1924	10.1	6,740
1919	June 25, 1919	9.4	5,920	1925	June 13, 1925	8.4	4,940
1920	Mar. 27, 1920	12.2	8,940	1926	Apr. 1, 1926	9.0	5,520

5-3665. Eau Claire River near Fall Creek, Wis.

Location.--Lat 44°48'35", long 91°16'50", in NW 1/4 sec. 19, T. 27 N., R. 7 W., 0.7 mile downstream from Beaver Creek, 1.3 miles upstream from Big Falls, and 3.2 miles north of Fall Creek.

Drainage area.--747 sq mi.

Gage.--Recording gage; crest-stage gage since May 14, 1957. Altitude of gage is 830 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 17,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Apr. 1, 1943	15.87	16,800	1958	June 6, 1958	11.33	8,590
1944	Apr. 25, 1944	7.15	3,620	1959	July 8, 1959	-	a
1945	Mar. 19, 1945	13.11	11,500	1960	June 16, 1960	13.70	12,600
1946	Mar. 16, 1946	12.28	10,100	1961	Oct. 31, 1960	6.56	3,000
1947	Apr. 7, 1947	10.96	8,100	1962	Aug. 25, 1962	6.26	2,800
1948	Mar. 22, 1948	8.88	5,430	1963	Mar. 26, 1963	10.25	7,080
1949	Mar. 29, 1949	6.98	3,430	1964	Apr. 21, 1964	3.21	900
1950	Mar. 29, 1950	8.32	4,750	1965	Apr. 11, 1965	12.6	10,600
1951	Apr. 9, 1951	14.34	13,800	1966	Feb. 9, 1966	7.74	4,150
1952	Apr. 3, 1952	15.28	15,700	1967	Mar. 31, 1967	17.59	20,500
1953	Mar. 23, 1953	11.67	9,140	1968	July 14, 1968	11.25	8,500
1954	May 2, 1954	14.38	14,000				
1955	May 30, 1955	16.11	17,200				

a Discharge not determined.

CHIPPEWA RIVER BASIN

5-3670. Chippewa River at Eau Claire, Wis.
(Published as "near Eau Claire," 1902-09)

Location.--Lat 44°48'40", long 91°32'10", in NE 1/4 sec. 25, T. 27 N., R. 10 W., on downstream side of bridge on State Highways 37 and 85 at Eau Claire, 1.2 miles upstream from Lowes Creek, and 2.8 miles downstream from Eau Claire River.

Drainage area.--6,630 sq mi, approximately.

Gage.--Nonrecording gage. Altitude of gage is 750 ft (from topographic map). Nov. 13, 1902, to Mar. 31, 1909, at different datum.

Stage-discharge relation.--Defined by current-meter measurements below 60,000 cfs.

Remarks.--Flow regulated by many powerplants above station and by Rest Lake since 1887, Moose Lake since 1893, Lake Wissota since 1917, Lake Chippewa since 1923, and by Flambeau Flowage since 1926.

Historical data.--Flood of Sept. 1, 1941, reached an estimated discharge of about 100,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1903	Sept. 15, 1903	19.0	53,700	1946	June 27, 1946	18.4	48,500
1904	May 28, 1904	13.7	33,300	1947	Apr. 7, 1947	15.0	33,100
1905	June 7, 1905	21.2	70,000	1948	Mar. 23, 1948	10.0	14,500
				1949	July 7, 1949	13.7	27,500
1906	Apr. 15, 1906	15.0	38,800	1950	Apr. 19, 1950	16.4	39,300
1907	Mar. 31, 1907	15.4	40,000				
1908	Apr. 29, 1908	12.8	29,600	1951	Apr. 13, 1951	19.35	63,800
				1952	Apr. 9, 1952	15.5	39,000
1944	May 14, 1944	14.8	32,200	1953	Mar. 24, 1953	14.6	34,800
1945	June 4, 1945	17.0	42,000	1954	May 2, 1954	22.00	80,000

5-3670.3 Willow Creek near Eau Claire, Wis.

Location.--Lat 44°44'11", long 91°26'48", 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.

Drainage area.--4.38 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Apr. 6, 1958	11.95	190	1964	Mar. 14, 1964	11.84	180
1959	July 8, 1959	14.12	400	1965	Apr. 9, 1965	12.70	255
1960	May 7, 1960	11.32	140				
				1966	Feb. 8, 1966	11.92	188
1961	Mar. 27, 1961	11.88	185	1967	Mar. 29, 1967	11.86	182
1962	May 19, 1962	10.73	95	1968	May 16, 1968	11.71	170
1963	Aug. 2, 1963	11.74	170				

5-3674.8 East Branch Pine Creek Tributary near Dallas, Wis.

Location.--Lat 45°16'50", long 91°48'30", in SW 1/4 sec. 1, T. 32 N., R. 12 W., at culvert on County Trunk O, 1 1/2 miles north of Dallas.

Drainage area.--3.85 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 300 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Aug. 28, 1960	18.75	735	1965	Apr. 10, 1965	13.71	234
1961	Mar. 27, 1961	13.02	174	1966	Feb. 9, 1966	13.32	198
1962	Mar. 29, 1962	11.0	55	1967	Mar. 30, 1967	15.59	430
1963	June 8, 1963	10.71	40	1968	July 1, 1968	13.74	236
1964	Mar. 14, 1964	11.12	60				

CHIPPEWA RIVER BASIN

5-3675. Red Cedar River near Colfax, Wis.

Location.--Lat 45°03'50", long 91°42'45", in SW 1/4 sec. 22, T. 30 N., R. 11 W., 3.2 miles downstream from Trout Creek and 4.7 miles north of Colfax.

Drainage area.--1,100 sq mi, approximately.

Gage.--Crest-stage gage. Altitude of gage is 940 ft (from topographic map). Mar. 19, 1914, to Sept. 1925, nonrecording gage and Sept. 1925 to Sept. 9, 1937, recording gage at site 1 mile downstream at different datum. Sept. 9, 1937, to Sept. 30, 1961, recording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 15,800 cfs.

Remarks.--Flow regulated by Birch, Red Cedar, Long, and Bear Lakes.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	June 28, 1914	5.1		4,590	1941	Sept. 6, 1941	4.82		4,110
1915	Apr. 7, 1915	4.1		3,250	1942	Sept. 18, 1942	6.66		9,130
1916	Mar. 31, 1916	6.9		7,520	1943	June 16, 1943	7.12		10,900
1917	Apr. 3, 1917	5.0		4,450	1944	Feb. 27, 1944	5.81		6,400
1918	May 27, June 1, 1918	4.2		3,380	1945	Mar. 16, 1945	6.98		10,500
1919	Mar. 18, 1919	5.1		4,590	1946	Mar. 16, 1946	6.32	.7	5,850
1920	Mar. 26, 1920	7.0		7,700	1947	Apr. 12, 1947	4.35		3,470
1921	Apr. 28, 1921	3.4		2,420	1948	Mar. 21, 1948	5.82		6,400
1922	Apr. 11, 1922	5.4		5,010	1949	Mar. 26, 1949	5.27		5,100
1923	Apr. 14, 1923	5.2		4,730	1950	Mar. 27, 1950	6.62		8,940
1924	Apr. 5, 1924	4.3		3,510	1951	Apr. 12, 1951	6.00		6,970
1925	Mar. 20, 1925	4.2		3,380	1952	Apr. 2, 1952	6.29		7,900
1926	Sept. 4, 1926	6.00		5,970	1953	Mar. 22, 1953	6.50		8,580
1927	Mar. 14, 1927	6.00		6,100	1954	June 18, 1954	6.95		10,300
1928	Mar. 24, 1928	5.34		4,550	1955	Mar. 13, 1955	4.69	2.0	
1929	Mar. 20, 1929	5.7		5,150		Apr. 1, 1955	3.17		1,990
1930	Feb. 23, 1930	6.5	1.5	4,120	1956	Apr. 5, 1956	6.25		7,740
1931	Mar. 25, 1931	2.1		1,040	1957	June 24, 1957	3.95		2,520
1932	Apr. 8, 1932	4.75		4,170	1958	Apr. 7, 1958	3.77		2,470
1933	Apr. 1, 1933	5.44		4,700	1959	July 10, 1959	5.45		5,220
1934	Apr. 3, 1934	11.4		21,900	1960	Aug. 29, 1960	6.34		8,030
1935	Mar. 24, 1935	5.60		5,000	1961	Mar. 28, 1961	5.67		6,040
1936	Mar. 24, 1936	7.75		9,780	1962	Sept. 3, 1962	4.41		3,300
1937	Apr. 25, 1937	2.75		1,500	1963	Mar. 25, 1963		a	5,000
1938	Sept. 9, 1938	8.04		14,700	1964	May 11, 1964	4.01		2,650
1939	Mar. 23, 1939	7.17	1.5	-	1965	Apr. 12, 1965	7.99		16,200
	Mar. 27, 1939	6.32		7,760	1966	Dec. 14, 1965	6.65		9,400
1940	Apr. 7, 1940	4.80		4,110	1967	Mar. 31, 1967	9.08		22,800
					1968	July 1, 1968	6.48		8,600

a Discharge estimated.

5-3677. Lightning Creek at Almena, Wis.

Location.--Lat 45°25'17", long 92°01'57", in NW 1/4 sec. 19, T. 34 N., R. 13 W., at bridge on County Trunk P, in Almena.

Drainage area.--19.8 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Mar. 1958	a	< 100	1964	Apr. 21, 1964	10.02	130
1959	Aug. 9, 1959	11.56	750	1965	Apr. 11, 1965	12.18	1,200
1960	Mar. 27, 1960	11.99	1,050	1966	Feb. 9, 1966	11.76	920
1961	Mar. 28, 1961	11.33	630	1967	Mar. 30, 1967	12.39	1,550
1962	Aug. 12, 1962	11.20	550	1968	Sept. 22, 1968	11.35	640
1963	Aug. 12, 1963	10.46	220				

a Peak did not reach bottom of gage.

CHIPPEWA RIVER BASIN

99

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.

Gage.--Recording gage. Datum of gage is 893.66 ft above mean sea level, datum of 1929. Prior to Mar. 25, 1951, nonrecording gage at same datum.

Stage-discharge relation.--Defined by current meter measurements below 8,800 cfs.

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1951	June 26, 1951	10.90	5,120	1961	Mar. 28, 1961	10.58	4,790
1952	Apr. 9, 1952	10.92	5,120	1962	Apr. 7, 1962	8.01	2,390
1953	Mar. 22, 1953	12.36	6,700	1963	Mar. 25, 1963	10.45	4,650
1954	Apr. 15, 1954	12.31	6,600	1964	Apr. 22, 1964	5.77	1,020
1955	Apr. 6, 1955	6.08	1,250	1965	Apr. 11, 1965	14.65	10,900
1956	Apr. 5, 1956	11.04	5,270	1966	Mar. 5, 1966	11.45	5,510
1957	Mar. 23, 1957	6.43	1,390	1967	Mar. 31, 1967	15.04	13,600
1958	Feb. 27, 1958	8.50	2,790	1968	Sept. 24, 1968	8.48	2,420
1959	July 10, 1959	5.16	854				
1960	Aug. 29, 1960	10.50	4,700				

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., 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.

Gage.--Recording gage. Datum of gage is 780 ft above mean sea level (Northern States Power Co. benchmark). June 17, 1907, to Sept. 3, 1908, nonrecording gage at site 1 mile downstream at different datum. May 9, 1913, to Sept. 30, 1923, recording gage at present site at datum 0.42 ft lower.

Stage-discharge relation.--Defined by current-meter measurements below 26,700 cfs and extended above on basis of computed flow over Cedar Falls Dam, 6 miles upstream from station.

Historical data.--The flood of Apr. 4, 1934, was probably exceeded by floods of June 4-6, 1880, and June 4, 1905, according to the Dunn County News.

Remarks.--Flow regulated by powerplants at Menomonie and Cedar Falls and by Birch, Red Cedar, Long, and Bear Lakes.

CHIPPEWA RIVER BASIN

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1908	Apr. 27, 1908	6.1	5,260	1941	Apr. 3, 1941	4.78	6,390
1913	Apr. 3, 1913	6.0	8,660	1942	Sept. 18, 1942	9.77	24,400
1914	June 6, 1914	5.4	6,580	1943	June 17, 1943	6.84	13,700
1915	Apr. 7, 1915	5.13	6,140	1944	Apr. 8, 1944	4.33	5,620
1916	Mar. 31, Apr. 1, 1916	7.0	12,700	1945	Mar. 17, 1945	7.67	16,800
1917	Apr. 3, 1917	6.3	8,300	1946	Mar. 17, 1946	5.87	10,600
1918	Mar. 20, 1918	6.05	7,570	1947	Apr. 13, 1947	4.14	5,120
1919	Mar. 17, 1919		6,000	1948	Mar. 22, 1948	4.80	6,850
1920	Mar. 26, 1920	8.0	14,000	1949	Mar. 26, 1949	5.45	9,020
1921	Mar. 28, 1921	4.50	4,520	1950	Mar. 28, 1950	6.33	12,300
1922	Apr. 11, 1922	5.35	6,880	1951	Apr. 13, 1951	6.20	11,700
1923	Apr. 14, 1923	5.70	8,120	1952	Apr. 3, 1952	6.30	12,000
1925	Mar. 25, 1925		3,140	1953	Mar. 23, 1953	6.54	12,600
1926	Mar. 25, 1926	6.25	11,000	1954	June 19, 1954	6.54	12,700
1927	Mar. 15, 1927	6.0	10,700	1955	Apr. 2, 1955	2.91	2,520
1928	Mar. 23, 1928	5.5	8,950	1956	Apr. 5, 1956	6.56	12,900
1929	Mar. 21, 1929	6.7	12,500	1957	Mar. 25, 1957	3.55	4,740
1930	Feb. 24, 1930	4.5	6,050	1958	June 4, 1958	6.90	11,800
1931	Apr. 20, 1931	2.60	1,920	1959	July 8, 1959	7.4	13,500
1932	Apr. 8, 1932	4.80	6,890	1960	Aug. 29, 1960	7.25	13,000
1933	Apr. 1, 1933	5.20	8,160	1961	Mar. 28, 1961	6.91	11,800
1934	Apr. 4, 1934	16.0	40,000	1962	Apr. 16, 1962	4.76	5,140
1935	Mar. 23, 1935	5.5	7,880	1963	Mar. 26, 1963	6.73	11,200
1936	Mar. 24, 1936	8.50	14,900	1964	Oct. 15, 1963	4.52	4,560
1937	Apr. 26, 1937	3.25	3,080	1965	Apr. 12, 1965	11.56	28,700
1938	Sept. 10, 1938	10.82	23,000	1966	Dec. 14, 1965	-	13,000
1939	Mar. 28, 1939	5.27	7,440	1967	Mar. 31, 1967	12.80	33,200
1940	Apr. 7, 1940	5.18	7,220	1968	Sept. 25, 1968	6.53	11,400

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., at Durand, 75 ft downstream from highway bridge and 9.5 miles downstream from Red Cedar River.

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

Gage.--Recording gage. Datum of gage is 694.59 ft above mean sea level, datum of 1929. Prior to Dec. 9, 1930, nonrecording gage at bridge 400 ft downstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 104,000 cfs.

Historical data.--Maximum stage known, 18.4 Sept. 12, 1884, from floodmarks (levels by Corps of Engineers).

Remarks.--Flow regulated by powerplants, Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, Lake Wissota, Birch Lake, Red Cedar Lake, Long Lake and Bear Lake.

CHIPPEWA RIVER BASIN

5-3695. Chippewa River at Durand, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1884	Sept. 12, 1884	18.39		a 160,000	1949	July 8, 1949	8.72		25,900
					1950	Apr. 20, 1950	11.58		46,200
1929	Mar. 21, 1929	11.9		49,000					
1930	June 17, 1930	10.6		37,700	1951	Apr. 14, 1951	13.66		71,800
1931	June 23, 1931	7.42		21,000	1952	Apr. 11, 1952	11.95		50,500
1932	Apr. 10, 1932	11.85		44,300	1953	Mar. 25, 1953	10.57		37,500
1933	Apr. 8, 1933	8.52		26,200	1954	May 3, 1954	15.40		101,000
1934	Apr. 4, 1934	12.43		56,000	1955	Oct. 18, 1954	9.50		31,500
1935	Mar. 25, 1935	12.56		59,500	1956	Apr. 8, 1956	11.29		42,800
					1957	Mar. 21, 1957	b 7.40		-
1936	Apr. 14, 1936	12.27		54,400		June 25, 1957	6.60		17,600
1937	Apr. 24, 1937	8.32		24,200	1958	July 4, 1958	8.79		27,600
1938	Sept. 11, 1938	15.16		91,000	1959	July 11, 1959	10.11		35,000
1939	Nov. 7, 1938	13.07		67,400	1960	Aug. 31, 1960	10.62		38,000
1940	June 10, 1940	10.82		38,900					
					1961	Mar. 30, 1961	10.03		34,500
1941	Sept. 2, 1941	15.43		93,600	1962	May 15, 1962	8.75		27,400
1942	June 1, Sept. 19, 1942	14.04		75,600	1963	May 15, 1963	9.23		29,400
1943	June 30, 1943	14.42		80,700	1964	Apr. 25, 1964	6.18		15,600
1944	May 15, 1944	9.47		31,600	1965	Apr. 9, 1965	13.68	3.2	-
1945	June 5, 1945	11.54		45,000		Apr. 14, 1965	13.36		66,200
					1966	Feb. 12, 1966	10.87	3.0	-
1946	Mar. 19, 1946	12.36		56,400		Mar. 20, 1966	10.54		37,500
1947	Apr. 9, 1947	9.89		33,600	1967	Apr. 2, 1967	16.93		123,000
1948	Mar. 23, 1948	9.87	2.5	-	1968	July 3, 1968	11.94		48,400
	Mar. 25, 1948	8.16		24,600					

a Estimated by logarithmic extension of rating curve.

b Ice effected.

5-3698. Eau Galle River Tributary near Hersey, Wis.

Location--Lat 44°56'04", long 92°14'10", in SW 1/4 sec. 5, T. 28 N., R. 15 W., at box culvert on Interstate Highway 94, 2 miles southwest of Hersey.

Drainage area--0.65 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1960	May 21, 1960	10.28		35	1965	June 1, 1965	11.10		100
1961	Mar. 28, 1961	10.47		45	1966	Dec. 12, 1965	10.58		55
1962	Aug. 23, 1962	10.20		25	1967	Mar. 29, 1967	11.55	1.0	50
1963	May 10, 1963	10.41		40	1968	Sept. 22, 1968	11.57		140
1964	Mar. 14, 1964	a		<20					

a Peak did not reach bottom of gage.

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 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.

Gage--Nonrecording gage and crest-stage indicator. Datum of gage is 909.45 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark). Prior to July 31, 1957, nonrecording gage at same site at datum 3 ft higher. Aug. 1, 1957, to June 6, 1966, nonrecording gage at same site at datum 1 ft higher.

Stage-discharge relation--Defined by current-meter measurements below 5,000 cfs.

Historical data--Maximum stage known since at least 1894, 16.98 ft Sept. 18, 1942, from floodmarks (discharge of 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).

CHIPPEWA RIVER BASIN

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1942	Sept. 18, 1942	16.98	a 33,000	1956	Apr. 3, 1956	7.93	5,130
1944	June 5, 1944	6.98	2,880	1957	Mar. 14, 1957	5.2	2,490
1945	Mar. 15, 1945	8.00	3,900	1958	Feb. 25, 1958	5.90	1,460
				1959	July 8, 1959	10.83	6,200
1946	Mar. 13, 1946	6.80	2,680	1960	Mar. 27, 1960	8.00	3,210
1947	Apr. 11, 1947	6.4	2,310				
1948	Mar. 23, 1948	6.23	2,140	1961	Mar. 27, 1961	7.26	2,540
1949	July 27, 1949	7.05	2,980	1962	May 23, 1962	5.94	1,490
1950	Mar. 26, 1950	7.52	3,390	1963	Mar. 23, 1963	8.20	3,390
				1964	Mar. 13, 1964	5.84	1,420
1951	June 24, 1951	5.6	2,730	1965	June 1, 1965	12.80	6,820
1952	Aug. 8, 1952	6.02	3,120				
1953	July 26, 1953	6.27	3,480	1966	Mar. 3, 1966	9.08	3,060
1954	Apr. 15, 1954	9.50	7,000	1967	Mar. 29, 1967	7.96	2,660
1955	Apr. 4, 1955	3.62	1,280	1968	Sept. 23, 1968	5.15	975

a From Corps of Engineers.

5-3705. Eau Galle River at Elmwood, Wis.

Location.--Lat 44°46'40", long 92°09'55", in sec. 35, T. 27 N., R. 15 W., on downstream side of highway bridge in Elmwood, 2 miles upstream from Cady Creek.

Drainage area.--91.9 sq mi.

Gage.--Nonrecording gage and crest-stage indicator. Altitude of gage is 840 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 1,000 cfs and extended by slope-area method.

Historical.--Maximum stage known, 18.2 ft Sept. 18, 1942, from floodmarks.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1942	Sept. 18, 1942	18.2	a 39,000	1948	Mar. 23, 1948	-	b 1,300
1943	Mar. 30, 1943	10.71	4,220	1949	July 27, 1949	9.43	2,780
1944	June 5, 1944	9.78	3,320	1950	Mar. 26, 1950	10.66	4,220
1945	Mar. 15, 1945	11.3	4,900				
1946	Mar. 13, 1946	10.60	4,110	1951	June 25, 1951	8.70	2,360
1947	Apr. 11, 1947	8.16	1,970	1952	Apr. 9, 1952	9.25	2,690
				1953	Aug. 31, 1953	11.18	4,780

a Slope-area measurement.

b Maximum daily discharge.

5-3706. Arkansaw Creek Tributary near Arkansaw, Wis.

Location.--Lat 44°38'31", long 92°03'09", in 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.

Drainage area.--2.56 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1959	Mar. 1959	11.67	-	130	1964	May 24, 1964	11.34	-	105
1960	Dec. 28, 1959	11.38	-	110	1965	Apr. 10, 1965	13.37	-	330
1961	June 12, 1961	11.63	-	130	1966	Mar. 4, 1966	12.08	0.3	150
1962	Mar. 28, 1962	12.80	0.5	200	1967	Mar. 29, 1967	12.99	-	280
1963	July 17, 1963	10.57	-	42	1968	July 14, 1968	11.39	-	110

CHIPPEWA RIVER BASIN

5-3709. Spring Creek near Durand, Wis.

Location.--Lat 44°34'13", long 91°57'48", in 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.

Drainage area.--6.49 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 350 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Mar. 28, 1962	12.21	250	1966	Feb. 8, 1966	12.63	310
1963	July 17, 1963	13.28	430	1967	Mar. 29, 1967	12.19	240
1964	Oct. 25, 1963	10.68	50	1968	June 21, 1968	12.79	340
1965	Apr. 7, 1965	12.92	370				

BY GOLLY CREEK BASIN

5-3713. By Golly Creek near Nelson, Wis.

Location.--Lat 44°26'21", long 91°57'48", in SW 1/4 sec. 28, T. 23 N., R. 13 W., at culvert on County Trunk D, 3 miles northeast of Nelson.

Drainage area.--0.28 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1962	Aug. 31, 1962	10.10	-	12	1966	Mar. 4, 1966	10.07	-	11
1963	-	a	-	<12	1967	Mar. 27, 1967	10.64	0.5	12
1964	-	a	-	<12	1968	July 26, 1968	11.58	-	64
1965	Apr. 7, 1965	11.00	0.6	20					

a Peak did not reach bottom of gage.

BUFFALO RIVER BASIN

5-3718. Buffalo River Tributary near Osseo, Wis.

Location.--Lat 44°35'01", long 91°05'40", in 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.

Drainage area.--1.44 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	May 21, 1960	11.66	125	1965	July 13, 1965	10.60	58
1961	Mar. 27, 1961	11.18	92	1966	June 5, 1966	10.45	50
1962	Aug. 31, 1962	10.13	30	1967	Oct. 15, 1966	10.62	58
1963	May 10, 1963	10.29	40	1968	July 14, 1968	10.81	70
1964	June 18, 1964	10.1	30				

BUFFALO RIVER BASIN

5-3720. Buffalo River near Tell, Wis.

Location.--Lat 44°23'30", long 91°50'55", in NW 1/4 sec. 16, T. 22 N., R. 12 W., on downstream side of bridge, 0.3 mile north of Tell School, 1 mile northeast of Tell, and 6 miles northeast of Alma.

Drainage area.--406 sq mi.

Gage.--Nonrecording gage. Datum of gage is 680.00 ft above mean sea level, adjustment of 1912. Prior to Mar. 13, 1936, datum 0.12 ft lower.

Stage-discharge relation.--Defined by current-meter measurements below 4,500 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1933	Mar. 31, 1933	6.31		1,970	1942	May 30, 1942	7.6		5,750
1934	Apr. 4, 1934	8.48		8,650	1943	Mar. 27, 1943	6.6		2,900
1935	Aug. 8, 1935	6.1		1,440	1944	Mar. 13, 1944	5.6		995
					1945	Mar. 15, 1945	7.60		5,750
1936	Mar. 21, 1936	6.9		3,270					
1937	Apr. 3, 1937	5.6		1,060	1946	Mar. 15, 1946	6.0	-.4	1,200
1938	Sept. 9, 1938	7.5		5,430	1947	July 29, 1947	6.75		2,720
1939	Mar. 22, 1939	7.5		5,430	1948	Mar. 20, 1948	7.1		5,040
1940	June 23, 1940	7.7		6,200	1949	Mar. 26, 1949	5.3		1,080
					1950	Mar. 28, 1950	6.8		2,900
1941	Apr. 1, 1941	6.3		1,750					

WHITWATER RIVER BASIN

5-3765. South Fork Whitewater River near Altura, Minn.

Location.--Lat 44°04'10", long 91°58'49", in SE 1/4 sec. 14, T. 107 N., R. 10 W., on left bank 500 ft upstream from highway bridge, 1.4 miles upstream from small tributary entering from west, 2 miles west of Altura, and 2.4 miles upstream from Keefer Creek.

Drainage area.--76.8 sq mi.

Gage.--Recording gage. Datum of gage is 761.80 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements below 3,200 cfs and extended above.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1940	July 10, 1940	9.35		4,240	1954	Apr. 26, 1954	3.72		544
1941	Sept. 15, 1941	4.94		1,080	1955	July 8, 1955	7.02		2,180
1942	June 28, 1942	8.06		3,080	1956	Apr. 2, 1956	7.11		2,250
1943	July 5, 1943	6.58		1,800	1957	July 16, 1957	5.86		1,440
1944	Mar. 23, 1944	4.03		738	1958	Feb. 25, 1958	4.47	0.67	576
1945	July 21, 1945	7.87		2,910	1959	Mar. 25, 1959	5.53		1,140
					1960	Mar. 27, 1960	5.74		1,400
1946	Jan. 5, 1946	8.05		-					
	Mar. 6, 1946	4.92	a	976	1961	Mar. 25, 1961	9.65		4,530
1947	Aug. 31, 1947	10.61	0.25	5,460	1962	Mar. 28, 1962	10.01		4,870
1948	Mar. 18, 1948	5.08		1,160	1963	July 17, 1963	4.74		954
1949	Mar. 24, 1949	6.88		2,060	1964	Mar. 12, 1964	2.11		136
1950	Mar. 26, 1950	9.84		4,710	1965	Apr. 7, 1965	7.23		2,360
1951	July 21, 1951	9.36		4,250	1966	Feb. 9, 1966	8.95		3,880
1952	Mar. 31, 1952	8.55		3,520	1967	Mar. 24, 1967	8.02		3,050
1953	May 10, 1953	5.92		1,480	1968	June 21, 1968	3.53		391

a Ice effect not determined.

5-3782. Eagle Creek near Fountain City, Wis.

Location.--Lat 44°09'49", long 91°42'28", in 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.

Drainage area.--26.8 sq mi.

Gage.--Crest-stage gage. Aug. 19, 1966, to Aug. 20, 1968, seasonal recording gage.

Stage-discharge relation.--Defined by current-meter measurements below 430 cfs and indirect measurements at 930 cfs and 2,100 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 25, 1961	14.32	930	1965	Apr. 7, 1965	14.82	1,100
1962	Mar. 28, 1962	13.75	790				
1963	Mar. 26, 1963	11.76	360	1966	Feb. 8, 1966	14.06	870
1964	July 1, 1964	13.5	730	1967	Mar. 26, 1967	11.95	390
				1968	Aug. 20, 1968	17.11	2,460

GILMORE CREEK BASIN

5-3790. Gilmore Creek at Winona, Minn.

Location.--Lat 44°02'40", long 91°41'25", in sec. 29, T. 107 N., R. 7 W., at west edge of Winona, 1,500 ft upstream from bridge on U. S. Highway 14, 2 1/4 miles upstream from Lake Winona, and 6 1/2 miles upstream from mouth.

Drainage area.--8.95 sq mi.

Gage.--Crest-stage gage. Datum of gage is 672.92 ft above mean sea level, adjustment of 1912. Prior to Nov. 4, 1939, nonrecording gage at same site and datum. Nov. 4, 1939, to Sept. 30, 1963, recording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements to 260 cfs and extended above on basis of slope-area measurement at 2,200 cfs and logarithmic plotting.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	Mar. 29, 1940	2.57	137	1953	May 25, Aug. 3, 1953		a
				1954	June 20, 1954	1.66	53
1941	Sept. 15, 1941	2.74	169	1955	July 8, 1955	3.22	318
1942	June 28, 1942	6.74	2,200				
1943	July 5, 1943	4.87	835	1956	Apr. 3, 1956	1.83	73
1944	June 22, 1944	4.49	820	1957	July 20, 1957	2.74	198
1945	July 31, 1945	5.58	1,370	1958	Oct. 19, 1957	1.02	22
				1959	June 25, 1959	3.08	585
1946	Nov. 8, 1945	5.11	1,070	1960	Mar. 27, 1960	1.80	201
1947	July 27, 1947	6.97	2,460				
1948	Feb. 27, 1948	2.33	131	1961	Mar. 25, 1961	2.59	425
1949	Aug. 17, 1949	3.20	333	1962	Aug. 30, 1962	1.65	436
1950	Mar. 26, 1950	3.00	330	1963	Mar. 23, 1963	1.86	638
				1964	Nov. 22, 1963	1.07	114
1951	July 21, 1951	9.47	5,360	1965	Apr. 7, 1965	b 4.65	436
1952	July 19, 1952	2.50	156				

a Not determined.

b Backwater from debris.

TREMPEALEAU RIVER BASIN

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.

Gage.--Nonrecording gage. Datum of gage is 719.61 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 7,200 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1961	Mar. 26, 1961	6.85		7,840	1965	Mar. 2, 1965	8.04	2.5	-
1962	Mar. 29, 1962	6.34		6,390		Apr. 6, 1965	7.15		9,740
1963	Mar. 18, 1963	6.11	1.3	-					
	Mar. 26, 1963	5.24		2,890	1966	Feb. 10, 1966	7.35	2.0	3,200
1964	Sept. 9, 1964	5.25		3,000	1967	Mar. 27, 1967	6.88		8,340
					1968	July 27, 1968	6.84		8,140

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., on downstream side of highway bridge in Dodge, 9 miles upstream from mouth.

Drainage area.--643 sq mi.

Gage.--Nonrecording gage. Datum of gage is 661.42 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1966, datum 2.00 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs.

Historical data.--The flood of March 17, 1919, was the highest since 1876, when it was 8 inches higher from floodmarks in the Arcadia hotel, and the Apr. 4, 1956, flood was higher than the 1919 flood---from the Arcadia News-Lender.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	June 9, 1914	8.5		3,700	1948	Mar. 21, 1948	7.8		4,840
1915	Mar. 26, 1915	6.6		1,700	1949	July 29, 1949	5.5		1,920
					1950	Mar. 29, 1950	7.3		3,600
1916	Mar. 26, 1916	8.2		3,360					
1917	Apr. 3, 1917	6.5		1,650	1951	July 10, 1951	7.8		4,840
1918	Mar. 20, 1918	9.0		3,600	1952	Apr. 2, 1952	8.85		6,950
1919	Mar. 17, 1919	10.2		11,000	1953	Mar. 19, 1953	7.5		4,040
					1954	June 21, 1954	7.85		5,710
1934	Sept. 28, 1934	6.8		2,570	1955	Oct. 4, 1954	8.80		10,400
1935	July 29, 1935	7.6		4,490					
					1956	Apr. 4, 1956	10.35		17,400
1936	Mar. 22, 1936	8.7		7,180	1957	June 23, 1957	2.90		713
1937	Apr. 3, 1937	5.2		1,780	1958	Feb. 28, 1958	4.47		1,140
1938	Sept. 10, 1938	6.8		3,170	1959	Mar. 27, 1959	8.8	0.1	8,000
1939	Mar. 24, 1939	8.4		6,400	1960	Dec. 30, 1959	4.3		1,480
1940	Apr. 1, 1940	6.9		3,120					
					1961	Mar. 26, 1961	9.20		11,100
1941	Apr. 2, 1941	6.7		2,890	1962	Mar. 29, 1962	8.30		6,800
1942	June 3, 1942	8.1		5,680	1963	Mar. 26, 1963	6.85		3,240
1943	Mar. 27, 1943	7.9		5,060	1964	Sept. 11, 1964	5.30		1,980
1944	Feb. 29, 1944	5.8		2,040	1965	Apr. 7, 1965	9.40		12,100
1945	Mar. 16, 1945	9.1		8,120					
					1966	Feb. 10, 1966	8.66	1.5	3,600
1946	Mar. 14, 1946	7.7		4,570	1967	Mar. 28, 1967	10.42		7,350
1947	Apr. 7, 1947	8.0		5,410	1968	July 28, 1968	8.70		3,220

BLACK RIVER BASIN

5-3808. Black River Tributary near Whittlesey, Wis.

Location.--Lat 45°12'34", long 90°19'05", in SW 1/4 sec. 35, T. 32 N., R. 1 E., at bridge on State Highway 13, 1.1 mile south of Whittlesey.

Drainage area.--2.12 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 35 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	May 7, 1960	11.31	98	1965	Apr. 26, 1965	12.19	182
1961	Mar. 27, 1961	11.26	94	1966	Apr. 1, 1966	12.08	170
1962	Mar. 29, 1962	11.14	85	1967	Mar. 29, 1967	12.55	220
1963	Mar. 26, 1963	10.90	67	1968	May 16, 1968	11.97	160
1964	Sept. 2, 1964	12.08	170				

5-3809. Poplar River near Owen, Wis.

Location.--Lat 44°53'10", long 90°34'17", in NW 1/4 sec. 25, T. 28 N., R. 2 W., at bridge on County Trunk N, 4 1/4 miles south of Owen.

Drainage area.--157 sq mi.

Gage.--Crest-stage gage and seasonal recording gage. Prior to July 14, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 7,300 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	June 5, 1958	19.46	10,000	1964	Sept. 3, 1964	14.63	3,380
1959	Sept. 28, 1959	14.36	2,800	1965	Apr. 11, 1965	17.95	7,800
1960	May 7, 1960	16.06	5,100	1966	Mar. 18, 1966	16.36	5,600
1961	Oct. 31, 1960	13.01	1,800	1967	Mar. 31, 1967	19.12	10,000
1962	Aug. 31, 1962	12.44	1,500	1968	June 27, 1968	16.13	5,100
1963	May 13, 1963	14.68	3,410				

5-3809.7 Cawley Creek near Neillsville, Wis.

Location.--Lat 44°36'42", long 90°34'31", in SW 1/4 sec. 25, T. 25 N., R. 2 W., at bridge on State Highway 73, 3.7 miles north of Neillsville.

Drainage area.--38.6 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 600 cfs and extended above by step-backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1961	Mar. 27, 1961	16.00	0.9	1,500	1965	Apr. 26, 1965	14.78		1,330
1962	Mar. 29, 1962	15.20	0.8	1,150	1966	Mar. 4, 1966	14.98		1,450
1963	May 10, 1963	14.06		970	1967	Mar. 30, 1967	17.11		3,400
1964	Apr. 14, 1964	12.20		300	1968	May 16, 1968	14.94		1,430

BLACK RIVER BASIN

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., at downstream side of bridge on U.S. Highway 10 in Neillsville, 1.0 mile downstream from O'Neill Creek and 2.6 miles upstream from Cunningham Creek.

Drainage area.--756 sq mi.

Gage.--Recording gage. 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, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 40,000 cfs.

Historical data.--The September 10, 1938, flood was the highest in the history of the community and higher than the 1911 flood when the Hatfield dam broke---from the Neillsville Press. The Neillsville Press had its beginning in 1861.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1905	June 6, 1905	-		41,100	1941	Apr. 2, 1941	12.21	2.0	-
1906	Apr. 3, 1906	12.3		11,300		Sept. 1, 1941	11.8		10,200
1907	Mar. 27, 1907	12.7		12,200	1942	Sept. 19, 1942	17.55		24,600
1908	Apr. 28, 1908	11.6		9,820	1943	June 28, 1943	22.49		41,600
					1944	June 18, 1944	11.03		8,620
1914	June 5, 1914	19.8		29,400	1945	Mar. 17, 1945	14.88		17,200
1915	May 21, 1915	10.0		6,600					
					1946	Mar. 16, 1946	12.75		12,400
1916	Mar. 31, 1916	13.0		12,100	1947	Apr. 6, 1947	12.34		11,300
1917	Apr. 4, 1917	10.5		7,450	1948	Mar. 20, 1948	11.48		9,620
1918	May 26, 1918	11.8		9,670	1949	Mar. 22, 1949	11.34	5.0	-
1919	June 24, 1919	11.7		9,490		Mar. 28, 1949	8.43		4,080
1920	Mar. 26, 1920	15.8		20,200	1950	Mar. 27, 1950	13.66		14,400
1921	Mar. 20, 1921	13.2		12,900	1951	Apr. 8, 1951	16.41		21,300
1922	Apr. 9, 1922	13.8		14,300	1952	Apr. 2, 1952	16.50		21,500
1923	Apr. 22, 1923	10.4		7,370	1953	Mar. 23, 1953	14.22		15,500
1924	Aug. 22, 1924	14.8		16,500	1954	May 2, 1954	14.00		15,100
1925	June 14, 1925	8.6		4,420	1955	May 29, 1955	11.54		9,700
1926	Apr. 11, 1926	12.2		10,800	1956	Apr. 3, 1956	16.50		21,500
1927	Mar. 13, 1927	12.4		9,360	1957	Mar. 15, 1957	9.41	1.5	-
1928	Sept. 14, 1928	17.0		22,900		July 9, 1957	8.16		3,730
1929	Mar. 19, 1929	12.8		12,400	1958	June 5, 1958	14.18		15,500
1930	June 14, 1930	16.0		20,100	1959	Sept. 28, 1959	10.48		7,630
					1960	May 7, 1960	12.92		12,600
1931	June 20, 1931	7.8		3,090	1961	Mar. 27, 1961	13.40		13,700
1932	Apr. 7, 1932	14.6		16,500	1962	Mar. 29, 1962	12.80	3.5	-
1933	Apr. 6, 1933	9.8		6,400		Apr. 7, 1962	9.80		6,400
1934	Apr. 5, 1934	15.7		19,300	1963	May 26, 1963	13.00		12,800
1935	Mar. 23, 1935	15.6		19,300	1964	Sept. 3, 1964	8.92		4,890
					1965	Apr. 12, 1965	15.28		18,300
1936	Mar. 24, 1936	15.67		19,300					
1937	Apr. 8, 1937	8.44		3,860	1966	Mar. 18, 1966	13.34		13,400
1938	Sept. 10, 1938	23.8		48,800	1967	Mar. 31, 1967	18.00		25,700
1939	Mar. 26, 1939	14.42		16,000	1968	May 16, 1968	12.56		11,700
1940	June 22, 1940	13.02		12,800					

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., 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.

Gage.--Recording gage. Datum of gage is 658.43 ft above mean sea level. Prior to Apr. 2, 1941, nonrecording gage at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 50,000 cfs.

Remarks.--Flow regulated at Hatfield Dam powerplant upstream where drainage area is 1,290 sq mi and storage capacity is 272 million cubic feet.

5-3820. Black River near Galesville, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1932	Apr. 9, 1932	11.5		22,400	1951	Apr. 9, 1951	13.15		29,100
1933	Apr. 2, 1933	8.8		10,700	1952	Apr. 3, 1952	14.00		51,000
1934	Sept. 28, 1934	11.9		25,500	1953	Mar. 25, 1953	12.56		26,900
1935	Mar. 23, 1935	12.4		30,000	1954	May 4, 1954	12.35		24,600
					1955	May 31, 1955	11.90		20,500
1936	Mar. 25, 1936	12.9		36,500					
1937	Apr. 4, 1937	8.0		9,290	1956	Apr. 6, 1956	12.90		29,300
1938	Sept. 11, 1938	14.31		58,000	1957	Mar. 18, 1957	7.06	0.2	6,300
1939	Mar. 26, 1939	12.60		30,500	1958	Apr. 9, 1958	9.65		11,400
1940	June 26, 1940	10.62		16,000	1959	Mar. 31, 1959	10.76	1.3	-
						Sept. 30, 1959	10.67		14,500
1941	Apr. 4, 1941	10.66		15,700	1960	May 9, 1960	12.63		26,200
1942	Sept. 21, 1942	13.10		36,400					
1943	May 31, June 29, 1943	13.25		34,600	1961	Mar. 29, 1961	13.38		30,800
1944	June 20, 1944	11.55		19,400	1962	Apr. 1, 1962	11.60		17,500
1945	Mar. 17, 1945	12.66	2.0	-	1963	Mar. 28, 1963	12.33		21,400
	Mar. 19, 1945	12.40		25,000	1964	May 12, 1964	7.85		7,760
					1965	Apr. 13, 1965	13.60		33,000
1946	Mar. 17, 1946	12.11		22,500					
1947	Apr. 8, 1947	10.66		15,800	1966	Mar. 20, 1966	12.08		21,400
1948	Mar. 23, 1948	10.00		12,400	1967	Apr. 1, 1967	14.63		65,500
1949	Mar. 31, 1949	6.50		5,300	1968	June 29, 1968	12.54		22,900
1950	Mar. 29, 1950	10.43		14,800					

5-3822. French Creek near Ettrick, Wis.

Location--Lat 44°11'04", long 91°18'49", in 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.

Drainage area--14.3 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 210 cfs and extended above by step-backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Aug. 29, 1960	11.09	410	1965	Apr. 6, 1965	11.46	530
1961	Mar. 27, 1961	11.45	520	1966	Feb. 8, 1966	11.32	480
1962	Aug. 31, 1962	11.53	550	1967	Mar. 27, 1967	13.07	1,300
1963	Mar. 23, 1963	10.70	315	1968	Aug. 20, 1968	12.56	1,000
1964	Sept. 8, 1964	10.68	310				

LA CROSSE RIVER BASIN

5-3823. Beaver Creek Tributary near Sparta, Wis.

Location--Lat 43°57'58", long 90°49'33", in 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.

Drainage area--1.72 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 20 cfs and extended above by indirect computations of flow through culvert.

LA CROSSE RIVER BASIN

5-3823. Beaver Creek Tributary near Sparta, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1959	Mar. 1959	13.19	0.9	152	1964	May 15, 1964	11.75		106
1960	May 7, 1960	10.78		40	1965	Apr. 10, 1965	11.85		104
1961	Mar. 26, 1961	12.05		134	1966	Feb. 8, 1966	12.72	0.2	170
1962	Mar. 28, 1962	11.06		56	1967	June 15, 1967	12.47		168
1963	Mar. 26, 1963	11.71		104	1968	June 21, 1968	12.03		130

5-3825. Little La Crosse River near Leon, Wis.

Location.--Lat 43°53'45", long 90°50'25", in NE 1/4 sec. 3, T. 16 N., R. 4 W., 1.1 miles downstream from Sand Creek, 1.5 miles northwest of Leon, and 4 miles upstream from mouth.

Drainage area.--77.1 sq mi.

Gage.--Crest-stage indicator. Datum of gage is 760.28 ft above mean sea level, adjustment of 1912. Prior to Sept. 30, 1961, recording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 1,500 cfs and extended above by conveyance study at 3,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1934	July 6, 1934	9.84	1,370	1951	July 21, 1951	6.67	532
1935	Aug. 6, 1935	14.43	4,620	1952	July 20, 1952	8.0	1,190
				1953	Apr. 10, 1953	3.48	371
1936	Mar. 10, 1936	9.62	1,210	1954	July 3, 1954	7.83	1,160
1937	Mar. 7, 1937	6.73	457	1955	June 2, 1955	9.80	2,100
1938	Sept. 12, 1938	8.80	881				
1939	Mar. 19, 1939	7.17	580	1956	Apr. 2, 1956	9.15	1,840
1940	Aug. 2, 1940	8.90	913	1957	June 11, 1957	4.10	522
				1958	Feb. 24, 1958	3.65	426
1941	Sept. 16, 1941	9.60	1,210	1959	Sept. 27, 1959	7.60	1,380
1942	June 7, 1942	9.98	1,480	1960	June 28, 1960	6.72	1,160
1943	Mar. 26, 1943	6.82	520				
1944	Feb. 22, 1944	9.63	1,210	1961	Mar. 25, 1961	10.5	3,000
1945	May 22, 1945	9.76	1,330	1962	Aug. 31, 1962	4.42	600
				1963	Mar. 23, 1963	5.0	730
1946	Jan. 6, 1946	9.88	1,400	1964	Apr. 1, 1964	2.92	285
1947	June 29, 1947	11.22	2,300	1965	May 26, 1965	2.90	280
1948	Feb. 28, Mar. 19, 1948	9.01	960				
1949	Mar. 4, 22, 1949	5.90	414	1966	Feb. 9, 1966	9.25	2,150
1950	Mar. 7, 1950	9.60	1,200	1967	June 15, 1967	7.2	1,330
				1968	June 21, 1968	7.90	1,570

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., 30 ft upstream from highway bridge, 2 miles west of West Salem, and 6 miles downstream from Dutch Creek.

Drainage area.--398 sq mi.

Gage.--Recording gage. Datum of gage is 668.0 ft above mean sea level, adjustment of 1912. Prior to Oct. 19, 1938, nonrecording gage at site 30 ft downstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 3,400 cfs.

LA CROSSE RIVER BASIN

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	June 28, 1914	5.7		1,800	1941	Sept. 16, 1941	8.35		3,020
1915	Feb. 23, 1915	7.3	1.6	1,800	1942	June 30, 1942	9.20		4,170
					1943	May 31, 1943	8.22		2,790
1916	Jan. 29, 1916	5.7		1,850	1944	Mar. 13, 1944	7.51		2,150
1917	Mar. 24, 1917	7.6		2,990	1945	May 23, 1945	9.16		4,590
1918	Mar. 18, 1918	7.8		3,130					
1919	Mar. 16, 1919	8.8		3,900	1946	Jan. 7, 1946	9.27		4,170
1920	June 16, 1920	7.0		2,600	1947	June 30, 1947	8.29		2,900
					1948	Feb. 29, 1948	7.70		2,300
1921	June 10, 1921	4.1		1,150	1949	Mar. 23, 1949	6.65		2,020
1922	Feb. 24, 1922	8.5	1.0	2,920	1950	Mar. 7, 1950	8.32		2,900
1923	Apr. 4, 1923	7.2		2,480					
1924	Aug. 20, 1924	7.0		2,600	1951	Mar. 29, 1951	6.13		1,630
1925	June 15, 1925	6.3		2,120	1952	July 20, 1952	8.04		2,470
					1953	Mar. 19, 1953	5.23		1,320
1926	Aug. 22, 1926	6.0		1,920	1954	July 5, 1954	6.67		1,730
1927	July 21, 1927	4.7		1,370	1955	June 3, 1955	8.92		3,650
1928	Sept. 15, 1928	10.2		5,160					
1929	June 19, 1929	4.7		1,170	1956	Apr. 3, 1956	10.42		5,720
1930	Feb. 21, 1930	8.8		3,270	1957	Feb. 26, 1957	4.12		984
					1958	Feb. 27, 1958	5.17		1,310
1931	June 23, 1931	3.0		635	1959	Apr. 1, 1959	8.62		3,270
1932	June 8, 1932	6.4		2,380	1960	May 8, 1960	7.20		1,780
1933	Mar. 31, 1933	9.4		4,310					
1934	Apr. 4, 1934	9.2		3,890	1961	Mar. 27, 1961	10.33		4,490
1935	Aug. 6, 1935	12.2		8,200	1962	Mar. 29, 1962	8.10		2,150
					1963	Mar. 25, 1963	7.93		2,060
1936	Mar. 18, 1936	8.4		3,020	1964	Apr. 7, 1964	5.29		1,020
1937	Mar. 8, 1937	7.7	3.0	1,100	1965	Mar. 3, 1965	8.76		2,610
1938	Sept. 11, 1938	8.8		3,490					
1939	Mar. 20, 1939	7.66	1.7	1,510	1966	Feb. 8, 1966	11.29		5,940
1940	June 24, Aug. 4, 1940	4.81		1,140	1967	June 16, 1967	10.27		3,620
					1968	June 21, 1968	9.85		2,360

ROOT RIVER BASIN

5-3845. Rush Creek near Rushford, Minn.

Location.--Lat 43°50'00", long 91°46'40", on line between secs. 3 and 10, T. 104 N., R. 8 W., at highway bridge, 1 1/2 miles northwest of Rushford and 3 miles upstream from mouth.

Drainage area.--129 sq mi.

Gage.--Recording prior to June 14, 1950; nonrecording thereafter. Datum of gage is 735.00 ft above mean sea level. Aug. 5, 1942, to June 13, 1950, at site 100 ft upstream. Aug. 5, 1942, to Oct. 27, 1945, at datum 5 ft higher; Oct. 28, 1945, to Aug. 3, 1949, at datum 3 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 2,000 cfs and extended above on basis of contracted-opening measurement.

Remarks.--Flood of June 28, 29, 1942, reached a discharge of 11,000 cfs (by slope-area measurement of peak flow).

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1942	June 28, 1942	10.0	11,000	1956	Apr. 3, 1956	7.00	1,380
1943	Mar. 25, 1943	6.74	3,600	1957	Feb. 24, 1957	7.60	1,980
1944	Mar. 11, 1944	3.88	1,660	1958	Feb. 25, 1958	5.80	420
1945	July 21, 1945	5.74	4,000	1959	Mar. 24, 1959	7.62	2,000
				1960	July 3, 1960	9.05	3,460
1946	Jan. 5, 1946	10.10	7,130				
1947	Apr. 5, 1947	5.93	2,590	1961	Mar. 25, 1961	10.26	4,920
1948	Mar. 16, 1948	5.56	2,000	1962	Mar. 28, 1962	9.98	4,550
1949	Mar. 4, 1949	10.0	3,640	1963	Mar. 23, 1963	7.15	1,530
1950	Mar. 26, 1950	13.54	11,600	1964	Mar. 12, 1964	2.48	53
				1965	Apr. 6, 1965	9.06	5,490
1951	July 21, 1951	11.46	6,580				
1952	Mar. 31, 1952	11.05	6,740	1966	Feb. 9, 1966	10.20	7,490
1953	July 26, 1953	9.32	3,750	1967	Mar. 24, 1967	8.65	5,170
1954	June 19, 1954	6.54	920	1968	July 23, 1968	3.50	370
1955	July 8, 1955	6.80	1,180				

ROOT RIVER BASIN

5-3850. Root River near Houston, Minn.

Location.--Lat 43°46'05", long 91°35'11", in sec. 32, T. 104 N., R. 6 W., 1 mile west of Houston and 2 1/2 miles upstream from South Fork.

Drainage area.--1,270 sq mi, approximately.

Gage.--Recording gage. Datum of gage is 671.86 ft above mean seal level, datum of 1929. May 28, 1909, to Sept. 30, 1917, nonrecording gage at site 1 1/2 miles downstream at different datum. May 4, 1929, to Sept. 27, 1953, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 30,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1910	Mar. 7, 8, 1910			a 2,500	1946	Mar. 6, 1946	10.82		13,700
1911	Aug. 14, 1911	10.82		15,200	1947	Apr. 6, 1947	10.31		9,300
1912	Mar. 30, 1912	10.0		10,600	1948	Feb. 29, 1948	12.00		b 11,700
1913	Mar. 25, 1913	9.9		10,000	1949	Mar. 31, 1949			8,450
1914	June 28, 1914	10.2		11,700	1950	Mar. 27, 1950	14.15		26,200
1915	Mar. 26, 1915	9.4		7,330	1951	July 22, 1951	11.58		14,800
1916	Mar. 26, 1916	9.8		7,970	1952	Apr. 1, 1952	13.90		37,000
1917	Mar. 23, 1917	11.95		17,000	1953	July 27, 1953	10.05		10,400
					1954	June 21, 1954	8.19		5,370
					1955	Mar. 10, 1955			3,760
1930	June 4, 1930	8.29		5,100	1956	Apr. 3, 1956	10.22		9,660
1931	July 15, 1931	8.00		4,580	1957	Feb. 25, 1957	6.70	1.7	-
1932	Mar. 27, 1932	9.31		6,900		July 22, 1957	5.18		2,230
1933	Mar. 31, 1933	14.07		26,600	1958	June 6, 1958	10.13		9,600
1934	Apr. 4, 1934	12.56		19,000	1959	June 27, 1959	10.85		10,100
1935	Aug. 6, 1935	10.81		11,700	1960	Aug. 29, 1960	9.92		8,800
1936	May 1, 1936	11.17		14,000	1961	Mar. 27, 1961	15.10		31,400
1937	Mar. 7, 1937	11.38		14,500	1962	Mar. 30, 1962	14.36		29,500
1938	Sept. 11, 1938	11.79		15,600	1963	Mar. 24, 1963	c		10,700
1939	Mar. 21, 1939	8.89		6,620	1964	Apr. 3, 1964	3.27		1,110
1940	Mar. 30, 1940	9.30		7,860	1965	Mar. 2, 1965	b 18.32		31,000
1941	May 30, 1941	8.66		6,280	1966	Feb. 10, 1966	b 12.94		18,500
1942	June 30, 1942	13.62		23,700	1967	Mar. 27, 1967	11.12		14,200
1943	Mar. 27, 1943	10.50		10,600	1968	May 16, 1968	5.53		3,210
1944	Feb. 26, 1944	8.55		6,120					
1945	Mar. 17, 1945	13.39		23,900					

a Maximum daily discharge.

b Ice affected.

c Gage height unknown.

5-3855. South Fork Root River near Houston, Minn.

Location.--Lat 43°44', long 91°34', in NE 1/4 SW 1/4 sec. 9, T. 103 N., R. 6 W., 50 ft downstream from bridge on State Highway 76, half a mile upstream from Badger Creek, and 1 1/2 miles south of Houston.

Drainage area.--275 sq mi.

Gage.--Recording gage. Datum of gage is 680.41 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 2,600 cfs and extended above.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1950	Mar. 26, 1950	a 12.81		-	1961	Mar. 26, 1961	13.74	1.40	-
1953	July 27, 1953	11.40		2,590	1962	Mar. 26, 1961	12.87		6,980
1954	May 1, 1954	8.85		878	1962	Mar. 29, 1962	13.35		8,420
1955	July 8, 1955	10.91		2,050	1963	Mar. 17, 1963	11.37		3,160
1956	Apr. 3, 1956	12.07		4,580	1964	Apr. 3, 1964	9.01		1,250
1957	July 17, 1957	11.46		2,110	1965	Mar. 2, 1965	b 13.64		6,530
1958	Feb. 25, 1958	9.30		-	1966	Feb. 9, 1966	b 12.59		2,700
1958	Feb. 26, 1958	8.14	0.64	694	1967	Mar. 11, 1967	12.53		5,960
1959	Mar. 25, 1959	11.88		4,010	1968	June 18, 1968	6.25		768
1960	Mar. 28, 1960	12.30		5,270					

a Annual peak only.

b Ice affected.

ROOT RIVER BASIN

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5-3860. Root River below South Fork near Houston, Minn.

Location.--Lat 43°46'13", long 91°32'03", in SE 1/4 NE 1/4 sec. 34, T. 104 N., R. 6 W., on right bank 600 ft downstream from South Fork and 1 1/2 miles northeast of Houston.

Drainage area.--1,560 sq mi, approximately.

Gage.--Nonrecording prior to Oct. 3, 1950; recording thereafter. Datum of gage is 660.00 ft above mean sea level, adjustment of 1912.

Stage-discharge relation.--Defined by current-meter measurements below 11,000 cfs and extended above on basis of records for station near Houston and South Fork Root River near Houston.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1938	Sept. 10, 1938	a 18.05		17,300	1950	Mar. 27, 1950	16.56		31,100
1939	Mar. 22, 1939	14.38		11,500					
1940	Mar. 30, 1940	14.40		12,300	1951	July 21, 1951	17.28		32,400
					1952	Apr. 1, 1952	17.58		38,700
1941	May 30, 1941	13.32		8,010	1953	July 27, 1953	15.48		10,800
1942	June 30, 1942	17.34		23,600	1954	June 21, 1954	12.70		6,310
1943	Mar. 26, 1943	14.79		12,800	1955	Mar. 10, 1955	12.36		5,880
1944	Feb. 26, 1944	13.72		9,150					
1945	Mar. 15-17, 1945	16.9		21,600	1956	Apr. 3, 1956	15.47		11,200
					1957	Feb. 25, 1957	11.42	1.94	-
1946	Jan. 6, 1946	16.9	2.0	-		July 22, 1957	9.75		3,240
	June 17, 1946	-		15,600	1958	June 6, 1958	14.85		9,690
1947	Apr. 6, 1947	15.5		15,600	1959	Mar. 25, 1959	17.07	1.22	11,500
1948	Feb. 28, 1948	17.50	2.50	13,600	1960	Mar. 28, 1960	14.30		9,420
1949	Mar. 5, 1949	b 14.04		-					
	Mar. 31, 1949	13.40		10,800	1961	Mar. 27, 1961	17.75		38,200

a Floodmark 1,000 ft upstream.

b Ice affected.

MORMON CREEK BASIN

5-3863. Mormon Creek near La Crosse, Wis.

Location.--Lat 43°46'00", long 91°08'27", in NE 1/4 sec. 19, T. 15 N., R. 6 W., at bridge on country road, 6 miles southeast of La Crosse.

Drainage area.--25.5 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 200 cfs and extended above by step-backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 25, 1961	11.57	720	1965	Sept. 28, 1965	11.71	760
1962	Aug. 31, 1962	10.46	450				
1963	July 13, 1963	8.36	90	1966	Feb. 8, 1966	11.35	780
1964	Sept. 10, 1964	8.02	40	1967	Feb. 15, 1967	9.92	470
				1968	June 21, 1968	14.47	1,960

COON CREEK BASIN

5-3865. Coon Creek at Coon Valley, Wis.

Location.--Lat 43°42'15", long 91°01'15", in NE 1/4 sec. 7, T. 14 N., R. 5 W., 350 ft upstream from abandoned dam in town of Coon Valley and 700 ft upstream from U.S. Highways 14 and 61.

Drainage area.--77.2 sq mi.

Gage.--Recording gage. Datum of gage is 716.16 ft above mean sea level, adjustment of 1912.

Stage-discharge relation.--Defined by current-meter measurements below 2,300 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1934	Apr. 2, 1934	7.30	2,510	1937	Mar. 6, 1937	4.62	800
1935	Aug. 6, 1935	12.90	8,110	1938	Sept. 10, 1938	7.61	2,810
				1939	Mar. 19, 1939	4.12	747
1936	Mar. 10, 1936	6.11	1,400	1940	Aug. 14, 1940	8.21	3,410

5-3870. Coon Creek near Stoddard, Wis.

Location.--Lat 43°39'50", long 91°09'10", in NE 1/4 sec. 25, T. 14 N., R. 7 W., 0.7 mile northwest of Valley View School and 3.3 miles east of Stoddard.

Drainage area.--119 sq mi.

Gage.--Recording gage and Parshall flume. Datum of gage is 650.68 ft above mean sea level, adjustment of 1912.

Stage-discharge relation.--Defined by current-meter measurements below 3,300 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1934	Apr. 3, 1934	9.18	2,800	1937	Mar. 7, 1937	8.72	1,100
1935	Aug. 6, 1935	10.70	5,160	1938	Sept. 10, 1938	9.42	2,530
				1939	Mar. 15, 1939	8.89	1,450
1936	Mar. 11, 1936	9.08	1,840	1940	Aug. 15, 1940	9.00	1,670

BAD AXE RIVER BASIN

5-3871. North Fork Bad Axe River near Genoa, Wis.

Location.--Lat 43°33'10", long 91°08'58", in SW 1/4 sec. 36, T. 13 N., R. 7 W., at bridge on State Highway 56, 4.1 miles southeast of Genoa.

Drainage area.--68.8 sq mi.

Gage.--Crest-stage gage and seasonal recording gage. Prior to July 23, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 1,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Aug. 27, 1959	19.59	3,500	1964	-	a	< 450
1960	July 3, 1960	18.24	2,850	1965	Mar. 5, 1965	15.91	1,930
1961	Mar. 27, 1961	16.12	1,900	1966	Feb. 8, 1966	16.79	2,400
1962	Mar. 28, 1962	16.03	1,850	1967	Mar. 25, 1967	15.43	1,700
1963	Mar. 23, 1963	14.1	1,050	1968	June 21, 1968	13.30	930

a Peak did not reach bottom of gage.

UPPER IOWA RIVER BASIN

5-3875. Upper Iowa River at Decorah, Iowa
(Published as "near Decorah" 1914-51)

Location.--Lat 43°18'20", long 91°48'05", in NE 1/4 SW 1/4 sec. 16, T. 98 N., R. 8 W., on right bank 1,200 ft upstream from bridge on U.S. Highway 52, 1,500 ft downstream from Dry Run cutoff, and 3 miles upstream from Trout Run.

Drainage area.--511 sq mi; prior to 1952, 568 sq mi.

Gage.--Recording gage. Datum of gage is 850.00 ft above mean sea level, datum of 1929. Nonrecording prior to Aug. 28, 1920, at site 4.2 miles downstream at datum 24.16 ft lower, and July 1, 1933, to Sept. 30, 1936, at site 8.2 miles downstream at different datum. Aug. 28, 1920, to June 30, 1927, and Oct. 1, 1936, to Sept. 30, 1951, recording gage 4.2 miles downstream at datum 20.2 ft lower.

Stage-discharge relation.--Defined by current-meter and slope-area measurements throughout.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	May 24, 1914	11.6	7,100	1946	Jan. 5, 1946	12.1	16,200
1919	Sept. 10, 1919	11.05	6,220	1947	June 13, 1947	9.9	9,650
1920	May 22, 1920	10.0	4,970	1948	Feb. 28, 1948	11.85	12,100
1921	May 27, 1921	10.21	9,860	1949	Mar. 5, 1949	8.6	6,410
1922	Feb. 22, 1922	10.42	10,500	1950	Mar. 26, 1950	11.37	13,400
1923	Apr. 3, 1923	9.0	7,140	1951	Apr. 7, 1951	9.96	9,900
1924	Aug. 19, 1924	8.98	7,140	1952	Mar. 31, 1952	9.17	8,850
1925	June 12, 1925	9.7	8,600	1953	Aug. 3, 1953	9.58	10,000
1926	Mar. 18, 1926	6.63	3,870	1954	June 21, 1954	10.12	11,600
1927	May 29, 1927	5.30	2,580	1955	Aug. 1, 1955	6.64	1,700
1933	July 1, 1933	97.2	12,200	1956	Mar. 28, 1956	8.28	5,500
1934	Jan. 22, Apr. 3-5, 1934	92.0	3,600	1957	July 16, 1957	8.98	8,000
1935	Mar. 16, 1935	94.4	7,600	1958	Feb. 25, 1958	a 7.40	-
1936	Mar. 10, 1936	98.0	9,420	1958	Feb. 26, 1958	-	1,200
1937	Mar. 6, 1937	8.80	7,100	1959	Apr. 1, 1959	8.32	5,400
1938	June 25, 1938	8.80	6,680	1960	July 22, 1960	8.46	5,880
1939	Mar. 13, 1939	8.1	5,100	1961	Mar. 27, 1961	13.08	20,200
1940	Aug. 25, 1940	6.4	3,760	1962	Mar. 30, 1962	11.32	14,800
1941	May 29, 1941	15.2	28,500	1963	Mar. 17, 1963	a 8.68	3,600
1942	June 30, 1942	11.1	12,500	1964	Apr. 3, 1964	7.97	3,870
1943	Mar. 15, 1943	9.8	8,900	1965	Sept. 30, 1965	9.98	10,100
1944	June 17, 1944	9.3	7,700	1966	Feb. 8, 1966	9.65	9,330
1945	Mar. 17, 1945	12.2	16,400	1967	June 10, 1967	10.46	11,800
				1968	May 16, 1968	7.69	3,950

a Ice affected.

DU CHARME CREEK BASIN

5-3884.6 Du Charmé Creek at Eastman, Wis.

Location.--Lat 43°10'32", long 91°01'53", in NE 1/4 sec. 13, T. 8 N., R. 6 W., at culvert on County Trunk D in Eastman.

Drainage area.--0.30 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Sept. 30, 1961	10.47	30	1965	Sept. 7, 1965	11.35	95
1962	July 3, 1962	11.5	105	1966	July 14, 1966	11.28	90
1963	Mar. 17, 1963	10.46	30	1967	July 17, 1967	14.05	200
1964	June 22, 1964	12.31	175	1968	June 23, 1968	11.29	90

PAINT CREEK BASIN

5-3885. Paint Creek at Waterville, Iowa

Location.--Lat 43°12'35", long 91°18'20", in NW 1/4 NW 1/4 sec. 22, T. 97 N., R. 4 W., on right bank 100 ft downstream from highway bridge, 0.5 mile northwest of Waterville and 10 miles upstream from mouth.

Drainage area.--42.8 sq mi.

Gage.--Recording gage and concrete control.

Stage-discharge relation.--Defined by current-meter measurements below 1,200 cfs and extended above by logarithmic plotting.

Bankfull stage.--11 ft.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1951	Aug. 5, 1951	17.35	9,100	1961	Mar. 25, 1961	8.96	2,650
1953	July 26, 1953	8.53	2,840	1962	Mar. 28, 1962	8.46	3,250
1954	May 1, 1954	6.79	1,300	1963	Mar. 16, 1963	7.00	1,600
1955	Oct. 14, 1954	6.20	930	1964	Mar. 16, 1964	8.32	3,010
	July 4, 1955	6.20	930	1965	Apr. 3, 1965	7.32	1,920
1956	May 6, 1956	6.68	1,210	1966	Feb. 9, 1966	8.19	2,880
1957	June 17, 1957	8.33	2,650	1967	Jan. 24, 1967	7.99	2,640
1958	Feb. 24, 1958	6.40	1,030	1968	June 24, 1968	8.03	2,690
1959	June 28, 1959	8.40	2,920				
1960	Mar. 27, 1960	8.39	3,130				

YELLOW RIVER BASIN

5-3890. Yellow River at Ion, Iowa

Location.--Lat 43°06'35", long 91°15'55", in SE 1/4 SW 1/4 sec. 24, T. 96 N., R. 4 W., on downstream side of highway bridge at Ion, 7.5 miles northwest of McGregor, and 8.0 miles upstream from mouth.

Drainage area.--221 sq mi.

Gage.--Nonrecording gage. Datum of gage is 664.65 ft above mean sea level, adjustment of 1912.

Stage-discharge relation.--Defined by current-meter measurements below 7,300 cfs and extended above on basis of slope area measurement.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1935	Mar. 4, 1935	11.0	5,440	1944	June 16, 1944	13.5	12,200
1936	Mar. 10, 1936	10.2	4,560	1945	June 1, 1945	13.0	11,600
1937	Mar. 4, 1937	10.5	4,950	1946	Jan. 5, 1946	13.0	13,000
1938	Feb. 6, 1938	10.4	4,840	1947	June 13, 1947	10.4	6,900
1939	Feb. 19, 1939	8.2	2,730	1948	Mar. 19, 1948	12.5	13,000
1940	Aug. 3, 1940	9.7	4,100	1949	Mar. 4, 1949	10.0	6,520
				1950	Mar. 26, 1950	12.8	15,700
1941	May 29, 1941	15.2	21,200				
1942	Aug. 1, 1942	12.0	7,320	1951	Apr. 7, 1951	10.34	10,500
1943	Aug. 13, 1943	12.2	8,320				

WISCONSIN RIVER BASIN

5-3910. Wisconsin River at Rainbow Lake near Lake Tomahawk, Wis.
(Published as "at Rainbow Reservoir, "1936-55)

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

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

Gage.--Recording gage. Datum of gage is 1,570.05 ft above mean sea level (Public Service Commission of Wisconsin benchmark).

Stage-discharge relation.--Defined by current-meter measurements below 3,500 cfs.

Remarks.--Flow regulated by Rainbow Lake and 12 smaller reservoirs above station.

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

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1937	May 11, 12, 1937	4.10	1,130	1953	June 22, 23, 1953	5.78	2,450
1938	Aug. 10, 1938	6.33	2,420	1954	May 10, 1954	5.50	2,250
1939	June 30, 1939	6.43	2,650	1955	Oct. 17, 1954	4.79	1,840
1940	May 26, 1940	4.77	1,700				
1941	Sept. 5, 1941	7.59	3,570	1956	July 12, 13, 1956	4.02	1,440
1942	July 18, 1942	7.23	3,430	1957	Oct. 1, 1956	2.93	886
1943	June 17, 1943	6.66	3,010	1958	June 17, 1958	2.75	802
1944	May 17, 1944	4.67	1,770	1959	Sept. 28, 1959	5.68	2,340
1945	Apr. 24, 1945	5.14	1,980	1960	Oct. 2, 1959	5.86	2,450
1946	June 26, 1946	6.68	3,010	1961	May 19, 1961	4.70	1,750
1947	May 10, 1947	4.54	1,600	1962	Dec. 29, 1961	3.34	1,060
1948	Feb. 28, 1948	2.72	734	1963	Dec. 11, 1962	3.00	905
1949	Aug. 26, 1949	3.96	1,320	1964	Sept. 26, 1964	2.31	622
1950	May 12, 1950	6.00	2,500	1965	May 18, 1965	5.78	2,400
1951	May 19, 1951	5.43	2,170	1966	Apr. 28, 1966	3.83	1,280
1952	Oct. 5, 1951	5.46	2,300	1967	Apr. 21, 1967	5.99	2,530
				1968	June 30, 1968	6.02	2,550

5-3920. Wisconsin River at Whirlpool Rapids, near Rhinelander, Wis.
(Published as "near Rhinelander" 1905-15)

Location--Lat 45°33'15", long 89°30'25", in NW 1/4 sec. 4, T. 35 N., R. 8 E., at head of Whirlpool Rapids, 0.6 mile downstream from outlet of Crescent Lake and 10 miles southwest of Rhinelander.

Drainage area--1,200 sq mi, approximately. At site used prior to Oct. 1, 1915, 1,150 sq mi, approximately.

Gage--Recording gage. Datum of gage is 1,492.14 ft above mean sea level, datum of 1929 (levels by Wisconsin Public Service Corp.). Prior to Oct. 1, 1915, nonrecording gage at highway bridge 3 miles upstream at different datum.

Stage-discharge relation--Defined by current-meter measurements below 5,500 cfs.

Remarks--Flow regulated by 12 reservoirs beginning in 1908; 13 reservoirs 1909-34; 15 reservoirs since 1935, and 3 powerplants above station.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1906	Apr. 22, 1906	4.8		3,460	1936	May 10, 1936	4.82		4,030
1907	Apr. 3, 1907	5.0		3,720	1937	May 3, 1937	4.05		2,780
1908	May 2, 1908	5.0		3,720	1938	May 8, 1938	4.86		3,950
1909	Apr. 29, 1909	4.3		2,820	1939	June 26, 1939	5.16		4,540
1910	Nov. 15, 1909	3.9		2,340	1940	June 10, 1940	4.50		3,400
1911	July 24, 1911	4.5		2,940	1941	Sept. 6, 1941	5.91		5,590
1912	Aug. 11, 1912	6.1		5,020	1942	Sept. 23, 1942	5.44		4,880
1913	July 29, 1913	4.7		2,940	1943	June 18, 1943	5.59		5,230
1914	July 2, 1914	4.8		3,160	1944	May 18, 1944	4.33		3,180
1915	July 18, 1915	4.9		3,060	1945	June 4, 1945	4.81		3,870
1916	Apr. 22, 1916	5.61		5,250	1946	June 28, 1946	5.44		4,880
1917	Apr. 25, 1917	4.15		2,900	1947	Jan. 1, 1947	4.35	2.0	-
1918	June 1, 1918	4.2		3,030		May 6, 1947	3.80		2,460
1919	Apr. 13, 1919	4.28		3,200	1948	Jan. 24, 1948	3.40	1.0	-
1920	Apr. 1, 1920	5.2		4,520		Feb. 29, 1948	3.04		1,630
1921	Apr. 30, 1921	4.65		3,620	1949	July 6, 1949	3.34		1,940
1922	Apr. 12, 1922	5.18		4,490	1950	May 13, 1950	5.36		4,880
1923	Apr. 23, 1923	5.24		4,590	1951	May 21, 1951	4.96		4,200
1924	Apr. 18, 1924	4.55		3,480	1952	July 25, 1952	4.70		3,710
1925	June 16, 1925	4.15		2,720	1953	June 22, 1953	4.96		4,120
1927	July 28, 1927	4.35	a	3,180	1954	May 8, 1954	5.07		4,320
1928	Sept. 18, 1928	5.13	a	4,350	1955	Oct. 18, 1954	4.23		2,900
1929	Apr. 10, 1929	5.70		5,410	1956	July 14, 1956	3.77		2,340
1930	June 21, 1930	4.15		2,970	1957	Apr. 22, 1957	3.58		2,190
1931	June 12, 1931	3.75		2,460	1958	July 15, 1958	3.76		2,410
1932	Apr. 12, 1932	4.38		3,250	1959	Sept. 26, 1959	5.42		4,740
1933	Apr. 19, 20, 1933	4.64	a	3,620	1960	May 8, 1960	5.55		5,040
1934	Apr. 12, 1934	4.40		3,400	1961	May 22, 1961	4.38		3,130
1935	Mar. 27, 1935	4.80		4,030					

a Peak discharge may have been exceeded as recorder was not in operation during parts of the year.

WISCONSIN RIVER BASIN

5-3921.5 Mishonagon Creek near Woodruff, Wis.

Location.--Lat 45°54'41", long 89°45'30", in NE 1/4 sec. 32, T. 40 N., R. 6 E., at twin culvert on State Highway 47, 3 miles northwest of Woodruff.

Drainage area.--11.9 sq mi (includes 1.9 sq mi without surface drainage).

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 75 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	July 1958	10.04	56	1964	Aug. 1, 1964	9.4	34
1959	Sept. 21, 1959	10.65	80	1965	May 15, 1965	10.20	62
1960	Aug. 28, 1960	10.13	59				
1961	Mar. 1961	10.15	60	1966	Dec. 12, 1965	10.3	66
1962	Sept. 16, 1962	9.8	48	1967	Oct. 15, 1966	10.03	56
1963	Mar. 24, 1963	10.00	55	1968	June 30, 1968	10.42	70

5-3923.5 Bearskin Creek near Harshaw, Wis.

Location.--Lat 45°38'43", long 89°41'12", in SW 1/4 sec. 36, T. 37 N., R. 6 E., at culvert on County Trunk K, 2 1/8 miles southwest of Harshaw.

Drainage area.--27.8 sq mi (includes 16.6 sq mi without surface drainage).

Gage.--Crest-stage gage and seasonal recording gage. Prior to June 19, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 110 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Apr. 1959	9.81	90	1964	Aug. 1, 1964	9.18	48
1960	Aug. 28, 1960	10.01	104	1965	May 22, 1965	10.15	115
1961	Mar. 27, 1961	9.59	75	1966	Aug. 7, 1966	9.55	73
1962	Sept. 16, 1962	9.50	65	1967	Apr. 2, 1967	9.63	78
1963	Aug. 13, 1963	9.12	44	1968	June 21, 1968	10.37	132

5-3924. Tomahawk River near Bradley, Wis.

Location.--Lat 45°36'15", long 89°45'10", in SW 1/4 sec. 16, T. 36 N., R. 6 E., 4.5 miles downstream from Bearskin Creek and 4.7 miles north of Bradley.

Drainage area.--422 sq mi.

Gage.--Recording gage. Altitude of gage is 1,460 ft (from river-profile map). Prior to Oct. 7, 1925, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 2,000 cfs.

Remarks.--Flow regulated by Minocqua and Squirrel Lakes, and since May 15, 1927, by Willow Reservoir.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1915	July 18, 1915	4.25	904	1920	Mar. 30, 1920	6.17	1,820
1916	Apr. 24, 1916	6.9	2,200	1924	Apr. 20, 1924	4.9	1,170
1917	Apr. 21, 1917	4.31	927	1925	Apr. 25, 1925	3.7	713
1918	June 4, 1918	4.83	1,140				
1919	Apr. 11, 1919	5.11	1,270	1926	Apr. 18, 1926	4.82	1,120

5-3930. Tomahawk River at Bradley, Wis.
(Published as "at Tomahawk", 1930-51)

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. Prior to October 1951, 554 sq mi.

Gage.--Nonrecording gage supplemented by frequent readings of taintor-gate 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.

Remarks.--Flow completely reuligated by four reservoirs operated by Wisconsin Valley Improvement Co. Records of lake elevations and gate openings furnished by Wisconsin Valley Improvement Company.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1930	Sept. 13, 1930		1,220	1950	June 1, 1950		976
1931	Sept. 7, 1931		890	1951	Sept. 15, 1951		1,460
1932	Jan. 29, 1932		1,170	1952	Oct. 7, 8, 1951		1,640
1933	July 15, 1933		939	1953	July 2, 3, 1953		1,570
1934	June 8, 1934		612	1954	Aug. 8, 1954		1,280
1935	July 6, 1935		1,890	1955	Oct. 24-26, 1954		1,240
1936	July 11, 1936		1,170	1956	Sept. 8, 1956		778
1937	Aug. 23, 1937		912	1957	Dec. 11, 1956		767
1938	Sept. 13, 1938		1,760	1958	Aug. 24, 1958		688
1939	June 14, 15, 1939		2,100	1959	Sept. 30, 1959		2,460
1940	June 10, 1940		1,410	1960	Oct. 2, 1959		2,690
1941	Sept. 15, 1941		1,790	1961	Jan. 21, 1961		1,050
1942	May 31, 1942		2,100	1962	Dec. 13, 1961		926
1943	June 18, 1943		2,530	1963	Dec. 30, 1962		989
1944	July 4, 1944		1,100	1964	Dec. 17, 1963		488
1945	June 5, 1945		1,860	1965	May 21-23, 1965		1,560
1946	June 25, 1946		1,840	1966	June 2, 1966		953
1947	July 31, 1947		1,310	1967	Sept. 13, 1967		1,020
1948	Oct. 26, 1947		587	1968	June 25, 1968		2,540
1949	Feb. 13, 1949		759				

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., on downstream side of bridge, 0.2 mile south of town of Spirit Falls, 0.6 mile upstream from Squaw Creek, and 2 miles downstream from Richie Creek.

Drainage area.--82 sq mi, approximately.

Gage.--Nonrecording gage. Altitude of gage is 1,450 ft (from dam and reservoir data).

Stage-discharge relation.--Defined by current-meter measurements below 2,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1942	Sept. 18, 1942	10.00		4,180	1956	Apr. 6, 1956	7.30	1.3	1,600
1943	Mar. 31, 1943	6.8		1,850	1957	May 15, 1957	3.9		478
1944	May 13, 1944	5.8		1,290	1958	July 5, 1958	4.53		710
1945	Mar. 18, 1945	7.18		2,200	1959	Sept. 27, 1959	6.50		1,520
1946	Mar. 17, 1946	9.14		3,540	1960	Apr. 13, 1960	6.10		1,290
1947	Apr. 6, 1947	6.08		1,510	1961	Mar. 28, 1961	6.87	1.0	1,200
1948	Mar. 27, 1948	4.3		624	1962	May 14, 1962	5.67		1,080
1949	Mar. 30, 1949	6.3		1,630	1963	Apr. 3, 1963	4.70		672
1950	Apr. 18, 1950	7.10		2,140	1964	May 6, 1964	3.80		394
1951	Apr. 12, 1951	6.22		1,570	1965	Apr. 14, 1965	8.87	2.4	1,500
1952	Apr. 18, 1952	6.37		1,700	1966	Mar. 18, 1966	7.59	0.3	2,000
1953	June 20, 1953	6.64		1,820	1967	Apr. 2, 1967	7.91		2,960
1954	May 3, 1954	5.60		1,210	1968	May 16, 1968	6.62		1,840
1955	Oct. 15, 1954	6.1		1,510					

WISCONSIN RIVER BASIN

5-3940. New Wood River near Merrill, Wis.

Location.--Lat 45°15'30", long 89°50'40", in E 1/2 sec. 15, T. 32 N., R. 5 E., at bridge on County Trunk E, 9.5 miles northwest of Merrill.

Drainage area.--83 sq mi, approximately.

Gage.--Crest-stage gage. Dec. 9, 1952, to Sept. 30, 1961, nonrecording gage at same site and datum. Re-established Nov. 7, 1961, as crest-stage gage.

Stage-discharge relation.--Defined by current-meter below 1,750 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1953	Mar. 23, 1953	a 6.50	-	1960	Apr. 8, 1960	a 5.98	-
	June 21, 1953		1,100		May 17, 1960		1,180
1954	May 3, 1954	5.32	1,110				
1955	Apr. 3, 1955	a 8.40	-	1961	Mar. 28, 1961	a 6.6	-
	Apr. 6, 1955		916		Mar. 30, 1961		900
1956	Apr. 11, 1956	5.22	1,050	1962	May 13, 1962	5.17	1,280
1957	Mar. 25, 1957	b 4.81	-	1963	May 10, 1963	4.51	780
	May 15, 1957		615	1964	Apr. 22, 1964	3.81	400
1958	Apr. 2, 1958	a 4.48	-	1965	Apr. 11, 1965	a 6.38	1,200
	Apr. 8, 1958		530				
1959	July 9, 1959	6.00	1,370	1966	June 6, 1966	4.72	920
				1967	Mar. 31, 1967	a 6.38	1,200
				1968	June 21, 1968	6.46	2,400

a Affected by backwater from ice.

b Maximum observed; affected by ice jam.

5-3942. Devil Creek near Merrill, Wis.

Location.--Lat 45°08'56", long 89°47'13", in N 1/2 sec. 30, T. 31 N., R. 6 E., at culvert on County Trunk F, 5.8 miles southwest of Merrill.

Drainage area.--10.1 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 170 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1961	Nov. 3, 1960	11.96		145	1965	Apr. 11, 1965	14.5	1.5	250
1962	Sept. 16, 1962	13.20		285					
1963	May 10, 1963	11.14		90	1966	Nov. 26, 1965	11.56		115
1964	Sept. 10, 1964	11.89		140	1967	Mar. 31, 1967	15.46	2.1	300
					1968	June 21, 1968	12.50	-	190

WISCONSIN RIVER BASIN

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., on downstream side of county 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, approximately.

Gage.--Nonrecording gage. Altitude of gage is 1,300 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 2,500 cfs and extended by logarithmic plotting.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	Apr. 30, 1914	4.5	1,160	1945	Mar. 18, 1945	4.7	1,160
1915	May 22, 1915	3.8	781	1946	Mar. 17, 1946	4.8	1,280
1916	Apr. 22, 1916	6.2	2,380	1947	Apr. 6, 1947	4.7	1,220
1917	June 8, 1917	4.1	916	1948	Mar. 27, 1948	3.3	515
1918	May 28, 1918	5.0	1,420	1949	July 5, 1949	3.6	628
1919	Apr. 11, 1919	4.8	1,280	1950	Apr. 18, 1950	5.5	1,660
1920	Mar. 28, 1920	5.8	2,020	1951	Apr. 12, 1951	5.37	1,590
1921	Apr. 28, 1921	5.6	1,860	1952	Apr. 11, 1952	4.40	995
1922	Apr. 11, 1922	5.9	2,110	1953	Mar. 23, 1953	5.36	1,590
1923	Apr. 22, 1923	6.2	2,380	1954	June 26, 1954	4.5	1,050
1924	Apr. 17, 1924	5.4	1,700	1955	Apr. 2, 1955	4.45	1,020
1925	June 5, 1925	4.0	870	1956	Apr. 7, 1956	4.5	1,050
1926	Aug. 21, 1926	7.6	3,780	1957	May 16, 1957	3.40	567
1927	Mar. 18, 1927	5.6	1,860	1958	July 6, 1958	4.7	1,160
1928	Sept. 15, 1928	5.0	1,420	1959	Sept. 28, 1959	7.1	3,000
1929	Apr. 7, 1929	6.5	2,680	1960	May 7, 1960	6.70	2,620
1930	June 16, 1930	4.5	1,110	1961	Mar. 28, 1961	6.44	2,390
1931	June 13, 1931	2.9	394	1962	May 14, 1962	5.00	1,340
1940	June 8, 1940	5.6	1,810	1963	May 13, 1963	3.95	772
1941	Aug. 31, 1941	9.45	5,800	1964	Apr. 22, 1964	3.78	711
1942	Sept. 18, 1942	6.6	2,530	1965	Apr. 12, 1965	6.60	2,530
1943	June 2, 1943	5.1	1,400	1966	Mar. 18, 1966	4.60	1,100
1944	May 13, 1944	4.5	1,050	1967	Mar. 31, 1967	6.76	2,670
				1968	June 28, 1968	4.50	1,050

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., 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.

Gage.--Recording gage. Datum of gage is 1,228.85 ft above mean sea level, datum of 1929. Prior to June 18, 1903, nonrecording gage at different datum. June 18, 1903, to Sept. 10, 1914, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 20,000 cfs.

Historical data.--The flood of August 31, 1941, was the highest since 1884.

Remarks.--Flow regulated by many reservoirs and powerplants above station.

WISCONSIN RIVER BASIN

5-3950. Wisconsin River at Merrill, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1903	Sept. 16, 1903	11.7	21,800	1936	May 6, 1936	9.65	14,400
1904	May 27, 1904	11.0	19,500	1937	Apr. 24, 1937	9.32	11,500
1905	June 17, 1905	12.0	23,000	1938	May 5, 1938	10.96	17,400
				1939	Mar. 27, 1939	10.81	16,600
1906	Apr. 11, 14, 1906	10.1	16,200	1940	June 9, 1940	11.07	16,500
1907	Sept. 20, 21, 1907	9.2	13,000				
1908	Apr. 29, 1908	9.5	14,000	1941	Aug. 31, 1941	18.26	49,400
1909	May 7, 1909	8.8	11,600	1942	Sept. 18, 1942	13.85	27,000
1910	Nov. 17, 1909	8.1	9,380	1943	June 27, 1943	10.58	14,900
				1944	May 13, 1944	9.49	11,700
1911	May 23, 1911	7.7	8,140	1945	June 3, 1945	8.37	8,330
1912	July 24, 1912	17.5	45,000				
1913	Apr. 18, 1913	9.2	12,600	1946	June 25, 1946	11.49	18,100
1914	Apr. 30, 1914	8.9	11,000	1947	Apr. 6, 1947	8.20	8,440
1915	Aug. 7, 1915	7.87	8,160	1948	Mar. 26, 1948	6.88	5,520
				1949	July 6, 1949	7.95	7,950
1916	Apr. 22, 1916	12.60	23,400	1950	Apr. 19, 1950	11.52	18,100
1917	Apr. 21, 1917	8.80	10,700				
1918	May 28, 1918	9.73	13,400	1951	Apr. 12, 1951	11.30	17,400
1919	Apr. 11, 1919	9.51	12,900	1952	July 23, 1952	10.45	14,600
1920	Mar. 27, 1920	11.8	20,500	1953	July 2, 1953	9.55	12,200
				1954	May 3, 1954	10.16	13,500
1921	Apr. 29, 1921	10.28	15,400	1955	June 11, 1955	9.24	10,600
1922	Apr. 11, 1922	11.2	18,400				
1923	Apr. 22, 1923	11.95	20,700	1956	Apr. 6, 1956	8.48	8,630
1924	Apr. 17, 1924	9.65	13,300	1957	May 15, 1957	6.76	5,150
1925	June 13, 1925	7.60	7,370	1958	July 5, 1958	7.82	7,270
				1959	Sept. 27, 1959	11.94	19,600
1926	Aug. 21, 1926	10.86	17,400	1960	May 7, 1960	11.24	17,000
1927	Mar. 18, 1927	10.90	17,400				
1928	Sept. 14, 1928	11.00	17,700	1961	Mar. 28, 1961	9.28	10,700
1929	Apr. 7, 1929	12.2	21,900	1962	May 13, 1962	9.85	12,400
1930	June 15, 1930	8.05	10,700	1963	May 13, 1963	8.06	7,750
				1964	May 6, 1964	7.46	6,550
1931	June 21, 1931	7.95	8,430	1965	May 18, 1965	9.79	12,300
1932	Apr. 11, 1932	8.87	11,000				
1933	May 2, 1933	8.89	11,000	1966	Mar. 18, 1966	9.73	12,100
1934	Apr. 9, 1934	8.6	10,100	1967	Apr. 2, 1967	13.04	23,800
1935	Mar. 23, 1935	10.82	17,000	1968	June 28, 1968	10.84	15,600

5-3951. Trappe River Tributary near Merrill, Wis.

Location--Lat 45°08'07", long 89°30'08", in SW 1/4 sec. 28, T. 31 N., R. 8 E., at culvert on County Trunk P, 9 1/2 miles southeast of Merrill.

Drainage area--2.2 sq mi, approximately.

Gage--Crest-stage gage and seasonal recording gage. Prior to Dec. 4, 1961, crest-stage gage only.

Stage-discharge relation--Defined by current-meter measurements below 290 cfs and indirect measurement at 385 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Sept. 27, 1959	17.28	385	1964	Sept. 26, 1964	11.91	80
1960	Aug. 7, 1960	15.25	305	1965	Aug. 7, 1965	17.15	380
1961	Mar. 27, 1961	12.59	120	1966	Nov. 25, 1965	12.29	100
1962	May 13, 1962	13.61	190	1967	Apr. 2, 1967	13.12	155
1963	May 13, 1963	11.72	70	1968	June 21, 1968	17.09	380

WISCONSIN RIVER BASIN

5-3960. Rib River at Rib Falls, Wis.

Location.--Lat 44°58'25", long 89°54'15", in NW 1/4 sec. 27, T. 29 N., R. 5 E., on downstream side of highway bridge in village of Rib Falls, 5 miles downstream from Black Creek.

Drainage area.--309 sq mi.

Gage.--Nonrecording gage. Altitude of gage is 1,220 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 12,000 cfs and extended by logarithmic plotting.

Historical data.--The flood of August 31, 1938, was higher than the flood of 1905 according to some residents--from the Marathon Times.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1925	June 4, 1925	5.90	2,500	1942	Sept. 18, 1942	14.50	19,100
1926	Aug. 21, 1926	10.8	15,200	1943	June 27, 1943	11.60	11,700
1927	Mar. 17, 1927	7.7	5,960	1944	May 12, 1944	6.73	2,860
1928	Mar. 26, 1928	9.4	10,400	1945	Mar. 17, 1945	9.41	6,620
1929	Apr. 7, 1929	9.4	10,400	1946	June 25, 1946	9.29	6,420
1930	June 14, 1930	8.4	7,660	1947	Apr. 6, 1947	7.94	4,180
1931	June 22, 1931	4.2	1,130	1948	Mar. 27, 1948	6.9	3,030
1932	Apr. 7, 1932	9.4	10,300	1949	Mar. 29, 1949	7.6	3,820
1933	Apr. 6, 1933	7.0	4,430	1950	Apr. 17, 1950	8.1	4,440
1934	Sept. 26, 1934	10.3	13,300	1951	Apr. 7, 1951	10.53	9,400
1935	Mar. 23, 1935	9.7	11,300	1952	Apr. 1, 1952	8.4	5,430
1936	May 6, 1936	11.5	18,000	1953	July 28, 1953	11.34	11,200
1937	Apr. 9, 1937	7.1	4,510	1954	May 3, 1954	8.10	4,960
1938	Aug. 31, 1938	16.2	23,800	1955	Oct. 14, 1954	7.9	4,750
1939	Mar. 26, 1939	9.7	7,590	1956	Apr. 4, 1956	a 10.15	-
1940	June 8, 1940	10.2	8,580	1957	Apr. 5, 1956	9.0	6,500
1941	Aug. 31, 1941	13.32	16,000	1957	Mar. 15, 1957	a 7.07	-
					May 15, 1957	5.05	1,560

a Ice affected.

5-3961. Pet Brook near Edgar, Wis.
(Published as "Scotch-Creek Tributary" 1962-67)

Location.--Lat 44°56'40", long 89°57'05", in SE 1/4 sec. 31, T. 29 N., R. 5 E., at culvert on State Highway 29, 1.5 miles northeast of Edgar.

Drainage area.--6.69 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 160 cfs, indirect measurement at 1,380 cfs and by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Sept. 13, 1962	14.07	460	1966	July 26, 1966	14.42	560
1963	May 13, 1963	14.05	455	1967	Mar. 31, 1967	14.96	730
1964	Sept. 2, 1964	13.24	250	1968	June 21, 1968	13.87	420
1965	Apr. 11, 1965	16.67	1,380	1969	May 27, 1969	20.20	2,250

WISCONSIN RIVER BASIN

5-3970. Eau Claire River near Antigo, Wis.

Location.--Lat 45°11'40", long 89°13'15", in E 1/2 sec. 3, T. 31 N., R. 10 E., on downstream side of highway bridge, 4.6 miles upstream from West Branch, and 4 miles northwest of Antigo.

Drainage area.--75 sq mi, approximately.

Gage.--Reference point at elevation 5.50 ft gage datum. Altitude of gage is 1,460 ft (from Chicago and North Western Railway elevation of river).

Stage-discharge relation.--Defined by current-meter measurements below 180 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1949	July 4, 1949	2.1	339	1952	Apr. 1, 1952	1.80	276
1950	Apr. 17, 1950	1.8	276	1953	Mar. 22, 1953	1.99	347
				1954	May 2, 1954	1.95	332
1951	Apr. 5, 1951	1.76	260	1955	Apr. 1, 1955	1.45	187

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 downstream side of 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.

Gage.--Recording gage. Datum of gage is 1,177.88 ft above mean sea level, datum of 1929. Prior to Sept. 16, 1953, nonrecording gage at same site at datum 1.00 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 6,300 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	June 4, 1914	4.8		2,910	1949	Apr. 1, 1949	2.98		1,300
1915	May 22, 1915	3.1		1,180	1950	Apr. 18, 1950	5.00		3,200
1916	Apr. 21, 1916	5.3		3,520	1951	Apr. 7, 1951	5.69		4,090
1917	Apr. 4, 1917	3.4		1,460	1952	Apr. 1, 1952	6.21		4,580
1918	May 27, 1918	4.4		2,450	1953	Mar. 23, 1953	7.07		5,280
1919	June 26, 1919	4.5		2,560	1954	Apr. 27, 1954	5.33		2,430
1920	Mar. 26, 1920	6.5		5,080	1955	Apr. 3, 1955	6.05		3,230
1921	Mar. 20, 1921	7.6		6,600	1956	Apr. 6, 1956	8.39	3.0	-
1922	Apr. 9, 1922	7.5		6,460		Apr. 7, 1956	6.40		3,650
1923	Apr. 20, 1923	6.9		5,620	1957	Mar. 15, 1957	6.23	3.0	-
1924	Apr. 17, 1924	5.7		4,130		Apr. 22, 1957	-		1,450
1925	June 5, 1925	3.1		1,220	1958	Nov. 19, 1957	5.55	1.6	-
						Apr. 6, 1958	-		2,420
1926	Aug. 21, 1926	8.4		8,300	1959	Sept. 27, 1959	8.76		5,410
					1960	May 7, 1960	7.81		4,950
1940	June 8, 1940	6.6		5,020					
1941	Sept. 1, 1941	7.42		5,980	1961	Mar. 28, 1961	9.80		6,600
1942	May 31, 1942	4.91		3,090	1962	Apr. 12, 1962	5.61		2,660
1943	June 27, 1943	7.01		5,740	1963	Mar. 29, 1963	5.64		2,690
1944	June 16, 1944	3.57		1,760	1964	May 9, 1964	6.00		3,050
1945	Mar. 18, 1945	5.5		3,750	1965	Apr. 12, 1965	10.04		6,980
1946	Mar. 14, 1946	5.99		4,330	1966	Nov. 28, 1965	6.44	2.2	1,500
1947	Apr. 6, 1947	3.93		2,020	1967	Apr. 1, 1967	9.38		6,260
1948	Mar. 22, 1948	5.55		3,860	1968	Sept. 10, 1968	4.70		1,800

WISCONSIN RIVER BASIN

5-3976. Big Sandy Creek near Wausau, Wis.

Location.--Lat 45°01'55", long 89°27'00", in SE 1/4 sec. 31, T. 30 N., R. 9 E., at bridge on State Highway 52, 10 miles northeast of Wausau.

Drainage area.--9.9 sq mi, approximately.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 1,200 cfs and indirect measurement at 2,120 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1959	Sept. 27, 1959	15.18		2,120	1964	May 8, 1964	12.19		400
1960	May 7, 1960	12.39		470	1965	Apr. 11, 1965	13.58		1,040
1961	Mar. 27, 1961	12.74		610	1966	Nov. 26, 1965	11.20		160
1962	Sept. 13, 1962	12.62		560	1967	Mar. 31, 1967	13.77	0.3	1,000
1963	May 13, 1963	11.50		220	1968	June 21, 1968	13.47		1,200

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., 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.

Gage.--Recording gage. Datum of gage is 1,135.86 ft above mean sea level, datum of 1929. Auxiliary recording gage in Mosinee Pond 8 miles downstream. Prior to July 23, 1964, auxiliary nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 47,000 cfs and extended above by logarithmic plotting.

Remarks.--Flow regulated by 20 reservoirs and 12 powerplants above station.

Historical.--The flood of Sept. 1, 1941, reached a stage of 22.3 ft, based on tailwater elevation at Rothschild Dam.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1941	Sept. 1, 1941	22.3	75,000	1956	Apr. 6, 1956	12.45	23,400
1945	Mar. 18, 1945	14.04	28,600	1957	Apr. 20, 1957	7.06	8,500
				1958	Apr. 7, 1958	10.74	17,800
1946	Mar. 18, 1946	13.98	28,600	1959	Sept. 27, 1959	17.81	47,000
1947	Apr. 6, 1947	12.43	23,200	1960	May 7, 1960	17.05	42,900
1948	Mar. 27, 1948	10.26	16,400				
1949	Mar. 30, 1949	9.16	13,200	1961	Mar. 28, 1961	15.36	34,700
1950	Apr. 19, 1950	13.68	27,600	1962	May 14, 1962	11.98	21,900
				1963	May 13, 1963	9.38	14,100
1951	Apr. 8, 1951	15.31	33,200	1964	May 9, 1964	8.71	12,500
1952	Apr. 2, 1952	14.80	31,400	1965	Apr. 12, 1965	18.46	49,200
1953	Mar. 23, 1953	15.06	32,500				
1954	May 3, 1954	13.70	27,600	1966	Mar. 19, 1966	12.43	23,200
1955	Apr. 3, 1955	11.20	19,200	1967	Mar. 31, 1967	18.46	49,200
				1968	June 27, 1968	13.23	26,000

WISCONSIN RIVER BASIN

5-3985. Bull Creek Jr., near Rothschild, Wis.

Location.--Lat 44°50'00", long 89°36'25", in sec. 12, T. 27 N., R. 7 E., just downstream from bridge on county road X, 4 miles south of Rothschild and 5 miles upstream from mouth.

Drainage area.--26.4 sq mi.

Gage.--Nonrecording gage. Altitude of gage is 1,190 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 600 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	June 14, 1944	3.40	326	1948	Mar. 23, 1948	3.1	276
1945	Mar. 18, 1945	4.20	671	1949	Mar. 31, 1949	2.5	115
				1950	Apr. 12, 1950	2.90	214
1946	Mar. 15, 1946	3.70	484				
1947	Apr. 7, 1947	3.0	173	1951	Apr. 8, 1951	3.68	484

5-3990. Big Eau Pleine River near Colby, Wis.

Location.--Lat 44°54'10", long 90°12'45", in NW 1/4 sec. 24, T. 28 N., R. 2 E., on downstream side of bridge at Cherokee, 1.6 miles upstream from Randall Creek, and 5 miles east of Colby.

Drainage area.--79 sq mi, approximately.

Gage.--Nonrecording gage. Altitude of gage is 1,270 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 8,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1942	May 30, 1942	7.9	3,580	1949	Mar. 27, 1949	5.48	1,150
1943	June 27, 1943	11.05	9,370	1950	Mar. 28, 1950	6.7	a 1,900
1944	Apr. 7, 1944	5.00	843				
1945	Mar. 17, 1945	8.54	4,660	1951	Apr. 8, 1951	7.48	3,300
				1952	Apr. 1, 1952		b 1,500
1946	Mar. 14, 1946	8.0	3,880	1953	Mar. 22, 1953	7.30	3,300
1947	Apr. 6, 1947	6.8	2,310	1954	May 3, 1954	8.0	3,880
1948	Mar. 21, 1948	6.0	1,530				

a Ice affected.

b Maximum daily discharge.

5-3992. Randall Creek Tributary near Abbotsford, Wis.

Location.--Lat 44°56'50", long 90°11'45", on south boundary of sec. 36, T. 29 N., R. 2 E., at concrete culvert on State Highway 29, 5.8 miles east of Abbotsford.

Drainage area.--0.56 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurement at 40 cfs, indirect measurement at 133 cfs, and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Sept. 27, 1959	11.49	80	1964	Sept. 2, 1964	12.40	165
1960	May 7, 1960	11.44	75	1965	Sept. 28, 1965	11.02	45
1961	Mar. 27, 1961	11.71	100	1966	June 5, 1966	12.70	200
1962	Sept. 13, 1962	11.10	70	1967	Aug. 27, 1967	10.73	30
1963	May 13, 1963	10.99	45	1968	May 16, 1968	13.71	315

WISCONSIN RIVER BASIN

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., 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.

Gage.--Recording gage. Datum of gage is 1,154.24 ft above mean sea level, datum of 1929. July 24, 1914, to Dec. 31, 1925, non-recording gage at site 0.5 mile upstream at different datum. Apr. 30, 1937, to Sept. 15, 1938, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 24,000 cfs and extended by logarithmic plotting.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	June 5, 1914	20.7		40,000	1947	Mar. 24, 1947	13.99		7,050
1915	May 21, 1915	7.2		3,420	1948	Mar. 21, 1948	16.71	1.5	
						Mar. 21, 1948	15.16		8,460
1916	Apr. 21, 1916	9.2		6,050	1949	Mar. 22, 1949	14.34		7,380
1917	Apr. 4, 1917	7.5		3,770	1950	Mar. 27, 1950	16.63		10,500
1918	May 26, 1918	9.6		6,510					
1919	Aug. 7, 1919	8.9		5,610	1951	Apr. 7, 1951	15.85		9,280
1920	Nov. 10, 1919	11.0		8,810	1952	Apr. 1, 1952	17.31		11,500
					1953	Mar. 22, 1953	16.71		10,600
1921	Apr. 27, 1921	10.6		8,150	1954	May 3, 1954	14.54		7,650
1922	Apr. 9, 1922	11.6		9,900	1955	Oct. 14, 1954	13.23		6,200
1923	Apr. 18, 1923	6.4		2,510		Mar. 15, 1955	13.67	2.5	
1924	Aug. 22, 1924	11.0		8,810					
1925	June 17, 1925	6.6		2,710	1956	Apr. 5, 1956	16.60		10,500
					1957	Mar. 15, 1957	13.06	2.1	4,000
1937	May 1, 1937	7.6		1,650	1958	June 5, 1958	15.52		8,890
1938	Sept. 9, 1938	24.5		41,000	1959	Sept. 27, 1959	12.69		5,610
1939	Mar. 24, 1939	14.95		8,200	1960	Dec. 28, 1959	15.20		8,460
1940	June 24, 1940	16.35		10,200					
					1961	Mar. 26, 1961	14.05		7,100
1941	Sept. 16, 1941	14.10		7,160	1962	Sept. 13, 1962	13.08		6,040
1942	May 30, 1942	16.08		9,710	1963	Mar. 26, 1963	13.71		6,730
1943	June 27, 1943	20.5		18,500	1964	Sept. 2, 1964	16.75		10,700
1944	Mar. 24, 1944	10.84	5.5		1965	Apr. 11, 1965	18.43		13,700
	June 25, 1944	10.28		3,370					
1945	Aug. 31, 1945	22.2		24,700	1966	Dec. 12, 1965	15.30		8,350
					1967	Mar. 30, 1967	20.36		18,100
1946	Mar. 14, 1946	16.07		7,840	1968	May 16, 1968	19.01		14,800

5-4000. Wisconsin River at Knowlton, Wis.

Location.--Lat 44°42', long 89°42', in N 1/2 sec. 29, T. 26 N., R. 7 E., on combination railroad and highway bridge at Knowlton, 1.5 miles downstream from Big Eau Pleine River.

Drainage area.--4,520 sq mi, approximately.

Gage.--Nonrecording gage. Datum of gage is 1,095.9 ft above mean sea level (U. S. Weather Bureau). Prior to Feb. 19, 1942, recording gage at site 50 ft downstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 40,000 cfs.

Remarks.--Flow regulated by 16 reservoirs prior to 1923, 17 reservoirs 1923-26, 18 reservoirs 1927-34, 20 reservoirs 1935-36, 21 reservoirs since 1937, and many powerplants above station.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1921	Apr. 29, 1921	16.0	37,400	1932	Apr. 8, 1932	14.0	31,300
1922	Apr. 11, 1922	18.6	46,800	1933	Apr. 11, 1933	9.98	19,500
1923	Apr. 22, 1923	16.55	38,600	1934	Apr. 5, 1934	13.7	30,400
1924	Apr. 18, 1924	15.0	33,900	1935	Mar. 22, 1935	18.9	47,600
1925	June 14, 1925	8.72	14,100				
				1936	Mar. 24, 1936	17.25	41,800
1926	Aug. 22, 1926	18.6	46,600	1937	Apr. 25, 1937	10.75	20,800
1927	Mar. 18, 1927	12.92	28,000	1938	Sept. 11, 1938	19.91	51,900
1928	Sept. 16, 1928	17.35	42,500	1939	Mar. 27, 1939	15.90	37,000
1929	Apr. 8, 1929	16.80	40,500	1940	June 9, 1940	16.17	38,100
1930	June 15, 1930	15.80	37,200				
				1941	Sept. 2, 1941	20.5	54,300
1931	June 22, 1931	6.50	9,590	1942	May 31, 1942	18.65	46,800

WISCONSIN RIVER BASIN

5-4005. Plover River near Stevens Point, Wis.

Location.--Lat 44°35', long 89°29', in SW 1/4 sec. 6, T. 24 N., R. 9 E., at downstream side of town road bridge just east of county road Y, 5 miles northeast of Stevens Point and 9 miles upstream from mouth.

Drainage area.--136 sq mi.

Gage.--Nonrecording gage. Altitude of gage is 1,110 ft (from river-profile map).

Stage-discharge relation.--Defined by current-meter measurements below 1,200 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	June 5, 1914	4.8	1,610	1945	Mar. 18, 1945	4.0	1,020
1915	Apr. 10, 1915	2.7	494	1946	Mar. 15, 1946	3.46	781
1916	Apr. 23, 1916	3.5	750	1947	Apr. 7, 1947	2.4	446
1917	May 1, 1917	2.6	466	1948	Mar. 22, 1948	3.18	680
1918	May 28, 1918	3.3	670	1949	Mar. 23, 1949	2.5	473
1919	June 27, 1919	4.4	1,300	1950	Mar. 29, 1950	4.2	1,160
1944	June 13, 1944	2.9	590	1951	Apr. 9, 1951	3.46	781

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.

Gage.--Recording gage and Parshall flume. Datum of gage is 1,087.37 ft above mean sea level, datum of 1929 (levels by Wisconsin Conservation Div.). Prior to April 1960, nonrecording gage at same site at datum 0.26 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 66 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	May 6, 1960	2.89	55	1965	Apr. 7, 1965	2.81	51
1961	Mar. 25, 1961	3.06	63	1966	Dec. 12, 1965	2.30	29
1962	Sept. 13, 1962	3.43	66	1967	June 16, 1967	2.97	59
1963	Mar. 26, 1963	2.66	44	1968	June 27, 1968	2.15	24
1964	Sept. 2, 1964	1.97	14				

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., 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.

Gage.--Recording gage 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, nonrecording gage at same site at datum 0.88 ft lower.

Stage-discharge relation.--Defined by current-meter measurements below 70 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	May 7, 1960	2.41	60	1965	Apr. 7, 1965	2.73	59
1961	Mar. 26, 1961	2.41	60	1966	Feb. 9, 1966	2.95	79
1962	Sept. 13, 1962	2.82	67	1967	June 16, 1967	2.80	70
1963	Mar. 26, 1963	2.70	49	1968	June 27, 1968	2.09	32
1964	Sept. 2, 1964	1.17	17				

5-4008. Wisconsin River at Wisconsin Rapids, Wis.
(Published as "near Nekoosa" 1914-49)

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; at site used 1914-49, 5,500 sq mi, approximately.

Gage.--Recording gages 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 Company). May 1914 to March 1950, recording gage at site 7.0 miles downstream with altitude of gage at 910 ft (from river-profile map). Prior to Oct. 1, 1934, at datum 2.00 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 50,000 cfs at site used prior to March 1950. At site used since October 1957, discharge computed from powerplant records on basis of ratings of hydroelectric units developed by Geological Survey, and taintor-gate ratings and spillway ratings based on theoretical formulas and discharge measurements.

Remarks.--Flow regulated by 13 reservoirs beginning in 1908, 14 reservoirs 1909, 15 reservoirs 1910-11, 16 reservoirs 1912-14, 21 reservoirs since 1937, and many powerplants above station.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	June 8, 1914	-	54,000	1938	Sept. 12, 1938	19.10	70,400
1915	May 24, 1915	8.68	20,200	1939	Mar. 28, 1939	16.61	48,900
				1940	June 26, 1940	17.00	52,100
1916	Apr. 24, 1916	14.89	51,200				
1917	Apr. 5, 1917	10.02	24,700	1941	Sept. 3, 1941	18.09	59,600
1918	May 30, 1918	12.22	34,000	1942	Sept. 20, 1942	17.83	57,900
1919	June 27, 1919	10.6	26,900	1943	June 29, 1943	18.05	59,600
1920	Mar. 28, 1920	15.1	52,900	1944	June 15, 1944	10.88	21,300
				1945	Mar. 19, 1945	14.21	34,300
1921	Mar. 22, Apr. 30, 1921	13.2	39,400				
1922	Apr. 12, 1922	16.1	61,000	1946	Mar. 18, 1946	13.98	33,400
1923	Apr. 23, 1923	14.04	44,800	1947	Apr. 7, 1947	11.40	22,900
1924	Apr. 19, 1924	13.00	38,200	1948	Mar. 28, 1948	10.56	21,600
1925	June 15, 1925	8.50	19,400	1949	Mar. 31, 1949	8.82	15,200
1926	Aug. 23, 1926	15.08	52,700	1958	Apr. 7, 1958	-	17,400
1927	Mar. 13, 1927	13.10	38,800	1959	Sept. 29, 1959	-	49,100
1928	Mar. 26, 1928	15.0	52,100	1960	May 8, 1960	-	59,400
1929	Apr. 9, 1929	14.30	46,600				
1930	June 16, 1930	13.4	40,600	1961	Mar. 28, 1961	-	41,000
				1962	Apr. 10, 1962	-	27,200
1931	June 23, 1931	5.70	11,700	1963	May 14, 1963	-	25,000
1932	Apr. 9, 1932	12.82	37,000	1964	Sept. 11, 1964	-	15,500
1933	Apr. 12, 1933	9.30	22,100	1965	Apr. 13, 1965	-	64,000
1934	Apr. 6, 1934	12.78	37,000				
1935	Mar. 24, 1935	18.9	68,500	1966	Dec. 14, 1965	-	33,200
1936	Mar. 26, 1936	16.50	48,100	1967	Apr. 3, 4, 1967	-	61,000
1937	Apr. 26, 1937	11.55	23,700	1968	June 29, 1968	-	35,000

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.

Gage.--Recording 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.

Stage-discharge relation.--Defined by current-meter measurements below 300 cfs.

Remarks.--An earthfill recreation dam located just upstream was completed in November 1967 and storage was begun in December 1967.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 28, 1961	12.36	260	1965	Apr. 12, 1965	4.33	194
1962	May 3, 1962	12.30	255				
1963	Mar. 27, 1963	12.05	230	1966	Mar. 24, 1966	5.56	275
1964	May 8, 1964	3.47	126	1967	June 17, 1967	5.49	270
				1968	Apr. 25, 1968	5.15	250

WISCONSIN RIVER BASIN

5-4015. Wisconsin River near Necedah, Wis.

Location.--Lat 44°02', 90°01', in sec. 9, T. 18 N., R. 4 E., at bridge on State Highway 21, 3 miles northeast of Necedah, and 5 miles upstream from Big Roche a Cri Creek.

Drainage area.--5,860 sq mi, approximately.

Gage.--Nonrecording gage. Altitude of gage is 880 ft (from river-profile map). Prior to June 30, 1914, at different datum.

Stage-discharge relation.--Defined by current-meter measurements below 50,000 cfs.

Remarks.--Flow regulated by 13 reservoirs beginning in 1908, 14 reservoirs 1909, 15 reservoirs 1910-11, 16 reservoirs 1912-14, 21 reservoirs since 1937, and many powerplants above station.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1903	Sept. 18, 1903	14.8	60,500	1913	Apr. 6, 1913	13.9	49,600
1904	May 30, 1904	12.6	35,900	1914	June 8, 1914	15.5	69,700
1905	June 10, 1905	17.2	96,400	1944	June 16, 1944	13.21	20,100
1906	Apr. 16, 1906	13.4	44,000	1945	Mar. 20, 1945	16.0	34,400
1907	Mar. 30, 1907	13.4	44,000	1946	Mar. 20, 1946	15.9	34,000
1908	May 1, 1908	12.2	32,300	1947	Apr. 8, 1947	14.06	24,600
1909	Apr. 24, 1909	11.5	26,800	1948	Mar. 29, 1948	13.70	21,500
1910	Nov. 17, 1909	10.4	20,100	1949	Apr. 2, 1949	11.10	11,700
1911	May 26, 1911	10.9	22,900	1950	Apr. 19, 1950	15.4	29,700
1912	Oct. 10, 1911	16.9	91,600				

5-4018. Yellow River Tributary near Pittsville, Wis.

Location.--Lat 44°28'58", long 90°07'05", 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.

Drainage area.--7.27 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 450 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Sept. 27, 1959	12.40	350	1964	May 8, 1964	12.13	340
1960	May 6, 1960	11.82	260	1965	Sept. 19, 1965	13.3	600
1961	Mar. 27, 1961	12.07	320	1966	Feb. 8, 1966	11.96	300
1962	Mar. 29, 1962	11.90	280	1967	Mar. 31, 1967	12.85	540
1963	May 13, 1963	11.90	280	1968	May 16, 1968	13.05	590

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., at downstream side of highway bridge at Babcock, 1.9 miles upstream from Hemlock Creek.

Drainage area.--223 sq mi.

Gage.--Recording gage. Datum of gage is 954.75 ft above mean sea level, datum of 1929. Prior to Oct. 28, 1948, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 11,000 cfs.

WISCONSIN RIVER BASIN

5-4020. Yellow River at Babcock, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1944	June 19, 1944	13.6		4,880	1956	Apr. 5, 1956	15.85		8,470
1945	Mar. 18, 1945	15.78		8,430	1957	May 27, 1957	5.52		462
					1958	Apr. 7, 1958	11.68		3,080
1946	June 12, 1946	13.0		4,270	1959	Apr. 1, 1959	12.62	0.6	3,400
1947	Apr. 6, 1947	11.2		2,700	1960	May 7, 1960	14.14		5,460
1948	Mar. 21, 1948	12.88		4,180					
1949	Apr. 6, 1949	9.03		1,360	1961	Mar. 28, 1961	15.41		7,680
1950	Mar. 28, 1950	13.98		5,400	1962	Mar. 31, 1962	11.61		3,030
					1963	Mar. 27, 1963	16.03		8,810
1951	Apr. 8, 1951	14.81		6,620	1964	May 9, 1964	12.15		3,500
1952	Apr. 2, 1952	17.38		11,600	1965	Apr. 12, 1965	14.61		6,320
1953	Mar. 22, 1953	15.06		7,130					
1954	May 3, 1954	12.24		3,760	1966	Mar. 19, 1966	12.85		4,650
1955	Oct. 4, 1954	12.90		4,180	1967	Mar. 31, 1967	17.05		10,800
					1968	Mar. 31, 1968	17.05		10,800

5-4025. Yellow River at Sprague, Wis.

Location.--Lat 44°08', long 90°06', in NW 1/4 sec. 11, T. 19 N., R. 3 E., 1 mile southeast of Sprague and 10 miles upstream from Necedah Dam.

Drainage area.--420 sq mi, approximately.

Gage.--Nonrecording gage. Altitude of gage is 910 ft (from elevation of gage at Necedah).

Stage-discharge relation.--Defined by current-meter measurements below 2,300 cfs and extended above by logarithmic plotting.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1927	Mar. 15, 1927	12.2	3,740	1934	Apr. 6, 1934	10.4	1,420
1928	Sept. 17, 1928	14.0	7,060	1935	Mar. 23, 1935	12.4	4,080
1929	Mar. 20, 1929	12.8	4,800				
1930	June 16, 1930	12.8	4,800	1936	Mar. 25, 1936	13.0	5,160
				1937	Apr. 5, 1937	11.4	2,420
1931	June 24, 1931	7.4	602	1938	Sept. 11, 1938	13.38	5,920
1932	Apr. 8, 1932	13.2	5,540	1939	Apr. 20, 1939	11.8	3,060
1933	Apr. 3, 1933	10.4	1,450	1940	June 26, 1940	11.3	2,260

5-4030. Yellow River at Necedah, Wis.

Location.--Lat 44°03', long 90°04', in S 1/2 sec. 18, T. 18 N., R. 4 E., at Necedah powerplant of Wisconsin Power and Light Co., 5 miles downstream from Cranberry Creek.

Drainage area.--526 sq mi.

Gage.--Nonrecording gage. Datum of gage is 884.08 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 12,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1941	Apr. 5, 1941	14.7	6,810	1950	Mar. 30, 1950	13.7	4,910
1942	June 2, 1942	15.50	8,400				
1943	Apr. 1, 1943	16.0	9,500	1951	Apr. 9, 1951	15.60	8,620
1944	June 22, 1944	13.38	4,500	1952	Apr. 3, 1952	17.10	12,800
1945	Mar. 19, 1945	15.8	9,060	1953	Mar. 24, 1953	15.24	8,020
				1954	May 6, 1954	13.20	4,120
1946	Mar. 17, 1946	14.52	6,300	1955	Oct. 6, 1954	13.50	4,600
1947	Apr. 10, 1947	12.2	2,760				
1948	Mar. 23, 1948	14.0	5,040	1956	Apr. 7, 1956	15.60	8,990
1949	Apr. 10, 1949	10.7	1,620	1957	May 31, June 2, 1957	9.30	854

WISCONSIN RIVER BASIN

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., 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.

Gage.--Nonrecording gage. Datum of gage is 867.05 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 5,500 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	June 20, 1944	8.2	1,610	1956	Apr. 5, 1956	12.60	5,580
1945	Mar. 17, 1945	11.28	3,850	1957	May 28, 1957	6.70	1,110
				1958	Apr. 10, 1958	5.25	710
1946	Mar. 16, 1946	11.28	3,850	1959	Apr. 3, 1959	10.75	3,300
1947	June 16, 1947	9.54	2,140	1960	May 8, 1960	12.94	6,880
1948	Mar. 21, 1948	10.58	2,960				
1949	Apr. 4, 1949	6.3	920	1961	Mar. 29, 1961	12.24	5,480
1950	Mar. 28, 1950	9.8	2,360	1962	Mar. 31, 1962	11.20	3,790
				1963	Mar. 27, 1963	10.65	3,190
1951	Apr. 10, 1951	11.32	3,720	1964	May 11, 1964	5.82	779
1952	Apr. 2, 1952	12.28	5,300	1965	Sept. 23, 1965	12.42	4,840
1953	Mar. 24, 1953	9.69	2,480				
1954	July 8, 1954	11.0	3,140	1966	Oct. 1, 1965	11.56	3,640
1955	Oct. 6, 1954	9.85	2,320	1967	June 17, 1967	10.94	3,140
				1968	June 17, 1968	10.94	3,140

5-4035.2 Webster Creek at New Lisbon, Wis.

Location.--Lat 43°51'23", long 90°10'25", in NE 1/4 sec. 19, T. 16 N., R. 3 E., at bridge on State Highway 80, 1.2 miles south of New Lisbon.

Drainage area.--11.5 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 220 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 27, 1961	13.96	335	1965	Sept. 28, 1965	14.37	425
1962	Mar. 29, 1962	13.66	275				
1963	Mar. 24, 1963	12.85	145	1966	Feb. 8, 1966	14.75	520
1964	May 16, 1964	10.96	20	1967	June 16, 1967	a 13.47	175
				1968	June 26, 1968	13.07	120

a Backwater from weeds, 0.4 ft.

WISCONSIN RIVER BASIN

5-4035.5 One Mile Creek near Mauston, Wis.

Location.--Lat 43°45'50", long 90°04'45", in SE 1/4 sec. 24, T. 15 N., R. 3 E., at bridge on State Highway 58, 2.4 miles south of Mauston.

Drainage area.--30.4 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 500 cfs and extended above by step-backwater calculations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Apr. 6, 1958	12.35	175	1964	May 8, 1964	11.51	115
1959	Apr. 1, 1959	13.34	280	1965	Sept. 28, 1965	14.92	650
1960	May 7, 1960	15.58	940				
				1966	Feb. 8, 1966	16.37	1,560
1961	Mar. 26, 1961	16.16	1,300	1967	Mar. 24, 1967	14.64	560
1962	Mar. 28, 1962	16.36	1,550	1968	June 26, 1968	13.48	300
1963	Mar. 24, 1963	15.08	695				

5-4036.1 Wisconsin River Tributary at Wisconsin Dells, Wis.

Location.--Lat 43°38'22", long 89°45'45", in NE 1/4 sec. 3, T. 13 N., R. 6 E., at culvert on State Highway 13, 0.8 mile north of Wisconsin Dells.

Drainage area.--1.16 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	July 2, 1962	10.25	12	1966	Feb. 8, 1966	10.93	30
1963	-	a	<10	1967	June 11, 1967	10.21	11
1964	-	a	<10	1968	Aug. 19, 1968	10.14	10
1965	Mar. 1, 1965	10.56	20				

a Peak did not reach bottom of the gage.

5-4037. Dell Creek near Lake Delton, Wis.

Location.--Lat 43°33'10", long 89°52'05", in 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.

Drainage area.--44.9 sq mi.

Gage.--Crest-stage indicator. Datum of gage is 847.49 ft above mean sea level, datum of 1929. Prior to Oct. 4, 1957, nonrecording gage 50 ft downstream at same datum. Oct. 4, 1957, to Sept. 30, 1965, recording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 870 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Apr. 6, 1958	4.28	98	1964	July 29, 1964	5.01	142
1959	May 11, 1959	8.04	856	1965	Mar. 2, 1965	8.38	992
1960	Mar. 28, 1960	6.86	485				
				1966	Mar. 23, 1966	5.6	200
1961	Feb. 24, 1961	5.71	236	1967	Mar. 24, 1967	6.29	317
1962	Mar. 29, 1962	5.91	307	1968	Jan. 29, 1968	8.76	1,130
1963	Mar. 23, 1963	6.63	411				

WISCONSIN RIVER BASIN

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., 0.5 mile downstream from Dell Creek and 3 miles downstream from Wisconsin Dells.

Drainage area.--7,830 sq mi, approximately.

Gage.--Recording gage. Altitude of gage is 805 ft (from topographic map). Prior to Oct. 1, 1963, recording gage at same site at datum 5.00 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 65,000 cfs.

Historical data.--The flood of September 14, 1938, was the highest since the dam was built in 1909--from the Wisconsin Dells Events.

Remarks.--Flow regulated by many reservoirs and powerplants above station.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1935	Mar. 27, 1935	17.80	64,600	1952	Apr. 14, 1952	9.76	28,600
1936	Mar. 29, 1936	14.75	46,300	1953	Apr. 13, 1953	8.74	24,000
1937	Apr. 28, 1937	9.90	25,000	1954	May 5, 1954	10.47	31,600
1938	Sept. 14, 1938	18.80	72,200	1955	June 13, 1955	10.06	29,700
1939	Mar. 30, 1939	15.05	48,500	1956	Apr. 11, 1956	10.00	29,500
1940	June 28, 1940	14.90	50,700	1957	Mar. 18, 1957	3.01	7,130
1941	Sept. 5, 1941	13.53	43,600	1958	July 9, 1958	3.53	8,240
1942	June 4, 1942	15.13	52,800	1959	Sept. 30, 1959	12.97	43,800
1943	June 4, 1943	15.63	57,500	1960	May 10, 1960	16.02	63,300
1944	June 17, 1944	8.31	20,700	1961	Mar. 31, 1961	10.27	30,100
1945	Mar. 22, 1945	13.08	43,000	1962	May 16, 1962	10.38	30,500
1946	Mar. 19, 1946	13.63	45,600	1963	May 15, 1963	8.34	22,500
1947	Apr. 9, 1947	8.93	24,800	1964	Sept. 11, 1964	11.19	16,500
1948	Mar. 27, 1948	8.82	24,400	1965	Apr. 15, 1965	18.95	50,200
1949	Apr. 4, 1949	5.43	12,400	1966	Mar. 24, 1966	15.87	33,800
1950	Apr. 21, 22, 1950	10.13	29,900	1967	Apr. 5, 1967	19.22	51,800
1951	Apr. 11, 1951	15.58	61,700	1968	June 28, 1968	17.30	42,100

5-4042. Narrows Creek at Loganville, Wis.

Location.--Lat 43°26'32", long 90°02'06", 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.

Drainage area.--40 sq mi.

Gage.--Crest-stage gage and seasonal recording gage. Prior to Jan. 4, 1962, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 1,500 cfs and extended above by step-backwater computation.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Apr. 5, 1958	10.10	250	1964	June 21, 1964	11.30	400
1959	Apr. 1, 1959	14.22	1,580	1965	Sept. 17, 1965	15.66	3,950
1960	May 7, 1960	15.90	4,600	1966	Mar. 23, 1966	13.98	1,370
1961	Sept. 30, 1961	14.97	2,550	1967	Jan. 25, 1967	14.89	2,450
1962	Mar. 28, 1962	14.88	2,400	1968	Jan. 29, 1968	14.35	1,700
1963	Mar. 23, 1963	14.55	1,950				

WISCONSIN RIVER BASIN

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., 50 ft downstream from bridge on county highway X, 0.3 mile downstream from Rowley Creek, and 4 miles east of Baraboo.

Drainage area.--600 sq mi.

Gage.--Recording gage. Datum of gage is 788.21 ft above mean sea level, datum of 1929. Dec. 18, 1913, to Mar. 31, 1922, non-recording gage at bridge 2.3 miles upstream at datum 7.6 ft higher. Sept. 24, 1942, to June 10, 1963, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 6,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	June 25, 1914	7.4		1,030	1951	Apr. 30, 1951	17.93		3,550
1915	Sept. 17, 1915	10.3		1,700	1952	Apr. 4, 1952	18.63		3,800
					1953	Mar. 23, 1953	13.31		2,020
1916	Mar. 27, June 6, 1916	12.75		2,500	1954	July 8, 1954	14.0		2,150
1917	Mar. 26, 1917	17.5		7,900	1955	Apr. 25, 1955	12.95		1,800
1918	Mar. 20, 1918	15.1		4,170					
1919	Mar. 20, 1919	15.4		4,550	1956	Apr. 6, 1956	20.60		5,340
1920	June 22, 1920	17.08		7,360	1957	June 13, 1957	9.45		808
					1958	Apr. 7, 1958	10.05		940
1921	May 28, 1921	11.2		2,110	1959	Apr. 5, 1959	21.35		5,910
					1960	May 10, 1960	18.50		4,220
1935	Aug. 6, 1935	15.8		5,100					
					1961	Mar. 30, 1961	21.10		5,640
1943	Mar. 29, 1943	16.4		3,000	1962	Apr. 1, 1962	18.94		4,150
1944	Feb. 28, 1944	14.24		2,210	1963	Mar. 28, 1963	18.45		3,870
1945	June 5, 1945	16.66		3,110	1964	June 23, 1964	9.02		710
					1965	Mar. 6, 1965	19.8	0.9	4,500
1946	Mar. 17, 1946	18.78		3,880					
1947	June 14, 1947	18.02		3,400	1966	Feb. 13, 1966	22.68	1.3	5,900
1948	Mar. 21, 1948	20.63		5,340	1967	Mar. 29, 1967	16.43		3,220
1949	June 29, 1949	13.4		1,950	1968	June 29, 1968	14.09		2,180
1950	Mar. 29, 1950	21.16		5,760					

5-4056. Rowan Creek at Poynette, Wis.

Location.--Lat 43°23'13", long 89°23'25", in S 1/2 sec. 35, T. 11 N., R. 9 E., at bridge on U. S. Highway 51, in Poynette.

Drainage area.--10.1 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 800 cfs and indirect measurement at 2,260 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 6, 1961	11.63	150	1965	Sept. 9, 1965	17.90	2,260
1962	Mar. 28, 1962	12.45	250				
1963	Mar. 24, 1963	13.13	350	1966	Feb. 8, 1966	13.11	350
1964	Mar. 5, 1964	10.92	80	1967	Jan. 25, 1967	13.65	450
				1968	Oct. 24, 1967	10.54	50

WISCONSIN RIVER BASIN

5-4060. Wisconsin River at Prairie du Sac, Wis.

Location.--Lat 43°17'25", long 89°42'55", in sec. 1, T. 9 N., R. 6 E., on downstream end of pier of bridge on State Highway 60 in Prairie du Sac, 1.6 miles downstream from Prairie du Sac powerplant, and 6.5 miles upstream from Honey Creek.

Drainage area.--8,950 sq mi, approximately.

Gage.--Recording gage. Datum of gage is 729.64 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 65,000 cfs.

Remarks.--Flow regulated by many reservoirs and powerplants above station.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	June 18, 1944	10.8	25,000	1949	Apr. 4, 1949	7.70	13,400
1945	Mar. 23, 1945	15.8	52,300	1950	Apr. 24, 1950	12.66	34,900
1946	Mar. 19, 1946	15.79	52,300	1951	Apr. 13, 1951	17.10	67,700
1947	Apr. 10, 1947	12.23	32,700	1952	Apr. 11, 15, 1952	12.00	32,300
1948	Mar. 30, 1948	11.20	28,100	1953	Apr. 14, 1953	11.10	27,300

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., 0.7 mile east of Black Earth and 2.1 miles upstream from Vermont Creek.

Drainage area.--46.4 sq mi (includes 3.6 sq mi without surface drainage).

Gage.--Recording gage. Datum of gage is 812.95 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1954	July 3, 1954	6.58	1,750	1961	Mar. 25, 1961	5.22	693
1955	Feb. 20, 1955	5.28	654	1962	Mar. 25, 1962	3.32	216
1956	May 13, 1956	4.33	408	1963	Mar. 17, 1963	4.5	454
1957	June 11, 1957	5.96	1,030	1964	June 22, 1964	2.37	64
1958	Feb. 24, 1958	3.60	266	1965	Mar. 2, 1965	5.05	623
1959	Apr. 1, 1959	5.83	1,120	1966	Feb. 9, 1966	5.04	619
1960	July 3, 1960	5.80	1,020	1967	Jan. 25, 1967	5.07	631
				1968	Sept. 18, 1968	3.16	148

5-4068. Rocky Branch near Richland Center, Wis.

Location.--Lat 43°19'40", long 90°24'04", in 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.

Drainage area.--1.71 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements, indirect measurement at 407 cfs, and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	July 3, 1960	12.65	150	1965	June 20, 1965	15.12	407
1961	Mar. 1961	12.75	160	1966	Feb. 8, 1966	13.40	220
1962	Nov. 2, 1961	12.82	170	1967	June 28, 1967	17.2	1,020
1963	Mar. 23, 1963	10.2	30	1968	June 26, 1968	11.32	70
1964	June 22, 1964	10.5	40				

WISCONSIN RIVER BASIN

5-4070. Wisconsin River at Muscoda, Wis.

Location.--Lat 43°12'00", long 90°26'25", in W 1/2 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.

Gage.--Recording gage. Datum of gage is 667.05 ft above mean sea level, datum of 1929. Prior to Nov. 22, 1929, nonrecording gage 200 ft upstream at same datum. Nov. 22, 1929, to Mar. 15, 1930, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 78,000 cfs.

Historical data.--Flood of June 11, 1881, reached a stage of 11.1 feet.

Remarks.--Flow regulated by many reservoirs and powerplants above station.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	June 13, 1914	8.6		45,700	1943	June 6, 1943	9.64		57,900
1915	Apr. 17, 1915	6.1		24,200	1944	June 19, 1944	6.15		27,200
					1945	Mar. 25, 1945	8.48		46,300
1916	Apr. 29, 1916	9.2		54,300					
1917	Apr. 11, 1917	7.0		33,200	1946	Mar. 10, 1946	9.68	5.0	-
1918	June 5, 1918	8.1		40,800		Mar. 21, 1946	9.00		51,300
1919	Apr. 16, 1919	7.98		42,500	1947	Apr. 12, 1947	6.70		30,700
1920	Apr. 2, 1920	10.10		63,300	1948	Feb. 28, 1948	7.62	4.5	-
						Mar. 28, 1948	6.27		27,900
1921	May 6, 1921	7.8		39,500	1949	Mar. 6, 1949	4.81	2.0	-
1922	Apr. 16, 1922	10.60		72,100		Apr. 7, 1949	3.70		13,200
1923	Apr. 27, 1923	8.7		52,500	1950	Mar. 8, 1950	7.07	3.5	-
1924	Apr. 24, 1924	8.0		42,500		Apr. 24, 1950	6.70		30,700
1925	June 22, 1925	6.00		25,100					
					1951	Apr. 14, 1951	9.95		64,800
1926	Aug. 29, 1926	8.28		43,800	1952	Apr. 16, 1952	6.80		31,500
1927	Mar. 20, 1927	8.20		43,000	1953	Apr. 15, 16, 1953	5.82		24,600
1928	Sept. 22, 1928	9.5		52,600	1954	May 9, 1954	6.85		31,900
1929	Apr. 14, 1929	9.3		51,800	1955	June 16, 1955	6.07		25,600
1930	June 22, 1930	7.60		38,400					
					1956	Apr. 15, 1956	6.81		31,600
1931	June 29, 1931	3.28		11,300	1957	June 12, 1957	3.35		12,000
1932	Apr. 14, 1932	8.00		40,800	1958	Mar. 4, 1958	3.97	1.3	-
1933	Apr. 7, 1933	6.54		30,000		July 11, 14, 1958	3.16		10,700
1934	Apr. 12, 1934	7.50		36,800	1959	Apr. 3, 1959	5.91		25,300
1935	Mar. 29, 1935	9.90		62,200	1960	May 12, 1960	10.17		67,200
1936	Mar. 31, 1936	8.70		48,100	1961	Apr. 3, 1961	7.34		35,800
1937	Mar. 7, 1937	6.68	2.0	-	1962	Apr. 14, 1962	7.21		34,800
	May 2, 1937	6.30		27,900	1963	May 18, 1963	5.38		22,800
1938	Sept. 16, 1938	11.48		80,800	1964	May 13, 1964	4.54		18,100
1939	Apr. 2, 1939	8.87		50,700	1965	Apr. 18, 1965	8.95		48,500
1940	July 1, 1940	9.15		50,700					
					1966	Mar. 27, 1966	7.41		34,100
1941	Sept. 8, 1941	8.28		44,300	1967	Apr. 7, 1967	9.47		54,200
1942	June 7, 1942	9.30		54,600	1968	July 2, 1968	8.46		43,600

5-4071. Richland Creek near Plughtown, Wis.

Location.--Lat 43°11'12", long 90°44'23", NW 1/4 sec. 9, T. 8 N., R. 3 W., at bridge on U. S. Highway 61, 2 miles south of Plughtown.

Drainage area.--19.2 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 300 cfs, indirect measurement at 520 cfs, and extended above by step-backwater computations.

WISCONSIN RIVER BASIN

5-4071. Richland Creek near Plughtown, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Aug. 20, 1958	14.32	460	1964	June 22, 1964	14.94	540
1959	June 26, 1959	17.02	1,800	1965	Sept. 9, 1965	16.25	1,010
1960	Aug. 9, 1960	16.51	1,230	1966	Feb. 8, 1966	16.44	1,150
1961	Mar. 26, 1961	16.86	1,600	1967	Jan. 25, 1967	16.22	1,000
1962	July 2, 1962	16.22	1,000	1968	June 26, 1968	12.40	250
1963	Mar. 17, 1963	15.19	580				

5-4072. Crooked Creek near Boscobel, Wis.

Location.--Lat 43°06'27", long 90°42'18", in SE 1/4 sec. 2, T. 7 N., R. 3 W., at bridge on U. S. Highway 61, 1.6 miles south of Boscobel.

Drainage area.--13.1 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurement at 2,460 cfs and step-backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	June 26, 1959	13.29	700	1964	July 27, 1964	18.21	2,460
1960	May 7, 1960	17.55	2,130	1965	Sept. 9, 1965	14.34	1,000
1961	Apr. 23, 1961	13.35	720	1966	Feb. 8, 1966	12.70	550
1962	Nov. 2, 1961	11.09	220	1967	Jan. 25, 1967	12.82	580
1963	Mar. 17, 1963	12.33	460	1968	Jan. 29, 1968	12.9	600

5-4074. Morris Creek Tributary near Norwalk, Wis.

Location.--Lat 43°51'10", long 90°37'32", in NW 1/4 sec. 21, T. 16 N., R. 2 W., at bridge on County Trunk T, 2 miles north of Norwalk.

Drainage area.--4.67 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 700 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Oct. 24, 1959	13.10	950	1965	Sept. 9, 1965	11.98	540
1961	Mar. 27, 1961	12.44	700	1966	Feb. 8, 1966	11.71	460
1962	Mar. 28, 1962	11.71	460	1967	June 16, 1967	13.38	1,060
1963	Mar. 25, 1963	11.02	260	1968	June 23, 1968	13.00	910
1964	Apr. 2, 1964	10.23	85				

WISCONSIN RIVER BASIN

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., 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.

Gage--Recording gage. Datum of gage is 782.00 ft above mean sea level, adjustment of 1912. Prior to Dec. 4, 1939, nonrecording gage at same datum.

Stage-discharge relation--Defined by current-meter measurements below 8,800 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1939	Sept. 4, 1939	7.44		1,610	1953	Aug. 2, 1953	7.77		1,560
1940	June 23, 1940	10.26		2,860	1954	July 3, 1954	11.44		4,370
					1955	June 3, 1955	9.82		2,510
1941	Apr. 18, 1941	8.44		1,810					
1942	Sept. 18, 1942	7.89		1,630	1956	Apr. 4, 1956	12.35		6,750
1943	Mar. 26, 1943	9.52		2,210	1957	July 21, 1957	7.86		1,570
1944	Mar. 12, 1944	10.58		3,180	1958	Feb. 25, 1958	7.13	1.9	-
1945	May 22, 1945	10.72		3,290		Apr. 6, 1958	5.66		902
					1959	May 21, 1959	11.76		5,100
1946	Jan. 6, 1946	12.03		5,730	1960	Mar. 28, 1960	11.42		4,330
1947	June 14, 1947	9.95		2,470					
1948	Mar. 19, 1948	11.75		5,200	1961	Mar. 26, 1961	12.70		7,040
1949	Mar. 5, 1949	9.12	3.5	-	1962	Mar. 29, 1962	11.72		4,530
	Mar. 22, 1949	7.29		1,370	1963	Mar. 25, 1963	10.52		2,740
1950	Mar. 8, 1950	12.90	3.5	-	1964	Apr. 3, 1964	7.10		1,290
	Mar. 27, 1950	11.90		5,460	1965	Sept. 20, 1965	11.46		3,990
1951	July 21, 1951	12.32		6,600	1966	Feb. 9, 1966	13.67		9,910
1952	Apr. 1, 1952	10.95		3,480	1967	June 16, 1967	12.34		6,010
					1968	June 22, 1968	10.95		3,140

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., 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.

Gage--Recording gage. Altitude of gage is 960 ft (from topographic map).

Stage-discharge relation--Defined by current-meter measurements below 400 cfs and extended above on basis of slope-area measurement at 3,710 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1954	July 1954	10.5		1961	Mar. 27, 1961	4.08	825
1955	June 2, 1955	4.56	1,030	1962	Mar. 28, 1962	3.43	533
				1963	Mar. 23, 1963	2.88	347
1956	Apr. 2, 1956	3.36	401	1964	May 15, 1964	2.08	136
1957	June 17, 1957	3.65	402	1965	Apr. 10, 1965	3.62	614
1958	Feb. 24, 1958	2.95	140				
1959	Aug. 26, 1959	8.76	3,710	1966	Feb. 9, 1966	4.32	749
1960	Apr. 16, 1960	3.82	734	1967	June 16, 1967	4.87	898
				1968	June 21, 1968	5.18	790

WISCONSIN RIVER BASIN

5-4088. Bishops Branch near Viroqua, Wis.

Location.--Lat 43°32'54", long 90°49'15", in N 1/2 sec. 2, T. 12 N., R. 4 W., at bridge on State Highways 56 and 82, 3 miles east of Viroqua.

Drainage area.--7.08 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 50 cfs and indirect measurements at 1,380 cfs and 5,800 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Aug. 27, 1959	13.64	5,800	1964	Sept. 10, 1964	10.55	120
1960	July 2, 1960	12.84	2,600	1965	Sept. 9, 1965	12.32	1,380
1961	Mar. 27, 1961	11.57	620	1966	Feb. 9, 1966	12.23	1,250
1962	Mar. 29, 1962	11.44	530	1967	June 9, 1967	12.75	2,300
1963	Mar. 17, 1963	11.19	390	1968	June 21, 1968	12.92	2,800

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 and powerplant of Interstate Power Co. in Gays Mills, 3.3 miles downstream from Taintor Creek.

Drainage area.--616 sq mi.

Gage.--Nonrecording gage. Datum of gage is 685.75 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 10,200 cfs.

Remarks.--Flood of 1913 reached a stage of 15.2 ft from floodmark (backwater from ice probable).

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	June 23, 1914	5.6	1,370	1927	Sept. 11, 1927	11.8	3,220
1915	July 30, 1915	6.9	1,910	1928	Mar. 13, 1928	12.8	5,840
				1929	Mar. 15, 1929	12.9	6,020
1916	June 4, 1916	10.1	3,510	1930	Feb. 23, 1930	9.8	a 2,800
1917	Mar. 24, 1917	15.05	9,800				
1918	Mar. 18, 1918	10.35	3,000	1931	June 22, 1931	4.0	874
1919	Mar. 17, 1919	12.0	4,710	1932	July 12, 1932	11.5	4,350
1920	June 17, 1920	10.65	3,460	1933	Mar. 31, 1933	14.1	7,470
				1934	Apr. 5, 1934	12.95	5,790
1921	Sept. 6, 1921	9.5	2,520				
1922	Mar. 6, 1922	9.2	2,650	1964	Apr. 7, 1964	8.30	1,220
1923	Apr. 3, 1923	12.6	5,510	1965	Mar. 3, 1965	15.05	6,920
1924	Aug. 4, 1924	11.0	3,800				
1925	June 15, 1925	9.25	2,620	1966	Feb. 10, 1966	16.00	10,600
				1967	June 18, 1967	13.18	3,540
1926	Aug. 24, 1926	9.0	2,140	1968	June 29, 1968	12.05	2,420

a Ice affected.

WISCONSIN RIVER BASIN

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., 0.8 mile upstream from Duffy Creek, 1 mile northwest of Steuben, and 14 miles upstream from mouth.

Drainage area.--690 sq mi.

Gage.--Recording gage. Datum of gage is 657.82 ft above mean sea level, adjustment of 1912. Prior to Oct. 20, 1938, nonrecording gage at site 1 mile upstream at datum 1.3 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 10,700 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1934	Apr. 5, 1934	10.32		5,830	1951	July 22, 1951	13.66		10,300
1935	Aug. 8, 1935	12.30		8,600	1952	Apr. 3, 1952	9.75		4,470
					1953	Aug. 5, 1953	8.06		1,430
1936	Mar. 12, 1936	10.1		3,650	1954	July 7, 1954	9.25		2,570
1937	Mar. 8, 1937	10.10		4,340	1955	June 7, 1955	8.78		1,670
1938	Sept. 11, 1938	10.18		3,400					
1939	Mar. 15, 1939	8.19		1,860	1956	Apr. 5, 1956	10.88		6,310
1940	Mar. 31, 1940	8.38		2,230	1957	June 19, 1957	6.81		972
					1958	Mar. 1, 1958	7.07		1,030
1941	Apr. 4, 1941	8.14		1,800	1959	Apr. 3, 1959	10.95		6,940
1942	Sept. 21, 1942	8.59		2,540	1960	May 9, 1960	9.40		3,070
1943	Mar. 28, 1943	8.62		2,570					
1944	Mar. 15, 1944	8.92	0.5	-	1961	Mar. 28, 1961	12.33		10,800
	June 19, 1944	8.78		3,050	1962	Mar. 31, 1962	9.84		4,170
1945	June 3, 1945	9.03		3,370	1963	Mar. 27, 1963	9.55		3,440
					1964	Apr. 8, 1964	6.78		947
1946	Mar. 8, 1946	10.25		7,630	1965	Mar. 4, 1965	11.18	0.4	6,500
1947	June 17, 1947	8.70		2,570					
1948	Mar. 19, 1948	9.92		5,640	1966	Feb. 10, 1966	12.82	0.8	10,400
1949	Mar. 5, 1949	8.42		1,790	1967	Mar. 28, 1967	9.37		3,400
1950	Mar. 27, 1950	10.06		6,160	1968	June 26, 1968	9.26		2,420

TURKEY RIVER BASIN

5-4125. Turkey River at Garber, Iowa

Location.--Lat 42°44'24", long 91°15'43", in SE 1/4 NW 1/4 sec. 36, T. 92 N., R. 4 W., 10 ft downstream from highway bridge at Garber, 800 ft upstream from Wayman Creek, 2,000 ft downstream from Elk Creek, 1 mile downstream from Volga River, and 21 miles upstream from mouth.

Drainage area.--1,545 sq mi.

Gage.--Recording gage. Datum of gage is 634.46 ft above mean sea level, datum of 1929. Prior to Feb. 7, 1935, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 26,100 cfs.

Historical data.--Maximum known stage since about 1890 - that of Feb. 23, 1922.

TURKEY RIVER BASIN

5-4125. Turkey River at Garber, Iowa--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1902	May 18, 1902	23.7	a 25,000	1943	Mar. 16, 1943	21.0	17,600
1914	June 15, 1914	13.2	8,960	1944	June 16, 1944	20.6	16,900
1915	Aug. 4, 1915	14.7	10,900	1945	June 2, 1945	18.2	13,000
1916	June 2, 1916	22.0	b 20,300	1946	Jan. 5, 1946	24.3	24,100
1919	June 4, 1919	16.8	c 13,100	1947	June 13, 1947	26.6	29,000
1920	Mar. 12, 1920	15.1	b 11,000	1948	Mar. 19, 1948	21.7	19,000
1921	May 31, 1921	14.5	10,400	1949	Mar. 4, 1949	20.5	16,800
1922	Feb. 23, 1922	28.1	32,300	1950	Mar. 7, 1950	23.7	23,700
1923	Apr. 3, 1923	24.2	b 25,200	1951	Mar. 28, 1951	22.79	21,900
1924	July 21, 1924	17.4	b 14,600	1952	Apr. 1, 1952	15.88	9,840
1925	June 15, 1925	24.7	26,200	1953	July 27, 1953	20.62	16,900
1926	Aug. 20, 1926	12.0	b 7,130	1954	June 21, 1954	19.94	16,400
1927	Oct. 3, 1926	16.8	13,700	1955	June 3, 1955	15.32	9,840
1929	July 13, 1929		d 7,630	1956	Mar. 28, 1956	17.00	12,300
1930	June 13, 1930		d 14,500	1957	June 18, 1957	14.20	7,320
1933	Mar. 30, 1933	22.5	20,600	1958	May 31, 1958	17.61	12,100
1934	Jan. 22, 1934	11.5	b 6,230	1959	Mar. 26, 1959	21.06	17,000
1935	Mar. 4, 1935	19.9	17,100	1960	Mar. 30, 1960	22.96	20,000
1936	Mar. 11, 1936		15,000	1961	Mar. 26, 1961	22.84	19,700
1937	Mar. 6, 1937	20.8	18,900	1962	Mar. 29, 1962	24.70	24,500
1938	Sept. 13, 1938	21.1	19,600	1963	Mar. 17, 1963	20.69	16,300
1939	Mar. 14, 1939		9,200	1964	Apr. 3, 1964	17.00	10,800
1940	July 27, 1940	25.3	26,100	1965	Mar. 1, 1965	e 22.1	-
1941	June 12, 1941	23.3	22,100	1966	Apr. 1, 1965		13,800
1942	June 30, 1942	17.5	12,000	1966	Feb. 9, 1966	24.80	24,800
				1967	Jan. 24, 1967	22.18	18,900
				1968	Aug. 8, 1968	17.02	10,500

a About.

b Maximum observed.

c Maximum observed during period May to September 1919.

d Maximum observed during period April to September 1929.

e Ice affected.

GRANT RIVER BASIN

5-4134. Pigeon Creek near Lancaster, Wis.

Location.--Lat 42°49'00", long 90°43'20", in SW 1/4 sec. 15, T. 4 N., R. 3 W., at culvert on country road, 2 miles south of Lancaster.

Drainage area.--6.81 sq mi.

Gage.--Crest-stage gage and seasonal recording gage. Prior to July 31, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 530 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Jan. 12, 1960	16.14	1,100	1965	Mar. 1, 1965	13.00	491
1961	Sept. 13, 1961	10.63	120	1966	Aug. 21, 1966	19.71	2,000
1962	July 20, 1962	13.50	580	1967	Jan. 24, 1967	20.85	2,800
1963	Mar. 20, 1963	10.95	155	1968	May 28, 1968	10.41	110
1964	Apr. 2, 1964	11.33	210				

GRANT RIVER BASIN

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 downstream side of highway bridge at Burton, 6 miles northwest of Potosi and 9.5 miles upstream from mouth.

Drainage area.--267 sq mi. At site 6 miles upstream, 257 sq mi.

Gage.--Recording gage. Datum of gage is 606.89 ft above mean sea level, adjustment of 1912. Oct. 17, 1934, to Sept. 30, 1947, nonrecording gage at site 6 miles upstream at datum 33.18 ft higher. Mar. 18, 1947, to July 27, 1949, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 18,000 cfs and extended above on basis of slope-area measurement.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1935	Mar. 4, 1935	10.0		6,820	1953	Feb. 20, 1953	20.92		12,300
1936	Mar. 4, 1936	9.0		5,420	1954	June 22, 1954	24.45		23,800
1937	Feb. 20, 1937	9.6		6,260	1955	Feb. 20, 1955	23.30	5.0	a 8,000
1938	Feb. 5, 1938	10.37		7,350		Feb. 20, 1955			
1939	Mar. 4, 1939	7.44		2,060	1956	Mar. 2 or 3, 1956	20.23		a 6,000
1940	July 27, 1940	16.3		23,800	1957	July 31, 1957	17.56		3,240
1941	Mar. 21, 1941	6.6		2,490	1958	Feb. 25, 1958	18.76	5.0	1,200
1942	June 29, 1942	7.8		3,860	1959	Mar. 21, 1959	21.59	2.4	-
1943	Aug. 13, 1943	12.30		12,300		Mar. 25, 1959	20.46		11,000
1944	Mar. 14, 1944	11.33		9,820	1960	Jan. 13, 1960	20.38		10,700
1945	June 28, 1945	9.4		6,010	1961	Feb. 23, 1961	21.27		13,400
1946	Jan. 5, 1946	12.0		11,600	1962	Nov. 3, 1961	19.54		8,120
1947	June 13, 1947	15.54		21,400	1963	Mar. 16, 1963	21.88	2.4	8,000
1948	Feb. 28, 1948	20.24		10,200	1964	Apr. 3, 1964	18.66		5,510
1949	June 25, 1949	21.5		14,100	1965	Mar. 1, 1965	22.05	2.9	7,000
1950	July 16, 1950	24.82		25,000	1966	Feb. 8, 1966	23.05	2.1	12,500
1951	July 8, 1951	20.67		11,700	1967	Jan. 25, 1967	23.67	2.2	14,000
1952	Mar. 10, 1952	19.18		7,280	1968	Aug. 8, 1968	13.28		1,080

a About.

PLATTE RIVER BASIN

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., 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. Prior to Oct. 1, 1941, 137 sq mi.

Gage.--Recording gage. Datum of gage is 642.95 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1941, nonrecording gage at site 1.3 miles upstream at datum 12.55 ft higher. Oct. 1, 1941, to June 29, 1949, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 7,000 cfs and extended above on basis of slope-area measurement at 43,500 cfs.

Historical data.--The flood of July 16, 1950, was the highest since 1876---from the Grant County News.

PLATTE RIVER BASIN

5-4140. Platte River near Rockville, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1935	Mar. 4, 1935	8.67		3,980	1952	Mar. 10, 1952	7.63		1,660
1936	Mar. 10, 1936	8.0		2,730	1953	Feb. 20, 1953	10.79		7,290
1937	Mar. 4, 1937	10.6		8,560	1954	June 21, 1954	13.33		16,400
1938	Feb. 6, 1938	9.6		5,980	1955	Feb. 20, 1955	8.85		3,080
1939	Jan. 5, 1939	8.2		3,060	1956	Mar. 1, 1956	8.3		2,400
1940	July 26, 1940	12.4		13,100	1957	Jan. 21, 1957	8.5		2,620
1941	Mar. 3, 1941	8.8		4,180	1958	Feb. 23, 1958	8.15	3.0	-
1942	June 29, 1942	9.1		3,670	1958	Sept. 3, 1958	6.57		1,060
1943	June 2, 1943	12.1		10,400	1959	May 20, 1959	10.77		7,220
1944	Mar. 14, 1944	10.44		6,310	1960	Jan. 12, 1960	10.9		7,550
1945	June 28, 1945	9.10		3,660	1961	Feb. 23, 1961	9.42		4,080
1946	Jan. 5, 1946	11.4		8,700	1962	July 20, 1962	10.34		6,160
1947	June 13, 1947	12.30		11,000	1963	Mar. 16, 1963	10.86		6,140
1948	Feb. 28, 1948	11.1		7,980	1964	Apr. 3, 1964	8.74		2,040
1949	Mar. 4, 1949	9.40		4,150	1965	Feb. 28, 1965	10.86	1.5	3,000
1950	July 16, 1950	17.26		43,500	1966	Aug. 21, 1966	11.13		5,940
1951	Aug. 6, 1951	12.81		13,900	1967	Jan. 24, 1967	13.42	1.6	8,000
					1968	Jan. 29, 1968	7.12		1,000

5-4142. Bear Branch near Platteville, Wis.

Location.--Lat 42°45'46", long 90°30'06", in NW 1/4 sec. 4, T. 3 N., R. 1 W., at box culvert on State Highway 81, 2.3 miles northwest of Platteville.

Drainage area.--2.80 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 120 cfs, indirect measurement at 840 cfs, and indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Feb. 24, 1958	10.44	110	1964	June 21, 1964	10.8	120
1959	May 20, 1959	17.40	840	1965	Sept. 9, 1965	13.12	330
1960	Dec. 27, 1959	17.0	780	1966	July 13, 1966	11.36	170
1961	Oct. 31, 1960	10.87	135	1967	Jan. 24, 1967	15.71	610
1962	Aug. 24, 1962	14.66	495	1968	June 26, 1968	12.24	250
1963	Mar. 17, 1963	12.54	275				

LITTLE MAQUOKETA RIVER BASIN

5-4145. Little Maquoketa River near Durango, Iowa

Location--Lat 42°33'25", long 90°44'45", in NW 1/4 NE 1/4 sec. 5, T. 89 N., R. 2 E., 10 ft upstream from highway bridge, 1 1/2 miles east of Durango, 5 miles northwest of Dubuque, and 7.5 miles upstream from mouth.

Drainage area--130 sq mi.

Gage--Recording gage. Datum of gage is 612.03 ft above mean sea level, datum of 1929. Prior to Jan. 5, 1939, nonrecording gage at same site and datum.

Stage-discharge relation--Defined by current-meter measurements below 6,300 cfs and extended above on basis of slope-area measurements at gage heights 17.05, 19.82, 20.75, and 22.1 ft.

Historical data--Maximum known stage, about 22.1 ft June 15, 1925 (discharge, about 29,000 cfs, computed by Corps of Engineers).

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1925	June 15, 1925	22.1	a 29,000	1951	July 8, 1951	19.98	14,800
				1952	Aug. 20, 1952	14.22	6,180
1935	Mar. 4, 1935	13.63	5,430	1953	Feb. 20, 1953	18.40	11,100
1936	Mar. 10, 1936	6.11	791	1954	June 1, 1954	14.35	6,460
1937	June 21, 1937	20.75	21,000	1955	Feb. 20, 1955	12.93	5,120
1938	Feb. 5, 1938	15.73	7,850	1956	July 8, 1956	10.67	3,490
1939	July 7, 1939	13.20	5,000	1957	July 31, 1957	11.93	4,330
1940	Aug. 15, 1940	13.33	5,130	1958	Feb. 24, 1958	9.12	2,190
				1959	Apr. 1, 1959	15.95	8,200
1941	Mar. 22, 1941	11.9	3,840	1960	Jan. 12, 1960	18.76	13,400
1942	June 29, 1942	11.6	3,640				
1943	Aug. 13, 1943	14.95	6,820	1961	Sept. 13, 1961	12.70	4,110
1944	June 13, 1944	19.8	18,000	1962	Nov. 2, 1961	18.70	13,100
1945	July 21, 1945	12.6	4,720	1963	Mar. 16, 1963	14.73	6,040
				1964	Apr. 2, 1964	10.84	2,800
1946	Mar. 6, 1946	17.0	10,400	1965	Feb. 28, 1965	16.41	8,600
1947	June 13, 1947	21.2	23,000				
1948	Feb. 27, 1948	17.4	11,300	1966	Feb. 8, 1966	15.35	7,360
1949	Mar. 4, 1949	13.9	5,790	1967	Jan. 24, 1967	17.13	10,000
1950	Mar. 5, 1950	14.8	6,550	1968	Aug. 8, 1968	10.21	2,660

a Computed by the Corps of Engineers.

GALENA RIVER BASIN

5-4149. Pats Creek near Elk Grove, Wis.

Location--Lat 42°40'03", long 90°22'40", in SW 1/4 sec. 4, T. 2 N., R. 1 E., at bridge on State Highway 81, 7 miles southeast of Platteville.

Drainage area--8.49 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 40 cfs, indirect measurement at 7,040 cfs, and step-backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Mar. 28, 1960	13.77	720	1965	Mar. 1, 1965	13.01	500
1961	Feb. 18, 1961	12.19	310	1966	Feb. 8, 1966	12.72	420
1962	Nov. 2, 1961	12.37	350	1967	Jan. 24, 1967	15.24	1,680
1963	Mar. 20, 1963	11.05	140	1968	July 23, 1968	11.93	265
1964	Apr. 2, 1964	12.38	350	1969	June 29, 1969	17.32	7,040

GALENA RIVER BASIN

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., at Buncombe, 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.

Gage.--Recording gage. Datum of gage is 682.77 ft above mean sea level, adjustment of 1912 (Corps of Engineers benchmark). Prior to Dec. 1, 1939, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 8,100 cfs and extended above by logarithmic plotting and on basis of slope-area measurement at gage height 15.68 ft.

Historical data.--The flood of Feb. 20, 1937, was 3 ft higher in Galena than any other previous flood--from Benton Advocate.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1937	Feb. 1937	17.1		18,000	1954	June 22, 1954	12.35		5,010
1940	Mar. 18, 1940	11.6		3,860	1955	Feb. 20, 1955	13.52		7,250
1941	Mar. 20, 1941	9.86		2,760	1956	Feb. 24, 1956	11.32		3,390
1942	Aug. 2, 1942	12.8		5,820	1957	July 16, 1957	12.36		4,630
1943	Aug. 13, 1943	13.58		7,420	1958	Feb. 24, 1958	10.42		2,890
1944	Mar. 14, 1944	12.09		4,640	1959	Mar. 20, 1959	13.53	1.5	-
1945	June 28, 1945	11.94		4,370		Mar. 26, 1959	13.28		6,460
1946	Jan. 5, 1946	13.9		8,080	1960	Jan. 12, 1960	14.20		8,430
1947	June 13, 1947	12.8		5,820	1961	Feb. 18, 1961	9.15		2,240
1948	Feb. 27, 1948	14.3		8,960	1962	Oct. 29, 1961	11.53		3,530
1949	Mar. 4, 1949	13.2		6,600	1963	Mar. 16, 1963	12.32		4,560
1950	July 1, 1950	13.4		7,000	1964	Apr. 3, 1964	10.23		2,790
1951	July 8, 1951	13.86		6,800	1965	Sept. 21, 1965	13.19		6,280
1952	Mar. 10, 1952	12.97		6,200	1966	Feb. 8, 1966	12.90	0.9	4,000
1953	Feb. 20, 1953	15.68		12,400	1967	Jan. 25, 1967	12.31		4,540
					1968	Feb. 1, 1968	9.35		2,340

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., at Council Hill, 3 miles upstream from mouth and 6 miles northeast of Galena. Records include flow of unnamed creek which enters just downstream from gage.

Drainage area.--20.1 sq mi, includes that of unnamed creek.

Gage.--Recording gage. Datum of gage is 686.59 ft above mean sea level, adjustment of 1912 (Corps of Engineers benchmark). Prior to Dec. 1, 1939, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 1,500 cfs and extended above on basis of slope-area measurements at gage heights 9.33 and 15.3 ft and a contracted-opening measurement at gage height 15.3 ft.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1940	Aug. 10, 1940	5.83		565	1955	Feb. 19, 1955	6.87	1.0	
1941	Sept. 8, 1941	6.80		942		Feb. 20, 1955	5.92		634
1942	June 11, 1942	9.50		3,860	1956	Aug. 30, 1956	7.66		1,740
1943	Aug. 13, 1943	12.10		8,620	1957	July 12, 1957	9.85		4,190
1944	June 12, 1944	8.56		2,060	1958	Feb. 24, 1958	6.17		858
1945	May 27, 1945	10.26		5,080	1959	May 20, 1959	6.87		1,230
1946	Jan. 5, 1946	7.05		1,540	1960	Jan. 12, 1960	8.23		2,270
1947	Apr. 29, 1947	15.3		16,600	1961	July 1, 1961	8.37		2,390
1948	Feb. 27, 1948	8.77		2,890	1962	Oct. 29, 1961	7.02		1,320
1949	Aug. 11, 1949	10.35		5,250	1963	July 19, 1963	6.40		975
1950	July 1, 1950	9.33		3,590	1964	May 8, 1964	6.27		907
1951	July 8, 1951	9.60		4,000	1965	Sept. 21, 1965	11.42		6,650
1952	Oct. 20, 1951	6.31		842	1966	May 23, 1966	8.52		2,540
1953	Feb. 20, 1953	8.65		2,770	1967	July 17, 1967	8.34		2,370
1954	June 20, 1954	5.84		652	1968	Feb. 1, 1968	5.46	.2	462

MAQUOKETA RIVER BASIN

5-4170. Maquoketa River near Manchester, Iowa

Location.--Lat 42°27'25", long 91°25'55", in NW 1/4 NE 1/4 sec. 9, T. 88 N., R. 5 W., 2 miles southeast of Manchester and 4.7 miles downstream from Honey and Prairie Creeks.

Drainage area.--305 sq mi.

Gage.--Recording gage. Concrete control since June 1, 1935. Datum of gage is 895.06 ft above mean sea level, adjustment of 1912.

Stage-discharge relation.--Defined by current-meter measurements below 10,000 cfs and extended above by velocity-area studies.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1925	June 15, 1925		25,400	1951	July 9, 1951	19.65	16,800
				1952	Mar. 11, 1952	9.12	2,780
1933	May 20, 1933	9.2	2,850	1953	Feb. 20, 1953	10.66	4,260
1934	Jan. 22, 1934	6.2	695	1954	May 1, 1954	9.60	3,230
1935	Mar. 5, 1935	10.4	4,880	1955	Feb. 20, 1955	9.32	a 2,500
1936	Mar. 10, 1936	10.5	4,280	1956	May 28, 1956	8.21	2,060
1937	Mar. 4, 1937	14.2	8,150	1957	June 16, 1957	10.62	4,160
1938	Feb. 6, 1938	12.1	5,860	1958	June 1, 1958	8.87	2,620
1939	May 27, 1939	7.7	1,790	1959	Mar. 27, 1959	12.27	5,990
1940	June 23, 1940	8.9	2,770	1960	Mar. 30, 1960	16.48	11,600
1941	Sept. 8, 1941	14.6	8,880	1961	Mar. 26, 1961	10.28	3,750
1942	Nov. 1, 1941	12.4	6,140	1962	May 8, 1962	12.76	6,460
1943	Mar. 16, 1943	11.7	5,320	1963	Mar. 16, 1963	9.48	3,030
1944	June 16, 1944	14.0	8,010	1964	Apr. 3, 1964	8.04	1,840
1945	Aug. 14, 1945	9.91	3,060	1965	Apr. 1, 1965	11.64	5,150
1946	Jan. 6, 1946	14.9	9,130	1966	Feb. 9, 1966	11.90	5,440
1947	June 13, 1947	21.4	20,000	1967	Jan. 25, 1967	11.47	4,970
1948	Feb. 28, 1948	13.5	7,340	1968	July 17, 1968	13.32	7,120
1949	Mar. 5, 1949	12.3	6,020				
1950	Mar. 7, 1950	14.7	8,920				

a About.

5-4185. Maquoketa River near Maquoketa, Iowa
(Published as "below North Fork Maquoketa River near Maquoketa" prior to 1940)

Location.--Lat 42°05'05", long 90°37'55", in SW 1/4 NE 1/4 sec. 17, T. 84 N., R. 3 E., 500 ft upstream from bridge on State Highway 62, 1,200 ft upstream from Prairie Creek, 2.0 miles northeast of Maquoketa, 2.2 miles downstream from North Fork, and 28 miles upstream from mouth.

Drainage area.--1,553 sq mi.

Gage.--Recording gage. Datum of gage is 636.52 ft above mean sea level, adjustment of 1912. Prior to July 14, 1924, nonrecording gage at site 40 ft downstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 45,000 cfs.

Historical data.--A flood, probably in 1903, reached a stage of about 23.5 ft (discharge, 43,000 cfs).

MAQUOKETA RIVER BASIN

5-4185. Maquoketa River near Maquoketa, Iowa--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1903		23.5	43,200	1941	Sept. 9, 1941	22.1	25,600
1914	Sept. 15, 1914	17.0	13,700	1942	Aug. 2, 1942	11.9	7,060
1915	Sept. 28, 1915	19.6	18,400	1943	Mar. 16, 1943	18.3	21,200
1916	Mar. 27, 1916	22.6	39,100	1944	June 27, 1944	24.7	48,000
1917	June 13, 1917	16.9	16,300	1945	Aug. 15, 1945	15.9	12,600
1918	Feb. 15, 1918	15.8	13,000	1946	Jan. 6, 1946	22.2	37,100
1919	Mar. 17, 1919	16.8	16,000	1947	June 14, 1947	20.0	28,000
1920	Mar. 23, 1920	15.5	12,300	1948	Feb. 28, 1948	20.0	28,200
1921	Sept. 17, 1921	15.2	11,000	1949	Mar. 5, 1949	18.3	21,600
1922	Feb. 24, 1922	18.9	23,400	1950	Mar. 7, 1950	18.2	21,000
1923	Apr. 4, 1923	20.6	30,300	1951	Feb. 26, 1951	18.20	21,200
1924	Aug. 20, 1924	19.8	19,300	1952	Mar. 11, 1952	15.57	14,000
1925	June 17, 1925	19.7	26,600	1953	Feb. 20, 1953	21.61	33,900
1926	Mar. 1, 1926	12.9	8,320	1954	Aug. 18, 1954	8.52	4,980
1927	May 24, 1927	16.0	12,900	1955	Feb. 20, 1955	15.04	13,000
1928	Feb. 7, 1928		18,700	1956	Aug. 30, 1956	11.70	8,170
1929	Mar. 14, 1929	20.6	30,300	1957	May 31, 1957	8.73	5,140
1930	Feb. 20, 1930	12.9	8,320	1958	Feb. 24, 1958	10.8	a 5,000
1931	Sept. 25, 1931	11.0	6,090	1959	Mar. 21, 1959	17.58	19,200
1932	Mar. 26, 1932	15.0	11,400	1960	Jan. 13, Mar. 30, 1960	18.91	23,700
1933	May 21, 1933	13.5	9,130	1961	Sept. 14, 1961	14.24	10,400
1934	July 6, 1934	13.8	7,680	1962	Nov. 4, 1962	17.47	19,600
1935	Mar. 5, 1935	15.5	12,200	1963	Mar. 17, 1963	14.81	13,500
1936	Mar. 11, 1936	14.1	10,000	1964	June 20, 1964	11.25	8,340
1937	Mar. 6, 1937	20.1	27,500	1965	Sept. 22, 1965	20.98	23,300
1938	Feb. 6, 1938		13,600	1966	Feb. 9, 1966	16.82	17,900
1939	July 17, 1939	13.2	8,610	1967	Sept. 15, 1967	12.55	10,000
1940	June 23, 1940	18.3	17,600	1968	Sept. 24, 1968	14.00	12,100

a About.

APPLE RIVER BASIN

5-4188. Mill Creek near Scales Mound, Ill.

Location.--Lat 42°27'10", long 90°15'10", near center of sec. 2, T. 28 N., R. 2 E., at culvert on county road, 1 1/2 miles south of Scales Mound.

Drainage area.--0.795 sq mi.

Gage.--Crest-stage gage. Continuous stage record, data unpublished, since 1965.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1956	Aug. 31, 1956	14.40	-	1963	July 19, 1963	13.14	120
1957	July 8, 1957	17.58	729	1964	Apr. 3, 1964	13.03	118
1958	Aug. 20, 1958	14.57	287	1965	Sept. 20, 1965	18.30	862
1959	Mar. 6, 1959	12.91	100	1966	May 24, 1966	16.05	512
1960	May 6, 1960	13.60	170	1967	July 18, 1967	14.68	320
1961	Apr. 24, 1961	14.20	243	1968	Aug. 8, 1968	12.60	55
1962	Nov. 16, 1961	13.35	142				

APPLE RIVER BASIN

5-4190. Apple River near Hanover, Ill.

Location.--Lat 42°15'05", long 90°17'10", in NE 1/4 NW 1/4 sec. 16, T. 26 N., R. 2 E., 0.3 mile southwest of Hanover and 12 miles upstream from mouth.

Drainage area.--244 sq mi.

Gage.--Recording gage. Datum of gage is 591.00 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1945, nonrecording gage at site 3.5 miles downstream at datum 9.48 ft lower.

Stage-discharge relation.--Defined by current-meter measurements to maximum discharge.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1935	Mar. 5, 1935	18.0		3,970	1951	July 9, 1951	23.17		9,980
1936	Mar. 4, 1936	15.0		2,760	1952	Nov. 13, 1951	14.94		4,550
1937	Feb. 21, 1937	30.7		11,300	1953	Feb. 20, 1953	22.36		9,300
1938	Feb. 6, 1938	24.7		7,590	1954	Apr. 25, 1954	11.26		3,000
1939	Mar. 10, 1939	13.7		2,200	1955	Feb. 20, 1955	21.18		8,380
1940	June 23, 1940	16.4		3,170	1956	Feb. 25, 1956	12.46		3,480
1941	Mar. 21, 1941	19.5		4,700	1957	July 12, 1957	13.37		3,870
1942	Aug. 8, 1942	12.8		1,930	1958	Feb. 25, 1958	13.43		3,870
1943	Mar. 16, 1943	25.0		7,770	1959	Mar. 21, 1959	17.25		5,750
1944	Apr. 24, 1944	18.6		4,240	1960	May 7, 1960	24.70		11,300
1945	June 28, 1945	19.7		4,770	1961	Mar. 15, 1961	14.04		4,140
1946	Jan. 5, 1946	26.1	.8	12,000	1962	Nov. 16, 1961	17.20		5,750
1947	June 13, 1947	17.6		5,970	1963	Mar. 4, 1963	12.05		3,240
1948	Feb. 28, 1948	22.8		9,620	1964	Apr. 3, 1964	11.19		2,880
1949	Jan. 16, 1949	17.6	1.8		1965	Sept. 21, 1965	23.97		9,120
	Feb. 24, 1949	16.3		5,250	1966	Feb. 9, 1966	a 21.70		-
1950	Mar. 6, 1950	18.2	3.6	-		Feb. 9, 1966	-		7,500
	Sept. 21, 1950	16.1		5,150	1967	Mar. 24, 1967	15.27		4,740
					1968	Feb. 1, 1968	10.86		2,750

a Ice affected.

ROCK RIVER BASIN

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., 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.

Gage.--Recording gage. Datum of gage is 870.53 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 800 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1949	Mar. 27, 1949	4.11		246	1959	Apr. 2, 1959	6.54	0.5	-
1950	Mar. 27, 1950	6.56		949		Apr. 3, 1959	6.07		730
1951	Mar. 29, 1951	4.73		386	1960	Mar. 30, 1960	6.08		733
1952	Mar. 21, 1952	5.48		602	1961	Nov. 16, 1960	4.23		210
1953	Mar. 16, 1953	5.22		509	1962	Mar. 29, 1962	5.70		730
1954	May 31, 1954	2.91		80	1963	Mar. 24, 1963	5.28	0.5	350
1955	Oct. 4, 1954	4.58		332	1964	May 16, 1964	3.02		81
1956	Apr. 1, 1956	5.76		600	1965	Mar. 3, 1965		a	240
1957	June 12, 1957	3.46		112	1966	Feb. 9, 1966	6.89	1.3	850
1958	Nov. 9, 1957	2.57		37	1967	Mar. 12, 1967	4.45	0.8	130
	Feb. 25, 1958	2.99	0.5	-	1968	Apr. 21, 1968	3.08		77

a Maximum daily discharge.

ROCK RIVER BASIN

5-4233. South Branch Rock River Tributary near Waupun, Wis.

Location.--Lat 43°39'46", long 88°48'55", in S 1/2 sec. 22, T. 14 N., R. 14 E., at concrete culvert on country road, 4 1/2 miles northwest of Waupun.

Drainage area.--11.9 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 200 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Apr. 1959	14.42	575	1964	Apr. 2, 1964	10.38	25
1960	Apr. 17, 1960	11.63	285	1965	Sept. 20, 1965	10.39	25
1961	Mar. 14, 1961	12.12	400	1966	Feb. 8, 1966	12.15	405
1962	Mar. 29, 1962	12.7	530	1967	Mar. 27, 1967	10.76	90
1963	Mar. 26, 1963	10.46	40	1968	June 26, 1968	10.45	35

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., 100 ft upstream from bridge on U.S. Highway 151 at Waupun and 3 miles upstream from mouth.

Drainage area.--62.8 sq mi.

Gage.--Recording gage. Datum of gage is 863.46 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 950 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1949	Mar. 27, 1949	5.24	398	1959	Apr. 3, 1959	7.97	1,500
1950	Mar. 27, 1950	6.56	818	1960	Mar. 30, 1960	7.50	1,150
1951	Mar. 29, 1951	5.95	584	1961	Nov. 16, 1960	5.32	369
1952	Mar. 21, 1952	6.96	1,000	1962	Mar. 28, 1962	7.46	990
1953	Feb. 21, 1953	5.70	507	1963	Mar. 25, 1963	4.70	253
1954	July 7, 1954	4.00	168	1964	May 15, 1964	2.55	57
1955	Oct. 4, 1954	5.91	570	1965	Mar. 2, 1965	5.39	371
1956	Apr. 2, 1956	6.65	753	1966	Feb. 10, 1966	7.85	1,280
1957	June 11, 1957	3.92	170	1967	Mar. 27, 1967	3.78	189
1958	Aug. 12, 1958	2.56	51	1968	June 27, 1968	5.73	630

5-4238. East Branch Rock River Tributary near Slinger, Wis.

Location.--Lat 43°23'06", long 88°18'29", in S 1/2 sec. 26, T. 11 N., R. 18 E., at culvert on U. S. Highway 41, 4 miles northwest of Slinger.

Drainage area.--3.04 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert and indirect measurement at 190 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Sept. 19, 1960	12.07	190	1965	Apr. 6, 1965	12.33	215
1961	Mar. 22, 1961	10.93	85	1966	Feb. 9, 1966	11.75	160
1962	Mar. 29, 1962	11.47	130	1967	Mar. 10, 1967	11.36	120
1963	Mar. 23, 1963	11.66	150	1968	June 26, 1968	10.49	50
1964	July 18, 1964	12.07	190				

ROCK RIVER BASIN

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., 500 ft downstream from Kekoskee Dam, 0.5 mile upstream from Gill Creek, and 2 miles northwest of Mayville.

Drainage area.--179 sq mi.

Gage.--Recording gage. Datum of gage is 857.20 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 2,100 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1950	Mar. 29, 1950	8.80		2,160	1960	Apr. 1, 1960	8.44		1,880
1951	Mar. 30, 1951	7.94		1,530	1961	Mar. 25, 1961	5.61		590
1952	Mar. 21, 1952	8.74		2,080	1962	Mar. 29, 1962	9.25		2,540
1953	Feb. 21, 1953			a 700	1963	Mar. 27, 1963	6.68		958
1954	July 7, 1954	6.12		773	1964	Apr. 8, 1964	4.34		241
1955	Oct. 3, 1954	8.02		1,600	1965	Sept. 20, 1965	8.82		2,180
1956	Apr. 3, 1956	6.85		1,010	1966	Feb. 10, 1966	7.59		1,330
1957	Feb. 25, 1957	4.87		405	1967	Mar. 29, 1967	6.02		622
1958	Apr. 6, 1958	4.42		296	1968	June 27, 1968	5.73		630
1959	Apr. 3, 1959	11.02	0.7	3,400					

a About.

5-4243. Rock River Tributary near Watertown, Wis.

Location.--Lat 43°09'51", long 88°38'44", in 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.

Drainage area.--4.58 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 110 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1959	Apr. 1959	14.01	0.9	150	1964	July 18, 1964	10.95		15
1960	Mar. 30, 1960	13.79		230	1965	Sept. 9, 1965	12.11		40
1961	Mar. 22, 1961	12.60		95	1966	Feb. 8, 1966	12.65		95
1962	Mar. 29, 1962	13.04		140	1967	Mar. 10, 1967	11.89		45
1963	Apr. 19, 1963	11.33		25	1968	June 26, 1968	12.88		120

ROCK RIVER BASIN

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., at Watertown, 700 ft downstream from Milwaukee Street Bridge and 1.1 miles downstream from Silver Creek.

Drainage area--971 sq mi, approximately.

Gage--Recording gage. Datum of gage is 792.58 ft above mean sea level, datum of 1929. Prior to Sept. 26, 1933, nonrecording gage at site 700 ft upstream at different datum.

Stage-discharge relation--Defined by current-meter measurements below 5,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1932	Jan. 13, 1932	2.39		1,570	1950	July 20, 1950	4.43		2,430
1933	May 20, 1933	3.90		3,390					
1934	Apr. 4, 1934	3.08		1,010	1951	Apr. 29, 1951	5.10		3,340
1935	Mar. 20, 1935	3.94		1,980	1952	Mar. 24, 1952	5.69		4,180
					1953	Mar. 27, 1953	3.90		1,810
1936	Mar. 22, 1936	3.80		1,810	1954	July 7, 1954	3.94		1,640
1937	Feb. 21, 1937	4.50		2,800	1955	Aug. 2, 1955	4.13		2,090
1938	Feb. 6, 1938	5.31	1.5	-					
	Feb. 13, 1938	4.84		3,340	1956	May 13, 1956	3.87		1,770
1939	Apr. 5, 1939	3.57		1,460	1957	June 6, 1957	3.41		1,190
1940	June 28, 1940	4.76		2,800	1958	Mar. 8, 1958	2.86		667
					1959	Apr. 4, 1959	6.32		5,030
1941	Apr. 20, 1941	3.82		1,670	1960	May 7, 1960	5.09		3,330
1942	June 12, 1942	3.35		1,170					
1943	Mar. 16, 1943	5.36		3,760	1961	Mar. 28, 1961	3.77		1,690
1944	Mar. 14, 1944	4.18		2,000	1962	Apr. 5, 1962	4.87		2,800
1945	Dec. 21, 1944	3.58	1.0	-	1963	Mar. 29, 1963	3.35		1,240
	Mar. 25, 26, 1945	3.23		1,040	1964	Mar. 18, 1964	2.33		433
					1965	Sept. 21, 1965	4.44		2,140
1946	Mar. 14, 1946	5.27		3,600					
1947	Apr. 11, 1947	3.74		1,580	1966	Mar. 7, 1966	4.16		2,020
1948	Mar. 21, 1948	5.05		3,290	1967	Apr. 10, 1967	3.12		1,040
1949	Mar. 15, 1949	3.55		1,380	1968	June 29, 1968	3.43		1,310

5-4257. Robbins Creek near Columbus, Wis.

Location--Lat 43°20'48", long 89°01'55", in SE 1/4 sec. 11, T. 10 N., R. 12 E., at culvert on U.S. Highway 16, in Columbus.

Drainage area--8.54 sq mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 120 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Apr. 2, 1960	13.74	300	1965	Sept. 10, 1965	13.48	190
1961	Apr. 24, 1961	12.02	80	1966	May 23, 1966	13.42	265
1962	Mar. 26, 1962	12.60	165	1967	Jan. 25, 1967	12.50	85
1963	May 10, 1963	11.03	19	1968	June 26, 1968	13.25	160
1964	June 22, 1964	10.70	13				

ROCK RIVER BASIN

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., 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, approximately.

Gage.--Recording gage. Datum of gage is 779.40 ft above mean sea level, datum of 1929. Prior to July 28, 1966, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 6,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1932	Nov. 26, 1931	4.44	1,370	1951	Mar. 10, 1951	6.98	2,970
1933	Apr. 3, 1933	6.46	2,650	1952	Mar. 25, 1952	8.76	3,940
1934	Apr. 6, 1934	4.06	1,140	1953	Aug. 8, 1953	5.44	1,870
1935	Mar. 14, 1935	6.6	2,720	1954	July 10, 1954	5.75	2,070
				1955	Mar. 16, 1955	4.88	1,520
1936	Mar. 18, 1936	6.08	2,240				
1937	Mar. 9, 1937	7.24	3,110	1956	Apr. 3, 1956	5.20	1,700
1938	Sept. 22, 1938	7.6	3,370	1957	June 13, 1957	4.27	1,260
1939	Jan. 12, 1939	5.3	1,720	1958	Mar. 3, 1958	3.67	915
1940	June 28, 1940	5.26	1,840	1959	Apr. 6, 1959	11.15	6,140
				1960	Apr. 3, 1960	8.45	3,680
1941	Mar. 27, 1941	6.4	2,560				
1942	Mar. 22, 1942	4.16	1,180	1961	Mar. 27, 1961	5.28	1,690
1943	Mar. 22, 1943	8.2	3,780	1962	Apr. 1, 1962	8.88	3,990
1944	Mar. 18, 1944	6.5	2,640	1963	Mar. 28, 1963	5.49	1,720
1945	Mar. 16, 1945	5.00	1,690	1964	Apr. 8, 1964	2.75	410
				1965	Sept. 27, 1965	6.16	1,890
1946	Mar. 17, 1946	8.88	4,260				
1947	June 18, 1947	5.23	1,810	1966	Feb. 14, 1966	7.02	2,560
1948	Mar. 22, 1948	8.3	3,850	1967	Apr. 1, 1967	4.87	1,380
1949	Mar. 11, 12, 1949	5.29	1,870	1968	July 2, 1968	4.70	1,290
1950	July 24, 1950	7.78	3,310				

5-4261. Scuppernong Creek near Wales, Wis.

Location.--Lat 43°00'58", long 88°24'29", in NE 1/4 sec. 6, T. 6 N., R. 18 E., at culvert on U.S. Highway 18, 1.8 miles northwest of Wales.

Drainage area.--8.28 sq mi (includes 2.70 sq mi without surface drainage).

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Mar. 29, 1962	10.19	100	1966	Feb. 8, 1966	10.56	140
1963	-	a	<80	1967	-	a	<80
1964	-	a	<80	1968	Aug. 20, 1968	10.32	110
1965	May 23, 1965	10.07	85				

a Peak did not reach bottom of gage.

ROCK RIVER BASIN

5-4265. Whitewater Creek near Whitewater, Wis.

Location.--Lat 42°46'40", long 88°41'40", in NW 1/4 sec. 26, T. 4 N., R. 15 E., at downstream end of highway culvert, 3,000 ft downstream from Whitewater Lake, and 4 miles south of Whitewater.

Drainage area.--7.2 sq mi.

Gage.--Nonrecording gage and Cippoletti weir control. Altitude of gage is 865 ft (from topographic map). Prior to July 3, 1946, nonrecording gage 15 ft upstream from culvert with different control at datum 0.20 ft lower.

Stage-discharge relation.--Defined by current-meter measurements below 16 cfs.

Remarks.--Entire flow from 6.6 sq mi of drainage area impounded in Whitewater Lake Jan. 29 to Feb. 3, 1928, and since Jan. 29, 1947, but there may be considerable seepage from the lake.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1926	Apr. 9, 1926	1.45	12.8	1950	June 13, 1950	2.2	16.3
1927	May 28, 1927	2.0	24.8				
1928	July 3, 1928	1.2	8.4	1951	Feb. 26, 1951	1.54	8.20
				1952	Nov. 13, 1951	1.92	12.6
1947	Mar. 23, 1947	1.2	4.8		Mar. 18, 1952	1.92	12.6
1948	Mar. 19, 1948	1.74	10.5	1953	Feb. 20, 1953	1.54	8.29
1949	Feb. 24, 1949	1.8	11.2	1954	June 3, 1954	1.34	6.24

5-4270. Whitewater Creek at Whitewater, Wis.

Location.--Lat 42°49'00", long 88°42'30", in SW 1/4 sec. 10, T. 4 N., R. 15 E., at upstream side of highway bridge, 0.5 mile upstream from Tripp Lake pond and 1 mile southeast of Whitewater.

Drainage area.--16.7 sq mi.

Gage.--Nonrecording gage. Altitude of gage is 825 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 400 cfs.

Remarks.--Entire flow from 6.6 sq mi of drainage area impounded in Whitewater Lake Jan. 29 to Feb. 3, 1928, and since Jan. 29, 1947.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1927	May 28, 1927	4.3	445	1950	June 13, 1950	5.1	451
1928	July 3, 1928	3.1	176				
				1951	Mar. 30, 1951	2.43	98
1947	June 2, 1947	2.7	113	1952	Nov. 13, 1951	4.15	300
1948	Mar. 19, 1948	4.2	330	1953	Feb. 21, 1953	2.83	132
1949	Mar. 4, 1949	2.3	89	1954	July 7, 1954	2.8	127

5-4272. Allen Creek near Fort Atkinson, Wis.

Location.--Lat 42°53'54", long 88°51'35", in NE 1/4 sec. 17, T. 5 N., R. 14 E., at box culvert on State Highway 26, 2.5 miles southwest of Ft. Atkinson.

Drainage area.--10.2 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 200 cfs and extended above by indirect computations of flow through culvert.

5-4274. Allen Creek near Fort Atkinson, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice affect (feet)	Discharge (cfs)
1958	Mar. 1958	11.30		175	1964	Mar. 13, 1964	9.83		55
1959	Mar. 1959	12.95	2.5	100	1965	Sept. 20, 1965	9.99		65
1960	Mar. 29, 1960	13.24	0.1	380	1966	Feb. 8, 1966	10.35		90
1961	Sept. 14, 1961	10.49		100	1967	June 12, 1967	10.32		89
1962	Mar. 29, 1962	10.22		80	1968	June 26, 1968	9.93		62
1963	Mar. 19, 1963	12.40	0.9	200					

5-4272.5 Koshkonong Creek at Sun Prairie, Wis.

Location.--Lat 43°12'02", long 89°11'57", in SW 1/4 sec. 33, T. 9 N., R. 11 E., at culvert on U. S. Highway 151, in Sun Prairie.

Drainage area.--0.46 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 25, 1961	11.05	20	1965	Sept. 9, 1965	10.62	10
1962	Mar. 25, 1962	-	a 10	1966	May 23, 1966	10.25	2
1963	Mar. 19, 1963	10.53	8	1967	June 11, 1967	11.00	19
1964	Apr. 2, 1964	10.83	15	1968	June 26, 1968	11.1	22

a About.

5-4278. Token Creek near Madison, Wis.

Location.--Lat 43°10'52", long 89°19'28", in 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.

Drainage area.--24.2 sq mi.

Gage.--Crest-stage gage and seasonal recording gage. Prior to July 28, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 440 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 25, 1961	11.97	235	1965	Mar. 2, 1965	12.80	363
1962	Mar. 29, 1962	11.22	165	1966	Feb. 9, 1966	13.69	488
1963	June 5, 1963	11.05	155	1967	Jan. 25, 1967	13.52	464
1964	Mar. 13, 1964	9.85	90	1968	June 26, 1968	11.84	228

ROCK RIVER BASIN

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., just upstream from bridge on U.S. Highway 51, 400 ft downstream from outlet of Lake Waubesa and 1 mile southwest of McFarland.

Drainage area.--351 sq mi.

Gage.--Recording gage. 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, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 820 cfs.

Remarks.--Flow regulated by dams at outlets of Lake Mendota and Lake Waubesa.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1931	Oct. 8-16, 1930	-	211	1949	Apr. 1-3, 1949	4.6	350
1932	Nov. 24-29, 1931	-	353	1950	July 20-22, 1950	-	600
1933	May 21, 1933	5.89	655				
1934	Apr. 11, 12, 1934	3.94	223	1951	Apr. 30, 1951	4.70	416
1935	Apr. 12, 13, 1935	4.48	370	1952	Apr. 3, 1952	5.19	531
				1953	Mar. 16, 1953	5.03	496
1936	Apr. 7, 8, 10-20, 1936	5.00	347	1954	July 11, 1954	6.21	500
1937	Mar. 13-18, 21, 1937	6.10	672	1955	Apr. 25, 1955	4.59	391
1938	Feb. 18-25, 1938	5.81	508				
	Sept. 21-24, 1938	5.81	508	1956	May 18, 1956	4.36	338
1939	Oct. 1, 1938	5.46	439	1957	May 26, 1957	-	296
1940	Apr. 11, 1940	4.01	258		June 28-30, 1957	a 5.77	-
				1958	June 1, 1958	4.60	282
1941	Apr. 4-7, 1941	4.88	416	1959	Apr. 10, 1959	5.82	867
1942	June 10, 1942	4.53	350	1960	July 3, 1960	5.29	580
1943	Mar. 26-29, 1943	5.05	462				
1944	Apr. 3, 4, 1944	4.88	462	1961	Mar. 28, 1961	4.70	433
1945	Mar. 19-27, 1945	-	255	1962	Apr. 9, 1962	4.74	453
				1963	Apr. 3, 1963	4.65	425
1946	Mar. 19-21, 1946	5.56	613	1964	Nov. 30, 1963	3.99	258
	Mar. 24, 25, 1946	5.56	613	1965	Apr. 12, 1965	4.87	504
1947	Apr. 11, 1947	4.66	404				
1948	Mar. 23, 24, 1948	5.2	531	1966	Mar. 5, 1966	4.40	333
				1967	June 20, 1967	5.23	327
				1968	July 1, 1968	5.53	313

a Affected by backwater from weeds.

5-4301. Badfish Creek near Stoughton, Wis.

Location.--Lat 42°53'28", long 89°17'23", in SW 1/4 sec. 14, T. 5 N., R. 10 E., 10 ft downstream from highway bridge, 4 miles southwest of Stoughton, and 9 miles upstream from mouth.

Drainage area.--37.0 sq mi (includes 3.4 sq mi without surface drainage).

Gage.--Recording gage. Datum of gage is 873.2 ft above mean sea level, unadjusted. Prior to May 25, 1956, nonrecording gage at site 0.5 mile upstream at different datum. May 25, 1956, to June 21, 1956, nonrecording gage at present site and datum.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1956	Aug. 31, 1956	2.95	79	1962	Nov. 16, 1961	3.81	635
1957	June 11, 1957	2.84	68	1963	Mar. 17, 1963	2.52	366
1958	Feb. 24, 1958	2.15	252	1964	Mar. 13, 1964	2.00	238
1959	Apr. 1, 1959	3.87	682		Aug. 21, 1964	3.88	-
1960	Jan. 13, 1960	4.60	871	1965	Sept. 20, 1965	4.25	545
1961	Mar. 24, 1961	3.22	504	1966	Feb. 9, 1966	3.50	557
	Sept. 13, 1961	4.01	-				

ROCK RIVER BASIN

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., 0.3 mile downstream from highway bridge and 0.8 mile upstream from Bass Creek.

Drainage area.--3,300 sq mi, approximately.

Gage.--Recording gage. Datum of gage is 742.36 ft above mean sea level, datum of 1929. Prior to Aug. 21, 1932, nonrecording gage at same site. Prior to Oct. 1, 1933, at datum 1 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 12,000 cfs.

Historical data.--The flood of Mar. 23, 24, 1929, was higher than the flood of 1905, which was the previous high, by about .1 ft ---from the Janesville Gazette.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	Sept. 15, 1914	7.6		7,050	1941	Apr. 4, 1941	7.43		4,990
1915	Sept. 13, 1915	10.0		10,500	1942	Mar. 25, 1942	5.94		3,300
					1943	Mar. 16, 1943	11.04		11,100
1916	Apr. 1, 1916	9.14		9,270	1944	Mar. 14, 1944	9.19		7,620
1917	Apr. 1, 1917	9.0		9,050	1945	Mar. 21, 1945	6.31		3,830
1918	Mar. 24-26, 1918	10.46		12,700					
1919	Mar. 15, 1919	4.9		3,560	1946	Mar. 23, 1946	10.46		10,000
1920	Apr. 1, 1920	9.3		10,100	1947	Apr. 16, 1947	6.98		4,490
					1948	Mar. 19, 27, 1948	10.2		9,390
1921	May 2, 1921	8.28		8,200	1949	Mar. 5, 1949	7.79		5,520
1922	Apr. 11, 1922	8.65		8,640	1950	Apr. 4, 1950	8.2		6,350
1923	Apr. 12, 1923	9.55		10,400		July 26-28, 1950	8.2		6,350
1924	Aug. 20, 1924	7.7		7,100					
1925	Feb. 23, 1925	6.04		4,720	1951	May 4, 1951	9.16		7,850
					1952	Mar. 29, 1952	10.39		9,810
1926	Mar. 31, 1926	6.39		5,180	1953	Feb. 20, 1953	8.06		6,200
1927	Mar. 20, 1927	6.77		5,750	1954	July 14, 1954	6.93		4,620
1928	Apr. 14, 1928	7.42		6,670	1955	Oct. 11, 1954	6.82		4,480
1929	Mar. 23, 24, 1929	10.81		13,000					
1930	Mar. 4, 1930	5.96		4,620	1956	May 16, 1956	6.80		4,460
					1957	June 14, 1957	5.96		3,460
1931	Mar. 28, 1931	2.50		1,380	1958	Mar. 6, 1958	4.76		2,230
1932	Mar. 27, 1932	5.8		4,380	1959	Apr. 10, 1959	11.77		12,100
1933	May 20, 1933	9.03		8,990	1960	Apr. 6, 1960	10.00		8,840
1934	Apr. 11, 1934	5.36		2,890					
1935	Mar. 10, 1935	8.52		6,350	1961	Mar. 29, 1961	8.09		6,050
					1962	Apr. 5, 1962	10.13		9,060
1936	Mar. 26, 1936	7.07		4,600	1963	Apr. 1, 1963	6.56		4,070
1937	Feb. 21, 1937	12.77	3.0		1964	Mar. 14, 1964	5.09		2,530
	Mar. 4, 1937	10.23		8,510	1965	Sept. 26, 1965	8.11		5,990
1938	Jan. 24, 1938	10.44		9,190					
	Feb. 6, 1938	11.90	2.0		1966	Mar. 28, 1966	7.46		5,200
1939	Feb. 25, 1939	8.0		5,800	1967	June 17, 1967	7.39		5,060
1940	Aug. 26, 1940	10.80		10,700	1968	July 3, 1968	7.67		5,050

5-4314. Little Turtle Creek at Allens Grove, Wis.

Location.--Lat 42°34'46", long 88°45'33", in NE 1/4 sec. 6, T. 1 N., R. 15 E., at bridge on country road, 0.2 mile south of Allens Grove.

Drainage area.--41.8 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 1,420 cfs and extended above by step-backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Nov. 16, 1961	14.06	1,090	1966	Feb. 9, 1966	14.82	1,680
1963	Apr. 30, 1963	11.12	260	1967	Mar. 10, 1967	14.51	1,420
1964	June 22, 1964	12.90	570	1968	Aug. 4, 1968	11.27	275
1965	Mar. 1, 1965	14.13	1,130				

ROCK RIVER BASIN

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., 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.

Gage.--Recording gage. Datum of gage is 817.00 ft above mean sea level (levels by the Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements below 5,500 cfs and extended above by logarithmic plotting.

Historical.--Maximum stage known, 12.09 ft in February 1938, from floodmarks (discharge 10,700 cfs).

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1938	Feb. 1938	12.09		10,700	1954	Apr. 25, 1954	4.84		756
1940	Aug. 26, 1940	7.18		2,020	1955	Feb. 20, 1955	7.17		2,270
1941	Mar. 3, 1941	7.70	2.0	-	1956	June 21, 1956	4.5		590
	Mar. 21, 1941	5.97		1,120	1957	Feb. 10, 1957	6.20	1.3	800
1942	Sept. 3, 1941	7.10		1,950	1958	Feb. 26, 1958	5.31	1.6	320
1943	Mar. 16, 1943	9.29		3,950	1959	Mar. 15, 1959	8.32	2.6	-
1944	Mar. 14, 1944	8.34		2,980		Mar. 20, 1959	7.85		3,020
1945	Sept. 28, 1945	8.19		3,380	1960	Mar. 30, 1960	8.15		3,400
1946	Jan. 5, 1946	9.88		5,850	1961	Mar. 15, 1961	6.36		1,600
1947	Mar. 12, 1947	5.86		1,270	1962	Nov. 16, 1961	6.74		1,880
1948	Mar. 19, 1948	9.46		5,350	1963	Mar. 17, 1963	6.80	0.9	1,300
1949	Feb. 24, 1949	10.22		6,560	1964	Mar. 14, 1964	7.53		2,640
1950	Mar. 6, 1950	9.5		4,150	1965	Feb. 8, 1965	9.73	3.1	1,800
1951	Feb. 26, 1951	9.56	3.0	-	1966	Feb. 9, 1966	9.52	2.2	2,500
	Mar. 3, 1951	6.93		2,060	1967	Mar. 11, 1967	5.06	0.6	560
1952	Mar. 12, 1952	6.81		1,930	1968	Sept. 25, 1968	3.52		269
1953	Feb. 20, 1953	7.23		2,350					

5-4323. Rock Branch near Mineral Point, Wis.

Location.--Lat 42°50'02", long 90°09'15", in 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.

Drainage area.--4.83 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 300 cfs and indirect measurement at 1,160 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Apr. 1959	14.52	730	1964	Apr. 2, 1964	11.04	135
1960	Mar. 29, 1960	16.14	1,160	1965	Mar. 1, 1965	12.82	380
1961	Mar. 26, 1961	12.54	330	1966	Feb. 8, 1966	12.45	315
1962	Nov. 2, 1961	13.58	520	1967	Jan. 24, 1967	16.19	1,180
1963	Mar. 17, 1963	12.67	350	1968	Jan. 31, 1968	11.7	210

ROCK RIVER BASIN

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., in Darlington, 3 miles upstream from Otter Creek.Drainage area--274 sq mi.Gage--Recording gage. Datum of gage is 802.42 ft above mean sea level, datum of 1929. Prior to Dec. 19, 1939, nonrecording gage at same site and datum.Stage-discharge relation--Defined by current-meter measurements below 11,000 cfs and extended above on basis of slope-area measurement.Historical data--The flood of July 16, 1950, was the highest ever recorded---from the Republican Journal and the highest in history---from the Lafayette County News. Flood of Feb. 21, 1937, reached a stage of 17.6 ft, from floodmarks.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1940	Aug. 27, 1940	11.00		1,930	1955	Feb. 21, 1955	13.05		3,340
1941	Mar. 23, 1941	11.05		1,910	1956	Mar. 3, 1956	10.70	1.4	1,500
1942	Aug. 2, 1942	14.96		3,460	1957	Jan. 22, 1957	9.06		1,450
1943	Mar. 16, 1943	15.73		5,780	1958	Feb. 24, 1958	10.64	1.3	-
1944	Mar. 15, 1944	15.26		6,020		Feb. 25, 1958	10.05	0.3	1,600
1945	June 30, 1945	11.39		2,040	1959	Apr. 1, 1959	17.16		10,700
					1960	Mar. 30, 1960	16.06		7,770
1946	Jan. 6, 1946	17.18		8,300					
1947	June 14, 1947	14.05		3,860	1961	Mar. 26, 1961	12.58		2,930
1948	Feb. 28, 1948	17.65		9,540	1962	Nov. 3, 1961	12.59		2,940
1949	Mar. 5, 1949	14.70		5,240	1963	Mar. 17, 1963	15.38		6,300
1950	July 16, 1950	20.71		22,000	1964	Apr. 3, 1964	9.53		1,510
					1965	Mar. 2, 1965	14.70		4,540
1951	July 8, 1951	16.61		7,750					
1952	Mar. 19, 1952	13.38		3,650	1966	Feb. 9, 1966	16.00	1.5	5,000
1953	Feb. 20, 1953	17.47		8,380	1967	Jan. 25, 1967	16.47	1.2	6,000
1954	June 22, 1954	15.79		6,930	1968	Feb. 1, 1968	9.37		1,470

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., 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.Gage--Recording gage. Datum of gage is 796.8 ft above mean sea level (unadjusted). Prior to Dec. 20, 1939, nonrecording gage at bridge 50 ft upstream at same datum. Auxiliary staff gage 2.7 miles upstream at same datum since Apr. 6, 1949.Stage-discharge relation--Defined by current-meter measurements below 10,000 cfs.Historical data--The flood of Feb. 28, 1948, was the worst since 1915---according to the Blanchardville Blade.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1940	Aug. 27, 1940	9.76		965	1955	Oct. 11, 1954	11.29		1,830
						Feb. 21, 1955	13.55	2.5	-
1941	Mar. 23, 1941	11.34		1,310					
1942	Aug. 2, 1942	12.98		2,550	1956	Feb. 25, 1956	11.85	2.5	-
1943	Mar. 16, 1943	14.04		5,450		Mar. 7, 1956	9.80		1,070
1944	Mar. 15, 1944	14.00		5,440	1957	June 11, 1957	12.96		2,820
1945	June 29, 1945	11.24		1,690	1958	Feb. 25, 1958	11.90	0.9	1,700
					1959	Apr. 1, 1959	15.61		9,680
1946	Jan. 6, 1946	14.37		6,500	1960	Mar. 30, 1960	14.81		6,960
1947	June 13, 1947	12.12		2,980					
1948	Feb. 28, 1948	15.74		11,700	1961	Mar. 26, 1961	12.86		2,900
1949	Mar. 5, 1949	13.18		4,260	1962	Mar. 26, 1962	10.37		1,040
1950	July 17, 1950	15.73		7,150	1963	Mar. 18, 1963	13.29		3,600
					1964	Aug. 21, 1964	9.25		744
1951	Apr. 29, 1951	10.06		1,070	1965	Mar. 2, 1965	14.96	0.4	5,800
1952	Mar. 19, 1952	12.62		3,250					
1953	Feb. 20, 1953	15.25		8,750	1966	Feb. 9, 1966	14.71	1.0	4,500
1954	June 22, 1954	13.10		3,300	1967	Jan. 25, 1967	13.80		4,810
					1968	June 27, 1968	8.47		587

ROCK RIVER BASIN

5-4335. Yellowstone River near Blanchardville, Wis.

Location.--Lat 42°46'55", long 89°59'50", in NE 1/4 sec. 34, T. 4 N., R. 4 E., 0.6 mile upstream from highway bridge, 7 miles southwest of Blanchardville, and about 9 miles upstream from mouth.

Drainage area.--29.1 sq mi.

Gage.--Crest-stage gage. Altitude of gage is 840 ft (from topographic map). Prior to Oct. 1, 1965, recording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 870 cfs and extended above.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1955	Feb. 20, 1955	9.50		1,740	1962	Oct. 29, 1961	9.13		1,560
1956	Feb. 26, 1956	5.98		539	1963	Mar. 16, 1963	9.70	2.0	1,000
1957	June 11, 1957	9.65		1,820	1964	Aug. 20, 1964	9.30		1,650
1958	Feb. 24, 1958	8.55		1,320	1965	Sept. 4, 1965	9.64		1,820
1959	Apr. 1, 1959	10.00		2,000	1966	Feb. 8, 1966	9.51		1,750
1960	Mar. 29, 1960	10.47		2,240	1967	Jan. 24, 1967	10.25		2,140
1961	Feb. 22, 1961	8.53		1,310	1968	Jan. 31, 1968	7.69		982

5-4340. Pecatonica River at Dill, Wis.

Location.--Lat 42°35'10", long 89°49'30", in sec. 6, T. 1 N., R. 6 E., at Illinois Central Railroad bridge at Dill (Ramona Post Office), 1.3 miles downstream from East Branch, and 9 miles upstream from Wisconsin-Illinois State line.

Drainage area.--951 sq mi.

Gage.--Nonrecording gage. Datum of gage is 768.52 ft above mean sea level, unadjusted.

Stage-discharge relation.--Defined by current-meter measurements below 5,800 cfs and extended above on basis of velocity-area study.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1914	Sept. 15, 1914	11.9	5,080	1917	Mar. 15, 1917	12.7	5,520
1915	Sept. 14, 1915	15.0	6,830	1918	Mar. 28, 1918	13.4	5,970
1916	Mar. 27, 1916	19.1	13,100	1919	Mar. 17, 1919	13.7	6,770

5-4342. Skinner Creek Tributary near Monroe, Wis.

Location.--Lat 42°38'25", long 89°37'52", in S 1/2 sec. 14, T. 2 N., R. 7 E., at culvert on State Highway 69, 2.4 miles north of Monroe.

Drainage area.--0.48 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1959	Mar. 20, 1959	a 14.24	10	1964	Mar. 13, 1964	11.01	26
1960	Mar. 29, 1960	13.44	118	1965	Mar. 31, 1965	11.77	50
1961	Mar. 26, 1961	11.40	38	1966	Feb. 8, 1966	12.16	65
1962	Mar. 29, 1962	11.89	55	1967	Mar. 24, 1967	12.15	64
1963	Mar. 18, 1963	10.75	18	1968	Aug. 20, 1968	10.3	7

a Backwater from snow.

ROCK RIVER BASIN

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., 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.

Gage.--Recording gage. Datum of gage is 757.9 ft above mean sea level, datum of 1929. Prior to Jan. 6, 1940, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs.

Historical data.--From floodmarks the stage for the Mar. 27, 1916 flood was 20.8 ft (discharge 14,000).

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1916	Mar. 27, 1916	20.8		14,000	1954	June 25, 1954	13.12		4,180
1940	Aug. 26, 1940	13.11		3,680	1955	Feb. 21, 1955	13.40		a 3,700
						Feb. 24, 1955	16.00	4.0	-
1941	Mar. 24, 1941	14.88		5,820	1956	Feb. 29, 1956	12.0	2.7	2,280
1942	Aug. 4, 1942	15.66		5,660	1957	June 15, 1957	11.31		2,720
1943	Mar. 18, 1943	17.12		7,900	1958	Feb. 27, 1958	14.9	1.4	4,300
1944	Feb. 28, 1944	16.48		7,240	1959	Apr. 3, 1959	20.23		14,200
1945	June 28, 1945	13.67		4,700	1960	Apr. 1, 1960	19.55		12,800
1946	Jan. 7, 1946	18.77		11,000	1961	Mar. 28, 1961	15.14		5,570
1947	June 16, 1947	14.78		5,520	1962	Mar. 29, 1962	15.22		4,890
1948	Feb. 29, 1948	20.24		13,400	1963	Mar. 20, 1963	18.51		9,160
1949	Mar. 8, 1949	17.86	2.0	6,500	1964	Apr. 4, 1964	9.38		2,080
1950	July 19, 1950	-		9,380	1965	Mar. 4, 1965	19.94	1.0	11,300
1951	July 11, 1951	18.56		8,580	1966	Feb. 12, 1966	17.47	2.1	5,600
1952	Mar. 13, 1952	16.52		7,250	1967	Mar. 27, 1967	15.70		6,090
1953	Feb. 23, 1953	18.80		10,600	1968	Feb. 3, 1968	10.11	1.3	1,810

a Maximum daily, 1.2 ft backwater from ice.

5-4350. Cedar Creek near Winslow, Ill.

Location.--Lat 42°28'00", long 89°50'02", in SE 1/4 NE 1/4 sec. 32, T. 29 N., R. 6 E., at downstream side of highway bridge, 3 miles southwest of Winslow and 3 miles upstream from mouth.

Drainage area.--1.29 sq mi.

Gage.--Water-stage recorder and sheet-piling control. Datum of gage is 912.57 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1951 a	July 8, 1951	4.38	91	1961	Mar. 14, 1961	3.86	49
1952	June 13, 1952	4.66	101	1962	Oct. 29, 1961	3.41	56
1953	Feb. 20, 1953	4.68	103		Mar. 19, 1962	b 4.09	
1954	Feb. 8, 1954	b 2.70	-	1963	Mar. 4, 1963	b 3.76	
	June 3, 1954	2.18	12		Mar. 14, 1963		c 30
1955	Feb. 20, 1955	4.21	84	1964	May 8, 1964	2.64	29
				1965	Sept. 9, 1965	4.01	80
1956	Aug. 30, 1956	4.07	78				
1957	Jan. 21, 1957	b 2.84	-	1966	May 23, 1966	2.65	30
	Feb. 12, 1957	2.62	29	1967	Mar. 24, 1967	b 3.93	c 30
1958	Dec. 22, 1957	2.02	5.2	1968	Feb. 1, 1968		c 13
1959	Mar. 20, 1959	b 5.50	c 120				
1960	Mar. 29, 1960	4.75	86				

a Period March to September.

b Affected by ice.

c About.

ROCK RIVER BASIN

5-4355. Pecatonica River at Freeport, Ill.

Location.--Lat 42°18'13", long 89°36'57", in SE 1/4 sec. 30, T. 27 N., R. 8 E., on property of Public Service Co. of Northern Illinois in Freeport, 0.3 mile upstream from Stephenson Street Bridge and 5 miles upstream from Yellow Creek.

Drainage area.--1,330 sq mi, approximately.

Gage.--Recording gage. Datum of gage is 743.18 ft above mean sea level, datum of 1929. Prior to Jan. 15, 1935, nonrecording gage at site 0.9 mile downstream at datum 4.2 ft lower. Since July 13, 1943, auxiliary wire-weight gage 0.9 mile downstream at present datum.

Stage-discharge relation.--Defined by current-meter measurements to maximum discharge at present site, and below 17,000 cfs at former site.

Historical data.--Floods of March 1916 and 1929 were the greatest known in history of Pecatonica Valley.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	Sept. 16, 1914	18.4		13,000	1941	Mar. 25, 1941	12.8		4,840
1915	Feb. 27, 1915	17.3		9,070	1942	Aug. 3, 1942	13.8		5,820
					1943	Mar. 16, 1943	14.1		7,890
1916	Mar. 28, 1916	19.4		17,000	1944	Feb. 27, 1944	13.8		7,110
1917	Mar. 16, 1917	16.1		6,310	1945	June 29, 1945	12.7		5,170
1918	Feb. 15, 1918	16.4		6,880					
1919	Mar. 16, 1919	17.6		10,000	1946	Jan. 9, 1946	15.5		10,500
1920	Mar. 16, 1920	15.5		5,380	1947	June 13, 1947	12.3		4,570
					1948	Mar. 1, 1948	16.4		13,700
1921	Aug. 20, 1921	12.1		2,720	1949	Mar. 9, 1949	14.6		8,640
1922	Feb. 25, 1922	18.8		14,500	1950	July 22, 1950	14.5		8,450
1923	Apr. 6, 1923	18.4		13,100					
1924	Aug. 23, 1924	14.9		4,830	1951	July 12, 1951	14.59		7,820
1925	Feb. 24, 1925	14.3		4,180	1952	Mar. 14, 1952	14.13		7,220
					1953	Feb. 24, 1953	15.04		8,820
1926	June 14, 1926	15.1		4,040	1954	June 27, 1954	11.21		2,730
1927	Feb. 5, 1927	14.9		4,400	1955	Feb. 21, 1955	13.23		5,700
1928	Mar. 16, 1928	16.8		8,070					
1929	Mar. 16, 1929	19.8		18,400	1956	Feb. 28, 1956	10.10		2,600
1930	Feb. 24, 1930	16.3		6,150	1957	June 15, 1957	10.13		2,600
					1958	Mar. 1, 1958	a 12.21		3,000
1931	Sept. 27, 1931	11.0		2,280	1959	Apr. 5, 1959	16.90		12,000
1932	Mar. 29, 1932	16.3		5,650	1960	Apr. 2, 1960	16.35		11,000
1933	Apr. 3, 1933	17.4		8,600					
1934	Jan. 14, 1934	12.2		2,660	1961	Mar. 30, 1961	12.94		4,480
1935	Mar. 9, 1935	12.5	.5	4,600	1962	Mar. 30, 1962	13.55		5,400
					1963	Mar. 21, 1963	14.68		7,600
1936	Mar. 16, 1936	12.0		4,190	1964	Apr. 5, 1964	9.02		1,910
1937	Mar. 8, 1937	17.0	.4	15,700	1965	Mar. 6, 1965	14.25		6,700
1938	Feb. 9, 1938	16.3	.9	12,300					
1939	Mar. 15, 1939	11.4		3,350	1966	Feb. 14, 1966	14.23		6,220
1940	Aug. 29, 1940	10.7		3,080	1967	Mar. 29, 1967	13.29		4,800
					1968	Nov. 4, 1967	9.76		2,040
						Feb. 3, 1968	a 9.90		-

a Backwater from ice.

5-4359. Sugar River Tributary near Pine Bluff, Wis.

Location.--Lat 43°02'48", long 89°38'42", in SE 1/4 sec. 27, T. 7 N., R. 7 E., at culvert on County Trunk J, 1.1 miles southeast of Pine Bluff.

Drainage area.--7.46 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 400 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Mar. 24, 1961	14.68	420	1965	Mar. 1, 1965	14.03	330
1962	Mar. 25, 1962	11.30	55				
1963	Mar. 27, 1963	11.43	62	1966	Feb. 8, 1966	13.65	275
1964	June 22, 1964	11.19	48	1967	Jan. 24, 1967	15.02	460
				1968	Jan. 29, 1968	11.53	77

ROCK RIVER BASIN

5-4360. Mount Vernon Creek near Mount Vernon, Wis.

Location.--Lat 42°55'20", long 89°37'30", in SW 1/4 sec. 12, T. 5 N., R. 7 E., 400 ft downstream from bridge on State Highway 92, 0.9 mile upstream from West Branch Sugar River, and 2.5 miles southeast of Mount Vernon.

Drainage area.--16.1 sq mi.

Gage.--Recording gage. Altitude of gage is 875 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1954	June 22, 1954	5.98		602	1960	Jan. 12, 1960	7.00	0.8	-
1955	Feb. 20, 1955	5.83		471		Mar. 30, 1960	6.28		900
1956	Feb. 24, 1956	5.40		230	1961	Mar. 24, 1961	6.20		522
1957	June 13, 1957	5.12		164	1962	Nov. 16, 1961	3.95		128
1958	Feb. 24, 1958	5.90		528	1963	Mar. 16, 1963	5.54		263
1959	Apr. 1, 1959	6.32		940	1964	Mar. 13, 1964	2.54		71
					1965	Mar. 2, 1965	5.68		306

5-4362. Sugar River Tributary No. 2 near Brooklyn, Wis.

Location.--Lat 42°49'38", long 89°26'43", in NW 1/4 sec. 16, T. 4 N., R. 9 E., at culvert on State Highway 92, 4.3 miles west of Brooklyn.

Drainage area.--3.34 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 70 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1961	Oct. 31, 1960	13.20	105	1965	Mar. 31, 1965	15.06	270
1962	Oct. 30, 1961	13.46	120				
1963	Mar. 19, 1963	12.96	90	1966	Feb. 8, 1966	13.62	130
1964	Mar. 13, 1964	12.32	62	1967	June 16, 1967	14.61	210
				1968	June 26, 1968	12.72	80

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 downstream side of highway bridge, 2 miles upstream from Jordan Creek, and 2 miles southwest of Brodhead.

Drainage area.--527 sq mi.

Gage.--Recording gage. Datum of gage is 768.14 ft above mean sea level, datum of 1929. Prior to Oct. 17, 1938, nonrecording gage at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 8,000 cfs.

ROCK RIVER BASIN

5-4365. Sugar River near Brodhead, Wis.--Continued

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1914	Sept. 15, 1914	8.98		7,670	1942	Aug. 4, 1942	4.52		1,530
1915	Sept. 13, 1915	11.40		14,800	1943	Mar. 16, 1943	9.86	1.1	7,000
					1944	Mar. 15, 1944	7.92		4,640
1916	Mar. 26, 1916	9.3		8,500	1945	Mar. 6, 1945	3.40		1,060
1917	June 13, 1917	7.2		3,310					
1918	Mar. 14, 1918	8.3		5,900	1946	Jan. 6, 1946	9.06		7,640
1919	Mar. 16, 1919	9.2		9,100	1947	June 15, 1947	4.84		1,830
1920	Oct. 5, 1919	6.6		2,710	1948	Feb. 28, 1948	9.80		10,000
					1949	Mar. 6, 1949	7.63		4,380
1921	Sept. 24, 1921	3.9		1,110	1950	July 18, 1950	8.21		5,700
1922	Feb. 23, 1922	9.78		10,000					
1923	Apr. 4, 1923	8.7		7,580	1951	Feb. 28, 1951	5.68		2,400
1924	June 26, 1924	5.7		2,380	1952	Mar. 19, 1952	7.52		4,380
1925	Feb. 10, 1925	5.4		2,150	1953	Feb. 21, 1953	9.30		8,500
					1954	July 9, 1954	4.55		1,760
1926	Mar. 20, 1926	5.3		2,140	1955	Feb. 21, 1955	7.51		4,400
1927	Feb. 6, 1927	7.7		4,650					
1928	Mar. 13, 1928	7.6		4,440	1956	Feb. 26, 1956	3.40	1.0	-
1929	Mar. 14, 1929	10.0		11,400		Apr. 29, 1956	2.41		775
1930	Feb. 21, 1930	7.4		4,080	1957	June 14, 1957	2.55		826
					1958	Feb. 27, 1958	6.22		2,830
1931	Sept. 28, 1931	2.8		823	1959	Apr. 2, 1959	8.80		7,150
1932	Mar. 27, 1932	7.38		4,350	1960	Mar. 31, 1960	9.72		10,200
1933	Mar. 31, 1933	9.06		7,940					
1934	Apr. 4, 1934	3.22		943	1961	Mar. 26, 1961	6.74		3,340
1935	Mar. 12, 1935	5.58		2,180	1962	Mar. 26, 1962	6.30		2,810
					1963	Mar. 18, 1963	7.65		4,800
1936	Mar. 12, 1936	6.2		2,630	1964	Mar. 15, 1964	3.05		966
1937	Mar. 5, 1937	10.07	1.4	8,780	1965	Mar. 3, 1965	8.24	0.2	5,500
1938	Feb. 6, 1938	9.9	.9	7,290					
1939	Jan. 7, 1939	6.12		2,540	1966	Feb. 10, 1966	7.98		5,260
1940	Aug. 26, 1940	7.80		4,480	1967	Mar. 26, 1967	6.69		3,200
					1968	Nov. 4, 1967	4.08		1,430
1941	Mar. 23, 1941	6.60		2,990					

5-4370. Pecatonica River at Shirland, Ill.

Location.--Lat 42°26'10", long 89°11'50", in SW 1/4 sec. 11, T. 28 N., R. 11 E., at mouth of Sugar River, half a mile south of Shirland, and 7 1/2 miles upstream from mouth.

Drainage area.--2,540 sq mi, approximately.

Gage.--Nonrecording gage to 1958; crest-stage gage since Oct. 1, 1957. Datum of gage is 711.79 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs.

Remarks.--Gage readings furnished by Corps of Engineers.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	Aug. 28, 1940	13.5	7,900	1955	Feb. 22, 1955	13.50	8,960
1941	Mar. 25, 1941	13.1	7,800	1956	Mar. 1, 1956	10.20	a 3,600
1942	Aug. 7, 1942	11.7	6,290	1957	Feb. 14, 1957	a 9.56	-
1943	Mar. 18, 1943	15.4	12,600		June 17, 1957	8.52	3,490
1944	Mar. 17, 1944	14.9	11,600	1958	Mar. 1, 1958	12.31	a 3,800
1945	July 2, 1945	10.8	5,400	1959	Apr. 4, 1959	17.45	16,600
				1960	Apr. 3, 1960	17.08	16,000
1946	Jan. 8, 1946	16.8	15,400				
1947	Mar. 17, 1947	11.2	5,770	1961	Mar. 30, 1961	12.39	7,170
1948	Mar. 21, 1948	16.7	15,200	1962	Mar. 30, 1962	15.09	12,000
1949	Mar. 8, 1949	15.0	11,800	1963	Mar. 21, 1963	13.97	9,810
1950	July 23, 1950	13.4	7,930	1964	Apr. 6, 1964	8.79	3,720
				1965	Feb. 12, 1965	14.11	10,100
1951	July 15-16, 1951	13.33	8,600				
1952	Mar. 21, 1952	14.91	11,600	1966	Feb. 14, 1966	14.03	9,930
1953	Feb. 23, 1953	14.18	10,200	1967	Apr. 3, 1967	12.10	6,770
1954	June 6, 1954	9.90	4,610	1968	Nov. 4, 1967	9.87	4,590

a Ice affected.

ROCK RIVER BASIN

5-4372. East Fork Racoon Creek near Beloit, Wis.

Location.--Lat 42°30'44", long 89°06'40", 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.

Drainage area.--4.66 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 200 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Mar. 1958	10.90	35	1964	Mar. 13, 1964	11.24	52
1959	Mar. 19, 1959	13.83	400	1965	Mar. 31, 1965	12.57	225
1960	Jan. 14, 1960	12.85	250	1966	Feb. 9, 1966	11.93	120
1961	Sept. 14, 1961	12.03	130	1967	Mar. 23, 1967	11.61	85
1962	June 9, 1962	11.67	90	1968	June 26, 1968	10.86	25
1963	Mar. 19, 1963	11.86	110				

5-4375. Rock River at Rockton, Ill.

(Published as "below mouth of Pecatonica River at Rockton", 1903-9; as "at Rockford" 1914-19)

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 upstream side of bridge on State Highway 2 in Rockton and 0.8 mile downstream from Pecatonica River.

Drainage area.--6,290 sq mi, approximately. August 1914 to September 1919, 6,520 sq mi, approximately.

Gage.--Recording gage. Datum of gage is 707.94 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1906, nonrecording gage at same site at datum about 1 ft higher. Oct. 1, 1906, to Mar. 31, 1909, nonrecording gage at same site at datum about 2 ft higher. July 30, 1914, to Apr. 30, 1919, nonrecording gage at site at Rockford about 21 miles downstream at different datum.

Stage-discharge relation.--Defined by current-meter measurements below 25,000 cfs at Rockton, and below 31,000 cfs at Rockford.

Historical data.--Flood of February 1937 reached a stage of 14.6 (backwater from ice) from painted floodmark.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1904	Mar. 22, 1904	13.8	28,500	1949	Mar. 9, 1949	10.6	16,500
1905	Mar. 26, 1905	11.6	23,000	1950	Mar. 27, July 26, 1950	9.5	13,800
1906	Mar. 3, 1906	11.3	22,300	1951	Mar. 4, 1951	9.57	14,000
1907	Jan. 20, 1907	8.1	16,200	1952	Mar. 22, 1952	11.82	19,800
1908	Mar. 10, 1908	7.8	16,000	1953	Feb. 24, 1953	9.57	14,000
1915	Sept. 16, 1915	9.7	18,000	1954	July 11, 1954	6.36	7,450
1916	Mar. 30, 1916	13.1	32,500	1955	Feb. 20, 1955	8.91	12,400
1917	June 23, 1917	7.9	13,900	1956	May 11, 1956	5.92	6,340
1918	Mar. 14, 1918	11.4	24,600	1957	June 17, 1957	6.22	6,880
1919	Mar. 19, 1919	11.5	24,600	1958	Mar. 1, 1958	5.91	6,340
1940	Aug. 27, 1940	10.5	15,800	1959	Apr. 4, 1959	14.08	25,400
1941	Mar. 25, 1941	8.5	11,500	1960	Apr. 2, 1960	13.49	23,800
1942	Sept. 3, 1942	6.5	7,760	1961	Mar. 29, 1961	9.04	12,600
1943	Mar. 16, 1943	12.9	22,800	1962	Mar. 29-Apr. 1, 1962	11.32	18,000
1944	Mar. 15, 1944	10.9	17,300	1963	Mar. 20, 1963	8.83	12,100
1945	Sept. 28, 1945	6.8	8,020	1964	Mar. 14, 1964	6.52	7,490
1946	Jan. 9, 1946	12.2	20,900	1965	Sept. 27, 1965	9.84	14,500
1947	Apr. 11, 1947	7.4	9,200	1966	Feb. 13, 1966	9.17	13,000
1948	Mar. 20, 1948	13.8	25,700	1967	Mar. 28, 1967	7.70	9,800
				1968	July 1, 1968	6.89	8,190

ROCK RIVER BASIN

5-4385. Kishwaukee River at Belvidere, Ill.

Location.--Lat 42°15'20", long 88°51'45", near southeast corner of sec. 27, T. 44 N., R. 3 E., at Belvidere sewage-treatment plant, 1.2 miles downstream from State Street Bridge in Belvidere and 3.0 miles downstream from Piscasaw Creek.

Drainage area.--525 sq mi.

Gage.--Nonrecording gage. Datum of gage is 738.34 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark). Prior to Oct. 1, 1942, nonrecording gage at site 1.2 miles upstream at datum 3.99 ft higher.

Stage-discharge relation.--Defined by current-meter measurements below 9,000 cfs.

Historical.--Flood of January 24, 1938, reached a stage of 16.9 ft (backwater from ice), from information by sewage-plant employees.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	June 19, 1940	10.00	1,330	1955	Feb. 21, 1955	6.08	2,140
1941	Mar. 22, 1941	10.6	2,240	1956	Apr. 30, 1956	3.87	935
1942	Oct. 24, 1941	10.9	3,230	1957	May 21, 1957	4.23	1,070
1943	Mar. 16, 1943	13.1	10,300	1958	Feb. 28, 1958	4.56	1,270
1944	Mar. 15, 1944	12.6	9,200	1959	Mar. 20, 1959	8.30	3,330
1945	May 18, 1945	5.9	1,850	1960	Mar. 31, 1960	12.70	8,230
1946	Jan. 6, 1946	12.9	9,830	1961	Mar. 15, 1961	4.82	1,420
1947	June 2, 1947	6.2	2,170	1962	Mar. 21, 1962	9.50	4,600
1948	Mar. 20, 1948	12.0	8,000	1963	Mar. 17, 1963	3.57	955
1949	Feb. 25, 1949	10.5	5,750	1964	Apr. 6, 1964	3.97	1,090
1950	Apr. 26, 1950	10.1	5,240	1965	Feb. 8, 1965	a 10.31	3,300
1951	Feb. 26, 1951	11.00	6,410	1966	Feb. 10, 1966	10.50	5,450
1952	Mar. 12, 1952	11.24	6,690	1967	June 12, 1967	8.12	3,550
1953	June 12, 1953	5.58	1,850	1968	Aug. 17, 1968	5.91	2,150
1954	Apr. 26, 1954	8.00	3,290				

a Ice affected.

ILLINOIS RIVER BASIN

5-5280. Des Plaines River near Gurnee, Ill.

Location.--Lat 42°20'40", long 87°56'30", in SW 1/4 SW 1/4 sec. 27, T. 45 N., R. 11 E., at upstream side of bridge on State Highway 120, 2 1/2 miles southwest of Gurnee, 2 1/2 miles upstream from Bull Creek, and 6 miles downstream from Mill Creek.

Drainage area.--230 sq mi.

Gage.--Crest-stage gage. Datum of gage is 650.3 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark). Prior to May 26, 1946, nonrecording gage on downstream side of bridge at same datum. Recording gage from May 26, 1946, to Sept. 30, 1958, at same site and datum.

Stage-discharge relation.--Defined by current-meter measurements to maximum discharge.

Peak stages and discharges

Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Ice effect (feet)	Discharge (cfs)
1946	Jan. 11, 1946	7.9		1,580	1957	May 21, 1957	5.83		745
1947	June 3, 1947	5.8		931	1958	Mar. 3, 1958	6.20		845
1948	Mar. 21, 1948	9.2		2,620	1960	Apr. 3, 1960	10.64		4,070
1949	Feb. 25, 1949	7.4	.2	1,300	1961	Mar. 21, 1961	6.55		960
1950	Apr. 25-27, 1950	8.2		1,780	1962	Mar. 23, 1962	9.02		2,400
1951	Feb. 28, 1951	8.42		1,600	1963	Apr. 30, 1963	a 2.67		190
1952	Apr. 15, 1952	8.36		1,830	1964	-	b		700
1953	Mar. 16, 1953	3.97		391	1965	Apr. 6, 1965	7.86		1,520
1954	July 8, 1954	6.57		960	1966	Feb. 10, 1966	7.98		1,580
1955	Jan. 9, 1955	6.96		1,100	1967	June 10, 1967	7.87		1,520
1956	May 1-3, 1956	4.33		420	1968	Feb. 3, 1968	4.03		394

a From floodmark.

b Peak stage did not reach bottom of gage.

ILLINOIS RIVER BASIN

5-5443. Mukwonago River Tributary near Mukwonago, Wis.

Location.--Lat 42°50'58", long 88°19'02", in S 1/2 sec. 36, T. 5 N., R. 18 E., at culvert on State Highway 83, 1 1/2 miles southeast of Mukwonago.

Drainage area.--1.32 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 30 cfs and extended above by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1960	Mar. 30, 1960	10.80	36	1965	Sept. 9, 1965	10.07	14
1961	Mar. 21, 1961	10.00	13	1966	Feb. 9, 1966	10.47	24
1962	Mar. 27, 1962	10.03	14	1967	Jan. 24, 1967	10.66	30
1963	-	a	<12	1968	June 26, 1968	11.06	48
1964	Mar. 13, 1964	10.53	26				

a Peak did not reach bottom of gage.

5-5451. Sugar Creek at Elkhorn, Wis.

Location.--Lat 42°41'05", long 88°30'50", in SW 1/4 sec. 29, T. 3 N., R. 17 E., at culvert on State Highway 11, 2 miles northeast of Elkhorn.

Drainage area.--6.68 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Mar. 25, 1962	11.54	125	1966	Feb. 9, 1966	11.74	145
1963	Mar. 19, 1963	10.65	55	1967	June 10, 1967	11.48	122
1964	Apr. 5, 1964	10.35	37	1968	June 26, 1968	10.87	73
1965	Sept. 10, 1965	10.66	56				

5-5452. White River Tributary near Burlington, Wis.

Location.--Lat 42°41'03", long 88°21'37", on common line of secs. 27 and 34, T. 3 N., R. 18 E., at box culvert on State Highway 11, 4.5 miles west of Burlington.

Drainage area.--2.42 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect computations of flow through culvert and current-meter measurement at 127 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958	Oct. 1957	10.60	40	1964	June 23, 1964	10.82	50
1959	Mar. 1959	a 15.42	100	1965	Sept. 9, 1965	11.25	70
1960	July 3, 1960	13.46	235				
				1966	Oct. 21, 1965	13.35	225
1961	Sept. 14, 1961	11.42	80	1967	June 17, 1967	13.20	215
1962	Mar. 26, 1962	11.01	57	1968	July 18, 1968	11.03	58
1963	Mar. 19, 1963	10.82	50				

a Backwater from ice, 3.7 ft.

ILLINOIS RIVER BASIN

5-5453. White River near Burlington, Wis.

Location.--Lat 42°39'57", long 88°19'03", in NW 1/4 sec. 1, T. 2 N., R. 18 E., at bridge on State Highway 36, 2 1/4 miles southwest of Burlington.

Drainage area.--97.5 sq mi.

Gage.--Crest-stage gage and seasonal recording gage. Prior to Aug. 13, 1964, crest-stage gage only.

Stage-discharge relation.--Defined by current-meter measurements below 1,000 cfs.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1958		a	<275	1964	Mar. 13, 1964	10.58	350
1959	Mar. 1959	b 12.64	800	1965	Apr. 3, 1965	11.52	560
1960	Mar. 30, 1960	13.49	1,900				
				1966	Oct. 21, 1965	13.43	1,850
1961	Mar. 21, 1961	11.31	480	1967	June 17, 1967	13.20	1,690
1962	Mar. 26, 1962	11.89	790	1968	July 18, 1968	11.23	467
1963	Mar. 19, 1963	10.96	420				

a Peak did not reach bottom of gage.

b Backwater from ice, .7 ft.

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., 100 ft downstream from highway bridge, 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.

Gage.--Recording gage and concrete control. Datum of gage is 735.22 ft above mean sea level, datum of 1929. Prior to Sept. 1, 1965, nonrecording gage, at site 100 ft upstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 7,400 cfs.

Remarks.--Control is a broad-crested concrete dam. November 1941 to Apr. 13, 1949, 3 stop-log gates, and since Apr. 14, 1949, 3 lift gates, all 6 ft wide, in Wilmot Dam have been in operation; discharge through gates computed by weir and orifice formulas and added to flow over dam.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	Aug. 29, 1940	7.84	3,150	1955	June 13, 1955	6.54	1,810
1941	Mar. 23, 1941	7.28	2,130	1956	May 12, 1956	6.35	1,680
1942	Mar. 18, 1942	6.92	1,610	1957	June 15, 1957	5.95	1,350
1943	Mar. 17, 1943	8.7	5,700	1958	Feb. 28, 1958	5.70	1,010
1944	Mar. 16, 1944	7.6	3,100	1959	Mar. 21, 1959	7.28	3,010
1945	June 29, 1945	6.81	2,130	1960	Mar. 31, 1960	9.25	7,520
1946	Jan. 7, 1946	7.90	4,170	1961	Mar. 23, 1961	6.77	2,220
1947	June 3, 1947	6.9	2,070	1962	Mar. 27, 1962	7.92	4,060
1948	Mar. 21, 1948	8.3	5,000	1963	Mar. 26, 1963	5.86	1,290
1949	Mar. 10, 1949	7.01	2,400	1964	Apr. 7, 1964	5.82	1,260
1950	Mar. 29, 1950	7.00	2,400	1965	Apr. 7, 1965	7.28	2,880
1951	Mar. 1, 1951	7.59	3,660	1966	Feb. 11, 1966	7.54	3,310
1952	Mar. 20, 1952	7.73	4,010	1967	June 14, 1967	6.91	2,380
1953	Feb. 24, 1953	6.60	1,780	1968	July 1, 1968	6.60	1,990
1954	June 5, 1954	6.70	2,050				

ILLINOIS RIVER BASIN

5-5481.5 North Branch Nippersink Creek near Genoa City, Wis.

Location.--Lat 42°30'15", long 88°23'01", in E 1/2 sec. 32, T. 1 N., R. 18 E., at bridge on County Trunk B, 3 miles west of Genoa City.

Drainage area.--13.8 sq mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 25 cfs and extended above by step-backwater computations.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1962	Mar. 25, 1962	10.69	112	1966	Feb. 9, 1966	11.34	175
1963	-	a	<60	1967	June 17, 1967	12.05	255
1964	-	a	<60	1968	-	a	<60
1965	Mar. 31, 1965	10.77	120				

a Peak did not reach bottom of gage.

5-5490. Boone Creek near McHenry, Ill.

Location.--Lat 42°19'15", long 88°18'45", in W 1/2 sec. 4, T. 44 N., R. 8 E., on upstream side of bridge on Bull Valley Road, 0.5 mile west of Clemens School, 2.5 miles southwest of McHenry, and at mile 4.84.

Drainage area.--15.3 sq mi.

Gage.--Recording gage and concrete control. Datum of gage is 769.63 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1949	Feb. 24, 1949	4.52	246	1960	Mar. 29, 1960	3.30	149
1950	Apr. 25, 1950	3.80	190				
				1961	Oct. 31, 1960	1.86	64
1951	July 9, 1951	2.78	118	1962	Jan. 23, 1962	a 2.66	-
1952	Mar. 11, 1952	3.81	186		Mar. 19, 1962	2.15	88
1953	July 4, 1953	1.72	52	1963	Apr. 30, 1963	b 4.73	228
1954	Apr. 25, 1954	3.71	167	1964	July 18, 1964	2.12	81
1955	Mar. 3, 1955	3.97	187	1965	Feb. 7, 1965	a 4.24	175
1956	Feb. 24, 1956	1.78	59	1966	Feb. 10, 1966	3.86	178
1957	July 30, 1957	2.38	90	1967	June 11, 1967	2.67	112
1958	Nov. 19, 1957	1.27	34	1968	Aug. 17, 1968	1.43	45
1959	Feb. 23, 1959	3.11	137				

a Ice affected.

b Result of dam failure.

ILLINOIS RIVER BASIN

5-5500. Fox River at Algonquin, Ill.

Location.--Lat 42°09'59", long 88°17'25", in NW 1/4 sec. 34, T. 43 N., R. 8 E., 20 ft upstream from Chicago Street Bridge at Algonquin, 400 ft upstream from Crystal Creek, and at mile 82.62.

Drainage area.--1,402 sq mi.

Gage.--Recording gage and concrete dam. Datum of gage is 729.48 ft above mean sea level, datum of 1929. Prior to Oct. 20, 1933, nonrecording gage at site 20 ft downstream at same datum.

Stage-discharge relation.--Controlled by concrete dam. Defined by current-meter measurements.

Peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1916	Apr. 1, 1916	4.50	5,850	1943	Mar. 20, 1943	3.75	4,640
1917	Mar. 28, 1917	2.80	2,260	1944	Mar. 18, 1944	3.46	3,970
1918	Mar. 6, 1918	4.4	5,750	1945	May 17, 1945	2.58	2,300
1919	Mar. 21, 1919	4.00	4,800				
1920	Mar. 30, 1920	4.16	5,050	1946	Mar. 18, 1946	3.35	3,760
				1947	June 7, 1947	2.50	2,500
1921	May 1, 1921	4.15	4,950	1948	Mar. 24, 1948	3.48	4,680
1922	Apr. 15, 1922	3.04	2,820	1949	Mar. 9, 1949	2.52	2,580
1923	Apr. 13, 1923	3.3	3,280	1950	Apr. 29, 1950	2.87	3,310
1924	Apr. 4, Aug. 22, 1924	3.50	3,660				
1925	Feb. 26, 1925	2.44	1,880	1951	Mar. 7-9, 1951	-	3,900
				1952	Mar. 24, 25, 1952	-	4,400
1926	Apr. 22, 1926	2.92	2,620	1953	Mar. 2, 1953	2.22	1,870
1927	Feb. 16, 1927	3.01	2,720	1954	Apr. 28, 1954	2.46	2,400
1928	Apr. 10, 1928	3.17	3,080	1955	June 15, 1955	2.49	2,470
1929	Mar. 16, 21, 1929	4.37	5,450				
1930	Feb. 27 to Mar. 1, 1930	2.69	2,260	1956	May 15, 1956	2.17	1,770
				1957	May 20, 1957	2.26	1,960
1931	Mar. 30, 1931	1.67	755	1958	Mar. 9, 1958	1.86	1,260
1932	Apr. 2, 1932	2.47	1,880	1959	Apr. 3, 1959	2.83	3,340
1933	May 14, 1933	3.37	3,470	1960	Apr. 6, 1960	4.01	6,610
1934	Nov. 5, 1933	1.92	1,090				
1935	Mar. 13, 1935	3.07	2,840	1961	Mar. 19, 1961	2.53	2,760
				1962	Mar. 31, 1962	3.37	4,870
1936	Mar. 16, 1936	3.02	2,750	1963	Mar. 22, 1963	2.00	1,550
1937	Mar. 8, 1937	3.32	3,300	1964	Apr. 10, 1964	2.09	1,630
1938	July 5, 1938	4.42	5,630	1965	Apr. 13, 1965	2.98	3,910
1939	Mar. 20, 1939	2.37	1,760				
1940	Sept. 2, 1940	2.86	2,540	1966	Feb. 16, 1966	2.86	3,600
				1967	June 17, 1967	3.00	3,960
1941	Mar. 26, 1941	2.90	2,620	1968	July 3, 1968	2.36	2,340
1942	Mar. 20, 1942	2.81	2,470				

APPENDIX III
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q ₂	Q ₅	Q ₁₀	Q ₂₅	Q ₅₀	Q ₁₀₀
4-0244	Stoney Brook near Superior, Wis.	1959-68	150	290	385	510	---	---
4-0252	Pearson Creek near Maple, Wis.	1957-68	470	1,070	1,610	2,600	---	---
4-0255	Bois Brule River at Brule, Wis.	1943-68	680	1,000	1,220	1,510	1,740	1,970
4-0262	Sand River Tributary near Red Cliff, Wis.	1959-68	67	150	260	510	---	---
4-0263	Sioux River near Washburn, Wis.	1959-68	500	930	1,340	2,080	---	---
4-0264	Spillerberg Creek near Cayuga, Wis.	1958-68	60	90	110	150	---	---
4-0265	Bad River at Mellen, Wis.	1949-55	2,530	3,560	4,160	4,950	---	---
4-0267	Trout Brook Tributary near Marengo, Wis.	1960-68	143	238	300	375	---	---
4-0270	Bad River near Odanah, Wis.	1915-21 1949-68	8,240	13,200	17,300	23,700	29,300	35,800
4-0272	Pearl Creek at Grandview, Wis.	1960-68	195	265	300	336	---	---
4-0275	White River near Ashland, Wis.	1949-68	2,890	4,270	5,090	6,020	6,700	---
4-0280	Montreal River at Ironwood, Mich.	1918-22, 1925 1950-54, 1960	1,030	1,700	2,200	2,830	---	---
4-0290	West Branch Montreal River at Gile, Wis.	1918-25 1943-47	930	1,240	1,400	1,580	---	---
4-0297	Boomer Creek near Saxon, Wis.	1958-68	110	220	300	410	---	---
4-0300	Montreal River near Saxon, Wis.	1939-68	3,590	4,760	5,460	6,260	6,850	7,400
4-0310	Black River near Bessemer, Mich.	1955-68	3,280	5,570	7,840	11,900	---	---
4-0315	Presque Isle River at Marenisco, Mich.	1945-68	1,200	1,840	2,330	3,020	3,590	4,200
4-0320	Presque Isle River near Tula, Mich.	1945-68	2,450	3,360	3,900	4,540	4,980	5,390
4-0330	Middle Branch Ontonagon River near Paulding, Mich.	1943-68	940	1,340	1,600	1,920	2,160	2,390
4-0350	East Branch Ontonagon River near Mass, Mich.	1943-68	2,880	3,810	4,300	4,820	5,150	5,430
4-0405	Sturgeon River near Sidnaw, Mich.	1913-15 1943-68	2,380	3,190	3,640	4,130	4,440	4,700
4-0425	Otter River near Elo, Mich.	1943-68	2,810	3,830	4,230	5,100	5,560	5,980
4-0599	Allen Creek Tributary near Alvin, Wis.	1960-68	7	9	10	11	---	---
4-0610	Brule River near Florence, Wis.	1914-15 1945-68	1,480	2,210	2,770	3,590	4,270	5,030
4-0615	Paint River at Crystal Falls, Mich.	1945-68	4,390	6,390	7,960	10,250	12,200	14,360
4-0630	Menominee River near Florence, Wis.	1915-68	7,950	11,500	13,900	16,800	18,900	21,000
4-0638	Woods Creek near Fence, Wis.	1958-68	160	280	410	660	---	---
4-0640	Pine River near Florence, Wis.	1916-23	2,490	3,320	3,900	4,650	---	---
4-0645	Pine River at Pine River Powerplant near Florence, Wis.	1924-68	1,880	2,590	3,070	3,700	4,190	4,690
4-0650	Menominee River near Iron Mountain, Mich.	1903-14	12,000	13,880	15,000	16,000	---	---
4-0653	West Branch Sturgeon River near Randville, Mich.	1959-68	280	365	440	550	---	---
4-0655	Sturgeon River near Foster City, Mich.	1955-68	1,080	1,490	1,840	2,370	---	---

APPENDIX III--continued
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q ₂	Q ₅	Q ₁₀	Q ₂₅	Q ₅₀	Q ₁₀₀
4-0660	Menominee River near Pembine, Wis.	1950-68	13,700	19,900	24,200	29,600	33,800	---
4-0663	Cole Creek near Dunbar, Wis.	1960-68	20	30	40	55	---	---
4-0665	Pike River at Amberg, Wis.	1914-68	1,000	1,390	1,670	2,050	2,340	2,650
4-0667	McCall Creek at Wausaukee, Wis.	1959-68	12	28	41	58	---	---
4-0670	Menominee River below Koss, Mich.	1908, 1914-68	13,100	18,400	21,600	25,300	27,800	30,200
4-0675	Menominee River near McAllister, Wis.	1945-68	14,500	20,600	25,000	31,000	35,900	40,900
4-0678	Armstrong Creek near Armstrong Creek, Wis.	1958-68	84	125	150	195	---	---
4-0680	Peshtigo River at High Falls near Crivitz, Wis.	1913-56	2,000	2,600	2,980	3,450	3,790	4,120
4-0695	Peshtigo River at Peshtigo, Wis.	1954-68	3,970	5,460	6,800	8,970	---	---
4-0710	Oconto River near Gillett, Wis.	1907-08 1914-68	2,540	3,700	4,480	5,460	6,200	6,930
4-0717	North Branch Little River near Coleman, Wis.	1958-68	210	340	440	590	---	---
4-0718	Pensaukee River near Pulaski, Wis.	1961-68	620	995	1,300	1,765	---	---
4-0734	Bird Creek at Wautoma, Wis.	1959-68	80	110	130	160	---	---
4-0735	Fox River at Berlin, Wis.	1898-1968	3,550	4,870	5,660	6,570	7,200	7,780
4-0747	Hunting River near Elcho, Wis.	1958-68	77	113	144	190	---	---
4-0752	Evergreen Creek near Langlade, Wis.	1959-68	42	58	70	85	---	---
4-0755	Wolf River above West Branch Wolf River, Wis.	1928-62	1,720	2,100	2,370	2,730	3,010	3,300
4-0770	Wolf River at Keshena Falls, Wis.	1908, 1912-68	2,400	3,070	3,550	4,190	4,690	5,200
4-0785	Embarrass River near Embarrass, Wis.	1920-68	2,230	3,460	4,390	5,690	6,740	7,870
4-0790	Wolf River at New London, Wis.	1896-1968	6,340	9,150	11,000	13,300	15,000	16,600
4-0797	Spaulding Creek near Big Falls, Wis.	1959-68	47	69	88	115	---	---
4-0800	Little Wolf River at Royalton, Wis.	1914-68	3,260	4,950	5,960	7,100	7,860	8,540
4-0810	Waupaca River near Waupaca, Wis.	1917-68	1,100	1,600	1,880	2,200	2,400	2,600
4-0810.1	Waupaca River Tributary near Waupaca, Wis.	1960-68	46	77	97	120	---	---
4-0819	Sawyer Creek at Oshkosh, Wis.	1961-68	338	680	993	1,500	---	---
4-0830	West Branch Fond du Lac River at Fond du Lac, Wis.	1939-54	840	1,140	1,280	1,420	---	---
4-0834	East Branch Fond du Lac River Tributary near Eden, Wis.	1961-68	39	58	72	90	---	---
4-0835	East Branch Fond du Lac River near Fond du Lac, Wis.	1939-54	1,000	1,550	1,860	2,130	---	---
4-0845	Fox River at Rapide Croche Dam near Wrightstown, Wis.	1918-68	12,500	17,500	20,300	23,000	24,800	26,300
4-0850.3	Apple Creek near Kaukauna, Wis.	1960-68	850	1,150	1,290	1,430	---	---
4-0851	East River Tributary near Greenleaf, Wis.	1958-68	225	425	580	800	---	---

APPENDIX III--continued
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q ₂	Q ₅	Q ₁₀	Q ₂₅	Q ₅₀	Q ₁₀₀
4-0852	Kewaunee River near Kewaunee, Wis.	1958-68	2,450	4,015	5,230	6,965	---	---
4-0853	Neshota River Tributary near Denmark, Wis.	1959-68	235	390	470	550	---	---
4-0854	Killsnake River near Chilton, Wis.	1961-68	515	1,100	1,550	2,160	---	---
4-0857	Sheboygan River Tributary near Plymouth, Wis.	1959-68	110	165	208	270	---	---
4-0860	Sheboygan River at Sheboygan, Wis.	1917-23 1951-68	3,520	5,350	6,300	7,230	7,770	---
4-0864	Milwaukee River Tributary near Fredonia, Wis.	1962-68	26	60	96	155	---	---
4-0865	Cedar Creek near Cedarburg, Wis.	1931-68	990	2,000	2,840	4,110	5,190	6,380
4-0870	Milwaukee River at Milwaukee, Wis.	1915-68	4,530	7,110	8,890	11,200	12,900	14,600
4-0870.5	Little Menomonee River near Freistadt, Wis.	1958-68	156	255	330	430	---	---
4-0871	Honey Creek at Milwaukee, Wis.	1959-68	208	253	278	305	---	---
4-0871.2	Menomonee River at Wauwatosa, Wis.	1962-68	1,920	3,400	4,800	7,200	---	---
4-0872	Oak Creek near South Milwaukee, Wis.	1958-68	140	290	480	850	---	---
4-0872.3	West Branch Root River Canal Tributary near North Cape, Wis.	1962-68	67	105	133	171	---	---
4-0872.5	Pike Creek near Kenosha, Wis.	1960-68	60	115	167	253	---	---
4-0873	Lake Michigan Tributary at Winthrop Harbor, Ill.	1956-68	63	3	114	142	---	---
5-2860	Rum River near St. Francis, Minn.	1930-68	3,890	6,400	7,920	9,620	10,700	11,700
5-3325	Namekagon River near Trego, Wis.	1914-68	1,120	1,580	1,980	2,620	3,200	3,900
5-3331	Little Frog Creek near Minong, Wis.	1961-68	190	360	510	740	---	---
5-3335	St. Croix River near Danbury, Wis.	1914-68	4,530	6,320	7,580	9,250	10,500	11,900
5-3341	Sawyer Creek near Shell Lake, Wis.	1960-68	52	84	105	135	---	---
5-3353.8	Bashaw Brook near Shell Lake, Wis.	1959-68	100	210	330	585	---	---
5-3360	St. Croix River near Grantsburg, Wis.	1923-68	10,300	14,700	17,700	21,500	24,400	27,300
5-3385	Snake River near Pine City, Minn.	1914-17 1950 1952-68	5,110	8,350	10,400	13,000	14,700	---
5-3395	St. Croix River near Rush City, Minn.	1923-61	19,600	30,800	38,100	46,900	53,100	59,100
5-3400	Sunrise River near Stacy, Minn.	1949-65	275	420	520	650	760	---
5-3403	Trade River near Frederic, Wis.	1958-68	110	245	395	700	---	---
5-3405	St. Croix River at St. Croix Falls, Wis.	1902-05 1910-68	28,500	38,700	44,600	51,000	55,300	59,100
5-3415	Apple River near Somerset, Wis.	1905-68	1,180	1,690	2,020	2,410	2,700	2,980
5-3417	Willow River Tributary near New Richmond, Wis.	1959-68	50	100	135	170	---	---
5-3419	Kinnickinnic River Tributary at River Falls, Wis.	1959-68	230	695	1,410	3,345	---	---
5-3420	Kinnickinnic River near River Falls, Wis.	1917-21	2,700	4,500	5,400	---	---	---

APPENDIX III--continued
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q2	Q5	Q10	Q25	Q50	Q100
5-3466	Little Trimbelle Creek near Bay City, Wis.	1961-68	980	1,780	2,390	3,240	---	---
5-3560	Chippewa River at Bishops Bridge near Winter, Wis.	1912-68	2,900	4,690	5,850	7,250	8,240	9,170
5-3562	Kenyon Creek near Radisson, Wis.	1960-68	140	235	310	430	---	---
5-3565	Chippewa River near Bruce, Wis.	1914-68	9,050	13,100	15,800	19,100	21,500	23,900
5-3575	Flambeau River at Flambeau Flowage, Wis.	1928-61	1,490	2,450	3,130	4,030	4,730	5,440
5-3580	Flambeau River near Butternut, Wis.	1915-38	1,870	3,060	3,900	5,040	5,900	6,800
5-3585	Flambeau River at Babb's Island near Winter, Wis.	1930-68	3,980	6,060	7,410	9,060	10,200	11,400
5-3592	South Fork Flambeau River Tributary near Park Falls, Wis.	1960-68	16	29	40	60	---	---
5-3595	South Fork Flambeau River near Phillips, Wis.	1930-68	4,190	5,900	6,980	8,260	9,160	10,000
5-3596	Price Creek near Phillips, Wis.	1958-68	120	200	265	380	---	---
5-3600	Flambeau River near Ladysmith, Wis.	1903-06 1914-61	9,290	12,900	15,200	18,200	20,300	22,500
5-3602	Flambeau River Tributary at Ladysmith, Wis.	1960-68	11	14	15	17	---	---
5-3605	Flambeau River near Bruce, Wis.	1952-68	9,430	13,400	15,900	18,900	---	---
5-3610	Chippewa River near Holcombe, Wis.	1944-49	21,300	29,300	34,000	39,500	---	---
5-3614	Hay Creek near Prentice, Wis.	1961-68	480	860	1,120	1,450	---	---
5-3615	South Fork Jump River near Omega, Wis.	1944-54	4,640	6,340	7,560	9,200	---	---
5-3620	Jump River at Sheldon, Wis.	1916-68	8,000	12,500	16,000	20,900	24,900	29,300
5-3625	Chippewa River at Holcombe, Wis.	1943-49	33,400	47,600	56,900	68,600	---	---
5-3640	Yellow River at Cadott, Wis.	1943-68	4,650	7,780	9,860	12,400	14,150	15,840
5-3641	Seth Creek near Cadott, Wis.	1962-68	274	335	365	395	---	---
5-3645	Duncan Creek at Bloomer, Wis.	1945-51 1958-68	960	1,300	1,570	1,970	2,320	---
5-3650	Duncan Creek at Chippewa Falls, Wis.	1943-55	2,000	2,830	3,410	4,170	---	---
5-3655	Chippewa River at Chippewa Falls, Wis.	1888-1968	37,800	54,600	65,100	77,800	89,000	100,000
5-3657	Goggle-eye Creek near Thorp, Wis.	1958-68	505	1,070	1,650	2,720	---	---
5-3660	Eau Claire River near Augusta, Wis.	1915-26	5,700	7,090	7,950	8,970	---	---
5-3665	Eau Claire River near Fall Creek, Wis.	1943-55 1958-68	8,500	13,800	17,400	21,900	25,200	---
5-3670	Chippewa River at Eau Claire, Wis.	1903-08 1944-54	40,600	56,000	66,000	79,000	88,000	---
5-3670.3	Willow Creek near Eau Claire, Wis.	1958-68	180	245	295	360	---	---
5-3674.8	East Branch Pine Creek Tributary near Dallas, Wis.	1960-68	165	370	565	874	---	---
5-3675	Red Cedar River near Colfax, Wis.	1914-68	5,560	9,170	11,800	15,500	18,400	21,500
5-3677	Lightning Creek at Almena, Wis.	1958-68	600	1,120	1,500	1,910	---	---
5-3680	Hay River at Wheeler, Wis.	1951-68	4,000	7,450	9,950	13,200	15,600	---

APPENDIX III--continued
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q ₂	Q ₅	Q ₁₀	Q ₂₅	Q ₅₀	Q ₁₀₀
5-3690	Red Cedar River at Menomonie, Wis.	1908 1913-23 1925-68	9,030	15,000	19,500	25,800	30,900	36,300
5-3695	Chippewa River at Durand, Wis.	1884 1929-68	42,600	67,800	88,000	117,900	143,600	172,300
5-3698	Eau Galle River Tributary near Hersey, Wis.	1960-68	45	78	107	155	---	---
5-3700	Eau Galle River at Spring Valley, Wis.	1942 1944-68	2,800	5,000	7,600	12,200	17,600	25,000
5-3705	Eau Galle River at Elmwood, Wis.	1942-53	3,450	6,000	9,000	15,000	---	---
5-3706	Arkansaw Creek Tributary near Arkansaw, Wis.	1959-68	145	225	280	340	---	---
5-3709	Spring Creek near Durand, Wis.	1962-68	315	385	420	470	---	---
5-3713	By Golly Creek near Nelson, Wis.	1962-68	11	23	38	---	---	---
5-3718	Buffalo River Tributary near Osseo, Wis.	1960-68	54	82	104	135	---	---
5-3720	Buffalo River near Tell, Wis.	1933-50	2,870	5,170	6,960	9,500	11,600	---
5-3765	South Fork Whitewater River near Altura, Minn.	1940-68	2,120	3,730	4,670	5,800	6,600	7,450
5-3782	Eagle Creek near Fountain City, Wis.	1961-68	770	1,315	1,790	2,530	---	---
5-3790	Gilmore Creek at Winona, Minn.	1940-65	370	1,100	1,950	3,550	5,230	7,400
5-3794	Trempealeau River at Arcadia, Wis.	1961-68	5,360	8,290	10,300	12,900	---	---
5-3795	Trempealeau River at Dodge, Wis.	1914-19 1934-68	4,240	7,430	9,810	13,100	15,600	18,200
5-3808	Black River Tributary near Whittlesey, Wis.	1960-68	130	183	215	250	---	---
5-3809	Poplar River near Owen, Wis.	1958-68	4,450	7,450	9,600	12,400	---	---
5-3809.7	Cawley Creek near Neillsville, Wis.	1961-68	1,350	2,100	2,600	3,150	---	---
5-3810	Black River at Neillsville, Wis.	1905-08 1914-68	12,800	20,800	26,400	33,800	39,600	45,340
5-3820	Black River near Galesville, Wis.	1932-68	21,850	34,400	42,600	52,800	60,100	67,100
5-3822	French Creek near Ettrick, Wis.	1960-68	500	780	1,020	1,410	---	---
5-3823	Beaver Creek Tributary near Sparta, Wis.	1959-68	115	155	180	205	---	---
5-3825	Little La Crosse River near Leon, Wis.	1934-68	995	1,730	2,310	3,130	3,800	4,520
5-3830	La Crosse River near West Salem, Wis.	1914-68	2,460	3,770	4,670	5,840	6,720	7,600
5-3845	Rush Creek near Rushford, Minn.	1942-68	3,540	6,320	8,460	11,500	13,900	16,500
5-3850	Root River near Houston, Minn.	1910-17 1930-68	11,900	19,700	24,500	29,800	33,400	36,500
5-3855	South Fork Root River near Houston, Minn.	1953-68	3,170	5,670	7,400	9,600	---	---
5-3860	Root River below South Fork near Houston, Minn.	1938-61	13,300	22,200	28,900	38,400	46,100	54,300
5-3863	Mormon Creek near La Crosse, Wis.	1961-68	530	1,160	1,650	2,280	---	---
5-3865	Coon Creek at Coon Valley, Wis.	1934-40	1,990	4,200	6,300	9,910	---	---
5-3870	Coon Creek near Stoddard, Wis.	1934-40	1,970	3,130	4,140	5,750	---	---

APPENDIX III--continued
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q ₂	Q ₅	Q ₁₀	Q ₂₅	Q ₅₀	Q ₁₀₀
5-3871	North Fork Bad Axe River near Genoa, Wis.	1959-68	1,900	2,685	3,160	3,720	---	---
5-3875	Upper Iowa River at Decorah, Iowa	1914 1919-27 1933-68	8,100	12,800	15,500	18,600	21,300	24,000
5-3884.6	Du Charme Creek at Eastman, Wis.	1961-68	90	155	195	245	---	---
5-3885	Paint River at Waterville, Iowa	1951 1953-68	2,200	3,620	4,810	6,650	---	---
5-3890	Yellow River at Ion, Iowa	1935-51	7,840	12,400	15,800	20,400	24,000	---
5-3910	Wisconsin River at Rainbow Lake near Lake Tomahawk, Wis.	1937-68	1,860	2,650	3,100	3,600	3,930	4,220
5-3920	Wisconsin River at Whirlpool Rapids near Rhinelander, Wis.	1906-25 1927-61	3,570	4,450	4,940	5,480	5,840	6,160
5-3921.5	Mishonogan Creek near Woodruff, Wis.	1958-68	60	70	76	82	---	---
5-3923.5	Bearskin Creek near Harshaw, Wis.	1958-68	79	105	120	140	---	---
5-3924	Tomahawk River near Bradley, Wis.	1915-20 1924-26	1,140	1,560	1,880	2,320	---	---
5-3930	Tomahawk River at Bradley, Wis.	1930-68	1,220	1,740	2,100	2,550	2,890	3,230
5-3935	Spirit River at Spirit Falls, Wis.	1942-68	1,470	2,280	2,800	3,440	3,880	4,300
5-3940	New Wood River near Merrill, Wis.	1953-68	990	1,390	1,650	1,950	---	---
5-3942	Devil Creek near Merrill, Wis.	1961-68	175	250	300	370	---	---
5-3945	Prairie River near Merrill, Wis.	1914-31 1940-68	1,410	2,230	2,850	3,700	4,390	5,120
5-3950	Wisconsin River at Merrill, Wis.	1903-68	13,200	19,300	23,900	30,400	35,800	41,600
5-3951	Trappe River Tributary near Merrill, Wis.	1959-68	180	315	420	570	---	---
5-3960	Rib River at Rib Falls, Wis.	1925-57	7,150	12,400	16,000	20,600	23,900	27,200
5-3961	Pet Brook near Edgar, Wis.	1962-68	580	1,110	1,640	2,600	---	---
5-3970	Eau Claire River near Antigo, Wis.	1949-55	295	340	360	400	---	---
5-3975	Eau Claire River at Kelly, Wis.	1914-26 1940-68	3,550	5,390	6,560	7,970	8,960	9,900
5-3976	Big Sandy Creek near Wausau, Wis.	1959-68	615	1,170	1,620	2,250	---	---
5-3980	Wisconsin River at Rothschild, Wis.	1941 1945-68	26,200	39,800	49,200	61,600	70,900	80,500
5-3985	Bull Creek Jr. near Rothschild, Wis.	1944-51	305	490	620	790	---	---
5-3990	Big Eau Pleine River near Colby, Wis.	1942-54	2,530	4,420	5,960	8,250	---	---
5-3992	Randall Creek Tributary near Abbotsford, Wis.	1959-68	83	160	230	345	---	---
5-3995	Big Eau Pleine River near Stratford, Wis.	1914-25 1937-68	7,780	13,500	18,300	25,600	32,000	39,300
5-4000	Wisconsin River at Knowlton, Wis.	1921-42	37,500	47,900	51,700	54,500	57,000	---
5-4005	Plover River near Stevens Point, Wis.	1914-19 1944-51	715	1,025	1,265	1,600	---	---
5-4006	Little Plover River near Arnott, Wis.	1960-68	50	64	71	77	---	---

APPENDIX III--continued
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q ₂	Q ₅	Q ₁₀	Q ₂₅	Q ₅₀	Q ₁₀₀
5-4006.5	Little Plover River at Plover, Wis.	1960-68	58	74	82	90	---	---
5-4008	Wisconsin River at Wisconsin Rapids, Wis.	1914-49 1958-68	37,900	53,900	63,300	73,800	80,800	87,200
5-4011	Fourteenmile Creek near New Rome, Wis.	1961-68	245	292	319	---	---	---
5-4015	Wisconsin River near Necedah, Wis.	1903-14 1944-50	34,400	55,200	71,500	95,100	114,800	---
5-4018	Yellow River Tributary near Pittsville, Wis.	1959-68	350	475	570	700	---	---
5-4020	Yellow River at Babcock, Wis.	1944-68	5,240	7,760	9,330	11,200	12,400	13,600
5-4025	Yellow River at Sprague, Wis.	1927-40	3,900	5,620	6,700	7,740	---	---
5-4030	Yellow River at Necedah, Wis.	1941-57	6,700	9,280	10,700	12,200	---	---
5-4035	Lemonweir River at New Lisbon, Wis.	1944-68	3,000	4,690	5,640	6,650	7,280	---
5-4035.2	Webster Creek at New Lisbon, Wis.	1961-68	250	400	510	660	---	---
5-4035.5	One Mile Creek near Mauston, Wis.	1958-68	580	1,160	1,610	2,220	---	---
5-4036.1	Wisconsin River Tributary at Wisconsin Dells, Wis.	1962-68	14	22	28	---	---	---
5-4037	Dell Creek near Lake Delton, Wis.	1957-68	350	680	960	1,390	---	---
5-4040	Wisconsin River near Wisconsin Dells, Wis.	1935-68	37,200	51,900	60,600	70,700	77,600	84,000
5-4042	Narrows Creek at Loganville, Wis.	1958-68	2,240	3,210	3,980	5,070	---	---
5-4050	Baraboo River near Baraboo, Wis.	1914-21 1935 1943-68	3,370	5,290	6,400	7,600	8,500	9,400
5-4056	Rowan Creek at Poynette, Wis.	1961-68	230	660	1,210	2,410	---	---
5-4060	Wisconsin River at Prairie du Sac, Wis.	1944-53	34,500	49,500	58,800	70,000	---	---
5-4065	Black Earth Creek at Black Earth, Wis.	1954-68	640	1,030	1,300	1,650	---	---
5-4068	Rocky Branch near Richland Center, Wis.	1960-68	140	365	620	1,100	---	---
5-4070	Wisconsin River at Muscoda, Wis.	1914-68	39,200	54,200	63,000	73,500	80,000	86,000
5-4071	Richland Creek near Plughtown, Wis.	1958-68	975	1,400	1,670	1,990	---	---
5-4072	Crooked Creek near Boscobel, Wis.	1959-68	710	1,330	1,890	2,800	---	---
5-4074	Morris Creek Tributary near Norwalk, Wis.	1960-68	640	915	1,080	1,260	---	---
5-4080	Kickapoo River at La Farge, Wis.	1939-68	3,250	5,360	6,890	8,920	10,500	12,100
5-4085	Knapp Creek near Bloomingdale, Wis.	1955-68	540	1,140	1,720	2,700	---	---
5-4088	Bishops Branch near Viroqua, Wis.	1959-68	1,220	2,940	4,380	6,450	---	---
5-4100	Kickapoo River at Gays Mills, Wis.	1914-34 1964-68	3,580	5,600	6,920	8,540	9,690	---
5-4105	Kickapoo River at Steuben, Wis.	1934-68	3,520	6,160	8,180	11,000	13,300	15,700
5-4125	Turkey River at Garber, Iowa	1902 1914-16 1919-27 1929-30 1933-68	15,860	21,700	25,250	29,350	32,200	34,800
5-4134	Pigeon Creek near Lancaster, Wis.	1960-68	420	1,230	2,220	4,290	---	---

APPENDIX III--continued
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q ₂	Q ₅	Q ₁₀	Q ₂₅	Q ₅₀	Q ₁₀₀
5-4135	Grant River at Burton, Wis.	1935-68	8,990	14,900	18,600	22,700	25,500	27,900
5-4140	Platte River near Rockville, Wis.	1935-68	5,190	9,940	14,300	21,400	28,200	36,200
5-4142	Bear Branch near Platteville, Wis.	1958-68	290	545	770	1,110	---	---
5-4145	Little Maquoketa River near Durango, Iowa	1925 1935-68	7,080	12,200	16,600	23,300	29,400	36,400
5-4149	Pats Creek near Elk Grove, Wis.	1960-69	420	1,180	2,100	4,100	---	---
5-4150	Galena River at Buncombe, Wis.	1937 1940-68	5,120	8,590	11,800	16,000	20,000	24,500
5-4155	East Fork Galena River at Council Hill, Ill.	1940-68	2,040	4,330	6,600	10,570	14,500	19,500
5-4170	Maquoketa River near Manchester, Iowa	1925 1928-30 1933-68	4,740	8,580	11,700	16,400	20,400	24,900
5-4185	Maquoketa River near Maquoketa, Iowa	1903 1914-68	15,600	24,900	31,600	40,600	47,600	54,900
5-4188	Mill Creek near Scales Mound, Ill.	1956-68	240	450	650	980	---	---
5-4190	Apple River near Hanover, Ill.	1935-68	5,200	7,900	9,800	12,400	14,400	16,500
5-4230	West Branch Rock River near Waupun, Wis.	1949-68	335	670	910	1,200	1,410	---
5-4233	South Branch Rock River Tributary near Waupun, Wis.	1959-68	130	395	690	1,230	---	---
5-4235	South Branch Rock River at Waupun, Wis.	1949-68	470	960	1,300	1,700	2,000	---
5-4238	East Branch Rock River Tributary near Slinger, Wis.	1960-68	155	193	215	240	---	---
5-4240	East Branch Rock River near Mayville, Wis.	1950-68	1,120	2,040	2,700	3,560	4,210	---
5-4243	Rock River Tributary near Watertown, Wis.	1959-68	78	150	205	275	---	---
5-4255	Rock River at Watertown, Wis.	1932-68	2,020	3,030	3,660	4,390	4,890	5,350
5-4257	Robbins Creek near Columbus, Wis.	1960-68	115	247	335	440	---	---
5-4260	Crawfish River at Milford, Wis.	1932-68	2,270	3,340	3,970	4,720	5,300	6,000
5-4261	Scuppernong Creek at Wales, Wis.	1962-68	105	125	141	---	---	---
5-4265	Whitewater Creek near Whitewater, Wis.	1926-28 1947-54	10	15	18	24	---	---
5-4270	Whitewater Creek at Whitewater, Wis.	1927-28 1947-54	180	320	430	610	---	---
5-4272	Allen Creek near Fort Atkinson, Wis.	1958-68	95	160	230	355	---	---
5-4272.5	Koshkonong Creek at Sun Prairie, Wis.	1961-68	14	20	23	27	---	---
5-4278	Token Creek near Madison, Wis.	1961-68	244	390	490	625	---	---
5-4295	Yahara River near McFarland, Wis.	1931-68	410	535	615	715	790	860
5-4301	Badfish Creek near Stoughton, Wis.	1956-66	430	700	875	1,060	---	---
5-4305	Rock River at Afton, Wis.	1914-68	6,510	9,170	10,800	12,800	14,100	15,400
5-4314	Little Turtle Creek at Allens Grove, Wis.	1962-68	800	1,430	1,870	2,410	---	---
5-4315	Turtle Creek near Clinton, Wis.	1938 1940-68	2,150	4,040	5,500	7,510	9,100	10,800

APPENDIX III--continued
FLOOD FREQUENCY CHARACTERISTICS FOR STREAM-GAGING STATIONS
(Listed in downstream order)

Station number	Station name	Period of record	Discharge, in cfs, for indicated recurrence intervals					
			Q ₂	Q ₅	Q ₁₀	Q ₂₅	Q ₅₀	Q ₁₀₀
5-4323	Rock Branch near Mineral Point, Wis.	1959-68	420	765	1,055	1,490	---	---
5-4325	Pecatonica River at Darlington, Wis.	1940-68	4,270	7,720	10,600	14,900	18,600	22,670
5-4330	East Branch Pecatonica River near Blanchardville, Wis.	1940-68	3,220	6,040	8,260	11,400	13,900	16,650
5-4335	Yellowstone River near Blanchardville, Wis.	1955-68	1,645	1,995	2,170	2,380	---	---
5-4340	Pecatonica River at Dill, Wis.	1914-19	6,200	8,500	10,700	---	---	---
5-4342	Skinner Creek Tributary near Monroe, Wis.	1959-68	36	71	98	132	---	---
5-4345	Pecatonica River at Martintown, Wis.	1916 1940-68	6,390	9,650	11,800	14,400	16,500	19,000
5-4350	Cedar Creek near Winslow, Ill.	1951-68	55	95	116	137	150	---
5-4355	Pecatonica River at Freeport, Ill.	1914-68	6,210	9,920	12,600	16,300	19,200	22,300
5-4359	Sugar River Tributary near Pine Bluff, Wis.	1961-68	147	338	520	835	---	---
5-4360	Mt. Vernon Creek near Mt. Vernon, Wis.	1954-65	355	655	870	1,150	---	---
5-4362	Sugar River Tributary No. 2 near Brooklyn, Wis.	1961-68	114	180	230	310	---	---
5-4365	Sugar River near Brodhead, Wis.	1914-68	3,960	7,200	9,540	12,600	14,900	17,200
5-4370	Pecatonica River at Shirland, Ill.	1940-60	8,560	12,800	15,500	18,800	21,500	---
5-4372	Raccoon Creek Tributary near Beloit, Wis.	1958-68	105	209	295	425	---	---
5-4375	Rock River at Rockton, Ill.	1904-08 1915-19 1940-68	15,000	21,600	25,800	30,800	34,400	37,800
5-4385	Kishwaukee River at Belvidere, Ill.	1940-68	3,150	6,000	8,400	12,000	15,000	18,400
5-5280	Des Plaines River near Gurnee, Ill.	1946-58 1960-68	1,170	1,980	2,620	3,530	---	---
5-5443	Mukwonago River Tributary near Mukwanago, Wis.	1960-68	20	33	42	55	---	---
5-5451	Sugar Creek at Elkhorn, Wis.	1962-68	80	120	150	190	---	---
5-5452	White River Tributary near Burlington, Wis.	1958-68	80	145	210	320	---	---
5-5453	White River near Burlington, Wis.	1958-68	725	1,290	1,800	2,640	---	---
5-5465	Fox River at Wilmot, Wis.	1940-68	2,470	3,750	4,730	6,100	7,240	8,470
5-5481.5	North Branch Nippersink Creek Tributary near Genoa City, Wis.	1962-68	135	225	270	---	---	---
5-5490	Boone Creek near McHenry, Ill.	1949-68	126	189	226	268	295	---
5-5500	Fox River at Algonquin, Ill.	1916-68	3,060	4,330	5,090	5,940	6,600	7,200

APPENDIX IV

DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics											
		Drainage area (sq mi) A	Main channel slope (ft./mi.) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) Sn	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	Precipitation intensity index (inches) I
4-0244	Stoney Brook near Superior, Wis.	2.20	56.3	0	3.9	51.8	30.0	2	51	3.51	28	13	2.55
4-0252	Pearson Creek near Maple, Wis.	4.01	75.2	0	4.5	39.6	29.0	4	57	2.66	26	14	2.53
4-0255	Bois Brule River at Brule, Wis.	113	3.60	15.4	18.6	85.0	30.5	2	55	6.39	24	14	2.55
4-0262	Sand River Tributary near Red Cliff, Wis.	1.14	204	1.75	2.9	98.0	29.0	8	70	4.08	18	16	2.50
4-0263	Sioux River near Washburn, Wis.	14.9	48.6	1.21	9.6	82.6	29.0	6	69	5.38	18	16	2.50
4-0264	Spillerberg Creek near Cayuga, Wis.	6.18	11.5	39.4	4.45	81.4	33.4	4	59	6.13	16	18	2.53
4-0265	Bad River at Mellen, Wis.	101	16.2	17.9	22.7	79.3	33.0	3	65	6.39	14	16	2.54
4-0267	Trout Brook Tributary near Marengo, Wis.	0.77	178.8	0	1.55	24.2	32.0	4	55	2.82	16	18	2.54
4-0270	Bad River near Odanah, Wis.	611	18.8	9.7	46.4	80.1	32.4	3	70	6.67	13	18	2.52
4-0272	Pearl Creek at Grandview, Wis.	10.5	34.4	10.8	7.6	84.3	32.0	1	55	7.54	20	16	2.55
4-0275	White River near Ashland, Wis.	269	19.1	13.1	40.6	80.0	31.1	1	56	7.24	16	17	2.53
4-0280	Montreal River at Ironwood, Mich.	63.0	8.62	15.7	19.2	81.1	35.0	5	100	6.39	11	22	2.49
4-0290	West Branch Montreal River at Gile, Wis.	72.2	17.1	20.8	19.4	89.8	34.5	5	85	6.39	10	21	2.50
4-0297	Boomer Creek near Saxon, Wis.	6.73	84.6	13.1	5.85	84.1	32.5	6	100	7.54	12	20	2.49
4-0300	Montreal River near Saxon, Wis.	262	18.6	15.9	41.0	82.1	34.8	5	100	6.39	9	22	2.49
4-0310	Black River near Bessemer, Mich.	200	21.4	8.1	16.4	93.7	35	6	120	3.0	8	22	2.4
4-0315	Presque Isle River at Marenigso, Mich.	171	3.8	19.4	21.2	91.5	36	4	90	3.5	9	21	2.35
4-0320	Presque Isle River near Tula, Mich.	261	6.3	14.9	38.8	93.2	36	5	110	3.5	8	22	2.35
4-0330	Middle Branch Ontonagon River near Paulding, Mich.	164	3.3	11.1	32.6	94.0	32	3	70	3.0	8	21	2.3
4-0350	East Branch Ontonagon River near Mass, Mich.	272	14.0	17.4	55.0	86.5	34	4	90	6.0	8	20	2.25
4-0405	Sturgeon River near Sidnaw, Mich.	171	20.3	18.1	32.1	97.0	31	5	90	3.0	10	19	2.2
4-0425	Otter River near Elo, Mich.	162	8.2	3.5	25.3	93.8	34	5	95	5.0	8	21	2.2
4-0599	Allen Creek Tributary near Alvin, Wis.	1.9	12.0	5.6	1.00	81.2	30.5	2	70	8.18	12	18	2.41
4-0610	Brule River near Florence, Wis.	389	7.92	9.8	57.0	91.4	32	2	70	2.0	11	19	2.3
4-0615	Paint River at Crystal Falls, Mich.	597	5.4	12.0	49.6	92.7	30	4	80	2.0	11	19	2.2
4-0638	Woods Creek near Fence, Wis.	41.4	14.8	24.0	14.8	79.4	30.0	4	60	6.39	16	14	2.38

APPENDIX IV--continued
DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics											
		Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) Sn	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	Precipitation intensity index (inches) I
4-0640	Pine River near Florence, Wis.	500	8.42	22.2	57.1	87.8	30.2	3	65	6.67	14	17	2.40
4-0645	Pine River at Pine River Powerplant near Florence, Wis.	528	8.78	22.0	62.0	89.1	30.2	3	65	6.67	14	17	2.40
4-0653	West Branch Sturgeon River near Randville, Mich.	56.1	12.8	12.8	17.4	95.2	30	4	60	6.0	16	14	2.25
4-0655	Sturgeon River near Foster City, Mich.	237	10.3	10.1	39.6	95.8	30	6	60	3.0	13	16	2.25
4-0663	Cole Creek near Dunbar, Wis.	3.2	27.4	19.1	2.9	85.3	29.0	6	57	10.0	19	12	2.35
4-0665	Pike River at Amberg, Wis.	253	12.6	17.2	39.0	86.2	29.1	6	57	7.86	19	12	2.38
4-0667	McCall Creek at Wausaukee, Wis.	1.48	19.2	20.3	1.95	35.3	28.6	8	53	7.54	24	9	2.35
4-0678	Armstrong Creek near Armstrong Creek, Wis.	23.1	7.52	36.5	5.9	61.5	29.6	5	58	6.95	17	14	2.40
4-0680	Peshtigo River at High Falls near Crivitz, Wis.	554	6.53	19.3	73.0	87.0	29.4	5	54	7.86	19	12	2.39
4-0695	Peshtigo River at Peshtigo, Wis.	1,124	6.21	18.4	128	72.1	29.0	6	52	7.54	23	11	2.37
4-0710	Oconto River near Gillett, Wis.	678	7.50	16.8	96.0	87.8	29.4	6	48	6.67	26	10	2.41
4-0717	North Branch Little River near Coleman, Wis.	23.3	10.6	15.8	9.50	26.2	28.5	8	47	4.49	24	8	2.37
4-0718	Pensaukee River near Pulaski, Wis.	41.8	11.0	6.53	13.2	3.5	28.0	7	46	4.08	22	8	2.42
4-0734	Bird Creek at Wautoma, Wis.	3.59	27.7	5.57	3.62	31.8	29.3	8	43	5.15	30	8	2.60
4-0735	Fox River at Berlin, Wis.	1,430	0.84	12.6	104	22.3	29.5	8	40	3.51	30	8	2.65
4-0747	Hunting River near Elcho, Wis.	9.0	6.09	29.2	3.4	80.1	30.5	4	50	5.38	25	13	2.48
4-0752	Evergreen Creek near Langlade, Wis.	8.0	19.7	9.9	5.8	86.9	30.5	4	48	7.54	30	9	2.45
4-0755	Wolf River above West Branch Wolf River, Wis.	633	9.60	15.5	90.0	76.2	30.2	4	61	7.24	27	12	2.44
4-0770	Wolf River at Keshena Falls, Wis.	812	9.51	13.9	94.0	69.0	30.2	5	60	6.95	28	11	2.44
4-0785	Embarrass River near Embarrass, Wis.	395	11.9	15.2	56.6	35.7	30.6	8	46	5.38	31	8	2.49
4-0790	Wolf River at New London, Wis.	2,240	5.80	14.6	174	43.0	29.8	7	57	5.15	29	9	2.46
4-0797	Spaulding Creek near Big Falls, Wis.	4.9	18.5	20.8	6.1	84.5	30.5	6	47	7.24	30	8	2.52
4-0800	Little Wolf River at Royalton, Wis.	514	8.77	15.8	56.3	35.0	30.3	7	45	5.62	30	8	2.50
4-0810	Waupaca River near Waupaca, Wis.	272	10.0	6.21	45.0	25.7	30.4	7	45	5.38	31	8	2.53

APPENDIX IV--continued

DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics											Precipitation intensity (inches) I
		Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) Sn	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	
4-0810.1	Waupaca River Tributary near Waupaca, Wis.	1.0	30.4	1.00	1.3	4.00	29.5	9	43	3.89	25	8	2.50
4-0819	Sawyer Creek at Oshkosh, Wis.	15.3	11.0	0.33	8.8	1.96	28.5	11	39	2.50	18	7	2.48
4-0830	West Branch Fond du Lac River at Fond du Lac, Wis.	84.5	6.86	9.2	20.4	6.44	29.2	11	39	2.82	16	6	2.52
4-0834	East Branch Fond du Lac River Tributary near Eden, Wis.	1.19	70.0	1.68	1.4	3.36	29.7	12	39	2.99	18	6	2.55
4-0835	East Branch Fond du Lac River near Fond du Lac, Wis.	77.9	3.85	7.32	18.9	5.91	29.5	11	39	2.50	17	6	2.51
4-0850.3	Apple Creek near Kaukauna, Wis.	14.6	11.8	0	8.8	1.99	26.5	9	42	2.50	18	6	2.45
4-0851	East River Tributary near Greenleaf, Wis.	8.00	40.9	12.5	5.9	13.0	28.0	9	44	3.33	18	6	2.43
4-0852	Kewaunee River near Kewaunee, Wis.	129	10.5	0.43	24.3	8.92	26.5	12	47	3.16	20	7	2.36
4-0853	Neshota River Tributary near Denmark, Wis.	3.08	22.9	0	3.8	2.60	27.0	14	45	3.16	18	6	2.40
4-0854	Killsnake River near Chilton, Wis.	29.5	9.23	1.42	13.9	5.39	29.0	9	42	3.33	19	6	2.46
4-0857	Sheboygan River Tributary near Plymouth, Wis.	5.51	21.0	2.54	4.65	12.5	29.5	12	43	5.38	24	5	2.47
4-0860	Sheboygan River at Sheboygan, Wis.	432	4.63	9.6	86.2	12.8	29.7	12	41	2.99	24	5	2.47
4-0864	Milwaukee River Tributary near Fredonia, Wis.	0.84	27.6	2.38	1.65	1.19	29.0	13	43	3.16	18	4	2.50
4-0865	Cedar Creek near Cedarburg, Wis.	121	9.90	10.7	26.8	3.06	29.7	12	41	3.33	18	4	2.56
4-0870	Milwaukee River at Milwaukee, Wis.	686	5.32	9.9	87.5	12.0	29.6	13	41	3.70	20	4	2.52
4-0870.5	Little Menomonee River near Freistadt, Wis.	7.96	30.0	0.75	4.6	7.16	29.2	12	43	3.16	17	4	2.55
4-0871	Honey Creek at Milwaukee, Wis.	3.34	10.2	0	3.7	6.89	29.7	14	42	2.99	16	6	2.60
4-0871.2	Menomonee River at Wauwatosa, Wis.	123	8.95	0.60	27.2	5.02	29.5	14	42	3.16	16	5	2.57
4-0872	Oak Creek near South Milwaukee, Wis.	13.9	10.7	0.43	10.0	9.4	30.5	15	42	3.16	16	6	2.61
4-0872.3	West Branch Root River Canal Tributary near North Cape, Wis.	3.92	21.4	2.04	4.1	2.55	32.0	14	42	3.51	16	6	2.65
4-0872.5	Pike Creek near Kenosha, Wis.	7.25	8.15	0.97	3.7	0.42	32.2	16	40	3.33	13	6	2.68
4-0873	Lake Michigan Tributary at Winthrop Harbor, Ill.	1.51	34.3	1.14	2.95	9.1	32.0	16	34	4.3	12	6	2.7

APPENDIX IV--continued
DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics												
		Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) Sn	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	Precipitation intensity (inches) I	
5-2860	Rum River near St. Francis, Minn.	1,360	3.7	37.0	126	44.1	27.5	1	42	4.08	28	13	2.60	
5-3325	Namekagon River near Trego, Wis.	503	6.05	17.3	76.0	78.1	31.2	1	48	9.23	26	13	2.59	
5-3331	Little Frog Creek near Minong, Wis.	13.0	28.5	27.7	4.9	92.3	30.3	1	47	6.67	28	13	2.60	
5-3335	St. Croix River near Danbury, Wis.	1,588	5.71	17.1	104	82.9	31.0	1	48	9.23	28	13	2.59	
5-3341	Sawyer Creek near Shell Lake, Wis.	1.04	67.8	0.96	1.7	16.8	28.2	2	44	3.89	28	13	2.64	
5-3353.8	Bashaw Brook near Shell Lake, Wis.	24.9	16.7	11.2	8.5	41.9	28.0	1	43	5.62	26	12	2.66	
5-3360	St. Croix River near Grantsburg, Wis.	2,820	4.65	17.9	133	72.7	29.7	1	46	9.23	27	13	2.61	
5-3385	Snake River near Pine City, Minn.	958	5.3	43.0	73.6	65.0	28.0	1	44	4.28	28	13	2.58	
5-3395	St. Croix River near Rush City, Minn.	5,120	4.24	20.5	158	70.2	29.4	1	45	8.87	27	13	2.61	
5-3400	Sunrise River near Stacy, Minn.	167	1.9	47.0	14	60.0	28.0	2	41	3.70	28	11	2.68	
5-3403	Trade River near Frederic, Wis.	6.34	53.8	11.2	3.5	44.2	28.0	2	43	4.92	25	12	2.66	
5-3417	Willow River Tributary near New Richmond, Wis.	1.40	50.7	0	1.9	7.14	28.7	3	40	4.08	25	10	2.75	
5-3419	Kinnickinnic River Tributary at River Falls, Wis.	7.26	96.0	0	5.7	3.17	29.4	3	40	4.28	25	9	2.78	
5-3420	Kinnickinnic River near River Falls, Wis.	167	10.9	0	36.1	3.52	29.2	4	40	4.08	26	9	2.77	
5-3466	Little Trimble Creek near Bay City, Wis.	19.9	34.9	0	11.1	17.6	29.5	4	40	4.28	25	8	2.80	
5-3562	Kenyon Creek near Radisson, Wis.	7.5	12.2	24.7	5.8	87.9	31.0	1	45	6.39	24	13	2.60	
5-3592	South Fork Flambeau River Tributary near Park Falls, Wis.	0.86	23.1	38.4	1.45	86.1	33.0	4	48	8.18	15	17	2.53	
5-3595	South Fork Flambeau River near Phillips, Wis.	615	3.69	33.3	69.3	72.6	33.4	3	48	5.87	15	17	2.54	
5-3596	Price Creek near Phillips, Wis.	14.7	5.14	39.7	9.4	95.3	32.5	1	45	6.67	18	13	2.58	
5-3602	Flambeau River Tributary at Ladysmith, Wis.	0.8	15.2	28.8	1.8	48.7	30.0	1	42	7.54	24	11	2.65	
5-3614	Hay Creek near Prentice, Wis.	21.9	15.6	25.8	11.02	62.6	34.0	3	45	5.15	18	13	2.56	
5-3615	South Fork Jump River near Ogema, Wis.	328	9.68	18.5	41	65.0	33.9	3	44	5.38	19	12	2.57	
5-3620	Jump River at Sheldon, Wis.	574	8.30	17.6	71.4	62.0	33.6	2	43	5.38	20	12	2.60	

APPENDIX IV--continued
DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics											
		Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) S _n	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	Precipitation intensity index (inches) I
5-3640	Yellow River at Cadott, Wis.	351	5.96	14.1	70.3	63.0	32.7	2	41	5.38	21	9	2.63
5-3641	Seth Creek near Cadott, Wis.	3.04	43.8	0.66	3.5	32.9	31.0	5	40	3.89	24	8	2.71
5-3645	Duncan Creek at Bloomer, Wis.	49.2	8.10	3.54	9.2	19.1	30.0	6	40	4.28	26	9	2.72
5-3650	Duncan Creek at Chippewa Falls, Wis.	114	6.75	1.60	26.5	11.0	30.1	6	38	4.08	26	8	2.62
5-3657	Goggle-eye Creek near Thorp, Wis.	6.70	20.0	6.42	3.9	16.9	32.7	6	41	2.99	24	9	2.68
5-3660	Eau Claire River near Augusta, Wis.	500	7.40	5.72	50.3	45.0	32.6	2	43	3.89	22	9	2.69
5-3665	Eau Claire River near Fall Creek, Wis.	738	6.36	4.42	70.3	43.5	32.3	4	42	4.08	23	9	2.71
5-3670.3	Willow Creek near Eau Claire, Wis.	4.38	57.1	0	3.8	9.8	30.5	6	40	4.70	28	8	2.76
5-3674.8	East Branch Pine Creek Tributary near Dallas, Wis.	3.85	52.4	0	3.3	12.2	28.7	5	40	4.08	28	10	2.70
5-3675	Red Cedar River near Colfax, Wis.	1,100	4.17	7.85	86.5	38.7	29.0	3	42	4.49	28	11	2.68
5-3677	Lightning Creek at Almena, Wis.	19.8	17.1	5.56	7.3	8.14	28.0	2	42	3.51	26	11	2.70
5-3680	Hay River at Wheeler, Wis.	426	6.12	3.24	52.5	32.4	28.3	3	40	3.89	26	10	2.74
5-3690	Red Cedar River at Menomonie, Wis.	1,760	4.33	5.96	113	35.0	28.5	3	40	4.28	28	11	2.70
5-3698	Eau Galle River Tributary near Hersey, Wis.	0.65	68.2	0	1.4	33.8	29.1	4	40	3.51	26	9	2.77
5-3700	Eau Galle River at Spring Valley, Wis.	64.8	17.6	0.23	19.5	14.2	29.1	4	38	4.08	26	9	2.78
5-3706	Arkansas Creek Tributary near Arkansas, Wis.	2.56	102.2	0	3.7	27.3	29.9	4	40	5.38	26	8	2.82
5-3709	Spring Creek near Durand, Wis.	6.49	79.6	0	3.4	56.9	30.2	4	40	4.92	26	7	2.83
5-3713	By Golly Creek near Nelson, Wis.	0.28	270	0	0.9	50.0	30.2	4	40	4.28	26	7	2.83
5-3718	Buffalo River Tributary near Osseo, Wis.	1.44	67.1	0	2.2	44.4	31.5	4	46	4.92	24	8	2.77
5-3720	Buffalo River near Tell, Wis.	406	6.30	2.05	61.2	28.6	30.7	5	40	4.28	27	7	2.79
5-3765	South Fork Whitewater River near Altura, Minn.	76.8	22.3	0	22.4	7.8	28.5	6	40	3.33	28	7	2.90
5-3782	Eagle Creek near Fountain City, Wis.	26.8	40.9	0	11.3	47.6	30.7	8	41	4.49	27	7	2.86
5-3790	Gilmore Creek at Winona, Minn.	8.95	43.3	0	4.0	50.0	30.0	8	40	3.33	27	7	2.89
5-3795	Trempealeau River at Dodge, Wis.	643	3.64	1.42	79.0	25.8	31.0	5	45	4.28	27	7	2.82
5-3808	Black River Tributary near Whittlesey, Wis.	2.12	18.6	8.5	2.45	31.6	33.5	3	45	4.08	21	11	2.61

APPENDIX IV--continued
DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics										Mean snow depth Feb. 28 (inches) Sd	Precipitation intensity (inches) I
		Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T _l	Mean annual snowfall (inches) Sn	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Pd		
5-3809	Poplar River near Owen, Wis.	157	7.04	4.17	30.2	22.2	33.0	1	4.7	3.16	24	10	2.65
5-3809.7	Cawley Creek near Neillsville, Wis.	38.6	17.2	0.08	11.2	20.3	32.0	1	50	2.99	24	10	2.70
5-3810	Black River at Neillsville, Wis.	756	5.81	7.33	93.0	30.8	32.8	2	46	3.33	22	10	2.67
5-3820	Black River near Galesville, Wis.	2,120	5.51	8.16	172	43.7	31.7	3	50	3.89	23	9	2.75
5-3822	French Creek near Ettrick, Wis.	14.3	33.8	0	5.7	26.6	31.0	6	50	4.49	28	8	2.83
5-3823	Beaver Creek Tributary near Sparta, Wis.	1.72	66.2	0	2.15	39.0	31.5	6	48	4.70	24	8	2.83
5-3825	Little La Crosse River near Leon, Wis.	77.1	20.0	2.65	15.8	30.4	31.7	7	46	3.89	23	8	2.86
5-3830	La Crosse River near West Salem, Wis.	398	6.98	3.13	41.0	31.9	31.6	6	48	4.70	24	8	2.85
5-3845	Rush Creek near Rushford, Minn.	129	28.0	0	17.6	15.0	29.5	6	40	3.33	26	6	2.91
5-3850	Root River near Houston, Minn.	1,270	6.5	0	99.6	10.2	30.0	5	40	3.33	27	6	2.94
5-3855	South Fork Root River near Houston, Minn.	275	7.6	0	34.0	20.0	30.5	5.5	40	3.51	27	6	2.96
5-3860	Root River below South Fork near Houston, Minn.	1,560	6.4	0	103	12.5	30.0	5.5	40	3.33	27	6	2.94
5-3863	Mormon Creek near La Crosse, Wis.	25.5	47.5	0	9.6	36.0	31.78	7	47	3.89	24	7	2.89
5-3865	Coon Creek at Coon Valley, Wis.	77.2	34.7	0	23.8	33.9	31.8	8	46	4.08	23	6	2.89
5-3870	Coon Creek near Stoddard, Wis.	119	15.6	0.02	13.3	38.0	31.9	8	45	4.08	23	6	2.90
5-3871	North Fork Bad Axe River near Genoa, Wis.	68.8	27.3	0	22.5	28.0	32.4	8	45	3.89	21	6	2.90
5-3875	Upper Iowa River at Decorah, Iowa	511	6.25	0	83.0	9.6	31.7	5	40	3.5	24	5	3.00
5-3884.6	Du Charme Creek at Eastman, Wis.	.30	240	0	0.78	30.0	33.3	11	43	3.70	21	6	3.00
5-3885	Paint Creek at Waterville, Iowa	42.8	29.5	0	14.0	15.2	32.8	5	40	3.9	20	5	3.00
5-3890	Yellow River at Ion, Iowa	221	13.4	0	36.2	20.7	32.8	5	40	3.9	19	5	3.00
5-3921.5	Mishonagon Creek near Woodruff, Wis.	11.9	6.77	26.2	8.00	82.4	32.0	2	60	10.0	12	19	2.48
5-3923.5	Bearskin Creek near Harshaw, Wis.	27.8	6.48	28.7	14.3	69.3	31.0	2	48	9.23	20	16	2.54
5-3935	Spirit River at Spirit Falls, Wis.	82.0	12.5	17.2	18.7	51.5	33.0	3	46	5.38	22	12	2.57
5-3940	New Wood River near Merrill, Wis.	83.1	14.7	14.5	21.5	84.2	32.5	3	48	5.15	27	11	2.55
5-3942	Devil Creek near Merrill, Wis.	10.1	10.5	2.48	6.6	26.4	32.5	4	50	3.51	30	10	2.57
5-3945	Prairie River near Merrill, Wis.	181	10.4	23.2	38.2	74.6	30.8	4	51	7.24	26	12	2.49

APPENDIX IV--continued
DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics											
		Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) Sn	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	Precipitation intensity index (inches) I
5-3951	Trappe River Tributary near Merrill, Wis.	2.2	35.0	0	2.1	34.5	31.4	6	50	3.70	30	9	2.53
5-3960	Rib River at Rib Falls, Wis.	309	11.8	6.83	35.5	55.4	33.3	4	47	5.87	25	11	2.59
5-3961	Pet Brook near Edgar, Wis.	6.69	54.5	0	3.9	15.3	32.9	4	50	3.16	30	10	2.58
5-3975	Eau Claire River at Kelly, Wis.	326	8.28	11.4	58.0	45.2	30.7	6	50	6.13	31	10	2.50
5-3976	Big Sandy Creek near Wausau, Wis.	9.9	20.3	0	4.9	55.4	31.5	7	50	4.28	30	9	2.53
5-3985	Bull Creek Jr. near Rothschild, Wis.	26.4	13.3	13.9	11.0	73.9	32.1	4	50	8.18	30	8	2.52
5-3990	Big Eau Pleine River near Colby, Wis.	79.0	9.29	3.80	18.5	17.4	33.3	5	49	2.99	26	11	2.61
5-3992	Randall Creek Tributary near Abbottsford, Wis.	0.56	62.2	8.93	1.2	16.0	33.2	4	50	2.99	29	11	2.62
5-3995	Big Eau Pleine River near Stratford, Wis.	224	10.1	1.88	29.0	21.2	33.2	5	50	2.95	27	11	2.61
5-4005	Plover River near Stevens Point, Wis.	136	5.64	18.9	45.3	40.7	31.4	6	49	6.13	32	8	2.52
5-4006	Little Plover River near Arnott, Wis.	1.5	14.1	9.3	1.88	56.0	31.2	8	48	10.8	31	9	2.59
5-4006.5	Little Plover River at Plover, Wis.	15.0	10.7	5.15	4.2	42.5	31.2	8	48	8.87	31	9	2.59
5-4018	Yellow River Tributary near Pittsville, Wis.	7.27	20.1	0.30	7.35	27.5	31.3	6	50	3.33	30	10	2.66
5-4020	Yellow River at Babcock, Wis.	223	7.63	4.94	50.7	39.2	31.5	5	51	3.70	30	10	2.69
5-4025	Yellow River at Sprague, Wis.	420	6.81	7.64	62.7	45.0	31.0	5	50	3.89	29	10	2.70
5-4030	Yellow River at Necedah, Wis.	526	6.07	9.4	75.7	48.7	30.8	5	49	4.08	28	9	2.70
5-4035	Lemonweir River at New Lisbon, Wis.	500	3.65	15.6	42.0	44.2	31.0	6	47	5.15	24	9	2.76
5-4035.2	Webster Creek at New Lisbon, Wis.	11.5	19.3	0	7.0	41.7	30.8	8	45	4.28	25	9	2.78
5-4035.5	One Mile Creek near Mauston, Wis.	30.4	15.9	0.50	7.9	28.3	31.0	8	43	4.08	28	8	2.80
5-4037	Dell Creek near Lake Delton, Wis.	44.9	11.6	0.94	13.8	28.5	31.0	9	43	4.92	26	8	2.79
5-4042	Narrows Creek at Loganville, Wis.	40.0	29.1	0	8.8	13.0	33.0	10	42	4.49	24	7	2.84
5-4050	Baraboo River near Baraboo, Wis.	600	2.02	0.60	76.0	28.8	31.8	9	43	3.89	24	8	2.82
5-4056	Rowan Creek at Poynette, Wis.	10.1	30.4	0.30	6.8	8.90	30.0	12	38	4.70	22	6	2.75
5-4065	Black Earth Creek at Black Earth, Wis.	46.4	9.42	0.19	13.4	21.8	29.3	8	38	4.28	20	6	2.80
5-4068	Rocky Branch near Richland Center, Wis.	1.71	91.3	0	2.0	40.9	33.0	9	41	4.49	21	6	2.90
5-4071	Richland Creek near Plughtown, Wis.	19.2	51.8	0	6.2	35.9	33.1	8	42	4.08	20	6	2.98

APPENDIX IV--continued
DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics											
		Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) Sn	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	Precipitation intensity index (inches) I
5-4072	Crooked Creek near Boscobel, Wis.	13.1	67.5	0	6.2	35.1	33.2	10	41	3.89	18	6	2.99
5-4074	Morris Creek Tributary near Norwalk, Wis.	4.67	126.3	0	2.6	29.9	31.6	7	47	3.89	23	8	2.85
5-4080	Kickapoo River at La Farge, Wis.	266	9.13	0.13	30.5	34.0	31.8	7	46	4.08	22	8	2.86
5-4085	Knapp Creek near Bloomingdale, Wis.	8.47	40.4	0	6.6	22.6	32.0	8	46	4.08	20	7	2.89
5-4088	Bishops Branch near Viroqua, Wis.	7.08	87.2	0	3.9	21.1	32.5	8	44	4.08	22	6	2.91
5-4100	Kickapoo River at Gays Mills, Wis.	616	5.20	0.25	58.0	35.6	32.5	8	43	4.08	21	7	2.89
5-4105	Kickapoo River at Steuben, Wis.	690	4.30	0.30	69.5	37.2	32.6	8	43	4.08	20	7	2.90
5-4125	Turkey River at Garber, Iowa	1,545	5.58	0	112	16.6	32.3	6	40	3.6	18	5	3.00
5-4134	Pigeon Creek near Lancaster, Wis.	6.81	49.8	0	4.5	1.62	33.8	12	41	3.89	17	5	3.02
5-4135	Grant River at Burton, Wis.	267	9.73	0	35.0	22.1	33.6	12	41	3.89	17	5	3.03
5-4140	Platte River near Rockville, Wis.	139	11.5	0	26.0	22.3	33.6	11	39	3.89	17	5	3.02
5-4142	Bear Branch near Platteville, Wis.	2.80	60.2	0	3.3	1.07	33.8	10	40	3.70	18	5	3.01
5-4145	Little Maquoketa River near Durango, Iowa	130	22.1	0	16.1	38.8	35.1	10	40	3.9	17	5	3.00
5-4149	Pats Creek near Elk Grove, Wis.	8.49	26.9	0	6.0	4.00	33.6	11	39	3.70	18	5	3.01
5-4150	Galena River at Buncombe, Wis.	128	12.6	0	28.2	4.14	33.7	12	36	3.89	17	5	3.02
5-4155	East Fork Galena River at Council Hill, Ill.	20.1	41.5	0	8.75	3.68	33.7	12	35	3.89	17	5	3.01
5-4170	Maquoketa River near Manchester, Iowa	305	8.10	0.06	31.9	8.50	32.7	8	37	3.2	17	5	3.1
5-4185	Maquoketa River near Maquoketa, Iowa	1,553	4.10	0.01	106	13.6	34.1	10	36	3.7	12	4	3.1
5-4188	Mill Creek near Scales Mound, Ill.	0.80	157.9	0	1.5	9.8	32.8	12	36	3.3	17	5	3.0
5-4190	Apple River near Hanover, Ill.	244	10.9	0	36.9	10.4	33.0	13	33	2.7	12	4	3.0
5-4230	West Branch Rock River near Waupun, Wis.	41.4	9.58	10.0	16.0	1.57	29.5	10	39	3.16	16	6	2.53
5-4233	South Branch Rock River Tributary near Waupun, Wis.	11.9	13.8	14.5	5.7	1.18	30.6	10	39	3.16	20	7	2.58
5-4235	South Branch Rock River at Waupun, Wis.	62.8	8.33	8.25	13.8	1.50	29.6	11	38	3.16	18	6	2.57
5-4238	East Branch Rock River Tributary near Slinger, Wis.	3.04	74.2	0.99	2.55	7.56	31.0	12	41	4.28	18	4	2.58

APPENDIX IV--continued

DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Drainage-Basin Characteristics													
Station number	Station name	Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) Sn	Soil index (inches) SI	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	Precipitation intensity index (inches) I
5-4240	East Branch Rock River near Mayville, Wis.	179	3.21	3.82	41.8	10.6	30.5	13	40	3.70	18	4	2.54
5-4243	Rock River Tributary near Watertown, Wis.	4.58	13.2	0	5.25	4.58	31.7	10	39	3.51	18	5	2.65
5-4255	Rock River at Watertown, Wis.	971	1.38	12.1	106	9.1	30.7	12	38	3.33	19	5	2.59
5-4257	Robbins Creek near Columbus, Wis.	8.54	21.0	1.99	8.0	3.86	30.8	12	38	3.70	21	6	2.70
5-4260	Crawfish River at Milford, Wis.	732	2.50	11.1	64.0	7.38	30.5	12	38	3.70	22	6	2.67
5-4261	Scuppernong Creek near Wales, Wis.	8.28	21.1	13.1	3.75	12.7	31.8	12	41	5.62	16	5	2.64
5-4272	Allen Creek near Fort Atkinson, Wis.	10.2	15.5	4.11	6.6	3.24	32.0	12	38	3.70	18	5	2.75
5-4272.5	Koshkonong Creek at Sun Prairie, Wis.	0.46	51.7	0	1.05	2.22	30.5	12	38	3.51	21	5	2.73
5-4278	Token Creek near Madison, Wis.	24.2	8.53	1.24	11.2	3.43	30.4	12	38	3.51	21	5	2.75
5-4301	Badfish Creek near Stoughton, Wis.	37.0	8.01	1.78	8.65	4.40	30.6	11	38	3.70	19	5	2.80
5-4305	Rock River at Afton, Wis.	3,300	1.28	11.4	171	7.92	30.9	12	37	3.33	20	5	2.70
5-4314	Little Turtle Creek at Allens Grove, Wis.	41.8	8.23	0.26	12.8	2.63	32.5	14	39	3.51	16	5	2.78
5-4315	Turtle Creek near Clinton, Wis.	186	5.58	2.62	25.2	8.06	32.5	14	39	3.70	16	5	2.77
5-4323	Rock Branch near Mineral Point, Wis.	4.83	80.1	0	4.7	6.42	33.0	8	38	4.28	18	5	2.93
5-4325	Pecatonica River at Darlington, Wis.	274	8.25	0	36.6	11.7	33.2	10	38	4.08	17	5	2.97
5-4330	East Branch Pecatonica River near Blanchardville, Wis.	221	8.25	0.13	26.7	17.2	31.9	9	37	4.08	17	5	2.90
5-4335	Yellowstone River near Blanchardville, Wis.	28.5	26.4	0	11.8	7.02	32.7	8	38	4.08	18	5	2.96
5-4342	Skinner Creek Tributary near Monroe, Wis.	0.48	135.7	0	0.95	0	32.5	11	37	4.08	17	5	2.90
5-4345	Pecatonica River at Martintown, Wis.	1,040	2.28	0.29	81.8	11.5	32.6	10	36	4.08	17	5	2.93
5-4350	Cedar Creek near Winslow, Ill.	1.29	40.9	0	2.12	0	32.9	12	32	4.1	16	5	3.00
5-4359	Sugar River Tributary near Pine Bluff, Wis.	7.46	43.9	0	3.0	10.8	30.2	10	38	4.49	20	5	2.82
5-4360	Mt. Vernon Creek near Mt. Vernon, Wis.	16.1	25.0	0	9.6	13.2	30.8	10	38	3.89	18	5	2.84
5-4362	Sugar River Tributary No. 2 near Brooklyn, Wis.	3.34	59.4	0	2.35	5.69	30.9	11	37	4.28	18	5	2.84

APPENDIX IV--continued
DRAINAGE-BASIN CHARACTERISTICS FOR STREAM-GAGING STATIONS

Station number	Station name	Drainage-Basin Characteristics											Precipitation intensity index (inches) I
		Drainage area (sq mi) A	Main channel slope (ft/mi) S	Lake and marsh area (percent) St	Main channel length (miles) L	Forest cover (percent) F	Mean annual precipitation (inches) P	Mean minimum Jan. temp. (°F) T ₁	Mean annual snowfall (inches) Sn	Soil index (inches) Si	Mean frost depth Feb. 28 (inches) Fd	Mean snow depth Feb. 28 (inches) Sd	
5-4365	Sugar River near Brodhead, Wis.	527	3.90	0.94	51.3	12.0	31.0	9	36	4.08	17	5	2.85
5-4370	Pecatonica River at Shirland, Ill.	2,540	2.01	1.78	118	7.91	33.0	12	36	4.1	16	5	2.90
5-4372	East Fork Raccoon Creek Tributary near Beloit, Wis.	4.67	24.3	0	5.0	3.85	32.8	14	36	4.28	17	5	2.85
5-4375	Rock River at Rockton, Ill.	6,290	0.84	8.12	178	7.67	30.5	12	38	3.5	17	5	2.7
5-4385	Kishwaukee River at Belvidere, Ill.	525	4.59	12.4	41.3	2.47	32.7	15	31	4.1	13	5	2.8
5-5280	Des Plaines River near Gurnee, Ill.	230	1.27	17.2	38.8	11.0	31.0	16	39	3.9	13	6	2.7
5-5443	Mukwonago River Tributary near Mukwonago, Wis.	1.32	21.1	0	2.3	4.55	31.6	13	42	4.08	16	6	2.68
5-5451	Sugar Creek at Elkhorn, Wis.	6.68	12.0	5.10	4.55	4.04	32.5	13	41	3.70	16	5	2.75
5-5452	White River Tributary near Burlington, Wis.	2.42	34.8	0.83	3.1	2.48	32.2	13	42	3.89	15	6	2.72
5-5453	White River near Burlington, Wis.	97.5	15.1	15.4	14.8	13.3	32.3	14	41	3.51	16	6	2.74
5-5465	Fox River at Wilmot, Wis.	868	1.42	7.84	75.0	10.0	31.6	13	41	3.51	16	5	2.68
5-5481.5	North Branch Nippersinck Creek Tributary near Genoa City, Wis.	13.8	16.1	3.19	5.4	1.67	32.5	14	41	3.89	15	6	2.76
5-5490	Boone Creek near McHenry, Ill.	15.3	7.34	24.4	8.89	17.3	32.4	15	31	6.7	12	5	2.8
5-5500	Fox River at Algonquin, Ill.	1,402	0.90	15.5	117.3	8.55	31.0	14	40	3.9	15	5	2.7

APPENDIX V
ADDITIONAL FLOOD-FREQUENCY EQUATIONS

Equations with the Main-Channel Slope Parameter

	Equation $\frac{1}{}$	Se (percent)	Years $\frac{2}{}$
$Q_2 \frac{3}{}$	$= 33.4A^{.86}S^{.31}St^{-.23}F^{.08}Si^{-.65}Af_1^{.84}$	38.8	<12
$Q_2 \frac{3}{}$	$= 16.5A^{.88}S^{.31}St^{-.30}Af_1^{.93}$	41.1	<12
$Q_{25} \frac{4}{}$	$= 74.3A^{.85}S^{.48}St^{-.29}Si^{-.52}Af_1^{1.0}$	38.8	>10
$Q_{25} \frac{5}{}$	$= 60.4A^{.81}S^{.43}St^{-.40}Af_1^{1.02}$	33.0	>12
$Q_{50} \frac{6}{}$	$= 426A^{1.05}S^{.52}St^{-.29}L^{-.54}Sn^{-.33}Si^{-.28}Af_1^{.97}$	28.2	>22
$Q_{50} \frac{7}{}$	$= 72.6A^{.80}S^{.44}St^{-.42}Af_1^{1.04}$	36.6	>12
$Q_{100} \frac{6}{}$	$= 646A^{1.07}S^{.54}St^{-.29}L^{-.60}Sn^{-.38}Si^{-.28}Af_1^{.97}$	30.9	>22

Equations without the Main-Channel Slope Parameter

	Equation $\frac{1}{}$	Se (percent)	Years $\frac{2}{}$
$Q_2 \frac{3}{}$	$= 111A^{.76}St^{-.29}Si^{-.39}Af_2^{1.11}$	41.3	<12
$Q_2 \frac{3}{}$	$= 65.8A^{.77}St^{-.36}Af_2^{1.13}$	42.3	<12
$Q_{25} \frac{4}{}$	$= 457A^{.91}St^{-.37}L^{-.41}F^{-.09}Af_2^{1.27}$	42.3	>10
$Q_{25} \frac{5}{}$	$= 384A^{.65}St^{-.45}Af_2^{1.12}$	37.6	>12
$Q_{50} \frac{6}{}$	$= 3027A^{.95}St^{-.34}L^{-.72}Sn^{-.30}Af_2^{1.19}$	31.6	>22
$Q_{50} \frac{7}{}$	$= 484A^{.64}St^{-.47}Af_2^{1.14}$	41.3	>12
$Q_{100} \frac{6}{}$	$= 4831A^{.96}St^{-.35}L^{-.79}Sn^{-.34}Af_2^{1.19}$	34.2	>22

- 1/. Add 1.0 to percent of lake and marsh area (S_t) and forest cover (F). Subtract 20 from mean annual snowfall (S_n).
- 2/. The maximum or minimum number of years of record at gaging stations used to define the regression equation.
- 3/. This equation should be used for drainage areas less than 50 square miles since most stations used to define the equation have drainage areas less than 50 square miles.
- 4/. This equation can be used for drainage areas of all sizes.
- 5/. This equation should be used for drainage areas greater than 20 square miles.
- 6/. This equation should be used for drainage areas greater than 50 square miles.
- 7/. This equation should be used for comparative purposes only because about one-third of the stations used in the regression have less than the required length of record needed to define a 50-year flood.

APPENDIX VI
ALPHABETICAL INDEX OF STATION NAMES

<u>Station Name</u>	<u>Downstream Order Number</u>
Allen Creek near Ft. Atkinson	05-4272
Allen Creek Tributary near Alvin	04-0599
Apple Creek near Kaukauna	04-0850.3
Apple River near Hanover, Illinois	05-4190
Apple River near Somerset	05-3415
Arkansaw Creek Tributary near Arkansaw	05-3706
Armstrong Creek near Armstrong Creek	04-0678
Badfish Creek near Stoughton	05-4301
Bad River at Mellen	04-0265
Bad River near Odanah	04-0270
Baraboo River near Baraboo	05-4050
Bashaw Brook near Shell Lake	05-3353.8
Bear Branch near Platteville	05-4142
Bearskin Creek near Harshaw	05-3923.5
Beaver Creek Tributary near Sparta	05-3823
Big Eau Pleine River near Colby	05-3990
Big Eau Pleine River near Stratford	05-3995
Big Sandy Creek near Wausau	05-3976
Bird Creek at Wautoma	04-0734
Bishops Branch near Viroqua	05-4088
Black Earth Creek at Black Earth	05-4065
Black River at Neillsville	05-3810
Black River near Bessemer, Michigan	04-0310
Black River near Galesville	05-3820
Black River Tributary near Whittlesey	05-3808
Bois Brule River at Brule	04-0255
Boone Creek near McHenry, Illinois	05-5490
Boomer Creek near Saxon	04-0297
Brule River near Florence	04-0610
Buffalo River near Tell	05-3720

Bull Creek Jr. near Rothschild	05-3985
By Golly Creek near Nelson	05-3713
Cawley Creek near Neillsville	05-3809.7
Cedar Creek near Cedarburg	04-0865
Cedar Creek near Winslow, Illinois	05-4350
Chippewa River at Bishops Bridge, near Winter	05-3560
Chippewa River at Chippewa Falls	05-3655
Chippewa River at Durand	05-3695
Chippewa River at Eau Claire	05-3670
Chippewa River at Holcombe	05-3625
Chippewa River near Bruce	05-3565
Chippewa River near Holcombe	05-3610
Cole Creek near Dunbar	04-0663
Coon Creek at Coon Valley	05-3865
Coon Creek near Stoddard	05-3870
Crawfish River at Milford	05-4260
Crooked Creek near Boscobel	05-4072
Dell Creek near Lake Delton	05-4037
Des Plaines River near Gurnee, Illinois	05-5280
Devil Creek near Merrill	05-3942
Du Charme Creek at Eastman	05-3884.6
Duncan Creek at Bloomer	05-3645
Duncan Creek at Chippewa Falls	05-3650
Eagle Creek near Fountain City	05-3782
East Branch Fond du Lac River near Fond du Lac	04-0835
East Branch Fond du Lac River Tributary near Eden	04-0834
East Branch Ontonagon River near Mass, Michigan	04-0350
East Branch Pecatonica River near Blanchardville	05-4330
East Branch Pine Creek Tributary near Dallas	05-3674.8
East Branch Rock River near Mayville	05-4240
East Branch Rock River Tributary near Slinger	05-4238
East Fork Galena River at Council Hill, Illinois	05-4155
East Fork Raccoon Creek Tributary near Beloit	05-4372
East River Tributary at Greenleaf	04-0851
Eau Claire River at Kelly	05-3975

Eau Claire River near Antigo	05-3970
Eau Claire River near Augusta	05-3660
Eau Claire River near Fall Creek	05-3665
Eau Galle River at Elmwood	05-3705
Eau Galle River at Spring Valley	05-3700
Eau Galle River Tributary near Hersey	05-3698
Embarrass River near Embarrass	04-0785
Evergreen Creek near Langlade	04-0752
Flambeau River at Babbs Island, near Winter	05-3585
Flambeau River at Flambeau Flowage	05-3575
Flambeau River near Bruce	05-3605
Flambeau River near Butternut	05-3580
Flambeau River near Ladysmith	05-3600
Flambeau River Tributary at Ladysmith	05-3602
Fourteenmile Creek near New Rome	05-4011
Fox River at Algonquin, Illinois	05-5500
Fox River at Berlin	04-0735
Fox River at Rapide Croche Dam, near Wrightstown	04-0845
Fox River at Wilmot	05-5465
French Creek near Ettrick	05-3822
Galena River at Buncombe	05-4150
Gilmore Creek at Winona, Minnesota	05-3790
Goggle-eye Creek near Thorp	05-3657
Grant River at Burton	05-4135
Hay Creek near Prentice	05-3614
Hay River at Wheeler	05-3680
Honey Creek at Milwaukee	04-0871
Hunting River near Elcho	04-0747
Jump River at Sheldon	05-3620
Kenyon Creek near Radisson	05-3562
Kewaunee River near Kewaunee	04-0852
Kickapoo River at Gays Mills	05-4100
Kickapoo River at LaFarge	05-4080
Kickapoo River at Steuben	05-4105
Killsnake River near Chilton	04-0854

Kinnickinnic River near River Falls	05-3420
Kinnickinnic River Tributary at River Falls	05-3419
Kishwaukee River at Belvidere, Illinois	05-4385
Knapp Creek near Bloomington	05-4085
Koshkonong Creek at Sun Prairie	05-4272.5
La Crosse River near West Salem	05-3830
Lake Michigan Tributary at Winthrop Harbor, Illinois	04-0873
Lemonweir River at New Lisbon	05-4035
Lightning Creek at Alma	05-3677
Little Frog Creek near Minong	05-3331
Little La Crosse River near Leon	05-3825
Little Maquoketa River near Durango, Iowa	05-4145
Little Menomonee River near Freistadt	04-0870.5
Little Plover River at Plover	05-4006.5
Little Plover River near Arnott	05-4006
Little Trimbelle Creek near Bay City	05-3466
Little Turtle Creek at Allens Grove	05-4314
Little Wolf River at Royalton	04-0800
Maquoketa River near Manchester, Iowa	05-4170
Maquoketa River near Maquoketa, Iowa	05-4185
McCall Creek at Wausaukee	04-0667
Menominee River below Koss, Michigan	04-0670
Menominee River near Florence	04-0630
Menominee River near Iron Mountain, Michigan	04-0650
Menominee River near McAllister	04-0675
Menominee River near Pembine	04-0660
Menomonee River at Wauwatosa	04-0871.2
Middle Branch Ontonagon River near Paulding, Michigan	04-0330
Mill Creek near Scales Mound, Illinois	05-4188
Milwaukee River at Milwaukee	04-0870
Milwaukee River Tributary near Fredonia	04-0864
Mishonagon Creek near Woodruff	05-3921.5
Montreal River at Ironwood, Michigan	04-0280
Montreal River near Saxon	04-0300
Mormon Creek near La Crosse	05-3863
Morris Creek Tributary near Norwalk	05-4074

Mount Vernon Creek near Mount Vernon	05-4360
Mukwonago River Tributary near Mukwonago	05-5443
Namekagon River near Trego	05-3325
Narrows Creek at Loganville	05-4042
Neshota River Tributary near Denmark	04-0853
New Wood River near Merrill	05-3940
North Branch Little River near Coleman	04-0717
North Branch Nippersink Creek Tributary near Genoa City	05-5481.5
North Fork Bad Axe River near Genoa	05-3871
Oak Creek near South Milwaukee	04-0872
Oconto River near Gillett	04-0710
One Mile Creek near Mauston	05-4035.5
Otter River near Elo, Michigan	04-0425
Paint Creek at Waterville, Iowa	05-3885
Paint River at Crystal Falls, Michigan	04-0615
Pats Creek near Elk Grove	05-4149
Pearl Creek at Grandview	04-0272
Pearson Creek near Maple	04-0252
Pecatonica River at Darlington	05-4325
Pecatonica River at Dill	05-4340
Pecatonica River at Martintown	05-4345
Pecatonica River at Freeport, Illinois	05-4355
Pecatonica River at Shirland, Illinois	05-4370
Pensaukee River near Pulaski	04-0718
Peshtigo River at High Falls near Crivitz	04-0680
Peshtigo River at Peshtigo	04-0695
Pet Brook near Edgar	05-3961
Pigeon Creek near Lancaster	05-4134
Pike Creek near Kenosha	04-0872.5
Pike River at Amberg	04-0665
Pine River at Pine River Powerplant near Florence	04-0645
Pine River near Florence	04-0640
Platte River near Rockville	05-4140
Plover River near Stevens Point	05-4005
Poplar River near Owen	05-3809

Prairie River near Merrill	05-3945
Presque Isle River at Marenisco, Michigan	04-0315
Presque Isle River near Tula, Michigan	04-0320
Price Creek near Phillips	05-3596
Randall Creek Tributary near Abbotsford	05-3992
Red Cedar River at Menomonie	05-3690
Red Cedar River near Colfax	05-3675
Rib River at Rib Falls	05-3960
Richland Creek near Plugtown	05-4071
Robbins Creek near Columbus	05-4257
Rock Branch near Mineral Point	05-4323
Rock River at Afton	05-4305
Rock River at Rockton, Illinois	05-4375
Rock River at Watertown	05-4255
Rock River Tributary near Watertown	05-4243
Rocky Branch near Richland Center	05-4068
Root River below South Fork, near Houston, Minnesota	05-3860
Root River near Houston, Minnesota	05-3850
Rowan Creek at Poynette	05-4056
Rum River near St. Francis, Minnesota	05-2860
Rush Creek near Rushford, Minnesota	05-3845
St. Croix River at St. Croix Falls	05-3405
St. Croix River near Danbury	05-3335
St. Croix River near Grantsburg	05-3360
St. Croix River near Rush City, Minnesota	05-3395
Sand River Tributary near Red Cliff	04-0262
Sawyer Creek at Oshkosh	04-0819
Sawyer Creek near Shell Lake	05-3341
Scuppernong Creek near Wales	05-4261
Seth Creek near Cadott	05-3641
Sheboygan River at Sheboygan	04-0860
Sheboygan River Tributary near Plymouth	04-0857
Sioux River near Washburn	04-0263
Skinner Creek Tributary near Monroe	05-4342
Snake River near Pine City, Minnesota	05-3385

South Branch Rock River at Waupun	05-4235
South Branch Rock River Tributary near Waupun	05-4233
South Fork Flambeau River near Phillips	05-3595
South Fork Flambeau River Tributary near Park Falls	05-3592
South Fork Jump River near Ogema	05-3615
South Fork Root River near Houston, Minnesota	05-3855
South Fork Whitewater River near Altura, Minnesota	05-3765
Spaulding Creek near Big Falls	04-0797
Spillerberg Creek near Cayuga	04-0264
Spirit River at Spirit Falls	05-3935
Spring Creek near Durand	05-3709
Stoney Brook near Superior	04-0244
Sturgeon River near Foster City, Michigan	04-0655
Sturgeon River near Sidnaw, Michigan	04-0405
Sugar Creek at Elkhorn	05-5451
Sugar River near Brodhead	05-4365
Sugar River Tributary near Pine Bluff	05-4359
Sugar River Tributary No. 2 near Brooklyn	05-4362
Sunrise River near Stacy, Minnesota	05-3400
Token Creek near Madison	05-4278
Tomahawk River at Bradley	05-3930
Tomahawk River near Bradley	05-3924
Trade River near Frederic	05-3403
Trappe River Tributary near Merrill	05-3951
Trempealeau River at Arcadia	05-3794
Trempealeau River at Dodge	05-3795
Trout Brook Tributary near Marengo	04-0267
Turkey River at Garber, Iowa	05-4125
Turtle Creek near Clinton	05-4315
Upper Iowa River at Decorah, Iowa	05-3875
Waupaca River near Waupaca	04-0810
Waupaca River Tributary near Waupaca	04-0810.1
Webster Creek at New Lisbon	05-4035.2
West Branch Fond du Lac River at Fond du Lac	04-0830
West Branch Montreal River at Gile	04-0290

West Branch Rock River near Waupun	05-4230
West Branch Root River Canal Tributary near North Cape	04-0872.3
West Branch Sturgeon River near Randville, Michigan	04-0653
White River near Ashland	04-0275
White River near Burlington	05-5453
White River Tributary near Burlington	05-5452
Whitewater Creek at Whitewater	05-4270
Whitewater Creek near Whitewater	05-4265
Willow Creek near Eau Claire	05-3670.3
Willow River Tributary near New Richmond	05-3417
Wisconsin River at Knowlton	05-4000
Wisconsin River at Merrill	05-3950
Wisconsin River at Muscoda	05-4070
Wisconsin River at Prairie du Sac	05-4060
Wisconsin River at Rainbow Lake near Lake Tomahawk	05-3910
Wisconsin River at Rothschild	05-3980
Wisconsin River at Whirlpool Rapids, near Rhinelander	05-3920
Wisconsin River at Wisconsin Rapids	05-4008
Wisconsin River near Necedah	05-4015
Wisconsin River near Wisconsin Dells	05-4040
Wisconsin River Tributary at Wisconsin Dells	05-4036.1
Wolf River above West Branch Wolf River	04-0755
Wolf River at Keshena Falls	04-0770
Wolf River at New London	04-0790
Woods Creek near Fence	04-0638
Yahara River near McFarland	05-4295
Yellow River at Babcock	05-4020
Yellow River at Cadott	05-3640
Yellow River at Ion, Iowa	05-3890
Yellow River at Necedah	05-4030
Yellow River at Sprague	05-4025
Yellow River Tributary near Pittsville	05-4018
Yellowstone River near Blanchardville	05-4335