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UNITED STATES DEPARTMENT OF THE INTERIOR

SURFACE WATER SUPPLY
of the **UNITED STATES**
1935

PART 5
HUDSON BAY AND
UPPER MISSISSIPPI RIVER BASINS

Prepared in cooperation with the States of
ILLINOIS, INDIANA, IOWA, MINNESOTA, MISSOURI
NORTH DAKOTA, and WISCONSIN

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 785

UNITED STATES DEPARTMENT OF THE INTERIOR
HAROLD L. ICKES, Secretary
GEOLOGICAL SURVEY
W. C. MENDENHALL, Director

Water-Supply Paper 785

SURFACE WATER SUPPLY *of the* UNITED STATES 1935

PART 5
HUDSON BAY AND
UPPER MISSISSIPPI RIVER BASINS

NATHAN C. GROVER, Chief Hydraulic Engineer
C. L. BATCHELDER, H. C. BECKMAN, H. E. GROSBACH, R. G. KASEL
W. A. LAMB, J. H. MORGAN, and S. B. SOULÉ
District Engineers

Prepared in cooperation with the States of
ILLINOIS, INDIANA, IOWA, MINNESOTA, MISSOURI
NORTH DAKOTA, and WISCONSIN



**Water Resources Branch,
Geological Survey,
Box 3106, Capitol Station
Oklahoma City, Okla.**

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ILLUSTRATION

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SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1935. The work was begun in 1888 in connection with special studies relating to irrigation. In the execution of the work, measurements of stream flow have been made at about 7,020 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July 1935, 3,020 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements were made at other points.

DEFINITION OF TERMS

The units in which stream-flow data are presented in this report and other terms used herein are defined as follows:

"Second-foot" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel when the cross-sectional area is 1 square foot and the average velocity is 1 foot per second.

"Second-foot per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An "acre-foot", equivalent to 43,560 cubic feet, is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage for irrigation.

"Second-foot-day" is the volume of water represented by a flow of 1 second-foot for 24 hours.

"Stage-discharge relation" is an abbreviation for the term "relation of gage height to discharge."

"Control" is a term used to designate the natural section or reach of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge.

Typical gaging stations, equipped with water-stage recorder and measuring cable and car, are shown on Plate 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily gage height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is computed.

The data presented for each gaging station in the area covered by this report usually comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off. Skeleton rating tables are published except for those stations whose daily discharge for the greater part of the year was determined by shifting-control method or by use of slope or other special methods.

The description of the station gives information in regard to the location and type of gage, diversions that decrease the flow at the gage, artificial regulation from pondage or storage, and the accuracy of the records. Under "Average discharge" is given the average discharge for the number of years indicated. It is given only for stations for which there are 10 or more complete years of record. Information under "Extremes" gives the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation, and also the minimum discharge if useful; and the minimum gage height except when it is of no importance. Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder or a nonrecording gage read at the time of the crest. Likewise the minimum represents the lowest discharge unless otherwise qualified.

The table of daily discharge gives, for stations equipped with nonrecording gages, the discharge in second-feet corresponding to once-daily or the mean of twice-daily readings of the gage. For stations equipped with water-stage recorders the table gives the discharge corresponding to the mean daily gage height except for stations on streams subject to sudden or rapid fluctuation. For stations subject to such fluctuation the mean daily gage height may not indicate the true mean daily discharge, which must be obtained by averaging the discharge for intervals of the day or by using the discharge integrator, an instrument for obtaining the mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

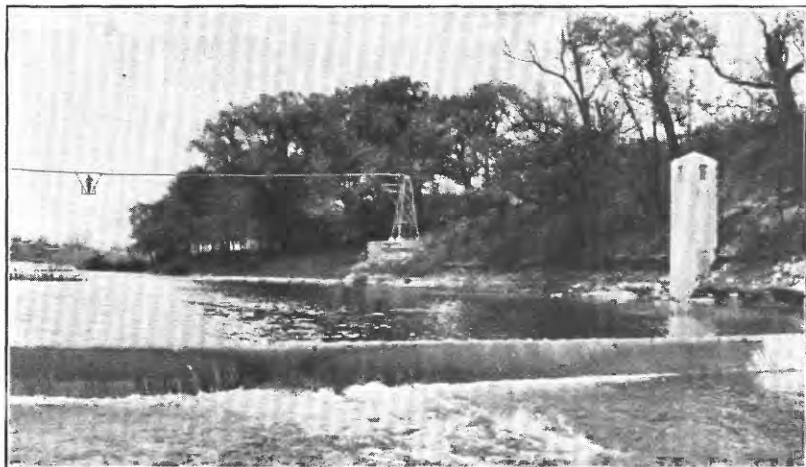
In the table of monthly discharge the column headed "Second-foot-days" gives the sum for each month of the discharge given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that, in general, the daily records are accurate within 5 percent; "good", within 10 percent; "fair", within 15 percent; and "poor", within 20 percent or more.

The monthly means for any station may represent with high accuracy the quantity of



A. ARTIFICIAL CONTROL, RECORDER HOUSE, AND MEASURING CABLE ON OLENTANGY RIVER, DELAWARE, OHIO.



B. RECORDER HOUSE AND MEASURING CABLE ON KAWEAH RIVER, THREE RIVERS, CALIF.

TYPICAL RIVER-MEASUREMENT STATIONS.

water flowing past the gage, but the figures showing discharge per square mile and depth in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and the discharge recorded does not show the water supply available for further development, as prior appropriations below the station must first be satisfied.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published, and that greater degrees of refinement in computations and records may be warranted with increased data and use of improved equipment.

In order to permit greater refinement in analysis and comparison of records for adjacent stations, the following changes in computation procedure were followed in preparing some of the records published in the series of reports for 1934 and all the records for 1935: (a) Mean monthly discharge above 1,000 second-feet and monthly run-off above 10,000 acre-feet are expressed to four significant figures instead of three significant figures, as formerly; (b) monthly run-off in acre-feet is computed from the total second-foot-days for the month and not from the mean discharge for the month; (c) drainage areas above 1,000 square miles, if measured on topographic maps, or if otherwise warranted, are expressed to four significant figures instead of three as formerly.

PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts (parts 12, 13, and 14 were formerly 12-A, 12-B, and 12-C), each part covering an area whose boundaries coincide with natural drainage features as indicated below:

- Part 1. North Atlantic slope basins (St. John River to York River).
2. South Atlantic slope and eastern Gulf of Mexico basins (James River to Mississippi River).
3. Ohio River Basin.
4. St. Lawrence River Basin.
5. Hudson Bay and upper Mississippi River Basins.
6. Missouri River Basin.
7. Lower Mississippi River Basin.
8. Western Gulf of Mexico basins.
9. Colorado River Basin.
10. The Great Basin.
11. Pacific slope basins in California.
12. Pacific slope basins in Washington and upper Columbia River Basin.
13. Snake River Basin.
14. Pacific slope basins in Oregon and lower Columbia River Basin.

Water-supply papers and other publications of the United States Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as indicated below.

1. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will, on application, furnish lists giving prices.

2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.

3. Sets are available for consultation in the local offices of the water-resources branch of the Geological Survey as follows:

Augusta, Maine, Statehouse.
 Boston, Mass., 945 Post Office Building.
 Hartford, Conn., 203 Federal Building.
 Albany, N. Y., 528 Federal Building.
 Trenton, N. J., 228 Federal Building.
 Harrisburg, Pa., 490 Education Building.
 Charlottesville, Va., University of Virginia.
 South Charleston, W. Va., Naval Ordnance Plant.
 Asheville, N. C., 220 Post Office Building.
 Columbia, S. C., 119 United States Courthouse.
 Ocala, Fla., Post Office Building.
 Montgomery, Ala., Post Office Building.
 Chattanooga, Tenn., 217 Post Office Building.
 Columbus, Ohio, Engineering Experiment Station, Ohio State University.
 Indianapolis, Ind., 319 Federal Building.
 Urbana, Ill., 14 Post Office Annex.
 Madison, Wis., 337N State Capitol.
 St. Paul, Minn., 808 New Post Office Building.
 Iowa City, Iowa, 402 Hydraulic Laboratory, University of Iowa.
 St. Louis, Mo., 906 Customhouse, 1114 Market Street.
 Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.
 Topeka, Kans., 305 Federal Building.
 Fort Smith, Ark., Post Office Building.
 Austin, Tex., State Highway Building.
 Santa Fe, N. Mex., 3 United States Courthouse.
 Tucson, Ariz., 210 Post Office Building.
 Denver, Colo., 403 Post Office Building.
 Salt Lake City, Utah, 303 Federal Building.
 Idaho Falls, Idaho, 228 Federal Building.
 Boise, Idaho, 429 Federal Building.
 Helena, Mont., 421 Federal Building.
 Tacoma, Wash., 406 Federal Building.
 Portland, Oreg., 606 Post Office Building.
 San Francisco, Calif., 303 Customhouse.
 Los Angeles, Calif., 512 Eighth and Figueroa Building.
 Honolulu, Hawaii, 225 Federal Building.

A list of the Geological Survey publications may be obtained by applying to the Director, United States Geological Survey, Washington, D. C.

Records of flow of streams in the United States have been published in the reports tabulated as follows:

Stream-flow data in reports of the United States Geological Survey
 (A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.....	
11th A, pt. 2	Monthly discharge and descriptive information....	1884 to Sept. 1890
12th A, pt. 2	do.....	1884 to June 30, 1891.
13th A, pt. 3	do.....	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871-93)....	1888 to Dec. 31, 1893.
B 131.....	Descriptions, measurements, gage heights, and ratings.	1893-94
16th A, pt. 2	Descriptive information only.....	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11.....	Gage heights (also gage heights for earlier years).	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895-96.
W 15.....	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte Rivers, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27.....	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28.....	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years).	1898.

Stream-flow data in reports of the United States Geological Survey--Continued

(A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
W 35 to 39...	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge.....	1899.
W 47 to 52...	Descriptions, measurements, gage heights, and ratings	1900.
22d A, pt. 4	Monthly discharge.....	1900.
W 65, 66.....	Descriptions, measurements, gage heights, and ratings	1901.
W 75.....	Monthly discharge.....	1901.

Note.— The reports which contain records after 1901 are given in the table on page 12.

The records at most of the stations discussed in these reports extend over a series of years. Miscellaneous measurements at many points other than regular gaging stations have been made each year and are published under "Miscellaneous discharge measurements" at the end of each report in the same relative order as the regular gaging stations. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1935. The data for any particular station will, in general, be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by part 3 are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years. Special papers containing compilation of records previously published and also records not contained in the annual series of water-supply papers have been published for some States and drainage basins. For example, stream-flow records for the New-Kanawha River Basin in part 3 from 1895 to 1920 are contained in Water-Supply Paper 536.

Numbers of water-supply papers containing results of stream measurements, 1899-1935

(For basins included see p.9).

Year	1	2	3	4	5	6	7	8	9	10	11	12 (12-A)	13 (12-B)	14 (12-C)
1890 a...	35	b 35, 36	36	36	36	c 36, 37	37	37	d 37, 38	38, e 39	38, f 39	38	38	38
1900 g...	47, h 78	65, 75	49, i 76	85, 75	49	49, j 50	50	50	k 50, 51	51	51	51	51	51
1901 k...	66, 82	b 82, 83	66, 82	85, 75	k 65, 66	66, 82	66, 82	66, 82	66, 82	66, 82	66, 82	66, 82	66, 82	66, 82
1902 m...	86, 82	b 82, 83	86, 82	85, 75	k 65, 66	66, 82	66, 82	66, 82	66, 82	66, 82	66, 82	66, 82	66, 82	66, 82
1903 n...	97	b 97, 98	98	98	k 98, 99	98	98	98	98	98	98	98	98	98
1904 o...	124, p 125, q 126	q 126, 127	126	129	k 128, 130	130, r 131	131	132	133	133, s 134	134	135	135	135
1905 t...	o 165, p 166, q 167	q 167, 168	169	170	171	172	k 169, 173	174	175, t 177	177	178	178	178	178
1906 u...	o 201, p 202, q 203	q 203, 204	205	206	207	210	k 205, 213	210	211, t 212	212, s 213	214	214	214	214
1907 v...	241	242	243	244	245	246	247	248	249	250, s 251	251	252	252	252
1908 w...	281	282	283	284	285	286	287	288	289	290, s 291	291	292	292	292
1909 x...	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1910 y...	321	322	323	324	325	326	327	328	329	330	331	332	332	332
1911 z...	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1912 a...	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1913 b...	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1914 c...	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1915 d...	461	462	463	464	465	466	467	468	469	470	471	472	473	474
1916 e...	491	492	493	494	495	496	497	498	499	500	501	502	503	504
1917 f...	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1918 g...	551	552	553	554	555	556	557	558	559	560	561	562	563	564
1919 h...	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1920 i...	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1921 j...	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1922 k...	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1923 l...	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1924 m...	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1925 n...	696	697	698	699	700	701	702	703	704	705	706	707	708	709
1926 o...	711	712	713	714	715	716	717	718	719	720	721	722	723	724
1927 p...	726	727	728	729	730	731	732	733	734	735	736	737	738	739
1928 q...	741	742	743	744	745	746	747	748	749	750	751	752	753	754
1929 r...	756	757	758	759	760	761	762	763	764	765	766	767	768	769
1930 s...	761	762	763	764	765	766	767	768	769	770	771	772	773	774

a Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply

Paper 39. Tables of monthly discharge for 1899 in 21st Annual Report, part 4.

b James River only.

c Gallatin River.

d Green and Gunnison Rivers and Colorado River above Gunnison River.

e Mojave River only.

f Kings and Kern Rivers and south Pacific slope basins.

g Rating tables and index to Water-Supply Papers 47-52 and data on precipitation,

well, and irrigation in California and Utah contained in Water-Supply Paper 52.

h Monthly discharge for 1890 in 22nd Annual Report, part 4.

i Sacramento and Sanjay-Kill Rivers to James River.

j Long, Platte, and Elk Horn Rivers and tributaries below Platte River.

k Tributaries of Mississippi River from east.

m Lake Ontario and tributaries to St. Lawrence River proper.

n Hudson Bay only.

o New England rivers only.

p Susquehanna River to Delaware River, inclusive.

q Susquehanna River to Yackin River, inclusive.

r Platte and Kansas Rivers.

s The Great Basin in California, except Truckee and Carson River Basins.

t The Great Basin in California, except Truckee and Carson River Basins.

u Rogue, Umpqua, and Siletz Rivers only.

The following table contains a list of gaging stations for the area covered by this report at which records of discharge were collected during the year ending September 30, 1935, by agencies other than the Geological Survey. The records for these stations are not contained in the publications of the Geological Survey.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Operated by	Remarks
Mississippi River..	St. Cloud hydroelectric plant, St. Cloud, Minn.	1925-35	Northern States Power Co.....	Unpublished
Do.....	Coon Rapids hydroelectric plant near Anoka, Minn.....	1918-35	do.....	Do.
Do.....	Lower Dam hydroelectric plant, Minneapolis, Minn.....	1900-35	do.....	Do.
Do.....	Twin City Lock and Dam, St. Paul, Minn.....	1925-35	Ford Motor Co.....	Do.
Minnesota River....	Minnesota Falls hydroelectric plant near Granite Falls, Minn....	1928-35	Northern States Power Co.....	Do.
Chicago Sanitary... Canal.....	Lockport, Ill.....	1900-35	Sanitary District of Chicago.....	Do.
Illinois River.....	Meredosia, Ill.....	1933-35	Corps of Engineers, U. S. Army.....	Do.
Sangamon River.....	Oakford, Ill.....	1934-35	do.....	Do.

COOPERATION

The work in the several States was done under cooperative agreements as follows: In Illinois with the Department of Registration and Education, John J. Hallihan, director; in Indiana with the Department of Public Works, V. M. Simmons, administrative officer; in Iowa with the University of Iowa Institute of Hydraulic Research, Professor F. T. Mavis, associate director, and B. J. Lambert, acting dean of the College of Engineering, the Iowa Geological Survey, A. C. Trowbridge, director, State Conservation Commission, M. L. Hutton, director, State Planning Board, R. H. Matson, director, State Department of Health, A. H. Wieters, director, Division of Engineering; in Minnesota with the Department of Conservation, Division of Drainage and Waters, W. S. Olson, director; in Missouri with the Missouri Geological Survey, H. A. Buehler, State geologist, and with the State Highway Department, T. H. Cutler, chief highway engineer; in North Dakota with the State engineer, E. J. Thomas; in Wisconsin with the Public Service Commission, John Damon, chief engineer.

Acknowledgments are also due the Corps of Engineers, U. S. Army, for financial assistance in collecting records published herein. Several stations in Minnesota, Montana, and North Dakota were maintained from funds appropriated by the U. S. Department of State.

Full cooperation exists between this organization and the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada. On waters adjacent to the international boundary certain stations are maintained jointly by the United States and Canada under the terms of the Boundary Waters Treaty of 1909, and others are maintained under a subsequent agreement between the two Governments. The records from all these stations are obtained in such a manner as to be equally acceptable and available in both countries. These stations are herein designated international gaging stations.

Assistance in collecting records was also rendered by the following municipalities, organizations, and corporations: In Iowa by the Mississippi River Power Co., Interstate Power Co., Iowa Electric Co., Des Moines Waterworks, City of Ottumwa, Decker Packing Co., Boone Water Department, and Iowa State College; in Minnesota by the Ford Motor Co.; in Wisconsin by the Northern States Power Co., Lake Superior District Power Co., and Wisconsin Public Service Corporation.

Funds for the rehabilitation of gaging stations, repairs, replacement of equipment, and improvement of records were allocated by the Public Works Administration from funds made available under the National Industrial Recovery Act.

DIVISION OF WORK

The data for stations in the several States were collected and prepared for publication under supervision of district engineers as follows: In Illinois (except the Mississippi River at Alton, Ill., and the Galena, Apple, Plum, Edwards, and Henderson Rivers and Pope Creek), J. H. Morgan; in Indiana, H. E. Grosbach; in Iowa (except the Mississippi River at Clayton) and the Grant and Platte Rivers in Wisconsin, Galena, Apple, Plum, Edwards, and Henderson Rivers and Pope Creek in Illinois, South Fabius River near Taylor, Mo., and North River at Palmyra, Mo., R. G. Kase; in Minnesota and

North Dakota (except the St. Croix River near Rush City, Minn.), for all stations on the Mississippi River between its head and Clayton, Iowa, and for the Whetstone River near Big Stone, S. Dak., C. L. Batchelder; in Missouri (except the South Farius River near Taylor and the North River at Palmyra) and for the Mississippi River at Alton, Ill., H. C. Beckman; in Montana, W. A. Lamb; in Wisconsin (except the Mississippi River at Prescott and La Crosse and the Grant and Platte Rivers) and the St. Croix River near Rush City, Minn., S. B. Soulé.

HUDSON BAY BASIN

ST. MARY RIVER BASIN

Upper St. Mary Lake at St. Mary Chalet, Mont.

Location.- Staff gage, lat. $48^{\circ}44'30''$, long. $113^{\circ}26'$, in NE $\frac{1}{4}$ sec. 4, T. 34 N., R. 14 W., at St. Mary Chalet, half a mile above outlet in Glacier National Park.

Records available.- May 1929 to September 1935 (incomplete).

Extremes.- Maximum stage observed during year, 4.80 feet June 15; minimum observed, 1.66 feet Aug. 31 and Sept. 5.
1929-35: Maximum stage observed, 6.70 feet June 17, 1933; minimum observed, 0.02 foot Dec. 16, 29, 30, 1929, and Jan. 1, 1930.

Remarks.- Records excellent. No diversions. No records Oct. 1 to June 14, June 30, Sept. 8-30.

Gage-height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	4.06	2.94	1.70
2									-	3.96	2.84	1.70
3									-	3.90	2.78	1.70
4									-	3.80	2.70	1.68
5									-	3.80	2.60	1.66
6									-	3.88	2.56	1.70
7									-	3.80	2.50	1.68
8									-	3.74	2.46	-
9									-	3.80	2.38	-
10									-	3.76	2.34	-
11									-	3.72	2.30	-
12									-	3.70	2.28	-
13									-	3.64	2.26	-
14									-	3.80	2.30	-
15									4.80	3.84	2.26	-
16									4.60	3.90	2.20	-
17									4.50	3.74	2.16	-
18									4.42	3.70	2.10	-
19									4.34	3.66	2.08	-
20									4.20	3.60	2.00	-
21									4.10	3.54	1.94	-
22									4.00	3.46	1.90	-
23									4.40	3.40	1.90	-
24									4.36	3.50	1.86	-
25									4.30	3.46	1.86	-
26									4.24	3.40	1.84	-
27									4.18	3.40	1.80	-
28									4.10	3.34	1.74	-
29									4.10	3.28	1.70	-
30									-	3.16	1.70	-
31									-	3.04	1.66	-

Lower St. Mary Lake near Babb, Mont.

Location.- Water-stage recorder, lat. 48°50', long. 113°25', in NE $\frac{1}{4}$ sec. 3, T. 35 N., R. 14 W., half a mile above outlet and 3 miles southeast of Babb.

Records available.- May 1929 to September 1935 (incomplete).

Extremes.- Maximum stage recorded during year, 3.58 feet May 25; minimum recorded, 0.10 foot Sept. 30.
1929-35: Maximum stage recorded, 5.09 feet June 9, 1934; minimum recorded, 0.04 foot Oct. 24, 25, 1929.

Remarks.- Records excellent. No diversions. Stage increased by inflow of Swiftcurrent Creek. No records Oct. 12-24, Oct. 26 to May 3.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.24							-	3.28	2.29	2.00	1.22
2	.23							-	3.44	2.29	1.97	1.19
3	.21							-	3.49	2.22	1.92	1.19
4	.20							1.41	3.41	2.17	1.89	1.18
5	.19							1.44	3.25	2.14	1.84	1.15
6	.18							1.48	3.11	2.15	1.80	1.18
7	.17							1.45	2.94	2.18	1.78	1.15
8	.16							1.47	2.78	2.19	1.77	1.14
9	.15							1.49	2.72	2.19	1.74	1.12
10	.13							1.51	2.73	2.18	1.67	1.10
11	.13							1.52	2.75	2.14	1.54	1.08
12	-							1.52	2.77	2.13	1.52	1.05
13	-							1.52	2.79	2.12	1.54	.96
14	-							1.53	2.84	2.13	1.55	.88
15	-							1.51	2.91	2.17	1.58	.79
16	-							1.51	2.86	2.20	1.58	.70
17	-							1.56	2.75	2.24	1.60	.63
18	-							1.62	2.66	2.30	1.60	.56
19	-							1.74	2.56	2.30	1.59	.50
20	-							1.91	2.50	2.30	1.58	.46
21	-							2.19	2.46	2.29	1.56	.39
22	-							2.52	2.40	2.23	1.52	.32
23	-							2.94	2.36	2.17	1.50	.28
24	-							3.35	2.37	2.10	1.47	.26
25	.13							3.53	2.38	2.10	1.40	.25
26	-							3.50	2.32	2.10	1.36	.23
27	-							3.36	2.27	2.11	1.32	.19
28	-							3.23	2.20	2.12	1.30	.13
29	-							3.13	2.20	2.10	1.29	.11
30	-							3.10	2.25	2.05	1.26	.10
31	-							3.14	-	2.01	1.24	-

St. Mary River near Babb, Mont.

Location.— Water-stage recorder, lat. 48°52'30", long. 113°24'30", in SE $\frac{1}{4}$ sec. 27, T. 36 N., R. 14 W., 600 feet below headworks of St. Mary Canal on the Blackfeet Indian Reservation and 1 mile east of Babb.

Drainage area.— 278 square miles (includes area of Swiftcurrent Creek above point of diversion into St. Mary Lake since Oct. 1, 1915).

Records available.— April 1902 to September 1925, May 1929 to September 1932, October 1934 to September 1935 (summer records only).

Extremes.— Maximum discharge during year, 2,390 second-feet May 25 (gage height, 5.43 feet); minimum, 98 second-feet Oct. 24 (gage height, 1.72 feet).
1902-25, 1929-32, 1934-35: Maximum discharge, 7,980 second-feet June 5, 1908 (gage height, estimated, 9.4 feet); minimum, 30 second-feet Apr. 3-7, 1904.

Remarks.— Records good. Storage in Sherburne Reservoir on Swiftcurrent Creek. Intake for St. Mary Canal at left end of dam. Records show only water passing over crest of dam; diversion by canal not included.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	180						-	351	2,040	866	555	257
2	178						-	379	2,190	843	545	249
3	183						-	315	2,240	760	497	244
4	174						-	281	2,190	685	492	236
5	167						-	281	1,990	679	463	224
6	157						-	259	1,890	698	436	239
7	153						-	275	1,700	724	428	224
8	159						-	289	1,520	717	409	224
9	155						-	315	1,520	724	401	216
10	145						-	348	1,520	711	741	201
11	138						-	355	1,520	692	581	221
12	136						-	382	1,520	692	339	228
13	143						-	401	1,520	698	355	211
14	151						-	401	1,660	704	351	204
15	145						-	393	1,600	730	339	201
16	153						-	397	1,560	774	345	187
17	149						-	449	1,420	827	351	197
18	147						-	521	1,290	843	342	216
19	151						-	637	1,200	835	345	209
20	141						-	812	1,120	827	335	216
21	147						-	1,120	1,080	797	318	236
22	157						-	1,470	984	717	309	318
23	141						-	1,840	937	660	371	304
24	127						321	2,190	937	625	428	301
25	116						324	2,340	952	631	382	301
26	-						339	2,290	874	643	351	304
27	-						352	2,190	782	654	301	295
28	-						358	2,040	745	672	254	276
29	-						358	1,940	774	625	257	252
30	-						372	1,890	843	692	249	244
31	-						-	1,890	-	560	254	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October 1-25							3,792	183	115	152	7,520	
November							-	-	-	-	-	
December							-	-	-	-	-	
Calendar year												
January							-	-	-	-	-	
February							-	-	-	-	-	
March							-	-	-	-	-	
April 24-30							2,454	372	321	351	4,870	
May							29,049	2,340	259	937	57,620	
June							42,018	2,240	745	1,401	83,340	
July							22,205	866	560	716	44,040	
August							12,112	741	249	391	24,020	
September							7,235	318	187	241	14,350	
Water year												

St. Mary River near Kimball, Alberta

(International gaging station)

Location.— Water-stage recorder, lat. 49°3', long. 113°18', in SW $\frac{1}{4}$ sec. 25, T. 1 N., R. 25 W. fourth meridian, 1 $\frac{1}{2}$ miles south of Kimball and 5 miles north of international boundary. Zero of gage is 3,917 feet above mean sea level. Chain gage 3 miles downstream was used Dec. 24 to Apr. 9.

Drainage area.— 497 square miles.

Records available.— January 1913 to September 1935; September 1902 to December 1912 at point half a mile north of international boundary. Comparable records from 1905 to 1912 obtained by Irrigation Branch, Department of the Interior, Canada, half a mile below present station.

Average discharge.— 33 years, 859 second-feet.

Extremes.— Maximum discharge during year, 3,060 second-feet May 24 (gage height, 4.97 feet); minimum, 175 second-feet Dec. 22 (gage height, 2.14 feet).

1902-35: Maximum discharge (estimated), 18,000 second-feet June 5, 1906; minimum, 27.8 second-feet Dec. 18, 1930.

Remarks.— Records excellent except those for periods of ice effect, Dec. 21, Dec. 23 to Apr. 9, which are good. St. Mary Canal diverts water near Babb, Mont. to North Fork of Milk River; Alberta Railway & Irrigation Co.'s canal diverts 2 miles below station. Regulation on Swiftcurrent Creek at Sherburne Lake Reservoir. This station is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. The records have been collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	365	463	222	446	354	248	659	2,550	1,060	721	346
2	254	391	419	225	446	328	243	678	2,770	1,030	690	337
3	250	400	387	229	446	324	226	630	2,770	966	669	329
4	277	378	374	231	446	322	209	453	2,680	894	630	315
5	235	424	391	233	444	319	208	484	2,390	886	595	298
6	223	582	374	237	441	315	207	474	2,180	894	561	332
7	214	750	352	240	438	311	206	469	1,960	933	544	305
8	220	955	344	243	436	309	214	474	1,810	924	528	290
9	223	1,130	328	247	430	307	222	528	1,830	924	517	283
10	206	1,260	320	249	423	306	232	555	1,840	916	668	265
11	198	1,290	320	251	417	304	232	583	1,830	894	960	265
12	198	1,260	316	248	407	303	298	606	1,790	879	463	263
13	260	1,210	284	245	398	301	398	618	1,790	886	479	261
14	244	1,140	298	243	388	294	394	612	1,810	894	484	246
15	241	1,060	287	239	379	297	373	612	1,880	901	463	251
16	244	1,010	254	236	372	295	916	618	1,780	950	463	232
17	238	946	260	233	366	295	684	696	1,620	975	463	240
18	235	901	241	231	362	294	589	808	1,520	992	458	254
19	244	857	238	229	357	293	533	958	1,460	1,000	463	265
20	238	806	235	234	357	292	544	1,200	1,400	1,000	443	248
21	238	766	220	240	357	289	561	1,450	1,340	966	422	261
22	257	735	209	245	357	288	517	1,840	1,260	916	412	393
23	229	707	204	251	353	290	484	2,430	1,230	849	437	373
24	223	669	199	270	348	292	479	2,880	1,200	814	1,000	373
25	209	634	199	310	348	293	501	2,990	1,200	808	595	369
26	235	602	199	407	348	295	544	2,810	1,120	828	495	355
27	328	556	199	419	344	295	561	2,650	1,020	828	437	346
28	324	534	203	431	340	284	579	2,390	958	821	360	319
29	320	508	208	433	-	271	606	2,230	966	797	341	286
30	332	483	213	437	-	258	659	2,210	1,030	760	337	283
31	344	-	218	441	-	253	-	2,290	-	734	332	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						7,745	344	198	250	15,360		
November.....						23,279	1,290	365	776	46,170		
December.....						8,786	463	199	282	17,370		
Calendar year 1934.....						314,611	4,790	198	862	624,000		
January.....						8,629	441	222	276	17,120		
February.....						10,994	446	340	393	21,810		
March.....						9,255	334	253	299	19,360		
April.....						12,566	316	206	419	24,920		
May.....						39,706	2,990	453	1,261	75,930		
June.....						50,984	2,770	958	1,699	101,100		
July.....						27,899	1,050	734	900	55,340		
August.....						16,420	1,000	332	530	32,670		
September.....						9,000	393	232	300	17,850		
Water year 1934-35.....						224,312	2,990	198	615	444,900		

St. Mary Canal at intake, near Babb, Mont.

(International gaging station)

Location.— Water-stage recorder, lat. 48°52'30", long. 113°24'30", in NW¼ sec. 27, T. 38 N., R. 14 W., 800 feet below intake of canal on Blackfeet Indian Reservation and 1 mile east of Babb.

Records available.— Irrigation seasons, 1918-35.

Remarks.— Records excellent except those for periods Apr. 24 to May 4 and Sept. 17 to Oct. 31, which are fair. No records Nov. 1 to Apr. 23. Canal diverts from west bank of St. Mary River near Babb and discharges into North Fork of Milk River. The water then flows in the natural channel of Milk River through Canada and is finally used for irrigation in Milk River Valley, east of Havre, Mont. Water may be returned to St. Mary River at St. Mary crossing. This station is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. The records have been collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, 1934-35

Day	Oct.				Apr.	May	June	July	Aug.	Sept.	Oct.
1	4.6				-	29.6	533	812	853	527	21.4
2	5.0				-	70	539	814	850	527	21.0
3	5.0				-	168	539	812	846	536	20.6
4	4.8				-	281	538	808	853	534	21.0
5	4.8				-	321	538	812	850	533	21.0
6	4.8				-	397	532	817	852	532	21.0
7	5.0				-	439	528	821	850	532	20.2
8	4.2				-	454	536	823	848	536	20.6
9	4.0				-	470	536	825	846	536	19.8
10	4.2				-	481	544	826	461	534	19.4
11	4.6				-	485	582	826	248	503	19.0
12	5.0				-	488	618	826	642	475	19.0
13	5.6				-	488	654	830	666	453	18.1
14	5.6				-	488	671	832	705	412	18.4
15	5.4				-	502	684	834	734	366	18.1
16	6.2				-	515	695	839	749	344	17.5
17	5.6				-	521	696	843	751	282	16.9
18	5.2				-	524	696	844	749	227	16.9
19	3.8				-	532	701	844	749	200	17.5
20	4.8				-	539	703	850	749	186	17.2
21	5.4				-	550	713	855	749	128	17.2
22	4.8				-	556	740	850	749	11.8	16.9
23	5.2				-	568	767	844	749	12.1	16.0
24	21.6				*2.0	558	789	846	461	12.1	16.0
25	84				5.2	539	798	855	461	11.8	16.0
26	52				6.6	538	796	859	461	10.6	16.3
27	6.6				7.0	534	796	859	521	10.6	16.3
28	6.8				5.8	532	796	859	521	15.4	17.8
29	6.2				6.0	528	801	857	554	20.6	18.7
30	6.4				6.6	527	807	855	554	21.0	18.4
31	6.0				-	530	-	855	554	-	18.4
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
1934											
October.....					304.2	84	3.8	9.81	603		
1935											
April 24-30.....					39.2	7.0	2.0	5.60	78		
May.....					14,153.6	568	29.6	457	28,070		
June.....					19,866	807	528	662	39,400		
July.....					25,932	859	808	837	51,440		
August.....					21,245	853	248	685	42,140		
September.....					9,029.0	536	10.6	301	17,910		
October.....					572.6	21.4	16.0	18.5	1,140		
The period.....									180,200		

*Estimated.

ST. MARY RIVER BASIN

St. Mary Canal at St. Mary crossing, near Babb, Mont.

(International gaging station)

Location.- Water-stage recorder, lat. 48°57', long. 113°21', in NE¼ sec. 30, T. 37 N., R. 13 W., 500 feet east of outlet of St. Mary River siphon, 9 miles northeast of Babb, and 10 miles below intake.

Records available.- Irrigation seasons, 1918-35.

Remarks.- Records excellent. This station is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. The records have been collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	502	716	732	489
2								-	506	712	728	486
3								41	506	712	726	488
4								251	506	712	728	488
5								277	504	714	728	488
6								356	502	716	730	488
7								403	498	718	730	489
8								428	504	718	728	489
9								439	502	722	726	489
10								459	506	720	551	488
11								459	534	720	78	482
12								461	572	720	562	446
13								462	600	720	602	428
14								464	614	720	620	399
15								471	626	722	654	346
16								488	630	722	666	332
17								495	634	724	672	274
18								495	630	726	672	220
19								498	636	726	676	187
20								507	636	730	674	178
21								513	640	734	674	140
22								520	658	732	674	31.0
23								530	674	728	591	8.2
24								530	692	728	27	7.3
25								509	698	732	388	7.1
26								509	696	732	443	6.5
27								504	698	732	461	5.5
28								502	698	736	482	5.7
29								500	702	732	491	12.1
30								500	712	730	497	4.6
31								498	-	730	497	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
May 3-31.....						13,069		530	41	451	25,920	
June.....						18,016		712	498	601	35,730	
July.....						22,436		736	712	724	44,500	
August.....						18,208		732	27	587	36,110	
September.....						8,404		489	4.6	280	16,670	
The period.....											158,900	

Note.- Canal not in operation Oct. 1 to May 2 and after Sept. 30.

St. Mary Canal at Hudson Bay divide, near Browning, Mont.

(International gaging station)

Location.- Water-stage recorder, lat. 48°59'30", long. 113°4'30", in sec. 5, T. 37 N., R. 11 W., on Blackfeet Indian Reservation, 3 miles above canal outlet and 30 miles north of Browning.

Records available.- Irrigation seasons, 1917-35.

Remarks.- Records excellent. This station is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. The records have been collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, 1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0							-	490	667	709	475
2	2.7							-	490	692	703	471
3	2.8							-	492	694	701	475
4	2.7							170	494	694	709	480
5	2.1							255	488	698	703	486
6	1.8							307	488	696	707	488
7	1.0							359	486	701	705	494
8	1.7							393	484	701	705	496
9	1.0							408	486	701	705	503
10	.6							430	488	705	698	490
11	.4							430	494	705	272	486
12	.2							438	530	703	256	465
13	.8							442	564	705	551	434
14	1.0							442	576	706	582	412
15	1.4							448	599	707	510	371
16	2.3							468	599	707	648	332
17	2.9							475	624	709	657	298
18	3.0							477	615	709	657	254
19	3.9							500	619	709	657	211
20	3.4							486	626	712	652	190
21	2.5							492	630	716	650	170
22	2.8							496	643	714	652	113
23	2.0							515	654	709	650	39.5
24	1.6							517	672	705	351	14.2
25	1.6							503	683	707	132	9.4
26												
27	1.5							500	685	709	378	6.8
28	1.7							496	683	712	420	4.0
29	1.7							490	685	718	444	-
30	2.0							488	685	687	461	-
31	2.4							486	696	701	471	-
	2.4							486	-	705	475	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
1934				60.8		3.9	0.2	1.96	121			
1935												
May 4-31.....				12,387		517	170	442	24,570			
June.....				17,450		696	454	582	34,610			
July.....				21,625		718	687	704	43,290			
August.....				17,671		709	132	570	35,050			
September 1-27.....				8,667.9		503	4.0	321	17,190			
The period.....									154,700			

Note.- Canal not in operation Nov. 1 to May 3 and after Sept. 27.

ST. MARY RIVER BASIN

Swiftcurrent Creek at Many Glacier, Mont.

(International gaging station)

Location.- Water-stage recorder, lat. $48^{\circ}48'$, long. $113^{\circ}38'$, in sec. 12, T. 35 N., R. 16 W., at outlet of McDermott Lake, at Many Glacier, Glacier National Park, 14 miles south-west of Babb.

Drainage area.- 31.4 square miles.

Records available.- June 1912 to September 1935 (winter records incomplete).

Extremes.- Maximum discharge during year, 1,070 second-feet May 23 (gage height, 4.49 feet); minimum, 21 second-feet Oct. 1 (gage height, 1.60 feet).
1912-35: Maximum discharge, 1,550 second-feet June 17, 1918; minimum discharge, 10 second-feet Nov. 6 and 7, 1921 (gage height, 1.22 feet).

Remarks.- Records excellent. Discharge interpolated Sept. 11-15. No records Nov. 1 to Apr. '30. No diversions or regulation. This station is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. The records have been collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-31

1.5	14
1.6	21
1.8	43
2.0	76
2.2	120

Table for May 1 to Sept. 30

1.6	30	2.6	243	3.6	626
1.8	52	2.8	308	3.8	719
2.0	83	3.0	377	4.0	816
2.2	126	3.2	453	4.2	917
2.4	182	3.4	537	4.4	1,022

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24.0							99	714	342	153	81
2	27.0							99	654	256	148	91
3	28.0							99	503	253	126	89
4	32.2							99	434	275	124	80
5	24.0							112	469	298	114	76
6	25.0							150	445	315	109	85
7	26.0							162	414	308	110	80
8	28.0							145	507	288	114	73
9	29.0							137	604	282	114	69
10	37.0							150	555	282	112	71
11	47.2							153	537	249	114	73
12	50							137	541	256	114	74
13	56							121	546	269	126	75
14	54							117	581	282	134	76
15	50							140	537	298	129	78
16	48.6							197	465	318	112	80
17	43.0							295	453	346	99	80
18	39.4							418	474	325	91	73
19	35.8							478	503	292	87	65
20	33.4							559	457	265	80	60
21	39.4							691	396	237	78	58
22	47.2							826	403	212	78	56
23	45.8							1,020	461	224	80	56
24	40.6							927	426	234	89	59
25	66							612	349	246	89	60
26	95							457	315	259	85	56
27	74							437	318	237	83	51
28	63							469	349	215	80	49.6
29	63							511	403	185	80	49.6
30	61							563	410	168	80	46.0
31	57							658	-	156	78	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	1,389.6	95	24.0	44.8	1.43	1.65	2,750
November.....	-	-	-	-	-	-	-
December.....	-	-	-	-	-	-	-
Calendar year							
January.....							
February.....							
March.....							
April.....							
May.....	11,038	1,020	99	356	11.3	13.04	21,890
June.....	14,223	714	315	474	15.1	16.85	28,210
July.....	8,172	346	156	264	8.41	9.70	16,210
August.....	3,209	153	78	104	3.31	3.82	6,360
September.....	2,070.2	91	46.0	69.0	2.20	2.46	4,110
Water year							

Sherburne Lake Reservoir at Sherburne, Mont.

Location.- Water-stage recorder, lat. 48°50', long. 113°31', in gate house in sec. 35, T. 38 N., R. 15 W., at Sherburne Dam, about 6 miles southwest of Babb. Zero of gage is 4,700.0 feet above mean sea level.

Drainage area.- 64 square miles.

Records available.- May to June 1915, May 1917 to September 1918, June 1921 to September 1935.

Extremes.- Maximum contents during year, 52,376 acre-feet July 7 (water-surface elevation, 4,779.61 feet).

1915, 1917-18, 1921-35: Maximum contents, 60,420 acre-feet June 20, 1925 (water-surface elevation, 4,784.6 feet).

Remarks.- Records good. Some gage-height records furnished by U. S. Bureau of Reclamation. No records Oct. 3-14, Sept. 7-29.

Contents, in acre-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	775	2,820	19,900	22,300	23,040	22,500	18,100	18,500	28,682	52,168	41,404	10,972
2	691	3,068	19,950	22,300	23,040	22,500	17,800	18,500	29,244	52,168	40,650	10,151
3	-	3,505	20,000	22,300	22,350	22,400	17,610	18,300	29,555	52,068	39,740	9,550
4	-	3,950	20,100	22,300	22,820	22,300	17,430	17,800	29,664	52,136	38,479	8,636
5	-	4,358	20,150	22,300	22,710	22,300	17,160	17,214	29,976	52,264	37,376	7,890
6	-	4,828	20,250	22,400	22,600	22,200	16,890	17,286	30,498	52,312	36,320	7,159
7	-	7,371	20,300	22,400	22,600	22,300	16,300	17,412	31,092	52,360	35,069	-
8	-	9,490	20,400	22,400	22,600	22,300	16,300	17,493	32,000	52,344	33,880	-
9	-	11,740	20,550	22,400	22,600	22,400	16,000	17,430	33,172	52,248	32,853	-
10	-	12,840	20,700	22,400	22,500	22,400	15,710	17,367	34,504	52,040	32,024	-
11	-	13,760	20,850	22,400	22,500	22,500	15,440	17,295	35,628	51,832	31,724	-
12	-	14,270	21,000	22,400	22,500	22,400	15,170	17,196	36,812	51,560	30,806	-
13	-	14,720	21,100	22,400	22,400	22,300	14,900	17,079	37,972	51,205	29,844	-
14	-	15,080	21,300	22,500	22,400	22,300	15,260	16,935	39,194	50,920	28,803	-
15	1,680	15,900	21,500	22,500	22,400	22,400	15,260	16,800	40,481	50,590	27,747	-
16	1,690	16,200	21,600	22,500	22,400	22,500	15,260	16,800	41,456	50,320	26,746	-
17	1,680	16,400	21,600	22,500	22,400	22,300	15,350	16,890	42,373	50,050	25,630	-
18	2,120	16,600	21,700	22,500	22,400	21,700	15,350	17,385	43,356	49,780	24,536	-
19	2,120	16,700	21,700	22,500	22,400	21,400	15,350	18,050	44,590	49,495	23,381	-
20	2,120	16,890	21,700	22,500	22,400	21,100	15,350	18,826	45,595	49,105	22,170	-
21	2,120	17,160	21,800	22,500	22,400	20,800	15,530	19,546	46,270	48,640	20,980	-
22	2,120	17,520	21,800	22,500	22,400	20,500	15,710	20,680	47,050	48,175	19,790	-
23	2,120	17,610	21,900	22,500	22,400	20,200	15,710	22,150	48,025	47,680	18,700	-
24	2,920	18,000	21,900	22,600	22,400	19,900	15,710	23,799	48,980	47,140	17,610	-
25	2,625	18,300	22,000	22,600	22,500	19,600	15,710	24,900	49,375	46,592	16,770	-
26	2,584	18,700	22,000	22,600	22,500	19,420	15,710	25,430	49,870	46,116	15,860	-
27	2,643	19,060	22,100	22,710	22,500	19,240	16,800	25,822	50,275	45,514	15,080	-
28	2,643	19,510	22,100	22,710	22,500	18,970	16,800	26,251	50,785	44,825	14,225	-
29	2,944	19,600	22,200	22,710	-	18,700	17,610	26,724	51,510	43,986	13,400	-
30	2,944	19,800	22,200	23,040	-	18,600	18,200	27,285	51,832	43,216	12,561	1,380
31	2,702	-	22,300	23,040	-	18,400	-	27,945	-	42,275	11,756	-

Swiftcurrent Creek at Sherburne, Mont.

(International gaging station)

Location.- Water-stage recorder, lat. 48°50', long. 113°31', in sec. 35, T. 36 N., R. 15 W., 800 feet below spillway of Sherburne Lake Dam at Sherburne.

Drainage area.- 64 square miles.

Records available.- July 1912 to September 1935 (winter records incomplete).

Extremes.- Maximum discharge during year, 769 second-feet Aug. 20 (gage height, 5.03 feet); minimum, 16.9 second-feet for several days in October (gage height, 1.33 feet).
1912-35: Maximum discharge, 2,280 second-feet June 17, 1915 (gage height, 7.83 feet); no flow at various times when gates in dam were closed.

Remarks.- Records good. No records Nov. 1 to May 4. No diversions. Flow regulated by gate operation at dam. This station is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. The records have been collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-31

1.3	16	2.2	79
1.4	19	2.4	103
1.6	28	2.6	130
1.8	41	2.8	159
2.0	58		

Table for May 5 to Sept. 30

1.6	28	2.8	151	4.0	407
1.8	39	3.0	183	4.2	469
2.0	54	3.2	219	4.4	536
2.2	73	3.4	259	4.6	607
2.4	96	3.6	304	4.8	681
2.6	122	3.8	353	5.0	757

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104							-	568	348	681	540
2	96							-	600	374	681	546
3	74							-	603	323	681	526
4	70							-	491	318	719	502
5	54							225	387	353	719	499
6	47.4							228	279	390	719	492
7	39.6							221	171	396	757	499
8	56							241	100	404	757	499
9	47.4							304	99	434	757	482
10	35.4							295	97	437	757	469
11	39.6							292	99	469	699	437
12	30.0							295	99	529	681	404
13	16.9							292	97	526	662	340
14	16.9							290	96	543	719	274
15	16.9							290	95	564	727	223
16	17.2							286	88	571	742	190
17	17.2							286	88	578	753	154
18	16.9							290	88	575	749	153
19	16.9							295	88	575	746	126
20	16.9							401	85	600	757	119
21	16.9							443	84	589	761	106
22	16.9							431	84	556	749	95
23	16.9							440	82	536	696	89
24	138							453	154	556	607	89
25	144							422	182	607	585	90
26	78							410	148	607	560	91
27	57							413	154	644	533	46.8
28	50							413	169	644	571	31.0
29	86							416	237	662	582	29.0
30	113							413	268	662	557	28.0
31	113							473	-	681	540	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,658.9	144	16.9	53.5	3,290
November.....	-	-	-	-	-
December.....	-	-	-	-	-
Calendar year					
January.....					
February.....					
March.....					
April.....					
May 5-31.....	9,258	473	221	343	18,360
June.....	5,880	603	82	196	11,660
July.....	16,021	681	318	517	31,780
August.....	21,194	761	533	684	42,040
September.....	8,148.8	546	28.0	272	16,160
Water year					

Canyon Creek near Many Glacier, Mont.

(International gaging station)

Location.- Water-stage recorder, lat. 48°46', long. 113°37'30", at edge of heavy timber area, Glacier National Park, half a mile above mouth and 2 miles southeast of Mary Glacier.

Drainage area.- 7.0 square miles.

Records available.- July 1918 to September 1935 (winter records incomplete).

Extremes.- Maximum discharge during year, 115 second-feet June 3 (gage height, 1.72 feet); minimum, 3.2 second-feet Oct. 6 (gage height, 0.10 foot).
1918-35: Maximum discharge (estimated), 500 second-feet May 16, 1922 (gage height, 3.34 feet); minimum, 0.7 second-feet Oct. 9, 1932 (gage height, 0.18 foot).

Remarks.- Records good except those for interpolated period, Sept. 24-29, which are fair. No records Nov. 1 to May 30. No diversions. This station is one of the international gaging stations maintained jointly by the United States and Canada under the Boundary Waters Treaty. The records have been collected and compiled jointly with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3								82	35.6	23.0	11.6
2	8.6								88	29.6	21.8	11.6
3	8.6								103	35.6	19.6	11.6
4	8.6								104	44.1	19.0	11.2
5	4.9								95	44.1	19.0	11.6
6	3.2								102	46.0	17.9	15.8
7	3.3								94	42.4	17.4	15.8
8	5.5								70	40.7	17.4	14.9
9	7.6								65	39.8	17.4	15.0
10	8.6								56	37.3	17.4	12.5
11	8.6								67	34.9	17.9	11.2
12	8.9								55	33.4	18.5	10.5
13	9.2								59	32.6	19.6	9.3
14	9.2								56	31.1	20.2	11.2
15	8.9								62	28.2	19.6	15.4
16	9.2								53	25.6	17.9	30.3
17	8.9								51	31.8	14.9	27.5
18	8.9								53	28.8	13.4	23.0
19	9.2								58	33.4	13.0	19.6
20	8.9								22	36.4	12.5	16.8
21	9.4								47.0	31.8	12.0	14.4
22	9.7								55	28.8	12.5	13.9
23	9.2								60	31.1	13.9	13.4
24	9.2								50	37.3	13.9	12.8
25	13.6								39.8	35.6	13.4	12.2
26	12.5								37.3	39.8	12.5	11.7
27	9.7								39.0	35.6	12.5	11.2
28	10.0								47.0	32.6	12.5	10.7
29	9.7								55	27.5	12.0	10.2
30	9.7								47.0	25.0	12.0	9.7
31	10.4							86	-	23.7	11.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	270.1	13.6	3.2	8.71	1.24	1.43	536
November.....	-	-	-	-	-	-	-
December.....	-	-	-	-	-	-	-
Calendar year							
January.....							
February.....							
March.....							
April.....							
May.....							
June.....	1,917.1	104	37.3	63.9	9.13	10.19	3,800
July.....	1,080.2	46.0	23.7	34.2	4.89	5.64	2,100
August.....	496.2	23.0	11.6	16.0	2.29	2.64	984
September.....	424.6	30.3	9.3	14.2	2.03	2.26	842
Water year							

RED RIVER BASIN

Many Point Lake near Ponsford, Minn.

Location.- Staff gage, lat. 47°3', long. 95°32', in sec. 6, T. 141 N., R. 38 W., at outlet of Many Point Lake, about 10 miles northwest of Ponsford.

Records available.- September 1933 to September 1935 (fragmentary).

Remarks.- Stage of lake regulated by dam at outlet. Gage heights have been reduced to mean sea level datum on basis of levels by Emergency Conservation Work engineers.

Elevation, in feet, 1933-35

1933		1935		1935	
Sept. 26	1,499.90	July 24	1,501.25	Aug. 3	1,501.19
1934		25	1,501.25	4	1,501.16
June 26	1,501.12	26	1,501.27	5	1,501.18
1935		27	1,501.25	6	1,501.21
Jan. 25	1,500.00	28	1,501.25	7	1,501.10
July 19	1,501.31	29	1,501.24	8	1,501.10
20	1,501.30	30	1,501.23	9	1,501.10
21	1,501.29	31	1,501.22	10	1,501.13
22	1,501.26	Aug. 1	1,501.22	Sept. 29	1,500.88
23	1,501.27	2	1,501.21		

Pine Lake near Perham, Minn.

Location.- Staff gage, lat. 46°35'34", long. 95°30'25", in sec. 17, T. 136 N., R. 38 W., at outlet of lake, 3 miles east of Perham.

Records available.- June 1934 to September 1935 (fragmentary).

Extremes.- Maximum water-surface elevation observed during period of record, 1,331.44 feet July 18, 1935; minimum, 1,330.52 feet Sept. 30, 1935.

Remarks.- Temporary staff gage in sec. 6, T. 136 N., R. 38 W., referred by water levels to gage at outlet, was used July 18 to Sept. 30. All readings have been reduced to mean sea level datum on basis of levels by Emergency Conservation Work engineers. Elevation of lake regulated by dam at outlet.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30.08									-	-	30.79
2										-	31.29	-
3										-	-	-
4										-	31.13	-
5										-	-	30.74
6										-	31.16	-
7										-	-	30.73
8										-	-	-
9										-	31.14	-
10										-	31.13	-
11										-	-	-
12										-	31.01	-
13										-	-	-
14										-	-	30.72
15										-	-	-
16										-	-	30.71
17										-	-	30.71
18										31.44	30.96	30.71
19										-	-	-
20										31.42	-	30.70
21										31.41	30.94	30.70
22										-	-	-
23										-	-	-
24										31.38	30.94	30.66
25										-	-	-
26										-	30.92	-
27										-	-	-
28										-	30.86	-
29										-	-	-
30										-	-	30.52
31										31.35	-	-

Note.- Add 1,300 feet to obtain elevation above mean sea level. Lake elevation on June 26, 1934, was 1,331.13 feet.

Rush Lake near Otter Tail, Minn.

Location.- Staff gage, lat. 46°28'35", long. 95°34'25", in sec. 26, T. 135 N., R. 39 W., at outlet of lake about 3½ miles northwest of Otter Tail post office.

Records available.- June 1934 to September 1935 (fragmentary).

Extremes.- Maximum elevation observed during period June 1934 to September 1935, 1,321.39 feet Sept. 11, 1934; minimum, 1,320.45 feet Sept. 7, 1935.

Remarks.- Elevations of water-surface of lake determined by level from June 26 to Oct. 22, 1934. Gage heights have been reduced to mean sea level datum on basis of levels by Emergency Conservation Work engineers.

Elevation, in feet, 1934

June	26	1,320.78
Sept.	11	1,321.39
	26	1,321.20
	28	1,321.33
	30	1,321.28

Elevation, in feet, water year October 1934 to September 1935-

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-									-	21.03	20.54
2	-									-	21.02	20.51
3	-									-	21.00	20.50
4	21.34									-	20.96	20.46
5	-									-	20.95	20.47
6	-									-	20.94	20.48
7	-									-	20.94	20.46
8	-									-	20.92	-
9	-									-	20.91	-
10	-									-	20.90	-
11	-									-	20.82	-
12	21.27									-	20.78	-
13	-									-	20.78	-
14	-									-	20.76	-
15	-									-	20.70	-
16	-									-	20.70	-
17	-									-	20.68	-
18	-									21.07	20.69	-
19	21.29									21.07	20.70	-
20	-									21.05	20.68	-
21	-									21.05	20.68	-
22	21.34									21.03	20.66	-
23	-									21.01	20.63	-
24	-									21.02	20.65	-
25	-									21.03	20.69	-
26	-									21.08	20.66	-
27	-									21.12	20.58	-
28	-									21.12	20.59	-
29	-									21.08	20.59	-
30	-									21.06	20.57	-
31	-									21.04	20.56	-

Note.- Add 1,300 feet to obtain elevation above mean sea level.

Otter Tail Lake near Battle Lake, Minn.

Location.- Staff gage, lat. $46^{\circ}21'35''$, long. $95^{\circ}43'55''$, in sec. 4, T. 133 N., R. 40 W., at outlet of Otter Tail Lake, about 5 miles northwest of village of Battle Lake.

Records available.- September 1933 to September 1935 (fragmentary).

Extremes.- Maximum water-surface elevation observed during period of record, 1,319.46 feet July 18, 1935; minimum observed, 1,317.94 feet Oct. 15, 1934.

Remarks.- Records good after July 18, 1935. Discharge from lake regulated at dam just below gage. Gage heights have been reduced to mean sea level datum on basis of levels by Emergency Conservation Work engineers.

Elevation, in feet

1933	
Sept. 27	1,318.67
1934	
Apr. 9	1,318.87
June 26	1,319.11
Sept. 10	1,318.24
26	1,318.11
30	1,318.05

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17.98									-	19.34	19.06
2	18.06									-	19.32	19.04
3	-									-	19.32	19.04
4	-									-	19.32	19.02
5	18.03									-	19.30	19.02
6	-									-	19.30	19.00
7	-									-	19.30	18.98
8	18.13									-	19.30	18.98
9	-									-	19.30	18.98
10	-									-	19.30	18.98
11	17.99									-	19.28	19.00
12	17.99									-	19.20	19.00
13	-									-	19.20	19.01
14	-									-	19.14	19.01
15	17.94									-	19.12	18.94
16	-									-	19.12	18.94
17	17.98									-	19.12	18.92
18	-									19.46	19.12	18.92
19	-									-	19.14	18.92
20	-									-	19.10	18.90
21	-									-	19.16	18.90
22	17.99									-	19.16	18.88
23	-									-	19.12	18.88
24	-									-	19.18	18.82
25	-									-	19.16	18.82
26	-									-	19.16	18.80
27	-									-	19.14	18.90
28	-									19.44	19.10	18.78
29	-									19.42	19.10	18.78
30	-									19.42	19.10	18.78
31	-									19.34	19.12	-

Note.- Add 1,300 feet to obtain elevation above mean sea level.

Otter Tail River below Pelican River, near Fergus Falls, Minn.

Location.— Water-stage recorder, lat. 46°13'45", long. 96°7', in SW¼ sec. 20, T. 132 N., R. 43 W. (revised), 500 feet below Dayton Hollow Dam, 5 miles southwest of Fergus Falls, and 5 miles below mouth of Pelican River.

Records available.— October 1930 to September 1935.

Extremes.— Maximum discharge during year, 472 second-feet June 26, maximum gage height, 3.15 feet July 24; minimum discharge, 1 second-foot Sept. 30 (gage height, 0.89 foot); minimum mean daily discharge, 3.7 second-feet Sept. 27.
1930-35: Maximum discharge, 610 second-feet Dec. 11, 1930 (gage height, 2.19 feet); maximum discharge (about 908 second-feet) published in Water-Supply Paper 760 for May 29, 1934 (gage height, 2.92 feet), revised to 448 second-feet; minimum discharge, 1 second-foot May 2, 1934, Sept. 30, 1935; minimum mean daily, 3.2 second-feet Apr. 29, 1934.

Remarks.— Records good except those for Oct. 1 to Feb. 3, which are fair, and were computed from record of power-plant operation at Dayton Hollow Dam. Stage-discharge relation affected by ice Feb. 18 to Mar. 3 and by aquatic growth June 29 to Sept. 25.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5	8	19	13	13	10	47	10	24	116	26	7.7
2	5	8		12	13	20	49	117	20	142	10	14
3	5	19	8	13	16	10	45	121	19	139	42	16
4	5	8	8	18	8.6	62	43	55	19	95	31	20
5	15	9	8	18	14	168	28	67	18	155	31	25
6	16	8	8	12	10	51	48	77	22	220	41	13
7	6	8	20	18	10	46	27	67	23	107	14	7.3
8	18	8	12	18	10	35	43	148	22	152	26	23
9	8	19	12	13	10	56	60	50	16	139	19	18
10	8	19	17	13	10	11	60	30	23	164	29	17
11	8	8	17	13	10	25	50	51	23	261	20	18
12	11	18	17	18	10	27	45	47	23	164	17	16
13	18	19	12	18	11	53	50	60	24	154	18	16
14	8	18	12	18	11	53	46	70	27	36	10	17
15	20	8	12	18	11	159	156	49	47	34	15	16
16	8	20	17	18	11	41	37	68	102	40	15	16
17	18	18	17	13	11	44	23	69	58	93	25	15
18	8	18	17	13	11	45	22	41	55	94	28	18
19	8	27	17	18	11	91	22	31	45	103	27	16
20	19	8	12	18	11	72	22	51	55	188	25	5.1
21	18	8	15	21	11	143	9.0	48	56	30	27	15
22	19	8	14	25	10	20	28	30	54	127	27	4.8
23	18	8	13	13	10	142	28	29	56	99	18	14
24	19	18	13	17	10	8.6	28	26	229	65	26	6.5
25	19	8	13	13	10	151	42	50	211	34	28	21
26	8	19	13	13	10	31	70	30	303	48	16	4.8
27	19	20	17	13	10	31	81	28	236	41	30	3.7
28	8	20	17	13	10	155	54	25	26	32	23	14
29	8	8	22	18	-	19	142	23	29	61	17	5.1
30	8	20	13	16	-	24	139	19	38	21	19	13
31	8	-	18	20	-	9.0	-	18	-	27	7.3	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						369	20	5	11.9	732		
November.....						412	27	8	13.7	817		
December.....						438	22	8	14.1	869		
Calendar year 1934.....						6,797.4	151	2.2	18.6	13,490		
January.....						495	25	12	16.1	982		
February.....						303.6	16	8.6	10.8	602		
March.....						1,822.6	168	8.6	58.8	3,620		
April.....						1,544.0	156	9.0	51.5	3,060		
May.....						1,605	148	10	51.8	3,180		
June.....						1,905	303	18	63.5	3,780		
July.....						3,181	261	21	105	6,310		
August.....						707.3	42	7.3	22.8	1,400		
September.....						418.0	25	3.7	13.9	829		
Water year 1934-35.....						13,200.5	303	3.7	36.2	26,180		

Red River at Fargo, N. Dak.

Location.- Staff gage, lat. 46°52'10", long. 96°47', in sec. 7, T. 139 N., R. 48 W., just above Island Park Dam, Fargo, and 10 miles above mouth of Sheyenne River. Zero of gage is 870.00 feet above mean sea level (adjustment of 1912).

Drainage area.- 6,420 square miles.

Records available.- May 1901 to September 1935.

Average discharge.- 33 years (1902-35), 456 second-feet.

Extremes.- Maximum discharge observed during year, 930 second-feet Mar. 19-22 (gage height, 9.70 feet); no flow for several weeks; minimum gage height, 5.08 feet Oct. 31, 1901-35: Maximum discharge observed, 7,740 second-feet July 11, 1916 (gage height, 21.04 feet, present datum); maximum gage height observed, 23.6 feet (present datum) Apr. 6, 1916, affected by ice: no flow for many days in 1932, 1933, 1934, 1935. Maximum stage known, 40.1 feet Apr. 7, 1897, U. S. Weather Bureau gage, on which zero is 863.5 feet above mean sea level (adjustment of 1912).

Remarks.- Records good above 20 second-feet; fair below. Stage-discharge relation affected by ice Nov. 29 to Dec. 4, Mar. 27-29, and by debris on control June 25 to July 2, July 10-16.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 25 to July 2, July 10-16, Sept. 28-30)

7.2	0	7.8	86	8.4	290	9.0	540
7.3	.4	7.9	115	8.5	328	9.2	640
7.4	11	8.0	148	8.6	366	9.4	750
7.5	25	8.1	182	8.7	405	9.7	950
7.6	40	8.2	217	8.8	445		
7.7	60	8.3	253	8.9	490		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	8.9		0	28	347	81	22	239	86	*10
2		0	4.6		0	31	272	128	19	272	86	11
3		0	2.5		0	28	272	175	11	253	103	11
4		0	.4		0	22	272	203	6.8	*208	*80	11
5		0	.4		0	48	231	231	14	162	56	14
6		0	.4		0	37	203	203	17	115	52	11
7		0	.4		0	44	148	196	17	*92	44	14
8		0	.2		0	56	155	217	14	70	40	*16
9		0	0		0	182	189	159	14	65	34	17
10		0	0		0	253	182	162	14	81	31	17
11		0	0		0	272	135	155	14	151	*26	17
12		0	0		0	217	148	155	6.8	165	22	22
13		0	0		0	182	162	148	22	200	22	25
14		0	0		10	162	162	162	81	*221	22	19
15		0	0		17	231	168	141	81	242	17	*14
16		0	0		14	366	135	109	*62	328	6.8	8.9
17		0	0		11	540	135	92	44	366	8.9	5.7
18		0	0		17	870	115	81	37	366	*10	2.5
19		0	0		28	930	103	81	128	328	11	.4
20		0	0		34	930	115	70	309	272	44	.4
21		0	0		31	930	141	65	253	*230	31	.4
22		0	0		28	930	128	65	189	199	25	*1.5
23		0	0		28	810	109	60	*156	162	24	2.5
24		0	0		25	695	76	60	122	128	22	.4
25		0	0		25	615	81	56	217	109	*22	.4
26		0	0		19	540	81	44	125	92	22	.4
27		0	0		19	540	81	40	112	115	14	.4
28		0	0		22	405	70	36	118	*125	14	.3
29		7.8	0		-	347	65	34	172	135	11	*.2
30		9.9	0		-	366	65	34	*206	115	11	.2
31		-	0		-	347	-	25	-	98	8.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	17.7	9.9	0	.59	35
December.....	17.8	8.9	0	.57	35
Calendar year 1934.....	5,789.5	323	0	15.9	11,480
January.....	0	0	0	0	0
February.....	328	34	0	11.7	651
March.....	11,974	930	22	386	23,750
April.....	4,546	347	65	152	9,020
May.....	3,492	231	25	113	6,930
June.....	2,600.6	309	6.8	86.7	5,160
July.....	5,694	366	65	184	11,290
August.....	1,006.6	103	6.8	32.5	2,000
September.....	253.6	25	.2	8.45	503
Water year 1934-35.....	29,930.3	930	0	82.0	59,370

*Interpolated.

Red River at Grand Forks, N. Dak.

Location.- Water-stage recorder, lat. 47°56', long. 97°3', in sec. 34, T. 152 N., R. 50 W., in Grand Forks, 2 miles below mouth of Red Lake River. Zero of gage is 778.42 feet above mean sea level (adjustment of 1929).

Drainage area.- 25,500 square miles.

Records available.- May 1901 to September 1935 in reports of the U. S. Geological Survey, April 1882 to November 1912 in report of Minnesota State Drainage Commission.

Average discharge.- 53 years 2,229 second-feet.

Extremes.- Maximum discharge during year, 2,920 second-feet Mar. 29 (gage height, 13.07 feet, affected by ice); minimum, 16 second-feet Oct. 3-10.
1882-1935: Maximum discharge, 43,000 second-feet Apr. 10, 1897 (gage height, 50.2 feet); minimum, 13 second-feet Oct. 19, 1932 (gage height, 1.18 feet, affected by aquatic growth).

Remarks.- Records good except those for period of ice effect, Nov. 29 to Apr. 8, which are fair. Stage-discharge relation affected by aquatic growth Oct. 1 to Nov. 28, May 19 to Sept. 30.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	68	81	27	24	52	2,300	974	442	860	529	312
2	18	68	72	26	24	56	2,200	1,010	442	789	529	271
3	16	69	67	29	24	58	2,090	1,050	442	704	529	261
4	16	71	62	27	24	72	2,040	1,050	470	687	544	236
5	16	68	57	27	24	86	1,890	994	470	670	574	227
6	16	64	51	25	24	94	1,590	994	374	670	590	209
7	16	61	45	24	23	100	1,540	994	312	670	529	194
8	16	67	40	24	23	108	1,440	994	324	720	514	164
9	16	62	38	26	23	124	1,440	1,050	348	720	470	182
10	16	63	39	26	22	128	1,580	1,010	361	737	442	179
11	17	67	39	25	22	120	1,630	1,050	348	878	387	173
12	19	87	39	25	22	125	1,350	1,050	324	754	348	168
13	22	64	39	34	24	132	1,540	1,010	300	638	324	177
14	22	63	38	32	27	141	1,730	954	387	559	284	184
15	29	60	37	31	30	197	1,780	935	400	499	238	221
16	37	62	37	30	30	207	1,780	916	414	456	223	231
17	48	60	37	29	30	199	1,880	916	590	470	289	238
18	48	64	37	28	34	263	1,680	878	720	606	285	219
19	45	71	36	27	39	472	1,550	878	654	654	231	195
20	52	80	33	28	38	669	1,540	897	529	687	259	180
21	64	84	33	29	37	897	1,310	842	470	737	266	177
22	67	78	33	30	39	1,200	1,180	789	470	737	266	164
23	62	77	36	29	44	1,830	1,180	737	470	704	348	140
24	60	76	32	30	45	2,140	1,050	737	484	687	470	127
25	60	81	31	30	46	2,420	1,140	704	544	720	514	118
26	60	90	31	28	49	2,580	1,100	622	670	654	484	114
27	69	98	29	28	51	2,640	974	544	789	638	456	117
28	80	102	29	27	49	2,750	1,010	559	842	622	442	115
29	77	97	29	27	-	2,750	1,050	544	842	590	442	110
30	80	88	28	26	-	2,700	1,050	428	860	590	400	100
31	77	-	27	24	-	2,530	-	428	-	544	361	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,259	80	16	40.6	2,500
November.....	2,190	102	60	73.0	4,340
December.....	1,262	81	27	40.7	2,500
Calendar year 1934.....	88,663	3,180	16	243	175,900
January.....	858	34	24	27.7	1,700
February.....	891	51	22	31.8	1,770
March.....	27,840	2,750	52	893	55,220
April.....	45,624	2,300	974	1,521	90,490
May.....	26,538	1,050	428	856	52,640
June.....	15,092	860	300	503	29,930
July.....	20,651	878	456	666	40,960
August.....	12,537	590	223	404	24,870
September.....	5,513	312	100	184	10,930
Water year 1934-35.....	160,255	2,750	16	439	317,800

Red River at Emerson, Manitoba

(International gaging station)

Location.- Chain gage, lat. 49°30", long. 97°13 , on Canadian National Railway bridge in Emerson.

Drainage area.- 34,600 square miles.

Records available.- March to November 1902, October 1929 to September 1935 in reports of U. S. Geological Survey; May 1912 to September 1929 in reports of the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada.

Average discharge.- 22 years (1913-35), 2,106 second-feet.

Extremes.- Maximum discharge during water year 1932-33 (estimated because of ice effect), 11,000 second-feet Apr. 9; maximum gage height observed, 766.95 feet Apr. 10 (backwater from ice); minimum discharge observed, 25.0 second-feet Sept. 5 (gage height, 743.89 feet).

Maximum discharge during water year 1933-34, (estimated because of ice effect), 4,900 second-feet Apr. 13; maximum gage height observed, 754.60 feet Apr. 12 (backwater from ice); minimum discharge observed, 20.4 second-feet Sept. 5, 6 (gage height, 743.86 feet).

Maximum discharge during water year 1934-35 (estimated because of ice effect), 5,470 second-feet Apr. 2, 3, 4; maximum gage height observed, 759.08 feet Apr. 3 (backwater from ice); minimum discharge (estimated because of ice effect), 12.0 second-feet Jan. 3-5; minimum gage-height, 743.90 feet Oct. 14.

1929-35: Maximum discharge, 20,800 second-feet Apr. 10, 1930; minimum, that of Jan. 3-5, 1935.

Maximum stage known, 785.16 feet Apr. 24, 1916 (discharge 46,200 second-feet).

Remarks.- Records good, except those for periods of ice effect Nov. 12, 1932 to Apr. 10, 1933, Nov. 7, 1933 to Apr. 14, 1934, Nov. 25, 1934 to Apr. 14, 1935, and those for periods of shifting control Aug. 1 to Oct. 20, 1933, which are fair. This station is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, water year October 1932 to September 1933

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35.4	80	115	62	43.0	75	4,500	2,350	2,110	409	120	35.0
2	37.6	83	114	61	43.0	76	5,200	2,080	1,980	394	111	28.0
3	36.5	90	113	61	42.7	77	6,400	1,880	1,860	364	108	28.0
4	33.2	103	112	60	43.0	180	7,300	1,740	1,780	340	113	28.0
5	33.2	116	112	60	43.0	420	8,680	1,700	1,660	328	113	25.0
6	30.3	130	110	59	43.0	550	9,500	1,580	1,530	310	101	28.0
7	28.9	143	108	59	43.0	650	9,600	1,530	1,460	289	90	31.0
8	25.4	135	106	58	43.0	800	10,500	1,500	1,400	289	87	31.0
9	26.8	130	105	58	43.0	1,000	11,000	1,440	1,330	260	87	30.0
10	25.4	130	104	57	43.0	1,200	10,000	1,440	1,260	239	81	33.0
11	26.1	135	102	57	45.0	1,000	9,520	1,460	1,190	252	79	35.0
12	27.5	134	100	56	45.0	800	7,980	1,450	1,170	260	72	32.0
13	28.9	135	98	56	45.0	834	6,780	1,420	1,120	260	66	35.0
14	29.6	132	96	56	46.0	1,070	6,050	1,420	1,050	274	68	46.0
15	28.9	131	95	55	46.0	1,200	5,400	1,410	1,010	289	70	49.0
16	28.2	130	92	55	46.0	1,330	4,750	1,370	947	280	64	50
17	27.5	129	89	54	47.0	1,400	4,200	1,310	887	274	59	59
18	30.3	128	86	54	48.0	1,470	4,140	1,270	787	245	61	64
19	38.7	127	83	53	48.0	1,500	4,100	1,210	727	231	66	68
20	66	126	80	53	49.0	1,550	4,140	1,180	671	231	66	72
21	66	125	77	52	52	1,480	4,150	1,140	656	231	66	66
22	71	124	74	52	54	1,410	4,170	1,110	583	237	62	66
23	66	123	71	50	55	1,340	4,010	1,140	558	222	62	49.0
24	71	122	68	50	58	1,270	3,890	1,170	469	208	59	50
25	78	120	67	49.0	61	1,200	3,710	1,190	460	202	55	52
26	66	118	66	48.0	65	1,100	3,530	1,350	454	187	50	57
27	66	117	65	48.0	69	1,200	3,350	1,800	439	173	47.0	62
28	71	116	64	47.0	73	1,400	3,150	2,030	424	160	49.0	62
29	73	115	63	46.0	-	1,680	2,880	2,080	424	146	49.0	57
30	78	116	63	45.0	-	1,840	2,600	2,120	424	138	43.0	49.0
31	78	-	62	44.0	-	3,200	-	2,160	-	133	39.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,428.4	78	25.4	46.1	2,830
November.....	3,641	143	80	121	7,200
December.....	2,760	115	62	89	5,470
Calendar year 1932.....	381,877.4	18,900	24.0	1,040	758,000
January.....	1,675.0	62	44.0	54	3,320
February.....	1,361.7	73	42.7	49.3	2,740
March.....	34,402	3,200	75	1,110	68,300
April.....	175,180	11,000	2,600	5,840	348,000
May.....	47,980	2,330	1,110	1,550	95,300
June.....	30,780	2,110	424	1,030	61,300
July.....	7,855	409	133	253	15,600
August.....	2,255.0	120	39.0	73	4,490
September.....	1,378.0	72	25.0	45.9	2,730
Water year 1932-33.....	310,726.1	11,000	25.0	851	617,000

Red River at Emerson, Manitoba

(Continued)

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	72	73	29.6	41.0	50	603	1,130	290	138	83	29.0
2	57	79	74	30.2	39.0	53	576	1,050	290	143	76	25.5
3	45.0	79	78	34.0	35.8	55	560	1,010	287	156	76	23.4
4	40.0	72	75	38.0	33.0	61	576	987	281	159	79	21.2
5	38.0	62	74	41.9	32.0	66	632	947	264	164	72	20.4
6	40.0	59	74	43.2	32.7	70	760	867	232	188	66	20.4
7	43.0	62	74	46.0	32.5	72	857	767	230	196	63	21.2
8	43.0	66	72	53	32.3	72	904	767	210	188	57	20.8
9	45.0	70	68	55	32.0	68	935	763	204	185	55	21.6
10	47.0	75	65	56	31.5	61	2,080	767	191	169	53	22.0
11	45.0	79	58	57	31.1	64	3,230	807	191	156	53	23.4
12	53	83	53	58	30.2	101	4,640	847	204	143	50	22.7
13	52	87	47.0	59	29.3	191	4,800	807	202	133	46.0	22.0
14	46.0	98	43.0	60	28.4	207	4,630	787	196	106	53	20.8
15	43.0	108	43.0	61	27.5	261	4,470	767	199	118	50	22.0
16	42.0	104	39.0	62	32.0	635	4,110	727	204	118	47.4	23.4
17	43.0	100	34.0	63	31.0	1,070	3,690	678	199	126	43.2	25.5
18	46.0	106	29.0	65	28.0	1,170	3,450	625	193	131	39.0	23.4
19	42.0	115	26.9	67	25.0	1,240	3,180	565	164	156	37.0	22.0
20	40.0	115	27.5	70	24.8	1,220	2,910	534	166	148	34.0	23.4
21	37.0	110	28.4	68	23.8	1,130	2,630	505	164	156	32.0	25.5
22	40.0	99	28.4	67	26.0	1,070	2,300	494	166	143	31.0	24.1
23	46.0	90	27.5	65	29.0	959	2,080	469	169	131	29.0	24.8
24	43.0	85	27.5	64	33.0	815	1,960	451	164	126	26.9	25.5
25	50	85	27.5	61	37.0	715	1,830	415	156	118	26.9	26.2
26	59	80	27.5	58	43.0	696	1,630	388	146	108	31.0	26.2
27	62	78	27.5	55	45.0	643	1,490	364	138	99	29.0	25.5
28	68	77	27.5	52	47.0	625	1,380	337	131	108	31.0	25.5
29	68	75	27.5	50	-	608	1,280	322	126	104	31.0	29.0
30	68	75	27.5	48.0	-	600	1,170	307	126	99	22.7	26.2
31	70	-	28.4	46.0	-	608	-	296	-	92	22.7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,512.0	70	37.0	48.8	3,000		
November.....						2,545	115	59	85	5,060		
December.....						1,452.6	78	26.9	46.2	2,840		
Calendar year 1933.....						308,386.3	11,000	25.0	845	613,000		
January.....						1,662.9	70	29.6	54	3,320		
February.....						912.9	47.0	23.8	32.6	1,810		
March.....						15,246	1,240	50	492	30,300		
April.....						65,343	4,800	560	2,180	130,000		
May.....						20,541	1,130	296	663	40,800		
June.....						5,883	290	126	196	11,700		
July.....						4,285	196	92	138	8,490		
August.....						1,445.8	83	22.7	46.6	2,970		
September.....						712.6	29.0	20.4	23.8	1,420		
Water year 1933-34.....						121,541.8	4,800	20.4	333	242,000		

Red River at Emerson, Manitoba

(Continued)

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-20)

743.9	20	745.2	254	748.5	1,420	752.0	3,220
744.0	30	745.6	356	749.0	1,645	752.8	3,700
744.2	54	746.0	465	749.5	1,890		
744.4	84	746.4	585	750.0	2,140		
744.6	122	746.8	730	750.5	2,390		
744.8	163	747.4	970	751.0	2,665		
745.0	207	748.0	1,210	751.5	2,940		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28.0	78	56	15.0	18.0	28.0	5,400	1,720	638	599	1,200	483
2	30.0	79	55	15.0	18.4	29.0	5,470	1,670	592	397	1,070	457
3	32.2	84	54	12.0	19.2	30.0	5,470	1,620	549	471	930	451
4	30.0	91	53	12.0	20.4	32.0	5,470	1,530	510	546	810	429
5	30.0	97	53	12.0	20.8	33.0	4,640	1,420	489	585	673	413
6	26.0	95	53	13.0	21.6	35.0	4,260	1,370	471	673	606	388
7	25.0	93	58	14.0	22.0	37.0	4,140	1,340	465	680	589	359
8	25.0	93	53	14.3	24.8	36.0	3,990	1,310	459	690	570	350
9	25.0	88	62	14.3	26.9	34.0	3,830	1,250	448	770	570	297
10	22.0	88	61	14.3	29.0	33.0	3,740	1,240	424	790	570	269
11	21.0	84	57	14.0	32.0	34.0	3,700	1,220	397	782	567	269
12	20.0	79	53	14.0	34.0	36.0	3,680	1,230	361	770	540	254
13	21.0	84	53	14.0	34.0	38.0	3,660	1,230	351	810	519	249
14	20.0	81	57	13.8	36.0	40.9	3,650	1,240	325	870	486	232
15	22.0	82	49.0	15.7	36.0	45.0	3,640	1,270	309	942	451	225
16	28.0	84	46.0	13.6	35.0	55	3,270	1,230	287	1,100	424	212
17	30.0	86	46.0	13.6	34.0	76	3,220	1,200	284	1,130	399	200
18	28.0	81	40.0	13.5	31.0	94	3,090	1,200	274	1,170	370	192
19	25.0	79	38.0	13.3	28.3	118	2,980	1,180	317	1,260	351	198
20	35.5	76	34.2	13.2	27.6	148	2,860	1,080	489	1,360	333	200
21	47.5	68	33.0	13.0	26.9	196	2,580	1,060	483	1,410	330	200
22	68	68	29.0	13.0	25.5	252	2,420	1,030	519	1,470	330	225
23	79	67	28.0	13.0	25.0	310	2,180	998	531	1,540	330	221
24	88	61	26.0	14.0	25.0	400	2,020	978	525	1,610	330	230
25	93	61	25.0	14.5	25.0	460	1,890	938	507	1,690	307	230
26	88	60	23.0	15.5	25.5	740	1,790	898	477	1,750	297	196
27	93	59	20.0	16.0	26.0	1,740	1,680	850	446	1,750	297	186
28	95	58	18.0	16.5	26.8	3,490	1,620	818	410	1,700	343	163
29	98	57	18.0	17.0	-	4,290	1,690	790	405	1,820	410	163
30	97	56	16.0	17.0	-	4,940	1,730	758	405	1,490	461	142
31	89	-	15.0	17.1	-	5,390	-	698	-	1,330	483	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,459.2	98	20.0	47.1	2,890
November.....	2,317	97	56	77	4,600
December.....	1,292.2	63	15.0	41.7	2,660
Calendar year 1934.....	121,120.6	4,800	15.0	332	240,800
January.....	437.2	17.1	12.0	14.1	867
February.....	754.7	36.0	18.0	27.0	1,500
March.....	23,219.9	5,390	28.0	749	46,060
April.....	99,760	5,470	1,620	3,330	197,900
May.....	36,366	1,720	698	1,170	72,130
June.....	13,146	638	274	433	26,980
July.....	33,545	1,750	397	1,080	66,540
August.....	15,936	1,200	297	514	31,610
September.....	8,062	483	142	269	15,990
Water year 1934-35.....	236,285.2	5,470	12.0	647	468,700

Twin Lakes near Amor, Minn.

Location.- Staff gage, lat. 46°24'45", long. 95°46'20", in sec. 18, T. 134 N., R. 40 W., about 1½ miles west of Amor.

Records available.- July to September 1935.

Extremes.- Maximum gage height observed, 1.45 feet July 18; minimum, 0.57 foot Sept. 30.

Remarks.- Records excellent.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	-	.87
2										-	1.23	.86
3										-	1.19	.87
4										-	1.16	-
5										-	1.16	.84
6										-	1.15	.84
7										-	1.14	.83
8										-	1.14	-
9										-	1.13	-
10										-	-	.81
11										-	1.08	-
12										-	1.03	.78
13										-	1.02	.77
14										-	-	-
15										-	.95	-
16										-	.94	.75
17										-	.95	.73
18										1.45	.96	.73
19										-	-	-
20										-	.97	.71
21										1.41	.96	.69
22										1.39	-	.68
23										1.38	.95	.68
24										1.36	.99	-
25										1.34	.98	.65
26										1.33	.96	-
27										1.35	.94	-
28										1.35	-	.60
29										1.31	.91	.59
30										1.29	-	.57
31										1.25	.88	-

Bois des Sioux River near Fairmount, N. Dak.

Location.- Staff gage, lat. 46°3'25", long. 96°33'20", near center of sec. 22, T. 130 N., R. 47 W., at Minneapolis, St. Paul & Sault Ste. Marie Railway bridge 2 miles east of Fairmount, 5 miles west of Tenney, Minn., and 15 miles below Lake Traverse.

Drainage area.- 1,460 square miles.

Records available.- April 1919 to September 1935.

Average discharge.- 15 years (1920-35), 7.18 second-feet.

Extremes.- 1919-35: Maximum discharge observed, 390 second-feet Apr. 22, 1922 (gage height, 5.7 feet); no flow in several different years.

Remarks.- No flow during water year 1934-35.

Mustinka River above Wheaton, Minn.

Location.- Chain gage, lat. 45°49', long. 96°29', on line between secs. 7 and 8, T. 127 N., R. 46 W., 1 mile upstream from Chicago, Milwaukee, St. Paul & Pacific Railway bridge, 1½ miles northeast of Wheaton, and 8 miles above mouth.

Drainage area.- 776 square miles.

Records available.- March to September 1917, June 1919 to September 1924, March 1931 to September 1935. June to November 1916 at a point 3½ miles downstream.

Extremes.- Maximum discharge during year (estimated because of ice effect), 120 second-feet Mar. 17; maximum gage height observed, 6.46 feet Mar. 8 (affected by ice); no flow during several periods.

1917, 1919-24, 1931-35: Maximum discharge, about 2,340 second-feet Apr. 1, 1917 (gage height, 14.7 feet, former datum); no flow during several periods.

Remarks.- Records poor. Stage-discharge relation affected by ice Mar. 5-22 and aquatic growth Apr. 28 to Sept. 3. Discharge estimated for Feb. 1 to Mar. 4.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						10	6.5	9.2	0.3	6.8	2.1	
2						10	6.3	11	.2	6.3	1.6	
3						10	6.3	11	.2	6.8	1.1	
4						10	6.0	9.8	.3	12	1.1	
5						11	5.8	10	.3	7.0	1.0	
6						10	4.7	11	.2	6.0	1.0	
7						65	5.6	11	.3	7.0	.8	
8						70	5.1	10	.5	11	.8	
9						52	5.1	9.8	.4	14	.5	
10						46	5.5	8.1	.4	18	.8	
11						52	5.6	8.4	.5	19	.5	
12						32	5.6	8.1	.9	19	.4	
13						26	5.6	4.4	1.4	19	.3	
14						36	5.4	5.5	1.4	26	.2	
15						46	5.1	5.4	2.3	38	.1	
16						85	5.4	28	2.4	52	.1	
17						120	5.8	8.7	6.5	52	.1	
18						100	6.0	6.8	52	42	.1	
19						100	5.6	5.8	62	36	.1	
20						80	4.7	5.4	60	23	.1	
21						75	4.3	4.1	46	13	.1	
22						58	4.1	3.3	36	12	.1	
23						46	3.9	2.8	28	11	0	
24						38	4.3	2.6	22	8.4	0	
25						36	5.1	1.4	19	6.4	.1	
26						22	5.1	1.8	14	5.8	.1	
27						21	4.9	1.7	10	5.1	.1	
28						21	6.2	1.4	10	4.4	.1	
29						14	7.6	1.1	10	3.4	.1	
30						12	6.9	.7	7.4	3.0	.1	
31						6.3	-	.5	-	2.1	0	
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	0					0	0	0	0			
November.....	0					0	0	0	0			
December.....	0					0	0	0	0			
Calendar year 1934.....	2,764.1					9.1	0	.19	139			
January.....	0					0	0	0	0			
February.....	28					-	-	1	56			
March.....	1,520.3					120	6.3	42.6	2,620			
April.....	164.1					7.6	3.9	5.47	325			
May.....	326.3					55	.5	10.5	647			
June.....	416.3					62	.2	13.9	826			
July.....	495.6					52	2.1	16.0	983			
August.....	13.6					2.1	0	.44	27			
September.....	0					0	0	0	0			
Water year 1934-35.....	70.1					120	0	7.57	5,480			

Wild Rice River near Abercrombie, N. Dak.

Location.- Chain gage, lat. 46°28'15", long. 96°46'50", in SE¼ sec. 25, T. 135 N., R. 49 W., 2 miles northwest of Abercrombie.

Records available.- April 1932 to August 1935 (discontinued).

Extremes.- Maximum discharge observed during year, 1.3 second-feet Mar. 16 (gage height, 10.21 feet, affected by ice); no flow for several days during period October to February.

1932-35: Maximum discharge, that of Mar. 16, 1935; no flow for periods each year.

Remarks.- Records fair. Stage-discharge relation affected by ice Mar. 14-24, and by debris on control Mar. 25 to June 17. No records Oct. 1 to Mar. 13, July 1-9, July 12 to Aug. 9, Aug. 11-30. Little or no flow during period Oct. 1 to Feb. 28.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	64	11	1.8			
2						-	46	13	1.8			
3						-	34	18	1.4			
4						-	28	22	1.2			
5						-	24	19	1.0			
6						-	23	20	1.2			
7						-	23	22	1.0			
8						-	19	22	1.2			
9						-	19	20	5.4			
10						-	22	23	99	12	*2.7	
11						-	24	22	36	15		
12						-	24	20	17			
13						-	19	17	11			
14						155	18	16	16			
15						443	19	16	13			
16						513	18	14	132			
17						485	17	13	220			
18						429	15	11	147			
19						499	14	10	66			
20						443	13	10	81			
21						311	13	9.0	28			
22						263	12	7.6	44			
23						220	10	7.5	56			
24						163	9.8	6.6	50			
25						125	11	5.5	46			
26						132	12	5.7	52			
27						118	12	4.5	40			
28						132	12	3.5	35			
29						105	12	2.8	34			
30						66	12	2.0	30			
31						71	-	2.3	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-			
February.....						-	-	-	-			
March 14-31.....						4,673	513	66	260	9,270		
April.....						598.8	64	9.8	20.0	1,190		
May.....						395.0	23	2.0	12.7	783		
June.....						1,267.0	220	1.0	42.2	2,510		
July.....						-	-	-	-			
August.....						-	-	-	-			
September.....						-	-	-	-			
The period.....										13,750		

*Discharge measurement.

Sheyenne River at West Fargo, N. Dak.

Location.— Water-stage recorder, lat. 46°53'20", long. 98°54'55", in sec. 31, T. 140 N., R. 49 W., about half a mile north of West Fargo, formerly called Haggart.

Records available.— September 1929 to September 1935; at station a quarter of a mile above, March 1902 to June 1907, March to August 1919.

Extremes.— Maximum discharge during year, 362 second-feet Mar. 29 (gage height, 7.32 feet, affected by ice); minimum, 4.2 second-feet Nov. 10 (gage height, 2.11 feet).
1902-7, 1919, 1929-35: Maximum discharge, 2,260 second-feet by discharge measurement on Apr. 28, 1919; minimum, 4.2 second-feet Aug. 27, Nov. 10, 1934 (gage height, 2.11 feet).

Remarks.— Records good. Stage-discharge relation affected by ice Dec. 23 to Jan. 5, Jan. 13 to Feb. 2, Feb. 24 to Mar. 3, Mar. 6, Mar. 28 to Apr. 1. Discharge estimated Nov. 10 to Dec. 2.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 12 to July 4, Aug. 1-17)

Table for Oct. 1 to Mar. 8

2.4	10	3.1	29
2.5	12	3.2	33
2.6	14	3.3	37
2.7	17	3.4	41
2.8	20	3.5	45
2.9	23	3.6	49
3.0	26		

Table for Mar. 9 to Sept. 30

2.7	20	4.0	70	5.4	181
2.8	23	4.2	80	5.6	201
3.0	30	4.4	91	5.8	221
3.2	38	4.6	104	6.0	241
3.4	46	4.8	121	6.2	263
3.6	54	5.0	141	6.4	285
3.8	62	5.2	161	6.6	307

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	16	12	8.2	9.4	39	221	151	69	88	201	60
2	13	18	12	7.8	8.2	46	244	136	69	78	191	55
3	13	21	12	7.0	8.2	44	231	146	65	74	176	52
4	12	18	12	6.6	8.2	41	206	151	64	76	156	49
5	11	20	11	7.6	8.8	41	196	156	70	74	131	46
6	11	19	9.8	8.2	8.4	46	196	156	72	69	112	45
7	11	19	8.4	8.4	8.6	47	206	146	68	66	100	43
8	12	18	7.8	7.8	8.6	45	247	131	63	66	91	42
9	14	21	7.4	7.8	9.0	63	240	116	58	67	82	39
10	13	15	7.8	8.2	10	88	221	116	55	70	79	38
11	7.6		7.8	11	112	241	121	52	74	74	36	
12	11.5		8.0	6.2	9.2	80	268	116	48	82	67	38
13	14		8.2	9.0	9.8	76	252	108	46	108	64	36
14	15		9.0	10	11	108	252	104	46	146	69	35
15	16		9.6	10	11	104	193	100	44	186	82	34
16	17		10	8.0	11	93	232	104	49	191	97	32
17	16		10	8.2	11	78	166	100	55	156	176	30
18	16		10	7.8	12	108	121	97	63	112	206	30
19	17		10	9.0	23	124	112	104	82	85	211	29
20	24		10	10	21	100	104	104	171	70	216	28
21	21		11	9.8	22	121	97	94	171	60	216	26
22	23		11	9.6	28	181	100	88	156	52	236	25
23	24		11	10	22	176	100	82	146	46	274	24
24	24		11	10	32	146	97	79	161	47	252	23
25	23		10	9.6	20	151	104	76	176	108	181	23
26	23	11	10	25	156	108	75	166	146	116	23	
27	21	11	11	28	228	131	74	146	161	91	23	
28	21	10	12	33	258	161	72	126	181	80	21	
29	22	8.6	11	-	285	161	72	126	196	74	20	
30	20	7.8	12	-	252	146	70	112	211	68	20	
31	20	-	9.2	11	-	241	-	69	-	211	64	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	529	24	11	17.1	1,050
November.....	485	21	-	16.2	962
December.....	304.2	12	7.4	9.81	603
Calendar year 1934.....	13,567.4	312	4.6	37.2	26,910
January.....	282.0	12	6.8	9.10	559
February.....	427.4	33	8.2	15.3	848
March.....	3,686	285	39	119	7,510
April.....	5,354	268	97	178	10,620
May.....	3,294	156	69	106	6,530
June.....	2,794	176	44	93.1	5,540
July.....	3,357	211	46	108	6,660
August.....	4,233	274	64	137	8,400
September.....	1,025	60	20	34.2	2,030
Water year 1934-35.....	25,770.6	285	6.8	70.6	51,110

Devils Lake near Devils Lake, N. Dak.

Location.- Lat. 46°4'10", long. 98°56'5", at Lakewood, half a mile from the main lake on east bank of entrance to Creel Bay, an arm of Devils Lake 2 miles long and half a mile wide, on north side of the lake, 6 miles southwest of city of Devils Lake.

Records available.- 1901-35 (fragmentary). Single gage heights in 1867, 1879, 1883, 1887, 1890, 1898.

Remarks.- All gage heights published previous to 1921 refer to a gage on which zero was 1,412.21 feet above mean sea level according to levels run by topographic branch of the U. S. Geological Survey in 1928. Elevation of lake determined by levels from bench mark.

Elevation, in feet, water year 1934-35

May 23 1,407.44
July 22 1,407.36
Aug. 29 1,407.14

Buffalo River near Dilworth, Minn.

Location.- Chain gage, lat. 46°57'40", long. 96°39'40", on line between secs. 6 and 7, T. 140 N., R. 47 W., about 6 miles north of Dilworth.

Records available.- March 1931 to September 1935 (winter months incomplete).

Extremes.- Maximum discharge observed during year, 311 second-feet Mar. 21 (gage height, 9.08 feet, affected by ice); minimum observed, 3.2 second-feet Sept. 26 (gage height, 0.91 foot).

1931-35: Maximum discharge, 374 second-feet Apr. 10, 1934; minimum, 0.2 second-foot Aug. 6, 7, 1934 (gage height, 0.34 foot).

Remarks.- Records good except those for periods of ice effect, Nov. 21 to Dec. 3, Mar. 12 to Apr. 13, which are fair. Stage-discharge relation affected by debris on control Oct. 1 to Nov. 20, Apr. 14 to June 24, June 29 to Sept. 30. No record Dec. 4 to Mar. 11.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	12	*9.8			-	101	91	20	66	16	18
2	17	11	*9.8			-	86	96	18	81	12	18
3	19	10	9.7			-	71	101	18	86	12	16
4	20	15	-			-	61	101	20	66	9.6	14
5	26	12	-			-	61	96	18	56	8.8	14
6	27	12	-			-	66	91	18	48	8.8	13
7	29	11	-			-	66	86	16	42	10	14
8	30	11	-			-	66	86	18	38	11	13
9	30	10	-			-	66	86	18	38	*10	9.8
10	29	13	-			-	76	81	18	38	*10	9.1
11	27	10	-			-	86	76	18	46	*9.5	10
12	27	9.2	-			20	96	81	16	42	8.8	9.8
13	24	9.8	-			86	121	76	22	42	7.9	7.6
14	20	9.6	-			111	111	66	22	52	5.8	7.9
15	18	11	-			76	86	66	18	66	5.4	7.9
16	18	14	-			86	96	66	22	61	4.8	8.1
17	15	12	-			96	91	61	40	50	4.8	6.7
18	13	11	-			111	71	61	66	38	5.4	6.4
19	12	11	-			227	71	50	66	36	7.6	5.0
20	15	9.2	-			283	71	44	66	34	16	4.8
21	16	8.8	-			311	66	41	66	30	18	4.2
22	16	8.5	-			304	66	35	61	23	18	4.4
23	15	7.6	-			255	61	32	56	20	22	4.0
24	15	7.0	-			220	56	30	61	22	36	5.0
25	16	9.2	-			187	56	29	106	20	41	5.3
26	16	8.8	-			181	71	26	101	22	38	3.2
27	15	12	-			175	76	26	86	20	34	4.5
28	15	12	-			145	76	23	86	18	30	5.0
29	15	11	-			145	76	22	66	16	28	4.5
30	14	9.8	-			101	81	22	61	14	23	6.7
31	14	-	-			101	-	20	-	14	20	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						601	30	12	19.4	1,190		
November.....						318.5	15	7.0	10.5	632		
December.....						-	-	-	-	-		
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 12-31.....						3,221	311	20	161	6,390		
April.....						2,305	121	56	76.8	4,570		
May.....						1,668	101	20	60.3	3,710		
June.....						1,286	106	16	42.9	2,550		
July.....						1,245	86	14	40.2	2,470		
August.....						492.2	41	4.8	16.9	976		
September.....						259.9	18	3.2	8.66	516		
Water year												

*Interpolated.

RED RIVER BASIN

Rice Lake near Bagley, Minn

Location.- Staff gage, lat. 47°23', long. 95°29', in sec. 16, T. 145 N., R. 38 W., about 10 miles southwest of Bagley.

Records available.- July to September 1935.

Extremes.- Maximum gage height observed during period, 1.96 feet July 17; minimum observed, 0.64 foot Aug. 16.

Remarks.- Stage partly regulated by loose-rock dam in outlet.

The following measurements of discharge were made at the lake outlet:

July 17, 1935: Gage height, 1.97 feet; discharge, 124 second-feet

Aug. 2, 1935: Gage height, 1.34 feet; discharge, 61.8 second-feet

Gage height, in feet, 1935					
July 17	1.97	July 21	1.76	Aug. 2	1.35
18	1.90	25	1.56	7	1.10
19	1.86	27	1.44	13	.88
20	1.82	29	1.64	16	.64
				Sept. 3	1.09
				5	1.07
				9	.86
				18	.78

Wild Rice River at Twin Valley, Minn.

Location.- Water-stage recorder, lat. 47°16', long. 96°14', in SE $\frac{1}{4}$ sec. 22, T. 144 N., R. 44 W., three-quarters of a mile northeast of Twin Valley. Prior to Nov. 25, 1934, chain gage 100 feet downstream. Gages set to same datum but owing to intermediate control, recorder reads higher than chain.

Drainage area.- 805 square miles.

Records available.- July 1930 to September 1935. June 1909 to September 1917 at a station a quarter of a mile downstream.

Extremes.- Maximum discharge during year, 216 second-feet July 14, maximum gage height, 4.51 feet Mar. 16 (affected by ice); minimum discharge, 3.4 second-feet Dec. 31.

1909-17, 1930-35: Maximum discharge (computed by slope-area method), 9,200 second-feet July 22, 1909 (not referred to present gage); minimum, 1 second-foot Aug. 13, 1932 (gage height, 0.24 foot, at chain-gage site).

Remarks.- Records fair. Stage-discharge relation affected by ice Nov. 25, Nov. 27 to Dec. 9, Dec. 16 to Apr. 10, Apr. 14, 15, and by aquatic growth or debris on control Oct. 1 to Nov. 24, May 28 to Sept. 30. Discharge estimated July 24 to Aug. 8.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	11	25	4.0	14	20	60	179	79	98	103	69
2	11	11	24	6.4	12	15	60	172	72	102	100	72
3	8.5	12	12	8.6	12	20	61	164	71	107	97	74
4	7.7	12	5.8	8.2	16	23	67	161	73	112	94	72
5	7.1	13	5.8	8.6	12	27	61	160	90	114	91	71
6	6.5	14	5.5	7.4	9.0	28	50	154	74	112	88	71
7	6.2	16	9.0	8.2	9.8	20	46	144	62	108	85	86
8	6.8	16	15	10	9.8	16	52	144	55	102	82	65
9	6.2	17	9.0	14	11	16	67	144	54	100	79	71
10	5.6	19	9.0	11	9.8	16	87	138	57	113	74	72
11	5.6	26	9.4	14	9.4	17	95	146	52	136	69	68
12	5.0	12	8.2	18	12	16	95	144	50	154	66	60
13	5.3	11	7.8	17	12	14	119	168	49	205	59	67
14	4.6	9.0	7.4	16	12	24	134	162	131	216	57	66
15	4.2	16	7.8	18	13	116	116	161	132	194	53	66
16	4.2	14	7.8	17	20	149	116	149	164	172	49	68
17	4.4	14	7.4	14	12	131	126	142	154	154	69	63
18	5.0	16	7.8	13	7.0	161	136	142	142	150	91	62
19	6.5	14	7.4	12	6.7	170	124	136	119	149	116	65
20	10	14	7.0	11	12	136	112	137	95	144	130	65
21	12	8.5	6.1	12	13	142	108	134	76	132	118	63
22	11	8.5	6.4	11	12	100	113	128	81	132	113	57
23	10	8.0	6.7	9.8	13	74	116	120	49	131	104	60
24	10	6.2	6.1	9.0	7.9	100	120	114	53	128	97	56
25	10	8.7	7.4	9.8	16	107	137	106	72	125	88	58
26	9.0	12	9.0	9.8	8.2	124	158	101	62	122	83	54
27	8.0	12	8.6	14	15	56	174	106	100	119	79	54
28	8.5	13	7.4	18	22	38	195	100	131	116	72	54
29	9.0	12	6.1	14	-	64	194	100	118	113	73	52
30	9.5	17	4.0	14	-	63	189	88	98	110	74	51
31	10	-	3.6	17	-	61	-	80	-	107	73	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	243.4	16	4.2	7.85	483
November.....	392.9	26	6.2	13.1	779
December.....	269.5	25	3.6	8.69	535
Calendar year					
January.....	374.8	18	4.0	12.1	743
February.....	358.6	22	3.7	12.1	672
March.....	2,064	170	14	66.6	4,090
April.....	3,289	195	46	110	6,520
May.....	4,212	179	80	156	8,350
June.....	2,595	164	49	86.5	5,150
July.....	4,077	216	98	132	8,090
August.....	2,626	130	49	84.7	5,210
September.....	1,932	86	51	64.4	3,830
Water year 1934-35.....	22,414.2	216	3.6	61.4	44,450

Goose River at Hillsboro, N. Dak.

Location.- Chain gage, lat. 47°24', long. 97°3', in NE¼ sec. 5, T. 145 N., R. 50 W. (revised), on north edge of Hillsboro.

Records available.- March 1931 to September 1935 (incomplete).

Extremes.- Maximum discharge observed during year, 627 second-feet June 14, 15; maximum gage height, 8.45 feet June 15; minimum discharge observed, 0.6 second-foot by discharge measurement Aug. 13; minimum mean daily discharge, 4.2 second-feet May 28.

1931-35: Maximum discharge (estimated), 959 second-feet Mar. 3, 1932 (gage height, 15.14 feet, affected by ice); minimum, 0.2 second-foot several days in 1931 and 1932.

Remarks.- Records poor. Stage-discharge relation affected by ice Mar. 21 to Apr. 22. Discharge estimated between measurements Mar. 21 to Apr. 16; estimated Apr. 27, 28, May 10-22, June 19-24, 27-30, owing to uncertainties in gage-height record. Temporary chain gage at same datum 300 feet upstream used during entire period. No records Oct. 1 to Mar. 20, July 1 to Sept. 30, except for two discharge measurements.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	100	12	7.9			
2						-	*97	13	7.3			
3						-	80	14	7.0			
4						-	70	14	8.2			
5						-	60	14	6.2			
6						-	50	14	7.6			
7						-	40	15	7.9			
8						-	*28	15	7.9			
9						-	28	13	8.2			
10						-	27	12	8.2			
11						-	27	12	8.2	*12.5		
12						-	26	15	8.2			
13						-	26	90	8.5			
14						-	25	80	627		*0.6	
15						-	25	60	627			
16						-	*24	50	281			
17						-	20	30	181			
18						-	19	30	138			
19						-	20	20	120			
20						-	21	15	110			
21						*201	18	10	95			
22						200	16	10	80			
23						200	16	7.6	65			
24						200	15	8.2	50			
25						180	16	8.2	34			
26						140	16	7.3	35			
27						*108	14	6.5	32			
28						100	13	4.2	30			
29						100	11	5.2	25			
30						100	13	5.0	20			
31						100	-	7.0	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 21-31.....						1,629	201	100	148	3,230		
April.....						961	100	11	32.0	1,910		
May.....						617.2	90	4.2	19.9	1,220		
June.....						2,653.3	627	7.0	88.4	5,260		
July.....						-	-	-	-	-		
August.....						-	-	-	-	-		
September.....						-	-	-	-	-		
The period.....										11,620		

*Discharge measurement.

Red Lake near Red Lake, Minn.

Location.- Water-stage recorder, lat. 47°57', long. 95°17', in NW¼ sec. 28, T. 152 N., R. 36 W., just above dam at outlet, about 18 miles northwest of Red Lake, Minn.
Zero of gage is 1,170 feet above mean sea level.

Drainage area.- 1,950 square miles.

Records available.- May 1933 to September 1935 at present site. April 1930 to September 1933 at Waskish, June 1930 to November 1932 at Redby.

Extremes.- Maximum water-surface elevation during year, 1,173.38 feet June 13; minimum, 1,170.95 feet Oct. 1.
1930-35: Maximum water-surface elevation, 1,174.85 feet (at Waskish) June 2, 1930; minimum, 1,171.10 feet Sept. 19, 1933.

Remarks.- Records excellent. Gage heights have been reduced to mean sea level datum.
Water level subject to fluctuation caused by changes in direction and velocity of wind and by seiches.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71.40	71.76	71.76	71.85	-	-	-	72.43	72.53	72.38	72.48	72.31
2	71.69	71.80	71.77	71.85	-	-	-	72.54	72.01	72.40	72.44	72.20
3	71.88	71.72	71.77	71.85	-	-	-	72.35	72.80	72.50	72.61	72.15
4	71.78	71.73	71.76	71.85	-	-	72.16	72.30	72.17	72.37	72.32	72.09
5	71.50	71.65	71.76	71.86	-	-	72.16	72.30	72.38	72.34	72.40	72.23
6	71.42	71.57	71.76	71.86	-	-	72.16	72.27	72.36	72.37	72.31	72.29
7	71.64	71.71	71.76	71.85	-	-	72.17	72.35	72.32	72.46	72.31	72.28
8	71.78	71.74	71.76	71.85	72.00	-	72.17	72.24	72.34	72.39	72.31	72.22
9	71.76	71.57	71.77	71.88	71.99	-	72.18	72.09	72.29	72.34	72.30	72.29
10	71.62	71.65	71.77	71.88	72.00	-	72.18	72.34	72.28	72.39	72.30	72.15
11	71.69	71.72	71.77	-	72.00	-	72.18	72.74	72.30	72.32	72.25	72.33
12	71.72	71.61	71.76	-	72.00	-	72.19	72.54	72.35	72.27	72.00	72.62
13	71.72	71.79	71.77	-	72.00	-	72.19	72.57	72.50	72.34	72.18	72.41
14	71.65	71.63	71.78	-	-	-	72.19	72.59	72.39	72.39	72.22	72.29
15	71.71	71.75	71.78	-	-	-	72.19	72.52	72.41	72.41	72.14	72.50
16	71.73	71.74	71.77	-	-	-	72.20	72.49	72.51	72.39	72.26	72.29
17	71.71	71.80	71.77	-	-	-	72.20	72.47	72.51	72.39	72.37	72.22
18	71.74	71.92	71.78	-	-	-	72.21	72.47	72.45	72.45	72.32	72.20
19	71.73	71.96	71.78	-	-	-	72.20	72.50	72.45	72.43	72.29	72.24
20	72.00	71.88	71.78	-	-	-	72.19	72.47	72.42	72.37	72.28	72.27
21	71.78	71.71	71.79	-	-	-	72.21	72.54	72.35	72.38	72.38	72.12
22	71.90	71.78	71.80	-	-	-	72.21	72.62	72.31	72.40	72.42	72.28
23	71.85	71.75	71.80	-	-	-	72.21	72.45	72.35	72.42	72.46	72.20
24	71.84	71.79	71.82	-	-	-	72.22	72.45	72.33	72.41	72.33	72.38
25	71.81	71.80	71.81	-	-	72.17	72.24	72.40	72.05	72.44	72.37	71.98
26	71.76	71.78	71.80	-	-	72.17	72.27	72.33	72.04	72.46	72.15	72.10
27	71.64	71.75	71.80	-	-	72.16	72.29	72.13	72.20	72.46	72.08	71.90
28	71.80	71.76	71.82	-	-	72.15	72.31	72.36	72.33	72.48	72.26	71.98
29	71.65	71.78	71.85	-	-	-	72.30	72.41	72.34	72.38	72.30	72.14
30	71.65	71.79	71.85	-	-	-	72.31	72.40	72.42	72.31	72.28	71.92
31	71.65	-	71.85	-	-	-	-	72.41	-	72.33	72.37	-

Note.- Add 1,100 feet to obtain elevation above mean sea level.

Red Lake River near Red Lake, Minn.

Location.- Water-stage recorder, lat. $47^{\circ}57'$, long. $95^{\circ}17'$, in NW $\frac{1}{4}$ sec. 28, T. 152 N., R. 36 W., just below dam at outlet of lower Red Lake, about 18 miles northwest of Red Lake, Minn. Zero of gage is 1,170 feet above mean sea level.

Drainage area.- 1,950 square miles.

Records available.- May 1933 to September 1935.

Extremes.- Maximum discharge during year, about 140 second-feet June 13 (gage height, 3.02 feet, affected by aquatic growth); no flow Oct. 1.

1933-35: Maximum discharge, that of June 13, 1935; no flow Sept. 19, 1933, Aug. 31 to Sept. 10 and Oct. 1, 1934.

Remarks.- Records fair. Stage discharge relation affected by ice Dec. 6 to Apr. 13; by aquatic growth Oct. 1 to Nov. 20, June 6 to Sept. 30; by debris on control Apr. 25 to May 2. Flow completely regulated by dam at outlet of Red Lake.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	0.6	9.4	12	3.4	3.4	3.8	5.2	47	48	18	11	8.4		
2	4.9	11	12	3.6	3.2	4.0	5.5	58	22	18	9.8	4.6		
3	12	8.0	12	3.4	3.4	4.3	5.5	42	12	13	3.2	3.6		
4	7.7	8.4	11	3.3	3.6	5.5	5.5	39	28	15	6.1	2.6		
5	1.9	6.1	11	3.2	3.6	5.8	6.7	39	42	14	6.0	6.7		
6	.7	4.0	10	3.2	3.6	5.8	8.8	36	40	14	5.5	8.4		
7	3.6	8.4	9.8	3.0	3.6	6.1	11	42	37	18	5.8	8.4		
8	7.4	9.4	9.4	3.0	3.4	6.7	14	32	38	14	5.8	6.7		
9	6.4	4.0	9.4	3.4	3.4	7.0	20	24	34	12	5.5	9.4		
10	2.8	6.7	9.4	3.4	3.4	6.1	24	34	33	12	5.5	4.9		
11	4.3	9.1	9.4	3.2	3.4	6.1	26	60	32	9.4	3.4	12		
12	5.2	5.8	8.8	3.0	3.4	6.1	28	46	34	8.0	.7	26		
13	5.2	12	8.8	3.0	3.6	6.1	28	48	42	10	3.0	15		
14	3.6	6.7	8.8	3.0	3.8	6.1	30	48	35	12	3.8	11		
15	4.9	11	8.4	3.0	4.0	5.2	31	45	34	12	2.2	20		
16	5.8	10	7.7	3.2	4.3	3.8	33	42	41	11	4.9	11		
17	5.2	13	8.0	3.0	4.3	3.8	33	41	40	11	3.4	8.8		
18	6.1	19	7.7	3.2	4.0	4.0	31	42	35	13	7.0	8.0		
19	5.8	22	7.7	3.2	4.0	3.8	33	43	33	12	6.4	10		
20	16	18	7.0	3.4	4.3	3.6	33	42	31	9.4	6.1	11		
21	8.4	11	7.4	3.2	4.3	*3.6	34	47	26	9.8	9.4	6.4		
22	12	14	7.0	3.2	4.6	*3.7	35	53	23	10	11	12		
23	11	14	6.7	3.2	4.3	*3.7	36	41	23	10	12	9.4		
24	11	14	6.7	3.2	4.3	*3.8	35	42	22	10	8.0	17		
25	10	14	6.4	3.2	4.0	4.0	36	40	9.1	11	9.1	4.9		
26	8.8	14	5.2	3.0	4.0	3.6	37	34	8.0	12	3.0	6.7		
27	5.2	12	4.3	3.0	4.0	4.6	38	27	13	12	1.9	2.2		
28	10	12	4.0	3.2	4.0	5.2	38	35	19	12	5.5	3.8		
29	5.5	14	3.8	3.2	-	5.2	38	39	18	8.4	7.0	8.8		
30	5.5	13	4.0	3.2	-	5.2	38	38	21	6.1	6.1	3.0		
31	5.8	-	3.6	3.2	-	5.2	-	40	-	6.7	9.1	-		
Month					Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....					203.3		16		0.6		6.56		403	
November.....					334.0		22		4.0		11.1		682	
December.....					247.4		12		3.6		7.98		491	
Calendar year 1934.....					2,902.1		48		0		7.95		5,760	
January.....					98.9		3.6		3.0		3.19		196	
February.....					107.2		4.6		3.2		3.83		213	
March.....					151.5		7.0		3.6		4.59		300	
April.....					777.2		38		5.2		25.9		1,540	
May.....					1,286		60		24		41.5		2,550	
June.....					675.1		48		8.0		29.1		1,730	
July.....					363.8		18		6.1		11.7		722	
August.....					194.2		12		.7		6.26		385	
September.....					269.7		25		2.2		8.99		535	
Water year 1934-35.....					4,906.3		60		.6		13.4		9,730	

*Estimated.

Red Lake River at Highlanding, near Goodridge, Minn.

Location.- Staff gage, lat. 48°3', long. 95°48' on line between secs. 28 and 29, T. 153 N., R. 40 W., at bridge at Highlanding, 7 miles south of Goodridge.

Records available.- October 1930 to September 1935.

Extremes.- Maximum discharge during year (estimated because of ice effect), 102 second-feet Apr. 13, maximum gage height, 3.90 feet Mar. 28 (affected by ice); no flow Oct. 1-15.

1930-35: Maximum discharge (estimated because of ice effect), 254 second-feet Apr. 3, 1931; maximum gage height, that of Mar. 28, 1935; no flow for occasional periods during 1931-34.

Remarks.- Records fair. Stage-discharge relation affected by ice Dec. 1 to Apr. 19 and by aquatic growth June 5 to Sept. 30.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	11	6.4	4.5	0.9	*1.0	33	49	39	26	5.1	7.2
2	0	10	6.0	5.1	1.0	1.2	28	47	44	25	4.8	6.4
3	0	8.4	6.4	3.3	1.0	*1.3	26	45	42	21	5.7	8.0
4	0	6.8	*5.0	4.2	1.4	1.4	20	45	44	19	5.7	5.1
5	0	5.4	3.6	3.6	*1.2	*1.5	20	49	45	22	4.8	4.5
6	0	5.4	4.2	3.6	*1.0	*2.0	21	47	34	25	3.9	5.7
7	0	7.6	4.8	2.8	.8	*2.0	23	45	25	30	3.6	6.4
8	0	9.2	6.0	3.0	*.7	*2.5	27	49	25	32	2.8	8.8
9	0	12	4.8	2.2	.6	2.8	30	44	36	31	1.8	8.0
10	0	9.2	4.2	1.8	*.8	2.8	35	45	34	28	1.0	7.2
11	0	7.6	3.9	2.2	.9	*3	45	55	35	26	.8	6.4
12	0	6.0	4.5	2.6	*1.1	*3	57	53	34	25	.7	5.7
13	0	6.0	4.8	2.6	*1.4	*3	102	49	31	24	.5	4.5
14	0	5.4	5.1	2.0	1.6	*3	*90	51	31	24	.5	5.1
15	0	4.2	5.7	2.0	*1.4	*3	72	55	35	20	.2	4.5
16	2.2	6.0	5.7	1.4	1.2	*4	65	57	36	17	.1	6.4
17	3.0	5.4	5.7	.8	*1.4	*5	58	55	37	15	.7	7.2
18	4.8	6.0	4.8	1.0	1.6	*6	52	53	38	10	.8	8.8
19	6.8	7.6	5.4	1.4	*1.4	*8	47	51	37	12	2.0	8.8
20	12	10	5.4	1.8	*1.2	*10	55	47	36	6.0	7.6	8.8
21	15	15	4.5	1.4	1.0	*15	53	45	36	5.4	14	8.8
22	16	16	5.1	1.4	*.9	*20	47	42	38	4.8	14	8.0
23	18	18	4.8	1.0	.9	*30	44	42	39	4.8	14	8.0
24	20	19	4.5	1.0	*.8	*40	41	45	41	4.2	16	9.2
25	21	20	4.2	.8	.8	50	45	49	42	3.6	16	10
26	21	22	4.5	.8	*.8	57	51	49	41	2.8	15	11
27	18	17	3.9	.7	.8	64	62	47	42	6.4	13	10
28	17	13	3.3	.7	*.8	69	59	44	42	8.0	11	8.4
29	14	6.8	3.6	.8	-	57	55	41	41	8.0	10	7.6
30	13	7.6	3.3	.8	-	47	53	39	38	7.2	9.2	6.8
31	12	-	3.9	.8	-	36	-	38	-	7.2	7.6	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							213.8	21	0	6.90	424	
November.....							303.6	22	3.2	10.1	602	
December.....							148.0	6.4	5.3	4.77	294	
Calendar year 1934.....							2,820.2	58	0	7.73	5,600	
January.....							62.1	5.1	.7	2.00	123	
February.....							29.4	1.6	.6	1.95	58	
March.....							551.5	69	1.0	17.8	1,090	
April.....							1,416	102	20	47.2	2,810	
May.....							1,472	57	38	47.5	2,920	
June.....							1,118	45	25	37.3	2,220	
July.....							500.4	32	2.8	16.1	993	
August.....							192.9	16	.1	6.22	385	
September.....							221.3	11	4.5	7.38	439	
Water year 1934-35.....							6,229.0	102	0	17.1	12,360	

*Estimated.

Red Lake River at Crookston, Minn.

Location.- Water-stage recorder, lat. 47°47', long. 96°36', in sec. 30, T. 150 N., R. 46 W., at highway bridge in Crookston, a quarter of a mile below dam and power house of Crookston Light, Water & Power Co.

Drainage area.- 5,320 square miles.

Records available.- May 1901 to September 1935.

Average discharge.- 34 years, 959 second-feet.

Extremes.- Maximum discharge during year, 2,490 second-feet Mar. 27 (gage height, 8.38 feet, affected by ice); minimum, 6 second-feet Oct. 9 (gage height, 2.10 feet).
1901-35: Maximum discharge, 14,700 second-feet July 5, 1919; minimum 5 second-feet Aug. 6-8, 1925.

Remarks.- Records good. Stage-discharge relation affected by ice, aquatic growth, or shifting control during most of year. Flow regulated by power plant above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	10	32	16	*17	21	675	461	150	45	37	41
2	9.0	10	32	15	*16	21	726	400	186	208	41	48
3	10	11	31	15	*16	21	524	371	228	121	46	37
4	10	11	30	15	*16	21	400	371	52	129	46	32
5	10	10	30	13	16	21	197	305	58	192	39	36
6	8.5	10	27	13	16	20	299	241	187	176	27	43
7	7.5	13	27	13	16	19	328	307	152	63	31	41
8	8.5	14	26	13	16	19	325	265	137	128	34	39
9	8.5	14	25	16	16	17	302	302	52	134	34	37
10	9.0	16	24	16	17	17	328	336	136	46	37	54
11	9.5	14	21	16	17	17	502	519	147	158	36	79
12	9.0	15	20	16	18	18	783	268	200	145	32	114
13	9.5	18	19	16	19	17	795	296	208	143	31	183
14	10	19	18	16	19	21	692	293	168	137	31	129
15	10	17	18	16	18	18	1,030	291	80	133	30	143
16	12	18	18	16	19	69	752	288	220	59	27	58
17	12	21	17	16	20	135	692	293	251	21	24	58
18	11	27	17	16	24	190	692	371	100	142	19	60
19	13	27	17	17	50	190	574	353	197	176	25	56
20	11	27	17	18	32	297	446	305	139	20	24	39
21	10	31	17	18	24	400	607	280	178	16	19	32
22	13	31	16	18	24	476	461	302	168	114	24	30
23	15	31	16	*18	21	400	476	305	179	9.5	36	31
24	14	31	16	*18	25	386	508	215	189	8.5	34	34
25	13	32	16	*18	26	540	400	189	192	86	32	31
26	12	34	16	*17	27	864	351	216	204	30	31	31
27	12	39	*18	*17	25	1,620	524	257	181	69	28	37
28	10	34	*17	*17	24	1,910	476	50	158	22	36	52
29	10	32	*18	*17	-	1,380	386	195	141	24	36	50
30	9.5	32	18	*17	-	778	345	192	133	25	36	45
31	9.5	-	17	*17	-	658	-	185	-	30	32	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						325.5	15	7.5	10.5	846		
November.....						709	81	10	23.6	1,410		
December.....						649	32	16	20.9	1,290		
Calendar year 1934.....						30,963.0	1,910	7.5	94.8	61,420		
January.....						500	18	13	16.1	992		
February.....						594	50	16	21.2	1,180		
March.....						10,581	1,910	17	341	20,990		
April.....						15,596	1,030	197	520	30,930		
May.....						8,792	461	50	284	17,440		
June.....						4,771	251	52	159	9,460		
July.....						2,800.0	208	8.5	90.3	5,550		
August.....						995	46	19	32.1	1,970		
September.....						1,700	183	30	56.7	3,370		
Water year 1934-35.....						48,012.6	1,910	7.5	132	95,230		

*Estimated

RED RIVER BASIN

Thief Lake near Middle River, Minn.

Location.- Staff gage, lat. 48°29', long. 95°57', in SE $\frac{1}{4}$ sec. 20, T. 158 N., R. 41 W., on dam at outlet of Thief Lake, 10 miles east of Middle River.

Records available.- April to September 1933, July to September 1934, May to September 1935.

Extremes.- Maximum gage height observed during period, -3.83 feet May 13-15; minimum observed, -4.21 feet Aug. 14.
1933-35: Maximum gage height observed, -3.47 feet Apr. 25, 1933; minimum, -5.20 feet Sept. 11, 13, 1934.

Remarks.- Zero of gage is at crest of dam. No outflow during entire year.

Gage height, in feet, water year October 1934 to September 1935.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	-4.01	-4.11	-	-4.03
2								-	-	-	-	-4.04
3								-	-4.01	-4.13	-4.15	-4.03
4								-	-	-	-	-4.03
5								-	-4.01	-4.05	-4.15	-4.02
6								-3.91	-	-4.05	-	-4.03
7								-	-	-4.05	-4.15	-4.02
8								-3.89	-4.02	-	-	-
9								-	-	-4.05	-	-4.01
10								-	-4.03	-4.05	-4.17	-
11								-3.85	-	-3.89	-	-4.03
12								-	-4.01	-	-4.17	-4.00
13								-3.83	-	-3.87	-4.18	-4.01
14								-3.83	-3.99	-	-4.21	-4.01
15								-3.83	-3.99	-	-	-
16								-3.85	-	-	-	-4.02
17								-3.85	-3.99	-	-	-4.01
18								-3.87	-	-	-	-4.01
19								-	-4.03	-	-	-
20								-3.89	-	-	-	-4.02
21								-	-	-	-	-
22								-3.91	-4.06	-	-	-4.04
23								-3.92	-	-	-	-4.06
24								-	-4.06	-	-	-4.06
25								-3.95	-	-	-	-4.05
26								-	-4.09	-4.09	-	-4.05
27								-3.97	-	-	-	-4.07
28								-	-	-	-	-4.09
29								-3.97	-4.09	-4.11	-	-4.09
30								-	-	-	-	-4.09
31								-	-	-4.13	-	-

Thief River near Thief River Falls, Minn.

Location.- Staff gage, lat. 48°11', long. 96°10', in sec. 3, T. 154 N., R. 45 W., 5 miles north of Thief River Falls.

Drainage area.- 1,010 square miles.

Records available.- July 1909 to September 1917, April 1920 to September 1921, October 1922 to September 1924, October 1928 to September 1935.

Average discharge.- 17 years (1909-17, 1922-24, 1928-35) 75.9 second-feet.

Extremes.- Maximum discharge observed during year, 324 second-feet by discharge measurement Apr. 13; maximum gage height, 6.84 feet Mar. 28 (affected by ice); no flow for several months.

1909-17, 1920-21, 1922-24, 1928-35: Maximum discharge observed, 4,080 second-feet Apr. 23, 1916 (gage height, 14.5 feet); no flow in fall and winter of several years.

Remarks.- Records fair. Stage-discharge relation affected by ice Mar. 23 to Apr. 6.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

4.1	0.1	4.9	51	5.6	190
4.2	.5	5.0	67	5.7	214
4.3	2.1	5.1	86	5.8	238
4.4	6	5.2	104	5.9	264
4.5	11	5.3	124	6.0	290
4.6	18	5.4	146	6.1	318
4.7	27	5.5	168	6.2	346
4.8	38				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	112	42	4.3	1.6	2.7	2.1
2						0	104	37	3.9	1.6	2.7	1.6
3						0	80	34	4.3	1.2	2.7	1.6
4						0	61	31	3.9	1.6	2.4	2.1
5						0	48	27	3.5	20	1.2	1.2
6						0	51	22	3.1	15	.9	.7
7						0	64	19	2.4	10	.8	.4
8						0	87	17	1.8	9.0	.7	.4
9						0	157	15	1.6	7.0	.5	.3
10						0	146	14	1.2	8.0	.4	.3
11						0	251	15	3.5	12	.2	.2
12						0	277	15	*3.5	11	.2	.2
13						0	316	16	3.5	12	.1	.2
14						0	318	17	2.7	14	.1	.2
15						0	226	17	2.7	14	0	.2
16						0	168	21	2.7	13	0	.2
17						0	128	20	2.1	12	.5	.1
18						0	106	19	2.1	11	.5	.1
19						0	85	18	2.7	11	.5	.1
20						0	71	16	*2.7	11	.6	.1
21						0	61	14	*2.7	11	.6	.1
22						0	54	13	2.7	10	.9	.1
23						1	46	10	2.7	9.5	.9	.1
24						10	43	9.0	3.1	9.0	.7	.1
25						23	46	8.0	2.1	8.5	2.1	.1
26						67	51	7.0	2.1	8.0	6.0	0
27						122	54	6.5	2.7	8.0	7.0	0
28						214	53	6.0	2.1	6.0	6.0	0
29						190	51	5.5	1.6	5.1	5.1	0
30						157	48	5.1	2.1	3.9	4.3	0
31						131	-	4.3	-	3.5	3.5	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1934.....						1,636.6	136	0	4.48	3,240		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						915	214	0	29.5	1,810		
April.....						3,365	318	43	112	6,870		
May.....						520.4	42	4.3	16.8	1,030		
June.....						82.1	4.3	1.2	2.74	183		
July.....						278.5	20	1.2	8.96	552		
August.....						54.8	7.0	0	1.77	109		
September.....						12.8	2.1	0	.43	25		
Water year 1934-35.....						5,228.6	318	0	14.3	10,360		

*Interpolated.

Clearwater Lake near Leonard, Minn.

Location.- Staff gage, lat. 47°44', long. 95°13', in E½SW¼ sec. 12, T. 149 N., R. 36 W., on abutment of dam 8 miles northeast of Leonard. Zero of gage is 3.00 feet below crest of dam.

Records available.- June 1934 to September 1935.

Extremes.- Maximum stage observed during year, 3.76 feet May 14; minimum stage observed, 2.54 feet Feb. 11, 12.

1934-35: Maximum stage observed, that of May 14, 1935; minimum stage observed, that of Feb. 11, 12, 1935.

Remarks.- Records excellent. Discharge from lake regulated at dam.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.34	3.16	3.22	3.20	2.76	2.90	3.66	3.68	3.42	3.46	3.29	3.38
2	3.34	3.14	3.20	3.20	2.74	2.90	3.64	3.64	3.40	3.46	3.26	3.36
3	3.34	3.10	3.22	3.20	2.72	2.92	3.60	3.60	3.40	3.44	3.26	3.36
4	3.34	3.10	3.22	3.20	2.70	2.96	3.60	3.58	3.42	3.42	3.26	3.36
5	3.36	3.08	3.22	3.20	2.66	2.98	3.59	3.58	3.44	3.44	3.26	3.36
6	3.38	3.06	3.22	3.20	2.64	2.98	3.58	3.56	3.44	3.42	3.26	3.36
7	3.38	3.02	3.20	3.20	2.62	3.00	3.58	3.55	3.43	3.42	3.26	3.36
8	3.38	2.98	3.22	3.16	2.58	3.00	3.54	3.54	3.42	3.40	3.26	3.38
9	3.40	2.94	3.20	3.16	2.56	3.02	3.54	3.54	3.42	3.38	3.26	3.38
10	3.40	2.92	3.20	3.12	2.56	3.02	3.54	3.54	3.42	3.44	3.26	3.36
11	3.40	2.92	3.20	3.10	2.54	3.02	3.58	3.56	3.42	3.48	3.26	3.36
12	3.40	2.92	3.20	3.08	2.54	3.02	3.60	3.70	3.44	3.46	3.26	3.34
13	3.42	2.92	3.20	3.08	2.56	3.02	3.62	3.74	3.44	3.46	3.24	3.34
14	3.42	2.90	3.20	3.06	2.60	3.04	3.64	3.76	3.46	3.44	3.24	3.34
15	3.42	2.90	3.20	3.04	2.62	3.08	3.66	3.74	3.48	3.44	3.22	3.36
16	3.42	2.94	3.20	3.02	2.64	3.10	3.64	3.70	3.50	3.42	3.22	3.36
17	3.38	2.94	3.20	3.00	2.70	3.12	3.64	3.68	3.50	3.40	3.34	3.38
18	3.34	2.96	3.22	3.00	2.74	3.18	3.62	3.66	3.48	3.40	3.42	3.36
19	3.32	3.00	3.22	2.96	2.74	3.20	3.60	-	3.46	3.38	3.48	3.36
20	3.42	3.02	3.22	2.96	2.76	3.24	3.60	3.56	3.44	3.38	3.54	3.35
21	3.44	3.10	3.22	2.96	2.76	3.32	3.57	3.54	3.44	3.36	3.54	3.34
22	3.42	3.14	3.22	2.94	2.80	3.34	3.56	3.50	3.44	3.34	3.60	3.34
23	3.42	3.14	3.24	2.92	2.82	3.34	3.54	3.50	3.42	3.34	3.50	3.34
24	3.40	3.16	3.24	2.90	2.82	3.36	3.52	3.50	3.40	3.32	3.60	3.34
25	3.36	3.18	3.22	2.86	2.86	3.38	3.54	3.48	3.46	3.32	3.48	3.34
26	3.34	3.20	3.22	2.84	2.88	3.46	3.58	3.46	3.48	3.32	3.44	3.32
27	3.32	3.22	3.20	2.84	2.88	3.38	3.60	3.44	3.50	3.38	3.40	3.30
28	3.30	3.22	3.22	2.82	2.90	3.38	3.62	3.44	3.50	3.34	3.38	3.30
29	3.26	3.22	3.22	2.80	-	3.58	3.66	3.44	3.50	3.32	3.36	3.30
30	3.24	3.22	3.22	2.78	-	3.60	3.68	3.44	3.48	3.30	3.38	3.30
31	3.20	-	3.22	2.76	-	3.64	-	3.44	-	3.30	3.38	-

Clearwater River near Leonard, Minn.

Location.- Staff gage, lat. 47°44', long. 95°13', in E3W4 sec. 12, T. 149 N., R. 36 W., 300 feet below dam at outlet of Clearwater Lake and 8 miles northeast of Leonard.

Records available.- June 1934 to September 1935.

Extremes.- Maximum discharge observed during year, 98 second-feet May 14, 15 (gage height, 1.48 feet, affected by aquatic growth); minimum observed, 9.5 second-feet Feb. 12, 13 (gage height, 0.64 foot).

1934-35: Maximum discharge observed, that of May 14, 15, 1935; minimum, 5.5 second-feet Aug. 29, 1934.

Remarks.- Records good. Stage-discharge relation affected by debris on control Apr. 23 to May 20, Sept. 15-19. Flow regulated at dam above.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Apr. 23 to May 20, Sept. 15-19)

0.6	7.8	1.1	46
.7	12	1.2	59
.8	19	1.3	74
.9	26	1.4	90
1.0	35	1.5	107

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	37	25	23	28	20	87	84	44	46	22	42
2	15	39	23	23	28	20	84	77	42	44	19	39
3	14	37	25	23	37	20	74	74	44	44	19	42
4	14	35	25	23	37	22	77	70	46	44	19	42
5	15	35	25	24	37	23	74	64	49	46	19	42
6	15	35	25	23	35	23	74	62	49	44	19	42
7	15	46	23	42	35	23	74	60	44	42	19	42
8	16	44	25	39	35	23	68	59	44	37	19	42
9	16	44	23	37	35	23	68	59	42	35	19	42
10	16	26	23	39	35	23	68	64	42	46	19	39
11	16	26	23	37	31	23	74	66	44	51	19	39
12	16	26	23	35	9.5	23	77	84	46	49	17	37
13	17	28	23	35	9.5	23	80	93	49	49	17	35
14	17	26	23	33	11	16	84	98	51	46	16	35
15	17	26	23	31	11	19	87	98	54	44	14	33
16	56	10	23	31	12	12	84	93	59	42	14	33
17	46	10	23	31	14	12	84	87	59	37	31	31
18	31	10	25	30	15	14	80	85	56	37	42	30
19	26	11	25	30	16	15	77	82	51	35	74	30
20	46	11	25	30	16	19	77	79	46	33	84	30
21	51	14	25	30	16	28	72	74	44	31	77	30
22	46	16	25	33	17	31	68	68	42	30	71	28
23	46	16	26	33	17	33	64	62	42	26	68	26
24	46	17	26	33	19	35	60	59	39	26	65	28
25	54	20	25	31	19	42	66	56	54	25	62	26
26	46	23	25	31	20	51	68	56	56	25	54	23
27	39	23	25	31	20	74	74	51	59	30	49	23
28	37	25	25	30	20	77	84	49	56	28	44	22
29	35	25	25	30	-	77	82	49	56	26	44	22
30	37	25	25	28	-	77	85	46	49	25	44	22
31	42	-	25	28	-	84	-	46	-	23	44	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						917	56	14	29.6	1,820		
November.....						764	46	10	25.5	1,620		
December.....						755	26	23	24.4	1,500		
Calendar year												
January.....						957	42	23	30.9	1,900		
February.....						633.0	37	9.8	25.6	1,260		
March.....						1,005	84	12	32.4	1,990		
April.....						2,278	87	60	75.9	4,520		
May.....						2,154	98	46	69.5	4,270		
June.....						1,458	59	39	48.6	2,890		
July.....						1,146	51	23	37.0	2,270		
August.....						1,143	84	14	36.9	2,270		
September.....						997	42	22	33.2	1,980		
Water year 1934-35						14,207.0	98	9.5	38.9	28,190		

*Interpolated.

Clearwater River at Red Lake Falls, Minn.

Location.- Water-stage recorder, lat. 47°53', long. 96°17', in sec. 22, T. 151 N., R. 44 W., at Great Northern Railway bridge at Red Lake Falls, about $\frac{1}{2}$ miles above mouth and 2 miles below nearest tributary which enters from the left. Same location but different datum from that of September 1917.

Drainage area.- 1,310 square miles.

Records available.- June 1909 to September 1917, November 1934 to September 1935.

Extremes.- Maximum discharge during period, 696 second-feet Mar. 27 (gage height, 5.92 feet, affected by ice); minimum, 2.2 second-feet Aug. 15 (gage height, 1.43 feet, affected by aquatic growth).

1909-17, 1934-35: Maximum discharge observed, 3,990 second-feet Apr. 15, 16, 1916; minimum, that of Aug. 15, 1935.

Remarks.- Records good except those for period of ice affect, Dec. 24 to Apr. 8, which are fair. Stage-discharge relation affected by aquatic growth June 1-15, July 5 to Sept. 30. Diurnal fluctuation caused by operation of mill 600 feet upstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	20	19	43	15	303	248	109	69	30	26
2	-	-	7.0	49	39	17	258	236	100	64	26	30
3	-	-	23	34	44	6.2	173	224	97	61	21	40
4	-	-	17	43	39	25	162	215	93	61	5.2	32
5	-	-	19	12	26	18	143	205	89	54	32	52
6	-	-	24	16	6.8	37	130	198	70	49	6.9	54
7	-	-	17	27	34	16	141	186	89	48	9.7	56
8	-	-	19	41	21	16	152	179	78	50	30	50
9	-	-	5.2	27	43	16	211	167	74	76	11	59
10	-	-	6.8	38	35	14	224	161	100	64	26	62
11	-	-	6.8	26	24	22	241	170	81	87	4.0	58
12	-	-	6.8	15	40	23	306	182	66	87	16	55
13	-	-	6.8	11	31	37	353	202	82	70	15	46
14	-	-	6.2	25	22	22	342	231	61	68	13	54
15	-	-	7.6	31	26	61	324	236	95	80	2.5	52
16	-	-	8.2	33	50	74	238	234	97	65	5.6	51
17	-	-	42	25	34	82	310	231	97	59	44	54
18	-	-	13	25	28	107	324	224	114	52	6.4	51
19	-	-	12	19	43	161	317	221	107	51	40	47
20	-	-	40	15	36	324	328	218	107	46	23	29
21	-	-	9.4	35	54	346	317	211	102	49	39	45
22	-	-	45	26	39	146	328	202	78	42	26	42
23	-	-	14	31	36	195	296	192	100	39	33	44
24	-	-	22	49	43	192	248	182	80	33	43	48
25	-	-	42	35	16	292	224	167	76	9.7	54	42
26	-	-	63	39	28	554	224	155	78	6.4	31	37
27	-	42	58	50	42	594	234	162	73	35	35	15
28	-	14	44	54	17	476	268	138	80	5.2	60	45
29	-	6.8	36	54	-	376	275	127	64	34	59	17
30	-	28	12	43	-	357	265	119	78	37	43	37
31	-	-	42	35	-	350	-	117	-	28	32	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						-	-	-	-	-		
November.....						-	-	-	-	-		
December.....						707.8	63	7.0	22.8	1,400		
Calendar year												
January.....						982	54	11	31.7	1,950		
February.....						941.8	54	8.8	33.6	1,970		
March.....						4,972.2	594	8.2	160	9,660		
April.....						7,649	353	130	265	15,170		
May.....						5,954	246	117	191	11,770		
June.....						2,675	114	70	89.2	5,310		
July.....						1,599.3	67	5.2	51.6	3,170		
August.....						826.5	60	2.5	26.7	1,640		
September.....						1,350	62	15	45.0	2,680		
The period.....										54,820		

Forest River near Minto, N. Dak.

Location.- Chain gage, lat. 48°16', long. 97°24', on line between secs. 1 and 12, T. 155 N., R. 53 W., 3 miles southwest of Minto.

Records available.- March 1932 to September 1935 (incomplete).

Extremes.- Maximum discharge observed during year, 442 second-feet Mar. 28 (gage height, 8.99 feet, affected by ice); minimum, 1.39 second-feet by discharge measurement Aug. 26; minimum mean daily discharge, 6.4 second-feet June 28, 1932-35; Maximum discharge, 700 second-feet Apr. 2, 1933 (gage height, 12.95 feet, affected by ice); no flow for several days each year, 1932-34.

Remarks.- Records good. Stage-discharge relation affected by ice Mar. 17 to Apr. 17 and by debris on control Apr. 18 to June 1. No records Oct. 1 to Mar. 16, July 1 to Sept. 30, except for two discharge measurements.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	102	20	10			
2						-	69	19	9.7			
3						-	54	18	9.7			
4						-	47	17	9.7			
5						-	41	17	9.4			
6						-	36	16	9.2			
7						-	34	15	8.9			
8						-	32	15	8.6			
9						-	35	15	8.2			
10						-	38	15	7.6			
11						-	30	15	6.8			
12						-	38	16	7.0			
13						-	54	16	6.8			
14						-	69	17	6.7			
15						-	54	17	6.4			
16						-	47	16	7.0			
17						47	54	15	7.0			
18						38	36	15	7.0			
19						50	36	14	7.6			
20						129	34	13	8.7			
21						144	27	13	15			
22						225	29	12	14			
23						47	28	11	†12	*8.09		
24						144	27	11	9.6			
25						79	28	11	9.2			
26						54	28	12	8.2		*1.39	
27						35	28	12	7.6			
28						366	27	11	6.4			
29						265	24	11	9.4			
30						144	23	10	8.2			
31						90	-	10	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 17-31.....						1,857	368	35	124	3,680		
April.....						1,209	102	25	40.3	2,400		
May.....						445	20	10	14.4	883		
June.....						261.6	15	6.4	8.72	519		
July.....						-	-	-	-	-		
August.....						-	-	-	-	-		
September.....						-	-	-	-	-		
The period.....										7,480		

*Discharge measurement.

†Estimated.

RED RIVER BASIN

Park River at Grafton, N. Dak.

Location.- Chain gage, lat. 48°25', long. 97°24', in NE¼ sec. 13, T. 157 N., R. 53 W., at Grafton.

Records available.- April 1931 to June 1935 (incomplete).

Extremes.- Maximum discharge observed during year, 443 second-feet Mar. 28 (gage height, 8.34 feet, affected by ice); no flow for most of period October to February.
1931-35: Maximum discharge observed, 2,010 second-feet Apr. 2, 1933 (gage height, 15.18 feet, affected by ice); no flow at times.

Remarks.- Records fair. Stage-discharge relation affected by ice Mar. 19 to Apr. 13, and by shifting control Apr. 14 to June 30. No record Oct. 1 to Mar. 18, July 1 to Sept. 30, except for one discharge measurement. Little or no flow Oct. 1 to Feb. 28.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	135	20	1.4			
2						-	99	16	3.2			
3						-	73	12	2.7			
4						-	54	9.4	1.6			
5						-	51	8.7	1.2			
6						-	43	7.1	1.3			
7						-	43	6.5	1.0			
8						-	37	7.1	1.0			
9						-	54	12	.9			
10						-	65	5.5	.7			
11						-	104	3.6	.4			
12						-	144	5.2	1.0			
13						-	196	7.4	2.7			
14						-	184	6.3	2.7			
15						-	126	6.0	2.9			
16						-	108	5.2	3.6			
17						-	81	5.8	5.8			
18						-	66	5.2	5.0			
19						51	51	4.2	4.0			
20						40	40	3.8	2.5			
21						90	34	3.8	2.0			
22						43	29	3.2	4.7			
23						164	24	2.5	5.0	*1.3		
24						51	22	2.3	4.0			
25						62	27	2.3	5.0			
26						117	27	3.4	18			
27						346	27	4.2	14			
28						443	22	3.6	8.4			
29						229	22	3.6	5.5			
30						240	20	1.2	5.0			
31						174	-	1.2	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 19-31.....						2,049	443	40	158	4,060		
April.....						1,977	196	.20	65.9	3,920		
May.....						188.3	20	1.2	6.07	373		
June.....						117.2	18	.4	3.91	252		
July.....						-	-	-	-	-		
August.....						-	-	-	-	-		
September.....						-	-	-	-	-		
The period.....										8,580		

*Discharge measurement.

South Fork of Two Rivers at Pelan, Minn.

Location.- Chain gage, lat. 48°39', long. 96°23', in SW¼ sec. 30, T. 160 N., R. 44 W., a quarter of a mile west of Pelan.

Records available.- August 1928 to September 1935 (incomplete).

Extremes.- Maximum discharge observed during year, 242 second-feet Mar. 29 (gage height, 5.24 feet, affected by ice); no flow for several months.
1928-35: Maximum discharge observed, 1,810 second-feet May 13, 1930 (gage height, 10.18 feet); no flow frequently.

Remarks.- Records good. Stage-discharge relation affected by ice Mar. 29 to Apr. 9 and by beaver dam or debris throughout remainder of year.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	100	79	6.5	1.5		
2						0	79	54	6.5	1.4		
3						0	*45	35	6.5	1.2		
4						0	33	20	5.0	1.0		
5						0	35	20	4.5	.9		
6						0	54	22	4.0	.9		
7						0	58	22	2.4	.3		
8						0	50	22	2.4	.3		
9						0	54	24	2.0	.2		
10						0	145	24	2.4	.1		
11						0	173	20	2.4	.1		
12						0	152	20	2.0	.2		
13						0	159	18	2.4	.2		
14						0	159	16	2.4	.2		
15						0	106	14	2.4	.1		
16						0	106	12	1.0	.1		
17						0	62	10	.9	.1		
18						0	54	10	.7	.1		
19						0	46	10	.4	0		
20						0	32	9.6	.3	0		
21						0	26	9.6	.2	0		
22						0	20	10	.1	0		
23						0	12	9.3	.1	0		
24						0	15	10	.1	0		
25						*2	74	6.5	.3	0		
26						*10	210	6.5	.3	0		
27						*50	166	4.0	5.0	0		
28						*100	125	4.0	4.0	0		
29						210	106	3.6	3.6	0		
30						194	94	3.6	3.2	0		
31						106	-	6.5	-	0		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						672	210	0	21.7	1,330		
April.....						2,550	210	12	85.0	5,060		
May.....						533.2	79	3.6	17.2	1,060		
June.....						74.0	6.5	.1	2.47	147		
July.....						8.9	1.5	0	.29	18		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1934-35.....						3,838.1	210	0	10.5	7,620		

*Estimated.

South Fork of Two Rivers at Bronson, Minn.

Location.- Chain gage, lat. $46^{\circ}44'$, long. $96^{\circ}40'$, in SW $\frac{1}{4}$ sec. 30, T. 161 N., R. 46 W., a quarter of a mile west of Bronson. Zero of gage is 930.48 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- September 1928 to September 1935 (incomplete).

Extremes.- Maximum discharge during period (estimated because of ice effect), 565 second-feet Apr. 13; maximum gage height, 5.43 feet Apr. 1 (affected by ice); minimum, 1.2 second-feet Aug. 12.

1928-35: Maximum discharge observed, 1,820 second-feet May 15, 1930 (gage height, 8.90 feet); minimum observed, 1.2 second-feet several days in July and August 1934, Aug. 12, 1935.

Remarks.- Records poor. Stage-discharge relation affected by ice Apr. 1-13. Discharge estimated on basis of 5 discharge measurements for most of period May 1 to Sept. 30 owing to uncertainties in gage-height record. No records Oct. 1 to Mar. 31.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							256	125	14	6.4	2.1	2.5
2							158	110	14	7.0	2.1	2.5
3							106	85	13	6.7	2.1	2.5
4							67	65	12	7.5	2.1	2.5
5							59	50	10	8.6	2.1	2.5
6							59	50	10	8.9	2.1	2.5
7							73	45	9.3	8.1	2.1	2.5
8							63	40	8.6	8.1	2.1	2.5
9							113	40	8.1	7.5	1.8	2.5
10							166	40	7.5	6.7	1.5	2.5
11							258	40	6.7	6.0	1.5	2.6
12							440	35	6.4	5.5	1.2	2.6
13							440	35	6.4	5.0	1.5	2.7
14							318	30	5.9	4.5	1.4	3.0
15							278	25	5.5	4.0	1.5	3.0
16							229	27	5	3.5	1.8	3.0
17							205	22	5	3.0	1.8	3.0
18							143	19	5	2.5	1.8	3.0
19							100	19	4.9	2.5	1.8	3.0
20							88	19	5	2.5	1.8	3.0
21							78	19	5	2.5	2.0	3.0
22							59	19	5	2.5	2.0	3.0
23							51	19	5	2.1	2.0	3.0
24							43	19	5	2.1	2.0	3.0
25							43	18	5	2.1	2.0	3.0
26							205	14	6	2.1	2.2	3.0
27							248	15	6	2.1	2.2	3.0
28							229	13	6	2.1	2.2	3.6
29							181	12	6	2.1	2.2	3.6
30							156	12	6	2.1	2.2	3.6
31							-	12	-	2.1	2.2	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April.....							4,914	440	43	164	9,750	
May.....							1,096	125	12	35.4	2,170	
June.....							217.3	14	4.9	7.24	431	
July.....							138.4	8.9	2.1	4.46	275	
August.....							59.4	2.2	1.2	1.92	118	
September.....							85.3	3.6	2.5	2.84	169	
The period.....											12,910	

Middle Fork of Two Rivers near Hallock, Minn.

Location.- Staff gage, lat. 48°46', long. 96°53', in SE $\frac{1}{4}$ sec. 17, T. 161 N., R. 48 W., $\frac{1}{2}$ miles above mouth and $2\frac{1}{2}$ miles southeast of Hallock.

Records available.- April 1931 to September 1935.

Extremes.- Maximum discharge observed during year, 6.7 second-feet Apr. 9; maximum gage height observed, 1.54 feet Apr. 5 (affected by ice); no flow for several months. 1931-35: Maximum discharge observed, 265 second-feet Apr. 19, 1932; no flow for several months each year.

Remarks.- Records fair. Stage-discharge relation affected by ice Apr. 1-5, and by debris on control May 8 to July 22.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0.4	2.0	0.4	0		
2							.4	1.8	.8	0		
3							.4	.9	.8	0		
4							.6	.8	.4	0		
5							5.1	.6	.4	.1		
6							5.8	.6	.4	.2		
7							3.7	.5	.4	.9		
8							4.2	1.7	.4	.8		
9							4.9	1.5	.3	1.5		
10							6.0	1.6	.2	1.1		
11							4.9	1.0	.2	1.2		
12							2.6	1.5	.2	.6		
13							1.7	1.2	.3	.3		
14							1.5	1.4	.3	.3		
15							1.0	.9	.3	.1		
16							.6	1.1	.3	.1		
17							1.5	.8	.3	.1		
18							1.8	.6	.2	.1		
19							4.6	.8	.3	.1		
20							5.3	.8	.2	0		
21							5.3	.5	.2	0		
22							4.9	.6	.2	0		
23							3.1	.4	.2	0		
24							2.4	.4	.1	0		
25							2.9	.2	.2	0		
26							3.1	.5	.1	0		
27							2.2	.4	.1	0		
28							2.0	.8	.2	0		
29							1.8	.6	.2	0		
30							1.5	.5	0	0		
31							-	.4	-	0		
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							0	0	0	0	0	
November.....							0	0	0	0	0	
December.....							0	0	0	0	0	
Calendar year 1934.....							32.8	8.8	0	.09	65	
January.....							0	0	0	0	0	
February.....							0	0	0	0	0	
March.....							0	0	0	0	0	
April.....							85.2	6.0	.4	2.87	171	
May.....							27.4	2.0	.2	.88	54	
June.....							8.6	.8	0	.29	17	
July.....							7.6	1.5	0	.24	15	
August.....							0	0	0	0	0	
September.....							0	0	0	0	0	
Water year 1934-35.....							129.7	6.0	0	.36	257	

North Fork of Two Rivers near Lancaster, Minn.

Location.- Staff gage, lat. 48°53'21", long. 96°40'1", in NW¼ sec. 6, T. 162 N., R. 48 W. (revised), 8 miles northeast of Lancaster. Zero of gage is 963.50 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge during year (estimated), 12 second-feet Apr. 15; maximum gage-height observed, 1.00 foot Apr. 12; no flow for several months.

1929-35: Maximum discharge observed, 212 second-feet May 12, 1930 (gage height, 3.00 feet); no flow for several months each year.

Remarks.- Records poor. Discharge estimated for days when gage was not read during period Apr. 1 to July 27.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	*.7	*.3	*0		
2							0	*.6	*.2	*.5		
3							0	*.6	*.4	*1.0		
4							0	*.5	.6	*1.5		
5							.5	*.5	*.5	1.8		
6							*.5	*.6	*.4	1.0		
7							*.5	*2.0	.4	*2.0		
8							*1.0	*1.5	*.3	3.0		
9							*2.0	1.0	*.3	*2.0		
10							3.6	.9	.2	1.7		
11							*8.0	*1.2	*.2	*1.5		
12							6.0	*1.5	.1	*1.3		
13							5.0	*1.2	*.3	1.0		
14							*8.0	*1.0	.4	*.9		
15							*12	1.0	*.3	*.8		
16							*5.0	*.9	*.2	*.7		
17							2.1	*.8	.2	.6		
18							1.1	*.7	*.1	.4		
19							.6	*.6	.1	*.3		
20							*.5	*.5	*.1	.2		
21												
22							*.5	.4	0	*.1		
23							.4	.2	0	0		
24							*.4	.2	*0	0		
25							.3	*.2	*.1	*0		
26							*.5	.1	.1	*0		
27							.6	*.5	0	*0		
28							*1.5	.9	*0	0		
29							*2.0	*.7	0	0		
30							1.1	.5	*0	0		
31							.7	*.4	*0	0		
							-	*.3	-	0		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0	0	
November.....						0	0	0	0	0	0	
December.....						0	0	0	0	0	0	
Calendar year 1934.....						34.9	15	0	.10	69		
January.....						0	0	0	0	0	0	
February.....						0	0	0	0	0	0	
March.....						0	0	0	0	0	0	
April.....						64.4	12	0	2.15	128		
May.....						22.7	2.0	.1	.73	45		
June.....						5.8	.6	0	.19	12		
July.....						22.3	3.0	0	.72	44		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1934-35.....						115.2	12	0	.32	229		

*Estimated.

State Ditch 85 near Lancaster, Minn.

Location.- Staff gage, lat. 48°52'2", long. 96°40'1", in southwest corner of sec. 6, T. 132 N., R. 46 W., 7 miles northeast of Lancaster. Zero of gage is 989.03 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge observed during year, 47 second-feet Apr. 22; maximum gage height, 2.50 feet Apr. 12 (affected by ice); no flow several months of year.
1929-35: Maximum discharge observed, 202 second-feet Apr. 18, 1932; no flow for several months most years.

Remarks.- Records poor. Stage-discharge relation affected by shifting control during entire year.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	*10	*0.2	*0.2		
2							0	*6	*.1	*1.4		
3							0	*4	*.4	*1.2		
4							0	*3	.5	*1.5		
5							0	*2	*.5	1.4		
6							0	*2	*.4	.7		
7							0	*1.8	.3	*.7		
8							0	*1.8	*.3	*.6		
9							*1	1.6	*.3	*.6		
10							*3	1.7	.4	.6		
11							5	*1.7	*.4	*.5		
12							12	*1.7	.3	*.4		
13							25	*1.7	*.4	.4		
14							*40	*1.7	.4	*.3		
15							*30	1.7	*.3	*.2		
16							*23	*1.6	*.3	*.2		
17							16	*1.5	.2	.1		
18							11	*1.3	*.2	.1		
19							8	*1.1	.2	*.1		
20							*12	*.9	*.2	0		
21							*25	.7	.2	0		
22							47	*.4	*.2	0		
23							*34	.4	*.1	0		
24							21	*.3	*.2	0		
25							*23	.1	.3	0		
26							25	*.3	.1	0		
27							*30	.5	*.2	0		
28							*31	*.5	.2	0		
29							25	.4	*.2	0		
30							17	*.3	*.1	0		
31							-	.2	-	0		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1934.....						100.8	9.0	0	.28	200		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						0	0	0	0	0		
April.....						464	47	0	15.5	920		
May.....						52.9	10	.1	1.71	105		
June.....						8.1	.5	.1	.27	16		
July.....						11.2	1.5	0	.36	22		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1934-35.....						536.2	47	0	1.47	1,060		

*Estimated.

Pembina River near Manitou, Manitoba

Location.- Chain gage, lat. 49°8'50", long. 98°33'30", on bridge near Lea's farm 9 miles south of Manitou.

Drainage area.- 2,340 square miles.

Records available.- October 1929 to September 1935 (incomplete) in reports of U. S. Geological Survey; April 1921 to September 1935 in reports of Dominion Water Power and Hydrometric Bureau.

Extremes.- Maximum mean daily discharge observed during year, 131 second-feet Apr. 14; no flow several days during October.

1921-35: Maximum mean daily discharge, 1,620 second-feet Apr. 19, 1923 (gage height, 99.75 feet); minimum, that of October 1934.

Remarks.- Records furnished by Dominion Water Power and Hydrometric Bureau. No records Nov. 1 to Apr. 13.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0						-	41.5	32.7	32.5	16.7	22.1
2	0						-	39.3	30.5	29.3	16.7	21.1
3	.3						-	37.6	26.1	26.1	16.7	20.1
4	.6						-	38.7	26.2	26.2	16.3	19.1
5	.8						-	39.8	39.1	24.3	16.5	18.0
6	.8						-	41.5	38.4	29.7	16.7	17.0
7	.8						-	40.4	37.6	35.0	17.0	18.6
8	.8						-	40.9	37.0	42.0	17.0	20.2
9	1.1						-	42.0	36.5	45.9	17.0	18.1
10	1.4						-	44.0	36.0	45.6	17.4	16.0
11	1.6						-	43.2	35.5	44.0	17.7	16.7
12	1.2						-	45.0	35.0	42.8	11.0	17.4
13	.8						-	43.8	35.7	39.0	85	17.1
14	.6						131	42.6	36.5	37.0	60	16.8
15	.5						98	41.5	37.1	34.0	53	16.4
16	.4						78	38.8	32.5	31.5	50	16.0
17	.4						74	36.0	35.0	29.0	47.9	15.6
18	.3						72	35.5	31.2	26.5	39.7	15.7
19	.3						68	35.0	29.4	22.5	31.6	15.8
20	.2						64	34.5	27.5	22.2	30.3	15.9
21	.1						59	34.0	25.6	22.0	29.0	16.0
22	0						55	33.5	23.2	21.7	27.8	15.3
23	0						52	33.2	23.4	21.5	26.6	14.6
24	0						48.6	32.9	27.9	21.5	25.3	13.9
25	0						56	32.5	32.5	21.3	24.9	13.5
26	.0						54	33.2	32.7	21.3	24.5	13.0
27	.0						53	34.0	32.9	20.3	24.1	12.6
28	0						52	34.6	33.2	19.2	23.7	13.0
29	0						48.6	36.5	33.5	18.1	23.7	13.5
30	0						46.2	37.1	33.0	17.0	23.7	13.5
31	0						-	34.9	-	16.8	23.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	13.0	1.6	0	0.4	0.000	0.000	26
November.....	-	-	-	-	-	-	-
December.....	-	-	-	-	-	-	-
Calendar year							
January.....	-	-	-	-	-	-	-
February.....	-	-	-	-	-	-	-
March.....	-	-	-	-	-	-	-
April 14-30.....	1,109.4	131	46.2	65	.028	.018	2,200
May.....	1,177.2	45.0	32.5	38.0	.016	.018	2,330
June.....	994.6	39.8	23.4	33.2	.014	.016	1,970
July.....	882.5	46.6	16.8	28.5	.012	.014	1,760
August.....	970.2	110	16.3	31.5	.013	.015	1,820
September.....	492.6	22.1	12.6	16.4	.007	.008	977
Water year							

Pembina River at Neche, N. Dak.

Location.- Chain gage, lat. 48°59', long. 97°33', in sec. 36, T. 164 N., R. 54 W., half a mile north of Neche.

Drainage area.- 2,960 square miles.

Records available.- May 1903 to September 1915, April 1919 to September 1935.

Average discharge.- 16 years (1919-35), 118 second-feet.

Extremes.- Maximum discharge observed during year, 364 second-feet June 18; maximum gage height, 6.11 feet Mar. 28 (affected by ice); no flow during several months.
1903-15, 1919-35: Maximum discharge observed, 3,870 second-feet May 2, 1904 (gage height, 20.9 feet); no flow at times during 1932-35.

Remarks.- Records poor Oct. 1 to Mar. 27, good thereafter. Stage-discharge relation affected by ice, shifting control, or debris on control for periods Oct. 21 to Dec. 9, Mar. 28 to Apr. 12, Apr. 14 to May 10, June 18 to Sept. 8, Sept. 19-30.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	1.0	0.7			0	63	70	53	76	21	23
2	0	1.0	.5			0	36	61	55	74	21	24
3	0	1.0	.4			0	84	54	64	78	24	22
4	0	1.0	.3			0	78	48	65	75	20	23
5	0	1.2	.2			0	75	44	65	76	17	21
6	0	1.3	.1			0	76	75	63	69	14	20
7	0	1.2	.1			0	66	73	60	74	11	18
8	0	1.1	.1			0	69	76	56	116	11	17
9	0	1.0	.1			0	65	75	55	94	12	15
10	0	2.0	.1			0	76	72	53	90	10	14
11	0	1.6	0			0	103	70	55	84	9.9	13
12	0	1.1	0			0	307	68	62	94	11	14
13	0	1.0	0			0	319	70	63	105	12	12
14	0	.7	0			0	342	71	71	86	8.4	11
15	0	.9	0			0	259	72	72	75	7.4	11
16	0	1.1	0			0	236	70	71	70	8.4	11
17	0	1.1	0			0	236	89	71	64	11	10
18	.1	1.0	0			0	236	64	364	60	28	9.9
19	.2	1.1	0			0	188	64	295	55	47	9.0
20	.4	1.1	0			0	165	63	307	52	51	10
21	1.2	1.1	0			0	138	63	224	47	51	12
22	12	1.1	0			0	122	62	177	43	45	12
23	3.5	1.1	0			0	112	60	122	39	40	11
24	16	1.1	0			0	108	57	110	38	38	10
25	7.2	1.0	0			0	122	56	105	35	37	14
26	4.4	.9	0			0	146	58	103	34	32	18
27	2.0	.9	0			0	163	61	101	31	29	17
28	1.6	.8	0			103	122	66	98	28	27	14
29	1.4	.8	0			130	93	62	100	26	27	15
30	1.2	.7	0			90	79	58	85	24	26	15
31	1.0	-	0			68	-	54	-	22	24	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						52.1	16	0	1.68	103		
November.....						32.0	2.0	.7	1.07	63		
December.....						2.6	.7	0	.08	5.2		
Calendar year 1934.....						20,452.2	780	0	56.0	40,570		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						391	130	0	12.6	776		
April.....						4,324	342	63	144	8,580		
May.....						1,990	78	44	64.2	3,950		
June.....						3,245	364	53	108	6,440		
July.....						1,934	116	22	62.4	3,840		
August.....						729.1	51	7.4	23.5	1,450		
September.....						445.9	24	9.0	14.9	884		
Water year 1934-35.....						13,145.7	364	0	36.0	26,090		

Roseau River at Malung, Minn.

Location.— Staff gage, lat. 48°47', long. 95°43', in sec. 18, T. 161 N., R. 39 W., half a mile north of Malung.

Records available.— August 1928 to September 1935 (incomplete during winter).

Extremes.— Maximum discharge observed during year, 171 second-feet Apr. 11 (gage height, 8.30 feet, affected by ice); no flow Oct. 1-17.

1928-35: Maximum discharge observed, 468 second-feet Apr. 13, 1932; no flow during several periods.

Remarks.— Records good. Stage discharge relation affected by ice Apr. 1-20, and by debris on control or aquatic growth Oct. 1 to Nov. 30, May 6 to July 4, Aug. 20 to Sept. 30. No records Dec. 1 to Mar. 31.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.4					32	50	12	22	15	11
2	0	.4					25	40	8.6	17	15	9.8
3	0	.4					25	34	8.6	10	12	11
4	0	.4					27	26	9.1	11	11	10
5	0	.4					58	30	9.5	50	11	11
6	0	.4					96	26	12	36	11	10
7	0	.5					65	27	11	32	10	10
8	0	.4					85	28	11	38	10	7.5
9	0	.4					36	28	11	36	11	6.3
10	0	.4					114	34	11	30	11	5.7
11	0	.4					164	38	12	34	11	7.3
12	0	.4					139	38	14	36	11	7.7
13	0	.4					108	38	15	70	11	7.7
14	0	.4					80	55	22	75	12	11
15	0	.4					45	68	38	80	12	9.6
16	0	.5					62	50	36	85	13	10
17	0	.8					36	40	40	85	15	11
18	.2	1.1					48	38	38	85	17	10
19	.4	1.1					40	32	36	85	16	9.5
20	.4	1.2					45	28	34	70	18	11
21	.5	1.2					42	27	32	55	18	10
22	.3	.8					42	23	30	52	19	7.7
23	.6	.9					42	24	25	45	18	9.1
24	.3	.9					40	19	27	42	18	8.6
25	.4	1.1					40	14	28	40	16	8.2
26	.4	1.1					50	35	55	36	13	8.2
27	.4	1.1					48	19	35	32	13	9.1
28	.4	1.1					62	40	36	26	13	7.5
29	.4	1.1					60	17	34	24	13	6.5
30	.3	.9					52	9.3	25	21	13	7.3
31	.4	-					-	8.8	-	14	13	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							5.3	0.5	0	0.17	11	
November.....							21.0	1.2	.4	.70	42	
December.....							-	-	-	-	-	
Calendar year												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April.....							1,808	164	25	60.3	3,590	
May.....							975.1	58	8.8	31.5	1,930	
June.....							726.8	65	8.6	24.2	1,440	
July.....							1,377	85	10	44.4	2,730	
August.....							420	19	10	13.5	833	
September.....							269.2	11	5.7	8.97	534	
Water year												

Roseau River near Roseau, Minn.

Location.- Staff gage, lat. 48°55'24", long. 95°46'2", in SW $\frac{1}{4}$ sec. 24, T. 163 N., R. 40 W. Fourth principal meridian, on steel highway bridge $5\frac{1}{2}$ miles north of Roseau.

Records available.- April 1930 to September 1935 (fragmentary).

Extremes.- Maximum water-surface elevation observed during year, 1,030.71 feet Apr. 11; minimum observed, 1,024.07 feet June 1.
1930-35: Maximum water-surface elevation observed, 1,034.86 feet Apr. 9, 1932; minimum observed, 1,023.34 feet Sept. 28, 1930.

Remarks.- Records good. Gage heights have been reduced to mean sea-level datum. No record during periods omitted.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	25.83	24.07			
2							-	25.57				
3							27.03	26.04				
4							27.35	24.97				
5							27.65	24.79				
6							28.75	24.72				
7							28.95	24.64				
8							28.35	24.73				
9							28.33	24.87				
10							29.79	25.09				
11							30.69	25.05				
12							30.23	-				
13							29.40	-				
14							28.79	-				
15							27.95	-				
16							27.48	-				
17							27.30	-				
18							26.64	-				
19							26.38	24.91				
20							26.15	24.75				
21							-	24.65				
22							25.67	24.59				
23							25.63	24.43				
24							25.25	24.35				
25						29.67	25.37	24.35				
26							25.87	24.25				
27							26.35	24.41				
28							26.51	-				
29							26.41	24.35				
30							26.23	24.27				
31							-	24.15				

Note.- Add 1,000 feet to obtain elevation above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Roseau River at Ross, Minn.

Location.- Water-stage recorder, lat. 48°54'37", long. 95°55'18", in SE $\frac{1}{4}$ (revised) sec. 27 T. 163 N., R. 41 W., a quarter of a mile north of Ross. Zero of gage is 1,018.44 feet above mean sea-level (adjustment of 1928 by Geodetic Survey of Canada).

Drainage area.- 1,030 square miles.

Records available.- July 1928 to September 1935.

Extremes.- Maximum discharge during year (estimated because of ice effect), 637 second-feet Apr. 12; maximum gage height, 8.64 feet Apr. 11 (affected by ice); minimum discharge, 8.6 second-feet Oct. 1.
1928-35: Maximum discharge, 1,550 second-feet Apr. 13, 1932; minimum, 3 second-feet several days in July and August 1933.

Remarks.- Records good. Stage-discharge relation affected by ice Nov. 23 to Apr. 14, and by aquatic growth Oct. 1 to Nov. 22, June 19 to Sept. 30. Discharge estimated Dec. 3 to Jan. 6, Jan. 8 to Feb. 7, Feb. 9 to Mar. 3, Mar. 29 to Apr. 1, Apr. 15-17.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	9.2	30	25	9	9	9	200	451	82	93	35	52		
2	9.6	28	26				157	389	80	80	32	48		
3	11	24	24				146	343	85	72	31	45		
4	11	23	22				153	299	88	64	30	46		
5	11	25	20				8.2	210	268	105	82	30	48	
6	13	25	19	*9.1	*9.2	8.8	332	243	111	128	34	49		
7	14	25	18			9.4	369	233	108	178	44	50		
8	15	24	17			9.4	401	233	99	192	50	50		
9	14	24	16			8.8	413	278	90	192	51	48		
10	14	24	15			8.4	519	310	82	173	50	45		
11	13	24	14	9	9	8.0	589	321	75	161	44	42		
12	14	23	13			7.8	621	321	70	149	42	38		
13	14	22	12			7.4	621	343	68	138	37	36		
14	14	32	11			7.4	621	365	68	135	32	34		
15	15	26				7.4	620	364	85	138	27	30		
16	24	24	9	9	7.2	600	332	102	135	24	30			
17	36	22			7.4	580	299	105	135	34	30			
18	60	26			7.6	561	268	105	132	65	32			
19	60	23			8.6	547	233	102	128	105	32			
20	52	23			11	505	210	90	118	128	32			
21	52	28	10	10	12	464	183	82	108	142	32			
22	56	26			11	425	161	75	93	149	30			
23	52	25			12	389	146	68	82	142	28			
24	46	25			12	343	132	65	75	135	25			
25	42	25			13	343	118	80	68	124	27			
26	36	25	-	-	12	438	108	105	62	114	29			
27	34	26			68	519	111	142	59	102	31			
28	32	26			278	547	114	149	64	90	32			
29	30	24			300	533	108	132	49	78	30			
30	27	26			260	505	102	111	44	68	32			
31	28	-			220	-	93	-	39	60	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....						858.8	60	9.2	27.7	1,700				
November.....						753	32	22	25.1	1,490				
December.....						412	26	-	13.3	817				
Calendar year 1934.....						11,570.7	321	4.0	31.7	22,950				
January.....						279.1	-	-	9.0	554				
February.....						252.2	-	-	9.0	500				
March.....						1,366.8	300	7.2	44.1	2,710				
April.....						13,291	621	146	44.3	26,560				
May.....						7,469	451	93	241	14,810				
June.....						2,809	149	65	93.6	5,570				
July.....						3,361	192	39	108	6,670				
August.....						2,129	149	24	68.7	4,220				
September.....						1,113	52	25	37.1	2,210				
Water year 1934-35.....						34,093.9	621	7.2	93.4	67,610				

*Discharge measurement.

Roseau River near Badger, Minn.

Location.- Water-stage recorder, lat. 48°54'42", long. 96°24", in SW¼ sec. 30, T. 163 N., R. 41 W., 9 miles north of Badger. Zero of gage is 1,016.90 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- August 1928 to September 1935.

Extremes.- Maximum water-surface elevation recorded during year, 1,025.56 feet Apr. 10; minimum, 1,017.96 feet Oct. 3.
1928-35: Maximum water-surface elevation, 1,027.97 feet Apr. 14, 1932; minimum, 1,017.73 feet July 22, 1932, Sept. 2, 1929.

Remarks.- Records excellent. Gage heights have been reduced to mean sea-level datum.
No records Nov. 1-7, Nov. 9 to Apr. 1, Apr. 15-18.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18.13						.	22.98	19.46	20.29	20.50	21.08
2	18.10						23.10	22.57	19.38	20.16	20.40	20.94
3	18.01						22.85	22.19	19.47	20.06	20.31	20.88
4	17.99						22.77	21.63	19.62	19.98	20.25	20.85
5	18.03						23.16	21.51	19.70	20.23	20.21	20.85
6	18.10						24.01	21.32	19.88	20.90	20.30	20.86
7	18.07						24.47	21.19	19.87	21.57	20.52	20.86
8	18.06	18.40					24.46	21.19	19.76	21.88	20.72	20.84
9	18.06						24.67	21.55	19.61	21.99	20.77	20.80
10	18.07						25.33	21.87	19.47	21.98	20.72	20.71
11	18.07						25.45	21.93	19.36	21.92	20.60	20.62
12	18.07						25.23	21.94	19.26	21.87	20.48	20.64
13	18.06						25.36	22.12	19.20	21.81	20.55	20.45
14	18.06						25.21	22.28	19.19	21.80	20.22	20.38
15	18.00						-	22.25	19.44	21.90	20.08	20.27
16	18.17						-	22.08	19.76	21.94	19.98	20.20
17	18.58						-	21.82	19.87	21.96	20.17	20.17
18	19.12						-	21.53	19.87	21.99	20.72	20.15
19	19.29						23.67	21.25	19.86	21.98	21.66	20.11
20	19.18						23.41	20.99	19.74	21.91	22.18	20.06
21	19.11						23.15	20.75	19.62	21.81	22.49	20.01
22	19.16						22.88	20.52	19.54	21.66	22.66	19.92
23	19.16						22.62	20.31	19.44	21.49	22.63	19.83
24	19.06						22.19	20.14	19.43	21.33	22.52	19.73
25	18.96						22.12	19.97	19.65	21.20	22.38	19.71
26	18.87						22.83	19.86	20.07	21.13	22.22	19.70
27	18.81						23.35	19.85	20.61	21.06	22.07	19.70
28	18.73						23.55	19.90	20.82	20.95	21.83	19.71
29	18.68						23.49	19.82	20.71	20.85	21.61	19.69
30	18.62						23.31	19.76	20.49	20.73	21.42	19.68
31	-						-	19.63	-	20.62	21.25	-

Note.- Add 1,000 feet to obtain elevation above mean sea level.

Roseau River near Haug, Minn.

Location.- Water-stage recorder, lat. 48°55'28", long. 96°12'26", in SE $\frac{1}{4}$ sec. 21, T. 163 N., R. 43 W., 8 $\frac{1}{4}$ miles northwest of Haug and 5 miles south of international boundary. Zero of gage is 1,014.02 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- April 1932 to September 1935 (incomplete).

Extremes.- Maximum water-surface elevation during period, 1,021.99 feet Apr. 12; minimum, 1,018.37 feet June 23.

1932-35: Maximum water-surface elevation recorded, 1,023.19 feet Apr. 14, 1932; minimum recorded, 1,014.74 feet Aug. 8, 1933.

Remarks.- Records excellent. Gage heights have been reduced to mean sea-level datum. No Records Oct. 1 to Apr. 4, May 17 to June 17, July 26 to Sept. 5.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	19.74	-	16.96		-
2							-	19.42	-	16.76		-
3							-	19.07	-	16.64		-
4							-	18.75	-	16.59		-
5							20.14	18.45	-	16.61		-
6							20.32	18.23	-	16.87		17.84
7							20.75	18.10	-	17.38		17.85
8							21.03	18.03	-	17.77		17.85
9							21.15	18.15	-	18.02		17.84
10							21.40	18.45	-	18.06		17.82
11							21.75	18.62	-	18.04		17.78
12							21.94	18.64	-	17.97		17.75
13							21.89	18.71	-	17.92		17.71
14							21.77	18.83	-	17.87		17.64
15							21.54	18.90	-	17.88		17.57
16							21.62	18.85	-	17.83		17.52
17							21.31	-	-	17.97		17.44
18							20.99	-	16.82	18.01		17.37
19							20.87	-	16.83	18.03		17.34
20							20.32	-	16.74	18.03		17.32
21							19.96	-	16.62	17.98		17.26
22							19.68	-	16.52	17.94		17.22
23							19.58	-	16.46	17.86		17.17
24							19.06	-	16.44	17.79		17.12
25							18.90	-	16.47	17.72		17.09
26												
27							19.18	-	16.66	-		16.96
28							19.68	-	17.06	-		16.94
29							19.95	-	17.32	-		16.94
30							19.99	-	17.35	-		16.94
31							19.92	-	17.18	-		16.94

Note.- Add 1,000 feet to obtain elevation above mean sea level.

Roseau River at head of State Ditch 51, near Oak Point, Minn.

Location.- Staff gage, lat. 48°56'53", long. 96°22'56", in NE $\frac{1}{4}$ sec. 18, T. 163 N., R. 44 W. fourth principal meridian, 2 $\frac{1}{2}$ miles south and 3 miles east of Caribou. Zero of gage is 1,007.88 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- April 1933 to September 1935 (incomplete).

Extremes.- Maximum water-surface elevation observed during year, 1,015.65 feet Apr. 10; minimum observed, 1,010.71 feet Sept. 27.

1933-35: Maximum water-surface elevation observed, 1,016.24 feet Apr. 23, 1933; minimum observed, 1,009.66 feet Aug. 11, 12, 1933.

Remarks.- Records fair except those for May 5-21, 23-31, which a comparison with records at Caribou and a reading by U. S. Geological Survey engineer on May 22 show to be doubtful. Gage heights have been reduced to mean sea-level datum. No records Oct. 1 to Mar. 31.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							15.19	14.49	11.06	11.96	11.43	11.37
2							14.95	14.43	11.11	11.77	11.39	11.29
3							14.85	14.26	11.15	11.69	11.35	11.21
4							14.76	13.79	11.23	11.37	11.33	11.16
5							14.76	13.77	11.29	11.23	11.26	11.13
6							14.75	13.71	11.83	11.25	11.21	11.13
7							14.75	13.69	11.85	11.37	11.17	11.11
8							15.15	13.65	11.95	11.63	11.11	11.13
9							15.45	13.61	11.91	11.93	11.09	11.11
10							15.65	13.39	11.83	12.11	10.99	11.11
11							15.55	13.25	11.75	12.25	10.95	11.13
12							15.53	13.25	11.77	12.37	10.93	11.09
13							15.46	13.17	11.73	12.23	10.91	11.09
14							15.35	13.15	11.71	12.21	10.85	11.07
15							15.15	12.71	11.65	12.09	10.81	11.09
16							15.05	12.59	11.67	12.03	10.79	11.11
17							15.15	12.37	11.69	12.01	10.77	11.07
18							15.41	12.29	11.67	11.95	10.75	11.05
19							15.25	12.25	11.65	11.93	10.79	11.01
20							14.95	12.05	11.69	11.67	11.13	10.96
21							14.75	12.03	11.67	11.65	11.43	10.79
22							14.25	12.29	11.71	11.83	11.51	10.85
23							13.95	11.83	11.73	11.71	12.09	10.83
24							13.75	11.75	11.75	11.69	12.19	10.81
25							13.61	11.61	11.61	11.61	12.17	10.77
26							13.65	11.25	11.63	11.59	12.05	10.73
27							13.75	11.23	11.67	11.55	11.95	10.71
28							14.39	11.17	11.91	11.63	11.85	10.73
29							14.83	11.15	11.95	11.63	11.81	10.81
30							14.55	11.11	11.96	11.49	11.73	10.83
31							-	11.07	-	11.45	11.49	-

Note.- Add 1,000 feet to obtain elevation above mean sea level.

Roseau River at Oak Point, Minn.

Location.- Staff gage, lat. 46°58'48", long. 96°24'19", in SE¼ sec. 36, T. 164 N., R. 45 W., 2 miles east of Caribou. Zero of gage is 1,005.30 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- April 1933 to September 1935 (incomplete).

Extremes.- Maximum water-surface elevation observed during year, 1,013.14 feet Apr. 13; minimum observed, 1,006.35 feet Sept. 28.
1933-35: Maximum water-surface elevation observed, 1,013.17 feet Apr. 19, 1933; minimum, that of Sept. 28, 1935.

Remarks.- Records good. Gage heights have been reduced to mean sea-level datum. No records Oct. 1 to Mar. 31 and for other days for which no elevations are given.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							10.88	-	7.66	-	-	-
2							-	-	-	-	7.01	-
3							10.94	10.08	-	7.39	-	-
4							11.14	-	-	-	-	-
5							11.24	-	-	7.29	6.91	-
6							11.28	9.04	7.64	-	-	-
7							11.34	8.94	7.72	-	6.89	-
8							11.44	8.88	-	-	-	7.54
9							11.62	8.88	-	-	6.95	-
10							12.30	9.28	-	-	-	-
11												
12							12.64	-	7.35	-	-	7.31
13							12.98	-	-	8.60	-	7.51
14							13.14	9.64	-	-	-	-
15							11.54	9.84	7.63	-	6.95	7.25
16											-	6.75
17							12.44	-	-	-	-	-
18							-	9.68	7.80	-	-	7.15
19							-	-	-	-	-	7.25
20							11.54	-	7.82	-	-	7.15
21							11.14	8.96	-	-	-	7.17
22							-	8.84	-	7.41	-	7.05
23							10.44	8.54	-	-	-	7.04
24							10.24	-	-	-	8.04	-
25							9.64	-	-	-	8.32	7.04
26							-	-	-	-	-	-
27							-	-	-	-	-	6.35
28							10.40	-	-	7.39	-	-
29							-	-	-	-	7.94	-
30							-	-	8.08	-	7.88	-
31							10.64	-	-	7.15	-	-
							-	-	-	7.11	-	-

Note.- Add 1,000 feet to obtain elevation above mean sea level.

Roseau River below Cut-off Ditch, near Caribou, Minn.

(International gaging station)

Location.- Water-stage recorder, lat. 48°58'54", long. 96°27'46", in SW $\frac{1}{4}$ sec. 34, T. 184 N., R. 45 W., 1 mile west of Caribou and 200 yards below mouth of State ditch 51, locally known as "Caribou Cut-off Ditch". Zero of gage is 1,002.14 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- April 1929 to September 1935.

Extremes.- Maximum discharge during year, 1,020 second-feet Apr. 13 (gage height, 7.98 feet, affected by ice); minimum, 6.1 second-feet Oct. 7 (gage height, 1.24 feet, affected by aquatic growth).

1929-35: Maximum discharge, 1,880 second-feet Apr. 13, 1932 (gage height, 8.80 feet, affected by ice); minimum, 2.0 second-feet Aug. 10, 1934 (gage height, 1.08 feet).

Remarks.- Records good. Stage-discharge relation affected by ice Apr. 5-18 and by aquatic growth Oct. 1 to Nov. 9, May 14 to Sept. 30. No records Nov. 10 to Mar. 31. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	28					*260	544	93	108	42	66
2	7.8	27					*240	508	84	89	40	59
3	8.2	26					*200	448	76	80	37	57
4	10	24					*200	388	84	77	35	56
5	11	26					254	340	87	74	31	50
6	9.0	23					217	296	100	74	31	49
7	6.7	21					232	274	108	97	28	49
8	7.0	23					274	261	108	135	29	49
9	8.2	23					352	259	101	182	31	49
10	8.2	-					412	296	92	172	32	48
11	7.4	-					440	329	83	172	35	48
12	7.4	-					619	352	80	158	37	48
13	7.4	-					710	352	76	149	35	48
14	7.8	-					632	364	76	144	31	48
15	6.6	-					632	376	70	137	30	43
16	18	-					710	376	81	134	30	43
17	21	-					770	352	96	137	29	41
18	20	-					800	318	101	134	28	39
19	36	-					770	285	100	129	28	37
20	53	-					684	250	97	124	36	37
21	61	-					606	219	88	116	54	38
22	44	-					644	190	77	108	74	35
23	47	-					496	162	70	98	96	36
24	48	-					448	142	66	89	113	35
25	44	-					412	127	69	78	116	39
26	41	-					424	116	68	73	113	34
27	37	-					484	106	92	67	104	31
28	33	-					544	107	121	60	97	31
29	31	-					588	107	134	56	88	30
30	28	-					568	106	124	51	80	33
31	21	-					-	98	-	48	73	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October						699.5	53	6.7	22.6	1,390		
November 1-9						221	28	21	24.6	458		
December						-	-	-	-	-		
Calendar year												
January						-	-	-	-	-		
February						-	-	-	-	-		
March						-	-	-	-	-		
April						14,502	800	200	483	28,760		
May						8,448	544	98	273	16,760		
June						2,702	134	66	90.1	5,560		
July						3,330	172	48	107	6,600		
August						1,661	116	28	55.6	3,280		
September						1,303	65	30	43.4	2,560		
Water year												

*Estimated.

Roseau River at international boundary, near Caribou, Minn.

Location.— Water-stage recorder, lat. 48°59'57", long. 96°30'20", near center of sec. 29, T. 164 N., R. 45 W., about 400 feet upstream from last international-boundary crossing and about 3 miles northwest of Caribou. Zero of gage is 1,002.59 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.— May 1933 to September 1935 (fragmentary).

Extremes.— Maximum water-surface elevation recorded during period, 1,006.58 feet Apr. 13 (affected by ice); minimum, 1,002.88 feet Aug. 8.
1933-35: Maximum water-surface elevation recorded, that of Apr. 13, 1935; minimum, 1,001.97 feet Aug. 14, 1933.

Remarks.— Records good. Gage heights have been reduced to mean sea level-datum. No records Oct. 1 to Apr. 4, Apr. 6-11, 13, 15-18.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							—	4.31	3.30	3.35	2.99	3.19
2							—	4.21	3.27	3.26	2.96	3.16
3							—	4.07	3.21	3.21	2.95	3.15
4							—	3.97	3.27	3.20	2.93	3.12
5							4.54	3.86	3.28	3.13	2.92	3.09
6							—	4.31	3.31	3.18	2.92	3.09
7							—	3.76	3.36	3.29	2.91	3.09
8							—	3.77	3.37	3.43	2.90	3.09
9							—	3.82	3.35	3.52	2.90	3.08
10							—	3.80	3.31	3.54	2.93	3.08
11							—	3.86	3.28	3.55	2.96	3.08
12							5.94	3.90	3.26	3.52	2.97	3.09
13							—	3.89	3.23	3.49	2.95	3.07
14							5.56	3.91	3.23	3.47	2.92	3.06
15							—	3.95	3.18	3.44	2.89	3.03
16							—	3.95	3.23	3.44	2.90	3.01
17							—	3.92	3.30	3.45	2.91	2.99
18							—	3.86	3.31	3.44	2.89	2.97
19							4.87	3.80	3.31	3.42	2.89	2.96
20							4.70	*3.78	3.29	3.40	2.96	2.97
21							4.51	*3.69	3.25	3.38	3.09	2.96
22							4.36	*3.61	3.20	3.34	3.24	2.95
23							4.22	3.55	3.15	3.31	3.35	2.95
24							4.11	3.49	3.14	3.26	3.40	2.97
25							4.03	3.44	3.15	3.22	3.41	2.96
26							4.04	3.40	3.14	3.19	3.39	2.92
27							4.17	3.37	3.25	3.16	3.38	2.89
28							4.30	3.36	3.35	3.12	3.36	2.89
29							4.36	3.37	3.41	3.08	3.31	2.89
30							4.35	3.35	3.39	3.05	3.23	2.90
31							—	3.32	—	3.02	3.23	—

*Estimated.

Note.— Add 1,000 feet to obtain elevation above mean sea level.

South Fork of Roseau River near Malung, Minn.

Location.- Staff gage, lat. 48°47', long. 95°44', in center of sec. 7, T. 161 N., R. 39 W., 1 mile northwest of Malung.

Drainage area.- 265 square miles.

Records available.- May 1911 to September 1914, July 1928 to September 1935.

Extremes.- Maximum discharge observed during year, 210 second-feet Apr. 11 (gage height, 6.55 feet, affected by ice); no flow for several months.
1911-14, 1928-35; Maximum discharge observed, 1,040 second-feet Oct. 1, 1912 (gage height, 10.3 feet); maximum gage height, 12.00 feet Apr. 7, 1932; no flow at times.

Remarks.- Records fair. Stage-discharge relation affected by ice Apr. 1-16 and by debris on control Apr. 19 to July 25. Discharge estimated for Mar. 21-31.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	31	17	0.2	0		
2						0	27	14	.2	0		
3						0	29	9.8	.1	0		
4						0	27	8.8	0	0		
5						0	48	2.8	.1	.3		
6						0	110	2.8	.1	.1		
7						0	84	.8	.1	0		
8						0	44	1.4	.1	0		
9						0	94	3.1	.1	0		
10						0	145	1.9	.1	0		
11						0	198	1.0	0	2.8		
12						0	156	2.0	.1	.8		
13						0	136	4.2	.1	.2		
14						0	118	11	.1	.1		
15						0	74	11	.1	.1		
16						0						
17						0	51	12	.1	0		
18						0	37	8.0	.1	0		
19						0	29	6.8	0	0		
20						0	23	3.8	0	0		
21						0	22	1.8	0	0		
22						5	20	1.6	.1	.1		
23							19	.5	0	0		
24							16	.5	0	0		
25							14	.2	0	0		
26						30	15	.3	.1	0		
27							14	.2	0	0		
28							20	.3	.1	0		
29							22	.3	0	0		
30							20	.2	0	0		
31							-	.2	-	0		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1934.....						377.6	46	0	1.03	749		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						205	-	0	6.6	407		
April.....						1,656	198	14	55.2	3,280		
May.....						125.5	17	.2	4.05	249		
June.....						2.1	.2	0	.07	4.2		
July.....						4.5	2.3	0	.15	8.9		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1934-35.....						1,993.1	198	0	5.46	3,950		

Mud Creek near Sprague, Manitoba

(International gaging station)

Location.- Water-stage recorder, lat. 48°59'33", long. 95°39'43", in NE¼ sec. 34, T. 184 N., R. 39 W. (revised), half a mile south of international boundary, 3½ miles south of Sprague, Manitoba, and 14 miles northeast of Roseau, Minn. Zero of gage is 1,038.4 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Drainage area.- 182 square miles.

Records available.- September 1928 to September 1935 (incomplete).

Extremes.- Maximum discharge during year, 180 second-feet Apr. 27 (gage height, 6.84 feet); minimum, 0.3 second-foot Oct. 7.

1928-35: Maximum discharge, 1,040 second-feet May 13, 1930 (gage height, 12.34 feet); no flow Aug. 8-10, 1934.

Remarks.- Records good. Stage-discharge relation affected by ice Apr. 3-15, and by debris on control Oct. 1 to Nov. 7, Apr. 18 to Sept. 30. No records Nov. 8 to Mar. 31. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	3.0					* 5.0	136	25	22	3.5	e.8
2	1.3	2.5					* 5.0	120	25	17	5.6	8.4
3	1.7	2.4					5.6	108	26	15	6.0	10
4	1.8	2.5					7.1	94	39	13	6.0	15
5	1.8	2.5					21	66	55	25	9.9	20
6	1.2	2.8					23	84	51	62	22	20
7	.8	2.8					23	84	44	83	30	18
8	1.9	-					22	97	35	86	25	18
9	1.9	-					24	132	30	84	19	16
10	1.4	-					53	132	27	81	13	13
11	1.6	-					79	124	24	69	9.3	13
12	1.7	-					83	136	22	64	7.6	12
13	1.8	-					88	148	20	50	8.1	13
14	2.5	-					88	140	26	40	5.4	13
15	2.3	-					76	128	35	38	4.5	14
16	6.3	-					*76	116	33	33	4.9	14
17	13	-					*75	104	30	29	37	14
18	7.2	-					*74	94	26	25	103	13
19	9.9	-					74	84	22	20	104	14
20	11	-					83	72	18	16	112	13
21	11	-					78	64	15	12	124	13
22	6.3	-					76	55	14	10	92	13
23	9.3	-					74	48	12	8.9	65	13
24	8.6	-					74	42	11	7.9	48	13
25	6.8	-					88	35	29	6.2	42	14
26	5.9	-					148	33	64	5.5	33	19
27	5.5	-					160	34	51	5.3	25	23
28	3.8	-					160	34	44	4.7	19	22
29	5.0	-					156	31	35	3.9	16	15
30	5.5	-					148	28	28	3.3	13	13
31	5.8	-					-	26	-	3.0	11	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						145.9	13	0.8	4.71	289		
November 1-7.....						28.5	3.0	2.4	2.64	37		
December.....						-	-	-	-	-		
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						2,146.7	160	5.0	71.6	4,280		
May.....						2,649	148	26	85.4	5,250		
June.....						916	84	11	30.5	1,820		
July.....						942.7	86	3.0	30.4	1,670		
August.....						1,028.8	124	5.5	33.2	2,040		
September.....						438.2	23	8.4	14.6	869		
Water year												

*Estimated.

Pine Creek near Pine Creek, Minn.

(International gaging station)

Location.- Water-stage recorder, lat. 48°59'35", long. 95°55'4", in NW¼ sec. 35, T. 164 N., R. 41 W., half a mile south of international boundary and 2 miles northeast of Pine Creek. Zero of gage is 1,038.42 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Drainage area.- 76 square miles.

Records available.- August 1928 to September 1935 (winter records incomplete).

Extremes.- Maximum discharge during year, 144 second-feet Apr. 27; maximum gage height, 6.52 feet Apr. 12 (affected by ice); minimum, 4.0 second-feet Aug. 15 (gage height 1.32 feet, affected by aquatic growth).
1928-35: Maximum discharge, 500 second-feet May 25, 1933 (gage height, 9.03 feet); minimum, 2.3 second-feet Sept. 2, 1933 (gage height, 1.20 feet, affected by aquatic growth).

Remarks.- Records good. Stage-discharge relation affected by ice Apr. 2-14, and by aquatic growth or debris on control Oct. 1 to Nov. 8, July 17 to Sept. 30. Discharge estimated Apr. 1, 15-17. No records Nov. 9 to Mar. 31. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.1	12					12	69	16	14	5.1	7.1
2	7.1	12					12	57	17	17	5.5	6.9
3	7.2	12					12	48	19	14	5.6	9.1
4	7.2	12					16	44	27	21	5.3	13
5	7.4	11					29	40	29	66	8.9	13
6	7.7	11					37	40	26	62	24	12
7	7.7	11					36	40	22	82	16	12
8	7.2	11					44	50	20	69	8.7	12
9	7.2	-					68	62	18	60	6.5	11
10	7.2	-					101	62	17	44	5.9	10
11	7.1	-					115	57	15	40	5.4	9.8
12	6.9	-					125	62	15	35	5.7	11
13	6.9	-					105	63	14	27	5.4	12
14	7.2	-					89	57	26	29	5.0	12
15	7.5	-					62	48	30	25	4.5	11
16	18	-					57	40	26	20	5.4	11
17	50	-					56	37	22	20	30	12
18	50	-					54	34	19	18	38	12
19	32	-					57	30	16	15	26	12
20	27	-					57	28	13	13	28	12
21	34	-					57	26	12	11	22	12
22	32	-					57	24	12	9.3	17	11
23	25	-					56	22	10	8.5	13	11
24	21	-					57	20	13	8.7	12	11
25	18	-					79	19	24	7.9	11	12
26	16	-					115	20	29	7.4	8.9	12
27	15	-					136	21	28	7.5	7.7	12
28	14	-					129	21	25	6.8	7.9	11
29	13	-					105	19	20	6.1	7.6	11
30	13	-					82	18	15	5.7	7.4	10
31	12	-					-	17	-	5.4	7.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						498.6	50	6.9	16.1	989		
November 1-8						92	12	11	11.5	182		
December.....						-	-	-	-	-		
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						2,017	136	18	67.2	4,000		
May.....						1,195	69	17	38.5	2,370		
June.....						595	30	10	19.8	1,150		
July.....						795.3	82	5.4	25.7	1,580		
August.....						364.5	38	4.5	11.8	723		
September.....						335.9	13	6.9	11.1	662		
Water year												

Badger Creek near Badger, Minn.

Location.- Staff gage, lat. 48°48'15", long. 96°1'44", in NE¼ sec. 2, T. 161 N., R. 42 W., 1 mile northwest of Badger. Zero of gage is 1,047.5 feet above mean sea level (adjustment of 1928 by Geodetic Survey of Canada).

Records available.- April 1929 to September 1930, October 1931 to September 1935.

Extremes.- Maximum discharge observed during year, 51 second-feet Apr. 10; maximum gage height, 3.50 feet Mar. 26 (affected by ice); no flow for several months. 1929-30, 1931-35: Maximum discharge observed, 146 second-feet May 11, 1930 (gage height, 4.88 feet); no flow for several months of each year.

Remarks.- Records fair. Stage-discharge relation affected by ice Mar. 26 to Apr. 7 and by shifting control Apr. 18-24, Apr. 28 to June 30.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	2.5	2.7	0			
2						0	4.2	1.8	.1			
3						0	6.1	1.1	.1			
4						0	7.9	.9	.2			
5						0	21	.9	.2			
6						0	18	1.0	.1			
7						0	16	.8	.1			
8						0	16	2.4	.1			
9						0	31	2.6	.1			
10						0	51	2.3	0			
11						0	34	1.7	0			
12						0	31	2.8	0			
13						0	31	2.7	0			
14						0	19	1.9	0			
15						0	15	1.4	.1			
16						0	7.9	.9	.1			
17						0	6.0	.6	0			
18						0	7.4	.5	.1			
19						0	6.7	.4	0			
20						0	3.7	.3	0			
21						0	3.6	.3	0			
22						0	2.4	.2	0			
23						0	1.3	.1	0			
24						0	1.3	.1	0			
25						*1.0	19	0	.1			
26						5.4	26	.1	.1			
27						12	19	.1	0			
28						8.9	13	.2	0			
29						5.7	8.0	.1	0			
30						5.2	4.6	0	0			
31						3.0	-	0	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1934.....						39.8	8.0	0	.11	79		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						41.2	12	0	1.33	82		
April.....						430.6	51	1.3	14.4	854		
May.....						30.9	2.8	0	1.00	61		
June.....						1.5	.2	0	.05	3.0		
July.....						0	0	0	0	0		
August.....						0	0	0	0	0		
September.....						0	0	0	0	0		
Water year 1934-35.....						504.2	51	0	1.38	1,000		

*Estimated.

Souris River near Sherwood, N. Dak.

(International gaging station)

Location.— Water-stage recorder, lat. 48°59', long. 101°58', in NE¼ sec. 33, T. 164 N., R. 87 W., 16 miles northwest of Sherwood and three-quarters of a mile south of international boundary, Prior to Apr. 8, 1935, staff gage at same site and datum.

Records available.— March 1930 to September 1935.

Extremes.— Maximum discharge during year, 200 second-feet July 5; maximum gage height, 3.75 feet Apr. 15 (affected by ice); no flow for several months.

1930-35: Maximum discharge observed, 1,370 second-feet Mar. 31, 1933 (gage height, 13.10 feet, affected by ice); no flow for several days of each year.

Remarks.— Records good except those for period of ice effect, Mar. 23 to Apr. 22, and those estimated May 4-24, which are fair. Once-daily staff-gage readings used Mar. 17 to Apr. 7. Stage-discharge relation affected by shifting control owing to varying leakage under control, May 25 to June 3, July 2-30. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	1.2	85	17	6.6	4.6	0.7
2						0	1.0	85	18	51	4.8	.6
3						0	1.0	80	18	28	4.8	.6
4						0	1.2	70	20	20	4.8	.5
5						0	1.4	60	18	140	4.6	.4
6						0	1.0	50	18	134	4.0	.4
7						0	1.2	55	18	78	3.6	.4
8						0	1.6	60	18	94	3.3	.4
9						0	2.2	65	17	57	2.0	.3
10						0	3.5	55	15	40	2.6	.4
11						0	5.6	60	14	31	2.4	.4
12						0	9.0	75	13	24	2.8	.4
13						0	35	70	14	19	3.5	.3
14						0	80	60	16	15	3.3	.3
15						0	69	50	16	13	3.0	.2
16						0	52	45	16	10	2.6	.2
17						0	36	40	17	9.0	2.6	.2
18						0	34	35	17	8.3	2.4	.2
19						0	38	30	15	15	2.4	.2
20						0	39	30	15	20	2.2	.1
21						0	43	25	14	18	2.2	.1
22						0	45	25	13	46	2.0	.1
23						4.0	67	24	12	29	2.0	.1
24						3.0	165	25	12	22	2.0	.1
25						17	160	21	11	16	1.8	.1
26						37	134	18	9.0	15	1.4	.1
27						9.4	121	17	8.7	11	1.4	.1
28						3.8	112	16	7.6	8.7	1.2	0
29						2.2	104	16	6.6	7.0	1.0	0
30						1.4	91	15	5.9	6.3	.8	0
31						1.2	-	15	-	5.3	.8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						79.0	37	0	2.55	157		
April.....						1,458.9	165	1.0	49.6	2,890		
May.....						1,375	85	18	44.4	2,730		
June.....						429.8	20	5.9	14.3	582		
July.....						995.2	140	5.3	32.1	1,970		
August.....						84.3	4.8	.8	2.72	167		
September.....						7.9	.7	0	.26	16		
Water year 1934-35.....						4,428.1	165	0	12.1	8,780		

RED RIVER BASIN

Souris River above Minot, N. Dak.

Location.- Water-stage recorder, lat. 48°14'45", long. 101°22'15", near center of sec. 17, T. 155 N., R. 83 W., about 3½ miles west of Minot. Zero of gage is 1,745.75 feet above mean sea level (adjustment of 1929). Prior to Oct. 15, 1934, chain gage at station 10 miles downstream called "Souris River at Minot" at different datum.

Drainage area.- 10,270 square miles.

Records available.- October 1934 to September 1935 at present site; May 1903 to March 1924, April 1927 to September 1928, October 1929 to September 1934 at Minot 10 miles downstream in reports of U. S. Geological Survey; May 1903 to September 1930 in reports of State engineer. Records collected at or above Minot are comparable except at extreme low water, when appreciable industrial and sanitary waste water enters river at Minot.

Average discharge.- 22 years (1913-35), 138 second-feet.

Extremes.- Maximum discharge during year, 612 second-feet May 5 (gage height, 6.67 feet); no flow during much of year.

1903-24, 1927-28, 1929-35: Maximum discharge, 12,000 second-feet Apr. 20, 1904 (gage height, 21.9 feet, at Minot); no flow at times during February 1930, several months in 1934, 1935. Maximum gage height known at present site, about 23 feet in April 1904.

Remarks.- Records good except those partly estimated Mar. 14-23, Apr. 21 to May 1, and those estimated Apr. 14-20, July 23, 24, Aug. 16-27, which are fair.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

4.05	0	4.4	30	4.8	87	5.2	166	5.6	270
4.1	.5	4.5	44	4.9	104	5.3	190	6.1	420
4.2	6.0	4.6	56	5.0	123	5.4	215	6.4	525
4.3	16	4.7	72	5.1	144	5.5	242	6.7	630

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0	60	3.2	0	15	
2						0	0	76	1.5	0	16	
3						0	0	92	.7	0	14	
4						0	0	92	.5	0	12	
5						0	0	428	.7	0	11	
6						0	0	162	.7	0	11	
7						0	0	92	.5	0	8.7	
8						0	0	92	.5	0	7.7	
9						0	0	74	.3	0	6.0	
10						0	0	75	.1	0	3.2	
11						0	0	74	.1	0	2.6	
12						0	0	51	.1	0	2.0	
13						0	0	61	.2	0	2.0	
14						1	1	75	0	4.8	2.0	
15						10	2	64	.1	33	2.0	
16						10	3	51	0	41		
17						3	3	44	0	43		
18						100	3	40	0	41	2.0	
19						75	3	30	0	41		
20						35	3	47	0	38		
21						3	3	61	0	37		
22						1	10	69	0	33		
23						1	50	45	0	32	1.0	
24						.5	38	30	0	30		
25						1.0	30	20	0	29		
26						4.5	25	16	0	27	.6	
27						7.7	20	11	0	36	.6	
28						2.6	23	6.8	0	24	.5	
29						.5	26	4.5	0	22	.5	
30						.2	40	2.6	0	19	.3	
31						-	-	1.5	-	16	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year												
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						256.0	100	0	8.26	508		
April.....						283	50	0	9.43	551		
May.....						2,017.4	428	1.5	65.1	4,000		
June.....						9.2	3.2	0	.31	18		
July.....						536.8	43	0	17.3	1,060		
August.....						132.9	16	0	4.29	264		
September.....						0	0	0	0	0		
Water year 1934-35.....						3,235.3	428	0	8.86	6,410		

Souris River near Towner, N. Dak.

Location.- Water-stage recorder, lat. 48°18', long. 100°27', in NE¼ sec. 29, T. 156 N., R. 76 W., about 4 miles southwest of Towner. Zero of gage is 1,443.50 feet above mean sea level (adjustment of 1929).

Records available.- March to September 1935 at present site; March 1933 to September 1934 at Towner, 5 miles downstream.

Extremes.- Maximum discharge during year, 334 second-feet July 26; maximum gage height, 5.78 feet July 27; minimum discharge, 1.9 second-feet Sept. 29 (gage height, 1.93 feet).

1933-35: Maximum discharge observed, 1,080 second-feet Apr. 10, 1933 (gage height, 9.02 feet, former site and datum); no flow for several days June to September 1934.

Remarks.- Records good. Stage-discharge relation affected by ice Mar. 23 to Apr. 3.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.8	0	2.5	28
1.9	1	2.6	34
2.0	4	2.7	41
2.1	8	2.8	49
2.2	12	2.9	55
2.3	17	3.0	62
2.4	22		

Note.- Loop rating curves used Apr. 12, May 8-14, July 10-17, 25-31, to correct for changing stage.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	35	40	33	5.6	68	5.6
2						-	34	42	35	5.6	52	5.2
3						-	33	43	33	4.0	41	5.2
4						-	31	42	30	6.4	34	5.2
5						-	27	58	28	14	29	4.8
6						-	24	87	27	18	27	4.4
7						-	22	83	23	20	29	4.4
8						-	22	100	22	66	24	4.4
9						-	20	230	18	102	28	4.0
10						-	18	200	17	164	25	4.0
11						-	17	172	16	285	23	4.0
12						-	68	175	14	224	22	3.4
13						-	78	126	15	160	22	3.4
14						-	44	92	16	130	19	3.1
15						-	38	104	16	99	16	3.1
16						-	36	101	16	78	14	2.8
17						-	32	83	16	65	13	10
18						-	32	76	14	49	13	12
19						-	29	78	13	35	12	11
20						-	29	76	12	27	13	8.4
21						-	29	68	12	21	12	7.2
22						-	27	66	12	18	11	5.2
23						124	27	60	11	24	10	3.7
24						91	26	49	10	32	10	3.4
25						74	27	63	11	159	9.2	3.7
26						67	28	85	10	320	8.0	3.7
27						99	27	63	8.4	304	7.6	3.4
28						55	23	45	8.0	186	7.6	3.1
29						40	29	41	7.2	98	8.4	2.2
30						79	38	40	6.0	70	8.0	2.8
31						56	-	35	-	82	7.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 23-31.....						685	124	40	76.1	1,560		
April.....						948	78	17	31.6	1,880		
May.....						2,621	230	35	84.5	5,200		
June.....						509.6	35	6.0	17.0	1,010		
July.....						2,871.6	320	4.0	92.6	5,700		
August.....						623.0	68	7.2	20.1	1,240		
September.....						146.8	12	2.2	4.88	291		
The period.....										16,680		

*Discharge measurement.

Souris River near Westhope, N. Dak.

(International gaging station)

Location.- Chain gage, lat. 48°54', long. 100°58', on line between secs. 30 and 31, in T. 163 N., R. 79 W., 2½ miles east of Westhope. Zero of gage is 1,404.72 feet above mean sea level.

Records available.- July 1929 to September 1935.

Extremes.- Maximum discharge observed during year, 279 second-feet July 7-9; maximum gage height observed, 7.06 feet July 9; no flow during much of period October to February.

1929-35: Maximum discharge observed, 1,130 second-feet Mar. 31 to Apr. 2, 1930, Apr. 19, 1933; maximum gage height observed, 7.25 feet Apr. 19, 1933; no flow for several periods.

Remarks.- Records fair. Stage-discharge relation affected by ice or aquatic growth throughout the year. No records Oct. 1 to Mar. 24, Mar. 26-31; little or no flow October to February. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							60	30	63	22	94	22
2							63	28	45	74	103	22
3							66	27	35	121	108	23
4							70	26	51	195	112	20
5							66	28	57	235	130	18
6							70	28	42	235	130	17
7							70	29	3.3	279	121	15
8							74	38	24	279	130	11
9							74	40	17	279	121	7.9
10							66	48	14	257	108	7.1
11							70	63	11	246	108	6.9
12							63	70	10	225	94	6.7
13							63	90	8.8	205	86	7.9
14							57	121	7.9	185	78	7.5
15							57	130	8.1	175	78	7.9
16							48	139	8.3	166	63	7.3
17							63	139	7.7	157	54	5.7
18							60	121	7.1	148	48	3.6
19							63	108	6.9	157	45	2.8
20							57	108	7.5	157	38	2.3
21							51	103	7.7	157	32	1.3
22							45	94	7.5	157	30	.6
23							42	94	7.7	139	28	3.3
24							38	90	7.5	112	28	1.9
25						*7.3	38	56	7.7	103	27	3.3
26							38	52	7.1	112	24	.4
27							38	78	4.9	103	25	.6
28							33	82	4.5	94	22	.8
29							31	70	5.1	90	21	.8
30							30	70	11	90	20	1.0
31							-	66	-	94	21	-
Month						Second-foot-days	Maximum	Minimum		Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-	-	
February.....						-	-	-	-	-	-	
March.....						-	-	-	-	-	-	
April.....						1,664	74	30		55.5	3,300	
May.....						2,326	139	26		75.0	4,810	
June.....						537.0	63	4.5		17.9	1,070	
July.....						5,048	279	22		163	10,010	
August.....						2,127	130	20		68.6	4,220	
September.....						235.6	23		.4	7.85	467	
The period.....											25,680	

*Discharge measurement.

Basswood River near Winton, Minn.

Location.- Staff gage, lat. 48°3', long. 91°45', in sec. 9, T. 64 N., R. 11 W., on Jackfish Bay of Basswood Lake used to determine discharge at outlet (lat. 48°6', long. 91°59', in sec. 19, T. 65 N., R. 10 W., on international boundary, about 18 miles northeast of Winton). Zero of gage is 1,299.80 feet above mean sea level.

Drainage area.- 1,920 square miles above outlet of Basswood Lake.

Records available.- January 1931 to September 1935 in reports of U. S. Geological Survey; March to June 1924, August 1925 to December 1930 in reports of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge observed during year, 4,060 second-feet May 15-17 (gage height, 2.50 feet); minimum discharge observed, 233 second-feet Nov. 16-19; minimum gage height observed, -0.76 foot Nov. 19.
1931-35: Maximum discharge observed, 6,680 second-feet May 18-23, 1934; maximum gage height observed, 3.64 feet May 21, 1934; minimum discharge, that of Nov. 16-19, 1934.

Remarks.- Records good. Gage readings furnished by Corps of Engineers, U. S. Army. Gage read three times a week and discharge interpolated between readings. Flow affected by storage on Kawishiwi River.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

-0.8	220	0.2	685	1.0	1,490
- .6	274	.4	852	1.5	2,190
- .4	338	.6	1,040	2.0	3,030
- .2	427	.8	1,250	2.5	4,060
0.0	543				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	304	253	255	289	358	379	454	2,030	2,460	2,190	1,750	1,270
2	304	246	265	289	345	395	454	2,110	2,400	2,110	1,750	1,250
3	304	246	274	286	351	411	454	2,190	2,350	2,030	1,750	1,250
4	304	246	274	304	358	427	454	2,410	2,190	1,980	1,750	1,250
5	304	246	274	304	358	427	454	2,630	2,030	1,890	1,750	1,250
6	284	246	274	304	358	427	454	2,850	2,030	1,890	1,820	1,200
7	284	246	274	304	358	427	454	3,040	1,890	1,890	1,850	1,180
8	274	246	279	304	358	427	454	3,220	1,840	1,890	1,890	1,160
9	274	246	284	304	358	427	454	3,320	1,800	1,820	1,890	1,140
10	274	246	289	304	358	427	454	3,420	1,750	1,750	1,840	1,120
11	274	246	282	304	358	427	454	3,560	1,750	1,750	1,800	1,090
12	274	246	274	310	358	415	454	3,700	1,750	1,750	1,750	1,060
13	274	246	274	315	358	403	506	3,840	1,890	1,800	1,750	1,040
14	274	246	274	321	358	403	559	3,950	2,030	1,840	1,750	1,020
15	274	240	274	321	358	403	611	4,060	2,080	1,890	1,750	1,010
16	274	233	274	321	358	395	685	4,060	2,140	1,890	1,750	992
17	274	233	274	330	358	387	765	4,060	2,190	1,890	1,750	968
18	274	233	274	338	358	379	832	3,990	2,110	1,890	1,750	945
19	274	233	274	338	358	391	898	3,910	2,030	1,890	1,750	922
20	274	240	274	338	358	403	979	3,840	2,030	1,890	1,720	898
21	274	246	274	338	358	415	1,060	3,630	2,030	1,890	1,680	883
22	274	246	274	338	358	427	1,140	3,420	2,080	1,890	1,650	867
23	274	246	274	338	358	436	1,220	3,320	2,140	1,820	1,620	852
24	274	246	274	348	372	445	1,310	3,220	2,190	1,750	1,580	852
25	274	246	282	358	379	454	1,370	3,160	2,190	1,750	1,530	852
26	274	246	289	351	379	454	1,430	3,090	2,190	1,750	1,490	852
27	274	246	289	345	379	454	1,560	3,050	2,190	1,750	1,400	852
28	274	246	289	338	379	454	1,740	2,860	2,190	1,750	1,310	837
29	274	246	289	338	-	454	1,890	2,680	2,190	1,750	1,310	823
30	267	246	289	338	-	454	1,960	2,600	2,190	1,750	1,310	808
31	260	-	289	338	-	454	-	2,510	-	1,750	1,290	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	8,553	304	260	279	0.145	0.17
November.....	7,323	253	233	244	.127	.14
December.....	8,602	289	255	277	.144	.17
Calendar year 1934.....	399,944	6,680	233	1,096	.571	7.74
January.....	10,006	358	289	323	.168	.19
February.....	10,089	379	238	360	.185	.20
March.....	13,081	454	379	422	.220	.25
April.....	25,986	1,960	454	866	.451	.50
May.....	99,710	4,060	2,030	3,216	1.68	1.94
June.....	62,520	2,460	1,750	2,077	1.08	1.20
July.....	57,500	2,190	1,750	1,855	.966	1.11
August.....	51,770	1,890	1,290	1,670	.870	1.00
September.....	30,463	1,270	808	1,015	.629	.69
Water year 1934-35.....	385,803	4,060	233	1,056	.550	7.46

Namakan River at outlet of Lac LaCroix, Ontario

(International gaging station)

Location.- Staff gage, lat. 48°24', long. 92°11', at Campbell's camp (previously known as Richardson's Island), 2½ miles west of outlet.

Drainage area.- 5,165 square miles.

Records available.- October 1934 to September 1935 in reports of U. S. Geological Survey; August 1921 to September 1935 in reports of Dominion Water Power and Hydrometric Bureau.

Average discharge.- 13 years (1922-35), 2,805 second-feet.

Extremes.- Maximum discharge observed during year, 10,100 second-feet May 16-20 (gage height, 1,187.30 feet); minimum observed, 1,230 second-feet Oct. 15, 16 (gage height, 1,182.45 feet).
1921-35: Maximum discharge observed, 16,700 second-feet May 20, 1927 (gage height, 1,189.77 feet); minimum observed, 535 second-feet during February, March, April, 1924 (gage height, 1,181.50 feet).

Remarks.- This station is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	1,330	1,490	1,540	1,600	1,490	1,660	6,640	8,520	6,980	5,230	3,760
2	1,380	1,330	1,490	1,540	1,600	1,490	1,660	7,140	8,240	6,980	5,130	3,780
3	1,330	1,330	1,490	1,540	1,600	1,490	1,660	7,490	8,060	6,980	5,030	3,680
4	1,330	1,330	1,490	1,540	1,600	1,490	1,660	7,830	7,830	6,980	4,930	3,600
5	1,330	1,330	1,540	1,540	1,600	1,490	1,660	8,180	7,970	6,980	4,830	3,600
6	1,280	1,330	1,540	1,540	1,600	1,540	1,660	8,480	7,490	6,980	4,740	3,550
7	1,280	1,330	1,540	1,540	1,540	1,540	1,660	8,760	7,320	6,980	4,640	3,520
8	1,280	1,330	1,540	1,540	1,540	1,540	1,660	9,020	7,320	6,980	4,550	3,440
9	1,280	1,380	1,540	1,540	1,540	1,540	1,660	9,190	7,210	6,980	4,460	3,360
10	1,280	1,380	1,540	1,540	1,540	1,540	1,660	9,360	7,100	6,800	4,370	3,360
11	1,280	1,380	1,540	1,540	1,540	1,540	1,660	9,560	6,980	6,640	4,370	3,280
12	1,280	1,380	1,540	1,540	1,540	1,540	1,710	9,740	6,980	6,520	4,280	3,200
13	1,280	1,330	1,540	1,540	1,540	1,540	1,760	9,810	6,860	6,520	4,280	3,200
14	1,280	1,380	1,540	1,540	1,510	1,540	1,790	9,940	6,980	6,520	4,190	3,130
15	1,230	1,380	1,540	1,540	1,490	1,540	1,900	9,980	6,980	6,520	4,190	3,130
16	1,230	1,380	1,540	1,540	1,490	1,540	2,020	10,100	6,980	6,520	4,190	3,060
17	1,260	1,380	1,540	1,540	1,490	1,540	2,120	10,100	6,980	6,520	4,190	2,990
18	1,280	1,380	1,540	1,540	1,490	1,540	2,210	10,100	6,980	6,410	4,190	2,990
19	1,280	1,380	1,540	1,600	1,490	1,540	2,340	10,100	6,810	6,300	4,100	2,920
20	1,280	1,380	1,540	1,600	1,490	1,540	2,440	10,100	6,860	6,190	4,100	2,920
21	1,330	1,440	1,540	1,600	1,490	1,600	2,600	9,940	6,880	6,010	4,100	2,850
22	1,330	1,440	1,540	1,600	1,490	1,600	2,740	9,860	6,860	5,800	4,100	2,780
23	1,330	1,440	1,540	1,600	1,490	1,600	2,920	9,810	6,750	5,760	4,100	2,780
24	1,330	1,440	1,540	1,620	1,490	1,600	3,160	9,610	6,750	5,730	4,100	2,710
25	1,330	1,440	1,540	1,620	1,490	1,600	3,390	9,440	6,640	5,650	4,100	2,710
26	1,380	1,440	1,540	1,620	1,490	1,600	3,760	9,240	6,640	5,540	4,020	2,640
27	1,380	1,440	1,540	1,620	1,490	1,620	4,280	9,000	6,640	5,540	4,020	2,570
28	1,380	1,440	1,540	1,620	1,490	1,660	4,830	8,830	6,520	5,440	3,930	2,570
29	1,330	1,440	1,540	1,620	-	1,660	5,480	8,710	6,520	5,340	3,930	2,500
30	1,330	1,440	1,540	1,600	-	1,660	6,160	8,590	6,410	5,230	3,840	2,500
31	1,330	-	1,540	1,600	-	1,660	-	8,590	-	5,230	3,840	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....					40,610	1,380	1,230	1,310	0.25	0.29		
November.....					41,600	1,440	1,330	1,390	.27	.30		
December.....					47,540	1,540	1,490	1,530	.30	.35		
Calendar year												
January.....					48,640	1,620	1,540	1,570	.30	.35		
February.....					42,760	1,600	1,490	1,530	.30	.31		
March.....					48,410	1,660	1,490	1,560	.30	.35		
April.....					75,860	6,160	1,660	2,530	.49	.55		
May.....					283,240	10,100	6,640	9,140	1.77	2.04		
June.....					232,840	8,520	6,410	7,100	1.37	1.55		
July.....					196,640	8,980	6,230	6,310	1.22	1.41		
August.....					134,070	5,230	3,840	4,320	.84	.97		
September.....					93,060	3,760	2,500	3,100	.60	.67		
Water year 1934-35.....					1,264,160	10,100	1,230	3,460	.67	9.12		

Rainy Lake at Ranier, Minn.

(International gaging station)

Location.— Staff gage, lat. 48°37', long. 93°21', in sec. 30, T. 71 N., R. 23 W., near fish hatchery at Ranier.

Records available.— January 1910 to September 1917, October 1934 to September 1935 in reports of U. S. Geological Survey; August 1911 to September 1935 in office of Dominion Water Power and Hydrometric Bureau.

Extremes.— Maximum water-surface elevation observed during year, 1,108.81 feet July 6, 7; minimum, 1,104.71 feet Apr. 11.

Remarks.— This station is one of the international gaging stations maintained by Canada under agreement with the United States.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.39	6.74	6.96	6.67	6.24	5.59	4.87	6.19	8.39	8.52	8.32	8.03
2	7.38	6.78	7.01	6.65	6.19	5.51	4.84	6.23	8.26	8.51	8.36	7.99
3	7.56	6.71	7.03	6.61	6.19	5.56	4.82	6.29	8.11	8.49	8.27	7.99
4	7.35	6.70	6.98	6.63	6.19	5.56	4.79	6.41	8.31	8.56	8.23	7.98
5	7.26	6.67	6.97	6.60	6.18	5.57	4.77	6.49	8.31	8.78	8.26	7.98
6	7.06	6.67	6.96	6.59	6.15	5.56	4.75	6.56	8.33	8.81	8.26	8.01
7	7.16	6.65	6.96	6.59	6.12	5.52	4.75	6.63	8.36	8.81	8.27	8.01
8	7.21	6.64	6.93	6.57	6.08	5.48	4.75	6.69	8.41	8.78	8.21	7.98
9	7.16	6.66	6.93	6.56	6.04	5.46	4.75	6.73	8.41	8.73	8.26	8.02
10	7.06	6.65	6.94	6.56	6.04	5.46	4.73	6.62	8.39	8.66	8.24	7.96
11	7.05	6.67	6.94	6.51	6.03	5.45	4.71	6.93	8.41	8.61	8.31	7.98
12	7.05	6.67	6.86	6.50	6.01	5.41	4.76	7.02	8.45	8.58	8.31	7.98
13	7.01	6.73	6.86	6.50	5.99	5.36	4.82	7.09	8.49	8.62	8.29	7.98
14	6.96	6.73	6.86	6.50	5.93	5.36	4.85	7.16	8.61	8.76	8.32	7.94
15	6.96	6.76	6.81	6.50	5.90	5.31	4.96	7.26	8.53	8.61	8.30	7.96
16	6.96	6.76	6.81	6.50	5.86	5.26	5.01	7.33	8.53	8.56	8.26	7.98
17	6.96	6.76	6.81	6.48	5.86	5.23	5.09	7.41	8.51	8.53	8.31	7.94
18	6.92	6.81	6.80	6.46	5.86	5.23	5.13	7.51	8.51	8.58	8.36	7.88
19	6.88	6.86	6.76	6.45	5.83	5.17	5.21	7.59	8.49	8.59	8.36	7.92
20	6.96	6.91	6.77	6.47	5.80	5.16	5.17	7.68	8.46	8.54	8.21	7.91
21	6.91	6.86	6.71	6.47	5.77	5.11	5.25	7.76	8.41	8.49	8.36	7.88
22	6.93	6.91	6.71	6.44	5.75	5.11	5.35	7.79	8.43	8.46	8.34	7.81
23	6.97	6.89	6.69	6.43	5.71	5.07	5.43	7.66	8.43	8.47	8.31	7.89
24	6.94	6.89	6.73	6.39	5.71	5.06	5.47	7.93	8.46	8.47	8.21	7.86
25	6.92	6.89	6.74	6.37	5.71	5.06	5.54	7.98	8.41	8.47	8.19	7.89
26	6.94	6.93	6.76	6.36	5.68	5.03	5.58	8.03	8.41	8.46	8.08	7.86
27	6.81	6.96	6.77	6.36	5.63	4.99	5.71	8.09	8.51	8.44	8.08	7.82
28	6.79	6.96	6.73	6.36	5.59	4.95	5.81	8.17	8.67	8.36	8.09	7.78
29	6.76	6.96	6.71	6.33	—	4.91	5.91	8.26	8.58	8.34	8.08	7.61
30	6.74	6.96	6.72	6.29	—	4.90	6.06	8.32	8.56	8.28	8.04	7.76
31	6.74	—	6.69	6.27	—	4.87	—	8.36	—	8.32	8.04	—

Note.— Add 1,100 feet to obtain elevation above mean sea level (adjustment of 1912).

Rainy River at Manitou Rapids, Minn.

Location.— Water-stage recorder, lat. 48°38', long. 93°54', in sec. 36, T. 160 N. R. 26 W., at Manitou Rapids, 3½ miles east of Manitou post office and 4 miles west of Indus.

Records available.— October 1934 to September 1935; comparable records at station near Birchdale 7 miles downstream October 1932 to September 1934 in reports of U. S. Geological Survey; October 1911 to October 1924 (gage heights only), June 1928 to December 1930 in reports of Corps of Engineers, U. S. Army.

Extremes.— Maximum discharge during year, 30,500 second-feet July 9 (gage height, 12.30 feet); minimum, 4,390 second-feet Nov. 19 (gage height, 2.52 feet).
1932-35: Maximum discharge observed, 33,900 second-feet Apr. 22, 1933 (gage height, 8.40 feet, Birchdale gage); minimum observed, 3,570 second-feet Nov. 13, 1933.

Remarks.— Records good. Stage-discharge relation affected by ice Dec. 2 to Mar. 23. Discharge determined from gage readings near Birchdale Oct. 1 to Nov. 9, May 26 to June 28, July 1-5, Sept. 7-13, and estimated from record of power plant 40 miles upstream Dec. 31 to Jan. 7, Jan. 12-15, 19-30, Mar. 19-21. Flow regulated by power plant at International Falls and by storage in Rainy, Namakan and many other smaller lakes.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.5	4,390	4.5	8,220	7.0	14,400	10.5	24,700
3.0	5,290	5.0	9,340	8.0	17,200	11.0	26,300
3.5	6,220	6.0	11,740	9.0	20,200	12.0	29,600
4.0	7,180	6.5	13,040	10.0	23,200	12.4	30,590

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,500	8,800	8,000	5,500	8,880	8,660	5,650	21,400	11,000	20,000	14,100	11,700
2	6,800	9,000	7,380	8,500	8,880	8,880	7,380	22,000	15,000	21,000	14,100	11,000
3	9,300	9,300	6,030	8,500	7,180	8,000	9,100	20,800	15,800	17,000	14,100	10,800
4	9,300	8,000	8,000	8,500	5,110	5,290	9,340	19,300	12,300	18,000	13,600	11,300
5	9,300	6,100	8,880	8,500	6,030	5,290	9,680	18,700	11,000	20,000	12,800	11,000
6	9,300	5,900	9,340	7,000	7,380	5,650	9,820	16,100	11,000	22,900	12,000	11,000
7	7,800	8,300	9,580	5,500	8,440	8,000	7,520	16,400	11,000	28,900	11,700	11,000
8	5,700	9,000	9,580	6,410	8,880	8,880	4,930	16,100	11,000	29,800	11,700	9,500
9	6,100	8,500	8,880	8,000	8,880	9,100	8,140	16,100	12,000	30,500	11,300	6,700
10	8,500	8,220	7,780	8,440	7,780	7,580	10,800	16,400	14,000	30,200	10,300	8,200
11	9,000	7,780	8,220	8,440	5,290	5,290	12,000	15,500	14,000	28,500	7,000	10,000
12	9,000	5,110	9,100	8,500	6,220	6,410	13,300	16,400	14,000	26,000	5,290	10,500
13	9,000	5,220	9,340	8,000	7,780	8,440	14,700	18,400	14,000	26,600	8,360	10,500
14	8,000	8,220	9,580	5,000	8,440	9,340	15,200	18,100	14,000	26,900	10,300	10,500
15	5,500	8,660	9,820	6,000	8,880	9,820	13,000	18,100	17,000	27,300	10,500	9,340
16	6,800	8,220	9,340	7,580	8,660	9,820	15,500	17,800	20,000	26,900	10,100	6,220
17	9,300	8,220	7,580	8,000	7,580	9,340	16,400	16,900	21,000	26,300	9,680	8,360
18	9,600	7,780	8,440	8,220	4,930	5,650	16,100	15,800	21,000	24,400	10,800	10,300
19	9,900	5,110	9,340	8,000	6,030	7,000	15,800	15,000	21,000	24,100	9,820	10,500
20	9,900	6,790	9,580	7,500	7,180	9,500	15,000	12,500	21,000	23,800	13,600	10,800
21	8,500	8,660	9,820	5,000	8,000	9,500	13,300	14,400	20,000	23,200	16,400	10,500
22	5,900	9,100	10,100	6,000	8,440	9,580	10,300	15,200	20,000	24,400	16,100	9,340
23	5,900	9,100	9,580	8,000	8,660	9,100	12,000	14,700	19,000	20,200	16,100	6,220
24	8,800	8,880	7,380	8,500	7,780	8,470	13,300	12,800	17,000	17,800	15,600	7,780
25	9,600	8,440	5,650	8,000	4,930	5,290	14,100	11,300	17,000	16,900	15,000	9,100
26	9,600	7,380	5,290	7,000	5,840	8,030	15,000	9,000	17,000	16,600	14,400	9,100
27	9,600	8,220	6,980	6,500	8,000	9,820	15,500	7,000	17,000	16,400	14,700	8,880
28	8,000	8,660	9,100	5,000	8,660	10,300	15,500	7,800	17,000	16,600	14,700	9,340
29	6,700	8,660	9,680	6,000	—	10,500	14,100	11,000	17,500	20,500	14,100	8,660
30	5,700	8,000	9,580	8,000	—	10,100	18,100	13,000	18,400	17,800	13,800	5,650
31	7,500	—	5,500	8,660	—	8,660	—	12,000	—	15,200	13,300	—

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	248,400	9,900	5,500	8,013		
November.....	238,330	9,300	5,110	7,944		
December.....	262,360	10,100	5,290	8,463		
Calendar year 1934.....	3,963,590	28,500	4,200	10,830		
January.....	226,750	8,660	5,000	7,315		
February.....	208,740	8,880	4,930	7,456		
March.....	255,290	10,500	5,290	8,235		
April.....	370,460	18,100	4,930	12,350		
May.....	476,000	22,000	7,000	16,360		
June.....	481,000	21,000	11,000	16,030		
July.....	704,700	30,500	15,200	22,750		
August.....	385,150	16,400	5,290	12,420		
September.....	263,790	11,700	5,650	9,460		
Water year 1934-35.....	4,140,960	30,500	4,930	11,350		

Kawishiwi River near Winton, Minn.

Location.- Lat. 47°56', long. 91°46', in lot 3, sec. 20, T. 63 N., R. 11 W., at power plant of Minnesota Power & Light Co., just above Fall Lake and 2½ miles east of Winton.

Drainage area.- 1,300 square miles.

Records available.- June 1905 to June 1907, October 1912 to September 1919, September 1923 to September 1935.

Average discharge.- 18 years (1913-19, 1923-35), 769 second-feet.

Extremes.- Maximum mean daily discharge during year, 4,330 second-feet May 10; no flow Oct. 6, 14, Nov. 10, Dec. 2.
1905-7, 1912-19, 1923-35: Maximum mean daily discharge, 7,210 second-feet May 14, 1934; no flow a number of times 1905-7, 1923-28, 1934.

Remarks.- Records good except those for periods of high water, which are fair. Flow is entirely regulated by several reservoirs. Records collected by Minnesota Power & Light Co., under general supervision of the U. S. Geological Survey in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	162	157	182	302	276	281	2,280	1,270	1,190	1,420	891
2	170	97	0	222	399	154	364	2,680	1,020	1,210	1,510	694
3	165	129	419	366	69	97	299	2,940	1,080	1,070	1,570	906
4	162	97	231	237	283	404	331	3,330	1,060	1,040	1,680	831
5	79	153	199	169	367	364	331	3,620	1,040	1,230	1,820	895
6	0	262	163	161	334	275	165	3,960	1,060	1,070	1,820	895
7	32	230	65	251	334	170	129	4,200	1,050	1,050	1,730	863
8	153	194	129	243	208	122	281	4,060	1,080	1,120	1,660	603
9	198	151	65	308	194	129	322	4,200	1,080	960	1,630	571
10	133	0	178	153	65	161	461	4,330	969	960	1,500	799
11	97	97	263	183	283	185	461	4,160	1,060	1,170	1,350	831
12	129	250	199	129	243	275	525	4,030	1,070	1,400	1,270	928
13	32	230	163	129	243	254	658	3,940	1,040	1,740	1,310	863
14	0	230	183	251	276	275	727	3,820	1,350	1,640	1,160	472
15	186	162	65	276	308	275	820	3,940	1,130	1,570	1,080	524
16	177	161	129	243	133	242	885	3,820	1,250	1,560	900	583
17	230	65	153	308	97	301	766	3,520	1,090	1,420	922	639
18	162	129	231	276	283	157	726	3,680	1,190	1,400	1,310	672
19	38	218	231	167	508	366	1,110	2,740	1,380	1,390	986	704
20	41	298	131	97	402	269	976	2,690	1,470	1,360	1,120	672
21	65	295	129	283	429	333	976	2,460	1,530	1,280	1,090	639
22	186	162	155	270	305	366	1,010	2,220	1,800	1,340	1,040	508
23	198	161	315	270	194	269	1,190	2,210	1,600	1,310	986	601
24	295	129	235	266	161	333	1,200	2,060	1,800	1,280	960	699
25	130	129	137	97	339	287	1,190	2,010	1,720	1,280	960	764
26	129	476	186	129	396	396	1,310	1,730	1,770	1,280	960	667
27	32	366	231	232	396	331	1,360	1,460	1,790	1,320	863	899
28	97	456	297	270	396	299	1,720	1,480	1,780	1,310	928	384
29	153	270	201	238	-	331	1,620	1,290	1,650	1,300	895	323
30	198	259	161	367	-	165	2,130	1,280	1,380	1,590	928	515
31	230	-	120	334	-	97	-	1,190	-	1,590	895	-

Month	Observed				Gain or loss in storage (equivalent mean)	Corrected for storage*		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	4,040	295	0	130	+ 33	163	0.125	0.14
November.....	6,018	476	0	201	+ 33	234	.180	.20
December.....	5,521	419	0	178	+ 46	224	.172	.20
Calendar year 1934	281,044	7,210	0	770	- 28	742	.571	7.75
January.....	7,107	367	97	229	- 23	206	.168	.18
February.....	7,947	508	65	284	- 82	202	.155	.16
March.....	7,938	404	97	256	+ 22	278	.214	.25
April.....	24,324	2,130	129	811	+707	1,518	1.17	1.30
May.....	31,430	4,330	1,190	2,949	+ 49	2,988	2.31	2.66
June.....	39,549	1,800	969	1,318	+ 10	1,328	1.02	1.14
July.....	40,440	1,740	960	1,305	+ 45	1,350	1.04	1.20
August.....	38,253	1,820	853	1,234	-227	1,007	.775	.89
September.....	20,625	928	323	688	-160	528	.406	.45
Water year 1934-35	293,192	4,330	0	803	+ 38	841	.647	8.77

*Corrections have been made for storage in the following lakes, the regulation from some being artificial and from others natural: Garden Farm, Little Farm, White-Iron, Birch, Gabbro, Little Gabbro, Bald Eagle, and Camp Six.

Burntside Lake near Ely, Minn.

Location.- Staff gage, lat. 47°55', long. 91°57', in SE $\frac{1}{4}$ sec. 23, T. 63 N., R. 13 W., at Burntside Lake Lodge, 6 miles northwest of Ely. Zero of gage is 1,369.50 feet above mean sea level.

Records available.- August 1933 to September 1935 (incomplete).

Extremes.- Maximum water-surface elevation observed during year, 1,372.42 feet July 12-14; minimum observed, 1,371.36 feet Sept. 29, 30.

1933-35: Maximum water-surface elevation observed, that of July 12-14, 1935; minimum observed, 1,370.50 feet Sept. 20-22, 1934.

Remarks.- Records furnished by John Anderson, Jr., of Burntside Lake Lodge. Gage heights have been reduced to mean sea-level datum. No records for days for which no elevations are given.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	72.16	72.18	71.64
2									71.96	72.14	72.18	71.64
3									71.96	72.16	72.16	71.66
4									71.98	72.16	72.14	71.66
5									72.00	72.26	72.10	71.66
6									72.02	72.24	72.06	71.62
7									72.02	72.24	71.96	71.64
8									72.04	72.20	71.96	71.62
9									72.06	72.16	71.98	71.62
10									72.06	72.18	72.00	71.60
11									72.08	72.29	71.96	71.58
12									72.10	72.42	71.98	71.56
13									72.10	72.42	71.90	71.54
14									72.14	72.42	71.88	71.54
15									72.16	72.40	71.88	71.54
16									72.18	72.40	71.90	71.54
17									72.22	72.38	71.90	71.52
18									72.22	72.38	71.92	71.52
19									72.28	72.36	71.92	71.50
20									72.22	72.34	71.92	71.46
21									72.22	72.32	71.92	71.46
22									72.20	72.30	71.90	71.44
23									72.18	72.28	71.86	71.44
24									72.20	72.26	71.82	71.42
25									72.22	72.26	71.78	71.42
26									72.26	72.26	71.76	71.40
27									72.24	72.26	71.72	71.40
28									72.24	72.26	71.70	71.38
29									72.24	72.24	71.70	71.36
30									72.20	72.24	71.68	71.36
31									-	72.20	71.66	-

Note.- Add 1,300 feet to obtain elevation above mean sea level.

Vermilion River below Lake Vermilion, near Tower, Minn.

Location.- Staff gage, lat. 47°58', long. 92°28', in sec. 2, T. 63 N., R. 17 W., just below dam at outlet of Lake Vermilion, 4 miles above Twomile Creek, which enters from the west, and about 18 miles across Lake Vermilion from Tower.

Drainage area.- 530 square miles.

Records available.- May 1911 to September 1917, June 1928 to September 1935.

Average discharge.- 13 years, 267 second-feet.

Extremes.- Maximum discharge observed during year, 900 second-feet July 15-19; maximum gage height, 2.65 feet July 19; minimum discharge observed, 34 second-feet several days in October and November (gage height -0.10 foot).
1911-17, 1928-35: Maximum discharge observed, 2,050 second-feet Apr. 29 to May 7, 1916 (gage height, 3.8 feet); minimum observed, 34 second-feet Oct. 24, 25, 1929, Sept. 21, 1934, several days in October and November 1934.

Remarks.- Records good. Gage read three times a week; discharge estimated for days when gage was not read.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

0.1	34	1.2	258
0.0	42	1.4	322
.2	62	1.6	394
.4	83	1.8	477
.6	114	2.0	571
.8	154	2.5	727
1.0	202	2.7	960

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	34	38	45	53	56	71	621	571	647	812	394
2	36	34	39	45	53	56	72	634	571	634	783	394
3	36	34	39	44	53	56	72	647	571	621	764	385
4	36	34	40	44	53	56	72	656	523	621	746	376
5	36	34	41	44	52	59	72	664	523	621	727	366
6	35	34	40	44	52	62	73	673	512	621	727	357
7	35	34	40	44	52	62	73	673	500	621	727	351
8	34	34	41	44	53	62	74	673	492	621	727	346
9	34	34	41	44	53	62	75	700	485	621	727	340
10	34	34	42	44	53	62	76	727	477	621	697	331
11	34	34	42	45	53	62	80	745	438	647	607	322
12	34	34	42	45	53	62	84	764	500	673	547	340
13	34	34	42	46	53	62	88	782	536	749	547	357
14	34	34	42	46	53	62	92	782	571	824	547	340
15	34	34	42	48	53	62	96	782	606	900	535	323
16	34	34	42	50	53	62	112	754	639	900	523	306
17	35	34	42	50	53	63	129	727	673	900	523	306
18	36	34	42	51	53	63	153	709	647	900	523	306
19	37	34	42	51	54	62	177	691	621	900	523	298
20	36	35	42	51	54	60	199	673	621	880	535	289
21	36	36	42	51	54	61	222	673	621	861	547	279
22	37	36	42	51	53	62	244	673	630	841	535	268
23	38	37	42	51	54	62	266	673	638	812	523	258
24	38	37	42	52	54	62	289	673	647	783	493	266
25	38	37	42	52	55	62	332	673	660	783	464	274
26	38	37	41	52	56	64	376	673	673	783	434	266
27	37	37	42	52	56	67	433	673	673	802	424	258
28	36	37	44	52	56	68	490	634	673	822	414	244
29	35	38	44	52	-	70	547	596	673	841	404	230
30	34	38	45	53	-	70	584	584	660	841	394	216
31	34	-	45	53	-	71	-	571	-	841	394	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	1,100	38	34	35.5	0.067	0.08
November.....	1,051	38	34	35.0	.066	.07
December.....	1,292	45	38	41.7	.079	.09
Calendar year 1934.....	73,145	820	34	200	.377	5.13
January.....	1,494	53	44	48.2	.091	.10
February.....	1,497	56	52	53.5	.101	.11
March.....	1,932	71	55	62.3	.118	.14
April.....	5,723	584	71	191	.560	.60
May.....	21,173	782	571	683	1.29	1.49
June.....	17,674	673	477	589	1.11	1.24
July.....	23,532	900	621	759	1.43	1.65
August.....	17,843	812	394	576	1.09	1.28
September.....	9,386	394	216	313	.591	.66
Water year 1934-35.....	103,697	900	34	294	.536	7.29

RAINY RIVER BASIN

Kabetogama Lake near Ray, Minn.

Location.- Chain gage and staff gage, lat. 48°27', long. 93°3', in sec. 21, T. 69 N., R. 21 W., at State forest ranger station 8 miles northeast of Ray. Zero of gage is 1,105.24 feet above mean sea level.

Records available.- October 1933 to September 1935 (incomplete).

Extremes.- Maximum water-surface elevation observed during water year 1933-34, 1,119.94 feet June 4; minimum observed, 1,109.20 feet Apr. 14.

Maximum water-surface elevation observed during water year 1934-35, 1,120.10 feet July 11; minimum observed, 1,107.80 feet Mar. 16.

Remarks.- Records good. Records furnished by Minnesota Department of Conservation, Division of Forestry. No records for days for which no elevations are given.

Elevation, in feet, 1933-35

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-						-	12.96	19.88	-	-	-
2	15.28						-	13.22	19.92	19.24	-	-
3	15.24						-	13.54	-	-	18.72	-
4	-						-	13.96	19.94	-	-	17.54
5	15.20						-	14.30	-	-	-	-
6	-						-	-	-	19.08	18.56	17.50
7	-						-	15.14	-	-	-	-
8	-						-	15.44	19.68	-	-	17.44
9	15.04		10.92				-	15.64	19.36	19.02	-	-
10	-	14.44					-	15.76	-	-	-	17.38
11	14.88						-	16.16	-	-	18.36	-
12	-						-	16.48	19.54	18.88	18.34	17.30
13	-						-	-	-	-	-	-
14	14.84						9.20	17.20	-	-	-	17.20
15	-						-	17.40	19.62	18.78	-	-
16	-						9.50	17.54	-	18.78	18.14	-
17	-						-	17.78	-	-	-	17.16
18	14.84						9.76	18.04	-	-	18.06	-
19	-						-	18.24	19.48	18.74	-	-
20	14.78						-	-	19.50	-	17.96	-
21	-						10.48	18.38	-	-	-	16.94
22	-						-	18.46	-	-	-	-
23	-						11.04	-	-	-	-	-
24	-						11.16	19.90	-	18.84	-	16.86
25	-						-	19.12	-	-	-	16.84
26	-						11.68	19.38	-	-	-	-
27	-						-	19.56	-	-	17.78	-
28	-						12.06	19.72	19.60	18.80	-	16.70
29	-						-	19.74	19.52	18.80	17.72	-
30	-						12.68	-	19.48	-	-	-
31	-						-	19.84	-	-	-	-

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-				-	-	11.74	16.58	-	-	-
2	16.54	-				7.84	-	-	-	19.62	-	-
3	-	-				-	-	12.28	-	-	-	-
4	-	-	11.76			-	-	12.68	-	-	19.22	-
5	16.44	-				-	-	-	-	-	-	-
6	-	-				-	7.88	-	17.36	19.98	-	19.08
7	-	-				-	-	13.24	-	20.04	-	-
8	-	-				-	-	-	17.64	20.06	-	-
9	16.32	-				-	-	13.78	-	-	19.38	-
10	-	-				-	-	-	17.82	-	-	18.68
11	16.20	-			8.24	-	-	-	-	20.10	-	-
12	-	-			-	-	-	-	-	-	-	-
13	-	-			-	-	-	-	16.14	20.00	19.42	-
14	-	-			-	-	-	14.84	-	-	-	18.68
15	16.08	-			-	-	8.80	-	18.50	-	-	-
16	-	13.74			-	7.80	-	-	-	-	-	18.60
17	-	-			-	-	9.10	15.20	-	-	19.46	-
18	-	-			-	-	-	-	18.80	-	-	-
19	-	-			-	-	-	-	-	-	19.48	-
20	-	-			-	-	9.42	-	-	19.94	-	-
21	-	-			-	-	-	-	18.98	19.98	-	18.40
22	-	-			-	-	9.78	15.64	-	-	-	-
23	-	-			-	-	-	-	19.12	-	-	18.30
24	15.94	-			-	-	-	-	-	-	19.54	-
25	-	-			-	-	-	15.84	-	19.74	-	-
26	-	-			-	-	-	-	-	-	-	-
27	-	-			-	-	10.78	-	-	-	19.46	-
28	-	12.00			-	-	-	16.06	19.54	-	-	18.00
29	-	-			-	-	11.22	-	-	19.48	19.44	-
30	-	-			-	-	-	-	-	-	-	17.90
31	-	-			-	-	-	-	-	19.32	-	-

Note.- Add 1,100 feet to obtain elevation above mean sea level.

Little Fork River at Little Fork, Minn.

Location.- Chain gage, lat. 48°24', long. 93°34', in NW¼ sec. 9, T. 68 N., R. 25 W., at bridge on State Highway 65 at Little Fork, 1½ miles above mouth of Beaver Creek.

Drainage area.- 1,620 square miles.

Records available.- June 1909 to September 1917, June 1928 to September 1935.

Average discharge.- 13 years (1911-17, 1928-35), 784 second-feet.

Extremes.- Maximum discharge observed during year, 8,080 second-feet May 1; maximum gage height, 21.22 feet Apr. 16 (affected by ice); minimum discharge observed, 56 second-feet Oct. 1.

1909-17, 1928-35: Maximum discharge observed, 19,300 second-feet Apr. 18, 1916 (gage height, 37 feet); minimum, 37 second-feet Aug. 13, 1930 (gage height, 4.50 feet).

Remarks.- Records good except those for periods of ice effect, Nov. 22 to Apr. 19, which are fair. Stage-discharge relation affected by debris on control Oct. 1-11.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-11)

Table for Oct. 1 to Apr. 15

4.8	64
5.0	84
5.2	106
5.4	134
5.6	164
5.8	203
6.0	248

5.5	165
6.0	280
6.5	414
7.0	564
7.5	738
8.0	920
8.5	1,110

Table for Apr. 16 to Sept. 30

9.0	1,310	16.0	4,880
10.0	1,720	17.0	5,510
11.0	2,180	18.0	6,200
12.0	2,690	19.0	6,950
13.0	3,220	20.0	7,700
14.0	3,760	21.0	8,450
15.0	4,300		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	164	94	74	64	60	320	8,000	774	1,030	442	306
2	64	166	106	74	69	60	333	7,100	666	920	564	280
3	69	134	106	69	74	60	398	5,640	632	845	1,130	256
4	64	134	106	69	79	60	398	4,530	738	996	1,180	243
5	69	127	100	64	79	64	426	3,760	774	1,760	1,230	243
6	64	127	100	64	74	64	454	3,220	810	2,330	1,350	243
7	64	127	94	64	74	64	482	2,650	738	2,790	1,390	243
8	69	127	94	64	79	64	510	2,690	738	2,690	1,310	243
9	64	127	94	64	79	64	850	2,690	702	2,280	1,070	231
10	64	127	89	64	79	64	1,600	2,530	702	1,990	1,070	220
11	89	127	89	64	79	64	2,500	2,530	632	2,130	920	208
12	74	127	100	64	79	64	3,250	2,690	598	2,480	738	208
13	74	127	100	64	79	64	4,490	3,170	702	4,300	564	220
14	74	120	94	64	84	64	5,090	3,490	1,150	3,870	501	231
15	74	120	94	64	84	69	6,960	3,490	2,040	3,970	442	280
16	74	120	94	64	84	79	5,920	3,110	3,110	3,440	414	293
17	79	120	94	64	84	84	4,760	2,900	3,650	2,850	414	306
18	84	120	94	64	79	84	3,810	2,460	3,490	2,280	414	332
19	84	113	89	64	74	84	3,270	2,180	2,900	1,900	359	332
20	182	134	89	64	74	84	2,740	1,900	2,330	1,650	359	280
21	134	134	89	64	64	89	2,640	1,720	1,900	1,310	359	268
22	134	127	89	60	64	89	2,590	1,350	1,680	1,190	332	256
23	134	120	84	60	64	89	2,590	1,230	1,350	882	332	231
24	141	120	84	60	64	94	2,590	1,150	1,350	774	332	208
25	214	120	84	60	64	94	2,790	1,110	1,760	632	366	197
26	225	113	79	60	64	106	2,850	1,030	2,040	532	386	186
27	203	113	79	60	64	132	3,650	920	1,990	471	359	166
28	192	113	79	60	60	346	4,190	845	1,850	471	332	186
29	182	106	74	60	-	372	5,990	610	1,640	442	332	176
30	173	64	74	60	-	346	7,250	774	1,270	365	319	165
31	203	-	74	60	-	320	-	738	-	359	319	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	3,450	225	56	111	0.059	0.08
November.....	3,708	194	64	124	.077	.09
December.....	2,809	106	74	90.6	.056	.06
Calendar year 1934.....	166,811	7,560	42	457	.282	3.84
January.....	1,974	74	50	53.7	.039	.04
February.....	2,059	84	50	73.5	.045	.05
March.....	3,491	372	60	113	.070	.09
April.....	86,391	7,250	320	2,846	1.76	1.96
May.....	82,628	8,000	738	2,665	1.65	1.90
June.....	44,706	3,650	598	1,490	.920	1.03
July.....	53,751	4,300	369	1,734	1.07	1.23
August.....	19,689	1,390	319	634	.391	.45
September.....	7,255	332	165	242	.149	.17
Water year 1934-35.....	310,880	8,000	56	852	.526	7.14

Big Fork River at Big Falls, Minn.

Location.- Staff gage, lat. 48°12', long. 93°48', in sec. 35 (revised), T. 155 N., R. 25 W., at Big Falls, a quarter of a mile downstream from bridge on U. S. Highway 71 and 500 feet below falls.

Drainage area.- 1,520 square miles.

Records available.- August 1909 to December 1912, June 1928 to September 1935.

Extremes.- Maximum discharge observed during year, 3,590 second-feet Apr. 30, May 1 (gage height, 7.41 feet); minimum discharge (estimated because of ice effect), 18 second-feet Jan. 22-25, 28-30; minimum gage height observed, 2.56 feet Oct. 6. 1909-12, 1928-35: Maximum discharge observed, 5,440 second-feet Apr. 20, 1933 (gage height, 8.71 feet); minimum, that of Jan. 22-25, 28-30, 1935.

Remarks.- Records good except those for periods of ice effect, Nov. 24 to Apr. 9, which are fair. Gage read three times a week from Oct. 1 to Apr. 30, daily except Sundays from May 1 to Sept. 30; discharge estimated for days when gage was not read.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

2.4	12	5.0	1,330
2.6	30	5.5	1,730
2.8	62	6.0	2,170
3.0	110	6.5	2,650
3.5	314	7.0	3,150
4.0	620	7.5	3,700
4.5	970		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	51	41	28	20	23	143	3,590	368	427	122	380
2	28	50	39	28	20	23	148	3,150	398	357	116	363
3	28	48	36	27	20	23	161	2,550	398	356	116	314
4	27	48	34	27	20	24	177	2,080	427	304	122	346
5	27	49	34	27	20	24	188	1,920	458	458	129	357
6	26	49	33	26	20	24	198	1,570	490	760	284	346
7	27	49	33	25	20	25	201	1,410	458	725	304	325
8	28	49	33	24	20	24	203	1,330	458	690	314	320
9	29	48	32	24	21	24	206	1,330	413	588	304	314
10	28	48	32	23	22	25	300	1,250	368	588	284	304
11	28	44	31	26	22	26	398	1,180	325	555	274	294
12	28	38	32	23	23	27	614	1,490	398	655	264	314
13	28	38	33	26	23	28	830	2,170	490	970	255	367
14	29	35	31	23	23	26	842	2,350	1,180	900	215	346
15	29	37	29	21	22	28	853	2,260	1,410	830	193	352
16	30	40	29	21	22	30	865	2,080	1,450	760	163	357
17	33	44	30	21	23	32	848	1,910	1,490	620	177	357
18	36	46	30	21	23	34	830	1,490	1,650	555	225	330
19	47	46	30	21	24	36	830	1,330	1,490	490	274	330
20	5e	49	31	20	25	37	830	1,180	1,250	427	368	314
21	53	46	31	19	26	38	773	1,040	1,110	348	427	304
22	48	44	31	18	27	39	715	900	1,040	269	458	302
23	44	42	31	18	28	40	655	830	950	255	458	299
24	46	40	30	18	27	39	672	725	865	227	455	294
25	49	41	29	18	27	38	690	620	750	202	474	299
26	53	43	30	19	26	37	970	588	760	170	490	294
27	57	44	30	19	24	55	1,250	555	725	148	458	299
28	56	44	30	18	23	73	2,100	490	690	142	458	294
29	56	44	29	18	-	106	2,950	458	620	135	490	294
30	55	43	29	18	-	138	3,590	427	524	122	458	289
31	53	-	28	19	-	140	-	398	-	110	398	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	1,192	58	26	38.5	0.025	0.03
November.....	1,534	51	33	44.5	.029	.03
December.....	981	41	28	31.6	.021	.02
Calendar year 1934.....	71,376	2,340	19	196	.129	1.74
January.....	689	28	18	22.2	.015	.02
February.....	641	28	20	22.9	.015	.02
March.....	1,282	140	23	41.4	.027	.03
April.....	24,030	3,590	143	801	.527	.59
May.....	44,451	3,590	398	1,434	.943	1.09
June.....	25,413	1,650	325	760	.513	.57
July.....	14,123	970	110	456	.300	.35
August.....	9,534	490	116	308	.203	.23
September.....	9,678	380	289	323	.212	.24
Water year 1934-35.....	131,348	3,590	18	360	.237	3.22

MISSISSIPPI RIVER

Lake Itasca at Lake Itasca, Minn.

Location.- Staff gage, lat. 47°14', long. 95°12', in sec. 2, T. 143 N., R. 36 W., on east shore of Lake Itasca, one-eighth mile above outlet and about one-eighth mile from Lake Itasca post office.

Records available.- May 1933 to September 1935.

Extremes.- Maximum stage observed during year, 1,474.62 feet Dec. 29, Jan. 19, Apr. 27; minimum, 1,474.06 feet Oct. 6.
1933-35: Maximum stage observed, that of Dec. 29, 1934, Jan. 19, Apr. 27, 1935; minimum, 1,473.76 feet Sept. 5-7, Oct. 1-15, 1933.

Remarks.- Gage-height record furnished by Minnesota Division of Forestry. Gage heights have been reduced to mean sea-level datum. Elevation of lake regulated by dam at outlet and by storage in lakes above.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	74.34	-	-	-	-	-	74.07	-	-	-
2	-	-	-	-	74.58	74.56	-	-	-	-	-	-
3	-	74.30	-	-	-	-	-	-	-	-	74.37	-
4	-	-	-	-	-	-	-	74.45	-	-	-	-
5	-	-	-	74.60	-	-	-	-	-	-	-	-
6	74.06	-	-	-	-	-	74.60	-	-	74.49	-	-
7	-	-	-	-	-	-	-	-	-	-	-	74.25
8	-	-	74.50	-	-	-	-	-	74.09	-	-	-
9	-	-	-	-	74.58	74.54	-	74.37	-	-	-	-
10	-	74.30	-	-	-	-	-	-	-	-	74.33	-
11	-	-	-	-	-	-	-	74.45	-	-	-	-
12	-	-	-	74.60	-	-	-	-	-	-	-	-
13	74.08	-	-	-	-	-	74.60	-	-	74.59	-	-
14	-	-	-	-	-	-	-	-	-	-	-	74.25
15	-	-	74.54	-	-	-	-	-	74.41	-	-	-
16	-	-	-	-	74.56	74.54	-	-	-	-	-	-
17	-	74.30	-	-	-	-	-	-	-	-	74.27	-
18	-	-	-	-	-	-	-	74.31	-	-	-	-
19	-	-	-	74.62	-	-	-	-	-	-	-	-
20	74.22	-	-	-	-	-	74.46	-	-	74.43	-	-
21	-	-	-	-	-	-	-	-	-	-	-	74.23
22	-	-	74.54	-	-	-	-	-	74.39	-	-	-
23	-	-	-	-	74.56	74.58	-	-	-	-	-	-
24	-	74.30	-	-	-	-	-	-	-	-	74.29	-
25	-	-	-	-	-	-	-	74.09	-	-	-	-
26	-	-	-	74.60	-	-	-	-	-	-	-	-
27	74.28	74.42	-	-	-	-	74.62	-	-	74.47	-	-
28	-	-	-	-	-	-	-	-	-	-	-	74.11
29	-	-	74.62	-	-	-	-	-	74.43	-	-	-
30	-	-	-	-	-	74.58	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	74.25	-

Note.- Add 1,400 feet to obtain elevation above mean sea level.

Mississippi River below Sandy River, near Libby, Minn.

Location.— Water-stage recorder, lat. 46°47', long. 93°20', in sec. 25, T. 50 N., R. 24 W., 600 feet below mouth of Sandy River and three-quarters of a mile north-west of Libby. Zero of gage is 1,204.55 feet above mean sea level (adjustment of 1912).

Drainage area.— 5,060 square miles.

Records available.— April 1930 to September 1935.

Extremes.— Maximum discharge during year, 2,830 second-feet May 17 (gage height, 7.13 feet); minimum, 153 second-feet Oct. 3, 11, 17 (gage height, 1.64 feet).
1930-35: Maximum discharge, 3,690 second-feet May 23, 1933 (gage height, 8.74 feet); minimum (estimated because of ice effect), 104 second-feet Dec. 29, 1932.

Remarks.— Records excellent except those for periods of ice effect, Dec. 2-13, Dec. 23 to Apr. 5, which are fair. Flow regulated by Government reservoirs above.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Apr. 14

1.6	145	3.2	795
1.7	165	3.4	895
1.8	190	3.6	995
1.9	220	3.8	1,095
2.0	255	4.0	1,195
2.2	355	4.5	1,445
2.4	495	5.0	1,695
2.6	515	5.5	1,945
2.8	605	6.0	2,195
3.0	695	6.5	2,450

Table for Apr. 15 to Sept. 30

2.1	308	3.2	615
2.2	345	3.4	915
2.3	385	3.6	1,015
2.4	429	3.8	1,117
2.6	474	4.0	1,221
2.6	520	4.5	1,451
2.7	567	5.0	1,741
2.8	615	5.5	2,001
2.9	665	6.0	2,261
3.0	715	7.0	2,781

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	227	340	230	227	291	371	1,170	2,210	1,120	615	1,040	1,430
2	224	311	234	238	307	335	1,120	2,180	1,320	525	1,020	1,430
3	168	323	366	230	299	319	1,040	2,100	1,380	490	1,020	1,320
4	185	327	366	238	319	425	1,440	1,950	1,090	548	1,090	1,250
5	241	303	331	220	353	587	1,540	1,900	590	765	1,120	1,300
6	206	275	287	220	287	551	1,500	1,900	965	548	815	1,250
7	193	259	271	248	283	520	1,500	1,690	1,040	374	690	1,170
8	199	275	283	255	340	506	1,500	1,740	1,040	715	690	1,140
9	185	275	256	208	371	510	1,400	1,840	965	715	690	1,140
10	188	275	259	190	434	533	1,440	1,940	865	479	740	1,040
11	165	271	287	259	470	502	1,540	1,840	665	577	1,020	940
12	175	271	299	283	492	533	1,700	2,160	483	690	1,250	1,020
13	224	259	307	283	438	492	1,900	2,620	483	620	1,090	1,020
14	241	224	315	255	384	497	2,200	2,620	567	615	1,040	1,040
15	238	241	319	241	319	488	2,420	2,620	591	690	1,140	1,020
16	193	263	311	255	283	448	1,900	2,680	665	690	1,170	1,090
17	161	283	246	263	267	389	1,690	2,830	690	625	1,200	1,020
18	192	315	214	271	271	430	1,740	2,680	715	840	1,250	655
19	299	295	248	275	255	533	1,740	2,420	715	1,040	1,320	605
20	303	299	259	271	248	538	1,740	2,210	690	1,200	1,430	605
21	279	331	287	283	287	592	1,740	1,950	650	1,040	1,480	502
22	234	344	291	315	267	605	1,740	1,840	640	890	1,530	488
23	220	323	283	291	275	605	1,630	1,740	635	815	1,530	525
24	259	275	271	303	323	650	1,380	1,680	715	740	1,530	458
25	299	340	220	323	295	720	1,430	1,580	740	890	1,580	333
26	362	358	211	287	270	945	1,480	1,480	690	915	1,640	390
27	384	319	208	283	271	1,040	1,580	1,480	690	940	1,530	378
28	380	275	161	291	335	1,100	1,690	1,250	645	940	1,430	390
29	398	315	170	311	-	1,170	2,100	1,120	635	940	1,380	341
30	584	295	220	287	-	1,140	2,260	1,090	601	890	1,380	382
31	307	-	227	267	-	1,100	-	1,090	-	890	1,320	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	7,715	398	161	249	0.049	0.06
November.....	9,659	358	224	295	.055	.06
December.....	8,218	366	161	265	.052	.06
Calendar year 1934.....	168,264	2,000	139	461	.091	1.23
January.....	8,171	323	190	264	.052	.06
February.....	9,023	492	248	322	.064	.07
March.....	19,174	1,170	319	619	.122	.14
April.....	49,160	2,420	1,040	1,638	.354	.36
May.....	60,210	2,830	1,090	1,942	.384	.44
June.....	23,580	1,380	483	756	.155	.17
July.....	23,181	1,200	374	748	.148	.17
August.....	37,155	1,640	690	1,199	.237	.27
September.....	26,670	1,430	333	856	.169	.19
Water year 1934-35.....	280,106	2,830	161	767	.162	2.05

Mississippi River near Royalton, Minn.

Location.- Lat. 45°52', long. 94°22', in lot 2, sec. 20, T. 39 N., R. 32 W., at power plant of Minnesota Power & Light Co. 5 miles northwest of Royalton and 5 miles below mouth of Swan River.

Drainage area.- 11,600 square miles.

Records available.- March 1924 to September 1935.

Average discharge.- 11 years, 2,386 second-feet.

Extremes.- Maximum mean daily discharge during year, 5,470 second-feet May 16; minimum, 378 second-feet Dec. 4.
1924-35: Maximum mean daily discharge, 12,600 second-feet Apr. 22, 1927; minimum, 298 second-feet July 31, 1934.

Remarks.- Records good. Flow regulated by Government reservoirs on headwaters. Records collected by Minnesota Power & Light Co. from record of power operation, under general supervision of the U. S. Geological Survey in connection with a Federal Power Commission project. Result of discharge measurement on Oct. 23, 1935, agreed with powerhouse determination within 7.1 percent.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	538	800	517	467	600	750	3,300	4,590	2,260	2,430	2,000	2,470
2	697	783	517	483	583	733	3,520	5,270	2,120	2,500	2,060	1,660
3	467	908	529	417	617	767	2,820	4,830	2,190	2,040	1,770	2,170
4	674	867	378	400	603	822	2,970	4,360	1,790	1,720	1,640	2,130
5	605	900	663	483	617	1,360	3,190	4,660	2,260	1,960	1,670	2,050
6	834	942	650	500	600	1,190	2,770	4,170	2,260	1,830	1,880	2,390
7	680	827	653	517	700	1,150	2,820	4,590	2,230	1,910	1,900	2,080
8	615	783	692	593	722	1,180	3,020	4,810	2,170	1,960	1,990	2,190
9	664	800	738	611	727	1,210	2,960	4,640	2,040	2,060	1,800	1,990
10	609	800	669	550	713	1,160	2,990	4,400	1,960	2,190	1,580	2,130
11	583	722	766	517	793	1,020	3,180	4,400	1,960	2,010	1,560	1,920
12	617	733	763	567	817	1,290	3,480	4,410	2,090	1,970	1,180	1,910
13	583	759	716	556	854	1,290	3,180	4,510	1,970	1,840	1,180	1,890
14	550	725	638	461	902	1,250	3,570	5,210	2,310	1,960	1,450	1,800
15	517	771	633	631	920	1,760	3,740	5,310	2,400	1,920	1,510	1,760
16	665	688	667	590	900	2,180	3,470	5,470	2,680	1,780	1,750	1,620
17	614	733	663	463	933	2,360	3,570	5,280	3,920	1,940	1,680	2,160
18	611	717	683	575	850	2,560	3,960	5,130	4,610	2,160	2,040	1,830
19	554	708	633	596	879	2,760	3,260	5,320	4,650	2,090	2,420	1,620
20	840	879	608	504	833	3,120	3,200	5,210	4,900	2,180	2,410	1,780
21	867	833	700	508	767	3,660	3,170	4,820	4,300	2,260	2,230	1,760
22	773	728	663	550	833	3,410	3,070	4,860	3,800	2,170	2,390	1,450
23	831	765	583	513	833	3,460	3,040	4,280	3,500	2,190	2,250	913
24	950	735	583	500	767	3,230	3,020	3,970	3,110	2,180	2,580	1,230
25	963	850	572	522	700	2,970	3,240	3,660	3,120	2,230	2,540	1,220
26	862	783	600	517	763	2,830	3,200	3,060	2,720	2,070	2,740	1,200
27	898	1,150	583	575	767	3,000	3,130	3,210	2,720	2,090	2,450	1,200
28	767	992	569	633	750	2,920	3,280	2,890	2,610	1,800	2,470	1,410
29	879	900	608	579	-	2,980	3,840	2,620	2,560	1,560	2,660	1,230
30	804	817	560	572	-	2,660	3,950	2,750	2,190	1,910	2,669	1,090
31	927	-	538	608	-	3,040	-	2,620	-	1,930	2,600	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				22,288	963	467	719	0.062	0.07			
November.....				24,377	1,130	688	813	.070	.06			
December.....				19,445	786	378	627	.054	.06			
Calendar year 1934.....				407,033	4,090	298	1,115	.961	1.31			
January.....				16,557	633	400	534	.046	.05			
February.....				21,363	933	583	783	.066	.07			
March.....				64,232	3,660	733	2,072	.178	.21			
April.....				97,680	3,960	2,770	3,263	.281	.31			
May.....				135,300	5,470	2,620	4,365	.376	.43			
June.....				83,290	4,900	1,790	2,776	.239	.27			
July.....				62,840	2,500	1,560	2,027	.176	.20			
August.....				63,030	2,740	1,180	2,033	.175	.20			
September.....				52,663	2,470	913	1,755	.161	.17			
Water year 1934-35.....				663,255	5,470	378	1,817	.167	2.12			

Mississippi River at Elk River, Minn.

Location.- Water-stage recorder, lat. 48°15', long. 93°34', in SE¼ sec. 34, T. 33 N., R. 28 W. fourth principal meridian, in Elk River, 2,500 feet below mouth of Elk River. Zero of gage is 847.92 feet above mean sea level (adjustment of 1912).

Drainage area.- 14,500 square miles.

Records available.- July 1915 to September 1935.

Average discharge.- 20 years, 4,176 second-feet.

Extremes.- Maximum discharge during year, 9,290 second-feet Mar. 21 (gage height, 5.71 feet); minimum discharge (estimated because of ice effect), 369 second-feet Dec. 4; minimum gage height, 1.66 feet Oct. 3.
1915-35: Maximum discharge, 27,000 second-feet Apr. 7, 1916 (gage height, 10.8 feet); minimum, 278 second-feet Nov. 15, 1933 (partly estimated because of ice effect).

Remarks.- Records excellent except those for period of ice effect, Dec. 1 to Mar. 19, which are good. Flow partly regulated by Government reservoirs on headwaters.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.4	320	2.2	1,160	3.0	2,520	4.6	6,040
1.5	390	2.3	1,310	3.2	2,920	4.8	6,590
1.6	470	2.4	1,470	3.4	3,340	5.0	7,160
1.7	560	2.5	1,650	3.6	3,760	5.2	7,760
1.8	660	2.6	1,800	3.8	4,180	5.4	8,360
1.9	770	2.7	1,970	4.0	4,610	5.6	8,980
2.0	890	2.8	2,160	4.2	5,050	5.8	9,600
2.1	1,020	2.9	2,330	4.4	5,520		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	806	1,120	704	806	866	1,020	4,500	4,940	3,340	2,720	2,020	3,970
2	715	968	942	842	866	1,190	4,610	5,770	3,240	3,020	2,190	3,550
3	671	916	630	660	878	968	4,940	6,870	2,520	3,020	2,220	3,130
4	890	1,090	515	704	806	1,090	4,180	6,180	2,720	2,500	2,220	3,240
5	682	1,240	630	794	806	1,330	4,180	6,180	2,620	2,500	2,150	3,240
6	981	1,180	542	929	903	1,260	4,500	6,450	2,480	2,460	2,040	3,130
7	1,050	1,030	806	866	929	1,450	3,970	6,310	2,720	2,420	1,990	3,440
8	942	955	916	830	916	1,580	3,860	6,590	2,720	1,990	2,080	3,440
9	806	1,020	981	737	942	1,550	4,080	6,040	2,620	2,460	2,200	2,820
10	866	968	955	650	916	1,570	4,080	6,040	2,720	2,520	2,100	2,720
11	782	1,120	866	794	981	1,610	3,970	5,770	2,720	2,620	2,060	2,720
12	782	1,160	782	842	1,030	1,310	4,280	6,040	2,290	2,920	1,920	3,020
13	693	1,050	726	806	806	1,280	4,280	5,770	2,520	2,720	1,600	2,920
14	830	1,020	748	871	890	1,940	4,280	5,770	2,520	2,280	1,470	2,720
15	770	903	929	794	903	2,520	4,630	7,020	2,920	2,440	1,260	2,520
16	748	693	981	806	981	2,560	4,500	6,730	3,240	2,460	1,340	2,520
17	715	1,060	968	682	968	4,520	3,970	7,160	3,860	2,330	1,800	2,260
18	968	1,060	994	854	1,180	4,390	4,390	7,160	4,880	2,150	2,310	2,440
19	942	794	968	782	1,240	4,080	5,050	6,310	5,900	2,460	2,480	2,720
20	1,280	1,310	748	671	1,240	4,280	4,590	6,730	5,640	2,620	3,860	2,620
21	1,010	1,030	994	770	1,220	5,640	3,860	6,590	6,310	2,280	4,080	2,240
22	1,120	1,160	830	660	1,240	6,970	3,860	5,770	5,640	2,720	3,130	2,150
23	1,310	1,190	878	551	1,200	6,310	3,860	5,770	4,720	2,520	3,440	2,190
24	1,080	830	854	715	1,060	5,770	3,860	5,050	4,390	2,620	3,760	1,920
25	1,300	876	818	806	903	5,400	3,970	4,830	3,970	2,520	3,860	1,820
26	1,390	1,140	704	748	878	5,180	4,180	4,500	4,180	2,720	4,180	1,610
27	1,280	1,160	570	682	918	4,500	4,080	4,180	3,560	2,620	4,390	1,820
28	1,160	1,100	570	759	1,260	4,630	4,180	3,560	3,340	2,440	4,180	1,820
29	968	1,470	748	818	-	4,610	4,180	3,560	3,660	2,130	3,660	1,470
30	961	1,090	794	842	-	4,610	4,720	3,240	2,920	2,290	3,970	1,500
31	1,190	-	916	854	-	4,280	-	3,240	-	1,800	3,970	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	29,688	1,390	671	968	0.066	0.08
November.....	31,693	1,470	693	1,056	.073	.08
December.....	25,007	994	515	807	.056	.06
Calendar year 1934.....	502,405	4,940	438	1,376	.095	1.27
January.....	23,725	929	551	765	.053	.06
February.....	27,724	1,280	806	890	.068	.07
March.....	99,568	6,970	968	3,212	.222	.26
April.....	127,590	5,050	3,860	4,253	.293	.33
May.....	176,100	7,160	3,240	5,681	.392	.45
June.....	106,880	6,310	2,290	3,563	.246	.27
July.....	77,270	3,020	1,800	2,493	.172	.20
August.....	83,810	4,390	1,260	2,704	.186	.21
September.....	77,680	3,970	1,470	2,589	.179	.20
Water year 1934-35.....	886,735	7,160	515	2,429	.168	2.27

Mississippi River near Anoka, Minn.

Location.— Water-stage recorder, lat. 45°7'36", long. 93°17'48" in SW $\frac{1}{4}$ sec. 12, T. 119 N., R. 21 W., half a mile below Coon Creek, $\frac{1}{2}$ miles downstream from Coon Rapids hydro-electric plant of Northern States Power Co., and $6\frac{1}{2}$ miles downstream from Anoka.

Drainage area.— 19,100 square miles.

Records available.— June 1931 to September 1935.

Extremes.— Maximum discharge during year, 17,600 second-feet Mar. 22 (gage height, 7.10 feet); minimum, 718 second-feet Dec. 5 (gage height, 0.52 foot).
1931-35: Maximum discharge, that of Mar. 22, 1935; minimum, 586 second-feet Sept. 13, 1934 (gage height, 0.37 foot).

Remarks.— Records excellent except those for period of ice effect, Dec. 6 to Mar. 12, which are good. Discharge determined from power-house records during period of ice effect. Flow partly regulated by Government reservoirs on headwaters.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Aug. 20

0.0	350	1.4	1,860	2.8	4,540
.2	460	1.6	2,210	3.0	5,100
.4	610	1.8	2,590	3.5	6,360
.6	790	2.0	2,980	4.0	7,680
.8	1,000	2.2	3,380	4.5	9,080
1.0	1,260	2.4	3,780	5.0	10,580
1.2	1,540	2.6	4,200	6.0	13,800

Table for Aug. 21 to Sept. 30

1.0	1,390	2.2	3,380
1.2	1,610	2.4	3,780
1.4	1,930	2.6	4,200
1.6	2,270	2.8	4,640
1.8	2,630	3.0	5,100
2.0	3,000		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,130	1,390	875	997	1,020	1,250	5,670	5,290	3,680	3,560	2,000	4,360
2	1,020	1,280	1,300	997	982	1,240	5,520	6,200	3,650	3,310	2,400	4,180
3	876	1,200	894	845	1,000	1,280	6,000	7,480	3,120	3,470	2,500	3,700
4	1,140	1,310	798	920	981	1,150	5,340	7,100	2,950	3,180	2,400	3,610
5	978	1,510	812	937	934	1,620	4,630	6,980	2,930	2,940	2,400	3,760
6	1,170	1,420	933	1,170	1,060	1,470	5,150	7,580	2,790	2,920	2,420	3,500
7	1,200	1,360	933	1,040	1,160	1,730	4,760	7,060	2,900	2,800	2,290	3,940
8	1,220	1,170	1,060	1,020	1,100	1,880	4,440	7,350	2,980	2,560	2,300	4,000
9	1,040	1,270	1,170	888	1,110	1,870	4,700	7,210	2,880	2,790	2,500	3,620
10	962	1,170	1,190	823	1,140	1,980	4,620	6,970	2,840	2,740	2,400	3,220
11	1,190	1,260	1,060	935	1,050	1,940	4,630	6,740	3,040	3,120	2,400	3,400
12	860	1,360	1,000	978	1,290	1,860	4,820	6,810	2,780	3,560	2,170	3,480
13	1,010	1,180	775	1,000	1,110	1,610	4,770	7,060	2,660	3,060	1,900	3,260
14	903	1,320	1,130	813	1,030	1,850	5,000	6,910	2,850	2,830	1,680	3,380
15	1,070	1,190	1,120	911	1,110	2,970	5,180	7,640	2,920	2,660	1,400	3,060
16	922	967	1,150	1,020	1,150	3,180	5,450	8,000	3,630	2,640	1,600	3,260
17	943	1,070	1,180	818	1,150	4,100	4,360	8,400	4,340	2,740	1,800	2,770
18	1,010	1,300	1,130	1,030	1,290	5,740	4,750	8,600	4,720	2,490	2,390	2,800
19	1,160	1,200	1,160	959	1,460	4,920	5,350	7,980	6,440	2,560	2,810	3,200
20	1,760	1,410	1,000	909	1,420	5,440	5,210	7,910	6,560	3,060	3,530	3,170
21	1,420	1,400	1,060	852	1,520	6,870	4,300	7,910	6,820	2,670	4,930	2,790
22	1,390	1,290	998	975	1,600	9,030	4,160	7,070	7,060	2,940	3,750	2,600
23	1,600	1,570	1,050	790	1,370	9,140	4,360	6,890	6,000	3,150	3,730	2,640
24	1,640	1,220	963	813	1,350	7,860	4,280	6,290	5,340	2,760	4,200	2,440
25	1,530	1,040	1,050	977	1,110	7,880	4,450	5,450	4,960	3,040	4,200	2,310
26	1,760	1,360	895	902	1,040	7,580	4,870	5,500	4,860	2,720	4,750	2,040
27	1,720	1,510	753	852	1,060	6,700	4,330	4,940	4,220	3,130	4,580	2,070
28	1,480	1,400	778	895	1,360	6,640	4,820	4,070	3,940	2,640	4,980	2,240
29	1,350	1,590	879	928	-	6,410	4,590	4,180	4,050	2,700	4,200	1,820
30	1,100	1,480	1,000	984	-	6,120	5,250	3,730	3,480	2,360	4,320	1,940
31	1,470	-	1,010	1,010	-	5,360	-	3,640	-	2,160	4,630	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	37,984	1,750	860	1,225	0.064	0.07
November.....	39,187	1,590	967	1,306	.068	.08
December.....	31,196	1,300	753	1,006	.053	.06
Calendar year 1934.....	565,459	5,460	602	1,549	.081	1.10
January.....	28,988	1,170	790	935	.049	.06
February.....	32,877	1,520	934	1,174	.061	.06
March.....	128,610	9,140	1,150	4,149	.217	.25
April.....	145,760	6,000	4,180	4,869	.254	.28
May.....	204,780	8,500	3,640	6,605	.346	.40
June.....	121,620	7,060	2,660	4,064	.212	.24
July.....	89,060	3,560	2,160	2,873	.150	.17
August.....	94,040	4,980	1,400	3,034	.169	.18
September.....	92,560	4,560	1,920	3,065	.162	.18
Water year 1934-35.....	1,046,622	9,140	753	2,867	.160	2.03

Mississippi River at St. Paul, Minn.

Location.- Staff gage, lat. 44°56'40", long. 93°5'20" in St. Paul, 6 miles below mouth of Minnesota River. Zero of gage is 684.16 feet above mean sea level (adjustment of 1912).

Drainage area.- 36,800 square miles.

Records available.- March 1887 to September 1935.

Average discharge.- 43 years (1892-1935), 9,082 second-feet.

Extremes.- Maximum mean daily discharge during year, 12,600 second-feet Mar. 23; minimum, 865 second-feet Dec. 27.

1887-1935: Maximum discharge, 80,800 second-feet Apr. 6, 1897 (gage height, 18.0 feet); minimum, 632 second-feet Aug. 28, 1934.

Maximum discharge known, 107,000 second-feet Apr. 29, 1881 (gage height, 19.6 feet), determined by Corps of Engineers, U. S. Army.

Remarks.- Records fair. Discharge determined from records of Mississippi River above Minnesota River and of Minnesota River at mouth. Partial regulation by Government reservoirs on headwaters. Gage in backwater of Hastings Dam.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												
2	1,250	1,620	1,180	1,180	1,290	2,650	7,380	6,420	4,730	5,750	2,260	4,210
3	1,270	1,470	1,410	1,150	1,290	2,440	7,350	7,170	4,550	5,130	3,190	4,280
4	992	1,590	1,640	1,120	1,260	2,670	7,150	8,200	4,210	5,160	3,580	3,980
5	1,120	1,420	1,440	917	1,310	3,260	6,680	8,500	3,600	4,530	2,960	3,270
6	1,390	1,860	1,000	1,080	1,210	3,500	6,240	7,880	3,700	4,640	3,420	3,860
7												
8	1,180	1,550	1,260	1,340	1,210	3,640	6,090	7,600	3,750	4,260	3,260	3,650
9	1,540	1,700	1,100	1,350	1,410	4,100	6,590	7,860	3,590	3,840	2,800	3,840
10	1,800	1,240	1,410	1,170	1,470	4,980	5,670	8,510	3,780	3,950	2,920	3,950
11	1,210	1,520	1,400	1,130	1,370	5,400	5,960	8,390	3,740	3,720	3,010	3,580
12	1,150	1,270	1,480	954	1,590	5,800	5,850	8,150	3,660	4,150	2,960	3,240
13												
14	1,260	1,210	958	913	1,540	6,080	5,960	7,980	3,810	4,320	2,760	3,490
15	952	1,710	1,220	1,260	1,540	5,810	5,990	9,180	3,810	4,320	2,640	3,430
16	1,260	1,460	1,490	1,170	1,550	4,860	5,970	9,160	3,380	3,930	2,320	3,280
17	967	1,430	1,310	1,050	1,410	5,250	6,230	8,720	3,720	3,630	1,760	3,490
18	1,320	1,500	1,400	1,060	1,450	6,660	6,170	9,180	3,510	3,310	1,710	3,260
19												
20	1,070	1,260	1,370	1,230	1,460	7,040	6,730	9,410	5,210	3,320	1,700	3,270
21	1,130	1,100	1,450	1,120	1,630	7,100	5,530	9,870	5,640	3,310	1,890	3,060
22	1,120	1,650	1,440	1,100	1,610	9,790	6,070	10,100	5,870	3,190	2,760	2,790
23	1,570	1,480	1,520	1,180	1,690	10,300	6,300	9,870	7,780	2,990	3,030	3,130
24	3,820	1,720	1,320	1,060	1,770	10,300	6,560	9,600	8,530	3,450	3,760	3,150
25												
26	1,970	2,120	1,230	975	1,810	11,100	5,430	9,400	9,080	3,080	4,980	2,580
27	1,840	1,500	1,580	1,150	1,890	12,400	5,270	8,420	9,120	3,120	4,000	2,750
28	1,960	1,940	1,270	871	2,120	12,600	5,260	8,150	8,760	3,440	3,730	2,590
29	2,030	1,680	1,260	885	2,250	10,800	5,230	7,770	9,000	2,980	4,130	2,630
30	1,760	1,200	1,270	1,090	2,030	11,200	5,550	6,800	7,690	3,300	4,260	2,840
31												
1	2,060	1,840	1,160	1,120	1,980	11,400	6,130	6,410	7,200	3,000	4,750	2,320
2	1,880	1,730	965	913	2,000	10,800	5,560	6,260	6,710	3,440	4,850	1,990
3	1,790	1,860	1,020	985	2,340	9,790	5,890	5,330	6,140	2,740	4,870	2,380
4	1,950	1,890	928	1,100	-	9,610	5,770	5,340	6,260	2,870	4,190	2,070
5	1,290	2,130	1,160	1,180	-	8,140	6,080	4,510	6,150	2,440	4,430	2,040
6	1,740	-	1,280	1,180	-	7,320	-	4,620	-	2,410	4,350	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....	47,221		3,820		952		1,523		0.041		0.05	
November.....	47,860		2,130		1,100		1,595		.043		.05	
December.....	59,561		1,640		865		1,277		.035		.04	
Calendar year 1934.....	685,968		7,460		632		1,679		.051		.70	
January.....	34,003		1,350		871		1,097		.030		.03	
February.....	46,170		2,340		1,210		1,613		.044		.06	
March.....	226,690		12,600		2,440		7,513		.199		.23	
April.....	132,610		7,380		5,430		6,084		.165		.18	
May.....	244,490		10,100		4,610		7,387		.214		.26	
June.....	167,200		9,180		3,560		5,673		.161		.17	
July.....	113,700		5,750		2,410		3,668		.100		.12	
August.....	103,250		4,980		1,700		3,531		.091		.10	
September.....	94,440		4,250		1,990		3,148		.086		.10	
Water year 1934-35.....	1,346,115		12,600		865		3,688		.100		1.37	

Mississippi River at Prescott, Wis.

Location.- Water-stage recorder, lat. 44°44'45", long. 92°48', in sec. 9, T. 26 N., R. 20 W., in Prescott, 200 feet below mouth of St. Croix River. Zero of gage is 669.28 feet above mean sea level (adjustment of 1912).

Drainage area.- 45,000 square miles.

Records available.- June 1928 to September 1935.

Extremes.- Maximum discharge during year, 36,200 second-feet Mar. 27 (gage height, 9.90 feet); minimum discharge (estimated because of ice effect), 2,420 second-feet Jan. 23; minimum gage height, -1.70 feet Oct. 18.
1928-35: Maximum discharge, 49,600 second-feet Mar. 25, 1929 (gage height, 12.3 feet); minimum discharge, 2,210 second-feet Aug. 18, 24, 25, 29, 30, 1934; minimum gage height, -4.20 feet Aug. 29, 1934.

Remarks.- Records good except those for period of ice effect, Dec. 7 to Mar. 12, which are fair. Flow partly regulated by reservoirs and power plants above.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,060	5,410	4,930	3,140	3,310	4,470	26,500	10,600	8,710	11,400	5,540	9,280
2	4,060	5,410	4,810	3,310	3,490	4,930	24,000	11,800	8,710	11,200	5,540	8,890
3	4,360	5,540	4,930	3,310	3,580	5,170	22,500	12,500	8,170	11,600	5,670	8,530
4	4,470	5,290	4,560	3,580	3,580	5,540	21,500	13,200	7,500	11,200	5,800	8,530
5	4,690	4,930	4,280	3,670	3,400	5,670	20,100	13,200	7,190	10,400	5,800	8,170
6	4,930	4,690	4,050	3,670	3,220	5,540	18,200	13,200	7,040	9,620	5,930	8,000
7	4,470	4,690	3,850	3,760	3,310	5,410	16,700	13,400	6,900	8,890	5,930	8,000
8	4,360	4,360	3,850	3,670	3,400	5,290	15,000	13,900	6,760	8,710	6,060	7,680
9	4,280	4,360	3,850	3,670	3,490	6,200	13,600	14,100	6,620	9,070	6,200	7,340
10	4,360	4,360	3,850	3,490	3,580	7,040	14,100	13,900	6,760	9,810	6,340	7,040
11	4,470	4,150	3,670	3,310	3,670	7,040	14,100	14,100	6,340	11,000	6,200	6,900
12	4,470	4,060	3,850	3,310	3,670	7,180	14,100	15,000	6,480	11,000	6,200	6,760
13	4,280	4,150	4,150	3,220	4,060	7,770	13,900	15,200	6,200	10,800	5,930	6,780
14	4,280	4,280	4,280	2,900	4,280	7,770	13,400	15,900	6,340	11,000	5,670	6,620
15	4,060	4,470	4,560	3,060	4,280	8,530	12,700	16,400	6,620	10,000	5,410	6,480
16	4,150	4,580	4,360	3,310	4,360	9,620	11,800	16,900	7,340	9,620	5,410	6,340
17	4,150	4,690	4,360	3,400	4,360	10,200	11,800	17,400	8,710	9,810	5,170	6,200
18	4,060	4,690	4,150	3,060	4,360	10,600	11,600	17,400	9,430	9,810	5,290	6,200
19	3,960	4,580	4,280	2,900	4,280	12,100	11,600	17,700	10,400	9,430	5,800	5,930
20	4,930	4,690	4,360	2,820	4,150	13,200	12,100	16,900	11,800	8,690	6,340	5,930
21	5,670	5,290	4,360	2,820	4,280	14,500	11,600	16,200	13,200	8,690	6,760	5,900
22	5,640	5,290	4,360	2,660	4,360	16,700	11,200	15,900	14,300	8,350	8,000	5,670
23	5,410	4,930	4,150	2,420	4,360	20,100	11,000	15,200	14,800	8,000	9,280	5,410
24	5,670	5,050	3,950	2,740	4,280	24,000	11,400	14,500	14,300	7,660	10,000	5,890
25	5,930	5,050	3,490	2,820	3,670	29,300	11,200	13,900	15,000	7,600	10,800	5,290
26	5,930	5,170	3,140	2,900	3,490	33,900	11,400	12,900	14,100	7,190	10,600	5,170
27	5,930	4,930	3,060	2,820	3,850	35,600	11,200	12,100	13,400	7,040	10,200	4,930
28	6,060	5,170	2,990	2,900	4,060	35,000	11,000	11,200	12,900	6,620	10,000	4,890
29	6,060	5,170	2,980	2,900	-	31,700	10,600	10,400	12,700	6,930	10,200	4,580
30	5,930	5,170	2,980	2,980	-	29,300	10,200	9,810	12,100	6,200	10,200	4,470
31	5,670	-	3,060	3,220	-	28,600	-	9,070	-	5,930	9,810	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....	150,510		6,060		3,950		4,555		0.108		0.12	
November.....	144,560		5,540		4,050		4,819		.107		.12	
December.....	123,000		4,930		2,980		3,968		.088		.10	
Calendar year 1934.....	1,672,410		14,800		2,210		4,585		.102		1.37	
January.....	97,740		3,780		2,420		3,153		.070		.08	
February.....	108,010		4,360		3,220		3,858		.086		.09	
March.....	148,170		35,800		4,470		14,480		.321		.37	
April.....	430,500		26,500		10,200		14,340		.319		.36	
May.....	435,880		17,700		9,070		14,000		.311		.36	
June.....	290,820		15,000		6,200		9,694		.215		.24	
July.....	282,670		11,600		5,930		9,115		.203		.23	
August.....	222,050		10,800		5,170		7,163		.169		.18	
September.....	198,830		9,260		4,470		6,551		.146		.16	
Water year 1934-35.....	2,928,440		35,600		2,420		8,023		.178		2.41	

Mississippi River at Winona, Minn.

Location.— Water-stage recorder, lat. 44°3'20", long. 91°38'15", in sec. 23, T. 107 N., R. 7 W., at highway bridge at Winona. Zero of gage is 640.12 feet above mean sea level by adjustment of 1912 and 639.64 feet adjustment of 1929. Prior to Nov. 13, 1934, staff gage at same site and datum.

Drainage area.— 59,200 square miles.

Records available.— June 1928 to September 1935.

Extremes.— Maximum discharge during year, 76,200 second-feet Mar. 30 (gage height, 11.16 feet); minimum discharge (estimated because of ice effect), 7,050 second-feet Dec. 28; minimum gage height, -0.57 feet Sept. 30.
1928-35: Maximum discharge, 76,300 second-feet Apr. 3, 4, 1929 (gage height, 11.50 feet); minimum (estimated because of ice effect), 2,250 second-feet Dec. 29, 1933.

Remarks.— Records excellent except those for period of ice effect, Dec. 9 to Mar. 12, which are fair. Flow partly regulated by reservoirs and power plants above.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 20 to Dec. 7)

-2.5	6,450	1.0	14,200	4.5	27,500	8.0	47,300
-2.0	7,450	1.5	15,500	5.0	30,000	8.5	51,000
-1.5	8,450	2.0	17,000	5.5	32,500	9.0	55,000
-1.0	9,500	2.5	18,600	6.0	35,200	9.5	59,500
-.5	10,600	3.0	20,600	6.5	38,200	10.0	64,200
0.0	11,700	3.5	22,600	7.0	41,200	10.5	69,200
.5	12,900	4.0	25,000	7.5	44,200	11.0	74,200

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19,400	15,800	18,600	9,940	9,500	11,000	70,200	21,400	14,700	21,000	15,800	16,400
2	20,600	16,500	18,600	10,200	9,720	11,500	65,200	21,400	14,500	21,800	17,500	18,100
3	21,000	14,700	18,600	10,400	9,940	12,200	60,400	21,000	14,500	27,500	19,000	16,600
4	20,600	14,700	17,600	10,400	10,200	12,200	55,000	21,400	14,500	28,500	21,400	15,000
5	19,800	14,500	17,000	10,200	10,200	12,700	50,200	21,400	14,500	29,000	17,600	13,900
6	18,600	14,200	15,800	10,200	9,940	12,700	46,600	21,800	14,200	31,000	17,600	13,700
7	18,200	13,700	15,300	10,400	9,940	12,700	43,600	21,800	13,700	32,000	24,600	13,700
8	17,500	13,700	14,500	10,400	9,940	12,700	41,200	21,800	13,200	33,000	28,000	14,500
9	16,100	13,400	12,200	10,600	9,940	12,900	37,600	21,800	12,900	34,600	30,000	14,500
10	15,000	13,400	11,000	10,800	10,200	13,200	35,200	22,600	12,700	37,000	29,500	13,900
11	14,700	13,200	10,600	10,800	10,200	13,700	33,500	23,000	11,900	38,800	26,500	13,700
12	14,200	12,900	10,200	10,800	10,400	14,700	32,500	25,500	11,700	39,400	20,600	13,400
13	13,700	12,400	10,600	10,400	10,600	14,700	31,000	28,500	12,200	38,200	16,100	13,200
14	13,200	11,900	10,800	10,200	10,800	15,000	30,500	30,000	11,700	35,800	14,200	13,200
15	12,700	11,900	10,600	9,720	11,000	15,800	30,500	30,000	11,700	33,500	14,500	12,900
16	12,200	11,700	10,800	10,200	11,300	17,000	30,000	30,000	13,200	31,500	16,400	12,700
17	11,700	11,500	11,700	9,940	11,600	18,200	28,500	30,500	17,600	29,000	14,700	12,700
18	11,700	11,500	11,900	9,500	11,700	20,600	27,000	31,000	21,000	26,000	14,700	12,700
19	11,300	11,500	11,900	9,720	11,900	23,000	26,000	31,000	21,400	21,800	13,700	13,700
20	11,300	11,700	12,200	9,940	11,900	24,000	25,500	30,500	21,800	18,200	13,900	16,100
21	12,200	11,900	12,200	9,500	11,700	25,500	25,000	30,000	21,800	16,400	17,000	15,800
22	12,900	12,700	11,900	9,060	11,900	27,500	24,500	29,000	25,500	15,000	16,700	14,200
23	13,200	13,400	11,900	9,060	11,900	30,000	23,500	28,000	25,500	13,700	17,600	13,400
24	13,400	14,500	11,500	9,060	11,700	33,000	23,000	27,500	28,000	17,000	17,300	12,900
25	14,200	15,600	10,200	9,060	11,300	37,000	22,600	27,000	28,000	17,600	17,600	12,900
26	15,000	16,700	9,500	9,280	10,400	45,400	22,600	26,000	29,500	14,500	17,900	14,700
27	15,600	17,600	8,250	9,060	10,200	57,700	22,200	28,000	29,000	14,500	16,700	12,900
28	16,100	17,900	7,050	9,280	10,600	69,200	22,200	24,500	29,000	19,000	17,000	12,900
29	16,400	18,200	7,450	9,280	-	74,200	22,200	21,400	27,500	19,000	16,700	11,500
30	16,400	18,600	8,450	9,280	-	75,200	21,800	16,100	25,500	17,300	16,400	10,600
31	16,100	-	9,280	9,500	-	74,200	-	14,700	-	16,700	16,400	-
Month				Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....				474,800		21,000	11,300	15,320	0.259	0.30		
November.....				420,700		18,600	11,500	14,020	.237	.26		
December.....				378,380		15,600	7,050	12,210	.206	.24		
Calendar year 1934				4,203,920		56,500	3,970	11,520	.195	2.64		
January.....				306,180		10,800	9,060	9,877	.187	.19		
February.....				300,520		11,900	9,500	10,750	.181	.19		
March.....				849,400		75,200	11,000	27,400	.463	.53		
April.....				1,029,800		70,200	21,800	34,330	.580	.65		
May.....				776,600		31,000	14,700	25,050	.423	.49		
June.....				563,900		29,500	11,700	18,800	.318	.35		
July.....				788,300		39,400	13,700	25,430	.430	.50		
August.....				573,300		30,000	13,700	18,490	.312	.36		
September.....				412,900		16,400	10,800	13,760	.232	.26		
Water year 1934-35				6,874,780		75,200	7,050	18,840	.318	4.32		

Mississippi River at La Crosse, Wis.

Location.— Water-stage recorder, lat. 43°48'45", long. 91°15'25", in sec. 31, T. 16 N., R. 7 W., at wagon bridge in La Crosse. Zero of gage is 825.65 feet above mean sea level (adjustment of 1929). Prior to Nov. 17, 1934, staff gage at same site and datum.

Drainage area.— 62,800 square miles.

Records available.— June 1929 to September 1935.

Extremes.— Maximum discharge during year, 78,200 second-feet Mar. 30, 31; maximum gage height, 10.73 feet Mar. 31; minimum discharge (estimated because of ice effect), 9,080 second-feet Dec. 29, 30; minimum gage height, -1.08 feet Oct. 19.
1929-35: Maximum discharge, that of Mar. 30, 31, 1935; minimum (estimated because of ice effect), 3,300 second-feet Dec. 30, 31, 1933.
Maximum stage known, 16.2 feet June 19, 1880; minimum stage known, -2.43 feet Aug. 30, Sept. 1, 1934.

Remarks.— Records good except those for period of ice effect, Dec. 9 to Mar. 18, which are fair. Flow partly regulated by reservoirs and power plants above.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 29 to June 1, July 20-23, Aug. 12-16, 18-20)

Table for Oct. 1 to Nov. 16

Table for Nov. 17 to Sept. 30

1.0	13,250	4.0	23,200	-1.0	8,600	2.0	16,300	7.0	40,200
1.5	14,500	5.0	28,000	- .5	9,500	3.0	19,700	8.0	47,000
2.0	15,900	6.0	33,400	- .1	10,760	4.0	23,950	9.0	56,000
3.0	19,200			.5	12,250	5.0	28,800	10.0	68,000
				1.0	13,500	6.0	34,200	11.0	83,400

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29,500	19,600	25,800	10,500	10,300	12,500	76,600	26,800	18,200	28,800	22,600	18,600
2	29,500	18,800	26,300	11,000	10,500	13,000	72,200	26,800	18,600	27,300	22,200	18,200
3	28,000	18,200	26,500	11,500	11,000	13,800	68,000	26,800	18,600	29,300	24,400	17,900
4	27,000	17,800	26,300	11,800	11,000	14,500	63,200	26,800	17,900	35,000	26,300	17,600
5	25,500	17,400	23,000	11,800	11,200	15,700	59,600	26,300	17,600	35,400	26,800	16,900
6	23,600	17,400	21,300	11,800	11,200	16,300	55,000	26,800	17,600	37,800	25,800	15,700
7	22,000	17,800	19,700	11,800	11,200	16,600	51,000	26,800	16,900	39,000	29,300	15,700
8	21,800	17,800	19,000	11,800	11,200	16,600	47,800	26,800	16,600	40,200	34,200	15,700
9	20,000	17,800	17,200	12,000	11,200	16,600	44,700	26,300	16,000	42,600	35,400	16,000
10	18,500	17,400	15,400	12,200	11,200	17,600	42,000	25,800	15,700	44,000	36,600	16,000
11	17,400	16,800	14,000	12,200	11,500	18,200	40,200	26,300	15,400	44,700	34,800	15,700
12	16,800	16,200	13,000	12,200	11,800	19,300	38,400	28,300	14,800	44,700	30,300	15,400
13	16,200	15,600	12,500	12,000	12,000	20,600	37,200	30,800	14,800	44,000	24,000	15,100
14	15,900	14,800	12,800	11,500	12,000	21,700	36,600	33,000	14,500	43,300	19,300	14,800
15	15,300	14,500	13,200	11,200	12,200	24,000	37,200	34,800	14,200	41,400	16,900	14,800
16	14,800	14,200	13,500	11,000	12,600	25,800	36,600	34,800	14,500	39,600	17,900	14,500
17	14,200	14,000	13,800	11,200	12,800	27,300	35,400	35,400	16,800	37,200	19,000	14,200
18	13,800	14,000	14,000	11,000	13,200	28,300	33,600	35,400	20,800	34,200	16,800	14,200
19	13,500	14,000	14,500	10,800	13,800	30,300	31,300	34,800	24,400	30,800	16,600	14,800
20	13,500	14,500	14,500	10,500	13,800	33,600	29,800	34,200	25,800	25,500	15,700	16,900
21	13,800	15,100	14,500	10,500	14,000	36,000	28,800	33,600	27,300	20,500	17,600	19,700
22	14,800	16,500	14,200	10,000	14,000	37,800	27,800	33,000	29,300	18,200	20,900	20,900
23	15,600	17,900	13,800	9,800	14,200	44,000	27,300	31,800	34,800	17,600	21,700	21,700
24	16,900	20,900	13,200	9,560	14,200	53,000	26,800	31,300	35,400	17,600	21,700	20,100
25	18,200	25,300	12,500	9,560	14,200	58,400	26,300	30,300	35,400	20,900	21,300	18,200
26	19,200	27,600	11,800	9,560	13,500	59,600	26,300	29,800	37,800	20,900	20,900	17,600
27	20,800	27,800	10,800	9,560	12,000	63,200	26,300	30,300	36,600	18,600	20,500	17,200
28	21,200	27,300	10,000	9,800	12,000	68,000	26,800	29,800	35,400	18,200	19,300	16,000
29	21,600	26,800	9,080	9,800	-	75,000	26,800	28,300	34,200	23,000	19,300	15,100
30	21,800	26,300	9,080	10,000	-	78,200	27,300	25,500	31,800	24,000	19,000	14,200
31	20,300	-	10,000	10,000	-	78,200	-	19,000	-	25,000	18,600	-
Month	Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off in inches					
October.....	600,600		29,500	13,500	19,370	0.308	0.36					
November.....	560,100		27,800	14,000	18,670	.297	.33					
December.....	484,060		26,300	9,080	15,610	.249	.29					
Calendar year 1934.....	5,060,310		69,800	3,660	13,860	.221	2.99					
January.....	337,940		12,200	9,560	10,900	.174	.20					
February.....	342,700		14,200	10,300	12,240	.195	.20					
March.....	1,053,600		78,200	12,500	33,990	.541	.62					
April.....	1,206,900		76,600	26,300	40,230	.641	.72					
May.....	814,000		55,400	19,000	29,480	.469	.54					
June.....	692,900		35,400	14,200	23,100	.368	.41					
July.....	965,100		44,700	17,600	31,130	.496	.57					
August.....	713,600		36,600	15,700	23,030	.387	.42					
September.....	499,400		21,700	14,200	16,650	.265	.30					
Water year 1934-35.....	8,371,100		78,200	9,080	22,930	.365	4.96					

Mississippi River at Clayton, Iowa

Location.- Staff gage, lat. 42°54'15", long. 91°8'40", in NE¼ sec. 1, T. 93 N., R. 3 W., a quarter of a mile downstream from railroad station in Clayton. Zero of gage is 802.60 feet above mean sea level (adjustment of 1912).

Drainage area.- 79,200 square miles.

Records available.- April 1930 to September 1935.

Extremes.- Maximum discharge observed during year, 129,000 second-feet Apr. 1, 2 (gage height, 14.40 feet); minimum discharge (estimated because of ice effect), 15,200 second-feet Dec. 31; minimum gage height observed, 2.20 feet Oct. 20, 21. 1930-35: Maximum discharge observed, that of Apr. 1, 2, 1935; minimum, 5,540 second-feet Dec. 14, 1933 (determined by current-meter measurement).

Remarks.- Records good except those for period of ice effect, Dec. 6 to Mar. 16, which are fair. Flow partly regulated by reservoirs and power plants.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Mar. 16

0.5	14,400	4.5	29,300
1.0	15,700	5.0	31,800
1.5	17,200	5.5	34,500
2.0	19,000	6.0	37,500
2.5	20,800	7.0	44,500
3.0	22,800	8.0	52,800
3.5	24,800	9.0	61,800
4.0	27,000		

Table for Mar. 17 to Sept. 30

5.5	35,800	9.0	63,000
6.0	38,500	9.5	68,000
6.5	41,500	10.0	73,000
7.0	44,800	11.0	84,000
7.5	49,000	12.0	96,000
8.0	53,500	13.0	109,000
8.5	58,000	14.0	123,000

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26,500	36,300	52,800	16,000	16,600	19,700	129,000	40,300	38,500	59,000	33,800	31,400
2	30,800	35,700	55,500	16,600	17,200	19,700	129,000	41,500	36,800	56,200	34,800	30,400
3	35,100	34,500	57,300	17,200	17,600	20,400	128,000	42,100	34,800	55,500	37,300	29,500
4	38,800	33,900	56,400	17,200	18,300	21,200	122,000	43,400	33,300	51,700	41,500	29,500
5	41,600	32,500	55,500	18,300	18,600	27,900	119,000	44,100	32,900	49,900	43,400	29,500
6	40,900	31,500	52,800	18,600	18,600	31,500	112,000	44,800	31,400	49,000	46,400	28,600
7	39,500	29,800	48,500	19,700	18,600	32,800	101,000	43,400	30,400	51,700	45,600	27,600
8	38,100	28,800	42,300	20,800	18,600	33,900	93,600	44,100	29,500	52,600	49,000	26,300
9	35,700	28,800	36,900	21,200	18,600	34,500	85,200	43,400	29,500	54,400	51,700	24,400
10	33,300	28,800	29,800	21,600	18,600	35,100	80,700	43,400	28,600	54,400	55,500	24,000
11	30,800	30,800	24,000	21,600	19,000	35,100	75,200	42,700	27,200	55,300	55,300	25,400
12	28,800	30,300	20,400	21,200	18,600	35,700	72,000	42,100	26,700	57,100	54,400	24,400
13	26,500	30,300	19,700	20,800	19,000	36,900	68,000	42,100	25,800	59,000	53,500	24,400
14	25,600	29,300	19,300	20,000	18,600	38,100	65,000	42,100	25,400	60,000	53,500	23,600
15	24,800	27,400	19,300	19,300	19,300	39,500	62,000	43,400	24,400	59,000	49,900	23,100
16	23,600	26,600	19,700	19,000	19,300	42,300	59,000	43,400	23,100	58,000	46,400	22,200
17	22,800	25,200	20,000	19,000	19,300	44,100	58,000	44,800	22,200	56,200	40,900	23,100
18	22,000	24,400	20,400	18,600	19,700	46,400	58,000	45,600	22,000	56,200	36,800	24,000
19	20,400	22,800	20,400	18,300	19,700	52,600	58,000	46,400	26,700	55,500	33,800	22,600
20	19,700	22,400	20,800	17,900	20,000	57,100	57,100	48,100	29,500	55,600	33,300	21,800
21	19,700	23,600	21,200	16,900	20,400	56,200	55,300	48,100	32,300	49,900	33,300	22,200
22	20,400	24,000	20,800	16,300	20,800	58,000	52,600	48,100	35,800	46,400	32,300	24,000
23	21,600	25,200	20,800	16,000	20,800	58,000	49,000	46,400	37,300	42,100	31,800	25,700
24	21,200	27,400	20,000	15,700	20,800	60,000	47,200	46,400	40,300	38,500	32,300	28,600
25	22,400	29,800	19,300	15,700	21,200	63,000	44,800	44,800	44,800	34,800	33,800	29,900
26	24,000	32,800	16,900	15,700	21,200	66,000	43,400	43,400	49,900	33,500	34,300	30,400
27	26,500	37,500	16,300	15,700	20,400	73,000	42,700	42,700	53,500	32,300	34,300	29,500
28	29,800	42,500	16,300	15,700	19,700	84,000	42,100	42,100	56,200	32,300	33,800	29,000
29	32,300	46,100	15,400	15,700	-	93,600	42,100	41,500	59,000	31,400	33,800	28,100
30	33,900	48,500	15,400	16,300	-	108,000	40,900	42,100	60,000	31,800	32,800	26,300
31	35,700	-	15,200	16,300	-	120,000	-	40,900	-	32,300	31,800	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	892,800	41,600	19,700	28,800	0.364	0.42
November.....	926,300	48,500	22,400	30,880	.390	.44
December.....	889,400	57,300	15,200	28,690	.362	.42
Calendar year 1934.....	7,933,520	82,500	9,860	21,740	.274	3.72
January.....	558,900	21,600	15,700	18,030	.228	.26
February.....	539,100	21,200	16,800	19,250	.245	.25
March.....	1,544,100	120,000	19,700	49,810	.629	.75
April.....	2,191,900	129,000	40,900	73,060	.922	1.03
May.....	1,357,700	48,100	40,300	43,800	.553	.64
June.....	1,047,800	60,000	22,800	34,930	.441	.49
July.....	1,506,200	60,000	31,400	48,590	.614	.71
August.....	1,260,900	55,300	31,800	40,670	.514	.59
September.....	790,500	31,400	21,800	26,350	.333	.37
Water year 1934-35.....	13,605,600	129,000	15,200	37,000	.467	6.35

Mississippi River at Le Claire, Iowa

Location.— Water-stage recorder, lat. 41°35'45", long. 90°20'40", at foot of Dodge Street in Le Claire, 7 miles below mouth of Wapsipinicon River and 15 miles above Davenport. Zero of gage is 562.61 feet above mean sea level.

Drainage area.— 88,600 square miles.

Records available.— October 1933 to September 1935 in reports of U. S. Geological Survey; June 1873 to December 1932 in report by Iowa State Planning Board.

Average discharge.— 62 years, 48,130 second-feet.

Extremes.— Maximum discharge during year, 123,000 second-feet Apr. 7 (gage height, 8.47 feet); minimum (estimated), 18,400 second-feet Feb. 1. 1873-1935: Maximum discharge, 250,000 second-feet June 25, 1880 (gage height, 14.5 feet); minimum (estimated), 6,500 second-feet Dec. 25-27, 1933.

Remarks.— Records excellent except those for period of ice effect, Dec. 7 to Mar. 3, which are fair. Gage-height record collected in cooperation with U. S. Weather Bureau. Results of several discharge measurements furnished by Corps of Engineers, U. S. Army.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

0.6	16,700	4.0	48,700
1.0	19,800	5.0	61,200
1.5	23,800	6.0	76,000
2.0	28,200	7.0	93,400
2.5	32,800	8.0	112,800
3.0	37,800	9.0	135,300

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20,600	31,800	57,300	22,000	18,400	31,000	88,000	47,600	45,300	61,200	32,800	32,800
2	22,200	33,800	61,200	21,500	18,800	32,000	95,300	46,400	48,400	52,300	32,800	32,800
3	24,800	35,800	61,200	21,000	19,500	35,000	105,000	48,700	47,500	55,500	35,800	31,800
4	27,300	36,800	61,200	20,300	22,800	38,500	111,000	51,100	46,400	56,400	37,800	30,800
5	30,900	37,800	62,600	20,000	24,000	48,700	117,000	52,300	42,000	64,000	37,800	30,000
6	34,800	36,800	61,200	20,000	24,000	53,500	121,000	53,500	38,800	61,200	40,900	30,000
7	36,800	35,800	55,000	21,500	23,800	56,000	123,000	53,500	36,800	58,600	44,200	29,100
8	37,800	33,800	43,000	22,500	23,700	57,300	121,000	53,500	34,800	56,000	45,300	30,000
9	37,800	32,800	32,000	27,000	23,000	56,000	117,000	53,500	33,800	54,700	46,400	30,000
10	36,900	31,800	30,000	28,300	22,400	53,500	113,000	52,300	32,800	54,700	46,700	28,200
11	35,800	30,900	29,500	29,500	21,800	57,300	109,000	51,300	32,800	54,700	49,900	26,400
12	34,800	30,000	29,500	29,200	21,300	59,900	105,000	51,100	31,800	54,700	51,100	25,500
13	32,800	30,900	29,500	29,000	20,700	56,000	99,100	54,700	30,000	56,000	52,300	25,500
14	30,900	30,900	29,000	28,000	21,200	52,300	93,400	53,500	29,100	56,000	52,500	25,500
15	29,100	30,900	29,000	26,800	24,500	49,900	89,800	52,300	28,200	57,300	52,300	25,500
16	27,300	30,000	29,000	25,500	35,000	53,500	86,200	49,900	27,300	58,600	52,300	24,600
17	27,300	30,000	28,500	25,000	38,500	58,600	81,000	48,700	27,300	58,600	51,100	24,600
18	26,400	29,100	27,500	26,000	38,300	58,600	78,000	48,700	27,300	58,600	48,700	23,800
19	24,600	29,100	26,500	26,000	37,500	59,900	71,300	48,700	27,300	58,600	45,300	23,800
20	24,600	28,200	26,000	24,600	36,800	59,900	68,300	48,700	28,200	57,300	44,200	23,800
21	25,500	29,100	26,000	23,500	36,500	61,200	65,400	49,900	29,100	58,600	42,000	23,800
22	28,400	31,800	25,000	22,000	35,800	64,000	64,000	51,100	31,800	59,900	38,300	23,800
23	24,600	33,800	24,000	21,000	34,600	65,400	62,600	51,100	33,800	58,600	36,800	23,000
24	23,000	32,800	23,000	20,200	33,300	65,800	59,900	51,100	35,800	56,000	34,800	23,800
25	23,000	30,900	22,000	19,500	32,100	68,300	57,300	49,900	37,800	51,100	32,800	25,500
26	23,800	30,900	21,500	19,500	31,100	69,800	54,700	48,700	42,000	46,400	32,800	27,300
27	23,800	32,800	21,000	19,600	30,200	71,300	52,300	48,700	47,500	42,000	32,800	29,100
28	24,600	37,800	20,500	19,600	29,800	74,400	51,100	49,900	51,100	37,800	33,800	30,000
29	26,400	45,300	20,000	19,400	-	77,600	48,700	51,100	58,600	35,800	33,800	30,000
30	28,200	49,900	20,000	19,200	-	81,000	48,700	49,900	61,200	34,800	33,800	29,100
31	30,000	-	21,500	18,600	-	84,400	-	47,500	-	33,600	32,800	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	882,500	37,800	20,600	28,470	0.321	0.37
November.....	1,002,100	49,900	28,200	33,400	.377	.42
December.....	1,053,200	62,600	20,000	33,970	.383	.44
Calendar year 1934.....	8,650,200	81,400	9,000	23,700	.287	3.63
January.....	714,200	29,500	18,600	23,040	.260	.50
February.....	779,400	38,500	18,400	27,840	.314	.53
March.....	1,810,600	84,400	31,000	58,410	.659	.76
April.....	2,553,100	123,000	48,700	85,100	.980	1.07
May.....	1,588,700	64,700	46,400	50,600	.571	.66
June.....	1,122,600	61,200	27,300	37,420	.422	.47
July.....	1,666,800	65,400	33,600	53,770	.607	.70
August.....	1,290,200	53,500	32,800	41,620	.470	.54
September.....	820,000	32,800	23,000	27,330	.308	.34
Water year 1934-35.....	15,263,400	123,000	18,400	41,820	.472	6.40

Mississippi River at Keokuk, Iowa

Location.- In lat. 40°23'35", long. 91°22'25", at Mississippi River Power Co.'s dam and power plant at Keokuk, 2.8 miles above mouth of Des Moines River.

Drainage area.- 119,000 square miles.

Records available.- October 1932 to September 1935 in reports of U. S. Geological Survey; January 1878 to December 1932 in a report of Iowa State Planning Board.

Average discharge.- 57 years, 61,030 second-feet.

Extremes.- Maximum daily discharge during year ending Sept. 30, 1935, 138,000 second-foot Apr. 11, 12; minimum, 20,000 second-foot Oct. 1.
1878-1935: Maximum discharge, 314,000 second-feet May 18, 1888; minimum daily discharge, 5,000 second-feet Dec. 27, 1933.

Remarks.- Records good. Discharge computed from records of operation of turbines in power plant and spillway gates in dam, with allowance for daily changes of storage in reservoir in order to give "natural flow" figures comparable to records obtained prior to 1913 before dam was built. A few discharge measurements were made in 1934 and 1935 by the U. S. Geological Survey. Records of daily discharge furnished by Mississippi River Power Co.

Discharge, in second-feet, water year October 1932 to September 1933

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18,000	19,000	18,000	36,500	39,500	38,500	72,000	62,500	108,000	42,000	26,000	15,000
2	17,500	19,000	18,500	38,000	39,000	38,000	90,500	64,000	94,500	38,500	25,000	15,000
3	17,500	19,000	20,000	36,500	39,500	42,500	105,000	66,000	86,500	34,500	24,500	15,000
4	17,500	18,500	22,000	39,600	38,000	49,000	113,000	67,000	80,000	43,000	24,000	15,000
5	17,500	18,500	22,500	36,000	27,000	51,000	117,000	68,000	74,500	68,000	24,000	13,500
6	17,000	18,000	23,000	35,500	24,000	49,000	123,000	69,500	70,000	65,000	23,500	14,500
7	17,000	20,000	23,500	35,000	20,500	45,500	142,000	72,500	69,000	61,500	23,500	14,000
8	17,000	20,500	19,000	33,500	14,500	43,000	157,000	75,500	64,000	58,500	27,500	14,000
9	19,500	22,000	14,000	32,000	11,500	42,500	160,000	77,500	60,500	52,000	25,000	14,000
10	21,000	23,000	12,500	36,000	11,500	44,000	157,000	83,500	58,000	49,000	23,000	14,000
11	20,500	22,500	10,000	29,500	13,800	43,000	151,000	106,000	56,000	46,000	23,000	15,000
12	20,500	22,500	9,300	22,500	16,300	44,000	143,000	105,000	53,500	43,500	22,000	16,000
13	19,000	23,000	8,300	25,000	17,800	42,500	139,000	114,000	51,500	39,000	21,000	14,500
14	18,500	23,500	8,300	25,000	19,100	42,000	136,000	114,000	50,000	35,500	20,000	15,500
15	18,000	23,000	9,900	25,000	19,100	42,000	133,000	111,000	48,500	32,500	19,500	16,000
16	17,500	22,000	11,500	28,500	20,000	41,000	127,000	106,000	46,000	31,000	19,500	16,000
17	17,500	23,000	12,800	32,000	22,000	43,000	130,000	101,000	48,000	29,500	19,000	16,000
18	17,500	23,000	13,200	35,000	23,500	43,500	116,000	103,000	47,000	28,000	18,000	16,500
19	17,000	22,000	13,800	41,000	25,500	43,000	113,000	101,000	45,500	27,500	17,500	17,000
20	17,000	22,500	13,700	35,000	27,000	43,000	108,000	99,000	44,000	26,000	18,000	18,000
21	17,000	21,500	14,500	38,000	26,500	44,000	104,000	104,000	42,500	25,000	17,500	18,000
22	17,500	19,000	16,000	38,000	27,000	43,500	101,000	113,000	41,500	24,000	17,000	17,500
23	17,000	20,000	22,500	35,000	31,500	42,000	97,500	122,000	40,500	23,500	16,500	18,000
24	17,000	19,000	36,500	31,000	36,000	40,000	92,500	132,000	39,500	23,500	16,000	17,500
25	17,000	19,000	36,600	33,000	48,000	38,000	89,000	136,000	38,500	22,500	16,000	17,000
26	17,500	20,000	40,500	33,500	44,500	37,500	84,500	154,000	37,500	24,500	16,000	19,500
27	19,000	18,500	44,500	34,500	39,500	39,000	79,200	144,200	37,000	25,500	16,000	24,500
28	19,000	18,000	48,500	36,500	38,500	40,000	73,000	142,000	36,000	26,000	16,000	24,000
29	18,000	19,000	51,000	36,500	-	41,500	62,000	134,000	66,500	27,000	15,500	21,000
30	18,000	19,500	60,000	38,500	-	45,000	66,000	125,000	50,500	26,500	15,000	18,500
31	18,500	-	40,500	39,500	-	59,000	-	113,000	-	26,000	15,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	558,000	21,000	17,000	18,000	0.151	0.17	1,107,000
November.....	618,500	23,500	18,000	20,550	.173	.19	1,223,000
December.....	703,300	51,000	8,300	22,690	.191	.22	1,395,000
Calendar year							
January.....	1,051,000	41,000	22,500	33,900	.285	.33	2,085,000
February.....	759,800	48,000	11,500	27,130	.228	.24	1,507,000
March.....	1,337,500	59,000	37,500	43,150	.363	.42	2,653,000
April.....	2,375,000	160,000	65,000	112,500	.945	1.05	6,044,000
May.....	3,185,000	154,000	62,500	102,700	.983	.99	6,517,000
June.....	1,685,000	105,000	37,000	56,170	.472	.53	3,342,000
July.....	1,115,000	85,000	23,500	35,980	.302	.35	2,213,000
August.....	620,000	27,500	16,000	20,000	.168	.19	1,230,000
September.....	499,000	24,500	13,500	16,630	.140	.16	986,800
Water year 1932-33.....	15,505,400	160,000	8,300	42,480	.357	4.84	30,759,000

Mississippi River at Keokuk, Iowa

(Continued)

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17,000	17,000	17,500	11,500	12,500	15,500	21,000	43,500	19,000	15,000	15,500	12,500
2	16,500	16,500	17,500	12,600	13,600	17,900	21,000	41,000	19,000	16,000	16,000	14,000
3	17,000	17,000	17,000	13,600	14,800	18,900	21,000	39,000	19,500	16,000	17,000	14,000
4	17,000	16,500	17,500	14,600	17,400	20,500	26,500	37,500	19,500	16,000	16,000	16,000
5	16,500	16,000	18,000	15,400	20,300	25,000	25,000	36,000	19,000	16,500	18,000	18,000
6	15,500	15,500	17,500	16,100	25,000	30,000	28,500	34,500	12,000	17,500	15,500	18,500
7	15,500	15,500	18,000	16,200	27,000	24,000	29,000	33,500	19,000	21,000	16,500	20,500
8	16,500	15,500	18,000	14,200	23,500	20,500	32,500	31,500	18,000	26,500	15,500	20,000
9	16,000	16,000	18,300	16,400	13,500	19,200	38,500	30,000	17,500	30,500	14,500	18,000
10	15,500	16,500	17,500	14,800	15,900	16,800	45,000	28,500	16,500	29,000	14,000	17,500
11	15,500	17,000	17,500	16,700	19,000	19,000	51,000	28,000	16,000	26,500	15,000	17,500
12	15,500	17,000	15,000	16,900	21,300	19,000	54,500	27,500	16,500	25,500	13,500	17,000
13	15,500	17,000	14,000	17,700	21,600	19,500	56,000	27,500	16,500	29,000	14,000	17,000
14	15,000	16,000	13,500	16,700	23,500	21,000	59,000	27,500	16,000	32,500	14,000	16,500
15	15,000	16,500	13,500	16,900	28,000	22,000	53,500	27,000	16,000	36,000	15,000	21,000
16	15,000	15,500	11,500	18,100	24,500	23,500	67,000	25,500	16,500	35,000	15,500	19,500
17	15,500	15,500	11,000	19,900	22,000	25,000	70,500	25,500	16,500	35,500	16,000	20,000
18	16,000	15,000	11,500	20,800	21,000	24,000	74,000	24,500	16,500	33,000	15,500	20,000
19	16,000	15,000	12,500	21,200	16,400	25,000	78,000	24,000	15,500	28,500	15,500	19,500
20	16,000	15,000	12,500	22,200	15,000	25,000	80,500	24,000	16,000	26,500	15,500	20,000
21	15,500	14,500	12,500	21,800	16,200	26,000	83,000	24,500	16,500	24,000	15,000	21,000
22	16,000	14,500	12,000	23,000	18,000	25,500	83,500	24,500	17,500	23,000	15,000	21,000
23	15,500	14,500	12,500	25,000	18,000	22,000	81,000	24,000	17,000	22,000	13,500	20,000
24	16,000	14,500	13,000	23,500	13,800	22,000	76,000	22,000	17,500	22,000	12,500	19,500
25	17,000	15,000	10,500	20,500	10,100	22,000	71,500	22,000	18,000	20,000	12,500	19,500
26	17,000	15,500	6,000	20,000	11,300	22,000	87,000	21,500	18,500	19,500	13,000	19,000
27	17,500	18,500	5,000	25,500	13,200	23,000	82,000	20,500	17,500	18,500	12,000	18,500
28	16,500	18,000	6,800	26,500	13,000	21,000	56,500	20,500	17,000	17,500	12,500	20,000
29	17,000	18,000	8,500	17,500	-	20,500	60,500	20,000	17,500	17,000	13,000	19,000
30	16,500	18,000	9,800	12,500	-	19,500	45,000	19,500	18,000	16,000	11,500	19,500
31	16,500	-	11,500	12,500	-	20,500	-	19,500	-	15,500	11,500	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	498,000	17,500	15,000	16,060	0.135	0.18	987,800
November.....	480,500	18,000	14,500	16,020	.135	.15	955,100
December.....	416,900	18,000	5,000	13,450	.113	.13	828,900
Calendar year 1933.....	15,023,000	180,000	5,000	41,160	.546	4.70	29,800,000
January.....	558,700	28,500	11,500	18,020	.151	.17	1,108,000
February.....	509,400	28,000	10,100	18,190	.153	.16	1,010,000
March.....	675,300	30,000	15,500	21,750	.185	.21	1,336,000
April.....	1,617,000	53,500	21,000	53,900	.453	.51	3,207,000
May.....	855,500	43,500	19,500	27,500	.232	.27	1,697,000
June.....	522,000	19,500	18,000	17,400	.146	.16	1,035,000
July.....	727,000	36,000	15,000	23,450	.197	.23	1,442,000
August.....	448,000	17,000	11,500	14,390	.121	.14	884,500
September.....	554,000	21,000	12,500	18,470	.156	.17	1,099,000
Water year 1933-34.....	7,860,300	83,500	5,000	21,540	.181	2.48	15,590,000

Mississippi River at Keokuk, Iowa

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20,000	30,000	81,000	25,500	26,500	50,500	102,000	58,500	82,000	97,000	46,000	38,500
2	21,500	31,500	83,500	25,000	25,500	50,500	104,000	61,500	127,000	103,000	43,500	40,000
3	23,500	35,500	78,500	26,500	25,000	48,000	108,000	75,500	96,000	107,000	45,500	37,500
4	24,500	40,000	85,000	27,000	28,000	50,500	113,000	73,000	89,000	108,000	43,000	37,000
5	26,000	39,000	84,500	27,000	28,500	56,500	122,000	71,000	85,500	112,000	44,500	36,000
6	28,500	40,000	81,500	28,500	30,500	72,500	128,000	71,500	78,000	115,000	45,000	35,000
7	32,000	40,000	75,000	29,000	32,500	82,500	135,000	72,000	89,500	111,000	47,500	34,000
8	36,000	39,000	67,500	35,500	32,000	90,500	136,000	72,000	82,000	101,000	50,000	35,000
9	39,000	37,500	65,000	39,500	32,000	94,500	137,000	78,500	55,000	90,500	52,500	34,000
10	39,000	35,500	55,500	41,500	31,500	105,000	137,000	75,000	51,000	83,000	54,500	34,000
11	38,500	34,500	38,000	44,500	33,000	109,000	138,000	71,000	49,000	77,000	56,500	34,500
12	38,000	35,500	38,500	46,000	33,000	112,000	139,000	70,500	46,500	74,000	57,500	33,000
13	36,000	35,500	36,500	47,000	34,000	115,000	131,000	69,500	45,000	70,500	58,500	31,500
14	34,500	32,500	38,500	45,500	35,000	115,000	128,000	76,500	43,000	69,000	58,000	30,500
15	33,000	33,500	38,500	44,500	41,500	109,000	120,000	76,000	41,500	68,000	58,000	30,000
16	32,000	33,500	36,500	43,000	45,000	100,000	114,000	74,500	39,500	67,000	59,000	29,000
17	31,000	33,000	35,500	40,500	47,000	97,500	109,000	72,000	45,500	67,000	58,000	28,500
18	30,000	33,000	36,000	39,000	54,500	92,500	103,000	69,500	55,000	66,500	58,500	28,000
19	29,000	35,000	36,000	40,000	58,500	94,000	98,000	69,000	67,500	66,000	56,000	27,500
20	28,000	34,500	35,500	39,500	59,000	96,000	90,000	65,500	74,000	65,500	56,000	26,500
21	28,000	37,500	34,500	36,000	60,000	96,000	87,500	64,500	75,500	66,000	57,000	26,500
22	28,000	37,500	33,000	32,500	59,000	96,000	81,000	66,500	77,000	67,000	55,500	27,000
23	28,500	40,500	31,500	33,000	55,000	97,000	77,000	69,500	72,000	80,000	52,000	26,500
24	28,500	42,500	32,500	33,000	60,000	98,000	74,500	69,000	64,500	96,000	47,500	26,500
25	27,000	45,000	31,500	32,500	61,500	105,000	71,000	67,500	63,500	75,500	43,500	26,500
26	26,000	43,000	30,000	31,000	46,500	105,000	68,000	64,500	68,500	70,500	40,500	29,000
27	25,000	43,500	28,500	30,000	39,500	102,000	64,000	63,000	73,500	69,500	39,000	29,000
28	24,500	46,500	27,000	28,500	82,000	100,000	63,500	75,000	77,500	65,000	37,000	29,500
29	25,500	55,000	26,000	28,500	-	99,500	61,000	77,000	88,500	57,500	38,000	30,500
30	26,000	67,000	26,000	27,500	-	101,000	59,000	81,000	94,000	53,500	37,500	31,000
31	27,500	-	25,000	27,500	-	102,000	-	80,000	-	49,500	37,500	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				914,500	39,000	20,000	29,500	0.248	0.29	1,814,000		
November.....				1,160,500	67,000	30,000	36,680	.325	.36	2,302,000		
December.....				1,452,000	85,000	25,000	46,840	.394	.45	2,880,000		
Calendar year 1934.....				9,991,900	85,000	10,100	27,380	.250	3.12	19,820,000		
January.....				1,072,500	47,000	25,000	34,800	.291	.34	2,127,000		
February.....				1,185,000	61,500	25,000	41,810	.350	.36	2,311,000		
March.....				2,842,500	115,000	48,000	91,690	.771	.89	5,638,000		
April.....				3,094,500	138,000	59,000	103,200	.867	.97	6,188,000		
May.....				2,200,000	81,000	58,500	70,970	.596	.69	4,384,000		
June.....				2,056,000	127,000	39,500	68,530	.576	.64	4,078,000		
July.....				2,468,000	115,000	49,500	79,810	.669	.77	4,895,000		
August.....				1,531,000	59,000	37,000	49,390	.415	.48	3,037,000		
September.....				942,000	40,000	26,500	31,400	.284	.29	1,866,000		
Water year 1934-35.....				20,898,500	138,000	20,000	57,260	.481	6.53	41,460,000		

Mississippi River at Louisiana, Mo.

Location.— Water-stage recorder, lat. 39°26'39", long. 91°2'5", on Alton Railroad bridge at Louisiana. Zero of gage is 437.46 feet and 437.11 feet above mean sea level (adjustment 1912 and 1929, respectively). Prior to May 25, 1935, staff gage at same datum 60 feet upstream.

Drainage area.— 140,700 square miles.

Records available.— March 1933 to September 1935 (discontinued). Daily gage heights have been published in reports of Signal Service, U. S. Army, April 1873 to July 1874 and April 1885 to December 1889; in reports of U. S. Weather Bureau January 1890 to December 1895 and since August 1915.

Extremes.— Maximum discharge during year, 197,000 second-feet June 4 (gage height, 15.58 feet); minimum discharge observed, 27,000 second-feet Feb. 5 (gage height, 0.8 foot). 1933-35: Maximum discharge, that of June 4, 1935; minimum discharge observed, 12,500 second-feet Aug. 31, Sept. 1, 1934; minimum gage height observed, -2.2 feet Aug. 28, 29, 1934.

Maximum stage known, 21.6 feet in 1851.

Remarks.— Records fair. Stage-discharge relation unstable owing to shifting channel. Gage-height record furnished by U. S. Weather Bureau except during periods of recorder operation, May 25 to June 8, Aug. 23 to Sept. 30.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41,000	29,800	104,000	29,800	35,400	64,000	108,000	75,700	132,000	142,000	87,000	42,600
2	34,000	29,800	114,000	29,800	34,000	62,000	108,000	79,000	125,000	154,000	89,000	41,800
3	28,800	32,200	109,000	29,200	32,200	59,000	110,000	114,000	169,000	188,000	86,200	48,000
4	27,600	35,400	101,000	30,400	29,200	60,000	113,000	134,000	194,000	180,000	82,600	48,800
5	27,600	56,200	105,000	31,000	27,000	60,000	117,000	141,000	189,000	183,000	83,600	44,800
6	30,400	63,000	105,000	32,200	30,400	77,900	121,000	114,000	172,000	182,000	81,700	41,800
7	31,000	58,000	98,800	29,800	34,000	91,000	128,000	97,600	138,000	183,000	85,300	41,000
8	30,400	54,400	94,900	30,400	36,800	123,000	138,000	91,000	107,000	186,000	84,400	38,900
9	31,000	49,900	81,400	45,200	37,600	127,000	144,000	96,200	89,800	163,000	83,500	37,600
10	37,600	48,200	76,800	67,000	40,300	124,000	150,000	124,000	79,000	150,000	86,200	36,900
11	42,600	45,000	70,200	66,000	40,300	139,000	157,000	128,000	69,100	127,000	87,100	39,600
12	42,600	41,000	64,000	59,000	36,800	150,000	162,000	108,000	65,000	108,000	59,000	39,600
13	41,800	36,200	57,100	54,400	38,900	144,000	163,000	105,000	63,000	98,800	81,000	39,600
14	41,000	36,800	49,900	53,600	46,600	137,000	156,000	118,000	62,000	92,300	63,000	38,200
15	40,300	36,800	46,600	54,400	49,900	132,000	144,000	130,000	58,000	88,600	63,000	36,800
16	37,600	37,500	46,600	54,400	55,300	130,000	134,000	132,000	55,300	85,800	63,000	33,400
17	36,100	38,900	47,400	53,600	67,000	124,000	138,000	130,000	53,600	84,000	64,000	31,600
18	34,700	38,900	45,000	50,800	89,100	116,000	120,000	112,000	66,000	79,200	64,000	32,800
19	34,700	38,200	42,600	49,000	64,000	109,000	124,000	96,200	103,000	76,800	65,000	32,200
20	35,400	37,500	43,400	49,000	66,000	108,000	120,000	101,000	127,000	75,700	66,000	31,600
21	38,200	41,800	43,400	47,400	72,400	108,000	113,000	107,000	141,000	75,700	64,000	31,000
22	41,800	48,200	41,800	41,000	74,800	107,000	103,000	106,000	138,000	76,800	63,000	30,400
23	38,900	59,000	40,300	41,800	76,800	106,000	94,800	97,600	127,000	87,400	62,000	29,200
24	37,600	65,000	36,200	44,200	72,400	106,000	91,000	103,000	117,000	91,000	59,000	28,000
25	36,400	63,000	37,500	39,600	70,200	104,000	87,400	109,000	101,000	130,000	57,100	29,600
26	37,500	59,000	38,200	41,800	91,000	107,000	86,200	112,000	91,000	113,000	52,600	31,600
27	38,900	55,300	38,900	47,400	91,000	118,000	82,600	109,000	91,000	103,000	49,000	35,400
28	34,000	56,200	38,900	46,000	75,700	118,000	79,000	101,000	101,000	93,600	44,200	38,200
29	30,400	58,000	38,900	38,900	—	110,000	79,000	123,000	112,000	83,800	42,600	37,500
30	28,000	68,000	36,800	38,800	—	105,000	77,900	141,000	128,000	75,700	42,600	34,700
31	29,200	—	32,200	36,800	—	107,000	—	142,000	—	73,600	42,600	—

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,098,100	42,600	27,500	35,360	0.251	0.29	2,174,000
November.....	1,419,200	66,000	29,800	47,310	.336	.37	2,815,000
December.....	1,927,000	114,000	32,200	62,160	.442	.51	3,822,000
Calendar year							
January.....	1,361,900	67,000	29,200	43,930	.312	.36	2,701,000
February.....	1,494,800	91,000	27,000	53,390	.375	.39	2,965,000
March.....	3,330,900	160,000	69,000	107,400	.763	.88	6,807,000
April.....	3,540,000	183,000	77,900	118,000	.836	.94	7,021,000
May.....	3,476,100	142,000	75,700	112,100	.797	.92	6,896,000
June.....	3,280,700	194,000	53,800	106,700	.773	.86	6,466,000
July.....	3,499,700	168,000	73,600	112,900	.802	.92	6,942,000
August.....	1,763,200	67,000	42,600	56,880	.404	.47	3,497,000
September.....	1,098,700	46,800	28,000	36,620	.280	.29	2,179,000
Water year 1934-35.....	27,268,300	194,000	27,000	74,710	.531	7.20	54,090,000

Mississippi River at Alton, Ill.

Location.— Wire gage, lat. 39°53'6", long. 90°10'56", in sec. 14, T. 5 N., R. 10 W., at Missouri & Illinois Bridge & Belt Railroad bridge at Alton, 7½ miles above mouth of Missouri River. Zero of gage is 395.48 feet above mean sea level (adjustment of 1929).

Drainage area.— 171,500 square miles.

Records available.— March 1933 to September 1935. Daily gage heights have been published in reports of Mississippi River Commission since January 1904, in reports of U. S. Weather Bureau December 1890 to September 1893 and since January 1917. Results of discharge measurements made intermittently by Corps of Engineers, U. S. Army, and by Mississippi River Commission since 1880 at Grafton, 15 miles upstream, are contained in reports of those organizations.

Extremes.— Maximum discharge observed during year, 231,000 second-feet May 17; maximum gage height observed, 28.9 feet June 8; minimum discharge observed during year, 37,500 second-feet Sept. 25; minimum gage height observed, 2.2 feet Nov. 2, 3.

1933-35: Maximum discharge observed, 285,000 second-feet May 17, 1933; maximum gage height observed, that of June 8, 1935; minimum discharge, 15,000 second-feet Dec. 30, 1933 (gage height, -1.7 feet).

Maximum stage known, 37.0 feet June 1844.

Remarks.— Records good. Stage-discharge relation affected by backwater from Missouri River. Discharge determined on basis of slope as obtained by use of auxiliary gages located at Grafton, Ill., and at mouth of Missouri River and maintained by Corps of Engineers, U. S. Army. Discharge estimated June 14-16. Gage-height record furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52,800	40,000	98,200	53,100	61,300	110,000	155,000	105,000	182,000	167,000	104,000	56,500
2	54,700	39,100	131,000	49,700	59,900	100,000	155,000	103,000	184,000	183,000	95,400	55,200
3	53,200	39,000	141,000	49,400	59,600	92,800	154,000	112,000	184,000	190,000	88,000	56,300
4	48,200	42,900	145,000	47,100	58,600	92,300	153,000	153,000	198,000	195,000	83,400	57,100
5	44,700	49,300	135,000	45,600	57,400	95,000	152,000	174,000	210,000	197,000	78,900	59,400
6	42,300	57,000	132,000	47,100	55,300	98,000	154,000	182,000	215,000	202,000	77,700	58,900
7	41,700	59,500	131,000	48,800	53,500	108,000	160,000	179,000	218,000	206,000	75,000	57,600
8	43,100	73,200	125,000	50,000	55,000	129,000	168,000	160,000	221,000	206,000	75,700	55,400
9	44,200	69,600	120,000	63,600	59,000	151,000	171,000	162,000	194,000	209,000	75,300	55,200
10	44,600	66,400	112,000	69,600	63,300	166,000	174,000	171,000	176,000	210,000	74,200	54,100
11	44,400	63,000	101,000	54,300	67,900	171,000	184,000	186,000	168,000	201,000	75,300	52,200
12	46,900	60,100	93,400	59,900	67,700	181,000	190,000	190,000	154,000	175,000	75,900	51,900
13	51,800	56,600	81,100	67,200	66,000	190,000	195,000	189,000	139,000	176,000	77,400	51,300
14	52,300	53,400	83,700	83,400	67,200	188,000	195,000	190,000	130,000	167,000	78,100	50,900
15	52,300	51,400	77,900	81,500	76,800	178,000	194,000	213,000	122,000	138,000	80,600	50,000
16	51,900	49,100	72,900	84,600	80,000	176,000	189,000	226,000	115,000	131,000	81,100	49,600
17	49,500	48,700	69,700	86,200	82,500	172,000	181,000	231,000	108,000	127,000	80,200	46,900
18	47,800	47,900	71,900	84,800	81,500	169,000	176,000	226,000	104,000	120,000	81,600	43,900
19	46,300	47,700	72,100	83,800	96,400	165,000	172,000	210,000	115,000	117,000	82,700	42,500
20	45,100	47,000	69,600	84,200	93,300	157,000	170,000	201,000	146,000	114,000	82,700	41,700
21	45,700	47,900	66,700	82,800	92,700	160,000	168,000	206,000	167,000	112,000	84,100	41,700
22	46,100	49,700	66,000	74,200	99,000	148,000	167,000	205,000	174,000	114,000	80,900	40,600
23	48,800	52,600	65,500	73,000	101,000	147,000	147,000	197,000	174,000	122,000	79,500	40,100
24	50,800	59,600	64,400	66,000	102,000	147,000	137,000	189,000	165,000	120,000	77,200	39,300
25	51,900	70,800	61,600	64,100	103,000	148,000	132,000	186,000	161,000	134,000	76,000	37,500
26	54,700	73,400	60,900	64,800	109,000	164,000	125,000	187,000	159,000	158,000	72,000	37,900
27	51,100	73,800	56,800	63,700	123,000	165,000	121,000	191,000	154,000	157,000	69,900	39,100
28	49,700	74,200	58,400	66,700	121,000	168,000	115,000	188,000	142,000	144,000	66,400	39,300
29	48,000	77,600	58,500	68,100	-	166,000	110,000	181,000	145,000	138,000	62,100	42,100
30	45,200	80,500	58,900	66,200	-	160,000	107,000	185,000	167,000	121,000	57,700	45,000
31	41,400	-	56,400	63,500	-	157,000	-	189,000	-	111,000	56,800	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,491,200	54,700	41,400	48,100	2,958,000		
November.....						1,730,100	80,800	39,000	57,670	3,432,000		
December.....						2,747,900	146,000	56,400	88,640	5,460,000		
Calendar year 1934.....						16,682,800	146,000	19,400	45,710	33,090,000		
January.....						2,124,600	89,900	45,500	66,540	4,214,000		
February.....						2,222,200	123,000	53,500	79,360	4,408,000		
March.....						4,600,100	190,000	92,300	148,400	9,124,000		
April.....						4,761,000	195,000	107,000	158,700	9,443,000		
May.....						5,667,000	231,000	102,000	182,800	11,240,000		
June.....						4,870,000	219,000	104,000	162,300	9,660,000		
July.....						4,885,000	210,000	111,000	155,900	9,850,000		
August.....						2,406,600	104,000	56,600	77,600	4,771,000		
September.....						1,449,200	59,400	37,500	48,310	2,874,000		
Water year 1934-35.....						38,933,800	231,000	37,500	106,700	77,220,000		

Crow Wing River at Nimrod, Minn.

Location.- Chain gage, lat. 46°39', long. 94°53', in sec. 32, T. 137 N., R. 33 W., on highway bridge half a mile north of Nimrod.

Drainage area.- 1,010 square miles.

Records available.- April 1910 to September 1914, July 1930 to September 1935 (incomplete during winter).

Extremes.- Maximum discharge observed during year, 547 second-feet May 11-14; maximum gage height observed, 3.30 feet Apr. 3 (affected by ice); minimum discharge observed, 96 second-feet Oct. 15 (gage height, 2.34 feet, affected by aquatic growth).
1910-14, 1930-35: Maximum discharge observed, 2,000 second-feet June 8, 1914; minimum discharge observed, 59 second-feet Aug. 25, 1930 (gage height, 2.32 feet).

Remarks.- Records fair. Stage-discharge relation affected by aquatic growth Oct. 1-19, June 18 to Sept. 30 and by ice Apr. 1-4. Discharge estimated Nov. 28-30, May 17-21. No records Dec. 1 to Mar. 31.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	239					271	360	277	300	140	175
2	132	229					294	372	277	294	149	175
3	128	218					317	372	277	277	120	266
4	156	208					317	372	288	260	116	260
5	167	199					317	348	288	265	116	260
6	163	189					317	335	288	271	113	260
7	149	180					317	311	288	260	113	260
8	140	180					366	335	288	255	113	260
9	136	180					378	317	277	250	110	244
10	128	180					378	323	288	244	110	244
11	124	180					378	547	277	288	110	244
12	120	180					366	547	277	271	110	234
13	106	170					366	547	277	265	102	189
14	102	161					378	547	300	234	99	180
15	96	161					341	511	288	229	99	180
16	153	161					354	511	424	224	99	180
17	153	161					341	500	424	218	128	170
18	146	161					317	480	417	213	128	166
19	140	161					283	460	417	194	128	166
20	250	161					260	440	410	180	149	157
21	239	153					250	420	404	175	149	161
22	229	161					210	384	384	180	140	161
23	218	161					218	398	384	175	140	161
24	229	161					239	384	378	170	167	161
25	229	161					271	372	372	166	194	175
26	229	161					271	360	372	161	189	166
27	229	161					271	372	354	167	180	166
28	229	180					417	348	335	153	180	170
29	229	160					417	335	317	149	180	170
30	229	160					404	277	306	145	180	170
31	229	-					-	277	-	145	175	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				5,336	250	96	172	0.170	0.20			
November.....				5,258	239	153	175	.173	.19			
December.....				-	-	-	-	-	-			
Calendar year												
January.....				-	-	-	-	-	-			
February.....				-	-	-	-	-	-			
March.....				-	-	-	-	-	-			
April.....				9,622	417	208	321	.318	.35			
May.....				12,488	547	277	403	.399	.44			
June.....				9,053	424	277	332	.329	.37			
July.....				6,749	300	145	218	.216	.25			
August.....				4,216	194	99	136	.135	.16			
September.....				5,931	266	167	198	.196	.22			
Water year												

Little Sand Lake outlet near Dorset, Minn.

Location.- Staff gage, lat. 46°59', long. 94°55', in NE $\frac{1}{4}$ sec. 36, T. 141 N., R. 34 W., 2 miles northeast of Dorset.

Records available.- July 1930 to September 1935 (winter records incomplete).

Extremes.- Maximum discharge observed during year, 39 second-feet Mar. 16; maximum gage height, 2.52 feet Feb. 25 (affected by ice); no flow for several days in October. 1930-35: Maximum discharge observed, 74 second-feet Apr. 8, 1934, (gage height, 2.66 feet, affected by ice); no flow for several days in August, September, and October, 1934.

Remarks.- Records good except those for period of ice effect, Feb. 21 to Mar. 15, which are poor. Stage-discharge relation affected by aquatic growth June 16 to Sept. 12.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	10	19	26	17	17	19	13
2					-	12	20	25	17	16	20	12
3					-	14	19	24	15	16	20	13
4					-	19	19	24	15	17	18	14
5					-	20	19	23	15	24	18	13
6					-	19	19	23	14	24	17	13
7					-	20	20	23	14	23	17	13
8					-	22	20	23	15	21	16	13
9					-	24	20	22	15	20	16	12
10					-	25	20	22	17	26	16	12
11					-	26	20	24	16	30	15	12
12					-	28	19	27	16	29	13	13
13					-	33	19	27	16	28	13	12
14					-	37	20	26	20	26	12	12
15					-	38	26	26	20	26	11	12
16					-	39	18	24	22	24	11	12
17					-	38	18	24	21	23	11	11
18					-	33	17	23	20	23	11	11
19					-	29	17	23	20	22	12	11
20					-	27	17	23	19	22	13	11
21					3	27	17	23	18	20	13	11
22					5	24	17	22	18	20	13	9.9
23					10	23	17	22	17	19	13	9.9
24					10	22	17	21	16	18	14	9.9
25					7	22	18	20	18	18	15	11
26					7	22	20	20	18	18	14	9.9
27					10	22	20	20	18	22	14	9.4
28					10	22	24	20	17	20	13	8.9
29					-	20	27	18	16	20	13	8.4
30					-	20	27	18	17	20	13	8.4
31					-	19	-	17	-	18	13	-
Month						Second-foot-days	Maximum	Minimum	Mean			
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-			
February 21-28.....						62	10	3	7.8			
March.....						758	39	10	24.4			
April.....						690	27	17	19.7			
May.....						703	27	17	22.7			
June.....						517	22	14	17.2			
July.....						670	30	16	21.6			
August.....						447	20	11	14.4			
September.....						341.7	14	8.4	11.4			
Water year												

Note.- No record Oct. 1 to Feb. 20; little or no flow during much of this period.

Lake Belle Taine near Nevis, Minn.

(Known also as Elbow Lake)

Location.- Staff gage, lat. 46°56', long. 94°54', in sec. 19, T. 140 N., R. 33 W., on south shore of lake about 4 miles southwest of Nevis.

Records available.- July to September 1935.

Extremes.- Maximum gage height observed during period, 2.06 feet July 20, 21; minimum observed, 1.49 feet Sept. 30.

Remarks.- Records excellent.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	1.97	1.62
2										-	1.96	1.62
3										-	1.92	1.63
4										-	1.90	1.64
5										-	1.90	1.63
6										-		
7										-	1.88	1.62
8										-	1.86	1.61
9										-	1.84	1.61
10										-	1.84	1.60
11										-	1.83	1.60
12										-	1.82	1.60
13										-	1.79	1.64
14										-	1.74	1.64
15										-	1.70	1.64
16										-	1.67	1.64
17										-	1.64	1.64
18										-	1.66	1.63
19										-	1.68	1.62
20										-	1.66	1.62
21										2.06	1.67	1.61
22										2.06	1.66	1.60
23										2.04	1.68	1.58
24										2.02	1.69	1.58
25										2.00	1.70	1.65
26										2.00	1.70	1.64
27										2.00	1.68	1.64
28										2.02	1.66	1.64
29										2.00	1.64	1.62
30										2.00	1.63	1.60
31										1.98	1.63	-

Platte River at Royalton, Minn.

Location.- Chain gage, lat. 45°50', long. 94°17', in sec. 35, T. 39 N., R. 32 W., on highway bridge at east edge of Royalton, 6 miles above junction with Mississippi River.

Drainage area.- 338 square miles.

Records available.- May 1929 to September 1935.

Extremes.- Maximum discharge observed during year, 228 second-feet Mar. 25; maximum gage height observed, 5.50 feet Mar. 23 (affected by ice); minimum discharge observed, 8.6 second-feet Oct. 15, 19.
1929-35: Maximum discharge, 1,330 second-feet May 30, 1931 (gage height, 5.90 feet); minimum, 0.6 second-foot Aug. 15, 1933.

Remarks.- Records poor. Stage-discharge relation affected by ice, shifting control, or aquatic growth during most of period. No records Dec. 1 to Feb. 28.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	22				9	100	81	33	69	28	26
2	16	21				10	90	88	34	59	27	24
3	16	21				9	80	95	32	55	27	25
4	15	21				10	75	88	30	46	26	25
5	17	20				16	70	88	28	47	26	26
6	16	19				13	65	82	29	43	27	25
7	15	19				13	60	82	30	40	27	26
8	13	19				12	60	81	27	38	26	26
9	11	18				10	55	82	27	36	25	24
10	11	18				10	50	78	29	40	25	23
11	11	18				9	50	80	29	61	24	23
12	10	16				9	45	88	29	63	22	23
13	10	15				10	45	102	27	63	20	24
14	9.5	14				11	40	102	28	63	19	24
15	8.6	15				28	40	116	28	67	18	23
16	10	16				41	40	116	59	68	18	22
17	10	15				33	40	110	71	63	18	20
18	9.0	17				30	40	100	81	68	26	20
19	9.0	21				48	40	90	102	71	26	20
20	19	24				109	40	80	124	72	30	21
21	20	26				175	40	75	140	63	28	21
22	18	26				195	40	70	140	55	26	21
23	21	24				206	45	68	140	50	24	20
24	23	26				206	45	61	124	46	26	20
25	25	26				217	50	57	132	42	26	20
26	27	29				217	55	50	124	40	27	20
27	27	32				206	60	43	109	38	27	20
28	26	34				185	65	38	102	36	26	21
29	24	32				132	70	36	88	34	26	20
30	23	28				124	80	33	81	32	28	20
31	23	"				116	"	33	"	30	26	"
Month						Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches	
October.....						512.1	27	8.6	16.5	0.049	0.06	
November.....						661	34	14	21.7	.064	.07	
December.....						-	-	-	-	-	-	
Calendar year						-	-	-	-	-	-	
January.....						-	-	-	-	-	-	
February.....						-	-	-	-	-	-	
March.....						2,414	217	9	77.9	.230	.27	
April.....						1,875	100	40	55.8	.185	.18	
May.....						2,593	116	33	77.2	.228	.23	
June.....						2,057	140	27	68.6	.203	.23	
July.....						1,598	72	30	51.5	.152	.18	
August.....						774	30	18	25.0	.074	.09	
September.....						673	26	20	22.4	.066	.07	
Water year						-	-	-	-	-	-	

Sauk River near St. Cloud, Minn.

Location.- Water-stage recorder, lat. 45°34', long. 94°14', in sec. 8, T. 124 N., R. 28 W., about half a mile northwest of Waite Park, 5 miles west of St. Cloud, and 5 miles above junction with Mississippi River. Zero of gage is 1,034.95 feet above mean sea level. Prior to Nov. 22, 1934, chain gage on highway bridge a mile downstream. Zero of chain gage was 1,028.18 feet above mean sea level.

Drainage area.- 815 square miles at present site; 816 square miles at former site 1 mile downstream.

Records available.- July 1909 to December 1913, May 1929 to September 1935.

Extremes.- Maximum discharge during year, 703 second-feet Aug. 25 (gage height, 3.47 feet; minimum (estimated because of ice effect), 1.3 second-feet Jan. 6, 7.

1909-13, 1929-35: Maximum discharge, 1,620 second-feet May 11, 1912, gage height not referred to present site and datum; minimum, 1.1 second-feet July 31, 1934.

Remarks.- Records good except those for period of ice effect and missing gage-height record, Dec. 9 to Mar. 23, those for period of aquatic growth and debris on control, Oct. 1 to Nov. 17, Sept. 19-23, 26-30, and those estimated for Nov. 18-21, Sept. 9-18, which are fair. Diurnal fluctuation caused by power plants above.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 17, Sept. 19-23, 26-30)

0.8	0	1.6	79	2.4	294	3.2	595
1.0	4.0	1.8	122	2.6	363	3.5	730
1.2	14	2.0	170	2.8	437		
1.4	41	2.2	228	3.0	515		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	11	6.7	1.6	4	7	117	36	52	50	71	369
2	11	9.6	8.0	1.6	5	11	192	57	45	57	65	274
3	12	11	7.4	1.6	6	14	198	57	39	77	63	308
4	14	11	7.1	1.8	7	20	198	81	89	57	80	471
5	17	11	7.1	1.4	6	50	170	121	99	55	50	441
6	15	11	5.4	1.3	*5.7	67	184	94	94	77	52	410
7	18	11	2.8	1.3	6	45	112	168	83	96	59	370
8	11	10	2.5	1.4	6	28	78	192	66	77	43	252
9	8.4	10	2.8	4.0	6	21	170	181	50	64	40	200
10	9.6	9.0	4.3	6.4	6	16	177	176	52	80	38	260
11	11	11	4.0	6.4	6	15	170	165	38	133	36	300
12	10	11	4.3	4.7	6	13	140	108	69	81	33	280
13	4.8	8.4	4.7	4.3	*6.4	13	128	84	85	150	33	260
14	6.0	9.6	4.7	5.0	7	13	103	158	66	140	33	220
15	11	9.6	5.0	4	7	67	62	126	80	72	36	160
16	13	13	4.7	4	7	87	117	115	110	118	46	70
17	12	17	8.1	4	7	55	121	92	71	118	48	160
18	12	15	10	4	7	46	126	81	125	125	57	150
19	13	13	8.7	4	9	31	114	59	161	96	102	145
20	15	11	7.4	4	10	122	126	50	192	105	471	165
21	16	9	7.1	3	11	173	89	60	155	129	349	148
22	16	7.4	7.1	3	11	216	52	90	158	70	429	143
23	17	9.5	5.0	3	14	241	45	125	140	156	575	63
24	15	23	4.3	*3.3	13	146	43	114	73	136	685	129
25	19	14	4.7	3.5	11	161	43	130	140	155	685	162
26	18	18	3.5	3	9	234	48	106	145	159	662	136
27	17	20	4.0	3	7	228	39	66	120	129	685	140
28	19	15	3.3	3	7	216	41	101	109	68	662	145
29	20	9.8	2.8	3	-	216	38	88	85	57	618	69
30	18	6.7	2.3	3	-	219	35	62	59	51	575	52
31	16	-	2.1	3	-	127	-	41	-	73	535	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	428.8	20	4.8	13.8	0.017	0.02
November.....	355.6	23	6.7	11.9	.015	.02
December.....	159.7	10	2.1	5.15	.0063	.007
Calendar year						
January.....	100.6	6.4	1.3	3.25	.0040	.005
February.....	213.1	14	4	7.61	.0093	.01
March.....	2,948	241	7	95.1	.117	.13
April.....	3,276	198	35	109	.124	.15
May.....	3,188	192	38	103	.126	.15
June.....	2,971	192	36	95.7	.117	.13
July.....	3,031	159	50	97.8	.120	.14
August.....	7,696	685	33	255	.313	.36
September.....	5,442	471	52	215	.254	.29
Water year 1934-35.....	30,909.8	685	1.3	84.7	.104	1.41

*Discharge measurement.

Elk River near Big Lake, Minn.

Location.- Water-stage recorder, lat. 45°20', long. 93°40', in sec. 23, T. 33 N., R. 27 W., at highway bridge 4 miles east of Big Lake and 4 miles below mouth of St. Francis River.

Drainage area.- 615 square miles.

Records available.- April 1911 to September 1917, April 1931 to September 1935.

Extremes.- Maximum discharge during year, 690 second-feet Mar. 21; maximum gage height, 2.96 feet Mar. 20 (backwater from ice); minimum discharge, 16 second-feet Dec. 1 (gage height, 1.08 feet).
1911-17, 1931-35: Maximum discharge, 5,100 second-feet May 7, 1912 (gage height, 10 feet); minimum, 3.6 second-feet July 31, 1934.

Remarks.- Records good except those for period of ice effect, Dec. 4 to Feb. 12, Feb. 25, 26, Mar. 19, 20, which are fair. Stage-discharge relation affected by shifting control Apr. 1 to May 19 and by weed growth July 10 to Sept. 17.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	59	30	33	38	48	272	130	70	58	28	70
2	54	58	65	38	44	48	244	152	77	58	29	66
3	48	56	52	37	47	52	220	170	74	56	29	70
4	47	54	52	34	48	59	200	181	68	51	29	72
5	47	54	54	35	50	83	192	173	70	58	31	72
6	48	54	54	40	48	83	192	162	72	59	36	70
7	47	52	50	42	48	83	181	162	70	56	34	70
8	47	50	50	44	48	89	173	189	66	53	34	70
9	44	50	50	44	50	89	162	185	66	48	34	72
10	41	47	48	44	50	86	152	170	72	50	33	70
11	40	47	45	42	52	86	158	173	72	58	32	70
12	38	45	47	41	54	88	158	192	66	58	30	68
13	37	45	45	40	58	107	152	189	62	53	28	68
14	34	42	44	34	58	120	141	181	61	50	27	68
15	34	42	44	34	58	158	138	173	61	46	25	70
16	34	42	44	37	58	192	141	170	86	43	24	70
17	35	44	42	38	56	135	127	166	107	42	24	70
18	34	45	42	37	56	204	120	155	101	43	27	77
19	37	47	42	37	58	220	117	145	90	42	34	77
20	78	56	41	37	56	501	110	139	83	41	86	74
21	114	70	41	38	61	630	110	130	79	40	130	72
22	104	75	42	40	58	624	104	121	74	38	115	72
23	91	65	42	38	59	594	104	115	70	38	98	68
24	110	61	41	38	54	612	114	107	66	38	96	66
25	104	70	41	38	56	612	117	101	62	37	98	68
26	91	75	40	37	58	582	120	93	58	36	96	64
27	86	80	38	37	56	534	120	88	53	35	90	62
28	78	78	38	38	52	468	124	81	48	33	83	61
29	72	75	35	38	-	408	134	77	47	31	81	59
30	65	51	34	40	-	357	134	72	46	30	79	59
31	63	-	34	40	-	310	-	70	-	29	72	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				1,861	114	34	60.0	0.098	0.11			
November.....				1,689	80	42	56.3	.092	.10			
December.....				1,367	65	30	44.1	.072	.08			
Calendar year												
January.....				1,190	44	33	38.4	.062	.07			
February.....				1,491	61	38	53.2	.087	.09			
March.....				8,310	630	48	268	.436	.50			
April.....				4,531	272	104	151	.246	.27			
May.....				4,412	192	70	142	.231	.27			
June.....				2,097	107	46	69.9	.114	.13			
July.....				1,408	59	29	45.4	.074	.09			
August.....				1,692	130	24	54.6	.089	.10			
September.....				2,065	77	59	68.8	.112	.12			
Water year 1934-35				32,113	630	24	88.0	.143	1.93			

Crow River at Rockford, Minn.

Location.- Water-stage recorder, lat. 45°5'15", long. 93°44', in sec. 29, T. 119 N., R. 24 W., at Rockford, 1 mile below junction of North and South Forks. Zero of gage is 893.65 feet above mean sea level (adjustment of 1912).

Drainage area.- 2,520 square miles.

Records available.- June 1909 to September 1917, April 1929 to September 1935.

Extremes.- Maximum discharge during year, 750 second-feet Mar. 20 (gage height, 4.33 feet, affected by ice); minimum, 12 second-feet Aug. 17 (gage height, 1.46 feet). 1909-17, 1929-35: Maximum discharge, 10,600 second-feet Apr. 2, 3, 1916; minimum observed, 3.8 second-feet Aug. 4-6, 1934.

Remarks.- Records excellent except those for period of ice effect, Feb. 26 to Mar. 21, which are good.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Dec. 30

1.6	20	2.3	69
1.7	23	2.4	83
1.8	27	2.5	99
1.9	31	2.6	117
2.0	37	2.7	135
2.1	46	2.8	154
2.2	57		

Table for Dec. 31 to Sept. 30

1.4	10	2.1	54	2.8	162	3.5	405
1.5	13	2.2	64	2.9	181	3.6	445
1.6	17	2.3	74	3.0	222	3.7	490
1.7	22	2.4	84	3.1	255	3.8	535
1.8	28	2.5	96	3.2	290	3.9	580
1.9	36	2.6	112	3.3	325	4.0	625
2.0	45	2.7	135	3.4	365	4.3	775

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	65	31	22	19	41	206	128	104	138	22	72
2	47	62	35	21	19	44	191	162	107	119	23	71
3	41	61	36	21	20	48	176	185	99	106	20	71
4	39	58	35	17	20	63	165	203	95	96	18	70
5	40	54	33	20	20	90	159	216	86	106	22	68
6	35	48	31	23	18	86	162	229	84	126	24	90
7	30	44	28	22	18	102	162	232	80	107	23	121
8	27	42	27	22	18	194	157	235	74	98	23	151
9	26	41	27	23	19	245	148	225	74	92	22	162
10	26	38	28	23	20	269	143	203	82	90	19	162
11	25	36	27	21	20	272	165	222	101	121	16	174
12	26	36	27	20	21	248	171	276	114	112	15	191
13	24	33	28	19	23	252	174	414	94	98	14	194
14	24	34	27	20	25	258	174	499	84	86	14	176
15	23	32	28	18	26	325	159	476	89	79	13	140
16	24	32	30	18	27	421	151	625	180	73	13	135
17	22	32	30	17	27	512	133	709	397	66	12	130
18	23	33	30	16	32	490	130	700	381	51	59	124
19	23	34	30	15	35	580	128	625	373	56	93	135
20	24	45	29	15	35	725	117	576	357	50	79	146
21	117	47	29	15	39	700	107	504	341	45	72	138
22	137	47	29	15	39	625	101	437	316	41	57	124
23	148	42	28	15	41	580	94	381	290	40	52	109
24	143	42	27	16	42	535	102	329	258	37	52	101
25	135	47	28	16	40	468	109	286	245	35	66	92
26	130	49	25	17	40	417	119	245	216	34	85	86
27	112	50	24	17	43	365	121	313	191	30	84	89
28	86	53	25	18	42	322	126	179	168	30	77	99
29	79	53	25	18	-	283	124	151	140	27	70	106
30	76	44	25	18	-	258	128	128	124	23	67	106
31	72	-	24	19	-	232	-	109	-	22	69	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	1,888	148	22	60.9	0.024	0.03
November.....	1,334	65	32	44.5	.019	.02
December.....	886	36	24	28.6	.011	.01
Calendar year						
January.....	577	23	15	18.6	.0074	.009
February.....	787	43	18	28.1	.011	.01
March.....	10,040	725	41	324	.129	.15
April.....	4,302	205	94	143	.057	.06
May.....	10,093	700	109	326	.129	.15
June.....	5,346	397	74	178	.071	.08
July.....	2,244	138	22	72.4	.029	.03
August.....	1,265	93	12	41.8	.017	.02
September.....	3,633	194	68	121	.048	.05
Water year 1934-35.....	42,425	725	12	116	.046	.02

South Fork of Crow River near Mayer, Minn.

Location.-- Chain gage, lat. 44°54', long. 93°53', on line between secs. 30 and 31, T. 117 N., R. 25 W. fifth principal meridian, on highway bridge 1½ miles north of Mayer and 4 miles southwest of Watertown. Zero of gage is 928.00 feet above mean sea level.

Records available.-- April 1934 to September 1935.

Extremes.-- Maximum discharge observed during period Apr. 1, 1934, to Sept. 30, 1935, 820 second-feet May 17, 1935 (gage height, 4.70 feet); no flow at various times.

Remarks.-- Records fair.

Discharge, in second-feet, 1934-35

Day	1934				1935							
	Apr.	May	June		Mar.	Apr.	May	June	July	Aug.	Sept.	
1	* 4.0	1.8	0		10	76	45	52	55	0.3	0.9	
2	4.5	1.6	0		10	68	57	52	38	.4	.7	
3	10	1.6	0		14	60	72	48	27	.4	.9	
4	15	1.8	0		37	55	91	41	26	.5	1.4	
5	24	1.8	0		42	56	105	35	35	1.0	1.0	
6	24	2.4	0		60	57	107	32	28	4.8	1.4	
7	28	2.4	0		84	53	104	32	33	6.4	1.8	
8	24	2.6	.5		110	56	89	32	19	4.8	2.0	
9	22	2.6	.4		94	55	83	36	17	3.9	1.6	
10	19	2.2	.2		84	45	74	72	16	2.5	1.2	
11	19	1.8	.1		76	48	97	62	21	2.2	1.0	
12	16	1.4	.1		126	66	238	47	20	1.6	1.0	
13	13	1.2	0		180	70	392	57	16	1.0	1.0	
14	12	1.0	0		168	70	339	74	14	.7	1.0	
15	12	.9	0		174	68	504	84	12	.5	1.2	
16	10	.7	0		288	66	542	174	10	.4	1.4	
17	7.6	.6	0		339	62	620	158	8.8	.6	1.2	
18	6.4	.5	0		392	45	561	142	6.8	4.8	1.0	
19	5.7	.5	0		392	34	504	126	6.0	7.6	.9	
20	5.1	.4	0		374	29	428	110	4.8	9.6	.8	
21	4.8	.4	0		339	25	356	96	4.2	10	.7	
22	4.5	.1	0		322	24	305	97	3.3	12	.6	
23	4.2	.1	0		288	24	254	100	3.0	11	.4	
24	3.6	.1	0		271	26	222	91	2.6	10	.3	
25	3.3	.1	0		238	29	190	96	2.2	7.2	.5	
26	3.0	.1	0		206	33	166	91	2.8	5.7	.6	
27	2.6	.1	0		174	33	126	84	2.2	4.2	.8	
28	2.2	.1	0		158	32	91	64	1.8	2.2	.6	
29	2.0	0	0		142	32	69	57	1.0	1.0	.6	
30	1.8	0	0		118	32	57	55	.7	1.4	.3	
31	-	0	-		91	-	52	-	.6	1.2	-	
Month					Second-foot-Days		Maximum		Minimum		Mean	
1934												
April.....					313.3		28		1.8		10.4	
May.....					30.9		2.6		0		1.00	
June.....					1.3		.5		0		.04	
1935												
March.....					5,363		392		10		173	
April.....					1,429		76		24		47.6	
May.....					6,940		620		45		224	
June.....					2,297		174		32		76.6	
July.....					456.8		56		.6		14.2	
August.....					120.2		12		.3		3.88	
September.....					28.8		2.0		.3		.98	

*Estimated.

Note.-- No records July 1, 1934, to Feb. 28, 1935; little or no flow during this period.

Mille Lacs Lake at Wealthwood, Minn.

Location.- Staff gage, lat. 46°21'35", long. 93°39'15", in sec. 20, T. 45 N., R. 26 W. Fourth principal meridian, in Wealthwood.

Records available.- June 1931 to September 1935.

Extremes.- Maximum elevation observed during year, 1,247.13 feet July 11-13; minimum, 1,248.04 feet Nov. 8-14.
1931-35: Maximum elevation observed, 1,249.36 feet June 20, 1931; minimum observed, that of Nov. 8-14, 1934.

Remarks.- Records good. Gage heights have been reduced to mean sea-level datum.
No Records Nov. 26 to Apr. 26.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46.17	46.10					-	46.47	46.61	46.77	46.87	46.67
2	46.17	46.10					-	46.47	46.59	46.77	46.85	46.65
3	46.17	46.08					-	46.48	46.59	46.87	46.83	46.63
4	46.15	46.08					-	46.48	46.59	-	46.83	46.61
5	46.15	46.08					-	46.51	46.57	47.03	46.85	46.57
6	46.15	46.06					-	46.53	46.57	47.03	46.89	46.55
7	46.15	46.08					-	46.53	46.57	47.01	46.89	46.55
8	46.16	46.04					-	46.57	46.57	46.97	46.89	46.55
9	46.17	46.04					-	46.59	46.57	46.97	46.86	46.55
10	46.17	46.04					-	46.59	46.61	46.97	46.85	46.55
11	46.17	46.04					-	46.59	46.61	47.13	46.91	46.53
12	46.17	46.04					-	46.59	46.61	47.13	46.87	46.53
13	46.17	46.04					-	46.59	46.67	47.13	46.83	46.53
14	46.15	46.04					-	46.59	46.71	47.11	46.79	46.53
15	46.15	46.05					-	46.59	46.73	47.09	46.77	46.51
16	46.14	46.07					-	46.61	46.81	47.07	46.75	46.51
17	46.14	46.07					-	46.61	46.83	47.07	46.73	46.51
18	46.12	46.07					-	46.61	46.85	47.05	46.81	46.49
19	46.12	46.07					-	46.59	46.87	47.03	46.81	46.49
20	46.12	46.07					-	46.59	46.87	47.03	46.91	46.47
21	46.14	46.09					-	46.57	46.87	47.01	46.89	46.47
22	46.16	46.09					-	46.57	46.87	47.01	46.87	46.46
23	46.16	46.09					-	46.57	46.85	46.99	46.85	46.45
24	46.14	46.09					-	46.57	46.83	46.99	46.87	46.41
25	46.14	46.09					-	46.57	46.83	46.97	46.85	46.39
26	46.14	-					-	46.59	46.81	46.97	46.81	46.39
27	46.16	-					46.45	46.59	46.79	47.01	46.77	46.37
28	46.14	-					46.45	46.59	46.77	46.97	46.75	46.37
29	46.14	-					46.45	46.61	46.77	46.93	46.73	46.33
30	46.12	-					46.45	46.61	46.77	46.91	46.73	46.32
31	46.12	-					-	46.61	-	46.89	46.71	-

Note.- Add 1,200 feet to obtain elevation above mean sea level (adjustment of 1912).

Rum River near St. Francis, Minn.

Location.- Water-stage recorder, lat. 45°19'40", long. 93°22'20", in sec. 19, T. 33 N., R. 24 W., 5 miles south of St. Francis and 15½ miles above junction with Mississippi River. Zero of gage is 861.12 feet above mean sea level (adjustment of 1912).

Drainage area.- 1,360 square miles.

Records available.- May 1929 to September 1935.

Extremes.- Maximum discharge during year, 1,760 second-feet Mar. 25, 26; maximum gage height, 4.86 feet Mar. 25; minimum discharge (estimated because of ice effect), 52 second-feet Dec. 28.

1929-35: Maximum discharge, 3,760 second-feet May 18, 1930 (gage height, 6.53 feet); minimum, 29 second-feet Aug. 18, 1934 (gage height, 1.91 feet).

Remarks.- Records good except those for periods of ice effect, Nov. 30 to Feb. 14, Feb. 18 to Mar. 1, Mar. 3, 6-8, 11-18, which are fair. Stage-discharge relation affected by aquatic growth June 27 to Sept. 30.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	130	83	58	68	85	544	284	154	221	102	202
2	108	124	124	58	77	90	484	306	164	191	100	188
3	102	118	124	61	83	92	435	316	154	160	98	184
4	98	116	113	61	98	100	409	334	151	144	95	177
5	92	108	102	64	85	113	383	334	148	167	102	187
6	90	108	100	64	85	116	368	329	144	157	116	187
7	90	108	90	70	85	118	358	344	138	154	113	160
8	90	106	92	70	98	118	349	349	135	151	108	154
9	90	100	88	68	85	138	354	358	138	151	102	151
10	85	100	88	74	95	132	320	358	148	144	98	141
11	85	98	88	68	102	135	320	354	135	138	92	138
12	83	95	81	66	102	124	311	354	130	132	90	138
13	83	98	83	61	108	127	297	358	124	130	88	135
14	81	92	85	61	108	138	238	358	118	130	88	132
15	79	90	85	61	113	141	275	399	118	132	83	127
16	81	90	85	68	113	157	266	526	144	135	81	124
17	81	90	83	70	110	167	249	568	148	141	83	121
18	83	92	83	70	113	266	233	532	141	164	95	127
19	83	92	81	66	110	344	233	468	144	188	105	127
20	121	105	81	66	110	414	229	414	214	191	113	124
21	138	116	81	62	105	604	226	368	368	188	121	124
22	148	124	79	60	105	*792	213	323	484	174	138	116
23	157	127	79	90	168	*1,090	206	288	514	157	167	113
24	180	127	77	61	98	*1,510	226	268	496	148	198	108
25	177	127	74	62	96	1,760	237	237	452	141	306	108
26	170	130	86	66	85	1,760	249	221	383	130	363	116
27	187	135	61	86	88	1,610	258	205	325	121	354	110
28	157	138	56	68	83	1,260	262	188	276	118	326	102
29	148	141	61	64	-	970	271	170	285	118	284	102
30	141	132	64	82	-	750	279	160	194	110	254	98
31	135	-	61	70	-	630	-	151	-	108	221	-
Month	Second-foot-days				Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....	3,541				180	79	114	0.084	0.10			
November.....	3,556				141	90	112	.082	.09			
December.....	2,600				124	56	83.9	.062	.07			
Calendar year 1934.....	27,704				256	30	75.9	.056	.76			
January.....	2,004				74	58	64.6	.048	.06			
February.....	2,695				113	68	96.2	.071	.07			
March.....	16,851				1,760	85	511	.376	.43			
April.....	9,109				544	206	304	.224	.25			
May.....	10,208				568	151	329	.242	.28			
June.....	6,634				514	118	221	.162	.18			
July.....	4,632				221	108	149	.110	.13			
August.....	4,683				363	81	151	.111	.13			
September.....	4,081				202	98	136	.100	.11			
Water year 1934-35.....	69,394				1,760	56	190	.140	1.90			

*Estimated.

Minnesota River near Montevideo, Minn.

Location.- Water-stage recorder, lat. 44°56', long. 95°43', in sec. 19, T. 117 N., R. 40 W., at highway bridge 500 feet below mouth of Chippewa River and 1 mile south of Montevideo. Zero of gage is 910.87 feet above mean sea level (adjustment of 1912). Prior to Nov. 27, 1934, chain gage at same site and datum.

Drainage area.- 6,300 square miles.

Records available.- July 1909 to September 1935.

Average discharge.- 26 years, 498 second-feet.

Extremes.- Maximum discharge during year, 570 second-feet Mar. 18; maximum gage height, 5.90 feet (affected by ice) Mar. 10; minimum discharge observed, 0.2 second-foot Oct. 6-8.
1909-35: Maximum discharge, about 22,000 second-feet June 25, 1919 (gage height, about 18.85 feet); no flow for several days in 1933 and 1934.

Remarks.- Records good except those for period of ice effect, Jan. 14 to Mar. 16, and those estimated for Nov. 23-27, May 1-6, which are fair.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 26

0.7	0
.8	.5
.9	1.5
1.0	3

Table for Nov. 27 to Sept. 30

1.4	0	2.4	59	4.0	281
1.8	1.2	2.8	86	4.5	361
1.8	6	2.8	118	5.0	446
2.0	17	3.0	146	5.5	534
2.2	36	3.5	208		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	1.0	3.4	2.0	4.0	10	89	160	69	136	51	82
2	.8	1.0	3.0	2.2	5.0	11	89	150	51	132	47	82
3	.8	1.0	3.0	2.2	5.8	13	99	170	72	116	46	49
4	.6	1.0	2.6	1.8	6.0	102	99	190	118	105	46	53
5	.4	1.0	2.8	2.0	5.0	130	100	230	126	100	41	64
6	.2	1.0	2.6	1.8	3.4	266	115	280	69	99	75	53
7	.2	1.1	2.2	2.0	3.2	215	141	244	53	94	76	49
8	.2	.8	2.2	2.0	3.0	244	141	244	47	69	49	49
9	.4	.8	2.2	2.0	3.0	313	143	266	57	58	39	49
10	.8	.8	2.2	2.2	2.6	329	148	245	42	60	35	49
11	1.0	1.0	2.2	2.2	2.8	289	188	225	28	49	27	46
12	1.0	1.0	2.2	2.2	2.6	244	188	337	28	43	24	45
13	.8	1.1	2.4	2.2	3.4	229	159	289	28	40	36	40
14	1.1	1.4	2.4	2.2	6.0	251	124	251	322	36	26	39
15	1.4	1.4	2.4	2.2	13	281	155	206	429	28	15	36
16	2.2	1.5	2.4	2.4	11	361	181	188	429	23	10	33
17	1.6	1.5	2.6	1.8	7.8	516	160	181	412	23	9.3	29
18	1.2	1.8	2.2	1.6	20	552	133	163	386	28	11	34
19	1.2	1.8	2.4	1.6	17	420	141	163	412	30	12	27
20	2.0	1.8	2.4	1.5	15	396	141	157	420	40	13	25
21	2.2	1.5	2.4	1.5	16	395	130	157	321	51	20	25
22	2.2	1.5	2.4	1.5	16	395	100	175	274	66	19	25
23	2.0	1.2	2.4	1.3	16	395	30	150	222	86	13	19
24	2.0	1.4	2.2	1.8	14	395	80	134	175	86	19	16
25	2.2	1.6	2.2	2.2	11	395	155	122	169	62	36	13
26	2.0	2.4	2.2	1.8	11	395	181	107	188	73	60	12
27	1.4	3.0	2.2	2.2	12	386	181	106	186	67	82	27
28	1.0	4.0	1.8	2.0	9.9	281	201	124	169	62	92	19
29	.8	4.0	1.8	1.8	-	229	194	113	155	57	66	14
30	.8	4.0	1.6	2.0	-	181	188	110	141	57	62	14
31	1.0	-	2.0	2.8	-	99	-	86	-	68	69	-
Month						Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches	
October.....						36.3	2.2	0.2	1.17	0.00019	0.0002	
November.....						48.4	4.0	.8	1.61	.00026	.0003	
December.....						72.8	3.4	1.6	2.35	.00037	.0004	
Calendar year 1934.....						1,206.5	25	0	3.31	.00053	.01	
January.....						61.0	2.8	1.3	1.97	.00031	.0003	
February.....						248.6	20	2.6	8.88	.0014	.001	
March.....						8,717	552	10	281	.045	.05	
April.....						4,205	201	80	140	.072	.02	
May.....						5,728	337	86	185	.029	.03	
June.....						5,600	429	28	187	.030	.03	
July.....						2,962	136	23	66.2	.011	.01	
August.....						1,226.3	92	9.3	39.6	.0043	.007	
September.....						1,065	64	12	35.6	.0066	.006	
Water year 1934-35.....						29,058.3	552	.2	79.6	.013	.16	

Minnesota River at Mankato, Minn.

Location.- Water-stage recorder, lat. 44°11', long. 94°, in sec. 7, T. 108 N., R. 26 W., at Main Street Bridge, in Mankato, 2 miles below mouth of Blue Earth River. Zero of gage is 747.92 feet above mean sea level (adjustment of 1929).

Drainage area.- 14,600 square miles.

Records available.- March 1922 to September 1935 at present site. May 1903 to October 1921 comparable records 1,000 feet below mouth of Blue Earth River.

Average discharge.- 32 years (1903-35), 2,239 second-feet.

Extremes.- Maximum discharge during year, 5,100 second-feet Mar. 16 (gage height, 8.85 feet); minimum, 38 second-feet Dec. 1 (gage height, 1.82 feet).
1903-35: Maximum discharge, 43,800 second-feet June 26, 1908 (gage height at old site, 21.2 feet); minimum, 26 second-feet Aug. 4, 1934, 1934, Maximum known stage, about 27 feet at old site in 1881 (discharge, about 65,000 second-feet).

Remarks.- Records excellent except those for period of ice effect, Dec. 25 to Mar. 11, which are fair.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Feb. 19

1.8	35	2.4	151
2.0	67	2.6	201
2.2	106	3.0	335

Table for Feb. 20 to Sept. 30

2.0	82	2.8	270	5.0	1,560
2.2	123	3.0	340	6.0	2,320
2.4	167	3.5	600	7.0	3,300
2.6	215	4.0	920	9.0	5,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	102	60	58	65	985	1,280	706	529	1,510	222	102
2	71	94	98	60	67	985	1,150	636	540	1,310	247	102
3	67	98	58	100	133	952	1,150	829	410	1,210	253	102
4	67	96	133	88	98	1,240	1,080	865	502	1,080	272	104
5	64	90	156	80	131	1,860	1,050	848	458	1,050	196	102
6	57	64	102	75	84	2,700	965	1,050	430	952	289	104
7	52	82	86	71	67	3,200	888	1,050	400	920	289	115
8	45	80	84	69	64	3,500	777	1,080	390	810	291	121
9	48	82	86	62	64	3,700	751	1,080	436	790	343	123
10	52	82	88	67	64	3,800	732	965	612	630	282	123
11	48	82	88	64	64	3,300	790	920	660	577	190	121
12	46	82	86	67	68	2,800	842	985	420	522	185	117
13	42	78	146	67	100	2,500	790	868	319	450	183	117
14	46	75	102	67	119	2,500	810	965	312	383	169	136
15	44	71	94	67	151	3,300	855	1,120	326	344	156	115
16	46	69	90	71	175	4,700	1,020	1,310	495	393	145	110
17	47	69	90	71	183	3,900	888	1,310	920	325	141	104
18	46	84	117	67	133	3,900	822	1,210	1,420	306	166	106
19	48	92	162	67	311	3,900	822	1,080	2,000	286	158	104
20	98	207	98	67	486	3,500	758	868	1,860	260	263	102
21	116	177	153	69	692	3,000	692	920	2,700	228	235	98
22	173	133	96	64	770	2,600	692	777	3,200	199	167	94
23	201	128	113	60	855	2,410	738	725	2,950	234	149	88
24	173	120	90	75	1,020	2,240	738	686	2,240	206	134	86
25	146	102	86	64	1,240	2,060	706	648	2,320	192	134	90
26	137	138	82	64	1,180	2,000	666	648	1,930	190	123	94
27	133	174	120	90	1,120	1,760	686	652	2,000	188	119	86
28	117	169	92	64	1,020	1,650	648	660	2,160	160	112	82
29	115	128	82	64	-	1,640	546	642	2,000	170	110	82
30	108	97	67	64	-	1,480	692	588	1,660	300	110	82
31	106	-	60	67	-	1,410	-	446	-	283	106	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	2,640	201	42	85.2	0.0056	0.007
November.....	3,163	207	69	105	.0072	.008
December.....	3,065	162	58	96.9	.0068	.008
Calendar year 1934.....	51,366	1,980	31	141	.0097	.13
January.....	2,150	100	58	69.4	.0048	.006
February.....	10,541	1,240	64	378	.026	.20
March.....	79,392	4,700	952	2,561	.175	.20
April.....	25,064	1,280	546	835	.087	.08
May.....	27,307	1,310	448	881	.080	.07
June.....	36,569	3,200	312	1,220	.084	.09
July.....	16,489	1,510	180	532	.036	.04
August.....	5,928	343	104	191	.013	.01
September.....	3,112	136	82	104	.0071	.008
Water year 1934-35.....	215,440	4,700	42	590	.040	.54

Minnesota River near Carver, Minn.

Location.— Water-stage recorder, lat. 44°44', long. 93°38', in sec. 31, T. 115 N., R. 23 W., about 3 miles south of Carver and about 37 miles above mouth. Zero of gage is 690.00 feet above mean sea level (adjustment of 1912). Prior to Dec. 5, 1934, staff gage at same site and datum.

Drainage area.— 15,800 square miles.

Records available.— September 1934 to September 1935.

Extremes.— Maximum discharge during period of record, 4,820 second-feet Mar. 19 (gage height, 7.60 feet); minimum (estimated because of ice effect), 104 second-feet Jan. 23; minimum gage height, 2.70 feet Sept. 21, 22, 1934, Jan. 4, 1935.

Remarks.— Records good except those for periods of ice effect, Jan. 15-30, Feb. 24, 25, Mar. 8-18, which are fair. Daily staff gage readings used Sept. 13 to Dec. 5, 1934, Aug. 5-15, Aug. 23 to Sept. 10, Sept. 21-25, 1935.

Rating table, Sept. 13, 1934, to Sept. 30, 1935, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.6	97	3.2	370	4.2	1,370	5.2	2,340
2.7	120	3.4	530	4.4	1,610	6.0	3,140
2.8	156	3.6	720	4.6	1,810	6.8	3,940
3.0	240	3.9	1,025	4.8	1,990	7.6	4,820

Discharge, in second-feet, Sept. 13-30, 1934

Sept. 13	117	Sept. 18	127	Sept. 23	124	Sept. 28	145
14	124	19	127	24	145	29	156
15	131	20	124	25	179	30	152
16	127	21	120	26	166		
17	127	22	120	27	160		

Note.— Discharge measurements, 1934: June 12, 257 second-feet; July 25, 118 second-feet; Aug. 14, 110 second-feet.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	152	183	187	156	156	1,080	1,610	750	850	1,940	385	218
2	149	179	183	152	156	1,110	1,550	890	790	1,720	820	213
3	149	183	179	145	156	1,140	1,410	930	790	1,500	1,190	213
4	149	183	168	138	156	1,310	1,320	972	750	1,370	740	213
5	149	176	156	156	160	1,720	1,310	983	660	1,310	611	208
6	142	168	172	152	160	1,900	1,250	962	690	1,230	790	213
7	138	168	179	156	172	2,250	1,200	1,000	670	1,140	680	213
8	134	164	185	156	187	2,740	1,120	1,100	630	1,100	650	204
9	131	164	191	156	191	3,240	1,040	1,120	620	1,020	602	204
10	131	160	179	156	187	3,640	972	1,120	670	994	593	204
11	131	156	172	156	176	3,740	972	1,140	680	972	584	208
12	131	156	168	156	172	3,340	972	2,160	770	870	522	208
13	131	152	164	156	176	3,040	983	1,680	780	790	400	208
14	131	149	164	152	191	3,240	983	1,720	650	740	370	204
15	127	149	164	149	191	3,640	920	1,470	557	700	356	204
16	124	149	179	145	200	3,740	920	1,340	700	620	321	213
17	124	145	187	158	218	3,740	962	1,400	1,280	557	307	213
18	124	145	187	151	236	4,490	1,060	1,550	1,270	594	294	204
19	124	145	183	127	252	4,710	972	1,610	1,550	539	300	195
20	355	142	183	120	288	4,600	930	1,610	1,940	504	514	195
21	258	218	187	113	300	4,490	920	1,420	2,070	462	300	195
22	200	218	195	107	342	4,050	890	1,290	2,160	445	349	191
23	179	218	187	104	504	3,640	830	1,230	2,640	408	370	187
24	183	218	191	110	760	3,240	870	1,120	2,940	370	342	195
25	218	218	183	120	808	2,940	900	1,050	2,940	378	294	195
26	222	213	164	127	790	2,740	890	1,010	2,390	370	282	191
27	228	213	152	139	870	2,390	860	994	2,250	356	264	183
28	204	208	156	152	1,020	2,120	840	962	2,020	335	252	179
29	204	204	156	156	-	1,940	820	900	2,020	314	226	179
30	191	195	156	160	-	1,810	770	920	2,070	300	226	176
31	187	-	160	160	-	1,660	-	890	-	288	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	5,178	335	124	167	0.011	0.01
November.....	5,339	218	142	178	.011	.01
December.....	5,427	195	152	175	.011	.01
Calendar year						
January.....	4,400	160	104	142	.0090	.01
February.....	9,175	1,020	156	328	.021	.02
March.....	89,530	4,710	1,080	2,888	.183	.21
April.....	31,046	1,610	770	1,035	.066	.07
May.....	37,593	2,160	750	1,213	.077	.09
June.....	40,657	2,940	557	1,355	.086	.10
July.....	24,226	1,940	288	781	.049	.06
August.....	13,926	1,190	222	449	.028	.03
September.....	6,031	218	176	201	.015	.01
Water year 1934-35	272,528	4,710	104	747	.047	.63

Note.— Mean discharge Sept. 13-30, 1934, was 137 second-feet.

Whetstone River near Big Stone, S. Dak.

Location.- Chain gage, lat. 45°17', long. 96°29', in sec. 18, T. 121 N., R. 46 W., 1 1/2 miles west of Big Stone. Zero of gage is 996.96 feet above mean sea level (adjustment of 1912).

Drainage area.- 420 square miles.

Records available.- March 1931 to September 1935 (incomplete during winter), September 1909 to November 1912 at a site 2 miles downstream, in reports of U. S. Geological Survey; April 1899 to May 1904, September 1909 to November 1912, in report of water resources investigations of Minnesota for 1909-12 by State Drainage Commission.

Extremes.- Maximum discharge observed during year, 360 second-feet June 9; maximum gage height observed, 7.65 feet Mar. 5 (ice jam); no flow during most of period October to January.

1909-12, 1931-35: Maximum discharge, 2,070 second-feet Mar. 8, 1910 (gage height, from flood marks, 11.6 feet, former site and datum); no flow frequently during summer and fall.

A stage of about 26 feet, present site and datum, occurred in June 1919, reported by a nearby resident.

Remarks.- Records fair. Stage-discharge relation affected by ice Mar. 1-19.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Mar. 2 to Aug. 17

1.6	0.1	2.4	19	3.2	88
1.8	1.3	2.6	32	3.5	128
2.0	4.8	2.8	48	4.0	222
2.2	10.5	3.0	67	4.5	360

Table for Aug. 18 to Sept. 30

1.6	0	2.2	9.6
1.8	.5	2.5	24
2.0	3.9	3.0	67

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						*20	9.3	14	3.5	9.9	0.9	0.9
2						20	* 8.9	18	3.0	8.1	.9	.7
3						20	* 8.5	24	2.3	7.5	1.1	.6
4						60	8.1	26	2.1	7.0	1.4	.5
5						259	7.5	26	2.6	5.9	1.2	.5
6						161	7.0	34	2.6	4.8	1.1	.9
7						128	8.1	45	2.6	3.5	1.1	.9
8						128	7.5	50	2.6	8.1	.9	.9
9						136	* 8.1	40	2.5	7.0	.6	.6
10						100	8.7	34	2.3	12	.5	.5
11						*84	10	28	2.3	11	.4	.4
12						*86	9.9	24	*2.2	8.7	*.3	.5
13						82	10	19	2.1	7.5	*.3	.3
14						72	31	15	1.6	6.7	*.3	.3
15						72	29	*12	3.0	10	*.3	.3
16						77	26	9.9	128	7.2	*.3	.2
17						88	25	9.9	380	5.1	*5.0	.2
18						*80	*22	9.9	330	4.1	.99	.1
19						72	18	9.3	152	4.6	16	*.1
20						56	14	8.1	77	10	7.1	.1
21						42	13	7.5	48	4.6	3.9	.1
22						*35	12	7.0	42	*4.5	2.3	.1
23						28	10	* 6.3	28	4.4	1.9	*.1
24						26	12	* 5.5	20	2.8	1.6	.1
25						24	11	4.8	23	2.2	1.4	*.1
26						17	11	4.4	23	2.2	1.5	*.2
27						14	12	3.0	16	2.0	1.4	.2
28						10	12	2.8	13	1.8	1.1	*.2
29						*10	11	2.6	12	.9	.9	*.2
30						9.9	10	2.3	11	1.1	.9	*.3
31						9.9	-	* 2.9	-	1.1	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....						
November.....						
December.....						
Calendar year						
January.....	-	-	-	-	-	-
February.....	-	-	-	-	-	-
March.....	2,037.8	259	9.9	65.7	0.156	0.18
April.....	390.8	31	7.0	13.0	.031	.03
May.....	503.2	50	2.3	16.2	.039	.04
June.....	1,380.3	380	1.6	44.0	.105	.12
July.....	176.3	12	.9	5.69	.014	.02
August.....	127.5	60	.3	3.79	.0090	.01
September.....	10.9	.9	.1	.36	.00086	.001
Water year						

*Estimated.

Note.- No records Oct. 1 to Feb. 28; little or no flow October to January.

Pomme de Terre River near Appleton, Minn.

Location.- Staff gage, lat. 45°14', long. 95°59', in NE $\frac{1}{4}$ sec. 1, T. 120 N., R. 43 W., 3 miles northeast of Appleton and 5 miles above mouth.

Drainage area.- 950 square miles.

Records available.- March 1931 to September 1935 (incomplete during winter).

Extremes.- Maximum discharge observed during year (estimated because of ice effect), 350 second-feet Mar. 16; maximum gage height, 5.48 feet Mar. 6 (ice jam); minimum discharge (estimated), 2 second-feet Mar. 1-3.
1931-35: Maximum discharge, that of Mar. 16, 1935; maximum gage height, that of Mar. 6, 1935; no flow Aug. 3-5, 1934.

Remarks.- Records poor. Stage-discharge relation affected by ice Nov. 28 to Dec. 1, Mar. 4-19 and by aquatic growth Oct. 1-23, May 21 to Sept. 8. No records Dec. 2 to Feb. 28.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	10	13			* 2	43	54	19	7.5	14	26
2	8.7	13				* 2	44	57	17	7.1	14	25
3	8.3	11				* 2	37	58	15	6.6	13	24
4	9.1	12				10	56	58	13	5.3	13	22
5	9.1	12				46	41	55	13	4.2	14	22
6						168	39	54	12			
7	8.3	13				140	41	55	11	4.2	13	22
8	8.7	12				114	41	51	10	4.6	12	20
9	8.3	12				59	45	50	9.4	5.3	12	20
10	8.7	12				108	45	47	8.2	5.3	11	20
11	9.5	13				73	51	47	7.9	11	10	19
12	8.7	12				62	50	46	7.1	34	9.4	18
13	9.1	12				45	49	48	6.8	61	8.5	18
14	9.1	13				38	43	49	6.3	66	8.2	17
15	9.1	12				34	46	44	6.5	63	8.2	17
16	12	12				278	41	39	16	89	7.6	16
17	9.1	11				134	43	38	9.4	89	6.8	16
18	11	12				168	38	39	13	70	6.9	15
19	10	12				147	43	38	16	56	140	15
20	19	13				134	40	36	13	50	120	14
21	27	15				127	37	34	12	45	63	14
22	24	13				106	36	35	22	44	62	13
23	22	15				101	37	35	13	36	51	13
24	23	16				83	39	34	13	33	43	13
25	22	16				67	43	51	13	30	41	12
26	18	15				57	52	51	11	26	43	12
27	15	14				49	57	26	10	22	36	13
28	14	14				45	62	24	9.1	20	31	12
29	13	16				29	65	22	8.8	18	30	11
30	13	13				38	60	20	9.1	17	29	12
31	13	-				43	-	18	-	16	29	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				397.6	27	8.5	12.8	0.013	0.01			
November.....				392	16	10	13.1	.014	.02			
December.....				-	-	-	-	-	-			
Calendar year												
January.....				-	-	-	-	-	-			
February.....				-	-	-	-	-	-			
March.....				2,539	278	2	31.9	.086	.10			
April.....				1,342	63	36	44.7	.047	.05			
May.....				1,271	58	18	41.0	.043	.06			
June.....				567.3	22	6.5	11.9	.013	.01			
July.....				970.6	89	4.2	31.3	.033	.04			
August.....				932.6	140	6.8	30.1	.032	.04			
September.....				513	26	11	17.1	.018	.02			
Water year												

*Estimated.

Lac qui Parle River near Lac qui Parle, Minn.

Location.- Staff gage, lat. 45°, long. 95°55', on line between secs. 27 and 28, T. 118 N., R. 42 W., 1 mile southwest of Lac qui Parle.

Drainage area.- 1,040 square miles.

Records available.- March 1931 to September 1935. April 1910 to November 1914 comparable record at station 2 miles downstream.

Extremes.- Maximum discharge observed during year, 205 second-feet Mar. 12 (gage height, 3.05 feet, affected by ice); no flow during several months.
1910-14, 1931-35: Maximum discharge, 1,550 second-feet May 5, 6, 1912 (gage height, 7.6 feet, former site and datum); no flow in several different years.

Remarks.- Records fair except those estimated, which are poor. Stage-discharge relation affected by ice Feb. 6, Mar. 12, 14, 15.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.2	0	0.8	16	1.4	51	2.0	120
.3	1.1	.9	20	1.5	60	2.1	135
.4	3.0	1.0	25	1.6	70	2.2	151
.5	5.7	1.1	30	1.7	81	2.3	168
.6	8.7	1.2	35	1.8	93	2.4	186
.7	12	1.3	43	1.9	106	2.5	205

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					*0	* 1	*12	15	6.9	*21		
2					*1	* 3	11	17	* 6.3	22		
3					*2	* 4	8.7	19	5.7	21		
4					*.5	* 60	8.1	20	5.2	20		
5					*.2	*110	9.4	*24	4.6	11		
6					†.06	* 80	*10	27	4.1	7.5		
7						* 40	10	26	3.5	* 7.2		
8						* 30	11	*27	3.0	6.9		
9						* 40	9.4	28	* 2.8	5.7		
10						* 60	8.7	29	2.5	5.2		
11						* 90	9.4	28	2.5	4.6		
12						196	10	29	2.2	4.1		
13						*135	11	30	1.9	3.5		
14						100	*13	26	1.5	* 3.2		
15						81	15	20	* 3	3.0		
16						66	16	*19	*25	* 2.8		
17						76	*20	18	55	2.6		
18						66	23	18	180	2.2		
19						60	21	17	135	1.9		
20						55	20	16	*95	1.1		
21												
22						* 52	23	15	55	*.9		
23						49	19	14	46	*.8		
24						39	18	*17	*44	*.6		
25						32	*17	20	42	*.5		
26						29	16	11	37	*.4		
27						23	14	11	*30	*.3		
28						* 22	15	*10	22	*.2		
29						22	*18	9.4	*21	*.2		
30						18	22	8.7	20	*.1		
31						15	21	8.1	*21	* 0		
						* 14	-	7.5	-	* 0		

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	0	0	0	0	0	0
November.....	0	0	0	0	0	0
December.....	0	0	0	0	0	0
Calendar year	0	0	0	0	0	0
January.....	0	0	0	9	0	0
February.....	14.76	2	-	53.8	.00051	.0005
March.....	1,668	196	1	53.8	.052	.05
April.....	439.7	23	8.1	14.7	.014	.02
May.....	884.7	30	7.5	15.9	.013	.02
June.....	861.9	180	1.5	28.7	.028	.03
July.....	180.5	28	0	5.18	.0050	.006
August.....	0	0	0	0	0	0
September.....	0	0	0	0	0	0
Water year 1934-35.....	3,729.56	196	0	10.2	.0098	.14

*Estimated.

†Discharge measurement.

Chippewa River near Watson, Minn.

Location.- Chain gage, lat. 45°1', long. 95°48', on line between secs. 22 and 15, T. 118 N., R. 41 W., $\frac{1}{2}$ miles northeast of Watson, 2 miles below Dry Weather Creek, and 10 miles above mouth. Zero of gage is 931.82 feet above mean sea level (adjustment of 1912).

Drainage area.- 1,850 square miles.

Records available.- April 1910 to September 1917, March 1931 to September 1935.

Extremes.- Maximum discharge observed during year, 174 second-feet Mar. 18 (gage height, 5.62 feet, affected by ice); no flow during several months.
1910-17, 1931-35: Maximum discharge, 9,600 second-feet Apr. 4, 1917 (gage height, 17.88 feet, old datum); no flow for several months during 1953-35.

Remarks.- Records fair. Stage-discharge relation affected by ice Nov. 22-24, 27-29, Mar. 13-18, and by aquatic growth May 21 to Sept. 19. Discharge estimated Nov. 30, Feb. 1 to Mar. 12. Gage not read Nov. 30 to Mar. 12.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.2			1	6	57	72	63	17	18	28
2	0	1.8			2	10	57	90	63	15	15	30
3	0	1.5			4	20	57	80	51	13	14	28
4	0	1.5			3	50	60	86	42	11	17	28
5	0	1.5			1	120	57	86	45	10	18	28
6	0	1.8			1	100	57	83	39	9.1	17	28
7	0	1.8				85	63	83	36	7.6	13	24
8	0	1.8				70	57	83	30	7.6	11	24
9	0	1.5				65	57	83	28	5.7	10	24
10	0	1.5				55	57	83	22	6.9	8.8	23
11	0	1.5				45	63	94	19	6.9	7.9	24
12	0	1.5				50	57	90	18	6.6	6.6	24
13	0	1.8				57	57	94	16	2.2	6.8	24
14	0	1.5				63	54	94	14	3.3	3.9	24
15	0	1.8				98	42	90	13	1.5	2.6	21
16	0	1.8				72	54	94	60	4.2	3.6	20
17	0	1.5			.5	130	51	90	60	5.7	2.7	16
18	0	2.1				174	45	114	48	19	6.5	14
19	0	2.4				130	45	106	12	32	11	15
20	1.5	2.7				94	48	90	20	32	9.8	14
21	10	2.4				94	45	98	20	42	9.4	15
22	6.3	1.6				106	45	106	20	39	8.8	14
23	5.7	1.2				106	45	98	14	42	39	14
24	6.3	1.4				106	48	106	14	36	39	14
25	11	2.7				95	63	94	17	34	39	11
26	5.7	2.7				90	57	90	17	34	32	11
27	3.9	2.2				83	60	83	22	32	26	12
28	2.7	1.8				76	63	80	19	30	26	12
29	2.1	1.5				76	63	80	19	24	27	11
30	1.8	1.0				76	63	72	18	20	30	10
31	1.5	-				57	-	66	-	18	28	-
Month				Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....				58.5		11	0	1.89	0.0010	0.001		
November.....				53.0		2.7	1.0	1.77	0.00098	0.001		
December.....				0		0	0	0	0	0		
Calendar year												
January.....				0		0	0	0	0	0		
February.....				23.0		4	-	.82	.00044	0		
March.....				2,462		174	6	79.4	.043	.05		
April.....				1,647		63	42	54.9	.030	.03		
May.....				2,748		114	66	88.6	.048	.06		
June.....				979		63	13	29.3	.016	.02		
July.....				567.3		42	1.5	18.3	.0099	.01		
August.....				506.7		39	2.6	16.3	.0088	.01		
September.....				581		30	10	19.4	.010	.01		
Water year 1934-35.....				9,525.5		174	0	26.1	.014	.19		

Yellow Medicine River near Granite Falls, Minn.

Location.- Chain gage, lat. 44°43', long. 95°31', in sec. 35, T. 115 N., R. 39 W., 6 miles above mouth and 8 miles south of Granite Falls.

Drainage area.- 540 square miles.

Records available.- March 1931 to September 1935 (incomplete during winter).

Extremes.- Maximum discharge observed during year, 65 second-feet Mar. 12 (gage height, 2.84 feet); minimum, 0.3 second-foot July 26 (gage height, 1.86 feet).
1931-35: Maximum discharge, 476 second-feet Mar. 1, 1932 (gage height, 4.20 feet); no flow July 26, Aug. 27, 1931. and several days in 1933.

Remarks.- Records poor. No records Dec. 1 to Mar. 3.

Rating table, water year 1934-35
(gage height, in feet, and discharge, in second-feet)

1.8	0	2.4	22
1.9	.5	2.5	34
2.0	1.5	2.6	47
2.1	3.5	2.7	61
2.2	7.3	2.8	77
2.3	13	2.9	96

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	3.1				-	9.0	12	5.8	5.0	0.7	1.4
2	2.1	2.7				-	6.9	17	5.8	3.5	.4	1.4
3	2.1	3.9				-	5.4	12	3.9	2.9	.6	1.5
4	1.5	3.5				32	11	10	2.9	2.5	.5	1.7
5	2.1	1.9				20	7.9	9.6	3.1	2.1	.9	1.2
6	* 2.8	4.3			† 5.65	* 16	6.5	10	3.3	1.7	1.1	1.5
7	3.5	3.3				12	6.2	11	3.3	* 1.5	.8	1.9
8	2.7	* 4.0				9.6	9.6	17	3.1	1.5	1.4	1.9
9	3.9	4.3				4.3	9.0	12	* 3.0	1.5	1.3	1.9
10	3.9	2.3				64	7.9	13	2.9	1.7	.9	2.1
11	3.9	2.3				81	* 15	12	3.9	1.5	.8	1.9
12	4.3	2.5				85	* 12	15	* 3.0	1.1	.9	1.5
13	* 4.0	3.1				61	* 12	13	2.9	1.1	.8	1.5
14	* 4.0	4.3				53	* 10	12	* 3.0	1.2	.6	1.4
15	5.0	2.9				44	20	11	3.9	* 1.2	.6	1.3
16	5.4	2.3				48	27	9.6	6.2	1.2	* .6	1.5
17	6.9	2.3				* 50	24	9.6	7.3	1.0	* .5	* 1.4
18	4.6	5.0				55	22	11	6.9	1.2	.8	* 1.2
19	5.4	4.3				47	16	6.9	6.5	* 1.2	.9	* 1.0
20	5.4	4.3				46	11	8.4	6.2	1.3	3.1	1.1
21	6.2	4.6				39	11	7.9	* 5.5	2.1	2.7	1.3
22	5.8	* 4.2				32	9.6	9.6	5.4	1.3	1.9	1.1
23	4.3	3.9				30	11	8.4	5.4	1.0	1.2	1.3
24	5.4	5.0				20	13	6.2	5.8	.9	1.4	1.3
25	5.4	* 4.5				18	17	6.2	5.8	.9	1.0	.9
26	3.9	* 4.5				18	13	8.4	* 5.0	.9	1.5	1.1
27	2.9	4.3				18	12	* 7.0	* 4.5	.7	1.1	1.1
28	2.5	4.3				15	12	6.5	* 4.5	.4	1.3	1.1
29	4.3	* 4.3				12	9.0	* 6.0	* 4.5	.9	1.4	1.0
30	3.5	4.3				* 13	7.9	5.4	4.3	.7	1.2	.9
31	3.3	-				14	-	5.8	-	.6	1.3	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....					123.9	6.9	1.5	4.00	0.0074		0.009	
November.....					110.5	5.0	1.9	3.68	.0068		.008	
December.....					-	-	-	-	-		-	
Calendar year												
January.....					-	-	-	-	-		-	
February.....					-	-	-	-	-		-	
March 4-31					956.9	85	4.3	34.2	.063		.07	
April.....					363.9	27	5.4	12.1	.022		.02	
May.....					309.5	17	5.4	9.98	.018		.02	
June.....					137.6	7.3	2.9	4.59	.0085		.009	
July.....					46.3	5.0	.4	1.49	.0028		.003	
August.....					34.2	3.1	.4	1.10	.0020		.002	
September.....					41.4	2.1	.9	1.38	.0026		.003	
Water year												

* Estimated.

† Discharge measurement.

Redwood River near Redwood Falls, Minn.

Location.- Chain gage, lat. $44^{\circ}31'$, long. $95^{\circ}10'$, in NE $\frac{1}{4}$ sec. 9, T. 112 N., R. 36 W., 3 miles west of Redwood Falls.

Drainage area.- 703 square miles.

Records available.- July 1909 to September 1914, August 1930 to September 1935 (incomplete during winter).

Extremes.- Maximum discharge observed during year, 66 second-feet Mar. 20; maximum gage height observed, 2.09 feet Mar. 15 (affected by ice); minimum discharge, 0.2 second-foot Aug. 15-17, Sept. 18-22, 24, 25.
1909-14, 1930-35: Maximum discharge, 781 second-feet (discharge measurement) July 2, 1909 (gage height, 3.98 feet, present datum); minimum, 0.1 second-foot July 26-31, Aug. 4, 5, 9, 1934.

Remarks.- Records good except those affected by debris on control Aug. 18 to Sept. 30, and those for period of ice effect, Mar. 1-3. 5-12, which are fair. No records Dec. 1 to Feb. 28.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet) (Shifting-control method used Aug. 18 to Sept. 30)

Table for Oct. 1 to Nov. 30

1.2	0.5
1.3	1.0
1.4	2.0
1.5	5.0
1.6	10

Table for Mar. 1 to Sept. 30

1.1	0.2	1.6	12
1.2	.7	1.8	28
1.3	1.5	2.0	55
1.4	3	2.2	95
1.5	6		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.2				10	20	22	5.0	9.0	1.4	
2	.7	1.3				16	17	26	5.0	15	1.2	0.7
3	.7	1.2				15	16	22	4.7	12	.6	1.0
4	.9	1.3				* 18	16	* 21	3.2	8.0	.8	.9
5	.9	1.3			† 20.4	* 22	16	20	3.8	6.0	1.0	.9
6	.9	1.3				25	15	20	3.2	4.4	1.0	1.2
7	1.0	1.2				25	15	22	3.2	3.5	1.0	1.0
8	1.0	1.1				26	13	20	3.2	11	1.1	.7
9	1.1	1.3				26	13	18	3.5	4.7	.7	.7
10	1.2	1.0				26	16	17	3.5	4.4	1.0	.7
11	1.8	* 1.1				30	19	20	3.2	3.2	.9	.6
12	1.4	1.2				30	18	19	3.8	4.4	.6	.5
13	1.3	1.0				28	18	18	4.1	5.0	.4	.5
14	1.4	1.2				32	20	12	4.4	3.5	* .3	.4
15	1.5	1.2				49	20	14	* 10	2.6	.2	.4
16	2.4	1.0				39	30	13	* 15	2.0	.2	.4
17	* 2.0	1.2				34	35	13	* 10	1.6	.2	.3
18	1.5	1.3				50	28	10	* 20	1.6	.5	.2
19	2.2	1.2				59	24	9.5	* 15	1.4	.6	.2
20	3.3	1.2				62	22	8.0	* 12	1.4	.6	.2
21	3.0	1.0				62	22	7.0	* 10	1.4	1.1	.2
22	2.1	.7				55	18	8.5	* 8	1.4	.8	* .2
23	2.0	.7				50	21	7.0	* 7	1.6	.4	.3
24	10	.7				49	21	7.0	* 7	1.4	.6	.2
25	3.3	1.0				44	25	6.0	8.5	1.0	.6	.2
26	1.8	1.2				39	20	8.0	9.0	.9	.6	.3
27	1.3	1.2				32	* 17	7.0	7.0	.9	.8	.3
28	1.3	1.0				27	14	8.5	4.4	.7	.8	.4
29	* 1.3	1.0				23	16	8.5	4.7	.6	.7	.4
30	1.3	.9				22	17	4.4	4.1	.7	.7	.5
31	1.2	-				20	-	4.4	-	1.6	.7	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....					56.8	10	0.7	1.83	0.0028	0.003		
November.....					33.2	1.3	.7	1.11	.0016	.002		
December.....					-	-	-	-	-	-		
Calendar year												
January.....					-	-	-	-	-	-		
February.....					-	-	-	-	-	-		
March.....					1,054	62	15	34.0	.048	.06		
April.....					582	35	13	19.4	.028	.03		
May.....					421.8	26	4.4	13.6	.019	.02		
June.....					205.5	20	3.2	6.85	.0097	.01		
July.....					119.9	18	.6	3.37	.0055	.006		
August.....					22.4	1.4	.2	.72	.0010	.001		
September.....					15.2	1.2	.2	.51	.00073	.0008		
Water year												

† Discharge measurement.

* Estimated.

Cottonwood River near New Ulm, Minn.

Location.- Wire-weight gage, lat. 44°17'. long. 94°29', in sec. 31, T. 110 N., R. 30 W., 2 miles southwest of New Ulm and 4 miles above mouth. Prior to June 23, 1935, chain gage at same site and datum. Zero of gage is 810.50 feet above mean sea level (adjustment of 1912).

Drainage area.- 1,190 square miles.

Records available.- March 1931 to September 1935 (incomplete during winter). July 1909 to December 1913 comparable records at station 2 miles downstream.

Extremes.- Maximum discharge observed during year. 680 second-feet Mar. 7 (gage height, 6.82 feet, affected by ice); minimum. 4.2 second-feet Oct. 7.
1909-13. 1931-35: Maximum discharge, 4,540 second-feet Feb. 29, 1932 (gage height, 11.20 feet, affected by ice); minimum, 0.6 second-foot Aug. 1, 1934.

Remarks.- Records fair. Stage-discharge relation affected by debris on control Oct. 22, Sept. 24-30 and by ice Nov. 28 to Dec. 1, Mar. 1-16. No records Dec. 2 to Feb. 28.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet) (Shifting-control method used Oct. 22, Sept. 24-30)

Table for Oct. 1 to Dec. 1

2.3	2.3	3.1	65
2.4	5.5	3.2	75
2.5	11	3.4	97
2.6	19	3.6	120
2.7	26	3.8	146
2.8	35		
2.9	45		
3.0	55		

Table for Mar. 1 to Sept. 30

2.2	3	3.8	147
2.4	8	4.0	180
2.5	19	4.2	222
2.8	35	4.5	300
3.0	55	5.0	470
3.2	75	5.5	680
3.4	97		
3.6	120		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	21	9.9			200	80	86	63	80	7.1	11
2	7.7	30				190	70	97	55	75	17	12
3	7.7	18				190	65	97	61	70	16	14
4	8.8	19				211	65	97	51	80	14	15
5	7.7	15				246	63	97	55	70	11	16
6	6.6	11				272	70	92	70	63	10	14
7	4.2	14				680	70	97	65	23	12	13
8	5.5	9.9				550	65	97	57	51	14	12
9	6.6	7.7				451	55	86	92	49	16	10
10	7.7	5.5				580	61	92	75	51	17	10
11	8.8	8.8				300	65	86	55	45	12	9.0
12	8.8	11				272	75	75	59	35	10	10
13	5.5	9.9				259	75	80	45	31	12	12
14	7.7	8.8				246	80	70	51	19	11	10
15	8.8	11				259	80	70	70	26	8.0	9.5
16	9.9	11				266	80	63	75	23	6.2	10
17	7.7	9.9				236	75	59	65	25	6.5	10
18	7.7	14				266	70	55	97	26	8.0	9.0
19	11	15				272	65	61	56	22	26	9.5
20	126	17				246	59	55	86	16	30	12
21	120	15				222	59	49	108	18	20	11
22	80	14				200	55	55	108	18	17	8.0
23	55	18				183	63	61	108	19	10	7.4
24	59	15				126	70	65	102	17	6.5	7.1
25	49	14				120	70	55	92	15	12	6.8
26	35	12				108	70	75	92	13	14	7.4
27	39	12				97	75	75	75	12	13	5.3
28	35	12				65	70	70	70	10	14	4.6
29	39	11				96	70	70	108	10	15	4.3
30	31	10				80	75	65	86	8.0	14	4.6
31	26	-				75	-	65	-	9.0	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	841.2	126	4.2	27.1	0.023	0.03	1,670
November.....	339.5	21	5.5	13.0	.011	.01	773
December.....	-	-	-	-	-	-	-
Calendar year							
January.....	-	-	-	-	-	-	-
February.....	-	680	-	-	-	-	-
March.....	7,424	80	75	239	.201	.23	14,730
April.....	2,065	97	55	68.8	.058	.06	4,100
May.....	2,317	49	49	74.7	.063	.07	4,500
June.....	2,282	108	45	76.1	.064	.07	4,530
July.....	1,069.0	80	8.0	34.5	.029	.03	2,120
August.....	488.3	80	6.2	15.8	.013	.01	969
September.....	295.0	16	4.6	9.83	.0083	.009	583
Water year							

St. Croix River near Danbury, Wis.

Location.- Chain gage, lat. $46^{\circ}4'$, long. $92^{\circ}15'$, in sec. 33, T. 42 N., R. 15 W., on State Trunk Highway 35, 10 miles northeast of Danbury. Namakagon River enters $3\frac{1}{2}$ miles above station.

Drainage area.- 1,550 square miles.

Records available.- March 1914 to September 1935.

Average discharge.- 21 years, 1,144 second-feet.

Extremes.- Maximum discharge observed during year, 5,450 second-feet Mar. 23 (gage height, 5.35 feet); minimum observed, 540 second-feet Oct. 15, 18, (gage height, 0.34 foot).
1914-35: Maximum discharge, 5,450 second-feet Apr. 22, 1915 (gage height, 6.75 feet); minimum, 393 second-feet Aug. 6, 13, 1934 (gage height, -0.20 foot).

Remarks.- Records good except those for period of ice effect, Dec. 1 to Mar. 22, which are fair.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used, June 1 to Sept. 30)

0.0	450	2.0	2,000
.2	544	2.5	2,520
.4	575	3.0	2,980
.6	615	3.5	3,400
.8	960	4.0	3,820
1.0	1,110	5.0	4,850
1.5	1,520		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	960	887	960	815	675	675	3,060	1,520	861	1,110	780	960
2	987	881	961	710	575	745	2,800	1,520	897	1,340	780	960
3	981	887	745	745	875	780	2,520	1,430	831	1,430	780	960
4	815	887	710	745	780	887	2,420	1,430	815	1,430	710	1,030
5	815	615	675	745	745	1,110	2,220	1,740	780	1,610	815	1,030
6	960	815	675	710	745	1,150	2,000	1,340	780	1,610	1,110	960
7	861	815	675	675	710	1,110	1,800	1,340	780	1,610	1,110	960
8	861	861	575	745	710	1,110	1,710	1,430	815	1,620	1,160	887
9	861	815	675	745	675	1,260	1,610	1,430	780	1,430	1,110	861
10	861	780	710	780	710	1,340	1,610	1,430	861	1,430	960	861
11	815	815	675	710	675	1,340	1,610	1,430	861	1,520	960	780
12	745	675	745	710	675	1,430	1,610	1,800	887	1,610	887	815
13	710	745	887	710	675	1,520	1,520	1,800	960	1,520	815	780
14	745	710	615	710	675	1,550	1,520	1,800	1,030	1,340	815	745
15	640	710	815	745	710	1,710	1,430	1,710	1,030	1,260	745	745
16	640	710	780	780	745	1,900	1,430	1,610	1,180	1,180	745	745
17	745	745	780	780	815	2,000	1,430	1,520	1,430	1,180	745	710
18	745	745	780	780	861	2,220	1,430	1,430	1,340	1,110	815	745
19	780	710	780	815	861	2,520	1,430	1,430	1,340	1,110	745	745
20	1,030	887	745	815	861	2,890	1,340	1,260	1,260	1,110	1,610	745
21	1,180	1,110	815	815	861	3,400	1,260	1,180	1,280	1,110	1,800	710
22	1,180	1,110	887	815	861	4,200	1,260	1,110	1,180	1,030	1,800	710
23	1,110	1,110	861	780	745	5,120	1,180	1,110	1,180	1,030	1,710	675
24	1,180	1,030	745	745	780	5,120	1,260	1,030	1,180	950	1,610	710
25	1,180	960	780	745	675	4,500	1,260	1,030	1,180	861	1,520	745
26	1,180	960	780	780	675	3,740	1,260	1,030	1,030	861	1,520	745
27	1,110	1,110	745	710	675	3,910	1,260	960	1,030	861	1,340	745
28	1,110	1,110	745	675	675	3,820	1,340	960	960	815	1,340	745
29	1,030	1,030	745	675	-	3,650	1,430	960	960	815	1,180	745
30	1,030	1,030	745	675	-	3,450	1,430	960	887	815	1,180	710
31	1,030	-	745	675	-	3,230	-	861	-	815	1,030	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off in inches				
October.....	28,657			1,180	640	924	0.596	0.69				
November.....	26,436			1,110	675	881	.568	.63				
December.....	25,756			960	675	766	.494	.57				
Calendar year 1934.....	314,960			6,040	405	863	.557	7.57				
January.....	23,060			815	675	744	.480	.55				
February.....	20,600			861	675	736	.475	.49				
March.....	75,417			5,120	675	2,368	1.53	1.76				
April.....	49,440			3,060	1,180	1,648	1.06	1.18				
May.....	41,191			1,800	861	1,329	.857	.89				
June.....	30,385			1,430	780	1,013	.654	.75				
July.....	37,433			1,610	815	1,206	.779	.90				
August.....	34,247			1,800	710	1,105	.713	.82				
September.....	24,264			1,030	675	609	.522	.56				
Water year 1934-35.....	412,885			5,120	640	1,131	.730	9.89				

St. Croix River near Grantsburg, Wis.

Location.- Staff gage, lat. 45°56', long. 92°39', near center of sec. 30, T. 40 N., R. 18 W., at Norway Point, half a mile below mouth of Sand Creek and 10 miles north of Grantsburg. Prior to Aug. 16, 1934, chain gage at same site and datum.

Drainage area.- 2,820 square miles.

Records available.- April 1923 to September 1935.

Average discharge.- 12 years, 1,801 second-feet.

Extremes.- Maximum discharge observed during year, 12,600 second-feet Mar. 24 (gage height, 11.2 feet); minimum, 905 second-feet (estimated) Dec. 27, Jan. 3-5.
1923-35: Maximum discharge, 13,300 second-feet Mar. 18, 1927 (gage height, 11.4 feet); minimum, 510 second-feet Aug. 14, 17, 1934.

Remarks.- Records good except those for period of ice effect, Dec. 1 to Mar. 22, which are fair.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 13 to Sept. 30)

3.0	480	4.0	1,150	7.0	4,700
3.2	605	4.5	1,550	8.0	5,400
3.4	735	5.0	2,000	9.0	6,250
3.6	870	5.5	2,540	10.0	10,200
3.8	1,010	6.0	3,180	11.0	12,200

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,730	1,910	2,000	940	1,080	940	6,580	2,420	1,390	2,000	1,230	1,820
2	1,640	1,820	1,820	940	1,080	1,010	5,870	2,540	1,470	2,420	1,150	1,730
3	1,550	1,820	1,820	905	1,080	1,010	5,020	2,540	1,470	2,660	1,150	1,730
4	1,550	1,820	1,730	905	1,080	1,150	4,540	2,420	1,390	2,660	1,150	1,640
5	1,550	1,730	1,470	905	1,150	1,390	4,060	2,420	1,390	2,910	1,150	1,640
6	1,730	1,640	1,550	940	1,150	1,550	3,760	2,310	1,310	3,040	1,470	1,640
7	1,730	1,640	1,550	940	1,150	1,640	3,460	2,310	1,310	3,180	1,640	1,640
8	1,730	1,640	1,550	940	1,150	1,640	3,180	2,420	1,390	3,040	1,640	1,550
9	1,730	1,640	1,470	1,010	1,150	1,730	3,040	2,540	1,390	2,910	1,640	1,470
10	1,640	1,550	1,470	1,010	1,150	1,820	2,910	2,540	1,470	2,910	1,550	1,470
11	1,640	1,550	1,390	1,010	1,150	1,910	2,910	2,420	1,390	3,040	1,470	1,470
12	1,550	1,550	1,390	1,010	1,150	1,910	2,910	3,040	1,390	3,040	1,390	1,390
13	1,470	1,470	1,230	1,010	1,150	2,000	2,780	3,910	1,390	2,910	1,310	1,310
14	1,470	1,470	1,230	1,010	1,150	2,100	2,660	4,060	1,730	2,780	1,230	1,310
15	1,470	1,390	1,150	940	1,150	2,200	2,540	3,760	1,910	2,540	1,150	1,310
16	1,390	1,390	1,080	1,010	1,230	2,540	2,420	3,320	2,200	2,420	1,150	1,310
17	1,470	1,390	1,080	1,010	1,230	2,910	2,420	3,040	2,780	2,310	1,150	1,310
18	1,470	1,390	1,010	1,010	1,230	3,320	2,310	2,780	2,200	2,200	1,150	1,230
19	1,470	1,390	1,080	1,010	1,230	3,910	2,310	2,540	2,660	2,200	1,390	1,230
20	1,820	1,470	1,060	1,010	1,150	5,020	2,200	2,310	2,420	2,100	3,040	1,230
21	2,310	1,820	1,080	1,010	1,150	6,760	2,100	2,100	2,310	2,000	4,860	1,230
22	2,540	2,100	1,080	1,010	1,150	9,400	2,100	2,000	2,540	1,910	4,380	1,230
23	2,540	2,200	1,080	1,010	1,080	12,000	2,000	1,820	2,100	1,820	3,610	1,230
24	2,540	2,200	1,080	1,010	1,080	12,200	2,100	1,820	2,000	1,730	3,040	1,230
25	2,540	2,100	1,010	1,010	1,010	12,400	2,000	1,730	2,000	1,640	2,780	1,230
26	2,540	2,100	1,010	1,010	1,010	11,200	2,100	1,640	2,100	1,470	2,660	1,230
27	2,420	2,100	905	1,010	940	10,400	2,100	1,640	2,000	1,470	2,540	1,230
28	2,310	2,200	940	1,010	940	9,600	2,100	1,550	1,820	1,470	2,310	1,230
29	2,200	2,200	1,010	1,010	-	9,200	2,200	1,550	1,820	1,390	2,200	1,230
30	2,100	2,200	1,010	1,010	-	8,440	2,420	1,470	1,640	1,310	2,000	1,230
31	2,000	-	1,010	1,080	-	7,490	-	1,390	-	1,310	1,910	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	57,840	2,540	1,390	1,866	0.662	0.76
November.....	52,890	2,200	1,390	1,763	.625	.70
December.....	39,365	2,000	905	1,270	.450	.52
Calendar year 1934.....	489,642	6,020	510	1,341	.476	6.47
January.....	30,645	1,080	905	989	.351	.40
February.....	31,400	1,230	940	1,121	.398	.41
March.....	150,990	12,400	940	4,871	1.73	1.99
April.....	89,100	6,580	2,000	2,970	1.06	1.17
May.....	74,350	4,060	1,390	2,398	.860	.98
June.....	54,960	2,780	1,310	1,832	.650	.73
July.....	70,790	3,180	1,310	2,284	.810	.83
August.....	60,490	4,860	1,150	1,951	.692	.80
September.....	41,730	1,820	1,230	1,391	.493	.55
Water year 1934-35.....	764,550	12,400	905	2,067	.733	9.94

St. Croix River near Rush City, Minn.

Location.- Staff gage, lat. 45°42', long. 92°52', in SW¼ sec. 8, T. 37 N., R. 20 W., 200 feet above Northern Pacific Railway bridge 5 miles east of Rush City and 10 miles below mouth of Snake River. Prior to July 15, 1934, chain gage at same datum on railway bridge 200 feet downstream.

Drainage area.- 5,120 square miles.

Records available.- April 1923 to September 1935.

Average discharge.- 12 years, 2,628 second-feet.

Extremes.- Maximum discharge observed during year, 21,100 second-feet Mar. 25 (gage height, 10.6 feet); minimum (estimated), 1,260 second-feet Feb. 20, 21. 1923-35: Maximum discharge, that of Mar. 25, 1935; maximum discharge (26,700 second-feet) formerly published for Mar. 18, 1927 (gage height, 10.2 feet) revised to 20,000 second-feet; minimum, 630 second-feet Aug. 14, 1933.

Remarks.- Records fair except those for period of ice effect, Dec. 6 to Mar. 19, which are poor.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 17 to Sept. 30)

2.3	470	3.3	2,420	5.0	6,500	7.0	11,700
2.5	820	3.6	3,070	5.5	7,800	8.0	14,300
2.7	1,190	4.0	3,980	6.0	9,100	9.0	16,900
3.0	1,790	4.4	4,930	6.5	10,400	10.0	19,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,000	2,320	2,320	1,670	1,560	1,460	11,200	4,680	2,000	3,750	1,690	2,630
2	1,900	2,210	2,320	1,560	1,780	1,360	10,900	4,930	2,000	3,980	1,590	2,620
3	1,690	2,000	2,210	1,560	1,560	1,460	9,360	4,440	1,900	3,980	1,590	2,620
4	1,690	2,000	2,210	1,560	1,360	1,560	8,320	4,440	1,900	3,980	1,590	2,420
5	1,690	1,900	1,590	1,560	1,460	2,000	7,640	4,210	1,900	4,930	1,790	2,420
6	2,100	1,900	1,560	1,560	1,890	2,120	7,020	3,980	1,900	4,930	2,210	2,320
7	2,100	1,790	1,560	1,560	1,670	2,350	6,500	3,980	1,790	4,930	2,520	2,210
8	2,210	1,790	1,560	1,460	1,460	2,120	5,710	4,440	1,900	4,680	2,420	2,100
9	2,100	1,690	1,560	1,460	1,360	2,120	5,440	4,680	1,790	4,440	2,420	2,000
10	2,000	1,690	1,560	1,670	1,360	2,350	5,180	4,440	1,900	4,680	2,320	1,900
11	2,000	1,590	1,670	1,670	1,360	2,350	4,930	4,680	1,790	4,930	2,000	1,790
12	1,790	1,590	1,670	1,790	1,360	2,470	4,930	5,970	1,790	4,680	2,000	1,790
13	1,690	1,490	1,670	1,560	1,360	2,470	4,930	7,540	1,790	4,680	1,900	1,690
14	1,690	1,490	1,670	1,560	1,360	3,300	4,440	8,580	3,070	3,980	1,790	1,690
15	1,690	1,490	1,670	1,460	1,360	3,600	4,440	7,540	3,070	3,980	1,690	1,690
16	1,690	1,490	1,670	1,560	1,360	4,560	4,210	7,020	6,240	3,750	1,590	1,690
17	1,690	1,490	1,670	1,560	1,360	4,560	3,080	6,240	4,930	3,290	1,590	1,690
18	1,690	1,490	1,670	1,560	1,360	5,610	3,750	5,180	6,240	3,290	1,790	1,690
19	1,590	1,490	1,670	1,670	1,360	6,100	3,750	4,930	5,710	3,290	2,100	1,590
20	2,210	1,590	1,670	1,560	1,260	10,100	3,520	4,210	5,440	3,290	6,500	1,490
21	3,070	2,000	1,670	1,560	1,260	13,300	3,290	3,980	5,440	3,070	7,540	1,490
22	3,290	2,420	1,670	1,560	1,460	17,400	3,290	3,520	5,180	3,070	7,020	1,490
23	3,290	2,420	1,670	1,560	1,360	17,700	3,070	3,070	4,680	2,850	6,240	1,390
24	3,520	2,520	1,560	1,560	1,460	20,000	3,070	3,070	4,210	2,630	5,180	1,390
25	3,520	2,520	1,560	1,560	1,360	21,100	3,070	3,980	3,980	2,420	4,440	1,490
26	3,290	2,520	1,560	1,560	1,360	20,300	3,070	3,070	3,980	2,320	4,440	1,490
27	3,290	2,520	1,670	1,890	1,360	19,500	3,290	2,520	3,980	2,210	4,210	1,390
28	3,070	2,630	1,560	1,560	1,360	18,200	3,290	2,320	3,520	2,100	3,750	1,390
29	2,650	2,630	1,560	1,560	-	17,400	3,520	2,000	3,070	2,100	3,520	1,490
30	2,630	2,630	1,360	1,560	-	16,600	4,440	2,000	3,070	1,900	3,070	1,490
31	2,520	-	1,670	1,460	-	14,000	-	1,900	-	1,900	3,070	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	71,450	3,520	1,590	2,305	0.450	0.52
November.....	59,500	2,630	1,490	1,977	.386	.43
December.....	52,660	2,320	1,360	1,699	.332	.38
Calendar year 1934.....	642,108	8,510	680	1,759	.344	4.64
January.....	48,950	1,890	1,460	1,679	.308	.36
February.....	39,940	1,890	1,260	1,426	.279	.29
March.....	258,520	21,100	1,360	8,339	1.63	1.88
April.....	153,450	11,200	3,070	5,115	.999	1.11
May.....	137,640	8,580	1,900	4,437	.867	1.00
June.....	100,160	6,240	1,790	3,339	.652	.73
July.....	110,010	4,930	1,900	3,549	.693	.80
August.....	95,870	7,540	1,690	3,083	.602	.69
September.....	54,140	2,630	1,390	1,805	.363	.39
Water year 1934-35.....	1,181,690	21,100	1,260	3,238	.632	8.58

St. Croix River near St. Croix Falls, Wis.

Location.- Lat. 45°24'45", long. 92°39'45", in sec. 19 (revised), T. 34 N., R. 18 W., at power plant of Northern States Power Co. near St. Croix Falls.

Drainage area.- 5,930 square miles.

Records available.- January 1910 to September 1935.

Average discharge.- 25 years, 3,145 second-feet.

Extremes.- Maximum mean daily discharge during year, 26,400 second-feet Mar. 25; minimum, 178 second-feet Jan. 13.
1910-35: Maximum mean daily discharge observed, 35,800 second-feet Mar. 26, 1920; no flow Sept. 30, 1929.

Remarks.- Records good. Flow controlled by operation of gates of power plant and by regulation at Never's dam, 10 miles upstream. Records of daily discharge, computed from power-house records, furnished by Northern States Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,610	2,900	3,540	569	1,460	1,610	10,400	4,700	2,090	5,350	3,990	2,990
2	1,610	2,440	496	2,420	1,650	1,630	2,310	4,680	1,860	4,810	1,780	2,950
3	1,610	2,810	2,070	2,160	549	373	7,920	5,710	2,540	4,680	1,870	2,790
4	1,840	924	1,920	1,720	1,660	2,690	8,800	4,450	2,580	1,880	1,610	2,750
5	2,010	2,480	1,860	2,070	2,120	1,690	7,920	3,030	2,000	4,350	1,940	3,020
6	2,060	2,290	2,320	246	1,950	1,940	7,230	4,970	2,080	5,200	3,480	2,680
7	2,320	2,400	1,600	2,090	1,760	2,000	3,990	5,320	2,100	4,730	1,940	2,350
8	2,360	2,410	1,620	1,980	1,780	2,100	6,320	4,780	1,660	5,730	2,830	1,920
9	2,370	1,900	632	1,740	1,880	2,050	6,250	4,800	1,650	5,040	2,280	2,940
10	2,280	2,130	2,360	1,720	471	420	6,150	5,010	2,040	5,180	2,440	2,470
11	2,210	578	2,240	1,630	2,290	2,620	5,410	4,950	2,060	5,370	1,830	2,130
12	2,070	2,440	2,580	2,090	2,080	3,000	6,200	2,480	2,090	5,420	2,060	2,220
13	1,970	2,190	2,390	175	1,870	2,630	3,210	5,460	2,450	5,430	2,380	2,290
14	1,990	1,700	2,320	2,280	2,100	2,230	3,750	6,810	3,320	2,420	2,060	2,020
15	1,750	1,740	2,190	1,780	1,570	2,610	5,640	7,530	3,280	4,900	1,840	1,770
16	1,770	1,660	416	1,620	1,320	2,810	4,690	7,460	3,100	5,790	1,840	2,020
17	1,810	1,350	2,420	493	1,300	4,620	6,680	4,570	4,610	1,810	1,940	
18	1,780	746	2,650	1,640	2,280	4,360	4,850	6,330	5,400	3,830	1,730	2,220
19	1,800	2,560	2,340	1,610	2,210	3,660	4,100	3,990	5,340	3,570	2,190	1,950
20	3,500	2,610	2,300	223	1,880	4,840	3,460	5,350	5,510	3,670	4,640	1,990
21	2,450	2,670	2,010	2,070	1,860	8,110	2,720	4,840	5,410	1,790	6,790	1,950
22	3,800	2,360	2,060	1,210	1,530	10,700	4,240	4,740	5,290	3,010	7,460	1,610
23	3,500	2,690	354	1,450	1,710	17,700	3,810	4,610	2,742	3,930	6,360	1,970
24	3,720	3,040	1,700	1,490	555	23,000	3,470	3,000	5,300	3,070	5,960	1,850
25	3,550	660	795	1,480	2,990	26,400	3,970	3,243	4,990	3,220	4,400	1,820
26	3,520	2,960	3,400	1,730	2,370	23,200	3,540	2,300	5,030	2,760	4,500	1,620
27	3,380	3,330	1,790	602	2,110	23,000	3,720	3,050	5,170	2,180	4,520	1,620
28	2,120	3,300	1,630	2,040	1,710	20,400	2,770	2,760	4,990	1,830	5,370	1,620
29	3,030	962	1,700	1,750	-	16,300	3,420	2,670	3,350	3,100	3,930	1,640
30	2,980	3,490	669	1,770	-	14,300	4,140	1,950	1,890	2,340	3,920	1,730
31	2,840	-	1,520	1,630	-	11,300	-	2,420	-	2,180	3,540	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	75,680	3,800	1,610	2,441	0.412	0.48
November.....	64,989	3,490	578	2,166	.365	.41
December.....	57,692	3,400	354	1,858	.313	.36
Calendar year 1934.....	696,161	12,100	354	1,907	.322	4.36
January.....	49,068	2,420	178	1,583	.267	.31
February.....	48,818	2,690	471	1,744	.294	.31
March.....	240,973	26,400	373	7,773	1.31	1.61
April.....	156,380	10,400	2,720	5,213	.879	.98
May.....	140,960	7,530	1,950	4,547	.767	.88
June.....	101,860	5,510	1,650	3,395	.673	.64
July.....	121,470	5,790	1,790	3,618	.661	.76
August.....	102,790	7,460	1,610	3,316	.569	.64
September.....	64,840	3,020	1,610	2,161	.364	.41
Water year 1934-35.....	1,226,410	26,400	178	3,356	.566	7.69

Namakagon River near Trego, Wis.

Location.- Lat. 45°57', long. 91°53', in SW¼ sec. 17, T. 40 N., R. 12 W., at power house of Wisconsin Hydroelectric Co. 5 miles northwest of Trego.

Drainage area.- 476 square miles.

Records available.- October 1927 to September 1935.

Extremes.- Maximum mean daily discharge during year, 957 second-feet Mar. 28; minimum, 188 second-feet Dec. 4.
1927-35: Maximum mean daily discharge, 1,360 second-feet Sept. 14, 1928; minimum, 113 second-feet Aug. 17, Sept. 7, 1930.

Remarks.- Records good. Discharge is computed from hourly records of load and head on power plant.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	340	346	397	238	193	272	662	575	385	568	335	364
2	322	363	228	276	371	275	677	513	385	653	343	364
3	395	394	283	269	306	249	555	526	395	606	333	349
4	332	319	188	286	294	272	620	483	384	625	283	378
5	325	358	268	288	304	311	537	480	304	528	352	361
6	311	357	256	236	304	309	518	513	365	598	431	351
7	279	363	266	284	304	293	580	513	381	541	693	351
8	330	364	318	328	308	300	513	513	418	518	498	338
9	329	364	255	319	392	367	538	521	435	500	441	440
10	316	377	234	294	265	298	578	492	422	472	474	358
11	328	274	276	294	306	352	542	531	434	511	393	305
12	297	364	317	297	306	351	518	573	431	520	395	300
13	297	325	315	236	304	349	485	594	323	535	366	348
14	254	327	285	263	302	340	424	592	456	476	345	396
15	253	305	306	261	319	390	479	585	539	437	376	350
16	290	294	236	268	331	432	479	549	519	459	309	310
17	280	325	277	273	297	313	419	507	500	471	356	362
18	280	248	332	260	320	430	504	526	472	472	281	374
19	281	322	322	321	315	417	474	467	442	471	335	373
20	354	393	342	340	304	450	454	467	499	614	410	361
21	720	368	314	273	234	456	452	465	442	537	640	363
22	335	401	356	275	291	513	444	471	461	484	475	309
23	325	407	253	234	394	795	464	465	463	447	506	300
24	408	327	303	232	233	738	453	455	407	431	570	298
25	359	279	238	282	280	708	516	480	471	579	411	300
26	359	418	312	235	282	788	466	415	443	339	402	346
27	408	410	364	260	273	788	480	469	446	414	488	346
28	318	388	293	296	273	957	494	489	439	385	422	400
29	344	325	293	289	-	972	511	412	406	419	294	298
30	378	394	284	289	-	919	553	390	328	336	340	298
31	371	-	270	269	-	757	-	391	-	356	386	-
Month	Second-foot-days			Maximum		Minimum		Mean		Per square mile		Run-off in inches
October.....	10,107			408		253		326		0.686		0.79
November.....	10,508			418		246		350		.755		.82
December.....	8,971			397		188		269		.697		.70
Calendar year 1934.....	113,609			957		153		311		.653		8.97
January.....	8,587			328		234		277		.842		.67
February.....	8,565			392		193		299		.628		.65
March.....	15,047			957		249		495		1.02		1.18
April.....	15,597			677		424		520		1.09		1.22
May.....	15,413			594		390		497		1.04		1.20
June.....	12,855			532		304		423		.899		1.00
July.....	14,979			635		335		493		1.01		1.15
August.....	12,771			693		261		412		.866		1.00
September.....	10,362			440		298		348		.735		.81
Water year 1934-35.....	143,682			957		183		393		.826		11.20

Apple River near Somerset, Wis.

Location.- Lat. 45°10', long. 92°43', in sec. 21, T. 31 N., R. 19 W., at power plant of Northern States Power Co. 3½ miles below Somerset.

Drainage area.- 550 square miles.

Records available.- January 1901 to September 1935.

Average discharge.- 34 years, 297 second-feet.

Extremes.- Maximum mean daily discharge during year, 814 second-feet Mar. 24; minimum, 68 second-feet Nov. 25.

1901-35: Maximum mean daily discharge, 2,280 second-feet in June 1905; no flow Sept. 30, 1929, and Aug. 2, 1933.

Remarks.- Records fair. Regulation at power plant. Records of discharge, computed from power-house records, furnished by Northern States Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	155	169	144	79	137	145	374	230	167	188	178	202
2	274	197	85	115	132	160	320	172	176	342	160	197
3	216	181	182	155	167	132	313	303	112	464	129	199
4	218	139	143	89	196	182	309	168	156	231	150	211
5	298	131	197	159	201	205	344	182	171	455	179	208
6	159	162	171	126	205	237	250	205	177	394	234	185
7	160	139	91	109	173	175	354	219	138	452	114	123
8	201	148	126	168	163	166	361	221	117	605	159	141
9	230	174	187	161	165	154	150	185	111	495	269	190
10	144	139	159	120	206	219	203	192	152	411	237	191
11	180	139	103	148	185	195	284	356	186	354	188	194
12	154	104	214	126	168	187	250	305	174	394	219	225
13	115	117	161	120	199	172	359	369	195	418	224	225
14	152	163	113	94	133	197	131	335	214	414	205	164
15	139	133	171	157	200	320	225	344	122	422	175	225
16	189	149	173	167	154	393	183	262	178	294	158	205
17	161	138	122	119	207	164	297	246	242	354	213	169
18	203	122	191	105	161	279	194	233	446	324	249	156
19	135	94	98	164	140	410	195	200	411	246	219	178
20	367	195	166	103	126	475	212	133	406	207	263	172
21	216	230	179	108	144	530	91	216	431	238	247	144
22	284	150	136	114	154	671	153	245	336	210	241	223
23	223	298	97	126	183	807	183	158	500	218	235	179
24	195	230	123	127	97	814	202	165	273	161	214	126
25	210	68	176	109	89	730	244	149	277	172	190	177
26	240	165	85	181	147	742	194	149	273	147	225	205
27	271	156	135	97	151	675	197	109	225	140	253	238
28	236	297	175	129	144	572	219	161	310	219	167	252
29	159	164	138	183	-	407	199	167	121	219	249	175
30	131	256	141	176	-	481	195	127	183	172	190	162
31	173	-	161	134	-	351	-	160	-	184	168	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	6,060	367	115	195	0.355	0.41
November.....	4,939	297	68	165	.300	.33
December.....	4,543	214	85	147	.267	.31
Calendar year 1934.....	55,992	1,670	18	153	.278	3.79
January.....	4,068	183	79	131	.238	.27
February.....	4,527	207	89	162	.295	.31
March.....	11,347	814	132	366	.665	.77
April.....	7,185	374	91	240	.436	.49
May.....	6,685	388	109	216	.393	.45
June.....	6,979	500	111	233	.424	.47
July.....	9,544	605	140	308	.560	.66
August.....	6,299	269	114	203	.369	.43
September.....	5,641	252	123	188	.342	.38
Water year 1934-35.....	77,817	814	68	213	.387	5.27

Cannon River at Welch, Minn.

Location.- Water-stage recorder, lat. 44°34', long. 92°44', in sec. 28, T. 113 N., R. 16 W., at Welch, 3 miles above mouth of Belle Creek.

Drainage area.- 1,290 square miles.

Records available.- June 1909 to January 1914, November 1930 to September 1935.

Extremes.- Maximum discharge during year, 4,290 second-feet Aug. 8 (gage height, 8.22 feet); minimum discharge, 22 second-feet Nov. 19 (gage height, 1.67 feet).
1909-14, 1930-35: Maximum discharge, 7,490 second-feet Jan. 22, 1933 (gage height, 11.44 feet); minimum, that of Nov. 19, 1934.

Remarks.- Records good except those for period of ice effect, Dec. 8 to Feb. 12, and those estimated for Jan. 25, 26, July 24-30, which are fair. Discharge regulated by power plants above.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Aug. 7

2.0	54	4.0	705
2.2	76	4.2	820
2.4	99	4.5	1,020
2.6	126	5.0	1,460
2.8	167	5.5	1,900
3.0	230	6.0	2,400
3.2	312	6.5	2,950
3.4	400		
3.6	495		
3.8	595		

Table for Aug. 8 to Sept. 30

2.4	35	4.2	720	7.0	3,050
2.6	73	4.4	840	7.5	3,550
2.8	122	4.6	970	8.0	4,070
3.0	180	4.8	1,110		
3.2	247	5.0	1,260		
3.4	326	5.2	1,420		
3.6	416	5.5	1,660		
3.8	511	6.0	2,100		
4.0	610	6.5	2,550		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	108	230	64	108	270	290	173	247	315	179	183
2	209	107	124	67	103	215	276	167	160	301	238	65
3	175	99	78	111	70	158	182	189	113	241	212	107
4	136	73	132	118	80	219	246	168	198	219	106	183
5	132	69	153	119	192	308	186	66	212	128	380	186
6	168	66	140	104	250	338	266	133	270	329	1,500	183
7	158	98	90	68	250	436	143	284	234	250	2,530	177
8	76	99	131	92	262	445	98	310	187	117	3,960	112
9	112	99	91	160	178	612	228	300	88	277	2,620	110
10	111	99	74	119	85	650	172	370	158	400	1,880	212
11	109	92	126	108	137	558	278	533	246	396	1,460	196
12	111	70	126	84	422	590	373	1,450	162	260	1,260	171
13	106	97	95	102	368	540	280	1,270	160	268	938	125
14	61	89	83	68	325	550	250	942	144	228	810	122
15	56	87	100	76	346	806	370	850	135	129	750	114
16	63	86	92	104	386	1,300	354	760	119	220	682	65
17	103	87	72	103	414	880	312	732	198	210	600	106
18	109	87	118	115	255	916	242	653	358	234	427	104
19	93	64	118	116	470	1,140	192	451	357	227	219	101
20	164	100	92	106	414	1,550	233	252	399	262	500	114
21	116	115	61	66	342	1,810	222	326	441	144	654	114
22	85	120	108	104	342	1,500	134	364	356	104	406	128
23	128	130	104	108	204	1,180	223	358	178	123	408	104
24	118	126	75	111	100	1,020	216	341	257	120	368	99
25	118	89	67	108	137	915	220	284	183	120	255	96
26	122	159	74	104	270	820	209	179	246	100	160	101
27	112	157	116	55	175	790	373	275	275	80	245	101
28	70	167	116	64	230	790	244	286	247	90	297	104
29	72	154	112	123	-	732	120	285	334	60	212	89
30	112	74	99	128	-	686	195	240	195	200	160	74
31	112	-	67	112	-	425	-	162	-	119	266	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	3,540	209	56	114	0.088	0.10
November.....	3,066	167	64	102	.079	.09
December.....	3,264	230	61	105	.081	.09
Calendar year 1934.....	52,856	2,640	36	145	.112	1.53
January.....	3,092	160	55	99.7	.077	.09
February.....	6,945	470	70	243	.192	.20
March.....	23,439	1,850	158	756	.566	.68
April.....	7,127	373	98	238	.184	.21
May.....	13,163	1,430	66	425	.329	.38
June.....	6,837	441	88	228	.177	.20
July.....	6,271	400	60	202	.156	.18
August.....	24,682	3,960	106	796	.617	.71
September.....	5,736	212	65	125	.097	.11
Water year 1934-35.....	105,162	3,960	55	288	.223	3.04

Chippewa River at Bishops Bridge, near Winter, Wis.

Location.- Water-stage recorder, lat. 45°51', long. 91°4', in sec. 23, T. 39 N., R. 6 W., at highway bridge 3 miles below Chippewa Reservoir Dam and 4 miles northwest of Winter.

Drainage area.- 775 square miles.

Records available.- February 1912 to September 1935.

Average discharge.- 22 years (1913-35), 838 second-feet.

Extremes.- Maximum discharge during year, 1,790 second-feet Jan. 18, 19 (gage height, 6.3 feet); minimum, 88 second-feet Nov. 24-30 (gage height, 3.75 feet).
1912-35: Maximum discharge, 8,940 second-feet Apr. 22, 1916 (gage height, 9.56 feet); minimum, 14 second-feet Apr. 17-20, 1925 (gage height, 3.25 feet).

Remarks.- Records good. Stage-discharge relation affected by ice Dec. 7-10, 26-28. Part of Table of monthly discharge corrected for regulation by storage in Chippewa and Moose Lake Reservoirs.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet
(Shifting-control method used Oct. 1-15, Aug. 2 to Sept. 30)

3.4	22	4.6	393
3.6	52	4.8	490
3.8	100	5.0	610
4.0	167	5.4	695
4.2	220	5.8	1,250
4.4	290	6.2	1,660

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	142	127	220	1,500	1,550	312	127	142	383	290	725	1,720
2	142	142	236	1,440	1,440	312	127	142	388	312	690	1,720
3	142	142	253	1,440	1,440	393	157	142	383	325	927	1,720
4	142	142	253	1,440	1,440	290	127	142	419	334	1,100	1,720
5	142	142	253	1,440	1,440	290	127	142	556	354	1,150	1,660
6	142	142	490	1,390	1,500	435	127	151	656	354	933	1,660
7	142	133	610	1,390	1,440	462	127	142	656	325	325	1,660
8	142	127	746	1,390	1,390	435	127	142	656	312	275	1,660
9	142	127	782	1,390	1,340	358	127	142	650	312	268	1,600
10	142	127	782	1,390	1,340	354	127	142	643	325	264	1,600
11	136	127	782	1,390	1,250	354	142	142	643	579	284	1,600
12	127	127	782	1,390	1,200	272	142	157	643	880	264	1,550
13	127	127	782	1,390	1,200	157	142	142	643	556	494	1,550
14	136	127	782	1,390	1,200	220	142	142	479	393	650	1,550
15	142	127	782	1,390	1,150	157	142	136	354	363	752	1,550
16	157	312	782	1,340	1,060	157	142	136	393	393	1,110	1,550
17	157	610	782	1,340	1,060	409	127	133	293	409	1,300	1,500
18	157	610	782	1,340	1,060	272	127	133	196	409	1,300	1,500
19	157	610	911	1,780	1,020	142	127	130	204	404	1,300	1,500
20	151	610	1,060	1,720	1,060	188	122	130	210	582	1,300	1,500
21	142	610	1,060	1,660	935	172	114	130	207	725	1,300	1,500
22	142	610	1,060	1,660	1,060	204	122	130	201	725	1,300	746
23	142	290	1,060	1,660	857	220	127	236	198	725	1,340	746
24	142	95	1,060	1,660	610	260	127	399	188	725	1,550	746
25	133	88	1,060	1,660	643	220	127	399	188	725	1,550	746
26	127	88	1,060	1,660	560	204	127	399	188	725	1,550	746
27	127	88	1,060	1,660	548	194	127	393	188	732	1,550	732
28	122	88	1,250	1,550	479	188	133	393	204	725	1,600	711
29	114	88	1,550	1,550	-	220	142	398	220	732	1,720	711
30	114	151	1,550	1,550	-	188	142	398	253	732	1,720	711
31	114	-	1,500	1,550	-	157	-	393	-	732	1,720	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	4,286	157	114	138	+1,745	790	1.02	1.18
November.....	6,934	610	88	231	+595	461	.595	.66
December.....	26,122	1,550	220	843	-920	500	.645	.74
Calendar year 1934..	120,354	1,560	88	330	+4,760	461	.621	8.41
January.....	46,710	1,780	1,340	1,507	-2,960	402	.519	.60
February.....	31,262	1,550	479	1,116	-2,200	207	.287	.28
March.....	8,156	462	142	263	+3,500	1,570	2.03	2.34
April.....	3,938	157	114	131	+3,370	1,421	1.83	2.04
May.....	6,448	399	130	208	+1,650	824	1.06	1.22
June.....	11,565	656	188	386	+640	633	.817	.91
July.....	16,174	880	290	522	+710	787	1.02	1.18
August.....	32,291	1,720	264	1,042	-1,150	613	.791	.91
September.....	40,165	1,720	711	1,339	-2,620	328	.423	.47
Water year 1934-35.	234,041	1,780	88	641	+2,360	716	.924	12.53

Chippewa River near Bruce, Wis.

Location.— Water-stage recorder, lat. 45°28', long. 91°15', in SE¼ sec. 5, T. 34 N., R. 7 W., 1 mile east of Bruce and 1 mile below mouth of Thornapple River. Prior to May 28, 1935, chain gage at different datum in sec. 4, T. 34 N. (revised), R. 7 W., 1 mile upstream.

Drainage area.— 1,600 square miles.

Records available.— December 1913 to September 1935.

Average discharge.— 21 years (1914-35), 1,276 second-feet, not corrected for storage.

Extremes.— Maximum discharge observed during year, 15,300 second-feet Mar. 24 (gage height, 12.4 feet, former site and datum); minimum observed, 371 second-feet Nov. 14, 15 (gage height, 1.30 feet, former site and datum).

1914-35: Maximum discharge observed, that of Mar. 24, 1935; minimum observed, 155 second-feet June 10, 1932 (gage height, 0.9 foot, former site and datum).

Remarks.— Records good except those for period of ice effect, Dec. 4 to Mar. 22, which are fair. Part of table of monthly discharge corrected for storage in Chippewa and Moose Lake Reservoirs.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to May 27

1.2	311	4.0	2,560
1.4	434	5.0	3,480
1.7	643	6.0	4,690
2.0	875	7.0	5,970
2.5	1,280	8.0	7,500
3.0	1,690	9.0	9,120

Table for May 28 to Sept. 30

2.0	660	3.2	1,190
2.2	714	4.0	1,770
2.5	812	5.0	2,550
2.8	940	5.7	3,160

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,520	643	990	1,770	1,860	795	2,210	1,190	744	744	940	1,840
2	1,190	606	951	1,770	1,860	795	1,770	1,030	777	1,400	940	1,770
3	951	606	1,030	1,690	1,770	795	1,520	1,030	744	2,060	1,000	1,770
4	834	606	951	1,690	1,690	834	1,360	990	*797	1,910	1,190	1,840
5	718	606	990	1,690	1,690	834	1,280	951	850	2,140	1,480	1,840
6	795	570	990	1,690	1,600	834	1,360	912	890	2,890	3,160	1,770
7	756	570	990	1,690	1,600	951	1,190	875	890	2,630	3,160	1,770
8	718	535	990	1,690	1,600	990	1,110	1,030	890	1,990	2,060	1,770
9	680	535	990	1,690	1,600	1,110	1,110	1,440	890	1,450	1,480	1,770
10	606	500	990	1,690	1,620	1,190	1,110	1,280	890	1,130	1,130	1,770
11	535	500	990	1,690	1,520	1,190	1,190	1,110	890	1,190	890	1,690
12	500	467	990	1,690	1,520	1,110	1,360	1,770	850	1,620	777	1,690
13	467	434	990	1,690	1,440	1,110	1,190	2,300	850	1,620	714	1,690
14	467	371	990	1,690	1,360	1,030	1,190	1,770	1,060	1,190	850	1,690
15	434	371	1,110	1,690	1,360	951	1,110	1,520	1,060	1,000	*900	1,690
16	434	434	1,110	1,690	1,360	1,110	1,030	1,190	1,060	940	*1,200	1,690
17	500	570	1,030	1,770	1,440	1,520	1,030	1,030	1,690	850	*1,550	1,690
18	570	756	1,030	1,860	1,440	2,030	951	875	1,400	812	*1,550	1,770
19	500	912	1,030	1,690	1,360	2,300	912	795	1,190	777	*1,550	1,690
20	990	1,030	1,030	1,770	1,280	2,920	875	718	1,480	777	*1,550	1,690
21	2,030	1,360	1,190	1,860	1,190	4,470	795	680	1,480	890	1,550	1,620
22	2,210	1,560	1,190	1,860	1,190	10,400	756	643	1,330	940	1,550	1,260
23	1,770	1,560	1,280	1,860	1,280	14,200	756	643	1,130	940	1,550	1,000
24	1,690	1,110	1,280	1,860	1,190	15,300	795	680	940	940	1,620	940
25	1,600	990	1,280	1,860	875	10,900	795	834	850	890	1,770	940
26	1,360	912	1,280	1,860	875	7,820	756	795	812	890	1,770	940
27	1,190	912	1,280	1,860	875	6,720	875	834	812	1,060	1,690	940
28	1,030	951	1,360	1,860	875	6,120	875	777	777	1,190	1,690	940
29	875	951	1,360	1,860	-	4,000	1,030	744	686	1,060	1,770	940
30	756	951	1,520	1,860	-	3,280	1,190	744	686	1,000	1,840	940
31	680	-	1,690	1,860	-	2,650	-	-	-	940	1,840	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	29,354	2,210	434	947	+1,745	1,599	1.00	1.15
November.....	22,479	1,360	371	749	+695	979	.610	.68
December.....	34,872	1,690	951	1,125	-920	784	.489	.56
Calendar year 1934.	285,510	8,300	229	782	+4,760	933	.583	7.90
January.....	54,750	1,860	1,690	1,766	-2,960	657	.412	.48
February.....	39,212	1,860	875	1,400	-2,200	490	.306	.32
March.....	110,259	15,300	795	3,557	+3,500	4,564	3.04	3.50
April.....	33,475	2,210	756	1,116	+3,370	2,416	1.51	1.68
May.....	31,953	2,300	643	1,031	+1,650	1,647	1.03	1.19
June.....	29,365	1,690	686	990	+640	1,227	.766	.85
July.....	39,890	2,890	744	1,287	+710	1,552	.970	1.12
August.....	46,711	3,160	714	1,507	-1,150	1,078	.674	.78
September.....	45,350	1,840	940	1,512	-2,620	501	.313	.35
Water year 1934-35.	517,700	15,300	371	1,418	+2,360	1,493	.935	12.66

*Estimated.

Chippewa River at Chippewa Falls, Wis.

Location.- Water-stage recorder, lat. 44°55'35", long. 91°24'40", in lot 1, sec. 12, T. 28 N., R. 9 W., at Chippewa Falls, 1 mile below mouth of Duncan Creek. Zero of gage is 799.3 feet above mean sea level, Northern States Power Co. bench mark.

Drainage area.- 5,600 square miles.

Records available.- June 1888 to September 1935.

Average discharge.- 25 years, (1907-10, 1913-35), 4,634 second-feet, not corrected for storage.

Extremes.- Maximum discharge during year, 48,000 second-feet Mar. 24 (gage height, 17.1 feet); minimum, 114 second-feet Jan. 17 (gage height, 1.00 foot); minimum mean daily, 880 second-feet June 9.

1888-1935: Maximum discharge, 78,000 second-feet Mar. 27, 1920 (gage height, 17.0 feet, former site and datum); minimum, 22 second-feet Apr. 2, 1934 (gage height, 0.63 foot); minimum mean daily, 40 second-feet Feb. 4, 1917 (supersedes figure published in Water-Supply Paper 760).

Maximum stage known, 26.94 feet Sept. 10, 1884.

Remarks.- Records good except those for periods of ice effect and missing gage-height record, Oct. 22-26, Oct. 29 to Nov. 3, Nov. 11-15, 21-24, Nov. 28 to Dec. 1, Dec. 4-11, Jan. 19 to Mar. 5, which are fair and were estimated from power-house records. Flow regulated by Chippewa power plant immediately above station, by many other power plants above, and by the Chippewa, Moose Lake, Flambeau, Rest Lake and Wisconsin Reservoirs. Part of table of monthly discharge corrected for storage in these reservoirs.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.0	114	1.6	654	3.0	1,690	5.0	4,120	8.0	11,400	14.0	33,200
1.2	212	2.0	813	3.5	2,210	5.5	5,130	9.0	14,500	17.0	47,500
1.4	345	2.3	1,060	4.0	2,780	6.0	6,260	10.0	17,800		
1.6	497	2.6	1,320	4.5	3,370	7.0	8,700	12.0	25,000		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,600	5,370	3,270	1,660	4,310	5,770	12,900	5,210	2,720	5,530	3,890	1,040
2	7,670	5,620	1,990	3,790	3,500	3,980	9,250	5,430	1,010	9,520	3,610	1,330
3	7,060	4,820	3,950	3,620	1,490	1,340	9,790	5,110	2,980	12,600	2,400	4,200
4	7,590	1,870	3,740	3,830	2,830	5,610	9,100	4,820	3,130	19,900	1,270	4,290
5	5,290	4,360	4,180	2,320	4,930	5,950	8,700	1,660	2,750	20,200	10,190	3,610
6	3,820	4,640	4,610	2,090	4,620	4,610	6,340	5,250	2,360	24,500	10,200	4,390
7	2,280	4,650	4,490	3,740	4,650	4,590	4,880	5,500	2,000	23,000	11,000	3,130
8	4,450	4,520	4,270	4,100	4,660	4,340	8,140	5,760	1,310	21,500	9,450	1,250
9	5,090	4,540	4,770	5,350	3,870	4,260	5,210	5,760	880	14,200	8,320	3,670
10	4,410	3,590	1,110	2,410	1,750	1,360	5,430	6,050	1,540	9,830	7,270	3,980
11	3,380	1,890	4,910	3,070	4,590	4,990	6,390	5,340	2,010	9,610	2,330	3,600
12	2,710	4,150	4,130	2,690	4,720	6,540	8,210	4,070	2,040	3,580	4,240	4,000
13	1,960	4,490	4,140	1,650	4,760	6,540	8,200	10,600	1,920	7,280	4,110	4,370
14	1,430	2,760	4,290	3,590	5,520	6,910	5,440	11,300	5,720	4,250	4,390	3,560
15	2,660	2,400	4,120	3,730	5,720	7,050	7,970	10,600	6,990	6,250	3,670	1,310
16	2,590	2,510	1,610	3,360	4,180	6,450	5,600	9,980	2,190	5,150	3,440	3,720
17	2,300	2,280	3,830	2,020	1,280	4,620	6,260	7,600	6,960	4,620	2,230	5,570
18	2,480	2,020	4,330	3,470	5,730	6,440	6,290	4,850	6,560	4,560	1,130	3,930
19	2,160	3,680	3,990	2,940	5,470	6,590	6,200	5,930	3,940	5,070	7,070	5,500
20	6,010	3,620	3,710	1,680	5,360	7,530	5,280	4,280	8,300	2,800	7,110	3,420
21	4,900	9,380	3,900	3,830	5,460	6,970	1,950	5,120	9,870	950	6,480	3,240
22	9,220	10,600	3,790	4,880	4,980	33,200	4,390	5,180	11,500	3,670	5,500	1,320
23	9,760	11,400	1,910	4,940	3,830	38,600	5,380	4,440	9,530	3,630	3,920	2,940
24	10,100	10,600	3,200	4,690	1,230	43,600	5,380	4,530	8,780	4,070	3,080	3,670
25	10,300	10,300	1,050	4,410	5,780	43,500	5,380	3,700	7,680	3,680	1,060	3,740
26	10,400	9,070	4,020	3,010	5,910	37,200	5,940	1,290	6,350	3,680	3,000	2,440
27	9,220	9,230	4,090	2,670	5,700	31,800	5,590	3,480	6,150	4,500	3,960	2,580
28	5,670	9,770	4,080	5,220	5,750	27,800	2,360	3,440	6,090	3,640	3,940	1,700
29	5,650	7,720	3,070	5,280	-	25,400	5,060	3,210	5,340	4,640	3,760	1,050
30	5,320	8,370	1,410	5,500	-	19,200	5,350	930	2,510	4,890	3,630	2,430
31	5,430	-	2,530	5,320	-	15,200	-	2,730	-	4,210	2,660	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	173,900	12,600	1,430	5,610	+3,087	6,763	1.21	1.40
November.....	169,720	11,400	1,970	5,657	+1,234	6,135	1.09	1.22
December.....	108,290	4,910	1,050	3,493	-1,070	3,094	.552	.64
Calendar year 1934.	1,225,749	27,500	150	3,358	+8,229	3,619	.646	8.78
January.....	111,700	5,500	1,650	3,603	-3,314	2,366	.422	.49
February.....	122,670	5,910	1,230	4,381	-4,047	2,708	.484	.50
March.....	427,840	43,500	1,340	13,800	+5,981	16,030	2.86	3.30
April.....	195,120	12,900	1,930	8,404	+5,876	5,671	1.55	1.73
May.....	159,410	11,300	930	5,142	+2,171	5,984	1.06	1.22
June.....	143,300	11,500	880	4,777	+1,634	5,407	.965	1.08
July.....	259,460	24,600	950	8,370	+822	8,699	1.55	1.79
August.....	141,310	11,000	1,060	4,558	-1,567	3,973	.709	.82
September.....	90,980	4,390	1,040	3,033	-3,351	1,739	.311	.35
Water year 1934-35.	2,100,700	43,500	880	5,755	+7,516	5,993	1.07	14.54

Chippewa River at Durand, Wis.

Location.- Water-stage recorder, lat. 44°37'45", long. 91°58'10", in SW $\frac{1}{4}$ sec. 21, T. 25 N., R. 13 W., at Durand, 400 feet above toll bridge. Zero of gage is 695.20 feet above mean sea level.

Drainage area.- 9,010 square miles.

Records available.- July 1928 to September 1935.

Extremes.- Maximum discharge during water year 1929-30, 37,700 second-feet June 17 (gage height, 10.55 feet); minimum, 1,830 second-feet Nov. 29 (gage height, 1.36 feet), supersedes figure previously published.

Maximum discharge during water year 1933-34, 56,000 second-feet (revised) Apr. 4 (gage height, 12.43 feet).

Maximum discharge during water year 1934-35, 59,500 second-feet Mar. 25 (gage height, 12.56 feet); minimum, 2,700 second-feet Sept. 30 (gage height, 1.73 feet); minimum mean daily, 2,770 second-feet June 10.

1928-35: Maximum discharge, that of Mar. 25, 1935; minimum (estimated), 1,320 second-feet Dec. 27, 1933 (supersedes figure previously published).

Maximum stage known, 18.4 feet Sept. 12, 1884.

Remarks.- Records good except those for periods of ice effect, Dec. 6 to Mar. 20, which are poor. Discharge based on twice-daily chain gage readings for periods, Oct. 28 to Mar. 21, May 20-22. Regulation by operation of power plants and Chippewa, Moose Lake, Flambeau, and Rest Lake Reservoirs. Part of table of monthly discharge corrected for storage in these reservoirs.

Discharge, in second-feet, water year October 1929 to September 1930

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,300	4,530	2,660	4,760	4,080	12,500	4,790	6,830	4,070	6,830	3,850	2,260
2	4,080	4,300	3,870	3,250	4,080	10,800	4,300	8,560	2,800	6,830	3,950	2,100
3	4,530	4,760	3,460	4,080	2,380	8,900	4,070	10,500	4,070	6,510	3,420	2,260
4	3,870	2,470	5,000	4,300	2,850	7,500	3,850	12,100	5,050	5,610	2,610	2,800
5	3,250	3,870	5,000	4,760	3,660	8,560	4,070	9,700	7,160	3,850	3,210	3,210
6	3,050	4,530	4,530	2,660	3,870	8,930	4,070	16,500	7,500	3,630	3,630	4,070
7	1,900	5,000	4,300	4,300	3,870	8,560	2,610	11,300	8,930	3,420	3,630	3,420
8	3,460	5,000	4,530	4,300	3,660	8,560	3,420	10,900	7,550	4,070	3,210	2,260
9	4,530	4,760	3,250	4,080	3,460	7,850	4,070	11,300	4,540	4,300	3,000	2,100
10	4,760	5,240	3,460	3,870	2,190	4,540	4,070	13,000	9,510	4,300	2,800	2,100
11	4,300	3,050	4,300	3,870	2,850	8,200	3,850	13,000	7,850	4,300	2,430	2,260
12	4,500	5,000	4,760	4,300	3,370	8,560	4,070	11,700	7,850	4,790	2,610	2,610
13	4,530	5,740	4,530	2,660	4,080	8,200	4,540	13,400	8,930	3,850	2,800	3,000
14	2,850	5,240	3,870	3,460	4,080	8,200	3,000	12,100	12,000	3,000	2,800	2,610
15	3,660	4,530	4,080	4,300	4,780	7,850	4,790	11,700	22,700	3,850	2,800	2,020
16	4,080	4,530	2,470	4,300	2,480	7,250	4,790	13,400	34,700	4,540	2,610	2,430
17	4,080	4,760	3,250	4,530	4,080	6,200	5,050	12,100	36,700	4,300	2,430	2,610
18	3,870	3,050	4,300	4,300	3,660	8,200	5,900	10,000	24,600	4,070	2,020	2,610
19	4,080	4,760	3,860	3,660	5,000	10,500	6,510	8,560	20,600	3,850	2,260	2,610
20	4,080	5,000	3,970	3,050	6,500	10,900	5,900	8,560	16,900	3,210	2,430	2,800
21	2,660	4,080	3,870	3,460	6,770	11,300	4,070	7,500	14,700	3,210	2,610	2,430
22	3,370	5,000	3,970	3,870	8,720	10,900	6,200	7,500	10,500	3,000	2,610	2,100
23	4,300	5,000	2,470	4,080	11,000	10,100	5,900	7,850	7,500	3,210	2,610	2,610
24	4,080	5,000	3,250	4,300	10,700	6,200	5,610	7,500	9,510	3,420	2,430	2,800
25	4,530	2,850	4,530	3,870	18,100	7,850	5,610	6,200	12,400	3,420	2,100	2,800
26	4,530	3,870	2,850	3,870	16,900	6,200	6,510	4,070	12,500	3,630	2,430	3,630
27	4,300	3,250	3,870	2,380	17,800	4,790	6,200	5,330	13,000	3,210	2,430	5,050
28	2,660	3,660	4,300	3,250	15,600	5,330	3,850	5,900	10,100	2,610	2,610	4,070
29	4,080	1,630	4,530	4,080	-	5,050	4,790	5,610	8,560	3,210	2,430	3,000
30	4,530	3,660	2,850	4,080	-	5,050	6,200	5,330	5,050	3,850	2,610	3,420
31	4,080	-	3,970	4,080	-	3,850	-	3,420	-	3,850	2,260	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	121,180	4,760	1,900	3,910	-184	3,940	0.457	0.53
November.....	127,120	5,740	1,630	4,270	-319	4,150	.494	.55
December.....	119,410	5,000	2,470	3,852	-2,194	3,032	.336	.39
Calendar year								
January.....	120,110	4,760	2,380	3,875	-2,636	2,891	.321	.37
February.....	177,350	17,800	2,180	6,334	-338	6,074	.674	.70
March.....	244,690	12,600	3,850	7,890	+1,315	8,380	.996	1.15
April.....	142,660	6,510	2,610	4,760	+2,319	5,660	.673	.75
May.....	293,120	16,500	3,420	9,460	+3,772	10,900	1.30	1.50
June.....	366,930	36,700	2,800	12,200	+3,369	13,500	1.61	1.80
July.....	125,730	6,830	2,610	4,080	-890	3,790	.444	.51
August.....	85,630	3,850	2,020	2,760	-2,118	1,970	.254	.27
September.....	84,050	5,050	2,020	2,900	-1,017	2,410	.287	.32
Water year 1929-30.	2,008,870	36,700	1,630	5,504	+779	5,524	.613	8.92

Note.- The above records supersede those published in Water-Supply Paper 700.

CHIPPEWA RIVER BASIN

Chippewa River at Durand, Wis.

(Continued)

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.8	2,770	4.5	9,580
2.0	3,070	5.0	11,300
2.2	3,440	6.0	14,800
2.5	4,090	7.0	18,300
2.8	4,750	8.0	22,700
3.2	5,730	10.0	33,400
3.6	6,810	12.0	50,200
4.0	7,990		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18,300	6,670	12,000	3,540	5,860	5,600	18,700	8,620	4,410	6,950	6,120	4,410
2	15,500	6,670	10,900	3,540	5,480	5,730	16,200	8,300	4,410	10,700	5,990	2,990
3	11,300	6,530	5,360	4,870	4,520	4,540	13,400	8,300	3,070	16,400	5,480	2,910
4	10,600	6,950	7,840	4,370	3,540	3,340	13,700	8,300	4,410	23,700	4,300	5,540
5	9,900	4,410	5,480	5,240	4,410	5,730	13,000	7,680	4,990	25,700	3,440	5,730
6	7,990	6,950	6,530	5,120	5,120	6,670	12,300	6,260	4,750	27,700	7,930	5,480
7	6,670	7,240	6,400	3,980	5,480	6,810	9,900	7,680	4,090	33,400	17,800	5,990
8	5,120	7,380	6,530	4,590	5,360	6,550	8,940	8,300	3,760	36,000	16,600	5,120
9	6,810	7,090	6,530	5,730	5,600	7,380	11,300	9,260	3,070	28,800	15,500	3,440
10	6,950	6,810	4,200	6,260	4,520	7,680	9,940	9,260	2,770	18,700	13,400	5,120
11	6,120	5,480	5,990	5,480	3,540	5,240	9,260	9,260	3,070	14,800	10,700	5,730
12	5,600	4,200	6,260	5,240	4,870	7,680	9,900	3,340	14,400	6,530	5,240	
13	5,240	5,860	5,600	5,120	5,120	9,900	12,700	9,900	3,440	13,400	7,090	5,480
14	4,090	5,730	5,730	4,640	5,480	12,000	12,700	15,900	3,760	12,300	6,810	5,600
15	3,540	4,640	6,120	5,480	6,260	13,000	9,580	15,500	7,770	9,260	6,670	4,990
16	4,520	3,870	5,990	5,990	6,810	13,400	10,900	13,700	9,260	10,200	5,860	3,160
17	4,520	4,200	4,200	6,260	5,600	13,400	8,940	12,300	7,680	8,940	5,600	5,170
18	4,090	4,520	6,670	5,600	3,540	13,700	9,580	10,600	10,600	7,990	4,410	5,240
19	4,300	4,410	7,240	5,860	5,730	15,200	9,260	8,620	10,600	7,240	3,340	5,730
20	4,750	6,120	6,530	4,750	6,120	16,200	8,620	5,120	10,600	6,810	8,710	5,860
21	9,900	8,620	6,810	3,650	5,860	18,700	7,530	7,380	13,700	5,730	10,200	6,810
22	8,620	14,100	6,810	4,300	5,990	20,400	4,750	7,680	15,200	3,650	9,900	5,730
23	11,300	16,600	6,810	5,600	5,360	37,300	7,530	7,530	14,100	5,860	8,940	4,090
24	13,400	18,000	3,870	5,600	4,640	54,400	7,990	6,400	12,300	6,120	6,670	4,990
25	13,700	17,300	5,480	5,360	3,160	57,700	7,990	6,530	11,600	5,990	5,240	5,480
26	12,300	13,400	3,340	5,360	4,870	52,900	8,620	5,600	10,900	5,480	3,650	5,240
27	13,000	12,300	4,520	4,520	5,730	44,400	8,940	3,870	9,580	5,600	4,990	4,520
28	12,000	12,300	4,870	3,540	5,730	37,300	7,910	5,860	9,260	8,380	5,730	4,200
29	9,580	12,700	5,240	5,240	-	32,900	6,670	4,990	8,940	7,840	5,860	3,650
30	7,530	10,900	4,520	5,960	-	28,300	8,620	5,120	7,380	7,840	5,730	2,840
31	6,810	-	4,300	5,990	-	21,300	-	3,250	-	7,530	5,730	-
Month		Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage					
		Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches			
October.....		264,050	18,300	3,540	8,518	+3,087	9,671	1.07	1.23			
November.....		251,950	18,000	3,870	8,398	+1,234	8,874	.985	1.10			
December.....		188,670	12,000	3,340	6,086	-1,070	5,687	.631	.73			
Calendar year 1934		1,949,170	44,300	1,580	5,340	+8,229	5,601	.622	8.42			
January.....		157,590	6,260	3,540	5,083	-3,314	3,846	.427	.49			
February.....		144,370	6,810	3,160	5,154	-4,047	3,481	.386	.40			
March.....		585,750	57,700	3,340	18,900	+5,981	21,130	2.35	2.71			
April.....		304,450	18,700	4,750	10,150	+8,876	12,410	1.38	1.54			
May.....		256,970	15,900	3,250	8,289	+2,171	9,100	1.01	1.16			
June.....		222,210	15,200	2,770	7,407	+1,634	8,037	.892	1.00			
July.....		403,410	36,000	3,650	13,010	+ 882	13,340	1.48	1.71			
August.....		234,620	17,800	3,340	7,574	-1,567	6,989	.776	.89			
September.....		146,480	6,810	2,840	4,883	-3,351	3,569	.398	.44			
Water year 1934-35.		3,160,640	57,700	2,770	8,659	+7,516	8,897	.988	13.40			

Flambeau River at Flambeau Reservoir, Wis.

Location.- Chain gage, lat. 46°4', long. 90°15', near north line of sec. 3, T. 41 N., R. 2 E., a quarter of a mile below dam of the Flambeau Reservoir. Zero of gage is 1,540.0 feet above mean sea level, Northern States Power Co. bench mark.

Drainage area.- 620 square miles.

Records available.- September 1927 to September 1935.

Extremes.- Maximum discharge observed during year, 2,300 second-feet July 6-8 (gage height, 7.00 feet); minimum, 6.1 second-feet Mar. 28 to Apr. 1 (gage height, 3.06 feet).
1927-35: Maximum discharge, that of July 6-8, 1935; minimum, 3.1 second-feet Apr. 12, 1934 (gage height, 2.39 feet).

Remarks.- Records good. Part of table of monthly discharge corrected for storage in Flambeau and Rest Lake Reservoirs.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-31, May 11 to Sept. 30)

2.9	37	4.7	670
3.2	88	5.0	851
3.5	166	5.5	1,200
3.8	267	6.0	1,540
4.1	384	6.8	2,140
4.4	516		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	470	516	643	787	919	61	249	470	851	616	851
2	143	470	565	643	787	919	426	249	470	1,130	616	851
3	143	470	643	643	787	919	426	267	565	1,130	590	851
4	146	470	643	643	787	919	426	384	616	1,130	590	851
5	157	470	590	670	670	919	286	470	616	1,540	616	851
6	182	470	540	698	540	919	169	516	616	1,900	616	851
7	267	470	540	698	698	919	286	565	616	2,300	540	787
8	405	470	540	698	919	919	426	565	616	1,900	448	851
9	405	493	540	698	919	919	426	565	616	1,610	426	919
10	405	493	448	698	919	787	426	516	616	1,470	516	919
11	405	493	364	698	919	643	405	493	616	1,540	616	919
12	405	493	384	698	919	643	249	698	616	1,400	616	919
13	448	493	516	698	919	643	152	851	616	698	616	919
14	516	540	643	698	919	643	286	851	616	643	616	698
15	516	590	643	698	919	643	405	590	616	698	616	698
16	540	590	643	698	919	540	384	405	493	670	643	851
17	540	590	643	698	919	516	364	364	516	670	698	851
18	540	590	643	698	919	516	344	364	286	787	698	851
19	540	590	643	698	919	426	249	405	384	919	698	851
20	405	616	643	698	919	344	152	493	727	919	698	851
21	267	565	643	727	919	286	286	616	851	919	698	851
22	267	516	643	787	919	267	405	787	919	919	565	851
23	267	516	643	787	919	324	364	698	1,060	787	448	851
24	267	516	643	787	919	286	364	616	1,060	670	493	851
25	267	516	643	787	919	267	364	727	1,060	470	565	851
26	267	516	643	787	919	172	364	670	851	470	590	851
27	267	516	643	787	919	132	175	670	727	590	698	851
28	364	516	643	787	919	61	160	670	727	616	698	851
29	448	516	643	787	-	61	160	698	727	616	698	851
30	448	516	643	787	-	61	249	616	670	616	698	851
31	448	-	643	787	-	61	-	470	-	616	727	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	10,806	540	121	349	+ 1,352	854	1.37	1.58
November.....	15,540	616	470	518	+ 739	803	1.30	1.45
December.....	18,403	643	364	594	+ 171	658	1.06	1.22
Calendar year 1934	152,165.7	643	3.1	417	+ 3,900	541	.873	11.81
January.....	22,309	787	643	720	- 940	518	.835	.96
February.....	24,355	919	540	870	- 500	498	.803	.84
March.....	16,583	919	61	535	+ 1,237	997	1.60	1.84
April.....	9,239	426	61	308	+ 2,948	1,445	2.32	2.69
May.....	17,098	851	249	552	+ 745	830	1.34	1.54
June.....	19,955	1,060	286	665	+ 345	798	1.29	1.44
July.....	31,194	2,300	470	1,006	+ 226	1,090	1.76	2.03
August.....	18,967	727	426	612	- 297	501	.808	.93
September.....	25,500	919	698	850	- 1,191	390	.629	.70
Water year 1934-35	229,959	2,300	61	630	+ 4,835	783	1.26	17.12

Flambeau River near Butternut, Wis.

Location.- Chain gage, lat. 46°, long. 90°22', in lot 10, sec. 28, T. 41 N., R. 1 E., 6 miles southeast of Butternut.

Drainage area.- 660 square miles.

Records available.- July 1914 to September 1935.

Average discharge.- 21 years, 649 second-feet, not corrected for storage.

Extremes.- Maximum discharge observed during year, 2,440 second-feet July 7 (gage height, 5.60 feet); minimum mean daily (estimated), 183 second-feet Mar. 28-31.
1914-35: Maximum discharge (observed), 5,430 second-feet Apr. 22, 23, 1916 (gage height, 9.0 feet); minimum, 91 second-feet Sept. 18, 19, 1925 (gage height, 0.25 foot).

Remarks.- Records good. Discharge estimated during period of ice effect, Dec. 1 to Mar. 31, from records of Flambeau River at Flambeau Reservoir. Part of table of monthly discharge corrected for storage in Flambeau and Rest Lake Reservoirs.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	518	558	676	819	951	273	482	482	613	654	762
2	248	518	607	676	819	951	593	432	482	1,350	633	855
3	224	518	685	676	819	951	593	415	555	1,300	633	855
4	236	536	685	676	819	951	593	448	633	1,350	633	855
5	248	536	632	703	702	951	593	500	633	1,830	633	855
6	260	536	582	731	572	951	273	613	633	1,890	808	855
7	260	536	582	731	730	951	248	664	633	2,440	633	855
8	482	518	582	731	951	951	518	633	654	2,370	536	855
9	482	518	582	731	951	951	518	633	654	1,770	500	902
10	465	518	490	731	951	819	593	633	674	1,650	482	902
11	465	518	406	731	951	875	633	654	674	1,410	674	902
12	465	518	428	731	951	875	674	782	674	1,710	654	950
13	448	518	558	731	951	675	536	1,050	674	1,100	654	1,000
14	555	518	685	731	951	675	482	1,100	674	654	654	950
15	536	518	685	731	951	675	574	762	717	762	654	555
16	555	574	685	731	951	572	674	482	762	762	633	950
17	555	593	685	731	951	548	593	448	855	762	717	950
18	555	593	685	731	951	548	555	432	432	762	717	950
19	574	593	685	731	951	458	415	400	1,050	717	950	
20	613	674	685	731	951	376	354	518	950	1,050	717	902
21	518	717	685	760	951	408	354	633	1,150	1,050	717	902
22	448	613	685	820	951	389	613	855	1,150	1,150	613	902
23	448	593	685	820	951	446	574	855	1,200	855	482	902
24	482	613	685	820	951	408	555	674	1,150	717	555	855
25	448	555	685	820	951	389	518	762	1,150	536	593	855
26	369	555	685	820	951	294	354	762	1,100	500	633	855
27	354	574	685	820	951	254	448	762	855	674	762	855
28	364	593	685	820	951	183	415	808	855	717	762	855
29	518	593	685	820	-	183	482	762	808	674	717	855
30	518	574	685	820	-	183	518	674	762	674	717	855
31	518	-	685	820	-	183	-	536	-	674	717	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second- foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	13,534	613	224	437	+ 1,352	942	1.42	1.64
November.....	16,849	717	513	562	+ 739	847	1.28	1.45
December.....	19,705	685	406	636	+ 171	700	1.06	1.22
Calendar year 1934	182,138	808	224	499	+ 3,900	623	.944	12.61
January.....	23,332	820	676	753	- 540	551	.835	.96
February.....	25,251	951	572	902	- 900	530	.803	.84
March.....	18,575	951	183	599	+ 1,237	1,061	1.60	1.84
April.....	15,237	674	248	508	+ 2,948	1,648	2.48	2.77
May.....	20,149	1,100	415	650	+ 745	928	1.41	1.63
June.....	23,025	1,200	400	788	+ 345	901	1.37	1.53
July.....	34,806	2,440	500	1,123	+ 226	1,207	1.83	2.11
August.....	20,204	808	482	652	- 297	541	.820	.95
September.....	26,301	1,000	555	877	- 1,191	417	.632	.71
Water year 1934-35	256,968	2,440	183	704	+ 4,835	857	1.30	17.63

Flambeau River at Babbs Island, near Winter, Wis.

Location.- Water-stage recorder, lat. 45°47', long. 90°45', near west line of sec. 16, T. 38 N., R. 3 W., 10 miles east of Winter. Prior to May 20, 1934, at site 150 feet upstream. Gage datum raised 9.00 feet Oct. 1, 1934.

Drainage area.- 964 square miles.

Records available.- August 1929 to September 1935 (winter records incomplete).

Extremes.- Maximum discharge during year, 3,440 second-feet July 3 (gage height, 4.98 feet); minimum recorded, 376 second-feet June 3 (gage height, 0.61 foot); minimum mean daily recorded, 420 second-feet June 3.

1929-35: Maximum discharge, that of July 3, 1935; minimum recorded, 218 second-feet Oct. 28, 1930 (gage height, 0.37 foot, present datum), supersedes that previously published; minimum mean daily recorded, 312 second-feet July 29, 1934.

Remarks.- Records poor. Stage-discharge relation affected by ice Dec. 3-31. No records Jan. 1 to Mar. 29. Part of table of monthly discharge corrected for storage in Flambeau Reservoir.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-10, July 30 to Sept.30)

0.6	374	1.4	622	2.3	1,160	4.0	2,540
.8	420	1.6	716	2.6	1,390	4.5	2,990
1.0	474	1.8	829	3.0	1,710	5.0	3,440
1.2	540	2.0	960	3.5	2,120		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	800	800	661				1,120	895	829	990	990	893
2	770	692	580				1,160	960	580	2,540	990	800
3	692	716	692				1,160	770	420	2,900	960	893
4	622	644	800				1,120	829	622	2,540	893	960
5	601	644	893				1,240	644	716	2,370	622	1,020
6	622	743	926				1,090	622	716	2,540	1,280	960
7	601	716	926				743	800	622	2,900	1,590	1,020
8	529	770	926				692	861	692	2,420	1,350	1,060
9	692	716	926				926	829	716	2,370	1,160	893
10	692	716	893				1,060	893	667	1,910	861	1,060
11	580	601	829				1,160	829	743	2,160	829	990
12	580	590	800				1,240	1,020	861	1,630	716	960
13	644	667	770				1,120	1,470	743	1,910	861	990
14	601	667	770				693	1,510	861	960	1,060	990
15	560	667	990				770	1,350	960	861	926	926
16	644	667	1,020				1,120	960	990	1,060	829	667
17	716	743	743				1,240	926	1,120	960	829	1,020
18	800	800	990				1,120	800	1,200	893	829	960
19	716	770	1,020				1,090	540	960	1,240	893	1,020
20	800	743	960				829	495	1,090	1,120	1,020	1,020
21	926	861	926				692	829	1,310	1,310	1,020	990
22	926	1,060	960				667	800	1,670	1,200	990	960
23	926	1,020	990				990	743	1,550	1,090	861	861
24	861	926	692				960	1,020	1,510	829	743	893
25	960	743	716				926	893	1,390	1,060	743	926
26	960	743	716				861	743	1,550	716	560	926
27	770	770	926				926	692	1,240	800	926	893
28	644	893	835				661	861	926	861	990	861
29	622	893	926				743	861	1,090	829	960	861
30	800	926	1,020			2,280	743	861	990	960	960	829
31	743	-	692			1,670	-	893		1,060	960	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	22,400	960	529	723	+1,352	1,228	1.27	1.46
November.....	22,897	1,060	580	763	+ 739	1,048	1.09	1.22
December.....	26,772	1,020	580	864	+ 171	928	.962	1.11
Calendar year								
January.....	-	-	-	-	-	-	-	-
February.....	-	-	-	-	-	-	-	-
March.....	-	-	-	-	-	-	-	-
April.....	29,262	1,240	667	975	+2,948	2,112	2.18	2.43
May.....	27,197	1,510	495	877	+ 745	1,155	1.20	1.58
June.....	29,354	1,670	420	978	+ 345	1,111	1.15	1.28
July.....	47,289	2,800	716	1,525	+ 226	1,606	1.67	1.82
August.....	29,201	1,590	560	942	- 297	831	.862	.99
September.....	28,102	1,060	667	937	-1,191	477	.495	.55
Water year								

Flambeau River near Ladysmith, Wis.

Location.- Lat. 45°34', long. 90°58', in sec. 35, T. 36 N., R. 5 W., at Big Falls power plant of Lake Superior District Power Co., 14 miles above Ladysmith.

Drainage area.- 1,910 square miles.

Records available.- October 1923 to September 1935. Comparable records February 1903 to December 1906 at Ladysmith, and January 1914 to September 1923 at station about 8 miles below present site.

Average discharge.- 21 years (1914-35), 1,617 second-feet, not corrected for storage.

Extremes.- Maximum mean daily discharge during year, 8,160 second-feet Mar. 27; minimum mean daily, 439 second-feet June 9.
1903-6, 1914-35: Maximum mean daily discharge recorded, 19,500 second-feet Apr. 11, 1922; minimum mean daily, 176 second-feet Aug. 30, 1925.

Remarks.- Records good. Part of table of monthly discharge corrected for storage in Flambeau and Rest Lake Reservoirs. Records of daily discharge, computed from powerhouse records, furnished by Lake Superior District Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,000	1,810	1,610	843	1,280	1,180	4,340	2,180	1,380	1,500	1,480	831
2	2,630	1,640	1,260	1,240	1,240	1,110	3,950	2,310	1,210	4,340	1,450	688
3	2,270	1,700	1,380	1,160	958	943	3,610	2,140	1,280	5,180	1,280	1,010
4	1,900	1,440	1,550	1,410	1,140	1,280	3,260	1,710	791	4,610	1,300	1,180
5	1,900	1,580	1,520	1,320	1,170	1,310	3,630	1,560	831	4,420	1,510	1,240
6	1,780	1,750	1,340	752	1,460	1,500	2,830	1,450	965	5,110	1,370	1,340
7	1,550	1,780	1,220	1,220	1,420	1,630	2,370	1,740	982	5,450	2,090	1,360
8	1,510	1,800	1,620	1,020	1,300	1,670	2,090	1,620	924	5,130	1,950	856
9	1,570	1,580	1,040	1,220	1,320	1,280	2,520	1,780	439	4,330	1,880	1,210
10	1,630	1,610	1,660	1,210	904	1,640	2,780	1,910	1,020	3,310	1,450	1,210
11	1,470	1,230	1,490	1,360	1,190	1,640	3,060	2,040	1,100	3,420	1,310	1,160
12	1,220	1,410	1,160	1,280	1,360	1,370	3,030	1,560	1,190	2,640	1,250	1,210
13	1,150	1,240	1,600	946	1,450	1,460	2,970	2,820	1,300	2,980	1,420	1,320
14	922	1,200	1,160	1,020	1,430	1,500	2,710	2,840	1,180	1,780	1,490	937
15	1,160	1,260	1,220	989	1,180	1,400	2,300	2,460	1,550	1,390	1,530	1,180
16	1,090	1,440	915	1,260	1,110	2,020	2,720	2,220	1,950	1,540	981	980
17	1,230	1,340	1,360	1,130	1,170	1,720	2,990	1,780	2,230	1,470	1,070	1,260
18	1,270	892	1,600	1,350	1,160	1,700	2,870	1,890	2,510	1,280	464	1,280
19	1,190	1,480	1,470	1,350	1,290	2,110	2,560	1,340	2,270	1,500	1,160	1,350
20	1,720	1,810	1,260	744	1,660	2,450	2,140	1,080	2,580	1,640	1,250	1,630
21	2,510	2,640	1,320	1,030	1,400	3,400	1,950	1,400	2,850	1,660	1,180	1,200
22	2,900	3,180	1,210	1,160	1,230	4,760	1,660	1,450	3,250	1,650	1,260	907
23	3,140	2,910	1,180	1,500	1,190	6,160	2,090	1,320	3,200	1,590	1,250	1,020
24	3,090	2,660	1,180	1,440	969	6,610	1,990	1,340	2,930	1,400	1,060	1,000
25	3,100	2,560	829	1,280	1,120	6,500	1,970	1,480	2,600	1,430	976	1,180
26	2,970	2,260	991	1,170	1,390	7,300	1,910	1,110	2,600	1,480	1,240	1,160
27	2,570	2,220	1,020	824	1,450	8,160	1,980	1,330	2,100	1,020	662	1,400
28	2,150	2,460	1,130	1,010	1,320	7,780	2,060	1,170	1,830	1,010	1,180	1,190
29	1,790	2,380	1,320	1,240	-	6,570	1,840	1,290	1,720	1,480	1,130	705
30	2,040	2,210	800	1,430	-	6,100	2,100	1,410	1,680	1,490	1,310	1,070
31	1,840	-	1,180	1,300	-	5,270	-	1,430	-	1,670	1,250	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	60,062	3,140	922	1,937	+1,352	2,442	1.28	1.48
November.....	55,472	3,180	892	1,849	+ 739	2,134	1.12	1.25
December.....	39,575	1,620	800	1,277	+ 171	1,340	.702	.81
Calendar year 1934	448,835	7,080	351	1,230	+3,900	1,354	.709	9.62
January.....	36,158	1,500	744	1,166	- 540	964	.505	.58
February.....	35,261	1,080	804	1,259	- 900	897	.464	.48
March.....	99,423	8,160	943	5,207	+1,237	3,669	1.92	2.21
April.....	78,280	4,340	1,660	2,609	+2,948	3,746	1.96	2.19
May.....	53,140	2,840	1,080	1,714	+ 745	1,992	1.04	1.20
June.....	52,442	3,250	439	1,748	+ 345	1,881	.985	1.10
July.....	78,800	5,450	1,010	2,542	+ 226	2,626	1.37	1.58
August.....	40,223	2,090	662	1,298	- 297	1,187	.621	.72
September.....	34,054	1,530	698	1,135	-1,191	675	.353	.39
Water year 1934-35	662,890	8,160	439	1,816	+4,835	1,969	1.03	13.99

South Fork of Flambeau River near Phillips, Wis.

Location.- Chain gage, lat. 45°42', long. 90°37', in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10, T. 37 N., R. 2 W., half a mile downstream from mouth of Big Elk River and 12 miles west of Phillips.

Drainage area.- 666 square miles.

Records available.- August 1929 to September 1935 (winter records incomplete).

Extremes.- Maximum discharge observed during year, 2,130 second-feet Oct. 1 (gage height, 8.3 feet); minimum observed, 151 second-feet several days in September.
1929-35: Maximum discharge observed, 7,180 second-feet Apr. 10, 1934 (gage height, 13.5 feet); minimum, 39 second-feet Aug. 31, Sept. 3-5, 1933.

Remarks.- Records fair except those for October, August, and September, which are poor.
No records Dec. 6 to Apr. 7.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-15, Aug. 10 to Sept. 30)

4.2	151	5.8	553
4.4	166	6.2	769
4.6	185	6.6	1,000
4.8	211	7.0	1,250
5.0	246	7.5	1,600
5.2	297	8.0	1,960
5.5	410	8.4	2,290

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,130	1,000	1,390				-	1,000	297	410	410	166
2	1,750	940	1,390				-	1,000	283	1,390	399	162
3	1,250	825	1,390				-	1,000	269	1,530	349	166
4	1,060	769	1,390				-	940	269	1,460	314	166
5	1,000	769	1,460				-	825	258	1,530	297	175
6	940	882	-				-	769	258	1,930	455	170
7	825	882	-				-	714	246	1,750	769	166
8	825	882	-				1,390	714	246	1,600	882	158
9	714	882	-				1,390	714	258	1,390	882	158
10	605	769	-				1,390	696	293	1,180	769	169
11	479	769	-				1,460	659	297	1,180	605	151
12	432	714	-				1,460	882	297	1,000	455	158
13	410	659	-				1,460	1,060	283	882	432	154
14	389	605	-				1,460	1,060	297	769	368	151
15	410	528	-				1,390	1,060	503	769	330	151
16	479	479	-				1,320	1,000	769	659	297	151
17	503	432	-				1,320	882	1,120	605	258	159
18	553	503	-				1,250	769	1,250	503	246	166
19	553	526	-				1,180	659	1,120	479	227	166
20	605	632	-				1,120	605	1,390	432	246	166
21	1,120	632	-				1,000	503	1,530	432	246	162
22	1,390	825	-				882	368	1,390	432	227	158
23	1,750	1,180	-				825	330	1,530	389	219	156
24	1,750	1,530	-				769	297	1,390	349	204	154
25	1,750	1,530	-				769	297	1,180	297	197	154
26	1,600	1,460	-				769	297	940	314	180	154
27	1,460	1,390	-				769	330	769	349	191	151
28	1,390	1,390	-				769	330	714	503	185	151
29	1,180	1,390	-				825	330	659	583	185	151
30	1,120	1,320	-				940	314	479	503	180	151
31	1,060	-	-				-	297	-	455	170	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				31,482	2,130	389	1,016	1.53	1.76			
November.....				27,096	1,530	432	903	1.36	1.52			
December 1-5.....				7,020	1,460	1,390	1,404	2.11	.39			
Calendar year												
January.....				-	-	-	-	-	-			
February.....				-	-	-	-	-	-			
March.....				-	-	-	-	-	-			
April 8-30.....				25,907	1,460	769	1,126	1.69	1.45			
May.....				20,691	1,060	297	667	1.00	1.15			
June.....				20,574	1,530	246	696	1.03	1.15			
July.....				26,924	1,890	297	836	1.26	1.45			
August.....				11,164	882	170	360	.541	.62			
September.....				4,761	175	151	159	.239	.27			
Water year												

Jump River at Sheldon, Wis.

Location.- Chain gage, lat. 45°18', long. 90°58', in sec. 26, T. 33 N., R. 5 W., at highway bridge in Sheldon, 1,500 feet above Soldier Creek and 11 miles above mouth.

Drainage area.- 510 square miles.

Records available.- July 1915 to September 1935.

Average discharge.- 20 years, 494 second-feet.

Extremes.- Maximum discharge observed during year, 10,500 second-feet Mar. 24 (gage height, 9.8 feet); minimum observed, 36 second-feet Aug. 26, 27, 29, 30 (gage height, 2.90 feet). 1915-35: Maximum discharge observed, 15,600 second-feet Mar. 26, 1920 (gage height, 11.48 feet); minimum observed, 12 second-feet July 28, 29, 1934 (gage height, 2.55 feet).

Remarks.- Records good except those for period when stage-discharge relation was affected by aquatic growth, June 6 to Sept. 30, and those for period of ice effect, Dec. 4 to Mar. 20, which are fair. Gage read on alternate days from Dec. 9 to Mar. 20; discharge interpolated between readings.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 6 to Sept. 30)

2.7	26	4.1	568	6.2	2,630
2.9	52	4.3	700	6.6	3,180
3.1	106	4.5	935	7.0	3,920
3.3	180	4.9	1,210	7.5	4,670
3.5	265	5.2	1,480	8.0	5,700
3.7	355	5.5	1,790	9.0	8,220
3.9	455	5.8	2,120	10.0	11,100

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,480	403	850	124	106	133	1,480	632	172	265	142	63
2	1,020	429	632	115	106	124	1,110	568	161	2,120	90	52
3	810	455	568	106	106	124	935	568	135	4,670	96	44
4	700	7,770	568	106	106	124	810	568	135	2,900	74	74
5	510	1,020	539	106	103	173	700	510	135	2,630	84	56
6	482	935	539	98	100	222	770	455	131	3,800	153	56
7	355	810	510	90	128	277	700	403	84	3,640	566	63
8	288	700	482	90	117	332	632	455	90	2,630	850	80
9	310	600	455	90	120	482	600	482	90	1,160	632	113
10	310	510	429	90	124	632	600	455	90	892	429	100
11	265	455	379	90	124	762	666	770	90	600	310	74
12	231	403	355	90	124	892	892	1,300	90	482	214	52
13	201	355	332	90	124	851	1,020	1,790	96	379	150	70
14	180	301	301	90	124	810	350	1,580	193	296	113	56
15	180	288	265	90	115	1,140	770	1,110	600	209	124	52
16	180	265	265	90	106	1,480	632	770	850	180	106	52
17	172	256	265	90	124	1,800	632	632	735	161	100	52
18	161	332	254	98	142	2,120	568	482	632	153	74	74
19	142	403	244	106	142	2,440	510	379	700	117	63	74
20	172	568	233	106	142	2,760	455	310	2,120	96	56	84
21	2,120	1,480	222	106	133	4,670	403	265	2,760	84	52	90
22	3,800	2,760	192	115	124	7,690	355	214	2,370	63	63	90
23	3,180	3,180	161	124	135	10,200	332	180	1,580	67	52	74
24	2,630	2,760	152	124	146	10,200	355	180	1,110	74	52	67
25	2,240	2,120	142	124	144	7,950	403	172	700	63	49	67
26	1,900	1,900	142	124	142	6,160	403	161	482	67	36	74
27	1,580	1,690	142	124	142	5,270	455	172	568	84	39	74
28	1,160	1,580	142	115	142	4,860	700	288	539	278	44	67
29	850	1,300	142	106	-	3,330	770	265	429	600	39	63
30	700	1,160	133	106	-	2,500	770	244	332	403	36	74
31	482	-	124	106	-	1,790	-	201	-	235	44	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....					28,791	3,800	142	929	1.82	2.10		
November.....					30,188	3,180	256	1,006	1.97	2.20		
December.....					10,159	850	124	328	.643	.74		
Calendar year 1934.....					168,107	5,700	12	461	.904	12.26		
January.....					3,229	124	90	104	.204	.24		
February.....					3,491	146	100	125	.245	.26		
March.....					82,298	10,200	124	2,655	5.21	6.01		
April.....					20,278	1,480	332	676	1.33	1.48		
May.....					16,561	1,790	161	534	1.05	1.21		
June.....					18,199	2,760	84	607	1.19	1.33		
July.....					29,398	4,670	63	948	1.86	2.14		
August.....					5,032	850	36	162	.318	.37		
September.....					2,081	113	44	62.4	.136	.15		
Water year 1934-35.....					249,705	10,200	36	684	1.34	18.23		

Red Cedar River near Colfax, Wis.

Location.- Water-stage recorder, lat. $45^{\circ}3'$, long. $91^{\circ}42'$, in sec. 27, T. 30 N., R. 11 W., at Highway bridge $\frac{3}{4}$ miles below Trout Creek and $4\frac{1}{4}$ miles north of Colfax.

Drainage area.- 1,100 square miles.

Records available.- March 1914 to September 1935.

Average discharge.- 21 years, 739 second-feet.

Extremes.- Maximum discharge during year, 5,000 second-feet Mar. 24 (gage height, 5.6 feet); minimum, 144 second-feet Dec. 3.

1914-35: Maximum discharge, 21,900 second-feet Apr. 3, 1934 (gage height, 11.4 feet); minimum, that of Dec. 3, 1934.

Remarks.- Records fair. Stage-discharge relation affected by backwater from dam during greater part of year. Discharge determined from records of Colfax power plant, $3\frac{1}{4}$ miles downstream, except for days when water was spilled at dam. Flow regulated by four storage reservoirs upstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	516	482	451	350	380	494	885	545	373	920	427	409
2	538	471	465	403	417	468	1,000	635	401	1,500	447	389
3	492	473	280	345	406	508	915	640	399	1,580	452	468
4	500	451	470	350	436	494	895	660	416	1,210	452	393
5	528	448	410	350	432	620	995	610	393	2,890	472	410
6	558	425	387	342	463	900	960	441	403	2,830	3,050	429
7	562	450	256	392	480	800	865	645	380	1,920	2,980	475
8	414	417	307	443	443	511	710	1,340	378	1,120	2,660	459
9	507	437	369	516	432	740	815	1,120	461	880	591	400
10	424	419	361	508	406	730	640	648	434	585	1,170	427
11	396	396	384	512	441	552	670	784	445	945	1,020	456
12	352	375	387	475	480	547	745	1,630	451	878	780	466
13	426	421	409	398	543	605	685	1,380	416	795	680	467
14	394	386	400	342	539	581	620	1,100	875	895	715	426
15	427	453	429	333	538	647	540	835	1,640	765	633	436
16	381	387	497	348	503	560	600	680	1,450	850	591	367
17	374	377	418	334	508	620	565	770	2,150	730	589	407
18	407	423	502	327	504	570	550	824	1,780	614	588	552
19	425	457	539	326	510	730	540	511	1,960	591	678	574
20	559	514	478	342	470	1,310	538	432	1,230	534	787	550
21	835	700	477	359	455	1,750	510	478	865	455	648	486
22	580	605	453	369	458	3,450	580	509	1,080	434	630	491
23	509	572	436	405	472	4,700	440	631	800	443	602	354
24	557	545	376	397	502	4,570	594	449	840	549	554	444
25	590	610	391	433	434	3,510	577	370	680	625	568	436
26	463	535	393	378	436	2,410	484	332	810	570	464	446
27	547	543	385	293	458	2,250	560	329	650	652	461	418
28	515	560	352	383	471	2,020	565	418	530	794	583	406
29	425	568	357	346	-	1,360	480	430	545	592	421	409
30	512	543	362	371	-	1,130	625	445	616	456	482	365
31	461	-	377	410	-	1,040	-	383	-	458	406	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....	15,174		835		352		489		0.445		0.51	
November.....	14,645		810		375		488		.444		.50	
December.....	12,538		539		256		404		.367		.42	
Calendar year 1934.....	184,795		14,500		169		506		.460		6.26	
January.....	11,890		516		293		384		.349		.40	
February.....	13,018		543		380		465		.423		.44	
March.....	41,417		4,700		468		1,336		1.21		1.40	
April.....	20,048		1,000		440		668		.607		.68	
May.....	21,204		1,830		329		684		.632		.72	
June.....	23,851		2,150		373		795		.723		.81	
July.....	29,080		2,890		434		938		.853		.98	
August.....	25,591		3,050		406		826		.751		.87	
September.....	13,245		574		365		442		.402		.45	
Water year 1934-35.....	241,699		4,700		256		662		.602		8.18	

Red Cedar River at Menomonie, Wis.

Location.— Water-stage recorder, lat. 44°53', long. 91°56', in sec. 26, T. 28 N., R. 13 W., at Menomonie, 900 feet below power house of Northern States Power Co. and 1,000 feet below mouth of Wilson Creek. Zero of gage is 780 feet above mean sea level, referred to Northern States Power Co. bench mark.

Drainage area.— 1,810 square miles.

Records available.— June 1907 to September 1908, May 1913 to September 1923, March 1925 to September 1935.

Average discharge.— 20 years (1913-23, 1925-35), 1,173 second-feet.

Extremes.— Maximum discharge 7,780 second-feet Mar. 23 (gage height, 5.5 feet); minimum, 280 second-feet Nov. 4 (gage height, 1.28 feet).
1907-8, 1913-23, 1925-35: Maximum discharge, 40,000 second-feet Apr. 4, 1934 (gage height, 16.0 feet, from flood marks); minimum, 21 second-feet Dec. 9, 1928 (gage height, 0.85 feet).

Remarks.— Records good. Regulation by operation of power plants at Menomonie and at Cedar Falls and by storage in four reservoirs upstream.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

1.2	218	2.2	1,260	3.7	3,970
1.4	340	2.5	1,700	4.0	4,600
1.6	510	2.8	2,200	4.5	5,700
1.8	725	3.1	2,780	5.0	6,790
2.0	980	3.4	3,370	5.5	7,880

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,690	648	1,180	693	654	761	2,300	1,080	751	1,800	746	765
2	785	635	611	731	664	659	1,740	1,200	672	1,770	919	743
3	779	1,000	866	701	667	667	1,560	1,120	923	2,130	756	844
4	916	719	716	693	654	1,030	1,740	1,120	965	1,890	597	1,040
5	863	495	679	690	799	1,120	1,410	720	979	3,290	987	981
6	631	606	712	695	744	895	1,140	1,180	1,080	4,520	2,390	1,020
7	533	755	699	666	771	1,220	631	1,200	699	3,840	3,350	1,040
8	845	1,060	671	714	868	1,080	1,050	1,680	747	3,120	3,950	740
9	795	702	680	965	792	1,120	1,110	2,050	735	2,360	3,040	988
10	831	657	641	697	647	819	1,430	2,080	698	2,040	2,670	1,010
11	650	652	821	705	916	1,080	1,430	2,000	713	2,050	1,720	939
12	841	706	569	737	800	1,120	1,530	1,710	860	2,010	1,690	812
13	678	830	648	770	788	1,230	1,580	2,870	938	2,060	1,480	762
14	612	706	637	692	1,070	1,220	734	3,040	1,540	1,240	1,290	785
15	721	671	657	707	1,090	1,220	1,150	2,310	2,360	1,960	1,270	747
16	746	677	740	691	923	1,240	1,160	1,790	2,120	1,240	1,140	711
17	678	716	846	701	792	1,220	1,210	1,680	2,760	1,240	1,130	787
18	762	744	1,020	672	899	1,630	1,190	1,060	2,060	1,250	948	832
19	626	879	768	708	1,090	2,280	1,080	730	2,500	1,220	967	810
20	1,780	1,370	924	668	1,080	1,880	848	1,080	2,460	1,240	1,670	626
21	1,930	1,530	1,080	588	972	2,510	564	1,200	2,180	1,010	1,440	772
22	1,280	1,510	859	670	753	4,570	863	1,180	1,030	1,070	1,330	760
23	1,450	1,200	790	680	662	7,220	1,020	1,080	1,250	1,240	1,410	739
24	1,520	1,090	740	750	677	7,220	1,140	1,140	1,770	1,210	1,040	593
25	1,280	485	766	696	912	6,350	1,110	812	1,640	2,040	621	895
26	1,160	997	700	688	944	4,330	1,160	590	1,410	888	1,050	818
27	884	1,090	699	682	878	3,660	1,190	1,030	1,660	790	1,120	756
28	641	1,130	698	632	770	3,260	940	982	1,150	817	1,060	770
29	631	682	703	703	-	2,750	1,040	976	1,060	1,020	1,040	645
30	622	1,010	690	775	-	1,820	1,010	620	901	1,100	800	815
31	688	-	754	677	-	1,580	-	920	-	777	774	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	28,728	1,930	522	927	0.512	0.59
November.....	25,952	1,530	485	865	.476	.53
December.....	23,564	1,180	569	760	.420	.48
Calendar year 1934.....	333,097	29,000	272	913	.504	6.84
January.....	21,837	965	588	704	.369	.45
February.....	23,266	1,090	647	831	.459	.48
March.....	68,761	7,220	659	2,218	1.23	1.42
April.....	36,060	2,300	564	1,202	.664	.74
May.....	42,240	3,040	590	1,363	.753	.87
June.....	40,541	2,750	559	1,351	.746	.83
July.....	54,232	4,520	777	1,749	.966	1.11
August.....	44,365	3,950	597	1,431	.791	.91
September.....	25,193	1,040	645	840	.464	.52
Water year 1934-35.....	434,739	7,220	485	1,191	.658	8.93

Buffalo River near Tell, Wis.

Location.- Staff gage, lat. 44°23'30", long. 91°50'55", in NW¼ sec. 16, T. 22 N., R. 12 W., a quarter of a mile north of Tell School and 1 mile northeast of Tell.

Drainage area.- 398 square miles.

Records available.- October 1932 to September 1935 (winter records incomplete).

Extremes.- Maximum discharge observed during year, 1,370 second-feet Aug. 8 (gage height, 6.02 feet); minimum observed, 96 second-feet Apr. 3 (gage height, 2.22 feet).
1932-36: Maximum discharge observed, 8,650 second-feet Apr. 3-4, 1934 (gage height, 8.48 feet, from flood marks); minimum, 59 second-feet Aug. 16, 1933 (gage height, 1.99 feet).

Remarks.- Records fair. No records Dec. 1 to Mar. 20.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	390	173				-	125	252	202	252	941	202
2	369	166				-	112	308	202	270	505	202
3	308	173				-	96	328	202	348	434	187
4	252	218				-	103	308	187	369	369	202
5	235	235				-	130	289	187	583	434	218
6	235	218				-	180	270	187	583	556	202
7	218	202				-	270	252	180	645	1,240	218
8	235	187				-	252	252	180	645	1,370	218
9	235	180				-	235	252	173	556	841	202
10	235	180				-	235	235	218	348	682	202
11	218	166				-	348	252	202	556	348	202
12	202	166				-	457	530	187	556	328	187
13	173	166				-	390	612	202	645	328	187
14	166	160				-	289	505	328	556	270	187
15	160	160				-	252	348	348	457	252	180
16	160	160				-	252	270	369	390	235	180
17	160	160				-	252	252	583	308	218	180
18	160	252				-	* 218	235	612	235	218	180
19	148	270				-	* 218	235	778	270	218	369
20	434	328				-	* 203	218	726	252	270	505
21	412	348				778	* 203	218	726	218	434	583
22	348	348				* 620	* 189	218	612	218	328	682
23	328	348				* 780	235	218	390	218	308	726
24	348	369				* 560	289	202	328	348	308	645
25	289	348				* 500	252	202	328	308	289	348
26	173	369				457	289	202	328	252	235	412
27	173	348				390	270	252	328	218	218	369
28	173	328				348	252	252	308	457	218	308
29	180	308				218	252	252	289	530	218	308
30	173	289				187	252	218	252	682	218	252
31	173	-				173	-	202	-	726	218	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....					7,463	434	148	241	0.606		0.70	
November.....					7,323	369	160	244	.613		.68	
December.....					-	-	-	-	-		-	
Calendar year												
January.....					-	-	-	-	-		-	
February.....					-	-	-	-	-		-	
March 21-31.....					5,241	820	173	476	1.20		.49	
April.....					7,100	457	96	237	.536		.66	
May.....					8,639	612	202	279	.701		.81	
June.....					10,142	778	173	338	.849		.95	
July.....					12,969	726	218	419	1.05		1.21	
August.....					12,949	1,370	218	418	1.05		1.21	
September.....					9,043	726	160	301	.756		.84	
Water year												

* Estimated.

Zumbro River at Zumbro Falls, Minn.

Location.— Water-stage recorder, lat. 44°17', long. 92°26', in sec. 36, T. 110 N., R. 14 W., at Zumbro Falls, 700 feet below mouth of Spring Creek.

Drainage area.— 1,120 square miles.

Records available.— June 1909 to September 1917, April 1929 to September 1935.

Average discharge.— 14 years, 420 second-feet.

Extremes.— Maximum discharge during year, 11,700 second-feet Aug. 7 (gage height, 19.60 feet); minimum, 27 second-feet Jan. 12 (gage height, 6.30 feet).
1909-17, 1929-35: Maximum discharge, 21,800 second-feet Apr. 4, 1934 (gage height, 26.26 feet); minimum, that of Jan. 12, 1935.
Maximum stage known, about 30.5 feet, present gage, and 29.7 feet, former gage, in April 1888.

Remarks.— Records excellent except those for periods of ice effect, Dec. 13, 28, Jan. 7-9, 28, 29, Feb. 5-7, 25-28, Mar. 2, 4, and that estimated for May 13, which are fair.
Diurnal fluctuation caused by operation of power plant about 10 miles upstream.

Rating tables, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Aug. 1

6.5	48	10.0	2,100
7.0	150	10.5	2,500
7.5	350	11.0	2,900
8.0	660	11.5	3,300
8.5	1,010	12.0	3,700
9.0	1,360	13.0	4,500
9.5	1,710	14.0	5,400

Table for Aug. 2 to Sept. 30

7.0	150	12.0	3,510
7.5	350	13.0	4,310
8.0	660	14.0	5,200
8.5	1,010	15.0	6,200
9.0	1,360	16.0	7,300
10.0	2,060	17.0	8,400
11.0	2,760	18.0	9,600

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	418	225	242	154	156	150	661	498	502	1,020	512	207
2	290	280	177	172	161	150	623	490	416	989	1,130	244
3	276	190	211	145	150	151	576	510	477	819	4,530	319
4	376	164	236	166	144	210	560	513	512	568	2,140	320
5	320	194	222	214	200	184	539	413	520	709	1,570	318
6	298	218	230	158	200	164	508	463	504	772	4,300	317
7	286	218	138	230	200	226	446	489	483	620	2,040	322
8	308	214	144	240	158	271	494	499	498	595	3,350	199
9	318	172	140	230	148	264	498	546	392	587	1,990	172
10	300	152	162	168	139	244	509	520	492	558	1,500	161
11	208	148	139	94	198	262	542	769	518	480	1,180	167
12	194	134	108	58	200	270	768	4,690	517	522	1,080	162
13	196	138	180	79	205	266	831	3,390	522	520	946	169
14	150	142	158	118	216	274	746	1,560	501	545	791	165
15	186	134	154	162	214	471	627	1,090	404	668	593	155
16	154	148	152	216	160	4,630	662	871	969	558	516	208
17	144	134	142	200	146	5,360	608	764	712	463	511	183
18	209	83	142	211	200	2,820	571	639	579	393	407	237
19	170	130	110	212	153	3,480	544	526	673	354	468	754
20	750	322	200	136	139	3,450	512	554	1,540	346	591	549
21	282	276	220	215	140	2,860	421	524	1,160	300	529	306
22	252	228	219	152	142	2,230	471	508	842	299	510	240
23	238	186	148	150	137	1,770	498	488	612	320	466	266
24	253	190	200	143	122	1,400	472	489	640	280	490	277
25	362	160	188	140	200	1,240	480	480	650	200	373	276
26	360	208	118	134	210	1,100	468	430	820	146	384	184
27	320	209	138	126	190	993	472	500	802	144	468	267
28	228	218	140	180	165	915	374	537	651	532	493	274
29	200	173	168	190	-	826	465	522	545	1,120	400	212
30	240	241	148	156	-	758	468	420	441	694	364	268
31	236	-	202	161	-	644	-	468	-	562	276	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square in mile	Run-off in inches
October.....	8,522	750	144	275	0.246	0.28
November.....	5,579	322	83	186	.166	.19
December.....	5,346	242	110	172	.154	.18
Calendar year 1934.....	109,805	18,300	42	301	.269	3.64
January.....	5,111	240	58	165	.147	.17
February.....	4,793	216	122	171	.153	.16
March.....	38,073	5,360	150	1,228	1.10	1.27
April.....	16,417	831	374	547	.488	.54
May.....	25,180	4,690	413	812	.725	.84
June.....	18,890	1,540	362	630	.562	.63
July.....	16,654	1,120	144	537	.479	.55
August.....	41,988	9,040	276	1,354	1.21	1.40
September.....	7,918	754	155	264	.236	.26
Water year 1934-35.....	194,431	9,040	58	533	.476	6.47

Trempealeau River at Dodge, Wis.

Location.- Chain gage, lat. 44°7'55", long. 91°33'10", in sec. 10 (revised), T. 19 N., R. 10 W., at highway bridge in Dodge, 9 miles above mouth.

Drainage area.- 333 square miles.

Records available.- December 1913 to September 1919, April 1934 to September 1935.

Extremes.- Maximum discharge observed during year, 3,920 second-feet July 29 (gage height, 7.54 feet); minimum, 177 second-feet Feb. 26, by discharge measurement.
1913-19, 1934-35: Maximum discharge (estimated), 10,000 second-feet Mar. 17, 1919 (estimated gage height, 11.5 feet, from flood data); minimum (estimated), 105 second-feet Feb. 4, 5, 1918.

Remarks.- Records fair. Stage-discharge relation affected by ice Dec. 5 to Mar. 12.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	677	258	423	237	217	269	449	375	325	349	1,000	237
2	588	269	423	217	217	258	449	531	503	1,320	772	248
3	503	302	423	217	237	289	423	588	398	968	804	237
4	423	398	423	217	248	302	398	559	325	677	617	258
5	398	423	398	208	269	398	398	476	325	772	588	258
6	423	398	423	227	258	476	398	423	302	935	1,420	237
7	423	325	398	217	237	503	423	375	302	1,210	1,670	258
8	375	302	398	248	248	503	375	375	302	935	1,670	227
9	325	280	375	269	227	503	375	349	280	617	1,070	227
10	302	258	349	302	227	531	349	349	349	449	559	217
11	302	258	349	302	227	559	476	349	349	588	503	217
12	302	248	302	302	237	588	708	804	302	935	503	208
13	280	248	349	258	248	617	677	869	302	1,280	423	208
14	220	227	325	237	258	617	503	677	398	968	398	208
15	269	227	325	227	230	647	423	588	476	677	375	217
16	248	237	349	248	302	902	375	449	449	476	349	208
17	237	237	349	269	302	1,320	375	398	677	375	325	280
18	237	269	349	248	302	1,500	349	349	902	349	325	227
19	237	325	349	237	280	1,350	349	349	869	325	302	617
20	398	449	349	248	280	1,320	325	302	1,180	302	375	1,460
21	869	647	325	237	258	1,500	325	302	1,180	302	476	2,930
22	647	740	325	237	258	1,580	302	325	902	280	398	1,580
23	476	804	325	237	248	1,500	302	302	617	375	349	902
24	476	617	280	227	248	1,140	398	280	476	503	302	559
25	531	531	269	227	280	968	503	269	476	677	302	503
26	503	449	269	217	180	772	476	269	423	531	280	617
27	375	449	217	208	217	708	449	531	449	531	269	559
28	325	449	217	208	258	588	449	449	476	302	258	449
29	302	476	248	217	-	559	398	449	375	2,810	248	398
30	280	449	269	208	-	503	375	375	302	2,330	258	349
31	280	-	217	217	-	449	-	325	-	1,830	248	-
Month	Second-foot-days			Maximum		Minimum		Mean		Per square mile		Run-off in inches
October.....	12,287			869		237		396		0.626		0.72
November.....	11,549			804		227		385		.608		.68
December.....	10,397			423		217		335		.529		.61
Calendar year												
January.....	7,375			302		208		238		.376		.43
February.....	7,048			302		180		252		.398		.41
March.....	25,739			1,580		258		766		1.21		1.40
April.....	12,564			708		302		419		.682		.74
May.....	13,402			869		289		432		.682		.79
June.....	14,989			1,180		280		500		.790		.88
July.....	26,174			2,930		280		844		1.33		1.53
August.....	17,432			1,670		248		562		.888		1.02
September.....	15,100			2,930		208		503		.795		.89
Water year 1934-35	172,046			2,930		180		471		.744		10.10

Black River at Neillsville, Wis.

Location.- Water-stage recorder, lat. 44°34', long. 90°36', in sec. 15, T. 24 N., R. 2 W., at highway bridge in Neillsville, 1 mile below O'Neill Creek and 1½ miles above Cunningham Creek. Prior to Oct. 24, 1934, chain gage at same site and datum.

Drainage area.- 774 square miles.

Records available.- April 1905 to March 1909, December 1913 to September 1935.

Average discharge.- 21 years (1914-35), 562 second-feet.

Extremes.- Maximum discharge during year, 22,300 second-feet Mar. 23 (gage height, 15.6 feet); minimum, 58 second-feet Sept. 3 (gage height, 2.50 feet).
1905-9, 1913-35: Maximum discharge, 37,100 second-feet June 6, 1905 (gage height, 22.4 feet); minimum, 2 second-feet Aug. 29 to Sept. 3, 1933 (gage height, 1.65 feet).

Remarks.- Records good except those for period of ice effect, Dec. 2 to Mar. 18, which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,160	342	1,230	186	80	96	860	612	138	1,670	100	66
2	690	292	745	174	82	96	690	586	151	1,000	162	64
3	586	325	586	151	96	102	612	1,040	151	1,710	228	62
4	411	1,690	612	140	98	117	562	1,230	132	1,360	140	65
5	325	2,180	562	134	91	186	537	1,100	123	8,870	130	64
6	308	1,710	470	138	96	342	637	802	115	4,940	2,620	64
7	275	1,160	342	132	102	449	745	586	111	2,890	1,040	94
8	275	860	325	130	109	637	612	449	111	2,020	491	84
9	243	612	394	140	109	690	491	376	111	1,230	325	84
10	213	470	359	174	109	802	430	342	113	745	228	80
11	186	394	308	186	109	920	1,690	342	104	601	174	77
12	162	342	275	174	104	1,040	2,820	1,100	100	552	140	71
13	136	342	292	174	100	1,100	1,770	1,710	267	394	119	70
14	80	259	275	151	121	1,100	1,160	1,290	604	325	102	66
15	119	228	228	134	127	1,360	802	860	151	259	87	64
16	98	200	213	138	140	1,570	586	562	426	200	77	62
17	94	200	213	134	140	1,940	491	411	1,610	162	68	65
18	80	308	186	113	140	2,350	430	325	901	138	65	474
19	89	1,040	174	100	151	2,920	411	275	4,900	119	3,760	3,570
20	637	3,610	200	109	151	9,170	359	228	4,160	104	2,030	843
21	2,620	5,710	200	96	140	15,100	308	200	2,890	89	920	394
22	2,800	9,550	200	93	138	18,400	275	174	2,100	85	449	228
23	2,020	7,170	213	93	132	18,000	259	162	1,710	77	292	162
24	2,180	4,130	259	93	123	12,900	449	140	1,100	72	213	127
25	2,100	2,620	213	93	130	7,460	745	132	690	98	174	113
26	1,710	2,350	186	93	127	4,560	690	130	491	85	140	125
27	1,160	2,440	200	93	117	3,190	1,040	162	732	246	119	119
28	860	2,530	186	85	115	2,620	1,570	162	470	412	96	109
29	637	2,350	200	78	-	2,020	1,160	174	411	259	82	87
30	491	1,710	200	80	-	1,570	860	162	612	162	76	77
31	394	-	186	80	-	1,160	-	151	-	136	71	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....					23,139	2,800	80	746	0.964		1.11	
November.....					57,124	9,550	200	1,904	2.46		2.74	
December.....					10,232	1,230	174	330	.426		.49	
Calendar year 1934.....					217,145	19,100	4	595	.769		10.42	
January.....					3,889	186	78	125	.161		.19	
February.....					3,277	151	80	117	.151		.16	
March.....					113,967	19,400	96	3,876	4.75		5.48	
April.....					23,861	2,620	259	795	1.03		1.15	
May.....					15,975	1,710	130	515	.665		.77	
June.....					25,685	4,900	100	866	1.11		1.24	
July.....					31,010	8,870	72	1,000	1.29		1.49	
August.....					14,718	3,760	65	475	.614		.71	
September.....					7,630	3,570	62	254	.328		.37	
Water year 1934-35.....					330,497	18,400	62	905	1.17		15.90	

Black River near Galesville, Wis.

Location.— Chain gage, lat. $44^{\circ}3'45''$, long. $91^{\circ}17'30''$, on line between secs. 1 and 2, T. 18 N., R. 8 W. (revised), 4 1/2 miles southeast of Galesville on State Trunk Highway 35 and 5 miles below mouth of Fleming Creek. Zero of gage is 657.3 feet above mean sea level.

Drainage area.— 2,120 square miles.

Records available.— December 1931 to September 1935.

Extremes.— Maximum discharge observed during year, 28,100 second-feet Mar. 23 (gage height, 12.27 feet); minimum mean daily (estimated), 540 second-feet Jan. 25.

1931-35: Maximum discharge observed, that of Mar. 23, 1935; minimum observed, 180 second-feet Dec. 20, 1932.

Remarks.— Records fair except those for period of ice effect, Dec. 5 to Mar. 16, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,500	1,850	9,750	1,150	710	890	3,200	4,290	1,520	1,410	1,200	890
2	3,650	1,630	7,740	890	675	890	2,770	4,290	1,630	3,960	1,300	890
3	3,070	1,630	4,460	970	640	850	2,350	3,050	1,250	6,300	1,060	1,010
4	2,490	1,520	3,500	950	710	970	2,220	3,550	1,410	4,460	1,080	850
5	1,970	2,950	3,400	815	745	1,060	2,090	3,550	1,520	2,350	1,200	850
6	1,970	4,460	2,490	815	815	1,060	2,220	3,500	1,360	4,800	3,650	780
7	1,520	4,630	2,630	890	815	1,100	1,970	3,050	1,200	15,000	3,050	675
8	1,410	3,650	2,630	1,290	815	1,520	2,490	2,220	1,010	12,200	4,290	745
9	1,410	2,770	2,220	950	780	1,740	2,350	1,740	1,010	7,100	3,650	710
10	1,360	2,090	2,220	1,150	780	1,970	1,850	1,740	1,100	4,120	2,490	675
11	1,300	1,740	2,220	1,010	890	2,930	1,740	1,740	930	2,770	1,970	710
12	1,250	1,630	1,970	1,150	890	3,240	1,970	3,500	970	2,220	1,630	675
13	1,150	1,630	1,850	1,200	850	3,080	5,520	3,950	850	2,910	1,410	640
14	1,150	1,410	1,850	930	930	4,080	7,100	4,290	930	1,970	1,250	605
15	1,060	1,250	1,850	1,200	1,100	4,840	4,800	4,800	930	1,410	1,250	640
16	1,010	1,200	1,740	850	1,300	8,220	3,050	3,650	1,630	1,410	1,150	640
17	1,010	1,200	1,650	890	1,350	9,520	1,970	1,630	1,300	1,410	1,080	640
18	1,010	1,250	1,520	815	1,250	9,620	1,850	1,740	1,360	1,200	1,010	640
19	815	1,150	1,520	815	1,150	9,290	1,630	1,740	1,200	1,100	890	780
20	1,060	1,100	1,520	605	1,200	9,060	1,740	1,740	4,630	1,010	1,800	3,350
21	1,250	4,120	1,300	675	1,250	10,700	1,630	1,520	13,100	930	4,800	7,520
22	3,500	6,700	1,300	710	1,250	21,700	1,410	1,630	15,000	1,010	3,650	5,520
23	4,290	10,500	1,100	640	1,200	27,200	1,520	1,520	10,700	815	2,910	3,650
24	6,100	17,500	1,100	640	1,150	26,300	1,850	1,520	7,310	890	1,970	2,220
25	5,710	13,400	930	540	1,010	23,900	1,850	1,250	4,460	1,410	1,740	1,970
26	6,100	9,520	1,200	605	745	16,500	2,720	1,200	3,200	970	1,300	1,850
27	5,340	8,180	1,060	605	850	11,600	3,350	1,970	2,220	1,520	1,740	1,630
28	4,630	7,520	1,150	605	850	8,620	3,960	2,090	2,490	2,220	1,300	1,630
29	3,050	6,500	1,250	745	-	5,900	4,290	2,090	1,850	1,520	1,300	1,520
30	2,350	7,310	1,150	710	-	4,460	4,460	1,970	1,630	1,410	1,100	1,200
31	1,850	-	970	675	-	3,500	-	1,520	-	1,410	1,060	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	80,335	6,500	815	2,591	1.22	1.41
November.....	132,030	17,500	1,100	4,401	2.08	2.32
December.....	71,220	9,750	930	2,297	1.08	1.24
Calendar year 1934.....	594,304	17,500	260	1,628	.768	10.42
January.....	26,405	1,250	540	852	.402	.46
February.....	26,710	1,360	640	954	.450	.47
March.....	236,210	27,200	850	7,620	3.59	4.14
April.....	81,920	7,100	1,410	2,731	1.29	1.44
May.....	77,950	4,800	1,200	2,515	1.19	1.37
June.....	89,700	15,000	850	2,990	1.41	1.57
July.....	53,215	15,000	815	3,007	1.42	1.64
August.....	56,740	4,800	890	1,895	.894	1.03
September.....	46,106	7,520	605	1,537	.725	.81
Water year 1934-35.....	1,020,540	27,200	540	2,796	1.32	17.90

La Crosse River near West Salem, Wis.

Location.- Chain gage, lat. 43°54'5", long. 91°7'5", in sec. 32, T. 17 N., R. 6 W., at highway bridge 2 miles west of West Salem and 6 miles below mouth of Dutch Creek.

Drainage area.- 412 square miles.

Records available.- December 1913 to September 1935.

Average discharge.- 21 years, 304 second-feet.

Extremes.- Maximum discharge during year (estimated), 4,000 second-feet Aug. 6 (gage height, 12.2 feet); minimum, 131 second-feet Sept. 1.
1913-35: Maximum discharge, 4,780 second-feet Sept. 15, 1928 (gage height, 9.8 feet); maximum gage height, that of Aug. 6, 1935; minimum, 56 second-feet Feb. 20, 1927.

Remarks.- Records fair except those for periods of ice effect, Dec. 4 to Mar. 12, which are poor. Slight diurnal fluctuation is caused by operation of power plants a few miles above station.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
1	292	249	550	249	194	216	293	328	376	216	227	147			
2	249	260	475	238	194	227	282	376	352	400	772	194			
3	249	292	425	216	194	293	293	450	328	500	1,000	194			
4	238	352	400	249	227	352	282	450	305	376	1,220	216			
5	249	450	376	238	194	711	282	450	282	328	715	183			
6	271	352	352	227	183	860	282	425	282	740	2,320	205			
7	238	305	352	249	194	627	271	352	271	920	2,440	205			
8	227	282	271	271	205	550	271	328	260	830	1,300	205			
9	238	271	271	293	205	400	260	293	249	400	740	282			
10	238	271	260	282	194	425	238	282	260	305	550	249			
11	216	260	249	305	216	425	328	305	271	271	475	205			
12	205	249	249	293	216	425	400	860	260	216	376	183			
13	216	260	282	227	227	425	450	1,140	238	205	271	194			
14	227	249	400	249	249	376	425	920	238	227	293	183			
15	227	238	425	227	260	500	328	550	305	227	282	173			
16	216	249	352	183	260	740	282	425	260	194	271	183			
17	205	238	352	194	260	950	282	376	282	216	282	164			
18	216	282	376	216	260	740	282	328	260	205	260	164			
19	205	352	328	194	238	601	271	328	376	194	305	183			
20	376	450	328	194	183	550	271	305	500	194	352	305			
21	425	525	305	205	205	627	249	305	525	194	550	475			
22	400	550	328	194	183	601	249	293	450	194	550	601			
23	328	550	293	164	194	550	238	305	376	194	352	376			
24	425	550	293	164	194	525	282	282	305	183	271	227			
25	525	425	293	164	205	475	328	282	283	249	249	238			
26	425	425	260	164	183	425	400	282	282	328	260	216			
27	328	352	260	183	194	376	400	450	283	328	238	205			
28	293	450	260	173	194	328	475	601	271	450	216	216			
29	282	550	260	155	-	328	475	627	250	450	205	194			
30	271	601	238	183	-	328	400	282	227	328	216	216			
31	260	-	249	183	-	305	-	376	-	227	227	-			
Month				Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....				8,750		525		205		282		0.684		0.79	
November.....				10,879		601		238		363		.881		.99	
December.....				10,112		550		238		326		.791		.91	
Calendar year 1934.....				89,982		2,020		98		247		.600		8.12	
January.....				6,726		305		155		217		.527		.61	
February.....				5,905		260		183		211		.512		.53	
March.....				15,261		950		216		492		1.19		1.37	
April.....				9,569		475		238		319		.774		.86	
May.....				13,356		1,140		282		431		1.05		1.21	
June.....				9,237		525		227		308		.748		.83	
July.....				10,289		920		183		332		.806		.93	
August.....				17,785		2,440		205		574		1.39		1.60	
September.....				6,961		601		147		233		.566		.63	
Water year 1934-35.....				124,850		2,440		147		342		.830		11.25	

Little La Crosse River near Leon, Wis.

Location.— Water-stage recorder, lat. 43°53'45", long. 90°50'25", in NE¼ sec. 3, T. 16 N., R. 4 W., 2 miles northwest of Leon. Zero of gage is 760.28 feet above mean sea level.

Drainage area.— 77.1 square miles.

Records available.— March 1934 to September 1935.

Extremes.— Maximum discharge during year, 4,620 second-feet Aug. 6 (gage height, 14.43 feet); minimum, 14.3 second-feet Feb. 25 (gage height, 1.83 feet).
1934-35: Maximum, that of Aug. 6, 1935; minimum, that of Feb. 25, 1935.

Remarks.— Records excellent except those for periods of ice effect, Dec. 24 to Jan. 4, Jan. 13-31, Feb. 25-28, and those above 1,820 second-feet, which are good.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28.2	27.8	57	27.4	28.2	29.9	45.4	46.0	39.1	50	32	34
2	27.8	28.2	53	29.9	28.2	31.6	46.8	91	43.4	73	704	34
3	26.5	46.3	51	27.8	29.0	32.5	42.9	78	40.5	36	170	34
4	26.5	71	53	29.0	28.6	80	42.4	103	35.8	34	41	36
5	26.5	38.6	45.8	28.6	28.6	228	43.4	88	36.2	226	94	34
6	26.1	33.9	42.4	28.6	28.2	79	42.4	59	35.3	109	1,510	34
7	25.7	32.1	39.5	29.9	28.6	68	40.0	52	34.8	43	100	40
8	25.7	30.8	39.1	32.5	28.2	53	39.5	47.3	33.4	38	65	37
9	25.7	30.3	37.2	37.6	27.8	48.7	39.1	46.3	34.5	35	58	35
10	26.1	29.0	36.2	37.2	27.8	56	39.1	42.9	35.1	34	53	34
11	25.3	28.2	36.2	33.4	27.8	73	88	46.8	34.3	34	48	33
12	24.9	27.8	34.3	29.4	27.8	54	81	298	33.0	36	44	32
13	24.5	29.0	35.3	26.1	28.2	52	52	75	33.0	32	42	32
14	24.1	28.2	33.4	25.3	29.0	57	47.8	54	33.0	32	40	32
15	24.1	28.6	33.0	25.3	30.3	218	49.3	46.8	32.6	32	38	32
16	23.7	29.0	33.0	25.3	30.3	242	44.9	44.4	33.0	31	37	31
17	28.6	29.0	32.5	25.3	28.9	95	44.0	42.9	33.4	31	37	31
18	25.3	43.1	33.4	25.3	29.9	88	42.5	41.9	50	31	36	31
19	25.7	53	34.3	25.3	29.9	114	41.6	40.5	172	30	276	39
20	76	82	33.9	25.3	29.4	102	40.6	40.0	56	30	90	92
21	38.6	53	33.4	25.3	26.9	110	39.7	39.5	41.4	30	52	36
22	30.8	126	33.0	25.3	29.0	92	39.2	39.1	36.4	31	44	33
23	28.6	61	32.5	25.3	29.4	83	40.6	38.6	34.1	31	42	32
24	93	47.8	29.4	25.3	31.6	69	71	37.6	32.3	51	40	31
25	38.1	48.3	28.2	25.3	29.9	69	44.9	37.2	39.4	44	38	31
26	32.5	48.3	26.5	25.3	29.9	59	80	38.6	33.7	32	38	33
27	31.2	48.8	27.8	25.3	28.6	56	178	178	35.0	119	37	31
28	29.4	127	29.4	25.7	29.0	50	64	49.8	33.2	59	36	31
29	29.0	83	29.4	26.5	-	46.8	49.3	42.4	32.3	36	36	30
30	28.2	58	29.0	26.5	-	44.9	43.9	51	32.5	33	36	31
31	28.2	-	27.4	27.4	-	43.9	-	41.9	-	33	35	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....	974.6		93		23.7		31.4		0.407		0.47	
November.....	1,447.1		127		27.8		46.2		.625		.70	
December.....	1,119.5		57		26.5		36.1		.468		.54	
Calendar year												
January.....	857.7		37.6		25.3		29.1		.359		.41	
February.....	813.5		31.6		27.8		29.1		.377		.39	
March.....	2,525.3		242		29.9		61.5		1.06		1.22	
April.....	1,603.3		178		39.1		53.4		.693		.77	
May.....	1,977.5		298		37.2		53.8		.827		.95	
June.....	1,231.2		172		32.3		41.0		.532		.59	
July.....	1,496		226		30		48.3		.628		.72	
August.....	3,949		1,510		32		127		1.65		1.90	
September.....	1,056		92		30		36.2		.457		.51	
Water year 1934-35	19,050.7		1,510		23.7		52.2		.677		9.17	

Coon Creek at Coon Valley, Wis.

Location.— Water-stage recorder, lat. 43°42'15", long. 91°1'5", in NE¼ sec. 7, T. 14 N., R. 5 W., 350 feet above abandoned dam in Coon Valley. Zero of gage is 716.16 feet above mean sea level (adjustment of 1912).

Drainage area.— 77.2 square miles.

Records available.— March 1934 to September 1935.

Extremes.— Maximum discharge during year, 8,110 second-feet Aug. 6 (gage height, 12.90 feet); minimum, 4.4 second-feet Feb. 22 caused by ice jam above gage (gage height, 0.65 foot); minimum daily discharge, 23.3 second-feet Jan. 4, 14.
1934-35: Maximum, that of Aug. 6, 1935; minimum, that of Feb. 22, 1935.

Remarks.— Records excellent except those for periods of ice effect, Dec. 3-14, Dec. 24 to Feb. 9, Feb. 25 to Mar. 3, which are good, and those above 800 second-feet, which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27.9	25.7	48.4	25.6	31.2	25.6	43.0	42.0	40.1	70	37	35
2	27.1	25.7	43.3	25.0	22.6	25.6	40.5	53	42.8	62	1,060	35
3	25.7	40.9	44.3	24.4	27.9	29.8	39.7	57	40.1	44	400	35
4	26.4	43.3	39.4	23.3	26.7	71	39.7	68	36.4	45	60	38
5	27.1	32.1	33.9	26.2	25.0	92	40.5	68	36.4	337	83	34
6	25.7	32.1	32.1	27.9	25.0	54	39.0	52	36.4	54	1,210	35
7	25.7	29.5	30.4	26.2	25.6	45.9	37.4	44.9	35.0	47	81	42
8	26.4	28.6	30.4	27.3	25.0	41.2	37.4	43.9	34.3	44	64	37
9	25.0	28.6	29.5	30.5	26.7	39.0	35.2	43.0	35.0	41	60	36
10	25.0	26.4	29.5	29.2	27.3	47.8	35.9	41.2	38.2	38	55	35
11	25.0	26.4	29.5	25.0	27.3	51	61	46.8	33.6	35	52	34
12	25.0	27.9	28.6	25.0	27.3	43.9	53	72	32.2	35	48	35
13	25.0	27.1	29.5	24.4	28.6	42.0	40.5	43.9	32.2	32	44	35
14	25.0	26.4	28.6	23.3	29.8	46.8	39.7	40.5	32.9	32	43	34
15	26.4	26.4	28.6	25.0	30.5	171	39.7	39.7	31.5	33	42	33
16	25.7	27.1	29.5	26.2	28.6	133	36.7	39.7	32.2	30	42	34
17	25.7	27.1	29.5	27.9	27.3	87	35.9	37.4	34.3	31	41	32
18	24.2	34.8	30.4	27.9	26.7	66	36.7	36.7	51	31	41	33
19	26.4	36.0	30.4	27.9	27.3	74	34.4	35.2	92	30	43	41
20	65	60	29.5	26.7	26.2	75	34.4	34.4	47.6	30	46	47
21	33.0	40.4	29.5	25.0	27.9	75	33.8	33.8	43.8	31	41	37
22	30.4	58	28.6	25.0	26.7	73	34.4	35.9	40.1	40	38	35
23	28.6	43.3	27.1	25.0	27.9	67	35.2	35.2	38.2	40	37	34
24	59	35.6	27.9	25.0	25.0	60	36.7	35.9	36.4	36	36	33
25	32.1	35.6	27.9	25.0	25.6	60	33.8	33.1	42.8	33	37	34
26	29.5	36.5	27.1	25.6	26.2	54	63	40.5	39.2	30	37	36
27	27.1	36.5	29.1	27.3	24.4	49.8	59	124	38.2	144	37	33
28	26.4	76	28.6	27.9	25.0	45.9	40.5	45.6	35.7	48	34	33
29	29.5	50	27.9	28.6	-	43.9	39.7	43.8	35.0	34	35	32
30	27.1	46.3	27.1	29.2	-	42.0	37.4	42.8	63	32	36	32
31	25.0	-	25.7	30.5	-	41.2	-	39.2	-	90	35	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	903.1	65	24.2	29.1	0.377	0.43
November.....	1,090.3	76	25.7	36.3	.470	.52
December.....	961.8	48.4	25.7	31.0	.402	.46
Calendar year						
January.....	819.0	30.5	23.3	26.4	.342	.39
February.....	757.3	31.2	24.4	27.0	.350	.36
March.....	1,853.4	171	26.6	59.8	.775	.89
April.....	1,213.8	63	33.8	40.5	.525	.59
May.....	1,447.0	124	33.1	46.7	.605	.70
June.....	1,206.6	92	31.5	40.2	.521	.58
July.....	1,659	337	30	53.5	.693	.80
August.....	3,955	1,210	34	129	1.66	1.91
September.....	1,057	47	32	35.2	.456	.51
Water year 1934-35	16,923.3	1,210	23.3	46.4	.601	8.14

Coon Creek near Stoddard, Wis.

Location.- Water-stage recorder, lat. 43°39'50", long. 91°9'10", in NE¼ sec. 25, T. 14 N., R. 7 W., 3¼ miles east of Stoddard. Zero of gage is 650.68 feet above mean sea level.

Drainage area.- 119 square miles.

Records available.- March 1934 to September 1935.

Extremes.- Maximum discharge during year, 5,160 second-feet Aug. 6 (gage height, 10.70 feet); minimum, 24.7 second-feet Feb. 25 (gage height, 2.10 feet).
1934-35: Maximum, that of Aug. 6, 1935; minimum, that of Feb. 25, 1935.

Remarks.- Records excellent except those for periods of ice effect, Dec. 3-17, Dec. 24 to Feb. 11, Feb. 26 to Mar. 1, which are good.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43.3	42.4	78	39.5	46.6	56	67	62	59	101	74	56
2	43.3	43.3	87	40.8	49.8	57	67	64	64	91	1,470	55
3	41.5	62	64	43.9	51	55	62	89	61	56	569	55
4	41.8	74	58	41.1	47.3	156	63	94	56	53	129	57
5	43.0	54	52	46.2	43.3	205	63	109	57	339	164	53
6	41.5	49.8	51	57	37.7	87	62	78	57	114	1,530	53
7	40.6	48.8	40.9	59	49.3	75	59	72	54	66	164	60
8	41.2	46.6	54	65	47.3	64	59	69	51	62	109	57
9	40.6	45.3	56	69	45.3	62	59	66	53	60	98	55
10	41.5	44.6	52	56	54	76	58	62	59	59	90	56
11	40.9	43.9	47.0	44.3	45.9	85	86	61	53	59	82	53
12	40.3	43.6	56	43.3	44.6	72	80	104	51	59	74	53
13	39.7	44.9	54	43.6	45.3	69	67	72	51	53	73	53
14	39.4	43.0	52	43.9	49.3	75	64	64	49.8	53	69	53
15	42.1	43.6	55	43.9	49.3	182	62	62	49.3	55	68	53
16	40.6	43.9	55	44.3	47.8	318	61	61	51	53	69	53
17	41.8	45.6	54	44.3	45.9	114	59	59	51	51	66	53
18	39.7	54	58	44.7	45.9	96	58	58	89	51	64	53
19	40.3	58	58	44.3	45.9	102	57	57	159	50	64	60
20	96	114	56	43.6	44.6	113	56	56	74	50	71	326
21	59	66	56	43.3	46.6	108	56	54	63	51	62	59
22	46.6	89	54	42.7	44.6	105	54	56	80	53	59	55
23	45.9	66	49.8	42.4	46.3	105	57	56	57	62	55	53
24	110	61	51	42.0	51	86	59	54	54	51	57	53
25	54	58	49.8	43.3	38.6	86	54	52	74	57	57	55
26	47.3	59	48.8	49.8	45.6	80	75	74	60	50	57	57
27	44.9	58	47.4	44.7	45.6	79	102	232	59	203	55	53
28	44.2	121	43.9	43.6	45.6	72	65	70	54	129	55	53
29	45.6	85	39.1	45.1	-	69	59	62	53	57	51	51
30	46.3	75	35.6	44.3	-	67	58	61	55	55	55	53
31	43.0	-	39.4	45.5	-	65	-	59	-	136	55	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off in inches				
October.....	1,464.9			110	39.4	47.3	0.397	0.46				
November.....	1,785.3			121	42.4	59.4	.459	.56				
December.....	1,632.7			78	35.6	52.7	.443	.51				
Calendar year												
January.....	1,440.4			68	38.5	46.5	.391	.45				
February.....	1,300.0			54	37.7	46.4	.390	.41				
March.....	3,040.0			318	55	98.1	.824	.95				
April.....	1,907			102	54	63.6	.534	.60				
May.....	2,270			232	52	73.2	.615	.71				
June.....	1,835.1			159	49.3	61.2	.514	.57				
July.....	2,439			339	50	78.7	.661	.76				
August.....	5,714			1,530	51	184	1.55	1.79				
September.....	1,906			326	51	63.5	.534	.60				
Water year 1934-35.....	26,732.4			1,530	35.6	73.2	.615	8.37				

Root River near Houston, Minn.

Location.- Water-stage recorder, lat. 43°46', long. 91°35', in sec. 32, T. 104 N., R. 6 W., 1 mile west of Houston and 2½ miles above mouth of South Fork of Root River. Zero of gage is 671.86 feet above mean sea level (adjustment of 1929).

Drainage area.- 1,280 square miles.

Records available.- May 1929 to September 1935. May 1909 to September 1917 at site 1½ miles downstream.

Average discharge.- 14 years, 616 second-feet.

Extremes.- Maximum discharge during year, 11,700 second-feet Aug. 6 (gage height, 10.81 feet); minimum (estimated because of ice effect), 65 second-feet Feb. 25; minimum mean daily, 140 second-feet Feb. 25.

1909-17, 1929-35: Maximum discharge, 28,600 second-feet Mar. 31, 1933 (gage height, 14.07 feet); minimum, 65 second-feet Dec. 26, 1933, Feb. 25, 1935; minimum mean daily, 85 second-feet Dec. 26, 27, 1933.

Remarks.- Records fair. Stage-discharge relation affected by ice Dec. 10 to Mar. 8 and by shifting control remainder of year. Discharge estimated Dec. 3, 9, 11-15, 24-29, Jan. 1, 5, Sept. 13. Diurnal fluctuation caused by operation of power plant at Rushford.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	375	203	375	250	222	270	810	465	535	635	610	465
2	352	203	375	250	222	270	760	535	1,090	3,550	3,230	465
3	330	230	398	234	242	270	810	635	860	2,530	6,440	465
4	310	236	398	234	246	352	710	760	595	1,530	2,450	465
5	290	234	352	252	250	488	660	760	535	4,230	1,600	442
6	270	234	352	270	242	760	660	710	510	4,150	8,380	465
7	250	214	330	270	234	1,210	635	660	468	1,960	4,270	488
8	250	210	330	290	212	1,150	610	660	425	1,330	2,200	465
9	270	203	330	310	206	970	595	610	442	1,150	1,460	498
10	250	200	330	310	210	860	560	595	442	970	1,210	442
11	242	192	300	290	218	810	535	610	535	910	1,090	442
12	234	200	320	290	234	750	635	660	468	810	970	420
13	230	206	330	270	246	750	710	760	442	760	860	409
14	218	186	340	235	260	760	710	760	420	710	760	398
15	206	186	350	222	270	1,020	635	710	465	710	710	420
16	218	186	375	210	250	4,130	560	660	510	710	710	420
17	210	200	352	213	250	7,210	535	610	468	610	660	420
18	206	238	352	222	260	3,460	510	585	468	560	635	420
19	206	242	352	226	250	2,920	510	535	810	535	635	465
20	521	471	352	246	270	3,640	488	510	1,210	510	660	815
21	465	330	352	218	270	3,370	465	510	1,330	488	970	510
22	352	465	352	206	250	2,640	465	488	1,030	535	760	442
23	290	442	375	192	242	2,440	465	488	860	465	835	420
24	492	420	350	178	270	2,120	468	488	760	465	595	420
25	310	398	350	175	140	1,740	428	465	970	442	560	420
26	270	398	300	178	192	1,460	510	488	910	420	535	442
27	250	398	250	175	222	1,330	510	1,100	860	398	510	488
28	226	420	250	178	270	1,210	488	810	960	2,520	488	465
29	226	390	250	199	-	1,030	465	660	760	1,390	488	442
30	218	368	250	203	-	970	442	560	960	910	465	442
31	218	-	250	210	-	960	-	510	-	710	465	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off in inches				
October.....	8,755			521	206	282	0.220	0.25				
November.....	8,543			471	186	285	.223	.25				
December.....	10,322			398	250	333	.260	.30				
Calendar year 1934.....	170,607			17,100	122	467	.365	4.95				
January.....	7,207			310	175	232	.181	.21				
February.....	6,652			270	140	238	.166	.19				
March.....	51,440			7,210	270	1,659	1.30	1.50				
April.....	17,514			810	442	584	.456	.51				
May.....	19,547			1,100	465	631	.493	.57				
June.....	20,808			1,330	420	694	.542	.60				
July.....	37,603			4,230	398	1,213	.948	1.09				
August.....	46,731			9,380	465	1,507	1.18	1.36				
September.....	13,770			815	398	459	.359	.40				
Water year 1934-34.....	248,292			8,380	140	682	.533	7.23				

Upper Iowa River near Decorah, Iowa

Location.- Staff gage, lat. $91^{\circ}41'30''$, long. $43^{\circ}19'20''$, in SE $\frac{1}{4}$ sec. 8, T. 98 N., R. 7 W., at upper power plant of Interstate Power Co., 5 miles northeast of Decorah.

Drainage area.- 576 square miles.

Records available.- July 1935 to September 1935. August 1913 to November 1914 and May 1919 to June 1927 at site 4 miles upstream.

Extremes.- Maximum discharge during year, 7,600 second-feet Mar. 16 (gage height, 94.4 feet); minimum, about 10 second-feet at numerous times when power plant was shut down. 1933-35: Maximum discharge, 12,200 second-feet July 1, 2, 1935 (gage height, 97.2 feet); minimum, about 10 second-feet at numerous times when power plant was shut down.

Remarks.- Records fair. Daily-discharge record furnished by Interstate Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	163	103	303	143	139	170	587	334	253	619	280	132
2	183	103	303	143	161	210	583	328	747	1,190	2,160	152
3	143	130	342	157	101	404	528	903	490	1,330	1,250	139
4	143	123	303	137	157	4,600	570	845	349	1,110	650	138
5	143	157	277	150	160	2,630	523	939	334	1,040	480	138
6	130	143	236	140	146	2,260	523	718	294	743	432	152
7	90	130	275	157	124	1,630	430	568	280	747	350	145
8	117	117	223	173	135	944	432	504	266	694	309	138
9	90	117	277	183	131	848	398	514	240	530	287	152
10	83	130	263	197	135	829	374	450	292	425	294	145
11	83	63	223	193	129	742	405	421	294	364	374	111
12	77	90	237	170	124	698	638	663	280	334	226	126
13	97	143	277	143	142	686	570	511	240	334	192	132
14	57	90	250	130	130	964	577	486	803	326	206	125
15	83	90	237	117	130	2,840	464	438	664	310	212	118
16	77	103	250	130	147	5,950	406	392	373	344	185	125
17	60	117	259	177	142	5,400	370	374	334	340	179	125
18	60	90	237	143	153	2,250	330	348	366	350	185	118
19	60	143	237	163	143	2,680	348	330	1,300	361	172	104
20	256	237	237	123	146	2,890	330	330	1,170	382	324	125
21	228	219	210	133	150	1,780	330	303	1,010	491	421	111
22	123	330	223	123	154	1,990	330	330	948	275	199	98
23	123	436	170	117	182	1,490	297	290	881	513	199	104
24	1,030	343	130	130	200	1,120	330	290	514	298	185	111
25	382	330	183	103	117	985	267	220	800	290	159	111
26	143	317	130	117	163	949	504	263	600	253	179	152
27	143	303	117	93	163	925	427	281	433	357	159	118
28	130	387	201	127	170	815	370	303	633	414	159	118
29	157	405	170	110	-	684	332	294	502	327	139	91
30	117	361	170	117	-	643	330	290	356	334	165	111
31	117	-	170	139	-	571	-	266	-	273	158	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				4,897	1,030	57	168	0.274	0.32			
November.....				5,910	436	63	197	.342	.38			
December.....				7,126	349	117	230	.399	.46			
Calendar year 1934.....				59,423	3,400	10	163	.283	3.85			
January.....				4,369	197	93	141	.245	.28			
February.....				4,074	200	101	146	.253	.26			
March.....				51,767	5,950	170	1,670	2.80	3.34			
April.....				13,054	839	207	435	.765	.84			
May.....				13,565	939	263	438	.760	.88			
June.....				16,050	1,300	240	535	.929	1.04			
July.....				15,578	1,330	263	503	.873	1.01			
August.....				10,918	2,160	138	352	.611	.70			
September.....				3,763	152	91	125	.217	.24			
Water year 1934-35.....				151,071	5,950	57	414	.719	9.75			

Yellow River at Ion, Iowa

Location.- Wire gage, lat. 43°5'35", long. 91°15'45" in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24, T. 96 N., R. 4 W., at highway bridge at Ion, about 5 miles northwest of McGregor and 8 miles above mouth.

Drainage area.- 213 square miles.

Records available.- October 1934 to September 1935.

Extremes.- Maximum discharge observed during year, 5,000 second-feet (estimated) Mar. 4 (gage height, 10.95 feet): minimum observed, 23 second-feet for several days in October and November.

Remarks.- Records fair except those estimated because of ice, Dec. 1 to Mar. 2, which are poor. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 16 to Nov. 30)

2.8	21	4.2	198	6.2	1,070
2.9	27	4.4	235	6.5	1,280
3.0	35	4.6	277	6.8	1,490
3.2	53	4.8	331	7.1	1,720
3.4	76	5.0	399	7.5	2,040
3.6	103	5.3	530	8.0	2,440
3.8	132	5.6	689	8.5	2,900
4.0	164	5.9	869	9.0	3,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	23	96	40	37	62	140	96	89	96	58	39
2	-	23	89	40	40	110	132	148	96	110	290	39
3	-	23	96	40	40	869	132	316	89	102	117	39
4	-	41	89	38	44	2,600	117	277	81	86	530	39
5	-	33	68	41	41	2,440	117	302	79	84	216	39
6	-	27	66	42	29	580	110	255	79	80	198	39
7	-	27	42	43	32	331	103	216	75	79	76	39
8	-	27	62	44	31	255	103	198	71	71	86	39
9	-	26	56	45	30	207	96	181	70	69	64	39
10	-	26	55	45	32	172	96	164	148	66	64	39
11	-	25	48	43	32	363	110	156	96	65	64	39
12	-	26	50	40	32	216	140	198	76	63	62	39
13	-	25	53	43	32	216	110	207	71	62	53	38
14	-	23	55	24	32	180	103	181	75	57	53	38
15	-	23	55	37	55	689	96	164	117	62	52	38
16	23	23	55	36	76	869	89	148	72	58	50	38
17	23	23	56	38	76	331	89	140	72	56	48	38
18	23	23	56	34	65	277	89	132	124	55	48	38
19	23	23	54	41	103	302	89	124	172	54	198	38
20	23	35	54	39	66	277	89	117	148	54	103	38
21	37	41	54	25	89	331	82	117	110	55	80	38
22	29	61	54	35	76	255	82	110	96	235	53	37
23	23	110	54	30	70	290	82	103	86	86	50	37
24	23	74	33	33	245	235	82	103	82	117	47	37
25	23	58	43	36	69	216	89	96	266	75	43	37
26	23	51	39	34	62	190	103	96	156	70	43	37
27	23	51	40	37	63	181	172	103	117	61	43	37
28	23	103	40	37	61	164	140	103	110	56	41	37
29	23	164	40	36	-	156	110	96	103	52	39	35
30	23	103	40	37	-	156	96	89	89	51	39	35
31	23	-	40	37	-	140	-	96	-	51	39	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October 16-31.....					388	37	23	24.2	0.114		0.07	
November.....					1,340	164	23	44.7	.210		.23	
December.....					1,732	96	33	55.9	.262		.30	
Calendar year												
January.....					1,170	45	24	37.7	.177		.20	
February.....					1,660	245	29	59.3	.278		.29	
March.....					13,670	2,600	62	441	2.07		2.39	
April.....					3,188	172	82	106	.498		.56	
May.....					4,832	316	89	156	.732		.84	
June.....					3,115	266	70	104	.488		.54	
July.....					2,359	235	51	75.5	.354		.41	
August.....					2,947	530	39	86.1	.446		.51	
September.....					1,139	39	36	36.0	.178		.20	
Water year												

Wisconsin River at Whirlpool Rapids, near Rhinelander, Wis.

Location.— Water-stage recorder, lat. 45°33', long. 89°30', in sec. 4, T. 35 N., R. 8 E., at head of Whirlpool Rapids, 1 mile below outlet of Crescent Lake and 10 miles southwest of Rhinelander.

Drainage area.— 1,160 square miles.

Records available.— September 1915 to September 1935. December 1905 to September 1915 at a station 3 miles upstream.

Average discharge.— 18 years (1915-26, 1928-35), 1,040 second-feet.

Extremes.— Maximum discharge during year, 4,030 second-feet Mar. 27 (gage height, 4.80 feet); minimum, 371 second-feet June 9 (gage height, 1.25 feet); minimum mean daily, 550 second-feet June 9.

1915-35: Maximum discharge, 5,410 second-feet Apr. 10, 1929 (gage height, 5.70 feet); minimum, 123 second-feet July 29, 30, 1934 (gage height, 0.34 foot); minimum mean daily, 210 second-feet July 30, 1934.

Remarks.— Records good except those for periods of ice effect, Dec. 7-15, Dec. 18 to Mar. 15, which are poor. Flow is regulated by 14 reservoirs and three power plants above station.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.2	350	2.0	793	3.1	1,720	4.5	3,540
1.4	458	2.2	919	3.4	2,040	5.0	4,560
1.6	541	2.5	1,150	3.7	2,380		
1.8	656	2.8	1,430	4.0	2,770		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,560	1,010	2,440	877	1,380	919	2,730	1,630	830	1,600	840	750
2	2,380	920	2,500	908	1,080	919	2,910	1,420	690	1,810	840	740
3	2,210	1,060	1,720	938	1,340	913	2,920	1,650	740	1,630	1,020	750
4	2,100	1,130	1,830	954	1,180	994	2,560	1,550	770	1,080	640	800
5	2,010	1,050	1,530	974	1,080	1,020	2,440	1,190	740	1,040	740	800
6	1,950	1,530	1,290	974	1,250	1,060	2,400	1,080	780	1,220	990	780
7	1,480	1,540	1,480	1,170	1,270	1,240	1,850	1,410	690	1,070	1,070	810
8	1,320	1,590	1,620	1,200	1,350	1,150	1,530	1,540	720	1,220	1,300	770
9	1,370	1,530	1,480	1,150	1,430	1,150	1,740	1,550	550	1,480	1,300	820
10	1,290	1,490	1,430	1,240	1,210	850	1,770	1,480	640	1,570	940	920
11	1,130	1,130	1,480	1,340	1,200	783	1,830	1,440	970	1,790	940	830
12	1,120	1,250	1,480	1,340	1,200	1,340	2,240	1,060	1,160	1,810	1,020	910
13	1,000	1,410	1,430	990	1,200	1,150	2,250	1,140	820	1,630	1,190	830
14	693	870	1,430	1,070	1,200	1,200	1,900	1,470	1,430	1,030	1,340	890
15	760	980	1,530	1,430	1,150	1,240	2,250	1,440	1,710	1,310	930	870
16	630	1,360	1,150	1,240	1,150	1,290	1,850	1,590	1,260	1,590	850	950
17	640	1,200	1,110	1,130	850	870	1,800	1,770	1,340	1,340	1,090	920
18	690	730	1,430	1,070	1,110	1,260	2,050	1,500	1,580	1,290	720	1,010
19	610	1,150	1,480	919	1,150	1,450	2,170	860	2,220	1,110	730	1,210
20	860	1,450	1,430	718	1,110	1,500	2,100	960	2,280	1,160	890	1,180
21	1,030	1,250	1,240	850	1,070	1,920	1,420	1,240	2,400	640	910	1,440
22	1,190	2,200	1,340	1,070	990	2,030	1,180	1,270	2,590	640	970	1,230
23	1,440	2,480	1,030	1,070	954	2,180	1,580	1,260	2,290	730	960	890
24	1,510	2,750	850	1,030	718	2,200	1,190	1,180	2,240	740	1,280	950
25	1,580	2,150	919	1,030	919	2,720	1,480	1,020	2,180	890	1,070	1,000
26	1,560	2,280	1,070	1,030	1,070	3,200	1,250	700	2,070	890	1,080	1,370
27	1,590	2,260	1,070	1,030	990	3,650	1,620	640	2,060	750	1,410	1,260
28	1,110	2,480	924	1,190	954	3,760	1,350	710	1,830	780	1,530	860
29	1,060	2,640	924	1,240	-	3,690	1,700	740	1,860	740	1,190	710
30	1,070	2,450	924	1,240	-	3,480	2,010	710	1,430	870	940	790
31	1,040	-	908	1,350	-	2,990	-	780	-	840	930	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....					40,983	2,560	610	1,322	1.14		1.31	
November.....					47,320	2,750	730	1,577	1.36		1.52	
December.....					42,469	2,500	850	1,370	1.18		1.36	
Calendar year 1934.....					365,050	3,250	210	967	.834		11.31	
January.....					33,762	1,430	718	1,089	.939		1.08	
February.....					31,556	1,450	718	1,127	.972		1.01	
March.....					54,118	3,760	793	1,746	1.51		1.74	
April.....					58,070	2,320	1,180	1,936	1.67		1.66	
May.....					37,990	1,770	640	1,225	1.06		1.22	
June.....					42,870	2,590	550	1,429	1.23		1.37	
July.....					36,200	1,810	640	1,168	1.01		1.16	
August.....					31,650	1,530	640	1,021	.880		1.01	
September.....					28,040	1,440	710	935	.806		.90	
Water year 1934-35.....					485,027	3,760	550	1,329	1.15		15.54	

Wisconsin River at Merrill, Wis.

Location.- Water-stage recorder, lat. 45°10'40", long. 89°40'45", on line between secs. 12 and 13, T. 31 N., R. 8 E., 300 feet below new highway bridge at east end of Merrill and half a mile below mouth of Prairie River.

Drainage area.- 2,630 square miles.

Records available.- November 1902 to September 1935.

Average discharge.- 27 years (1907-11, 1912-35), 2,586 second-feet^o

Extremes.- Maximum discharge during year, 17,000 second-feet Mar. 23 (gage height, 10.8 feet); minimum, 660 second-feet May 20 (gage height, 3.70 feet); minimum mean daily, 1,360 second-feet June 9.

1902-35: Maximum discharge, 45,000 second-feet July 24, 1912 (gage height, 17.5 feet); minimum, about 90 second-feet Sept. 26, 1908 (gage height, 2.45 feet).

Remarks.- Records excellent except those estimated for periods of ice effect, Dec. 26 to Jan. 6, Jan. 22-27, Feb. 28 to Mar. 11, and those for Nov. 30 to Dec. 25, which are fair. Discharge for Nov. 30 to Dec. 31 estimated on basis of records at power plant upstream. Flow regulated by 17 reservoirs and 8 power plants above station.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

3.7	660	5.2	2,360	8.0	8,400
3.9	820	5.6	2,970	9.0	11,300
4.2	1,120	6.0	3,680	10.0	14,400
4.5	1,450	6.5	4,600	11.0	17,700
4.8	1,810	7.0	5,850		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,800	1,940	5,020	2,220	3,320	2,510	5,850	3,320	2,010	2,630	1,940	1,430
2	4,460	2,150	4,460	2,290	2,660	2,660	5,490	3,500	1,400	2,770	2,150	2,020
3	3,590	2,510	3,770	2,360	3,230	2,440	5,260	3,320	1,930	4,440	2,440	1,770
4	3,320	4,060	3,410	2,440	2,840	2,510	5,370	2,880	1,820	5,760	1,750	1,680
5	3,140	4,680	3,320	2,440	2,610	2,580	4,910	3,210	1,790	3,630	2,020	2,540
6	3,320	4,060	3,060	2,440	3,000	2,660	4,160	2,840	1,930	4,390	3,000	2,300
7	3,120	3,680	3,230	2,890	3,060	2,680	4,060	2,710	3,150	5,140	3,230	2,150
8	2,440	3,500	2,660	2,840	3,230	2,890	3,770	2,880	1,650	5,070	3,230	1,650
9	1,730	3,230	2,660	3,430	3,410	2,970	3,350	2,880	1,360	3,980	3,320	1,800
10	2,370	3,140	3,960	3,250	2,920	2,860	3,290	3,060	1,900	3,090	3,060	1,810
11	2,360	2,740	3,410	3,140	2,610	2,810	3,810	3,150	1,710	3,290	2,060	2,220
12	2,010	2,590	3,320	2,770	2,370	3,220	4,830	2,900	1,710	4,360	2,090	2,010
13	1,940	1,890	3,320	2,460	3,060	3,350	5,260	3,680	2,220	3,960	2,660	1,750
14	1,540	2,440	3,320	2,740	3,260	3,320	5,490	3,390	1,310	3,280	2,920	1,810
15	1,480	2,290	3,320	2,770	3,170	3,590	4,380	3,250	2,990	2,680	2,810	1,650
16	1,770	1,810	3,140	2,770	2,950	3,680	4,380	3,060	2,980	2,820	2,540	1,880
17	1,650	2,160	3,230	2,840	2,690	3,230	3,960	3,060	2,890	3,000	2,610	2,080
18	1,710	2,370	2,970	2,980	2,740	3,500	3,590	2,820	2,890	2,600	2,160	2,220
19	2,150	2,970	2,360	3,000	2,920	3,810	3,120	2,740	4,000	2,970	2,820	2,150
20	2,370	3,320	2,890	3,230	2,970	5,170	3,410	1,990	6,340	2,440	2,300	2,220
21	3,680	4,680	2,970	3,150	2,920	8,180	3,500	2,270	6,340	2,300	2,750	2,290
22	4,480	8,930	2,890	2,970	2,920	11,900	3,320	2,790	6,340	2,090	2,380	1,770
23	4,700	10,100	2,290	2,970	3,000	14,400	1,990	2,880	5,850	2,360	2,380	2,230
24	4,930	8,930	2,290	2,890	2,610	15,400	2,660	2,380	4,700	2,510	2,290	1,830
25	5,850	7,890	2,220	2,890	2,540	14,700	2,300	2,090	3,900	2,290	1,740	1,630
26	5,020	6,840	2,220	2,890	2,450	14,100	2,890	1,540	3,900	3,000	2,440	1,830
27	4,460	6,090	2,290	2,890	2,300	14,400	2,940	1,800	4,180	2,660	2,580	1,940
28	3,810	6,090	2,290	2,890	2,360	12,800	3,230	2,640	3,680	2,370	2,360	2,220
29	3,170	6,340	2,290	3,000	-	11,300	3,140	2,460	3,230	2,160	2,690	1,650
30	2,740	6,090	2,290	3,000	-	7,880	3,320	2,230	3,140	2,660	2,230	1,490
31	2,090	-	2,290	3,260	-	7,100	-	2,230	-	2,660	1,770	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	96,250	5,850	1,480	3,105	1.18	1.36
November.....	129,400	10,100	1,810	4,313	1.64	1.83
December.....	93,160	5,020	2,220	3,005	1.14	1.31
Calendar year 1934.....	780,485	10,100	475	2,138	.813	11.03
January.....	88,100	3,430	2,220	2,842	1.08	1.24
February.....	80,150	3,410	2,300	2,862	1.09	1.14
March.....	194,540	15,400	2,440	6,275	2.39	2.76
April.....	117,130	5,850	1,990	3,904	1.48	1.65
May.....	85,900	3,360	1,540	2,771	1.05	1.21
June.....	93,630	6,340	1,360	3,121	1.19	1.33
July.....	99,360	5,760	2,090	3,205	1.22	1.41
August.....	76,420	3,320	1,740	2,465	.937	1.08
September.....	58,220	2,540	1,430	1,941	.758	.82
Water year 1934-35.....	1,212,260	15,400	1,360	3,321	1.26	17.14

Wisconsin River at Knowlton, Wis.

Location.— Water-stage recorder, lat. 44°42', long. 89°42', in N½ sec. 29, T. 26 N., R. 7 E., 50 feet below combination railroad and highway bridge at Knowlton and 1½ miles below mouth of Big Eau Pleine River.

Drainage area.— 4,360 square miles.

Records available.— July 1921 to September 1935.

Average discharge.— 14 years, 3,883 second-feet.

Extremes.— Maximum discharge during year, 47,600 second-feet Mar. 22 (gage height, 18.9 feet, from graph based on gage readings); minimum, 469 second-feet Sept. 16; minimum mean daily discharge, 1,380 second-feet Sept. 16.
1921-35: Maximum discharge, 49,800 second-feet Apr. 10, 1922 (gage height, 19.5 feet); minimum, 317 second-feet Aug. 8, 1932 (gage height, 0.9 foot); minimum mean daily discharge, 373 second-feet Aug. 13, 1934.

Remarks.— Records good except those for period of ice effect, Dec. 3 to Mar. 19, which are poor. Flow regulated by many storage reservoirs and power plants above station.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.2	438	3.0	2,490	5.5	7,150	14.0	31,300
1.4	547	3.4	3,140	6.0	8,340	16.0	37,600
1.7	771	3.8	3,830	7.0	10,900	18.0	44,500
2.0	1,050	4.2	4,560	8.0	13,600	20.0	51,300
2.3	1,430	4.6	5,320	10.0	19,500		
2.6	1,880	5.0	6,090	12.0	25,300		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,090	3,830	10,900	3,550	3,740	4,190	9,840	5,320	2,730	4,660	3,220	2,180
2	6,500	3,480	8,090	3,250	4,440	4,140	8,590	4,940	2,340	4,940	3,060	1,660
3	5,890	3,140	5,510	3,290	4,190	3,110	7,850	5,320	2,260	4,100	2,730	2,030
4	4,370	4,810	4,000	3,290	3,690	3,060	7,150	5,320	2,570	5,320	2,180	2,970
5	3,740	11,900	4,090	3,290	4,190	3,250	7,850	4,940	2,730	6,710	2,100	2,670
6	4,280	8,840	3,100	3,150	3,890	3,390	7,390	4,660	2,420	10,400	2,970	2,260
7	4,660	7,150	4,710	3,350	3,640	3,340	6,930	4,940	2,340	9,340	4,560	2,650
8	4,100	6,090	3,830	3,500	4,140	3,540	6,500	4,100	2,420	7,380	4,280	1,960
9	3,740	5,510	3,830	3,600	4,390	3,940	5,320	4,010	1,800	6,500	3,830	1,800
10	3,140	5,320	5,620	3,400	4,390	4,590	5,320	4,010	1,720	4,940	4,010	2,420
11	2,490	4,750	3,210	3,500	4,190	4,490	5,610	4,190	2,570	4,370	3,650	2,650
12	2,650	4,370	7,100	3,300	3,940	4,640	8,240	4,010	2,570	4,940	2,610	2,570
13	2,890	3,830	5,500	3,300	3,310	4,600	10,100	4,660	2,260	5,700	2,730	2,420
14	2,650	3,140	4,540	3,750	3,550	4,600	8,340	5,700	2,570	4,940	2,690	2,340
15	2,030	2,570	4,540	3,440	4,340	4,700	7,610	5,700	2,650	4,280	3,400	1,610
16	2,030	2,730	4,540	3,440	4,390	4,400	6,090	4,460	2,570	3,650	3,220	1,360
17	2,570	3,060	4,850	3,550	4,140	4,700	6,090	4,280	4,100	2,970	3,310	2,570
18	2,460	2,970	5,000	3,730	3,650	5,400	6,090	3,650	5,130	2,650	2,490	2,570
19	2,340	4,100	4,040	3,790	3,890	10,500	5,320	2,650	6,710	2,890	2,890	3,560
20	2,340	7,380	3,290	4,140	3,650	18,100	4,660	4,010	14,900	2,970	3,650	3,920
21	4,940	10,300	3,690	3,850	3,890	24,300	4,370	3,480	17,800	2,890	3,400	5,310
22	11,700	15,500	3,690	3,580	4,090	40,700	5,130	2,650	13,300	2,730	3,140	2,490
23	12,200	23,000	3,890	3,580	4,090	44,300	5,130	2,650	10,100	2,650	3,060	2,420
24	9,840	21,500	3,020	3,450	3,550	43,200	4,190	2,650	7,380	2,570	2,970	2,970
25	12,700	15,700	2,690	3,450	3,080	38,600	4,660	2,730	6,290	2,610	2,610	2,890
26	12,500	12,500	2,750	3,450	2,820	30,200	4,750	2,340	5,700	3,310	2,260	2,570
27	9,090	10,900	2,930	3,450	2,910	26,200	4,940	2,650	5,510	3,060	2,890	2,970
28	7,850	11,100	4,010	3,520	-	24,700	5,320	2,890	5,890	3,920	2,890	1,960
29	6,090	13,000	4,210	4,540	-	20,500	5,890	2,970	5,700	3,920	2,890	2,190
30	5,130	13,600	4,210	3,740	-	15,400	5,610	3,220	4,280	3,060	2,890	1,750
31	4,280	-	3,910	3,690	-	12,200	-	3,060	-	3,060	2,970	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	169,240	12,700	2,030	5,459	1.25	1.44
November.....	246,070	23,000	2,670	8,202	1.88	2.10
December.....	138,480	10,900	2,580	4,467	1.02	1.18
Calendar year 1934.....	1,281,186	29,200	373	3,610	.805	10.93
January.....	109,900	4,540	3,150	3,545	.813	.94
February.....	107,200	4,440	2,820	3,329	.878	.91
March.....	422,980	44,300	3,060	13,640	3.13	3.61
April.....	191,070	10,100	4,290	6,369	1.46	1.63
May.....	122,180	5,700	2,340	3,941	.904	1.04
June.....	151,310	17,800	1,720	5,044	1.16	1.29
July.....	137,650	10,400	2,570	4,440	1.02	1.18
August.....	96,330	4,560	2,100	3,107	.713	.82
September.....	73,790	3,920	1,360	2,460	.564	.63
Water year 1934-35.....	1,966,160	44,300	1,360	5,387	1.24	16.77

Wisconsin River near Nekoosa, Wis.

Location.- Water-stage recorder, lat. $44^{\circ}18'$, long. $89^{\circ}53'$, in sec. 15, T. 21 N., R. 5 E., $\frac{1}{2}$ miles below Nekoosa and 4 miles above Tenmile Creek. Gage datum lowered 2.00 feet Oct. 1, 1934.

Drainage area.- 5,500 square miles.

Records available.- May 1914 to September 1935.

Average discharge.- 21 years, 4,878 second-feet.

Extremes.- Maximum discharge during year, 68,500 second-feet Mar. 24 (gage height, 18.9 feet); minimum, 362 second-feet Sept. 15 (gage height, 1.80 feet); minimum mean daily discharge, 1,180 second-feet Sept. 15.
1914-35: Maximum discharge, that of Mar. 24, 1935; minimum, 140 second-feet Aug. 14-21, Nov. 6, 1932; minimum mean daily discharge, 165 second-feet Aug. 12, 1934.

Remarks.- Records excellent except those for period of ice effect, Dec. 22 to Mar. 16, which are fair. Flow is regulated by many storage reservoirs and power plants above station.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

2.5	1,000	4.0	3,080	6.0	7,460	10.0	17,800
2.8	1,330	4.4	3,860	6.5	8,700	12.0	24,500
3.1	1,710	4.8	4,680	7.0	9,950	14.0	33,000
3.4	2,140	5.2	5,570	8.0	12,500	16.0	44,500
3.7	2,580	5.6	6,500	9.0	15,100	18.0	60,300

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,820	6,280	15,300	5,050	4,060	2,350	11,500	8,800	5,820	6,500	4,100	2,240
2	8,250	5,640	11,200	4,250	4,500	3,240	11,200	8,480	4,700	8,720	4,230	1,230
3	8,860	5,970	9,700	3,340	3,020	1,840	10,500	9,450	4,750	8,570	3,840	2,240
4	6,170	4,680	7,940	4,260	4,240	3,400	9,950	8,500	5,270	7,060	2,420	2,780
5	4,540	* 9,950	7,890	4,400	4,360	4,420	9,700	8,390	4,760	9,450	2,690	2,900
6	2,780	12,000	6,690	3,920	4,360	4,980	10,500	7,820	5,060	10,500	3,840	2,920
7	3,900	9,700	6,220	4,840	5,060	4,930	6,800	8,880	5,240	11,000	5,110	3,060
8	4,620	7,940	7,540	4,620	4,400	4,590	8,590	7,820	5,340	11,200	6,290	1,660
9	4,090	6,280	3,840	3,910	4,700	5,090	7,540	7,510	4,360	9,420	5,620	2,530
10	3,540	7,070	5,660	3,100	2,990	4,070	6,800	7,400	4,070	7,230	5,360	2,530
11	3,180	* 4,260	5,880	3,410	3,700	5,490	7,240	7,180	4,370	5,770	4,040	2,880
12	2,850	* 5,120	5,960	3,920	4,950	5,770	8,590	7,350	4,740	5,740	4,550	2,990
13	2,340	4,870	5,850	3,400	5,370	5,760	13,400	6,820	5,220	7,470	4,280	2,780
14	1,720	4,220	6,030	5,280	4,900	5,800	12,400	8,540	5,140	4,700	3,360	2,870
15	2,040	3,720	5,880	4,910	4,620	6,110	11,700	8,660	5,010	5,300	3,660	1,180
16	2,840	3,710	4,820	3,670	5,410	6,870	9,730	7,960	4,540	3,500	3,560	2,440
17	2,540	3,180	4,820	4,190	2,630	8,840	8,020	7,620	5,440	4,680	4,020	2,400
18	2,690	2,680	5,190	4,110	3,030	8,970	8,220	6,960	6,520	3,960	2,740	2,350
19	2,500	4,710	4,800	4,650	4,210	9,700	7,500	6,430	9,860	3,480	3,270	4,040
20	3,040	8,160	4,950	2,720	4,360	12,700	6,630	4,960	16,200	3,720	5,530	5,160
21	2,650	10,690	4,670	4,970	4,020	16,900	5,480	6,770	20,800	1,850	6,890	5,370
22	8,560	16,100	4,860	3,610	4,130	23,100	5,710	6,240	19,700	2,890	5,310	4,470
23	13,500	22,100	4,530	3,400	5,310	37,600	8,290	6,570	15,100	3,250	4,870	2,890
24	12,500	25,300	4,500	3,340	2,720	58,600	5,800	6,080	11,700	3,630	5,140	2,770
25	12,000	21,700	2,660	3,560	4,240	62,100	5,480	6,450	9,820	4,000	2,730	3,220
26	14,500	15,900	2,680	3,440	3,950	50,500	5,260	5,110	8,690	3,940	2,360	3,280
27	12,000	14,500	5,230	2,680	3,500	35,800	5,560	5,070	7,880	4,480	2,970	3,100
28	9,950	15,100	4,460	3,890	2,670	31,200	5,280	5,430	7,710	4,500	3,140	2,670
29	8,170	17,200	4,410	4,090	-	30,300	5,120	5,460	8,450	5,720	3,260	1,290
30	7,200	18,400	2,850	4,560	-	27,600	9,280	5,230	5,320	4,780	3,570	2,080
31	6,520	-	3,520	4,130	-	15,200	-	5,200	-	4,120	4,000	-
Month	Second-foot-days					Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....	187,850					14,500	1,720	6,060	1.10	1.27		
November.....	296,440					25,300	2,690	9,881	1.80	2.01		
December.....	180,530					15,300	2,660	5,324	1.06	1.22		
Calendar year 1934.....	1,501,680					35,800	165	4,114	.748	10.17		
January.....	123,570					5,250	2,680	3,986	.725	.84		
February.....	115,510					5,410	2,630	4,125	.750	.78		
March.....	596,720					62,100	1,640	16,350	2.97	3.42		
April.....	250,570					13,400	5,260	8,352	1.52	1.70		
May.....	217,930					8,860	4,960	7,030	1.28	1.48		
June.....	231,630					20,800	4,070	7,721	1.40	1.56		
July.....	180,870					11,200	1,850	5,635	1.06	1.22		
August.....	126,640					6,880	2,360	4,085	.743	.86		
September.....	84,210					5,370	1,180	2,807	.510	.57		
Water year 1934-35.....	2,502,470					62,100	1,180	6,856	1.25	16.93		

* Estimated.

Wisconsin River near Wisconsin Dells, Wis.

Location.- Water-stage recorder, lat. 43°36'20", long. 89°45'25", in extreme western part of sec. 14, T. 13 N., R. 6 E., half a mile below Dell Creek and 5 miles downstream from Wisconsin Dells.

Drainage area.- 7,830 square miles.

Records available.- October 1934 to September 1935.

Extremes.- Maximum discharge during year, 64,600 second-feet Mar. 27 (gage height, 17.80 feet); minimum, 2,540 second-feet Sept. 17 (gage height, 3.37 feet); minimum mean daily, 2,850 second-feet Sept. 17.

Remarks.- Records good except those for period of ice effect, Dec. 23 to Mar. 18, which are fair. Diurnal regulation by Wisconsin Power & Light Co.'s power plant at Wisconsin Dells and by numerous power plants and reservoirs above.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	9,440	22,800	5,010	4,400	4,590	31,100	10,600	5,670	10,900	6,490	5,580
2	-	8,140	22,800	4,410	4,520	3,050	20,900	11,200	5,540	9,720	7,270	5,610
3	-	7,360	19,800	5,000	4,460	4,560	14,900	10,600	6,410	10,600	8,040	4,520
4	-	7,420	17,000	5,000	4,600	4,620	14,600	10,600	6,080	10,600	6,790	4,130
5	-	7,350	14,900	4,950	4,800	3,560	13,700	10,000	6,260	11,500	5,950	4,100
6	-	7,460	10,900	4,900	4,300	5,000	13,000	9,440	5,380	10,900	7,260	4,800
7	-	11,800	9,720	4,850	5,000	5,900	12,700	9,720	4,630	11,800	9,310	4,540
8	-	12,400	9,720	4,850	5,250	5,300	12,400	10,000	5,260	13,000	9,870	4,660
9	-	11,500	8,030	4,900	5,300	6,500	10,900	10,600	5,390	13,400	9,160	4,910
10	-	10,300	9,440	5,200	5,300	6,500	10,900	11,500	5,260	13,000	9,440	4,040
11	-	9,160	9,440	5,280	5,300	6,900	10,600	11,800	4,220	12,100	9,720	3,620
12	-	9,720	8,060	5,300	4,800	7,000	10,600	12,100	2,920	10,600	10,300	4,030
13	-	7,590	6,820	5,360	5,200	7,200	10,900	11,200	4,200	7,760	7,760	4,960
14	-	7,920	5,160	5,400	4,700	7,400	12,400	11,500	5,020	8,590	5,870	4,590
15	-	7,320	8,840	5,230	5,300	7,700	14,900	10,000	4,800	10,300	7,050	4,220
16	-	7,060	7,080	5,170	5,350	8,100	14,600	11,200	4,770	7,710	6,690	4,200
17	-	6,600	7,920	5,100	5,600	9,160	14,300	9,440	5,200	6,940	6,230	2,850
18	-	6,380	7,730	5,020	5,500	10,000	12,400	9,440	4,380	6,850	5,890	4,020
19	-	6,200	7,950	4,960	5,100	14,300	11,800	9,160	5,800	6,570	5,930	4,350
20	-	6,060	7,720	4,810	4,800	12,400	11,200	8,010	8,700	6,130	5,800	5,140
21	-	7,140	7,220	4,730	4,480	15,200	10,600	7,090	13,400	5,610	5,860	5,410
22	-	10,300	6,880	4,650	3,750	20,900	9,440	7,750	13,100	5,550	7,010	5,510
23	-	13,400	6,200	4,410	3,900	22,400	8,870	7,250	20,200	5,020	8,320	6,430
24	-	19,100	5,800	4,610	4,300	34,600	9,720	7,430	22,000	5,140	7,800	6,460
25	-	22,800	5,400	4,650	4,500	45,100	10,600	7,290	20,500	5,420	7,340	6,370
26	-	26,100	5,000	4,640	4,720	58,300	9,160	6,840	16,600	5,550	7,730	5,710
27	15,200	26,100	4,650	4,590	4,300	63,400	9,160	6,670	13,400	5,690	7,670	5,180
28	15,600	24,400	4,450	4,810	4,400	60,900	8,590	5,390	12,400	4,650	5,940	4,970
29	14,300	22,000	4,180	4,800	-	52,500	9,720	6,390	11,200	5,880	5,810	4,130
30	12,700	21,600	4,800	4,440	-	42,200	8,870	6,220	10,600	6,140	5,780	4,240
31	10,600	-	4,600	4,470	-	37,300	-	6,480	-	6,690	5,460	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				-	-	-	-	-	-			
November.....				360,120	26,100	6,060	12,000	1.53	1.71			
December.....				284,010	22,800	4,180	9,162	1.17	1.35			
Calendar year												
January.....				151,500	5,400	4,410	4,887	.624	.72			
February.....				133,930	5,600	3,750	4,783	.611	.64			
March.....				593,440	53,400	3,050	19,140	2.44	2.61			
April.....				373,530	31,100	8,590	12,450	1.59	1.77			
May.....				282,900	12,100	5,300	9,126	1.17	1.35			
June.....				265,290	22,000	2,920	8,843	1.13	1.26			
July.....				260,300	13,400	4,650	8,397	1.07	1.23			
August.....				224,540	10,300	5,460	7,243	.925	1.07			
September.....				143,300	6,460	2,850	4,777	.610	.68			
Water year												

Wisconsin River at Muscoda, Wis.

Location.- Water-stage recorder, lat. 43°12', long. 90°26'25", in sec. 1, T. 8 N., R. 1 W., at highway bridge half a mile above Eagle Mill Creek and 1 mile north of Muscoda. Zero of gage is 564.3 feet above mean sea level.

Drainage area.- 10,300 square miles.

Records available.- December 1902 to December 1903, December 1913 to September 1935.

Average discharge.- 21 years (1914-35), 8,665 second-feet.

Extremes.- Maximum discharge during year, 62,200 second-feet Mar. 29 (gage height, 9.90 feet); minimum, 3,400 second-feet Sept. 15; minimum mean daily, 3,800 second-feet June 15, 1918.
1902-3, 1913-35: Maximum discharge, 72,100 second-feet Apr. 16, 1922 (gage height, 10.60 feet); minimum mean daily discharge (estimated), 2,000 second-feet Feb. 11, 1918. Minimum (1,600 second-feet) previously published for Dec. 20, 1920, is erroneous. Maximum stage known, 11.1 feet during August 1888; gage datum unknown.

Remarks.- Records good except those for periods of ice effect, Dec. 2 to Mar. 16, which are fair. Flow regulated by storage reservoirs and power plants upstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,900	11,900	30,000	7,260	5,030	6,260	46,000	11,900	6,920	14,700	7,440	6,260
2	16,700	10,700	24,600	6,760	5,450	6,100	39,400	11,900	7,800	14,200	8,160	6,100
3	18,200	10,100	25,200	6,420	5,760	6,260	36,000	12,800	6,920	13,200	9,500	7,090
4	15,700	9,900	24,600	7,260	5,600	6,920	28,600	14,700	7,800	13,200	11,100	7,260
5	12,800	9,300	22,200	5,930	5,300	11,500	19,800	13,700	7,620	13,700	10,300	5,930
6	11,560	8,530	16,700	6,260	5,300	14,700	19,300	12,400	7,620	15,200	14,200	5,300
7	10,700	8,340	15,200	7,260	5,450	13,200	16,200	13,700	7,800	14,200	19,300	4,600
8	9,300	9,300	11,900	7,440	5,030	10,700	17,200	12,800	7,090	14,700	17,700	4,200
9	8,340	11,900	8,530	7,260	5,450	10,700	13,700	12,800	6,100	14,200	12,400	6,420
10	6,760	12,800	6,420	5,760	5,450	11,900	13,700	12,800	6,100	14,700	13,700	5,600
11	5,760	11,500	6,760	5,160	5,160	12,800	14,700	12,400	6,420	15,700	12,800	5,030
12	5,930	11,100	6,590	6,100	5,160	12,600	14,700	12,400	6,420	17,700	15,700	5,300
13	7,090	9,900	6,420	5,760	5,450	12,900	14,200	10,700	6,260	14,200	14,200	5,030
14	6,760	9,700	7,090	5,760	5,760	12,400	13,700	11,500	4,700	11,500	14,700	4,400
15	5,450	9,300	10,300	5,450	6,100	12,400	14,200	10,300	3,600	6,900	13,200	4,200
16	5,760	8,530	9,900	6,260	6,920	12,800	16,700	11,100	3,200	10,300	9,900	7,090
17	6,100	7,980	8,160	5,600	5,760	12,800	18,200	11,100	5,760	10,700	8,340	5,930
18	4,920	6,260	8,720	5,600	5,930	17,700	17,700	13,200	6,920	10,700	7,260	4,200
19	4,600	8,340	8,340	5,600	6,420	13,700	15,700	12,800	7,440	9,300	6,920	4,300
20	5,030	7,440	8,160	5,760	6,100	15,700	15,700	11,900	8,530	7,800	8,530	4,200
21	7,090	7,260	8,720	6,100	6,420	17,200	14,200	11,100	9,300	6,420	7,800	5,600
22	5,160	9,900	8,720	5,450	6,100	19,800	13,700	10,300	10,300	6,590	7,090	6,100
23	4,920	11,100	8,910	5,300	5,760	22,200	11,900	10,300	16,700	6,100	8,160	6,420
24	5,600	11,900	8,160	4,920	5,760	24,600	11,900	9,100	18,200	6,590	9,300	7,620
25	7,440	14,700	8,160	5,450	4,920	33,600	11,900	8,910	22,200	7,440	9,300	7,440
26	10,100	19,300	8,340	5,160	4,100	41,200	11,500	7,980	22,800	6,920	8,340	7,440
27	13,700	23,400	6,920	4,700	5,300	43,000	12,400	6,920	24,600	7,090	9,300	7,260
28	12,800	25,200	6,260	5,930	6,260	55,000	12,800	8,720	22,800	7,440	8,910	7,090
29	14,700	30,000	6,760	5,930	-	61,000	10,700	7,980	17,200	5,600	8,160	4,400
30	15,200	30,000	6,590	4,920	-	56,200	12,800	7,440	15,200	6,590	7,620	5,930
31	13,700	-	6,260	5,030	-	52,600	-	6,590	-	7,090	6,590	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	287,710	18,200	4,600	9,281	0.901	1.04
November.....	375,590	30,000	6,260	12,520	1.22	1.56
December.....	349,590	30,000	6,260	11,280	1.10	1.27
Calendar year 1934.....	2,321,920	34,400	2,480	6,361	.618	8.40
January.....	183,550	7,440	4,700	5,921	.575	.66
February.....	157,200	6,920	4,100	5,614	.545	.57
March.....	660,540	61,000	6,100	21,310	2.07	2.59
April.....	529,200	46,000	10,700	17,640	1.71	1.91
May.....	342,240	14,700	6,590	11,040	1.07	1.23
June.....	311,120	24,600	3,800	10,370	1.01	1.13
July.....	355,870	17,700	5,600	10,760	1.04	1.20
August.....	325,920	19,300	6,560	10,510	1.02	1.18
September.....	173,740	7,620	4,200	5,791	.562	.65
Water year 1934-35.....	4,030,060	61,000	3,800	11,040	1.07	14.57

Tomahawk River at Tomahawk, Wis.

Location.— Lat. 45°29', long. 89°45', in sec. 28, T. 35 N., R. 6 E., at Jersey power plant of Wisconsin Public Service Corporation, 1 mile north of Tomahawk.

Drainage area.— 547 square miles.

Records available.— January 1930 to September 1935.

Extremes.— Maximum mean daily discharge during year, 2,230 second-feet July 6; minimum, 91 second-feet Oct. 1, 2, 10-13, 15.
1930-35: Maximum mean daily discharge, that of July 6, 1935; no flow several times in 1931, 1934.

Remarks.— Records good. Records of discharge, computed from power-plant records, furnished by Wisconsin Public Service Corporation. Flow completely regulated by four reservoirs operated by the Wisconsin Valley Improvement Co. in the interest of power development. Part of table of monthly discharge corrected for storage in all four reservoirs upstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	229	342	857	1,050	1,010	225	586	600	545	1,060	988
2	91	219	247	857	1,050	990	233	625	619	659	913	951
3	98	298	453	857	1,050	996	247	621	622	500	879	829
4	111	243	558	857	1,050	970	247	586	622	668	855	790
5	111	250	586	871	1,050	974	247	598	622	1,300	870	934
6	111	246	495	949	1,050	947	247	604	649	2,230	969	951
7	111	232	436	949	1,030	945	247	604	664	1,800	912	927
8	111	302	498	949	1,030	925	239	611	652	1,360	865	802
9	98	306	842	839	1,040	915	228	598	653	961	835	856
10	91	242	835	773	1,040	936	247	592	660	1,060	667	846
11	91	218	831	761	1,040	899	297	613	626	1,580	568	846
12	91	219	797	747	1,030	934	259	622	551	1,840	913	846
13	91	251	843	747	1,020	931	247	550	555	1,460	1,000	846
14	98	233	803	786	1,030	820	209	438	622	869	1,000	846
15	91	380	799	897	1,030	728	310	436	515	598	1,000	846
16	177	219	778	863	1,030	525	262	440	438	536	970	846
17	434	270	774	867	1,030	417	247	439	440	649	957	846
18	407	217	760	982	1,020	428	247	315	317	768	1,020	846
19	426	266	760	1,190	1,020	422	247	152	289	774	961	793
20	404	386	751	1,170	1,000	414	247	302	248	767	1,020	677
21	246	804	737	1,150	1,000	390	247	481	295	822	965	605
22	198	996	705	1,110	999	429	247	469	580	910	950	584
23	205	728	669	1,030	994	443	247	470	574	1,050	850	584
24	295	617	655	1,030	993	395	247	504	540	1,270	931	584
25	197	593	616	1,030	977	339	461	497	540	1,180	971	569
26	249	610	686	1,050	978	247	609	456	568	1,190	918	588
27	247	582	788	1,040	965	279	622	492	562	1,220	923	588
28	177	613	773	1,040	997	266	606	497	540	1,200	860	588
29	239	475	773	1,040	-	247	604	474	540	1,190	753	588
30	206	470	773	1,050	-	247	614	510	540	1,140	752	588
31	236	-	787	1,050	-	229	-	605	-	1,140	682	-

Month	Observed				Gain or loss in storage (millions of cubic feet)	Corrected for storage		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	5,827	434	91	183	+ 1,242	652	1.19	1.37
November.....	11,715	996	217	390	+ 1,310	896	1.64	1.83
December.....	21,130	843	247	682	- 423	524	.958	1.10
Calendar year 1934..	125,114	996	0	343	+ 4,472	465	.887	12.01
January.....	29,408	1,190	747	949	- 1,593	354	.647	.75
February.....	28,593	1,060	965	1,021	- 1,656	336	.614	.64
March.....	19,637	1,010	229	633	+ 1,570	1,219	2.23	2.67
April.....	9,473	622	209	316	+ 1,847	1,029	1.88	2.10
May.....	16,807	625	152	510	+ 378	661	1.19	1.37
June.....	16,253	664	248	542	+ 752	832	1.52	1.70
July.....	33,264	2,230	500	1,073	- 454	903	1.65	1.90
August.....	28,109	1,060	568	907	- 632	671	1.23	1.42
September.....	22,978	968	569	766	- 779	465	.850	.95
Water year 1934-35..	242,194	2,230	91	664	+ 1,562	714	1.31	17.70

Rib River at Rib Falls, Wis.

Location.- Chain gage, lat. 44°58'25", long. 89°54'15", in NW¼ sec. 27, T. 29 N., R. 5 E., at highway bridge in Rib Falls, 6 miles below mouth of Black Creek.

Drainage area.- 309 square miles.

Records available.- May 1925 to September 1935.

Average discharge.- 10 years, 300 second-feet.

Extremes.- Maximum discharge observed during year, 10,600 second-feet Mar. 23 (gage height, 9.50 feet): minimum observed, 22 second-feet Sept. 2.
1925-35: Maximum discharge observed, 12,500 second-feet Aug. 21, 1926 (gage height, 10.10 feet); minimum (estimated), 3 second-feet Jan. 23, 1930.

Remarks.- Records good except those for period of ice effect, Dec. 8 to Mar. 18, which are fair.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 12 to Sept. 30)

1.6	7	4.0	950
1.8	24	4.5	1,290
2.0	56	5.0	1,710
2.2	104	5.5	2,220
2.4	167	6.0	2,830
2.6	239	7.0	4,430
2.9	360	8.0	6,490
3.2	498	9.0	9,080
3.5	654	10.0	12,300

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	627	239	654	86	81	104	654	278	* 64	252	45	24
2	450	188	574	83	83	104	574	258	* 59	245	42	22
3	360	202	548	81	86	104	474	382	* 54	239	42	24
4	278	1,710	498	83	88	104	460	474	49	239	32	30
5	239	1,220	427	83	91	113	427	450	38	170	30	35
6	239	830	339	81	91	147	498	339	38	1,220	49	30
7	239	574	298	81	91	202	450	278	49	1,150	60	38
8	202	450	298	78	91	298	382	239	38	574	78	45
9	167	360	278	78	91	360	382	239	49	318	60	42
10	147	298	278	78	91	404	382	239	45	192	49	35
11	128	258	278	78	94	450	600	202	38	150	69	32
12	110	202	278	78	96	498	1,530	800	32	220	116	32
13	99	202	258	78	99	548	1,010	800	30	157	74	30
14	94	167	258	78	101	574	682	548	30	101	56	30
15	88	188	258	78	104	654	548	360	49	96	45	30
16	88	134	239	78	104	1,010	404	258	56	71	32	24
17	83	160	239	78	104	1,710	427	202	450	58	30	24
18	78	220	239	78	104	2,110	360	167	278	51	30	36
19	78	1,370	220	78	104	3,220	318	141	2,000	43	69	56
20	239	1,800	220	78	104	6,040	278	116	3,110	37	49	60
21	4,310	2,450	220	78	104	5,820	239	104	1,800	31	49	42
22	2,570	5,000	220	78	104	8,320	202	88	1,080	28	38	35
23	1,290	2,830	202	78	104	9,680	195	74	654	25	35	30
24	2,110	1,710	184	78	104	6,280	298	60	360	23	30	27
25	1,450	1,220	167	78	104	4,430	339	60	299	43	30	27
26	950	1,080	154	78	104	2,970	278	52	239	51	30	27
27	654	950	141	78	104	3,570	427	88	392	91	30	24
28	498	950	128	78	104	2,110	523	88	830	239	27	27
29	404	950	116	78	-	1,220	427	83	450	157	24	27
30	360	830	104	78	-	950	360	74	258	91	27	27
31	278	-	91	78	-	770	-	* 69	-	67	42	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	19,407	4,810	78	626	2.03	2.34
November.....	28,742	5,000	134	958	3.10	3.46
December.....	8,406	654	91	271	.877	1.01
Calendar year 1934.....	120,412.5	10,600	9.1	330	1.07	14.59
January.....	2,450	86	78	79.0	.256	.30
February.....	2,730	104	81	97.5	.318	.33
March.....	64,794	9,680	104	2,090	6.76	7.79
April.....	14,118	1,530	195	471	1.52	1.70
May.....	7,610	800	52	245	.793	.91
June.....	12,907	3,110	30	430	1.39	1.55
July.....	6,429	1,220	23	207	.670	.77
August.....	1,419	116	24	45.8	.148	.17
September.....	974	60	22	32.5	.105	.12
Water year 1934-35.....	169,986	9,680	22	466	1.51	20.45

*Estimated.

Yellow River at Sprague, Wis.

Location.- Chain gage, lat. 44°8', long. 90°6', in NW $\frac{1}{4}$ sec. 11, T. 19 N., R. 3 E., 1 mile southeast of Sprague and 10 miles above Necedah Dam.

Drainage area.- 436 square miles.

Records available.- September 1926 to September 1935.

Discharge.- Maximum discharge during year (estimated), 2,300 second-feet Mar. 23; minimum discharge observed. 62 second-feet Sept. 17, 18; minimum gage height observed, 3.60 feet Sept. 18.
1927-35: Maximum discharge (estimated), 2,660 second-feet Sept. 17, 1928; minimum, 5.4 second-feet Sept. 9, 1933.

Remarks.- Records fair. Stage-discharge relation affected by ice Dec. 5 to Mar. 19.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	458	264	916	119	78	78	497	633	154	403	143	123
2	307	212	1,040	114	78	74	421	468	154	623	133	118
3	237	200	952	110	78	81	369	403	143	716	* 166	110
4	188	237	868	105	74	84	322	477	133	868	200	100
5	165	439	764	105	74	83	322	569	118	952	224	96
6	143	716	623	105	74	105	322	692	114	815	224	92
7	133	764	537	105	74	128	322	579	114	1,100	264	92
8	123	669	517	105	74	154	353	403	110	1,430	716	88
9	110	477	458	110	71	164	337	337	105	1,550	769	84
10	100	337	403	110	74	200	292	292	110	1,290	692	78
11	96	264	369	110	74	212	292	260	100	646	537	74
12	84	212	353	110	71	292	468	280	96	336	386	78
13	81	168	292	110	71	337	716	356	83	292	292	74
14	78	165	237	114	71	421	1,040	497	96	250	224	68
15	71	143	212	114	71	458	*1,220	477	143	212	176	65
16	71	143	212	110	71	552	896	421	237	188	143	65
17	71	128	200	100	71	815	579	322	188	155	123	62
18	68	133	200	100	71	924	421	260	337	143	110	62
19	65	154	176	96	71	1,100	553	212	815	128	110	81
20	71	264	166	96	71	1,580	292	188	1,300	118	164	212
21	88	459	166	96	71	*1,950	264	165	1,580	105	896	815
22	497	968	165	92	84	*2,230	250	154	*1,780	96	1,190	924
23	764	1,220	165	92	92	*2,300	212	243	1,950	96	1,290	868
24	868	*1,450	165	84	62	*2,200	224	128	1,650	92	1,040	623
25	764	*1,450	165	84	98	*1,980	307	128	1,350	92	537	369
26	921	1,350	154	94	84	1,680	369	123	815	114	353	264
27	1,040	1,350	154	78	81	1,550	439	165	568	110	264	212
28	868	1,350	154	74	81	1,390	537	264	439	110	200	188
29	579	659	143	78	-	1,160	716	264	386	143	176	165
30	337	753	133	78	-	868	692	212	353	200	164	143
31	322	-	123	78	-	546	-	176	-	188	143	-
Month	Second-foot-days											
October.....	9,831											
November.....	17,087											
December.....	11,203											
Calendar year 1934.....	61,474.7											
January.....	3,065											
February.....	2,135											
March.....	25,687											
April.....	13,854											
May.....	10,108											
June.....	15,215											
July.....	13,671											
August.....	12,049											
September.....	6,335											
Water year 1934-35.....	140,259											
	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October.....	1,040	65	317	0.727	0.64							
November.....	1,450	123	569	1.31	1.46							
December.....	1,040	123	361	.828	.95							
Calendar year 1934.....	1,450	6.2	168	.385	5.25							
January.....	118	74	98.9	.227	.26							
February.....	92	71	76.2	.175	.18							
March.....	2,300	74	829	1.90	2.19							
April.....	1,290	212	461	1.08	1.18							
May.....	892	123	326	.748	.86							
June.....	1,550	88	507	1.16	1.29							
July.....	1,550	92	441	1.01	1.16							
August.....	1,290	110	369	.892	1.03							
September.....	924	62	213	.492	.55							
Water year 1934-35.....	2,300	62	384	.881	11.95							

* Estimated.

Kickapoo River at Steuben, Wis.

Location.- Chain gage, lat. 43°11', long. 90°51'35", in SW $\frac{1}{4}$ sec. 9, T. 8 N., R. 4 W., at highway bridge in Steuben, $\frac{1}{2}$ miles above Duffy Creek and 15 miles above mouth. Zero of gage is 659.1 feet (revised) above mean sea level.

Drainage area.- 699 square miles.

Records available.- May 1933 to September 1935.

Extremes.- Maximum discharge observed during year, 8,600 second-feet Aug. 8 (gage height, 12.30 feet); minimum (estimated), 196 second-feet Jan. 4, 24-29, 31, Feb. 1.
1933-35: Maximum discharge, that of Aug. 8, 1935; minimum observed, 167 second-feet Aug. 30, 1934 (gage height, 1.12 feet).

Remarks.- Records fair except those for period of ice effect, Dec. 5 to Mar. 8, which are poor. Slight diurnal regulation caused by operation of power plant at Gays Mills, 15 miles upstream.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 3-7, 12-18,
Aug. 24 to Sept. 30)

1.5	204	3.3	433	6.5	1,360
1.7	220	3.6	497	7.0	1,580
1.9	238	4.0	587	8.0	2,150
2.1	258	4.6	705	9.0	2,970
2.4	289	5.0	832	10.0	4,190
2.7	326	5.5	977	11.0	5,910
3.0	375	6.0	1,160	12.0	7,950

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	229	212	610	220	196	212	413	326	300	705	357	375
2	220	212	475	204	204	212	413	357	300	1,280	887	375
3	220	229	454	204	229	229	413	519	312	1,160	1,630	357
4	212	341	433	196	238	454	394	780	326	564	1,630	357
5	212	394	375	204	238	1,320	375	859	289	433	1,740	357
6	212	312	341	204	238	1,580	375	977	268	1,120	2,030	357
7	212	278	394	204	220	1,580	357	730	289	1,240	1,910	357
8	212	258	341	212	220	1,160	341	497	357	705	6,710	375
9	212	248	375	220	229	755	326	541	278	433	4,490	375
10	212	238	375	238	229	633	326	541	278	375	3,530	357
11	212	229	341	238	229	780	375	454	289	341	1,240	341
12	212	229	375	238	229	730	541	454	278	413	730	326
13	212	229	357	220	238	633	681	564	268	832	610	326
14	204	229	326	212	248	564	519	977	312	433	497	326
15	204	229	326	212	268	705	433	497	278	326	454	312
16	204	229	312	204	258	1,320	394	433	268	300	433	312
17	212	220	300	212	248	1,630	375	394	268	300	413	312
18	212	229	300	212	229	1,850	357	375	278	300	413	312
19	204	238	300	212	229	2,150	341	341	433	278	1,050	312
20	220	268	289	220	229	1,320	341	341	633	268	1,910	312
21	229	357	289	220	212	1,240	326	312	681	268	2,150	832
22	248	475	289	212	212	1,120	312	312	413	268	2,030	806
23	248	564	278	204	204	1,320	312	312	341	289	1,320	375
24	238	587	238	196	220	1,320	289	312	312	497	705	357
25	258	375	248	196	212	859	312	300	475	326	519	341
26	278	341	238	196	229	730	375	289	413	519	475	326
27	248	326	238	196	268	657	357	300	357	541	433	341
28	220	475	268	196	229	587	357	394	326	375	413	312
29	220	780	248	196	-	519	357	497	300	497	413	326
30	220	1,120	238	204	-	454	326	326	289	326	394	312
31	212	-	220	196	-	433	-	312	-	341	375	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....					6,868	278	204	222	0.318		0.37	
November.....					10,461	1,120	212	348	.498		.56	
December.....					10,191	610	220	329	.471		.54	
Calendar year 1934.....					117,340	5,830	175	321	.459		6.25	
January.....					6,498	238	196	210	.300		.35	
February.....					6,432	268	196	230	.329		.34	
March.....					29,066	2,150	212	937	1.34		1.54	
April.....					11,413	681	289	380	.544		.61	
May.....					14,623	977	289	472	.675		.78	
June.....					10,209	681	268	340	.486		.54	
July.....					16,053	1,280	268	518	.741		.85	
August.....					41,891	6,710	357	1,351	1.93		2.22	
September.....					11,161	832	312	372	.532		.59	
Water year 1934-35.....					174,846	6,710	196	479	.685		9.29	

Turkey River at Elkader, Iowa

Location.- Wire gage, lat. 42°51'15", long. 91°24'15", in sec. 23, T. 93 N., R. 5 W., in tailrace of Interstate Power Co.'s hydroelectric plant in Elkader. Zero of gage is 701.61 feet above mean sea level.

Drainage area.- 892 square miles.

Records available.- July 1933 to September 1935.

Extremes.- Maximum discharge during year, 10,300 second-feet Mar. 6 (gage height, 14.0 feet); minimum mean daily discharge, 92 second-feet Sept. 23.
1933-35: Maximum discharge, 11,800 second-feet July 2, 1933 (gage height, 14.2 feet); minimum mean daily discharge, 25 second-feet June 14, 29, 30, 1934.

Remarks.- Records fair. Discharge estimated because of ice Dec. 6-20, Dec. 24 to Jan. 6 and Jan. 14 to Feb. 11. Daily-discharge record furnished by Interstate Power Co.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to June 12

7.2	66	8.7	1,020
7.4	119	9.0	1,400
7.6	183	9.4	1,950
7.8	265	9.8	2,540
8.0	373	10.2	3,160
8.2	514	10.6	3,820
8.4	690		

Table for June 13 to Sept. 30

7.2	60	8.4	647
7.4	112	8.7	970
7.6	180	9.0	1,350
7.8	284	9.4	1,900
8.0	367		
8.2	491		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	250	142	705	230	160	372	1,020	594	348	434	242	146
2	248	132	422	250	160	652	917	721	406	1,280	407	144
3	211	158	462	240	190	1,240	674	1,660	486	949	534	142
4	198	191	512	220	210	519	645	2,340	750	530	495	154
5	178	208	451	230	210	*2,000	588	2,020	571	1,460	604	150
6	149	198	390	230	210	3,650	575	1,510	484	1,820	373	137
7	187	215	300	260	200	781	544	1,180	385	861	227	145
8	158	201	250	272	200	2,030	532	942	372	612	228	128
9	167	184	310	292	190	2,250	514	828	338	460	227	154
10	143	165	360	305	190	2,190	491	697	332	400	319	132
11	134	156	350	307	180	1,580	635	657	326	387	241	128
12	117	151	380	297	199	1,320	878	778	291	337	199	130
13	136	144	410	262	193	1,400	1,200	800	260	324	186	104
14	105	142	410	230	234	1,450	957	807	668	317	186	123
15	114	151	390	260	386	3,360	748	730	612	281	173	123
16	107	137	410	240	452	3,620	603	672	510	286	152	125
17	121	132	400	250	297	2,450	501	589	496	279	177	118
18	107	144	410	250	359	3,270	485	552	507	254	159	126
19	102	154	360	260	535	2,340	448	514	710	251	117	102
20	135	301	390	220	601	2,520	390	436	1,150	232	589	113
21	170	284	402	190	489	2,730	435	461	1,440	462	341	110
22	149	331	130	459	2,970	416	432	894	503	213	125	
23	135	1,040	361	160	502	2,780	405	420	625	433	203	92
24	168	899	300	150	726	2,320	427	413	481	513	203	104
25	209	577	310	160	272	1,910	465	407	574	298	183	110
26	239	500	230	160	244	1,610	1,250	399	626	338	183	107
27	206	471	220	150	235	1,530	1,710	382	564	279	180	116
28	182	759	230	160	353	1,370	1,100	386	553	233	163	140
29	154	931	270	150	-	1,130	748	386	490	227	144	105
30	151	884	270	150	-	1,030	658	386	471	229	144	131
31	137	-	280	160	-	1,020	-	371	-	244	155	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....	4,967		250		102		160		0.179		0.21	
November.....	10,382		1,040		132		346		.388		.43	
December.....	11,322		705		220		365		.409		.47	
Calendar year 1934.....	69,877		2,080		25		191		.214		2.93	
January.....	6,885		307		150		222		.249		.29	
February.....	8,629		726		160		308		.345		.36	
March.....	59,434		3,650		372		1,917		2.15		2.48	
April.....	20,259		1,710		390		699		.784		.87	
May.....	28,470		2,340		371		757		.849		.98	
June.....	16,720		1,440		260		557		.624		.70	
July.....	15,463		1,820		227		459		.559		.64	
August.....	7,947		604		144		256		.287		.33	
September.....	3,762		154		92		125		.140		.16	
Water year 1934-35.....	189,940		3,650		92		520		.583		7.92	

* Interpolated.

Note:- The discharge for April 1934 published in Water-Supply Paper 760 (p. 170) should be corrected as follows: Second-feet per square mile, 0.413; run-off in inches, 0.46. Total run-off for the year, 2.10 inches.

Turkey River at Garber, Iowa

Location.— Water-stage recorder, lat. 42°44'25", long. 91°15'45", in sec. 36, T. 92 N., R. 4 W., at highway bridge at Garber, 2,000 feet below mouth of Elk Creek. Prior to Mar. 28, 1935, chain gage at same site and datum.

Drainage area.— 1,530 square miles.

Records available.— August 1913 to November 1916, May 1919 to September 1927, November 1932 to September 1935. August 1913 to November 1916, May 1919 to September 1927, April 1929 to September 1930 in report of Iowa State Planning Board.

Extremes.— Maximum discharge during year, 17,100 second-feet Mar. 4 (gage height, 19.83 feet); minimum discharge observed during year, 54 second-feet Oct. 19 (gage height, 3.59 feet).
1913-16, 1919-27, 1929-30, 1932-35: Maximum discharge observed, about 28,600 second-feet Feb. 23, 1922 (gage height, 28.06 feet); minimum observed, 46 second-feet June 29, 1934.

Remarks.— Records fair except those for period of ice effect, Dec. 7 to Mar. 3, which are poor. Slight diurnal fluctuation caused by operation of hydroelectric plant at Elkader. Station operated in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	354	177	980	310	200	460	1,020	615	646	900	376	239
2	293	140	679	350	200	870	1,020	746	1,040	1,430	399	274
3	293	222	646	320	230	1,700	940	2,090	1,060	1,980	746	256
4	274	354	646	300	280	10,600	860	4,100	820	1,100	526	256
5	239	239	584	310	280	15,500	820	3,200	746	1,970	1,150	239
6	222	354	584	310	280	9,650	780	2,300	679	2,560	820	239
7	222	354	410	340	220	4,300	712	1,760	615	1,260	472	239
8	183	239	340	360	262	3,200	646	1,420	584	820	422	239
9	171	206	410	360	260	2,660	615	1,260	555	712	376	222
10	169	206	480	400	250	2,660	615	1,100	555	526	447	239
11	146	180	460	410	240	3,020	1,020	980	526	526	376	222
12	140	191	500	400	240	2,120	1,260	1,420	526	499	354	206
13	146	183	550	370	260	1,650	1,580	1,420	472	447	333	206
14	146	183	550	300	300	1,760	1,800	1,260	555	447	333	206
15	118	183	550	330	520	3,600	1,180	1,180	1,100	422	313	191
16	127	206	550	330	600	6,490	900	1,020	646	422	313	206
17	123	180	550	330	400	7,150	780	900	679	399	293	206
18	118	222	550	340	480	4,000	746	820	900	376	293	191
19	103	206	550	350	700	3,110	712	746	1,260	354	399	191
20	188	555	550	230	800	3,200	615	712	1,260	354	2,080	191
21	206	422	540	240	700	3,800	615	679	1,760	1,910	1,020	191
22	206	660	530	210	650	3,500	615	679	1,340	2,450	472	171
23	191	1,180	480	186	770	4,400	584	646	940	712	376	166
24	160	1,100	420	200	1,000	3,300	615	646	746	646	333	166
25	206	746	400	200	700	2,480	646	646	712	526	313	166
26	274	615	320	200	320	2,120	942	646	980	447	313	166
27	222	555	280	200	320	1,650	2,120	646	820	472	333	169
28	188	1,760	280	200	460	1,650	1,180	646	1,020	399	274	180
29	206	1,260	330	200	-	1,420	820	615	900	376	256	166
30	177	1,260	360	200	-	1,180	615	646	1,020	354	256	166
31	206	-	370	200	-	1,100	-	615	-	354	239	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	6,017	554	103	194	0.127	0.15
November.....	14,538	1,760	140	425	.317	.35
December.....	15,449	980	280	498	.325	.37
Calendar year 1934.....	115,585	5,670	55	317	.207	2.79
January.....	9,056	410	186	292	.191	.22
February.....	11,998	1,000	200	428	.280	.25
March.....	114,950	15,500	480	3,708	2.42	2.79
April.....	27,073	2,120	584	902	.590	.66
May.....	36,159	4,100	615	1,166	.762	.88
June.....	28,462	1,760	472	849	.555	.62
July.....	26,150	2,560	354	844	.552	.64
August.....	15,006	2,080	239	484	.316	.36
September.....	6,165	274	166	206	.135	.15
Water year 1934-35.....	308,013	15,500	103	844	.552	7.48

Grant River near Burton, Wis.

Location.— Wire gage, lat. $42^{\circ}43'20''$, long. $90^{\circ}50'50''$, in NE $\frac{1}{4}$ sec. 21, T. 3 N., R. 4 W., about $1\frac{1}{2}$ miles west of Burton, $7\frac{1}{2}$ miles northwest of Potosi, and 14 miles above mouth. Zero of gage is 638.99 feet above mean sea level.

Drainage area.— 326 square miles.

Records available.— October 1934 to September 1935.

Extremes.— Maximum discharge during year (estimated), 3,300 second-feet Mar. 4 (gage height, 9.81 feet); minimum discharge observed, 38 second-feet Oct. 17 (gage height, 2.56 feet).

Remarks.— Records fair except those estimated because of ice, Dec. 27 to Jan. 5, Jan. 15–20, Jan. 25 to Feb. 4, and those above 400 second-feet, which are poor. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating tables, water year 1934–35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 17 to Mar. 5

2.6	42	4.4	450
2.8	66	4.8	585
3.0	95	5.2	730
3.2	150	5.6	890
3.4	170	6.0	1,065
3.6	220	6.5	1,300
3.8	270	7.0	1,550
4.0	330		

Table for Mar. 6 to Sept. 30

2.8	53	4.2	360
2.9	64	4.4	430
3.0	77	4.7	550
3.2	108		
3.4	144		
3.6	187		
3.8	235		
4.0	295		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	44	170	43	57	102	105	89	76	100	69	56
2	-	45	130	43	60	195	102	86	144	84	67	65
3	-	140	140	42	60	420	95	108	470	82	65	62
4	-	170	110	42	65	1,500	95	108	95	80	60	64
5	-	96	130	42	98	975	94	100	92	76	62	56
6	-	70	120	48	72	265	90	95	84	74	63	60
7	-	67	82	56	63	165	89	92	82	72	62	60
8	-	62	102	182	60	154	88	89	73	72	60	57
9	-	60	94	208	61	144	88	97	72	70	64	54
10	-	57	56	140	58	550	86	93	144	68	55	53
11	-	56	72	90	60	360	144	86	77	67	56	53
12	-	53	86	69	56	176	125	198	98	65	54	52
13	-	52	66	70	65	144	108	108	77	64	54	51
14	-	50	79	53	83	325	105	97	76	62	53	51
15	-	48	74	52	655	325	95	90	74	61	53	51
16	-	48	76	55	330	295	80	89	78	60	53	51
17	40	52	73	65	150	176	92	96	90	58	52	51
18	40	72	64	77	110	165	90	80	125	57	53	51
19	50	66	66	70	232	165	88	78	144	56	378	60
20	110	140	57	57	300	165	76	78	105	56	430	56
21	80	315	67	53	195	165	94	77	84	90	88	54
22	51	315	65	58	140	165	82	84	82	125	77	52
23	49	130	60	57	140	154	80	82	80	74	61	51
24	48	102	58	53	390	144	68	74	73	67	56	51
25	48	92	62	57	72	134	79	73	105	65	56	52
26	45	94	46	60	120	125	80	73	90	84	57	52
27	44	88	45	65	110	125	83	72	82	62	55	51
28	42	480	47	65	102	116	82	77	116	64	53	49
29	44	160	47	65	-	108	76	74	97	62	53	49
30	44	162	48	62	-	108	73	76	84	60	54	48
31	44	-	46	60	-	106	-	74	-	57	55	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October 17–31.....	779	110	40	51.9	0.159	0.09
November.....	3,394	480	43	113	.347	.39
December.....	2,487	170	45	80.2	.246	.28
Calendar year						
January.....	2,159	208	42	69.6	.213	.25
February.....	3,954	655	56	141	.435	.45
March.....	8,216	1,500	102	265	.813	.94
April.....	2,757	144	73	91.9	.282	.31
May.....	2,773	198	72	89.5	.275	.32
June.....	3,139	470	72	105	.322	.36
July.....	2,194	125	56	70.8	.217	.25
August.....	2,530	430	52	81.6	.250	.29
September.....	1,623	66	48	54.1	.166	.19
Water year						

Platte River near Rockville, Wis.

Location.- Wire gage, lat. 42°7', long. 90°3'20", in NW¼ sec. 17, T. 3 N., R. 2 W., about 2½ miles northeast of Rockville, 5 miles northeast of Potosi, and 15 miles above mouth.

Drainage area.- 137 square miles.

Records available.- November 1934 to September 1935.

Extremes.- Maximum discharge during year (estimated), 1,700 second-feet Mar. 4 (gage height, 8.67 feet); minimum discharge observed, 20 second-feet Dec. 26 (gage height, 3.06 feet).

Remarks.- Records fair except those estimated because of ice, Dec. 27 to Jan. 7, Jan. 13, Jan. 16 to Feb. 4, and those above 350 second-feet, which are poor. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Nov. 16 to May 12

3.1	24	4.6	286
3.2	34	4.8	335
3.3	46	5.0	385
3.4	57	5.5	520
3.5	70	6.0	670
3.6	84		
3.8	115		
4.0	152		
4.2	193		
4.4	238		

Table for May 13 to Sept. 30

3.1	28	4.6	292
3.2	39	4.8	337
3.3	52	5.0	385
3.4	66	5.5	460
3.5	81		
3.6	97		
3.8	132		
4.0	169		
4.2	208		
4.4	249		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	162	28	35	51	67	49	49	55	58	36
2	-	-	99	26	32	152	65	67	260	53	43	42
3	-	-	98	26	32	286	58	69	72	49	44	40
4	-	-	84	27	35	670	60	69	60	49	38	42
5	-	-	62	27	65	550	57	64	56	48	39	37
6	-	-	76	30	47	215	56	58	56	48	53	35
7	-	-	49	35	50	115	56	57	52	46	42	36
8	-	-	58	51	46	99	52	55	49	44	36	37
9	-	-	53	133	41	84	50	84	48	43	38	36
10	-	-	51	92	43	81	51	55	74	42	38	35
11	-	-	36	52	50	250	77	53	51	42	37	34
12	-	-	56	41	44	124	78	250	49	40	35	34
13	-	-	51	40	41	124	66	81	46	39	35	32
14	-	-	42	27	61	115	65	72	49	39	34	32
15	-	-	49	42	385	286	66	68	47	40	35	32
16	27	51	42	142	226	56	65	48	39	36	31	
17	29	45	42	67	124	57	63	52	38	38	31	
18	34	43	41	53	107	58	59	52	38	37	34	
19	34	44	41	64	107	55	60	94	38	460	35	
20	83	47	42	40	115	107	52	58	60	37	228	37
21	45	44	40	80	133	49	55	53	38	65	34	
22	215	42	50	62	98	49	55	52	43	46	32	
23	107	38	48	55	107	52	55	49	44	40	32	
24	76	24	48	162	86	52	52	47	40	39	31	
25	62	30	47	26	87	49	51	78	38	39	32	
26	57	20	45	57	81	46	51	62	74	37	34	
27	55	25	43	58	77	49	52	51	39	40	32	
28	460	30	43	58	70	50	53	72	40	36	32	
29	124	30	45	-	70	50	52	65	38	35	31	
30	115	30	45	-	64	47	53	52	38	38	31	
31	-	30	37	-	65	-	51	-	39	35	-	
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				-	-	-	-	-	-			
November 16-30.....				1,523	460	27	102	0.745	0.42			
December.....				1,594	162	20	51.4	.375	.43			
Calendar year												
January.....				1,374	133	26	44.3	.323	.37			
February.....				2,006	385	26	71.6	.523	.54			
March.....				4,611	670	51	155	1.13	1.30			
April.....				1,695	78	46	56.5	.412	.46			
May.....				2,036	250	49	65.7	.480	.55			
June.....				1,905	260	46	63.5	.464	.52			
July.....				1,338	74	37	43.2	.315	.36			
August.....				1,855	460	34	59.8	.436	.50			
September.....				1,029	42	31	34.3	.250	.28			
Water year												

Little Maquoketa River near Durango, Iowa

Location.- Wire gage, lat. 42°33'20", long. 90°44'40", in NE¼ sec. 5, T. 89 N., R. 2 E., about 1½ miles east of Durango, 5 miles northwest of Dubuque, and 8 miles above mouth. Zero of gage is 611.42 feet above mean sea level.

Drainage area.- 130 square miles.

Records available.- October 1934 to September 1935.

Extremes.- Maximum discharge observed during period (estimated), 2,300 second-feet Mar. 4 (gage height, 13.63 feet); minimum discharge observed, 7 second-feet Oct. 11, 12, 14; minimum gage height observed, 2.87 feet Nov. 1.

Remarks.- Records fair except those above 500 second-feet, which are poor. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 10-19)

2.8	6	3.6	78	5.2	348
2.9	10	3.8	105	5.4	368
3.0	16	4.0	136	5.6	428
3.1	24	4.2	167	5.8	470
3.2	33	4.4	201	6.0	512
3.3	43	4.6	236		
3.4	54	4.8	272		
3.5	66	5.0	310		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	9	143	21	18	60	64	34	40	112	26	14
2	-	10	135	15	18	368	66	105	534	91	135	19
3	-	18	112	15	21	368	48	272	98	83	45	19
4	-	105	88	17	23	1,220	52	184	65	62	26	16
5	-	40	86	18	55	470	48	159	54	56	27	14
6	-	28	87	18	38	176	47	112	58	53	36	14
7	-	24	76	21	27	128	34	98	47	39	18	11
8	-	20	71	210	24	112	36	112	46	34	15	65
9	-	18	70	176	22	88	34	105	47	34	15	22
10	8	18	45	143	19	120	35	71	56	33	15	15
11	7	20	44	128	24	167	135	64	33	32	15	16
12	7	14	44	98	25	105	120	201	33	30	15	14
13	8	13	42	40	28	105	98	112	31	25	13	10
14	7	13	33	31	43	74	82	98	27	22	12	13
15	8	14	23	31	449	151	65	74	25	28	11	11
16	8	14	18	33	329	151	55	67	53	27	15	13
17	8	15	39	32	151	128	66	67	54	25	13	15
18	8	28	39	29	398	120	62	61	184	15	15	11
19	9	33	35	30	184	128	55	60	135	16	368	13
20	176	192	33	32	151	128	48	53	135	17	348	14
21	37	192	31	33	143	128	51	48	61	16	46	15
22	20	184	34	43	120	135	54	44	65	25	35	15
23	15	86	22	41	120	120	48	42	66	22	19	13
24	15	66	29	39	120	112	45	38	72	22	18	14
25	11	61	33	35	120	105	41	36	68	22	17	15
26	10	55	33	33	98	105	38	34	54	20	16	13
27	13	28	32	31	70	98	37	34	51	16	15	14
28	10	491	32	32	60	76	43	36	135	15	11	13
29	11	176	31	32	-	71	45	37	54	14	13	13
30	12	128	31	33	-	66	29	43	120	12	20	14
31	12	-	32	24	-	64	-	47	-	11	12	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October 10-31.....				420	176	7	19.1	0.147		0.12		
November.....				2,113	491	9	70.4	.542		.60		
December.....				1,603	143	18	51.7	.398		.46		
Calendar year												
January.....				1,514	210	15	48.8	.375		.43		
February.....				2,888	449	18	103	.792		.82		
March.....				5,497	1,220	60	177	1.36		1.57		
April.....				1,681	135	26	55.0	.431		.48		
May.....				2,548	272	34	82.2	.632		.73		
June.....				2,501	534	25	83.4	.642		.72		
July.....				1,033	112	11	33.3	.255		.30		
August.....				1,405	368	11	45.3	.348		.40		
September.....				478	65	10	15.9	.122		.14		
Water year												

Galena River at Galena, Ill.

Location.- Wire gage, lat. 42°24'50", long. 90°25'40", in NE¼NE¼ sec. 24, T. 28 N., R. 1 W., on Green Street Bridge, in Galena, about 1,500 feet below Hughlett Branch and 4 miles above mouth. Zero of gage is 580.58 feet above mean sea level.

Drainage area.- 192 square miles.

Records available.- October 1954 to September 1935.

Extremes.- Maximum discharge observed during year, 2,150 second-feet Mar. 4 (gage height, 18.28 feet); minimum observed, 34 second-feet Oct. 30 (gage height, 8.10 feet).
Maximum stage known, 25.0 feet Mar. 26, 1916 (from high-water mark).

Remarks.- Records poor. Discharge estimated for period of ice effect, Dec. 8 to Feb. 6, and for periods of backwater from Mississippi River, Mar. 20 to Apr. 26, June 28 to July 21, Aug. 10-16. Station operated in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		36	434	45	50	88	95	74	78	150	55	56
2		36	272	35	45	136	100	121	371	175	56	55
3		54	291	35	45	575	95	392	128	180	56	51
4		114	310	35	95	1,180	90	192	100	140	53	62
5		82	291	35	95	1,210	80	161	88	110	50	58
6		59	272	40	80	350	80	136	88	90	72	50
7		54	183	60	72	310	80	121	88	80	82	55
8		51	175	300	71	291	75	114	79	70	57	88
9		49	180	270	72	217	75	121	78	65	57	56
10		46	95	200	69	850	100	107	114	60	57	49
11		43	75	114	68	750	270	100	88	55	56	52
12		38	70	88	70	310	200	550	79	55	54	46
13		40	70	70	61	310	120	200	75	55	52	44
14		42	70	50	82	159	95	159	78	55	50	45
15		38	70	60	1,300	392	90	136	72	55	50	43
16		39	70	70	413	350	85	128	73	55	53	40
17		41	65	75	144	192	85	114	94	55	56	46
18		66	65	82	114	187	85	114	88	55	51	39
19		58	65	80	208	175	80	100	183	55	560	38
20		625	60	75	291	180	80	100	100	55	159	44
21		183	60	70	159	180	75	100	88	110	100	46
22		1,030	60	65	144	180	75	100	88	128	60	48
23		253	60	60	71	175	75	100	79	114	49	39
24		175	45	60	310	170	75	88	75	71	54	46
25		159	40	60	175	150	75	88	79	57	61	45
26		144	40	60	64	125	75	82	80	67	49	44
27		151	40	60	79	110	88	82	82	55	55	46
28		1,360	45	60	88	105	82	88	85	53	47	47
29		208	45	60	-	98	82	100	100	51	51	49
30	34	200	45	60	-	95	76	82	125	50	47	44
31	35	-	45	55	-	90	-	88	-	49	58	-
Month	Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off in inches					
October.....	-		-	-	-	-	-					
November.....	5,474		1,360	36	182	0.948	1.06					
December.....	3,638		434	40	117	.609	.70					
Calendar year												
January.....	2,489		300	35	80.3	.418	.48					
February.....	4,535		1,300	45	162	.844	.88					
March.....	9,670		1,210	88	312	1.62	1.87					
April.....	2,858		270	75	94.6	.493	.55					
May.....	4,228		550	74	136	.708	.82					
June.....	3,023		371	72	101	.526	.59					
July.....	2,475		180	49	79.8	.416	.48					
August.....	2,347		550	47	75.7	.394	.45					
September.....	1,471		88	38	49.0	.255	.28					
Water year												

Maquoketa River near Delhi, Iowa

Location.- Water-stage recorder, lat. 42°24'40", long. 91°20'40", in sec. 29, T. 88 N., R. 4 W., in tailrace of Interstate Power Co.'s hydroelectric plant, 1½ miles south of Delhi. Zero of gage is 774.32 feet above mean sea level.

Drainage area.- 348 square miles.

Records available.- July 1933 to September 1935.

Extremes.- Maximum discharge during year, 4,700 second-feet Mar. 5 (gage height, 88.0 feet); minimum, about 11 second-feet at numerous times when plant was shut down.
1933-35: Maximum discharge, that of Mar. 5, 1935; minimum, about 8 second-feet at numerous times during 1933 and 1934 when plant was shut down.

Remarks.- Records fair. Daily-discharge record furnished by Interstate Power Co.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

80.2	9	82.3	318
80.4	18	82.6	416
80.6	30	82.9	530
80.8	46	83.2	660
81.0	67	83.5	804
81.2	92	84.0	1,080
81.4	121	85.0	1,760
81.6	154	86.0	2,610
81.8	193	87.0	3,600
82.0	237	88.0	4,700

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	72	237	11	83	392	107	188	91	607	97	20
2	49	51	225	117	160	540	121	239	423	310	57	20
3	53	74	154	85	98	367	94	432	551	184	95	65
4	79	11	222	11	111	1,580	116	747	513	153	13	96
5	79	119	134	11	86	4,050	119	610	156	65	92	83
6	53	55	145	92	71	1,120	119	517	172	174	133	92
7	11	53	161	126	31	615	59	355	165	75	50	87
8	38	41	165	176	86	615	111	258	226	165	78	36
9	41	46	68	96	103	551	111	244	16	99	78	102
10	47	87	187	121	11	594	108	233	139	57	143	87
11	61	11	192	104	91	468	293	240	86	155	13	83
12	11	70	171	121	155	434	512	49	149	150	102	56
13	49	80	171	11	96	452	391	161	160	85	55	83
14	11	66	136	115	274	391	432	215	129	13	77	49
15	44	67	171	103	594	398	382	166	129	113	72	11
16	45	68	86	112	634	485	174	233	33	53	72	78
17	11	44	138	103	594	510	96	139	139	88	65	78
18	43	11	133	93	446	593	41	143	353	53	11	74
19	70	74	124	69	467	615	47	18	428	106	91	69
20	119	181	124	11	551	549	45	86	261	111	208	78
21	11	144	138	63	551	510	39	173	343	13	209	93
22	48	211	96	73	530	514	111	127	230	165	132	99
23	36	132	65	49	530	615	150	134	16	187	136	174
24	132	150	152	65	530	615	105	49	162	88	128	42
25	54	136	111	65	406	615	108	98	174	144	44	51
26	47	162	135	60	155	593	140	11	229	78	70	56
27	98	157	102	23	131	510	97	152	424	132	112	54
28	11	144	103	65	180	510	154	141	414	13	64	87
29	29	296	51	83	-	287	125	141	624	120	45	13
30	92	334	11	86	-	175	146	11	624	56	54	51
31	70	-	106	88	-	30	-	157	-	78	58	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off in inches				
October.....	1,588			132	11	51.2	0.147	0.17				
November.....	3,147			334	11	105	.302	.34				
December.....	4,214			237	11	136	.391	.45				
Calendar year 1934.....	22,358			495	8	61.3	.176	2.39				
January.....	2,397			176	11	77.3	.222	.26				
February.....	7,755			634	11	277	.796	.83				
March.....	20,293			4,050	30	655	1.88	2.17				
April.....	4,643			512	39	155	.445	.50				
May.....	6,467			747	11	209	.601	.69				
June.....	7,557			624	16	232	.724	.81				
July.....	3,993			607	15	126	.362	.42				
August.....	2,654			209	11	85.6	.246	.28				
September.....	2,067			174	11	68.9	.198	.22				
Water year 1934-35.....	66,875			4,050	11	183	.526	7.14				

Maquoketa River below North Fork of Maquoketa River, near Maquoketa, Iowa

Location.— Water-stage recorder, lat. 42°5', long. 90°38', in SW¼NE¼ sec. 17, T. 84 N., R. 3 E., at Bridgeport Bridge, 1,200 feet above mouth of Mill Creek and 3 miles northeast of Maquoketa.

Drainage area.— 1,550 square miles.

Records available.— September 1913 to September 1935.

Average discharge.— 22 years, 915 second-feet.

Extremes.— Maximum discharge during year, 12,200 second-feet Mar. 5 (gage height, 15.47 feet); minimum, 147 second-feet Oct. 18 (gage height, 1.33 feet); minimum mean daily, 224 second-feet Oct. 19.
1913-35: Maximum discharge, 21,800 second-feet Mar. 14, 1929; maximum gage height, 22.0 feet Mar. 27, 1918; minimum discharge, 39 second-feet Sept. 15, 1931 (gage height, 0.81 foot); minimum mean daily, 112 second-feet Aug. 22, 1931.

Remarks.— Records fair except those for periods of ice effect, Dec. 8 to Jan. 8, Jan. 13 to Feb. 13, which are poor. Diurnal fluctuations at low water due to operation of power plant above station. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Mar. 1

1.5	198	5.0	1,270
1.7	264	6.0	2,350
2.0	372	7.0	2,950
2.5	571	9.0	4,220
3.0	790	11.0	5,620

Table for Mar. 2 to Sept. 30

1.8	231	8.0	2,370
2.1	339	8.0	3,620
2.5	505	10.0	5,150
3.0	744	12.0	7,170
4.0	1,269	14.0	9,850
5.0	1,810	16.0	13,090

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	271	244	2,410	400	230	1,070	924	583	523	1,700	382	312
2	278	285	1,570	400	280	2,670	719	670	1,390	1,920	378	312
3	244	410	1,370	400	1,800	4,900	770	1,060	1,240	1,430	355	339
4	247	556	1,270	400	1,700	4,800	744	1,430	1,350	1,270	479	343
5	264	592	1,040	400	1,000	11,400	719	1,760	1,160	1,130	374	316
6	306	433	930	450	800	7,410	694	1,760	1,060	976	423	407
7	244	433	600	600	650	3,640	694	1,380	998	719	427	362
8	250	376	500	1,800	570	1,810	670	1,240	744	719	427	492
9	237	271	510	2,170	400	1,590	592	1,130	694	598	382	444
10	237	278	560	1,420	300	2,880	645	1,030	719	578	355	362
11	247	264	550	1,140	300	5,120	770	950	564	550	394	312
12	244	299	550	948	300	2,180	1,030	1,060	518	457	324	355
13	264	264	600	620	400	1,590	1,430	1,220	492	532	309	355
14	250	250	650	470	1,070	1,430	1,430	1,060	532	518	316	324
15	237	285	660	420	5,550	1,490	1,240	820	465	479	501	294
16	247	278	670	470	4,620	1,650	1,110	820	532	423	297	305
17	257	271	660	500	2,290	1,650	1,060	670	496	393	312	283
18	230	298	640	500	1,770	1,480	898	694	666	394	294	277
19	224	518	610	450	2,530	1,430	795	694	846	378	312	301
20	1,610	1,320	570	300	3,010	1,490	694	626	899	568	744	316
21	1,220	970	560	270	2,110	1,490	578	465	1,060	464	872	378
22	592	1,570	550	230	1,720	1,590	631	559	924	657	770	301
23	380	1,200	520	230	1,470	1,490	578	463	846	770	559	320
24	372	925	470	230	1,990	1,650	645	479	820	795	479	305
25	321	858	420	230	1,320	1,590	744	463	670	635	465	302
26	292	768	380	230	948	1,430	694	457	770	487	407	307
27	335	722	300	230	915	1,430	670	574	1,060	465	487	262
28	299	1,930	300	230	768	1,350	694	840	1,680	453	370	265
29	282	1,520	390	230	-	1,270	670	820	3,420	400	343	301
30	257	2,230	430	230	-	1,160	645	564	2,140	366	335	262
31	261	-	410	230	-	1,030	-	621	-	578	324	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	10,999	1,610	224	355	0.229	0.26
November.....	20,708	2,230	244	690	.445	.50
December.....	21,550	2,410	300	695	.448	.52
Calendar year 1934.....	155,348	6,920	130	426	.275	3.73
January.....	16,808	2,170	230	542	.350	.40
February.....	40,511	5,550	230	1,458	.941	.96
March.....	77,120	11,400	1,030	2,458	1.61	1.86
April.....	24,177	1,430	578	806	.520	.58
May.....	27,002	1,760	457	871	.562	.65
June.....	29,167	3,420	465	972	.627	.70
July.....	21,402	1,920	358	690	.445	.51
August.....	12,996	872	294	419	.270	.31
September.....	9,794	492	262	326	.210	.23
Water year 1934-35.....	312,534	11,400	224	856	.652	7.50

Apple River near Hanover, Ill.

Location.- Wire gage, lat. $42^{\circ}14'$, long. $90^{\circ}16'$, in SW $\frac{1}{4}$ sec. 22, T. 26 N., R. 2 E., about $\frac{1}{3}$ mile west of State Highway 80 and $\frac{1}{2}$ miles south of Hanover. Zero of gage is 581.85 feet above mean sea level.

Drainage area.- 267 square miles.

Records available.- November 1934 to September 1935.

Extremes.- Maximum discharge observed during year, 3,370 second-feet Mar. 5 (gage height, 17.31 feet); minimum observed, 24 second-feet Nov. 17 (gage height, 3.04 feet).
Maximum stage known, 26.4 feet, from flood marks.

Remarks.- Records poor. Discharge estimated for periods of ice effect, Dec. 12 to Feb. 15, Feb. 26-28, and for periods of backwater from Mississippi River, Mar. 29 to Apr. 16. Diurnal fluctuation during low water due to operation of hydroelectric plant at Hanover. Station operated in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	985	55	60	264	150	109	114	104	54	40
2		-	429	80	60	916	150	183	327	137	57	49
3		-	429	50	60	1,540	150	763	213	198	49	63
4		281	391	50	125	1,440	130	641	150	150	44	57
5		125	281	50	120	2,140	120	379	143	109	66	54
6		89	264	55	105	487	110	310	131	104	60	52
7		77	261	65	95	260	100	276	131	94	90	42
8		66	299	400	90	228	100	244	114	81	77	60
9		63	261	300	85	198	100	228	109	81	54	32
10		34	215	250	85	805	100	190	131	81	46	60
11		52	163	200	85	1,280	250	176	114	77	66	63
12		60	150	160	85	327	450	487	120	66	70	54
13		54	130	100	85	310	350	310	109	70	52	54
14		49	120	75	100	228	270	228	99	70	49	49
15		52	110	80	1,500	293	250	198	90	86	49	36
16		52	100	85	1,060	487	230	183	94	63	54	60
17		35	95	80	468	310	213	176	104	57	52	57
18		114	90	90	448	310	198	156	109	57	36	46
19		103	85	90	759	293	183	150	169	66	86	33
20		119	85	90	962	293	169	143	137	44	86	57
21		215	65	90	468	327	169	131	120	54	94	52
22		1,690	80	85	468	260	156	120	109	109	66	36
23		429	70	80	264	260	150	126	99	66	60	60
24		231	65	75	528	244	143	114	90	70	49	42
25		184	55	70	215	260	137	109	90	66	38	57
26		170	50	70	120	228	126	114	131	99	54	57
27		207	50	70	115	213	120	120	183	44	54	52
28		2,080	55	70	130	244	126	143	244	66	60	49
29		448	55	70	-	* 206	126	183	183	81	54	34
30		1,410	55	70	-	190	109	143	131	57	42	54
31		-	55	65	-	170	-	126	-	52	40	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				-	-	-	-	-	-			
November 4-30.....				6,477	2,080	33	314	1.18	1.18			
December.....				5,658	985	50	183	.685	.79			
Calendar year												
January.....				3,190	400	50	103	.586	.44			
February.....				8,745	1,500	60	312	1.17	1.22			
March.....				15,011	2,140	170	484	1.81	2.09			
April.....				5,135	450	100	171	.640	.71			
May.....				6,959	763	109	224	.839	.97			
June.....				4,088	327	90	136	.509	.57			
July.....				2,559	198	44	82.5	.309	.36			
August.....				1,810	94	38	58.4	.219	.25			
September.....				1,511	63	32	50.4	.189	.21			
Water year												

* Discharge measurement.

Plum River near Savanna, Ill.

Location.- Wire gage, lat. $42^{\circ}7'$, long. $90^{\circ}3'20''$, in NW $\frac{1}{4}$ sec. 33, T. 25 N., R. 4 E., about 5 miles northeast of Savanna and 15 miles above mouth. Zero of gage is 582.54 feet above mean sea level.

Drainage area.- 301 square miles.

Records available.- November 1934 to September 1935.

Extremes.- Maximum discharge observed during period, 1,380 second-feet Mar. 11; maximum gage height observed, 23.35 feet Feb. 15 (ice jam); minimum discharge observed, 10 second-feet Nov. 9-17; minimum gage height observed, 10.63 feet Nov. 16, 17.
Maximum stage known, 29.3 feet, from flood marks.

Remarks.- Records poor. Discharge estimated for periods of ice effect, Dec. 23-25, Jan. 8 to Feb. 11, Feb. 15, 16, 23-25. Station operated in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	1,330	40	45	78	102	56	65	102	27	14
2		-	332	36	45	1,000	110	81	449	198	26	16
3		-	268	34	45	1,160	95	565	238	473	27	20
4		-	365	30	100	343	88	426	134	198	26	19
5		-	188	27	95	1,100	81	170	118	143	24	18
6		-	179	30	85	310	81	161	118	118	34	16
7		-	152	34	75	143	65	152	134	95	134	14
8		12	208	350	75	134	68	134	110	84	32	24
9		10	161	300	75	118	62	126	98	74	26	62
10		10	126	250	70	134	56	118	118	68	26	21
11		10	102	200	65	1,380	485	102	170	62	24	18
12		10	110	150	59	299	627	126	88	54	21	16
13		10	95	80	81	238	288	161	81	51	19	15
14		10	78	55	59	143	228	126	71	44	18	15
15		10	78	70	1,300	152	188	110	68	42	18	15
16		10	78	75	700	218	170	95	65	42	18	14
17		10	81	80	377	188	161	88	74	38	18	20
18		21	71	85	248	161	161	84	71	34	18	21
19		110	71	85	789	143	134	74	170	32	17	16
20		425	74	85	929	134	118	74	102	30	21	15
21		42	65	80	413	238	118	71	81	299	28	19
22		929	59	75	299	161	102	74	161	354	20	26
23		1,020	55	70	* 114	152	110	74	71	288	17	15
24		143	45	65	343	562	102	62	65	88	16	13
25		95	40	60	143	461	88	59	54	44	15	13
26		81	38	55	71	168	81	54	228	59	16	15
27		118	42	55	74	143	74	51	473	36	16	17
28		901	40	55	88	179	71	81	110	34	15	14
29		1,060	40	55	-	152	71	510	437	32	14	14
30		614	38	55	-	143	68	95	118	28	14	13
31		-	38	50	-	110	-	102	-	27	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	-	-	-	-	-	-
November 8-30.....	5,661	1,060	10	246	1.22	1.04
December.....	4,647	1,330	38	150	.746	.86
Calendar year						
January.....	2,771	350	27	89.4	.445	.61
February.....	6,862	1,300	45	245	1.22	1.27
March.....	10,065	1,380	78	325	1.62	1.87
April.....	4,253	627	56	142	.706	.79
May.....	4,061	510	51	131	.652	.75
June.....	4,330	473	54	144	.716	.80
July.....	3,271	473	27	106	.527	.61
August.....	760	134	14	24.5	.122	.14
September.....	548	62	13	18.3	.091	.10
Water year						

* Discharge measurement.

Wapsipinicon River at Independence, Iowa

Location.- Staff gage, lat. 42°28'10", long. 91°53'40". in SW¼ sec. 34, T. 89 N. (revised), R. 9 W., at Interstate Power Co.'s hydroelectric plant in Independence.

Drainage area.- 1,060 square miles.

Records available.- July 1933 to September 1935.

Extremes.- Maximum discharge during year, 7,220 second-feet Mar. 5, 6 (gage height, 92.6 feet); minimum, about 8 second-feet at numerous times when power plant was shut down. 1933-35: Maximum discharge, that of Mar. 5, 6, 1935; minimum, about 7 second-feet at numerous times during 1933-34.

Remarks.- Records fair. Daily-discharge record furnished by Interstate Power Co.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

84.3	9	86.6	1,120
84.4	22	86.9	1,345
84.5	40	87.2	1,535
84.6	63	87.6	1,925
84.8	121	88.	2,285
85.0	193	88.	2,755
85.2	278	89.0	3,250
85.4	374	89.5	3,765
85.6	478	90.0	4,290
85.8	591	91.0	5,390
86.0	713	92.0	6,525
86.3	910		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	288	74	757	155	74	502	668	905	262	803	114	9
2	275	74	636	168	154	502	695	870	272	695	74	94
3	221	208	547	134	54	803	580	1,220	653	435	166	88
4	221	8	464	141	100	1,460	651	2,180	206	368	8	75
5	166	153	547	141	100	5,000	570	2,420	382	273	140	101
6	208	140	547	87	94	6,230	570	2,010	429	341	153	94
7	8	153	436	181	100	4,700	517	1,600	274	88	100	108
8	221	153	497	107	113	3,820	450	1,390	316	195	61	9
9	127	166	393	188	127	3,560	436	1,060	169	222	61	94
10	74	220	473	255	87	2,950	395	807	222	168	140	62
11	114	61	431	181	120	2,610	477	713	195	168	8	62
12	74	114	439	349	87	2,390	674	651	128	182	74	49
13	166	127	449	161	87	2,340	657	583	141	168	74	49
14	8	114	426	274	287	2,110	838	570	189	9	61	62
15	74	114	395	221	589	1,870	775	542	222	182	48	9
16	74	114	380	255	901	2,020	667	477	75	114	48	75
17	114	140	424	157	879	2,190	634	477	169	101	61	49
18	74	8	379	166	822	2,290	639	422	208	101	8	49
19	74	166	417	232	875	2,710	422	287	301	101	61	49
20	193	261	404	107	989	3,210	355	288	355	114	166	49
21	8	180	404	181	1,050	3,510	262	342	409	48	101	62
22	74	370	404	160	1,090	3,530	341	301	437	141	61	9
23	74	504	264	127	1,030	3,370	382	247	410	167	74	22
24	180	687	342	114	1,040	3,720	396	234	463	208	180	49
25	48	713	329	100	876	2,960	437	287	492	222	8	49
26	61	772	220	107	616	2,170	489	74	556	222	74	49
27	127	697	242	54	542	1,760	1,210	234	544	274	100	49
28	8	664	221	107	502	1,520	2,030	208	628	9	74	49
29	127	661	234	87	-	987	1,460	208	876	114	9	9
30	87	803	181	87	-	999	1,170	181	907	74	102	42
31	114	-	175	74	-	849	-	154	-	127	49	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				3,682	288	8	119	0.112	0.13			
November.....				8,619	803	8	287	.271	.30			
December.....				12,457	757	175	402	.379	.44			
Calendar year 1934.....				47,623	845	7	130	.123	1.66			
January.....				4,858	349	54	157	.148	.17			
February.....				13,385	1,090	54	478	.461	.47			
March.....				78,642	6,230	502	2,537	2.39	2.76			
April.....				19,847	2,030	262	662	.625	.70			
May.....				21,942	2,420	74	708	.668	.77			
June.....				10,983	907	75	363	.342	.38			
July.....				6,434	803	9	208	.196	.23			
August.....				2,468	180	8	79.3	.075	.09			
September.....				1,632	108	9	54.4	.051	.06			
Water year 1934-35.....				184,839	6,230	8	506	.477	6.50			

WAPSIPINICON RIVER BASIN

Wapsipinicon River near De Witt, Iowa

Location.- Water-stage recorder, lat. 41°46', long. 90°32', in sec. 31, T. 81 N., R. 4 E., 3 miles south of De Witt and 18 miles above mouth.

Drainage area.- 2,300 square miles.

Records available.- June 1934 to September 1935.

Extremes.- 1934-35: Maximum discharge, 8,070 second-feet Mar. 12, 1935 (gage height, 9.66 feet); minimum observed, 90 second-feet June 29, 1934.

Remarks.- Records fair except those for period of ice effect, Dec. 1 to Feb. 22, which are poor. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating table for June 29, 1934, to Sept. 30, 1935, except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 15 to Sept. 30, 1935)

1.5	90	4.0	1,170
1.7	137	5.0	1,870
1.9	191	6.0	2,700
2.1	253	7.0	3,700
2.4	358	8.0	5,020
2.8	525	9.0	6,690
3.2	715	10.0	8,700
3.6	930		

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								* 232		-	185	140
2										-	177	150
3										-	171	185
4										-	163	623
5										* 185	203	665
6										*2,480	256	516
7										*3,090	300	442
8										*2,190	293	361
9										*1,170	231	328
10										-	191	290
11										* 789	215	263
12										-	273	240
13										-	307	231
14										-	290	231
15										-	318	304
16										-	574	463
17										* 422	516	332
18										-	212	579
19										-	389	304
20										-	325	321
21										-	270	310
22										-	218	370
23										-	212	579
24								* 286		* 309	203	574
25										-	212	498
26										-	191	434
27										-	183	409
28										227	169	397
29										215	163	370
30									90	206	165	356
31									183	200	147	310
									-	197	140	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....						
November.....						
December.....						
Calendar year						
January.....						
February.....						
March.....						
April.....						
May.....						
June.....						
July.....						
August.....	7,640	574	140	246	0.107	0.12
September.....	10,996	665	140	367	.160	.18
Water year						

* Discharge measurement.

Wapsipinicon River near De Witt, Iowa

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	296	283	3,800	270	300	2,430	2,700	1,540	1,340	2,880	520	243
2	290	273	3,000	260	350	3,480	2,350	1,950	2,430	3,270	455	279
3	321	314	2,500	240	450	3,370	2,110	2,270	2,880	2,790	665	293
4	335	615	2,100	240	750	3,370	1,830	3,170	2,030	2,700	534	273
5	409	765	1,700	230	720	4,450	1,680	2,970	1,950	2,190	438	260
6	405	715	1,400	220	660	4,970	1,580	2,970	1,830	2,030	405	237
7	397	665	1,100	220	600	4,730	1,490	3,070	1,680	1,580	393	231
8	374	602	840	350	520	4,730	1,370	3,070	1,400	1,370	366	366
9	358	530	500	760	480	4,970	1,300	3,170	1,300	1,200	328	480
10	340	472	300	680	450	5,170	1,260	3,070	1,230	1,080	328	385
11	325	446	360	610	440	6,690	1,540	2,700	1,140	960	325	340
12	300	446	410	570	440	7,860	1,830	2,610	1,020	875	304	307
13	293	455	420	560	700	7,460	1,950	3,320	930	792	279	286
14	296	446	420	530	1,100	6,330	2,030	4,190	875	740	273	283
15	273	442	430	400	2,000	5,430	1,910	2,610	792	715	233	263
16	266	405	430	400	2,300	4,970	1,680	2,110	792	690	263	253
17	266	401	430	900	2,500	4,450	1,580	1,830	765	615	260	250
18	256	520	430	980	2,600	4,190	1,540	1,650	990	584	260	231
19	250	875	430	760	2,650	4,060	1,540	1,480	2,030	552	247	231
20	279	960	420	760	2,700	3,940	1,480	1,400	1,950	520	307	234
21	543	1,080	410	500	2,750	4,060	1,400	1,300	1,510	516	358	247
22	715	1,760	410	370	2,800	4,060	1,260	1,200	1,400	574	321	263
23	516	1,830	400	310	2,970	4,060	1,200	1,110	1,260	765	370	260
24	422	1,620	360	280	3,170	4,320	1,170	1,020	1,140	820	370	231
25	401	1,400	370	260	2,980	4,730	1,110	960	1,140	1,080	340	237
26	354	1,300	360	260	2,700	5,020	1,110	902	1,440	1,080	296	270
27	318	1,340	340	260	2,430	5,020	1,110	875	1,950	875	290	279
28	304	2,350	330	260	2,270	5,020	1,080	1,510	2,030	820	260	231
29	296	3,170	320	260	-	4,970	1,110	3,070	2,110	690	270	224
30	236	3,270	300	270	-	4,060	1,200	2,190	2,190	615	250	221
31	276	-	280	290	-	3,170	-	1,580	-	566	243	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off in inches				
October.....	10,800			715	250	348	0.151	0.17				
November.....	29,750			3,270	273	992	.431	.48				
December.....	25,320			3,800	290	817	.355	.41				
Calendar year												
January.....	13,050			980	220	421	.183	.21				
February.....	44,680			3,170	300	1,596	.694	.72				
March.....	145,190			7,860	2,430	4,684	2.04	2.35				
April.....	46,480			2,700	1,080	1,550	.874	.75				
May.....	67,367			4,190	875	2,173	.945	1.09				
June.....	45,524			2,880	765	1,517	.660	.74				
July.....	35,534			3,270	516	1,179	.513	.59				
August.....	10,601			665	243	342	.149	.17				
September.....	8,178			480	221	273	.119	.13				
Water year 1934-35	483,494			7,860	220	1,325	.576	7.81				

Rock River at Watertown, Wis.

Location.- Water-stage recorder, lat. $43^{\circ}11'25''$, long. $88^{\circ}43'35''$, in sec. 4, T. 8 N., R. 15 E., in Watertown, on left bank of river, 700 feet below Milwaukee Street highway bridge and 1 1/8 miles below mouth of Silver Creek.

Records available.- June 1931 to September 1955.

Drainage area.- 971 square miles.

Extremes.- Maximum discharge during year, 2,140 second-feet Mar. 20 (gage height, 3.94 feet); minimum, 0.6 second-foot Nov. 1, 2 (gage height, 0.73 foot); minimum mean daily discharge, 1 second-foot Oct. 28, 28, Nov. 1.
1931-35: Maximum discharge, 3,250 second-feet May 20, 1933 (gage height, 3.81 feet, former site and datum); minimum, 1 second-foot several times during 1931, 1932, 1934.

Remarks.- Records good. Stage-discharge relation affected by ice Dec. 25-27, Jan. 14 to Feb. 2. A small feed mill a quarter of a mile upstream causes slight intermittent regulation; a power plant 2 1/2 miles above causes considerable diurnal regulation.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 17 to Sept. 30)

0.6	0	2.0	253
.8	1.2	2.3	377
1.0	6.8	2.6	524
1.2	22	3.0	780
1.4	56	3.4	1,190
1.6	110	3.8	1,810
1.8	177	4.2	2,860

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	1	256	100	210	223	2,020	708	524	299	129	104
2	20	12	235	62	200	208	2,020	675	442	402	390	76
3	24	19	239	60	188	216	2,020	708	420	330	917	94
4	21	3	240	108	159	383	2,020	708	581	514	975	31
5	20	27	131	56	113	1,470	1,920	780	365	514	914	23
6	18	25	194	92	115	1,320	1,920	780	336	488	912	68
7	4	23	181	47	98	1,020	1,810	780	336	412	916	41
8	17	24	200	110	87	912	1,720	780	290	346	694	79
9	17	24	168	112	103	912	1,550	822	254	287	561	40
10	19	24	140	122	63	1,130	1,400	822	517	216	419	42
11	17	13	73	92	76	1,470	1,330	822	304	205	346	42
12	27	23	140	111	106	1,260	1,190	822	256	168	193	44
13	20	31	102	99	124	1,260	1,020	865	239	106	213	46
14	3	30	94	130	115	1,190	865	865	241	40	210	48
15	16	31	90	130	120	1,320	744	822	261	86	163	20
16	17	32	74	130	149	1,550	744	822	182	45	192	48
17	17	32	96	100	188	1,400	744	822	233	70	205	39
18	13	18	44	150	174	1,550	744	822	257	43	171	15
19	13	38	107	127	165	1,920	744	780	260	33	150	23
20	17	65	43	119	213	2,140	744	780	260	28	130	68
21	2	108	103	300	217	1,920	744	780	270	18	186	47
22	9	176	82	290	271	1,920	744	780	287	32	127	53
23	14	172	49	280	243	2,020	780	780	229	26	169	143
24	17	105	96	270	170	1,920	865	744	244	24	130	45
25	5	190	100	265	439	2,020	865	780	198	34	132	42
26	1	170	110	260	278	2,020	865	780	191	183	160	46
27	13	126	100	250	255	1,920	865	780	220	148	73	42
28	1	194	59	240	247	2,020	822	780	148	112	178	53
29	16	189	64	230	-	1,920	780	744	178	106	62	20
30	13	239	81	225	-	1,920	708	708	181	124	135	50
31	3	-	58	220	-	2,020	-	642	-	108	85	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				435	24	1	14.0	0.014	0.02			
November.....				2,254	239	1	75.1	.077	.09			
December.....				3,739	266	43	121	.125	.14			
Calendar year 1934.....				42,397	967	1	116	.119	1.64			
January.....				4,887	300	47	168	.163	.19			
February.....				4,965	439	63	174	.179	.19			
March.....				44,474	2,140	208	1,435	1.49	1.71			
April.....				35,297	2,020	708	1,177	1.21	1.35			
May.....				24,083	265	642	777	.800	.92			
June.....				8,304	524	148	277	.285	.32			
July.....				5,547	514	18	179	.184	.21			
August.....				10,170	975	73	328	.338	.39			
September.....				1,532	143	15	51.1	.053	.06			
Water year 1934-35.....				145,607	2,140	1	399	.411	5.59			

Rock River at Afton, Wis.

Location.- Water-stage recorder, lat. 42°36'40", long. 89°41'10", on line between secs. 22 and 27, T. 2 N., R. 12 E., at highway bridge in Afton, three-quarters of a mile above mouth of Bass Creek. Zero of gage is 742.18 feet above mean sea level.

Drainage area.- 3,190 square miles.

Records available.- February 1914 to September 1935.

Average discharge.- 21 years, 1,846 second-feet.

Extremes.- Maximum discharge during year, 6,350 second-feet Mar. 10 (gage height, 8.52 feet); minimum, 51 second-feet Oct. 15 (gage height, 0.30 foot); minimum mean daily, 64 second-feet Oct. 14.

1914-35: Maximum discharge observed, 13,000 second-feet Mar. 23, 24, 1929; maximum gage height observed, 11.81 feet, present datum, May 23, 1929; minimum discharge, 36 second-feet Aug. 26, 1934 (gage height, 0.09 foot); minimum mean daily discharge, 42 second-feet Aug. 25, 26, 1934.

Remarks.- Records good except those for periods of ice effect, Dec. 9-19, Dec. 24 to Jan. 9, Jan. 14 to Feb. 13, which are fair. Regulation by operation of power plants above.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 18-23)

0.4	61	1.6	388	4.0	1,590
.6	87	2.0	538	5.0	2,370
.8	129	2.5	750	6.0	3,340
1.0	184	3.0	994	7.0	4,480
1.3	282	3.5	1,270	8.0	5,700
				8.5	6,350

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	295	312	1,600	780	860	1,250	4,720	2,110	1,440	1,120	461	661
2	474	350	1,520	800	1,100	1,450	4,480	2,550	1,510	1,590	479	597
3	455	195	1,760	780	1,100	1,670	4,240	2,730	1,410	1,430	674	817
4	342	332	1,410	750	1,030	2,220	4,120	2,550	1,320	1,360	752	764
5	373	355	1,310	700	1,060	4,240	4,000	2,460	1,180	1,530	763	694
6	167	547	1,730	550	650	2,640	4,000	2,370	1,080	1,750	1,400	603
7	211	593	2,190	520	900	2,460	4,000	2,460	959	1,660	1,680	464
8	211	636	2,550	1,350	920	2,930	3,780	2,370	759	1,600	1,850	384
9	235	603	2,020	1,350	860	3,340	3,340	2,370	997	1,510	1,650	577
10	425	372	1,860	928	970	4,510	3,230	2,370	846	1,430	1,820	749
11	346	286	1,780	810	920	5,440	3,340	2,370	927	1,370	1,790	715
12	174	219	1,700	1,040	830	4,600	3,780	2,550	871	1,360	1,580	556
13	153	227	1,560	1,130	800	4,600	3,340	2,550	871	1,280	1,580	502
14	84	562	1,420	1,000	796	4,720	3,130	2,640	783	1,250	1,580	383
15	137	556	1,280	850	2,040	4,720	2,530	2,550	751	1,170	1,510	495
16	278	498	1,150	950	1,230	4,960	3,130	2,460	633	1,140	1,450	394
17	297	331	1,150	880	753	5,200	2,930	2,370	942	694	1,470	620
18	167	307	1,350	970	755	4,960	2,930	2,280	1,090	728	1,440	579
19	165	355	1,150	1,000	716	4,960	2,730	2,370	1,110	661	1,370	473
20	242	561	1,070	960	1,040	5,200	2,460	2,190	1,030	619	1,390	527
21	171	815	1,080	940	991	5,200	2,460	2,030	847	286	1,370	499
22	278	992	950	1,000	1,240	5,200	2,370	1,820	825	941	1,320	337
23	439	1,270	820	900	1,270	5,320	2,370	1,790	659	663	1,300	495
24	580	1,040	905	830	1,120	5,320	2,280	1,660	971	649	1,240	519
25	645	880	750	1,000	1,230	5,440	2,030	1,630	930	308	1,010	496
26	561	1,160	800	930	1,280	5,200	1,650	1,610	988	233	835	533
27	453	1,240	850	870	1,150	5,200	1,910	1,530	1,150	367	839	439
28	219	1,410	800	1,050	1,090	4,960	2,030	1,640	1,180	447	730	255
29	339	1,620	640	1,050	-	4,720	2,030	1,550	982	268	755	356
30	471	1,840	850	900	-	4,840	2,030	1,550	812	566	756	333
31	360	-	850	1,050	-	4,720	-	1,550	-	441	745	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	9,767	645	84	315	0.099	0.11
November.....	20,459	1,840	195	692	.214	.24
December.....	40,855	2,550	640	1,318	.413	.48
Calendar year 1934	235,766	2,710	42	646	.203	2.75
January.....	28,618	1,350	520	923	.289	.33
February.....	28,691	2,040	650	1,025	.321	.33
March.....	132,190	5,440	1,250	4,264	1.34	1.54
April.....	92,070	4,720	1,910	3,069	.962	1.07
May.....	66,930	2,730	1,630	2,159	.677	.78
June.....	29,833	1,510	633	994	.312	.35
July.....	30,451	1,730	233	982	.308	.36
August.....	37,389	1,820	461	1,206	.378	.44
September.....	15,856	817	295	529	.166	.19
Water year 1934-35	533,109	5,440	84	1,461	.458	6.22

Rock River at Como, Ill.

Location.— Water-stage recorder, lat. 41°47', long. 89°44'58", in NE¼ sec. 25 (revised), T. 21 N., R. 6 E. (revised), fourth principal meridian, 1 mile above Como, 3 miles below Rock Falls, and 3½ miles above mouth of Elkhorn Creek.

Drainage area.— 8,700 square miles.

Records available.— December 1933 to September 1935; November 1914 to September 1934 records collected at Lyndon, 16½ miles downstream (drainage area, 9,010 square miles).

Average discharge.— 21 years, 5,421 second-feet; discharge for site at Lyndon corrected for difference in drainage area.

Extremes.— Maximum discharge during year, 23,900 second-feet Mar. 12; maximum gage height, 11.04 feet Feb. 16 (ice jam); minimum mean daily discharge, 606 second-feet Oct. 17. 1914-35: Maximum discharge observed, 38,100 second-feet Mar. 28, 1916 (based on discharge at Lyndon corrected for difference in drainage area); minimum mean daily, 440 second-feet Aug. 20, 1934.

Remarks.— Records good. Discharge estimated from power plant records for Mar. 14-29, and for periods of ice effect, Dec. 7-15, Dec. 24 to Mar. 2. About 100 second-feet diverted above gage to Illinois & Mississippi Canal. Some diurnal fluctuations from power plants upstream.

Rating tables, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to July 1

1.6	520	3.0	2,800	6.0	11,500
1.8	665	3.5	4,020	7.0	14,800
2.0	850	4.0	5,350	8.0	18,200
2.2	1,100	4.5	6,790	9.0	21,700
2.4	1,450	5.0	8,290	10.0	25,300
2.6	1,880	5.5	9,850		

Table for July 2 to Sept. 30

2.4	1,250	4.5	6,460
2.6	1,600	5.0	8,000
2.8	2,000	6.0	11,300
3.0	2,430	7.0	14,700
3.5	3,660	7.5	16,400
4.0	5,020		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,300	1,280	8,590	2,300	2,600	4,600	8,280	4,540	6,340	6,800	2,140	1,840
2	1,350	1,430	9,210	2,300	2,750	5,200	7,990	4,540	6,340	15,000	2,170	2,230
3	1,070	1,050	7,990	2,200	2,900	6,120	7,660	4,670	6,490	13,000	2,360	2,210
4	1,160	1,320	8,900	2,600	3,100	8,260	7,240	6,320	6,060	14,000	3,400	1,940
5	1,540	1,340	7,690	2,200	3,000	8,220	7,050	7,100	8,540	9,980	3,520	1,970
6	1,270	1,280	6,490	2,400	3,250	16,500	6,640	7,590	4,920	9,320	6,230	2,310
7	1,200	2,080	5,650	2,380	3,000	19,600	6,340	6,790	4,800	7,840	4,320	1,810
8	1,230	2,020	4,630	3,100	3,100	13,500	6,340	6,640	4,540	6,920	5,440	2,250
9	840	2,440	4,100	4,050	2,950	12,200	6,340	6,340	3,940	6,160	4,880	2,600
10	1,210	2,000	3,900	5,600	2,900	11,800	6,060	5,720	3,710	5,580	4,740	2,040
11	748	2,080	3,450	6,400	2,650	13,500	5,910	5,350	4,010	4,740	4,460	2,370
12	1,020	1,420	3,700	6,400	2,900	22,400	7,360	5,910	3,740	4,600	4,320	2,280
13	1,070	1,260	4,000	6,200	2,850	21,400	8,860	7,280	3,740	4,460	4,320	2,220
14	982	1,640	4,200	5,600	3,600	16,000	9,220	7,700	3,270	4,190	4,060	1,760
15	1,100	1,260	4,000	4,400	8,500	14,500	8,700	7,240	3,400	3,740	3,660	1,730
16	692	1,010	3,760	4,400	14,000	13,600	8,450	7,240	3,210	3,760	3,490	1,850
17	906	1,590	3,590	3,900	13,700	13,200	7,180	6,540	3,960	3,540	3,400	1,520
18	1,260	2,060	3,760	4,000	9,800	12,400	6,940	6,060	4,240	3,140	3,400	1,760
19	1,020	1,720	3,520	4,000	8,500	11,500	6,340	5,650	6,300	2,810	3,320	1,770
20	880	2,220	3,690	4,000	7,800	11,700	6,060	5,070	6,340	2,490	3,560	1,840
21	1,300	2,990	3,520	3,800	7,500	12,200	5,770	4,940	6,340	2,640	4,330	1,730
22	1,200	4,150	3,760	3,500	7,100	11,700	5,490	4,940	6,200	2,700	3,970	1,510
23	1,340	4,600	2,790	3,100	6,400	10,200	5,210	4,670	5,770	2,790	3,440	1,500
24	1,540	5,910	2,950	3,000	5,850	10,400	4,940	4,410	5,350	3,450	3,510	1,340
25	2,020	6,340	2,700	2,800	5,300	10,300	4,940	4,020	4,670	2,980	3,120	1,760
26	2,420	6,340	2,350	2,750	4,800	9,600	4,800	3,760	4,540	2,960	3,120	1,740
27	1,690	7,090	2,400	2,750	4,200	9,400	4,670	3,760	5,740	2,330	2,540	1,700
28	1,560	7,090	2,400	2,700	4,300	9,300	4,540	4,400	5,520	2,070	2,300	1,330
29	1,650	6,940	2,600	2,600	-	9,400	4,410	6,140	6,320	2,200	2,210	1,480
30	914	7,390	2,550	2,500	-	8,900	4,410	7,200	6,060	2,120	2,250	1,380
31	1,360	-	2,400	2,550	-	8,590	-	6,520	-	2,150	1,960	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	38,382	2,420	606	1,238		
November.....	91,540	7,590	1,010	3,051		
December.....	135,440	9,210	2,350	4,369		
Calendar year 1934.....	755,811	9,210	440	2,071		
January.....	111,130	6,400	2,200	3,585		
February.....	149,300	14,000	2,600	5,332		
March.....	366,990	22,400	4,600	11,840		
April.....	194,220	9,220	4,410	6,474		
May.....	179,330	7,700	3,760	5,785		
June.....	158,400	8,320	3,210	5,113		
July.....	160,460	15,000	2,070	5,176		
August.....	109,970	6,230	1,960	3,547		
September.....	56,670	2,500	1,330	1,856		
Water year 1934-35.....	1,745,832	22,400	606	4,783		

Crawfish River at Milford, Wis.

Location.- Chain gage, lat. 43°6', long. 88°51', in sec. 4, T. 7 N., R. 14 E., at highway bridge on County Trunk Highway A in Milford, 1 mile below Rock Creek and 8 miles above mouth.

Drainage area.- 764 square miles.

Records available.- June 1931 to September 1935.

Extremes.- Maximum discharge observed during year, 2,650 second-feet Mar. 14 (gage height, 6.52 feet); minimum, 11 second-feet Oct. 20 (gage height, 1.32 feet).

1931-35: Maximum discharge observed, that of Mar. 14, 1935; minimum, 6.0 second-feet Sept. 19, 20, 1932, Oct. 8, 1933.

Remarks.- Records good except those for period of ice effect, Dec. 4 to Mar. 6, which are fair.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	38	458	64	51	122	840	386	85	143	62	79
2	38	24	580	56	46	143	751	442	74	209	87	74
3	31	25	555	52	56	209	638	498	140	306	386	66
4	26	75	655	57	59	409	554	470	128	470	666	59
5	18	68	555	57	70	808	526	582	146	470	840	64
6	59	102	506	59	54	1,140	470	666	140	498	900	54
7	39	94	482	70	46	1,620	414	694	122	498	960	48
8	30	88	409	79	48	1,930	442	666	105	414	840	50
9	32	18	360	79	41	2,120	331	751	97	275	840	60
10	30	91	312	79	41	2,320	266	780	95	246	751	43
11	29	68	294	82	40	2,380	386	840	93	223	610	43
12	29	38	231	77	44	2,510	610	780	69	232	610	42
13	30	68	197	79	42	2,580	554	840	63	179	498	59
14	22	28	184	79	44	2,650	526	780	54	134	470	50
15	22	22	132	64	79	2,580	638	780	70	119	414	41
16	15	25	140	52	75	2,510	610	666	72	95	414	50
17	18	22	136	82	82	2,510	554	582	93	66	414	53
18	36	44	115	85	112	2,510	526	526	95	63	358	48
19	21	52	105	82	122	2,180	526	414	117	56	386	62
20	14	45	96	75	140	2,060	498	386	223	50	358	57
21	66	56	99	59	154	2,060	470	331	306	49	358	83
22	64	226	94	52	147	2,000	414	280	358	59	331	81
23	35	257	75	46	136	1,930	386	261	358	62	290	57
24	19	312	70	46	129	1,750	368	223	331	58	232	68
25	44	312	66	51	143	1,620	414	182	280	68	209	62
26	50	336	64	48	158	1,500	386	149	280	60	182	112
27	165	312	68	46	132	1,380	442	134	223	68	160	81
28	31	248	61	48	126	1,260	442	149	200	75	137	49
29	51	409	57	48	-	1,140	470	134	171	70	109	66
30	66	458	61	56	-	1,020	470	137	143	52	107	29
31	31	-	64	56	-	960	-	137	-	57	93	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				1,181	165	14	38.1	0.050	0.06			
November.....				3,961	468	18	132	.173	.19			
December.....				7,281	655	57	235	.308	.36			
Calendar year 1934.....				41,506	1,140	11	114	.149	2.03			
January.....				1,965	85	46	63.4	.083	.10			
February.....				2,417	168	40	86.3	.113	.12			
March.....				51,911	2,650	122	1,675	2.19	2.52			
April.....				14,912	840	266	497	.651	.73			
May.....				14,646	840	134	472	.618	.71			
June.....				4,731	358	54	158	.207	.23			
July.....				5,424	458	49	175	.229	.26			
August.....				13,062	960	62	421	.551	.64			
September.....				1,790	112	29	59.7	.078	.09			
Water year 1934-35.....				123,281	2,650	14	338	.442	6.01			

Yahara River near McFarland, Wis.

Location.- Water-stage recorder, lat. 43°30", long. 89°18'15", in SW¼ sec. 3, T. 6 N., R. 10 E., at upstream side of bridge on Federal Highway 51, about 400 feet downstream from outlet of Lake Waubesa and 1 mile southwest of McFarland. Prior to Dec. 22, 1934, chain gage at same site and datum. Zero of gage is 840.2 feet above mean sea level.

Drainage area.- 337 square miles.

Records available.- September 1930 to September 1935.

Extremes.- Maximum discharge during year, 370 second-feet Apr. 12, 13; maximum gage height, 5.29 feet July 12 (affected by aquatic growth); minimum discharge, 28 second-feet Oct. 12.

1930-35: Maximum discharge observed, 655 second-feet May 21, 1933 (gage height, 5.89 feet, affected by aquatic growth); minimum observed, 13 second-feet June 13, 1931, and June 17, 1934.

Remarks.- Records good. Stage-discharge relation affected by ice Dec. 5 to Mar. 2 and by growth of grass in the channel the greater part of the summer.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	42	223	138	114	128	347	234	96	50	80	122
2	31	42	245	128	110	148	347	246	108	56	82	122
3	32	53	245	122	108	158	347	246	114	56	86	118
4	31	77	256	122	106	179	347	245	116	56	86	120
5	30	75	234	124	104	267	347	234	112	64	84	118
6	28	69	212	122	106	267	347	234	104	75	102	110
7	29	69	212	118	108	267	324	223	94	77	120	108
8	26	64	212	122	110	267	324	223	84	73	128	108
9	27	59	212	124	112	267	324	223	73	67	148	110
10	28	66	201	126	113	290	324	223	69	66	158	104
11	26	64	201	124	115	324	347	223	73	66	158	96
12	31	55	201	126	117	324	370	223	64	75	158	90
13	31	68	190	126	119	324	370	223	56	69	158	90
14	27	50	179	138	121	324	347	212	49	63	158	88
15	28	60	168	128	123	324	347	212	43	61	158	88
16	31	49	168	128	124	347	347	190	46	59	158	84
17	27	47	168	128	122	347	347	179	42	56	158	86
18	28	59	158	128	118	347	324	168	46	56	158	84
19	29	58	158	128	114	347	324	158	66	59	158	86
20	52	69	158	128	124	347	324	148	69	58	168	94
21	53	71	148	124	118	347	301	138	61	61	168	96
22	53	168	148	122	116	347	301	128	58	63	158	102
23	58	168	148	124	114	347	301	126	53	66	158	96
24	59	168	148	138	114	347	301	126	47	67	148	90
25	67	158	148	133	112	347	290	118	43	69	148	92
26	66	168	148	128	118	347	290	104	47	71	138	98
27	80	168	138	128	128	347	290	98	49	71	148	90
28	50	190	138	128	128	347	278	102	45	73	148	88
29	49	212	138	128	-	347	267	106	45	75	128	84
30	46	234	128	122	-	324	245	106	47	73	128	71
31	42	-	128	118	-	347	-	106	-	82	126	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....	1,232		80		26		39.7		0.118		0.14	
November.....	2,980		234		42		96.0		.285		.32	
December.....	5,559		256		128		179		.531		.61	
Calendar year 1934.....	29,779		256		13		81.6		.242		3.30	
January.....	3,921		138		118		126		.374		.43	
February.....	3,236		128		104		116		.344		.36	
March.....	9,387		347		128		303		.899		1.04	
April.....	9,689		370		245		323		.958		1.07	
May.....	5,523		246		98		178		.628		.61	
June.....	2,019		116		42		67.3		.200		.22	
July.....	2,031		82		50		65.5		.194		.22	
August.....	4,260		168		80		137		.407		.47	
September.....	2,933		122		71		97.8		.290		.32	
Water year 1934-35.....	52,670		370		26		144		.427		5.61	

Pecatonica River at Freeport, Ill.

Location.- Water-stage recorder, lat. 42°18'13", long. 89°36'57", in T. 27 N., R. 8 E. Fourth principal meridian, on Illinois Northern Utilities Co. property at extension of North Adams Street in Freeport. Zero of gage is 743.18 feet above mean sea level (general adjustment of 1929). Prior to Jan. 15, 1935, chain gage at different datum on highway bridge 2,400 feet downstream.

Drainage area.- 1,330 square miles.

Records available.- September 1914 to September 1935.

Average discharge.- 21 years, 932 second-feet.

Extremes.- Maximum discharge during year, 5,100 second-feet Mar. 11; maximum gage height, 12.49 feet Mar. 9 (affected by ice); minimum mean daily discharge, 204 second-feet Oct. 19.

1914-35: Maximum discharge observed, 18,400 second-feet Mar. 18, 1929 (gage height, 19.78 feet, former site and datum); minimum observed, 98 second-feet July 3, 1934 (gage height, 2.84 feet, former site and datum).

Remarks.- Records good. Stage-discharge relation affected by ice Dec. 6 to Jan. 8, Feb. 15-26, Mar. 5-10.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 14

4.0	266	6.5	722	10.0	1,980
4.5	350	7.0	842	11.0	2,280
5.0	435	7.5	987	12.0	2,660
5.5	524	8.0	1,150	13.0	3,090
6.0	618	9.0	1,510	14.0	3,570

Table for Jan. 15 to Sept. 30

2.0	170	4.5	1,000	9.0	3,000
2.5	318	5.0	1,180	10.0	3,500
3.0	482	6.0	1,570	11.0	4,200
3.5	652	7.0	2,020	12.0	5,100
4.0	825	8.0	2,500		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	299	250	3,460	420	392	738	738	516	550	601	499	344
2	384	234	3,410	410	401	1,300	720	567	582	703	516	350
3	316	250	3,000	400	428	2,400	703	930	738	689	516	356
4	286	367	2,460	400	550	2,900	686	1,300	772	584	424	366
5	250	580	1,770	400	703	3,570	652	1,110	703	635	445	382
6	234	618	1,210	400	686	3,750	635	930	567	720	842	376
7	219	506	750	400	635	4,140	618	808	567	790	878	353
8	234	401	800	650	482	4,700	601	738	499	772	908	388
9	219	333	800	1,960	445	4,900	584	666	533	533	652	414
10	219	333	800	2,180	428	4,900	550	669	499	482	465	392
11	234	333	700	1,880	421	5,000	860	669	516	482	448	366
12	234	250	710	1,660	411	4,900	1,620	703	533	465	482	340
13	234	333	640	1,180	414	4,520	1,570	1,040	567	448	417	321
14	250	250	570	956	465	4,280	1,300	1,110	499	465	395	334
15	234	266	530	584	1,250	3,620	1,000	790	482	445	372	331
16	219	250	500	533	1,900	3,000	825	686	465	434	366	340
17	234	299	500	686	1,900	2,650	755	652	533	421	337	334
18	234	299	540	703	1,700	2,210	720	618	635	414	392	312
19	204	333	500	618	1,440	1,660	686	567	666	404	382	331
20	219	542	450	567	1,380	1,450	669	584	790	395	465	300
21	658	1,120	490	567	1,300	1,490	652	601	790	414	618	324
22	956	2,700	460	482	1,220	1,450	618	550	652	533	618	344
23	658	3,220	440	465	1,250	1,380	618	584	550	434	465	309
24	401	3,270	430	434	980	1,220	601	533	516	438	414	321
25	350	2,960	430	421	1,040	1,180	567	567	516	414	588	328
26	350	2,260	430	398	830	1,110	584	499	567	404	376	321
27	234	1,350	430	404	652	955	550	499	738	404	363	318
28	333	2,070	430	392	669	955	567	652	686	395	366	321
29	367	2,700	420	404	-	930	601	652	669	392	337	315
30	401	3,090	420	404	-	860	584	584	669	379	340	318
31	250	-	420	388	-	772	-	584	-	408	321	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	9,894	956	204	319	0.240	0.28
November.....	31,777	3,270	234	1,059	.796	.89
December.....	28,900	3,460	420	932	.701	.81
Calendar year 1934.....	184,333	3,460	122	505	.380	5.15
January.....	21,746	2,180	368	701	.527	.61
February.....	24,372	1,900	392	870	.654	.68
March.....	78,720	5,000	738	2,539	1.91	2.20
April.....	22,434	1,620	550	748	.562	.63
May.....	21,978	1,300	499	709	.533	.61
June.....	18,139	790	465	605	.455	.51
July.....	15,477	790	379	499	.375	.45
August.....	14,667	878	321	474	.356	.41
September.....	10,249	414	300	342	.257	.29
Water year 1934-35.....	298,373	5,000	204	817	.614	8.35

Sugar River near Brodhead, Wis.

Location.- Chain gage, lat. 42°36'40", long. 89°23'50". in SW $\frac{1}{4}$ sec. 26, T. 2 N., R. 9 E., at highway bridge 2 miles above mouth of Jordan Creek and 2 miles southwest of Brodhead.

Drainage area.- 529 square miles.

Records available.- February 1914 to September 1935.

Average discharge.- 21 years, 357 second-feet.

Extremes.- Maximum discharge observed during year, 2,180 second-feet Mar. 12; maximum gage height observed, 7.08 feet Mar. 6 (backwater from ice); minimum discharge observed, 59 second-feet Oct. 16 (gage height, 0.27 foot).
1914-35: Maximum discharge, about 13,000 second-feet Sept. 13, 1915 (gage height, 11.4 feet, from flood marks); minimum, 45 second-feet Aug. 28, 1934 (gage height, 0.28 foot).

Remarks.- Records fair except those for period of ice effect, Dec. 6 to Mar. 6, which are poor. Flow regulated by operation of power plant in Brodhead.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

0.2	53	1.3	255	3.0	800
.4	72	1.6	313	3.5	1,080
.6	95	1.9	400	4.0	1,280
.8	127	2.2	493	5.0	1,800
1.0	166	2.6	633	6.0	2,460

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	177	1,450	177	200	300	370	260	223	273	327	145
2	260	145	1,080	166	200	313	300	400	223	430	327	188
3	235	166	985	145	200	493	313	493	286	672	188	260
4	200	188	1,180	118	273	1,030	300	461	286	633	235	260
5	177	400	633	200	177	1,630	313	430	235	526	260	260
6	166	370	450	188	177	1,630	327	461	211	526	400	223
7	110	313	286	235	200	1,680	260	400	223	526	900	211
8	166	211	273	273	223	1,230	300	327	188	461	1,130	200
9	166	273	313	313	188	937	286	286	166	461	1,230	260
10	102	188	260	370	145	1,180	313	273	211	313	890	156
11	177	145	248	341	177	1,920	370	286	211	273	596	166
12	118	166	223	356	166	2,120	450	286	188	211	461	177
13	136	166	223	156	156	1,580	633	370	200	313	286	145
14	136	166	248	341	200	1,130	596	356	200	260	211	156
15	145	188	223	385	430	672	461	286	188	260	235	177
16	83	188	166	341	633	633	327	260	188	235	273	188
17	156	156	235	370	756	633	260	260	235	235	327	136
18	136	156	200	300	560	596	300	255	300	166	313	166
19	156	211	200	235	430	560	327	188	461	156	260	188
20	200	260	223	156	400	526	300	248	596	188	286	200
21	273	341	235	248	596	560	273	260	560	145	385	156
22	370	890	211	260	400	560	286	260	526	211	327	166
23	273	1,920	200	200	341	526	273	260	266	260	223	177
24	211	1,680	145	188	300	493	248	248	260	286	223	156
25	200	985	118	188	356	461	211	248	235	223	166	166
26	211	633	188	188	356	461	223	166	248	177	166	145
27	188	430	145	200	313	400	211	200	273	200	177	136
28	145	672	177	211	273	327	211	248	327	200	200	177
29	156	937	136	166	-	300	273	248	385	166	188	188
30	166	1,430	145	248	-	313	286	235	356	156	246	177
31	145	-	166	235	-	313	-	235	-	200	200	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	5,636	370	83	182	0.344	0.40
November.....	14,141	1,920	145	471	.890	.99
December.....	10,925	1,430	118	352	.665	.77
Calendar year 1934.....	77,956	1,920	51	214	.405	5.48
January.....	7,478	385	118	241	.456	.53
February.....	8,826	756	145	315	.595	.62
March.....	26,507	2,120	300	923	1.56	1.80
April.....	9,581	633	211	319	.603	.67
May.....	9,174	493	166	296	.560	.65
June.....	8,475	596	166	282	.533	.59
July.....	9,342	672	145	301	.569	.66
August.....	11,538	1,230	166	372	.703	.81
September.....	5,506	260	136	184	.348	.39
Water year 1934-35.....	126,129	2,120	83	346	.654	8.88

Iowa River at Marshalltown, Iowa

Location.— Water-stage recorder, lat. 42°4', long. 92°54', in SW $\frac{1}{4}$ sec. 24, T. 84 N., R. 18 W., in Marshalltown. Zero of gage is 852.7 feet above mean sea level.

Drainage area.— 1,500 square miles.

Records available.— May 1915 to September 1927, February 1933 to September 1935. February to August 1903 at old dam site 1 mile above present station.

Average discharge.— 14 years (1915-27, 1933-35). 657 second-feet.

Extremes.— Maximum discharge during year (estimated), 12,500 second-feet Mar. 5 (gage height, 15.2 feet); minimum, 49 second-feet Nov. 2.
1915-27, 1933-35: Maximum discharge observed, 42,000 second-feet June 4, 1918 (gage height, 17.74 feet); minimum, about 2 second-feet Nov. 24, 1917.

Remarks.— Records good except those estimated for Dec. 17-28, Feb. 28, Mar. 1, and those for period of ice effect, Jan. 20 to Feb. 18, which are fair.

Rating table for Dec. 29, 1934, to Sept. 30, 1935, except period of ice effect (gage height, in feet, and discharge, in second-feet)

3.2	74	4.8	759	7.4	1,890	11.0	3,870
3.4	107	5.0	874	7.8	2,090	11.5	4,340
3.6	152	5.3	1,000	8.2	2,290	12.0	5,010
3.8	207	5.6	1,120	8.6	2,490	13.0	6,960
4.0	277	5.9	1,240	9.0	2,690	14.0	9,490
4.2	363	6.2	1,360	9.5	2,940		
4.4	472	6.6	1,520	10.0	3,210		
4.6	618	7.0	1,690	10.5	3,510		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	242	59	122	96	200	850	752	318	244	2,340	520	135
2	213	50	110	100	400	1,320	705	318	1,240	2,290	460	165
3	179	84	185	98	900	2,590	676	358	1,200	1,840	479	201
4	153	154	228	83	750	4,390	654	431	752	1,600	633	181
5	139	162	151	86	624	8,970	653	425	587	2,170	442	162
6	144	156	239	78	540	5,690	579	472	499	2,340	363	145
7	123	133	235	84	480	3,870	556	472	437	1,520	327	160
8	104	130	239	133	420	2,990	442	442	368	1,240	298	314
9	97	118	215	425	370	2,790	368	403	356	1,080	277	250
10	86	116	243	425	340	2,590	363	363	306	982	266	190
11	79	106	234	345	315	2,540	442	314	277	847	255	168
12	73	101	202	302	360	2,190	506	314	247	647	244	150
13	71	104	201	378	580	1,990	513	336	233	548	217	140
14	68	82	199	540	1,100	1,790	499	345	210	472	204	133
15	67	88	201	383	2,000	1,740	442	327	192	413	198	128
16	66	83	188	336	4,320	1,690	437	322	187	363	181	111
17	67	87	190	318	3,500	1,520	413	310	354	340	178	109
18	66	88	190	251	2,600	1,480	378	281	1,040	314	170	102
19	71	87	190	448	2,240	1,440	358	285	2,690	293	168	93
20	86	153	185	450	2,340	1,520	332	310	2,790	266	187	95
21	88	148	180	380	2,090	1,440	310	293	2,590	273	298	96
22	101	199	175	300	1,690	1,280	318	281	2,540	281	237	102
23	90	230	170	260	1,600	1,280	277	281	2,390	847	187	261
24	66	230	160	230	1,640	1,200	273	270	2,240	1,580	210	289
25	59	262	155	210	1,080	1,160	298	251	3,720	1,870	190	190
26	63	272	145	200	790	1,160	322	230	6,290	2,940	170	289
27	66	252	130	190	759	1,080	340	233	4,250	1,790	157	302
28	62	252	115	180	770	1,040	354	237	3,720	1,240	142	247
29	60	252	98	175	-	922	336	220	3,090	982	133	204
30	66	243	102	170	-	898	322	214	2,690	759	133	175
31	56	-	100	170	-	820	-	207	-	602	133	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	2,971	242	56	95.8	0.064	0.07
November.....	4,441	272	50	148	.099	.11
December.....	5,493	243	98	177	.118	.14
Calendar year 1934.....	35,340	1,160	12	96.8	.065	.88
January.....	7,824	540	78	252	.168	.19
February.....	34,798	4,320	200	1,243	.829	.86
March.....	66,230	8,970	820	2,136	1.42	1.64
April.....	13,178	732	273	439	.293	.33
May.....	9,863	472	207	318	.212	.24
June.....	47,689	6,290	187	1,590	1.06	1.18
July.....	34,869	2,940	266	1,125	.750	.86
August.....	8,057	633	133	280	.173	.20
September.....	5,263	314	93	175	.117	.13
Water year 1934-35.....	240,676	8,970	50	659	.439	5.95

Iowa River at Iowa City, Iowa

Location.- Water-stage recorder, lat. 41°39'30", long. 91°32'20", in sec. 15, T. 79 N., R. 6 W., 25 feet below the hydraulic laboratory of the State University of Iowa and 200 feet below Burlington Street highway bridge in Iowa City. Zero of gage is at elevation 39.00 feet, Iowa City datum, and 627.27 feet, mean sea-level datum.

Drainage area.- 3,230 square miles.

Records available.- June 1903 to July 1906, October 1913 to September 1935 in reports of U. S. Geological Survey; June 1903 to December 1932 in report of Iowa State Planning Board.

Average discharge.- 24 years (1903-5, 1913-35), 1,488 second-feet.

Extremes.- Maximum discharge during year, 8,710 second-feet Mar. 11 (gage height, 9.84 feet); minimum mean daily discharge, 73 second-feet Oct. 28, Nov. 2.

1903-6, 1913-35: Maximum discharge, 36,200 second-feet June 7, 1918 (gage height, 19.45 feet, former site and datum); minimum mean daily discharge, 10 second-feet Dec. 26, 1916; practically no flow Sept. 3, 1925, caused by regulation.

Remarks.- Records good except those estimated because of ice, Jan. 20-31, which are fair. Considerable fluctuation at low stages due to operation of power plant above station.

Rating tables, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Mar. 4

-1.1	40	.6	336
-.5	64	1.0	496
-.5	99	1.5	737
-.2	145	2.0	1,030
0.0	183	3.0	1,695
.3	252	5.0	3,295

Table for Mar. 5 to Sept. 30

0.4	310	2.0	1,100	6.0	4,570
.5	379	2.5	1,450	7.0	5,590
.5	454	3.0	1,840	8.0	6,650
1.0	538	3.5	2,240	9.0	7,730
1.3	680	4.0	2,680	10.0	8,950
1.6	844	5.0	3,580		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	142	747	252	360	1,750	1,680	760	1,140	7,890	1,800	462
2	105	75	415	261	459	2,510	1,520	905	2,030	7,670	1,600	454
3	265	291	689	229	1,140	2,480	1,450	1,080	3,580	7,650	1,450	593
4	281	157	578	238	1,060	3,340	1,380	1,600	3,400	7,560	1,310	555
5	209	193	423	179	1,220	4,460	1,310	1,340	2,590	7,010	1,200	692
6	270	112	529	211	1,420	5,040	1,240	1,200	2,320	5,470	1,310	529
7	110	152	322	222	1,380	6,460	1,140	1,140	1,920	3,770	1,170	499
8	213	135	289	1,090	1,280	7,340	1,060	998	1,640	3,580	1,060	830
9	158	122	586	1,140	1,150	7,380	1,100	954	1,420	3,400	998	732
10	220	193	335	951	910	7,710	1,060	934	1,510	2,860	1,800	760
11	160	102	357	794	726	8,550	1,290	874	1,200	2,320	1,480	655
12	92	108	366	753	747	7,630	1,450	844	1,030	2,080	965	625
13	170	130	456	1,070	970	6,530	1,360	1,060	934	1,840	816	578
14	74	164	429	1,090	1,620	5,210	1,280	965	903	1,600	760	491
15	120	153	418	1,030	3,270	4,100	1,200	844	874	1,480	690	468
16	109	132	460	1,003	3,090	3,610	1,140	787	787	1,420	611	589
17	158	137	398	1,190	2,780	3,310	1,060	787	1,140	1,310	606	606
18	101	306	441	920	2,780	3,040	1,030	732	3,100	1,200	539	465
19	106	328	460	1,120	2,860	2,950	965	706	5,800	1,100	499	385
20	243	786	400	1,220	2,780	2,860	934	706	5,690	1,140	1,440	385
21	325	516	438	1,350	2,780	2,680	934	732	5,170	1,030	2,930	540
22	392	481	430	1,190	2,780	2,590	874	732	4,770	1,280	1,520	374
23	202	498	419	880	2,780	2,530	844	732	4,470	2,160	998	357
24	171	503	352	820	3,040	2,500	787	706	4,270	3,040	732	330
25	173	481	324	760	3,200	2,860	760	706	4,270	3,220	690	320
26	190	477	399	640	2,920	2,680	732	616	6,550	3,770	552	411
27	196	485	310	480	2,030	2,410	706	630	6,680	3,040	597	307
28	73	945	339	400	1,700	2,240	706	1,730	6,680	3,220	560	589
29	149	675	305	300	-	2,000	706	2,240	6,900	3,560	508	411
30	122	703	284	370	-	1,890	760	1,820	7,560	3,220	487	353
31	115	-	264	350	-	1,760	-	1,310	-	2,160	454	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	5,307	392	73	171	0.053	0.06
November.....	9,576	845	73	319	.099	.11
December.....	12,788	747	264	413	.128	.15
Calendar year 1934.....	99,831	1,840	30	246	.076	1.04
January.....	22,560	1,350	179	728	.225	.26
February.....	53,192	3,270	360	1,900	.598	.61
March.....	122,430	8,550	1,750	3,948	1.22	1.41
April.....	32,478	1,690	706	1,065	.355	.37
May.....	31,228	2,240	616	1,007	.312	.35
June.....	99,678	7,560	787	3,333	1.03	1.15
July.....	101,980	7,890	1,030	3,290	1.02	1.18
August.....	32,137	2,930	454	1,037	.321	.37
September.....	14,402	760	307	480	.149	.17
Water year 1934-35.....	538,056	8,550	73	1,474	.456	6.20

Iowa River at Wapello, Iowa

Location.— Water-stage recorder, lat. 41°11', long. 91°11', in sec. 27, T. 74 N., R. 3 W., at highway bridge at east edge of Wapello, 15.4 miles above mouth of river.

Drainage area.— 12,480 square miles.

Records available.— February 1915 to September 1935.

Average discharge.— 20 years, 5,876 second-feet.

Extremes.— Maximum discharge during year, 35,500 second-feet Mar. 12 (gage height, 11.04 feet); minimum, 700 second-feet Oct. 1.

1915-35: Maximum discharge, 37,500 second-feet Mar. 19, 1929 (gage height, 16.22 feet); minimum, about 400 second-feet Dec. 15-17, 1916.

Remarks.— Records good except those for period of ice effect, Dec. 4 to Feb. 28, which are poor. Station operated in cooperation with Corps of Engineers, U. S. Army and Mississippi River Power Co. Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet) (Shifting-control method used Oct. 1 to Dec. 3)

0.0	1,120	2.0	3,900	7.0	17,510
.3	1,440	2.5	4,850	9.0	21,530
.6	1,780	3.0	5,900	9.0	25,800
.9	2,170	4.0	6,140	10.0	30,500
1.2	2,600	5.0	10,510	11.0	35,500
1.5	3,060	6.0	13,910		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	800	840	6,910	1,100	1,800	6,340	8,140	4,450	6,120	21,500	7,000	2,170
2	925	840	7,360	1,070	1,800	7,220	7,870	4,260	8,900	20,700	5,900	2,310
3	1,020	1,070	5,480	1,030	1,900	9,430	7,220	4,650	12,000	19,300	5,470	2,310
4	1,180	1,620	4,000	1,000	2,000	10,500	6,780	5,470	11,700	16,000	5,260	2,310
5	1,426	1,910	3,200	1,000	2,100	15,300	6,560	6,560	10,800	15,300	4,650	2,310
6	1,360	1,680	2,500	1,000	2,100	20,300	6,340	6,780	8,900	11,400	4,650	2,310
7	1,300	1,480	2,200	1,000	2,100	19,100	5,900	6,340	8,140	12,600	4,450	2,170
8	1,300	1,300	1,800	1,200	2,100	18,700	5,680	6,560	7,220	9,970	4,260	2,310
9	1,070	1,300	1,500	2,500	2,100	22,000	5,470	6,340	6,340	9,430	3,900	2,600
10	1,070	1,240	1,500	4,000	2,200	26,700	5,260	5,900	5,680	8,900	4,080	2,900
11	1,020	1,240	1,500	5,000	2,200	33,000	6,120	5,260	5,050	7,900	5,470	2,900
12	1,020	1,300	1,500	4,800	2,200	35,500	6,560	5,050	4,650	7,000	5,260	2,600
13	970	1,130	1,500	4,600	2,400	32,000	6,780	5,900	4,260	6,340	3,900	2,450
14	880	1,120	1,500	4,400	3,000	25,400	6,780	3,900	5,900	5,900	5,470	2,310
15	880	1,120	1,550	4,000	6,000	18,300	6,120	5,900	3,550	5,470	5,260	2,040
16	800	1,070	1,600	3,900	10,000	14,900	6,120	5,260	3,550	5,260	3,220	2,040
17	800	1,020	1,600	3,800	10,500	13,600	5,680	4,850	4,080	5,050	2,900	1,910
18	800	1,120	1,600	3,700	10,000	12,600	5,470	4,450	3,140	4,650	2,750	1,910
19	840	1,550	1,580	3,600	9,000	12,600	5,260	4,260	13,200	4,260	2,600	1,910
20	880	1,950	1,550	3,500	8,000	12,900	5,050	4,260	17,100	4,260	4,260	1,780
21	1,020	2,370	1,500	3,200	8,100	13,900	4,650	4,260	21,100	4,080	5,680	1,780
22	1,620	3,280	1,470	2,900	8,150	14,200	4,650	4,080	19,900	5,680	6,120	1,660
23	1,620	3,600	1,430	2,800	8,200	14,900	4,260	4,080	16,000	4,850	5,050	1,780
24	1,420	3,440	1,400	2,700	8,200	14,600	4,260	3,900	12,800	6,120	3,900	1,660
25	1,180	3,280	1,360	2,550	8,000	13,900	4,080	3,900	13,600	11,100	3,220	1,660
26	1,070	3,120	1,320	2,450	7,000	13,900	3,900	3,900	16,400	13,200	2,900	1,910
27	1,020	3,120	1,280	2,300	6,600	12,600	3,720	3,550	16,800	12,600	2,750	1,780
28	970	3,760	1,240	2,100	6,900	11,700	3,900	4,450	19,900	11,400	2,600	1,660
29	925	4,600	1,200	2,000	-	10,200	3,900	9,700	22,000	10,200	2,450	1,550
30	880	5,490	1,170	1,900	-	9,430	4,260	10,200	21,500	9,430	2,310	1,550
31	880	-	1,130	1,800	-	8,900	-	7,870	-	8,640	2,170	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	32,940	1,620	800	1,063	0.085	0.10
November.....	61,910	5,490	840	2,064	.165	.16
December.....	66,540	7,360	1,130	2,146	.172	.20
Calendar year 1934.....	523,379	7,360	531	1,434	.115	1.56
January.....	82,900	5,000	1,000	2,674	.214	.25
February.....	144,650	10,600	1,800	5,166	.414	.43
March.....	504,620	35,500	6,340	16,280	1.30	1.50
April.....	166,540	8,140	3,720	5,551	.446	.50
May.....	169,970	10,200	3,550	5,451	.437	.50
June.....	333,080	22,000	3,550	11,100	.689	.99
July.....	297,490	21,500	4,080	9,596	.769	.89
August.....	129,860	7,000	2,170	4,189	.336	.39
September.....	62,540	2,900	1,560	2,055	.167	.19
Water year 1934-35.....	2,052,040	35,500	800	5,622	.450	6.12

Ralston Creek at Iowa City, Iowa

Location.— Water-stage recorder, lat. 41°40'10", long. 91°30'40", in SE $\frac{1}{4}$ sec. 11 (revised), T. 79 N., R. 6 W., at bridge on State Highway 1 just outside city limits of Iowa City.

Drainage area.— 3.01 square miles.

Records available.— October 1932 to September 1935.

Extremes.— Maximum discharge during year, 570 second-feet June 26 (gage height, 6.00 feet); no flow at numerous times.

1933-35: Maximum discharge, that of June 26, 1935; no flow at times each year.

Maximum discharge since 1924, 851 second-feet Aug. 1, 1932 (gage height, 8.18 feet).

Remarks.— Records poor. Stage-discharge relation affected by ice Dec. 24 to Feb. 28, Mar. 6-9.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	2.54	0.02	0.07	18.5	0.60	0.17	10.3	2.08	0.12	0.11
2	0	0	1.25	.02	22.8	9.81	.45	.41	20.9	1.61	.10	.69
3	0	1.42	3.66	.02	7.32	2.40	.36	3.12	2.19	1.20	.10	.23
4	0	.28	2.14	.02	5.45	19.7	* .45	.55	1.24	2.29	.08	.12
5	0	.03	.85	.04	.15	2.54	* .46	.41	1.03	1.42	.06	.06
6	0	.01	.41	.14	.09	1.02	* .47	.32	1.23	.82	.25	.05
7	0	0	.41	2.96	.09	.50	* .48	.17	.85	.70	.08	.11
8	0	0	.36	21.7	.10	.50	* .49	.17	.75	.60	.06	2.99
9	0	0	.26	4.61	.08	.93	.50	.17	.70	.50	.42	.68
10	0	0	.07	2.62	.09	18.0	10.4	.17	.60	.41	.25	.28
11	0	0	.04	1.41	.18	3.41	2.22	.12	.50	.36	.07	.17
12	0	0	.19	5.26	15.4	1.69	1.31	.17	.41	.32	.06	.10
13	0	0	.46	7.84	17.3	1.23	1.03	1.20	.28	.28	.05	.08
14	0	0	.37	.44	23.0	1.04	1.59	.41	.17	.25	.05	.03
15	0	0	.60	.18	8.95	1.46	.60	.24	18.2	.28	.04	.07
16	0	0	.43	.39	1.16	2.05	.60	.30	.58	.28	.03	.41
17	0	0	.32	8.96	.49	1.14	.60	.28	9.56	.28	.02	.11
18	0	1.43	.32	.18	.41	1.14	.55	.15	32.7	.28	.03	.06
19	0	.04	.32	22.9	1.69	1.23	.36	* .36	4.46	.28	.03	.06
20	2.40	.02	.32	1.71	.69	1.42	.32	.41	1.97	.28	29.9	.04
21	.07	.89	.28	0	.34	1.14	.28	.19	1.82	.63	.21	.03
22	0	.84	.20	0	.11	.97	.24	.16	2.00	1.21	.10	.03
23	0	.22	.11	0	.72	.85	.28	.12	1.66	* .77	.07	.04
24	0	.04	.15	0	.43	.94	.24	.10	1.31	* .95	.05	.05
25	0	.04	.02	0	0	2.08	.17	.09	5.09	* .84	.05	.05
26	0	.06	.01	0	0	1.23	.17	.08	71.9	* .46	.28	.05
27	0	.57	.01	0	0	1.10	.17	.16	3.93	.33	.12	.04
28	0	3.66	.03	.05	.45	.90	.17	16.7	2.63	.16	.05	.03
29	0	.72	.07	.08	-	.75	.17	2.38	2.22	*11.0	.04	.02
30	0	5.00	.04	.07	-	.65	.09	1.89	5.17	.24	.05	.02
31	0	-	.03	.07	-	.60	-	1.03	-	.14	.05	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				2.47	2.40	0	0.080	0.027	0.03			
November.....				15.17	5.00	0	.506	.168	.19			
December.....				16.25	3.65	.01	.524	.175	.20			
Calendar year 1934.....				87.62	23.4	0	.24	.080	1.06			
January.....				81.69	22.9	0	2.64	.875	1.01			
February.....				107.37	23.0	0	2.84	1.27	1.33			
March.....				100.82	19.7	.50	3.25	1.08	1.25			
April.....				25.52	10.4	.09	.851	.283	.32			
May.....				32.20	16.7	.06	1.04	.345	.40			
June.....				206.35	71.9	.17	6.88	2.28	2.66			
July.....				31.98	11.8	.14	1.03	.343	.40			
August.....				32.76	29.8	.02	1.06	.351	.41			
September.....				6.70	2.99	.02	.223	.074	.08			
Water year 1934-35.....				659.28	71.9	0	1.81	.600	8.18			

* Estimated.

Cedar River at Mitchell, Iowa

Location.- Staff gage, lat. 43°19', long. 92°52', in sec. 8, T. 98 N., R. 17 W., at hydro-electric plant of Interstate Power Co. in Mitchell.

Drainage area.- 845 square miles.

Records available.- July 1933 to September 1935.

Extremes.- Maximum discharge during year, 3,440 second-feet Mar. 18, 17 (gage height, 88.3 feet); minimum, about 5 second-feet almost daily during low-water periods, when power plant was shut down.
1933-35: Maximum discharge 3,760 second-feet Apr. 4, 1934 (gage height, 89.7 feet); minimum, as stated above.

Remarks.- Records fair. Daily-discharge record furnished by Interstate Power Co.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

78.7	5	80.4	216	83.0	1,010
78.8	8	80.6	261	83.5	1,210
79.0	17	80.8	308	84.0	1,415
79.2	32	81.0	359	84.5	1,640
79.4	51	81.3	439	85.0	1,865
79.6	74	81.6	524	86.0	2,315
79.8	102	81.9	614	87.0	2,800
80.0	136	82.2	713	88.0	3,300
80.2	175	82.6	854		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	75	84	58	71	146	215	186	207	137	91	5
2	110	49	58	67	97	287	169	295	84	1,090	216	102
3	93	178	97	67	84	244	216	320	137	875	318	58
4	102	5	106	67	93	633	185	432	137	528	665	58
5	84	75	110	84	75	2,090	209	302	97	296	614	92
6	107	71	93	40	97	1,390	239	301	106	410	393	92
7	45	67	67	75	67	786	128	183	93	288	845	146
8	45	76	102	84	80	699	154	241	128	317	973	54
9	49	71	102	75	97	616	190	199	75	216	533	92
10	68	115	76	84	67	539	179	193	110	206	360	68
11	45	49	84	84	80	574	208	267	137	183	226	92
12	5	58	89	106	89	505	238	221	172	137	172	83
13	71	53	94	49	84	541	386	381	137	166	172	78
14	27	62	75	80	115	681	353	409	137	49	115	97
15	80	79	110	58	102	1,570	224	334	115	106	135	34
16	49	66	84	84	128	2,670	232	277	84	64	98	63
17	59	93	84	89	75	2,280	176	204	139	102	200	63
18	36	97	84	36	119	1,020	154	243	280	79	40	83
19	67	53	97	80	97	874	187	75	484	102	44	58
20	122	146	93	49	146	1,000	231	137	676	97	143	58
21	102	299	84	67	119	828	84	134	701	58	131	107
22	53	93	102	49	119	762	132	128	598	89	88	49
23	84	205	84	89	164	625	163	132	341	71	89	64
24	89	211	94	71	148	501	119	128	216	85	105	58
25	53	102	31	67	84	526	186	154	358	80	69	97
26	80	89	58	93	97	491	170	80	378	92	73	175
27	93	97	49	58	97	394	271	134	322	147	68	68
28	53	183	89	71	143	562	163	243	308	495	117	126
29	62	115	89	58	-	331	177	207	256	190	97	54
30	45	132	45	80	-	304	154	165	216	49	88	92
31	62	-	67	71	-	192	-	141	-	82	92	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....					2,114	122	5	68.2	0.091		0.09	
November.....					3,063	299	5	102	.121		.14	
December.....					2,580	110	31	83.2	.098		.11	
Calendar year 1934.....					39,064	3,660	5	107	.127		1.71	
January.....					2,190	106	36	70.6	.084		.10	
February.....					2,835	165	67	101	.120		.12	
March.....					24,461	2,670	146	789	.934		1.08	
April.....					5,872	386	84	196	.232		.26	
May.....					6,846	432	75	221	.262		.30	
June.....					7,229	701	75	241	.285		.32	
July.....					6,886	1,090	49	222	.263		.30	
August.....					7,370	973	40	238	.282		.33	
September.....					2,366	175	5	78.9	.093		.10	
Water year 1934-35.....					73,812	2,670	5	202	.239		3.25	

Cedar River at Janesville, Iowa

Location.- Chain gage, lat. $42^{\circ}39'$, long. $92^{\circ}28'$, in sec. 35, T. 91 N., R. 14 W., at highway bridge in Janesville, 3 miles above junction with Shell Rock River. Zero of gage is 870 feet above mean sea level.

Drainage area.- 1,660 square miles.

Records available.- April 1905 to September 1906, May 1915 to September 1927, November 1932 to September 1935.

Average discharge.- 14 years (1915-27, 1933-35), 631 second-feet.

Extremes.- Maximum discharge observed during year, 8,940 second-feet Mar. 5 (gage height, 8.79 feet); minimum discharge observed, 66 second-feet Oct. 29, Nov. 8, 9 (gage height, 1.16 feet).
1905-6, 1915-27, 1932-35: Maximum discharge observed, 27,700 second-feet Apr. 1, 1933 (gage height, 15.43 feet); minimum discharge observed, 28 second-feet Oct. 21, 1922.

Remarks.- Records good except those for period of ice effect, Dec. 2 to Mar. 1, which are poor. Diurnal fluctuation during low-water periods caused by operation of power plant at Waverly, 9 miles above station.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.1	52	3.0	1,270	7.0	5,700
1.4	139	3.5	1,720	8.0	7,380
1.7	272	4.0	2,170	9.0	9,360
2.0	452	5.0	3,170		
2.5	840	6.0	4,320		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	196	88	242	90	115	700	880	600	452	600	419	158
2	151	99	220	90	115	1,090	800	640	600	600	452	151
3	139	99	200	90	120	1,540	720	960	680	488	640	204
4	122	88	160	90	120	3,960	800	1,270	523	920	523	222
5	108	88	170	90	125	8,330	640	1,040	419	1,140	523	191
6	105	85	170	95	130	5,700	680	920	419	960	640	181
7	102	76	170	100	130	7,560	600	800	356	640	640	191
8	90	69	170	100	135	7,020	488	800	356	680	680	200
9	105	66	170	105	140	4,200	600	680	386	640	680	178
10	112	71	170	110	150	2,960	562	600	277	600	840	237
11	102	74	170	110	160	2,080	562	600	326	600	800	242
12	103	71	170	110	170	1,720	680	562	356	523	720	187
13	102	71	170	110	180	1,630	720	640	356	452	680	187
14	99	71	170	110	200	1,540	640	680	356	419	366	182
15	102	71	170	105	250	1,810	680	640	321	294	356	182
16	82	88	180	105	350	2,660	720	680	321	488	326	213
17	90	88	180	105	500	4,320	680	640	222	452	356	198
18	105	96	180	105	650	6,840	523	600	356	304	310	209
19	105	82	180	105	800	4,890	488	600	600	226	310	182
20	108	90	180	105	900	2,760	488	452	720	356	452	218
21	108	93	180	105	900	2,780	562	523	920	310	356	158
22	96	99	170	106	900	2,260	326	488	960	272	294	158
23	82	283	170	105	880	2,360	523	386	960	386	267	156
24	95	299	160	105	840	1,810	488	419	890	452	386	218
25	76	257	150	105	760	1,450	488	356	640	386	257	200
26	76	237	140	105	700	1,270	1,270	386	840	315	227	227
27	79	237	130	105	700	1,000	720	326	880	277	304	182
28	85	247	120	110	700	1,140	680	386	840	282	304	170
29	69	232	110	110	-	1,000	452	356	1,040	293	262	272
30	74	247	100	110	-	960	600	488	840	562	170	204
31	76	-	90	110	-	920	-	310	-	920	162	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	3,139	196	69	101	0.061	0.07
November.....	3,862	299	66	129	.073	.09
December.....	5,132	242	90	166	.100	.12
Calendar year 1934.....	70,838	10,100	48	194	.117	1.59
January.....	3,206	110	90	105	.082	.07
February.....	11,821	600	115	422	.254	.26
March.....	85,530	8,330	700	2,901	1.75	2.02
April.....	19,060	1,270	326	638	.383	.43
May.....	18,828	1,270	310	607	.366	.42
June.....	17,402	1,040	277	580	.349	.39
July.....	16,107	1,140	262	520	.313	.36
August.....	13,722	840	162	443	.267	.31
September.....	5,868	272	151	196	.118	.13
Water year 1934-35.....	208,077	8,330	66	570	.343	4.67

Cedar River at Cedar Rapids, Iowa

Location.— Water-stage recorder, lat. 41°58'15", long. 81°40'5", in sec. 28, T. 83 N., R. 7 W., in central part of Cedar Rapids, 500 feet (revised) above Eighth Avenue Bridge and half a mile below dam.

Drainage area.— 6,640 square miles.

Records available.— February 1903 to September 1935.

Average discharge.— 32 years, 3,010 second-feet.

Extremes.— Maximum discharge during year, 26,900 second-feet Mar. 8 (gage height, 10.38 feet); minimum, 178 second-feet Sept. 25 (gage height, 2.24 feet); minimum mean daily (estimated), 460 second-feet Jan. 5.
1903-35: Maximum discharge, 72,000 second-feet Mar. 19, 1929 (gage height, 20.1 feet); minimum, that of Sept. 25, 1935; minimum mean daily, 236 second-feet July 1, 1934.
Flood of June 1851 reached a stage of about 20 feet.

Remarks.— Records good except those for periods of ice effect, Dec. 7 to Jan. 7, Jan. 26-31, which are fair. Diurnal fluctuation caused by operation of power plant half a mile above station.

Bating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge in second-feet)

2.6	480	3.6	1,970	5.0	6,050	8.0	17,040
2.8	690	3.8	2,430	5.5	7,770	9.0	21,040
3.0	940	4.0	2,960	6.0	9,540	10.0	25,190
3.2	1,230	4.2	3,830	6.5	11,350	11.0	29,510
3.4	1,570	4.4	4,750	7.0	13,200		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,110	500	1,630	560	750	2,850	3,830	2,490	1,610	6,050	2,460	1,010
2	1,170	500	1,520	530	1,180	3,830	3,830	2,590	2,490	5,070	2,310	1,040
3	1,040	698	1,430	500	1,600	4,750	3,680	2,800	3,130	4,440	2,170	1,040
4	1,050	602	1,370	470	1,480	5,740	3,380	3,380	3,180	3,830	2,660	1,020
5	944	679	1,310	460	1,250	8,320	3,240	3,980	3,380	3,530	2,210	996
6	810	750	1,220	500	1,410	14,000	3,040	4,440	3,020	3,680	2,150	1,020
7	690	702	1,100	620	1,250	23,500	2,960	4,130	2,530	3,530	1,970	1,010
8	752	798	900	849	1,040	26,800	2,800	3,830	2,190	3,380	1,910	1,200
9	702	774	700	980	1,170	21,600	2,690	3,360	1,950	3,020	1,780	1,230
10	750	774	700	1,110	950	16,400	2,480	3,020	1,800	2,640	1,970	1,230
11	698	714	730	1,260	950	12,600	2,640	2,820	1,700	2,430	1,740	1,120
12	540	679	780	1,190	970	9,540	3,130	2,660	1,530	2,240	1,780	1,020
13	668	646	820	1,370	1,020	8,120	3,240	2,680	1,410	2,030	1,750	996
14	560	591	880	1,970	1,670	7,240	3,380	2,590	1,410	1,950	1,650	968
15	668	560	900	1,570	4,130	6,900	3,300	2,480	1,330	1,920	1,500	927
16	580	613	920	1,230	4,750	6,900	3,070	2,460	1,410	1,630	1,360	901
17	580	613	920	1,140	4,750	6,900	2,880	2,410	1,360	1,550	1,140	888
18	520	702	820	1,340	5,230	7,600	2,720	2,360	1,550	1,480	1,200	914
19	560	666	910	1,110	6,220	8,640	2,460	2,260	2,240	1,440	1,200	914
20	823	750	900	1,760	6,220	9,640	2,430	2,190	2,560	1,410	2,120	914
21	602	874	880	2,080	6,050	10,600	2,330	2,160	3,360	1,390	2,060	810
22	602	1,160	870	1,860	6,220	9,900	2,240	2,010	4,130	1,480	1,650	823
23	635	1,280	860	1,570	6,390	8,820	2,190	1,970	4,530	6,030	1,520	836
24	560	1,500	840	1,390	6,560	8,300	2,060	1,660	4,280	7,690	1,410	760
25	590	1,650	820	1,180	5,720	7,600	2,060	1,760	4,440	6,660	1,360	833
26	602	1,800	780	1,100	4,750	7,070	2,080	1,650	5,560	6,560	1,260	774
27	560	1,680	750	950	2,820	6,050	2,380	1,630	6,220	5,590	1,160	801
28	560	1,680	720	800	2,610	5,560	2,990	1,740	6,560	4,440	1,020	823
29	540	1,720	680	700	-	5,070	2,960	1,700	7,940	4,130	1,080	810
30	540	1,950	640	700	-	4,750	2,720	1,590	7,240	3,440	1,010	849
31	530	-	600	700	-	4,280	-	1,650	-	2,690	966	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	21,716	1,170	520	701	0.105	0.12
November.....	28,595	1,980	500	953	.144	.16
December.....	29,000	1,630	600	935	.141	.16
Calendar year 1934.....	280,800	6,440	236	769	.116	1.57
January.....	33,549	2,080	460	1,082	.163	.19
February.....	89,090	6,560	760	3,162	.479	.50
March.....	289,270	25,800	2,860	9,331	1.41	1.63
April.....	85,160	3,830	2,060	2,839	.428	.48
May.....	78,610	4,440	1,590	2,636	.382	.44
June.....	96,030	7,640	1,330	3,201	.482	.54
July.....	107,250	7,690	1,390	3,460	.521	.60
August.....	51,538	2,680	968	1,665	.250	.29
September.....	28,467	1,230	750	949	.143	.16
Water year 1934-35.....	938,275	25,800	460	2,571	.367	5.27

Shell Rock River at Greene, Iowa

Location.- Staff gage, lat. 42°54', long. 92°48', in sec. 1, T. 93 N., R. 17 W., at Interstate Power Co.'s hydroelectric plant in Greene.

Drainage area.- 1,375 square miles.

Records available.- July 1933 to September 1935.

Extremes.- Maximum discharge during year, 12,400 second-feet Mar. 5 (gage height, 97.5 feet); minimum, about 6 second-feet at numerous times when power plant was shut down. 1933-35: Maximum discharge, that of Mar. 5, 1935; minimum, that of 1935.

Remarks.- Records fair except those above 1,500 second-feet, which are poor. Gage-height record furnished by Interstate Power Co.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

90.0	3	91.2	272	92.6	1,430	95.5	7,950
90.2	13	91.4	376	93.0	2,020	96.0	9,000
90.4	36	91.6	466	93.5	3,060	96.5	10,100
90.6	71	91.8	636	94.0	4,250	97.0	11,200
90.8	121	92.0	802	94.5	5,600	97.5	12,350
91.0	186	92.3	1,100	95.0	6,900	98.0	13,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	18	40	51	47	364	565	399	213	725	150	73
2	64	40	77	36	59	405	510	429	238	695	163	95
3	64	91	98	36	21	1,060	586	902	249	506	193	95
4	42	18	62	28	51	4,730	564	1,000	201	463	182	106
5	64	62	94	58	51	11,800	517	811	134	395	179	84
6	75	55	94	21	44	6,840	517	717	134	373	150	99
7	20	40	91	44	58	2,000	495	649	119	265	150	104
8	64	47	98	51	44	1,250	454	595	126	334	140	73
9	53	45	84	44	74	1,130	393	532	90	312	134	95
10	42	55	91	51	36	735	385	517	182	268	199	95
11	53	26	98	74	58	640	421	470	111	262	96	73
12	53	40	77	74	44	614	607	501	95	238	163	84
13	64	47	84	28	66	656	662	564	129	225	129	73
14	31	33	84	44	68	677	620	551	118	162	140	117
15	42	40	84	56	96	946	599	465	81	196	140	62
16	53	40	116	27	106	1,310	422	438	74	131	140	62
17	53	44	98	56	117	1,120	438	375	126	167	140	84
18	31	33	88	58	158	1,090	438	371	236	137	107	84
19	31	62	98	66	220	1,430	344	262	852	143	118	73
20	108	95	91	6	422	1,160	352	340	886	143	173	72
21	31	95	91	44	556	977	285	260	740	115	184	62
22	64	151	84	36	631	845	361	264	611	131	118	95
23	53	175	77	6	491	770	284	201	386	118	118	73
24	86	138	91	36	754	640	315	240	464	133	107	73
25	53	117	55	28	517	698	362	203	615	111	118	62
26	76	145	21	51	390	673	414	172	774	107	95	73
27	69	120	74	28	597	900	532	256	682	142	128	151
28	18	120	44	36	411	853	470	156	594	134	95	173
29	40	106	58	91	-	701	406	232	537	204	84	106
30	33	126	28	6	-	648	312	185	469	242	95	95
31	47	-	21	6	-	626	-	178	-	153	117	-
Month	Second-foot-days				Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....	1,663				108	18	55.6	0.039	0.04			
November.....	2,224				175	18	74.1	.054	.06			
December.....	2,371				116	21	76.5	.066	.06			
Calendar year 1934.....	40,644				4,330	14	111	.081	1.08			
January.....	1,897				74	6	41.8	.030	.03			
February.....	5,995				754	21	214	.156	.16			
March.....	48,243				11,800	364	1,566	1.13	1.30			
April.....	13,609				662	284	454	.330	.37			
May.....	13,273				1,000	172	428	.311	.36			
June.....	10,276				888	74	343	.249	.28			
July.....	7,716				725	107	249	.181	.21			
August.....	4,235				199	84	137	.100	.12			
September.....	2,669				173	62	89.0	.065	.07			
Water year 1934-35.....	113,672				11,800	6	311	.226	3.06			

Lime Creek at Mason City, Iowa

Location.— Water-stage recorder, lat. $43^{\circ}10'$, long. $93^{\circ}11'$, in sec. 3, T. 97 N., R. 20 W., at Fourteenth Street highway bridge in Mason City. Wire gage at same site prior to Oct. 15, 1934, and staff gage at same site Oct. 16, 1934, to Mar. 21, 1935. Zero of gage raised Nov. 7, 1934, when artificial control was completed to 6.47 feet above that of former gage.

Drainage area.— 535 square miles.

Records available.— December 1932 to September 1935.

Extremes.— Maximum discharge during year, 2,520 second-feet Mar. 5 (gage height, 5.70 feet); minimum observed, 5 second-feet Oct. 8 (gage height, 6.18 feet, former datum). 1932-35: Maximum discharge, about 9,400 second-feet Mar. 30, 1933 (gage height, 22.15 feet, former datum, from gage reading at flood crest); practically no flow Aug. 30 to Sept. 1, 1933.

Remarks.— Records poor Oct. 1 to Nov. 6; fair Nov. 7 to Mar. 21; and good Mar. 22 to Sept. 30.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-14

6.1	2
6.2	6
6.3	15
6.4	26

0.8	6
1.0	13
1.2	28
1.4	43
1.6	70
1.8	116

2.0	184
2.2	274
2.4	400
2.6	600
2.8	760
3.0	850

Table for Nov. 7 to Sept. 30

3.2	950	4.8	1,890
3.4	1,050	5.2	2,170
3.6	1,170	5.6	2,450
3.8	1,290	6.0	2,730
4.0	1,410		
4.4	1,650		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	7.8	24	15	15	122	152	103	53	274	32	14
2	22	7.0	32	16	19	166	145	245	58	222	38	15
3	13	14	40	17	20	454	138	308	63	180	29	22
4	11	12	34	13	22	1,530	135	289	49	148	31	19
5	13	11	35	15	22	2,100	132	226	44	129	21	20
6	13	10	34	17	25	810	126	192	44	111	28	15
7	8.0	11	32	20	25	760	119	170	43	95	25	20
8	8.0	8.5	31	19	19	645	116	155	40	80	25	20
9	5.5	10	32	19	20	418	103	143	39	74	34	17
10	18	12	34	23	26	372	98	136	43	66	29	24
11	12	7.4	33	24	25	359	138	132	39	58	25	20
12	25	9.5	32	28	28	358	180	138	37	53	17	16
13	23	12	34	25	32	386	173	132	32	49	26	18
14	26	9.0	33	25	36	400	170	126	33	43	36	16
15	6.6	9.5	32	27	38	645	142	113	34	43	21	12
16	6.2	9.5	34	25	42	850	111	113	34	40	17	13
17	6.6	11	34	24	45	690	111	98	41	39	9.0	12
18	6.6	20	36	20	67	600	119	88	205	37	8.0	14
19	6.6	24	35	21	90	578	100	76	567	33	8.5	15
20	9.4	41	36	21	218	645	86	72	436	32	21	15
21	9.0	98	34	19	201	600	78	67	330	30	20	15
22	8.2	84	34	19	175	359	74	62	291	29	20	14
23	13	60	35	20	184	351	76	60	245	40	22	14
24	14	51	29	17	372	319	84	56	201	36	21	14
25	13	44	28	16	177	296	106	54	344	40	23	26
26	8.2	49	25	17	177	274	142	50	436	42	15	103
27	7.7	44	22	17	155	255	135	54	365	47	15	50
28	7.2	49	18	19	135	222	122	55	291	38	19	34
29	6.6	48	15	15	-	192	108	55	245	36	16	27
30	7.0	49	14	14	-	173	93	53	226	34	17	27
31	8.2	-	18	17	-	169	-	51	-	32	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square in mile	Run-off in inches
October.....	351.6	26	5.0	11.3	0.021	0.02
November.....	832.2	98	7.0	27.7	.052	.06
December.....	938	40	14	30.3	.057	.07
Calendar year 1934.....	10,792.8	845	2.5	29.6	.055	.75
January.....	604	28	13	19.5	.036	.04
February.....	2,408	372	15	86.0	.161	.17
March.....	16,086	2,100	122	519	.970	1.12
April.....	3,612	130	74	120	.224	.26
May.....	3,656	309	50	118	.221	.25
June.....	4,898	567	32	163	.305	.34
July.....	2,212	274	29	71.4	.133	.15
August.....	684.5	38	8.0	22.1	.041	.05
September.....	661	103	12	22.0	.041	.05
Water year 1934-35.....	36,943.3	2,100	5.0	101	.189	2.57

Clear Lake at Clear Lake, Iowa

Location.- Staff gage, lat. 43°8', long. 93°25', in sec. 14, T. 96 N., R. 22 W., at State Fish Hatchery at Clear Lake.

Records available.- May 1933 to September 1935.

Extremes.- Maximum stage observed during year, 3.45 feet Apr. 1-6; minimum observed, 1.84 feet Nov. 17.

1933-35: Maximum stage observed, 5.02 feet May 20, 22, 23, 1933; minimum observed, that of Nov. 17, 1934.

Remarks.- Gage readings discontinued during winter. No discharge from lake during year.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.88	1.78					3.45	-	2.44	2.76	2.40	1.90
2	1.86	1.80					3.45	-	2.44	2.76	2.38	1.90
3	1.86	1.82					3.45	-	2.42	2.76	2.36	1.88
4	1.84	1.82					3.45	-	2.42	2.76	2.34	1.88
5	1.84	1.82					3.45	-	2.42	2.74	2.32	1.86
6	1.84	1.80					3.45	-	2.42	2.72	2.30	1.86
7	1.82	1.76					3.42	-	2.40	2.70	2.28	1.86
8	1.80	1.74					3.42	-	2.40	2.70	2.26	1.85
9	1.80	1.72					3.42	-	2.40	2.68	2.24	1.85
10	1.78	1.70					-	-	2.40	2.66	2.25	1.84
11	1.76	1.68					-	-	2.38	2.66	2.24	1.84
12	1.74	1.68					-	-	2.36	2.60	2.20	1.82
13	1.74	1.68					-	-	2.36	2.56	2.18	1.80
14	1.74	1.68					-	-	2.36	2.52	2.16	1.80
15	1.74	1.66					-	-	2.36	2.50	2.10	1.80
16	1.74	1.66					-	-	2.40	2.48	2.08	1.79
17	1.74	1.64					-	-	2.44	2.46	2.08	1.79
18	1.74	-					-	-	2.50	2.46	2.06	1.79
19	1.74	-					-	2.68	2.56	2.44	2.06	1.78
20	1.72	-					-	2.68	2.66	2.44	2.04	1.76
21	1.72	-					-	2.66	2.70	2.44	2.06	1.76
22	1.74	-					-	2.54	2.70	2.44	2.08	1.76
23	1.76	-					-	2.54	2.70	2.42	2.06	1.76
24	1.76	-					-	2.52	2.68	2.42	2.04	1.75
25	1.50	1.90					-	2.52	2.68	2.42	2.02	1.74
26	1.80	-					-	2.52	2.74	2.46	2.00	1.74
27	1.80	-					-	2.50	2.74	2.46	1.98	1.74
28	1.80	-					-	2.48	2.74	2.44	1.94	1.74
29	1.80	-					-	2.46	2.72	2.44	1.92	1.72
30	1.80	-					-	2.46	2.74	2.42	1.90	1.70
31	1.80	-					-	2.46	-	2.42	1.90	-

Edwards River near New Boston, Ill.

Location.— Wire gage, lat. $41^{\circ}11'$, long. $90^{\circ}58'$, at quarter corner between secs. 21 and 28, T. 14 N., R. 5 W., about $1\frac{1}{2}$ miles northeast of New Boston and $2\frac{1}{2}$ miles above mouth. Zero of gage is 529.92 feet above mean sea level.

Drainage area.— 434 square miles.

Records available.— November 1934 to September 1935.

Extremes.— Maximum discharge observed during year, 2,600 second-feet Jan. 8 (gage height, 18.15 feet); minimum observed, 30 second-feet Sept. 21-23.

Remarks.— Records fair. Discharge estimated for periods of ice effect, Dec. 27 to Jan. 5, Jan. 21 to Feb. 1, Feb. 15. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

9.0	23	11.2	287	14.5	975
9.2	33	11.4	321	15.0	1,110
9.4	47	11.6	356	15.5	1,260
9.6	62	11.8	390	16.0	1,410
9.8	80	12.0	425	16.5	1,600
10.0	100	12.3	477	17.0	1,800
10.2	125	12.6	529	17.5	2,060
10.4	150	12.9	581	18.0	2,400
10.6	182	13.2	643		
10.8	215	13.6	741		
11.0	251	14.0	845		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	2,250	120	155	373	373	166	512	1,720	123	50
2	-	-	1,520	120	182	667	356	190	1,640	2,060	117	71
3	-	-	1,560	120	373	442	321	460	1,230	2,400	111	80
4	-	-	1,800	120	425	338	304	1,350	1,290	2,250	136	80
5	-	-	1,290	126	373	460	287	1,800	1,290	2,250	174	66
6	-	-	643	136	287	869	287	1,720	667	2,000	123	54
7	-	-	599	174	206	546	251	1,050	691	1,760	111	50
8	-	-	442	2,600	143	546	251	817	581	741	95	50
9	-	-	390	2,320	190	529	251	691	477	563	90	71
10	-	-	338	2,180	390	598	233	869	425	494	95	54
11	-	-	425	1,800	581	1,200	598	869	390	442	95	50
12	41	321	1,440	620	1,230	716	598	598	373	408	85	50
13	† 41	390	546	546	1,410	598	691	356	373	76	42	42
14	41	477	766	766	1,290	512	741	321	321	71	40	40
15	40	338	287	1,500	620	442	691	287	304	71	38	38
16	38	304	338	1,260	598	373	563	269	321	62	36	36
17	39	269	460	975	546	338	494	304	297	62	35	35
18	41	269	425	390	477	321	460	948	251	95	34	34
19	150	251	390	321	442	321	425	1,850	233	130	32	32
20	287	251	425	287	425	304	425	2,060	215	598	31	31
21	373	198	345	233	512	287	442	1,950	215	643	30	30
22	512	198	260	253	494	251	373	1,680	297	442	30	30
23	766	251	190	190	425	251	356	1,140	251	123	30	30
24	494	143	150	190	390	251	356	620	233	95	39	39
25	338	158	140	425	425	233	321	581	215	85	31	31
26	287	166	135	620	716	206	287	667	198	71	215	215
27	373	175	132	691	687	198	269	921	174	62	95	95
28	1,020	170	132	390	494	190	948	817	168	58	71	71
29	1,110	160	* 132	-	494	198	1,170	1,080	166	54	50	50
30	1,900	145	135	-	425	174	1,170	1,110	143	54	42	42
31	-	130	140	-	390	-	667	-	130	50	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	-	-	-	-	-	-
November 12-30.....	7,891	1,900	38	415	0.956	0.68
December.....	15,830	2,250	130	511	1.16	1.36
Calendar year						
January.....	16,495	2,600	120	532	1.23	1.42
February.....	12,942	1,500	143	462	1.06	1.10
March.....	19,038	1,410	338	614	1.41	1.53
April.....	9,676	716	174	323	.744	1.83
May.....	21,429	1,800	166	691	1.59	1.83
June.....	26,527	2,060	269	884	2.04	2.28
July.....	21,563	2,400	130	696	1.60	1.84
August.....	4,257	643	50	137	.316	.36
September.....	1,647	215	30	54.9	.126	.14
Water year						

* Discharge measurement.

† Interpolated.

Pope Creek near Keithsburg, Ill.

Location.- Wire gage, lat. $41^{\circ}8'$, long. $90^{\circ}55'$, in SE $\frac{1}{4}$ sec. 11, T. 13 N., R. 5 W., about 2 miles northeast of Keithsburg and 3 miles above mouth. Zero of gage is 524.07 feet above mean sea level.

Drainage area.- 171 square miles.

Records available.- December 1934 to September 1935.

Extremes.- Maximum discharge observed during year, 2,260 second-feet June 18 (gage height, 23.51 feet); minimum observed, 10 second-feet Sept. 20-22.

Remarks.- Records fair. Discharge estimated for periods of ice effect, Dec. 25 to Jan. 5, Jan. 16 to Feb. 14. Station operated in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	55	55	157	122	68	225	209	48	18
2			-	50	65	157	109	84	1,440	194	47	46
3			-	50	200	129	102	1,820	1,000	1,620	45	34
4			-	50	180	129	96	1,740	575	1,900	45	28
5			-	55	120	122	96	490	324	550	58	22
6			377	59	70	209	90	413	324	432	49	20
7			341	102	60	290	90	290	290	209	45	18
8			324	1,300	70	257	90	275	241	179	39	18
9			324	850	100	209	84	650	209	157	56	39
10			307	341	160	700	78	413	209	145	45	34
11			307	241	260	550	324	273	186	122	42	21
12			257	145	220	324	225	290	172	116	56	19
13			257	156	220	257	186	377	164	102	35	18
14			194	109	380	225	164	395	157	96	30	17
15			179	102	580	209	145	307	150	96	28	17
16			172	130	324	194	122	257	145	102	28	16
17			172	190	116	172	122	225	150	84	30	13
18			164	200	96	157	116	209	2,260	78	30	11
19			164	195	84	145	116	194	2,160	73	29	11
20			179	185	73	164	102	209	790	84	157	10
21				136	160	73	157	96	194	413	73	186
22				136	135	68	145	90	172	490	90	68
23				122	110	68	129	84	186	273	90	35
24				65	90	73	116	84	164	241	78	27
25				65	75	359	209	78	150	209	73	24
26			70	65	241	225	78	129	225	96	22	164
27			80	80	90	157	73	156	273	65	20	44
28			75	65	150	160	73	970	194	60	18	34
29			70	50	-	150	73	700	359	58	18	22
30			60	50	-	129	68	324	359	55	18	18
31			55	50	-	129	-	241	-	52	18	-
Month	Second-foot-days			Maximum		Minimum		Mean		Per square mile		Run-off in inches
October.....	-			-		-		-		-		-
November.....	-			-		-		-		-		-
December 6-31.....	4,650			377		55		179		1.05		1.02
Calendar year												
January.....	5,443			1,300		50		176		1.03		1.19
February.....	4,975			880		55		174		1.02		1.08
March.....	6,448			700		116		208		1.22		1.41
April.....	3,374			324		68		112		.655		.73
May.....	12,343			1,820		68		398		2.33		2.69
June.....	14,205			2,260		145		474		2.77		3.09
July.....	7,334			1,900		52		237		1.39		1.60
August.....	1,352			186		18		45.6		.255		.29
September.....	806			164		10		26.9		.157		.18
Water year												

Henderson River near Oquawka, Ill.

Location.- Wire gage, lat. 41°, long. 90°51', in sec. 33, T. 12 N., R. 4 W., on State Highway 94, 1 mile south of Bald Bluff and about 6½ miles northeast of Oquawka. Zero of gage is 541.83 feet above mean sea level.

Drainage area.- 428 square miles.

Records available.- December 1934 to September 1935.

Extremes.- Maximum discharge observed during period, 4,640 second-feet July 4 (gage height, 23.46 feet); minimum observed, 26 second-feet Sept. 22 (gage height, 10.45 feet).

Remarks.- Records fair. Discharge estimated for periods of ice effect, Dec. 25-31, Jan. 2-4, Jan. 27 to Feb. 1. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

10.4	24	12.2	165	14.6	466	18.5	1,155
10.6	34	12.4	187	15.0	526	19.0	1,260
10.8	45	12.6	209	15.4	588	19.5	1,385
11.0	57	12.8	232	15.8	652	20.0	1,510
11.2	71	13.0	256	16.2	720	21.0	1,760
11.4	87	13.2	282	16.6	790	22.0	2,240
11.6	105	13.6	330	17.0	862	23.0	3,590
11.8	124	13.9	369	17.5	957		
12.0	144	14.2	410	18.0	1,055		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	110	145	356	356	176	526	737	119	45
2			-	110	154	356	343	198	2,540	556	114	134
3			-	110	572	292	304	1,740	4,190	2,330	900	209
4			-	115	541	260	280	2,790	2,430	4,190	572	105
5			-	119	369	572	280	1,890	1,310	1,930	232	68
6			-	144	209	541	269	1,440	826	938	154	57
7			-	187	144	790	256	957	790	588	134	51
8			410	1,710	209	826	292	790	636	496	114	45
9			362	3,080	317	669	304	1,200	568	438	105	60
10			317	1,930	957	995	268	1,580	496	396	114	75
11			292	636	1,120	1,740	556	919	481	356	105	60
12			541	438	808	1,560	862	844	424	330	92	51
13			556	424	556	862	686	1,060	382	292	79	51
14			362	356	737	705	669	1,260	356	280	68	39
15			268	256	1,540	620	461	938	330	268	68	36
16			244	330	1,020	588	410	737	356	256	64	36
17			232	438	260	496	362	652	410	232	60	32
18			209	343	268	438	356	572	1,850	220	60	31
19			209	343	244	424	343	526	3,240	209	54	30
20			196	369	220	410	304	572	2,540	280	134	28
21			165	304	187	526	280	588	1,710	232	652	26
22			187	280	187	410	280	481	1,080	232	176	26
23			209	256	165	382	256	481	808	232	96	27
24			124	209	187	481	256	466	620	209	71	39
25			135	165	1,480	652	232	410	556	268	57	32
26			145	154	1,560	438	209	369	526	209	54	42
27			155	150	410	438	209	356	862	176	48	51
28			150	145	496	424	198	636	541	154	42	57
29			130	142	-	410	198	1,850	1,790	144	39	29
30			120	* 142	-	382	187	754	1,680	134	45	28
31			115	142	-	369	-	620	-	124	48	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				-	-	-	-	-	-			
November.....				-	-	-	-	-	-			
December 8-31.....				5,875	556	115	245	0.572	0.51			
Calendar year												
January.....				13,637	3,080	110	440	1.03	1.19			
February.....				15,082	1,560	144	539	1.26	1.31			
March.....				19,430	1,740	280	595	1.39	1.60			
April.....				10,305	862	187	344	.804	.90			
May.....				27,872	2,790	176	899	2.10	2.42			
June.....				34,842	4,190	330	1,161	2.71	3.02			
July.....				17,436	4,190	124	562	1.31	1.61			
August.....				4,670	900	39	151	.353	.41			
September.....				1,602	209	26	53.4	.125	.14			
Water year												

* Discharge measurement.

Skunk River near Ames, Iowa

Location.— Water-stage recorder, lat. $42^{\circ}4'6''$, long. $93^{\circ}37'2''$, in SW $\frac{1}{4}$ sec. 23, T. 84 N., R. 24 W., 2 $\frac{1}{2}$ miles north of Ames, 3 $\frac{1}{2}$ miles below Keigley Branch, and 5 miles above mouth of Squaw Creek.

Drainage area.— 320 square miles.

Records available.— July 1920 to August 1927, March 1933 to September 1935.

Extremes.— Maximum discharge during year, 2,960 second-feet June 25 (gage height, 8.41 feet); minimum, 1.4 second-feet Oct. 18 (gage height, 1.92 feet).
1920-27, 1933-35: Maximum discharge, about 3,540 second-feet Sept. 17, 1921 (gage height, 9.2 feet); no flow at times during June, July, and August 1934.

Remarks.— Records good except those estimated for Oct. 1, Sept. 29, 30, and those for periods of ice effect, Dec. 5-16, Dec. 25 to Jan. 4, Jan. 15 to Feb. 7, Feb. 14, 15, which are poor.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.9	1.12	2.8	91	4.6	904
2.0	2.65	2.9	114	5.0	1,120
2.1	5.7	3.0	140	5.5	1,390
2.2	10.6	3.2	205	6.0	1,660
2.3	17.6	3.4	282	7.0	2,200
2.4	27	3.6	376	8.0	2,740
2.5	39	3.8	478	9.0	3,280
2.6	54	4.0	582		
2.7	71	4.2	688		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	5.1	66	19	115	87	85	29	54	688	98	9.6
2	25	5.1	75	20	152	248	85	32	190	655	91	20
3	20	7.7	91	20	200	850	79	59	256	685	95	17
4	16	62	81	20	210	1,230	75	45	180	424	183	16
5	14	83	96	20	208	2,790	75	45	155	577	109	12
6	12	64	84	18	180	1,500	71	44	109	514	83	11
7	11	54	71	21	130	593	66	44	98	323	66	27
8	11	45	85	48	85	421	59	37	85	265	56	44
9	10	56	85	100	69	558	54	54	71	207	48	27
10	9.1	33	65	98	61	500	54	51	62	196	44	20
11	7.7	26	48	64	50	406	66	28	54	218	37	16
12	6.2	25	48	68	44	357	89	35	48	170	31	13
13	5.1	24	48	105	79	362	91	57	42	130	26	11
14	4.5	23	48	68	200	314	83	56	38	109	23	10
15	2.6	21	51	65	1,700	314	68	51	37	93	21	9.1
16	2.0	20	53	65	1,550	300	57	48	35	81	20	9.1
17	1.6	20	56	70	598	183	57	45	38	69	17	8.6
18	1.4	21	61	80	416	218	54	44	395	61	16	7.7
19	2.5	21	66	100	401	225	50	40	1,660	54	15	7.2
20	6.2	32	66	70	376	214	46	45	1,500	48	18	7.2
21	14	75	66	30	287	210	48	50	958	45	17	6.2
22	20	117	59	20	210	193	40	50	652	45	15	5.7
23	22	100*	52	20	210	196	38	59	457	117	13	23
24	18	85	38	20	183	177	34	68	328	340	11	40
25	14	83	40	20	57	203	27	66	2,250	608	10	19
26	7.7	87	31	20	54	193	37	57	2,580	442	10	53
27	6.2	96	28	25	87	170	37	57	2,040	305	8.6	38
28	5.7	102	27	30	79	140	34	51	1,750	210	7.2	29
29	5.4	107	25	35	-	114	32	44	1,120	158	7.2	26
30	5.4	90	22	50	-	100	28	40	769	124	8.2	24
31	5.4	-	20	75	-	89	-	38	-	102	7.2	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				326.7	55	1.4	10.5	0.033	0.04			
November.....				1,573.9	117	5.1	52.5	.164	.18			
December.....				1,750	96	20	56.5	.177	.20			
Calendar year 1934.....				7,486.54	420	0	20.5	.064	.67			
January.....				1,484	105	18	47.9	.150	.17			
February.....				7,889	1,700	44	285	.891	.93			
March.....				13,035	2,790	87	420	1.51	1.51			
April.....				1,717	61	27	57.2	.179	.20			
May.....				1,409	68	28	45.5	.142	.16			
June.....				17,959	2,580	35	599	1.87	2.09			
July.....				8,051	688	45	260	.812	.94			
August.....				1,209.4	183	7.2	39.0	.122	.14			
September.....				566.4	53	5.7	18.9	.059	.07			
Water year 1934-35.....				57,070.4	2,790	1.4	156	.488	6.63			

Skunk River at Coppock, Iowa

Location.- Chain gage, lat. $41^{\circ}10'$, long. $91^{\circ}43'$, in sec. 1, T. 73 N., R. 8 W., at highway bridge an eighth of a mile above Chicago, Burlington & Quincy Railroad bridge at Coppock and a quarter of a mile above junction with Crooked Creek.

Drainage area.- 2,890 square miles.

Records available.- October 1913 to September 1935.

Average discharge.- 21 years (1914-35), 1,362 second-feet.

Extremes.- Maximum discharge observed during year, 7,740 second-feet June 20 (gage height, 13.88 feet); minimum, 25 second-feet Oct. 18 (gage height, 2.00 feet).
1913-35: Maximum discharge observed, 25,200 second-feet June 15, 1930 (gage height, 22.13 feet); minimum, 18 second-feet Aug. 28, 1934 (gage height, 1.86 feet).
A stage of about 22 feet occurred on or about May 31, 1903.

Remarks.- Records fair except those for period of ice effect, Dec. 4 to Mar. 4, which are poor. Station operated in cooperation with Mississippi River Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	42	812	50	240	750	1,090	323	1,980	6,740	1,210	225
2	90	38	759	50	290	880	978	340	4,740	6,280	1,090	323
3	138	53	708	50	330	1,100	922	610	6,020	6,380	978	340
4	118	90	650	50	390	1,700	866	922	5,470	7,100	812	306
5	92	184	540	50	430	5,470	812	1,150	5,040	7,100	759	272
6	78	90	400	50	490	4,840	759	812	5,040	6,980	658	240
7	60	72	200	70	510	4,740	759	658	2,800	6,260	708	240
8	64	55	170	800	530	4,060	708	540	2,260	5,360	658	306
9	49	60	180	3,000	560	4,240	658	540	1,910	4,840	563	454
10	42	50	150	2,900	600	5,470	658	563	1,640	4,440	2,050	474
11	41	50	130	2,400	660	5,580	922	454	1,450	2,880	1,330	340
12	37	48	120	2,200	780	3,360	1,150	434	1,210	2,120	610	289
13	33	60	130	1,800	1,000	2,800	922	1,210	1,090	1,910	454	272
14	32	57	170	1,000	1,500	2,420	922	1,040	978	1,770	395	240
15	30	53	180	730	3,500	2,190	812	1,040	922	1,590	358	211
16	29	50	190	650	3,400	2,050	658	708	978	1,390	323	197
17	30	46	170	650	3,300	1,840	610	658	1,510	1,210	306	184
18	25	112	160	580	3,150	1,840	610	610	4,840	1,090	272	172
19	26	138	120	500	3,000	1,700	563	518	7,230	978	414	172
20	42	376	100	500	2,700	1,910	540	658	7,740	922	563	160
21	42	563	70	450	2,350	1,770	496	708	6,860	1,640	610	149
22	38	610	60	400	2,000	1,640	496	658	4,440	4,150	414	138
23	48	1,090	50	370	1,650	1,770	454	759	3,700	2,960	323	149
24	128	1,040	60	320	1,360	1,640	434	708	3,620	5,040	306	138
25	172	978	50	300	1,130	3,700	395	2,340	4,060	2,560	272	138
26	122	658	50	300	900	3,200	376	1,450	3,280	1,910	272	225
27	88	376	50	290	800	2,050	376	1,150	5,910	2,640	256	272
28	80	414	50	280	700	1,640	358	2,080	6,620	2,480	225	225
29	57	565	50	270	-	1,510	376	5,150	6,260	3,360	225	197
30	50	610	50	260	-	1,330	340	5,150	6,500	2,050	211	197
31	44	-	50	250	-	1,210	-	3,360	-	1,450	197	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				1,950	172	25	62.9	0.022	0.03			
November.....				8,625	1,090	38	288	.100	.11			
December.....				6,619	812	50	214	.074	.09			
Calendar year 1934.....				50,471	1,640	18	138	.048	.65			
January.....				21,470	3,000	50	693	.240	.28			
February.....				38,250	3,500	240	1,366	.473	.49			
March.....				80,400	5,580	750	2,594	.899	1.04			
April.....				20,020	1,150	340	667	.231	.26			
May.....				37,271	5,150	323	1,202	.416	.48			
June.....				116,098	7,740	922	3,970	1.34	1.50			
July.....				107,560	7,100	922	3,470	1.20	1.38			
August.....				17,822	2,050	197	575	.199	.23			
September.....				7,225	474	138	241	.083	.09			
Water year 1934-35.....				463,311	7,740	25	1,269	.439	5.98			

SKUNK RIVER BASIN

Skunk River at Augusta, Iowa

Location.— Water-stage recorder, lat. 40°46', long. 91°17', in NE¼ sec. 26, T. 69 N., R. 4 W., about a quarter of a mile southwest of Augusta post office and 12.2 miles above mouth. Prior to Jan. 15, 1935, chain gage at same datum 400 feet above present site. Zero of gage is 528.55 feet above mean sea level, Memphis datum.

Drainage area.— 4,290 square miles.

Records available.— September to November 1913, May 1915 to September 1935.

Average discharge.— 20 years (1915-35), 2,118 second-feet.

Extremes.— Maximum discharge during year, 16,400 second-feet June 2 (gage height, 15.21 feet); minimum observed, 16 second-feet Oct. 8 (gage height, 1.15 feet).
1913, 1915-35: Maximum observed discharge, 44,500 second-feet June 17, 1930 (gage height, 22.55 feet); minimum, 7 second-feet Aug. 27 to Sept. 1, 1934 (gage height, 1.0 foot).

Remarks.— Records good except those for period of ice effect, Dec. 8 to Mar. 1, which are poor, and those below 100 second-feet, which are fair. Station operated in cooperation with Corps of Engineers, U. S. Army, and Mississippi River Power Co.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.0	7	2.6	650	6.0	4,400	13.0	13,350
1.2	21	2.9	940	7.0	5,590	14.0	14,750
1.4	51	3.2	1,270	8.0	6,790	15.0	16,150
1.6	100	3.5	1,620	9.0	8,020		
1.8	167	4.0	2,200	10.0	9,520		
2.0	251	4.5	2,750	11.0	10,820		
2.3	415	5.0	3,300	12.0	11,950		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	42	2,860	60	500	1,400	1,560	501	5,640	6,910	1,920	256
2	42	42	2,040	60	500	1,560	1,430	582	16,300	7,030	1,740	587
3	167	42	1,740	60	550	2,140	1,250	7,150	13,900	6,790	1,800	780
4	62	1,740	2,860	60	600	2,860	1,180	4,600	10,800	7,270	1,600	659
5	42	1,220	1,560	60	700	5,950	1,120	2,480	8,280	11,800	1,180	457
6	16	415	1,160	60	800	7,150	1,040	2,200	6,790	12,600	984	373
7	116	355	1,220	100	750	6,190	1,010	1,800	5,830	9,450	860	328
8	86	229	400	1,200	700	5,470	962	1,500	3,740	6,910	840	355
9	62	100	200	4,000	800	8,710	920	2,420	2,970	5,710	920	373
10	62	86	180	5,000	900	7,030	930	2,530	2,580	5,110	962	443
11	62	73	160	4,500	1,100	9,580	1,430	1,680	2,200	4,400	2,530	616
12	42	86	160	4,000	1,200	6,670	1,680	1,450	1,920	3,190	1,800	471
13	28	51	180	3,600	1,400	4,630	1,860	2,530	1,740	2,420	984	344
14	34	51	200	3,100	2,500	3,520	1,560	4,400	1,560	2,200	650	328
15	34	51	220	2,600	3,500	3,080	1,350	3,300	1,390	2,040	549	295
16	34	51	220	2,700	4,500	2,750	1,140	2,480	1,390	1,800	549	295
17	34	51	200	2,500	5,500	2,530	995	1,920	2,970	1,560	565	251
18	34	51	200	2,450	5,000	2,310	920	1,620	10,900	1,400	501	242
19	51	187	150	2,350	4,600	2,200	880	1,500	14,300	1,280	668	225
20	34	229	120	2,200	4,000	2,200	860	1,680	14,800	1,200	731	225
21	51	355	100	1,900	3,500	3,080	800	2,580	14,600	1,130	870	199
22	42	940	100	1,700	3,000	2,640	722	2,090	13,200	3,660	830	195
23	42	1,270	80	1,500	2,700	2,090	677	4,990	7,150	5,640	590	207
24	51	1,050	60	1,300	2,400	2,040	668	5,830	5,710	9,840	429	191
25	51	1,320	60	1,200	2,100	4,690	608	5,110	5,230	6,630	344	203
26	100	1,100	60	1,050	1,600	5,230	590	3,740	7,030	3,630	338	300
27	207	940	60	900	1,300	3,630	574	2,360	6,430	1,680	511	457
28	167	1,220	60	800	1,300	2,640	533	4,020	7,030	2,970	295	450
29	100	1,220	60	700	-	2,140	501	7,030	7,030	2,970	285	373
30	86	3,740	60	600	-	1,920	525	7,890	6,790	4,990	271	290
31	51	-	60	600	-	1,740	-	6,790	-	2,860	276	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	2,024	207	16	65	0.015	0.02
November.....	18,307	3,740	42	610	.142	.16
December.....	16,770	2,860	60	541	.126	.15
Calendar year 1934.....	83,920	3,740	7	230	.054	.74
January.....	53,110	5,000	60	1,713	.399	.46
February.....	57,900	5,500	500	2,065	.482	.50
March.....	116,770	9,580	1,400	3,767	.878	1.01
April.....	30,615	1,980	501	1,020	.238	.27
May.....	100,793	7,890	501	3,251	.768	.87
June.....	210,200	16,300	1,390	7,007	1.63	1.82
July.....	147,270	12,600	1,130	4,751	1.11	1.28
August.....	26,972	2,530	271	870	.203	.23
September.....	10,768	780	191	359	.084	.09
Water year 1934-35.....	791,499	16,300	16	2,168	.606	6.86

Des Moines River near Jackson, Minn.

Location.- Chain gage, lat. 43°42', long. 95°3'. in sec. 28, T. 103 N., R. 35 W., 8 miles northwest of Jackson. Zero of gage is 1,304.85 feet above mean sea level (adjustment of 1929).

Records available.- August 1930 to September 1935. May 1909 to December 1913 comparable records at a site 8 miles downstream.

Extremes.- Maximum discharge observed during year, 500 second-feet June 24 (gage height, 4.07 feet, from flood marks); maximum gage height observed, 4.55 feet Mar. 17 (affected by ice); no flow Sept. 22-30.
1909-13 1930-35: Maximum discharge, 1,690 second-feet June 29, 1909 (gage height, 10.00 feet, former site and datum); no flow at times in 1931, 1934, 1935.

Remarks.- Records good except those for period of ice effect, Mar. 14-17, and those estimated July 6-9, Aug. 21, Sept. 18, which are fair. No records Oct. 1 to Mar. 13.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

0.4	0	1.2	22	2.8	211
.5	.6	1.4	38	3.0	241
.6	1.4	1.6	57	3.2	275
.7	2.6	1.8	79	3.4	315
.8	4.1	2.0	103	3.6	360
.9	6.5	2.2	129	3.8	410
1.0	10	2.4	155	4.1	500
1.1	15	2.6	183		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	136	103	85	116	42	2.9
2						-	136	142	78	122	52	2.9
3						-	122	162	76	116	55	3.2
4						-	122	162	76	116	46	2.9
5						-	122	148	74	110	41	2.9
6						-	116	148	69	103	41	2.6
7						-	110	142	65	96	36	2.8
8						-	110	136	56	90	29	2.4
9						-	110	129	60	83	60	2.1
10						-	122	129	65	76	29	1.9
11						-	148	129	67	74	20	1.4
12						-	155	129	65	62	20	1.2
13						-	176	122	60	58	17	1.1
14						183	155	122	56	52	12	.9
15						226	129	116	78	50	9.0	.9
16						295	110	110	56	48	5.8	.9
17						315	110	110	58	44	5.8	.6
18						211	103	97	103	42	5.8	.4
19						275	103	97	122	39	6.8	.2
20						295	103	97	142	37	8.2	.2
21						295	103	97	148	34	6.4	.1
22						275	97	91	129	36	4.6	0
23						257	91	85	97	37	3.6	0
24						241	116	85	240	44	2.6	0
25						226	122	79	270	54	2.6	0
26						211	169	78	190	54	2.6	0
27						197	176	97	176	52	2.5	0
28						190	155	97	136	48	2.4	0
29						176	136	91	122	44	2.6	0
30						162	110	85	116	39	2.6	0
31						148	-	85	-	42	2.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....						
November.....						
December.....						
Calendar year						
January.....	-	-	-	-		
February.....	-	-	-	-		
March 14-31.....	4,178	315	148	232		
April.....	3,773	176	91	126		
May.....	3,500	162	78	113		
June.....	3,135	270	56	104		
July.....	2,018	122	34	65.1		
August.....	579.7	60	2.4	18.7		
September.....	34.5	3.2	0	1.15		
Water year						

Des Moines River near Boone, Iowa

Location.— Water-stage recorder, lat. 42°4'40", long. 93°55'55", in NW¼ sec. 24, T. 84 N., R. 27 W., at dam of Boone Water Department, 2 miles northwest of Boone and 2 miles above Bluff Creek. Zero of gage is 871.52 feet above mean sea level. Prior to Feb. 7, 1935, staff gage at same site. Gage datum raised 0.41 foot Oct. 1, 1934.

Drainage area.— 5,490 square miles.

Records available.— October 1933 to September 1935 at present site; April 1920 to September 1924 at site 1.3 miles upstream; October 1924 to September 1927 at site a quarter of a mile upstream.

Extremes.— Maximum discharge during year, 17,000 second-feet June 26 (gage height, 11.30 feet); minimum observed, 77 second-feet Oct. 21, 22, Nov. 11.

1920-27, 1933-35: Maximum discharge, that of June 26, 1935; minimum observed, 39 second-feet July 23, 1926.

Highest stage since 1907, 17.44 feet, referred to datum established Oct. 1, 1934, occurred Apr. 2, 1933 (discharge not determined). A stage of 20.54 feet, former site and datum, occurred June 6, 1918 (discharge, about 32,000 second-feet).

Remarks.— Records good except those for discharges below 200 second-feet, which are fair, those estimated for Oct. 1-19, Nov. 28 to Jan. 2, and for period of ice effect, Feb. 16-18, which are poor. Some diurnal fluctuation during low stages due to operation of city power plant at Fort Dodge.

Rating table, water year 1934-35 except Oct. 1-19, Nov. 28 to Jan. 2, Feb. 16-18 (gage height, in feet, and discharge, in second-feet)

0.10	26	1.10	1,580	2.10	3,820	3.5	5,370	8.0	11,260
.30	169	1.30	2,100	2.30	4,100	4.0	5,850	9.0	12,930
.50	407	1.50	2,690	2.50	4,360	5.0	6,960	10.0	14,670
.70	725	1.70	3,180	2.80	4,710	6.0	8,260	11.0	16,470
.90	1,120	1.90	3,520	3.10	5,010	7.0	9,700		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	170	92	750	200	99	1,300	1,390	1,210	761	6,490	1,030	210
2	163	84	700	200	150	1,560	1,320	1,190	780	7,160	892	232
3	155	353	400	179	276	2,860	1,250	1,190	798	9,400	951	221
4	150	160	240	179	435	6,050	1,230	1,530	725	9,140	835	221
5	150	189	200	150	588	9,550	1,160	1,730	673	6,720	743	265
6	150	179	220	123	621	10,500	1,120	1,910	605	5,550	621	200
7	150	141	270	150	911	8,310	1,050	1,880	588	4,710	556	253
8	130	123	350	160	725	5,630	1,010	1,830	572	3,670	541	221
9	130	123	410	179	588	4,710	1,010	1,730	509	3,070	478	210
10	115	123	430	221	478	4,480	951	1,560	478	2,570	435	179
11	105	77	430	221	588	4,480	951	1,460	449	2,220	421	169
12	100	123	430	242	638	4,100	951	1,410	407	2,390	449	160
13	95	449	449	221	673	3,820	1,050	1,340	379	2,190	464	150
14	90	59	450	276	1,120	3,670	1,410	1,270	407	1,830	478	150
15	85	84	460	327	3,360	3,600	1,700	1,210	421	1,530	366	141
16	85	107	430	340	4,600	3,440	1,600	1,160	383	1,350	366	141
17	110	107	430	327	5,100	3,180	1,460	1,050	435	1,160	314	141
18	85	92	430	210	5,200	2,880	1,340	1,010	1,290	951	288	123
19	95	107	430	449	5,210	2,570	1,250	990	5,210	854	288	123
20	92	169	430	421	5,520	2,770	1,160	990	7,920	780	288	107
21	77	221	400	435	4,700	2,690	990	1,030	8,120	690	301	99
22	77	421	380	327	4,100	2,540	892	1,030	7,460	673	276	107
23	141	383	310	189	3,220	2,630	951	1,090	6,380	854	340	115
24	92	556	280	115	3,120	2,570	854	1,030	5,280	1,080	314	99
25	115	605	260	99	1,800	2,450	911	970	7,620	2,060	276	172
26	141	605	190	99	1,460	2,330	854	931	14,400	2,630	265	189
27	107	638	230	123	1,250	2,130	1,030	892	16,300	2,100	242	189
28	92	680	210	99	1,230	1,990	1,210	798	14,100	1,960	210	160
29	107	710	210	84	-	1,730	1,300	780	11,600	1,760	210	123
30	99	800	210	84	-	1,600	1,270	761	8,540	1,460	200	107
31	107	-	240	92	-	1,480	-	743	-	1,250	200	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October					3,560	170	77	115	0.021		0.02	
November					9,250	800	77	275	.050		.06	
December					11,259	750	190	363	.066		.08	
Calendar year 1934					119,096	6,290	51	326	.059		.82	
January					6,521	449	84	210	.038		.04	
February					57,760	5,520	99	2,063	.376		.39	
March					113,600	10,500	1,300	3,666	.668		.77	
April					34,625	1,700	654	1,154	.210		.23	
May					37,695	1,910	743	1,216	.221		.26	
June					123,590	16,300	379	4,120	.750		.84	
July					90,292	9,400	673	2,913	.531		.61	
August					13,638	1,030	200	440	.080		.09	
September					4,977	265	99	166	.030		.03	
Water year 1934-35					505,767	16,300	77	1,366	.252		3.42	

Des Moines River at Des Moines, Iowa

Location.- Water-stage recorder, lat. 41°35'18", long. 93°36'55" in sec. 4 (revised), T. 78 N., R. 24 W., at Walnut Street Bridge in Des Moines, a quarter of a mile below dam of Des Moines Electric Co. and two-thirds (revised) of a mile above mouth of Raccoon River. Zero of gage is 773.74 feet above mean sea level.

Drainage area.- 6,180 square miles.

Records available.- October 1902 to August 1903, October 1914 to September 1927, October 1932 to September 1935. May 1905 to July 1906 at Interurban Bridge, near Highland Park, 5 miles upstream.

Average discharge.- 15 years (1915-27, 1932-35), 1,904 second-feet.

Extremes.- Maximum discharge observed during year, 17,600 second-feet July 3; maximum gage height, 13.27 feet July 2 (backwater from Raccoon River); minimum discharge, 97 second-feet Oct. 18.

1914-27, 1932-35: Maximum discharge, about 41,500 second-feet June 7, 1918 (gage height, 16.5 feet); minimum mean daily discharge, 35 second-feet Dec. 31, 1923, and Jan. 1, 1924; zero flow has occurred at times since construction of dam above gage. Maximum stage known, about 23 feet in May 1903 (caused by backwater from Raccoon River; discharge not determined).

Remarks.- Records fair except those for period of ice effect, Jan. 19 to Feb. 1, and those for discharges below 200 second-feet, which are poor. Discharge for periods Mar. 5-9, June 19 to July 11, determined from staff-gage readings at dam a quarter of a mile upstream. Gage-height record furnished by U. S. Weather Bureau.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

0.0	85	0.8	259	1.7	836	4.0	4,330
.2	112	1.0	334	2.0	1,160	5.0	6,370
.4	149	1.2	434	2.5	1,800		
.6	198	1.4	570	3.0	2,550		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	212	139	836	276	120	1,280	1,600	1,160	1,050	12,000	1,400	294
2	198	139	788	227	172	1,660	1,530	1,160	1,530	11,700	1,220	314
3	185	149	740	227	259	2,550	1,400	1,160	2,390	17,200	1,100	294
4	172	259	380	198	570	3,760	1,340	1,160	1,600	14,500	995	294
5	172	314	314	198	651	11,500	1,280	1,340	1,280	14,900	995	276
6	172	243	276	198	651	12,000	1,220	1,660	1,160	11,100	940	259
7	172	227	259	198	836	12,400	1,160	1,800	1,050	8,800	836	276
8	172	198	212	198	988	10,300	1,160	1,800	940	6,460	700	294
9	149	185	294	227	888	8,240	1,160	1,730	836	5,080	651	314
10	149	172	466	243	836	6,160	1,050	1,600	788	4,110	570	276
11	129	160	434	227	651	5,740	1,100	1,530	740	3,960	534	259
12	120	160	434	259	570	5,320	1,100	1,460	651	3,220	497	227
13	112	149	466	294	651	5,120	1,100	1,400	610	3,050	497	212
14	104	149	497	334	940	4,720	1,160	1,340	570	2,550	466	198
15	104	139	497	294	*2,940	4,620	1,340	1,280	534	2,240	497	198
16	97	139	534	294	3,580	4,330	1,600	1,160	534	1,940	434	212
17	104	139	497	294	5,120	3,950	1,660	1,160	534	1,730	380	212
18	97	139	497	259	5,740	3,580	1,530	1,050	740	1,460	357	199
19	112	139	497	510	5,740	3,220	1,400	1,050	2,800	1,280	334	198
20	120	185	497	500	5,740	3,050	1,340	1,050	6,460	1,160	334	185
21	112	212	497	480	5,530	3,050	1,220	995	8,340	1,100	334	198
22	112	243	466	450	5,120	3,050	1,100	1,050	9,510	995	314	185
23	112	276	434	300	4,720	2,880	1,050	1,280	9,120	1,050	334	259
24	120	334	380	200	3,950	2,880	995	1,340	7,960	1,280	314	227
25	129	434	314	130	2,090	2,710	940	1,280	7,960	1,340	334	212
26	129	497	294	130	1,940	2,550	995	1,220	10,700	1,940	334	259
27	129	534	212	130	1,400	2,390	995	1,100	12,800	2,550	314	380
28	129	570	259	130	1,280	2,240	995	1,100	16,700	2,240	294	294
29	129	570	243	110	-	2,090	1,100	995	16,700	1,940	276	276
30	129	740	243	100	-	1,800	1,160	940	14,100	1,800	276	259
31	129	-	243	100	-	1,660	-	940	-	1,530	259	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	4,211	212	97	136	0.022	0.03
November.....	7,933	740	139	264	.043	.05
December.....	13,000	836	212	419	.068	.08
Calendar year 1934	129,688	5,140	56	355	.057	.79
January.....	7,715	510	100	249	.040	.05
February.....	63,573	5,740	120	2,270	.367	.38
March.....	140,760	12,400	1,280	4,539	.734	.85
April.....	36,780	1,660	940	1,226	.198	.22
May.....	39,280	1,800	940	1,267	.205	.24
June.....	140,707	16,700	534	4,690	.759	.85
July.....	146,225	17,200	995	4,717	.763	.88
August.....	17,120	1,400	259	562	.089	.10
September.....	7,539	380	185	251	.041	.05
Water year 1934-35	624,793	17,200	97	1,712	.277	3.78

* Discharge measurement.

DES MOINES RIVER BASIN

Des Moines River near Tracy, Iowa

Location.— Wire gage, lat. 41°16'55", long. 92°51'30", in sec. 19, T. 75 N., R. 17 W., at highway bridge in Bellefontaine, 1 mile east of Tracy, 3 miles above mouth of Cedar Creek, and 8 miles below mouth of English Creek. Prior to Feb. 13, 1935, chain gage at same site and datum. Zero of gage is 671.78 feet above mean sea level.

Drainage area.— 12,400 square miles.

Records available.— March 1920 to September 1927, March 1933 to December 1935 (discontinued).

Extremes.— Maximum discharge observed during period Oct. 1, 1834, to Dec. 30, 1935, 54,800 second-feet June 28 (gage height, 20.20 feet); minimum observed, 164 second-feet Oct. 18, 19, 1934 (gage height, 2.10 feet).

1920-27, 1933-35: Maximum discharge observed, that of June 28, 1935; minimum observed, 125 second-feet June 7, 8, 1934 (gage height, 1.98 feet).

Maximum stage since 1851, about 25 feet May 31, 1903 (discharge, about 100,000 second-feet).

Remarks.— Records good except those for periods of ice effect, Dec. 10, 1934, to Feb. 17, 1935, and Dec. 19-31, 1935, which are fair.

Rating table, 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet) (Shifting-control method used Sept. 25 to Dec. 31, 1935)

2.0	130	3.3	1,330	5.5	4,380	11.0	15,530	17.0	33,670
2.2	208	3.6	1,770	6.0	5,210	12.0	17,830	18.0	39,480
2.4	326	3.9	2,170	7.0	7,010	13.0	20,190	19.0	45,960
2.6	464	4.0	2,250	8.0	8,960	14.0	22,610	20.0	53,080
2.8	682	4.5	2,910	9.0	11,040	15.0	25,510		
3.0	918	5.0	3,610	10.0	13,240	16.0	29,220		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,260	281	1,400	400	600	2,400	3,040	1,770	5,730	26,900	3,040	599
2	918	246	1,480	450	600	2,910	2,780	1,910	20,200	25,200	2,650	856
3	620	240	1,050	400	640	5,210	2,650	2,040	26,500	30,100	2,910	1,050
4	476	235	1,260	330	730	6,820	2,520	2,040	20,200	40,700	2,520	856
5	460	240	1,260	400	800	13,700	2,520	2,040	11,700	36,600	2,290	750
6	378	385	1,050	420	1,050	18,100	2,400	2,040	5,730	30,100	2,170	661
7	326	716	569	610	1,400	19,200	2,290	2,170	4,540	24,200	1,910	630
8	300	540	417	780	1,560	18,800	2,170	2,400	3,910	14,200	1,910	856
9	268	442	559	920	1,700	15,300	2,170	2,520	3,320	10,600	1,630	1,050
10	257	408	680	981	1,700	10,200	2,040	2,400	2,910	8,760	1,770	1,050
11	262	378	920	860	1,700	8,560	2,170	2,290	2,780	10,800	1,630	796
12	224	333	860	800	1,770	9,160	2,170	2,290	2,400	9,560	1,330	738
13	199	333	860	700	1,910	7,580	2,170	3,760	2,290	6,450	1,190	672
14	162	288	860	690	2,040	7,010	2,170	3,910	2,040	5,730	1,120	599
15	182	281	920	540	3,610	6,090	2,040	3,180	1,910	5,040	1,050	559
16	173	281	920	510	7,000	6,090	2,170	2,780	2,040	4,380	1,050	522
17	173	282	920	860	7,960	6,090	2,290	3,180	2,910	3,910	1,050	484
18	168	661	920	920	7,960	5,560	2,520	2,650	8,360	3,610	918	467
19	164	672	920	920	7,960	5,380	2,400	2,170	25,200	3,180	964	459
20	540	2,400	920	1,910	7,580	5,040	2,290	2,650	26,500	3,180	918	434
21	1,260	2,040	860	2,800	7,390	4,870	2,290	4,380	19,500	3,460	918	442
22	1,050	3,040	800	2,400	7,390	4,870	2,170	3,320	16,700	4,540	856	450
23	442	2,910	680	1,630	7,010	4,800	2,040	4,220	16,700	9,360	761	2,520
24	400	2,040	680	1,260	6,270	4,380	1,770	12,100	15,800	7,390	727	4,670
25	442	1,190	500	980	5,380	4,870	1,700	11,700	19,200	6,820	705	2,040
26	578	918	490	700	3,320	4,380	1,700	6,270	36,000	3,910	705	1,050
27	356	856	490	600	2,520	4,220	1,630	4,380	50,900	4,700	682	984
28	262	1,120	500	600	2,910	4,060	1,630	5,650	51,600	4,380	661	1,120
29	240	1,560	520	600	-	3,760	1,560	10,600	37,700	3,610	630	1,050
30	294	1,700	500	600	-	3,460	1,630	8,560	28,800	3,320	599	856
31	513	-	500	600	-	3,180	-	9,780	-	3,040	599	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	13,157	1,260	164	424	0.034	0.04
November.....	26,986	3,040	235	900	.073	.08
December.....	26,265	1,480	417	815	.066	.08
Calendar year 1934.....	231,913	4,760	125	635	.051	.69
January.....	27,171	2,800	330	876	.071	.08
February.....	102,460	7,960	600	3,659	.295	.31
March.....	225,040	19,200	2,400	7,259	.585	.67
April.....	65,090	3,040	1,560	2,170	.175	.20
May.....	131,050	12,100	1,770	4,227	.341	.39
June.....	474,070	51,600	1,910	15,800	1.27	1.42
July.....	356,730	40,700	3,040	11,510	.928	1.07
August.....	41,883	3,040	599	1,351	.109	.13
September.....	29,469	4,870	434	982	.079	.09
Water year 1934-35.....	1,518,371	51,600	164	4,160	.335	4.56

Des Moines River near Tracy, Iowa

(Continued)

Discharge, in second-feet, for the period ending December 31, 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	761	3,610	2,170									
2	693	2,520	2,290									
3	588	3,760	1,770									
4	567	18,300	2,170									
5	531	12,100	1,700									
6	493	5,040	1,910									
7	467	3,320	2,170									
8	459	2,780	2,620									
9	459	2,400	2,400									
10	476	2,170	2,170									
11	467	2,040	2,040									
12	467	1,910	1,630									
13	459	1,770	1,260									
14	476	1,700	1,560									
15	467	1,560	1,700									
16	450	1,480	1,770									
17	493	1,480	1,770									
18	2,650	1,400	1,630									
19	2,290	1,400	1,400									
20	1,910	1,560	1,200									
21	1,400	1,560	1,200									
22	1,120	1,330	1,300									
23	984	1,260	1,300									
24	856	1,120	1,200									
25	784	1,120	1,160									
26	727	1,260	1,100									
27	693	2,780	1,100									
28	693	6,450	1,100									
29	693	3,320	1,100									
30	705	3,760	1,100									
31	984	-	1,100									
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				25,262	2,650	450	815	0.066	0.08			
November.....				96,260	18,300	1,120	3,209	.259	.29			
December.....				49,980	2,520	1,100	1,612	.130	.15			
Calendar year 1935.....				1,624,465	51,600	330	4,451	.359	4.88			
January.....												
February.....												
March.....												
April.....												
May.....												
June.....												
July.....												
August.....												
September.....												
Water year												

Des Moines River at Ottumwa, Iowa

Location.- Water stage recorder, lat. 41°, long. 92°24', in NE¼ sec. 25, T. 72 N., R. 14 W., at Vine Street Bridge, in Ottumwa. Zero of gage is 622.77 feet above mean sea level. Present gage is at same datum as former chain gage at Market Street, half a mile above present site.

Drainage area.- 13,200 square miles.

Records available.- March 1917 to September 1927, January 1929 to September 1930, March to September 1935, in reports of U. S. Geological Survey; March 1917 to September 1930 in report of Iowa State Planning Board. Comparable records at Eldon October 1930 to March 1935.

Average discharge.- 13 years (1917-30), 4,328 second-feet.

Extremes.- Maximum discharge during period, 53,200 second-feet June 28 (gage height, 15.45 feet); minimum, 150 second-feet Sept. 22 (gage height, 0.06 foot); minimum mean daily, 412 second-feet Sept. 22.
1917-30: Maximum discharge observed, 58,700 second-feet June 11, 1917 (gage height, 16.5 feet, former site); minimum mean daily, 195 second-feet Sept. 20-25, 1930.

Remarks.- Records excellent. Diurnal fluctuation at low stages due to operation of power plant above gage.

Rating table for Mar. 20 to Sept. 30, 1935 (gage height, in feet, and discharge, in second feet)

0.0	120	1.2	1,520	2.6	4,980	7.0	18,920
.2	232	1.4	1,920	3.0	6,110	8.0	22,400
.4	392	1.6	2,370	3.5	7,580	10.0	29,740
.6	602	1.8	2,860	4.0	9,090	12.0	37,760
.8	861	2.0	3,370	5.0	12,240	14.0	46,570
1.0	1,170	2.3	4,160	6.0	15,520	16.0	56,170

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	3,500	9,710	33,200	3,500		891
2						-	3,270	2,100	14,300	3,270		1,240
3						-	3,040	2,030	29,000	29,400		1,220
4						-	2,860	2,510	29,400	3,110		1,190
5						-	2,740	2,420	17,900	45,600		995
6						-	2,590	2,260	10,000	47,000	2,350	861
7						-	2,610	2,260	5,960	39,900	2,010	807
8						-	2,440	2,560	5,120	30,900	1,880	1,060
9						-	2,470	2,610	4,560	12,900	2,010	1,360
10						-	2,510	2,840	4,020	11,600	1,620	1,380
11						-	2,840	2,710	3,370	10,600	1,540	1,120
12						-	2,880	2,760	3,190	11,900	1,270	950
13						-	2,780	4,300	2,840	7,880	1,310	876
14						-	2,710	5,680	2,610	6,620	1,270	847
15						-	2,420	5,660	2,370	6,260	1,740	725
16						-	2,350	4,300	2,260	5,260	965	688
17						-	2,560	4,560	3,370	4,700	2,100	664
18						-	2,860	4,700	13,500	4,300	1,270	627
19						-	3,010	4,700	24,600	3,890	1,270	591
20						6,110	2,760	3,370	32,100	3,630	1,190	546
21						5,820	2,610	5,260	31,300	4,430	1,140	664
22						5,540	2,370	5,680	21,000	10,200	1,060	412
23						5,540	2,190	6,980	18,600	11,300	1,030	2,470
24						5,260	2,010	13,200	17,900	11,000	876	6,540
25						5,680	1,940	15,900	18,900	9,090	876	4,740
26						5,260	1,840	9,400	27,500	7,920	834	1,910
27						4,700	1,730	6,400	40,300	4,980	876	1,120
28						4,700	1,730	6,110	51,300	5,540	766	1,140
29						4,560	1,790	14,500	51,300	4,840	834	1,310
30						4,160	1,600	13,500	41,600	4,020	739	1,170
31						3,890	-	11,300	-	3,760	752	-
Month						Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches	
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 20-31.....						61,220	6,110	3,890	5,102	0.387	0.17	
April.....						75,030	3,500	1,600	2,501	.189	.21	
May.....						174,570	15,900	1,790	5,631	.427	.49	
June.....						540,480	51,300	2,260	18,020	1.37	1.53	
July.....						452,590	47,000	3,630	14,600	1.11	1.28	
August.....						49,208	3,500	739	1,587	.120	.14	
September.....						40,134	6,540	412	1,338	.101	.11	
Water year												

Des Moines River at Eldon, Iowa

Location.- Chain gage, lat. 40°55', long. 92°14', in sec. 27, T. 71 N., R. 12 W., at highway bridge in Eldon, Wapello County, about 1 mile above Soap Creek.

Drainage area.- 13,300 square miles.

Records available.- October 1930 to March 1935 (discontinued). Comparable records at Ottumwa March 1917 to September 1927, January 1929 to September 1930, March to September 1935.

Extremes.- Maximum discharge observed during year, 21,500 second-feet Mar. 8 (gage height, 11.28 feet); minimum, 92 second-feet Nov. 5 (gage height, 1.10 feet).
1917-27, 1929-35: Maximum discharge observed, 58,700 second-feet June 11, 1917 (gage height at Ottumwa, 16.5 feet); minimum, 44 second-feet June 11, 1934.
Maximum discharge since 1850 and probably in the last century occurred on May 31, 1903, and is estimated as 100,000 second-feet.

Remarks.- Records fair except those for period of ice effect, Dec. 7 to Feb. 20, and those for discharges below 300 second-feet, which are poor. Diurnal fluctuation at low stages due to operation of power plant at Ottumwa.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.0	68	2.2	735	4.0	3,060	10.0	16,990
1.2	120	2.4	940	5.0	4,870	11.0	20,430
1.4	189	2.7	1,290	6.0	6,500	12.0	24,150
1.6	282	3.0	1,660	7.0	8,600		
1.8	403	3.3	2,050	8.0	11,050		
2.0	554	3.6	2,470	9.0	13,840		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,920	202	2,050	555	640	2,760						
2	1,600	202	1,530	595	640	3,060						
3	995	237	1,410	515	785	4,330						
4	651	345	1,470	555	855	6,700						
5	545	178	1,290	515	940	10,000						
6	439	198	1,470	595	1,050	18,000						
7	390	262	1,110	735	995	20,400						
8	223	580	835	2,470	1,350	21,200						
9	293	588	475	2,610	1,290	19,700						
10	215	397	940	2,050	1,410	15,400						
11	215	262	890	1,530	1,660	11,000						
12	228	252	890	1,230	1,790	9,300						
13	219	316	835	1,350	1,920	8,600						
14	210	316	890	940	2,470	7,930						
15	215	242	995	1,660	4,500	7,300						
16	156	305	995	1,350	4,840	6,700						
17	228	299	940	735	5,930	6,700						
18	178	606	995	835	8,600	6,120						
19	206	1,230	1,050	1,170	8,150	6,120						
20	178	1,290	1,050	735	8,150	5,740						
21	193	3,210	1,050	1,600	7,930	5,380						
22	995	3,210	995	2,910	7,930	5,200						
23	1,110	4,160	995	2,760	7,510	5,200						
24	507	3,840	690	2,330	7,100	5,020						
25	371	2,610	690	1,790	6,500	5,200						
26	237	1,790	580	1,230	5,020	5,380						
27	735	1,170	580	940	3,680	4,330						
28	242	1,350	595	835	2,760	4,500						
29	288	1,920	520	785	-	4,330						
30	247	2,470	640	690	-	4,000						
31	185	-	595	640	-	3,680						
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				14,395	1,920	156	464	0.035	0.04			
November.....				34,037	4,160	178	1,135	.086	.09			
December.....				30,040	2,050	475	969	.073	.08			
Calendar year 1934.....				259,437	4,840	46	711	.053	.72			
January.....				39,240	2,910	515	1,266	.095	.11			
February.....				106,375	8,600	640	3,799	.286	.30			
March.....				249,280	21,200	2,760	8,041	.605	.70			
April.....												
May.....												
June.....												
July.....												
August.....												
September.....												
Water year												

Des Moines River at Keosauqua, Iowa

Location.- Water-stage recorder, lat. 40°44', long. 91°57', in sec. 36, T. 69 N., R. 10 W., at highway bridge in Keosauqua, a quarter of a mile above old dam site and Government locks.

Drainage area.- 13,900 square miles.

Records available.- May 1903 to July 1906, April 1910 to September 1935.

Average discharge.- 22 years (1913-35), 4,829 second-feet.

Extremes.- Maximum discharge during year, 54,400 second-feet June 29 (gage height, 15.90 feet); minimum, 137 second-feet Oct. 18 (gage height, -0.29 foot).
1903-6, 1910-35: Maximum discharge, about 97,000 second-feet June 1, 1903 (gage height, 27.85 feet); minimum, 72 second-feet Aug. 30, 1934 (gage height, -0.43 foot).
Flood of June 1, 1851, reached a stage of about 24 feet (discharge, about 80,000 second-feet).

Remarks.- Records good except those for periods of ice effect, Dec. 4 to Jan. 8, Jan. 11, Jan. 14 to Feb. 23, which are poor. Station operated in cooperation with the Corps of Engineers, U. S. Army, and the Mississippi River Power Co.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

-0.4	82	0.9	1,720	3.0	6,470	8.0	21,410	13.0	41,170
-0.2	198	1.2	2,350	4.0	8,950	9.0	25,060	14.0	45,590
.0	379	1.5	3,030	5.0	11,650	10.0	28,870	15.0	50,170
.3	730	2.0	4,160	6.0	14,680	11.0	32,890	16.0	54,910
.6	1,180	2.5	5,310	7.0	17,940	12.0	36,920		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,740	301	2,550	600	800	2,920	3,600	1,660	13,800	39,200	3,380	744
2	1,620	282	1,980	600	700	2,730	3,380	2,460	21,400	32,800	3,490	1,450
3	1,260	443	2,020	600	750	3,820	3,030	4,160	29,300	32,000	3,380	1,400
4	927	498	1,650	600	800	6,470	2,800	3,140	30,800	31,200	3,030	1,180
5	654	360	1,500	600	850	9,470	2,660	2,920	25,800	40,300	3,030	1,130
6	617	282	1,400	600	900	16,300	2,530	2,640	13,800	47,400	2,440	958
7	465	282	1,250	700	1,000	19,600	2,440	2,440	7,930	42,000	2,260	824
8	432	369	1,100	2,000	1,100	20,400	2,420	2,310	5,650	32,000	2,000	958
9	350	654	1,000	3,820	1,300	20,400	2,240	2,800	4,960	16,600	1,740	1,120
10	400	604	900	3,260	1,400	18,600	2,200	3,030	4,390	11,700	2,350	1,250
11	360	498	800	2,650	1,700	14,100	2,440	2,800	3,820	9,470	1,590	1,260
12	321	379	800	2,530	1,900	10,800	3,140	2,920	3,260	11,100	1,760	1,020
13	292	400	600	2,280	2,100	9,470	2,730	5,680	2,920	9,470	1,460	896
14	311	400	850	1,000	2,500	2,660	2,450	6,710	2,640	6,950	1,320	838
15	282	360	900	650	3,000	7,930	2,310	7,190	2,350	6,230	1,180	757
16	198	330	950	1,000	4,400	7,430	2,130	5,770	2,240	5,540	1,180	692
17	257	379	1,000	1,500	5,800	6,710	1,980	4,850	5,050	4,620	1,440	654
18	206	411	1,000	1,000	7,000	6,710	2,310	5,080	24,700	4,280	1,460	604
19	274	757	1,000	1,200	8,000	6,230	2,530	4,500	37,800	3,930	2,170	592
20	282	1,250	1,000	1,000	7,900	6,230	2,570	4,740	36,100	3,490	1,180	557
21	301	1,510	1,000	800	7,700	6,230	2,530	4,740	35,300	3,490	1,160	533
22	464	3,260	1,000	1,400	7,500	5,540	2,420	6,000	27,300	7,430	1,070	604
23	1,150	3,600	950	2,000	7,200	5,310	2,150	8,690	19,600	9,740	974	486
24	1,000	4,040	900	3,100	7,000	5,200	2,070	14,100	18,600	12,300	942	2,800
25	557	3,260	800	2,700	7,900	5,200	1,880	17,300	17,900	8,950	865	5,770
26	475	2,130	700	2,200	5,000	5,660	1,780	13,500	26,200	8,950	852	3,710
27	400	1,480	600	1,900	3,500	5,080	1,740	8,190	35,300	6,000	798	1,900
28	705	1,490	600	1,600	3,000	4,740	1,720	7,930	45,600	4,850	798	1,080
29	390	1,490	600	1,300	-	4,620	1,720	12,600	53,000	10,000	757	1,020
30	390	2,550	600	1,100	-	4,390	1,720	14,400	49,700	4,500	757	1,100
31	360	-	600	950	-	3,930	-	12,300	-	3,710	705	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	17,440	1,740	198	563	0.041	0.05
November.....	34,049	4,040	282	1,135	.062	.09
December.....	32,800	2,550	600	1,058	.076	.09
Calendar year 1934.....	272,229	8,740	72	746	.054	.74
January.....	47,240	3,820	600	1,524	.110	.13
February.....	102,500	8,000	700	3,661	.263	.27
March.....	260,910	20,400	2,730	8,416	.605	.70
April.....	71,650	3,600	1,720	2,388	.172	.19
May.....	197,540	17,300	1,660	6,372	.458	.53
June.....	607,220	53,000	2,240	20,240	1.46	1.63
July.....	469,200	47,400	3,490	15,140	1.09	1.26
August.....	51,518	3,490	705	1,662	.120	.14
September.....	37,897	5,770	486	1,263	.091	.10
Water year 1934-35	1,929,964	53,000	198	5,288	.380	5.18

Heron Lake outlet near Heron Lake, Minn.

Location.- Staff gage, lat. 43°48', long. 95°16', on line between secs. 21 and 22, T. 104 N., R. 37 W., 3 miles east of Heron Lake. Prior to May 17, 1934, staff gage at different datum half a mile downstream.

Drainage area.- 492 square miles.

Records available.- August 1930 to September 1933, October 1934 to September 1935.

Extremes.- Maximum discharge observed during year, 226 second-feet Mar. 17; maximum gage height, 3.30 feet July 5-7, 9 (affected by aquatic growth); no flow October to February, 1930-33, 1934-35; Maximum discharge, about 500 second-feet during estimated period Apr. 1-8, 1932; no flow for several periods during 1931, 1933-35.

Remarks.- Records poor. Stage-discharge relation affected by ice Mar. 1-16 and by aquatic growth May 1 to Sept. 30. Discharge estimated for February.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	6.0	91	65	58	44	31	1.2
2					0	3.5	82	96	54	49	30	1.2
3					0	2.9	78	91	54	48	28	1.8
4					0	12	73	86	51	48	14	1.8
5					0	7.8	69	78	37	48	13	1.9
6					0	6.6	65	78	34	48	11	1.6
7					0	2.0	65	78	30	44	9	1.8
8					0	1.3	65	82	28	41	7.5	1.6
9					0	1.5	62	78	27	41	9	1.6
10					0	3.5	62	75	28	38	13	1.6
11					0	17	82	78	26	36	14	1.3
12					0	38	82	86	24	33	15	1.0
13					0	73	73	82	20	33	13	.9
14					0	100	73	82	20	30	11	.7
15					0	91	73	82	21	24	8.7	1.0
16					0	131	65	78	21	25	2.8	.8
17					0	226	65	78	19	24	2.0	.8
18					0	188	62	78	19	26	1.5	.9
19					0	200	58	78	31	27	1.8	.8
20					0	176	62	73	32	27	1.5	.9
21						200	62	69	32	28	1.6	.8
22						188	58	65	32	30	2.0	.7
23						188	65	65	33	31	1.9	.7
24						176	78	58	34	33	1.6	.6
25					2	153	91	58	38	35	1.2	.6
26						153	91	58	38	38	1.2	.6
27						131	82	62	41	38	1.0	.5
28						120	73	58	41	38	.9	.5
29					-	91	65	54	41	38	.9	.2
30					-	96	62	51	41	38	1.2	.2
31					-	91	-	51	-	35	1.3	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....					0	0	0	0				
November.....					0	0	0	0				
December.....					0	0	0	0				
Calendar year												
January.....					0	0	0	0				
February.....					16	0	0	.6				
March.....					2,874.1	226	1.3	92.7				
April.....					2,134	91	58	71.1				
May.....					2,249	96	51	72.5				
June.....					1,005	58	19	33.5				
July.....					1,115	48	24	36.0				
August.....					251.6	31	.9	8.12				
September.....					30.5	1.9	.2	1.02				
Water year 1934-35.....					9,675.2	226	0	26.5				

Tuttle Lake near Ceylon, Minn.

Location.— Staff gage, lat. $43^{\circ}30'$, long. $94^{\circ}36'$, in sec. 31, T. 101 N., R. 31 W., on northwest shore of Tuttle Lake, 3 miles southeast of Ceylon. Zero of gage is 2.0 feet below crest of dam at outlet. This gage, established as temporary gage for observer's convenience, has been used for period of record, 1930-35. Gage described in Water-Supply Papers 715, 730, 745 established as permanent gage but used only occasionally. Description in Water-Supply Paper 760 in error.

Records available.— July 1930 to September 1935.

Extremes.— Maximum gage height observed during year, 2.43 feet June 29, July 3; minimum, 0.55 foot Nov. 7-16.
1930-34: Maximum gage height observed, 3.99 feet Apr. 4, 6, 8, 1933; minimum, 0.00 foot several times in September 1931.

Remarks.— No measurements of discharge made during year. No records Dec. 1 to Mar. 13.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.78	0.60				-	1.34	1.71	1.87	2.41	1.83	1.49
2	.76	.58				-	1.35	1.76	1.86	2.42	1.85	1.48
3	.72	.58				-	1.34	1.76	1.83	2.43	1.86	1.45
4	.74	.58				-	1.32	1.72	1.82	2.41	1.85	1.44
5	.74	.58				-	1.37	1.76	1.79	2.40	1.80	1.46
6	.72	.58				-	1.37	1.71	1.82	2.33	1.85	1.41
7	.72	.56				-	1.38	1.76	1.79	2.31	1.79	1.49
8	.70	.56				-	1.37	1.80	1.77	2.23	1.76	1.50
9	.68	.56				-	1.37	1.77	1.76	2.26	1.87	1.48
10	.66	.56				-	1.43	1.83	1.71	2.23	1.88	1.44
11	.64	.56				-	1.52	1.80	1.77	2.22	1.80	1.41
12	.62	.56				-	1.53	1.85	1.74	2.16	1.82	1.39
13	.60	.56				-	1.51	1.86	1.74	2.14	1.79	1.42
14	.60	.56				1.29	1.49	1.87	1.71	2.09	1.76	1.39
15	.60	.56				1.33	1.48	1.83	1.71	2.08	1.73	1.36
16	.60	.56				1.39	1.51	1.82	1.77	2.03	1.73	1.29
17	.62	.58				1.37	1.52	1.83	1.78	2.00	1.70	1.36
18	.62	.62				1.37	1.52	1.81	1.99	1.96	1.71	1.37
19	.68	.68				1.37	1.52	1.87	2.03	1.92	1.70	1.45
20	.66	.70				1.37	1.53	1.82	2.05	1.87	1.71	1.39
21	.66	.72				1.36	1.53	1.80	2.12	1.90	1.67	1.39
22	.68	.74				1.39	1.53	1.81	2.13	1.87	1.66	1.37
23	.68	.70				1.39	1.46	1.82	2.15	1.93	1.62	1.36
24	.68	.68				1.39	1.58	1.79	2.15	1.97	1.58	1.30
25	.66	.68				1.38	1.55	1.79	2.25	2.01	1.59	1.25
26	.66	.72				1.34	1.58	1.82	2.30	1.94	1.56	1.36
27	.64	.74				1.33	1.60	1.88	2.38	1.91	1.53	1.33
28	.64	.76				1.03	1.55	1.92	2.40	1.94	1.52	1.31
29	.62	.80				1.35	1.59	1.89	2.43	1.89	1.48	1.28
30	.60	.86				1.35	1.59	1.91	2.41	1.86	1.50	1.27
31	.60	-				1.35	-	1.90	-	1.81	1.48	-

Raccoon River at Van Meter, Iowa

Location.— Water-stage recorder, lat. 41°32', long. 93°56'50", in SW¹ sec. 22, T. 78 N., R. 27 W., at highway bridge a third of a mile from railroad station at Van Meter, 1 mile below junction of North and South Raccoon Rivers, and 30 miles above junction of Raccoon and Des Moines River. Zero of gage is 841.12 feet above mean sea level.

Drainage area.— 3,410 square miles.

Records available.— April 1915 to November 1927, October 1932 to September 1935.

Average discharge.— 14 years (1915-27, 1933-35), 1,081 second-feet.

Extremes.— Maximum discharge during year, 11,000 second-feet Mar. 5 (gage height, 13.08 feet); minimum, 45 second-feet Oct. 18 (gage height, 1.82 feet).

Remarks.— Records good except those for periods of ice effect, Dec. 7 to Feb. 14, Feb. 27, which are poor. Some diurnal fluctuation during low water caused by operation of power plant at Adel, 10 miles above gage.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.5	28	2.7	378	4.0	1,100	9.0	5,590
1.7	59	2.9	473	4.5	1,450	10.0	6,780
1.9	99	3.1	576	5.0	1,800	11.0	8,060
2.1	150	3.3	686	6.0	2,600	12.0	9,420
2.3	215	3.5	801	7.0	3,500	13.0	10,800
2.5	292	3.7	921	8.0	4,500		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	68	136	99	180	360	571	424	956	4,930	338	109
2	88	85	195	123	123	603	545	401	1,040	5,500	383	134
3	78	88	234	99	292	1,380	509	374	1,600	4,200	478	136
4	78	495	150	123	630	4,300	468	374	1,340	3,700	429	134
5	78	418	172	99	630	8,820	468	392	981	3,320	352	123
6	74	201	159	99	801	7,280	498	529	801	3,230	321	116
7	68	159	153	123	576	5,180	434	524	675	2,600	236	123
8	67	131	208	123	439	3,520	415	493	598	2,040	241	123
9	63	121	230	145	292	* 2,970	401	473	513	1,730	222	169
10	59	109	260	123	272	* 2,430	396	439	448	2,280	198	241
11	59	113	237	123	378	1,680	424	401	401	1,560	198	226
12	52	93	237	123	524	1,730	415	378	360	1,340	170	142
13	54	104	230	123	831	1,590	401	387	330	1,140	176	139
14	56	86	237	78	1,170	1,450	424	406	313	981	148	101
15	56	99	212	78	1,960	1,340	498	387	268	891	134	99
16	56	80	205	59	2,870	1,240	581	378	317	743	126	99
17	49	106	222	78	2,780	1,140	571	334	483	714	128	95
18	49	93	191	59	2,600	1,070	555	313	2,070	641	123	93
19	59	111	201	252	2,620	1,070	504	356	2,610	555	111	97
20	82	159	215	252	2,360	1,140	468	369	2,960	514	116	123
21	91	139	184	215	1,920	1,140	419	347	5,400	488	118	106
22	147	237	219	150	1,660	1,140	392	494	6,300	439	116	99
23	198	150	215	150	1,560	1,070	378	1,100	5,640	458	109	99
24	131	128	212	150	1,560	1,070	347	891	4,100	473	101	99
25	126	142	145	150	831	1,040	360	861	4,270	656	101	142
26	91	156	134	123	550	981	356	801	6,770	743	99	352
27	84	215	142	123	448	891	352	743	6,060	690	95	352
28	91	226	111	123	374	801	352	861	6,300	647	95	215
29	65	230	139	99	-	743	392	714	6,660	534	97	139
30	86	212	162	123	-	686	410	630	6,720	415	93	136
31	76	-	123	123	-	603	-	571	-	369	95	-
Month	Second-foot-days				Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....	2,512				198	49	81.0	0.024	0.03			
November.....	4,759				495	68	189	.047	.05			
December.....	5,970				260	111	169	.055	.06			
Calendar year 1934.....	69,805				2,020	21	191	.056	.76			
January.....	3,910				252	59	126	.037	.04			
February.....	31,201				2,870	123	1,114	.327	.34			
March.....	60,623				8,820	360	1,956	.574	.66			
April.....	15,304				561	347	443	.130	.14			
May.....	16,135				1,100	313	520	.152	.18			
June.....	77,290				6,770	268	2,576	.755	.84			
July.....	48,511				5,500	369	1,565	.459	.53			
August.....	5,807				478	93	187	.055	.06			
September.....	4,561				352	93	145	.043	.05			
Water year 1934-35.....	274,288				8,820	49	751	.220	2.98			

* Interpolated.

Fox River at Wayland, Mo.

Location.— Wire-weight gage, lat. 40°23'45", long. 91°35'50", in NW¼ sec. 31, T. 65 N., R. 8 W., at bridge on State Highway 4 three-quarters of a mile west of Wayland. Chain gage at same location and datum used prior to Nov. 19, 1934. Zero of present gage is 501.63 feet above mean sea level.

Drainage area.— 400 square miles.

Records available.— October 1929 to September 1935. February 1922 to September 1929 at site 2 miles upstream.

Extremes.— Maximum discharge observed during water year 1933-34, 1,780 second-feet Apr. 5 (gage height, 10.92 feet); no flow during periods in July and August.
Maximum discharge observed during water year 1934-35, 13,500 second-feet June 2, 1935 (gage height, 19.38 feet); minimum, 0.5 second-foot Oct. 12, 1929-35: Maximum discharge, 25,000 second-feet June 29, 1933 (gage height, 21.53 feet); no flow on many days during September 1930, July and August 1934.

Remarks.— Records fair except those for days of rapidly changing stage and during periods of backwater from ice Dec. 24-31, 1933, Jan. 1-3, 29-31, Feb. 1, 2, 23-28, Mar. 1-3, Dec. 8-18, 1934, Jan. 16 to Feb. 6, 1935, which are poor.

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	9	6	6	6	* 2	10	5	1.4	4.8	0	28
2	21	7	6	6	6	2	10	4.8	.8	3.7	0	36
3	19	7	6	6	6	8	10	4.7	1.0	3.1	0	39
4	15	6	9	9	9	22	994	4.7	.7	2.6	0	37
5	12	6	8	11	9	83	1,470	4.3	.5	2.6	0	* 40
6	10	6	8	10	9	55	745	4.3	.7	2.3	0	42
7	10	7	8	10	8	39	425	3.9	148	2.3	0	34
8	9	* 6	8	10	8	34	385	3.4	29	1.9	0	11
9	9	6	8	10	9	29	275	2.9	36	1.3	0	7
10	8	6	8	11	9	23	160	2.9	28	.4	0	6
11	8	5	8	10	9	18	83	2.6	16	.1	0	4.3
12	8	5	8	10	9	17	44	5	6	.2	1.4	3.9
13	7	4.8	8	10	9	16	17	6	3.4	.6	.3	4.5
14	7	5	8	9	10	15	13	5	2.9	.7	0	5
15	7	4.7	8	10	10	14	13	4.7	2.6	.5	* 0	347
16	7	5	8	9	10	14	12	4.3	2.5	.4	0	39
17	6	4.7	8	9	10	13	11	3.7	20	.3	0	16
18	6	4.7	8	9	10	13	10	5	148	.3	.1	15
19	6	4.5	10	* 10	10	12	9	4.3	104	.2	0	28
20	7	* 4.4	10	10	10	12	8	* 3.4	98	.1	0	32
21	7	4.3	15	10	9	11	9	2.5	93	.1	0	385
22	8	4.3	14	9	10	11	8	8	68	0	0	68
23	7	* 4.1	12	9	8	10	7	22	110	0	0	41
24	6	3.9	11	9	6	10	6	10	195	0	0	16
25	6	5	8	9	6	10	5	6	148	0	* 0	* 10
26	6	5	6	10	2	10	5	5	98	* 0	0	15
27	6	6	6	10	2	10	6	3.9	* 57	0	0	30
28	6	6	6	10	2	9	5	2.8	16	0	* 0	43
29	6	6	6	8	-	9	6	2.5	9	0	0	275
30	6	6	6	6	-	9	8	1.8	4.8	0	0	43
31	8	-	6	6	-	9	-	1.5	-	0	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	279	25	6	9.0	0.022	0.03	553
November.....	165.4	9	3.9	5.51	.014	.02	328
December.....	259	15	6	8.4	.021	.02	514
Calendar year 1933.....	71,954.6	14,700	1.0	197	.492	6.69	142,800
January.....	283	11	6	9.1	.023	.03	561
February.....	224	10	2	8.0	.020	.02	444
March.....	549	83	2	17.7	.044	.06	1,090
April.....	4,767	1,470	5	159	.369	.44	9,480
May.....	150.9	22	1.5	4.87	.012	.01	299
June.....	1,448.3	195	.5	48.3	.121	.14	2,870
July.....	28.5	4.8	0	.92	.0023	.003	57
August.....	2.0	1.4	0	.06	.00015	.0002	4.0
September.....	1,700.7	385	3.9	56.7	.142	.16	3,370
Water year 1933-34.....	9,856.8	1,470	0	27.0	.068	.923	19,550

*Estimated.

Note.— Records in the above table supersede those published in Water-Supply Paper 760 because of revision for Sept. 15-30, 1934.

Fox River at Wayland, Mo.

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	3.9	1,480	15	27	131	83	71	268	65	34	4.7
2	11	4.3	342	18	27	158	72	1,440	12,900	218	18	36
3	8	1,930	443	16	31	144	67	3,700	9,580	1,270	138	44
4	7	1,080	693	14	38	562	53	1,480	1,950	598	85	27
5	4.3	721	202	14	66	1,340	41	508	422	286	30	16
6	3.6	128	* 150	11	88	422	39	286	268	106	18	9
7	3.1	68	83	14	* 100	464	63	342	187	67	10	* 150
8	2.3	46	83	847	112	582	202	202	144	48	8	218
9	1.5	34	78	1,950	131	* 1,000	158	1,440	118	32	7	144
10	1.0	* 22	65	693	304	2,650	286	443	94	28	* 17	48
11	.6	19	50	422	443	2,110	902	251	78	23	27	23
12	.5	15	34	* 350	* 460	598	530	* 620	60	20	18	16
13	.7	13	27	286	486	342	361	990	57	17	12	9
14	* .8	13	27	118	552	234	172	1,590	55	15	8	6
15	.8	13	27	66	1,110	165	88	794	49	11	6	6
16	1.1	12	30	67	768	144	78	530	78	10	6	4.9
17	.9	12	34	67	234	66	361	768	9	4.4	3.8	4.2
18	.9	15	46	100	187	90	820	304	3,820	9	3.5	4.2
19	1.3	242	* 55	106	151	78	251	443	3,940	9	124	3.3
20	39	160	59	100	138	158	165	2,070	3,700	10	26	2.4
21	39	167	52	88	94	422	94	1,270	820	* 11	13	* 2.2
22	26	1,020	50	67	88	144	100	530	342	12	8	2.0
23	21	293	35	48	* 84	94	60	794	218	14	7	2.2
24	10	174	32	* 31	78	78	53	2,950	138	2,240	4.4	1.8
25	60	64	23	22	2,240	2,520	53	2,650	106	464	6	2.0
26	19	60	23	22	443	1,080	44	496	88	151	4.4	43
27	11	181	20	22	151	286	37	268	* 100	78	3.8	26
28	8	311	20	31	144	187	34	3,320	112	* 56	3.5	16
29	7	187	20	42	-	138	50	2,900	78	35	3.5	14
30	5	2,260	24	38	-	106	39	669	83	464	3.3	13
31	4.3	-	16	31	-	88	-	391	-	46	3.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	371.7	60	0.5	12.0	0.030	0.03	737
November.....	9,248.2	2,260	3.9	308	.770	.86	18,340
December.....	4,521	1,480	16	139	.348	.40	8,570
Calendar year 1934.....	23,094.3	2,260	0	63.3	.158	2.14	45,800
January.....	5,716	1,950	11	184	.460	.53	11,340
February.....	8,775	2,240	27	313	.782	.81	17,400
March.....	16,661	2,650	78	535	1.34	1.54	32,890
April.....	5,051	902	34	168	* .420	.47	10,020
May.....	34,085	3,700	71	1,099	2.75	3.17	67,600
June.....	40,831	12,900	49	1,554	3.58	3.77	80,580
July.....	6,422	2,240	9	207	.518	.60	12,740
August.....	660.4	138	3.3	21.3	.053	.06	1,310
September.....	897.5	218	1.8	29.9	.075	.08	1,780
Water year 1934-35.....	132,757.8	12,900	.5	364	.910	12.32	263,300

* Estimated.

Wyaconda River above Canton, Mo.

Location.— Wire-weight gage, lat. 40°8'30", long. 91°33'55", in SE¼ sec. 28, T. 62 N., R. 6 W., at bridge on State Highway 96, 1 mile above Sugar Creek and 2 miles west of Canton. Zero of gage is 515.47 feet above mean sea level (adjustment of 1929). Chain gage at same site and datum used prior to Nov. 16, 1934.

Drainage area.— 393 square miles.

Records available.— October 1932 to September 1935.

Extremes.— Maximum discharge observed during water year 1932-33, 17,700 second-feet June 30 (gage height, 30.0 feet); minimum observed, 1.0 second-foot June 23.

Maximum discharge observed during water year 1933-34, 1,470 second-feet Apr. 5 (gage height, 10.56 feet); no flow for many days.

Maximum discharge during water year 1934-35, 16,200 second-feet June 3 (gage height, 29.3 feet, from flood marks); minimum observed, 2.2 second-feet Aug. 30.

Remarks.— Records fair except those for days of rapidly changing stage and for periods of ice effect, Dec. 13-22, 1932, Feb. 9-19, 1933, Dec. 9-12, 23-31, 1934, Jan. 1-4, Jan. 17 to Feb. 4, Feb. 8, 9, Feb. 27 to Mar. 1, 1935, which are poor.

Discharge, in second-feet, water year October 1932 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7	15	24	* 160	88	59	1,470	37	69	7,400	3.8	3.8
2	7	12	31	139	86	52	620	66	56	1,550	6	5
3	7	14	32	86	69	46	333	46	41	282	58	4.4
4	9	15	65	112	53	41	188	38	31	118	12	5
5	8	17	105	105	28	34	132	218	25	66	51	12
6	9	16	70	105	27	37	125	900	20	39	20	17
7	8	16	75	69	28	46	153	494	18	26	12	10
8	8	747	92	59	14	62	189	353	12	22	8	6
9	8	1,680	43	46	13	61	105	620	8	28	45	4.4
10	766	766	* 40	52	13	46	92	233	7	24	53	3.6
11	804	299	33	53	13	35	67	2,540	6	21	167	3.0
12	249	153	26	14	10	31	54	4,550	8	14	45	72
13	112	98	20	29	10	35	45	7,680	6	12	21	6
14	59	92	20	34	13	41	78	5,160	3.5	10	11	3.2
15	37	76	14	30	13	33	1,550	1,370	3.2	10	6	3.2
16	31	* 60	14	39	19	28	638	440	3.2	7	3.8	4.4
17	23	42	14	43	19	27	602	233	3.2	6	2.8	4.8
18	18	57	8	54	25	28	316	146	2.0	6	3.8	4.8
19	16	58	8	3,260	32	249	188	112	2.0	4.8	2.0	6
20	14	37	8	3,410	249	132	132	78	2.0	3.5	2.0	5
21	13	39	8	962	478	92	98	1,420	1.8	3.5	3.2	4.8
22	12	33	8	982	386	69	80	900	1.8	3.8	3.8	4.4
23	9	49	1,420	900	404	64	65	476	1.0	61	3.0	4.0
24	13	36	3,140	404	265	54	54	174	1.4	28	3.2	4.0
25	16	43	5,730	218	160	68	47	112	3.2	24	7	5
26	19	38	5,220	167	112	1,770	44	2,730	3.0	26	3.8	6
27	76	31	1,340	180	86	592	40	692	4.8	12	2.8	64
28	46	15	440	132	65	299	31	233	2.5	8	4.4	368
29	31	31	265	98	-	187	30	316	4,400	5	4.4	132
30	24	31	181	80	-	160	29	174	15,400	3.2	4.0	86
31	19	-	174	86	-	1,560	-	125	-	3.0	3.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,477	804	7	79.9	0.203	0.23	4,910
November.....	4,616	1,680	12	154	.399	.44	9,160
December.....	18,668	5,730	8	602	1.53	1.76	37,030
Calendar year							
January.....	12,068	3,410	14	389	.990	1.14	23,940
February.....	2,777	478	10	99.2	.252	.28	5,510
March.....	6,098	1,770	27	197	.501	.58	12,100
April.....	7,545	1,560	29	262	.641	.72	14,970
May.....	32,446	7,680	37	1,047	2.66	3.07	64,360
June.....	20,145.3	15,400	1.0	672	1.71	1.91	39,960
July.....	10,126.8	7,400	3.0	327	.832	.96	20,090
August.....	576.3	187	2.0	18.6	.047	.05	1,140
September.....	861.7	368	3.2	28.7	.073	.08	1,710
Water year 1932-33.....	118,405.1	16,400	1.0	324	.824	11.20	234,900

* Estimated.

Wyaconda River above Canton, Mo.

(Continued)

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	8	17	4.8	1.4	0.9	28	1.8	0.6	0.3		0
2	21	8	18	4.8	2.5	3.8	23	1.4	.2	.2		0
3	14	13	42	3.5	2.5	20	10	1.0	.2	0		80
4	10	15	17	4.8	2.2	31	692	.8	0	0		167
5	8	17	10	10	3.5	30	1,080	2.8	0	0		69
6	6	15	8	9	3.8	49	316	6	0	0		43
7	6	14	7	9	4.0	38	160	3.2	2.2	0		39
8	4.4	13	7	4.4	4.0	24	80	1.8	1.5	0		23
9	4.8	12	6	3.8	1.4	17	49	1.2	2.0	0		27
10	6	10	5	6	1.5	4.0	33	1.5	3.2	0		32
11	6	10	6	6	2.5	13	25	1.5	1.5	0		19
12	6	12	4.0	6	2.5	10	24	1.0	2.2	0		10
13	6	14	3.2	8	3.0	8	14	2.5	1.8	0		9
14	6	16	3.2	6	3.2	8	10	2.5	1.0	0		34
15	4.8	15	4.4	5	3.5	15	12	2.2	.9	0		146
16	5	15	4.0	3.5	3.2	6	6	4.4	.6	0		638
17	6	15	4.8	4.0	2.8	6	6	3.5	1.4	0		125
18	10	17	3.5	4.0	2.5	8	5	2.2	1.5	0		68
19	10	17	3.5	4.4	3.2	7	4.4	1.8	15	0		41
20	9	17	25	4.0	2.8	7	3.5	1.2	3.0	0		27
21	9	16	12	4.0	2.5	6	3.0	.8	2.0	0		23
22	10	18	21	5	3.0	4.4	2.8	1.0	7	0		710
23	10	19	16	4.0	3.5	4.4	2.5	.8	4.8	0		167
24	9	19	12	4.8	2.5	4.8	2.0	.4	2.2	0		98
25	6	20	7	4.8	1.5	4.4	1.4	.3	12	0		55
26	8	19	3.5	5	1.4	4.0	2.2	.2	5	0		28
27	8	20	3.0	4.8	.8	5	1.8	1.0	2.2	0		24
28	11	20	2.2	4.0	.9	6	2.0	.9	.9	0		153
29	8	21	1.5	1.2	-	4.8	1.5	.9	1.0	0		1,200
30	9	20	2.0	1.5	-	4.4	1.8	1.0	.8	0		512
31	8	-	3.0	1.4	-	3.8	-	.9	-	0		-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				288.0	43	4.4	9.29	0.024	0.03	571		
November.....				465	21	8	15.5	.039	.04	922		
December.....				281.8	42	1.5	9.09	.023	.03	559		
Calendar year 1933.....				93,678.9	15,400	1.0	257	.654	8.87	185,800		
January.....				151.5	10	1.2	4.89	.012	.01	300		
February.....				72.1	4.0	.8	2.58	.0066	.007	143		
March.....				357.7	49	.9	11.5	.029	.03	709		
April.....				2,601.9	1,080	1.4	86.7	.221	.25	5,160		
May.....				52.5	6	.2	1.69	.0043	.005	104		
June.....				76.7	15	0	2.56	.0055	.007	152		
July.....				.5	0	.3	0	.016	.000041	.00005		
August.....				0	0	0	0	0	0	0		
September.....				4,567	1,200	0	152	.387	.43	9,060		
Water year 1933-34.....				8,914.7	1,200	0	24.4	.062	.84	17,680		

Wyaconda River above Canton, Mo.

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	139	17	3,140	16	19	118	79	64	386	125	45	4.0
2	76	16	1,050	13	22	139	75	1,550	5,940	874	24	76
3	47	20	530	13	32	174	62	2,400	13,900	1,320	17	125
4	28	3,110	1,200	13	52	167	52	2,470	6,790	874	620	67
5	24	1,680	404	15	112	1,710	47	766	2,030	530	* 330	34
6	21	1,120	265	20	125	842	45	404	982	265	49	18
7	15	318	174	24	85	1,150	48	299	566	105	25	11
8	12	139	145	2,180	65	728	105	299	249	60	17	10
9	12	86	112	1,850	68	549	692	3,780	153	41	12	566
10	10	57	80	900	203	2,530	233	1,520	98	30	23	218
11	10	38	52	548	548	2,500	1,970	548	86	23	18	80
12	10	34	40	316	602	1,080	962	1,440	67	19	23	38
13	10	28	34	316	476	548	478	2,180	53	14	26	23
14	9	25	35	218	900	299	235	2,440	46	11	12	15
15	9	21	32	153	1,650	203	153	1,550	43	12	8	10
16	9	19	42	80	920	160	98	804	46	12	7	8
17	8	17	55	160	440	118	73	728	512	8	6	6
18	8	19	76	139	218	86	1,630	404	2,500	7	6	6
19	10	105	125	112	203	73	982	804	4,550	6	139	4.8
20	747	299	125	92	174	72	316	2,630	3,530	8	174	3.8
21	785	333	146	74	125	146	167	2,310	1,200	9	44	3.2
22	167	1,940	73	57	112	249	118	1,030	728	14	20	3.2
23	78	962	62	48	118	132	92	1,880	282	20	12	3.0
24	46	299	52	40	105	92	72	3,980	160	900	7	2.8
25	692	160	48	32	2,470	80	80	4,350	105	1,980	5	3.0
26	161	112	40	25	1,420	2,030	79	1,520	80	2,060	4.0	61
27	70	118	28	22	218	620	57	494	74	1,240	3.5	29
28	38	494	22	19	188	299	48	2,210	139	350	3.0	19
29	28	861	19	19	-	188	53	3,700	105	160	2.5	11
30	* 22	2,730	19	19	-	125	61	2,240	125	146	2.2	8
31	19	-	16	19	-	92	-	747	-	74	3.0	-
Month		Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off				
								Inches	Acres			
October.....		5,338		785	8	108	0.275	0.32	6,680			
November.....		15,175		3,110	16	506	1.29	1.44	30,100			
December.....		9,240		3,140	16	266	.677	.78	16,340			
Calendar year 1934.....		34,632.9		3,140	0	94.9	.241	3.28	68,690			
January.....		7,552		2,180	13	244	.621	.72	14,980			
February.....		11,574		2,470	19	413	1.05	1.09	22,960			
March.....		17,298		2,530	72	538	1.42	1.64	34,310			
April.....		9,138		1,970	45	305	.776	.87	18,180			
May.....		51,421		4,350	64	1,669	4.22	4.87	102,000			
June.....		45,507		13,900	43	1,517	3.86	4.31	90,260			
July.....		10,895		2,060	6	351	.893	1.03	21,610			
August.....		1,688.2		620	2.2	54.5	.139	.16	3,550			
September.....		1,466.8		566	2.5	48.9	.124	.14	2,910			
Water year 1934-35.....		185,293.0		13,900	2.2	502	1.28	17.37	365,600			

* Estimated.

North Fabius River at Monticello, Mo.

Location.- Wire-weight gage, lat. 40°6'30", long. 91°42'55", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 6, T. 61 N., R. 7 W., at bridge on State Highway 96, 1 mile south of Monticello. Prior to Nov. 17, 1934, chain gage at same site and datum. Zero of gage is about 541.8 feet above mean sea level.

Drainage area.- 452 square miles.

Records available.- February 1922 to September 1935.

Average discharge.- 12 years (1923-35), 329 second-feet.

Extremes.- Maximum discharge during year, 15,700 second-feet June 3 (gage height, 29.62 feet, from flood marks); no flow Oct. 13-18; minimum gage height, 2.22 feet Oct. 13, 14. 1922-35: Maximum discharge, 17,400 second-feet June 30, 1933 (gage height, 30.8 feet, from flood marks); no flow May 29 to June 8, June 12 to Sept. 1, Oct. 13-18, 1934.

Remarks.- Records fair except those for days of rapidly changing stage and those for periods of ice effect, Jan. 18 to Feb. 12, Feb. 27 to Mar. 1, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	2.7	1,690	89	48	132	98	104	392	173	38	8
2	20	2.7	601	92	48	236	84	988	9,900	201	27	91
3	14	2,240	1,220	89	55	284	78	4,190	12,700	1,390	868	124
4	12	1,970	1,320	90	77	537	69	1,280	3,670	822	430	91
5	8	868	713	116	166	1,760	68	510	620	338	74	37
6	7	625	450	132	157	845	56	320	1,010	180	45	19
7	5	227	166	132	132	937	98	304	410	117	25	10
8	1.5	132	246	3,100	124	713	151	273	258	70	23	73
9	1.5	82	265	1,690	124	561	554	2,360	215	46	15	532
10	1.5	61	236	937	182	3,480	187	1,080	201	38	20	152
11	.7	42	182	581	450	1,900	1,380	374	229	30	26	91
12	.3	27	191	429	625	776	882	3,480	138	19	20	44
13	0	24	116	450	736	392	356	2,440	117	18	18	32
14	0	19	89	429	1,550	273	187	2,090	686	15	11	21
15	0	17	77	106	1,660	216	117	1,320	216	12	10	16
16	0	17	100	83	937	180	91	1,030	288	9	9	14
17	0	17	157	124	429	124	78	1,030	1,220	8	12	11
18	0	21	209	92	345	104	1,300	430	6,340	6	7	10
19	471	265	303	100	324	91	914	822	6,880	5	914	8
20	2,170	825	303	256	284	91	243	2,670	1,870	4.8	201	8
21	408	493	284	166	200	258	180	1,750	984	117	66	7
22	157	1,720	227	116	182	258	124	776	1,320	320	46	7
23	88	1,030	191	84	200	124	104	3,380	288	159	18	7
24	581	450	140	70	166	98	78	10,200	201	2,520	15	6
25	713	200	124	62	3,170	620	98	6,740	131	1,030	13	10
26	124	174	209	55	1,060	1,300	78	937	110	258	12	73
27	47	148	227	48	100	470	60	430	98	215	8	159
28	25	1,010	191	48	108	215	57	4,740	152	180	7	22
29	12	891	148	48	-	173	61	3,570	124	776	6	13
30	4.1	2,600	108	48	-	131	73	1,010	131	145	8	12
31	1.9	-	116	48	-	104	-	708	-	64	7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off
						Inches Acre-feet
October.....	4,922.5	2,170	0	159	0.352	0.41 9,760
November.....	16,200.4	2,600	2.7	540	1.19	1.33 32,130
December.....	1,799	1,690	77	348	.770	.89 21,420
Calendar year 1934.....	39,614.4	2,600	0	109	.241	3.26 78,560
January.....	9,889	3,100	48	319	.706	.81 19,610
February.....	13,658	3,170	48	487	1.08	1.12 27,050
March.....	17,422	3,480	91	562	1.24	1.43 34,560
April.....	7,824	1,380	56	261	.577	.64 15,520
May.....	61,216	10,200	104	1,975	4.37	5.04 121,400
June.....	50,898	12,700	98	1,697	3.75	4.18 101,000
July.....	9,275.8	2,520	4.8	299	.662	.76 18,400
August.....	2,999	914	6	96.7	.214	.25 5,950
September.....	1,707	532	5	56.9	.126	.14 3,590
Water year 1934-35.....	206,790.7	12,700	0	567	1.25	17.00 410,200

North Fabius River at Taylor, Mo.

Location.- Water-stage recorder, lat. $39^{\circ}56'5''$, long. $91^{\circ}31'35''$, in NE $\frac{1}{4}$ sec. 2, T. 59 N., R. 6 W., at bridge on U. S. Highway 61 at Taylor. Zero of gage is about 470.0 feet above mean sea level.

Drainage area.- 930 square miles.

Records available.- April 1930 to September 1935.

Extremes.- Maximum discharge during year, 21,600 second-feet June 4 (gage height, 19.44 feet); minimum, 8 second-feet Oct. 19 (gage height, 2.01 feet).
1930-35: Maximum discharge, 30,300 second-feet June 30, 1933 (gage height, 22.85 feet, from flood marks); minimum, 0.1 second-foot July 23-25, 1934 (gage height, 1.72 feet).
Maximum stage known, 23.5 feet Nov. 19, 1928.

Remarks.- Records good except those for periods of ice effect, Dec. 10-12, Jan. 1, 4, 18-26, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	658	49	4,250	170	89	505	225	288	1,410	832	119	29
2	310	42	2,280	161	98	450	202	2,400	8,300	754	84	84
3	196	566	2,000	140	126	425	194	5,300	15,200	3,370	123	175
4	116	5,840	3,390	130	136	722	175	5,440	20,600	1,700	980	168
5	104	2,800	2,180	119	164	2,380	157	3,180	12,100	1,020	355	104
6	70	2,480	1,240	126	288	2,670	154	1,610	3,400	595	175	72
7	60	1,440	790	172	310	3,080	190	825	1,990	332	136	51
8	39	535	505	2,780	332	1,800	545	862	1,100	237	86	56
9	31	306	310	3,980	296	1,240	1,610	7,370	625	194	63	684
10	26	221	290	2,680	332	3,440	1,110	3,960	755	161	53	565
11	22	172	290	2,080	565	5,180	2,580	2,210	625	136	60	261
12	19	136	270	1,060	862	3,190	2,580	3,370	565	98	58	154
13	18	107	270	722	1,100	1,800	1,610	7,130	450	84	77	98
14	14	95	225	825	1,420	862	825	6,580	400	79	51	74
15	13	79	182	690	2,780	625	478	4,900	1,200	81	42	53
16	12	72	186	332	2,480	478	355	2,880	755	68	36	45
17	11	63	209	270	1,420	378	292	2,080	2,750	58	33	38
18	10	58	301	250	722	310	2,700	1,610	8,020	54	38	31
19	13	265	400	240	535	274	2,580	2,260	11,500	49	283	28
20	3,380	911	565	240	478	257	1,610	5,100	11,500	51	425	25
21	2,870	1,240	505	230	400	253	690	5,050	4,780	237	161	24
22	1,260	2,370	425	220	355	505	425	3,380	2,680	2,070	92	23
23	378	2,880	378	200	332	378	332	4,000	1,150	825	70	22
24	400	1,990	332	200	400	283	261	8,560	595	3,900	45	20
25	1,240	690	306	180	3,460	478	257	11,600	400	2,560	38	21
26	535	400	283	160	4,050	2,400	241	11,300	332	958	33	30
27	237	296	310	150	1,990	1,700	209	6,350	288	1,410	31	68
28	164	944	229	116	658	862	206	4,970	456	478	29	43
29	107	1,900	229	104	-	450	206	8,480	716	332	26	36
30	77	4,190	233	95	-	332	206	6,780	270	526	24	30
31	63	-	182	92	-	253	-	3,150	-	198	24	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				12,443	3,380	10	401	0.431	0.50	24,680		
November.....				33,127	5,840	42	1,104	1.19	1.33	65,710		
December.....				23,545	4,250	182	760	.817	.94	46,700		
Calendar year 1934.....				84,435.7	5,840	0.1	231	.248	3.39	167,500		
January.....				18,914	3,980	92	610	.656	.76	37,520		
February.....				26,179	4,050	89	935	1.01	1.05	51,920		
March.....				37,960	5,180	253	1,225	1.32	1.52	75,290		
April.....				23,205	2,700	154	774	.832	.93	46,030		
May.....				142,875	11,600	288	4,609	4.96	5.72	283,400		
June.....				114,912	20,600	270	3,830	4.12	4.60	227,900		
July.....				23,447	3,900	49	766	.813	.94	46,510		
August.....				3,850	980	24	124	.133	.15	7,640		
September.....				3,112	684	20	104	.112	.12	6,170		
Water year 1934-35.....				463,568	20,600	10	1,270	1.37	18.56	919,500		

Middle Fabius River near Baring, Mo.

Location.- Water-stage recorder, lat. 40°19'55", long. 92°12'50", in NW¼ sec. 28, T. 64 N., R. 12 W., at bridge on State Highway 15, 6 miles north of Baring. Zero of gage is about 679.1 feet above mean sea level.

Drainage area.- 156 square miles.

Records available.- April 1930 to September 1935 (incomplete).

Extremes.- Maximum discharge recorded during year, 4,880 second-feet May 24 (gage height, 19.78 feet); no flow Oct. 11-19, Sept. 15-30.
1930-35: Maximum discharge, 7,730 second-feet June 29, 1933 (gage height, 24.23 feet, from flood marks); no flow on many days.

Remarks.- No gage-height record June 1 to July 31 except for observer's gage reading June 19. Records fair except those for period of ice effect, Jan. 21 to Feb. 12, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	4.6	492	31	15	53	66	145			3.7	0.8
2	3.7	4.4	508	23	15	60	40	1,770			5	6
3	1.8	225	1,030	42	20	53	30	2,430			7	2.8
4	1.2	611	764	53	20	391	24	1,000			57	1.5
5	.8	699	401	30	25	930	21	243			13	.8
6	.5	335	196	40	25	302	18	243			5	.4
7	.3	73	68	136	25	157	23	262			3.7	.4
8	.2	34	93	1,230	40	139	62	229			2.8	20
9	.1	19	78	1,540	50	232	58	1,230			2.0	14
10	.1	15	53	590	75	1,260	100	353			3.2	7
11	.1	11	45	238	150	1,270	497	167			2.8	1.6
12	0	9	22	151	200	484	392	714			1.9	.6
13	0	8	20	238	196	215	189	962			1.1	.3
14	0	7	24	196	471	163	112	845			.9	.1
15	0	6	26	104	829	122	56	554			.8	0
16	0	6	151	98	325	96	34	541			1.2	0
17	0	6	252	84	93	66	387	391			4.8	0
18	0	35	280	73	83	52	636	176			4.5	0
19	97	151	238	145	78	48	402	279	3,880		4.5	0
20	855	73	210	196	50	61	134	818			2.6	0
21	154	244	127	100	38	76	81	808			1.1	0
22	30	1,150	93	50	46	65	50	550			.9	0
23	16	545	109	30	39	44	30	3,190			.9	0
24	11	127	93	25	205	34	22	3,890			.8	0
25	29	53	78	25	1,550	312	22	676			.6	0
26	21	40	60	25	529	676	18	254			.6	0
27	12	53	45	20	127	228	14	317			.6	0
28	9	370	28	20	78	151	16	796			.4	0
29	7	224	60	15	-	122	33	727			.3	0
30	6	238	53	15	-	117	20	406			.3	0
31	6	-	31	15	-	101	-	322			.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,251.8	835	0	40.4	0.259	0.30	2,480
November.....	5,376.0	1,150	4	179	1.15	1.28	10,660
December.....	5,728	1,030	20	185	1.19	1.37	11,360
Calendar year							
January.....	5,558	1,540	15	179	1.15	1.33	11,020
February.....	5,402	1,550	15	193	1.24	1.29	10,710
March.....	8,070	1,270	34	260	1.67	1.92	16,010
April.....	3,238	636	14	108	.892	.77	6,420
May.....	25,468	3,890	145	822	5.27	6.08	50,520
June.....	-	-	-	-	-	-	-
July.....	-	-	-	-	-	-	-
August.....	134.5	57	.3	4.34	.028	.03	267
September.....	56.1	20	0	1.87	.012	.01	111
Water year							

North Fork of South Fabius River at Edina, Mo.

Location.- Chain gage, lat. 40°10'45", long. 92°10'35", in SE $\frac{1}{4}$ sec. 13, T. 62 N., R. 12 E., at bridge on State Highway 15 at Edina. Zero of gage is 719.1 feet above mean sea level.

Drainage area.- 72 square miles.

Records available.- April 1930 to September 1935.

Extremes.- Maximum discharge observed during year, 4,190 second-feet June 2 (gage height, 12.64 feet); no flow on many days.
1930-35: Maximum discharge observed, 13,300 second-feet June 29, 1933 (gage height, 14.64 feet); no flow on many days.

Remarks.- Records fair but fragmentary. Discharge computed only for days on which gage was read.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	25	-	-	-	-
2	-	-	-	-	2.8	-	-	524	3,370	58	-	12
3	-	142	-	-	-	-	-	614	1,240	135	-	-
4	-	-	407	-	-	-	3.9	670	936	-	58	2.6
5	-	592	211	-	-	352	-	-	58	-	3.4	-
6	1.3	288	-	-	-	-	-	56	251	-	-	-
7	-	-	-	-	-	-	-	-	142	-	-	.1
8	-	-	-	278	-	-	-	-	-	-	.1	-
9	-	-	-	-	-	-	-	385	-	-	0	-
10	-	-	-	-	-	-	75	-	-	-	-	12
11	-	-	-	-	-	473	-	81	-	-	-	-
12	-	-	-	-	-	128	235	-	-	-	-	-
13	.5	-	-	-	72	-	-	670	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	20	-	-	-
16	-	-	-	-	-	-	-	195	-	-	-	-
17	-	3.4	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	308	-	870	-	-	-
19	149	259	-	43	-	11	-	-	936	-	-	-
20	614	135	-	-	-	-	-	497	-	.3	-	-
21	-	-	-	-	-	-	-	614	429	-	-	-
22	-	-	50	-	-	-	-	538	-	-	-	-
23	-	473	-	-	30	-	-	592	-	-	-	-
24	21	-	-	-	-	-	-	1,080	-	-	0	-
25	-	-	-	-	-	-	-	1,080	-	-	-	-
26	-	-	-	3.3	-	72	-	-	-	21	-	0
27	-	-	-	-	93	-	7	-	-	13	0	-
28	-	227	-	-	72	-	-	708	-	-	-	-
29	-	-	-	-	-	-	-	-	10	-	-	-
30	-	-	-	-	-	-	-	572	-	-	-	-
31	-	-	19	2.1	-	-	-	121	-	1.3	0	-

South Fabius River near Taylor, Mo.

Location.— Wire gage, lat. 39°54', long. 91°31'30", in NW¼ sec. 24, T. 59 N., R. 6 W., on U. S. Highway 61, about 1 mile above junction with North Fabius River and 2½ miles south of Taylor. Zero of gage is 460.97 feet above mean sea level.

Drainage area.— 630 square miles.

Records available.— December 1934 to September 1935.

Extremes.— Maximum discharge observed during year, 12,400 second-feet June 19 (gage height, 23.38 feet); minimum discharge observed, 5 second-feet Sept. 15, 16; minimum gage height observed, 7.28 feet Sept. 16.

Remarks.— Records fair. Discharge estimated for period of ice effect, Jan. 19 to Feb. 6, and for period of backwater from Mississippi River, Mar. 12-15, July 4-13. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating tables, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Dec. 16 to June 5

7.7	50	10.0	728	16.0	5,140
7.9	74	10.4	920	17.0	6,040
8.1	106	10.8	1,130	18.0	6,940
8.3	144	11.2	1,370	19.0	7,840
8.5	190	11.6	1,610	20.0	8,770
8.7	242	12.0	1,890	21.0	9,770
8.9	300	12.5	2,240	22.0	10,810
9.1	365	13.0	2,620	23.0	11,950
9.4	473	14.0	3,420		
9.7	594	15.0	4,240		

Table for June 6 to Sept. 30

7.2	3	8.8	244
7.4	8	9.0	308
7.6	18	9.2	380
7.8	37	9.4	459
8.0	64	9.6	542
8.2	96	9.8	629
8.4	137	10.1	767
8.6	187	10.4	920

Same as previous table above
gage height 10.4 feet

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	98	65	316	134	418	3,580	720	47	8
2			-	144	90	285	134	4,060	5,860	1,680	37	16
3			-	98	170	256	106	5,950	8,380	1,430	33	149
4			-	94	150	242	124	4,060	11,200	1,000	24	130
5			-	86	140	1,130	124	1,550	9,170	700	18	104
6			-	83	130	920	124	823	4,150	400	16	73
7			-	76	134	3,340	115	418	1,430	250	70	45
8			-	2,620	190	1,070	418	473	1,190	200	50	33
9			-	2,540	332	776	1,430	5,230	500	150	45	32
10			-	1,310	300	1,610	3,420	6,130	275	120	76	137
11			-	1,070	270	1,510	3,500	4,240	133	100	41	113
12			-	454	418	1,610	3,420	2,240	106	80	33	133
13			-	454	473	820	3,340	4,420	362	60	33	96
14			-	454	1,190	780	1,890	6,130	149	42	20	57
15			-	552	1,250	440	1,130	5,050	215	79	16	5
16			103	300	1,250	285	473	3,900	542	42	14	5
17			115	228	1,190	202	418	1,890	1,370	37	117	19
18			144	190	594	190	1,190	1,370	6,040	30	161	7
19			166	190	348	166	1,750	2,240	10,400	28	174	15
20			332	185	316	134	1,190	3,260	10,100	33	137	23
21			285	180	270	115	552	3,020	5,590	26	96	21
22			256	165	228	106	473	2,620	2,030	2,310	61	9
23			242	150	202	98	638	2,170	3,420	500	47	8
24			228	130	316	332	683	2,240	512	1,250	32	7
25			228	105	1,680	418	594	4,240	260	1,250	35	10
26			144	85	2,460	683	473	4,240	161	629	30	10
27			134	70	1,610	1,190	215	2,700	137	362	24	12
28			166	60	638	473	144	1,550	133	244	18	11
29			144	55	-	473	134	6,220	174	308	16	11
30			134	55	-	454	134	6,940	419	244	10	10
31			101	55	-	144	-	6,760	-	137	10	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				-	-	-	-	-	-			
November.....				-	-	-	-	-	-			
December 16-31.....				2,922	332	101	183	0.290	0.17			
Calendar year												
January.....				12,336	2,620	55	398	.632	.73			
February.....				16,404	2,460	65	586	.930	.97			
March.....				20,368	3,340	98	657	1.04	1.20			
April.....				28,470	3,500	106	949	1.51	1.68			
May.....				108,552	6,940	418	3,437	5.46	6.30			
June.....				87,988	11,200	105	2,933	4.66	5.20			
July.....				14,441	2,310	26	466	.740	.85			
August.....				1,539	174	10	49.6	.079	.09			
September.....				1,309	149	5	43.6	.069	.08			
Water year												

FABIUS RIVER BASIN

Little Fabius River near Edina, Mo.

Location.- Chain gage, lat. 40°3'35", long. 92°10'30", in NW¼ sec. 30, T. 61 N., R. 11 W., at bridge on State Highway 15, 16 miles south of Edina.

Drainage area.- 25.2 square miles.

Records available.- April 1930 to September 1935 (fragmentary).

Extremes.- Water year 1930-31: Maximum discharge observed, 1,360 second-feet June 6 (gage height, 12.86 feet).

1931-32: 1,130 second-feet Aug. 13 (gage height, 12.28 feet).

1932-33: 790 second-feet May 13 (gage height, 11.24 feet).

1933-34: 1,020 second-feet Sept. 15 (gage height, 12.04 feet).

1934-35: 1,650 second-feet May 28 (gage height, 13.98 feet).

Maximum stage known, about 16.7 feet, date unknown.

Remarks.- Records poor and fragmentary. Stage-discharge relation affected by ice Dec. 15, 21, 1932, Feb. 11, 15, 1933.

Discharge, in second-feet, 1930-35
1930

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												
2								11	0.2	11	0	0
3								286				0
4								7	.1			0
5									.1		0	
6												0
7									.1		0	
8												
9								1.4		.1		
10								.8	.1		0	0
11												
12								1.9		0		
13									.1		0	
14								.6	.1	0		5
15									4.2			8
16							†129	.4	11			
17									.3	0		.3
18									.2			
19								.7				
20												
21								.6	.2			
22												
23									.2	0		0
24								.8				
25									3.0			
26								.4			0	
27									1.2	0		0
28												
29							1.7		*.1			
30								.2			0	0
31								.2				

*Result of discharge measurement. †Discharge measurement on this date.

1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							27					
2	0		2.5					0.4	0.6			
3				0	0		27			0.1		
4	0		.3						.4			2.0
5		0				0.1	* 6					
6		0	9					.1	1,360	.1		
7	.1				0		2.5				0	
8					0							
9	2.1		.4	0	0		2.5	.9	6			.1
10										.2		
11	.1		.1				9				0	0
12					.1			4.2	648			
13						5						
14							1.5	2.3				
15	0	0		0			.9		† 7	.1		
16			0		.1	8		.2				.1
17	0				.2		.7		2.5	.1		.1
18	0	0				7				0		
19					.2					.1	0	
20							†108	69				
21	0	0										.1
22							22	8		1.6		
23	0		0	0		1.4				.3		12
24					.2				.2			9
25	0					1.0					0	
26												30
27					.1		12		.1		0	
28	0			.1				.2				
29		.4				49		2.5		0		*.2
30							1.1	30	.1			
31						72				0	0	

*Result of discharge measurement. †Discharge measurement on this date.

Little Fabius River near Edina, Mo.

(Continued)

Discharge, in second-feet, of Little Fabius River near Edina, Mo., 1930-35--Continued

1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	1.6	-	-	-	13	-	-	0.1
2	-	0.4	-	-	-	-	-	-	2.5	-	-	-
3	0	-	6	-	-	-	-	-	207	-	4.2	.1
4	-	-	-	-	-	-	-	-	53	-	1.9	-
5	-	-	-	-	1.9	-	-	-	-	-	-	-
6	-	-	-	-	-	-	0.9	-	4.5	8	-	.1
7	28	-	5	17	-	-	2.9	-	1.7	1.7	-	-
8	-	-	-	-	-	-	6	-	75	.9	-	-
9	2.3	-	-	-	-	-	1.6	6	-	.7	2.7	0
10	-	-	57	-	4.7	-	-	4.5	-	-	-	0
11	-	-	-	-	-	1.5	-	-	-	-	-	-
12	30	-	-	-	43	-	1.0	-	-	-	159	.1
13	286	-	-	21	-	-	-	.8	-	.6	918	-
14	-	115	-	-	-	-	.9	.8	-	.5	1,150	-
15	-	-	-	-	* 9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	.8	-	† 2.5	-	-	0
17	-	730	10	-	-	3.9	-	-	-	-	-	0
18	-	-	-	20	8	-	-	-	-	-	-	0
19	.4	-	-	-	5	-	-	-	-	-	4.3	4.3
20	-	72	-	-	-	-	-	.6	850	-	.9	-
21	-	-	-	-	-	-	129	12	-	.2	-	-
22	.2	-	8	-	-	-	† 21	.6	-	.2	.5	-
23	-	-	-	11	-	-	-	-	-	-	-	-
24	.6	319	-	-	-	-	-	-	1.3	-	-	.1
25	-	-	-	-	4.5	-	4.7	.5	-	-	.2	-
26	-	-	-	5	-	15	3.7	.5	-	386	.3	.1
27	-	-	-	-	3.7	-	-	-	1.4	6	.5	-
28	-	-	-	9	-	-	-	.5	.8	2.7	-	0
29	-	-	-	-	-	-	-	-	-	-	.2	-
30	-	-	6	-	-	-	-	-	-	-	-	-
31	-	-	275	-	-	1.9	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	-	-	-	-	-	-	-	-	-	0.3	-
2	-	-	1.9	-	4.7	-	* 22	2.6	-	-	-	0.4
3	0	-	3.2	2.3	-	-	-	-	-	-	-	-
4	.1	-	-	-	1.7	-	10	-	-	-	.5	-
5	-	0.4	-	2.3	-	-	-	-	-	0.3	-	.3
6	-	-	-	-	.9	2.1	13	16	* 0.4	-	-	.3
7	0	.5	-	-	-	-	8	-	-	-	-	.3
8	0	498	-	-	-	-	-	-	-	-	-	.3
9	-	51	-	-	-	-	-	10	-	-	-	.4
10	480	-	-	-	-	-	-	-	-	.6	* 6	-
11	30	-	-	-	.9	-	4.0	-	-	.3	2.0	.3
12	4.7	-	-	-	-	-	-	-	-	-	1.4	-
13	-	-	-	-	-	2.5	-	600	-	-	-	-
14	-	-	-	-	-	-	101	-	-	-	-	.3
15	.6	-	2.0	-	.7	-	47	-	-	-	-	-
16	-	-	-	1.9	-	-	-	-	-	-	-	.3
17	.4	-	-	-	-	-	-	-	-	-	-	-
18	.4	-	-	-	-	-	11	-	-	-	-	.2
19	-	3.4	-	-	-	-	-	-	-	-	-	.2
20	-	-	-	-	-	-	-	-	-	-	-	-
21	.3	4.2	4	34	-	-	-	-	-	-	-	.1
22	.4	-	-	-	-	-	3.5	-	-	-	-	-
23	-	-	498	-	-	-	-	7	-	-	-	-
24	.4	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	8	-	-	-	-	-	-	-	-
26	2.9	2.3	-	-	-	-	-	-	-	-	-	-
27	-	-	† 10	-	-	22	-	-	0	-	-	-
28	-	* 1.4	11	-	2.1	-	-	-	-	-	.4	-
29	.7	-	-	-	-	16	-	18	-	-	-	-
30	-	-	-	-	-	129	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Little Fabius River near Edina, Mo.

(Continued)

Discharge, in second-feet, of Little Fabius River near Edina, Mo., 1930-35--Continued

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	0.5	-	-	0	0	-	-	0
2	-	-	-	-	-	0.8	0	0	-	-	-	-
3	0	-	-	0	-	-	0	0	-	-	-	-
4	-	-	0.1	0	-	-	207	-	-	-	-	-
5	-	-	.1	-	-	0	11	*.1	0	-	-	1.8
6	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	.5	-	.3	0	-	-	-	-
8	0	-	-	-	-	0	-	0	0	0	-	-
9	0	-	-	-	.3	-	-	0	-	0	0	-
10	-	-	-	0	.2	0	.1	-	-	-	0	-
11	-	-	0	-	-	-	-	-	.2	-	-	-
12	-	-	-	-	-	0	-	0	.2	-	-	-
13	-	0.1	-	-	.4	0	.2	-	-	-	0	448
14	-	-	-	-	.4	-	-	6	0	0	-	452
15	-	0	0	-	.4	-	-	.5	0	-	-	30
16	-	-	-	0	.5	0	0	-	0	0	-	1,020
17	-	-	0	-	.3	-	-	.1	-	-	-	*17
18	-	0	-	-	-	-	-	-	0	-	1.8	3.7
19	-	-	0	-	.5	-	-	-	-	-	-	12
20	-	0	0	-	.5	0	0	-	0	0	-	-
21	-	-	0	-	.5	-	0	-	-	-	0	448
22	-	-	-	-	-	-	-	0	0	-	0	-
23	-	0	-	-	.5	0	0	0	0	0	0	-
24	-	-	-	0	-	0	0	-	0	0	0	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	.2	-	0	-	0	0	-	3.1
27	-	0	0	0	-	0	-	-	0	0	0	†57
28	-	-	-	-	*.4	0	-	-	-	0	-	59
29	-	-	-	0	-	0	-	-	0	-	0	578
30	-	-	-	-	-	-	-	-	0	-	-	-
31	-	-	-	.2	-	0	-	-	-	0	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	0.6	3.5	-	28	-	-	-	-
2	1.3	0.2	-	-	-	10	3.8	498	1,800	-	-	-
3	-	-	432	-	-	-	-	-	37	-	-	-
4	-	-	-	-	9	122	-	*15	-	-	0.1	-
5	-	185	24	-	6	45	-	-	-	-	-.1	-
6	.3	-	-	-	-	15	-	-	122	-	-	0.2
7	-	-	-	1.9	-	59	-	9	-	-	-	-.2
8	-	-	45	275	-	22	20	-	-	-	-	-
9	-	1.0	-	51	-	-	-	516	-	-	-	129
10	-	-	-	38	-	-	-	-	2.1	-	1.2	-
11	.1	-	.6	-	32	-	452	-	-	0.3	-	-
12	-	-	-	-	16	11	-	-	-	-	-	-
13	-	-	-	-	-	11	-	1,320	-	-	.2	-
14	-	-	-	-	159	7	-	516	1.0	-	-	.1
15	-	-	-	-	285	4.2	4.8	-	-	-	.1	-
16	-	-	-	-	-	-	-	-	700	-	-	-
17	0	.1	15	14	-	-	2.6	-	-	-	-	0
18	-	-	-	11	17	.9	480	-	1,860	-	-	-
19	191	-	-	16	-	.7	-	-	-	-	-	-
20	850	†57	-	-	-	-	12	400	-	.1	-	-
21	-	-	-	-	6	-	-	55	-	-	-	-
22	-	464	-	1.6	-	2.9	-	-	40	-	.1	-
23	1.1	25	-	-	-	-	-	34	-	-	-	-
24	143	14	-	-	-	-	-	69	-	175	-	-
25	37	-	-	-	600	600	7	-	-	-	-	-
26	-	-	-	-	-	143	-	-	-	-	-	0
27	-	9	-	-	-	-	-	†12.5	1.2	-	0	0
28	-	245	-	-	1.8	-	5.4	†1.1	.6	-	-	-
29	-	-	-	-	-	-	-	191	-	-	-	-
30	-	-	-	-	-	6	-	-	-	-	-	-
31	-	-	.6	-	-	-	-	-	-	*.1	-	-

*Result of discharge measurement. †Discharge measurement on this date.

North River at Bethel, Mo.

Location.- Chain gage, lat. 39°52', long. 92°1', in NE¼ sec. 33, T. 54 N., R. 10 W., at bridge on State Highway 15 at Bethel. Zero of gage is about 663.4 feet above mean sea level.

Drainage area.- 58 square miles.

Records available.- April 1930 to September 1935 (fragmentary).

Extremes.- Water year 1930-31: Maximum discharge observed, 4,350 second-feet June 6 (gage height, 17.24 feet).

1931-32: 5,950 second-feet Aug. 1 (gage height, 19.50 feet).

1932-33: 4,480 second-feet June 29 (gage height, 17.42 feet).

1933-34: 396 second-feet Sept. 29 (gage height, 7.68 feet).

1934-35: 2,060 second-feet May 9 (gage height, 13.28 feet).

Remarks.- Records poor and fragmentary. Stage-discharge relation affected by ice Nov. 19, 23, 25, 28, 29, Dec. 1, 5, 7, 19, 21, 23, 24, 1932, Feb. 11, 13, 15, 1933.

Discharge, in second-feet, 1930-35
1930

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-		-	171	-	-
2							-		-	0	-	0.1
3							-		-	9	-	-
4							-		-	-	-	0
5							-		-	-	-	-
6							-		-	-	-	-
7							-		-	3.2	0	-
8							†2.2		-	-	-	0
9							-		0.1	-	-	0
10							-		-	2.2	-	-
11							-		-	-	0	-
12							-		.2	1.8	-	0
13							-		.2	-	-	0
14							-		.2	-	-	-
15							-		-	-	-	-
16							*274		.3	.5	.1	24
17							-		-	-	-	-
18							-		-	-	-	-
19							-		-	-	.1	1.8
20							-		-	-	-	-
21							-		1.0	-	-	-
22							-		-	.2	-	.4
23							-		0	-	0	-
24							-		.2	-	-	-
25							-		153	-	-	.4
26							-		-	-	-	-
27							-		274	-	-	11
28							-		33	-	0	-
29							2.9		8	-	-	-
30							-		† 2.7	-	.1	-
31							-		129	-	-	-

*Result of discharge measurement.

†Discharge measurement on this date.

1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	-	43	-	-	-	67	3.6	8	-	0.6	-
2	-	-	9	0.4	-	0.4	-	-	2.5	0.7	-	-
3	-	0.1	-	0	-	-	82	-	-	-	-	-
4	.2	-	-	-	0.2	-	53	1.3	1.0	-	-	-
5	-	-	-	-	-	-	*23	-	-	-	-	-
6	-	0	42	0	.2	-	15	-	4,350	-	-	-
7	12	-	-	0	.6	-	-	-	-	-	-	-
8	54	0	16	-	*.2	-	-	-	-	-	.7	-
9	-	-	-	0	-	-	6	-	-	-	-	-
10	-	-	5	-	-	-	14	-	569	.6	-	0.2
11	-	-	-	-	-	1.2	17	1.0	552	-	1.0	-
12	-	-	-	0	-	-	-	-	1,120	-	-	.2
13	1.2	-	1.0	-	.2	-	-	-	-	.6	.7	-
14	-	-	-	-	.2	155	3.2	-	-	-	-	-
15	.6	-	-	-	-	-	-	-	*19	.5	.6	-
16	-	-	-	-	-	38	-	1.8	-	-	-	-
17	.4	-	-	.1	.4	-	1.0	-	-	-	.4	.2
18	-	-	-	-	.5	16	-	1.0	3.5	-	.4	.2
19	-	-	-	-	.5	-	-	-	-	-	-	-
20	-	.4	.2	-	.5	-	.5	569	1.1	.2	-	-
21	-	-	-	-	.4	11	274	-	-	.2	.3	.2
22	-	-	.2	0	-	5	35	-	-	-	-	-
23	-	-	-	-	.4	-	24	-	-	2.1	-	-
24	-	.2	-	-	-	4.3	13	7	-	-	.3	-
25	.1	.2	-	-	.6	-	-	-	-	-	-	-
26	-	-	-	.1	-	-	-	-	-	-	-	153
27	.1	-	-	0	.6	4.3	34	-	1.1	-	-	-
28	-	-	-	-	.6	116	-	2.9	-	.5	-	-
29	0	-	-	-	-	-	8	-	.9	-	.3	* 2.1
30	-	-	-	.2	-	222	-	-	-	*.4	-	-
31	-	-	.2	.2	-	153	-	-	-	-	-	-

*Result of discharge measurement.

Discharge, in second-feet, of North River at Bethel, Mo., 1930-35--Continued

1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	-	-	-	4.5	-	-	1.5	-	-	†4,280	-
2	-	-	-	89	-	3.4	1.5	-	2.4	0.8	1,280	1.7
3	-	-	31	-	-	3.4	-	1.2	159	-	-	-
4	-	-	-	-	2.5	4.0	1.0	1.1	209	-	-	-
5	-	-	-	84	2.1	-	.7	1.1	-	1.9	-	-
6	.2	0.7	-	-	3.1	-	-	2.9	27	117	-	-
7	171	-	8	56	-	6	-	6	4.9	17	123	1.2
8	-	-	-	-	6	-	-	386	141	-	-	-
9	19	.4	10	-	7	-	-	171	135	-	-	1.1
10	-	.4	-	-	6	-	-	89	-	-	8	-
11	-	-	326	-	222	1.1	-	-	-	.3	410	-
12	222	-	-	8	194	-	.7	9	-	-	569	-
13	78	94	-	-	41	-	.7	4.5	2.7	.2	-	27.9
14	-	-	-	-	-	-	.5	2.7	513	.2	1,000	-
15	-	-	-	-	*12	1.1	.5	-	-	-	895	†1.5
16	-	-	26	-	14	1.1	.5	1.4	2.4	-	586	-
17	-	123	-	-	50	-	-	-	†1.4	-	261	-
18	-	-	17	-	62	-	.5	-	†586	.4	455	-
19	-	-	15	-	19	3.7	.3	-	440	.3	183	-
20	1.2	57	-	-	11	-	.5	.7	502	.1	24	1.4
21	-	-	-	-	-	4.7	†117	.9	89	-	15	-
22	-	-	-	-	-	3.4	147	-	19	-	-	1.2
23	.5	455	13	-	6	6	28	.7	6	.1	-	-
24	-	-	-	-	-	30	13	-	3.4	-	-	-
25	-	153	-	-	4.0	48	7	-	-	-	-	-
26	-	-	-	-	3.7	30	4.0	3.4	-	300	6	-
27	-	45	-	11	3.7	-	2.9	.7	11	248	4.2	-
28	37	-	-	-	3.1	8	2.2	-	42	-	-	-
29	-	-	5	-	3.7	6	1.5	-	10	-	-	1.1
30	21	44	7	-	-	-	1.5	-	1.9	-	2.7	-
31	-	-	-	-	-	2.8	-	.7	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	16	2	-	-	-	-	2.4	-	-	-	0.2
2	-	-	-	-	-	-	†41	129	-	-	-	2.3
3	0.9	-	-	-	-	-	-	16	-	-	-	-
4	-	-	-	-	-	-	23	-	-	-	-	-
5	-	-	5	-	-	-	-	42	-	-	6	-
6	-	2.9	-	5	-	-	-	196	* 2.1	1.6	-	-
7	2.2	-	4	-	-	-	-	-	.7	-	-	-
8	1.4	300	-	-	-	-	-	147	-	-	-	-
9	-	410	-	-	-	-	-	55	-	-	6	-
10	326	73	-	5	1.9	-	11	-	-	-	*8	-
11	368	-	-	5	2	-	-	171	-	-	23	-
12	-	-	-	-	-	-	-	569	-	-	12	-
13	-	-	-	-	2	-	-	970	-	-	-	.6
14	-	-	-	4.2	-	-	-	-	-	1.5	1.0	-
15	4.9	-	-	-	2	-	59	-	-	-	-	-
16	-	19	-	4.5	-	-	-	17	-	-	.6	-
17	-	-	-	-	-	-	147	-	-	-	-	-
18	8	16	-	8	-	6	55	10	-	1.5	-	-
19	8	12	3	486	-	-	-	-	2.2	-	-	-
20	-	-	-	171	-	14	17	-	-	-	-	-
21	6	-	8	59	-	-	-	-	-	-	-	-
22	6	-	-	-	-	-	8	117	.2	-	-	-
23	-	8	500	68	-	10	-	-	-	-	-	-
24	4.9	-	800	-	-	-	-	48	-	3.4	.4	-
25	-	6	-	-	-	73	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	14	-	-	-	-	-	-	326	.1	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	.3
29	4.9	* 2	31	13	-	29	-	-	-	-	-	-
30	-	2	*23	-	-	-	-	-	2,250	.5	-	-
31	-	-	32	-	-	274	-	8	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Discharge, in second-feet, of North River at Bethel, Mo., 1930-35--Continued

1933-34

o

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	0.3	0.4	-	-	0.4	-	-	-	-	0	-
2	-	-	-	-	-	-	-	-	-	-	-	-
3	*0.2	-	-	-	-	2.2	-	-	-	-	-	-
4	-	-	-	-	-	-	196	-	-	-	-	-
5	-	-	-	-	0.2	-	-	*0.5	-	-	-	20
6	-	-	-	-	-	-	-	-	-	-	-	-
7	.5	.2	-	-	-	-	-	-	-	-	-	-
8	-	-	.2	-	-	-	21	.2	0.2	-	0	-
9	-	-	-	0.5	-	-	8	.1	-	-	-	-
10	.1	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	.7	-	1.5	-	-	-	-	-	368
13	-	-	-	-	.5	-	1.0	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	0	222
15	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	.5	-	-	-	-	-	-	-	65
18	.2	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	.1	-	-	-	-	-	-	-
20	-	-	.7	-	-	-	-	-	-	-	-	1.9
21	-	.1	-	-	-	-	-	-	-	0	-	-
22	-	.2	-	-	-	-	-	-	-	-	-	-
23	-	-	-	.5	-	3.2	-	-	-	-	-	-
24	-	-	-	-	-	-	-	2.7	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	*1.4
26	-	-	-	-	-	-	.7	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	*.3	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	0	0	-	396
30	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	.1	-	-	-	-

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	4.5	2.2	-	-	-	-	-
2	-	-	-	-	-	-	2.2	-	-	-	0.9	-
3	-	-	382	-	-	-	-	470	-	-	-	-
4	-	-	-	-	-	-	-	700	455	-	-	-
5	-	222	-	-	-	-	-	100	-	-	-	-
6	-	-	-	-	-	-	-	* 21	535	-	-	-
7	-	-	-	-	-	368	-	-	-	-	-	-
8	-	-	12	313	-	-	6	-	24	1.2	-	-
9	-	-	-	-	25	48	326	*1,480	-	-	-	-
10	-	15	-	-	-	-	326	513	-	-	1.3	-
11	-	-	-	-	-	-	440	-	-	-	-	-
12	-	-	-	-	-	-	-	-	2.1	-	-	382
13	-	-	-	-	-	-	47	-	-	-	-	-
14	-	-	-	-	249	-	-	680	8	-	-	-
15	-	-	-	-	-	-	9	-	-	-	-	-
16	-	-	-	5	159	5	-	-	-	-	-	-
17	-	-	6	12	-	-	4.9	-	-	-	-	-
18	-	-	-	12	-	-	-	-	1,060	-	-	-
19	-	-	-	-	24	-	-	-	-	-	-	-
20	-	†183	-	-	-	-	32	382	-	-	-	-
21	-	-	-	-	-	1.9	-	-	171	-	1.4	-
22	-	129	10	-	-	1.7	-	-	100	-	-	-
23	-	456	-	-	10	1.5	-	-	-	24	-	-
24	-	30	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	382	-	-	-	680	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	13	-	-	-	47	.5	586	-	-	-	-
28	-	153	4.2	-	* 5	18	-	1,030	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	300	-	1.4	-	-	-	-	-	.9	-	-
31	-	-	-	-	-	-	-	-	-	-	.4	-

*Result of discharge measurement.

†Discharge measurement on this date.

North River at Palmyra, Mo.

Location.- Wire gage, lat. 39°49'5", long. 91°31'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 58 N., R. 8 W., on U. S. Highway 61 about 1 mile north of Palmyra. Zero of gage is 465.80 feet above mean sea level.

Drainage area.- 373 square miles.

Records available.- December 1934 to September 1935.

Extremes.- Maximum discharge observed during period, 8,790 second-feet May 9 (gage height, 18.15 feet); minimum discharge observed, 2 second-feet Sept. 25, 30; minimum gage height observed, 4.52 feet Sept. 30.
Maximum stage known, about 28.0 feet, from flood marks, date unknown.

Remarks.- Records fair. Discharge estimated for periods of ice effect, Jan. 17, 20-24. Diversion by city of Palmyra and by Chicago, Burlington & Quincy Railroad about 1,000 feet upstream. Station operated in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

4.5	2.0	6.1	166	8.4	1,100	14.0	4,370
4.7	6.1	6.3	225	8.8	1,300	15.0	5,070
4.9	15	6.5	293	9.2	1,500	15.5	5,430
5.1	27	6.7	366	9.6	1,700	16.0	5,830
5.3	42	7.0	486	10.0	1,900	16.5	6,280
5.5	61	7.3	611	11.0	2,500	17.0	6,780
5.7	56	7.6	738	12.0	3,100	17.5	7,500
5.9	116	8.0	910	13.0	3,700	18.0	8,380

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	22	31	128	74	154	1,050	56	28	5
2			-	24	30	128	68	3,640	6,350	258	24	27
3			-	16	108	115	63	7,830	1,900	117	18	89
4			-	13	83	106	56	1,300	1,100	94	15	38
5			-	17	51	910	53	466	366	77	13	46
6			-	17	33	141	49	329	1,300	63	11	26
7			-	16	42	5,990	527	293	1,300	55	10	16
8			-	4,510	141	486	1,600	258	386	46	10	16
9			-	1,450	242	141	1,100	7,340	210	40	9	13
10			-	653	183	2,980	2,260	3,040	589	36	8	10
11			-	425	172	955	3,700	611	276	33	7	10
12			-	276	164	405	1,200	3,220	130	30	6	11
13			-	242	653	293	508	5,070	94	24	6	18
14			34	210	1,150	242	276	5,000	82	23	6	14
15			* 32	210	1,000	172	194	2,200	73	22	6	14
16			30	130	738	137	130	1,800	119	18	6	13
17			34	150	506	105	130	824	328	18	5	10
18			36	141	242	92	1,500	425	5,670	16	5	7
19			45	123	156	66	781	1,600	2,860	15	34	5
20			44	123	132	80	498	1,600	1,300	16	28	4
21			53	110	108	73	194	1,300	569	19	22	3
22			50	100	94	68	145	738	445	158	18	3
23			46	90	85	63	108	569	242	112	14	3
24			146	80	78	61	94	496	119	3,520	12	3
25			117	51	3,160	73	89	293	94	486	9	2
26			73	47	781	1,100	83	210	83	386	7	6
27			51	42	225	141	80	141	73	100	6	4
28			47	46	132	166	80	6,560	67	83	6	3
29			46	44	-	130	83	6,780	61	132	6	3
30			48	36	-	89	77	4,090	59	76	5	2
31			46	33	-	66	-	1,550	-	42	5	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....				-	-	-	-	-	-			
November.....				-	-	-	-	-	-			
December 14-31.....				980	146	30	54.4	0.146	0.10			
Calendar year												
January.....				9,447	4,510	13	305	.618	.94			
February.....				10,520	3,160	30	376	1.01	1.05			
March.....				15,742	5,990	61	508	1.36	1.67			
April.....				15,987	3,700	49	553	1.43	1.60			
May.....				69,727	7,830	141	2,249	6.03	6.95			
June.....				27,276	6,350	59	909	2.44	2.72			
July.....				6,171	3,520	15	199	.534	.62			
August.....				365	34	5	11.8	.032	.04			
September.....				423	89	2	14.1	.038	.04			
Water year												

* Interpolated.

Bear Creek near Hannibal, Mo.

Location.- Chain gage, lat. 39°42', long. 91°28', in SW $\frac{1}{4}$ sec. 28, T. 57 N., R. 5 W., at bridge on U. S. Highway 36 a quarter of a mile below Chicago, Burlington & Quincy Railroad bridge $\frac{1}{2}$ miles west of Hannibal.

Drainage area.- 14 square miles.

Records available.- March 1930 to September 1935 (fragmentary).

Extremes.- Water year 1930-31: Maximum discharge observed, 2,000 second-feet June 11 (gage height, 10.60 feet).

1931-32: 2,360 second-feet Aug. 1 (gage height, 12.10 feet).

1932-33: 191 second-feet May 12 (gage height, 3.58 feet).

1933-34: 10 second-feet Sept. 29 (gage height, 2.08 feet).

1934-35: 1,060 second-feet Nov. 30 (gage height, 7.68 feet).

Remarks.- Records poor and fragmentary. Stage-discharge relation affected by ice Dec. 12, 13, 1932, Feb. 10, 11, 16, 1933, Jan. 27, Jan. 31 to Feb. 2, Feb. 27, Dec. 15, 1934, Jan. 31, 1935.

Discharge, in second-feet, 1930-35
1930

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	-	-	0.2	-
2								-	-	*1.7	-	0.1
3								-	-	2.6	-	.1
4								-	-	-	-	.1
5								1.0	-	-	-	-
6								.8	-	-	-	-
7								.6	-	-	.1	.1
8								.7	-	-	-	-
9								.8	0.2	-	-	-
10								.5	.2	-	-	-
11								-	.2	-	-	*.1
12								-	.2	-	*.2	-
13								-	.3	-	-	-
14							*1.1	.6	.3	1.0	-	-
15								-	-	.6	.1	.6
16								-	.3	.6	.2	.2
17								-	.3	-	-	.1
18								-	-	-	-	.1
19								-	-	-	.1	-
20								-	30	.2	.2	.1
21								-	-	-	-	-
22								-	-	2.0	.2	-
23								-	-	-	-	-
24								-	-	.4	-	.1
25								-	†344	.3	.1	-
26								-	-	-	-	-
27								-	10	.3	.1	-
28						*1.7		-	-	.4	.1	-
29								-	-	.3	.1	-
30								-	770	-	.1	.1
31								-	-	.3	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	2.2	3.2	4.6	0.8	-	20
2	0.1	*0.1	-	0.4	0.3	-	2.2	3.0	4.6	.8	-	.4
3	-	.1	-	.4	-	0.4	61	-	4.2	.7	-	-
4	.1	-	0.3	-	-	-	8	2.3	-	-	-	-
5	-	-	.4	.6	.2	-	-	-	-	-	-	-
6	.1	-	-	-	-	-	4.4	2.3	36	-	-	-
7	4.8	-	-	-	.2	-	*2.8	-	-	-	-	-
8	-	-	.4	†.5	-	-	2.5	2.6	24	-	-	.2
9	-	-	-	.6	*.2	-	-	4.0	4.8	-	-	-
10	-	.2	-	-	.1	-	4.0	-	322	.3	-	.2
11	-	-	-	-	-	-	3.7	4.4	2,000	.4	-	.2
12	-	-	-	-	.2	-	4.0	344	9	-	-	-
13	-	.2	-	-	.3	-	-	3.6	-	-	-	-
14	.1	.1	-	-	.2	-	2.1	-	-	-	-	.1
15	.1	-	-	-	-	-	2.5	2.3	-	.3	-	.2
16	.1	-	-	-	-	2.4	3.8	-	-	.3	-	.1
17	.1	.2	.3	-	-	2.0	3.2	-	*2.5	.2	-	-
18	-	-	.4	-	-	-	2.3	3.1	-	.5	-	-
19	-	.2	-	.2	.4	-	-	174	-	-	-	-
20	.1	.2	-	-	-	-	3.2	-	-	.5	-	-
21	.1	-	-	.3	-	-	3.2	-	-	.4	-	-
22	.1	.2	-	-	-	-	3.2	12	-	.3	-	.2
23	-	-	-	-	.7	-	2.6	-	-	.2	-	.2
24	0	.2	-	.2	.4	-	3.0	-	-	.5	-	-
25	-	-	-	-	.5	-	3.2	-	-	.2	-	-
26	-	-	-	.3	-	-	-	-	1.2	-	0.1	.2
27	.1	-	-	-	-	11	3.2	-	-	-	.1	-
28	-	-	-	-	-	32	2.6	4.2	-	-	.2	.1
29	-	-	-	-	-	-	3.0	3.8	.6	*.2	.2	.1
30	-	-	.4	-	-	4.6	3.0	-	.7	-	-	*.1
31	-	-	.4	-	-	4.2	-	-	-	-	.2	-

*Result of discharge measurement. †Discharge measurement on this date.

BEAR CREEK BASIN

Discharge, in second-feet, of Bear Creek near Hannibal, Mo., 1930-35--Continued

1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	-	1.3	-	3.6	-	0.8	-	1.0	-	†961	0.7
2	.1	-	1.5	-	-	2.6	-	0.6	1.0	-	6	-
3	.1	-	-	-	4.2	1.6	-	1.0	24	-	-	-
4	-	0.2	-	-	-	1.8	1.1	.8	-	-	.2	-
5	.1	.1	-	8	-	-	1.1	-	-	-	.1	-
6	.1	.1	-	12	4.6	-	.8	-	1.3	-	.1	-
7	.2	-	-	2.2	-	-	.8	-	1.1	0.3	-	-
8	-	-	-	-	3.8	-	-	-	-	.2	.2	.3
9	.1	.2	-	-	-	1.1	-	-	-	-	.1	-
10	.2	-	1.3	-	-	1.3	-	-	-	-	.1	-
11	-	-	-	-	-	1.3	-	.9	.7	-	1,010	-
12	-	-	-	2.6	5	-	-	-	-	.1	30	.3
13	2.2	-	-	2.4	4.6	-	.6	-	1.0	.3	61	-
14	-	.1	-	-	-	-	-	-	1.0	.2	-	.8
15	.3	-	-	19	3.8	-	-	-	†2.3	.1	26	.6
16	-	.1	-	5	2.0	-	-	-	1.1	.1	8	.4
17	.1	-	-	-	*3.8	-	-	.8	1.2	-	54	-
18	-	.2	-	-	-	-	-	.8	65	.1	10	-
19	.2	-	2.8	-	-	1.2	†.4	-	-	.1	2.0	*.6
20	-	.7	-	-	2.4	-	-	-	13	-	1.3	.5
21	-	-	3.1	6	-	1.0	7	-	-	-	-	-
22	.1	-	2.1	4.2	-	-	1.4	-	-	-	-	-
23	.1	2.3	2.8	-	-	-	.8	-	-	-	-	-
24	-	-	-	-	-	-	-	.8	-	-	-	-
25	-	.8	-	4.6	-	3.2	.8	.6	.3	-	.9	-
26	.2	-	-	-	1.6	-	.8	-	-	-	.6	.4
27	.2	1.9	-	-	1.4	-	.8	-	-	17	-	.4
28	-	1.7	-	-	-	1.6	.4	-	-	-	-	-
29	.2	-	-	-	1.6	1.4	.7	-	-	-	.8	-
30	.2	1.1	35	-	-	-	-	1.0	-	-	.6	.3
31	.2	-	73	-	-	1.0	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	0.3	-	-	-	*16	2.0	-	-	-	-
2	-	-	-	-	-	-	-	3.1	-	-	-	-
3	-	-	.6	-	-	2.3	-	1.7	-	0.4	-	-
4	0.4	-	-	1.0	-	-	5	-	-	-	0.6	-
5	-	-	-	1.0	-	-	-	-	-	.3	.4	-
6	-	-	.3	-	-	2.7	-	-	-	-	-	-
7	-	-	-	.6	-	15	6	-	†1.0	-	.4	0.1
8	-	-	-	-	-	7	-	7	-	.6	-	.1
9	-	-	.3	.4	-	-	-	2.8	-	-	.3	.1
10	.6	-	.3	.3	1.4	-	-	2.3	-	-	-	-
11	-	-	-	.3	1.4	-	-	18	-	.2	*.2	-
12	-	-	.3	-	-	-	2.5	191	-	-	.2	.1
13	-	-	.3	-	-	3.1	-	119	-	-	-	-
14	-	-	-	-	-	2.8	-	-	.4	-	-	.1
15	-	0.3	-	-	-	2.5	-	3.4	.6	.2	.2	-
16	-	-	-	-	2.0	-	-	-	-	-	-	-
17	-	.3	-	-	-	-	11	-	-	.3	.1	-
18	-	.3	-	4.0	-	2.8	-	-	-	-	-	.1
19	-	-	-	-	6	-	-	-	.6	-	-	.2
20	.3	-	-	-	-	-	3.4	-	.6	.3	-	-
21	-	.3	-	8	3.0	3.4	-	-	-	-	-	-
22	-	-	-	-	-	-	2.3	1.8	-	-	-	-
23	-	.2	-	-	-	-	-	-	-	-	.1	-
24	-	-	-	-	-	-	2.0	-	-	-	-	-
25	-	.2	-	-	-	-	1.9	1.3	-	-	-	.1
26	-	*.3	-	-	-	-	-	38	.4	-	-	-
27	-	-	5	-	-	-	1.3	-	.3	-	-	-
28	-	-	-	6	-	4.0	1.7	-	-	-	-	-
29	.2	-	*2.8	-	-	-	1.3	1.5	.8	-	-	-
30	-	-	-	-	-	-	-	-	.4	-	-	-
31	-	-	-	-	-	12	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Discharge, in second-feet, of Bear Creek near Hannibal, Mo., 1930-35--Continued

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	0.5	-	0.8	-	-	-	-	-	-	0
2	*0.2	-	-	-	.8	-	1.1	-	-	0	0	-
3	-	-	-	0.6	-	-	-	*0.3	-	0	-	-
4	-	-	-	-	-	-	1.3	.4	0.2	-	-	.3
5	.2	-	-	.6	.9	-	-	9	-	0	-	-
6	.2	-	-	-	.8	1.2	-	-	-	0	-	-
7	-	-	-	-	.8	†.5	-	1.1	-	0	0	-
8	-	-	-	-	.8	.6	-	.6	.1	-	-	0
9	.3	-	-	-	-	-	-	-	-	0	-	-
10	-	-	-	-	-	-	-	.3	-	0	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	.6	-	-	-	.4	.4	0	0	0
13	-	-	-	-	.8	-	-	-	-	0	-	-
14	-	-	-	-	-	-	-	-	-	0	-	-
15	-	-	-	-	.6	-	-	-	-	-	0	8
16	-	-	-	-	.9	-	-	-	-	-	1.0	-
17	-	-	-	-	-	-	-	-	-	0	-	-
18	-	-	-	-	-	-	-	.4	-	0	-	.4
19	-	-	-	-	-	.6	-	-	-	0	-	-
20	-	0.5	1.0	-	-	.8	-	-	-	0	0	-
21	-	-	.6	-	-	1.2	-	-	-	-	2.5	-
22	-	-	-	-	.9	-	-	-	-	-	-	-
23	-	-	-	-	-	.4	-	.3	-	-	0	-
24	-	-	-	-	-	.4	-	-	-	-	-	-
25	-	-	-	-	-	-	-	.1	-	-	-	-
26	-	-	-	-	-	-	.4	.1	-	-	-	*.1
27	-	-	-	.6	*.4	-	.4	-	-	0	-	-
28	-	-	-	-	-	1.1	-	.2	0	-	-	-
29	-	-	-	-	-	1.3	-	-	-	-	-	10
30	.4	-	-	-	-	1.8	-	-	-	-	-	-
31	-	-	-	.7	-	-	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	-	-	1.0	-	-
2	0.3	-	-	-	-	-	-	†87	-	1.4	-	-
3	-	1.4	-	-	-	-	-	57	-	-	*0.9	-
4	-	-	-	-	-	-	-	-	6	-	-	0.2
5	-	-	-	-	-	-	-	-	-	-	-	-
6	.2	.4	-	-	1.3	-	-	7	-	-	-	-
7	-	.3	0.7	-	-	-	-	.1	-	-	-	-
8	-	-	-	42	33	-	9	-	-	-	.6	-
9	-	-	-	16	-	-	6	61	-	-	-	-
10	-	-	-	-	-	-	-	6	-	-	-	-
11	-	-	-	-	-	6	12	-	3.4	-	-	.1
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	2.0	20	-	-	981	-	-	-	-
15	-	.2	.7	†3.1	-	3.1	-	-	-	1.7	-	-
16	-	.2	-	-	-	2.3	-	-	-	1.3	-	-
17	-	-	-	-	-	-	-	10	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	33	-	-	-	-	-	-	-	-	-	-	-
20	3.0	4.0	1.0	-	-	-	3.8	-	-	-	1.6	-
21	-	-	-	-	-	1.3	-	18	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	2.3	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	3.4	-	-	-	-
26	-	2.2	-	-	-	-	2.0	-	-	-	-	.2
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	1.7	-	-	-
29	-	-	-	-	-	-	-	-	-	-	.2	-
30	-	1.060	-	-	-	-	-	-	-	-	-	*.1
31	-	-	-	5	-	-	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Salt River near Shelbyna, Mo.

Location.- Water-stage recorder, lat. 39°44', long. 92°1', in SW¼ sec. 17, T. 57 N., R. 10 W., at bridge on State Highway 15, 3 miles north of Shelbyna. Zero of gage is 663.3 feet above mean sea level.

Drainage area.- 481 square miles.

Records available.- April 1930 to September 1935.

Extremes.- Maximum discharge during year, 12,300 second-feet June 3 (gage height, 20.63 feet); minimum, about 1.0 second-foot Sept. 24 (gage height, 2.37 feet).
1930-35: Maximum discharge observed, 16,000 second-feet July 1, 1933 (gage height, 22.62 feet); no flow June 25 to Aug. 15, 1934.
Maximum stage known, 23.5 feet in June 1928 (discharge, 18,000 second-feet).

Remarks.- Records good except those estimated for periods of ice effect and for periods when stage-discharge relation was affected by construction of small dams on control. Estimates are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,020	* 30	1,400	* 50	34	264	68	298	3,140	59	10	* 8
2	636	* 30	1,520	* 50	38	201	59	2,040	3,200	264	6	* 75
3	192	* 362	1,700	* 40	58	189	52	4,000	9,690	940	4.8	* 75
4	114	1,840	2,270	* 75	85	298	48	3,600	9,130	1,170	18	* 70
5	81	3,150	2,120	* 60	114	1,170	42	2,140	3,370	792	96	* 70
6	63	2,700	919	* 60	131	1,520	39	505	1,120	281	29	* 50
7	51	2,120	540	* 100	98	1,520	51	315	1,640	102	15	* 20
8	42	726	315	1,300	156	978	186	436	978	52	10	* 20
9	37	400	* 140	1,850	264	611	978	2,110	566	37	6	* 25
10	* 20	* 150	* 100	1,460	281	1,210	1,240	3,820	214	24	4.2	* 400
11	* 15	* 120	* 75	757	452	1,890	1,520	2,640	144	17	3.3	* 250
12	* 10	* 100	* 60	505	505	1,680	2,100	1,270	175	13	8	186
13	* 8	* 75	* 50	505	470	647	1,480	2,950	140	10	8	73
14	* 5	* 70	* 50	647	866	315	470	4,660	108	7	6	39
15	* 4	* 50	* 60	400	1,400	214	230	4,120	74	4.8	6	21
16	* 3	* 50	* 120	227	1,720	166	144	2,980	110	4.2	* 6	12
17	* 2	* 40	* 120	198	1,020	116	106	2,180	418	3.6	* 6	7
18	* 2	* 40	* 60	192	452	87	792	1,320	1,840	2.6	*150	4.8
19	* 2	* 600	* 100	214	366	66	1,930	719	4,580	2.4	* 70	3.3
20	964	1,170	* 200	* 150	332	60	1,440	940	4,300	2.2	* 50	2.6
21	1,990	1,360	418	* 100	264	62	435	1,930	2,450	2.4	* 40	2.4
22	1,460	1,640	435	* 75	214	73	217	2,900	1,730	18	* 20	2.0
23	730	2,230	540	* 50	220	69	144	1,640	940	55	* 15	1.6
24	605	2,110	575	* 40	264	59	106	1,280	452	317	* 10	1.2
25	951	765	418	* 30	1,400	214	100	1,680	192	505	* 8	1.4
26	470	* 350	247	* 25	2,510	1,320	116	838	112	505	* 6	2.8
27	* 332	* 250	166	* 25	1,820	1,090	91	332	80	169	* 5	2.8
28	* 150	* 768	247	38	601	505	71	1,930	71	63	* 4	2.8
29	* 100	1,090	208	34	-	178	108	5,530	59	39	* 3	2.4
30	* 70	1,360	* 120	34	-	126	181	5,740	46	24	* 3	1.8
31	* 50	-	* 100	34	-	87	-	4,780	-	17	* 3	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				11,079	2,020	2	357	0.742	0.86	21,970		
November.....				25,746	3,150	30	868	1.78	1.99	51,070		
December.....				15,393	2,270	50	497	1.03	1.19	30,530		
Calendar year												
January.....				9,325	1,850	25	301	.626	.72	18,500		
February.....				16,135	2,510	34	578	1.20	1.25	32,000		
March.....				16,985	1,890	59	548	1.14	1.31	33,690		
April.....				14,544	2,100	39	485	1.01	1.13	28,850		
May.....				71,623	5,740	298	2,310	4.80	5.53	142,100		
June.....				50,869	9,690	46	1,696	3.53	3.94	100,900		
July.....				5,602.2	1,170	2.2	177	.368	.42	10,910		
August.....				629.3	150	3.3	20.3	.042	.05	1,250		
September.....				1,432.9	400	1.2	47.8	.099	.11	2,840		
Water year 1934-35.....				239,263.4	9,690	1.2	656	1.36	18.50	474,600		

* Estimated.

Salt River near Hunnewell, Mo.

Location.— Wire-weight gage, lat. 39°40'5", long. 91°54'10", in SW¼NW¼ sec. 10, T. 56 N., R. 9 W., half a mile below Black Creek and 2 miles west of Hunnewell. Chain gage at same site and datum prior to Nov. 21, 1934. Zero of gage is about 615.6 feet above mean sea level.

Drainage area.— 626 square miles.

Records available.— April 1930 to September 1935.

Extremes.— Maximum discharge observed during year, 11,300 second-feet June 4 (gage height, 19.80 feet); minimum, 3.0 second-feet Oct. 18, 19 (gage height, 2.14 feet).
1930-35: Maximum discharge observed, 15,400 second-feet July 1, 1933 (gage height, 21.20 feet); no flow on many days during October 1933, May to September 1934.
Maximum stage known, about 21.8 feet, date unknown.

Remarks.— Records good except those for days of rapidly changing stage, those estimated for Jan. 16, July 29, and those for periods of ice effect, Dec. 10-14, Jan. 22-28, which are poor.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 22 to Aug. 17)

2.1	2.0	3.2	112	5.5	780	10.0	2,920
2.2	4.6	3.5	170	6.0	980	12.0	4,030
2.4	12	3.8	234	6.5	1,190	14.0	5,320
2.6	25	4.1	304	7.0	1,420	16.0	6,860
2.8	46	4.5	412	8.0	1,900	18.0	8,820
3.0	77	5.0	590	9.0	2,400	20.0	11,700

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,820	40	1,900	63	46	304	86	412	5,840	292	24	10
2	1,140	33	1,800	56	45	280	86	2,610	4,150	478	16	91
3	304	69	2,000	50	45	246	60	4,770	5,240	666	14	91
4	234	1,900	2,500	82	107	140	60	5,620	10,500	1,710	13	87
5	150	2,920	2,760	77	101	2,450	67	3,200	5,700	820	11	87
6	74	2,920	980	77	77	2,000	60	1,100	2,400	514	43	51
7	54	2,400	780	92	60	2,660	60	382	2,250	122	31	20
8	58	1,950	478	1,800	60	1,660	112	382	1,190	84	16	25
9	30	412	140	2,610	170	1,610	1,190	4,270	590	70	16	30
10	18	180	112	2,200	328	1,800	1,680	4,510	292	48	13	444
11	16	150	94	1,140	478	2,250	2,870	5,170	202	41	10	328
12	12	108	77	590	628	2,200	2,200	2,870	202	37	9	191
13	10	84	60	628	552	1,100	1,850	3,360	191	29	8	68
14	6	84	68	780	292	246	1,060	5,920	151	23	7	39
15	4.6	60	77	820	1,760	246	328	4,960	140	19	6	31
16	4.6	60	131	500	2,200	202	328	4,330	140	21	11	19
17	4.1	45	131	202	1,190	131	328	2,660	268	19	10	16
18	3.0	45	77	170	514	94	628	1,850	3,140	21	900	11
19	3.0	60	122	170	412	87	2,350	1,800	4,150	19	77	9
20	268	1,470	257	131	328	87	1,020	1,900	5,400	19	58	8
21	1,660	1,470	412	112	288	87	666	2,250	3,470	27	44	7
22	2,100	2,400	354	86	170	87	444	3,140	2,150	24	24	6
23	900	2,450	590	68	180	99	150	2,100	1,320	160	17	4.9
24	940	2,500	704	52	280	99	131	1,230	742	2,560	12	4.6
25	1,320	742	444	39	1,900	105	122	980	202	1,850	9	4.1
26	900	382	246	33	2,920	1,020	108	742	160	666	7	4.1
27	412	292	246	33	1,650	2,100	101	382	108	234	4.9	4.9
28	160	980	212	39	900	900	94	4,270	99	160	4.5	6
29	112	1,420	202	45	-	412	89	5,320	94	100	4.1	4.6
30	77	2,820	122	45	-	140	223	8,190	91	39	3.8	4.6
31	60	-	112	45	-	122	-	6,800	-	29	4.3	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				13,634.3	2,820	3.0	446	0.712	0.82	27,440		
November.....				30,406	2,920	29	1,014	1.62	1.61	60,310		
December.....				18,198	2,760	60	597	.958	1.08	56,080		
Calendar year 1934.....				93,097.0	2,920	0	285	.407	5.55	184,700		
January.....				12,035	2,610	33	414	.661	.76	25,480		
February.....				17,861	2,920	45	638	1.02	1.06	35,430		
March.....				24,964	2,660	67	805	1.29	1.49	49,520		
April.....				18,531	2,070	60	618	.967	1.10	36,760		
May.....				97,430	8,190	382	3,145	5.02	5.79	193,300		
June.....				60,952	10,900	91	2,032	3.25	3.63	120,900		
July.....				10,911	2,560	19	352	.562	.65	21,640		
August.....				1,427.4	900	3.8	46.0	.073	.08	2,830		
September.....				1,706.8	444	4.1	56.9	.091	.10	3,890		
Water year 1934-35.....				309,096.6	10,900	3.0	847	1.35	18.37	613,100		

Salt River near New London, Mo.

Location.- Water-stage recorder, lat. 39°37', long. 91°24', in NE1/4 sec. 36, T. 56 N., R. 5 W., 250 feet upstream from U. S. Highway 61, 2 miles north of New London. Zero of gage is 476.86 feet above mean sea level. Prior to Nov. 15, 1934, chain gage at same datum on highway bridge 250 feet downstream. Nov. 15, 1934, to Jan. 17, 1935, wire-weight gage at same datum at chain-gage site.

Drainage area.- 2,480 square miles.

Records available.- February 1922 to September 1935.

Average discharge.- 13 years, 1,659 second-feet.

Extremes.- Maximum discharge during year, 28,900 second-feet May 4 (gage height, 20.60 feet); minimum, 18 second-feet Sept. 30 (gage height, 1.35 feet).
1922-35: Maximum discharge, 58,700 second-feet June 21, 1928 (gage height, 28.8 feet, from flood marks); no flow Aug. 3-14, 1934.

Remarks.- Records good except those estimated, which are poor. Stage-discharge relation affected by ice Dec. 10, 12, 13, Jan. 24-31. Discharge for Mar. 26, Apr. 1-3, May 27 to June 17, based on wire-weight gage readings.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.3	12	2.3	280	4.5	1,490	8.0	4,900	14.5	14,500
1.4	24	2.6	380	5.0	1,930	9.0	5,150	16.0	17,300
1.6	58	3.0	560	5.5	2,350	10.0	7,500	18.0	21,700
1.8	104	3.5	826	6.0	2,840	11.5	9,600	20.0	27,000
2.0	160	4.0	1,120	7.0	3,820	13.0	11,900	21.0	30,100

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,620	173	15,400	585	358	1,750	446	733	12,800	1,340	182	38
2	4,570	166	8,200	468	491	940	360	7,650	23,000	2,790	180	97
3	2,020	166	4,680	446	772	316	316	25,300	25,000	2,120	107	73
4	940	6,640	6,280	446	772	282	278	26,200	15,000	3,720	97	76
5	514	7,640	6,150	* 380	940	4,990	280	12,800	14,500	2,650	82	120
6	380	6,410	4,570	316	1,060	6,400	468	5,990	11,600	1,260	73	104
7	260	5,020	2,470	243	1,120	13,700	940	3,030	3,920	664	67	109
8	219	3,320	1,330	5,760	1,410	14,000	1,260	2,290	3,420	424	60	99
9	179	1,660	826	13,600	2,200	6,040	2,020	7,360	2,840	286	80	97
10	179	718	772	9,190	2,650	8,660	3,220	14,000	1,660	243	78	85
11	179	468	* 660	5,020	2,290	10,300	5,500	9,740	882	192	62	307
12	120	316	560	2,740	1,580	6,480	5,890	8,200	718	163	62	491
13	90	278	468	* 2,400	2,290	4,240	5,260	9,180	1,580	145	62	336
14	90	226	402	* 1,800	4,680	2,560	3,520	14,800	882	360	53	212
15	76	189	358	1,400	5,380	1,410	1,750	26,500	585	637	46	139
16	71	195	296	1,410	4,680	998	940	26,200	424	260	42	104
17	71	170	278	882	4,140	718	664	13,600	5,630	176	49	80
18	71	163	316	882	2,840	585	664	7,220	13,300	195	223	62
19	71	127	664	882	1,580	491	1,550	6,200	13,000	127	179	54
20	94	151	826	998	958	446	3,820	10,200	7,380	127	514	42
21	199	2,470	826	* 1,430	772	380	3,030	13,900	7,640	133	219	40
22	1,840	2,940	826	* 1,840	664	358	1,410	10,600	5,140	2,710	127	35
23	2,330	7,360	882	* 1,400	537	358	772	8,060	3,120	1,980	99	30
24	1,180	5,630	1,930	1,120	560	358	560	6,670	1,930	12,000	87	26
25	826	4,140	2,110	940	3,860	514	446	4,030	1,120	5,510	87	23
26	3,030	2,290	* 2,000	772	8,620	4,900	380	* 3,500	772	2,560	73	27
27	2,290	940	1,840	664	6,280	* 5,000	316	2,390	514	1,260	58	26
28	882	772	2,200	560	3,620	* 3,500	316	5,500	402	772	45	23
29	514	2,840	1,580	491	-	* 1,700	336	24,500	637	468	40	22
30	336	11,100	1,410	424	-	* 900	316	24,800	2,290	336	37	20
31	260	-	1,180	390	-	* 600	-	15,000	-	260	34	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	32,551	8,620	71	1,050	0.423	0.49	64,580
November.....	74,278	11,100	127	2,486	1.00	1.12	147,900
December.....	72,280	15,400	278	2,332	.940	1.08	143,400
Calendar year 1934.....	311,372.0	15,400	0	853	.344	4.66	617,600
January.....	59,949	13,600	243	1,934	.780	.90	118,900
February.....	67,144	8,620	358	2,398	.967	1.01	133,200
March.....	104,630	14,000	358	3,385	1.36	1.57	208,100
April.....	47,028	5,800	260	1,568	.632	.71	93,290
May.....	356,133	26,500	733	11,490	4.63	5.34	706,400
June.....	181,586	25,000	402	6,053	2.44	2.72	360,200
July.....	45,842	12,000	127	1,479	.596	.69	90,930
August.....	3,153	514	34	102	.041	.05	6,250
September.....	2,997	491	20	99.9	.040	.04	5,940
Water year 1934-35.....	1,048,171	26,500	20	2,872	1.16	15.72	2,079,000

* Estimated.

Crooked Creek near Shelbyna, Mo.

Location.- Chain gage, lat. $39^{\circ}36'$, long. $92^{\circ}1'$, in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 56 N., R. 10 W., at bridge on State Highway 15, 6 miles south of Shelbyna. Zero of gage is 669.6 feet above mean sea level.

Drainage area.- 70 square miles.

Records available.- April 1930 to September 1935 (fragmentary).

Extremes.- Maximum discharge observed during year, 1,830 second-feet May 28 (gage height, 10.52 feet); no flow Sept. 16, 21, 28.
1930-35: Maximum discharge observed, 2,160 second-feet May 26, 1933 (gage height, 11.88 feet); no flow on many days.
Maximum stage known, about 13 feet, date unknown.

Remarks.- Records poor and fragmentary as gage was not read on many days. Discharge for Jan. 31 estimated because of ice effect.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	-	115	-	-	12	-	156	-	7	-	-
2	7	-	-	-	-	11	-	905	-	-	0.3	-
3	-	177	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	3.6	-	-	1.3	-	15	21	.2	0.7
6	.7	-	-	-	-	-	-	28	-	-	-	-
7	-	-	126	-	7	809	-	-	-	-	-	-
8	-	-	-	-	40	-	-	-	40	-	-	-
9	-	-	-	-	97	-	200	1,310	-	-	-	-
10	-	1.9	8	-	-	-	-	-	-	-	-	.2
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	51	-	36	-	-	-	-	-	-
13	.7	-	-	-	46	-	50	-	2.1	.2	-	.2
14	-	-	-	-	-	-	-	1,460	-	-	-	-
15	-	-	-	-	-	-	-	953	1.6	-	-	-
16	.4	-	-	-	29	-	-	-	-	-	.9	0
17	-	7	-	-	-	-	-	112	-	43	-	-
18	-	-	-	-	-	-	68	-	-	-	-	-
19	-	-	-	29	-	-	43	-	-	-	-	-
20	66	-	-	-	16	-	18	-	-	-	-	-
21	-	-	10	-	-	4.5	-	-	-	-	-	0
22	-	338	-	-	-	5	-	-	7	-	-	-
23	.4	-	-	-	-	3.6	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	.1	-
25	114	-	-	-	-	28	-	38	-	-	-	-
26	-	-	-	2.0	-	-	-	-	-	16	.1	-
27	10	10	52	-	-	-	3.6	-	-	-	-	-
28	-	-	-	-	-	-	-	1,830	-	-	-	0
29	1.4	-	-	-	-	-	-	-	3.9	-	-	-
30	-	-	-	-	-	-	-	-	-	1.1	-	-
31	.4	-	12	2	-	-	-	90	-	.7	-	-

Long Branch near Paris, Mo.

Location.- Chain gage, lat. 39°20'10", long. 91°59'55", in NW¼ sec. 35, T. 53 N., R. 10 W., at bridge on State Highway 15, 10 miles south of Paris.

Drainage area.- 70.3 square miles.

Records available.- April 1930 to September 1935 (fragmentary).

Extremes.- Water year 1930-31: Maximum discharge observed, 1,500 second-feet June 12 (gage height, 8.00 feet).

1931-32: 1,270 second-feet Aug. 13 (gage height, 7.30 feet).

1932-33: 2,000 second-feet May 13 (gage height, 9.44 feet).

1933-34: 1,360 second-feet Aug. 16 (gage height, 7.60 feet).

1934-35: 1,200 second-feet May 3 (gage height, 7.02 feet).

Maximum stage known, about 12.6 feet, date unknown.

Remarks.- Records poor and fragmentary. Stage-discharge relation affected by ice Dec. 31, 1930, Jan. 3, 1931, Nov. 23, Dec. 9, 1932, Jan. 25, 27, 28, 1935.

Discharge, in second-feet, 1930-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0.9	-	22	-	-
2							*6	1.3	0.4	13	0	-
3								1.3	.2	5	-	0
4								3.6	0	-	0	0
5								3.0	.6	1.3	0	-
6								.6	0	-	0	-
7							1.9	-	.4	1.2	0	-
8							2.2	.6	-	-	-	-
9							1.6	.6	0	-	-	0
10							1.2	.6	0	1.0	-	-
11							1.5	-	0	.7	-	-
12							1.2	.9	0	.5	0	-
13								.9	0	-	-	0
14							1.4	.9	0	-	-	-
15							1.0	.8	-	0	0	0
16							1.1	.6	0	-	0	-
17							1.9	.4	0	-	-	-
18							1.4	-	0	-	-	-
19							.5	.8	0	0	-	-
20							-	.6	0	-	0	0
21							.8	.4	0	0	-	-
22							.6	.4	0	0	-	-
23							.9	.6	0	0	-	-
24							.8	.4	0	0	-	0
25							.6	-	-	-	-	-
26							.8	.2	.1	0	-	-
27							.5	.4	0	-	-	-
28							.9	.4	.9	-	0	-
29							1.1	.4	-	-	-	-
30							1.3	.4	15	0	0	0
31							-	.4	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	0	2.8	-	-	-	13	-	-	-	25	0
2	-	-	2.0	-	-	-	4.8	0.4	1.8	-	-	-
3	-	-	-	0	-	-	†6	-	-	-	-	10
4	0	-	-	-	-	-	4.4	.4	-	0	-	-
5	-	0	2.5	-	-	0.9	-	-	1.0	-	-	9
6	9	-	2.3	-	-	-	2.5	0	.7	-	-	-
7	3.6	-	3.5	-	0	.7	-	-	-	-	-	-
8	12	0	-	-	-	-	-	.3	-	-	-	1.6
9	-	-	-	0	0	-	-	-	-	-	.2	-
10	-	0	-	0	-	.7	1.3	-	.9	-	-	-
11	3.2	-	-	-	.9	-	1.2	-	28	0	-	-
12	-	-	-	-	-	-	-	.6	1,500	-	-	.4
13	-	-	.7	-	1.8	-	.6	.5	1,110	-	-	-
14	-	-	-	0	-	24	-	-	-	-	-	-
15	-	0	-	-	-	-	-	-	25	-	.6	-
16	1.6	-	-	-	-	-	.6	0	*13	-	-	-
17	-	-	.3	-	1.5	15	-	0	-	-	.6	0
18	.9	-	-	0	-	-	.4	0	-	0	-	0
19	-	-	-	0	-	-	-	127	-	0	-	-
20	-	-	.2	-	-	-	.5	189	1.9	-	-	-
21	-	-	-	-	1.2	4.0	.6	78	-	-	-	-
22	.6	0	.2	-	-	-	-	63	-	-	-	0
23	-	-	-	-	1.5	-	-	-	-	-	-	-
24	-	0	-	0	1.2	-	.5	-	-	-	-	.2
25	.5	-	-	-	-	-	.5	1,270	-	.1	-	-
26	-	-	-	-	-	1.0	-	-	-	-	-	3.2
27	-	-	.1	0	-	3.2	.5	57	.9	.1	-	3.2
28	-	-	-	1.0	-	177	-	-	-	-	-	†2.8
29	-	0	-	-	-	66	-	-	-	-	-	1.6
30	-	-	-	0	-	29	-	4.4	-	-	-	-
31	0	-	0	-	-	-	-	-	-	*.1	-	-

*Result of discharge measurement. †Discharge measurement on this date.

SALT RIVER BASIN

Discharge, in second-feet, of Long Branch near Paris, Mo., 1930-35--Continued

1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	-	-	350	-	-	-	0	-	-	-	0
2	-	-	-	166	2.5	2.4	2.3	0.8	-	-	-	0
3	.7	-	-	-	-	-	-	-	532	-	-	3.0
4	-	-	0.6	-	-	-	-	-	386	2.3	-	-
5	-	-	.6	227	-	2.4	-	-	-	-	-	-
6	-	-	-	-	1.5	-	-	-	-	-	-	-
7	-	0	.2	-	-	-	-	.6	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	12	-	-	0	.6	-	-	-	.1
10	.7	-	-	-	-	-	-	-	-	-	0.2	-
11	-	-	-	-	476	-	-	-	-	-	-	-
12	.7	-	12	-	-	1.1	0	-	-	-	-	-
13	38	-	-	-	12	-	-	-	.5	-	1,270	-
14	-	0	12	-	-	-	-	.6	-	-	-	-
15	-	-	-	-	12	1.1	.6	-	2.0	-	-	†16
16	-	0	.7	17	*23	-	.6	0	-	-	-	7
17	4.8	-	-	-	-	-	-	-	*.8	-	-	-
18	-	-	-	-	-	1.9	-	-	-	-	14	-
19	-	-	-	17	-	-	-	-	-	-	-	-
20	-	-	-	-	4.4	-	-	0	-	-	-	-
21	1.5	1.8	.7	-	-	-	4.2	-	-	-	-	1.3
22	-	-	-	-	-	-	-	-	-	-	1.2	-
23	-	80	-	10	3.6	1.5	†9	-	-	-	-	-
24	1.0	-	.7	-	-	-	-	0	.1	-	-	.2
25	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	1.5	-	0	-	17	-	-
27	-	-	-	-	2.8	-	2.2	-	-	35	-	-
28	-	4.8	-	5.4	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	3.2	1.9	-	-	10	-	-
31	.2	-	504	-	-	-	-	-	-	-	-	-

*Result of discharge measurement.

†Discharge measurement on this date.

1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	-	-	-	-	-	122	-	4.2	0	-	-
2	-	-	-	-	-	-	-	-	-	-	-	0
3	-	-	-	-	-	-	*45	-	2.2	-	0	-
4	0	0.2	-	-	-	3.0	-	-	-	-	-	-
5	-	-	-	-	-	-	-	11	1.3	-	-	0
6	-	-	-	-	-	-	-	28	*1.2	-	-	-
7	-	-	-	-	-	265	-	-	-	-	1.1	0
8	-	-	-	-	-	-	24	18	.4	0	.6	0
9	-	-	0	-	1.8	-	-	-	0	-	-	0
10	0	-	-	-	-	-	12	-	.6	0	11	-
11	-	-	-	-	1.8	-	4.2	350	-	-	*11	-
12	-	-	-	-	-	-	-	†1,710	-	0	2.5	0
13	-	-	-	-	-	-	3.8	1,960	1.4	-	-	-
14	-	-	-	-	-	6	-	396	-	-	.5	-
15	0	-	-	-	1.2	-	4.8	38	.2	-	-	0
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	0.9	-	2.8	-	8	.4	-	-	-
18	-	-	-	-	-	-	-	-	-	0	-	0
19	-	-	-	-	-	-	28	-	-	-	-	-
20	-	-	-	-	-	-	-	2.3	-	-	-	0
21	-	-	-	8	-	5.4	9	-	.2	-	-	-
22	0	-	-	-	-	-	6	294	-	0	0	0
23	0	0	1,070	-	-	4.4	-	166	.1	-	-	-
24	-	-	-	-	-	-	-	9	-	0	0	-
25	-	-	1,570	-	-	532	3.8	-	-	0	-	-
26	-	-	-	-	-	-	-	-	-	-	-	0
27	-	-	-	-	-	-	3.4	†1,110	0	-	-	-
28	-	-	-	-	-	22	-	240	0	-	-	-
29	4.2	*.1	13	-	-	12	2.2	-	0	-	0	-
30	-	-	-	-	-	40	-	-	0	-	-	0
31	-	-	1.8	-	-	78	-	-	-	-	-	-

*Result of discharge measurement.

†Discharge measurement on this date.

Discharge, in second-feet, of Long Branch near Paris, Mo., 1930-35--Continued

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	-	-	-	-	-
2	0	0	-	0	-	-	1.0	-	-	-	0.9	-
3	-	-	-	0	-	0.5	-	-	-	-	-	294
4	0	-	0	-	-	-	-	-	-	-	-	-
5	-	-	-	-	0	.4	87	0	0	-	-	-
6	-	-	-	-	0	-	36	-	-	0	0	6
7	0	0	-	-	-	-	4.2	-	-	-	-	-
8	-	-	-	-	0	1.5	-	-	-	-	-	-
9	0	-	-	-	-	*.7	-	-	0	0	-	-
10	0	-	-	-	-	-	1.3	-	166	-	-	.6
11	-	-	-	-	-	-	-	.1	-	-	.1	-
12	-	-	-	-	-	.7	-	.1	-	-	-	1,040
13	0	0	-	0	0	-	-	-	12	-	.1	644
14	0	0	-	-	-	.5	.4	-	-	0	-	280
15	-	-	-	-	0	.3	-	-	-	-	-	-
16	0	-	0	-	-	-	.1	0	-	-	1,360	-
17	-	-	-	-	0	-	.1	0	-	-	-	-
18	-	-	-	0	-	-	-	-	1.5	-	-	145
19	-	-	-	-	-	-	.1	-	109	-	21	-
20	-	0	0	-	-	-	-	-	-	-	-	-
21	0	-	-	-	-	-	-	0	-	-	-	227
22	-	-	-	0	-	.5	-	-	-	-	-	-
23	0	-	-	0	-	-	-	-	-	-	-	-
24	-	0	-	0	-	-	-	-	-	-	-	16
25	-	0	-	0	-	-	0	-	.7	-	-	†6
26	0	-	-	-	-	-	-	-	.7	-	-	-
27	-	0	-	0	-	-	.1	-	-	-	-	2.3
28	0	-	0	-	0	-	-	0	-	-	-	3.6
29	-	-	-	-	-	-	-	0	*.1	-	-	-
30	0	-	-	0	-	-	-	-	.2	0	-	946
31	0	-	-	-	-	.6	-	0	-	-	.6	-

*Result of discharge measurement. †Discharge measurement on this date.

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	-	-	18	-	†21	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	644	-	-	-
3	-	-	-	-	-	-	1.6	1,200	-	-	-	-
4	-	177	-	8	-	-	-	-	-	-	-	-
5	-	-	52	8	-	-	-	-	-	-	-	-
6	-	-	-	-	14	-	-	27	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	58	58	-	-	-	-
9	-	-	-	-	-	-	-	364	-	-	-	-
10	-	-	-	-	-	-	24	-	-	-	-	-
11	-	-	-	75	-	-	103	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	24	-	-	-	1,170	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	227	-	-	-
18	-	-	-	-	41	-	-	-	-	-	-	-
19	-	-	-	1.6	-	-	-	-	532	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	-	†266	-	-	-	-	-	-	-	-	-	-
23	-	145	-	-	-	-	3.8	-	-	21	-	-
24	-	-	-	-	-	-	-	-	5	-	-	-
25	68	-	-	2	-	350	1.9	-	-	-	-	-
26	-	6	-	-	-	-	-	-	-	-	-	-
27	-	-	-	2	-	-	1.6	-	-	-	-	-
28	-	-	-	2	27	14	-	-	-	-	0	-
29	3.8	-	-	-	-	8	-	-	38	*1.8	-	0
30	-	532	-	-	-	-	-	-	-	-	-	-
31	-	-	18	-	-	-	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Youngs Creek near Mexico, Mo.

Location.- Chain gage, lat. 39°18'40", long. 91°56'40", in NW¼ sec. 5, T. 52 N.,

R. 9 W., at bridge on State Highway 15, 11 miles north of Mexico.

Drainage area.- 67.4 square miles.

Records available.- April 1930 to September 1935 (fragmentary).

Extremes.- Water year 1930-31: Maximum discharge observed, 1,870 second-feet June 12 (gage height, 6.70 feet).

1931-32: 395 second-feet Dec. 31, June 27.

1932-33: 3,670 second-feet May 26 (gage height, 9.69 feet).

1933-34: 2,250 second-feet Aug. 16 (gage height, 7.40 feet).

1934-35: 815 second-feet Nov. 30 (gage height, 4.58 feet).

Maximum known stage, about 15.1 feet, date unknown.

Remarks.- Records poor and fragmentary. Stage-discharge relation affected by ice Feb. 9, 1931, Nov. 25, 1932.

Discharge, in second-feet, 1930-35

1930

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	0.9	-	†62	0	0
2							*5	1.5	0.1	17	0	0
3							-	.5	.1	3.6	0	0
4							1.4	-	.4	-	0	0
5							3.1	.5	-	.5	0	0
6							-	.4	1.0	-	0	0
7							1.4	.7	1.2	.4	0	0
8							1.1	.6	-	1.0	0	0
9							.7	.5	.1	.6	0	0
10							2.4	.1	.1	.4	0	0
11							2.0	-	.1	.1	0	0
12							1.3	1.0	.1	0	0	0
13							-	.5	.1	0	0	0
14							1.0	1.0	.1	0	0	0
15							†.6	1.0	-	0	0	0
16							1.0	.8	.1	0	0	0
17							1.0	1.0	-	0	0	0
18							-	.6	0	0	0	0
19							1.0	.8	0	0	0	0
20							-	.8	0	0	0	0
21							.8	1.1	-	0	0	0
22							1.0	.9	-	0	0	0
23							.7	.9	0	0	0	0
24							.5	1.1	0	0	0	0
25							.4	-	.2	0	0	0
26							-	.2	.3	6	0	0
27							-	.4	†19	0	0	0
28							.3	-	-	0	0	0
29							.3	-	50	0	0	0
30							1.1	-	-	0	0	0
31							-	-	-	0	0	-

*Result of discharge measurement. †Discharge measurement on this date.

1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	†0.1	2.6	-	-	-	8	0.1	2.2	0.1	0	37
2	-	.6	-	0.1	-	-	7	.1	-	-	-	85
3	-	.6	12	.1	-	0.4	†3.8	-	-	.1	-	17
4	-	-	7	-	-	-	.6	.3	-	-	-	-
5	-	-	9	-	0	.2	-	-	1.4	-	-	-
6	-	-	-	-	.1	.3	.5	.6	1.2	-	0	-
7	4.2	.8	-	0	.2	.5	.4	-	-	-	0	-
8	3.6	-	.7	-	-	-	.3	.5	1.0	-	-	1.5
9	-	-	-	†.1	0	-	.2	.1	-	-	0	-
10	-	-	-	.1	-	-	.8	-	-	-	-	-
11	-	.5	-	-	-	-	.5	-	-	0	14	-
12	-	-	.5	.1	.1	.5	-	-	1,870	-	3.6	0
13	-	.2	1.1	-	.1	1.5	.4	.6	165	-	1.4	-
14	-	-	.9	0	0	54	.4	-	-	-	.8	.2
15	-	.3	-	0	-	-	.3	.5	-	-	.5	-
16	.6	-	.9	-	.2	21	.1	.8	*9	-	-	.2
17	-	-	.5	-	.3	-	.1	-	-	-	-	-
18	-	-	-	-	-	-	.1	.5	3.1	-	.1	-
19	-	0	.3	0	1.3	2.4	-	†660	1.7	0	.1	.1
20	-	-	-	-	-	-	.1	450	-	0	.1	-
21	-	-	-	-	.4	2.9	.3	25	-	-	-	0
22	-	0	-	0	-	1.5	.4	220	-	-	-	.7
23	.1	-	.3	-	-	1.4	.4	-	-	-	-	2.0
24	-	0	.3	.1	-	-	.5	815	-	0	-	-
25	.4	-	-	-	-	.6	.8	1,620	-	0	.2	29
26	-	0	0	.1	-	1.2	-	220	-	-	-	-
27	-	-	-	-	1.5	8	.6	19	.2	-	-	-
28	-	0	-	.2	1.3	†610	.5	-	-	-	1.7	3.3
29	.1	-	0	.3	-	-	-	4.2	-	-	.4	†1.7
30	-	-	0	.2	-	31	.1	-	-	0	-	-
31	-	-	0	.2	-	15	-	-	-	0	13	-

*Result of discharge measurement. †Discharge measurement on this date.

Discharge, in second-feet, of Youngs Creek near Mexico, Mo., 1930-35--Continued

1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	-	-	-	-	0	-	-	-	-	-	-
2	-	0	-	116	-	0	0.3	-	0.4	-	-	-
3	0	-	0.9	-	-	-	-	-	5	-	-	-
4	-	-	.2	-	-	-	-	-	-	-	-	-
5	-	0	.1	310	-	-	-	-	46	-	-	-
6	-	-	-	-	2.4	-	.3	-	-	-	-	-
7	.1	-	.1	-	-	-	-	0	-	-	-	-
8	0	-	-	-	-	-	.3	-	9	-	-	-
9	-	0	-	-	-	-	-	-	-	-	-	-
10	-	-	.3	-	-	-	-	-	-	-	-	-
11	-	.1	1.1	21	265	.1	0	.4	-	-	-	-
12	-	-	7	.9	-	-	-	-	-	-	-	-
13	-	-	-	-	11	-	-	-	-	-	-	-
14	11	.1	-	-	-	-	-	-	1.1	-	-	-
15	.7	-	.9	-	-	0	-	-	-	-	-	.9
16	-	-	-	0	*57	-	.1	-	-	0.5	-	-
17	-	-	-	-	62	-	-	-	*.4	.4	-	-
18	-	.3	0	.9	-	-	-	.4	-	-	-	-
19	0	-	.1	-	5	0	-	-	-	-	-	-
20	-	-	-	-	4.6	-	-	-	2.4	-	-	-
21	0	.1	.2	1.1	-	-	-	-	-	-	-	-
22	-	-	-	2.4	-	.4	4.2	-	-	-	-	.6
23	-	310	.3	5	.3	-	*16	-	-	-	-	.5
24	0	-	-	-	-	-	-	-	-	-	-	.3
25	-	4.6	-	-	-	-	-	-	-	-	-	-
26	0	-	-	2.4	-	2.4	.2	-	-	-	-	-
27	-	-	-	-	.1	-	-	-	395	-	-	-
28	-	.4	.3	-	-	-	-	-	-	-	-	-
29	0	-	-	-	-	-	-	-	-	17	-	-
30	-	.3	.3	-	-	-	1.2	-	-	-	-	-
31	0	-	395	-	-	-	-	-	-	-	-	-

*Result of discharge measurement.

1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	-	4.2	-	-	-
2	-	-	-	-	-	-	-	-	-	-	0	0
3	-	-	-	-	-	-	†51	-	1.2	-	-	-
4	-	0.6	-	-	-	3.5	-	-	-	-	-	-
5	-	-	0.4	-	-	-	-	4.6	†1.7	-	-	0
6	-	-	-	-	-	-	-	8	1.5	-	-	-
7	-	-	-	-	-	-	-	-	-	-	0	-
8	-	-	-	-	-	-	-	18	1.2	0	0	-
9	-	0	-	-	-	41	-	.8	-	-	-	0
10	-	-	-	2.2	-	-	9	4.6	-	0	13	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	1.0	-	-	8	490	-	-	* 6	0
13	-	-	-	-	-	-	-	3,130	-	-	5	0
14	-	-	-	-	-	-	6	906	22	-	-	-
15	-	-	-	-	-	9	-	-	-	-	2.6	-
16	-	-	-	-	-	-	5	25	-	-	-	0
17	-	-	-	-	-	-	-	-	-	-	-	0
18	-	-	-	-	2.2	3.3	-	13	1.2	-	1.2	0
19	-	-	-	-	-	2.6	-	-	-	0	-	-
20	-	0	-	-	-	-	18	-	-	-	-	0
21	-	-	-	-	-	-	-	3.6	.6	-	-	-
22	-	-	-	-	-	3.6	8	-	.3	-	-	0
23	-	-	-	-	-	-	-	-	-	0	0	0
24	-	-	1,420	-	-	3.3	-	34	.4	-	0	-
25	-	*.1	-	-	-	-	6	112	-	-	-	-
26	-	-	-	-	-	-	-	6	-	0	-	-
27	-	-	-	-	-	-	-	1,040	-	0	-	0
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	†14	-	-	14	-	-	.4	-	-	-
30	-	-	-	-	-	8	3.3	-	.2	-	0	-
31	-	-	-	-	-	162	-	-	.5	-	-	0
						415	-	5	-	-	-	-

*Result of discharge measurement.

†Discharge measurement on this date.

101284 O-36-16

SALT RIVER BASIN

Discharge, in second-feet, of Youngs Creek near Mexico, Mo., 1930-35--Continued

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	0.4	-	9	-	-	-	-	-
2	-	0	0	-	.5	-	4.2	-	-	-	0	-
3	-	-	-	0	-	2.2	3.1	-	-	-	-	-
4	0	-	-	-	-	-	-	0	-	-	-	-
5	-	-	-	-	.4	13	35	0	0	-	-	-
6	-	-	-	-	.3	-	26	-	-	-	0	4.2
7	0	-	-	-	-	-	-	0	-	-	-	-
8	-	-	-	-	.3	3.6	-	-	-	-	-	-
9	0	0	-	-	-	*2.2	-	-	-	0	-	-
10	0	-	-	-	-	-	2.9	-	-	-	-	1.7
11	-	-	-	.9	-	-	-	0	-	-	-	-
12	-	-	0	-	-	1.7	-	-	-	-	-	950
13	0	0	-	.9	.1	1.0	-	-	-	-	-	610
14	0	-	-	-	.1	1.0	.7	-	2.4	-	-	490
15	-	0	-	-	.1	.8	-	-	1.5	-	-	-
16	0	-	0	-	.1	-	-	-	-	-	2,250	-
17	-	-	-	-	-	-	.5	0	-	-	-	-
18	-	-	-	.7	-	-	-	-	.9	-	-	362
19	-	-	-	-	.1	-	.4	-	25	-	-	-
20	-	-	0	-	-	1.0	-	-	-	0	8	-
21	0	-	-	-	.3	-	-	0	-	-	-	-
22	-	-	-	.9	-	-	-	-	-	-	-	-
23	0	-	-	.4	.3	4.2	-	-	-	-	-	-
24	-	0	-	.5	.1	-	-	0	-	-	-	8
25	-	0	-	.5	-	-	0	0	.9	-	-	-
26	0	-	-	-	-	-	0	-	.7	-	-	*8
27	0	0	-	.5	.5	2.2	0	0	-	-	-	5
28	0	-	0	-	-	-	0	0	-	-	-	10
29	-	-	-	-	-	-	-	0	*1.4	-	-	-
30	-	-	-	.5	-	-	-	-	-	-	-	-
31	0	-	-	.5	-	-	-	0	-	-	1.2	-

*Result of discharge measurement.

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	-	-	-	-	+6	-	-	-	-	-	-
2	-	-	-	-	-	4.2	1.7	-	-	-	-	-
3	7	-	-	-	-	-	1.4	-	-	-	0.3	-
4	6	-	-	-	-	-	-	-	-	-	-	-
5	-	-	1.5	-	-	-	-	-	-	-	.1	-
6	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	46	-	-	61	-	-	-	-
9	-	7	-	-	-	-	-	+610	-	-	-	-
10	-	6	-	22	-	-	21	21	-	0.4	-	-
11	-	-	-	21	-	-	25	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	7	-	2.6	-	-	-	-	-	-
15	1.7	-	-	7	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	3.1	-	-	570	1.0	-	-
18	1.4	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	25	-	-	-	-	67	-	-	-
20	-	-	5	-	-	-	-	-	-	-	0	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	2.6	†260	-	-	4.2	-	-	-	-	-	-	-
23	-	46	-	-	-	-	2.6	-	-	-	-	-
24	-	-	-	-	-	-	-	-	5	22	-	-
25	-	-	-	3.1	-	-	1.7	-	-	-	-	-
26	-	7	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	21	1.2	-	-	-	0	-
28	-	-	-	2.2	5	-	-	-	14	-	-	-
29	6	-	-	-	-	-	2.2	-	-	*1.4	-	-
30	-	815	-	-	-	3.1	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Elk Fork of Salt River near Paris, Mo.

Location.- Water-stage recorder, lat. 39°26'25", long. 92°5", in SE1SE1 sec. 22, T. 54 N., R. 10 W., at bridge on State Highway 15, 2½ miles south of Paris. Prior to Jan. 21, 1935, chain gage at same site and datum.

Drainage area.- 282 square miles.

Records available.- April 1930 to September 1935.

Extremes.- Water year 1932-33: Maximum discharge observed, 9,490 second-feet May 13 (gage height, 12.32 feet).

1933-34: 5,400 second-feet Sept. 12 (gage height, 8.84 feet).

1934-35: 8,020 second-feet May 28 (gage height, 11.03 feet).

1930-35: Maximum discharge observed, 10,100 second-feet June 12, 1930 (gage height, 12.50 feet); no flow on many days.

Maximum known stage, 19.1 feet, date unknown.

Remarks.- Records poor and fragmentary until installation of recorder, good thereafter.

Stage-discharge relation affected by ice Nov. 29, Dec. 9, 12, 1932, Jan. 4, 14, Feb. 9, 11, 13, 15, 18, 1933.

Discharge, in second-feet, 1932-35
1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	-	-	-	-	-	1,020	7	46	60	-	-
2	-	-	-	-	15	-	-	48	-	-	2.6	-
3	4.3	-	-	-	-	-	†180	58	22	14	-	-
4	-	-	-	15	-	-	62	-	-	-	475	-
5	-	-	-	-	-	-	-	538	18	-	39	-
6	-	-	-	-	-	-	368	1,340	*18	-	-	-
7	-	-	-	13	-	415	225	-	-	4.3	-	-
8	-	-	-	-	-	1,020	78	50	11	-	9	0
9	-	-	5	-	4	220	-	29	-	-	-	-
10	1.3	-	-	-	-	-	25	21	11	3.8	900	-
11	-	-	-	-	4	-	17	2,940	-	-	†80	-
12	-	-	10	-	-	-	16	†6,140	12	-	20	3
13	-	-	-	-	4	-	-	8,280	-	-	-	-
14	-	-	-	5	-	17	14	-	-	-	-	-
15	1.1	-	-	-	4	-	36	319	8	2.8	-	-
16	-	3.4	-	-	-	-	-	170	-	-	-	-
17	-	-	-	-	-	-	605	112	-	-	-	-
18	-	-	-	-	800	9	380	60	7	-	-	-
19	-	4.3	-	363	-	-	-	46	-	-	-	-
20	-	-	-	385	-	-	36	35	-	-	-	-
21	-	-	-	55	-	16	-	-	7	-	-	-
22	3.4	-	-	-	-	14	21	2,940	-	1.8	-	.5
23	-	3.8	4,500	570	25	14	-	505	-	-	1.6	1.4
24	-	-	8,980	96	-	96	-	160	6	1.6	-	.2
25	6	-	5,100	-	-	2,140	13	-	-	43	-	-
26	9	-	-	-	-	745	10	7,350	5	-	1.4	-
27	-	-	-	-	-	205	-	6,580	5	-	-	.5
28	36	-	†55	-	-	39	8	445	4.6	-	-	-
29	17	*1.8	-	-	-	-	-	570	-	-	1.0	-
30	-	-	36	-	-	84	-	-	330	-	-	4.6
31	-	-	27	-	-	368	-	75	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	-	-	-	-	-
2	2.8	-	-	2.4	-	-	5	1.8	0	-	0	-
3	-	-	-	-	-	-	-	† 8	-	-	-	605
4	* 2.0	-	40	-	-	-	-	-	-	-	0	-
5	-	-	-	-	-	-	385	†605	0	0	-	-
6	-	-	-	2.4	-	14	140	-	-	-	0	-
7	-	1.8	-	-	-	-	43	25	-	0	-	-
8	-	-	5.2	3.2	-	-	-	4.9	-	-	-	-
9	.8	-	-	-	-	*8	-	-	0	-	-	-
10	-	-	-	-	-	3.2	9	-	0	-	-	-
11	-	-	3.6	3.6	-	-	-	1.1	640	-	0	-
12	1.0	-	-	-	-	-	-	1.0	36	0	-	5,400
13	-	-	15	1.6	-	-	4.0	-	19	-	0	1,740
14	-	2.0	-	-	1.6	3.6	-	-	-	0	-	-
15	-	-	-	-	-	-	-	.4	-	-	-	-
16	-	1.2	-	3.6	-	3.6	2.8	-	-	-	3,800	-
17	1.0	-	-	-	1.6	2.8	-	-	-	0	2,760	-
18	-	-	-	-	-	-	-	-	4.3	-	137	-
19	-	-	-	-	-	3.6	-	.4	-	-	58	-
20	-	2.4	-	-	2.4	-	-	-	-	-	31	-
21	-	-	-	-	-	-	1.8	-	1.5	-	58	475
22	-	-	2.0	-	-	-	-	-	1.9	-	34	-
23	-	-	-	-	2.8	3.2	-	-	1.3	-	-	-
24	1.8	-	-	3.2	-	-	1.6	-	-	0	13	55
25	-	2.0	-	-	-	-	-	-	-	-	-	†26
26	-	-	-	-	-	-	-	0	-	-	-	-
27	-	-	-	-	-	2.0	-	-	-	-	22	16
28	2.4	.8	3.2	-	4.6	-	-	-	0	0	-	2,850
29	-	-	-	-	-	-	-	-	*.2	0	-	5,300
30	2.4	-	-	-	-	5	-	0	-.2	0	-	5,120
31	-	-	-	-	-	-	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

SALT RIVER BASIN

Discharge, in second-feet, of Elk Fork of Salt River near Paris, Mo., 1932-35--Continued

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	-	1,740	-	18	†52	†22	690	1,030	100	4.6	2.0
2	-	-	-	32	20	52	22	3,110	4,150	451	3.7	8
3	-	-	-	-	49	54	19	3,860	2,300	314	3.2	12
4	29	1,340	1,340	-	86	505	18	725	286	100	3.5	12
5	-	-	178	116	88	1,260	17	174	125	41	3.0	9
6	28	98	96	-	65	1,230	17	†145	80	24	2.5	9
7	-	-	-	-	46	3,990	90	157	76	17	2.3	7
8	-	-	72	-	267	1,190	475	253	90	13	2.2	6
9	21	-	-	2,670	385	211	200	1,260	72	11	1.7	8
10	-	-	-	-	187	1,120	191	780	45	9	2.0	8
11	-	-	-	-	93	820	445	143	41	8	1.8	6
12	-	-	-	-	65	195	302	710	37	7	1.7	5
13	-	13	-	-	980	110	122	538	57	6	1.7	4.3
14	-	-	-	96	890	78	68	4,800	30	5	1.4	4.8
15	-	-	-	-	505	60	48	3,920	24	* 5	1.4	4.3
16	-	-	-	-	280	44	35	1,100	78	* 4	1.5	3.0
17	-	-	-	154	131	34	31	570	570	* 4	1.2	2.3
18	-	-	90	-	90	27	70	195	1,600	* 4	1.1	1.4
19	-	-	-	-	85	25	128	538	445	* 3	2.9	.9
20	39	-	65	-	52	24	70	1,180	115	* 3	9	.3
21	-	640	-	-	44	23	48	2,220	88	*150	9	.2
22	122	†1,100	-	108	38	22	34	710	74	767	3.9	.1
23	-	1,020	-	49	32	23	26	780	48	644	2.0	.1
24	35	-	-	32	155	22	23	445	30	143	1.2	.1
25	-	-	-	24	1,810	164	22	150	25	98	.9	0
26	308	-	-	22	831	275	19	88	19	38	.6	.5
27	-	-	90	22	90	103	18	93	17	23	.3	2.2
28	-	-	63	22	58	52	17	4,440	363	16	.3	2.0
29	-	216	-	21	-	37	23	5,760	989	11	.9	1.2
30	-	2,580	-	19	-	27	23	1,300	275	† 7	1.1	.6
31	11	-	45	19	-	23	-	187	-	† 5	.9	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....				-	-	-	-	-	-			
February.....				7,380	1,810	18	264	1.01	1.05	14,640		
March.....				11,850	3,990	22	382	1.46	1.68	23,500		
April.....				2,643	475	17	98.1	.536	.37	5,240		
May.....				41,022	5,760	88	1,323	5.05	5.82	81,370		
June.....				13,180	4,150	17	459	1.68	1.87	26,140		
July.....				3,031	767	3	97.8	.373	.43	6,010		
August.....				74.5	9	.3	2.40	.0092	.01	148		
September.....				120.3	12	0	4.01	.015	.02	239		
Water year												

*Estimated.

†Discharge measurement on this date.

Spencer Creek near Frankford, Mo.

Location.- Chain gage, lat. 39°31', long. 91°21', in SE $\frac{1}{4}$ sec. 28, T. 55 N., R. 4 W., at bridge on U. S. Highway 61, 80 feet below St. Louis & Hannibal Railroad bridge, 800 feet above Plum Creek, and 2 $\frac{1}{2}$ miles northwest of Frankford. Zero of gage is about 488.6 feet above mean sea level.

Drainage area.- 200 square miles.

Records available.- March 1930 to September 1935 (fragmentary).

Extremes.- Water year 1930-31: Maximum discharge observed, 3,780 second-feet May 19 (gage height, 9.74 feet).

1931-32: 7,760 second-feet Aug. 1 (gage height, 13.08 feet).

1932-33: 5,720 second-feet Dec. 23 (gage height, 11.60 feet).

1933-34: 610 second-feet Sept. 29 (gage height, 5.45 feet).

1934-35: 12,000 second-feet July 24 (gage height, 15.50 feet).

Maximum stage known, about 16.5 feet, date unknown.

Remarks.- Records poor and fragmentary.

Discharge, in second-feet, 1930-35
1930

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								7	-	*97	0.5	-
2								14	0.2	42	.2	0
3								10	.1	25	-	0
4								18	-	-	.1	0
5								22	.6	12	.1	0
6								22	3.4	.1	-	0
7								22	4.2	.1	0	0
8								17	3.4	-	0	0
9								16	3.4	.1	0	0
10								13	2.5	.1	-	.1
11								13	-	0	4.6	0
12								14	2.5	.1	3.0	0
13								14	1.9	0	-	0
14								13	1.2	0	2.4	.1
15								14	1.2	-	2.0	0
16								18	1.0	0	1.7	.2
17								19	1.2	0	1.7	-
18								15	-	0	1.4	.2
19								11	1.2	0	1.4	.1
20								-	1.3	0	-	.1
21								15	1.2	0	1.4	.1
22								11	1.0	-	1.7	0
23								10	.8	0	1.2	.1
24						*32		9	-	0	1.1	.9
25								8	-	46	.9	0
26								8	.6	206	.9	0
27								-	.6	9	-	.4
28								10	.4	1.7	.9	0
29								9	.4	-	.6	0
30								7	.4	1,200	.4	0
31								-	.2	-	.4	-

*Result of discharge measurement. †Discharge measurement on this date.

1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	-	-	-	-	-	†50	-	59	-	*53	280
2	.2	-	-	-	-	-	-	11	-	-	-	-
3	.1	0.5	-	1.3	1.2	-	-	-	41	1.2	3.8	-
4	.1	-	-	-	-	-	30	8	33	-	-	-
5	-	-	6	-	1.2	-	-	-	39	-	-	9
6	.1	.4	3.8	-	-	3.8	-	-	26	2.8	1.2	-
7	.6	-	-	-	1.4	-	-	-	-	2.0	-	-
8	.6	-	3.0	*1.0	-	-	19	11	20	1.3	.8	-
9	.9	-	-	1.0	*2.7	-	-	11	-	1.3	-	3.8
10	3.0	.5	-	-	2.4	-	-	-	57	-	-	-
11	2.0	-	-	-	-	-	25	14	61	1.0	-	-
12	-	.5	-	1.0	-	-	-	14	246	-	-	-
13	2.0	-	1.7	-	3.0	134	-	17	59	-	7	-
14	2.4	.5	-	-	-	-	13	-	-	.8	3.4	-
15	1.6	-	-	-	-	-	-	-	-	-	1.2	1.1
16	1.6	-	1.7	1.1	-	70	14	-	13	-	-	-
17	1.6	-	-	-	6	-	-	-	*9	.7	1.2	-
18	1.3	16	1.4	-	-	28	12	-	7	.6	-	-
19	-	5	-	1.2	-	-	-	2,700	-	-	-	-
20	1.0	5	-	-	11	-	16	1,140	3.8	24	31	-
21	1.0	-	-	-	-	16	17	†194	-	-	6	160
22	-	3.4	-	-	-	-	-	-	3.0	-	2.5	-
23	-	-	.9	1.2	7	12	14	-	-	9	-	92
24	.8	-	-	1.1	-	-	13	-	-	-	-	-
25	-	1.3	-	-	-	-	14	-	-	-	-	14
26	-	-	-	-	8	-	-	-	2.0	-	1.0	-
27	-	-	-	1.2	-	110	-	51	-	6	1.2	-
28	-	-	-	-	6	†1,560	-	37	-	-	42	-
29	-	1.2	1.0	-	-	-	-	-	-	2.4	-	-
30	*.5	-	-	-	-	142	-	194	1.2	-	-	-
31	.4	-	1.0	1.3	-	65	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Discharge, in second-feet, of Spencer Creek near Frankford, Mo., 1930-35--Continued

1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*1.3	-	-	960	-	-	-	-	16	-	7,460	-
2	1.3	1.1	24	492	-	-	20	22	304	13	492	53
3	1.0	-	19	-	-	25	-	-	1,440	-	-	-
4	-	-	18	-	-	25	16	-	660	-	118	-
5	1.0	1.2	16	118	16	-	-	-	-	25	-	-
6	-	-	-	-	54	-	16	14	125	-	-	-
7	-	-	12	142	-	-	17	13	430	-	-	13
8	142	-	-	-	-	-	-	-	182	-	125	-
9	-	-	14	57	42	13	-	-	75	6	86	-
10	-	-	-	-	42	-	-	19	-	-	-	-
11	-	-	62	-	1,080	-	-	-	-	-	5,420	-
12	4.2	2.4	-	-	252	11	-	-	-	-	1,200	-
13	58	2.4	-	-	70	-	9	-	-	2.0	760	860
14	-	-	-	30	-	-	-	9	-	-	-	-
15	-	-	58	-	-	11	-	-	14	-	660	-
16	-	-	-	-	45	-	12	7	-	.9	-	-
17	-	-	31	-	-	-	-	-	-	-	910	19
18	-	9	-	-	86	-	14	-	118	-	-	-
19	-	-	22	80	*54	19	*12	-	-	-	142	17
20	-	6	-	59	36	-	-	-	125	-	-	-
21	-	-	-	-	-	-	320	-	48	-	-	-
22	2.4	-	194	-	-	42	320	-	33	-	65	3.8
23	-	610	-	-	25	-	125	-	-	.8	-	-
24	-	171	-	-	-	-	-	2.7	13	-	-	-
25	-	104	-	59	20	-	-	-	5	-	-	-
26	1.1	-	-	-	19	-	-	-	-	2,970	63	-
27	-	49	-	-	-	-	-	2.0	610	134	97	75
28	1.1	-	-	-	-	-	33	2.0	-	48	-	-
29	-	-	17	50	14	35	32	-	51	28	-	-
30	1.1	-	125	-	-	-	-	-	-	22	-	-
31	-	-	-	-	-	25	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	4.2	-	-	-	-	†1,600	42	-	0	-	-
2	-	-	2.4	-	-	-	-	246	44	-	-	0
3	1.6	3.4	-	-	-	-	450	-	32	-	-	-
4	-	-	-	-	70	45	-	-	-	-	-	-
5	1.5	2.5	-	17	-	-	-	206	-	-	-	-
6	-	-	26	-	-	43	-	151	19	-	-	0
7	1.0	-	-	11	-	194	356	-	*15	-	-	0
8	-	2.2	-	-	50	-	232	320	-	0	-	-
9	-	-	-	-	-	-	-	-	5	-	-	0
10	1.6	-	-	-	-	-	-	-	5	-	-	-
11	-	-	-	-	45	-	-	-	5	-	*0.2	0
12	-	-	9	-	-	-	97	4,450	3.4	-	.2	0
13	1.9	-	-	-	-	-	-	2,480	-	-	-	0
14	-	-	9	2.0	-	-	80	-	-	-	-	0
15	-	5	-	-	-	60	-	246	-	0	-	-
16	-	-	-	-	-	-	-	232	-	-	0	0
17	1.2	4.2	-	-	-	49	374	-	-	-	-	0
18	-	-	-	3.0	50	49	-	-	-	-	-	0
19	1.1	-	-	1,980	-	-	-	-	-	0	0	0
20	-	-	-	-	-	92	-	75	-	-	-	-
21	-	3.8	-	-	-	-	97	-	.5	-	-	-
22	-	-	-	-	-	70	-	-	-	0	-	-
23	-	-	4,050	-	-	-	-	-	.4	-	-	0
24	-	-	-	206	-	-	-	118	-	0	-	-
25	55	-	-	219	610	-	68	-	-	0	-	.0
26	97	†3.0	-	-	-	-	-	2,620	-	-	-	0
27	-	-	-	-	110	-	-	358	-	-	-	0
28	-	-	86	118	-	-	45	-	-	-	.1	0
29	-	-	-	-	-	-	47	125	-	-	-	0
30	-	-	*55	-	-	450	-	-	0	-	-	0
31	-	-	49	-	-	710	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Discharge, in second-feet, of Spencer Creek near Frankford, Mo., 1930-35--Continued

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	0.2	0.3	-	0.5	0	-	-	0.1	-	-	0
2	0	.2	.3	0.8	-	.6	41	-	0	0	-	-
3	-	-	-	-	.6	.9	-	*1.0	-	-	-	-
4	0	.2	.4	.6	-	-	-	-	-	-	0	22
5	0	-	.5	-	.6	-	104	31	0	0	-	14
6	0	.2	-	-	-	35	-	-	-	-	-	14
7	0	.2	-	-	-	†17	26	11	-	-	0	-
8	-	-	.2	-	.6	-	-	6	0	-	-	11
9	0	.1	-	-	-	2.7	-	-	0	-	-	-
10	0	.1	-	-	.6	-	-	-	-	0	-	7
11	-	-	.3	1.0	-	-	8	1.3	274	-	0	-
12	-	-	-	-	.5	0	-	.70	-	-	0	-
13	0	-	.3	2.5	.5	-	-	-	27	-	0	7
14	0	.2	.3	-	-	-	5	1.2	12	0	0	-
15	-	.2	-	-	-	-	-	-	-	-	-	28
16	0	-	.3	2.0	.6	.3	2.0	1.0	-	-	0	-
17	0	-	-	-	.6	.3	2.0	-	-	0	-	11
18	0	.2	.4	-	-	-	-	-	1.2	-	-	11
19	0	-	8	-	-	.3	1.2	.5	-	0	-	-
20	0	-	3.0	1.2	.5	.5	-	-	.4	0	0	-
21	0	.4	18	-	.6	-	1.7	.3	-	-	-	-
22	-	.3	-	1.1	-	-	-	-	-	-	0	9
23	0	.3	-	-	.6	-	-	.2	.2	0	-	-
24	0	.3	-	-	-	-	1.1	.1	-	0	0	-
25	.1	.2	-	-	-	-	-	.1	-	-	-	-
26	.2	-	-	-	†.6	-	1.2	0	.1	0	-	†3.8
27	.2	.3	-	.9	0	23	-	-	-	0	0	-
28	-	-	-	-	-	-	-	.1	0	0	-	-
29	-	.2	-	.6	-	-	-	.1	-	-	-	585
30	-	-	1.1	.6	-	134	.9	-	0	-	-	-
31	-	-	-	-	-	104	-	-	0	0	0	-

*Result of discharge measurement. †Discharge measurement on this date.

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	55	635	125	-	-	-
2	-	-	-	-	3.0	59	860	†1,980	-	-	-	-
3	-	2.2	-	-	-	41	5,720	151	8	18	-	-
4	2.8	-	-	7	12	288	-	710	-	-	-	-
5	-	160	-	5	-	-	-	-	-	-	-	5
6	1.0	-	52	-	-	-	-	-	-	2.0	†11	-
7	-	34	-	-	9	1,630	-	320	97	8	-	1.6
8	-	-	-	-	59	219	194	-	-	-	-	-
9	.4	-	-	288	134	-	-	1,260	-	-	-	1.3
10	-	8	-	-	-	-	75	-	50	-	2.8	-
11	-	-	-	-	-	-	1,380	182	-	.4	-	-
12	.4	-	15	61	6	304	-	-	-	-	-	5
13	-	3.8	-	-	16	-	151	288	-	-	3.8	-
14	-	2.8	10	-	-	125	-	†5,050	-	-	-	2.0
15	-	-	†23	-	-	-	-	-	50	-	2.7	-
16	.5	-	-	23	125	-	63	1,500	-	-	-	-
17	.7	2.2	-	-	-	-	53	-	374	-	-	-
18	-	-	-	33	46	55	125	232	-	.4	-	-
19	-	-	-	35	-	-	-	-	-	-	-	-
20	1.0	-	-	-	-	-	-	810	-	810	80	.6
21	-	2.0	-	-	28	39	-	860	-	-	-	-
22	-	-	-	35	-	-	-	-	44	10,800	-	-
23	-	-	-	5	-	-	42	-	-	1,020	6	-
24	.9	11	-	15	-	-	-	-	23	†11,800	-	-
25	.8	-	-	-	-	760	32	160	-	-	-	.6
26	-	6	-	-	†206	-	-	-	-	-	1.4	-
27	.8	-	22	6	75	-	22	-	-	-	1.2	-
28	-	-	-	-	70	-	-	4,050	-	-	-	.7
29	1.1	-	-	-	-	-	-	-	8	70	-	-
30	-	39	-	-	-	65	20	-	-	61	-	.6
31	-	-	-	3.0	-	-	-	-	-	38	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Peno Creek at Frankford, Mo.

Location.- Chain gage, lat. 39°29', long. 91°18'10", in NW¼SW¼ sec. 1, T. 54 N., R. 4 W., at bridge on U. S. Highway 61, 1 mile southeast of Frankford. Zero of gage is about 527.4 feet above mean sea level.

Drainage area.- 54.2 square miles.

Records available.- March 1930 to September 1935 (fragmentary).

Extremes.- Water year 1930-31: Maximum discharge observed, 2,910 second-feet May 19 (gage height, 8.50 feet).

1931-32: 6,050 second-feet Aug. 1 (gage height, 13.64 feet).

1932-33: 1,510 second-feet Dec. 23 (gage height, 6.06 feet).

1933-34: 46 second-feet Sept. 29 (gage height, 2.70 feet).

1934-35: 5,310 second-feet July 23 (gage height, 12.40 feet).

Maximum known stage, about 16.8 feet, date unknown.

Remarks.- Records poor and fragmentary.

Discharge, in second-feet, 1930-35

1930

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	2.3	-	7	0	-
2							-	3.6	0.9	4.8	0	0
3							-	2.3	.8	3.0	-	0
4							4.8	-	.8	-	0	0
5							7	2.6	.5	2.3	0	0
6							5	2.6	1.0	-	0	0
7							5	3.3	.7	1.2	0	-
8							4.5	2.8	-	.9	0	0
9							4.5	2.6	.5	.8	0	0
10							3.6	2.1	.5	.8	-	0
11							4.2	-	.6	.8	0	0
12							4.2	1.4	.6	.6	0	0
13							2.8	1.7	.5	-	0	0
14							†3.3	1.4	.5	.6	0	0
15							1.7	2.5	-	.6	0	1.2
16												
17							4.5	2.1	.5	.4	0	1.1
18							2.6	1.7	.4	.4	-	.5
19							3.3	2.5	.4	.4	0	.4
20							-	2.1	.3	.4	0	.2
21								.2	-	-	0	.2
22							3.3	1.1	.3	.5	0	-
23							3.0	1.2	-	.3	0	.1
24							2.3	2.3	.2	.3	0	.1
25							3.0	1.2	.2	.2	0	0
26							1.9	-	11	.2	0	0
27						*21	3.0	1.6	.3	.1	0	0
28							-	1.2	†4.2	-	0	0
29							2.3	1.2	2.3	.1	0	-
30							2.6	1.1	-	0	0	0
31							2.6	.8	352	0	0	0
							-	.6	-	0	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	-	-	-	-	-	†22	-	3.6	-	0.5	-
2	0	0.2	-	-	-	-	-	6	-	-	-	7
3	0	-	-	0.4	0.4	1.1	-	-	-	-	-	-
4	0	-	-	-	-	-	13	-	-	0.3	-	-
5	-	-	1.1	-	.4	-	-	5	-	-	.4	.2
6	0	.2	1.2	-	-	1.1	9	4.5	-	-	-	.2
7	.1	-	-	-	.6	-	-	-	-	-	-	-
8	.1	-	.9	*.5	-	-	8	4.5	1.6	.2	.3	-
9	.1	-	-	.4	*.5	-	-	4.5	-	-	-	-
10	.1	-	-	-	.4	-	-	-	424	-	31	-
11	.1	-	-	-	-	-	9	-	-	.1	-	-
12	-	.2	-	.5	-	-	-	9	67	-	1.9	.1
13	.1	-	.6	-	.5	71	-	-	33	-	-	-
14	.1	.3	-	-	-	-	-	9	-	-	-	-
15	.1	-	-	-	-	-	-	-	10	0	.4	0
16	.1	-	.8	.4	-	8	-	7	-	-	-	-
17	.1	-	-	-	1.9	-	-	-	† 5	0	-	0
18	.1	.5	-	-	-	-	3.6	-	-	0	.3	-
19	-	.4	-	.5	-	3.6	-	†1,780	-	-	96	0
20	.1	.8	-	-	1.1	-	3.9	-	2.6	.9	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	.1	-	-	-	-	3.0	6	†71	-	1.6	-	-
23	-	.4	-	.4	1.2	2.6	-	254	-	-	.3	4.2
24	-	-	.3	.4	-	-	-	-	-	85	-	.6
25	-	.4	-	-	-	-	-	-	-	-	.2	.3
26	-	-	-	-	-	-	-	-	-	4.2	-	-
27	-	-	-	-	-	-	-	-	.5	-	-	.2
28	-	-	-	.5	-	214	-	12	-	-	-	-
29	-	-	.3	-	1.1	241	-	10	.6	.6	-	-
30	*.2	.2	-	-	-	-	7	-	.3	-	.2	-
31	.1	-	.3	.4	-	32	-	6	-	†63	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Discharge, in second-feet, of Peno Creek at Frankford, Mo., 1930-35--Continued

1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*0.1	-	1.1	-	-	4.5	-	-	3.9	1.9	4,500	8
2	6	0.4	-	38	-	-	4.5	9	-	2.6	-	-
3	-	-	-	-	-	-	-	-	-	2.6	-	2.8
4	.6	-	1.6	25	3.3	-	-	-	62	-	27	-
5	-	-	.6	-	-	6	-	7	-	-	-	-
6	-	-	-	-	18	-	3.9	22	-	-	8	-
7	-	.3	.6	-	-	-	-	9	276	3.0	-	1.7
8	.2	-	-	-	-	4.5	-	-	83	-	18	-
9	.1	-	.9	13	15	-	3.3	8	-	1.1	-	-
10	.1	-	1.9	-	-	-	-	7	11	-	-	1.1
11	-	-	-	-	144	-	3.3	-	5	1.6	6	-
12	.3	-	4.2	10	-	3.3	-	-	-	-	112	-
13	10	-	-	-	20	-	-	-	4.8	-	218	-
14	-	.3	4.2	-	-	-	-	4.5	-	-	-	-
15	.9	-	-	-	16	-	-	-	*10	-	188	-
16	-	-	-	25	-	-	6	3.9	-	.5	69	-
17	.4	-	-	-	-	2.8	6	3.3	-	-	-	1.7
18	-	.3	-	20	-	-	4.5	-	2.3	-	-	-
19	-	-	1.2	-	*14	4.5	†4.5	-	448	.3	-	*1.2
20	-	26	-	-	11	-	-	-	-	-	10	-
21	.2	3.6	63	-	-	-	-	2.5	-	-	-	-
22	-	67	-	-	-	-	-	-	-	-	7	-
23	.4	-	4.8	3.3	-	15	44	-	-	.3	-	-
24	.4	-	-	7	6	-	-	2.1	3.0	-	4.5	.8
25	-	7	-	-	-	-	-	-	2.6	-	3.3	-
26	-	-	1.6	-	5	16	-	-	-	1,250	32	-
27	.3	-	-	-	4.5	-	-	4.5	23	-	7	-
28	-	2.6	-	15	-	-	-	2.1	-	7	-	.7
29	-	2.6	-	-	-	8	-	-	-	-	2.1	-
30	.4	-	1,050	7	-	-	13	-	2.3	3.6	3.3	.7
31	.4	-	472	-	-	6	-	2.1	-	-	2.8	-

*Result of discharge measurement.

†Discharge measurement on this date.

1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	-	0.4	-	-	-	†808	20	-	0.5	0	-
2	-	-	-	9	-	-	-	-	-	-	-	0
3	-	-	.9	-	9	-	112	-	7	-	-	-
4	-	-	-	-	8	4.5	-	-	-	.3	-	-
5	.6	0.8	-	-	-	-	-	-	3.3	-	0	-
6	-	-	-	-	6	4.5	-	73	3.9	-	-	0
7	-	-	-	4.5	-	161	-	-	*3.9	-	0	0
8	.4	1.0	-	-	-	81	29	98	-	.3	-	0
9	-	-	-	4.5	-	-	-	-	-	-	-	0
10	-	-	.9	3.9	.6	-	-	-	2.8	.3	-	-
11	-	-	-	-	.5	13	-	-	-	-	0	-
12	.6	.8	-	-	-	-	29	323	-	-	0	-
13	-	-	.8	-	3.9	10	-	664	-	.2	-	-
14	-	-	-	3.9	-	-	-	-	-	-	-	0
15	.5	-	-	-	-	-	22	102	1.7	.1	0	0
16	-	-	-	-	-	-	-	-	-	-	-	0
17	.4	-	.8	-	-	-	85	35	1.4	.1	-	0
18	-	-	-	7	4.5	6	-	27	-	-	-	0
19	.4	.4	-	267	-	-	-	-	-	-	0	0
20	-	-	-	-	6	7	-	81	.8	-	-	0
21	-	-	.9	41	-	-	-	-	-	-	-	-
22	.4	-	-	-	-	-	25	98	-	0	-	-
23	-	.9	1,350	-	-	7	-	-	.7	-	0	0
24	-	-	-	-	-	-	-	-	.7	-	-	0
25	4.5	-	-	-	138	167	-	-	-	-	-	0
26	-	*.8	-	35	-	-	-	424	-	0	0	-
27	-	-	-	-	-	-	-	89	-	-	-	0
28	-	-	-	20	8	20	-	-	-	-	-	-
29	.8	-	16	-	-	-	16	27	.8	0	-	0
30	-	-	†15	-	-	258	-	-	.6	-	-	0
31	-	-	9	-	-	98	-	16	-	-	-	0

*Result of discharge measurement.

†Discharge measurement on this date.

Discharge, in second-feet, of Peno Creek at Frankford, Mo., 1930-35--Continued

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	0.2	0.8	-	-	3.0	-	1.2	-	-	0	0
2	0	-	.8	0.7	-	-	14	-	0.2	-	-	-
3	-	-	-	-	1.0	12	-	†1.6	-	0	-	-
4	0	.5	1.0	-	-	-	-	-	.1	-	0	0
5	0	-	1.0	-	1.1	-	-	1.6	-	-	-	-
6	0	.5	.8	.7	-	-	-	-	0	0	0	0
7	0	-	.8	-	1.0	*7	14	-	0	0	0	0
8	0	-	-	-	-	-	-	-	0	0	-	-
9	0	-	.8	-	-	-	-	-	0	0	-	-
10	0	.5	-	.8	1.1	3.0	-	-	-	0	-	0
11	0	-	.7	-	-	-	-	-	.4	-	0	-
12	0	-	.7	.8	1.0	-	4.8	1.2	-	-	-	-
13	-	.6	-	1.0	-	3.0	-	-	.2	-	-	-
14	0	.6	.7	-	-	2.6	4.2	1.9	-	0	-	-
15	-	-	-	-	-	-	-	1.6	-	-	0	0
16	0	-	.6	-	-	2.6	4.8	-	.1	-	-	-
17	0	-	-	-	.8	2.3	-	-	0	0	0	0
18	0	.6	2.8	.7	-	-	-	-	2.3	0	0	-
19	0	-	2.5	.7	1.0	2.6	-	1.2	5	-	-	-
20	-	.7	3.3	.7	-	-	-	-	3.6	-	-	-
21	.2	.8	2.5	-	-	17	1.9	-	2.6	0	-	-
22	-	-	-	.7	-	-	-	-	-	-	0	0
23	-	-	1.7	.8	-	5	-	-	1.6	-	0	-
24	.3	.8	-	-	-	2.6	-	-	-	0	0	-
25	.2	.8	1.7	.8	-	-	-	.6	.9	-	-	-
26	.1	-	-	-	*1.1	-	2.3	.5	.5	0	-	0
27	.5	.8	1.0	.8	-	-	-	-	-	-	0	-
28	.5	.7	-	-	-	28	1.9	.4	*.2	0	-	0
29	-	.7	-	.8	-	-	-	-	-	-	-	46
30	.4	-	.8	-	-	43	1.9	-	.1	-	-	31
31	.4	-	.7	.8	-	23	-	-	-	-	-	-

*Result of discharge measurement.

†Discharge measurement on this date.

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	2.1	-	7	†147	26	-	-	-
2	-	-	-	-	2.5	21	-	1,150	-	7	-	-
3	-	0	-	-	-	-	-	790	-	-	3.6	-
4	0	-	54	2.1	-	171	7	130	-	-	-	-
5	-	10	-	2.1	3.3	105	-	-	12	-	4.2	0.6
6	0	-	-	-	-	-	5	171	17	2.6	3.0	-
7	-	-	-	-	2.1	-	-	-	-	-	-	.6
8	-	-	3.9	-	-	53	67	79	8	1.9	-	-
9	0	-	-	-	10	49	-	221	-	-	-	-
10	-	.3	3.9	-	-	-	87	-	-	-	1.9	-
11	-	-	-	-	-	150	206	53	-	-	-	.5
12	0	-	-	11	-	-	-	-	-	1.9	-	-
13	0	-	-	-	206	39	28	53	4.3	1.9	-	-
14	-	*1.2	-	-	79	-	-	3,080	-	-	-	.4
15	0	-	2.5	*6	-	-	17	171	6	1.6	-	-
16	-	-	-	6	28	26	-	-	-	-	-	-
17	0	1.2	2.5	-	-	-	19	-	-	-	1.1	-
18	-	-	-	-	-	-	-	56	5	-	-	.2
19	0	-	-	6	-	16	-	-	-	.8	198	-
20	0	1.9	-	-	23	14	16	323	-	1.1	-	.1
21	-	-	2.5	-	-	-	-	-	-	-	3.0	.1
22	-	-	-	-	-	-	10	56	4.2	2,910	-	-
23	0	-	-	-	3.6	16	-	-	-	5,180	-	-
24	-	1.6	3.3	2.5	-	-	-	49	-	3,030	1.9	0
25	-	-	-	-	-	496	-	23	-	-	-	0
26	-	1.6	-	2.5	†62	105	-	-	4.2	-	1.6	-
27	0	-	-	-	-	43	4.2	-	-	53	-	0
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	4.5	2.1	-	17	7	91	2.6	-	-	-
30	0	808	-	-	-	12	-	-	2.3	-	-	0
31	-	-	3.9	-	-	-	-	19	-	-	1.1	-

*Result of discharge measurement.

†Discharge measurement on this date.

West Fork of Cuivre River near Laddonia, Mo.

Location.- Chain gage, lat. 39°11'45", long. 91°38'50", in NW¼ sec. 13, T. 51 N., R. 7 W., at bridge on U. S. Highway 54, 3 miles south of Laddonia. Zero of gage is about 731.8 feet above mean sea level.

Drainage area.- 32 square miles.

Records available.- April 1930 to September 1935 (fragmentary).

Extremes.- Water year 1930-31: Maximum discharge, 800 second-feet May 19 (gage height, 9.82 feet).

1931-32: 276 second-feet Feb. 11 (gage height, 6.24 feet).

1932-33: 800 second-feet May 12 (gage height, 9.78 feet).

1933-34: 2,780 second-feet Aug. 16 (gage height, 11.44 feet).

1934-35: 2,380 second-feet May 14 (gage height, 11.20 feet).

Maximum stage known, about 12.3 feet, date unknown.

Remarks.- Records poor and fragmentary.

Discharge, in second-feet, 1930-35
1930

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							*1.7	0.5	0	3.0	0	0
2							-	.6	0	1.8	0	0
3							-	.6	0	.7	-	0
4							1.4	-	0	.3	0	0
5							1.4	.5	0	.2	0	0
6							-	.4	0	-	0	0
7							.9	.5	0	.1	0	-
8							.6	.4	-	0	0	0
9							.6	.4	0	0	0	0
10							.5	.4	0	0	-	0
11							.5	-	0	0	0	0
12							.3	.4	0	0	0	0
13							-	.3	0	-	0	0
14							.5	.3	0	0	0	-
15							.5	.3	-	0	0	0
16							.6	.3	0	0	0	0
17							.9	.5	0	0	-	0
18							.9	-	0	0	0	0
19							.6	.3	0	-	0	0
20							-	.3	0	-	0	0
21												
22							.5	.3	0	0	0	-
23							.4	.3	-	0	0	0
24							.3	.3	0	0	0	0
25							.3	0	0	0	0	0
26							.3	.2	7	0	0	0
27							-	.2	†.6	-	0	0
28							.4	.2	.2	0	0	0
29							.5	.1	-	0	0	-
30							.5	.1	5.2	0	0	0
31							-	0	-	0	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	1.3	0	0	-	1.7	0	0.9	-	-	-
2	0	0	1.1	0	0	0	1.5	0	-	-	-	11
3	0	0	.7	0	0	0	*1.3	0	-	0	0	0
4	0	0	.4	0	0	0	0	0	.1	-	-	0
5	-	0	.3	0	0	0	-	-	-	-	-	0
6	0	0	.2	0	-	-	-	-	3.3	0	-	-
7	.4	0	-	0	0	-	-	0	-	0	0	-
8	1.9	0	.2	0	0	-	.2	-	.2	0	0	0
9	2.1	0	.1	0	*.1	-	0	0	.1	0	0	0
10	.8	0	.1	0	0	-	-	0	-	0	11.4	0
11	.4	0	0	-	-	0	0	0	0	0	-	0
12	-	0	0	0	-	-	0	0	0	0	2.5	0
13	.1	0	0	0	0	-	0	0	0	0	0	0
14	0	0	-	-	0	18	0	0	0	0	0	-
15	0	0	0	-	-	-	0	0	-	0	0	0
16	0	-	0	-	0	1.3	0	-	-	-	-	-
17	0	0	0	-	-	-	0	-	0	-	0	0
18	0	0	0	-	0	-	0	0	*.1	0	0	0
19	-	0	0	-	-	-	-	†630	0	0	0	0
20	0	0	0	-	0	0	0	218	0	0	72	-
21	0	0	-	-	-	0	-	-	0	-	.1	0
22	0	0	0	-	0	0	-	170	0	-	0	7
23	0	0	0	-	0	0	-	-	0	-	0	16
24	0	0	0	-	-	0	0	-	-	0	8	0
25	0	0	0	-	-	-	0	730	-	0	-	-
26	-	0	0	-	-	-	0	25	0	-	-	0
27	0	0	0	-	0	.8	0	-	0	0	-	0
28	0	0	0	-	0	250	0	-	-	-	107	0
29	0	0	0	-	-	15	-	2.2	0	-	16	0
30	0	-	0	-	-	2.4	-	-	0	-	-	*.1
31	0	-	0	-	-	1.0	-	-	-	-	16	-

*Result of discharge measurement. †Discharge measurement on this date.

Discharge, in second-feet, of West Fork of Cuivre River near Laddonia, Mo., 1930-35--Continued

1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	-	-	-	-	-
2	-	0	1.3	68	-	-	0.1	0.7	-	-	-	-
3	-	-	1.1	-	-	-	-	.7	-	-	-	-
4	-	-	-	2.7	-	-	-	.6	27	-	-	-
5	-	-	.7	-	-	1.5	.4	.5	-	-	-	-
6	0	0	-	-	19	-	-	.5	3.9	-	-	-
7	-	0	.4	8	-	-	-	.5	-	4.8	-	-
8	2.1	-	-	13	-	-	-	-	3.3	-	-	-
9	.8	0	1.7	2.1	4.7	-	.4	.5	-	-	-	-
10	.4	0	27	-	37	-	-	.5	1.2	-	-	-
11	-	-	11	1.1	276	-	-	.4	1.1	.4	-	-
12	.9	0	7	-	-	2.3	-	.4	-	-	-	-
13	210	-	-	1.1	-	-	-	.4	-	-	-	-
14	-	51	19	-	-	-	-	.4	-	-	-	-
15	3.0	-	-	130	-	.6	-	-	.1	.2	-	* 1.9
16	1.3	3.0	1.5	14	-	-	.4	.4	-	-	-	.1
17	.2	-	-	-	*86	-	-	.4	-	-	-	-
18	-	.7	-	2.3	-	-	.7	-	0	-	-	-
19	.1	2.7	.8	-	3.0	-	-	-	-	0	-	-
20	-	-	-	-	-	-	-	-	-	0	-	-
21	0	34	79	1.1	-	-	-	-	-	-	-	-
22	0	-	-	-	-	.9	-	-	-	-	-	-
23	-	162	6	2.7	1.5	-	†2.6	-	-	0	-	-
24	0	-	-	-	-	-	-	-	-	-	-	0
25	-	19	-	-	-	11	2.3	-	-	0	-	-
26	0	-	-	1.5	-	-	1.4	-	-	0	-	0
27	-	-	-	-	-	-	.9	-	-	0	-	-
28	-	4.4	.6	3.7	-	.9	.9	.3	3.6	-	-	6
29	0	-	.4	-	-	-	.7	-	-	-	-	0
30	-	3.0	-	-	-	-	.7	-	.4	-	-	0
31	0	-	114	-	-	-	-	-	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	0.8	-	-	-	-	0	0
2	-	-	0	-	-	.7	-	-	-	-	0	-
3	0	0	-	-	-	-	†13	-	-	0	0	-
4	-	0	-	0.2	-	-	7	-	-	0	0	-
5	-	-	-	-	-	-	2.3	3.2	*0.1	0	-	0
6	-	-	-	-	-	-	-	-	.1	-	0	0
7	-	-	-	-	-	-	14	259	.1	-	0	0
8	-	0	-	-	-	-	2.3	428	0	-	-	0
9	-	-	-	-	-	-	-	20	0	-	-	0
10	-	-	-	-	0.4	-	-	-	0	-	-	-
11	-	-	-	-	-	-	.8	161	-	-	*.4	0
12	0	-	-	-	-	-	.7	760	.1	-	-	0
13	-	-	-	0	-	-	.5	345	.1	0	-	-
14	-	-	-	-	-	.9	-	-	0	0	-	-
15	0	-	0	-	-	-	.3	22	-	0	-	-
16	-	-	-	-	-	-	-	-	-	-	-	0
17	0	0	0	-	-	-	2.3	-	-	-	-	-
18	0	-	-	-	-	.4	-	-	-	-	-	0
19	0	-	-	-	-	3.7	1.4	-	-	-	-	-
20	-	-	-	24	8	-	-	1.0	-	-	-	0
21	-	-	0	18	-	-	1.4	-	-	0	-	-
22	-	-	-	-	-	-	1.0	19	-	0	0	-
23	-	-	-	23	-	1.0	-	3.1	-	-	-	0
24	-	-	†295	-	-	-	.6	3.7	-	-	-	-
25	-	0	-	-	-	78	.6	26	-	-	-	-
26	-	-	-	-	-	-	.5	137	-	-	-	0
27	-	-	-	1.6	-	2.6	.4	23	-	-	-	1.4
28	-	-	†1.5	-	-	-	.4	-	-	-	-	-
29	-	-	-	-	-	1.1	.3	-	-	-	-	-
30	-	-	.4	-	-	428	-	-	0	-	-	.2
31	-	-	-	-	-	137	-	-	-	0	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Discharge, in second-feet, of West Fork of Cuivre River near Laddonia, Mo., 1930-35--Continued

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	0.7	-	-	-	0.7	-	-	0	-	-	-
2	2.0	-	-	0.5	0	-	-	0.1	0	0	-	-
3	2.0	.4	-	.5	-	-	2.8	-	0	0	-	-
4	*1.1	.1	2.5	-	-	-	2.0	-	0	-	-	0
5	-	-	2.5	-	0	-	-	0	-	-	-	0
6	-	.1	-	-	0	-	8	-	-	0	-	0
7	-	-	-	-	-	3.0	-	0	-	0	-	0
8	-	.1	-	2.1	-	-	-	0	0	0	-	0
9	.1	-	-	-	-	1.0	.7	-	0	0	-	-
10	.1	.1	-	-	-	†1.5	.5	0	-	0	-	-
11	.1	-	0	-	-	-	-	0	34	0	-	-
12	.1	-	0	.9	0	-	-	0	2.0	-	-	-
13	.1	.1	-	-	-	-	-	-	-	-	-	250
14	.1	.1	0	-	-	.7	.3	0	-	-	-	61
15	-	.1	-	1.2	0	-	-	0	-	-	-	-
16	.1	-	0	-	0	-	-	-	.1	0	1,050	-
17	-	-	-	.9	-	-	-	0	-	0	177	-
18	0	.1	4.8	.8	-	-	-	0	.1	-	-	1.0
19	.1	-	4.8	.9	0	.7	.2	0	.1	-	-	.8
20	39	.1	-	-	0	-	-	-	0	0	-	-
21	72	-	-	-	-	-	-	0	-	-	-	-
22	-	.1	-	.7	-	-	-	-	-	-	-	-
23	-	-	1.3	-	-	-	0	-	-	0	-	-
24	-	.1	-	-	-	-	0	0	-	-	.9	*.4
25	-	-	-	.7	-	-	0	-	-	-	-	.3
26	-	-	-	-	-	.8	-	-	-	-	-	-
27	-	.1	.8	1.1	0	-	.4	-	-	-	-	.2
28	-	0	-	-	-	7	-	0	-	0	-	.2
29	-	0	.8	-	-	-	-	0	-	-	-	-
30	1.3	-	-	0	-	58	.1	0	0	-	-	-
31	.9	-	-	0	-	-	-	0	-	-	.3	-

*Result of discharge measurement. †Discharge measurement on this date.

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	-	-	-	0.7	-	0.9	75	-	-	-	-
2	1.7	-	-	2.0	-	-	-	306	-	-	-	-
3	.8	28	-	-	-	-	-	528	-	-	-	0
4	-	105	11	-	7	-	-	22	3.6	4.6	-	0
5	-	23	-	1.0	-	145	-	-	-	1.0	-	-
6	-	-	-	-	-	6	.5	-	1.4	.9	-	-
7	-	-	1.7	-	-	268	-	-	-	-	-	-
8	-	1.4	1.5	-	-	15	-	498	-	-	-	-
9	.2	-	-	-	-	-	-	†325	-	-	-	.6
10	.1	-	-	19	-	-	-	-	-	.3	-	.5
11	.1	-	-	-	-	31	-	-	137	-	-	-
12	-	-	.8	-	-	-	-	-	-	-	-	.1
13	-	.3	-	-	1.7	-	3.6	-	2.0	.2	-	-
14	-	-	-	-	-	-	-	1,470	-	-	-	.1
15	.1	.2	.7	-	-	-	1.3	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	0
17	-	-	-	5	-	-	1.2	-	-	-	-	-
18	-	-	2.0	4.6	-	-	-	-	-	-	-	-
19	.1	-	-	-	-	1.0	3.6	474	8	.2	-	-
20	-	-	1.5	-	-	1.0	2.8	-	-	-	-	-
21	-	7	-	-	2.0	-	-	-	-	-	-	-
22	-	-	-	3.2	-	-	-	20	-	4.6	0.3	-
23	.1	† 19	-	-	-	-	-	-	-	-	-	-
24	.1	-	20	3.0	-	-	-	-	-	68	-	-
25	-	-	-	2.8	-	1.8	.8	-	-	-	-	-
26	-	1.0	-	-	-	-	-	-	-	-	-	-
27	1.4	1.0	9	-	2.1	-	-	3.9	-	1.5	-	-
28	-	1.3	-	.6	-	1.6	-	-	-	-	-	-
29	1.3	-	-	-	-	-	-	161	-	*.6	-	-
30	-	760	-	-	-	1.3	-	-	-	-	-	0
31	-	-	2.1	-	-	-	-	3.0	-	-	-	-

*Result of discharge measurement. †Discharge measurement on this date.

Cuivre River near Troy, Mo.

Location.- Wire-weight gage, lat. 39°1', long. 90°59', in SE¼ sec. 14, T. 49 N., R. 1 W., at bridge on U. S. Highway 61, 2 miles north of Troy. Zero of gage is 450.4 feet above mean sea level. Prior to Nov. 13, 1934, chain gage at same site and datum.

Drainage area.- 903 square miles.

Records available.- February 1922 to September 1935.

Average discharge.- 13 years, 750 second-feet.

Extremes.- Maximum discharge observed during year, 24,700 second-feet May 15 (gage height, 24.78 feet); minimum discharge, 3.7 second-feet Oct. 21; minimum gage height, 1.80 feet Sept. 24.

1922-35: Maximum discharge, about 52,600 second-feet May 18, 1929 (gage height, 25.75 feet, former site, from flood marks); minimum, 0.1 second-foot at times during July and August, 1934.

Remarks.- Records good except those for days of rapidly changing stage and for periods of ice effect, Dec. 30, 31, Jan. 21-27, which are poor.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,150	73	4,960	160	78	266	320	165	470	1,740	117	16
2	334	49	1,490	178	92	253	280	743	635	982	97	28
3	202	112	4,560	158	98	253	228	13,000	940	743	85	25
4	142	8,100	1,590	128	148	2,420	202	3,200	635	706	70	22
5	98	1,540	743	105	178	4,240	190	1,200	392	320	53	22
6	78	601	502	95	142	190	165	3,550	293	165	47	20
7	64	362	320	88	120	5,120	306	2,790	280	163	39	20
8	44	190	266	10,100	152	1,800	743	10,100	392	148	32	17
9	26	132	215	3,490	392	706	439	5,360	293	123	30	54
10	23	122	190	1,290	362	6,460	346	2,360	2,990	87	60	67
11	20	98	178	635	202	2,920	5,960	899	3,550	60	97	87
12	18	73	118	439	148	2,240	1,900	670	1,800	3,700	46	50
13	13	47	108	354	1,150	2,660	859	2,020	534	4,160	43	46
14	10	42	100	280	1,440	1,110	567	12,500	899	439	37	44
15	11	42	108	228	1,200	656	392	16,200	635	334	33	25
16	8	47	85	202	706	567	293	4,480	2,920	240	25	21
17	10	42	80	408	470	348	306	2,300	2,070	190	97	19
18	8	38	92	439	320	320	1,290	1,150	940	139	52	18
19	11	40	155	377	240	266	940	3,130	470	117	567	12
20	16	35	105	743	202	240	601	9,800	348	130	160	12
21	3.7	33	110	502	165	228	392	8,500	1,390	6,900	57	11
22	6	40	105	306	152	190	293	2,070	534	7,170	39	9
23	10	33	118	228	120	190	253	3,840	306	3,620	43	8
24	16	29	253	178	138	165	215	1,640	228	4,960	37	8
25	4,560	40	266	128	5,620	4,640	190	940	215	2,790	27	10
26	820	68	280	102	1,070	3,620	165	601	202	820	25	10
27	306	56	293	90	706	1,110	150	470	202	439	23	12
28	178	1,020	293	80	348	601	128	2,020	153	439	20	12
29	118	502	202	92	-	392	135	3,620	178	253	19	9
30	98	10,900	190	66	-	306	132	1,590	137	165	18	10
31	83	-	178	61	-	362	-	670	-	134	13	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				8,484.7	4,560	3.7	274	0.303	0.35	16,830		
November.....				24,506	10,900	29	817	.905	1.01	48,610		
December.....				18,253	4,960	80	589	.652	.75	36,200		
Calendar year 1934.....				113,081.9	13,300	.1	310	.343	4.66	224,300		
January.....				21,700	10,100	61	700	.775	.89	43,040		
February.....				16,159	5,620	78	577	.639	.67	32,050		
March.....				44,818	6,460	165	1,446	1.60	1.84	88,900		
April.....				18,382	5,960	128	613	.879	.76	36,460		
May.....				121,578	16,200	165	3,922	4.34	5.00	241,100		
June.....				25,031	3,550	137	834	.924	1.03	49,650		
July.....				42,376	7,170	60	1,367	1.51	1.74	84,050		
August.....				2,108	567	13	68.0	.075	.09	4,180		
September.....				724	87	8	24.1	.027	.03	1,440		
Water year 1934-35.....				344,119.7	16,200	3.7	943	1.04	14.16	682,500		

Des Plaines River at Lemont, Ill.

Location.- Chain gage, lat. $41^{\circ}40'54''$, long. $88^{\circ}9'$, in NW $\frac{1}{4}$ sec. 20, T. 37 N., R. 11 E., at Stephens Street Bridge, a quarter of a mile north of Lemont and 8 miles above confluence with Chicago Sanitary Canal. Zero of gage is 584.10 feet above mean sea level.

Drainage area.- 687 square miles (revised).

Records available.- November 1914 to September 1935.

Average discharge.- 20 years (1915-35), 414 second-feet (not including overflow into Chicago Sanitary Canal).

Extremes.- Maximum discharge observed during year, 3,280 second-feet May 14 (gage height, 5.62 feet); minimum observed, 2.0 second-feet Oct. 6.

1915-35: Maximum discharge observed, 5,520 second-feet Mar. 18, 1919; no flow on various dates.

Remarks.- Records poor. Stage-discharge relation affected by ice Jan. 3, 4, 13-16, 20-24, Feb. 25-28. During high water part of flow spills into Chicago Sanitary Canal 7 miles above gage. This overflow, in second-feet, during the year (not included in the table of daily and monthly discharge) was as follows:

Mar. 11	32	Mar. 14	12	May 12	14	May 15	412
12	194	Apr. 13	36	13	644	16	41
13	132	14	6	14	1043		

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

2.4	0.3	2.9	160	3.8	980	4.3	1,380	5.0	2,170
2.5	4.4	3.0	224	3.9	1,090	4.4	1,470	5.2	2,500
2.6	19	3.2	383	4.0	1,170	4.5	1,560	5.4	2,870
2.7	57	3.4	570	4.1	1,230	4.6	1,660	5.6	3,280
2.8	103	3.6	770	4.2	1,300	4.8	1,900		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.1	16	660	109	114	383	630	277	610	502	66	120
2	6.1	19	670	98	109	670	580	300	610	600	52	109
3	9.5	14	720	79	114	1,170	531	401	570	920	132	89
4	4.4	19	720	58	114	1,380	492	670	541	1,090	137	80
5	3.0	16	720	34	109	1,470	437	1,040	473	1,090	109	71
6	2.4	11	670	66	114	1,560	401	980	401	1,090	89	62
7	4.4	12	670	98	126	1,660	350	1,040	383	980	94	57
8	3.7	14	660	317	120	1,660	401	980	358	720	80	47
9	4.4	19	590	1,380	126	1,380	455	1,170	325	522	62	120
10	5.2	14	531	1,780	114	1,470	437	1,170	285	392	109	132
11	8.1	19	446	1,780	114	1,900	820	920	277	342	66	120
12	7.1	21	410	1,560	133	2,330	1,470	254	300	52	103	
13	6.1	24	376	1,410	137	2,330	2,170	232	262	42	94	
14	6.1	19	317	1,260	224	2,030	2,030	3,280	218	218	27	80
15	4.4	16	270	1,050	455	1,660	1,660	2,870	211	186	34	85
16	6.1	21	239	880	1,300	1,560	1,300	2,170	198	154	27	75
17	5.2	21	232	720	1,780	1,470	1,090	1,660	262	120	132	75
18	4.4	38	218	680	1,560	1,380	920	1,300	292	109	277	62
19	3.7	80	205	570	1,380	1,230	770	980	375	94	218	47
20	5.2	173	205	540	1,300	1,170	670	820	428	89	464	34
21	9.5	285	198	500	1,170	1,380	580	720	437	98	820	21
22	19	419	192	460	980	1,560	455	590	437	80	820	30
23	19	492	198	410	920	1,470	437	512	392	98	770	24
24	14	570	192	365	770	1,300	401	401	325	98	670	21
25	16	640	186	317	700	1,380	333	330	277	98	512	14
26	12	620	173	262	610	1,300	285	292	342	114	410	38
27	14	640	137	232	522	1,230	317	285	551	120	342	114
28	16	670	114	192	419	1,170	317	342	820	120	262	186
29	11	670	109	143	-	1,040	350	610	770	103	179	114
30	12	720	109	126	-	920	317	870	660	94	126	80
31	14	-	120	120	-	770	-	770	-	80	109	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	263.1	19	2.4	8.49	0.012	0.01
November.....	6,312	720	11	210	.306	.34
December.....	11,256	720	109	363	.528	.61
Calendar year 1934.....	22,004.1	720	0	60.3	.098	1.18
January.....	17,526	1,780	34	565	.822	.95
February.....	15,604	1,780	103	557	.811	.84
March.....	43,363	2,330	383	1,399	2.04	2.35
April.....	21,406	2,170	285	714	1.04	1.16
May.....	32,110	3,280	277	1,036	1.51	1.74
June.....	12,314	820	198	410	.597	.67
July.....	10,833	1,090	80	351	.511	.58
August.....	7,289	820	27	235	.342	.39
September.....	2,304	186	14	76.8	.112	.12
Water year 1934-35.....	180,650.1	3,280	2.4	495	.721	9.77

Illinois River at Morris, Ill.

Location.— Water-stage recorder, lat. 41°21'15", long. 88°25'43", in NE¼ sec. 9, T. 33 N., R. 7 E., below mouth of Mazon River. Prior to Jan. 11, 1935, wire-weight gage at same datum 300 feet above present gage and below mouth of Mazon River. Zero of gage is 478.50 feet above mean sea level (general adjustment of 1929).

Records available.— October 1919 to September 1935, January 1903 to December 1904 at station near Monooka.

Average discharge.— 16 years (1919-35), 13,380 second-feet.

Extremes.— Maximum discharge during year, 36,000 second-feet May 13 (gage height, 14.84 feet); minimum mean daily discharge, 8,280 second-feet several times in September; minimum gage height, 5.95 feet Sept. 25.
1919-35: Maximum discharge observed, 62,500 second-feet Apr. 2, 1933 (gage height, 19.1 feet); minimum observed, 5,120 second-feet Aug. 21, 1929 (gage height, 3.9 feet).
A stage of 26.2 feet occurred in 1831.

Remarks.— Records good. Stage-discharge relation affected by ice Dec. 24-28, Jan. 24-30. Discharge includes flow diverted from Lake Michigan by Chicago Sanitary Canal. Prior to Jan. 11, 1935, gage-height record furnished by U. S. Weather Bureau.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Dec. 29, Mar. 16 to Sept. 30

6.0	8,230	8.5	14,800	12.5	27,100
6.5	9,630	9.0	16,300	13.0	28,800
7.0	10,800	10.0	19,300	13.5	30,600
7.5	12,100	11.0	22,300	14.0	32,500
8.0	13,400	12.0	25,400	14.5	34,600

Table for Dec. 30 to Mar. 15

6.0	10,100
6.5	15,100
7.0	17,700
7.5	20,400
8.0	26,000
13.0	29,200

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,800	10,000	18,700	10,600	12,800	17,700	18,100	12,400	16,300	13,200	9,780	9,030
2	10,800	10,300	17,800	11,400	12,800	16,700	17,200	13,200	15,700	16,300	9,780	9,030
3	10,300	10,000	16,900	11,400	12,100	17,700	15,700	16,900	14,800	19,600	10,300	9,280
4	10,800	10,000	16,300	10,100	12,800	16,900	15,700	22,600	15,100	17,500	10,300	9,030
5	10,800	11,300	16,000	10,100	12,100	18,600	14,800	23,000	14,300	16,000	10,000	9,030
6	10,800	11,100	15,400	10,600	11,900	19,900	14,300	23,600	14,000	16,000	10,300	9,030
7	10,500	11,100	14,800	10,400	12,400	20,100	14,000	24,800	13,700	15,100	10,000	9,030
8	10,300	11,300	13,400	13,600	10,800	23,200	14,600	24,200	13,400	14,000	9,530	8,780
9	9,780	10,800	13,200	29,200	11,100	22,100	14,600	27,400	13,200	13,200	9,780	8,780
10	10,800	10,600	12,900	29,200	11,600	23,800	14,300	34,600	12,900	11,800	9,780	9,030
11	10,500	10,500	11,600	27,300	12,400	28,200	17,200	30,600	12,400	11,800	9,780	8,780
12	9,530	11,100	12,100	26,300	12,600	27,800	21,700	28,400	12,400	10,800	9,530	8,780
13	10,300	10,500	11,300	24,000	13,100	25,000	22,300	33,400	11,900	10,800	9,530	8,780
14	9,530	10,500	11,800	21,200	18,200	24,600	21,700	34,200	11,800	10,500	8,780	8,530
15	9,530	10,800	11,100	19,000	24,300	22,900	20,000	28,100	11,300	10,300	9,030	8,530
16	9,530	10,800	12,100	18,200	24,600	20,500	19,300	22,300	11,600	10,300	8,780	8,280
17	9,530	10,300	12,900	17,700	20,400	19,600	17,200	20,000	19,300	10,500	9,280	8,530
18	9,530	10,800	12,600	16,900	18,200	18,100	16,600	17,800	21,100	9,780	9,530	8,280
19	9,530	11,600	12,100	16,400	16,700	17,200	15,400	18,300	21,700	10,500	9,780	8,280
20	9,530	10,500	10,800	15,600	16,400	16,600	13,700	14,300	21,100	10,300	12,100	8,280
21	9,530	11,300	11,300	15,400	15,400	23,000	14,600	13,200	19,000	10,800	10,800	8,530
22	9,530	12,400	11,800	14,100	15,100	23,000	13,700	14,300	17,500	10,500	10,500	8,280
23	9,780	14,600	12,100	14,800	14,100	23,600	13,700	13,700	16,300	10,500	10,300	8,530
24	9,530	16,600	11,100	13,400	14,400	22,600	12,900	13,400	14,600	11,300	10,300	8,280
25	9,780	16,600	11,100	13,700	22,400	24,500	12,900	13,400	13,400	12,100	9,780	8,280
26	10,500	16,300	10,700	14,000	23,800	27,400	12,900	13,200	19,600	12,600	9,530	9,530
27	10,300	16,600	10,500	13,700	20,100	24,800	12,600	12,600	18,100	11,100	9,530	9,280
28	10,300	16,700	10,900	13,200	18,800	23,600	12,600	13,700	16,300	11,100	9,030	8,780
29	10,000	17,500	11,300	13,300	-	22,300	12,100	14,600	15,100	10,800	9,280	8,780
30	10,500	17,500	11,800	13,000	-	20,200	13,200	16,300	14,000	10,000	9,280	8,530
31	10,300	-	10,400	12,400	-	19,300	-	16,600	-	10,300	9,030	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	312,470	10,800	9,530	10,080		
November.....	368,900	17,500	10,000	12,300		
December.....	368,800	18,700	10,400	12,600		
Calendar year 1934.....	3,843,070	18,700	7,560	10,530		
January.....	500,200	29,200	10,100	16,140		
February.....	440,900	24,600	10,800	15,750		
March.....	671,900	28,200	16,600	21,670		
April.....	469,600	22,300	12,100	15,650		
May.....	523,100	34,600	12,400	20,100		
June.....	461,800	21,700	11,300	15,390		
July.....	379,380	19,600	9,780	12,240		
August.....	303,050	12,100	8,780	9,775		
September.....	261,900	9,530	8,280	8,750		
Water year 1934-35.....	5,189,980	34,600	8,280	14,220		

Illinois River at Peoria, Ill.

Location.— Staff gage, lat. 40°42'8", long. 89°33'52", in NW $\frac{1}{4}$ sec. 2, T. 8 N., R. 8 E., at foot of Grant Street, Peoria, $\frac{1}{2}$ miles above mouth of Kickapoo Creek. Zero of gage is 428.39 feet above mean sea level (general adjustment of 1929).

Records available.— March 1910 to September 1935. March 1903 to July 1906 at station $\frac{3}{4}$ miles downstream.

Average discharge.— 25 years (1910-35), 16,640 second-feet.

Extremes.— Maximum discharge observed during year, 40,100 second-feet May 16 (gage height, 21.6 feet); minimum discharge, 8,200 second-feet Sept. 30; minimum gage height, 8.82 feet Sept. 25.
1910-35: Maximum discharge, 58,300 second-feet Oct. 9, 1926 (gage height, 25.0 feet); minimum, probably less than 7,250 second-feet during estimated period Dec. 14, 1910, to Jan. 10, 1911.
Maximum stage known, 28.6 feet in 1844.

Remarks.— Records good. Discharge estimated for periods of ice effect, Jan. 2, Jan. 22 to Feb. 4. Gage-height record furnished by Corps of Engineers, U. S. Army. Discharge determined on basis of slope as obtained by use of an auxiliary staff gage on highway bridge at Pekin, 9.3 miles downstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,900	10,400	15,800	12,900	17,200	24,600	32,900	19,700	23,000	22,700	13,600	10,700
2	10,600	9,620	18,500	12,700	16,700	23,400	31,700	19,100	24,000	23,600	13,600	10,800
3	11,200	9,460	18,300	12,700	16,900	26,900	30,200	20,000	24,000	24,000	14,200	10,900
4	10,900	10,100	18,500	12,600	17,000	25,200	28,900	19,300	23,300	26,100	13,700	10,200
5	11,200	10,400	19,200	12,400	16,900	24,900	28,000	20,900	22,700	26,000	13,900	10,400
6	11,300	10,200	20,700	12,300	17,300	26,200	27,400	22,200	22,900	26,700	14,300	10,100
7	10,900	10,300	19,900	12,500	16,800	27,100	27,100	24,400	22,600	25,700	15,400	9,920
8	10,600	11,000	19,000	12,200	16,700	26,400	24,600	25,700	22,200	25,500	15,000	10,000
9	11,000	10,100	18,700	13,700	16,100	27,200	24,500	25,500	21,600	24,500	14,700	10,200
10	10,800	10,600	18,500	15,700	15,300	28,100	23,000	29,400	20,100	23,000	14,300	10,000
11	10,600	11,300	18,100	19,000	15,700	28,700	22,300	31,600	21,000	22,100	13,700	9,890
12	10,600	10,800	17,700	22,000	15,200	30,800	24,500	33,500	20,300	22,200	13,500	9,720
13	10,400	9,650	17,400	23,600	15,600	32,500	24,000	35,200	19,800	21,200	13,700	9,430
14	10,300	10,500	17,200	24,700	15,100	32,200	24,900	39,000	17,700	20,300	13,100	9,560
15	10,500	10,100	16,700	26,200	15,500	33,500	26,400	39,700	18,600	20,100	12,700	9,280
16	10,100	10,400	16,400	25,600	19,000	33,400	27,300	40,100	17,900	18,600	11,900	9,280
17	10,300	10,100	16,100	24,200	21,200	34,700	28,000	38,100	18,200	18,200	11,400	9,280
18	10,400	10,400	16,300	25,200	22,700	32,600	27,400	36,900	17,400	17,600	11,700	9,100
19	9,970	10,700	15,700	24,300	23,300	31,700	26,000	37,000	16,900	16,500	11,100	9,230
20	8,760	10,200	15,600	23,500	23,400	31,600	25,100	34,000	19,200	16,400	11,000	8,950
21	9,900	11,300	15,800	22,200	22,400	30,000	25,600	30,200	21,500	16,100	11,700	9,220
22	10,300	11,100	15,300	20,100	23,900	30,000	24,000	30,100	21,400	15,800	12,000	8,560
23	10,100	12,000	15,100	19,500	21,300	30,200	23,900	29,100	22,100	15,200	12,600	8,800
24	9,750	12,200	15,300	18,900	21,200	32,100	22,800	27,800	22,400	14,700	12,500	8,560
25	10,200	13,600	15,900	18,300	22,200	32,200	22,500	26,000	21,900	14,600	12,400	8,370
26	10,200	13,500	14,500	18,000	21,700	33,500	22,000	24,400	21,400	15,400	12,200	8,610
27	10,800	15,100	13,800	17,700	23,300	34,400	20,600	24,300	21,900	15,500	12,500	9,480
28	10,400	14,200	12,900	17,200	23,300	34,000	20,600	24,000	22,600	15,000	11,600	8,640
29	10,700	16,200	12,900	17,000	-	32,900	20,500	23,100	22,600	14,900	11,300	9,280
30	10,500	15,200	12,900	17,500	-	37,000	19,700	23,500	24,000	14,400	11,200	8,200
31	10,100	-	13,500	17,300	-	33,600	-	23,200	-	14,700	11,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	324,260	11,300	8,760	10,460		
November.....	341,730	16,200	9,460	11,390		
December.....	512,000	29,700	12,900	16,520		
Calendar year 1934.....	4,054,040	20,700	8,480	11,110		
January.....	571,700	26,200	12,200	18,440		
February.....	532,900	23,900	15,100	19,030		
March.....	945,500	37,000	24,600	30,440		
April.....	757,300	32,900	19,700	25,240		
May.....	877,100	40,100	19,100	28,290		
June.....	635,200	24,000	16,900	21,170		
July.....	607,400	26,700	14,400	19,590		
August.....	397,300	15,400	11,000	12,820		
September.....	285,640	10,900	8,200	9,521		
Water year 1934-35.....	6,786,030	40,100	8,200	18,590		

Illinois River at Beardstown, Ill.

Location.— Staff gage, lat. 40°1'13", long. 90°26'12", in NE¼ sec. 15, T. 18 N., R. 12 W., at highway bridge on State Street, Beardstown, 9½ miles below mouth of Sangamon River. Zero of gage is 419.89 feet above mean sea level (general adjustment of 1929).

Records available.— October 1920 to September 1935.

Average discharge.— 15 years, 24,160 second-feet.

Extremes.— Maximum discharge observed during year, 70,800 second-feet May 18; maximum gage height observed, 22.4 feet May 17; minimum discharge, 10,700 second-feet Sept. 21-27.

1920-35: Maximum discharge observed, 105,000 second-feet Oct. 9, 1926; maximum gage height, 26.25 feet Oct. 12, 1926; minimum discharge (estimated because of ice effect), 9,500 second-feet Feb. 26, 27, 1934; minimum gage height observed, 7.5 feet Dec. 31, 1930, Jan. 1, 1931.

Maximum discharge known, about 115,000 second-feet Apr. 4, 1904.

Remarks.— Records good. Discharge estimated for period of ice effect, Feb. 1-9. Gage-height record furnished by U. S. Weather Bureau.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,600	12,300	17,600	16,400	22,200	32,100	42,100	27,700	51,100	40,200	23,400	12,900
2	13,600	12,300	19,100	16,400	22,000	32,900	42,100	25,300	49,500	40,200	22,100	12,900
3	13,600	12,300	19,700	16,100	21,900	32,900	41,600	25,600	48,400	38,600	20,700	13,200
4	13,900	12,600	20,600	16,100	21,700	32,500	40,700	28,900	46,300	36,400	19,500	12,900
5	13,900	12,600	23,000	16,100	21,600	31,300	39,800	32,700	44,600	36,900	19,400	12,900
6	13,900	12,900	23,900	16,100	21,400	30,900	39,300	36,000	42,500	38,500	18,700	12,600
7	13,900	12,900	24,500	16,100	21,400	29,100	38,400	39,000	41,200	39,800	18,400	12,600
8	13,600	13,200	24,500	15,700	21,300	30,800	37,100	42,100	43,000	39,300	17,700	12,300
9	13,200	13,200	24,500	16,900	21,300	31,800	35,100	43,300	42,300	38,900	17,400	12,300
10	13,200	13,200	24,100	17,700	21,300	32,200	34,700	47,900	41,600	38,000	17,100	12,300
11	13,200	13,200	23,400	19,000	21,700	33,300	33,700	51,100	40,200	37,100	16,900	12,300
12	12,900	13,200	23,400	21,000	21,600	34,400	33,900	53,000	38,400	35,800	16,800	12,300
13	12,600	13,200	22,700	24,500	21,700	36,900	34,400	56,500	36,700	34,600	16,100	12,000
14	12,600	13,200	22,400	26,300	22,100	39,600	35,800	61,400	35,000	32,900	15,800	11,600
15	12,300	12,900	22,100	27,000	22,500	40,900	36,600	64,800	33,800	31,700	15,500	11,600
16	12,300	12,900	22,100	28,100	24,000	42,600	38,000	67,100	32,100	30,500	15,500	11,600
17	12,000	12,600	21,700	28,500	26,500	43,000	38,000	69,400	30,500	28,900	14,500	11,300
18	12,000	12,600	21,400	29,300	28,600	43,000	36,800	70,800	28,000	27,700	14,500	11,300
19	12,000	12,600	21,000	30,100	29,700	43,000	35,900	70,700	27,400	26,600	14,500	11,000
20	11,600	12,600	20,700	30,500	29,700	43,000	36,900	69,500	30,300	26,500	14,200	11,000
21	11,600	12,600	20,400	30,100	29,700	42,600	38,000	67,900	32,200	24,500	14,200	10,700
22	11,600	12,900	20,000	27,700	29,700	42,600	37,100	67,200	33,500	23,600	14,200	10,700
23	11,600	13,200	19,700	25,200	29,500	42,600	36,200	65,500	35,100	23,100	14,200	10,700
24	11,600	14,200	19,400	24,100	28,900	42,100	35,000	62,400	37,200	22,500	13,900	10,700
25	12,000	14,500	18,700	23,400	26,500	40,000	34,200	60,900	37,000	23,500	13,900	10,700
26	12,300	15,200	18,100	23,100	27,500	39,100	32,900	60,900	36,000	25,300	13,900	10,700
27	12,300	15,800	17,400	23,100	28,400	40,400	31,700	59,700	35,600	26,300	13,600	10,700
28	12,300	14,900	16,400	22,700	30,400	41,400	30,500	57,100	35,200	26,600	13,600	10,800
29	12,800	16,500	16,100	22,700	-	42,600	29,700	53,800	36,100	27,000	13,200	11,600
30	12,300	15,200	16,800	22,400	-	42,100	28,500	53,200	38,000	27,000	13,200	11,300
31	12,300	-	16,400	22,700	-	42,100	-	52,200	-	25,200	12,900	-
Month				Second-foot-days		Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....				392,100		13,900	11,600	12,650				
November.....				401,600		16,500	12,300	13,380				
December.....				641,800		24,500	16,100	20,700				
Calendar year 1934.....				4,748,220		24,500	9,500	13,010				
January.....				695,100		30,500	15,700	22,420				
February.....				694,100		30,400	21,300	24,790				
March.....				1,173,800		43,000	29,100	37,860				
April.....				1,084,600		42,100	28,500	36,150				
May.....				1,642,600		70,800	25,300	53,020				
June.....				1,137,300		51,100	26,000	37,930				
July.....				972,900		40,200	22,500	31,380				
August.....				499,400		23,400	12,900	16,110				
September.....				351,500		13,200	10,700	11,720				
Water year 1934-35.....				9,688,100		70,800	10,700	26,540				

Kankakee River at Davis, Ind.

Location.- Chain gage, lat. $41^{\circ}24'$, long. $86^{\circ}42'$, in sec. 13, T. 34 N., R. 3 W., at highway bridge on U. S. Route 30, 4 miles east of Hanna, Knox County. Zero of gage is 665.12 feet above mean sea level.

Drainage area.- 510 square miles.

Records available.- April 1931 to September 1935 in reports of U. S. Geological Survey, July 1925 to May 1929 in reports of the Indiana Department of Conservation.

Extremes.- Maximum discharge observed during year, 1,200 second-feet May 30 (gage height, 8.79 feet); minimum observed, 209 second-feet Dec. 16-18.
1925-29, 1931-35: Maximum discharge observed, 1,700 second-feet Dec. 15, 1927 (gage height, 9.50 feet); minimum observed, 168 second-feet Aug. 5, 6, 13, 14, 1934.

Remarks.- Records good except those for periods of ice effect, Dec. 11-15, Jan. 1-6, Jan. 21 to Feb. 10, and those estimated for Oct. 7-13, Dec. 23-31, which are poor.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

3.0	189	4.2	345	5.4	546	7.5	940
3.2	195	4.4	377	5.8	618	8.0	1,040
3.4	223	4.6	410	6.0	654	8.8	1,200
3.6	252	4.8	444	6.3	708		
3.8	282	5.0	478	6.6	762		
4.0	313	5.2	512	7.0	840		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	329	252	444	220	340	546	582	495	980	444	313	297
2	329	252	444	220	340	512	582	461	860	427	410	297
3	313	252	427	220	340	495	564	546	880	478	444	297
4	297	267	461	220	340	495	529	654	800	478	393	297
5	297	267	410	230	340	564	512	600	726	444	361	282
6	297	267	410	300	330	582	495	654	672	427	345	282
7	290	267	393	444	330	762	495	672	654	410	329	282
8	280	267	377	600	340	960	495	600	618	393	313	282
9	270	267	377	980	350	880	495	762	564	377	313	313
10	260	267	377	920	360	900	495	726	564	377	297	297
11	280	267	395	820	377	1,060	512	672	546	377	282	282
12	255	267	300	726	377	980	636	780	529	361	282	282
13	255	267	275	654	393	800	654	1,040	512	345	* 282	282
14	252	267	250	726	582	762	636	1,060	478	345	282	282
15	252	267	225	478	762	744	600	940	478	345	282	287
16	252	267	209	529	820	726	546	820	461	329	313	267
17	252	252	209	564	654	708	529	744	478	329	427	267
18	252	282	209	529	582	690	512	690	495	313	478	267
19	252	282	223	495	546	872	495	654	600	329	478	267
20	252	282	223	478	512	744	495	600	600	313	427	267
21	252	297	223	470	495	860	478	564	582	313	410	252
22	252	313	237	450	478	880	461	546	546	313	377	267
23	267	329	235	430	461	900	444	512	512	393	345	267
24	267	345	230	410	461	744	444	495	478	427	345	267
25	267	393	225	390	512	762	427	478	461	377	329	237
26	267	393	220	380	762	744	427	478	478	377	329	282
27	267	410	210	370	636	726	427	444	478	361	313	313
28	267	427	210	360	564	708	427	546	478	345	313	313
29	267	427	220	350	-	672	495	1,160	444	329	297	313
30	267	444	220	340	-	636	495	1,200	427	313	313	297
31	267	-	220	340	-	600	-	1,100	-	329	297	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	8,403	329	252	271	0.531	0.61
November.....	9,103	444	252	303	.594	.66
December.....	9,018	461	209	291	.571	.66
Calendar year 1934.....	113,011	840	168	309	.606	8.23
January.....	14,643	980	220	472	.925	1.07
February.....	13,384	820	350	478	.937	.98
March.....	22,714	1,060	495	733	1.44	1.66
April.....	15,384	654	427	513	1.01	1.13
May.....	21,693	1,200	444	700	1.37	1.58
June.....	17,379	980	427	579	1.14	1.27
July.....	11,518	478	313	372	.729	.84
August.....	10,719	478	282	346	.678	.78
September.....	8,494	313	226	283	.565	.62
Water year 1934-35.....	162,452	1,200	209	445	.873	11.86

* Interpolated.

Kankakee River at Shelby, Ind.

Location.— Water-stage recorder, lat. 41°11', long. 87°21', in sec. 33, T. 32 N., R. 8 W., at Chicago, Indianapolis & Louisville Railway bridge 1 mile south of Shelby. Prior to Dec. 20, 1934, chain gage at same datum at highway bridge 700 feet upstream.

Drainage area.— 1,760 square miles.

Records available.— April 1930 to September 1935 in reports of U. S. Geological Survey, November 1922 to March 1930 in reports of the Indiana Department of Conservation.

Average discharge.— 12 years (1923-35), 1,528 second-feet.

Extremes.— Maximum discharge during year, 3,480 second-feet Mar. 12 (gage height, 7.90 feet); minimum, 620 second-feet Sept. 25 (gage height, 1.67 feet).
1922-35: Maximum discharge observed, 5,540 second-feet Dec. 21, 1927 (gage height, 11.40 feet); minimum observed, 378 second-feet Aug. 4, 5, 1934 (gage height, 0.80 foot).

Remarks.— Records good except those for periods of ice effect, Dec. 11 to Jan. 7, Jan. 21 to Feb. 7, those for estimated periods, May 13-27, 29, Aug. 2-9, which are poor, and those below 750 second-feet, which are fair. Discharge based on once-daily chain-gage readings for the periods Jan. 28 to Feb. 11, Feb. 24 to Mar. 7.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Dec. 19						Table for Dec. 20 to Sept. 30					
2.0	675	3.0	1,010	4.0	1,430	1.6	608	2.6	900	5.0	1,970
2.2	730	3.2	1,090	4.6	1,700	1.8	655	2.8	980	6.0	2,420
2.4	790	3.4	1,170			2.0	706	3.0	1,070	6.5	2,670
2.6	860	3.6	1,250			2.2	763	3.5	1,300	7.0	2,940
2.8	930	3.8	1,340			2.4	825	4.0	1,520	8.0	3,540

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,090	760	1,660	750	1,180	2,400	2,380	1,610	2,820	1,430	860	748
2	1,130	760	1,660	800	1,150	2,350	2,240	1,660	2,820	1,380	860	748
3	1,090	760	1,610	800	1,130	2,250	2,100	1,790	2,820	1,430	900	748
4	1,050	825	1,660	850	1,100	2,100	2,020	2,060	2,770	1,520	975	748
5	1,010	825	1,610	900	1,100	2,100	1,880	2,200	2,720	1,520	975	748
6	1,010	790	1,560	1,100	1,050	2,150	1,840	2,330	2,670	1,560	950	734
7	970	790	1,520	1,250	1,150	2,400	1,790	2,470	2,570	1,480	900	720
8	930	760	1,430	1,610	1,210	2,820	1,790	2,520	2,420	1,430	850	706
9	895	760	1,380	2,280	1,300	2,940	1,840	2,620	2,240	1,340	825	720
10	860	760	1,340	2,520	1,250	3,060	1,790	2,940	2,100	1,300	809	720
11	825	760	1,200	2,620	1,250	3,360	1,840	2,880	1,970	1,250	793	706
12	825	760	1,100	2,720	1,300	3,480	2,100	2,820	1,840	1,160	778	706
13	790	760	1,100	2,720	1,340	3,420	2,240	3,200	1,740	1,140	763	693
14	790	730	1,080	2,670	1,560	3,420	2,330	3,200	1,650	1,090	748	690
15	790	730	1,060	2,470	2,100	3,500	2,330	3,000	1,610	1,070	734	668
16	790	730	1,050	2,280	2,420	3,240	2,280	2,900	1,520	1,040	734	668
17	790	730	1,040	2,150	2,420	3,060	2,150	2,800	1,560	1,000	778	655
18	790	702	1,030	2,020	2,330	2,940	2,020	2,700	1,560	980	900	643
19	760	760	1,020	1,920	2,150	2,770	1,880	2,600	1,740	960	1,040	643
20	760	790	1,020	1,880	1,970	2,620	1,840	2,500	1,790	940	1,090	631
21	790	825	1,000	1,750	1,840	2,620	1,790	2,400	1,740	920	1,120	631
22	790	1,130	980	1,700	1,790	2,720	1,700	2,200	1,740	920	1,040	631
23	790	1,380	950	1,700	1,700	2,770	1,660	2,000	1,660	900	980	631
24	790	1,430	900	1,600	1,660	2,880	1,610	1,800	1,560	960	920	631
25	825	1,380	850	1,500	1,680	3,060	1,560	1,750	1,620	1,040	880	631
26	790	1,380	825	1,450	2,400	3,180	1,520	1,700	1,520	1,020	842	631
27	790	1,340	800	1,400	2,450	3,180	1,520	1,700	1,520	1,000	809	666
28	790	1,380	825	1,550	2,450	3,060	1,480	1,700	1,520	980	778	690
29	790	1,520	850	1,300	-	2,940	1,520	2,500	1,480	940	763	693
30	760	1,560	800	1,250	-	2,720	1,560	2,670	1,430	920	763	680
31	760	-	775	1,200	-	2,570	-	2,770	-	880	763	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	26,610	1,130	760	853	0.498	0.56
November.....	28,597	1,560	702	953	.541	.60
December.....	35,665	1,660	775	1,151	.654	.75
Calendar year 1934.....	317,253	2,350	378	869	.494	6.70
January.....	52,510	2,720	750	1,694	.962	1.11
February.....	46,630	2,450	1,050	1,655	.946	.99
March.....	37,850	3,480	2,100	2,635	1.61	1.66
April.....	56,600	2,380	1,480	1,697	1.07	1.19
May.....	73,990	3,200	1,610	2,387	1.36	1.57
June.....	58,630	2,820	1,430	1,954	1.11	1.24
July.....	35,500	1,560	880	1,145	.651	.75
August.....	26,920	1,120	734	868	.493	.57
September.....	20,540	748	631	685	.389	.43
Water year 1934-35.....	550,092	3,480	631	1,507	.856	11.62

Kankakee River at Mokence, Ill.

Location.— Chain gage, lat. 41°9'37", long. 87°39'45", in NE $\frac{1}{4}$ sec. 24, T. 31 N., R. 13 E., at highway bridge in Mokence, $1\frac{1}{2}$ miles above Tower Creek. Zero of gage is 610.32 feet above mean sea level.

Drainage area.— 2,340 square miles.

Records available.— February 1905 to July 1906, December 1914 to September 1935.

Average discharge.— 20 years (1915-35), 1,761 second-feet.

Extremes.— Maximum discharge observed during year, 4,840 second-feet Mar. 10-13; maximum gage height observed, 4.81 feet Jan. 25 (ice jam); minimum discharge, 600 second-feet Sept. 23-25.

1905-6, 1915-35: Maximum discharge observed, 14,000 second-feet (revised) Jan. 22, 1916; maximum gage height observed, 7.5 feet Jan. 21, 1916 (ice jam); minimum discharge observed, 306 second-feet Sept. 1, 16, 17, 1919 (gage height, 1.37 feet).

Remarks.— Records good except those for periods of ice effect, Dec. 25, 26, Dec. 30 to Jan. 6, Jan. 24 to Feb. 1, Feb. 9-11, which are poor.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 13 to Sept. 30)

2.0	600	3.0	1,830	4.0	3,850
2.2	775	3.2	2,160	4.2	4,370
2.4	980	3.4	2,540	4.4	4,910
2.6	1,230	3.6	2,940		
2.8	1,510	3.8	3,380		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,100	728	2,250	720	1,400	2,940	2,940	1,510	2,940	1,670	980	775
2	1,100	728	2,080	730	1,370	2,940	2,740	1,590	3,160	1,830	925	775
3	1,100	775	2,080	750	1,300	2,740	2,440	2,160	3,610	1,910	980	775
4	1,100	925	2,160	710	1,230	2,540	2,250	2,440	3,160	1,910	980	775
5	1,040	925	1,990	820	1,230	2,540	2,160	2,440	2,940	1,910	1,040	775
6	980	870	1,910	1,100	1,160	2,740	2,080	2,540	2,940	1,910	1,040	728
7	925	822	1,750	1,510	1,100	3,380	1,910	2,940	2,940	1,750	980	728
8	925	822	1,670	2,940	1,100	3,610	1,990	2,940	2,740	1,750	925	728
9	870	775	1,510	3,380	1,090	3,850	1,990	4,370	2,540	1,590	925	728
10	870	775	1,510	3,610	1,080	4,640	1,910	4,100	2,440	1,440	925	728
11	822	728	1,370	3,610	1,090	4,640	2,080	3,850	2,950	1,370	870	728
12	822	728	1,440	3,610	1,100	4,640	2,440	3,850	2,080	1,300	870	680
13	822	728	1,370	3,380	1,370	4,640	2,440	4,100	1,990	1,300	822	680
14	822	728	1,370	3,160	2,250	4,370	2,440	4,100	1,830	1,230	822	680
15	775	728	1,300	2,940	3,160	4,100	2,340	3,850	1,750	1,160	822	680
16	775	728	1,230	2,740	3,160	3,850	2,440	3,610	1,830	1,100	822	680
17	822	728	1,160	2,740	3,380	3,850	2,340	3,850	2,940	1,100	822	640
18	822	728	1,160	2,440	2,940	3,380	2,250	3,380	2,840	1,100	925	640
19	822	775	1,160	2,250	2,740	3,380	2,080	3,160	4,100	1,040	1,040	640
20	822	822	1,160	2,160	2,640	3,160	1,990	3,160	3,610	1,040	1,040	640
21	822	870	1,160	2,080	2,250	3,380	1,830	2,940	3,160	980	1,100	640
22	822	2,160	1,100	1,910	2,080	3,380	1,750	2,740	2,940	980	980	640
23	822	2,180	1,040	2,160	1,830	3,160	1,670	2,440	2,440	1,040	1,040	600
24	822	2,080	1,040	2,080	1,830	2,940	1,590	2,250	2,080	1,040	980	600
25	1,160	1,830	930	1,950	3,610	4,100	1,510	1,990	1,990	1,100	925	600
26	980	1,630	820	1,870	3,160	4,100	1,510	1,830	2,250	1,100	870	640
27	870	1,750	728	1,770	3,380	3,850	1,440	1,830	2,250	1,100	822	680
28	822	1,910	600	1,660	2,940	3,850	1,440	1,990	1,990	1,100	775	680
29	775	1,990	775	1,580	-	3,850	1,510	2,940	1,830	1,040	775	680
30	775	2,080	740	1,520	-	3,580	1,440	2,940	1,750	1,040	775	680
31	728	-	760	1,440	-	3,160	-	2,940	-	980	775	-
Month	Second-foot-days				Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....	27,534				1,180	728	888	0.379	0.44			
November.....	34,226				2,160	728	1,141	.468	.54			
December.....	41,323				2,250	600	1,333	.580	.66			
Calendar year 1934.....	358,350				2,570	378	982	.420	5.70			
January.....	65,300				3,610	710	2,106	.900	1.04			
February.....	58,870				3,610	1,080	2,031	.888	.90			
March.....	111,080				4,640	2,540	3,585	1.55	1.76			
April.....	80,940				2,940	1,440	2,031	.868	.97			
May.....	90,500				4,370	1,510	2,913	1.24	1.43			
June.....	77,410				4,100	1,750	2,880	1.10	1.23			
July.....	40,910				1,910	980	1,320	.564	.65			
August.....	28,372				1,100	775	915	.391	.45			
September.....	20,643				775	600	888	.294	.33			
Water year 1934-35.....	684,908				4,840	600	1,794	.767	10.40			

ILLINOIS RIVER BASIN

Iroquois River near Chebanse, Ill.

Location.-- Chain gage, lat. 41°29", long. 87°49'22", in SW $\frac{1}{4}$ sec. 10, T. 29 N., R. 13 W., at highway bridge 3 miles below Beaver Creek, 4 $\frac{1}{2}$ miles east of Chebanse, and 8 miles above confluence with Kankakee River. Zero of gage is 598.27 feet above mean sea level.

Drainage area.-- 2,120 square miles.

Records available.-- April 1923 to September 1935.

Average discharge.-- 12 years, 1,596 second-feet.

Extremes.-- Maximum discharge observed during year, 9,660 second-feet May 10 (gage height, 10.06 feet); minimum observed, 30 second-feet Sept. 22 (gage height, 0.79 foot).

1923-35: Maximum discharge observed, 27,000 second-feet May 13, 1933 (gage height, about 18.1 feet); minimum observed, 11 second-feet Aug. 6-8, 1934 (gage height, 0.59 foot).

Maximum discharge known, about 34,000 second-feet in spring of 1913 (gage height, about 19.6 feet).

Remarks.-- Records good. Stage-discharge relation affected by ice Dec. 24 to Jan. 6, Jan. 20 to Feb. 1.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.7	15	1.4	262	2.6	845	6.0	3,940
.8	32	1.5	348	3.0	1,100	7.0	6,140
.9	63	1.8	437	3.5	1,470	8.0	6,500
1.0	100	2.0	530	4.0	1,890	9.0	7,950
1.2	180	2.3	675	5.0	2,840	10.0	9,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	702	220	4,420	625	970	3,060	2,640	702	2,070	845	220	60
2	906	220	3,830	650	906	2,740	2,260	970	1,710	970	188	67
3	845	208	3,390	625	906	2,440	1,890	3,390	1,390	1,100	172	74
4	702	212	2,950	625	906	2,340	1,550	6,500	1,200	1,710	152	77
5	677	208	2,950	625	906	2,340	1,510	7,650	970	2,160	156	77
6	483	204	2,640	675	845	2,340	1,170	7,800	845	2,340	212	67
7	414	204	2,250	970	845	2,740	1,100	7,060	730	2,250	237	67
8	305	200	1,890	4,300	786	3,940	1,100	6,350	702	1,890	264	67
9	279	204	1,710	7,950	1,040	4,660	1,390	8,400	625	1,630	224	77
10	254	204	1,390	9,180	1,470	5,530	1,630	9,340	801	1,310	180	74
11	228	196	1,310	9,500	1,630	6,920	1,980	8,700	554	970	144	74
12	206	188	1,310	8,100	1,890	7,200	2,950	7,650	530	730	128	77
13	192	180	1,240	6,780	2,340	6,920	4,060	6,640	483	577	120	74
14	184	204	1,240	5,530	2,740	5,800	3,940	5,660	460	437	106	70
15	164	216	1,100	4,540	3,610	4,660	3,280	4,900	414	370	104	63
16	160	204	906	3,720	3,940	3,940	2,840	3,720	414	326	96	60
17	144	192	845	3,170	3,610	3,280	2,250	2,950	625	279	116	50
18	132	192	945	2,840	2,640	2,640	1,890	2,440	1,100	245	212	44
19	124	192	945	2,340	2,250	2,340	1,630	1,890	1,630	212	437	44
20	152	196	845	2,160	1,890	2,540	1,390	1,630	1,980	196	786	38
21	140	204	845	1,690	1,630	4,180	1,170	1,310	1,800	326	554	38
22	132	845	786	1,710	1,470	4,900	1,040	1,170	1,390	675	348	32
23	132	3,720	675	1,630	1,310	5,270	970	1,040	1,170	1,100	249	38
24	152	5,020	660	1,470	1,240	4,660	845	1,170	1,040	1,040	192	38
25	192	5,140	625	1,390	3,500	5,270	786	1,100	906	1,100	152	38
26	258	4,180	601	1,310	4,300	6,060	702	845	845	1,100	128	38
27	301	3,390	601	1,240	4,540	5,800	702	786	1,390	970	104	44
28	292	3,170	625	1,100	3,720	5,020	675	1,170	1,710	460	88	63
29	262	3,720	650	1,100	-	4,180	702	1,170	1,310	414	74	57
30	241	4,540	650	1,040	-	3,610	730	2,640	1,040	326	74	55
31	228	-	650	970	-	3,170	-	2,640	-	262	67	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	9,485	906	124	306	0.144	0.17
November.....	37,973	5,140	180	1,266	.597	.87
December.....	45,264	4,420	601	1,460	.689	.79
Calendar year 1934.....	205,723	5,140	11	564	.266	3.80
January.....	89,755	9,500	625	2,895	1.37	1.58
February.....	57,830	4,540	786	2,065	.974	1.01
March.....	130,710	7,200	2,340	4,215	1.99	2.29
April.....	50,562	800	675	1,685	.795	.89
May.....	119,633	9,340	702	3,886	1.82	2.10
June.....	31,534	2,070	414	1,051	.496	.55
July.....	29,390	2,340	196	914	.431	.60
August.....	6,276	786	67	202	.095	.11
September.....	1,780	77	32	38.3	.028	.03
Water year 1934-35.....	609,292	9,500	32	1,669	.787	10.69

Fox River at Algonquin, Ill.

Location.- Water-stage recorder. lat. 42°9'59", long. 88°17'25" in NW $\frac{1}{4}$ sec. 34, T. 43 N., R. 8 E., 20 feet above Chicago Street Bridge in Algonquin and 400 feet above Crystal Lake outlet. Zero of gage is 729.31 feet above mean sea level.

Drainage area.- 1,364 square miles (revised).

Records available.- October 1915 to September 1935.

Average discharge.- 20 years, 783 second-feet.

Extremes.- Maximum discharge during year, 2,840 second-feet Mar. 13, 14; maximum gage height, 3.07 feet Mar. 13; minimum discharge, 2.6 second-feet Oct. 16 (gage height, 0.57 foot).

1915-35: Maximum discharge observed, 8,000 second-feet (revised) Mar. 31, 1916 (gage height, 5.3 feet); minimum, 1 second-foot Aug. 23, 1934 (gage height, 0.50 foot).

Remarks.- Records excellent except those below 30 second-feet, which are probably poor, and those estimated for June 17-20, 25, 26, which are good. Discharge occasionally regulated at dam 16 miles above gage.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

0.5	1.0	1.2	332	1.9	1,060
.6	5.6	1.3	419	2.0	1,190
.7	32	1.4	511	2.2	1,450
.8	75	1.5	608	2.4	1,760
.9	126	1.6	712	2.6	2,070
1.0	188	1.7	824	2.8	2,400
1.1	255	1.8	943	3.1	2,930

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	97	691	367	324	768	1,350	341	447	834	154	199
2	78	88	931	332	309	872	1,260	428	428	1,190	173	206
3	114	87	987	324	309	1,000	1,160	550	419	1,440	206	192
4	97	119	907	309	309	1,150	1,100	579	402	1,310	192	173
5	73	125	598	286	301	1,420	1,040	569	393	1,140	185	179
6	64	114	824	278	301	1,780	991	598	428	991	206	173
7	55	131	931	278	286	1,890	991	650	428	884	234	173
8	55	154	907	376	294	2,080	860	850	402	790	227	248
9	92	119	872	485	286	2,120	639	650	393	723	250	283
10	87	131	813	540	278	2,320	410	670	384	670	227	234
11	64	148	746	569	270	2,660	502	681	376	579	206	213
12	73	125	702	598	263	2,750	768	768	341	550	185	206
13	73	119	680	629	263	2,840	813	907	317	447	192	199
14	59	137	618	540	317	2,840	734	1,060	286	402	199	192
15	47	103	598	530	560	2,750	746	1,030	255	393	199	199
16	23	103	608	579	870	2,750	824	907	241	332	206	173
17	47	87	608	618	681	2,750	824	813	317	241	213	166
18	64	125	589	608	746	2,660	802	746	437	206	199	154
19	55	173	629	608	813	2,570	768	691	456	192	206	160
20	47	199	618	598	884	2,570	757	639	332	179	255	154
21	64	324	589	598	955	2,480	734	579	286	173	283	166
22	87	550	560	550	991	2,400	702	569	286	192	255	154
23	97	870	493	521	955	2,320	650	550	301	185	263	142
24	82	734	456	493	931	2,180	629	493	317	173	255	137
25	114	790	474	456	793	2,120	569	428	367	192	234	125
26	108	790	447	428	511	1,960	456	358	511	185	227	179
27	137	813	410	410	579	1,850	286	301	660	166	220	179
28	108	802	428	384	746	1,630	286	341	691	173	199	131
29	97	848	419	367	-	1,570	286	428	702	160	206	154
30	82	836	402	349	-	1,560	309	437	712	137	213	114
31	87	-	364	341	-	1,450	-	456	-	148	199	-
Month	Second-foot-days				Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....	2,408				137	23	77.7	0.057	0.07			
November.....	9,621				848	65	321	.235	.26			
December.....	19,679				967	384	641	.470	.54			
Calendar year 1934.....	77,118				967	12	211	.165	2.10			
January.....	14,347				629	278	463	.339	.39			
February.....	14,925				991	263	533	.391	.41			
March.....	64,030				2,840	788	2,065	1.51	1.74			
April.....	22,246				1,550	286	742	.544	.61			
May.....	18,887				1,060	301	608	.446	.51			
June.....	12,315				712	241	410	.301	.34			
July.....	15,377				1,440	137	496	.364	.42			
August.....	6,618				263	154	213	.166	.18			
September.....	5,337				283	114	178	.130	.14			
Water year 1934-35.....	205,960				2,840	23	564	.413	5.61			

Fox River at Dayton, Ill.

Location.- Float gages above and below dam, lat. $41^{\circ}23'14''$, long. $88^{\circ}47'21''$, in SE $\frac{1}{4}$ sec. 29, T.34 N., R. 4 E., at plant of North Counties Hydroelectric Co. in Dayton, 6 miles above mouth of river.

Drainage area.- 2,570 square miles.

Records available.- April 1925 to September 1935. November 1914 to February 1925, records collected at Wedron, 4 miles upstream (drainage area, 2,500 square miles).

Average discharge.- 20 years (1915-35), 1,454 second-feet; discharge for site at Wedron corrected for difference in drainage area.

Extremes.- Maximum mean daily discharge during year, 8,560 second-feet Mar. 11; minimum, 182 second-feet several times in October.

1925-35: Maximum mean daily discharge, 14,300 second-feet Apr. 1, 1929; minimum, 1 second-foot Aug. 29, 1934, when wheels were shut down.

Remarks.- Records fair. Daily discharge computed from electrical output of power plant and from flow over dam. Records collected by North Counties Hydroelectric Co., under general supervision of U. S. Geological Survey, in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	199	302	2,430	562	677	3,600	2,950	784	1,860	2,190	394	368
2	199	300	2,070	515	634	5,460	2,710	811	1,460	2,470	393	365
3	182	282	1,260	465	680	5,460	2,430	1,340	1,400	3,420	618	390
4	199	281	1,940	562	647	4,170	2,330	1,880	1,400	3,690	1,230	414
5	242	280	1,760	478	712	4,740	2,140	1,980	1,200	3,150	970	511
6	265	222	1,430	492	850	5,310	2,040	1,830	1,070	2,660	605	393
7	199	350	964	562	590	4,760	1,850	1,990	1,110	2,230	803	390
8	222	360	1,150	2,110	697	4,090	1,870	1,850	1,030	1,900	667	351
9	199	302	1,480	3,120	897	4,770	1,830	2,900	976	1,610	536	403
10	182	282	1,270	3,640	677	6,320	1,460	2,450	996	1,440	557	462
11	199	300	836	2,620	522	8,560	2,720	2,100	1,060	1,250	477	534
12	200	320	660	2,060	608	6,710	4,460	2,130	1,020	1,230	389	444
13	182	223	1,250	1,940	1,200	5,360	4,080	4,680	924	1,000	392	433
14	222	301	1,240	1,240	2,090	5,090	3,490	4,560	874	921	441	360
15	182	320	921	1,070	3,690	5,100	2,720	3,960	896	877	354	365
16	182	282	1,280	1,280	4,340	5,080	2,490	3,650	842	675	363	349
17	182	244	1,160	1,640	2,240	5,450	2,320	2,900	883	735	378	365
18	200	268	944	1,510	1,870	5,090	2,170	2,430	1,240	562	364	348
19	182	280	1,080	1,480	1,880	5,100	2,140	2,050	1,410	557	719	364
20	244	1,100	941	1,510	1,880	4,710	1,900	1,970	1,500	354	350	353
21	267	1,110	992	1,560	1,900	5,450	1,860	1,830	1,410	364	2,860	351
22	222	1,220	1,060	908	1,280	4,720	1,880	1,580	1,340	394	1,650	333
23	182	1,960	1,030	1,090	1,570	4,050	1,630	1,420	1,310	850	1,010	333
24	183	1,900	675	886	2,850	4,040	1,700	1,330	1,100	996	636	323
25	302	1,560	438	814	2,220	5,480	1,340	1,220	1,390	702	608	333
26	266	1,560	692	930	1,060	5,450	1,280	1,040	1,750	559	590	441
27	281	1,660	380	863	1,370	4,050	1,160	973	3,140	494	592	753
28	244	1,700	520	748	1,750	3,720	1,010	1,320	2,850	494	598	627
29	222	2,080	649	789	-	3,420	634	1,870	2,660	325	407	448
30	243	2,060	674	860	-	3,130	825	2,000	2,260	432	443	365
31	321	-	586	721	-	2,940	-	1,900	-	433	365	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....	8,796		321		182		219		0.085		0.10	
November.....	23,389		2,080		222		780		.304		.34	
December.....	34,412		2,430		380		1,110		.432		.50	
Calendar year 1934.....	144,845		2,430		1		397		.154		2.11	
January.....	39,165		3,640		465		1,263		.491		.57	
February.....	41,768		4,340		522		1,492		.581		.60	
March.....	151,410		8,560		2,940		4,884		1.90		2.19	
April.....	63,179		4,460		634		2,108		.819		.91	
May.....	65,048		4,960		784		2,098		.816		.94	
June.....	42,351		3,140		842		1,412		.549		.81	
July.....	39,004		3,690		325		1,258		.489		.56	
August.....	20,759		2,860		363		670		.261		.30	
September.....	12,289		753		323		410		.160		.18	
Water year 1934-35.....	539,570		8,560		182		1,478		.575		7.80	

Vermilion River at Lowell, Ill.

Location.- Chain gage, lat. 41°15'18", long. 89°49", in SE $\frac{1}{4}$ sec. 8, T. 32 N., R. 2 E., at highway bridge a quarter of a mile northwest of Lowell, La Salle County, and 10 miles above mouth. Zero of gage is 500.90 feet above mean sea level.

Drainage area.- 1,230 square miles.

Records available.- May 1931 to September 1935.

Extremes.- Maximum discharge observed during year, 12,200 second-feet May 10 (gage height, 8.51 feet): minimum discharge observed, 14 second-feet several times during October and September; minimum gage height observed, 1.32 feet Oct. 16.
1931-35: Maximum discharge observed, 22,200 second-feet May 12, 1933 (gage height, 10.76 feet): minimum observed, 5.9 second-feet Aug. 2-4, 1934 (gage height, 1.13 feet). Highest stage known, about 16 feet during an ice jam.

Remarks.- Records good except those for periods of ice effect, Dec. 12-17, Dec. 27 to Jan. 7, Jan. 23 to Feb. 13, which are fair.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.3	12	2.2	235	3.8	1,370	6.6	6,230
1.4	20	2.4	330	4.0	1,590	7.0	7,290
1.5	31	2.6	439	4.2	1,830	7.5	8,810
1.6	49	2.8	560	4.6	2,360	8.0	10,500
1.7	70	3.0	690	5.0	3,000	8.5	12,200
1.8	94	3.2	830	5.4	3,690		
1.9	123	3.4	990	5.8	4,460		
2.0	156	3.6	1,160	6.2	5,310		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	193	2,080	210	250	2,510	1,370	439	1,030	990	192	27
2	42	160	1,710	230	270	2,360	1,070	830	870	3,510	149	28
3	40	153	1,590	280	310	1,950	950	5,630	760	1,930	143	31
4	44	140	1,590	200	320	1,830	830	9,490	524	2,080	146	35
5	45	133	1,490	230	300	1,830	760	5,310	560	1,960	300	31
6	42	140	1,280	260	250	1,710	690	4,670	498	1,160	760	30
7	38	356	1,070	360	240	2,830	624	5,090	468	930	592	29
8	33	439	910	3,000	270	3,000	667	4,460	459	690	439	35
9	29	410	795	5,760	350	2,870	657	9,320	410	560	230	68
10	28	356	590	4,990	410	3,170	760	11,200	410	439	206	44
11	26	305	356	4,260	500	4,060	2,510	7,290	439	392	171	31
12	22	248	410	3,690	570	4,060	3,870	6,480	439	320	136	28
13	20	214	410	3,000	850	3,340	3,510	5,530	410	392	108	24
14	18	178	390	2,210	2,830	2,670	3,000	4,060	392	498	97	24
15	17	160	380	1,950	2,670	2,080	2,360	3,170	366	410	76	21
16	14	143	370	1,590	2,670	1,710	1,710	2,360	330	320	68	21
17	16	136	340	1,370	1,930	1,370	1,370	1,950	1,260	253	153	19
18	17	143	325	1,160	1,490	1,160	1,160	1,710	1,160	218	103	19
19	18	167	310	990	1,160	950	990	1,370	2,360	235	126	17
20	20	136	330	970	910	910	970	1,260	2,210	206	130	16
21	24	219	305	760	795	3,510	765	1,030	1,950	179	214	16
22	22	244	320	356	725	3,510	725	970	1,590	240	160	16
23	21	830	295	330	624	3,370	657	830	1,160	382	100	16
24	19	1,160	244	320	657	3,340	592	760	950	1,030	68	16
25	31	1,260	222	320	6,490	5,090	560	657	1,710	910	57	14
26	39	1,160	206	330	4,670	4,460	498	592	1,260	690	49	94
27	108	910	220	330	3,340	3,870	498	592	1,070	529	42	64
28	330	910	220	330	2,670	3,170	498	657	990	410	36	31
29	330	1,370	210	300	-	2,670	469	970	1,030	356	31	29
30	295	1,330	200	290	-	1,950	468	1,160	1,030	305	29	24
31	244	-	190	270	-	1,710	-	1,160	-	227	26	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	2,036	330	14	65.7	0.065	0.06
November.....	14,202	1,830	133	473	.386	.43
December.....	19,423	2,080	190	627	.510	.59
Calendar year 1934.....	69,546.7	2,080	5.9	191	.155	2.11
January.....	40,376	5,760	200	1,302	1.06	1.22
February.....	39,971	6,480	240	1,429	1.16	1.21
March.....	33,320	5,090	910	2,698	2.19	2.52
April.....	35,477	3,970	468	1,193	.962	1.07
May.....	100,197	11,200	439	3,232	2.63	3.03
June.....	23,155	2,360	330	938	.763	.86
July.....	22,520	3,510	178	726	.690	.68
August.....	5,166	760	26	167	.136	.16
September.....	897	84	14	29.6	.024	.03
Water year 1934-35.....	391,735	11,200	14	1,073	.872	11.85

Mackinaw River near Green Valley, Ill.

Location.- Chain gage, lat. 40°26'40", long. 89°38'. in sec. 15, T. 23 N., R. 5 W., at highway bridge on State Route 24, 3 miles north of Green Valley.

Drainage area.- 1,100 square miles.

Records available.- March 1921 to September 1935.

Average discharge.- 14 years, 745 second-feet.

Extremes.- Maximum discharge observed during year, 9,470 second-feet May 11 (gage height, 10.42 feet); minimum observed, 36 second-feet Oct. 18, 19 (gage height, 0.42 foot).
1921-35: Maximum discharge observed, 21,800 second-feet May 19, 1927 (gage height, 14.2 feet); minimum observed, 18 second-feet July 8-11, 1934.

Remarks.- Records good except those below 200 second-feet prior to Dec. 1, which are fair. Stage-discharge relation affected by ice Dec. 28 to Jan. 5, Jan. 25-28.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 30

0.4	34	1.4	145
.5	43	1.6	176
.6	52	2.0	254
.7	62	2.5	378
.8	72	3.0	580
.9	83	3.5	830
1.0	94	4.0	1,130
1.2	118	4.5	1,440

Table for Dec. 1 to Sept. 30

0.5	49	3.0	580	7.0	3,370
.6	60	3.5	830	7.5	3,920
.7	84	4.0	1,130	8.0	4,570
.8	112	4.5	1,440	8.5	5,320
.9	147	5.0	1,790	9.0	6,220
1.0	184	5.5	2,140	9.5	7,120
1.2	235	6.0	2,500	10.0	8,270
1.4	335	6.5	2,900	10.5	9,770

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	112	1,440	206	380	1,720	990	502	1,130	2,000	254	85
2	68	100	1,310	196	405	1,510	780	650	1,010	2,740	244	105
3	64	118	1,190	215	502	1,370	580	3,700	890	2,210	234	144
4	60	138	1,250	234	466	1,370	630	5,680	780	2,210	224	120
5	56	194	1,190	224	433	1,440	580	7,580	730	1,370	244	120
6	56	323	1,010	206	380	1,370	580	5,500	680	1,130	274	105
7	52	298	890	294	335	1,860	540	3,920	680	950	196	94
8	48	254	730	2,350	466	2,210	580	3,700	630	780	187	88
9	47	235	630	3,590	730	1,930	680	6,580	580	680	178	87
10	44	204	630	3,260	890	2,500	780	8,870	540	580	170	80
11	41	176	466	2,820	1,010	3,260	1,720	9,170	540	502	161	75
12	41	160	380	2,210	780	3,080	3,170	6,760	540	466	152	75
13	39	145	357	1,860	890	2,500	3,080	3,920	502	433	136	72
14	38	131	405	1,440	3,260	2,000	2,500	2,900	433	405	136	72
15	38	124	380	1,310	3,080	1,720	2,070	2,900	433	380	128	71
16	38	118	405	1,250	2,280	1,510	1,650	2,350	680	357	120	70
17	38	112	357	1,190	1,370	1,310	1,370	2,000	630	335	120	67
18	36	118	335	1,070	1,130	1,130	1,250	1,780	2,140	335	206	63
19	36	118	335	890	890	1,010	1,130	1,580	3,590	314	244	63
20	41	118	294	830	780	950	1,010	1,510	2,990	294	206	61
21	51	138	314	780	680	1,370	890	1,310	2,070	294	170	60
22	55	468	294	466	630	2,070	780	1,250	1,650	294	151	58
23	57	730	314	405	540	1,510	730	1,190	1,370	294	152	58
24	50	950	274	433	540	1,370	680	1,070	1,130	502	136	58
25	194	890	206	466	2,990	1,580	630	950	1,010	730	120	57
26	223	680	178	466	4,310	1,860	580	890	2,990	830	105	61
27	185	605	196	466	4,310	1,880	680	890	3,480	540	105	63
28	185	950	215	453	2,280	1,370	680	1,580	2,660	406	97	59
29	169	1,130	224	405	-	1,250	580	1,720	2,390	466	91	57
30	145	1,510	224	380	-	1,130	540	1,510	3,700	357	88	57
31	124	-	215	380	-	950	-	1,310	-	274	87	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	2,408	223	36	77.6	0.071	0.08
November.....	11,335	1,510	100	378	.344	.38
December.....	16,638	1,440	178	537	.468	.56
Calendar year 1934.....	64,796	2,140	18	178	.162	2.17
January.....	30,728	3,590	196	991	.901	1.04
February.....	36,737	4,310	335	1,312	1.19	1.24
March.....	51,790	3,260	950	1,871	1.52	1.75
April.....	32,440	3,170	540	1,081	.953	1.10
May.....	95,262	9,170	502	3,073	2.73	3.22
June.....	43,178	3,700	433	1,439	1.31	1.46
July.....	23,457	2,740	274	757	.688	.79
August.....	5,126	274	87	165	.150	.17
September.....	2,307	144	57	76.9	.070	.08
Water year 1934-35.....	351,401	9,170	36	963	.875	11.87

Money Creek above Lake Bloomington, Ill.

Location.— Water-stage recorder, lat. 40°37'13", long. 88°54'59", in SE¼ SW¼ sec. 18, T. 25 N., R. 3 E., 200 feet north of line between secs. 18 and 19, McLean County, and about 1 mile above Lake Bloomington.

Drainage area.— 45 square miles.

Records available.— June 1933 to September 1935.

Extremes.— Maximum discharge during year, 1,440 second-feet May 9 (gage height, 7.18 feet); no flow at various times during October and September.

1933-35: Maximum discharge, that of May 9, 1935; no flow at various times each summer.

Maximum stage known, about 9 or 10 feet.

Remarks.— Records excellent except those for estimated periods, Dec. 14 to Jan. 14, Sept. 11-14, 17, 18, which are good. Stage-discharge relation affected by ice Jan. 22.

Rating table, water year 1934-35 except period of ice effect
(gage height, in feet, and discharge, in second-feet)

0.5	0	1.6	7.2	5.0	566
.6	.02	1.8	14	5.5	679
.7	.06	2.0	27	6.0	798
.8	.15	2.5	91	6.5	980
.9	.30	3.0	180	7.0	1,290
1.0	.58	3.5	270	7.2	1,440
1.2	1.5	4.0	360		
1.4	3.5	4.5	460		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	1.6	69	6.3	16.6	72	38	24	37	85	15.8	0.16
2	.69	1.4	51	8.4	19.2	72	34	58	35	152	13.6	1.7
3	1.0	1.6	48	10.2	19.9	69	31	702	32	96	11.6	2.8
4	.74	2.5	64	8.5	19.2	71	29	380	27	62	10.2	2.2
5	.42	4.0	53	8.4	16.3	68	29	211	24	51	9.2	1.2
6	.21	8.6	44	11	10.0	57	26	243	24	42	8.9	.74
7	.11	9.5	36	45	9.4	98	28	297	24	35	7.4	.48
8	.08	8.6	31	242	34	100	33	127	21	30	6.2	.59
9	.04	6.7	27	221	54	77	40	966	19.2	26	5.5	1.2
10	.02	5.3	17.1	123	56	252	41	447	19.2	23	4.9	1.0
11	.02	4.4	16.9	98	40	252	144	196	19.9	21	4.2	.74
12	.01	3.6	21	65	24	157	205	158	16.9	18.6	3.5	.61
13	.01	3.3	19.2	72	92	124	188	374	15.3	16.8	2.9	.33
14	0	3.0	13	61	252	103	124	238	14.8	15.3	2.4	.20
15	0	2.8	15	61	126	91	96	146	14.4	14.4	2.2	.11
16	0	2.5	11	56	83	78	75	122	28	12.8	3.1	.07
17	0	2.3	13	54	54	60	64	105	77	11.6	3.6	.04
18	0	2.7	8.1	42	41	52	57	88	176	10.6	6.3	.02
19	0	3.1	24	40	35	52	51	75	202	11.6	2.8	0
20	0	5.3	6.9	39	31	51	45	68	142	12.6	2.4	0
21	.04	5.0	15	29	27	106	41	60	110	11.2	2.1	0
22	.04	36	11	35	25	80	37	52	91	13.6	2.6	0
23	.06	54	4.4	31	22	80	35	48	71	21	1.4	0
24	.23	40	8.4	28	40	72	32	42	57	169	1.1	0
25	1.0	30	13	30	410	88	28	37	103	93	.74	0
26	1.2	25	11	26	202	83	27	34	420	77	.55	0
27	4.6	21	9.3	19.2	112	71	31	35	166	48	.48	.11
28	4.4	50	9.3	17.4	78	56	27	48	134	40	.30	.23
29	3.0	85	12	18.0	-	53	27	69	260	35	.25	.23
30	2.4	71	11	16.8	-	47	24	53	113	25	.20	.10
31	2.0	-	8.4	15.8	-	44	-	44	-	19.2	.16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	23.62	4.6	0	0.762	0.017	0.02
November.....	497.8	85	1.4	16.6	.369	.41
December.....	701.0	69	4.4	22.6	.502	.58
Calendar year						
January.....	1,556.0	242	6.3	50.2	1.12	1.29
February.....	1,948.8	410	9.4	69.6	1.55	1.61
March.....	2,738	252	44	98.3	1.96	2.26
April.....	1,657	205	24	55.2	1.23	1.37
May.....	5,607	966	24	181	4.02	4.64
June.....	2,493.6	420	14.4	83.1	1.85	2.06
July.....	1,289.5	169	10.6	41.6	.924	1.07
August.....	136.89	15.8	.16	4.41	.095	.11
September.....	14.76	2.8	0	.492	.011	.01
Water year 1934-35	18,663.66	966	0	51.1	1.14	15.43

Money Creek at Lake Bloomington, Ill.

Location.- Water-stage recorder in pumping plant above dam, lat. 40°39'35", long. 88°53'12", in SE¼ sec. 1, T. 25 N., R. 2 E., 2.8 miles above mouth, McLean County. Zero of gage is 700.00 feet above mean sea level.

Drainage area.- 61 square miles.

Records available.- October 1930 to September 1935.

Remarks.- Flow regulated by storage in Lake Bloomington (area of lake at level of crest of spillway, 531 acres). Discharge corrected for storage but not for evaporation and seepage and does not include three small diversions. Pumpage record furnished by City of Bloomington. Rainfall record (mean of three gages within basin) furnished by State Water Survey.

Monthly discharge and rainfall, water year October 1934 to September 1935

Month	Discharge from spillway (million gallons)	Pumpage (million gallons)	Gain or loss in storage (million gallons)	Corrected for storage			Run-off (inches)	Rainfall (inches)
				Run-off (million gallons)	Discharge per square mile (million gallons per day)	Second-feet		
October	0	98.79	- 78.3	20.49	0.011	0.017	0.02	2.07
November	0	90.85	+428.4	519.25	.284	.439	.49	4.46
December	296.6	86.78	+214.9	598.28	.316	.489	.56	1.37
Calendar year 1934	296.6	1,146.77	+322.8	1,766.17	.079	.123	1.67	29.12
January	1,204.1	75.85	+ 3.5	1,283.45	.679	1.05	1.21	2.08
February	1,543.0	69.59	+ 23.0	1,635.59	.958	1.48	1.54	2.48
March	2,065.3	79.60	- 12.4	2,132.50	1.13	1.75	2.01	2.82
April	1,396.2	77.99	- 5.3	1,468.89	.803	1.24	1.38	2.74
May	4,594.0	80.20	+ 5.3	4,679.50	2.47	3.83	4.42	7.91
June	2,058.9	83.18	+ 19.5	2,161.58	1.18	1.83	2.04	6.00
July	1,069.8	93.91	- 26.6	1,137.11	.601	.930	1.07	4.19
August	89.1	97.31	- 75.0	111.41	.059	.091	.10	1.87
September	0	89.37	- 84.5	4.87	.0027	.0041	.005	3.02
Water year 1934-35	14,317.0	1,023.42	+412.5	15,752.92	.708	1.09	14.84	40.81

Spoon River at Seville, Ill.

Location.- Wire-weight gage, lat. 40°29'10", long. 90°20'34", in SW $\frac{1}{4}$ sec. 24, T. 6 N., R. 1 E., at highway bridge in Seville, Fulton County. Zero of gage is 467.78 feet above mean sea level. Prior to May 9, 1935, chain gage at same datum at Toledo, Peoria & Western Railroad bridge 200 feet downstream.

Drainage area.- 1,600 square miles.

Records available.- July 1914 to September 1935.

Average discharge.- 21 years, 1,032 second-feet.

Extremes.- Maximum discharge observed during year, 10,000 second-feet May 11 (gage height, 19.80 feet); minimum observed, 53 second-feet Oct. 19.
1914-35: Maximum discharge observed, 28,900 second-feet Aug. 22, 1924 (gage height, 30.5 feet); minimum observed, 3.8 second-feet July 31, Aug. 27-29, 1914 (gage height, 1.35 feet).

Remarks.- Records good except those of discharges below 300 second-feet, which are fair. Stage-discharge relation affected by ice Dec. 6-14, Dec. 27 to Jan. 7, Jan. 20 to Feb. 10.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

3.0	38	4.0	203	6.0	897	11.0	3,700	16.0	7,200
3.2	63	4.2	244	7.0	1,380	12.0	4,370	17.0	7,940
3.4	93	4.6	338	8.0	1,920	13.0	5,060	18.0	8,680
3.6	127	5.0	474	9.0	2,480	14.0	5,750	19.0	9,440
3.8	164	5.5	680	10.0	3,070	15.0	6,470	20.0	10,200

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	255	69	5,540	310	340	1,380	1,330	638	1,870	3,070	554	145
2	213	66	4,780	270	340	1,490	1,280	1,380	3,200	1,920	514	266
3	174	87	3,130	220	420	1,380	1,140	8,810	4,710	3,320	808	312
4	164	103	2,660	230	550	1,140	1,040	8,460	2,720	5,220	3,260	325
5	127	266	2,200	260	710	1,430	990	9,590	2,310	6,400	1,040	213
6	127	244	1,800	230	720	1,650	943	7,870	1,810	6,180	690	174
7	108	256	1,500	220	600	2,780	897	3,830	1,760	3,320	638	145
8	100	183	1,080	3,570	500	3,010	1,090	3,070	1,540	1,810	435	174
9	91	136	830	6,330	550	3,200	1,280	9,140	1,330	1,230	368	193
10	82	108	820	6,760	1,040	3,320	1,380	9,290	1,190	1,280	353	163
11	77	105	590	2,660	2,480	5,120	2,480	9,820	1,230	1,090	325	183
12	76	96	400	1,480	4,040	3,900	4,810	6,130	1,090	990	312	145
13	71	90	700	1,230	3,200	2,720	4,860	3,470	890	897	277	118
14	69	80	800	1,140	4,440	2,140	3,200	4,240	680	765	255	110
15	64	74	722	897	6,110	1,670	2,480	2,890	808	722	234	102
16	62	77	722	897	5,540	1,700	1,980	2,600	808	722	223	93
17	59	79	680	1,230	2,310	1,430	1,700	2,780	1,430	680	234	87
18	56	108	722	1,330	1,380	1,280	1,540	2,200	6,620	596	244	83
19	54	266	765	1,040	852	1,190	1,430	2,030	7,870	554	223	80
20	74	1,230	680	850	722	2,140	1,230	2,140	7,940	554	223	74
21	98	1,810	722	690	638	4,710	1,140	2,260	4,510	596	244	69
22	145	1,090	638	520	596	3,380	1,090	1,810	3,770	554	312	67
23	127	1,920	596	380	554	2,830	990	2,200	2,660	897	234	89
24	116	1,810	596	400	680	1,920	843	2,260	2,090	7,870	183	83
25	183	990	514	430	5,540	2,950	897	1,660	2,140	8,810	164	80
26	127	765	384	430	6,840	3,900	808	1,600	2,090	3,070	154	1,380
27	154	680	370	380	4,040	3,570	755	1,090	2,600	1,490	145	1,430
28	127	1,140	320	370	1,700	2,090	755	4,440	2,370	1,040	136	554
29	108	3,830	310	370	-	1,920	722	6,910	2,780	638	127	223
30	102	3,900	380	350	-	1,650	680	4,300	4,780	722	127	163
31	79	-	380	340	-	1,490	-	2,540	-	638	118	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	3,461	255	54	112	0.070	0.08
November.....	21,657	3,900	66	722	.451	.50
December.....	36,331	5,540	310	1,722	.732	.84
Calendar year 1934.....	124,206	5,540	14	340	.812	2.88
January.....	35,824	6,760	220	1,156	.722	.83
February.....	56,432	6,840	340	2,015	1.26	1.31
March.....	74,830	5,120	1,140	2,407	1.60	1.73
April.....	45,970	4,910	680	1,532	.958	1.07
May.....	134,288	9,820	638	4,332	2.71	3.12
June.....	81,696	7,940	680	2,723	1.70	1.90
July.....	98,045	8,610	554	2,195	1.37	1.68
August.....	13,144	3,260	118	424	.265	.31
September.....	7,843	1,430	67	245	.153	.17
Water year 1934-35.....	578,821	2,920	54	1,586	.991	13.44

Sangamon River at Monticello, Ill.

Location.- Chain gage, lat. 40°1'40", long. 88°35'15", in SW¹ sec. 12, T. 18 N., R. 5 E., at Illinois Central Railroad bridge half a mile west of Monticello.

Drainage area.- 550 square miles.

Records available.- February 1908 to December 1912, June 1914 to September 1935.

Average discharge.- 21 years (1914-35), 409 second-feet.

Extremes.- Maximum discharge observed during year, 3,130 second-feet Jan. 12 (gage height, 12.04 feet); minimum observed, 10 second-feet Oct. 20, 24; minimum gage height observed, 2.10 feet Sept. 28.

1908-12, 1914-35: Maximum discharge observed, 15,400 second-feet Oct. 4, 1926 (gage height, 18.4 feet); minimum observed, 1 second-foot July 31 to Aug. 3, 1914, and several days in August and September 1930.

Remarks.- Records good. Stage-discharge relation affected by ice Dec. 26-31, Jan. 21-30.

Rating tables, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to July 23

2.2	9.3	4.0	105	7.0	448
2.3	12	4.5	146	8.0	638
2.4	16	5.0	199	9.0	890
2.5	20	5.5	254	10.0	1,340
3.0	44	6.0	314	11.0	1,970
3.5	74	6.5	374	12.0	3,130

Table for July 24 to Sept. 30

2.1	11	3.5	74
2.2	14	4.0	105
2.3	17	5.0	199
2.4	20	6.0	314
2.5	24	8.0	638
3.0	47	10.0	1,340

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	119	42	1,240	199	243	524	278	210	486	619	98	18
2	105	36	1,050	210	266	400	266	278	400	638	74	33
3	92	34	890	199	266	350	243	1,290	362	890	65	35
4	68	105	778	177	254	326	243	1,690	338	1,140	60	30
5	53	146	726	177	243	338	221	1,970	302	1,290	54	38
6	44	302	704	177	199	326	221	2,260	290	660	166	52
7	39	290	581	326	199	350	232	2,060	266	467	524	22
8	32	290	496	930	338	524	290	1,760	254	350	397	22
9	27	221	416	1,620	543	632	326	1,830	232	290	168	29
10	26	166	387	1,830	562	778	397	1,900	232	254	112	20
11	22	127	338	2,150	416	1,140	448	2,480	254	221	98	19
12	20	105	302	3,130	350	1,390	752	2,870	232	800	74	31
13	18	98	290	1,660	467	1,690	890	2,160	210	360	68	27
14	16	90	290	1,190	1,240	1,440	890	1,690	188	314	57	26
15	15	77	278	930	1,390	1,140	752	1,620	166	243	54	22
16	13	74	232	726	1,440	804	619	1,500	166	188	50	19
17	12	65	221	682	1,290	704	486	1,340	232	156	98	17
18	12	74	210	600	804	581	432	1,060	524	156	68	16
19	11	74	199	562	581	496	397	930	1,050	119	57	14
20	10	77	177	505	448	448	362	830	1,600	112	68	14
21	13	119	177	475	400	416	338	778	1,970	119	57	13
22	12	638	177	430	374	619	314	682	1,900	112	47	12
23	11	1,140	166	397	338	581	290	778	1,240	188	36	12
24	10	1,290	156	363	326	467	266	638	930	1,010	33	12
25	28	1,390	146	326	326	416	243	543	726	416	30	11
26	26	1,290	140	300	374	400	232	486	581	302	28	20
27	24	830	146	270	600	397	232	467	524	232	27	22
28	80	830	148	250	600	362	232	467	804	166	25	20
29	80	804	150	225	-	326	221	800	619	119	23	17
30	65	1,140	156	250	-	314	210	800	448	105	20	14
31	53	-	174	264	-	290	-	543	-	98	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	1,166	119	10	37.3	0.068	0.08
November.....	11,954	1,390	34	398	.724	.81
December.....	11,530	1,240	140	372	.676	.78
Calendar year 1934.....	43,233.0	1,390	2.2	118	.216	2.93
January.....	21,419	3,130	177	691	1.26	1.45
February.....	14,877	1,440	199	531	.965	1.00
March.....	18,999	1,690	290	613	1.11	1.28
April.....	11,303	890	210	377	.686	.76
May.....	38,290	2,870	210	1,236	2.25	2.59
June.....	17,426	1,970	166	581	1.06	1.18
July.....	11,904	1,290	98	384	.698	.80
August.....	2,764	524	19	89.2	.162	.19
September.....	637	58	11	21.2	.039	.04
Water year 1934-35.....	162,259	3,130	10	445	.809	10.96

Sangamon River at Riverton, Ill.

Location.- Chain gage, lat. $39^{\circ}50'34''$, long. $89^{\circ}32'52''$, in NE $\frac{1}{4}$ sec. 16, T. 18 N., R. 4 W., at bridge on State Highway 10 in Riverton, 4 $\frac{1}{2}$ miles below mouth of South Fork. Zero of gage is 508.76 feet above mean sea level.

Drainage area.- 2,560 square miles.

Records available.- February 1908 to December 1912, August 1914 to September 1935.

Average discharge.- 21 years (1914-35), 1,749 second-feet.

Extremes.- Maximum discharge observed during year, 12,700 second-feet May 16 (gage height, 18.98 feet); minimum observed, 42 second-feet Sept. 21 (gage height, 2.04 feet).
1908-12, 1914-35: Maximum discharge observed, 30,200 second-feet Oct. 4, 1926 (gage height, 32.0 feet, former site and datum); minimum observed, 3.0 second-feet Oct. 3-15, 1914 (gage height, 6.9 feet, former site and datum).

Remarks.- Records good. Stage-discharge relation affected by ice Dec. 12-14, Dec. 26 to Jan. 6. Jan. 23 to Feb. 1, Feb. 25-27. Some regulation of low-water flow and seasonal storage by municipal reservoir at Decatur.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

2.0	36	5.0	692	10.0	2,540	14.4	5,120	16.5	7,150
2.5	109	5.5	840	11.0	3,040	14.6	5,270	17.0	7,950
3.0	190	6.0	992	12.0	3,590	14.8	5,430	17.5	8,950
3.5	285	7.0	1,340	13.0	4,190	15.0	5,600	18.0	10,100
4.0	408	8.0	1,690	14.0	4,840	15.5	6,050	19.0	12,700
4.5	547	9.0	2,090	14.2	4,980	16.0	6,550		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,540	357	2,940	600	1,070	1,160	1,520	900	4,580	2,400	576	71
2	2,270	332	2,840	610	1,060	1,240	1,240	1,660	4,130	2,360	463	88
3	1,930	980	2,940	730	1,060	1,270	1,100	5,270	3,150	2,840	408	92
4	1,580	750	2,990	620	1,060	1,240	1,060	7,150	2,540	2,840	332	109
5	1,410	692	2,940	700	1,060	1,240	992	6,550	2,180	2,690	308	81
6	1,130	750	2,790	920	1,020	1,270	930	6,450	2,010	2,450	274	70
7	810	780	2,590	1,300	1,020	1,340	1,100	7,030	2,010	2,180	254	64
8	634	780	2,360	1,770	1,340	1,580	1,520	7,310	1,930	2,010	234	72
9	491	810	1,930	3,370	1,770	1,520	1,580	8,150	1,610	1,620	332	90
10	408	780	1,730	4,130	1,610	1,770	1,660	8,950	1,970	1,270	455	93
11	357	721	1,410	3,950	1,730	2,640	1,970	8,750	1,620	930	435	103
12	296	605	1,270	3,890	1,690	3,710	2,140	7,950	1,520	960	308	84
13	254	519	1,140	4,070	1,850	4,190	2,220	8,350	1,380	1,340	234	78
14	244	463	1,000	4,130	3,320	4,320	2,360	8,750	1,270	1,580	198	75
15	216	435	900	4,070	4,130	4,380	2,450	11,100	1,160	1,480	182	67
16	198	408	870	3,890	4,010	4,590	2,320	12,700	1,100	1,270	165	64
17	182	332	930	3,770	3,890	4,380	2,220	12,800	1,060	1,100	165	64
18	173	332	870	3,100	3,830	4,070	2,180	10,900	3,320	960	285	61
19	165	308	810	2,690	3,650	3,480	1,930	9,410	3,540	750	296	54
20	173	332	780	2,540	3,480	2,540	1,690	8,750	2,600	1,130	198	47
21	173	408	780	2,360	2,790	2,090	1,480	8,550	2,180	2,450	165	44
22	165	780	730	2,010	2,180	1,770	1,300	8,550	2,360	2,090	157	46
23	141	1,300	692	1,820	1,730	1,680	1,200	8,750	2,360	1,580	141	47
24	141	1,770	663	1,660	1,550	1,550	1,160	9,410	2,400	1,810	133	46
25	225	2,090	663	1,520	1,400	1,410	1,060	8,950	2,740	1,520	117	44
26	435	2,320	630	1,420	1,310	*1,620	1,020	7,790	3,830	1,580	109	53
27	491	2,450	630	1,330	1,240	1,810	1,060	6,790	3,540	1,550	95	61
28	491	2,640	620	1,270	1,200	1,930	992	6,150	2,540	1,160	82	71
29	463	2,790	610	1,200	-	1,890	992	5,670	2,140	992	72	75
30	435	2,590	610	1,160	-	1,810	930	5,120	2,320	840	72	-
31	392	-	600	1,100	-	1,620	-	4,840	-	692	71	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	19,003	2,540	141	613	0.239	0.22
November.....	30,884	2,990	308	1,029	.402	.45
December.....	45,308	2,990	600	1,397	.546	.63
Calendar year 1934.....	192,330	2,990	28	627	.206	2.79
January.....	67,700	4,130	600	2,184	.853	.98
February.....	57,250	4,130	1,020	2,046	.799	.83
March.....	70,920	4,520	1,160	2,288	.694	1.03
April.....	45,376	2,450	930	1,513	.591	.66
May.....	239,650	12,700	900	7,731	3.02	3.48
June.....	71,190	4,580	1,060	2,373	.927	1.03
July.....	50,424	2,840	692	1,627	.636	.73
August.....	7,302	576	71	236	.092	.11
September.....	2,079	109	44	69.3	.027	.03
Water year 1934-35.....	705,086	12,700	44	1,932	.755	10.24

* Estimated.

La Moine River at Ripley, Ill.

Location.— Water-stage recorder, lat. 40°1'31", long. 90°37'55", in NE¼ sec. 33, T. 1 N., R. 2 W., at highway bridge a quarter of a mile east of Ripley. Prior to Jan. 12, 1935, chain gage at same site and datum. Zero of gage is 431.1 feet above mean sea level (general adjustment of 1929).

Drainage area.— 1,310 square miles.

Records available.— March 1921 to September 1935.

Average discharge.— 14 years, 776 second-feet.

Extremes.— Maximum discharge during year, 9,520 second-feet May 13 (gage height, 23.17 feet); minimum, 13 second-feet Oct. 19 (gage height, 2.68 feet).
1921-35: Maximum discharge observed, 12,500 second-feet July 25, 1924 (gage height, 25.0 feet); minimum observed, 8.9 second-feet Sept. 11, 12, 1930.
Maximum known stage, 26.0 feet, date unknown.

Remarks.— Records good except those for periods of missing gage-height record, July 7-17, July 23 to Aug. 19, which are poor, and Aug. 29-31, Sept. 15-23, which are fair.
Stage-discharge relation affected by ice Dec. 11-14, Dec. 28 to Jan. 1, Jan. 20 to Feb. 6, and by backwater from Illinois River Feb. 21-24, Mar. 1-4, 14-25, Mar. 27 to Apr. 8, Apr. 15-18, 20-30, May 17-23, 26-28, June 8-16, 24-26, June 30 to July 3, July 6.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	316	23	4,240	70	150	1,050	503	424	4,650	926	160	89
2	164	23	3,660	109	160	682	453	3,250	4,560	740	145	244
3	98	356	4,110	129	170	760	411	6,680	4,240	1,230	380	462
4	64	498	3,880	134	180	732	360	7,440	4,290	2,940	1,000	412
5	34	257	2,250	129	210	1,440	321	6,600	4,470	2,940	400	260
6	28	257	1,040	122	250	1,790	312	6,510	5,220	1,380	300	140
7	23	316	695	830	317	3,980	338	6,340	5,460	900	240	107
8	22	239	539	3,220	650	3,480	638	5,090	2,290	680	200	86
9	20	122	368	3,570	1,520	2,860	1,730	8,420	1,110	550	180	235
10	19	82	337	3,660	1,790	3,300	1,630	8,310	995	440	160	347
11	18	55	307	3,800	1,440	3,530	2,640	7,820	862	360	145	307
12	17	38	307	3,480	1,480	3,670	2,940	8,100	730	300	133	147
13	16	32	307	1,350	1,790	2,940	2,760	9,080	585	270	124	107
14	15	28	307	725	2,440	1,480	1,760	8,310	504	230	116	84
15	15	25	307	539	2,860	1,070	1,060	7,340	474	210	110	74
16	14	23	278	450	3,040	895	828	6,180	477	190	109	62
17	14	22	235	710	2,440	748	631	4,460	860	175	180	57
18	14	25	213	800	1,040	640	1,670	2,510	6,100	160	140	53
19	14	39	211	740	607	538	2,560	1,980	6,100	163	110	50
20	16	73	210	500	487	509	1,600	2,570	4,750	179	463	47
21	17	64	179	380	404	545	792	2,990	4,560	185	598	46
22	16	156	169	300	361	748	692	2,490	4,620	193	561	45
23	15	744	158	240	340	539	492	3,140	3,750	290	402	44
24	179	632	155	220	333	453	429	5,030	1,670	1,700	157	44
25	472	230	140	160	3,700	1,550	389	4,700	1,050	2,100	132	90
26	212	135	122	120	3,570	2,900	361	3,000	957	1,000	101	157
27	92	115	118	130	3,480	2,060	326	1,400	2,400	500	98	666
28	55	2,390	100	130	2,250	1,120	225	2,400	3,260	280	79	1,410
29	35	2,390	90	130	-	833	307	4,650	3,170	190	74	771
30	27	4,900	80	140	-	722	307	4,560	1,800	200	70	213
31	25	-	70	140	-	590	-	4,600	-	180	68	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	2,086	472	14	67.3	0.051	0.06
November.....	14,294	4,900	22	476	.363	.40
December.....	25,182	4,240	70	812	.620	.71
Calendar year 1934.....	64,440.3	4,900	9.0	177	.135	1.81
January.....	27,157	3,800	70	876	.669	.77
February.....	37,269	3,700	150	1,331	1.02	1.06
March.....	48,084	3,930	453	1,563	1.18	1.36
April.....	29,435	2,640	236	961	.749	.84
May.....	156,374	9,080	424	5,044	3.85	4.44
June.....	85,864	6,100	474	2,862	2.18	2.43
July.....	21,764	2,940	160	702	.536	.62
August.....	7,165	1,000	68	231	.176	.20
September.....	6,856	1,410	44	229	.175	.20
Water year 1934-35.....	461,490	9,080	14	1,264	.965	13.09

Kaskaskia River at Vandalia, Ill.

Location.- Chain gage, lat. 38°57'35", long. 89°5'20", in SE $\frac{1}{4}$ sec. 16, T. 6 N., R. 1 E., at Gallatin Street Bridge, Vandalia, $\frac{3}{4}$ miles above Hickory Creek. Zero of gage is 453.30 feet above mean sea level.

Drainage area.- 1,980 square miles.

Records available.- February 1908 to December 1912, August 1914 to September 1935.

Average discharge.- 21 years (1914-35), 1,403 second-feet.

Extremes.- Maximum discharge observed during year, 11,200 second-feet May 16 (gage height, 21.89 feet); minimum observed, 42 second-feet Sept. 25 (gage height, 2.07 feet).
1908-12, 1914-35: Maximum discharge observed, 20,000 second-feet Oct. 4, 1926; maximum gage height, 25.0 feet, present datum, June 5, 1917; minimum discharge observed, 3.5 second-feet Aug. 22, 1911.

Remarks.- Records good except those for periods of ice effect, Dec. 8-15, 25-28, Jan. 26-31, which are fair.

Rating table, water year 1934-35 except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

2.0	38	3.4	187	5.5	608	12.0	2,780	19.0	6,860
2.2	48	3.6	189	6.0	740	13.0	3,240	20.0	8,300
2.4	60	3.8	225	7.0	1,030	14.0	3,710	21.0	9,800
2.6	74	4.0	263	8.0	1,330	15.0	4,190	22.0	11,400
2.8	90	4.5	322	9.0	1,640	16.0	4,690		
3.0	107	4.6	382	10.0	1,950	17.0	5,230		
3.2	129	5.0	488	11.0	2,360	18.0	5,850		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,950	244	4,390	1,730	1,090	713	1,240	584	2,030	914	244	57
2	2,110	234	4,440	1,640	1,120	659	1,120	2,280	1,760	943	216	57
3	2,030	234	4,140	1,650	1,120	686	1,030	5,920	1,580	1,060	189	70
4	1,890	234	3,710	1,390	1,060	659	943	7,720	1,450	1,240	172	74
5	1,640	326	3,330	1,270	972	659	827	8,750	1,330	1,150	150	70
6	1,450	368	2,830	1,180	885	686	798	7,440	1,210	1,180	142	66
7	1,330	326	2,400	1,120	769	914	1,210	7,580	1,120	1,120	129	74
8	1,150	305	1,890	2,110	798	1,300	2,870	8,010	1,060	1,030	118	82
9	943	284	1,520	3,060	1,520	1,240	2,740	7,440	972	972	112	215
10	866	284	1,350	3,430	1,580	1,420	1,580	6,400	914	885	160	86
11	659	263	1,210	2,630	1,180	3,660	1,520	5,850	885	740	142	74
12	536	244	1,060	2,570	972	6,100	2,070	5,580	914	632	118	70
13	486	234	972	2,320	885	7,720	2,030	5,580	798	632	112	60
14	440	216	943	2,240	1,860	7,870	1,800	5,920	740	560	102	57
15	392	206	943	2,200	3,060	6,200	1,640	8,300	686	488	94	54
16	347	199	914	2,160	2,780	5,180	1,550	10,800	659	440	90	48
17	326	189	827	2,440	2,360	4,000	1,450	10,800	659	416	142	48
18	305	180	769	3,060	1,920	3,330	1,390	9,950	856	392	172	48
19	284	189	740	2,400	1,700	2,740	1,330	7,440	769	392	118	46
20	263	180	713	2,780	1,610	2,200	1,240	8,010	686	416	206	46
21	244	180	686	3,480	1,520	1,890	1,060	8,600	686	584	124	43
22	234	1,300	686	3,380	1,360	1,700	1,000	8,450	1,430	713	90	43
23	225	3,760	686	2,110	1,240	1,450	943	7,000	1,270	584	82	43
24	216	4,850	659	1,480	1,030	1,300	868	7,000	885	1,120	74	43
25	416	4,590	632	1,330	1,000	3,430	798	6,400	798	2,490	70	43
26	488	4,090	608	1,240	914	5,350	769	5,780	1,090	1,090	66	43
27	536	3,660	740	1,180	856	6,200	740	5,400	1,120	740	63	54
28	416	3,430	656	1,150	769	4,490	713	4,540	1,090	536	63	70
29	306	4,000	1,030	1,150	-	2,610	686	3,620	914	416	60	63
30	284	4,240	1,550	1,120	-	1,640	652	2,870	914	347	57	60
31	263	-	1,730	1,120	-	1,530	-	2,490	-	284	57	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off in inches				
October.....	23,016			2,110	216	742	0.375	0.43				
November.....	39,138			4,950	180	1,305	.689	.74				
December.....	46,834			4,440	608	1,578	.797	.92				
Calendar year 1934.....	243,496			4,850	16	667	.337	4.58				
January.....	62,220			3,480	1,120	2,007	1.01	1.16				
February.....	37,990			3,060	769	1,367	.685	.71				
March.....	89,328			7,870	659	2,898	1.46	1.68				
April.....	38,634			2,870	632	1,288	.651	.73				
May.....	201,404			10,800	594	6,467	3.28	3.78				
June.....	31,325			2,030	659	1,044	.527	.59				
July.....	24,506			2,490	284	791	.399	.46				
August.....	3,724			244	57	120	.061	.07				
September.....	1,908			216	43	63.6	.032	.04				
Water year 1934-35.....	602,625			10,800	43	1,651	.834	11.31				

Kaskaskia River at New Athens, Ill.

Location.- Water-stage recorder, lat. 38°19'22", long. 89°52'57", in SW $\frac{1}{4}$ sec. 28, T. 2 S., R. 7 W., half a mile below highway bridge at New Athens, St. Clair County. Prior to Sept. 30, 1921, chain gage at same datum on Illinois Central Railroad bridge 0.66 mile upstream. Zero of gage is 359.50 feet above mean sea level (adjustment of 1929).

Drainage area.- 5,220 square miles.

Records available.- January to September 1935; January 1907 to December 1912, June 1914 to September 1921 at site 0.66 mile upstream.

Average discharge.- 13 years (1907-12, 1914-21, 1935), 4,244 second-feet.

Extremes.- Maximum discharge during year, 22,800 second-feet May 24, 25 (gage height, 25.8 feet, from flood marks); minimum, 160 second-feet Sept. 28 (gage height, 2.08 feet).

1907-12, 1914-21, 1935: Maximum discharge observed, 63,100 second-feet Aug. 26, 1915 (gage height, 35.7 feet, former site); minimum, 102 second-feet Aug. 10, 1914 (gage height, 2.08 feet, former site).

Remarks.- Records good, except those for period July 11-19, which are fair. Discharge computed from Baldwin gage heights and rating, 9 miles downstream, for period Feb. 3 to Mar. 6. Discharge for periods of backwater from Mississippi River, May 31 to July 19, July 27, 28, determined by diagrams showing percentage of backwater effect. Gage heights estimated from Baldwin gage May 13-15, 18-26, May 31 to June 10, supplemented by data from the gage at New Athens.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				-	2,060	2,840	10,400	1,380	12,100	2,770	1,580	200
2				-	2,300	2,680	10,500	2,940	9,000	2,300	980	200
3				-	1,900	2,220	10,400	7,300	6,760	1,780	778	200
4				-	1,900	1,660	9,830	8,540	5,310	1,610	675	195
5				-	1,900	1,400	9,060	9,370	4,300	1,560	612	190
6				-	1,780	1,230	7,840	10,700	3,430	1,610	551	190
7				-	1,600	*1,300	4,630	12,200	2,780	1,690	503	196
8				-	1,400	*1,500	3,800	13,800	2,260	1,570	479	200
9				-	1,350	*1,750	4,360	15,300	1,980	1,430	433	210
10				-	1,500	*2,100	5,340	16,500	1,680	1,390	369	220
11				-	2,060	*3,000	6,000	17,200	1,740	1,280	367	200
12				-	2,750	*6,400	6,240	18,000	1,690	1,250	345	190
13				-	3,020	*8,500	5,820	17,600	1,640	1,350	327	205
14				-	3,700	*11,400	5,180	17,200	1,740	1,120	318	215
15				-	3,900	12,500	4,680	16,900	1,770	1,170	355	205
16				-	4,820	14,100	4,140	16,500	1,770	1,350	327	195
17				-	5,540	15,000	3,640	15,300	1,760	1,140	309	190
18				4,960	5,660	14,700	4,900	15,000	1,880	874	283	185
19				5,520	5,060	14,100	7,080	15,600	2,280	774	283	180
20				6,120	4,200	13,200	7,200	18,700	2,010	1,100	309	175
21				6,480	3,300	12,200	6,600	21,100	2,410	2,870	300	170
22				6,660	2,840	11,400	5,340	22,000	2,570	3,090	327	165
23				6,540	2,660	10,500	3,860	22,400	2,500	3,260	300	165
24				6,480	2,670	9,830	2,650	22,800	1,900	5,120	309	160
25				6,300	2,300	9,150	2,100	22,800	1,900	5,240	291	160
26				5,580	2,220	8,880	1,790	22,400	2,160	4,460	260	165
27				4,190	2,390	8,790	1,700	21,500	3,720	3,470	240	170
28				2,700	2,930	8,680	1,580	20,600	4,660	3,740	226	175
29				2,020	-	9,260	1,620	20,200	4,480	4,620	215	175
30				1,880	-	9,830	1,540	19,100	3,830	3,660	210	180
31				1,920	-	10,200	-	16,500	-	2,450	205	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....												
November.....												
December.....												
Calendar year												
January 18-31.....				67,360	6,660	1,880	4,811	0.922	0.48			
February.....				79,610	5,660	1,350	2,843	.545	.87			
March.....				239,480	15,000	1,230	7,725	1.48	1.71			
April.....				158,820	10,500	1,540	5,327	1.02	1.14			
May.....				497,430	22,800	1,380	16,060	3.07	3.64			
June.....				98,510	12,100	1,640	3,264	.629	.70			
July.....				71,098	5,240	774	2,293	.439	.61			
August.....				12,886	1,380	205	416	.080	.09			
September.....				5,625	220	160	188	.036	.04			
Water year												

* Estimated.

Centralia Reservoir Creek near Centralia, Ill.

Location.— Water-stage recorder, lat. $38^{\circ}33'34''$, long. $89^{\circ}23''$, in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5, T. 1 N., R. 2 E., at bridge over outlet of Centralia Reservoir, 1 mile above confluence with Crooked Creek and $\frac{7}{8}$ miles northeast of Centralia, Marion County.

Drainage area.— 7 square miles.

Records available.— March 1932 to September 1935.

Remarks.— Flow regulated by storage in reservoir (area of reservoir at level of crest of spillway, 261 acres). Discharge corrected for storage but not for evaporation and seepage. Pumpage record furnished by City of Centralia. Rainfall record (mean of three gages within basin) furnished by State Water Survey.

Monthly discharge and rainfall, water year October 1934 to September 1935

Month	Discharge from spillway (million gallons)	Pumpage (million gallons)	Gain or loss in storage (million gallons)	*Corrected for storage			Run-off (inches)	Rainfall (inches)
				Run-off (million gallons)	Discharge per square mile (million gallons per day)	Second-foot		
October	0	39.9	-121.3	- 81.4	-0.375	-0.580	-0.67	2.19
November	0	36.1	+ 94.0	130.1	.620	.958	1.07	6.53
December	0	40.8	+ 66.3	107.1	.494	.764	.88	2.46
Calendar year 1934	0	493.6	-205.2	288.4	.113	.175	2.36	40.17
January	0	41.8	+182.6	224.4	1.03	1.60	1.84	3.20
February	0	36.7	- 10.4	26.3	.134	.208	.22	.63
March	0	43.0	+493.3	536.3	2.47	3.82	4.40	7.46
April	0	36.4	+ 61.0	97.4	.464	.717	.80	2.96
May	739.2	38.2	+ 44.7	822.1	3.79	5.86	6.76	10.83
June	0	36.1	- 27.5	8.6	.041	.063	.07	4.29
July	47.6	39.0	+ 26.7	113.3	.522	.808	.93	5.94
August	0	42.7	-129.7	- 87.0	-.401	-.620	-.71	.97
September	0	37.3	- 1.6	35.7	.170	.253	.29	2.83
Water year 1934-35	786.8	468.0	678.1	1,932.9	.756	1.17	15.88	50.29

*Figures with minus sign indicate the amount by which the evaporation and seepage from the reservoir exceeded the inflow.

Big Muddy River at Plumfield, Ill.

Location.- Chain gage, lat. 37°53'32", long. 89°1'11". in southwest corner of sec. 20, T. 7 S., R. 2 E., at highway bridge on Route 149 at Plumfield, 2.6 miles below mouth of Middle Fork.

Drainage area.- 753 square miles.

Records available.- August 1914 to September 1935. June 1908 to December 1912 at Chicago, Burlington & Quincy Railroad bridge 2.4 miles upstream.

Average discharge.- 21 years (1914-35), 744 second-feet.

Extremes.- Maximum discharge observed during year, 11,500 second-feet Mar. 14 (gage height, 28.13 feet, affected by backwater); minimum observed, 2.0 second-feet Sept. 23 (gage height, 1.20 feet).

1914-35: Maximum discharge observed, 16,300 second-feet Feb. 1, 1916 (gage height, 30.2 feet); no flow Aug. 18-26, 1914.

Remarks.- Records poor. Stage-discharge relation affected by changing stage or backwater Nov. 22-24, Nov. 26 to Dec. 5, Jan. 19-22, 24-29, Mar. 11, 12, 14-31, Apr. 11-15, May 4-7, 9-20, 22, 23, 25-31, June 18-22, June 25 to July 3.

Rating table, water year 1934-35 except periods affected by changing stage or backwater (gage height, in feet, and discharge, in second-feet)

1.2	2.0	3.0	66	10.0	860	18.0	3,570
1.4	3.7	3.5	92	12.0	1,230	20.0	4,900
1.6	9	4.0	124	14.0	1,660	22.0	6,400
1.8	15	5.0	201	15.0	2,000	24.0	8,010
2.0	22	6.0	300	16.0	2,420	26.0	9,810
2.5	42	8.0	550	17.0	2,980	28.0	11,700

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	932	30	2,400	580	201	48	1,870	92	914	1,040	76	9.3
2	844	22	2,100	420	232	46	2,040	92	433	900	38	7.3
3	420	24	1,950	265	348	44	2,170	732	396	820	26	6.1
4	145	185	1,750	177	396	44	1,940	1,300	420	732	22	5.1
5	54	610	1,300	110	408	46	1,560	2,080	384	498	153	4.2
6	40	860	1,140	92	384	61	1,430	3,250	185	548	287	3.9
7	26	780	670	86	300	498	1,630	4,200	86	169	312	3.7
8	21	300	324	145	243	878	1,900	4,760	300	138	243	3.4
9	16	124	145	655	221	914	2,480	4,000	336	117	66	6.7
10	14	61	110	1,040	459	670	3,100	3,300	185	58	25	9.0
11	12	46	92	1,610	625	3,100	2,910	2,750	110	32	20	7.6
12	10	36	86	1,230	610	8,300	2,700	2,170	145	26	14	4.9
13	8.4	26	71	860	459	11,100	2,430	1,600	138	22	24	3.7
14	6.7	22	71	446	565	11,500	2,110	1,000	104	16	38	3.3
15	5.4	18	54	254	950	10,600	1,690	970	76	15	185	3.0
16	3.9	16	48	177	1,100	8,500	1,140	980	51	11	324	3.7
17	3.5	14	48	485	986	6,700	610	1,000	878	8.1	161	4.2
18	3.9	13	48	1,000	685	5,510	655	1,000	1,580	7.0	64	3.6
19	3.6	11	169	1,640	348	5,000	1,230	1,060	2,200	6.4	145	3.3
20	3.9	9.6	685	2,100	185	3,940	1,330	1,150	3,400	12	98	2.9
21	4.2	98	1,020	2,900	131	3,200	1,840	1,530	3,700	232	98	2.5
22	3.9	2,130	1,140	4,500	104	2,710	2,040	2,230	4,200	524	76	2.2
23	3.9	5,970	968	4,980	86	2,040	2,000	3,300	4,690	700	40	2.1
24	3.4	5,500	565	4,700	76	1,600	1,630	3,570	4,980	732	28	2.4
25	7.8	9,560	610	3,500	71	1,190	1,020	3,200	4,300	612	17	2.4
26	21	5,660	860	2,500	64	1,120	446	2,650	3,300	878	15	2.1
27	28	4,900	1,120	1,900	58	1,200	138	2,450	2,400	878	12	4.2
28	42	4,200	1,250	1,450	51	1,300	81	1,940	1,950	914	9.0	6.4
29	169	3,400	1,330	1,050	-	1,500	71	1,440	1,600	968	7.3	6.1
30	81	2,900	1,250	670	-	1,690	76	1,030	1,230	878	6.7	4.7
31	48	-	896	300	-	1,770	-	960	-	288	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	2,995.5	932	3.4	96.6	0.128	0.15
November.....	45,995.6	9,360	9.6	1,533	2.04	2.28
December.....	24,270	2,400	48	783	1.04	1.20
Calendar year 1934.....	103,572.2	9,360	3.4	284	.377	5.15
January.....	41,422	4,980	86	1,336	1.77	2.04
February.....	10,346	1,100	51	370	.461	.51
March.....	96,819	11,500	44	3,123	4.15	4.78
April.....	46,517	3,500	71	1,551	2.06	2.30
May.....	61,956	4,760	92	2,000	2.56	3.07
June.....	44,671	4,980	51	1,459	1.93	2.21
July.....	12,779.5	1,340	5.4	412	.547	.63
August.....	2,643.0	324	6.7	85.3	.113	.13
September.....	134.0	9.3	2.1	4.47	.0059	.007
Water year 1934-35.....	390,578.6	11,500	2.1	1,070	1.42	19.31

Big Muddy River at Murphysboro, Ill.

Location.— Water-stage recorder, lat. 37°44'55", long. 89°20'45", in SE¼ sec. 8, T. 9 S., R. 2 W., at Illinois Central Railroad bridge across mouth of Lewis Creek, at Murphysboro, Jackson County. Zero of gage is 335.5 feet above mean sea level (general adjustment of 1929).

Drainage area.— 2,170 square miles.

Records available.— December 1916 to September 1935.

Extremes.— Maximum discharge during year, 25,000 second-feet Mar. 15 (gage height, 34.05 feet, affected by backwater); minimum, 7.0 second-feet Sept. 26 (gage height, 1.22 feet).

1917-35: Maximum discharge, that of Mar. 15, 1935; minimum, 1.0 second-foot Aug. 1, 1921.

Maximum stage known, 34.9 feet (present datum) Feb. 2, 1916 (discharge, about 28,000 second-feet).

Remarks.— Records good except those for periods of excessive backwater, June 1-16, July 7-19, 27, 28, which are poor. Stage-discharge relation affected by backwater from Mississippi River, Mar. 12-18, Apr. 14-19, May 5 to July 21, July 23-31. Discharge for all effective stages above 2.9 feet computed on basis of slope as obtained by use of auxiliary chain gage on Route 13 bridge 7,700 feet upstream.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,580	214	8,530	2,050	2,050	155	5,060	513	2,130	7,620	810	22
2	1,510	140	7,660	1,670	1,220	149	5,190	543	1,400	6,560	439	19
3	1,450	288	7,070	1,270	854	141	5,060	2,260	838	5,460	172	18
4	1,110	847	6,100	892	915	135	4,750	3,770	811	4,660	91	17
5	676	1,120	5,290	541	1,020	144	4,930	5,550	636	3,860	61	17
6	325	1,090	4,440	375	1,060	168	4,580	6,540	636	3,060	61	16
7	193	1,270	3,480	288	974	504	4,830	7,760	573	2,020	161	16
8	132	1,340	2,970	304	840	1,180	5,620	8,420	572	1,210	315	14
9	103	1,090	1,430	802	854	1,510	5,960	8,850	799	848	344	19
10	86	708	1,170	1,580	1,510	1,920	6,020	8,540	1,110	753	237	20
11	73	350	445	1,930	1,860	9,970	5,970	8,120	1,330	402	120	30
12	68	210	252	2,050	1,860	14,100	5,560	7,340	1,610	416	69	32
13	65	143	195	2,000	1,780	19,800	5,230	6,380	2,110	245	69	25
14	58	112	165	1,830	2,210	23,400	4,590	5,720	2,350	221	247	20
15	54	90	146	1,430	2,550	25,000	4,490	5,170	2,260	357	168	17
16	61	77	138	1,010	2,770	21,700	3,610	4,490	2,210	336	128	15
17	48	68	130	884	2,420	20,300	3,190	2,510	4,290	470	321	14
18	50	59	124	1,680	2,060	19,200	3,660	3,300	6,030	373	415	13
19	50	56	224	3,020	1,720	17,100	3,950	2,980	7,200	193	277	12
20	70	53	890	4,690	1,250	15,600	4,050	4,420	7,640	100	180	10
21	81	991	1,290	6,100	788	13,900	4,000	5,540	9,130	93	180	9.5
22	66	4,770	1,530	7,140	445	12,500	3,600	5,760	12,000	172	165	9.0
23	53	6,920	1,690	7,860	336	11,100	3,090	6,100	13,400	694	137	8.6
24	46	9,080	1,740	8,260	272	9,990	2,830	6,480	13,500	950	108	8.6
25	121	9,260	1,640	8,070	236	7,600	2,430	6,630	13,300	1,010	77	8.2
26	300	9,740	1,660	7,570	206	8,260	2,000	6,080	12,100	904	58	9.5
27	268	9,240	1,990	7,030	191	7,520	1,340	5,640	11,200	448	46	16
28	158	9,420	2,230	6,270	171	6,660	784	4,900	10,200	756	44	17
29	280	9,100	2,260	5,430	-	5,760	520	4,880	9,670	1,120	36	19
30	399	9,660	2,170	4,440	-	4,840	470	4,500	8,570	1,130	29	21
31	324	-	1,930	3,230	-	4,790	-	3,400	-	1,080	24	-
Month					Second-foot-days	Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....					9,549	1,580	46	318	0.147		0.17	
November.....					87,806	9,740	53	2,917	1.34		1.50	
December.....					70,969	8,530	124	2,289	1.06		1.22	
Calendar year 1934.....					252,387	9,740	15	692	.319		4.34	
January.....					101,696	8,260	288	3,280	1.51		1.74	
February.....					34,422	2,770	171	1,229	.566		.59	
March.....					284,896	25,000	135	9,190	4.24		4.89	
April.....					117,264	6,020	470	3,909	1.80		2.01	
May.....					163,086	8,860	513	5,261	2.42		2.79	
June.....					159,605	13,500	572	5,320	2.45		2.73	
July.....					47,511	7,620	93	1,533	.706		.81	
August.....					5,588	810	24	180	.083		.10	
September.....					492.4	32	8.2	16.4	.0076		.008	
Water year 1934-35.....					1,082,884.4	25,000	8.2	2,967	1.37		18.56	

Discharge measurements of streams in the Hudson Bay and upper Mississippi River basins at points other than regular gaging stations are listed in the following table:

Miscellaneous discharge measurements in Hudson Bay and upper Mississippi River basins during the year ending Sept. 30, 1935

Date	Stream	Tributary to-	Locality	Discharge
Oct. 12	Red River.....	Hudson Bay.....	Brushvale, Minn.....	Sec.-ft. 11.2
11	Otter Tail River..	Red River.....	Inlet to Otter Tail Lake, near Amor, Minn.....	14.0
26	do.....	do.....	do.....	19.0
11	do.....	do.....	Outlet of Otter Tail Lake, near Amor, Minn.....	32.7
26	do.....	do.....	do.....	48.6
12	do.....	do.....	Below Lost Lake, near Fergus Falls, Minn.....	23.0
25	Red Lake River....	do.....	Red Eagle Bridge on Red Lake Indian Reservation.....	16.4
Sept. 27	Mississippi River	Gulf of Mexico....	Below Ford Plant Dam, St. Paul, Minn.	1,810
Mar. 21	do.....	do.....	Hastings, Minn.....	11,300
26	do.....	do.....	do.....	11,500
Apr. 2	do.....	do.....	do.....	7,810
9	do.....	do.....	do.....	5,810
May 3	do.....	do.....	do.....	8,250
17	do.....	do.....	do.....	9,580
June 11	do.....	do.....	do.....	3,600
14	do.....	do.....	do.....	3,030
14	do.....	do.....	do.....	3,010
July 11	do.....	do.....	do.....	5,270
16	do.....	do.....	do.....	2,610
Aug. 30	do.....	do.....	do.....	4,040
30	do.....	do.....	do.....	3,640
Mar. 27	do.....	do.....	Red Wing, Minn.....	31,100
Oct. 8	do.....	do.....	Reads, Minn.....	14,500
Mar. 26	do.....	do.....	do.....	67,100
3	do.....	do.....	do.....	47,100
12	do.....	do.....	do.....	33,200
18	do.....	do.....	do.....	28,600
25	do.....	do.....	do.....	24,200
May 14	do.....	do.....	do.....	21,000
Sept. 10	do.....	do.....	Below Dam 5, Minnaska, Minn.	26,600
15	do.....	do.....	do.....	15,200
Apr. 11	do.....	do.....	GENOA, WIS.....	43,700
19	do.....	do.....	do.....	33,600
Oct. 10	do.....	do.....	Lansing, Iowa.....	21,100
Mar. 21	do.....	do.....	do.....	39,900
29	do.....	do.....	do.....	65,800
Apr. 1	do.....	do.....	do.....	75,300
10	do.....	do.....	do.....	62,000
18-19	do.....	do.....	do.....	37,400
May 16	do.....	do.....	do.....	34,600
June 20	do.....	do.....	do.....	25,500
July 16	do.....	do.....	do.....	42,000
Sept. 11	do.....	do.....	do.....	17,200
Apr. 3	do.....	do.....	Dubuque, Iowa.....	133,000
4	do.....	do.....	do.....	134,000
4	do.....	do.....	do.....	(*)
Feb. 26	Minnesota River..	Mississippi River..	Keokuk, Iowa.....	791
May 26	do.....	do.....	Mendota, Minn.....	1,400
June 17	Vermillion River..	do.....	Hastings, Minn.....	54.5
Sept. 21	do.....	do.....	do.....	8.6
Apr. 5	Vermillion Slough..	do.....	Etter, Minn.....	1,250
Mar. 15	Rush River.....	do.....	Maiden Rock, Wis.....	86.8
Sept. 21	do.....	do.....	do.....	57.1
Mar. 28	Chippewa River....	do.....	State Highway 35, near Nelson, Wis.	58,200
30	do.....	do.....	do.....	34,000
Apr. 1	do.....	do.....	do.....	20,900
3	do.....	do.....	do.....	14,300
July 8	do.....	do.....	do.....	36,400
Sept. 20	do.....	do.....	do.....	5,620
Mar. 16	Beef River.....	do.....	Near Alma, Wis.....	474
Sept. 20	do.....	do.....	do.....	361
Aug. 8	Zumbro River.....	do.....	Kellogg, Minn.....	8,290
9	do.....	do.....	do.....	9,520
Sept. 9	do.....	do.....	do.....	344
Mar. 16	White Water River.	do.....	Waver, Minn.....	187
17	do.....	do.....	do.....	126
May 13	do.....	do.....	do.....	2,010
13	do.....	do.....	do.....	162
14	do.....	do.....	do.....	106
Aug. 6	do.....	do.....	do.....	4,240
6	do.....	do.....	do.....	3,040
Sept. 9	do.....	do.....	do.....	930
20	do.....	do.....	do.....	1,810
Mar. 20	Waumandee Creek..	do.....	Fountain City, Wis.....	226
Sept. 19	do.....	do.....	do.....	166
9	Garvin Brook.....	do.....	Minnesota City, Minn.	47.2
20	do.....	do.....	do.....	1,200

*Discharge measurements of Mississippi River below dam at Keokuk, Iowa, as published in Water-Supply Paper 760 (p. 246) are in error. The following measurements were made at that point during the year ending Sept. 30, 1934: June 26, 21,700 second-feet; June 29, 18,800 second-feet; Aug. 9, 13,500 second-feet.

Miscellaneous discharge measurements in the Hudson Bay and upper Mississippi River drainage basin during the year ending September 30, 1935--Continued

Date	Stream	Tributary to-	Locality	Discharge
Mar. 7	Trempealeau River.	Mississippi River.	Marshland, near Trempealeau, Wis....	Sec.-ft. 498
18	do.....	do.....	do.....	1,870
20	do.....	do.....	do.....	1,590
28	do.....	do.....	do.....	858
Sept. 10	do.....	do.....	do.....	315
Mar. 20	do.....	do.....	Mouth, near Trempealeau, Wis.....	1,250
28	do.....	do.....	do.....	610
23, 28	Black River.....	do.....	Lytles, Wis.....	50,000
29	do.....	do.....	do.....	7,010
Sept. 10	do.....	do.....	do.....	645
Mar. 20	do.....	do.....	Onalaska, Wis.....	1,210
30	do.....	do.....	do.....	7,740
Apr. 8	do.....	do.....	do.....	2,020
Mar. 19	La Crosse River...	do.....	La Crosse, Wis.....	875
28	do.....	do.....	do.....	374
Sept. 10	do.....	do.....	State Highway 26, near La Crosse...	317
Mar. 18	Root River.....	do.....	Minn.....	3,660
21	do.....	do.....	do.....	3,360
27	do.....	do.....	do.....	1,510
Aug. 7	do.....	do.....	do.....	5,680
Sept. 14	do.....	do.....	do.....	874
Mar. 7	Ocon Creek.....	do.....	Stoddard, Wis.....	105
27	do.....	do.....	do.....	118
Apr. 3	do.....	do.....	do.....	78.7
5	do.....	do.....	do.....	71.8
9	do.....	do.....	do.....	71.5
Mar. 5	Bad Axe River.....	do.....	do.....	69.8
23	do.....	do.....	State Highway 35, near Victory, Wis.	696
27	do.....	do.....	do.....	50.9
Apr. 3	do.....	do.....	do.....	73.1
5	do.....	do.....	do.....	81.0
9	do.....	do.....	do.....	80.5
Sept. 11	do.....	do.....	do.....	79.7
Mar. 20	Upper Iowa River..	do.....	do.....	73.1
25	do.....	do.....	Near New Albin, Iowa.....	2,940
28	do.....	do.....	do.....	1,870
Apr. 4	do.....	do.....	do.....	1,270
6	do.....	do.....	do.....	758
11	do.....	do.....	do.....	717
Sept. 11	do.....	do.....	do.....	704
Mar. 6	Yellow River.....	do.....	do.....	276
Sept. 11	do.....	do.....	Near Harpers Ferry, Iowa.....	638
Mar. 22	Wisconsin River...	do.....	do.....	45.6
28	do.....	do.....	Near Prairie du Chien, Wis.....	18,500
30	do.....	do.....	do.....	45,200
Apr. 2	do.....	do.....	do.....	67,700
8	do.....	do.....	do.....	49,800
Sept. 13	do.....	do.....	do.....	17,800
Apr. 2	Turkey River.....	do.....	U. S. Highway 52, near Guttenburg, Iowa.....	5,490
12	Wapsipicon River	do.....	Near Polletts, Iowa.....	1,170
May 17	East Branch of Rock River.....	Rock River.....	do.....	2,100
Aug. 2	do.....	do.....	Kekoskee, Wis.....	57
Sept. 6	do.....	do.....	do.....	90
May 17	West Branch of Rock River.....	do.....	do.....	2.6
Aug. 2	do.....	do.....	East Maupun, Wis.....	64
May 17	Bark River.....	do.....	do.....	54
17	do.....	do.....	Sullivan, Wis.....	55
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