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

Water-Supply Paper 974

SURFACE WATER SUPPLY *of the* UNITED STATES 1943

PART 4
ST. LAWRENCE RIVER BASIN

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SURFACE WATER SUPPLY OF ST. LAWRENCE RIVER BASIN, 1943

SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of stage and flow made on streams, lakes, and reservoirs in the United States during the water year ending September 30, 1943. The work was begun in 1888 in connection with special studies relating to irrigation. Measurements of the flow of streams and of the stage and contents of lakes and reservoirs have been made at about 9,670 gaging stations in the 48 States and also at many in the Territories of Alaska and Hawaii. In July 1943, 5,130 gaging stations, including those in Hawaii, were being maintained by the Geological Survey and cooperating organizations. Miscellaneous discharge measurements were made during the water year 1943 at many other points.

In the execution of the work many State and private organizations have cooperated, either by furnishing data or by assisting in collecting data. Cooperation of the first kind is acknowledged in connection with the description of each station affected; cooperation of the second kind is acknowledged, under the heading "Cooperation," in the introductory matter that precedes the gaging-station records in each volume. In the present volume, the section on cooperation of the second kind appears on page 12.

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

"Second-feet 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 runoff is distributed uniformly both as regards time and area.

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

An "acre-foot" is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. 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. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons and represents a runoff of 0.0372 inch from 1 square mile.

"Stage-discharge relation" is an abbreviation for the term "relation between gage height and discharge."

"Control" is a term used to designate a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural section, a reach of the channel, or an artificial structure.

"Contents" is a term applied to the volume of water in a reservoir, not including water in bank storage unless so indicated.

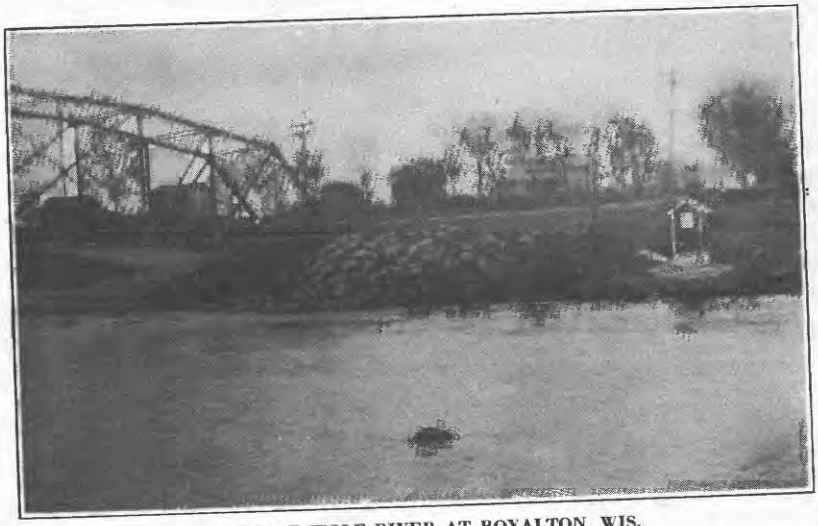
EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the records of stage 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 structures in use at gaging stations are shown in figure 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily mean gage height to these rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the "shifting-control method," in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. At times the stage-discharge relation for a station may be temporarily changed by the presence of aquatic growth or debris on the control. For such times the daily mean discharge is computed by what is essentially the "shifting-control" method, described above.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources, which necessitates the use of the "slope method," in which the slope or fall in a reach of the stream is a factor in the determination of discharge. Information requisite for determining the slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage, and for them the rate of change of stage is used as a factor in the determination of discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, which makes it impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for stations in the same or nearby basins. The days



A. LITTLE WOLF RIVER AT ROYALTON, WIS.

B. BLACK RIVER NEAR BOONVILLE, N. Y.

FIGURE 1.—GAGING-STATION STRUCTURES.

included in the periods of ice effect and the days during the winter period on which discharge measurements were made are indicated in the table by symbols referring to footnotes or are given in a general note following the table.

For most of the gaging stations on streams in the area covered by this report the data presented comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and runoff. Skeleton rating tables are published for all stations except those at which the daily discharge for the greater part of the year was determined by the shifting-control method, the slope method, or other special methods.

The description of the station gives the type of gage, its latitude and longitude as determined from the best available maps, and information in regard to 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. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless 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 discharge represents the lowest stage, unless otherwise qualified. Selected peak discharges with the times of their occurrence are given below the table of monthly discharge for some stations. This supplementary information is generally omitted for a station at which the drainage area of the stream is less than 10 or more than 10,000 square miles or at which, on most days, the peak discharge exceeds the mean discharge by less than 10 percent.

For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the table gives the discharge corresponding to the daily mean gage height. For stations subject to such fluctuation the daily mean gage height may not indicate the true daily mean discharge, which must be obtained by averaging the discharge for parts of the day or by using the discharge integrator, an instrument for obtaining the daily mean discharge from a continuous gage-height graph and containing as an essential element a curve representing the stage-discharge relation at the station. For stations equipped with nonrecording gages, the table of daily discharge gives the discharge in second-feet corresponding to once-daily readings of the gage or the mean of twice-daily readings. For periods of rapidly changing stage the daily mean discharge is determined from gage-height graphs based on gage readings made once or twice daily or oftener, as stated in the station description.

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

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents is given. A skeleton table of capacity at given stages is usually given in the first report in which data for a station are published but is omitted from succeeding reports.

TIME BASIS

At 2 a.m. on February 9, 1942, as an emergency measure, the Nation shifted from standard time to "war time," and clock time in the several zones of the country was moved ahead 1 hour, or to 3 a.m. Records of daily discharge prior to February 9, 1942, were computed on the basis of standard time. Records subsequent to that date have been computed on the basis of war time. To convert war time to standard time, subtract 1 hour.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily on (1) the permanency of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements and (2) the accuracy of observations of stage, measurements of 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 error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. The records of monthly and yearly mean discharge and runoff are, in general, more accurate than the daily records.

Yield at some stations as indicated by monthly means may vary widely from natural yield, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors. For such stations figures of "second-feet per square mile" and "runoff in inches" are not published unless storage or diversion records are included indicating the extent of the regulation or diversion or unless satisfactory adjustments can be made for changes in contents of reservoirs or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless its inclusion is indicated. Figures of second-feet per square mile and runoff in inches are also omitted if the drainage area includes large noncontributing areas or if the average annual rainfall over the drainage area 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 therefore 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 presents in summary the distribution of the flow past the station. The table of daily discharge affords opportunity for more detailed studies of the variation in flow. As further observations in each succeeding year may be expected to throw new light on data previously published, it should be borne in mind that such data are subject to revision in succeeding water-supply papers.

PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts, 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 Geological Survey containing data on the water resources of the United States may be obtained or consulted as explained 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:

East of the Mississippi River:
Albany, N. Y., 528 Federal Building.
Asheville, N. C., 220 Post Office Building.
Atlanta, Ga., 3 North Rhodes Center NW.
Augusta, Maine, Statehouse.
Baton Rouge, La., 124 Geology Building, Louisiana State University.
Boston, Mass., 939 Post Office Building.
Charleston, W. Va., 408 Union Building.
Charlottesville, Va., House G, Dawson Row, University of Virginia.
Chattanooga, Tenn., 442 Post Office Building.
College Park, Md., 105 Engineering Building, University of Maryland.
Columbia, S. C., 119 United States Courthouse.
Columbus, Ohio, 404 Engineering Experiment Station, Ohio State University.
Harrisburg, Pa., 490 Education Building.
Hartford, Conn., 203 Federal Building.
Indianapolis, Ind., 205 Underwriters Building.
Jackson, Miss., 208 Millsaps Building.
Knoxville, Tenn., 337 Post Office Building.
Louisville, Ky., 531 Federal Building.
Madison, Wis., 666 State Office Building.
Montgomery, Ala., 507 Post Office Building.
Morgantown, W. Va., 309 Mineral Industries Building.
New Philadelphia, Ohio, Muskingum Watershed Conservancy District Building.
Ocala, Fla., 302 Post Office Building.
Pittsburgh, Pa. 515 Plaza Building.
Raleigh, N. C., 242 Education Building.
St. Paul, Minn., 1427 New Post Office Building.
Trenton, N. J., 228 Federal Building.
Urbana, Ill., 14 Post Office Annex, Elm Street.
Williamsburg, Ky., Kentucky Highway Building.

West of the Mississippi River:
Albuquerque, N. Mex., 723 North Second Street.
Austin, Tex., 302 West Fifteenth Street.
Boise, Idaho, 429 Federal Building.
Denver, Colo., 310 Denham Building.
Fort Smith, Ark., 6 Post Office Building.
Helena, Mont., 408 Federal Building.
Honolulu, Hawaii, 225 Federal Building.
Idaho Falls, Idaho, 204 Federal Building.
Iowa City, Iowa, 508 Hydraulic Laboratory, University of Iowa.
Lincoln, Nebr., 1404 Statehouse.
Los Angeles, Calif., 429-F United States Post Office and Courthouse.
Oklahoma City, Okla., 535 Capital Building.
Portland, Oreg., 606 Post Office Building.

Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.
St. Louis, Mo., 1002 New Federal Building.
Salt Lake City, Utah, 303 Federal Building.
San Francisco, Calif., 625 Market Street Building.
Santa Fe, N. Mex., 204 United States Courthouse.
Tacoma, Wash., 207 Federal Building.
Topeka, Kans., 305 Federal Building.
Tucson, Ariz., 210 Post Office Building.

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

Early records of the flow of streams in the United States were published in the reports listed below:

Stream-flow data for the years 1884-1901, in reports of the 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 of streams east of the Mississippi River and Missouri River and tributaries above Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River and Missouri River and tributaries.	1898.
W 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years).....	1898.
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.

Papers on surface water supply containing records from 1899 to date, grouped by years and drainage basins, are listed by number on page 8. 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, the data for 1910 to 1920 for any station in the area covered by part 3 are published in Water-Supply Papers 283, 303, 323, 353, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

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, the streams and points of measurement listed appearing in the same relative order as the streams and gaging stations in the body of the report. An index of the records obtained prior to 1904 has been published in Water-Supply Paper 119.

Each of the reports on surface water supply for the year 1939, issued as Water-Supply Papers 871 to 884 (see table on p. 8), contains a summary of yearly discharge at gaging stations in the area covered by that report. Gaging stations at which 10 or more complete years of record have been collected are represented. These summaries are available also as separate reprints.

Numbers of water-supply papers containing results of stream measurements, 1899-1943

(For basins included see p. 6)

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a...	35	b35, 36	36	36	36	c36, 37	37	37	d37, 38	38, e39	38, f39	38	38	38
1900 g...	47, h48	48	48, 149	49	49	49, j50	50	50	50	51	51	51	51	51
1901.....	65, 75	65, 75	65, 75	65, 75	k65, 66, 75	66, 75	k65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902.....	82	b82, 83	83	m82, 83	k83, 85	84	k83, 84	84	85	85	85	85	85	85
1903.....	97	b97, 98	98	97	k98, 99, n100	99	k98, 99	99	100	100	100	100	100	100
1904.....	o124, p125, q126	q126, 127	128	129	k128, 130	130, r131	k128, 131	132	133	133, s134	134	135	135	135
1905.....	o165, p166, q167	q167, 168	169	170	171	172	k169, 173	174	175, t177	176, s177	177	178	178	u177, 178
1906.....	o201, p202, q203	q203, 204	205	206	207	208	k205, 209	210	211, t213	212, s213	213	214	214	214
1907-8...	241	242	243	244	245	246	247	248	249	250, s251	251	252	252	252
1909.....	261	262	263	264	265	266	267	268	269	270, s271	271	272	272	272
1910.....	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911.....	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912.....	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913.....	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914.....	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915.....	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916.....	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917.....	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918.....	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20..	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921.....	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922.....	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923.....	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924.....	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925.....	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926.....	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927.....	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928.....	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929.....	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1930.....	696	697	698	699	700	701	702	703	704	705	706	707	708	709
1931.....	711	712	713	714	715	716	717	718	719	720	721	722	723	724
1932.....	726	727	728	729	730	731	732	733	734	735	736	737	738	739
1933.....	741	742	743	744	745	746	747	748	749	750	751	752	753	754
1934.....	756	757	758	759	760	761	762	763	764	765	766	767	768	769
1935.....	781	782	783	784	785	786	787	788	789	790	791	792	793	794
1936.....	801	802	803	804	805	806	807	808	809	810	811	812	813	814
1937.....	821	822	823	824	825	826	827	828	829	830	831	832	833	834
1938.....	851	852	853	854	855	856	857	858	859	860	861	862	863	864
1939.....	871	872	873	874	875	876	877	878	879	880	881	882	883	884
1940.....	891	892	893	894	895	896	897	898	899	900	901	902	903	904
1941.....	921	922	923	924	925	926	927	928	929	930	931	932	933	934
1942.....	951	952	953	954	955	956	957	958	959	960	961	962	963	964
1943.....	971	972	973	974	975	976	977	978	979	980	981	982	983	984

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, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Monthly discharge for 1900 in 22d Annual Report, part 4.
h Wissahickon and Schuylkill Rivers to James River.
i Scioto River.
j Loup, Platte, and Elkhorn 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 Hudson River to Delaware River, inclusive.
q Susquehanna River to Yadkin River, inclusive.
r Platte and Kansas Rivers.
s The Great Basin in California, except Truckee and Carson River Basins.
t Below mouth of Gila River.
u Rogue, Umpqua, and Siletz Rivers only.

From time to time reports have been published that are compilations of records for various areas, usually a single State or drainage basin. These reports contain records previously published (some of which have been revised), as well as some records not contained in the annual series of water-supply papers. The following table gives the numbers and titles of these reports, arranged in alphabetic order by States and drainage basins.

Reports containing compilations of discharge by States and drainage basins

Water-supply Paper	Period	State or drainage basin and title
		STATE
107	1895-1903	Alabama, Water powers of, with an appendix on stream measurements in Mississippi.
298	1887-1912	California, Water resources of, part 1, Stream measurements in Sacramento River Basin.
299	1878-1912	California, Water resources of, part 2, Stream measurements in San Joaquin River Basin.
300	1891-1912	California, Water resources of, part 3, Stream measurements in the Great Basin and Pacific Coast river basins.
447	1890-1918	California, southern, Surface water supply of Pacific slope of.
597-E	1895-1927	California, Surface water supply of Sacramento River Basin.
636-D	1895-1927	California, Surface water supply of San Joaquin River Basin.
636-E	1894-1927	California, southern, Surface water supply of Pacific slope basins in.
637-A	1895-1927	California, Surface water supply of minor San Francisco Bay, northern Pacific, and Great basins in.
74	1884-1900	Colorado, Water resources of.
197	1895-1905	Georgia, Water resources of.
415	1845-1915	Massachusetts, Surface waters of.
230	1894-1906	Nebraska, Surface water supply of.
370	1878-1910	Oregon, Surface water supply of.
850	1898-1937	Texas, Summary of records of surface waters of.
424	1875-1916	Vermont, Surface waters of.
492	1878-1919	Washington, Summary of hydrometric data in.
870	1919-35	Washington, Summary of records of surface waters of.
156	1895-1905	Wisconsin, northern, Water powers of.
469	1894-1921	Wyoming, Surface waters of, and their utilization.
		DRAINAGE BASIN
395	1888-1914	Colorado River (Ariz., Colo., N. Mex., Utah, Wyo.) and its utilization.
617	1897-1927	Colorado River, upper (Colo., Utah), and its utilization.
918	1891-1938	Colorado River Basin (Ariz., Calif., Colo., Utah, Wyo.), Surface waters at base stations in.
916	1898-1938	Columbia River Basin, upper (Mont., Idaho), Surface waters of.
517	1889-1920	Great Salt Lake Basin, Water powers of.
618	1894-1926	Green River (Colo., Utah, Wyo.) and its utilization.
198	1890-1906	Kennebec River Basin (Maine), Water resources of.
491	1898-1917	Milk River. See St. Mary and Milk Rivers.
917	1881-1938	Missouri and St. Mary River Basins (Mont.), Surface waters of.
536	1895-1920	New Kanawha River Basin (N. C., Va., W. Va.), Surface water supply of.
279	1904-9	Penobscot River Basin (Maine), Water resources of.
192	1895-1906	Potomac River Basin (D. C., Md., W. Va.)
358	1898-1913	Rio Grande Basin (Colo., N. Mex., Tex.), Water resources of, 1888-1913.
491	1898-1917	St. Mary and Milk Rivers (Mont., Canada), Water supply of.
917	1881-1938	St. Mary River Basin. See Missouri and St. Mary River Basins.
109	1890-1904	Susquehanna River Basin (Pa., Md.), Hydrography of.

Records of discharge have been published also in State reports. Some of these are not contained in the publications of the Geological Survey or are revisions of records previously published in its water-supply papers. The following table contains a list of these reports.

State reports containing compilations of records of discharge

State	Period	Report	Issued by
Alabama.....	1895-1915	Bull. 17, Water powers of Alabama.....	Geological Survey of Alabama.
Arkansas....	1857-1928	Stream-gaging Rept. 1.....	Arkansas Geological Survey.
Colorado....	1881-1935	Water resources of Colorado, Appendix 2, Data on stream-gaging stations of Colorado.[1]	State Planning Commission, Water Conservation Board, State engineer.
Do.....	1881-1938	Water resources of Colorado, Appendix 3, vols. 1 and 2, Stream-flow data of Colorado.	Do.
Connecticut.	1900-1927	Bull. 44, Water resources of Connecticut.	State Geological and Natural History Survey.
Do.....	1912-33	5th biennial report[2].....	Connecticut State Water Commission.
Georgia.....	1895-1906	Bull. 16, Water powers of Georgia.....	Geological Survey of Georgia.
Do.....	1907-19	Bull. 38, Water powers of Georgia.....	Do.
Illinois....	1908-11	Water resources of Illinois.....	Rivers and Lakes Commission.
Do.....	1900-1934	Stream-flow data of Illinois.....	Division of Waterways.

1 Contains records of yearly discharge only.
2 Contains records of monthly discharge in second-feet per square mile.

State reports containing compilations of records of discharge--Continued

State	Period	Report	Issued by
Indiana.....	1923-27	Pub. 72, Surface water supply of Indiana.	Department of Conservation.
Do.....	1927-30	Pub. 112, Surface water supply of Indiana.	Do.
Iowa.....	1873-1932	Stream-flow records of Iowa.....	Iowa State Planning Board.
Do.....	1873-1940	Water-Supply Bull. 1, Summaries of yearly and flood flow relating to Iowa streams.	Iowa Geological Survey.
Do.....	1941-42	Water-Supply Bull. 2, Surface water resources of Iowa.....	Do.
Kansas.....	1895-1919	Surface waters of Kansas.....	Kansas Water Commission.
Do.....	1919-24	....do.....	Do.
Do.....	1924-28	Report of Division of Water Resources...	Kansas State Board of Agriculture.
Do.....	1928-35	Stream-flow data of Kansas.....	Do.
Do.....	1935-39	....do.....	Do.
Do.....	1931-41	....do.....	Do.
Kentucky....	1910-20	Surface waters of Kentucky.....	Kentucky Geological Survey.
Louisiana...	1903-38	Geol. Bull. 16, Surface water supply of Louisiana.	Department of Conservation.
Maine.....	1887-1920	1st annual report[2].....	Maine Water Power Commission.
Maryland....	1929-37	Flow data and draft storage curves for major streams in Maryland.	State Planning Commission and Water Resources Commission.
Minnesota...	1909-12	Water-resources investigation of Minnesota.	State Drainage Commission.
Missouri....	1857-1926	Vol. 20, 2d series, Water resources of Missouri.	Missouri Geological Survey and Water Resources.
Do.....	1927-39	Vol. 26, 2d series, Surface waters of Missouri.	Do.
Montana.....	1889-1911	5th biennial report.....	Office of the State engineer.
Do.....	1881-1938	Special Rept. 10, vols. 1-4, Water resources of Montana.	Montana Agricultural Experiment Station.
Nebraska....	1894-1914	1st hydrographic report.....	Bureau of Water Power, Irrigation, and Drainage.
Do.....	1914-28	2d hydrographic report.....	Do.
New Jersey..	1891-1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do.....	1928-34	Special Rept. 5, Surface water supply of New Jersey.	State Water Policy Commission.
New Mexico..	1888-1925	Surface water supply of New Mexico.....	Office of the State Engineer.
North Carolina.	1889-1923	Bull. 34, Discharge records of North Carolina streams.[3]	Department of Conservation and Development.
Do.....	1889-1936	Bull. 39, Discharge records of North Carolina streams.[4]	Do.
North Dakota	1919-21	Report to Governor of North Dakota on flood control.	State chief engineer.
Do.....	1882-1938	Surface water in North Dakota.....	State Planning Board.
Ohio.....	1898-1921	Bull. 73, Ohio stream flow.....	Engineering Experiment Station, Ohio State University.
Do.....	1902-39	Bull. 200, Compilation of stream-flow records of Ohio.	Department of Agriculture, Division of Conservation and Natural Resources.
Do.....	1898-1939	Bull. 111, Ohio stream-drainage areas and flow-duration tables.	Engineering Experiment Station, Ohio State University.
Oregon.....	1878-1914	Bull. 4, Water resources of the State of Oregon.	Office of the State Engineer.
Do.....	1914-24	Bull. 7, Water resources of the State of Oregon.	Do.
Do.....	1924-30	Bull. 8, Water resources of the State of Oregon.	Do.
Do.....	1930-36	Bull. 9, Water resources of the State of Oregon.	Do.
Pennsylvania	1890-1911	Report of the Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do.....	1928-32	Stream-flow records of Pennsylvania.....	Department of Forests and Waters.
Rhode Island	1929-41	7th annual report.....	Department of Public Works.
Tennessee...	1874-1924	Bull. 34, Water resources of Tennessee.	Department of Education.
Do.....	1920-30	Bull. 40, Surface Waters of Tennessee.[3]	Do.
Utah.....	1889-1905	5th biennial report, State engineer.....	Office of the State Engineer.
Do.....	1906-10	7th biennial report, State engineer.....	Do.
Do.....	1911-1916	10th biennial report, State engineer....	Do.
Virginia....	1895-1927	Bull. 31, Water resources of Virginia...	Conservation Commission.
Washington..	1878-1933	Bull. 5, Monthly and yearly summaries of hydrometric data.	Department of Conservation and Development.
Wisconsin...	1888-1914	1st report of Railroad Commission of Wisconsin to Legislature on water powers.	Railroad Commission of Wisconsin.
Do.....	1914-23	2d report of Railroad Commission of Wisconsin to Legislature on water powers.	Do.

2 Contains records of monthly discharge in second-feet per square mile.
3 Contains records of weekly discharge.
4 Contains records of maximum and minimum daily, weekly, and monthly discharge and yearly mean discharge.

Note.- In addition to the records contained in the reports listed above, the following States have issued annual or biennial reports in which are contained records of discharge: California, Colorado, Connecticut, Idaho, Indiana, Maine, Missouri, Montana, Nebraska, Nevada, New Mexico, New York (also New York City Board of Water Supply and city of Rochester), North Dakota, Oregon, Pennsylvania, Rhode Island, Washington, and Wyoming.

The reports listed in the foregoing tables contain the customary records of discharge collected during the systematic operation of gaging stations. Detailed information on the stage and discharge of many streams during major floods has been included in special reports on these floods published by the Geological Survey. The more recent of these special reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier noteworthy floods. The following list gives the numbers and titles of these reports:

Water-Supply Paper	Title
88	The Passaic flood of 1902.
92	The Passaic flood of 1903.
96	Destructive floods in the United States in 1903.
147	Destructive floods in the United States in 1904.
162	Destructive floods in the United States in 1905.
334	The Ohio Valley flood of March-April 1913.
426	Southern California floods of January 1916.
487	The Arkansas River flood of June 3-5, 1921.
488	The floods in central Texas in September 1921.
520-G	Some floods in the Rocky Mountain region.
636-C	The New England flood of November 1927.
771	Floods in the United States, magnitude and frequency.
773-E	The New York State flood of July 1935.
796-B	Flood on Republican and Kansas Rivers, May and June 1935.
796-C	Flood in La Canada Valley, Calif., January 1, 1934.
796-G	Major Texas floods of 1935.
798	The floods of March 1936, part 1, New England Rivers.
799	The floods of March 1936, part 2, Hudson River to Susquehanna River region.
800	The floods of March 1936, part 3, Potomac, James, and upper Ohio Rivers.
816	Major Texas floods of 1936.
836-A	Stages and flood discharges of the Connecticut River at Hartford, Conn.
838	Floods of Ohio and Mississippi Rivers, January-February 1937.
842	Floods in Canadian and Pecos River Basins of New Mexico, May and June 1937.
843	Floods of December 1937 in northern California.
844	Floods of March 1938 in southern California.
847	Maximum discharges at stream-measurement stations through September 1938.
867	Hurricane floods of September 1938.
869	Flood of August 1935 in Muskingum River Basin, Ohio.
914	Texas floods of 1938 and 1939.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

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 water year October 1942 to September 1943 by agencies other than the Geological Survey. The records for these stations are not contained in publications of the Geological Survey.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by
Cayuga Lake Outlet.....	Lock 1 (Mud lock), N. Y.....	1926-43	State Department of Public Works, Albany, N. Y.
Clyde River.....	Clyde, N. Y.....	1924-43	Do.
Indian River.....	Theresa, N. Y.....	1934-43	Central New York Power Corporation, Syracuse, N. Y.
New York Barge Canal†..	Brewerton, N. Y.....	1925-43	State Department of Public Works, Albany, N. Y.
Oneida River.....	Caughdenoy, N. Y.....	1929-43	Oswego River Watershed Corporation, Fulton, N. Y.
Oswegatchie River, East Branch of.	Browns Falls, N. Y.....	1934-43	Central New York Power Corporation, Syracuse, N. Y.
Oswego River.....	Lower Dam, Fulton, N. Y.....	1928-43	Oswego River Watershed Corporation, Fulton, N. Y.
Do.....	High Dam, Oswego, N. Y.....	1940-43	Central New York Power Corporation, Syracuse, N. Y.
Raquette River.....	Colton, N. Y.....	1934-43	Do.
St. Regis River, West Branch of.	Parishville, N. Y.....	1934-43	Do.
Salmon River.....	Bennetts Bridge, near Altmar, N. Y.	1934-43	Do.
Saranac River.....	Kents Falls, N. Y.....	1934-43	System Properties, Inc., New York, N. Y.
Seneca River.....	Baldwinsville, N. Y.....	1928-43	Oswego River Watershed Corporation, Fulton, N. Y.
Do.....	Jacks Reef, near Baldwinsville, N. Y.	1933-43	State Department of Public Works, Albany, N. Y.

† Diversion around station on Oneida River at Caughdenoy, N. Y.

Note.- Records for the stations given in the above table are unpublished but are available at the office of the organization by which the station was operated. In addition to the records listed in the above table, the Soil Conservation Service (beginning in 1940) has collected records of runoff from three areas of less than 5 acres each near East Lansing, Mich.

COOPERATION

The work in the several States was done under cooperative agreements with the organizations listed below.

Illinois: Department of Public Works and Buildings, W. A. Rosenfield, director, through Division of Waterways, T. B. Casey, acting chief engineer.

Indiana: State Department of Conservation, H. A. Barnhart, director, through Division of Engineering, C. E. Bechert, State engineer; State Highway Commission, S. C. Hadden, chairman, and Ray Bowers, chief engineer; State Board of Health, Dr. T. B. Rice, commissioner and J. L. Quinn, Jr., acting director, Division of Environmental Sanitation; and city of Fort Wayne Filtration Plant, L. R. Matthews, superintendent.

Michigan: State Department of Conservation, P. J. Hoffmaster, director, through Division of Geology, Dr. R. A. Smith, State geologist, and Division of Fish and Fisheries, F. A. Westerman, division head; Michigan Stream Control Commission, M. P. Adams, executive secretary-engineer; and State Highway Department, G. D. Kennedy, commissioner.

Minnesota: State Department of Conservation, Division of Water Resources and Engineering, W. S. Olson, director; and Minnesota State Iron Range Resources and Rehabilitation Commission, R. E. Wilson, Commissioner.

New York: State Department of Conservation, Lithgow Osborne, commissioner; State Department of Public Works, A. W. Brandt, superintendent, succeeded by C. H. Sells; Board of Black River Regulating District, E. S. Cullings, chief engineer; Commission for the Improvement of Oswegatchie River and the Hydraulic Power Thereon, J. J. Wallace, chairman; Water Department, city of Auburn, A. J. Adams, chief engineer; and Department of Public Works, village of Lancaster, Harold J. Huber, superintendent.

Ohio: State Cooperative Topographic Survey, W. E. Owens, inspector-director, succeeded by P. L. Runkle; State Water Supply Board, Wilber Stout, chairman.

Vermont: State Planning Board, Philip Shutler, director.

Wisconsin: Public Service Commission of Wisconsin, George P. Steinmetz, chief engineer.

Financial assistance was furnished by the Corps of Engineers, United States Army, in the operation of 38 gaging stations, of which 8 were in Michigan, 1 in Indiana, 10 in New York, 14 in Ohio, 1 in Vermont, and 4 in Wisconsin.

Financial assistance was also furnished by the Fish and Wildlife Service, United States Department of the Interior, and by the United States Department of State.

Full cooperation exists between the Geological Survey, United States Department of the Interior, and the Dominion Water and Power Bureau, Department of Mines and Resources, 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 designated international gaging stations.

Assistance in collecting records was also rendered by the following municipalities, organizations, corporations, and individuals:

Michigan: Presque Isle County Board of Supervisors, cities of Allegan, Battle Creek, Niles, and Saginaw, Copper District Power Co., Dow Chemical Co., Dow Magnesium Co., and Michigan Gas & Electric Co.

New York: City of Syracuse, N. F. Pitts, Jr., city engineer, Central New York Power Corporation, International Paper Co., Cornell University, New York & Pennsylvania Co., Associated Gas & Electric System, Rochester Gas & Electric Corporation, and Deer River Power Co.

Wisconsin: Wisconsin Michigan Power Co. and Lake Superior District Power Co.

DIVISION OF WORK

The stream-gaging work was conducted by the water resources branch of the Geological Survey, Glenn L. Parker, chief hydraulic engineer, Carl G. Paulsen, assistant chief hydraulic engineer, and Rudolph G. Kasel, chief of the division of surface water. The data for the stations in the several States were collected and prepared for publication under the supervision of district engineers as follows: In Illinois, J. H. Morgan; in Indiana and Michigan, D. M. Corbett; in Minnesota, P. R. Speer; in New York, A. W. Harrington; in Ohio, C. V. Youngquist; in Vermont, H. B. Kinnison; in Wisconsin, F. C. Christopherson.

The records were reviewed and the manuscript prepared for publication under the direction of B. J. Peterson, hydraulic engineer in charge, and D. L. Milliken, assistant engineer, section of reports.

ST. LAWRENCE RIVER MAIN STEM

Niagara River at Buffalo, N. Y.

Location.- Lat. 42°52'40", long. 78°53'25", at head of Niagara River at Buffalo. Flow computed by means of several U. S. Lake Survey gages on river.

Drainage area.- 263,500 square miles.

Records available.- January 1905 to September 1943 (prior to October 1935, monthly discharge only).

Average discharge.- 39 years (October 1904 to September 1943), 191,000 second-feet (not including diversions from Lakes Michigan and Erie).

Extremes.- Maximum daily discharge during year, 268,000 second-feet Dec. 2; minimum daily, 138,000 second-feet Jan. 22.
1905-43: Maximum monthly mean discharge, 242,000 second-feet May 1929; minimum monthly, 117,000 second-feet February 1936.

Remarks.- Records do not include flow diverted from Lake Michigan by Chicago Sanitary & Ship Canal and from Lake Erie by Welland Canal in Ontario, and Black Rock and New York State Barge (old Erie) Canals at Buffalo.

Cooperation.- Records of daily discharge furnished by Corps of Engineers, U. S. Army.

Discharge, in thousands of second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	192	196	193	194	218	188	199	214	236	233	235	226
2	178	201	268	192	188	180	203	207	236	228	236	221
3	188	191	240	181	183	190	199	219	235	231	234	219
4	197	185	221	205	190	185	202	214	237	234	233	220
5	201	193	209	208	186	187	206	214	235	237	233	224
6	200	189	199	198	198	174	198	213	231	224	232	227
7	193	183	193	185	221	199	196	212	229	225	237	235
8	194	188	183	191	193	186	198	210	233	230	235	235
9	190	186	192	190	178	183	195	209	233	232	231	227
10	186	226	192	192	188	187	195	206	234	230	234	231
11	188	206	201	219	212	188	200	211	233	232	233	234
12	175	211	199	215	189	188	203	216	233	236	231	214
13	185	213	199	188	186	187	202	217	235	236	236	215
14	182	190	216	189	192	186	209	218	232	238	239	220
15	180	193	192	204	182	186	206	214	238	243	235	222
16	182	191	189	188	170	191	207	225	233	234	239	221
17	194	190	188	175	173	205	203	221	241	239	234	217
18	196	190	193	162	180	193	194	222	238	239	230	214
19	194	187	190	199	181	176	181	222	238	234	230	219
20	190	192	182	183	186	224	199	222	236	241	227	218
21	192	180	190	150	186	194	205	229	235	236	226	210
22	208	181	194	138	185	196	205	227	236	237	227	220
23	203	182	188	151	166	196	203	226	232	236	227	218
24	192	192	189	182	187	202	206	226	233	234	228	215
25	190	192	180	197	186	197	211	230	234	234	225	212
26	203	214	163	189	191	198	204	230	236	234	212	222
27	222	212	186	183	193	197	202	233	234	236	214	219
28	192	197	175	176	202	195	199	233	237	231	218	215
29	191	192	185	172	-	196	205	229	240	232	223	209
30	191	194	192	181	-	201	218	213	236	238	227	210
31	190	-	200	186	-	199	-	230	-	235	225	-

Month	Thousands of second-foot-days	Thousands of second-feet			Per square mile †	Runoff in inches
		Maximum	Minimum	Mean		
October	5,959	222	175	192	0.729	0.84
November	5,837	226	180	195	.740	.82
December	6,081	268	163	196	.744	.86
Calendar year 1942	69,058	268	137	189	.717	9.74
January	5,763	219	138	186	.706	.81
February	5,310	221	170	190	.721	.75
March	5,954	224	174	192	.729	.84
April	6,053	218	181	202	.767	.85
May	6,814	233	206	220	.835	.96
June	7,049	241	229	235	.892	.99
July	7,259	243	224	234	.888	1.02
August	7,126	239	212	230	.873	1.01
September	6,609	255	209	220	.835	.93
Water year 1942-43	75,814	268	138	208	.789	10.68

† Expressed in second-feet.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

St. Lawrence River at Ogdensburg, N. Y.

Location.- Lat. 44°41'55", long. 75°30'15". Flow computed by means of several U. S. Lake Survey gages on river.

Drainage area.- Above Ogdensburg, 298,100 square miles.

Records available.- January 1919 to September 1943 (prior to October 1935, monthly discharge only).

Average discharge.- 25 years (October 1918 to September 1943), 220,000 second-feet (does not include diversion from Lake Michigan).

Extremes.- Maximum daily discharge during year, 301,000 second-feet June 18; minimum daily, 180,000 second-feet Jan. 20.
1919-43: Maximum monthly mean discharge, 295,000 second-feet June 1943; minimum monthly, 152,000 second-feet February 1936.

Remarks.- Records do not include flow diverted from Lake Michigan by Chicago Sanitary & Ship Canal. Water diverted from Lake Erie and Niagara River by Black Rock and New York State Barge (old Erie) Canals, except that lost by seepage and evaporation, is discharged into Lake Ontario at Oswego and at several points between Niagara River and Irondequoit Bay.

Cooperation.- Records of daily discharge furnished by Corps of Engineers, U. S. Army.

Discharge, in thousands of second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	222	222	217	205	222	219	259	264	290	296	289	277
2	215	224	245	204	212	217	255	268	296	294	291	274
3	216	217	241	199	214	217	254	268	294	293	285	278
4	223	216	238	203	214	216	259	267	297	294	280	278
5	225	221	233	202	220	215	265	267	295	295	288	279
6	225	221	226	203	213	203	256	264	291	290	285	280
7	223	214	223	225	221	188	255	270	291	290	284	283
8	224	215	218	224	222	185	256	266	294	292	283	281
9	220	215	217	222	220	194	258	269	294	292	283	279
10	217	236	218	221	220	201	255	267	294	291	283	277
11	219	218	223	226	224	206	257	264	295	290	286	283
12	213	222	223	228	217	212	258	271	293	291	284	276
13	216	227	217	226	220	217	261	275	297	291	287	274
14	216	218	225	226	222	224	264	278	293	292	291	276
15	214	218	220	227	215	223	261	274	299	300	291	276
16	209	222	216	215	211	217	256	278	296	292	291	272
17	215	220	215	221	220	232	262	281	297	290	289	269
18	219	219	214	212	218	232	256	276	301	294	286	270
19	217	215	214	207	219	230	249	278	297	291	288	271
20	217	217	214	180	222	243	252	278	298	292	286	271
21	217	212	215	181	220	238	255	275	294	290	283	267
22	219	216	223	187	221	238	260	282	298	287	283	269
23	221	216	217	191	221	243	260	283	294	291	283	271
24	218	214	219	195	222	246	261	283	296	291	283	266
25	213	216	213	205	219	249	266	283	297	289	282	264
26	219	220	207	213	226	255	261	286	295	289	277	269
27	233	225	214	213	225	256	256	290	294	291	276	276
28	221	219	206	212	227	250	264	290	296	288	279	262
29	218	216	213	211	-	252	263	290	299	286	278	258
30	219	217	211	212	-	252	263	289	297	287	281	262
31	218	-	213	225	-	250	-	290	-	288	278	-

Month	Thousands of second-foot-days	Thousands of second-feet			Per square mile †	Runoff in inches
		Maximum	Minimum	Mean		
October	6,781	233	209	219	0.735	0.85
November	6,568	236	212	219	.735	.82
December	6,808	245	206	220	.738	.85
Calendar year 1942	79,951	245	177	219	.735	9.98
January	6,521	228	180	210	.704	.81
February	6,147	227	211	220	.738	.77
March	7,020	256	185	226	.758	.88
April	7,757	266	249	259	.869	.97
May	8,564	290	264	276	.926	1.07
June	8,862	301	290	295	.990	1.11
July	9,027	300	286	291	.976	1.13
August	8,813	291	276	284	.953	1.10
September	8,188	283	258	273	.916	1.02
Water year 1942-43	91,056	301	180	249	.835	11.38

† Expressed in second-feet.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Pigeon River at Middle Falls, below International Bridge, Minn.

(International gaging station)

Location.- Water-stage recorder, lat. 48°00'44", long. 89°36'58", in NE¼ sec. 24, T. 64 N., R. 6 E., 400 feet upstream from Middle Falls, 3½ miles upstream from mouth, and 5¾ miles downstream from International Bridge. Datum of gage is 789.58 feet above mean sea level, datum of 1929.
Drainage area.- 600 square miles at present site (revised).
Records available.- October 1940 to September 1943. April 1924 to September 1940 at site at International Bridge 5¾ miles upstream, published as Pigeon River at International Bridge, Minn. October 1923 to September 1932 in House Document 92, 73d Congress, 1st Session. June 1921 to September 1923 in reports of Dominion Water and Power Bureau, Department of Mines and Resources, Canada.
Average discharge.- 20 years (1923-43), 478 second-feet.
Extremes.- Maximum discharge observed during year, 3,620 second-feet Apr. 24 (gage height, 6.68 feet); minimum, 79 second-feet Oct. 3, 4 (gage height, 0.62 foot).
1923-43: Maximum discharge observed, 11,000 second-feet May 5, 1934 (gage height, 7.6 feet, site and datum then in use), from rating curve extended above 7,000 second-feet; minimum, 30 second-feet Feb. 11 to Mar. 5, 1926.
Remarks.- Records good except those for periods of ice effect or backwater from logs or no gage-height record, which are fair.
Cooperation.- This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating table, water year 1942-43, except periods of ice effect and backwater from logs
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 17-30)

0.60	80	1.40	245	2.60	620	4.60	1,700
.70	90	1.60	302	3.00	780	5.00	2,010
.80	106	1.80	361	3.40	970	5.50	2,440
1.00	144	2.00	422	3.80	1,180	6.00	2,920
1.20	192	2.30	517	4.20	1,420	6.50	3,420

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	820	140	120	100	100	280	2,170	c2,200	1,180	296	192
2	84	640	140	120	100	100	280	1,850	c2,200	a1,000	290	182
3	80	440	140	110	100	100	300	1,700	c2,800	a800	279	195
4	182	406	140	110	100	100	320	1,810	c3,200	a850	265	215
5	780	422	140	110	100	100	340	2,170	2,920	a800	256	223
6	845	501	140	110	100	100	400	2,820	2,530	f740	248	232
7	585	400	140	110	100	100	440	3,320	2,090	680	245	385
8	568	340	140	120	100	100	550	2,920	a1,800	640	240	501
9	485	340	140	120	100	100	800	2,820	a1,700	602	234	453
10	422	300	140	120	100	*100	1,100	2,820	a1,600	585	226	388
11	376	260	140	f120	100	100	1,200	2,170	a1,500	568	221	343
12	334	220	140	f120	95	100	*1,100	2,010	f1,390	550	223	308
13	296	170	140	120	95	100	550	1,850	1,270	517	226	285
14	270	170	140	110	95	100	750	1,740	1,600	517	221	267
15	245	170	140	110	95	100	650	c2,200	2,220	517	215	253
16	223	170	140	f110	95	100	550	c2,600	1,970	501	202	240
17	205	*180	*140	100	95	100	500	c2,800	1,850	469	192	192
18	187	190	130	100	100	100	460	c2,400	1,660	453	182	151
19	174	190	130	f95	100	100	440	c2,200	f1,520	438	172	138
20	165	180	130	f95	100	100	*550	c1,900	f1,660	406	162	132
21	153	170	130	f90	100	100	1,000	c1,700	1,850	422	160	130
22	144	170	140	f90	100	100	1,700	c1,600	1,630	438	158	130
23	140	170	140	95	100	100	2,800	c1,500	a1,500	422	172	130
24	134	160	140	f95	100	110	3,420	c1,400	a1,400	391	202	134
25	130	160	f140	f90	110	110	3,320	c1,700	a1,300	362	218	126
26	120	160	140	f95	110	110	2,820	c1,900	f1,300	370	221	122
27	120	160	140	f95	100	*110	2,260	c1,900	1,360	358	210	122
28	120	150	140	*f95	100	120	2,010	c1,800	1,390	346	195	119
29	130	150	140	95	-	120	2,530	c1,600	1,490	328	195	113
30	339	140	130	100	-	130	2,530	c1,500	1,330	319	192	111
31	820	-	130	100	-	340	-	c1,600	-	308	192	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	8,945	845	80	289	0.482	0.55
November	8,099	820	140	270	.450	.50
December	4,280	140	130	138	.230	.27
Calendar year 1942	177,821	3,620	60	487	.812	10.97
January	3,270	120	90	105	.175	.20
February	2,790	110	95	99.6	.166	.17
March	3,460	340	100	111	.185	.21
April	36,250	3,420	280	1,208	2.01	2.25
May	64,270	3,320	1,400	2,073	3.45	3.98
June	54,230	3,200	1,270	1,808	3.01	3.36
July	16,897	1,180	308	545	.908	1.05
August	6,710	296	158	216	.360	.42
September	6,512	501	111	217	.362	.40
Water year 1942-43	215,703	3,420	80	591	.985	13.36

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records.
c Stage-discharge relation affected by backwater from logs.
f Computed on basis of partly estimated gage-height record.
Note.- Stage-discharge relation affected by ice Oct. 25-29, Nov. 3, Nov. 7 to Apr. 23.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Poplar River at Lutsen, Minn.

Location.- Water-stage recorder and concrete control, lat. 47°38', long. 90°42', in sec. 33, T. 60 N., R. 3 W., 350 feet upstream from concrete bridge on U. S. Highway 61 at Lutsen and 1,650 feet upstream from mouth. Datum of gage is 697.89 feet above mean sea level.

Drainage area.- 114 square miles (revised).

Records available.- May to November 1911 (gage heights only), August 1912 to September 1917, July 1928 to February 1929, March 1930 to September 1943.

Average discharge.- 16 years (1913-17, 1930-32, 1933-43), 109 second-feet.

Extremes.- Maximum discharge during year, 1,150 second-feet June 8 (gage height, 5.44 feet); minimum, 3.2 second-feet Oct. 27 (gage height, 1.81 feet).
1912-17, 1928-43: Maximum discharge observed, 1,390 second-feet Apr. 25, 1916, from rating curve extended above 1,100 second-feet; minimum, 2.3-second-feet Dec. 8, 1939 (gage height, 1.73 feet).

Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.2	10	2.6	30	3.2	121	3.8	359	5.0	910
2.3	13	2.8	48	3.4	199	4.0	440	5.2	1,010
2.4	18	3.0	77	3.6	279	4.5	660		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	88	b19	b28	b30	24	b40	477	561	243	53	
2	22	b70	b18	b28	b30	b22	b42	526	539	247	54	40
3	18	b60	b18	b26	b30	b22	b40	565	835	263	51	
4	42	56	b18	b26	b30	22	b46	544	1,010	235	46	h38
5	98	60	b18	b26	b30	23	b55	635	785	215	44	
6	85	63	b20	b26	b30	22	b50	760	635	195	41	
7	63	53	b22	27	31	22	*b55	735	497	183	44	197
8	49	48	b28	28	30	22	b75	635	452	167	46	
9	40	b48	b34	29	29	*22	b120	514	420	151	48	
10	36	b46	b38	31	31	22	b140	460	355	136		
11	32	b65	b42	30	b30	21	b120	424	391	125		
12	31	b55	b44	29	b28	20	b95	383	473	114	38	
13	29	b22	b42	27	29	20	*b85	359	506	114		138
14	28	b70	b40	b28	29	20	b80	343	552	159		
15	26	52	b36	b28	29	22	b70	315	710	144		
16	26	49	b34	b28	29	22	74	367	660	121		
17	26	75	36	b28	28	23	74	432	535	116		
18	24	*b65	*36	28	b26	23	67	411	452	98		51
19	23	b55	34	29	b26	22	66	375	407	88	25	
20	22	b55	33	29	b26	23	77	351	403	86		
21	22	57	34	28	b26	23	94	315	481	86		
22	21	b55	b32	28	27	23	159	283	444	79		
23	20	b50	b30	b28	26	23	279	259	387	75		39
24	20	46	b28	b30	b26	23	367	255	355	72		
25	b20	b40	b26	b30	b26	25	452	275	323	74	113	
26	b18	b16	b26	b30	b26	*27	497	303	299	77		
27	b12	b28	b28	*b30	26	b26	460	295	283	77		
28	b28	b26	b30	b28	25	26	506	267	347	69		44
29	28	b22	b30	b28	-	b26	531	255	331	66	44	
30	69	b20	b30	b28	-	b26	518	203	279	64		
31	106	-	b28	b30	-	b32	-	279	-	57		-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,106	106	12	35.7	0.313	0.36
November	1,519	88	16	50.6	.444	.50
December	932	44	18	30.1	.264	.30
Calendar year 1942	33,142	760	12	90.8	†.796	†10.81
January	877	31	26	28.3	.248	.29
February	789	31	25	28.2	.247	.26
March	719	32	20	23.2	.204	.23
April	5,334	531	40	178	1.56	1.74
May	12,600	760	203	406	3.56	4.11
June	14,707	1,010	279	490	4.30	4.80
July	3,996	263	57	129	1.13	1.30
August	1,659	-	-	53.5	.469	.54
September	2,700	-	-	90.0	.789	.88
Water year 1942-43	46,938	1,010	-	129	1.13	15.31

* Winter discharge measurement made on this day.
† Computed on basis of revised figure for drainage area.
b Stage-discharge relation affected by ice.
h Discharge computed from inside tape-gage reading.
Note.- No gage-height record Aug. 10 to Sept. 3, Sept. 5-30; discharge computed on basis of records for Baptism River near Beaver Bay.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Baptism River near Beaver Bay, Minn.

Location.- Water-stage recorder, lat. 47°20', long. 91°12', in sec. 15, T. 56 N., R. 7 W., 260 feet upstream from highway bridge and 6 miles northeast of village of Beaver Bay. Datum of gage is 609.97 feet above mean sea level.
Drainage area.- 140 square miles (revised).
Records available.- July 1928 to January 1929, March 1930 to September 1943.
Average discharge.- 13 years (1930-43), 156 second-feet.
Extremes.- Maximum discharge during year, 2,940 second-feet June 3 (gage height, 5.31 feet); minimum, 9.6 second-feet Mar. 13, 14 (gage height, 1.98 feet).
1928-29, 1930-43: Maximum discharge, 9,350 second-feet Aug. 9, 1939 (gage height, 8.11 feet), from rating curve extended above 2,600 second-feet; minimum daily, 0.3 second-foot Jan. 5, 6, 1940.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 25						Mar. 26 to Sept. 30					
1.9	7.1	2.2	21.5	2.6	57	2.6	57	3.3	234	4.4	1,380
2.0	10.2	2.3	28.5	2.8	82	2.8	83	3.6	424	4.9	2,230
2.1	15.3	2.4	37	3.1	135	3.0	121	4.0	760		

Note.- Same as preceding table below 2.6 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	133	b40	18	13	14	b36	1,160	672	154	h16	36
2	41	123	b36	19	12	13	b46	1,070	587	154	h61	35
3	37	102	b32	19	12	a13	b60	915	1,830	177	56	32
4	54	92	b28	18	13	a12	b110	749	1,500	142	44	32
5	97	88	b26	17	13	a12	b150	788	990	115	36	40
6	97	91	b24	16	13	a12	b240	915	727	94	33	64
7	86	81	b22	16	13	a11	*b300	788	539	82	40	252
8	73	69	b22	16	13	a11	b400	596	470	77	43	234
9	62	79	b20	16	12	10	b460	482	424	67	69	199
10	54	81	20	16	13	*10	b500	430	430	57	67	204
11	48	b60	20	16	13	9.9	b500	378	551	45	56	184
12	43	b50	20	16	12	9.9	482	346	1,040	42	46	142
13	39	b50	20	15	12	9.6	*392	300	872	39	36	109
14	35	b48	20	16	11	9.6	340	258	1,310	93	28	87
15	33	b50	20	16	11	10	300	229	1,430	96	22	68
16	30	*61	*19	15	11	10	270	489	900	77	17	58
17	28	91	20	15	11	11	224	727	605	70	15	50
18	26	96	21	14	11	11	199	569	482	57	13	44
19	25	106	20	14	11	11	184	482	411	50	12	39
20	24	92	18	12	13	11	264	418	366	42	11	33
21	24	84	18	11	15	11	407	359	352	a41	11	32
22	24	77	18	12	17	11	614	314	294	a40	42	34
23	24	79	18	12	17	11	1,110	276	229	h38	72	33
24	22	72	18	12	16	b13	1,380	258	199	a37	87	48
25	19	69	17	a12	15	b18	2,160	346	184	a35	109	77
26	25	b65	17	a11	15	*b26	1,700	532	169	a32	90	75
27	30	b60	18	*11	15	b26	1,130	605	162	h29	82	65
28	34	b55	18	11	15	b24	1,190	496	284	a27	65	58
29	27	b50	18	11	-	b24	2,080	418	246	a25	53	52
30	85	b46	18	11	-	b24	2,040	359	189	h20	44	46
31	135	-	18	12	-	b26	-	399	-	h18	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,424	135	19	45.9	0.328	0.38
November	2,300	133	46	76.7	.548	.61
December	664	40	17	21.4	.153	.18
Calendar year 1942	44,708	1,820	2.2	122	†.871	†11.88
January	446	19	11	14.4	.103	.12
February	368	17	11	13.1	.094	.10
March	435.0	26	9.6	14.0	.100	.12
April	19,268	2,160	36	642	4.59	5.12
May	16,451	1,160	229	531	3.79	4.37
June	18,444	1,830	162	615	4.39	4.90
July	2,072	177	18	66.8	.477	.55
August	1,409	109	11	45.5	.325	.37
September	2,462	252	32	82.1	.586	.65
Water year 1942-43	65,743	2,160	9.6	180	1.29	17.47

Peak discharge.- Apr. 25 (5 a.m.) 2,760 sec.-ft.; Apr. 29 (11:55 p.m.) 2,580 sec.-ft.; June 3 (9:45 p.m.) 2,940 sec.-ft.; June 14 (11:15 p.m.) 2,670 sec.-ft.
* Winter discharge measurement made on this day.
† Computed on basis of revised figure for drainage area.
a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.
h Discharge computed from staff-gage readings.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

St. Louis River near Aurora, Minn.

Location.- Chain gage, lat. 47°29'30", long. 92°14'20" in SW¼ sec. 22, T. 58 N., R. 15 W., at highway bridge three-quarters of a mile downstream from Partridge River and 1½ miles south of Aurora.

Drainage area.- 312 square miles.

Records available.- August 1942 to September 1943.

Extremes.- Maximum discharge observed during year, 1,090 second-feet June 15-17; maximum gage height observed, 4.03 feet June 16; minimum daily discharge, 24 second-feet several days during winter; minimum gage height observed, 1.13 feet, Mar. 18, 19 (affected by ice).

1942-43: Maximum discharge observed, that of June 15-17, 1943; maximum gage height, that of June 16, 1943; minimum daily discharge, that of winter 1942-43; minimum gage height observed, 0.96 foot, Aug. 23-25, 1942.

Remarks.- Records good except those for period of ice effect, which are fair. Gage read once daily prior to Oct. 17, 1942, twice daily thereafter.

Rating table, August 1942 to September 1943, except period of ice effect (gage height, in feet, and discharge, in second-feet)

0.8	16	1.4	85	2.4	336	3.4	755
.9	25	1.6	117	2.8	487	3.6	860
1.0	36	1.8	160	3.0	570	3.8	970
1.2	59	2.0	213	3.2	658	4.0	1,090

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	96	140	46	26	24	55	915	658	613	487	288
2	52	105	130	44	24	24	70	970	705	570	447	257
3	52	115	130	42	24	24	90	915	755	528	371	242
4	66	107	120	40	24	24	120	860	755	508	336	213
5	82	119	120	36	24	26	180	860	705	447	303	213
6	88	121	110	34	24	*26	220	860	705	408	272	288
7	100	129	100	34	24	26	280	915	658	371	257	408
8	107	131	95	34	26	26	*380	915	613	336	242	447
9	114	144	90	36	26	26	500	860	570	303	257	467
10	107	148	85	38	26	26	600	805	528	288	257	467
11	107	160	80	38	26	26	658	755	528	257	228	408
12	105	153	75	36	24	26	658	705	705	228	228	371
13	100	160	70	36	24	26	613	658	755	228	213	354
14	91	185	65	36	24	26	570	613	970	242	185	303
15	88	139	65	36	24	26	487	570	1,090	242	172	288
16	88	137	60	34	24	26	428	613	1,090	228	148	288
17	84	146	60	34	26	26	354	658	1,090	213	139	242
18	80	151	60	34	26	26	303	705	970	213	121	228
19	76	160	*60	32	26	28	303	658	860	199	119	199
20	73	*172	55	32	28	26	288	658	805	185	119	185
21	69	172	55	32	28	26	303	613	755	172	110	185
22	71	172	60	*32	28	26	336	570	705	160	133	160
23	66	160	60	32	28	26	371	528	613	160	272	172
24	66	150	55	30	28	26	447	487	570	160	428	172
25	69	150	55	30	26	28	487	487	528	158	487	185
26	94	150	50	30	26	26	528	528	508	160	508	185
27	67	140	50	28	24	26	613	570	508	199	487	185
28	69	140	45	28	24	26	705	570	528	213	447	172
29	72	140	45	28	-	*26	755	570	570	257	408	172
30	81	140	45	28	-	32	860	570	613	336	354	160
31	85	-	45	26	-	40	-	570	-	467	320	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,521	114	52	81.3	0.261	0.30
November	4,292	185	96	143	.458	.51
December	2,335	140	45	75.3	.241	.28
Calendar year 1942	-	-	-	-	-	-
January	1,056	46	26	34.1	.109	.13
February	712	28	24	25.4	.081	.08
March	822	40	24	26.5	.085	.10
April	12,562	860	55	419	1.34	1.50
May	21,531	970	487	695	2.23	2.57
June	21,413	1,090	508	714	2.29	2.55
July	9,049	613	158	292	.936	1.08
August	8,855	508	110	286	.917	1.06
September	7,904	467	160	263	.843	.94
Water year 1942-43	93,052	1,090	24	255	.817	11.10

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 23 to Apr. 10.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Partridge River near Aurora, Minn.

Location.- Staff gage, lat. 47°31'00", long. 92°11'20", on line between secs. 12 and 13, T. 58 N., R. 15 W., at highway bridge, 1 mile downstream from unnamed tributary, 1½ miles east of Aurora, and 2½ miles upstream from St. Louis River.
Drainage area.- 156 square miles.
Records available.- August 1942 to September 1943.
Extremes.- 1942: Maximum discharge during period August to September, 28 second-feet Aug. 6; minimum, 9.2 second-feet (revised) Aug. 24.
1942-43: Maximum discharge observed during water year, 680 second-feet June 17 (gage height, 4.44 feet); minimum observed, 8.3 second-feet Mar. 5 (gage height, 0.92 foot).
Remarks.- Records good. Gage read once daily prior to Oct. 14, 1942, twice daily thereafter.
Revisions.- Revised figures of discharge for period August to September 1942, superseding those published in Water-Supply Paper 954 are given herein.

Discharge, in second-feet, 1942-43
1942

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	17	11	21	13	21	11	11
2	-	17	12	19	14	22	11	12
3	-	16	13	19	12	23	9.5	13
4	-	15	14	18	12	24	9.2	16
5	26	15	15	16	12	25	9.5	17
6	28	14	16	14	11	26	12	19
7	27	14	17	14	10	27	12	21
8	25	14	18	13	13	28	13	22
9	24	14	19	12	12	29	18	24
10	22	14	20	11	11	30	17	26
						31	16	-

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	41	49	11	9.5	8.9	24	630	325	a310	235	145
2	27	45	42	11	9.5	8.6	30	630	360	325	222	128
3	26	51	37	11	9.5	8.6	36	630	422	260	200	116
4	37	57	34	10	9.5	8.4	51	605	445	235	166	106
5	46	63	31	10	9.5	*8.8	70	580	468	210	145	96
6	61	65	28	10	9.5	9.2	88	558	445	182	128	111
7	65	70	25	10	9.5	8.9	101	580	400	152	122	145
8	74	74	25	10	9.5	8.6	*139	558	400	139	111	182
9	83	83	24	10	9.5	8.6	235	558	308	128	116	222
10	83	83	22	10	9.5	8.6	360	535	260	111	116	235
11	a80	83	22	9.5	9.5	8.6	422	490	260	101	116	235
12	78	83	21	9.5	9.5	8.6	512	422	325	88	111	200
13	70	83	21	9.5	9.5	8.6	490	360	380	78	106	182
14	65	83	20	9.5	9.9	8.6	468	308	512	96	92	158
15	61	78	19	9.5	9.9	8.6	380	275	630	92	83	145
16	55	78	18	9.0	9.9	a8.6	342	290	680	92	78	128
17	49	78	18	9.0	9.9	8.6	248	325	680	92	70	116
18	46	83	17	9.0	9.9	8.6	190	360	680	88	62	106
19	42	92	17	9.0	10	8.6	182	360	605	83	56	96
20	37	101	*15	9.0	9.9	8.8	186	360	512	78	52	92
21	34	96	14	9.0	9.9	9.0	173	325	445	74	49	83
22	32	96	14	*9.0	9.5	9.0	182	290	360	70	83	78
23	30	92	14	9.0	9.5	9.0	210	260	308	65	128	78
24	29	88	14	9.0	9.4	9.5	275	235	260	65	158	83
25	30	83	13	9.0	9.0	10	325	235	235	a70	235	83
26	32	83	13	9.0	9.2	10	380	248	210	74	290	83
27	31	74	13	9.0	9.2	10	445	260	200	88	308	88
28	30	74	12	9.5	9.2	11	490	290	200	106	290	88
29	29	65	12	9.5	-	*11	512	290	235	122	222	83
30	34	55	12	9.5	-	13	580	275	290	166	190	78
31	37	-	12	9.5	-	18	-	290	-	222	166	-

* Winter discharge measurement made on this day.
a No gage-height record; discharge estimated.
Note.- Stage-discharge relation affected by ice Dec. 27 to Jan. 31, Feb. 9-13, Mar. 21-27, Mar. 31 to Apr. 3.

Monthly discharge, in second-feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 5-31, 1942	447.2	28	9.2	16.6	0.106	0.11
September	451	26	10	15.0	.096	.11
October 1942	1,459	83	26	47.1	.302	.35
November	2,280	101	41	76.0	.487	.54
December	648	49	12	20.9	.134	.15
Calendar year	-	-	-	-	-	-
January 1943	296.5	11	9.0	9.56	.061	.07
February	267.8	10	9.0	9.56	.061	.06
March	292.9	18	8.4	9.45	.061	.07
April	8,106	580	24	270	1.73	1.93
May	12,412	630	235	400	2.56	2.96
June	11,840	680	200	395	2.53	2.82
July	4,062	325	65	131	.840	.97
August	4,506	308	49	145	.929	1.07
September	3,769	235	78	126	.808	.90
Water year 1942-43	49,939.2	680	8.4	137	.878	11.89

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Embarrass River at Embarrass, Minn.

Location.- Chain gage, lat. 47°39'30", long. 92°11'50", in NW¼ sec. 25, T. 60 N., R. 15 W., at highway bridge in Embarrass, 75 feet upstream from railway bridge.
Drainage area.- 93.8 square miles.
Records available.- August 1942 to September 1943.
Extremes.- Maximum discharge observed during year, 423 second-feet June 17 (gage height, 8.29 feet); minimum daily, 3.6 second-feet Mar. 21-29; minimum gage height observed, 0.68 foot, Jan. 24-29.
1942-43: Maximum discharge observed, that of June 17, 1943; minimum observed, that of Mar. 21-29, 1943; minimum gage height observed, that of Jan. 24-29, 1943.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Gage read once daily prior to Nov. 2, 1942, twice daily thereafter.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	34	6.0	4.4	*5.0	*4.6	*65	258	210	126	12	39
2	20	34	5.5	4.4	5.5	4.6	80	274	258	112	12	34
3	18	34	5.5	4.4	5.5	4.6	85	274	315	112	11	34
4	40	36	5.0	4.4	5.5	4.6	90	274	351	98	10	33
5	53	38	5.0	4.4	5.5	4.8	100	266	360	88	9.7	30
6	52	40	5.0	4.4	5.5	*4.8	110	274	342	78	9.0	47
7	49	40	5.0	4.6	5.5	4.8	110	306	306	71	12	140
8	43	42	5.5	4.6	5.5	4.8	*160	315	274	64	12	140
9	36	41	5.5	4.6	5.5	4.6	240	306	234	57	26	126
10	34	42	5.5	4.8	5.5	4.6	250	282	195	54	31	119
11	31	43	5.5	4.8	5.0	4.6	250	242	174	50	25	105
12	26	39	5.5	4.8	5.0	4.6	258	218	181	44	20	84
13	24	47	5.5	5.0	4.8	4.4	234	188	202	40	15	67
14	22	33	*5.5	5.0	4.8	4.4	*195	167	258	60	12	57
15	20	30	5.5	5.0	5.0	4.4	160	147	290	60	11	50
16	19	32	5.5	5.0	5.0	4.4	126	160	324	54	10	47
17	17	42	5.5	5.0	5.5	4.0	98	195	405	54	9.4	42
18	16	42	5.5	5.0	5.5	4.0	a93	202	396	50	8.7	38
19	16	43	5.5	5.0	5.5	3.8	88	195	342	44	8.1	36
20	15	47	5.5	5.0	5.5	3.8	91	181	298	39	7.8	32
21	14	*41	5.5	5.0	5.5	3.6	98	167	258	38	7.6	31
22	14	32	5.5	*5.0	5.5	3.6	105	154	242	34	9.7	33
23	13	24	5.5	5.0	5.0	3.6	133	133	226	32	54	36
24	13	24	5.5	5.0	5.0	3.6	147	119	195	30	112	42
25	12	20	5.5	5.0	5.0	3.6	a150	126	174	26	140	44
26	11	17	5.0	5.0	4.8	3.6	154	154	154	24	133	43
27	12	14	5.0	5.0	4.8	3.6	167	174	140	21	119	38
28	11	11	4.8	5.0	4.6	3.6	195	167	147	17	98	34
29	14	8.0	4.6	5.0	-	*3.6	218	160	154	20	71	31
30	19	7.0	4.6	5.0	-	18	250	140	147	20	71	29
31	32	-	4.6	5.0	-	44	-	140	-	16	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	737	53	11	23.8	0.254	0.29
November	977.0	47	7.0	32.6	.348	.39
December	164.6	6.0	4.6	5.31	.057	.07
Calendar year	-	-	-	-	-	-
January	149.6	5.0	4.4	4.83	.051	.06
February	146.3	5.5	4.6	5.22	.056	.06
March	183.6	44	3.6	5.92	.063	.07
April	4,500	258	65	150	1.60	1.78
May	6,358	315	119	205	2.19	2.52
June	7,552	405	140	252	2.69	2.99
July	1,633	126	16	52.7	.562	.65
August	1,131.0	140	7.6	36.5	.389	.45
September	1,661	140	29	55.4	.591	.66
Water year 1942-43	25,193.1	405	3.6	69.0	.736	9.99

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.- Stage-discharge relation affected by ice Nov. 1-8, 17, 18, Nov. 25 to Apr. 9.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Amnicon Lake near South Range, Wis.

Location.- Staff gage, lat. 46°29', long. 92°04', in sec. 12, T. 46 N., R. 14 W., in northwest corner of lake, 15 miles southwest of South Range. Datum of gage is 1,188.00 feet above mean sea level (State Highway Commission levels). Gage readings have been reduced to elevation above mean sea level.
Drainage area.- 5 square miles.
Records available.- August 1936 to September 1943 (fragmentary).
Extremes.- Maximum elevation observed during year, 1,197.57 feet June 6, 13; minimum, 1,196.62 feet Oct. 24, Sept. 18.
1936-43: Maximum elevation observed, 1,197.92 feet June 7, 1941; minimum, 1,196.04 feet Aug. 24, Oct. 3, 1936.
Remarks.- Lake has natural outlet.

Elevation, in feet, of Amnicon Lake near South Range, Wis., water year October 1942 to September 1943

Date	Elevation	Date	Elevation	Date	Elevation	Date	Elevation
Oct. 3	6.78	Apr. 14	7.09	June 3	7.49	July 24	6.68
10	6.74	17	7.15	5	7.51	31	6.64
17	6.70	21	7.19	6	7.57	Aug. 3	6.70
24	6.62	24	7.09	12	7.53	7	6.86
31	6.66	27	7.07	13	7.57	9	6.94
Nov. 7	6.70	May 1	7.13	16	7.53	12	6.92
14	6.68	5	7.13	19	7.49	14	6.90
21	6.68	8	7.13	22	7.37	19	6.78
28	6.68	12	7.09	26	7.28	21	6.76
Dec. 5	6.64	15	7.13	30	7.16	28	6.74
19	6.68	17	7.17	July 3	7.02	Sept. 4	6.76
Apr. 1	7.19	20	7.15	6	7.04	11	6.74
3	7.17	22	7.11	14	6.82	18	6.62
5	7.21	29	7.25	17	6.80	25	6.66
10	7.31	31	7.41	22	6.70		

Note.- Add 1,190 feet to obtain elevation above mean sea level.

Bois Brule River at Brule, Wis.

Location.- Cantilevered chain gage, lat. 46°32', long. 91°36', in NW¼SW¼ sec. 23, T. 47 N., R. 10 W., 1½ miles southwest of Brule post office, 1½ miles downstream from Nebagamon Creek, and 1½ miles upstream from Little Brule River.
Drainage area.- 130 square miles.
Records available.- January to September 1943.
Extremes.- Maximum discharge observed during period, 426 second-feet June 14 (gage height, 3.04 feet); maximum gage height observed, 3.61 feet Jan. 17 (affected by ice); minimum discharge observed, 67 second-feet Mar. 13 (gage height, 1.39 feet).
Remarks.- Records good except those for periods of ice effect, which are poor. Gage read twice daily.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				-	110	112	165	213	236	151	127	107
2				-	110	115	151	213	236	167	199	107
3				-	114	116	155	211	260	163	182	98
4				-	120	116	179	201	272	155	177	103
5				-	130	116	225	211	248	146	167	127
6				-	130	113	260	206	260	148	158	151
7				-	126	106	308	201	248	143	165	165
8				-	122	106	320	191	225	136	151	146
9				-	119	105	331	182	213	131	163	136
10				-	113	104	308	182	203	124	153	134
11				111	110	104	272	177	203	122	141	127
12				*111	109	99	260	170	213	124	136	117
13				111	108	88	225	163	213	124	131	107
14				111	107	76	211	163	403	124	122	107
15				110	107	117	201	158	320	119	117	103
16				110	107	127	201	225	296	112	117	103
17				109	107	112	196	225	296	115	112	103
18				109	107	107	196	213	260	112	107	103
19				109	107	119	196	206	236	110	107	98
20				110	106	107	196	196	211	110	107	98
21				110	104	93	203	184	203	105	105	103
22				110	101	100	201	175	194	105	115	98
23				110	98	74	213	165	182	105	107	98
24				110	93	83	213	163	175	105	107	110
25				110	'143	98	211	196	175	100	105	112
26				110	155	100	206	213	184	100	107	107
27				110	127	93	211	208	182	129	117	105
28				110	107	83	208	201	184	129	115	103
29				110	-	93	208	225	172	153	107	103
30				110	-	117	236	213	165	153	105	103
31				110	-	153	-	225	-	136	103	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
January 11-31	2,311	111	109	110	0.846	0.66
February	3,197	155	93	114	.877	.91
March	3,252	153	74	105	.808	.93
April	6,666	331	151	222	1.71	1.91
May	6,075	225	158	196	1.51	1.74
June	6,868	403	165	229	1.76	1.96
July	3,956	167	100	128	.985	1.14
August	4,032	199	103	130	1.00	1.15
September	3,382	165	98	113	.869	.97
Water year	-	-	-	-	-	-

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 11 to Feb. 22, Mar. 1-12.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Montreal River near Saxon, Wis.

Location.- Water-stage recorder, lat. 46°32', long. 90°23', in NW¼ sec. 23, T. 48 N., R. 49 W., 2 miles upstream from mouth and 3½ miles north of Saxon.

Drainage area.- 281 square miles.

Records available.- September 1938 to September 1943.

Extremes (regulated).- Maximum discharge during year, 3,680 second-feet Oct. 3 (gage height, 5.54 feet); minimum, 92 second-feet July 1 (gage height, 1.91 feet).
1938-43: Maximum discharge, 5,700 second-feet July 18, 1942 (gage height, 6.93 feet); minimum, 2 second-feet Sept. 21, Oct. 8, 1939.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diurnal fluctuation caused by Saxon Falls power plant 1½ miles upstream. Flow regulated since Apr. 1, 1941, by Gile Reservoir on West Branch Montreal River (capacity, 1.29 billion cubic feet).

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)

2.0	115	3.0	566	3.7	1,110
2.3	218	3.2	697	4.0	1,450
2.6	355	3.4	847	5.0	2,870

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	472	748	220	180	155	190	1,770	1,190	425	214	203	214
2	335	586	220	180	155	*184	1,840	977	477	188	278	203
3	269	482	215	170	160	180	1,570	936	482	203	180	214
4	538	430	205	170	160	185	1,510	741	741	199	210	214
5	1,150	509	210	160	160	190	1,700	697	697	269	226	226
6	726	543	220	155	160	190	1,510	977	498	203	195	231
7	526	446	220	155	160	190	1,510	1,100	477	188	195	218
8	451	385	220	155	155	190	1,990	969	430	195	199	214
9	390	446	220	160	160	190	2,280	719	326	185	252	222
10	297	989	215	155	155	195	2,360	549	252	188	231	231
11	235	944	205	165	155	195	2,140	488	210	207	191	218
12	218	755	195	*161	155	195	1,770	385	207	288	231	214
13	203	623	200	150	160	200	1,270	360	316	265	222	210
14	180	488	205	155	150	195	928	311	340	235	210	203
15	180	405	200	160	160	195	808	301	498	180	214	203
16	222	585	195	155	165	190	770	355	697	210	210	203
17	199	560	200	150	180	190	663	656	712	199	207	195
18	191	472	185	150	185	195	670	509	770	195	207	195
19	162	410	175	150	195	200	636	420	504	210	207	199
20	170	375	185	150	205	205	801	345	321	199	214	199
21	199	297	190	150	200	205	969	292	252	203	210	195
22	203	252	195	155	205	210	1,280	226	207	218	214	191
23	210	a240	195	155	205	210	1,290	199	184	218	210	191
24	210	a220	190	155	205	215	1,290	199	180	210	210	195
25	207	a210	185	160	200	220	1,220	203	210	207	218	199
26	210	a180	190	155	200	250	1,010	252	288	231	218	199
27	210	175	180	155	205	320	847	292	292	210	218	203
28	218	210	185	155	200	420	824	274	306	184	199	191
29	238	218	190	160	-	566	778	456	330	218	210	191
30	476	220	190	160	-	734	1,080	538	260	214	218	188
31	961	-	190	155	-	1,310	-	306	-	199	239	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	10,453	1,150	162	337	1.20	1.38
November	13,363	969	175	445	1.58	1.76
December	6,190	220	175	200	.712	.82
Calendar year 1942	163,159	4,950	74	447	1.59	21.61
January	4,901	180	150	158	.562	.65
February	4,920	205	150	176	.626	.65
March	8,504	1,310	180	274	.975	1.12
April	39,084	2,360	636	1,303	4.64	5.18
May	16,222	1,190	199	523	1.86	2.14
June	11,889	770	180	396	1.41	1.57
July	6,535	288	180	211	.751	.87
August	6,646	278	180	214	.762	.88
September	6,169	231	188	206	.733	.82
Water year 1942-43	134,976	2,360	150	370	1.32	17.84

Peak discharge.- Oct. 3 (7:30 a.m.) 3,680 sec.-ft. (caused by regulation); Oct. 5 (4 p.m.) 1,230 sec.-ft.; Apr. 1 (11 p.m.) 1,990 sec.-ft.; Apr. 10 (4:30 a.m.) 2,580 sec.-ft.; Apr. 22 (11 p.m.) 2,060 sec.-ft.; Apr. 30 (11:30 p.m.) 1,250 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and Superior Falls power-plant records.

Note.- Stage-discharge relation affected by ice Nov. 27 to Mar. 28.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

West Branch Montreal River at Gile, Wis.

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

Drainage area.- 78 square miles.

Records available.- October 1942 to September 1943. April 1918 to November 1925, at site 1,600 feet downstream.

Extremes (regulated).- Maximum discharge during year, 1,030 second-feet Apr. 22 (gage height, 5.70 feet); minimum daily, 10 second-feet Oct. 11-14, Oct. 31 to Nov. 7, Apr. 25, 26, reservoir gates closed.
1918-25, 1942-43: Maximum discharge observed, 1,480 second-feet Apr. 21, 1923 (gage height, 7.20 feet, site and datum then in use); minimum, about 1.6 second-feet Aug. 14-19, 1925 (gage height, 1.15 feet, site and datum then in use).

Remarks.- Records good except those prior to installation of gage on Apr. 19, which are fair. Discharge for Oct. 1 to Apr. 18 and thereafter for days when flow was above 130 second-feet was computed from reservoir records and gate ratings. Flow regulated by Gile Reservoir since Apr. 1, 1941. Gage read once daily.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	10	69	60	73	120	366	353	119	70	163	205
2	42	10	69	60	73	120	407	327	119	70	126	210
3	42	10	69	60	73	129	407	164	367	70	123	210
4	180	10	69	60	73	136	382	58	468	68	133	210
5	339	10	69	60	73	136	291	172	408	68	143	210
6	76	10	65	59	72	136	157	327	180	76	156	200
7	76	10	60	59	72	136	157	327	180	112	161	192
8	76	12	60	59	72	136	162	279	171	123	191	204
9	76	101	60	59	72	136	162	174	73	122	111	204
10	64	205	60	62	72	132	162	106	58	147	69	197
11	10	241	60	65	72	132	166	127	48	175	137	191
12	10	166	60	65	72	132	166	86	76	202	166	191
13	10	85	60	65	83	132	171	83	100	132	166	191
14	10	44	60	65	101	132	171	83	103	123	172	191
15	44	84	60	65	124	132	171	83	269	138	180	184
16	60	242	60	65	124	137	171	120	324	151	180	184
17	42	97	60	66	124	152	171	263	344	151	180	184
18	42	93	60	68	124	162	171	129	320	163	180	184
19	62	60	60	68	124	162	171	113	162	171	188	184
20	76	60	60	68	124	162	104	96	73	178	188	184
21	76	60	60	68	124	162	175	75	70	186	188	184
22	76	55	60	68	124	162	352	34	70	194	188	178
23	76	42	60	68	120	157	11	34	70	192	188	178
24	76	42	60	68	120	157	11	34	99	186	194	178
25	76	45	60	70	120	157	10	61	122	186	202	178
26	76	60	60	73	120	157	10	70	90	166	158	178
27	76	73	60	73	120	179	32	70	70	140	162	178
28	76	89	60	73	120	223	189	70	70	160	178	178
29	60	88	60	73	-	323	268	304	70	168	189	178
30	21	79	60	73	-	244	464	152	70	158	200	178
31	10	-	60	73	-	303	-	51	-	165	206	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,159	339	10	69.6	0.892	1.03
November	2,193	242	10	73.1	.937	1.05
December	1,910	69	60	61.6	.790	.91
Calendar year	-	-	-	-	-	-
January	2,038	73	59	65.7	.842	.97
February	2,765	124	72	98.8	1.27	1.32
March	4,876	303	120	157	2.01	2.32
April	5,808	464	10	194	2.49	2.78
May	4,425	353	34	143	1.83	2.11
June	4,763	468	48	159	2.04	2.28
July	4,411	202	68	142	1.82	2.10
August	5,166	206	69	167	2.14	2.47
September	5,696	210	178	190	2.44	2.72
Water year 1942-43	46,210	468	10	127	1.63	22.06

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Big Lake near Land O'Lakes, Wis.

Location.- Staff gage, lat. 46°11', long. 89°27', in lot 4, sec. 23, T. 43 N., R. 8 E., 15 miles west of village of Land O'Lakes.

Drainage area.- 32 square miles.

Records available.- June 1938 to September 1943 (fragmentary).

Extremes.- Maximum gage height observed during year, 6.54 feet June 17, 18, 20; minimum, 5.70 feet Sept. 9, 11-23.
1938-43: Maximum gage height observed, that of June 17, 18, 20, 1943; minimum, 4.40 feet Apr. 13, 1940, and Apr. 8, 1941.

Gage height, in feet, water year October 1942 to September 1943

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	-	5.88	5.96	5.84	5.82	16	5.94	6.44	5.84	5.82	5.70
2	6.12	5.90	5.98	5.88	5.82	17	5.94	6.54	5.84	5.82	5.70
3	6.10	5.92	5.96	5.88	5.82	18	5.94	6.54	5.84	5.80	5.70
4	6.10	5.88	5.96	5.86	5.84	19	5.92	6.50	5.84	5.78	5.70
5	6.12	5.86	5.96	5.88	5.90	20	5.88	6.54	5.84	5.80	5.70
6	6.12	5.86	5.94	5.86	5.88	21	5.86	6.46	5.84	5.80	5.70
7	6.14	5.84	5.92	5.86	5.78	22	5.88	6.40	5.84	5.80	5.70
8	6.12	5.82	5.90	5.86	5.74	23	5.88	6.34	5.84	5.80	5.70
9	6.08	5.80	5.88	5.88	5.70	24	5.88	6.24	5.84	5.82	5.72
10	6.06	5.80	5.86	5.86	5.72	25	5.90	6.18	5.84	5.82	5.74
11	6.04	5.80	5.98	5.86	5.70	26	5.92	6.14	5.84	5.82	5.74
12	6.00	5.86	5.96	5.84	5.70	27	5.90	6.10	5.84	5.82	5.74
13	5.96	6.26	5.90	5.82	5.70	28	5.90	6.04	5.84	5.82	5.76
14	5.96	6.32	5.88	5.82	5.70	29	5.90	6.00	5.84	5.82	5.80
15	5.96	6.38	5.86	5.82	5.70	30	5.90	5.98	5.84	5.82	5.82
						31	5.88	-	5.84	5.82	-

Note.- Gage height Apr. 29, 6.10 feet.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Middle Branch Ontonagon River near Paulding, Mich.

Location.- Water-stage recorder, lat. 46°21'30", long. 89°04'40", in sec. 29, T. 46 N., R. 38 W., 25 feet downstream from highway bridge, 2¼ miles upstream from Bond Falls Reservoir, and 5⅝ miles southeast of Paulding. Prior to Sept. 28, 1942 a reference point on downstream bridge guard was used to determine gage heights.

Drainage area.- About 175 square miles.

Records available.- June 1942 to September 1943.

Extremes.- 1942: Maximum discharge observed during period June to September, 800 second-feet July 20 (gage height, 7.21 feet); minimum, 108 second-feet Aug. 21 (gage height, 3.82 feet, from graph based on gage readings) but was probably less during periods of no gage-height record.
1942-43: Maximum discharge during water year, 1,040 second-feet Apr. 26 (gage height, 8.08 feet); minimum, 30 second-feet Nov. 26 (gage height, 2.96 feet).

Remarks.- Records excellent except those for period of ice effect, which are fair.

Rating tables, June 15, 1942, to Sept. 30, 1943, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

June 15 to Sept. 27, 1942				Sept. 28, 1942, to Sept. 30, 1943			
3.8	106	5.8	464	3.6	84	4.8	262
4.1	142	7.0	746	3.9	120	6.0	547
4.6	220	7.2	800	4.2	167	7.9	995

Discharge, in second-feet, 1942-43

1942

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	-	-	-	-	11	-	-	128	119	21	-	-	109	-
2	-	-	-	-	12	-	-	125	128	22	-	622	153	-
3	-	-	-	-	13	-	-	123	-	23	-	-	213	-
4	-	-	-	-	14	-	-	121	-	24	-	-	164	358
5	-	-	-	-	15	258	-	121	-	25	-	390	146	-
6	-	-	148	-	16	-	-	123	-	26	-	-	142	-
7	-	168	155	-	17	-	-	122	-	27	-	-	139	-
8	-	-	148	-	18	197	622	116	-	28	-	-	138	359
9	-	-	138	130	19	-	722	115	-	29	-	-	-	359
10	-	-	133	-	20	-	800	110	-	30	-	-	-	370
										31	-	-	-	-

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Discharge, in second-feet, of Middle Branch Ontonagon River near Paulding, Mich., 1942-43--Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	348	304	240	135	125	110	245	639	209	203	107	114
2	315	265	220	135	125	110	253	593	226	194	119	110
3	293	243	220	130	125	105	233	570	218	196	120	105
4	370	228	210	140	125	100	237	536	209	181	117	107
5	458	253	195	140	125	100	253	524	192	171	124	111
6	469	267	185	*140	125	100	257	616	211	162	117	119
7	436	245	175	135	125	100	272	777	233	153	121	120
8	381	230	165	135	125	100	304	754	209	145	126	115
9	359	239	155	135	125	100	381	662	185	144	137	111
10	293	326	150	135	125	100	480	558	178	137	145	112
11	265	337	145	135	120	105	536	480	164	140	130	110
12	249	293	140	135	120	105	536	425	283	158	121	107
13	232	265	135	130	120	110	480	381	639	150	120	105
14	222	255	130	130	120	115	425	348	731	150	117	107
15	209	265	125	130	120	130	381	315	824	140	112	107
16	201	245	120	130	120	*140	370	326	777	131	111	107
17	192	269	120	130	*120	145	337	370	824	128	110	106
18	185	255	120	130	125	145	337	337	920	121	105	105
19	178	233	120	130	130	140	326	293	872	120	102	103
20	174	224	125	130	140	140	359	267	777	119	105	103
21	171	212	120	130	145	145	414	247	685	116	106	103
22	169	198	125	130	150	145	513	232	558	114	107	103
23	169	190	130	130	150	145	685	216	447	115	117	103
24	164	190	130	130	140	155	896	207	370	114	115	111
25	162	190	130	130	135	165	995	220	315	112	117	123
26	165	92	130	130	125	185	995	232	304	110	115	119
27	164	190	130	130	120	195	920	228	315	112	127	116
28	164	210	135	125	120	205	848	211	315	115	137	114
29	171	230	135	125	-	215	731	201	253	108	123	110
30	226	240	135	125	-	225	685	201	228	111	116	111
31	315	-	135	125	-	235	-	198	-	108	111	-

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 27 to Apr. 1 (no gage-height record Jan. 9 to Feb. 16, Feb. 20 to Mar. 6, Mar. 9-12, 15; discharge computed on basis of records for Otter River near Elo and East Branch Ontonagon River near Mass).

Monthly discharge, in second-feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 6-28, 1942	3,130	136	0.777	0.67	213	109
September	-	-	-	-	-	-
Water year	-	-	-	-	-	-
October 1942	7,869	469	162	254	1.45	1.67
November	7,183	337	92	239	1.37	1.53
December	4,630	240	120	149	.851	.98
Calendar year	-	-	-	-	-	-
January 1943	4,080	140	125	132	.754	.87
February	3,570	150	120	128	.731	.76
March	4,315	235	100	139	.794	.92
April	14,684	995	233	489	2.79	3.12
May	12,164	777	198	392	2.24	2.58
June	12,671	920	164	422	2.41	2.69
July	4,278	203	108	138	.789	.91
August	3,657	145	102	118	.674	.78
September	3,297	123	103	110	.629	.70
Water year 1942-43	82,398	995	92	226	1.29	17.51

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Middle Branch Ontonagon River near Trout Creek, Mich.

Location.- Water-stage recorder, lat. 46°28'45", long. 89°05'25", in sec. 8, T. 47 N., R. 38 W., an eighth of a mile upstream from State Highway 28, 3¾ miles west of town of Trout Creek, and 6½ miles downstream from Bond Falls Dam. Prior to Nov. 4, 1942, staff gage at same site and datum.
Drainage area.- About 225 square miles.
Records available.- June 1942 to September 1943.
Extremes (regulated).- 1942: Maximum discharge during period June to September, 730 second-feet (gage height, 3.60 feet); minimum, 42 second-feet July 7-11, Aug. 10-12; minimum gage height, 1.66 feet July 7-11.
1942-43: Maximum discharge during water year, 1,010 second-feet June 17 (gage height, 4.27 feet); minimum, 43 second-feet Sept. 2, 25-30; minimum gage height, 1.59 feet Sept. 2.
Remarks.- Records excellent except those for periods of ice effect and those for June 13 to Nov. 4, 1942, which are good. Gage read twice daily prior to Nov. 4, 1942. Records not adjusted for regulation by Bond Falls Reservoir and diversion to South Branch Ontonagon River by Bond Falls Canal (see p. 30).

Discharge, in second-feet, 1942-43

1942

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	-	62	239	82	11	-	42	42	58	21	60	688	79	434
2	-	63	203	68	12	-	45	42	61	22	60	676	131	369
3	-	63	90	65	13	312	45	49	61	23	89	457	97	361
4	-	62	46	65	14	316	45	49	63	24	91	421	88	416
5	-	54	43	61	15	320	45	50	61	25	60	318	61	439
6	-	45	43	61	16	320	45	56	61	26	60	386	61	457
7	-	42	43	61	17	204	91	55	65	27	60	386	61	515
8	-	42	43	61	18	88	70	55	436	28	62	282	61	495
9	-	42	43	60	19	86	155	79	525	29	60	224	61	384
10	-	42	43	61	20	63	579	79	495	30	60	132	61	84
										31	-	239	61	-

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	238	282	b125	102	b60	b120	122	835	207	200	60	46
2	486	282	124	b102	b60	b120	124	785	207	156	62	49
3	505	171	129	b102	b58	b120	124	663	274	156	60	44
4	505	177	124	b102	b58	122	111	550	270	153	60	44
5	525	269	124	b102	b58	b120	96	555	254	151	60	48
6	525	304	124	b102	b58	b120	96	586	242	148	59	44
7	515	304	124	*b102	b58	b120	98	568	236	148	60	44
8	416	264	120	102	b58	b120	104	657	235	148	59	44
9	320	226	113	104	b58	120	122	760	226	148	63	45
10	285	391	*106	104	b58	120	118	760	222	148	60	45
11	267	398	102	104	b58	b120	115	668	216	151	60	45
12	246	290	100	104	b58	118	129	528	232	148	60	45
13	246	287	b100	102	b58	113	167	454	315	148	59	44
14	226	238	b100	104	b58	115	245	378	562	145	59	44
15	204	201	88	102	b58	118	251	248	835	145	57	44
16	171	311	66	b95	b58	118	254	226	859	158	59	44
17	152	382	66	b78	*b58	b120	258	251	924	232	59	44
18	150	254	64	b78	b58	*b120	242	251	1,010	159	57	44
19	113	204	b64	b78	63	111	301	267	985	153	57	44
20	61	216	63	b78	84	115	354	284	985	77	57	44
21	61	251	64	b70	118	113	224	280	935	69	57	44
22	61	251	81	b62	118	b110	151	280	777	63	59	44
23	61	229	120	b62	118	108	153	280	500	63	62	44
24	61	180	118	b62	b120	111	173	280	332	63	60	46
25	61	162	118	b62	b120	115	439	277	336	62	59	44
26	61	174	115	b60	b120	118	712	277	336	62	57	43
27	61	180	104	b60	b120	113	825	274	336	62	60	43
28	61	134	b104	b60	120	118	935	238	343	62	59	43
29	61	b70	104	b60	-	111	935	204	340	62	57	43
30	65	77	104	b60	-	122	935	204	290	60	56	43
31	72	-	102	b60	-	137	-	204	-	59	52	-

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1942-43

Month	Seoond-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
June 13-30, 1942	2,371	320	60	132		
July	5,888	688	42	190		
August	2,214	239	42	71.4		
September	6,485	525	58	216		
October 1942	6,842	525	61	221		
November	7,159	398	70	239		
December	3,160	129	63	102		
January 1943	2,625	104	60	84.7		
February	2,149	120	58	76.8		
March	3,646	137	108	118		
April	8,913	935	96	297		
May	13,072	835	204	422		
June	13,820	1,010	207	461		
July	3,759	232	59	121		
August	1,825	63	52	58.9		
September	1,334	49	43	44.5		
Water year 1942-43	68,304	1,010	43	187		

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Middle Branch Ontonagon River near Rockland, Mich.

Location.- Wire-weight gage, lat. 46°42'05", long. 89°09'40", in sec. 27, T. 50 N., R. 39 W., at bridge on U. S. Highway 45, 300 feet downstream from East Branch and 2½ miles southeast of Rockland.

Drainage area.- 670 square miles.

Records available.- July 1942 to September 1943.

Extremes (regulated).- 1942: Maximum discharge during period July to September, 27,000 second-feet Aug. 22 (gage height, 21.2 feet, from floodmarks), from rating curve extended above 4,500 second-feet on basis of slope-area and contracted-opening determinations at gage height 21.2 feet; minimum observed, 215 second-feet Aug. 13 (gage height, 4.39 feet).

1942-43: Maximum discharge observed during year, 7,580 second-feet May 6 (gage height, 11.39 feet); minimum observed, 223 second-feet Sept. 3, 17 (gage height, 4.91 feet).

Remarks.- Records fair except those for period Nov. 15 to Apr. 2, which are poor. Gage read once or twice daily four or five days a week; discharge computed from graph based on gage readings. Records not adjusted for regulation by Bond Falls Reservoir or diversion to South Branch Ontonagon River by Bond Falls Canal (see p. 30).

Discharge, in second-feet 1942-43

Day	1942 July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	515	598	11	-	245	378	21	1,460	527	1,590
2	-	463	675	12	-	230	785	22	1,080	16,300	1,890
3	-	370	648	13	-	220	556	23	992	3,780	1,840
4	-	260	531	14	-	225	430	24	782	1,440	2,000
5	-	220	503	15	-	230	458	25	810	845	2,060
6	-	230	499	16	-	235	644	26	789	639	1,790
7	-	265	458	17	-	245	878	27	719	556	1,740
8	-	270	404	18	-	240	3,430	28	618	523	1,690
9	-	270	392	19	1,370	240	3,300	29	545	519	2,000
10	-	260	378	20	1,280	255	2,110	30	527	560	2,060
								31	515	612	-

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr	May	June	July	Aug.	Sept.
1	1,260	1,090	530	380	310	300	2,150	2,700	590	560	238	244
2	1,210	845	540	370	310	300	2,330	1,620	668	470	288	235
3	845	743	560	360	*310	300	2,500	1,780	692	440	285	226
4	1,390	705	560	360	310	310	2,320	2,500	716	530	271	223
5	3,100	715	550	360	310	310	2,500	2,380	662	680	260	229
6	2,280	878	540	360	310	320	2,190	6,620	710	505	257	247
7	1,590	910	490	360	310	320	2,190	4,010	728	420	257	244
8	1,210	815	460	360	310	320	2,440	2,190	662	396	254	244
9	945	725	440	360	310	320	3,020	1,780	644	392	257	244
10	845	1,130	420	360	300	320	3,350	1,570	638	396	271	271
11	785	1,590	410	360	300	320	2,760	1,420	570	455	254	274
12	743	1,260	400	360	300	320	2,310	1,180	560	525	250	257
13	680	1,090	400	360	300	330	1,470	980	1,280	445	250	254
14	657	910	400	360	300	330	1,180	931	1,470	412	244	241
15	585	760	400	360	310	330	1,040	910	1,840	404	238	229
16	543	840	400	360	320	330	1,060	1,100	1,780	440	232	229
17	476	900	410	350	330	340	1,100	1,520	3,160	460	232	226
18	448	1,300	410	350	350	340	1,140	1,100	2,570	408	232	229
19	437	1,400	410	340	360	*350	1,180	875	1,730	376	232	229
20	430	1,100	410	340	370	400	1,730	784	1,470	302	232	229
21	434	640	410	340	370	410	2,570	716	1,730	271	232	229
22	444	540	410	330	370	380	2,960	662	1,520	268	241	229
23	465	510	410	330	370	340	3,870	650	1,040	264	278	229
24	480	560	420	320	360	380	4,290	668	722	264	274	264
25	476	600	420	320	340	460	3,350	728	716	264	268	288
26	480	520	420	320	330	780	2,700	861	840	260	257	285
27	488	470	420	310	320	810	2,440	819	988	257	274	254
28	495	470	420	310	310	710	2,500	716	938	257	278	238
29	603	480	*420	310	-	680	2,190	638	819	257	268	235
30	1,540	510	410	310	-	860	2,700	585	704	254	260	235
31	1,740	-	400	310	-	1,610	-	575	-	241	250	-

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 28 to Apr. 2 (no gage-height record Nov. 15 to Dec. 7, Jan. 1-3, 8, 9, Jan. 11 to Feb. 2, Feb. 4-14, 16, 17, 19-24, 26-28; discharge computed on basis of records for East Branch Ontonagon River near Mass and Middle Branch Ontonagon River near Trout Creek.

Monthly discharge, in second-feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
July 19-31, 1942	11,487	1,460	515	884		
August	31,799	16,300	220	1,025		
September	36,715	3,430	378	1,224		
October 1942	28,104	3,100	430	907		
November	25,006	1,590	470	834		
December	13,700	560	400	442		
January 1943	10,680	380	310	345		
February	9,100	370	300	325		
March	13,930	1,610	300	449		
April	69,530	4,290	1,040	2,318		
May	45,568	6,620	575	1,470		
June	33,157	3,160	560	1,105		
July	11,873	680	241	383		
August	7,914	288	232	255		
September	7,290	288	223	243		
Water year 1942-43	275,852	6,620	223	756		

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Ontonagon River near Rockland, Mich.

Location.- Staff gage, 46°43'15", long. 89°12'25", in sec. 20, T. 50 N., R. 39 W., at bridge on county road between Rockland and Victoria, 1¾ miles southwest of Rockland and 2 miles downstream from confluence of Middle and South Branches. Prior to Aug. 22, 1942 wire-weight gage at same site and datum. Chain gage at same site and datum Sept. 2, 1942, to Apr. 2, 1943.

Drainage area.- 1,290 square miles.

Records available.- June 1942 to September 1943.

Extremes.- 1942: Maximum discharge during period June to September, 42,000 second-feet Aug. 22 (gage height, 28.6 feet from floodmark), from rating curve extended above 9,500 second-feet on basis of slope-area study; minimum daily, 500 second-feet (regulated) July 5.

1942-43: Maximum discharge during water year, 12,600 second-feet May 6 (gage height, 15.70 feet, from graph based on gage readings); maximum gage height observed, 20.00 feet, Apr. 2 (ice jam); minimum daily, 600 second-feet (regulated) Sept. 5.

Remarks.- Records fair above 2,500 second-feet and poor below. Gage read twice daily in 1942 and three times daily in 1943. Flow regulated by Victoria Power Plant, 5 miles above station, Bond Falls Reservoir, and Gogebic and Cisco Lakes.

Discharge, in second-feet, 1942-43

1942

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	-	807	1,120	a2,050	11	2,500	730	778	762	21	635	4,540	1,040	4,180
2	-	751	1,160	2,600	12	2,200	605	778	1,800	22	725	3,370	31,200	3,590
3	-	730	849	a1,600	13	2,050	675	778	a720	23	768	2,660	13,800	3,260
4	-	563	795	992	14	1,280	735	795	825	24	862	1,650	6,940	3,700
5	-	500	756	904	15	1,200	768	778	831	25	790	2,000	a2,300	4,660
6	-	650	768	a580	16	985	751	620	1,160	26	746	2,150	a1,400	4,790
7	-	784	773	581	17	883	2,930	740	1,600	27	695	1,650	a1,200	a4,400
8	-	768	740	790	18	801	5,160	790	6,520	28	645	1,950	a1,050	4,180
9	-	768	655	790	19	790	7,920	825	6,240	29	730	1,460	a1,250	4,790
10	-	762	705	795	20	705	4,920	813	a5,100	30	825	819	a1,500	5,570
										31	-	955	a1,750	-

a No gage-height record; discharge computed on basis of records for East Branch Ontonagon River near Mass and Middle Branch Ontonagon River near Rockland.

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,590	a3,500		840	850	870	2,900	6,100	1,240	1,080	a640	740
2	3,150	3,040		860	860	870	3,500	5,700	1,600	970	883	740
3	3,150		a1,350	a680	*860	900	4,100	5,440	1,650	869	869	784
4	a3,180	a1,700		*890	850	1,060	4,800	4,660	1,510	a960	897	725
5	6,520			910	820	1,010	5,800	5,180	1,280	1,040	837	a600
6	4,660	1,750		880	750	850	6,800	8,810	a1,500	955	819	655
7	3,940			830	a650	a720	6,240	9,110	1,800	876	756	813
8	2,820	a1,850	a1,150	880	820	1,010	6,520	6,660	1,750	843	a660	918
9	2,350			860	820	920	7,500	5,180	1,240	801	843	849
10	2,050			a690	820	860	7,780	4,300	1,380	773	869	855
11	a1,700			880	840	900	6,800	3,590	1,200	a690	855	925
12	1,460			920	840	860	5,830	3,370	1,330	1,000	831	a650
13	1,240	a2,450	a900	920	870	790	4,790	3,040	a1,900	1,000	801	751
14	1,280			920	a650	a690	3,820	2,760	2,820	970	768	849
15	1,160			910	880	*840	3,590	2,100	4,420	970	a650	807
16	855			880	890	790	3,040	2,050	4,180	948	813	795
17	831		a850	a710	890	840	2,400	3,480	5,960	904	843	795
18	a890	a2,400		840	940	840	2,710	2,660	6,380	a750	825	790
19	1,420		870	900	890	790	3,590	2,150	5,440	876	773	a620
20	740		a680	880	870	850	4,920	1,950	4,920	855	784	695
21	756		840	880	a700	a640	6,520	1,280	2,820	918	773	883
22	831		870	910	890	790	8,810	1,240	2,400	869	a630	890
23	855	a1,250	870	860	1,000	810	9,270	918	2,250	869	855	819
24	849		870	a690	910	950	9,270	1,120	2,100	756	831	940
25	a710		a680	860	890	1,060	8,810	1,200	1,700	a670	855	855
26	876		870	860	920	1,260	7,640	1,330	2,100	819	855	a660
27	831		a680	860	870	1,420	6,660	1,700	a2,200	862	813	795
28	843	a1,000	890	880	a710	a1,380	6,380	1,460	2,300	897	790	862
29	1,330		870	880	-	1,350	5,570	1,120	1,800	831	a650	751
30	3,260		850	790	-	1,610	6,100	876	1,280	795	819	790
31	4,660	-	900	a670	-	2,460	-	978	-	695	813	-

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for four tributary stations.
Note.- Stage-discharge relation affected by ice Dec. 19 to Apr. 5.

Monthly discharge in second-feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
June 11-30, 1942	20,815	2,500	635	1,041		
July	55,501	7,920	500	1,790		
August	79,446	31,200	620	2,563		
September	80,360	6,520	580	2,679		
October 1942	62,787	6,520	710	2,025		
November	56,290	-	-	1,876		
December	30,290	-	-	977		
January 1943	26,270	920	670	847		
February	23,550	1,000	650	841		
March	30,990	2,460	640	1,000		
April	172,460	9,270	2,400	5,749		
May	101,512	9,110	876	3,275		
June	74,450	6,380	1,200	2,482		
July	27,111	1,080	670	875		
August	24,700	897	630	797		
September	23,601	940	600	787		
Water year 1942-43	654,011	9,270	600	1,792		

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Bond Falls Canal near Paulding, Mich.

Location.- Staff gage and concrete control, lat. 46°24'10", long. 89°09'00", in sec. 11, T. 46 N., R. 39 W., 40 feet upstream from intake to pipe line No. 2, 1.4 miles southeast of Paulding and 1½ miles downstream from Bond Falls Reservoir.
Records available.- July 1942 to September 1943.
Extremes.- 1942: Maximum discharge during period July to September, 356 second-feet July 14-16 (gage height, 3.10 feet); minimum, 8.7 second-feet July 24, 25, Aug. 24 to Sept. 5 (gage height, 0.32 foot).
1942-43: Maximum discharge during water year, 282 second-feet Aug. 21-23 (gage height, 2.70 feet); minimum, 2.8 second-feet May 29 (gage height, -1.25 feet; drain holes in weir open and canal gates closed).
Remarks.- Records excellent except those below 10 second-feet and those for periods of ice effect, which are good, and those computed on basis of orifice formula, which are fair. Gage read twice daily. Canal diverts from Bond Falls Reservoir to South Branch Ontonagon River; water is used for power production at Victoria Dam.

Discharge, in second-feet, 1942-43

1942

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	56	8.7	11	-	198	93	21	9.2	198	9.7
2	-	58	8.7	12	-	198	93	22	9.2	125	9.7
3	-	100	8.7	13	214	198	93	23	9.2	9.7	9.7
4	-	137	8.7	14	314	198	93	24	8.7	8.7	9.7
5	-	163	8.7	15	356	198	93	25	8.7	8.7	9.7
6	-	190	93	16	332	196	93	26	9.2	8.7	9.7
7	-	198	183	17	170	196	158	27	9.7	8.7	9.7
8	-	198	179	18	9.7	196	232	28	9.7	8.7	9.7
9	-	198	169	19	9.7	196	183	29	9.7	8.7	9.7
10	-	198	118	20	9.2	196	67	30	9.7	8.7	9.7
								31	35	8.7	-

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.7	195	201	52	b190	b230	5.9	5.9	2.9	3.5	280	272
2	9.7	173	201	52	b218	b225	5.9	5.9	2.9	3.5	277	270
3	9.7	93	201	53	b232	b225	5.9	5.9	2.9	3.5	277	268
4	9.7	9.2	201	53	b232	b220	5.9	5.9	2.9	3.5	275	268
5	9.7	9.2	141	52	b232	b220	5.9	5.9	2.9	3.5	275	268
6	9.7	9.2	97	52	232	b220	5.5	7.0	3.0	3.5	275	131
7	9.7	9.2	97	52	b232	b215	4.8	7.0	3.0	3.5	273	10
8	9.7	9.2	97	52	b232	b215	4.8	7.0	3.0	3.6	273	12
9	9.7	9.2	97	52	b242	b210	4.8	7.0	3.0	3.6	269	74
10	9.7	9.2	97	62	b240	b210	4.8	7.0	3.0	3.6	265	216
11	9.7	9.2	97	b69	b232	b210	4.8	6.3	3.1	3.6	265	243
12	9.7	8.7	95	b69	232	b210	4.8	10	3.5	3.6	265	250
13	9.7	8.7	93	b69	229	b210	4.8	6.4	3.5	3.6	265	250
14	58	8.7	90	b69	229	b210	4.8	3.8	3.5	3.6	263	248
15	71	8.7	90	b69	229	b205	4.8	3.7	3.6	3.6	262	248
16	125	8.7	88	69	229	b205	4.8	3.5	3.6	3.6	262	251
17	145	8.7	93	72	229	b205	4.8	3.4	3.7	3.6	262	260
18	106	8.7	97	80	229	*b205	4.8	3.3	3.7	3.6	258	258
19	75	8.7	95	b83	232	b205	5.1	3.3	3.7	44	258	260
20	76	8.7	95	b83	232	b205	5.1	3.2	3.7	185	265	262
21	102	8.7	97	83	232	b205	5.5	3.2	3.7	245	282	268
22	145	8.7	114	83	232	b205	5.5	3.1	3.7	187	282	268
23	158	7.8	130	b85	232	b205	5.9	3.0	3.6	15	282	265
24	158	32	130	b86	232	98	6.3	3.0	3.6	72	280	265
25	158	52	126	b86	232	126	6.3	2.9	3.6	253	279	265
26	158	52	85	b86	232	145	5.9	2.9	3.6	255	277	265
27	158	52	54	b123	232	150	5.9	2.8	3.6	268	277	262
28	158	62	53	172	b230	150	5.9	2.8	3.6	280	275	262
29	121	70	52	183	-	150	5.9	2.8	3.6	280	275	260
30	97	132	52	183	-	150	5.9	2.8	3.5	280	274	258
31	147	-	52	b183	-	70	-	2.8	-	280	272	-

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Water surface below weir crest May 14 to July 19 and all flow passing through drainage outlets; discharge computed on basis of orifice formula, records of gate openings, and observations of head on drainage outlets.

Monthly discharge, in second-feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
July 15-31, 1942	1,542.6	356	8.7	81.2		
August	3,866.3	198	8.7	125		
September	2,080.5	232	8.7	69.4		
October 1942	2,341.1	158	9.7	75.5		
November	1,090.1	195	7.8	36.3		
December	3,308	201	52	107		
January 1943	2,617	183	52	84.4		
February	6,438	242	190	230		
March	5,914	230	70	191		
April	161.8	3.3	4.8	5.39		
May	143.5	10	2.8	4.63		
June	101.2	3.7	2.9	3.37		
July	2,708.1	280	3.5	87.4		
August	8,419	282	258	272		
September	3,957	272	10	232		
Water year 1942-43	40,198.8	282	2.8	110		

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

East Branch Ontonagon River near Mass, Mich.

Location.- Wire-weight gage, lat. 46°41'25", long. 89°04'20", in sec. 33, T. 50 N., R. 38 W., at county highway bridge, 5 miles south of Mass, and 6½ miles upstream from mouth.
Drainage area.- 265 square miles.
Records available.- July 1942 to September 1943.
Extremes.- 1942: Maximum discharge for period July to September, 3,510 second-feet Aug. 22 (gage height, 10.39 feet, from graph based on gage readings); minimum, 114 second-feet, Aug. 21 (gage height, 3.80 feet, from graph based on gage readings).
1942-43: Maximum discharge during year, 2,610 second-feet May 6 (gage height, 9.36 feet, from graph based on gage readings); minimum, 130 second-feet Aug. 20 (gage height, 3.89 feet, from graph based on gage readings).
Remarks.- Records good except those for period of ice effect, which are fair. Gage read twice daily.

Discharge, in second-feet, 1942-43

1942

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	-	-	154	440	11	-	-	137	178	21	-	410	128	558
2	-	-	154	522	12	-	-	139	260	22	-	288	2,660	540
3	-	-	150	374	13	-	-	139	248	23	-	225	1,740	470
4	-	-	136	282	14	-	-	139	195	24	-	182	830	770
5	-	-	136	265	15	-	-	139	198	25	-	190	540	810
6	-	-	146	242	16	-	-	139	311	26	-	200	395	698
7	-	-	158	215	17	-	-	139	451	27	-	174	299	628
8	-	-	156	198	18	-	592	139	1,150	28	-	162	280	575
9	-	136	145	190	19	162	626	139	1,070	29	-	156	258	680
10	-	-	137	184	20	-	558	139	770	30	-	154	377	698
										31	-	154	353	-

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.
1	540	610	260	205	160	160	560	790	258	218	143	150
2	440	488	265	205	160	160	670	698	285	202	164	146
3	365	380	270	195	155	160	780	870	278	202	166	139
4	680	332	270	200	153	160	890	1,030	262	252	156	139
5	1,190	323	265	205	160	160	1,000	950	252	280	150	146
6	830	341	260	200	160	160	1,030	1,860	296	228	146	146
7	592	299	245	*200	160	160	950	1,580	314	198	145	146
8	455	288	230	195	155	160	890	970	278	182	145	146
9	368	332	210	195	155	160	1,170	732	245	174	156	154
10	311	540	210	190	155	160	1,330	558	278	166	162	166
11	285	522	200	190	155	160	1,190	455	290	222	150	160
12	265	505	200	190	155	160	850	395	262	278	145	154
13	252	425	200	185	155	160	645	362	610	230	141	148
14	245	329	200	185	155	160	575	329	575	212	139	145
15	232	368	200	180	*160	160	540	314	628	198	136	145
16	230	410	195	180	160	160	505	540	558	178	134	145
17	220	470	195	180	160	160	680	662	575	170	136	139
18	215	645	195	175	165	165	540	522	698	160	136	139
19	212	680	200	175	175	*170	558	410	505	156	132	136
20	205	505	195	175	180	200	715	332	505	156	132	134
21	205	282	195	170	180	195	990	296	522	152	132	136
22	218	242	210	170	180	180	1,190	265	410	154	139	137
23	245	248	210	170	180	170	1,740	255	335	156	156	137
24	245	299	210	165	175	170	1,860	255	262	156	160	152
25	240	268	210	165	165	175	1,680	282	278	154	156	174
26	235	242	210	165	165	220	1,480	362	350	152	150	172
27	242	222	210	160	160	270	1,480	344	356	152	158	170
28	245	230	210	160	160	260	930	296	350	150	166	160
29	305	240	*205	160	-	260	770	248	299	146	158	154
30	850	250	205	160	-	300	870	240	248	143	158	150
31	950	-	205	160	-	430	-	245	-	141	154	-

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 28 to Apr. 5.

Monthly discharge, in second-feet, 1942-43

Month	Second foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
July 18-31, 1942	4,073	628	154	291	1.10	0.57
August	10,720	2,660	128	346	1.31	1.50
September	14,170	1,150	178	472	1.78	1.99
October 1942	12,112	1,190	205	391	1.48	1.70
November	11,315	610	222	377	1.42	1.59
December	6,745	270	195	218	.823	.95
January 1943	5,610	205	160	181	.683	.79
February	4,558	180	153	163	.615	.64
March	5,885	430	160	190	.717	.83
April	29,058	1,860	505	969	3.66	4.08
May	17,447	1,860	240	563	2.12	2.45
June	11,362	698	245	379	1.43	1.59
July	5,718	280	141	184	.694	.80
August	4,601	166	132	148	.558	.65
September	4,465	174	134	149	.562	.63
Water year 1942-43	118,876	1,860	132	326	1.23	16.70

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Cisco Branch Ontonagon River near Watersmeet, Mich.

Location.- Chain gage, lat. 46°18'00", long. 89°24'55", in sec. 15, T. 45 N., R. 41 W., at bridge on U. S. Highway 2, 5 miles downstream from Cisco Lake and 11½ miles northwest of Watersmeet.
Drainage area.- 57 square miles.
Records available.- July 1942 to September 1943.
Extremes (regulated).- 1942: Maximum discharge during period July to September, 420 second-feet July 19 (gage height, 4.70 feet, from graph based on gage readings); minimum, 6.5 second-feet July 14 (gage height, 2.10 feet).
1942-43: Maximum discharge during water year, 577 second-feet May 8; maximum gage height observed, 5.57 feet Mar. 25 (ice jam); minimum, 4.1 second-feet June 11 (gage height, 1.92 feet).
Remarks.- Records good except those for May and June 1943, those below 10 second-feet, and those for periods of ice effect, which are fair. Gage read twice daily. Flow regulated by dam at outlet of Cisco Lake.

Discharge, in second-feet, 1942-43

1942

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	97	65	11	-	12	29	21	361	8.8	163
2	-	73	106	12	-	11	20	22	329	20	158
3	-	68	108	13	7.8	11	22	23	304	62	158
4	-	57	90	14	7.0	10	31	24	284	68	155
5	-	20	41	15	7.8	10	40	25	273	67	152
6	-	16	35	16	9.2	11	76	26	265	66	152
7	-	15	33	17	348	11	118	27	243	70	150
8	-	14	33	18	337	9.6	174	28	186	68	150
9	-	13	32	19	405	9.2	176	29	164	68	148
10	-	12	32	20	405	8.3	168	30	156	68	147
								31	144	60	-

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	139	76	74	69	55	50	85	254	80	49	10	14
2	127	75	72	69	55	50	84	272	80	89	15	12
3	85	75	70	69	54	50	35	235	84	77	34	12
4	81	75	67	68	54	50	32	178	125	79	38	12
5	112	*76	66	*68	53	51	34	190	117	73	40	62
6	127	75	65	68	53	51	36	212	79	69	39	105
7	118	75	65	67	52	51	38	282	72	68	41	131
8	114	58	65	67	52	51	47	364	70	69	39	126
9	109	67	65	66	52	51	60	272	49	101	42	115
10	105	73	*64	66	51	52	64	208	6.2	105	68	32
11	89	88	64	65	51	52	74	173	4.1	105	44	10
12	76	105	64	65	50	52	114	140	54	108	57	9.7
13	68	98	64	64	50	52	140	122	194	108	20	9.3
14	52	86	64	64	49	51	148	105	201	98	11	8.9
15	36	77	64	63	49	51	148	94	213	45	10	8.9
16	35	75	64	63	*48	51	148	88	226	36	12	8.5
17	34	75	64	62	48	*50	143	83	263	36	10	8.5
18	18	73	64	62	49	50	140	83	331	18	10	8.5
19	11	75	65	61	50	50	140	79	331	15	7.3	7.3
20	11	82	65	60	50	50	*137	77	341	13	6.5	6.2
21	11	101	65	60	50	50	110	66	321	14	6.5	6.5
22	12	130	65	60	50	50	93	49	282	12	10	6.2
23	29	109	66	59	50	50	94	34	272	12	12	6.2
24	34	81	66	59	49	50	121	33	263	12	22	7.3
25	41	67	68	58	48	90	153	29	263	10	58	9.3
26	60	75	68	58	48	89	212	51	272	9.3	21	8.1
27	67	80	69	57	48	88	219	49	301	10	58	7.3
28	70	79	69	57	49	88	208	47	272	9.3	24	7.3
29	72	78	69	57	-	87	199	53	63	9.7	13	6.9
30	75	76	69	56	-	86	201	69	31	11	13	6.5
31	75	-	69	56	-	85	-	78	-	8.5	14	-

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 26 to Apr. 1 (no gage-height record Dec. 1-9).

Monthly discharge, in second-feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
July 13-31, 1942	4,235.8	405	7.0	223	-	-
August	1,113.9	97	8.3	35.9	-	-
September	2,962	176	20	98.7	-	-
October 1942	2,093	139	11	67.5	-	-
November	2,445	130	67	81.5	-	-
December	2,058	74	64	66.4	-	-
January 1943	1,943	69	56	62.7	-	-
February	1,417	55	48	50.6	-	-
March	1,829	90	50	59.0	-	-
April	3,457	219	32	115	-	-
May	4,069	364	29	131	-	-
June	5,260.3	341	4.1	175	-	-
July	1,478.8	108	8.5	47.7	-	-
August	805.3	68	6.5	26.0	-	-
September	778.4	131	6.2	25.9	-	-
Water year 1942-43	27,633.8	364	4.1	75.7	1.33	18.03

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

South Branch Ontonagon River at Ewen, Mich.

Location.- Staff gage, lat. 46°32'05", long. 89°16'30", in sec. 26, T. 48 N., R. 40 W., on piers of old M28 highway bridge in Ewen. From Aug. 9, 1942, to Jan. 16, 1943, chain gage at same site and datum. Prior to Aug. 9, 1942, reference mark at same site and datum.

Drainage area.- About 320 square miles.

Records available.- April 1942 to September 1943.

Extremes.- 1942: Maximum discharge during period April to September, 4,300 second-feet Aug. 23 (gage height, 16.88 feet, from graph based on gage readings); minimum, 189 second-feet June 24, 25 (gage height, 1.94 feet, from graph based on gage readings).
1942-43: Maximum discharge during water year, 2,770 second-feet Apr. 25 (gage height, 12.90 feet, from graph based on gage readings); minimum, 111 second-feet July 24 (gage height, 1.27 feet, from graph based on gage readings).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Gage read once daily prior to Oct. 12, 1942, twice daily thereafter. Records not adjusted for diversion from Middle Branch Ontonagon River by Bond Falls Canal (see p. 30).

Rating tables, Apr. 10, 1942, to Sept. 30, 1943, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Backwater from downstream tributaries Aug. 22, 1942)

Apr. 10 to Aug. 23, 1942, Apr. 25 to Sept. 30, 1943				Aug. 24, 1942, to Apr. 24, 1943	
1.3	114	13.6	2,980	2.4	246
2.3	233	16.2	4,020	4.2	516
3.2	367			6.2	893
7.2	1,130			8.0	1,300
8.2	1,360			12.4	2,620

Discharge, in second-feet, 1942-43
1942

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	700	757	384	437	316
2							-	833	833	473	428	406
3							-	1,130	890	510	473	421
4							-	1,660	890	510	510	361
5							-	1,720	910	473	367	296
6							-	1,250	1,210	428	350	260
7							-	910	1,750	367	334	331
8							-	719	1,570	310	326	346
9							-	567	719	288	318	338
10							1,050	473	662	281	310	309
11							1,050	437	662	267	310	267
12							1,010	367	662	260	310	295
13							1,030	428	624	281	310	316
14							1,330	852	529	288	310	302
15							1,960	1,150	428	288	310	281
16							2,620	1,010	376	334	310	368
17							2,830	930	367	800	303	532
18							2,080	1,010	303	1,960	303	1,170
19							1,270	1,600	296	2,590	296	1,750
20							970	1,660	318	2,350	296	1,660
21							833	1,270	318	1,720	318	1,150
22							738	1,010	303	1,130	2,350	753
23							681	833	220	852	4,020	656
24							624	719	189	700	2,530	694
25							605	567	189	643	873	976
26							567	437	195	643	391	1,080
27							548	491	207	624	331	1,080
28							624	473	240	567	295	976
29							624	392	334	510	267	976
30							605	419	376	473	295	1,060
31							-	605	-	455	331	-

Discharge, in second-feet, of South Branch Ontonagon River at Ewen, Mich., 1942-43--Continued

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	955	893	555	280	370	375	1,170	1,390	384	296	350	358
2	773	773	555	280	400	365	1,210	1,250	491	281	367	350
3	637	*656	540	280	400	365	1,280	1,210	567	303	376	334
4	713	601	525	270	400	365	1,350	1,110	605	326	376	334
5	997	452	510	*250	395	365	1,420	1,110	529	303	376	350
6	1,040	452	420	250	395	355	1,510	1,660	491	260	384	376
7	833	452	400	250	390	350	1,600	2,320	548	240	384	274
8	656	436	385	250	390	340	1,660	2,380	510	226	376	233
9	566	452	375	250	390	335	2,080	1,630	419	207	384	226
10	484	753	355	250	385	325	2,470	1,050	367	183	392	318
11	436	893	*355	275	385	325	2,590	871	274	233	419	376
12	376	753	355	275	385	325	2,260	776	260	267	419	334
13	324	601	335	275	380	325	1,660	700	795	260	392	326
14	295	532	335	270	380	325	1,080	586	1,070	246	367	318
15	391	516	315	270	380	325	913	510	1,090	226	350	318
16	338	468	300	270	375	335	893	548	1,250	177	342	318
17	368	468	310	275	375	*335	733	814	1,870	151	326	326
18	354	532	315	280	*375	345	813	795	2,410	146	326	326
19	288	516	315	280	385	355	*813	643	2,140	132	326	326
20	260	484	315	285	385	365	1,060	548	1,270	171	326	326
21	267	391	315	285	395	375	1,360	491	1,030	303	326	326
22	309	361	335	285	410	375	1,720	437	890	334	350	334
23	331	346	355	285	410	375	2,170	350	757	189	358	334
24	338	368	360	285	410	395	2,620	318	662	114	367	334
25	361	391	360	285	375	405	2,710	326	605	177	367	342
26	376	391	360	285	395	440	2,470	342	586	334	384	342
27	376	391	285	315	395	460	2,050	376	567	342	401	334
28	391	445	280	350	395	520	1,630	358	605	350	401	334
29	391	505	280	355	-	560	1,330	342	605	358	392	334
30	484	555	280	360	-	640	1,270	342	437	358	367	334
31	813	-	280	360	-	930	-	350	-	350	358	-

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 28 to Apr. 5 (no gage-height record Jan. 16 to Feb. 18; discharge computed on basis of records for station near Watersmeet and Bond Falls Reservoir diversion canal).

Monthly discharge, in second feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October						
November						
December						
Calendar year						
January	-	-	-	-		
February	-	-	-	-		
March	-	-	-	-		
April 10-30, 1942	23,649	2,830	548	1,126		
May	26,622	1,720	367	859		
June	17,327	1,750	189	578		
July	21,759	2,590	260	702		
August	18,912	4,020	267	610		
September	19,725	1,750	260	658		
Water year	-	-	-	-		
October 1942	15,521	1,040	260	501		
November	15,827	893	346	528		
December	11,360	555	280	366		
Calendar year	-	-	-	-		
January 1943	8,815	360	250	284		
February	10,905	410	370	389		
March	12,375	930	325	399		
April	47,895	2,710	733	1,596		
May	25,933	2,380	318	837		
June	24,084	2,410	260	803		
July	7,843	358	114	253		
August	11,429	419	326	369		
September	9,795	376	226	326		
Water year 1942-43	201,782	2,710	114	553		

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

West Branch Ontonagon River near Bergland, Mich.

Location.- Water-stage recorder, lat. 46°35'30", long. 89°32'20", in sec. 3, T. 48 N., R. 42 W., a quarter of a mile downstream from dam at outlet of Gogebic Lake and 1¼ miles east of Bergland. Datum of gage is 1,290.81 feet above mean sea level, datum of 1929. Prior to Nov. 5, 1942, staff gage at site a quarter of a mile upstream at different datum.
Drainage area.- 160 square miles.
Records available.- July 1942 to September 1943.
Extremes (regulated).- 1942: Maximum discharge during period July to September, 964 second-feet (discharge measurement) Aug. 24 (gage height, 5.22 feet, site and datum then in use), but may have been more for short periods during seiches; minimum, 59 second-feet Sept. 2 (gage height, 1.88 feet, site and datum then in use, from graph based on gage readings).
1942-43: Maximum discharge during water year, 1,100 second-feet May 6 (gage height, 5.41 feet); minimum, 35 second-feet Sept. 10 (gage height, 1.26 feet).
Remarks.- Records excellent except those for July 19 to Nov. 4, 1942 and those for periods of ice effect, which are good. Staff gage read twice daily prior to Nov. 5. Flow regulated by Gogebic Lake.

Discharge, in second-feet, 1942-43

1942

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	94	900	11	-	-	63	21	840	161	450
2	-	86	420	12	-	-	83	22	822	659	405
3	-	82	63	13	-	-	86	23	770	940	390
4	-	80	81	14	-	-	82	24	735	940	375
5	-	78	65	15	-	-	86	25	700	940	405
6	-	-	63	16	-	-	86	26	630	920	405
7	-	-	61	17	-	-	96	27	595	920	420
8	-	-	61	18	-	-	171	28	330	920	530
9	-	-	61	19	640	-	328	29	82	920	578
10	-	-	61	20	860	-	450	30	82	920	510
								31	82	900	-

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	510	199	207	135	80	79	289	1,000	156	95	148	164
2	510	207	207	135	80	79	442	980	162	100	144	99
3	495	218	209	134	80	78	442	980	176	90	140	43
4	495	298	202	133	80	78	442	980	190	87	137	70
5	495	365	196	*133	80	78	445	980	173	86	130	112
6	495	339	190	130	79	78	445	1,000	223	83	118	82
7	480	330	182	129	79	77	564	1,020	255	82	52	43
8	450	325	176	128	79	77	660	1,020	248	82	70	36
9	420	322	171	129	79	76	694	1,000	255	61	137	36
10	420	330	175	128	79	75	760	980	220	80	132	70
11	375	353	173	127	79	75	800	920	229	81	128	166
12	362	347	169	128	79	74	820	880	218	80	127	162
13	350	312	167	127	79	73	840	860	231	81	118	158
14	192	347	164	127	79	76	820	820	329	82	51	156
15	55	253	159	127	79	77	800	558	407	81	84	144
16	54	196	158	126	*79	78	800	395	428	119	98	135
17	54	204	158	126	79	*80	800	386	613	319	92	152
18	54	200	158	124	79	78	780	383	720	349	91	200
19	54	200	154	156	80	78	760	256	700	383	91	173
20	54	186	152	250	80	78	740	118	660	328	107	160
21	54	196	148	225	80	79	740	119	660	215	167	160
22	56	198	148	131	80	79	740	122	602	207	166	169
23	63	198	147	80	80	79	780	124	585	202	173	167
24	65	192	143	80	80	79	860	120	550	196	200	166
25	69	180	140	80	81	79	940	127	498	188	192	166
26	59	188	140	80	80	80	1,000	128	480	182	184	169
27	59	236	142	80	79	80	1,020	133	462	171	180	160
28	65	229	140	80	79	80	1,020	128	462	167	176	167
29	63	220	138	80	-	80	1,020	134	235	164	169	169
30	130	211	137	80	-	81	1,000	126	102	159	162	164
31	197	-	137	80	-	86	-	134	-	156	166	-

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 25-30, Feb. 10-18, Mar. 2, 3, 20.

Monthly discharge, in second-feet, 1942-43

	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
July 19-31, 1942	7,368	860	82	567	-	-
September	7,835	900	61	261	-	-
October 1942	7,254	510	54	234	-	-
November	7,579	365	180	253	-	-
December	5,087	209	137	164	-	-
Calendar year	-	-	-	-	-	-
January 1943	3,808	250	80	123	-	-
February	2,226	81	79	79.5	-	-
March	2,424	86	73	78.2	-	-
April	22,263	1,020	289	742	-	-
May	16,911	1,020	118	546	-	-
June	11,229	720	102	374	-	-
July	4,776	383	80	154	-	-
August	4,130	200	51	133	-	-
September	4,018	200	36	134	-	-
Water year 1942-43	91,705	1,020	36	251	1.57	21.32

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Sturgeon River near Sidnaw, Mich.

Location.- Chain gage, lat. 46°35', long. 88°35', in sec. 5, T. 48 N., R. 34 W., at bridge on county road, 2 miles downstream from Rock River, 4 miles upstream from Perch River, 3½ miles northwest of Covington, and 9 miles northeast of Sidnaw.

Drainage area.- 155 square miles.

Records available.- October 1912 to September 1915, April to September 1943.

Extremes.- Maximum discharge during period, 3,280 second-feet May 7 (gage height, 10.15 feet, from graph based on gage readings); minimum, 13 second-feet Aug. 21 (gage height, 3.67 feet, from graph based on gage readings).
1912-15, 1943: Maximum discharge, that of May 7, 1943; minimum, that of Aug. 21, 1943.

Remarks.- Records good above 100 second-feet and fair below.

Rating table, April to September 1943 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 22-27)

3.7	14	4.3	56	5.4	265	7.9	1,310
3.8	19	4.5	82	5.9	415	8.5	1,690
4.0	31	4.8	131	6.5	635	9.2	2,230
4.2	46	5.1	192	7.3	990	10.1	3,160

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	1,160	170	260	29	21
2							485	1,140	177	277	29	20
3							485	1,310	172	222	27	19
4							468	1,400	162	255	25	18
5							468	1,400	142	220	24	17
6							450	2,460	131	177	23	16
7							468	3,160	146	139	21	16
8							485	2,460	137	115	19	16
9							635	1,550	115	102	23	17
10							782	1,140	124	84	30	19
11							850	895	133	69	33	25
12							828	715	197	66	31	22
13							715	595	367	91	27	18
14							655	485	426	92	23	16
15							595	422	502	76	18	16
16							485	385	655	63	16	18
17							409	429	850	54	15	16
18							432	450	805	44	15	15
19							415	397	738	40	14	16
20							468	319	805	35	13	16
21							635	271	805	35	13	16
22							990	238	738	34	17	17
23							1,400	218	655	34	21	18
24							1,980	210	538	34	23	19
25							2,280	210	468	33	27	24
26							2,230	206	675	34	27	23
27							1,940	230	575	35	26	21
28							1,620	230	468	39	24	20
29							1,310	199	379	32	25	19
30							1,190	170	298	29	23	19
31							-	162	-	29	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October						
November						
December						
Calendar year						
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March	-	-	-	-	-	-
April 2-30	26,153	2,280	409	902	5.82	6.27
May	24,616	3,160	162	794	5.12	5.91
June	12,556	850	118	419	2.70	3.01
July	2,852	277	29	92.0	.594	.68
August	702	33	13	22.6	.146	.17
September	553	25	15	18.4	.119	.13
Water year	-	-	-	-	-	-

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Sturgeon River near Baraga, Mich.

Location.- Wire-weight gage, lat. 46°47', long. 88°37', in sec. 28, T. 51 N., R. 34 W., at bridge on State Highway 35, 6 miles west of Baraga and 6 miles downstream from Prickett Dam. Datum of gage is 660.00 feet above mean tide at New York City (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 364 square miles.

Records available.- October 1942 to September 1943.

Extremes.- Maximum discharge during year, 4,830 second-feet May 7 (gage height, 14.87 feet, from graph based on gage readings); minimum daily discharge, 113 second-feet (regulated) Sept. 26.

Remarks.- Records good except those below 500 second-feet, those for periods of extensive regulation, and those for periods of ice effect or no gage-height record, which are fair. Gage read twice daily Nov. 11 to Dec. 23, Apr. 7 to Sept. 30, and once daily Dec. 24 to Apr. 6. Flow regulated by power plant at Prickett Dam.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	680	540	570	340	240	280	658	1,980	545	e590	193	194
2	640	570	570	340	240	260	e800	1,880	530	e560	177	157
3	610	610	540	340	250	250	780	2,130	515	e550	175	161
4	800	640	*465	270	250	250	885	2,130	440	455	174	156
5	1,350	600	540	320	250	260	960	1,980	425	455	175	126
6	1,550	580	405	310	250	270	960	3,460	396	e600	172	123
7	1,400	580	405	310	250	260	1,120	4,690	396	e600	137	157
8	1,230	520	510	*320	240	280	1,080	4,200	e390	e600	191	159
9	960	600	450	320	240	290	1,360	2,980	e410	e600	189	157
10	820	700	435	320	260	310	1,680	2,380	e420	425	207	e150
11	680	720	450	310	260	*320	1,640	1,520	e420	e260	163	e150
12	560	e720	420	310	260	320	1,600	1,520	e440	343	157	123
13	640	710	380	310	240	320	1,600	1,280	e440	440	157	156
14	640	675	350	310	240	320	1,160	1,120	e480	440	163	161
15	640	525	350	320	240	320	1,040	965	e620	382	147	157
16	640	e670	350	300	240	320	1,120	930	e1,500	243	159	161
17	640	e680	350	290	240	320	815	1,040	e1,900	250	165	150
18	520	980	350	260	250	290	940	1,080	e1,900	219	157	154
19	550	868	350	260	240	260	868	965	1,320	221	165	126
20	580	745	270	260	260	260	1,040	738	e1,800	219	147	e150
21	580	728	320	270	270	260	1,280	702	1,640	217	147	e150
22	560	605	350	280	300	270	1,520	668	1,440	211	129	e150
23	320	605	340	280	*340	320	2,380	590	650	217	150	e145
24	320	e600	330	280	320	440	3,220	650	575	203	165	e150
25	320	e590	320	280	310	e480	3,460	635	1,160	196	159	e145
26	480	580	320	280	280	e410	3,460	668	1,400	189	e150	113
27	480	560	320	280	290	e420	3,160	560	1,000	187	e150	e150
28	370	e530	320	270	290	e460	2,560	e520	e740	189	157	e150
29	320	e450	320	*260	-	*e510	2,180	620	e700	196	129	e150
30	540	495	320	240	-	e550	2,080	425	e620	193	157	e155
31	610	-	320	250	-	e600	-	530	-	189	154	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	21,030	1,550	320	678	-	-
November	18,976	980	450	633	-	-
December	12,090	570	270	390	-	-
Calendar year	-	-	-	-	-	-
January	9,090	340	240	293	-	-
February	7,340	340	240	262	-	-
March	10,480	600	250	338	-	-
April	47,406	3,460	658	1,580	-	-
May	45,536	4,690	425	1,469	-	-
June	25,212	1,900	390	840	-	-
July	10,639	600	187	343	-	-
August	5,017	207	129	162	-	-
September	4,486	194	113	150	-	-
Water year 1942-43	217,302	4,690	113	595	1.63	22.20

* Winter discharge measurement made on this date.

e Gage readings not representative of discharge for day because of extensive regulation; discharge computed on basis of Prickett Dam power-plant records.

Note.- Stage-discharge relation affected by ice Dec. 15 to Mar. 24. No gage-height record Oct. 1 to Nov. 11, Nov. 26, 27, Dec. 12-14; discharge computed on basis of Prickett Dam power-plant records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Sturgeon River near Arnheim, Mich.

Location.- Staff gage, lat. 46°56', long. 88°33', in sec. 6, T. 52 N., R. 33 W., a quarter of a mile downstream from Otter Lake, 3 miles northwest of Arnheim, and 8½ miles northeast of Pelkie. Datum of gage is 605.98 feet above mean tide at New York City (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 680 square miles.

Records available.- November 1942 to September 1943.

Extremes.- Maximum discharge during period, 6,050 second-feet Apr. 25; maximum gage height, 13.93 feet Apr. 26, from graph based on gage readings; minimum discharge, 280 second-feet Aug. 17-20, Sept. 8, 20, 21 (gage height, 1.82 feet, from graph based on gage readings).

Remarks.- Records good except those above 4,000 second-feet and those for periods of ice effect, which are fair. Gage read twice daily. Records do not include overflow which leaves the river about 2 miles above Otter Lake during very high stages. This flow floods the flats to the north and east of Sturgeon River; it may return to the river 3 miles from the gage, or it may pass directly into Portage Lake through Snake River.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	840	570	460	460	1,600	3,970	900	1,050	320	300
2		-	840	560	460	450	1,910	3,850	870	960	330	310
3		-	850	550	450	430	2,130	3,850	900	870	330	310
4		-	850	550	450	420	2,110	3,800	900	840	330	300
5		-	800	540	450	420	2,220	3,800	870	750	330	300
6		-	760	540	450	420	2,510	4,180	810	700	320	300
7		-	720	540	350	420	2,660	5,210	780	700	320	290
8		-	700	*540	450	430	2,760	5,120	750	700	310	290
9		-	670	540	450	440	*3,040	4,690	725	725	320	290
10		-	650	530	450	450	3,430	4,090	700	725	320	310
11		*1,450	630	530	450	460	3,570	3,640	725	675	330	300
12		1,480	620	530	450	470	3,610	3,160	750	600	320	300
13		1,420	620	520	450	490	3,520	2,710	840	550	320	300
14		1,320	610	520	450	490	3,120	2,260	930	550	310	290
15		1,200	600	520	450	500	2,660	1,880	1,080	550	300	290
16		1,140	590	520	460	510	2,370	1,660	1,350	538	290	290
17		1,200	590	520	470	520	2,070	1,680	1,880	488	280	290
18		1,320	590	510	470	520	1,890	1,720	2,250	450	280	290
19		1,410	590	510	480	540	1,920	1,620	2,200	412	290	290
20		1,350	590	500	490	540	2,070	1,480	1,890	390	290	280
21		1,290	590	500	500	560	2,610	1,350	2,080	380	290	280
22		1,290	*590	500	520	580	3,460	1,230	2,110	360	290	290
23		1,080	590	490	540	600	4,100	1,140	1,840	360	290	300
24		1,020	580	480	*550	625	5,360	1,080	1,460	350	300	300
25		1,020	580	480	550	750	5,940	1,110	1,280	350	310	300
26		870	580	470	540	900	5,930	1,140	1,320	350	310	310
27		810	580	470	520	990	5,460	1,140	1,450	350	300	300
28		810	580	460	490	1,050	4,950	1,080	1,390	350	300	300
29		820	580	*460	-	1,050	4,410	1,050	1,350	340	300	300
30		830	580	460	-	1,110	4,190	990	1,230	330	300	300
31		-	580	460	-	1,230	-	930	-	330	300	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	-	-	-	-	-	-
November 11-30	23,130	1,480	810	1,156	1.70	1.27
December	20,120	850	580	649	.954	1.10
Calendar year	-	-	-	-	-	-
January	15,870	570	460	512	.753	.87
February	13,350	550	450	477	.701	.73
March	18,825	1,230	420	607	.893	1.03
April	97,580	5,940	1,600	3,253	4.78	5.34
May	76,610	5,210	930	2,471	3.63	4.19
June	37,620	2,250	700	1,254	1.84	2.06
July	17,073	1,050	330	551	.810	.93
August	9,530	330	280	307	.451	.52
September	8,900	310	280	297	.437	.49
Water year	-	-	-	-	-	-

* Winter discharge measurement made on this date.

Note.- Stage-discharge relation affected by ice Nov. 29 to Mar. 23. Records for Nov. 11-13, Apr. 1 to May 20, June 17-24, 27, 28 computed by using rate of change of stage as a factor.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Otter River near Elo, Mich.

Location.- Wire-weight gage, lat. 46°52', long. 88°37', in sec. 34, T. 52 N., R. 34 W., at highway bridge, 1¼ miles southeast of old Elo school and 3 miles upstream from Otter Lake.

Drainage area.- 175 square miles.

Records available.- November 1942 to September 1943.

Extremes.- Maximum discharge during period, 3,490 second-feet Apr. 24 (gage height, 12.27 feet, from graph based on gage readings); minimum, 81 second-feet Aug. 19 (gage height, 3.47 feet, from graph based on gage readings).

Remarks.- Records good except those for periods of ice effect which are fair. Gage read twice daily.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

3.4	73	5.2	367	10.9	2,250
3.8	125	6.5	664	11.6	2,720
4.4	218	8.3	1,180	11.9	3,020

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	250	160	120	115	400	1,030	201	146	86	93
2		-	245	160	115	105	460	1,090	204	133	103	89
3		-	225	145	120	100	540	1,330	226	132	106	85
4		-	*220	140	120	110	600	1,060	226	126	93	83
5		-	205	140	120	105	650	1,180	185	118	89	88
6		-	190	140	120	105	744	2,010	199	111	88	90
7		-	175	130	120	105	*798	2,100	203	108	92	93
8		-	170	*130	110	100	826	1,090	177	108	89	94
9		-	145	140	120	105	1,150	664	164	107	98	104
10		-	160	140	130	105	1,330	508	182	102	97	102
11		-	150	140	130	*100	1,150	420	164	102	93	106
12		*357	145	130	135	105	1,090	347	218	104	92	95
13		347	145	140	135	105	771	308	318	99	89	92
14		271	140	145	145	105	542	280	271	98	84	92
15		308	140	145	145	105	463	253	638	95	83	92
16		289	140	140	150	115	485	337	542	90	83	92
17		430	140	140	145	120	409	430	589	92	83	88
18		409	135	130	145	125	463	337	638	92	83	86
19		327	135	130	150	125	508	280	409	92	81	86
20		280	145	125	155	135	798	244	367	89	83	88
21		244	155	125	160	145	1,180	226	308	92	83	89
22		204	160	130	170	140	1,650	204	262	92	86	97
23		201	*170	130	175	145	2,300	198	203	89	97	98
24		206	160	125	*170	155	3,020	271	182	92	99	98
25		198	160	120	155	180	3,020	337	198	90	98	103
26		215	160	120	125	225	2,420	337	203	89	93	95
27		235	160	120	120	240	1,650	298	188	98	90	93
28		290	160	120	120	230	1,180	253	191	94	89	92
29		280	160	*120	-	220	970	218	174	89	92	90
30		260	160	120	-	245	1,290	196	158	85	101	89
31		-	170	120	-	330	-	195	-	84	93	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	-	-	-	-	-	-
November 12-30	5,351	430	198	282	1.61	1.14
December	5,175	250	135	167	.954	1.10
Calendar year	-	-	-	-	-	-
January	4,140	160	120	134	.766	.88
February	3,525	175	110	137	.783	.81
March	4,450	330	100	144	.823	.95
April	32,557	3,020	400	1,095	6.26	6.98
May	18,031	2,100	195	582	3.33	3.83
June	8,188	638	158	273	1.56	1.74
July	3,138	146	84	101	.577	.67
August	2,816	106	81	90.8	.519	.60
September	2,782	106	83	92.7	.530	.59
Water year	-	-	-	-	-	-

* Winter discharge measurement made on this date.
Note.- Stage-discharge relation affected by ice Nov. 26 to Apr. 5.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Manistique River near Germfask, Mich.

Location.- Staff gage, lat. 46°15'25", long. 85°52'20", in sec. 36, T. 45 N., R. 13 W., at bridge on State Highway 98, half a mile upstream from Fox River, 2 miles downstream from Manistique Lake, and 2½ miles east of Germfask. Auxiliary water-stage recorder on Manistique Lake at outlet from South Manistique Lake.

Drainage area.- 120 square miles.

Records available.- April 1942 to September 1943.

Extremes.- 1942: Maximum discharge during period April to September, 190 second-feet Apr. 28 (from graph based on gage readings); maximum gage height, 4.02 feet Apr. 6 (from graph based on gage readings); maximum reverse flow observed, 73 second-feet Apr. 6 (discharge measurement); minimum gage height, 0.16 foot Sept. 1 (from graph based on gage readings).

1942-43: Maximum discharge during water year, 446 second-feet June 29 (from graph based on gage readings); maximum gage height, 5.70 feet June 22, 25 (from graph based on gage readings); maximum reverse flow, 161 second-feet Apr. 24 (from graph based on gage readings); minimum gage height, 1.08 feet Oct. 8-12 (from graph based on gage readings).

Remarks.- Records fair. Gage read once daily. Stage-discharge relation affected by backwater from Fox River; discharge computed using fall as determined by auxiliary water-stage recorder as a factor. Occasionally during high stages of Fox River the flow at this station is reversed.

Discharge, in second-feet, 1942-43

1942

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-				-	187	145	100	69	23
2							-	186	146	98	65	30
3							-	186	145	102	62	32
4							-	184	146	99	58	32
5							-	184	140	102	56	29
6							†-73	182	143	102	56	28
7							-42	181	140	96	54	33
8							0	180	137	96	53	33
9							+38	179	140	92	51	33
10							†84	178	140	93	46	31
11			†176				95	177	136	91	47	31
12							117	176	140	88	46	29
13							136	176	143	84	47	28
14				†181			†148	175	135	78	49	34
15							151	174	133	76	46	34
16							156	173	134	75	46	35
17							†149	172	128	81	42	35
18							150	171	129	82	40	51
19							158	†170	127	83	38	66
20					†169		173	167	127	82	33	67
21							167	164	125	81	32	66
22							174	161	122	78	32	70
23							180	157	120	74	32	71
24							185	157	123	73	31	73
25							184	153	114	72	29	73
26							185	159	111	70	29	74
27							186	154	109	69	27	77
28							188	153	111	67	27	76
29							188	147	107	66	25	75
30							187	150	104	67	25	76
31							-	148	-	67	23	-

† Discharge measurement made on this day.

Note.- Slope-stage-discharge relation indefinite Apr. 6-9, Apr. 29 to May 22; discharge computed on basis of three discharge measurements. Minus sign indicates reverse flow.

Discharge, in second-feet, of Manistique River near Germfask, Mich., 1942-43--Continued

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	89	107	112	109	104	105	189	274	360	228	156
2	76	94	107	112	110	97	104	189	270	342	224	157
3	75	88	108	111	110	104	103	204	261	335	223	151
4	83	89	108	112	109	106	102	206	272	333	216	151
5	83	91	108	111	109	105	104	202	277	326	211	151
6	81	93	106	112	109	107	108	227	272	324	209	150
7	81	91	108	112	110	104	113	241	278	323	205	155
8	81	91	108	110	113	107	117	244	279	323	206	151
9	80	99	107	112	111	105	108	252	277	320	204	150
10	80	110	108	111	109	104	74	264	287	317	202	150
11	80	106	107	110	111	103	56	269	278	314	200	148
12	80	106	107	113	113	104	45	283	277	307	197	147
13	81	103	107	110	112	100	c32	280	282	299	197	145
14	89	101	107	112	112	103	c21	277	270	298	200	146
15	88	97	108	114	112	105	c30	268	277	292	193	146
16	87	98	109	114	113	103	c60	273	268	287	193	144
17	85	98	106	112	114	106	c90	277	277	284	188	141
18	91	98	108	110	112	108	123	268	252	284	183	138
19	85	105	104	110	112	107	125	267	240	280	180	136
20	83	108	104	108	111	110	105	268	246	276	178	136
21	84	108	104	105	107	109	82	266	214	273	175	132
22	83	105	107	106	105	108	-36	270	101	269	175	135
23	82	109	107	107	108	108	-104	266	154	266	173	136
24	85	109	110	108	108	109	-150	257	154	264	172	129
25	87	107	107	110	110	108	-108	266	158	262	170	130
26	84	109	109	111	108	109	-42	263	222	259	166	129
27	85	109	115	115	108	106	60	266	310	252	164	125
28	85	108	113	114	108	106	119	271	404	246	161	123
29	85	103	113	112	[illegible]	107	140	266	391	244	161	122
30	88	105	113	113	[illegible]	107	183	266	370	237	160	122
31	86	-	114	111	-	103	-	264	-	233	157	-

c Stage-discharge relation affected by ice jam at Manistique Lake Outlet; discharge computed on basis of two discharge measurements.

Note.- Minus sign indicates reverse flow.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Monthly discharge, in second-feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March	-	-	-	-	-	-
April 6-30, 1942	3,264	188	-73	131	1.09	1.01
May	5,261	187	147	170	1.42	1.63
June	3,900	146	104	130	1.08	1.21
July	2,584	102	66	83.4	.695	.80
August	1,316	69	23	42.5	.354	.41
September	1,445	77	23	48.2	.402	.45
Water year	-	-	-	-	-	-
October 1942	2,579	91	75	83.2	.693	.80
November	3,027	110	88	101	.841	.94
December	3,354	115	104	108	.900	1.04
Calendar year	-	-	-	-	-	-
January 1943	3,440	115	105	111	.925	1.07
February	3,083	114	105	110	.917	.96
March	3,272	110	97	106	.883	1.01
April	1,869	183	-150	62.3	.519	.58
May	7,869	283	189	254	2.12	2.44
June	7,892	404	101	263	2.19	2.45
July	9,028	360	233	291	2.42	2.80
August	5,671	228	157	189	1.58	1.82
September	4,232	157	122	141	1.18	1.31
Water year 1942-43	55,516	404	-150	152	1.27	17.22

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Manistique River at Germfask, Mich.

Location.- Water-stage recorder, lat. 46°14'00", long. 85°55'40", in SE¼ sec. 4, T. 44 N., R. 13 W., 1 mile south of Germfask and 1½ miles upstream from Grays Creek.

Drainage area.- 341 square miles.

Records available.- March 1938 to September 1943.

Extremes.- Maximum discharge during year, 1,480 second-feet June 25 (gage height, 6.29 feet); minimum daily, 250 second-feet Jan. 21 (occurred during period of ice effect). 1938-43: Maximum discharge observed, 2,130 second-feet Apr. 1, 1938 (gage height, 8.50 feet, site and datum then in use); minimum observed, 184 second-feet Aug. 27, 29, 30, Sept. 6, 1938.

Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are fair.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.6	252	3.5	705
2.0	338	6.3	1,480

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	419	510	440	390	320	305	539	1,030	759	896	491	455
2	407	510	445	370	310	300	551	1,000	759	840	491	443
3	383	500	450	360	310	300	563	1,000	759	786	479	431
4	443	480	450	345	320	320	551	1,000	868	759	479	419
5	515	490	450	335	320	*325	588	1,000	840	759	467	419
6	527	510	450	320	325	325	600	1,000	786	732	455	419
7	527	510	455	335	330	325	612	980	732	705	455	455
8	500	500	450	335	345	320	625	952	705	678	455	443
9	480	510	445	325	345	320	705	924	664	664	455	443
10	460	540	440	325	355	325	813	896	651	638	455	443
11	440	540	435	325	355	325	896	840	625	625	455	455
12	420	540	430	320	355	325	980	813	664	612	455	455
13	400	540	430	320	330	325	1,000	759	759	612	455	443
14	390	540	425	310	320	310	*952	732	759	600	467	431
15	380	540	420	305	330	300	896	705	924	588	479	431
16	370	540	420	305	330	325	868	732	952	588	467	419
17	360	*563	415	310	345	355	813	759	1,030	575	467	407
18	360	575	415	320	355	370	840	759	1,090	563	467	407
19	350	563	410	300	370	390	868	732	1,090	551	443	395
20	340	551	410	*270	370	400	924	705	1,230	539	431	395
21	350	539	410	250	370	405	980	678	1,280	551	431	395
22	360	515	410	270	370	410	1,030	664	1,400	588	491	395
23	370	491	420	290	370	415	1,170	638	1,400	600	515	395
24	380	467	450	305	355	420	1,230	625	1,430	588	515	395
25	380	455	450	320	345	430	1,230	705	1,480	575	515	395
26	380	455	450	305	330	435	1,170	759	1,400	563	491	395
27	380	455	450	300	320	440	1,110	759	1,280	539	467	383
28	390	431	425	310	320	445	1,090	759	1,170	527	455	383
29	390	435	425	310	-	455	1,090	732	1,060	515	443	383
30	430	440	400	310	-	467	1,060	705	952	515	455	372
31	500	-	390	320	-	491	-	705	-	503	455	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	12,781	527	340	412	1.21	1.39
November	15,235	575	431	508	1.49	1.66
December	13,365	455	390	431	1.26	1.46
Calendar year 1942	160,809	1,090	211	441	1.29	17.53
January	9,815	390	250	317	.930	1.07
February	9,520	370	310	340	.997	1.04
March	11,403	491	300	368	1.08	1.24
April	26,344	1,230	539	878	2.57	2.87
May	25,047	1,030	625	808	2.37	2.73
June	29,498	1,480	625	983	2.88	3.22
July	19,374	896	503	625	1.83	2.11
August	14,501	515	431	468	1.37	1.58
September	12,499	455	372	417	1.22	1.36
Water year 1942-43	199,382	1,480	250	546	1.60	21.73

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 29 to Mar. 28. No gage-height record Oct. 8 to Nov. 16; discharge computed on basis of weather records and records for stations on nearby streams.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Manistique River near Blaney, Mich.

Location.- Water-stage recorder, lat. 46°05'05", long. 86°03'35", in NE¼ sec. 33, T. 43 N., R. 14 W., half a mile downstream from Duck Creek and 7 miles southwest of Blaney.

Drainage area.- 704 square miles.

Records available.- March 1938 to September 1943.

Extremes.- Maximum discharge during year, 3,910 second-feet June 23 (gage height, 17.32 feet); minimum daily, 440 second-feet Jan. 21, 22; minimum gage height, 7.21 feet Sept. 30.

1938-43: Maximum discharge observed, 9,300 second-feet Apr. 1, 1938 (gage height, 19.42 feet); minimum, 234 second-feet Aug. 19-24, 1941; minimum gage height, 5.63 feet Aug. 23, 1941.

Remarks.- Records good except those for period of ice effect, which are fair.

Rating tables, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 13				Apr. 14 to Sept. 30			
7.4	547	13.0	2,000	7.2	483	14.4	2,410
9.5	1,020	16.5	3,450	9.3	950	16.2	3,230
11.0	1,400	17.3	3,910	12.7	1,840	17.3	3,910

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	674	898	900	620	490	590	1,000	2,730	1,420	f1,990	630	567
2	652	898	920	620	480	560	1,160	2,650	1,580	f1,840	609	546
3	610	875	920	620	480	540	1,400	2,570	1,580	1,690	609	525
4	696	875	900	620	460	*520	1,600	2,530	1,720	1,580	588	514
5	921	898	900	610	480	540	1,820	2,530	1,990	1,480	588	504
6	995	995	880	600	490	540	2,040	2,490	1,960	f1,400	567	525
7	995	1,040	860	590	490	540	2,360	2,410	1,780	f1,320	567	567
8	970	1,040	860	580	490	520	f2,560	2,330	1,630	f1,220	567	567
9	921	1,040	820	560	520	520	f2,720	2,170	1,500	f1,180	567	567
10	875	1,140	820	550	530	520	2,840	2,080	1,420	1,100	567	588
11	829	1,240	820	550	560	520	f3,120	1,990	1,350	975	567	588
12	806	1,220	820	540	560	520	f3,550	1,870	1,320	925	567	609
13	740	1,170	800	540	560	540	f3,910	1,750	1,480	901	567	588
14	718	1,040	790	540	530	540	f3,840	1,660	1,550	877	588	567
15	674	1,120	770	540	520	540	f3,590	1,580	1,930	853	588	567
16	651	*1,170	790	530	520	540	f3,290	1,520	2,650	830	588	546
17	610	1,220	770	530	520	560	*3,080	1,550	2,930	807	567	546
18	589	1,220	750	520	540	580	f2,930	1,550	3,130	762	567	525
19	589	1,200	730	500	550	600	f2,880	f1,520	3,180	740	546	514
20	547	1,200	720	460	580	620	f2,880	f1,400	3,290	740	525	514
21	547	1,140	700	*440	600	630	2,930	f1,250	3,470	718	525	514
22	547	1,100	700	440	620	630	3,030	f1,120	3,710	762	588	514
23	568	1,040	690	450	620	630	3,130	f1,100	3,910	762	674	514
24	589	970	670	480	650	660	3,230	f1,100	f3,640	762	674	504
25	589	945	660	490	650	660	3,290	1,280	f3,590	762	674	514
26	589	921	650	490	630	690	3,290	1,420	f3,290	740	630	514
27	589	898	640	480	600	740	3,230	1,480	f3,030	696	609	504
28	589	806	630	480	600	780	3,080	1,500	f2,730	674	567	494
29	610	840	630	480	-	800	2,880	1,480	f2,450	652	567	494
30	696	860	630	480	-	820	2,830	1,380	f2,170	652	567	483
31	829	-	620	480	-	880	-	1,320	-	630	567	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	21,784	995	547	703	0.999	1.15
November	31,019	1,370	806	1,034	1.47	1.64
December	23,760	920	620	766	1.09	1.25
Calendar year 1942	299,354	4,070	242	820	1.16	15.81
January	16,410	620	440	529	.751	.87
February	15,340	650	480	548	.778	.81
March	18,870	880	520	609	.865	1.00
April	83,490	3,910	1,000	2,783	3.95	4.41
May	55,310	2,730	1,100	1,784	2.53	2.92
June	71,580	3,910	1,320	2,386	3.39	3.78
July	31,020	1,990	630	1,001	1.42	1.64
August	18,171	674	525	586	.832	.96
September	16,083	609	483	536	.761	.85
Water year 1942-43	402,837	3,910	440	1,104	1.57	21.28

* Winter discharge measurement made on this day.
f Computed on basis of partly estimated gage-height record.
Note.- Stage-discharge relation affected by ice Nov. 29 to Apr. 5 (no gage-height record Dec. 20 to Jan. 20; discharge computed on basis of weather records and records for stations at Germfask and near Manistique).
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

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Manistique River near Manistique, Mich.

Location.- Water-stage recorder, lat. 46°01'50", long. 86°09'40", in SE¼ sec. 15, T. 42 N., R. 15 W., 1 mile downstream from West Branch and 6 miles northeast of Manistique.

Drainage area.- 1,100 square miles.

Records available.- March 1938 to September 1943.

Extremes.- Maximum discharge during year, 7,020 second-feet June 23 (gage height, 11.13 feet); minimum, 650 second-feet Sept. 30 (gage height, 2.32 feet).
1938-43: Maximum discharge observed, 9,720 second-feet Apr. 1, 1938 (gage height, 12.70 feet, site and datum then in use); minimum, 363 second-feet Sept. 13, 14, 1942; minimum gage height, 1.14 feet Sept. 13, 1942.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating tables, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 11				Apr. 12 to Sept. 30			
2.4	750	8.0	3,630	2.3	650	7.9	3,520
4.0	1,370	9.5	4,990	3.6	1,130	9.6	5,100
6.0	2,370	10.6	6,320	4.6	1,560	11.1	7,020
				6.1	2,360		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	1,400	1,540	1,050	S00	880	1,450	5,210	2,300	3,680	878	772
2	1,000	1,400	1,620	1,050	800	S60	1,540	4,990	2,660	3,160	860	755
3	950	1,400	1,620	1,020	800	S20	1,650	4,880	2,780	2,840	825	738
4	1,100	1,400	1,550	1,020	800	770	1,850	4,780	3,020	2,540	825	702
5	1,450	1,440	1,520	1,020	800	*750	2,100	4,680	3,520	2,360	808	702
6	1,600	1,540	1,520	990	830	750	2,400	4,580	3,440	2,180	790	702
7	1,620	1,620	1,480	960	830	750	2,800	4,480	3,020	2,010	790	738
8	1,500	1,650	1,420	940	830	750	3,100	4,300	2,660	1,910	772	755
9	1,420	1,650	1,400	940	S40	750	3,700	4,030	2,360	1,760	772	772
10	1,360	1,760	1,320	920	880	750	4,650	3,760	2,120	1,660	772	772
11	1,360	2,000	1,280	920	920	730	6,320	3,440	1,960	1,510	772	790
12	1,240	2,020	1,260	920	940	730	6,600	3,160	1,910	1,370	772	808
13	1,170	2,000	1,230	920	960	750	6,600	2,840	2,180	1,330	772	825
14	1,120	1,970	1,180	890	960	750	6,350	2,600	2,480	1,290	790	808
15	1,060	1,970	1,130	890	920	750	6,000	2,420	3,320	1,250	f808	f772
16	1,020	2,020	1,130	890	920	750	5,680	2,300	4,480	1,210	f808	755
17	980	2,070	1,080	850	920	750	5,320	2,360	5,100	1,170	f790	738
18	940	f2,070	1,060	*880	920	800	4,990	2,420	5,440	1,130	772	720
19	900	f2,120	1,020	880	930	870	4,780	2,360	5,800	1,090	755	702
20	870	f2,120	960	840	950	890	4,780	2,240	6,190	1,050	738	702
21	870	f2,070	940	800	960	910	4,780	2,060	6,320	1,050	720	702
22	880	1,970	920	780	970	940	4,990	1,960	6,600	1,050	738	702
23	900	1,870	940	780	980	970	5,210	1,810	7,020	1,090	860	702
24	910	1,770	950	780	1,000	1,000	5,440	1,760	6,880	1,090	f860	685
25	920	1,670	960	800	980	1,030	5,680	1,910	6,600	1,050	f860	685
26	920	1,570	980	S30	940	1,060	5,800	2,180	6,190	1,050	f860	702
27	920	f1,520	990	830	920	1,120	5,800	2,300	5,800	1,010	825	702
28	940	f1,330	1,020	S00	900	1,170	5,680	2,300	5,320	970	790	685
29	970	1,400	1,020	800	-	1,230	5,560	2,300	4,880	930	772	668
30	1,100	1,470	1,050	800	-	1,290	5,440	2,180	4,300	912	772	668
31	1,360	-	1,050	800	-	1,360	-	2,060	-	895	772	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	34,410	1,620	870	1,110	1.01	1.16
November	52,260	2,120	1,330	1,742	1.58	1.77
December	37,130	1,620	920	1,198	1.09	1.25
Calendar year 1942	467,049	6,190	363	1,280	1.16	15.79
January	27,590	1,050	780	890	.809	.93
February	25,200	1,000	800	900	.818	.85
March	27,680	1,360	730	893	.812	.94
April	137,040	6,600	1,450	4,568	4.15	4.63
May	94,650	5,210	1,760	3,053	2.78	3.20
June	126,650	7,020	1,910	4,222	3.84	4.28
July	47,597	3,680	895	1,535	1.40	1.61
August	24,698	878	720	797	.725	.83
September	21,929	825	668	731	.665	.74
Water year 1942-43	656,834	7,020	668	1,800	1.64	22.19

* Winter discharge measurement made on this date.
f Computed on basis of partly estimated gage-height record.
Note.- Stage-discharge relation affected by ice Nov. 28 to Apr. 10. No gage-height record Oct. 1 to Nov. 13, Dec. 21-26, Feb. 20 to Mar. 4, Apr. 14, 15; discharge computed on basis of records for station near Blaney and for West Branch Manistique River near Manistique.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

South Manistique Lake Outlet at Curtis, Mich.

Location.- Staff gage, lat. 36°12'20", long. 85°44'10", in sec. 18, T. 44 N., R. 11 W., 1,000 feet downstream from South Manistique Lake, a quarter of a mile east of Curtis, and three-quarters of a mile upstream from Black Creek.

Drainage area.- 44 square miles.

Records available.- May 1942 to September 1943.

Extremes.- Maximum discharge during year, 180 second-feet June 21-23 (gage height, 3.86 feet, from graph based on gage readings); minimum, 11 second-feet Sept. 1 (gage height, 1.08 feet, from graph based on gage readings).
1942-43: Maximum discharge that of June 21-23, 1943; practically no flow July 14, 1942 (gage height, 0.40 foot).

Remarks.- Records good except those for periods of no gage-height record or shifting control, which are fair. Gage read once daily. Flow regulated by South Manistique Lake.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	39	45	41	38	31	32	120	115	143	a56	11
2	28	37	46	40	37	30	32	120	113	138	a54	21
3	35	36	46	40	37	30	32	120	110	133	a52	33
4	46	38	45	39	37	30	32	124	116	128	a50	32
5	42	39	45	39	36	30	42	124	115	128	a48	32
6	38	41	44	39	36	30	43	128	115	124	45	36
7	39	41	44	38	36	30	43	124	115	120	44	38
8	40	42	42	38	34	30	42	124	112	115	28	31
9	39	42	42	38	36	30	44	128	109	114	18	29
10	40	44	42	38	36	29	48	124	106	110	19	30
11	39	44	42	38	36	29	50	124	105	106	18	30
12	38	46	42	38	35	30	54	120	107	103	18	29
13	38	46	42	38	35	29	57	120	108	99	18	30
14	38	34	42	38	35	a29	59	115	111	96	16	33
15	37	29	42	38	34	a30	61	120	128	92	16	32
16	37	45	42	39	34	a30	63	120	143	88	16	31
17	36	46	41	38	34	a30	64	115	148	85	15	31
18	36	46	41	38	33	a30	66	120	153	82	15	35
19	35	46	41	38	33	31	69	120	158	79	15	30
20	36	46	40	37	33	33	73	120	168	77	14	27
21	36	46	41	36	33	32	76	120	180	74	12	30
22	35	46	41	36	32	31	81	120	180	73	12	27
23	34	45	41	36	32	32	88	115	180	72	12	25
24	34	45	40	36	32	31	96	a115	180	69	12	25
25	34	45	40	35	32	31	100	a115	174	68	12	25
26	35	46	39	36	32	31	104	a115	168	67	12	29
27	33	22	42	35	31	30	109	a115	168	64	12	24
28	32	22	42	37	31	30	115	a110	158	63	12	23
29	33	40	41	36	-	31	120	a110	148	60	12	23
30	34	45	41	35	-	31	120	a110	148	57	11	22
31	37	-	42	36	-	31	-	111	-	57	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,123	46	28	36.2	-	-
November	1,229	46	22	41.0	-	-
December	1,306	46	39	42.1	-	-
Calendar year	-	-	-	-	-	-
January	1,164	41	35	37.6	-	-
February	960	38	31	34.3	-	-
March	942	33	29	30.4	-	-
April	2,015	120	32	67.2	-	-
May	3,686	128	110	119	-	-
June	4,138	180	105	138	-	-
July	2,884	143	57	93.0	-	-
August	705	56	11	22.7	-	-
September	854	38	11	28.5	-	-
Water year 1942-43	21,006	180	11	57.6	1.31	17.75

a No gage-height record; discharge computed on basis of weather records.
Note.- Shifting-control method used Oct. 7 to Nov. 26, Nov. 29 to Mar. 13, Mar. 19 to Apr. 4, June 1 to July 31.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

North Manistique Lake Outlet at Helmer, Mich.

Location.- Staff gage, lat. 46°16'30", long. 85°42'40", in sec. 20, T. 45 N., R. 11 W., at bridge on State Highway 98, a quarter of a mile downstream from Helmer Creek, half a mile upstream from Manistique Lake, and half a mile northeast of Helmer.

Drainage area.- 15 square miles.

Records available.- August 1942 to September 1943.

Extremes.- Maximum discharge during year, 100 second-feet June 21 (gage height, 2.88 feet, from graph based on gage readings); minimum daily, 4 second-feet Jan. 28-31; minimum gage height, 0.79 foot Aug. 19-21, Sept. 3 (from graph based on gage readings).
1942-43: Maximum discharge that of June 21, 1943; minimum observed, 1.8 second-feet Sept. 2, 3, 12, 1942 (gage height, 0.64 foot).

Remarks.- Records good except those below 10 second-feet or for periods of ice effect, which are fair. Gage read once daily.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 24		Apr. 25 to Sept. 30					
0.9	7.7	0.7	3.9	1.0	12	2.0	50
1.0	10.6	.75	5.1	1.1	16	2.4	70
1.3	20	.8	6.5	1.3	22	2.9	100
1.8	40	.9	9.3	1.4	26		
2.2	60	.95	11	1.5	29		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	18	16	9	5	22	24	46	29	31	9.3	6.5
2	11	18	16	9	5	20	24	46	30	31	9.0	6.5
3	11	18	16	9	6	18	27	46	33	27	8.4	6.2
4	16	16	16	9	6	17	28	46	36	25	8.4	6.5
5	16	18	16	9	6	16	30	46	33	23	9.3	6.5
6	17	20	16	9	7	13	34	45	30	22	9.3	7.0
7	19	20	16	9	6	15	32	42	27	20	7.8	9.0
8	19	19	16	9	5	*14	32	39	26	20	6.7	9.0
9	17	18	16	9	5	14	31	35	23	21	6.5	9.8
10	17	22	16	9	6	14	29	33	23	20	7.0	12
11	15	21	16	9	7	13	40	31	22	23	7.6	12
12	12	13	16	9	7	13	44	29	26	38	7.0	12
13	12	11	16	9	6	13	42	28	29	26	6.7	12
14	11	9.7	15	9	5	13	*38	26	31	18	7.0	11
15	11	17	15	9	5	21	35	25	47	17	7.0	10
16	11	28	15	9	5	24	34	27	46	16	6.5	9.6
17	10.6	*28	15	9	5	24	34	29	57	15	6.7	9.3
18	11	26	14	9	6	23	35	27	51	15	7.6	8.4
19	9.7	24	14	9	6	21	36	26	41	13	6.5	7.3
20	9.4	23	13	*8	6	21	45	25	61	12	6.2	7.0
21	10	21	12	8	10	20	53	25	97	14	6.2	7.8
22	10.3	21	12	7	17	19	56	23	76	14	6.5	9.0
23	10.3	20	12	6	18	19	55	22	60	13	6.5	9.3
24	10.3	19	11	6	22	19	53	22	48	13	6.7	9.3
25	10	18	10	6	28	19	58	27	45	13	6.7	9.3
26	10	18	11	5	30	19	52	29	43	12	6.5	9.3
27	10	9.4	12	5	28	19	49	29	38	12	6.5	9.0
28	10	12	12	4	24	20	46	28	36	11	6.5	9.3
29	10	12	10	4	-	21	45	25	32	11	6.5	8.7
30	10.3	12	9	4	-	22	44	24	27	9.8	6.5	8.4
31	19	-	9	4	-	24	-	25	-	9.3	6.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	388.9	19	9.4	12.5	0.833	0.96
November	550.1	28	9.4	18.3	1.22	1.36
December	429	16	9	13.8	.920	1.06
Calendar year	-	-	-	-	-	-
January	238	9	4	7.68	.512	.59
February	294	30	5	10.5	.700	.73
March	570	24	13	18.4	1.23	1.41
April	1,185	58	24	39.5	2.63	2.94
May	976	46	22	31.5	2.10	2.42
June	1,203	97	22	40.1	2.67	2.98
July	565.1	38	9.3	18.2	1.21	1.40
August	222.1	9.3	6.2	7.16	.477	.55
September	267.0	12	6.2	8.90	.593	.66
Water year 1942-43	6,868.2	97	4	18.9	1.26	17.06

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 30 to Mar. 28.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Fox River at Seney, Mich.

Location.- Staff gage, lat. 46°20'35", long. 85°57'05", in sec. 32, T. 46 N., R. 13 W., at Duluth, South Shore & Atlantic Railroad bridge in Seney, 8 miles upstream from East Branch.

Drainage area.- 107 square miles.

Records available.- May 1942 to September 1943.

Extremes.- Maximum discharge observed during year, 740 second-feet June 23 (gage height, 4.70 feet, from graph based on gage readings); minimum daily, 75 second-feet Jan. 21; minimum gage height, 2.48 feet Oct. 20, 21 (from graph based on gage readings).
1942-43: Maximum discharge that of June 23, 1943; minimum daily, that of Jan. 21, 1943; minimum gage height observed, 2.24 feet Aug. 12-14, Sept. 7, 1942.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Gage read once daily.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

2.4	127
3.4	261
3.7	333
4.0	440
4.7	740

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	157	198	163	140	120	130	179	327	238	281	166	172
2	154	192	163	130	115	130	172	322	238	261	166	165
3	157	186	172	125	115	130	172	349	231	253	165	160
4	205	179	186	120	120	130	172	343	231	245	161	157
5	218	192	172	115	125	130	179	339	218	238	160	158
6	212	192	166	110	130	*115	179	355	205	231	157	172
7	198	186	165	115	148	110	186	365	198	224	157	166
8	179	186	172	115	143	105	186	346	192	218	156	161
9	172	186	172	110	143	105	198	311	186	212	158	162
10	166	205	161	110	145	105	212	281	186	205	166	172
11	165	198	157	110	152	105	224	261	186	198	163	179
12	160	192	158	110	150	100	245	245	205	198	158	172
13	153	186	163	115	130	105	253	238	245	198	162	166
14	153	186	165	100	120	100	*245	231	261	198	166	163
15	150	186	165	95	130	100	231	224	305	192	172	161
16	144	192	160	90	125	115	231	238	333	192	179	158
17	141	212	155	95	135	130	224	253	408	186	179	157
18	140	*205	155	105	145	145	245	245	504	179	166	156
19	139	192	155	90	150	135	253	231	444	172	161	156
20	137	186	155	80	150	130	325	224	480	179	160	157
21	137	186	155	75	160	130	396	212	524	205	161	156
22	141	172	155	80	150	135	428	205	718	212	192	156
23	150	172	180	90	146	140	452	198	740	198	186	156
24	148	166	200	105	141	150	432	218	650	192	186	156
25	148	166	210	120	140	166	440	245	596	192	186	156
26	149	166	200	105	140	153	416	253	496	186	179	156
27	152	172	190	95	135	152	400	245	448	186	172	154
28	150	172	180	110	135	145	379	231	393	179	172	153
29	156	163	170	110	-	152	346	218	346	172	179	150
30	179	166	155	110	-	153	336	212	316	172	179	150
31	198	-	140	120	-	172	-	212	-	166	172	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,008	218	137	162	1.51	1.74
November	5,538	212	163	185	1.73	1.93
December	5,215	210	140	168	1.57	1.81
Calendar year	-	-	-	-	-	-
January	3,300	140	75	106	.991	1.15
February	3,838	160	115	137	1.28	1.33
March	4,003	172	100	129	1.21	1.39
April	8,336	452	172	278	2.60	2.90
May	8,177	365	198	264	2.47	2.84
June	10,721	740	186	357	3.34	3.73
July	6,320	281	166	204	1.91	2.20
August	5,242	192	156	169	1.58	1.82
September	4,813	179	150	160	1.50	1.67
Water year 1942-43	70,511	740	75	193	1.80	24.51

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 14 to Feb. 6; Feb. 12-22, Feb. 25 to Mar. 24 (no gage-height record Dec. 21, 22, 25-28, Jan. 25 to Feb. 5, Feb. 17-19).
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

East Branch Fox River near Germfask, Mich.

Location.- Chain gage, lat. 46°16'30", long. 85°50'50", in sec. 19, T. 45 N., R. 12 W., at bridge 1½ miles upstream from mouth and 4 miles east of Germfask.

Drainage area.- 104 square miles.

Records available.- May 1942 to September 1943.

Extremes.- Maximum discharge during year, 797 second-feet Apr. 24 (gage height, 11.34 feet, from graph based on gage readings); minimum daily, 75 second-feet Mar. 9-16; minimum gage height, 2.49 feet Aug. 8 (from graph based on gage readings).
1942-43: Maximum discharge, that of Apr. 24, 1943; minimum observed, 70 second-feet Aug. 21, 1942 (gage height, 1.96 feet).

Remarks.- Records fair. Gage read once daily.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

2.4	84
3.0	110
4.7	199
6.4	308
8.6	489
10.6	701
11.3	797

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	155	193	150	100	80	85	130	435	217	259	92	108
2	145	193	150	100	80	85	135	401	229	229	90	102
3	140	193	145	100	80	85	140	409	229	205	92	96
4	165	187	140	100	80	85	140	401	273	187	92	94
5	199	187	145	95	80	85	140	401	266	181	92	92
6	211	199	145	95	80	*85	145	393	241	165	88	100
7	211	205	150	90	80	85	150	377	223	155	88	118
8	217	199	145	90	80	80	160	353	205	145	88	122
9	211	199	140	90	80	75	175	322	181	140	90	118
10	199	205	145	95	80	75	210	301	160	130	92	118
11	181	211	145	95	80	75	250	273	155	125	92	125
12	160	205	140	90	80	75	320	253	165	118	94	130
13	150	199	140	90	80	75	340	229	205	115	94	120
14	135	199	135	90	80	75	350	211	223	115	100	115
15	130	193	130	90	80	75	360	193	273	115	108	112
16	125	199	130	90	80	75	360	193	301	112	108	108
17	118	*211	130	90	80	80	370	211	361	108	108	105
18	115	217	125	90	80	85	370	217	401	102	102	102
19	110	217	125	*95	85	85	410	211	417	100	96	100
20	105	205	125	90	85	90	453	205	462	98	92	100
21	108	193	120	85	85	90	517	193	498	108	92	102
22	115	181	120	85	85	85	642	175	577	130	110	105
23	130	170	120	85	90	90	*754	165	609	135	130	105
24	130	150	120	85	90	90	797	155	609	130	130	102
25	125	145	115	80	90	95	754	181	577	122	130	102
26	125	145	110	80	90	100	677	205	517	115	120	105
27	130	150	110	80	85	110	609	217	453	108	112	102
28	130	135	110	80	85	110	547	223	393	100	102	102
29	130	150	105	80	-	110	496	223	337	98	102	100
30	155	155	105	80	-	110	471	205	308	98	110	100
31	187	-	105	80	-	125	-	193	-	96	110	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	4,647	217	105	150	1.44	1.66
November	5,590	217	135	186	1.79	2.00
December	4,020	150	105	130	1.25	1.44
Calendar year 1942	-	-	-	-	-	-
January	2,765	100	80	89.2	.858	.99
February	2,310	90	80	82.5	.793	.83
March	2,730	125	75	88.1	.847	.98
April	11,374	797	130	379	3.64	4.07
May	8,124	435	155	262	2.52	2.91
June	10,065	609	155	336	3.23	3.60
July	4,144	259	96	134	1.29	1.48
August	3,146	130	88	101	.971	1.13
September	3,210	130	92	107	1.03	1.15
Water year 1942-43	62,125	797	75	170	1.63	22.24

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 22 to Apr. 19.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Duck Creek near Blaney, Mich.

Location.- Water-stage recorder, lat. 46°06'50", long. 86°04'50", in SE¼ sec. 17, T. 43 N., R. 14 W., 3 miles upstream from mouth and 7 miles west of Blaney.

Drainage area.- 92 square miles, including area from which flow is diverted to Duck Creek from Walsh Creek and Marsh Creek (watershed indeterminate because of swamps).

Records available.- March 1938 to September 1943.

Extremes.- Maximum discharge during year, 798 second-feet about Apr. 14 (gage height, 9.28 feet, from high-water mark in gage well); minimum, 11 second-feet Sept. 30 (gage height, 1.77 feet).

1938-43: Maximum discharge observed, 1,740 second-feet Apr. 26, 1939 (gage height, 11.70 feet, site and datum then in use); minimum, 6.0 second-feet Aug. 21, 1941 (gage height, 1.52 feet).

Remarks.- Records excellent except those below 50 second-feet, which are good and those for periods of ice effect or no gage-height record, which are fair. Records include flow from Walsh Creek and Marsh Creek, which originates upstream from line between R. 14 W. and R. 15 W. and is diverted to Duck Creek through drainage canal about 3 miles above station.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.8	12	3.3	89
2.0	18	3.6	116
2.2	26	6.6	454
2.8	57	9.0	750

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	82	100	54	34	45	200	430	220	325	20	18
2	34	86	85	54	35	43	250	418	242	281	19	16
3	32	83	74	54	35	39	310	418	242	237	18	15
4	64	81	60	54	36	*36	370	406	358	204	17	14
5	92	93	50	53	36	35	420	394	347	176	16	14
6	104	117	45	52	37	35	450	382	270	149	15	16
7	102	128	43	51	38	34	490	358	215	130	14	18
8	91	136	42	50	39	33	530	325	160	113	14	16
9	80	144	40	50	41	32	a560	292	125	99	14	15
10	68	182	40	50	44	31	a590	254	109	88	16	17
11	61	198	41	50	47	33	a620	226	101	80	15	20
12	54	204	41	50	47	33	a660	193	125	72	14	17
13	49	198	40	50	46	34	a700	166	188	65	16	16
14	46	182	38	50	46	34	a750	144	188	59	19	15
15	43	171	38	50	45	31	a730	125	370	56	17	15
16	40	*204	38	49	45	36	a700	127	430	50	15	14
17	38	215	39	49	44	46	a670	149	466	45	15	13
18	36	210	37	48	42	48	*658	138	514	41	13	13
19	34	198	37	48	43	51	646	120	514	37	12	13
20	32	193	38	47	44	52	622	106	574	36	12	13
21	32	188	37	*46	47	49	622	91	598	36	12	13
22	34	176	37	45	48	47	622	84	723	40	14	13
23	33	160	38	44	49	50	598	77	736	35	17	13
24	31	149	39	42	50	54	586	78	671	34	20	13
25	31	138	39	41	49	60	562	125	634	36	20	14
26	34	135	41	40	46	65	526	144	610	34	19	13
27	36	125	47	37	46	75	490	149	550	30	18	13
28	34	130	50	35	45	90	478	171	514	26	18	12
29	40	135	51	34	-	110	454	149	466	24	18	12
30	56	120	52	34	-	130	454	127	394	23	20	12
31	73	-	52	34	-	160	-	124	-	22	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,571	104	31	50.7		
November	4,561	215	81	152		
December	1,449	100	37	46.7		
Calendar year 1942	34,504.9	1,140	8.4	94.5		
January	1,445	54	34	46.6		
February	1,204	50	34	43.0		
March	1,651	160a	31	53.3		
April	16,318	750	200	544		
May	6,490	430	77	209		
June	11,654	736	101	388		
July	2,683	325	22	86.5		
August	505	20	12	16.3		
September	436	20	12	14.5		
Water year 1942-43	49,967	750	12	137		

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for stations on nearby streams.

Note.- Stage-discharge relation affected by ice Nov. 28 to Apr. 8 (no gage-height record Jan. 12-20, 22).

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

West Branch Manistique River near Manistique, Mich.

Location.- Water-stage recorder, lat. 46°05'20", long. 86°09'40", in SE¼ sec. 27, T. 43 N., R. 15 W., 300 feet downstream from Stutts Creek and 10 miles northeast of Manistique.

Drainage area.- 322 square miles.

Records available.- April 1938 to September 1943.

Extremes.- Maximum discharge during year, 3,670 second-feet June 23 (gage height, 11.43 feet); minimum, 144 second-feet Sept. 30 (gage height, 2.04 feet).
1938-43: Maximum discharge observed, 5,300 second-feet Apr. 29, 1939 (gage height, 12.9 feet); minimum observed, 100 second-feet Aug. 30, 1938.

Remarks.- Records excellent except those for periods of ice effect, no gage-height record, or shifting control, which are fair.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to July 31				Aug. 1 to Sept. 30	
2.7	232	9.1	2,290	2.0	138
3.4	372	10.8	3,220	2.4	205
4.6	680	11.3	3,590	2.6	244
6.3	1,220				

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	458	530	270	240	220	390	2,050	770	890	232	182
2	320	495	520	260	230	220	440	1,930	920	755	226	173
3	310	545	490	255	230	*210	530	1,890	950	680	216	167
4	410	570	470	255	230	210	640	1,850	1,110	608	213	162
5	520	595	450	255	230	210	750	1,770	1,110	570	207	159
6	560	608	430	245	230	210	870	1,770	1,010	532	200	160
7	560	608	420	245	230	210	980	1,690	920	495	198	160
8	540	608	400	245	230	210	1,100	1,570	800	458	192	160
9	520	620	390	245	230	210	1,200	1,460	725	432	196	165
10	490	665	380	240	230	210	1,320	1,360	635	408	196	170
11	470	680	360	240	230	205	1,420	1,250	582	384	189	176
12	440	695	350	240	230	205	1,570	1,110	595	361	189	191
13	410	695	340	230	230	210	1,730	980	680	339	191	192
14	390	660	330	230	230	210	1,690	890	725	328	196	189
15	370	*680	330	230	230	210	1,570	830	f1,110	316	201	180
16	350	680	330	245	230	210	1,500	800	f1,530	306	209	172
17	340	680	330	250	230	220	1,420	830	f1,890	298	201	167
18	330	680	340	250	230	240	1,390	800	f2,210	288	191	162
19	320	695	340	250	230	250	1,390	800	2,490	278	184	157
20	310	710	330	250	240	250	*1,420	755	2,860	269	175	156
21	310	695	330	250	240	250	1,530	710	2,920	269	172	156
22	310	665	320	*250	240	250	1,690	665	3,360	269	172	156
23	320	620	300	250	240	250	1,930	620	3,590	269	176	154
24	320	595	300	250	250	260	2,130	595	3,160	269	196	152
25	320	570	290	250	240	270	2,290	620	2,740	269	194	156
26	320	545	280	250	230	280	2,340	620	2,290	260	192	157
27	318	532	280	250	230	300	2,390	620	1,930	260	185	157
28	318	495	270	245	230	310	2,390	635	1,610	250	178	154
29	328	520	270	245	-	310	2,290	608	1,280	250	184	149
30	361	530	270	240	-	330	2,210	582	1,040	241	184	146
31	408	-	270	240	-	350	-	570	-	232	180	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	11,913	560	310	384	1.19	1.38
November	18,414	710	458	614	1.91	2.13
December	11,040	530	270	356	1.11	1.28
Calendar year 1942	146,394	1,890	103	401	1.25	16.91
January	7,650	270	230	247	.767	.88
February	6,520	250	230	233	.724	.75
March	7,490	350	205	242	.752	.87
April	44,510	2,390	390	1,484	4.61	5.14
May	33,230	2,050	570	1,072	3.33	3.84
June	47,542	3,590	582	1,585	4.92	5.49
July	11,837	890	232	382	1.19	1.37
August	6,017	232	172	194	.602	.69
September	4,939	192	146	165	.512	.57
Water year 1942-43	211,102	3,590	146	578	1.80	24.39

* Winter discharge measurement made on this day.
f Computed on basis of partly estimated gage-height record.
Note.- Stage-discharge relation affected by ice Nov. 30 to Apr. 9. No gage-height record Oct. 1-26; discharge computed on basis of recorded range in stage and records for Manistique River near Blaney.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Indian River near Manistique, Mich.

Location.- Water-stage recorder, lat. 45°59'30", long. 86°17'15", in NE¼ sec. 34, T. 42 N., R. 16 W., above Indian Lake Outlet, 2 miles northwest of Manistique.

Drainage area.- 302 square miles.

Records available.- March 1938 to September 1943.

Extremes.- Maximum discharge during year, 1,550 second-feet June 24 (gage height, 7.79 feet), from rating curve extended above 660 second-feet on basis of computation of flow over dam at gage height 7.79 feet; minimum daily, 323 second-feet Mar. 14-23 (backwater from needles in gate section); minimum gage height, 3.82 feet Sept. 21. 1938-43: Maximum discharge, that of June 24, 1943; minimum observed, 106 second-feet Aug. 6, 7, 1939; minimum gage height, 3.30 feet Mar. 25, 1940.

Remarks.- Records excellent July 2 to Aug. 7, others good except those for June 17 to July 1, which are fair. Stage of Indian Lake regulated by needles in gate section of rock-filled timber dam 1¼ miles below gage.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Mar. 24, Aug. 8, 9)

Oct. 1 to June 30, Aug. 8 to Sept. 30						July 1 to Aug. 7			
3.7	314	6.5	840	7.4	1,260	4.3	500	6.0	950
6.0	728	7.0	1,040	7.6	1,400	5.2	695	6.9	1,300

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	377	413	458	386	350	332	395	728	620	1,290	550	377
2	368	413	458	386	350	332	404	728	620	1,250	550	368
3	368	413	458	386	350	332	413	728	638	1,210	540	368
4	404	404	458	386	350	332	422	728	656	1,170	530	368
5	404	422	449	377	350	332	440	728	674	1,130	520	368
6	395	431	449	377	350	332	449	728	674	1,090	510	377
7	404	422	449	377	350	332	476	728	674	1,060	510	395
8	404	422	440	377	350	332	494	728	674	1,020	476	368
9	395	431	440	377	350	332	512	728	674	985	440	359
10	395	431	440	368	341	332	548	710	674	950	422	359
11	395	431	431	368	341	332	566	710	656	950	422	359
12	395	440	431	368	341	332	602	692	656	880	422	350
13	386	b386	431	368	341	332	620	692	656	862	422	350
14	386	*b332	431	368	341	323	638	674	674	828	431	350
15	422	b395	422	368	341	323	656	656	728	795	413	350
16	458	458	422	368	341	323	656	674	812	765	413	341
17	449	476	422	359	341	323	674	656	908	750	404	341
18	449	476	413	359	341	323	674	656	970	720	395	341
19	440	476	413	359	341	323	674	656	1,040	695	395	341
20	431	476	413	359	332	323	674	656	1,090	682	395	341
21	431	476	413	359	332	323	674	638	1,170	670	386	332
22	431	476	413	359	332	323	674	638	1,300	645	386	341
23	431	476	404	*359	332	323	692	620	1,360	632	386	341
24	422	476	404	350	332	350	692	620	1,400	620	386	341
25	413	476	404	350	332	377	692	620	1,400	610	386	341
26	422	494	404	350	332	377	710	620	1,330	600	377	350
27	413	395	404	350	332	386	710	602	1,300	590	368	350
28	404	422	395	350	332	386	728	602	1,230	580	368	350
29	404	449	395	350	-	386	728	602	1,170	570	368	359
30	413	458	395	350	-	386	728	584	1,090	570	377	359
31	413	-	395	350	-	395	-	584	-	560	377	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	12,722	458	368	410	1.36	1.57
November	13,146	494	332	438	1.45	1.62
December	13,154	458	395	424	1.40	1.62
Calendar year 1942	134,148	618	144	368	1.22	16.52
January	11,318	386	350	365	1.21	1.39
February	9,548	350	332	341	1.13	1.18
March	10,589	395	323	342	1.13	1.30
April	18,015	728	395	600	1.99	2.22
May	20,714	728	584	668	2.21	2.55
June	27,518	1,400	620	917	3.04	3.39
July	25,729	1,290	560	830	2.75	3.17
August	13,325	550	368	430	1.42	1.64
September	10,635	395	332	354	1.17	1.31
Water year 1942-43	186,413	1,400	323	511	1.69	22.96

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Fragmentary gage-height record Nov. 7-14, Dec. 3 to Apr. 11; discharge computed from graph based on engineers' notes and partial gage-height record.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Menominee River at Twin Falls, near Iron Mountain, Mich.

Location.- Lat. 45°52', long. 88°04', in sec. 12, T. 40 N., R. 31 W., at power plant of Wisconsin Michigan Power Co., 3 miles upstream from Pine River and 3½ miles north of city of Iron Mountain.

Drainage area.- 1,790 square miles.

Records available.- January 1914 to September 1943.

Average discharge.- 29 years, 1,800 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 10,100 second-feet June 18; minimum daily, 1,110 second-feet Sept. 6.
1914-43: Maximum daily discharge, 16,700 second-feet Apr. 23, 24, 1916; minimum daily, 154 second-feet Aug. 9, 1925.

Remarks.- Records good. Discharge determined from power-house records. Rating of units checked within five percent by two discharge measurements made in August 1943. Flow regulated by power plant at which station is located and also by plant on Brule River, 5 miles upstream, where drainage area is 58 percent of that at station.

Cooperation.- Records of daily discharge computed by Wisconsin Michigan Power Co., on basis of load-discharge rating of hydroelectric units as developed by Geological Survey in 1932-33 and computed flow through gates.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	3,220	3,180	1,890	1,450	2,180	2,060	4,360	5,580	2,310	2,690	1,460	1,980
2	3,250	3,410	1,870	1,540	2,180	2,400	4,630	5,610	2,820	2,660	1,590	2,030
3	3,140	2,840	1,900	1,490	2,250	2,400	3,430	4,610	2,470	2,680	1,810	1,990
4	3,460	2,540	2,000	1,800	2,220	2,470	4,510	5,040	2,930	2,610	1,900	2,040
5	4,050	2,930	1,970	1,850	2,190	2,460	3,220	4,810	2,730	2,060	2,120	1,250
6	4,970	2,980	1,590	1,730	1,730	2,260	2,450	5,780	2,200	2,360	1,890	1,110
7	4,220	2,280	1,680	1,790	1,570	1,810	2,200	7,530	2,190	2,580	1,640	1,280
8	3,970	1,830	1,740	1,840	1,990	1,920	2,590	9,240	2,600	2,420	1,400	1,480
9	4,080	2,030	1,540	1,600	2,240	2,140	3,050	9,660	2,540	2,020	1,790	1,480
10	3,940	1,920	1,600	1,440	2,280	1,990	4,180	8,000	2,490	2,080	2,050	1,480
11	3,610	2,040	1,700	2,020	2,260	1,870	4,110	7,770	2,550	1,900	2,060	1,690
12	3,710	2,160	1,560	2,400	1,810	1,820	4,790	7,180	2,460	1,710	2,030	1,360
13	3,130	2,120	1,240	2,220	1,830	1,860	4,150	6,120	2,510	1,920	2,030	1,440
14	2,960	1,980	1,500	2,140	1,870	1,410	3,220	4,260	2,800	2,090	1,750	1,490
15	2,990	1,680	1,680	2,180	1,850	1,590	3,170	3,800	6,050	2,010	1,310	1,430
16	2,730	1,880	1,490	1,570	2,400	1,640	3,020	4,110	8,080	1,970	1,820	1,500
17	2,520	2,030	1,570	1,210	2,420	1,620	2,550	3,990	9,180	1,780	2,020	1,540
18	1,970	2,130	1,880	2,080	2,350	1,620	2,550	4,160	10,100	1,390	2,120	1,440
19	1,890	2,210	1,420	2,280	2,500	1,660	2,600	4,300	9,430	1,800	2,010	1,310
20	2,020	2,080	1,200	2,040	2,520	1,770	2,850	3,640	7,900	2,050	1,790	1,460
21	2,190	1,740	1,610	1,980	2,470	1,170	3,180	3,920	8,490	2,010	1,680	1,490
22	2,090	1,650	2,020	2,190	2,130	1,570	3,880	2,890	8,420	1,770	1,340	1,490
23	1,930	1,640	2,100	1,980	2,510	1,740	4,790	2,280	6,060	1,760	1,580	1,560
24	1,600	1,730	1,520	2,100	2,550	1,760	5,940	2,120	4,760	1,550	1,810	1,470
25	1,340	1,710	1,200	2,200	2,550	1,900	6,380	2,760	4,320	1,780	1,800	1,400
26	1,990	1,480	1,540	2,200	2,510	2,410	6,550	3,580	4,720	1,820	1,950	1,220
27	1,980	1,260	1,640	2,170	2,480	2,620	5,740	2,600	4,480	2,090	1,960	1,320
28	1,870	1,570	1,780	1,950	1,890	2,650	5,570	2,510	3,740	2,030	1,890	1,660
29	1,690	1,380	1,950	2,100	-	2,530	5,450	2,570	3,370	1,900	1,640	1,560
30	1,970	1,570	2,060	2,120	-	2,450	6,010	2,510	3,230	1,930	1,850	1,400
31	2,540	-	1,700	1,920	-	3,890	-	2,410	-	1,820	1,810	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	87,020	4,970	1,340	2,807	1.57	1.81
November	61,980	3,410	1,260	2,066	1.15	1.28
December	52,140	2,100	1,200	1,682	.940	1.08
Calendar year 1942	832,900	5,460	1,160	2,282	1.27	17.29
January	59,580	2,400	1,210	1,922	1.07	1.23
February	61,730	2,550	1,570	2,205	1.23	1.28
March	63,460	3,890	1,170	2,047	1.14	1.31
April	121,120	6,550	2,200	4,037	2.26	2.52
May	145,340	9,660	2,120	4,688	2.62	3.02
June	137,930	10,100	2,190	4,598	2.57	2.87
July	63,240	2,690	1,390	2,040	1.14	1.31
August	55,900	2,120	1,310	1,803	1.01	1.16
September	45,350	2,040	1,110	1,512	.845	.94
Water year 1942-43	954,790	10,100	1,110	2,616	1.46	19.81

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Pine River at Pine River power plant, near Florence, Wis.

Location.- Lat. 45°49', long. 88°15', in sec. 28, T. 39 N., R. 18 E., at power plant of Wisconsin Michigan Power Co., 4 miles downstream from Popple River and 6⅔ miles south of Florence.

Drainage area.- 543 square miles.

Records available.- October 1923 to September 1943. January 1914 to September 1923 at site 4 miles upstream (drainage area, 511 square miles).

Average discharge.- 20 years (1923-43), 445 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 2,410 second-feet June 18; minimum daily, 140 second-feet Sept. 18.
1923-43: Maximum daily discharge, 4,380 second-feet Apr. 9, 1929; no flow at times in 1924, 1926, 1927, 1930, 1931, 1933, 1940.

Remarks.- Records good except those above 600 second-feet, which are fair. Discharge determined from power-plant records. Rating of units checked within three percent by two discharge measurements made during 1943. Flow regulated by power plant at station, but pondage is small and monthly discharge is very nearly natural flow.

Cooperation.- Records of daily discharge computed by Wisconsin Michigan Power Co. on basis of load-discharge rating of hydroelectric units as developed by Geological Survey and computed flow through gates.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	731	838	410	330	312	312	860	1,320	984	1,050	299	341
2	676	851	428	418	312	312	864	1,170	1,100	918	336	354
3	606	811	375	348	312	317	864	1,100	1,100	838	480	317
4	823	661	360	412	312	226	954	984	1,000	818	424	320
5	1,090	611	380	331	312	312	1,100	984	819	692	412	312
6	1,210	611	382	381	312	208	1,100	1,100	744	678	402	280
7	1,120	611	382	368	312	312	1,160	1,040	744	598	434	263
8	1,030	611	344	329	312	208	1,250	904	704	598	399	312
9	858	611	381	393	312	312	1,350	814	624	598	405	312
10	718	709	382	312	221	209	1,460	744	624	598	611	312
11	696	711	382	368	312	218	1,480	764	565	481	611	312
12	611	612	349	356	312	299	1,560	664	507	393	585	186
13	611	624	312	359	312	219	1,460	624	846	501	401	208
14	601	611	425	352	312	312	1,300	624	1,010	389	524	312
15	611	581	312	354	216	208	1,170	624	1,590	370	299	312
16	572	611	386	336	312	277	1,100	624	1,870	399	320	299
17	511	611	376	312	208	312	1,060	624	2,280	370	332	272
18	509	611	348	339	312	208	1,000	699	2,410	312	312	140
19	403	611	332	312	208	312	1,100	624	2,120	407	281	187
20	501	611	337	312	302	218	1,100	624	2,190	330	285	208
21	404	611	359	312	312	245	1,150	624	1,760	309	312	312
22	422	518	357	312	316	312	1,220	606	1,620	311	208	312
23	415	499	370	312	438	208	1,350	499	1,290	318	310	312
24	432	383	332	312	344	312	1,530	502	1,110	306	407	242
25	369	521	312	312	364	324	1,580	487	841	311	473	312
26	436	384	391	312	344	496	1,580	606	1,080	355	348	312
27	404	247	312	312	335	559	1,580	611	1,240	312	470	348
28	392	330	365	312	270	528	1,510	611	1,410	312	328	378
29	440	410	316	312	-	573	1,440	624	1,340	312	299	277
30	507	465	432	306	-	651	1,340	624	1,080	299	299	305
31	740	-	390	233	-	824	-	664	-	299	397	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	19,449	1,210	369	627	1.15	1.33
November	17,487	851	247	583	1.07	1.19
December	11,319	432	312	365	.672	.77
Calendar year 1942	218,975	3,230	117	600	1.10	14.98
January	10,369	418	233	334	.615	.71
February	8,558	438	208	306	.564	.59
March	10,343	824	208	334	.615	.71
April	37,572	1,560	860	1,252	2.31	2.58
May	23,113	1,320	487	746	1.37	1.58
June	36,802	2,410	507	1,220	2.25	2.51
July	14,782	1,050	299	477	.878	1.01
August	11,903	611	208	384	.707	.82
September	8,669	378	140	289	.532	.59
Water year 1942-43	210,166	2,410	140	576	1.06	14.39

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Pike River at Amberg, Wis.

Location.- Staff gage, lat. 45°29', long. 88°00', in sec. 21, T. 35 N., R. 20 E., 500 feet upstream from Chicago, Milwaukee, St. Paul & Pacific Railroad bridge, a quarter of a mile south of Amberg, and 1¼ miles downstream from North Branch.

Drainage area.- 250 square miles.

Records available.- February 1914 to September 1943.

Average discharge.- 29 years, 234 second-feet.

Extremes.- Maximum discharge observed during year, 800 second-feet Apr. 10 (gage height, 3.96 feet); minimum observed, 132 second-feet Aug. 19-22, Sept. 9, 13, 14.
1914-43: Maximum discharge observed, 2,730 second-feet Apr. 10, 1922 (gage height, 7.68 feet, site and datum then in use), from rating curve extended above 1,100 second-feet; minimum observed, 26 second-feet Dec. 27, 1925 (gage height, 1.30 feet, site and datum then in use).

Remarks.- Records good except those for period of ice effect, which are fair. Gage read once daily.

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 8 to Nov. 27, June 19-27)

2.0	153	2.5	289	3.5	620
2.2	204	3.0	449	4.0	800

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	246	350	204	195	172	194	691	516	449	366	153	190
2	231	320	204	195	171	188	727	449	727	320	177	177
3	231	289	210	192	175	182	655	415	655	289	177	153
4	382	260	218	188	177	178	691	382	516	289	177	153
5	550	274	*216	185	180	176	691	382	449	260	177	153
6	516	320	217	185	180	172	655	449	382	246	177	153
7	449	294	215	185	180	168	691	415	350	231	153	153
8	366	289	208	190	180	166	655	382	335	218	153	132
9	294	274	202	195	180	165	727	366	289	218	177	132
10	274	289	195	*195	180	165	800	335	274	204	204	153
11	246	274	190	197	179	165	727	320	260	204	177	153
12	246	260	187	195	176	167	655	289	274	190	177	142
13	246	260	187	198	*174	166	620	289	320	177	204	132
14	231	320	186	199	173	166	516	274	398	177	204	132
15	218	366	188	198	170	166	449	260	516	177	177	142
16	218	218	188	192	167	166	415	289	585	165	153	132
17	218	246	187	190	168	167	398	398	620	177	153	132
18	204	274	183	189	176	168	449	382	655	165	165	142
19	190	260	178	185	185	172	550	335	585	165	132	a148
20	190	246	177	183	195	*174	655	320	550	153	132	153
21	190	246	173	180	208	174	727	289	516	153	132	153
22	190	231	173	182	212	173	655	274	432	153	132	153
23	190	218	176	183	218	173	620	260	366	142	153	142
24	190	218	180	183	220	180	620	246	320	153	190	153
25	a190	190	181	179	216	188	585	274	289	165	190	153
26	190	190	185	172	210	190	550	294	585	153	177	165
27	190	190	190	170	205	198	516	294	585	153	177	204
28	190	180	190	172	200	240	482	289	620	153	153	165
29	204	180	192	173	-	300	482	274	550	165	165	153
30	246	200	194	173	-	450	516	320	449	190	190	153
31	335	-	193	173	-	590	-	398	-	177	190	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per sq mile	Runoff in inches
October	8,051	550	190	260	1.04	1.20
November	7,726	366	180	358	1.03	1.15
December	5,967	218	173	192	.768	.89
Calendar year 1942	101,000	837	132	277	1.11	15.05
January	5,771	199	170	186	.744	.86
February	5,227	220	167	187	.748	.78
March	6,287	590	165	203	.812	.94
April	18,170	800	398	606	2.42	2.70
May	10,459	516	246	337	1.35	1.56
June	13,901	727	260	463	1.85	2.06
July	6,148	366	142	198	.792	.91
August	5,248	204	132	169	.676	.78
September	4,551	204	132	152	.608	.68
Water year 1942-43	97,506	800	132	267	1.07	14.51

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.- Stage-discharge relation affected by ice Nov. 28 to Mar. 31.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Oconto River near Gillett, Wis.

Location.- Water-stage recorder, lat. 44°52', long. 88°18', in sec. 34, T. 28 N., R. 18 E., at highway bridge, 2 miles upstream from Christy Brook and 2½ miles south of Gillett.

Drainage area.- 678 square miles.

Records available.- June 1906 to March 1909, January 1914 to September 1943.

Average discharge.- 30 years (1908, 1914-43), 611 second-feet.

Extremes.- Maximum daily discharge during year, 3,620 second-feet Apr. 1; maximum gage height, 8.22 feet Mar. 31 (affected by ice); minimum daily discharge, 364 second-feet Sept. 20 (gage height, 1.06 feet).
1906-9, 1914-43: Maximum discharge observed, 6,470 second-feet Apr. 11, 1922, caused by failure of dam at Pulcifer, 4 miles upstream (gage height, 9.1 feet); minimum, 93 second-feet Nov. 26, 1941 (gage height, 0.13 foot).

Remarks.- Records excellent except those for period of ice effect, which are fair.

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.2	423	1.8	710	2.6	1,150	3.5	1,800	4.5	2,580
1.5	562	2.2	912	3.0	1,440	4.0	2,180	5.0	2,980

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	735	760	485	540	450	530	3,620	1,050	1,330	1,220	454	428
2	710	785	500	540	450	510	2,900	1,050	1,540	1,120	459	436
3	685	760	490	540	450	490	2,260	1,050	1,760	1,020	464	423
4	785	735	490	530	445	470	2,060	1,020	1,980	938	468	406
5	912	810	*495	520	445	455	1,900	992	1,870	860	473	402
6	1,080	835	495	515	450	440	1,900	992	1,700	835	486	406
7	1,180	860	500	515	460	430	1,800	938	1,540	835	486	402
8	1,180	886	500	515	460	420	1,700	965	1,400	785	459	397
9	1,150	860	500	*517	460	410	1,660	938	1,260	735	441	393
10	1,050	886	505	515	470	400	1,700	860	1,150	685	450	389
11	912	886	500	515	510	400	1,760	810	1,050	660	454	380
12	810	886	490	515	*523	400	1,760	785	965	586	519	380
13	760	835	480	510	535	400	1,730	735	886	586	635	380
14	710	785	475	505	535	400	1,620	710	965	562	685	384
15	685	710	470	500	530	410	1,510	685	992	533	660	384
16	660	710	465	500	525	410	1,400	735	1,020	514	562	380
17	635	735	465	495	510	410	1,290	785	1,180	524	514	380
18	586	735	460	490	490	405	1,220	835	1,330	524	477	376
19	586	735	450	490	470	*416	1,220	810	1,480	514	454	372
20	586	735	440	485	480	415	1,220	785	1,580	491	432	364
21	562	710	445	485	490	415	1,220	735	1,510	477	432	389
22	562	685	450	480	520	415	1,260	710	1,370	459	423	389
23	548	660	455	475	540	420	1,260	660	1,290	450	414	380
24	538	635	455	470	550	470	1,220	635	1,220	446	406	380
25	524	610	460	465	560	540	1,180	635	1,120	454	410	397
26	528	635	470	460	560	660	1,180	685	992	464	419	410
27	562	540	500	460	550	820	1,150	710	1,020	482	428	423
28	543	430	520	455	540	900	1,120	710	1,080	473	423	450
29	548	435	530	455	-	970	1,080	760	1,120	482	419	436
30	610	460	540	455	-	1,200	1,080	912	1,220	477	414	436
31	710	-	540	455	-	3,400	-	1,120	-	473	414	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	22,632	1,180	524	730	1.08	1.24
November	21,729	886	430	724	1.07	1.19
December	15,020	540	440	485	.715	.82
Calendar year 1942	274,492	2,300	344	752	1.11	15.05
January	15,367	540	455	496	.732	.84
February	13,958	560	445	498	.735	.77
March	18,831	3,400	400	607	.895	1.03
April	47,980	3,620	1,080	1,599	2.36	2.63
May	25,802	1,120	635	832	1.23	1.42
June	38,920	1,980	886	1,297	1.91	2.13
July	19,664	1,220	446	634	.935	1.08
August	14,634	685	406	472	.696	.80
September	11,952	450	364	398	.587	.65
Water year 1942-43	266,489	3,620	364	730	1.08	14.60

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 27 to Mar. 31.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Wheeler Lake near Lakewood, Wis.

Location.- Staff gage, lat. 45°19', long. 88°29', in sec. 27, T. 33 N., R. 16 E., on southwest shore of lake at Berglund's resort, 3½ miles east of Lakewood.
Drainage area.- 2 square miles.
Records available.- August 1936 to September 1943 (fragmentary).
Extremes.- Maximum elevation observed during year, 96.50 feet Oct. 5, Nov. 9; minimum, 95.44 feet Sept. 17, 20, 27.
1936-43: Maximum elevation observed, that of Oct. 5, Nov. 9, 1943; minimum observed, 93.64 feet Oct. 9, 12, 1937.
Remarks.- Gage heights have been reduced to datum assumed for this lake by Public Service Commission of Wisconsin.

Elevation, in feet, water year October 1942 to September 1943

Date	Elevation	Date	Elevation	Date	Elevation	Date	Elevation	Date	Elevation
Oct. 2	6.48	Apr. 17	5.88	May 28	5.90	July 12	6.10	Aug. 27	5.64
5	6.50	20	5.92	31	6.04	16	6.00	Sept. 1	5.64
9	6.48	24	5.92	June 4	6.16	19	5.98	3	5.66
12	6.46	27	6.01	8	6.10	27	5.88	6	5.62
16	6.44	30	6.01	11	6.06	30	5.84	10	5.50
19	6.42	May 3	5.98	18	6.24	Aug. 2	5.82	13	5.50
23	6.48	7	5.98	21	6.20	6	5.80	17	5.44
26	6.42	10	5.98	25	6.22	9	5.72	20	5.44
30	6.40	14	5.94	28	6.24	13	5.70	24	5.46
Nov. 2	6.46	17	5.94	July 2	6.14	16	5.68	27	5.44
6	6.48	21	5.92	5	6.16	20	5.70		
9	6.50	24	5.90	9	6.14	23	5.72		

Note.- Add 90 feet to obtain elevation above datum assumed for this lake by Public Service Commission of Wisconsin.

Boot Lake near Townsend, Wis.

Location.- Staff gage, lat. 45°15', long. 88°39', in sec. 9, T. 32 N., R. 15 E., on narrow neck of land cut by a small channel extending across north end of lake, 5½ miles southwest of Townsend.
Drainage area.- 1.5 square miles.
Records available.- August 1936 to September 1943 (fragmentary).
Extremes.- Maximum elevation observed during year, 98.25 feet June 28; minimum, 97.30 feet Sept. 23.
1936-43: Maximum elevation of water surface observed, that of June 23, 1943; minimum, 94.69 feet Oct. 31, Nov. 7, 1936.
Remarks.- Gage heights have been reduced to datum assumed for this lake by Public Service Commission of Wisconsin.

Elevation, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	97.60	-	-	-	97.70	-	-	98.08	-	97.94	-
2	-	-	-	-	-	-	-	97.85	-	-	-	-
3	-	-	-	-	97.64	-	-	-	-	-	-	97.66
4	-	97.52	97.52	-	-	-	-	-	-	-	-	-
5	-	-	-	97.56	-	-	-	-	-	-	-	-
6	-	97.53	-	-	-	97.70	-	-	-	98.22	-	-
7	-	-	-	-	-	-	-	-	-	-	97.60	-
8	-	-	-	-	97.66	-	97.68	-	98.00	-	-	-
9	-	97.54	97.54	-	-	-	-	-	-	-	-	-
10	-	-	-	97.58	-	-	-	97.80	-	-	-	97.52
11	-	-	-	-	-	97.72	-	-	-	-	-	-
12	-	97.50	-	-	-	-	97.76	-	-	-	-	-
13	97.60	-	97.52	-	97.66	-	-	-	-	-	-	-
14	-	-	-	97.60	-	-	-	97.76	-	-	-	97.50
15	-	97.50	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	97.70	-	-	-	-	-	-
17	-	-	-	97.62	-	-	-	-	98.22	-	-	-
18	-	-	97.54	-	97.68	-	-	-	-	-	-	-
19	-	97.48	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	97.70	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	97.90	-	-
22	-	-	-	97.62	97.70	-	-	97.70	-	-	-	-
23	-	-	97.56	-	-	-	-	-	-	-	-	97.30
24	-	97.46	-	-	-	-	-	-	-	-	-	-
25	-	-	-	97.64	-	97.70	-	-	-	-	97.74	-
26	-	-	-	-	-	-	97.86	-	-	-	-	-
27	97.44	-	-	-	97.70	-	97.86	-	-	-	-	-
28	-	-	97.56	-	-	-	-	-	98.25	-	-	-
29	-	97.50	-	-	-	97.70	-	-	-	-	-	-
30	-	-	-	97.64	-	-	-	-	-	-	-	97.38
31	-	-	97.56	-	-	97.72	-	-	-	-	-	-

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Fox River at Berlin, Wis.

Location.- Staff gage, lat. 43°57'05", long. 88°57'30", in sec. 16, T. 17 N., R. 13 E., at Government lock and dam at Berlin, 2½ miles upstream from Barnes Creek.

Drainage area.- 1,430 square miles.

Records available.- January 1898 to September 1943.

Average discharge.- 45 years, 1,125 second-feet.

Extremes.- Maximum daily discharge during year, 5,080 second-feet Mar. 31, Apr. 1; minimum daily, 512 second-feet Aug. 25.
1898-1943: Maximum daily discharge, 6,620 second-feet Mar. 21, 23, 1929; minimum daily, 250 second-feet Feb. 1-4, 1900.

Remarks.- Records good except those for period of ice effect, which are fair. Gage read once daily.

Cooperation.- Gage-height record and computations of daily discharge furnished by Corps of Engineers, U. S. Army; 7 discharge measurements made and records reviewed by Geological Survey.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,630	960	1,150	860	740	1,150	5,080	1,630	1,990	920	562	589
2	1,580	960	1,150	860	740	1,180	4,990	1,580	2,290	920	562	589
3	1,530	960	1,100	860	740	1,180	4,900	1,530	2,530	882	589	562
4	1,480	960	1,150	860	770	1,180	4,810	1,480	2,740	845	589	562
5	1,430	1,040	1,200	860	770	1,140	4,540	1,430	2,740	809	617	562
6	1,430	1,080	1,130	*862	770	1,110	4,360	1,330	2,810	920	617	536
7	1,380	1,130	1,130	860	770	1,100	4,180	1,330	2,810	960	617	562
8	1,280	1,130	1,010	860	770	1,060	4,100	1,230	2,810	920	589	562
9	1,230	1,130	970	860	*768	1,060	3,780	1,130	2,740	882	589	562
10	1,180	1,230	930	860	770	1,020	3,620	1,080	2,670	845	562	562
11	1,130	1,380	930	860	740	1,010	3,460	1,040	2,530	809	536	536
12	1,040	1,380	900	860	740	990	3,300	1,040	2,470	809	562	536
13	1,000	1,480	840	860	740	990	3,090	1,040	2,410	774	589	536
14	1,000	1,430	840	860	740	990	2,950	1,040	2,350	617	589	536
15	960	1,430	810	850	740	990	2,810	1,040	2,290	589	617	536
16	920	1,430	780	830	710	*1,060	2,740	1,080	2,230	589	617	536
17	882	1,480	780	820	710	1,100	2,670	1,280	2,170	676	562	536
18	882	1,480	780	800	710	1,140	2,530	1,280	2,050	707	536	536
19	882	1,430	780	800	710	1,180	2,530	1,280	2,050	707	536	536
20	882	1,330	780	800	720	1,190	2,470	1,280	1,930	676	536	536
21	809	1,380	750	800	740	1,220	2,350	1,330	1,810	676	536	536
22	809	1,380	750	800	770	1,220	2,230	1,280	1,750	646	536	536
23	809	1,330	750	800	820	1,220	2,230	1,280	1,580	646	536	536
24	809	1,330	750	800	870	1,300	2,170	1,230	1,430	646	536	536
25	809	1,330	780	740	920	1,660	2,110	1,230	1,380	646	512	536
26	774	1,330	780	740	980	2,750	2,050	1,230	1,180	617	536	562
27	774	1,230	800	740	1,020	3,410	1,930	1,230	1,080	589	536	562
28	774	1,080	810	710	1,060	3,600	1,870	1,180	1,080	589	536	562
29	774	1,150	830	710	-	3,820	1,810	1,180	1,040	562	536	562
30	809	1,200	850	710	-	4,500	1,750	1,530	1,000	562	536	562
31	882	-	860	740	-	5,080	-	1,750	-	562	562	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	32,560	1,630	774	1,050	0.734	0.85
November	37,570	1,480	960	1,252	.876	.98
December	27,850	1,200	750	898	.628	.72
Calendar year 1942	446,483	2,740	676	1,223	.855	11.62
January	25,232	862	710	814	.569	.66
February	22,048	1,060	710	787	.550	.57
March	51,630	5,080	990	1,665	1.16	1.34
April	93,410	5,080	1,750	3,114	2.18	2.43
May	39,600	1,750	1,040	1,277	.893	1.03
June	61,940	2,810	1,000	2,065	1.44	1.61
July	22,597	960	562	729	.510	.59
August	17,471	617	512	564	.394	.45
September	16,498	589	536	550	.385	.43
Water year 1942-43	448,406	5,080	512	1,229	.859	11.66

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 29 to Mar. 30.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Lake Winnebago at Oshkosh, Wis.

Location.- Staff gage, lat. 44°00'40", long. 88°32'00", in sec. 24, T. 18 N., R. 17 E., in mouth of upper Fox River at Chicago & North Western Railroad bridge, 0.2 mile downstream from Main Street Bridge in Oshkosh and 18 miles up lake from Menasha Dam and outlet. Datum of gage, 745.05 feet above mean tide at New York City (levels by Corps of Engineers, U. S. Army). Prior to 1882 lake levels were referred to Deuchman gage at lake outlet at Menasha Dam. Datum of Deuchman gage, which is still in existence, is 745.00 feet above mean tide at New York City.

Drainage area.- 6,030 square miles at lake outlet at Menasha Dam.

Records available.- October 1938 to September 1943. Records from 1857 to 1938 in files of Corps of Engineers, U. S. Army. A report on Fox River by Corps of Engineers, U. S. Army, is published as House Document No. 146, 67th Congress, 2nd Session.

Extremes.- Maximum gage height observed during year, 3.27 feet June 27; minimum observed, 0.90 foot Mar. 24.
1857-1943: Maximum gage height observed, 5.33 feet (Deuchman gage) Nov. 8, 1881; minimum observed, -2.00 feet (Deuchman gage) Nov. 28, 1891.

Remarks.- Lake elevations controlled by dams at Menasha and Neenah which are operated in interest of navigation. Crests of both dams are at elevation 746.73 feet. Present limits of regulation are from 21½ inches above crest of Menasha Dam down to crest during navigation season, plus additional 18 to 24 inches below crest during winter. Oshkosh staff gage gives true level of lake while Deuchman gage readings are affected by loss of head in channel between lake and dam. Gage read once daily.

Cooperation.- Records furnished by Corps of Engineers, U. S. Army.

Gage height, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.92	2.63	2.71	2.27	1.92	1.27	1.79	2.98	3.19	2.96	2.58	2.42
2	2.92	2.67	2.71	2.25	1.90	1.25	1.96	3.02	3.25	2.90	2.58	2.48
3	2.98	2.69	2.69	2.21	1.88	1.23	2.02	2.96	3.15	2.83	2.63	2.42
4	2.96	2.67	2.67	2.25	1.83	1.23	2.23	2.98	3.02	2.88	2.69	2.42
5	2.94	2.58	2.65	2.25	1.79	1.23	2.35	2.79	3.08	2.90	2.60	2.40
6	3.08	2.63	2.60	2.25	1.75	1.19	2.58	2.94	2.98	2.90	2.65	2.44
7	3.10	2.65	2.56	2.25	1.73	1.17	2.65	3.06	2.90	2.85	2.58	2.38
8	3.08	2.67	2.52	2.25	1.71	1.15	2.75	3.02	2.85	2.88	2.58	2.25
9	3.10	2.67	2.50	2.25	1.71	1.10	2.81	3.00	2.90	2.90	2.58	2.31
10	3.08	2.56	2.50	2.23	1.67	1.06	2.88	3.04	2.94	2.92	2.58	2.29
11	3.10	2.69	2.48	2.21	1.65	1.06	2.90	2.96	3.00	2.92	2.56	2.33
12	3.08	2.71	2.44	2.23	1.60	1.10	2.92	2.98	2.92	2.92	2.73	2.29
13	3.08	2.73	2.42	2.21	1.56	1.06	3.00	3.00	2.96	2.92	2.77	2.25
14	3.04	2.75	2.40	2.25	1.52	1.06	3.08	3.00	2.92	2.92	2.42	2.23
15	3.04	2.77	2.38	2.25	1.48	1.06	3.10	3.04	2.96	2.90	2.42	2.21
16	3.08	2.75	2.35	2.23	1.46	1.08	2.96	2.73	3.08	2.88	2.42	2.29
17	3.02	2.77	2.33	2.21	1.44	1.10	3.06	3.00	3.15	2.92	2.58	2.25
18	3.02	2.75	2.31	2.17	1.44	1.06	3.02	3.00	3.19	2.90	2.56	2.17
19	3.00	2.73	2.27	2.15	1.42	1.02	3.08	2.98	3.17	2.88	2.54	2.17
20	2.98	2.81	2.25	2.13	1.38	1.00	2.96	2.98	3.15	2.83	2.52	2.17
21	2.85	2.79	2.25	2.10	1.33	.98	2.94	3.04	3.10	2.75	2.48	2.19
22	2.94	2.81	2.25	2.08	1.31	.94	2.88	3.02	3.00	2.83	2.48	2.13
23	2.88	2.81	2.27	2.06	1.29	.92	2.90	3.00	3.13	2.73	2.46	2.10
24	2.83	2.79	2.27	2.04	1.33	.90	2.90	2.98	3.08	2.69	2.48	2.08
25	2.81	2.88	2.27	2.02	1.35	1.00	2.88	3.00	3.08	2.71	2.46	2.15
26	2.88	2.75	2.25	2.00	1.33	1.08	2.96	2.98	3.17	2.71	2.48	2.10
27	2.71	2.81	2.31	1.98	1.31	1.17	2.98	2.94	3.27	2.67	2.54	2.08
28	2.67	2.81	2.33	1.96	1.31	1.27	2.85	3.00	3.15	2.67	2.46	2.19
29	2.73	2.77	2.33	1.94	-	1.38	2.96	2.98	3.02	2.42	2.46	2.13
30	2.73	2.73	2.29	1.92	-	1.44	2.90	3.04	3.00	2.58	2.44	2.15
31	2.58	-	2.31	1.94	-	1.60	-	3.19	-	2.60	2.44	-

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Fox River at Rapide Croche Dam, near Wrightstown, Wis.

Location.- Lat. 44°19', long. 88°12', in sec. 4, T. 21 N., R. 19 E., at Rapide Croche Dam, 2 miles upstream from Wrightstown.

Drainage area.- 6,150 square miles.

Records available.- March 1896 to September 1943.

Average discharge.- 47 years, 4,335 second-feet.

Extremes (regulated).- Maximum daily discharge during year, 21,300 second-feet June 6; minimum daily, 1,940 second-feet Sept. 26.
1918-43: Maximum daily discharge, that of June 6, 1943; minimum daily, 138 second-feet Aug. 2, 1936.

Remarks.- Records good. Flow regulated by storage in Lake Winnebago (see preceding page).

Cooperation.- Figures of daily discharge (computed from power-plant records) furnished by Corps of Engineers, U. S. Army; two discharge measurements made and records reviewed by Geological Survey.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,470	4,660	4,360	3,620	3,490	4,700	8,380	6,080	10,700	9,240	2,910	2,960
2	4,200	4,350	3,850	3,340	3,850	4,620	10,200	5,200	16,900	9,170	3,210	2,800
3	4,700	4,550	4,100	3,260	4,720	4,950	10,700	4,230	18,500	8,880	3,090	2,800
4	4,820	4,950	4,300	3,370	5,060	4,710	9,000	5,260	18,500	6,220	3,230	2,620
5	4,440	5,070	4,480	4,070	4,910	5,020	9,150	5,990	17,700	6,390	3,210	2,420
6	4,480	4,710	4,160	3,510	4,760	5,000	10,300	5,010	21,300	7,320	3,260	2,680
7	4,520	4,500	3,960	3,600	4,370	5,200	10,700	4,340	14,500	5,820	3,230	3,060
8	4,840	4,590	4,630	3,700	4,410	5,280	11,300	4,480	9,380	4,150	2,730	2,680
9	4,780	4,410	4,300	3,620	4,660	5,250	11,300	4,520	9,490	4,830	3,120	2,780
10	5,870	4,640	4,690	3,630	4,740	5,580	11,200	4,300	9,440	4,590	3,100	2,710
11	5,820	4,800	4,280	3,460	4,130	5,460	11,800	4,540	9,520	4,240	3,210	2,780
12	5,570	4,940	3,840	3,440	4,790	6,200	11,800	4,900	9,890	4,900	3,650	2,650
13	5,930	4,580	3,860	3,380	4,540	6,320	10,000	4,820	9,430	4,780	3,640	2,690
14	5,700	4,740	4,040	4,010	4,380	5,900	9,860	5,100	8,790	5,050	2,850	2,770
15	5,560	5,100	3,880	4,360	4,600	5,970	10,300	4,910	5,570	5,000	2,930	2,550
16	5,720	5,060	3,960	4,740	4,780	6,270	10,600	5,160	5,780	4,960	2,750	2,460
17	5,800	5,100	4,000	4,290	4,420	6,290	11,200	4,450	6,550	5,240	2,890	2,670
18	5,530	5,010	3,930	4,070	4,770	7,130	11,600	4,900	6,800	4,630	3,020	2,840
19	5,170	5,090	3,650	4,230	4,390	5,980	11,100	5,010	8,100	4,830	2,960	2,070
20	5,280	4,920	3,480	4,280	4,470	6,380	10,400	5,100	9,380	4,680	3,130	2,510
21	5,420	4,600	3,720	4,890	4,230	6,080	11,000	5,130	8,370	4,780	2,970	2,740
22	5,260	4,560	3,960	4,480	4,130	6,000	11,100	5,130	8,440	4,070	2,450	2,680
23	5,180	4,570	4,000	4,340	5,080	5,830	11,000	4,790	8,080	4,480	2,640	2,160
24	5,170	4,850	3,230	3,880	5,360	6,170	9,810	4,880	8,010	3,670	2,900	2,780
25	5,140	5,100	4,000	2,960	4,780	7,020	5,830	5,350	7,940	3,140	3,100	2,050
26	4,720	4,690	4,240	3,790	4,750	8,880	5,910	5,380	8,150	3,520	2,890	1,940
27	4,710	4,590	3,670	4,320	4,720	7,930	6,460	4,940	8,650	3,300	2,820	2,350
28	4,860	4,300	3,660	4,840	4,570	7,190	6,180	4,130	8,270	3,230	2,980	2,230
29	4,940	3,760	3,940	4,850	-	7,140	6,610	4,940	9,120	3,660	2,770	2,190
30	4,990	4,010	3,780	4,000	-	8,080	6,380	4,660	9,140	3,320	2,710	2,070
31	4,750	-	3,720	3,940	-	8,360	-	6,870	-	3,190	2,870	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	158,340	5,930	4,200	5,108	0.831	0.96
November	140,800	5,100	3,760	4,693	.763	.85
December	123,550	4,690	3,230	3,986	.648	.75
Calendar year 1942	1,989,240	19,800	2,680	5,450	.886	12.04
January	122,270	4,890	2,960	3,944	.641	.74
February	127,860	5,360	3,490	4,566	.742	.77
March	190,890	8,880	4,620	6,158	1.00	1.15
April	290,170	11,800	5,830	9,672	1.57	1.75
May	154,500	6,870	4,130	4,984	.810	.93
June	310,390	21,300	5,570	10,350	1.68	1.87
July	155,310	9,240	3,140	5,010	.815	.94
August	93,220	3,650	2,450	3,007	.489	.56
September	76,090	3,060	1,940	2,536	.412	.46
Water year 1942-43	1,943,390	21,300	1,940	5,324	.866	11.73

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

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Silver Lake at Portage, Wis.

Location.- Staff gage, lat. 43°33', long. 89°29', in sec. 6, T. 12 N., R. 9 E., at ice hoist of C. Smith & Son, at southeast end of lake.
Drainage area.- 1 square mile.
Records available.- August 1936 to September 1943 (fragmentary).
Extremes.- Maximum elevation observed during year, 93.06 feet Mar. 14; minimum, 92.50 feet Sept. 25.
1936-43: Maximum elevation observed, that of Mar. 14, 1943; minimum, 90.85 feet Aug. 22, 24, 1937.
Remarks.- Gage heights have been reduced to datum assumed for this lake by Public Service Commission of Wisconsin.

Elevation, in feet, water year October 1942 to September 1943

Date	Elevation	Date	Elevation	Date	Elevation	Date	Elevation	Date	Elevation
Oct. 4	7.80	Nov. 28	7.70	May 1	7.79	June 25	7.62	Aug. 13	7.60
10	7.76	Dec. 11	7.70	8	7.78	29	7.63	21	7.58
17	7.70	26	7.69	16	7.78	July 3	7.58	29	7.60
24	7.65	Mar. 14	8.06	21	7.79	12	7.70	Sept. 4	7.60
31	7.66	Apr 3	7.92	29	7.76	17	7.74	13	7.58
Nov. 7	7.70	10	8.02	June 5	7.90	24	7.70	18	7.58
14	7.70	15	7.80	12	7.82	31	7.70	25	7.50
21	7.70	24	7.80	18	7.75	Aug. 6	7.58		

Note.- Add 85 feet to obtain elevation above datum assumed for this lake by Public Service Commission of Wisconsin.

Little Green Lake near Markesan, Wis.

Location.- Staff gage, lat. 43°44', long. 88°58', in sec. 32, T. 15 N., R. 13 E., within 50 feet of lake outlet and 1½ miles north of Markesan.
Drainage area.- 5 square miles.
Records available.- August 1936 to September 1943 (fragmentary).
Extremes.- Maximum elevation observed during year, 95.82 feet May 31; minimum, 94.76 feet Sept. 24-27.
1936-43: Maximum elevation observed, 96.74 feet June 23, 24, 1940; minimum, 94.28 feet Sept. 10, 11, 1936.
Remarks.- Gage heights have been referred to datum assumed for this lake by Public Service Commission of Wisconsin.

Elevation, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.42	5.28					5.64	5.56	5.80	5.50	5.28	5.06
2	5.42	5.28					5.64	5.54	5.78	5.48	5.30	5.06
3	5.42	5.26					5.64	5.54	5.76	5.48	5.28	5.06
4	5.48	5.26					5.62	5.54	5.74	5.46	5.28	5.04
5	5.46	5.36					5.62	5.52	5.72	5.46	5.26	5.02
6	5.46	5.38					5.62	5.52	5.70	5.50	5.26	5.00
7	5.44	5.38					5.66	5.50	5.68	5.50	5.24	4.98
8	5.44	5.38					5.66	5.50	5.66	5.50	5.24	4.96
9	5.42	5.38					5.64	5.50	5.64	5.48	5.24	4.94
10	5.42	5.42					5.62	5.50	5.64	5.48	5.22	4.92
11	5.40	5.42					5.60	5.50	5.62	5.48	5.22	4.90
12	5.40	5.42					-	5.48	5.62	5.46	5.24	4.88
13	5.40	5.42					-	5.48	5.60	5.46	5.26	4.86
14	5.40	5.40					-	5.48	5.60	5.44	5.26	4.86
15	5.40	5.40					5.60	5.50	5.58	5.44	5.24	4.84
16	5.40	5.40					5.60	5.50	5.58	5.42	5.22	4.84
17	5.40	5.42					5.58	5.50	5.64	5.42	5.20	4.82
18	5.38	5.42					5.58	5.50	5.64	5.40	5.16	4.80
19	5.38	5.42					5.58	5.50	5.62	5.40	5.14	4.80
20	5.38	-					5.58	5.50	5.64	5.38	5.12	4.80
21	5.36	-					5.56	5.50	5.64	5.36	5.12	4.78
22	5.36	-					5.56	5.50	5.62	5.34	5.12	4.78
23	5.34	-					5.60	5.50	5.62	5.32	5.12	4.78
24	5.34	-					5.60	5.50	5.60	5.30	5.10	4.76
25	5.34	-					5.58	5.50	5.60	5.30	5.10	4.76
26	5.32	-					5.58	5.48	5.58	5.30	5.10	4.76
27	5.32	-					5.58	5.48	5.56	5.28	5.10	4.76
28	5.30	-					5.56	5.48	5.54	5.30	5.10	4.80
29	5.30	-					5.56	5.66	5.52	5.30	5.08	4.80
30	5.28	-					5.56	5.74	5.50	5.30	5.08	4.80
31	5.28	-					-	5.82	-	5.30	5.08	

Note.- Add 90 feet to obtain elevation above datum assumed for this lake by Public Service Commission of Wisconsin.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Wolf River above West Branch Wolf River, Wis.

Location.- Chain gage, lat. 44°55', long. 88°39', in E½ sec. 3, T. 28 N., R. 15 E., half a mile upstream from West Branch Wolf River and 4 miles north of Keshena. Datum of gage is 856.57 feet above mean sea level (levels by Wisconsin Power & Light Co.).

Drainage area.- 633 square miles.

Records available.- March 1928 to September 1943.

Average discharge.- 15 years, 586 second-feet.

Extremes.- Maximum discharge observed during year, 1,830 second-feet June 19, 20; maximum gage height, 5.70 feet Apr. 3; minimum discharge observed, 396 second-feet Nov. 27 (gage height, 1.98 feet).
1928-43: Maximum discharge observed, 2,580 second-feet Apr. 8, 1929 (gage height, 6.10 feet), from rating curve extended above 1,600 second-feet; minimum observed, 199 second-feet Feb. 20, 1936.

Remarks.- Records good except those for period of ice effect, which are fair. Gage read once daily.

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)

2.0	396	2.9	748	4.0	1,310
2.3	500	3.2	889	4.5	1,600
2.6	619	3.6	1,090		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	889	889	530	590	505	555	1,500	1,090	1,770	1,250	661	704
2	841	889	530	590	500	545	1,600	1,040	1,770	1,200	661	a661
3	841	841	530	585	500	535	1,550	1,040	1,540	1,150	619	661
4	1,310	794	*524	575	500	520	1,540	988	1,420	1,150	619	619
5	1,310	889	535	550	495	515	1,600	988	1,310	1,150	704	619
6	1,310	938	540	575	500	500	1,690	1,040	1,310	1,090	704	619
7	1,200	889	540	580	505	495	1,710	988	1,250	1,040	661	619
8	1,090	841	545	*584	515	490	1,660	988	1,200	988	619	578
9	1,040	889	550	580	520	485	1,600	889	1,150	938	661	578
10	1,040	889	560	580	530	475	1,540	889	1,090	889	619	578
11	1,040	841	560	590	530	475	1,480	841	1,040	841	889	538
12	988	794	555	590	*523	475	1,480	794	a1,090	841	889	538
13	938	841	550	590	520	475	1,420	748	1,150	794	889	538
14	889	661	550	585	510	475	1,310	704	1,150	748	794	538
15	889	748	560	575	505	480	1,250	704	1,250	748	748	538
16	841	748	560	570	500	485	1,250	794	1,420	661	661	500
17	841	794	560	565	485	490	1,200	841	1,660	619	619	500
18	794	794	550	560	485	500	1,250	794	1,770	619	619	500
19	748	748	530	555	490	*515	1,310	748	1,830	578	578	500
20	748	748	520	540	500	510	1,310	704	1,830	578	578	538
21	704	704	510	540	510	505	1,250	704	1,770	578	578	538
22	661	661	505	535	520	500	1,200	704	a1,650	538	538	500
23	619	661	510	530	535	500	1,200	661	1,480	538	538	500
24	619	619	520	525	540	510	1,200	661	1,420	538	538	500
25	619	748	530	520	540	520	a1,200	748	1,370	889	578	538
26	619	704	550	520	545	560	1,200	748	1,370	794	619	538
27	619	396	560	515	550	630	1,150	704	1,480	704	619	538
28	619	490	570	510	555	760	1,150	704	1,600	661	619	578
29	661	510	580	510	-	920	1,090	841	1,540	661	619	538
30	748	520	585	505	-	1,120	1,150	1,090	1,370	661	661	578
31	841	-	590	505	-	1,360	-	1,420	-	661	704	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	26,916	1,310	619	868	1.37	1.58
November	22,478	938	396	749	1.18	1.32
December	16,889	590	505	545	.861	.99
Calendar year 1942	286,140	1,660	396	784	1.24	16.80
January	17,224	590	505	556	.878	1.01
February	14,413	555	485	515	.814	.85
March	17,880	1,360	475	577	.912	1.05
April	41,040	1,710	1,090	1,368	2.16	2.41
May	26,597	1,420	661	858	1.36	1.57
June	43,050	1,830	1,040	1,435	2.27	2.53
July	25,095	1,250	538	810	1.28	1.48
August	20,403	889	538	658	1.04	1.20
September	16,810	704	500	560	.885	.99
Water year 1942-43	288,795	1,830	396	791	1.25	16.98

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for station at Keshena Falls.
Note.- Stage-discharge relation affected by ice Nov. 28 to Apr. 6.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Wolf River at Keshena Falls, Wis.

Location.- Water-stage recorder, lat. 44°53', long. 88°39', in E½ sec. 22, T. 28 N., R. 15 E., 500 feet downstream from Keshena Falls, 1½ miles upstream from Keshena, and 2½ miles downstream from West Branch.

Drainage area.- 812 square miles.

Records available.- March 1928 to September 1942. May 1907 to March 1909, and February 1911 to March 1928 at site at Keshena, 1½ miles downstream.

Average discharge.- 33 years (1907-8, 1911-43), 801 second-feet.

Extremes.- Maximum discharge during year, 2,920 second-feet June 1 (gage height, 8.11 feet); minimum, 469 second-feet Nov. 27 (gage height, 5.49 feet).
1907-9, 1911-43: Maximum discharge observed, 4,390 second-feet Apr. 10, 1922, from rating curve extended above 2,100 second-feet; minimum discharge, 91 second-feet Dec. 22, 1939 (gage height, 4.67 feet), result of low temperature.

Remarks.- Records good except those for period of ice effect, which are fair.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

5.6	535	6.8	1,530
6.0	823	7.2	1,930
6.4	1,160	7.6	2,360

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	1,120	1,180	660	740	640	730	1,900	1,480	2,860	1,580	807	879
2	1,080	1,120	660	740	635	720	2,000	1,380	2,800	1,480	839	855
3	1,040	1,050	660	740	625	700	1,960	1,300	2,470	1,430	855	807
4	1,530	1,010	665	720	625	660	1,930	1,250	1,880	1,430	823	792
5	1,880	1,110	670	710	625	660	1,880	1,300	1,730	1,430	863	807
6	1,830	1,220	675	710	630	640	1,930	1,380	1,630	1,300	879	807
7	1,580	1,200	680	740	635	635	1,980	1,300	1,630	1,250	815	792
8	1,380	1,130	680	*760	640	635	2,080	1,230	1,580	1,210	800	738
9	1,300	1,080	685	775	660	620	2,030	1,180	1,430	1,170	784	730
10	1,250	1,120	685	770	680	600	2,030	1,120	1,380	1,130	815	708
11	1,240	1,110	690	760	*695	600	1,980	1,100	1,300	1,090	815	700
12	1,210	985	690	755	690	600	1,930	1,020	1,340	1,000	985	678
13	1,150	1,030	695	745	675	600	1,930	969	1,480	969	1,220	678
14	1,100	847	695	740	655	600	1,630	952	1,480	977	1,190	685
15	1,060	839	695	735	645	605	1,530	895	1,630	936	1,010	678
16	1,040	1,000	700	730	640	610	1,530	1,040	1,780	839	895	678
17	1,010	1,090	690	720	630	620	1,530	1,130	2,080	807	839	663
18	985	1,020	680	710	600	*635	1,530	1,100	2,420	831	784	642
19	952	969	670	705	585	640	1,630	1,020	2,420	784	738	656
20	928	969	660	695	595	640	1,730	944	2,420	768	730	656
21	895	936	655	690	610	635	1,580	960	2,360	738	730	670
22	871	903	655	680	665	620	1,630	855	2,080	738	715	670
23	807	831	655	675	700	615	1,680	839	1,930	700	708	656
24	776	807	660	670	720	615	1,680	855	1,730	730	692	663
25	784	871	670	670	730	640	1,730	1,040	1,580	1,030	715	700
26	784	887	680	665	740	700	1,580	994	1,580	1,040	738	708
27	768	678	690	660	730	790	1,530	903	1,780	1,020	784	708
28	768	630	710	655	740	900	1,530	903	2,200	994	800	715
29	807	640	720	650	-	1,120	1,480	1,040	2,140	879	807	715
30	919	655	720	640	-	1,400	1,480	1,580	1,830	887	847	715
31	1,110	-	730	640	-	1,700	-	2,200	-	839	847	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	33,954	1,880	768	1,095	1.35	1.56
November	28,917	1,220	630	964	1.19	1.33
December	21,130	730	655	682	.840	.97
Calendar year 1942	368,876	2,200	555	1,011	1.25	16.91
January	21,995	775	640	710	.874	1.01
February	18,440	740	585	659	.812	.85
March	22,505	1,700	600	726	.894	1.03
April	52,570	2,080	1,480	1,752	2.16	2.41
May	35,259	2,200	839	1,137	1.40	1.61
June	56,950	2,860	1,300	1,898	2.34	2.61
July	32,006	1,580	700	1,032	1.27	1.46
August	25,869	1,220	692	834	1.03	1.19
September	21,549	879	642	718	.884	.99
Water year 1942-43	371,144	2,860	585	1,017	1.25	17.02

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 28 to Apr. 3.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Wolf River at New London, Wis.

Location.- Staff gage, lat. 44°23', long. 88°44', in sec. 12, T. 22 N., R. 14 E., at right bank, about 15 feet downstream from Pearl Street Bridge and three-quarters of a mile downstream from Embarrass River. Datum of gage is 749.37 feet above mean sea level (levels by Corps of Engineers, U. S. Army).
Drainage area.- 2,240 square miles.
Records available.- October 1913 to September 1943.
Average discharge.- 30 years, 1,857 second-feet.
Extremes.- Maximum discharge observed during year, 11,700 second-feet June 2, 3 (gage height, 9.9 feet); minimum, 1,030 second-feet Sept. 21, 22, 28 (gage height, 1.6 feet).
1913-43: Maximum discharge observed, 15,500 second-feet Apr. 13, 1922 (gage height, 11.4 feet), from rating curve extended above 12,000 second-feet; minimum, 261 second-feet Sept. 6, 1933.
Maximum stage known, 11.6 feet Apr. 16, 1888, from information by Corps of Engineers, U. S. Army.
Remarks.- Records good except those for period of ice effect, which are fair. Gage read once daily.
Cooperation.- Gage-height record furnished by Corps of Engineers, U. S. Army.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.6	1,030	5.0	2,640	8.0	5,500
2.0	1,190	6.0	3,330	8.5	6,510
2.5	1,390	6.5	3,750	9.0	7,940
3.0	1,600	7.0	4,220	9.5	9,850
4.0	2,080	7.5	4,790	9.9	11,700

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,660	1,830	1,400	1,500	1,220	1,470	10,300	3,490	3,330	4,440	1,600	1,390
2	3,490	2,030	1,420	1,480	1,210	1,470	11,700	3,490	4,020	4,440	1,550	1,350
3	3,260	2,130	1,450	1,480	1,210	1,450	11,700	3,490	4,330	4,670	1,550	1,390
4	3,190	2,080	1,440	1,470	1,200	1,400	10,800	3,490	5,870	4,920	1,600	1,350
5	3,190	2,180	1,400	1,450	1,200	1,370	9,850	3,330	7,290	4,920	1,780	1,310
6	3,190	2,330	1,400	1,450	1,190	1,320	9,050	3,260	7,940	4,790	1,830	1,310
7	3,050	2,450	1,400	*1,450	1,180	1,290	7,940	3,190	7,290	4,550	1,730	1,310
8	3,190	2,570	1,400	1,450	1,180	1,270	7,290	3,120	7,010	4,220	1,640	1,270
9	3,050	2,640	1,380	1,430	1,170	1,250	6,750	2,980	6,510	3,930	1,550	1,270
10	3,050	2,700	1,370	1,420	*1,180	1,220	6,290	2,910	6,080	3,570	1,470	1,310
11	3,120	2,910	1,370	1,410	1,190	1,210	5,870	2,840	5,500	3,330	1,390	1,350
12	3,120	2,910	1,370	1,410	1,190	1,210	5,500	2,770	5,050	3,120	1,390	1,270
13	3,120	2,980	1,370	1,400	1,200	1,200	5,500	2,640	4,790	2,910	1,470	1,230
14	3,120	2,980	1,370	1,400	1,200	1,200	5,340	2,510	4,440	2,840	1,640	1,190
15	2,980	2,910	1,340	1,390	1,190	1,210	5,190	2,510	4,120	2,450	1,730	1,150
16	2,840	2,840	1,310	1,380	1,180	1,230	5,050	2,450	3,840	2,230	1,780	1,150
17	2,640	2,770	1,290	1,370	1,180	*1,250	4,920	2,450	3,840	2,080	1,830	1,110
18	2,510	2,700	1,270	1,360	1,170	1,270	4,670	2,450	3,660	1,980	1,780	1,110
19	2,390	2,570	1,280	1,330	1,170	1,280	4,550	2,570	3,660	1,830	1,730	1,110
20	2,280	2,450	1,300	1,320	1,170	1,290	4,330	2,570	3,750	1,640	1,510	1,070
21	2,130	2,390	1,290	1,320	1,180	1,300	4,120	2,510	3,750	1,550	1,390	1,030
22	1,980	2,330	1,280	1,310	1,190	1,300	4,020	2,450	3,750	1,510	1,310	1,030
23	1,880	2,280	1,260	1,300	1,220	1,300	3,840	2,330	3,930	1,430	1,230	1,070
24	1,730	2,180	1,260	1,290	1,260	1,300	3,750	2,230	4,020	1,350	1,230	1,110
25	1,690	2,080	1,260	1,280	1,300	1,300	3,750	2,130	4,220	1,350	1,150	1,150
26	1,600	2,080	1,280	1,270	1,360	1,600	3,660	2,130	4,220	1,350	1,190	1,110
27	1,600	1,830	1,300	1,260	1,420	2,300	3,660	2,130	4,330	1,390	1,310	1,070
28	1,510	1,510	1,320	1,250	1,440	2,900	3,570	2,130	4,440	1,550	1,270	1,030
29	1,390	1,470	1,390	1,240	-	4,100	3,490	2,130	4,440	1,640	1,270	1,110
30	1,390	1,400	1,420	1,230	-	5,600	3,490	2,390	4,440	1,690	1,270	1,110
31	1,600	-	1,470	1,220	-	8,300	-	2,910	-	1,690	1,270	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	78,940	3,660	1,390	2,546	1.14	1.31
November	70,510	2,980	1,400	2,350	1.05	1.17
December	41,860	1,470	1,260	1,350	.603	.70
Calendar year 1942	905,795	7,940	995	2,482	1.11	15.05
January	42,320	1,500	1,220	1,365	.609	.70
February	34,150	1,440	1,170	1,220	.545	.57
March	57,160	8,300	1,200	1,844	.823	.95
April	179,940	11,700	3,490	5,998	2.68	2.99
May	83,980	3,490	2,130	2,709	1.21	1.40
June	143,860	7,940	3,330	4,795	2.14	2.39
July	85,360	4,920	1,350	2,754	1.23	1.42
August	46,440	1,830	1,150	1,498	.669	.77
September	35,820	1,390	1,030	1,194	.533	.59
Water year 1942-43	900,340	11,700	1,030	2,467	1.10	14.96

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 30 to Mar. 30.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Embarrass River near Embarrass, Wis.

Location.- Water-stage recorder, lat. 44°43', long. 88°44', on line between sec. 13, T. 26 N., R. 14 E., and sec. 18, T. 26 N., R. 15 E., three-quarters of a mile downstream from Mill Creek and 4 miles northwest of Embarrass.

Drainage area.- 395 square miles.

Records available.- June 1919 to September 1943.

Average discharge.- 24 years, 307 second-feet.

Extremes.- Maximum discharge during year, 4,560 second-feet June 1 (gage height, 9.35 feet); minimum, 44 second-feet Nov. 27 (gage height, 2.55 feet).
1919-43: Maximum discharge observed, 6,760 second-feet Apr. 10, 1922 (gage height, 11.5 feet), from rating curve extended above 2,800 second-feet; minimum observed, 23 second-feet Aug. 3, 6, 7, 1931.

Remarks.- Records good except those for period of ice effect, which are fair. Slight diurnal fluctuation caused by power plants above station.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

3.0	154	5.0	1,160
3.2	220	6.0	1,800
3.4	302	7.0	2,460
4.0	589	8.0	3,240
4.5	863	9.0	4,170

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	356	491	195	225	175	330	2,280	589	4,150	1,250	251	224
2	334	476	190	240	175	315	1,930	609	3,710	863	247	213
3	329	442	190	240	175	305	1,500	525	2,530	574	293	213
4	525	342	*189	240	180	280	1,290	447	1,670	516	306	166
5	952	399	185	230	180	235	1,100	404	1,050	511	293	179
6	1,220	540	185	220	185	215	1,070	476	922	511	280	202
7	1,160	599	185	215	185	205	1,040	511	799	452	259	196
8	922	560	195	*214	190	200	1,040	491	749	361	182	188
9	651	481	205	215	195	200	1,100	423	656	342	192	188
10	540	506	210	230	200	200	1,100	380	501	408	220	185
11	437	525	200	220	*203	195	1,070	356	491	466	196	163
12	375	496	175	205	200	190	1,070	316	481	394	210	163
13	361	437	168	200	200	190	952	316	816	334	338	179
14	334	366	175	190	195	188	846	302	579	289	48'	179
15	293	302	180	190	190	188	672	293	579	272	389	182
16	302	316	190	185	185	190	564	366	682	210	320	176
17	280	324	190	175	180	195	525	506	1,070	272	272	166
18	240	366	185	170	180	*199	550	560	1,040	236	210	160
19	247	394	180	170	185	200	614	466	981	228	182	157
20	232	366	170	170	200	200	710	399	892	240	185	170
21	243	366	165	170	225	205	710	356	760	247	185	170
22	251	334	195	170	250	210	651	334	555	206	176	173
23	228	302	200	175	290	220	620	324	408	213	173	179
24	224	280	185	175	350	250	630	320	394	220	176	179
25	243	255	170	180	355	300	645	320	334	192	185	188
26	224	260	170	180	350	400	599	347	338	232	185	192
27	220	235	220	180	345	500	564	385	831	311	196	182
28	224	235	240	170	340	700	550	385	1,520	272	170	192
29	236	200	250	170	-	964	530	481	2,060	268	154	206
30	255	215	255	170	-	1,180	550	967	1,900	266	173	272
31	380	-	255	175	-	1,990	-	2,250	-	268	196	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	12,818	1,220	220	413	1.05	1.21
November	11,410	599	200	380	.962	1.07
December	6,047	255	165	195	.494	.57
Calendar year 1942	146,135	2,310	122	400	1.01	13.75
January	6,059	240	170	195	.494	.57
February	6,263	355	175	224	.567	.59
March	11,339	1,990	188	366	.927	1.07
April	27,072	2,280	525	902	2.28	2.54
May	15,204	2,250	293	490	1.24	1.43
June	33,148	4,150	334	1,105	2.80	3.12
July	11,426	1,250	192	369	.934	1.08
August	7,275	481	154	235	.595	.69
September	5,582	272	157	186	.471	.53
Water year 1942-43	153,643	4,150	154	421	1.07	14.47

Peak discharge.- Oct. 6 (6 to 9 a.m.) 1,260 sec.-ft.; Mar. 31 (2:30 p.m.) 2,460 sec.-ft.; June 1 (1:45 p.m.) 4,560 sec.-ft.; June 17 (4 a.m.) 1,070 sec.-ft.; June 29 (3:30 p.m.) 2,250 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 26 to Mar. 28.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Little Wolf River at Royalton, Wis.

Location.- Water-stage recorder, lat. 44°24', long. 88°51', in sec. 1, T. 22 N., R. 13 E., 4 miles upstream from mouth.

Drainage area.- 485 square miles.

Records available.- January 1914 to September 1943.

Average discharge.- 29 years, 441 second-feet.

Extremes.- Maximum discharge during year, 6,950 second-feet Mar. 30 (gage height, 8.00 feet); minimum, 149 second-feet Sept. 27 (gage height, 1.22 feet).
1914-43: Maximum discharge, that of Mar. 30, 1943 (gage height, 8.00 feet), from rating curve extended above 3,500 second-feet; maximum gage height, 10.33 feet Mar. 25, 1939 (affected by ice); minimum discharge, 57 second-feet Feb. 10, 1934.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diurnal fluctuation caused by power plant 6 miles above station.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.4	206	2.3	719	4.0	2,220
1.6	290	2.6	920	5.0	3,310
1.8	402	3.0	1,250	6.0	4,480
2.0	527	3.5	1,730	7.0	5,690

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	508	565	359	347	290	470	3,080	674	2,420	805	234	272
2	496	596	*313	425	305	470	2,430	693	2,970	521	280	310
3	477	489	285	346	310	450	2,020	590	2,280	421	269	300
4	527	439	290	334	300	425	1,580	527	1,630	489	432	290
5	693	584	300	320	305	400	1,340	502	1,160	452	533	238
6	739	700	280	310	330	370	1,160	533	886	414	483	286
7	700	759	290	*325	320	340	1,120	527	732	414	335	290
8	706	686	270	330	335	370	1,160	565	654	371	276	a285
9	609	648	285	340	340	340	1,120	433	590	335	270	a295
10	489	739	300	330	*335	310	1,030	408	584	315	266	a275
11	458	745	320	350	330	300	990	414	584	286	249	a215
12	427	759	324	350	340	295	1,030	377	527	300	298	222
13	427	628	264	350	365	290	955	396	616	286	388	286
14	433	571	268	370	320	295	852	371	641	267	496	259
15	408	477	272	340	350	380	778	371	584	266	336	263
16	396	496	290	350	325	370	680	514	577	277	295	256
17	383	514	294	320	310	*348	674	622	654	296	263	250
18	352	514	286	340	300	330	622	719	832	a275	a260	242
19	335	521	296	320	300	330	706	622	798	267	a250	222
20	359	514	256	310	310	310	706	514	719	281	a230	256
21	352	483	312	305	300	280	745	470	622	261	a220	249
22	366	421	322	300	360	350	686	445	552	270	a230	246
23	335	421	306	290	440	360	628	359	502	266	258	298
24	352	427	303	275	455	430	635	421	414	250	254	312
25	320	396	274	290	480	640	641	508	352	220	258	236
26	315	427	362	290	540	2,000	635	521	414	280	250	217
27	305	363	339	290	510	3,820	527	540	680	294	276	233
28	320	396	438	290	480	5,040	514	477	1,030	262	305	280
29	330	447	438	290	-	5,230	527	596	1,160	272	263	262
30	433	546	392	290	-	4,720	660	920	1,030	276	290	286
31	584	-	430	290	-	3,430	-	1,690	-	267	253	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	13,933	739	305	449	0.926	1.07
November	16,301	759	363	543	1.12	1.25
December	9,758	438	256	315	.649	.75
Calendar year 1942	200,634	2,750	210	550	1.13	15.41
January	10,007	425	275	323	.666	.77
February	9,985	540	290	357	.736	.77
March	33,493	5,230	280	1,080	2.23	2.57
April	30,231	3,080	514	1,008	2.08	2.32
May	17,319	1,690	359	559	1.15	1.33
June	27,194	2,970	352	906	1.87	2.09
July	10,256	805	220	331	.682	.79
August	9,300	533	220	300	.619	.71
September	7,931	312	215	264	.544	.61
Water year 1942-43	195,708	5,230	215	536	1.11	15.03

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and power-plant records at Manawa.
Note.- Stage-discharge relation affected by ice Dec. 2-10, Jan. 5 to Mar. 26.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Waupaca River near Waupaca, Wis.

Location.- Water-stage recorder, lat. 44°21', long. 88°59', near north line of sec. 1, T. 21 N., R. 12 E., at highway bridge, 1½ miles downstream from Crystal River and 4 miles downstream from Waupaca.

Drainage area.- 305 square miles.

Records available.- October 1917 to September 1943. June 1916 to October 1917 at site 1 mile downstream.

Average discharge.- 27 years, 255 second-feet.

Extremes.- Maximum discharge during year, 1,570 second-feet Mar. 26 (gage height, 5.00 feet); minimum, 83 second-feet Nov. 27 (gage height, 0.90 foot).
1916-43: Maximum discharge observed, 2,600 second-feet Mar. 17, 1919 (gage height, 5.6 feet), from rating curve extended above 1,000 second-feet; minimum observed, 35 second-feet Jan. 22, 28, 1926.

Remarks.- Records good except those for period of ice effect, which are fair. Considerable diurnal fluctuation caused by power plants above station.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	297	314	170	330	250	280	769	318	752	287	238	270
2	287	277	135	305	250	270	648	290	614	267	248	261
3	284	274	*171	280	250	260	562	274	486	251	270	245
4	328	267	240	255	250	270	520	264	414	267	324	235
5	345	307	245	215	250	275	482	264	380	264	383	238
6	328	345	250	*225	245	260	468	280	345	257	287	248
7	307	321	255	250	240	250	455	280	328	261	254	257
8	301	294	260	310	240	240	482	267	311	245	245	242
9	290	307	260	350	*237	250	458	254	311	245	232	226
10	284	372	260	340	250	260	424	245	294	242	245	229
11	274	345	260	330	250	270	407	261	290	238	232	226
12	267	321	250	320	250	275	421	248	294	235	270	220
13	274	307	240	300	250	280	434	232	318	232	328	223
14	257	290	235	290	245	280	372	238	301	232	294	229
15	267	277	260	280	250	280	345	248	284	226	254	223
16	264	290	275	270	250	*277	355	335	321	226	245	212
17	251	294	280	260	250	270	348	352	400	251	242	248
18	245	290	270	250	260	260	345	324	407	238	229	242
19	254	287	250	245	270	250	386	301	328	238	229	242
20	238	284	240	240	285	245	369	280	335	226	226	220
21	248	284	270	245	305	300	345	270	338	229	217	229
22	245	270	300	250	330	340	338	277	304	220	223	223
23	248	267	340	255	340	355	335	245	274	217	223	217
24	238	257	350	255	350	360	331	261	274	217	232	215
25	238	264	360	255	340	580	301	297	261	223	226	223
26	245	274	365	245	320	1,310	287	294	274	217	229	217
27	229	256	370	240	310	1,110	287	311	314	217	264	217
28	235	240	370	240	295	902	290	277	355	220	280	215
29	248	220	370	245	-	682	284	380	369	229	257	212
30	277	195	360	250	-	769	338	524	314	235	242	203
31	318	-	340	250	-	855	-	682	-	229	248	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	8,414	345	229	271	0.889	1.02
November	8,590	372	195	286	.938	1.05
December	8,601	370	135	277	.908	1.05
Calendar year 1942	106,263	795	135	291	.954	12.96
January	8,375	350	215	270	.885	1.02
February	7,612	350	237	272	.892	.93
March	12,865	1,310	240	415	1.36	1.57
April	12,186	769	284	406	1.33	1.48
May	9,373	682	232	302	.990	1.14
June	10,590	752	261	353	1.16	1.29
July	7,381	287	217	238	.780	.90
August	7,916	383	217	255	.836	.96
September	6,907	270	203	230	.754	.84
Water year 1942-43	108,810	1,310	135	298	.977	13.25

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 28 to Mar. 25.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

West Branch Fond du Lac River at Fond du Lac, Wis.

Location.- Water-stage recorder, lat. 43°45'45", long. 88°29'00", on line between secs. 17 and 20, T. 15 N., R. 17 E., at concrete bridge on County Trunk Highway T, three-quarters of a mile west of Fond du Lac and 2½ miles upstream from confluence with East Branch. Datum of gage is 766.78 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 88 square miles.

Records available.- March 1939 to September 1943.

Extremes.- Maximum daily discharge during year, 1,390 second-feet Mar. 27; no flow Sept. 8, 9, 13, 17-24, 26, 27.
1939-43: Maximum discharge, that of Mar. 27, 1943; no flow on many days.

Remarks.- Records good except those below 1 second-foot and those for periods of ice effect or no gage-height record, which are poor.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 12)

Oct. 1 to Mar. 31

0.1	0.1	0.6	17	2.2	234
.2	.3	.8	34	2.7	318
.3	.8	1.0	57	3.2	405
.4	4.5	1.3	98	3.7	517
.5	10	1.7	156	4.2	657

Apr. 1 to Sept. 30

0.1	0.3	0.5	12
.2	.8	.6	19
.3	2.9	.8	36
.4	6.8	1.0	57

Note.- Same as preceding table above 1.0 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	17	*29	25	9	86	544	48	156	13	1.6	0.4
2	61	16	27	20	9	70	454	45	91	11	2.3	.3
3	58	16	31	18	9	60	369	43	109	11	2.3	.2
4	58	14	32	16	9	47	319	40	168	11	2.1	.2
5	58	17	32	*15	9	35	267	36	144	30	2.1	.1
6	55	20	32	14	9	27	215	38	135	40	1.8	.2
7	51	20	31	14	10	21	200	35	124	34	1.4	.1
8	49	19	31	13	*10	19	182	32	109	29	1.0	0
9	46	26	30	13	10	18	159	29	94	24	.8	0
10	44	51	30	13	10	18	141	28	78	21	.7	.1
11	42	40	25	12	10	17	127	26	64	18	.6	.1
12	40	31	27	12	10	17	126	24	54	14	.8	.1
13	38	37	30	12	10	18	114	21	45	13	2.5	0
14	36	39	31	12	10	90	101	19	39	11	2.1	.1
15	34	41	31	12	9	250	92	18	34	9.9	1.6	.1
16	33	40	29	11	9	500	91	19	31	9.9	1.2	.1
17	31	43	26	11	9	250	84	18	31	8.9	.8	0
18	30	44	24	11	9	210	80	19	30	7.3	.8	0
19	29	44	23	10	13	170	77	19	27	6.4	.7	0
20	26	44	22	10	25	150	73	20	a25	6.0	.6	0
21	26	50	22	10	40	160	67	19	a23	5.6	.6	0
22	25	49	22	10	80	190	64	18	a21	4.8	.6	0
23	23	45	22	10	250	330	64	17	19	4.5	.4	0
24	21	44	22	9	220	620	61	17	17	4.1	.4	0
25	20	43	22	9	190	1,000	60	16	15	3.7	.4	.1
26	20	42	23	9	150	1,280	56	16	14	2.9	.8	0
27	18	41	30	9	120	1,390	57	15	14	2.5	.8	0
28	17	37	50	9	100	1,340	56	13	a13	2.3	.6	.2
29	16	33	50	9	-	1,000	53	18	13	2.1	.6	.1
30	18	30	42	9	-	780	52	40	13	1.8	.6	.1
31	18	-	32	9	-	657	-	67	-	1.8	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,105	64	16	35.6	0.405	0.47
November	1,033	51	14	34.4	.391	.44
December	910	50	22	29.4	.334	.39
Calendar year 1942	19,374.1	609	4	53.1	.603	8.18
January	376	25	9	12.1	.138	.16
February	1,358	250	9	48.5	.551	.57
March	10,820	1,390	17	349	3.97	4.58
April	4,408	544	52	147	1.67	1.86
May	833	67	13	26.9	.306	.35
June	1,750	168	13	58.3	.662	.74
July	364.5	40	1.8	11.8	.134	.15
August	34.0	2.5	.4	1.10	.012	.01
September	2.6	.4	0	.09	.0010	.001
Water year 1942-43	22,994.1	1,390	0	63.0	.716	9.72

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.- Stage-discharge relation affected by ice Nov. 13, 14, Nov. 25 to Mar. 30.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

East Branch Fond du Lac River at Fond du Lac, Wis.

Location.- Water-stage recorder, lat. 43°45'15", long. 38°27'10", in sec. 22, T. 15 N., R. 17 E., at steel bridge on town road, an eighth of a mile west of U. S. Highway 41, half a mile south of Fond du Lac, and 2½ miles upstream from confluence with West Branch. Datum of gage is 762.82 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 75 square miles.

Records available.- March 1939 to September 1943.

Extremes.- Maximum daily discharge during year, 1,350 second-feet Mar. 16; maximum gage height, 10.74 feet Mar. 16 (ice jam), from floodmarks; minimum daily, 6.2 second-feet Sept. 23 (gage height, 1.07 feet).
1939-43: Maximum discharge, 2,140 second-feet June 23, 1940; maximum gage height, that of Mar. 16, 1943; no flow Jan. 17-29, 1940.

Remarks.- Records good except those for periods of ice effect and doubtful or no gage-height records, which are poor.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	20	*14	50	13	77	110	31	342	12	8.2	8.2
2	27	19	12	40	13	60	102	34	297	10	10	8.2
3	24	18	7.5	33	13	50	a92	30	163	10	9.8	7.5
4	28	16	9.8	29	14	42	a86	27	144	12	9.8	7.1
5	30	22	13	*25	14	35	a80	25	114	12	9.8	7.1
6	28	34	13	24	14	30	a73	27	95	77	9.0	9.8
7	23	25	13	23	14	29	a69	25	84	50	8.2	9.0
8	20	23	13	21	*14	28	a65	23	73	28	8.2	7.5
9	20	31	13	20	14	27	a62	22	63	21	7.5	7.1
10	18	152	12	19	14	26	a60	21	52	19	7.5	7.5
11	18	84	12	18	15	26	a58	21	40	16	7.1	7.5
12	17	57	12	17	15	25	a60	20	32	15	9.8	7.1
13	15	52	11	16	14	25	a60	20	25	14	15	7.1
14	15	41	12	16	14	100	a60	19	23	11	15	6.6
15	14	41	12	16	14	450	a55	18	23	10	10	7.1
16	14	37	11	15	13	*1,350	a52	20	21	10	9.0	7.1
17	14	35	10	15	13	450	a51	20	22	12	8.2	7.1
18	14	32	9	14	13	300	a49	19	21	11	7.5	7.5
19	13	30	8	14	13	240	a45	18	19	9.8	7.5	6.6
20	13	28	7.5	14	13	210	d38	18	18	8.2	a7.9	6.6
21	12	40	7.5	14	23	200	d35	18	18	7.1	a8.0	6.6
22	12	38	7.5	14	150	225	d32	18	15	7.1	a8.0	6.6
23	11	32	7.1	14	300	280	d30	16	14	7.1	8.2	6.2
24	10	34	7.1	13	240	390	d26	17	14	7.5	7.5	7.1
25	9.8	32	6.6	13	200	600	21	19	13	9.0	7.5	7.5
26	9.0	25	7.1	13	150	700	30	20	12	10	7.5	7.5
27	9.0	22	50	13	120	580	38	19	13	7.5	9.8	7.1
28	9.0	19	78	12	100	420	45	18	28	7.1	9.8	13
29	10	17	84	12	-	260	41	24	19	7.5	8.2	13
30	13	15	71	13	-	190	41	100	14	7.5	7.5	9.8
31	27	-	60	13	-	120	-	194	-	9.0	8.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	533.8	31	9.0	17.2	0.229	0.26
November	1,071	152	15	35.7	.476	.53
December	610.7	84	6.6	19.7	.263	.30
Calendar year 1942	14,387.2	675	1	39.4	.525	7.12
January	583	50	12	18.8	.251	.29
February	1,557	300	13	55.6	.741	.77
March	7,545	1,350	25	243	3.24	3.73
April	1,666	110	21	55.5	.740	.83
May	921	194	16	29.7	.396	.46
June	1,831	342	12	61.0	.813	.91
July	454.4	77	7.1	14.7	.196	.23
August	275.2	15	7.1	8.88	.118	.14
September	233.7	13	6.2	7.79	.104	.12
Water year 1942-43	17,281.8	1,350	6.2	47.3	.631	8.57

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for West Branch Fond du Lac River at Fond du Lac and Cedar Creek near Cedarburg.
d Doubtful gage-height record; discharge computed on basis of weather records and records for West Branch Fond du Lac River at Fond du Lac and Cedar River near Cedarburg.
Note.- Stage-discharge relation affected by ice Nov. 27 to Dec. 2, Dec. 5-19, Dec. 27 to Mar. 30.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Lake de Neveu near Fond du Lac, Wis.

Location.- Staff gage, lat. 43°44', long. 88°24', in sec. 30, T. 15 N., R. 18 E., at north end of lake on farm of Nick Giebel, 4 miles southeast of Fond du Lac.

Drainage area.- 2 square miles.

Records available.- August 1936 to September 1943 (fragmentary).

Extremes.- Maximum elevation observed during year, 98.17 feet Mar. 16; minimum, 97.20 feet Sept. 3, 10, 14, 17.
1936-43: Maximum elevation observed, 98.20 feet Sept. 18, 1938; minimum, 96.90 feet Aug. 15, 1936.

Remarks.- Gage heights have been reduced to datum assumed for this lake by Public Service Commission of Wisconsin.

Elevation, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	7.50	-	-	-	7.60	-	7.56	-	-	-
2	7.46	-	-	-	7.56	7.62	7.52	-	-	7.30	-	-
3	-	7.48	-	-	-	-	-	-	-	-	7.38	7.20
4	-	-	7.48	-	-	-	-	7.32	7.54	-	-	-
5	-	-	-	7.60	7.56	7.60	-	-	-	-	-	-
6	7.48	7.48	-	-	-	-	7.46	-	-	7.28	7.34	-
7	-	-	-	-	-	-	-	7.36	-	-	-	7.24
8	-	-	7.48	7.56	-	-	-	-	7.42	-	-	-
9	7.44	-	-	-	7.58	7.56	7.42	-	-	7.26	-	-
10	-	7.56	-	-	-	-	-	-	-	-	7.30	7.20
11	-	-	7.48	-	-	-	-	7.34	7.42	-	-	-
12	-	-	-	7.54	7.60	7.62	-	-	-	-	-	-
13	7.44	7.52	-	-	-	-	7.40	-	-	7.24	7.40	-
14	-	-	-	-	-	-	-	7.32	-	-	-	7.20
15	-	-	7.46	7.54	-	-	-	-	7.42	-	-	-
16	7.44	-	-	-	7.58	8.17	7.38	-	-	7.24	-	-
17	-	7.50	-	-	-	-	-	-	-	-	7.30	7.20
18	-	-	7.48	-	-	-	-	7.32	7.44	-	-	-
19	-	-	-	7.56	7.56	7.89	-	-	-	-	-	-
20	7.44	7.50	-	-	-	-	7.36	-	-	7.25	7.26	-
21	-	-	-	-	-	-	-	7.30	-	-	-	7.22
22	-	-	7.48	7.58	-	-	-	-	7.34	-	-	-
23	7.40	-	-	-	7.64	7.65	7.36	-	-	7.24	-	-
24	-	7.48	-	-	-	-	-	-	-	-	7.24	7.22
25	-	-	7.48	-	-	-	-	7.34	7.30	-	-	-
26	-	-	-	7.54	7.68	7.73	-	-	-	-	-	-
27	7.38	7.48	-	-	-	-	7.36	-	-	7.26	7.24	-
28	-	-	7.62	-	-	-	-	7.32	-	-	-	7.30
29	-	-	-	7.54	-	-	-	-	7.36	-	-	-
30	7.40	-	-	-	-	7.59	7.34	-	-	7.24	-	7.28
31	-	-	7.60	-	-	-	-	-	-	-	7.22	-

Note.- Add 90 feet to obtain elevation above datum assumed for this lake by Public Service Commission of Wisconsin.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Milwaukee River at Milwaukee, Wis.

Location.- Water-stage recorder, lat. 43°06'00", long. 87°54'30", in NE¼ sec. 5, T. 7 N., R. 22 E., near north limits of Milwaukee, 2,000 feet downstream from Port Washington Road Bridge and 6 miles upstream from mouth. Datum of gage is 607.3 feet above mean sea level, adjustment of 1912.

Drainage area.- 661 square miles.

Records available.- April 1914 to September 1943.

Average discharge.- 29 years, 408 second-feet.

Extremes.- Maximum discharge during year, 5,860 second-feet Mar. 16 (gage height, 6.81 feet); no flow Sept. 8, result of regulation.
1914-43: Maximum discharge, 15,100 second-feet Mar. 20, 1918 (gage height, 9.00 feet, datum then in use, from floodmark); no flow Sept. 8, 1943, result of regulation.

Remarks.- Records good except those for periods of ice effect, which are fair. Occasional regulation caused by dams above station.

Rating tables, water year 1942-43, except periods of ice effect, (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 29)

Oct. 1 to Mar. 31										Apr. 1 to Sept. 30			
2.2	114	2.8	416	3.7	1,110	4.8	2,430	6.0	4,270	1.4	0	2.1	91
2.3	154	3.1	600	4.0	1,420	5.2	3,020	6.4	5,000	1.7	11	2.3	164
2.5	248	3.4	833	4.4	1,900	5.6	3,620			1.9	38		

Note.- Same as previous table above 2.5 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	480	235	1,290	310	1,160	1,650	296	580	214	85	85
2	318	474	225	1,090	315	1,020	1,280	290	1,330	176	126	102
3	243	393	215	903	324	880	1,120	280	838	122	119	79
4	243	387	205	825	318	640	965	244	1,130	156	102	65
5	238	381	200	741	318	570	816	274	1,090	137	105	45
6	233	399	185	614	320	500	687	264	816	126	112	197
7	233	445	180	498	322	457	607	253	680	119	94	97
8	224	393	170	510	325	439	636	264	574	149	94	0
9	190	422	137	492	340	358	629	235	462	119	88	3
10	194	850	131	468	360	*347	580	231	364	98	102	4
11	168	1,190	170	460	380	341	541	244	341	82	76	18
12	186	1,160	173	445	400	318	554	285	296	85	82	48
13	168	783	170	430	400	312	516	280	259	98	105	55
14	181	600	160	410	400	422	534	218	274	85	102	88
15	176	510	168	395	395	1,860	474	296	217	102	94	65
16	163	410	*170	370	390	4,580	422	324	168	130	82	60
17	158	422	175	352	380	5,000	433	375	197	105	98	85
18	168	370	155	347	360	3,680	404	387	180	71	82	76
19	158	358	150	340	341	2,960	399	364	184	76	91	50
20	146	381	170	335	868	2,480	358	387	172	102	65	62
21	142	363	180	335	1,620	1,960	347	381	164	82	71	85
22	158	504	180	335	1,960	1,710	296	527	141	76	79	45
23	142	492	160	330	2,140	1,480	280	318	153	102	62	60
24	134	433	170	330	2,750	1,520	290	348	176	112	68	48
25	110	393	160	320	2,360	2,220	285	256	164	79	102	71
26	150	370	286	315	1,840	3,450	285	308	136	102	122	50
27	352	301	1,870	308	1,600	3,540	208	324	153	126	102	57
28	146	268	2,670	*302	1,300	3,170	197	140	172	112	98	85
29	142	248	1,770	302	-	2,500	318	239	209	108	91	71
30	209	240	1,480	302	-	2,030	335	393	235	102	76	74
31	352	-	1,480	302	-	1,710	-	375	-	94	108	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	6,089	352	110	196	0.297	0.34
November	14,420	1,190	240	481	.728	.81
December	13,950	2,670	131	450	.681	.79
Calendar year 1942	131,165	2,670	36	359	.543	7.38
January	14,796	1,290	302	477	.722	.83
February	23,136	2,750	310	826	1.25	1.30
March	53,634	5,000	312	1,730	2.62	3.02
April	16,456	1,650	197	549	.831	.93
May	9,400	527	140	303	.458	.53
June	11,875	1,330	141	396	.599	.67
July	3,447	214	71	111	.168	.19
August	2,883	126	62	93	.141	.16
September	1,930	197	0	64	.097	.11
Water year 1942-43	172,016	5,000	0	471	.713	9.68

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 30 to Dec. 8, Dec. 11-25, Jan. 11-15, 19, 20, 23, Jan. 25 to Feb. 2, Feb. 6-18, Feb. 27 to Mar. 6.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Cedar Creek near Cedarburg, Wis.

Location.- Chain gage, lat. 43°19'25", long. 87°58'50", on line between secs. 14 and 23, T. 10 N., R. 21 E., at bridge on State Trunk Highway, 2 miles north of Cedarburg and 6 miles upstream from mouth.

Drainage area.- 113 square miles.

Records available.- August 1930 to September 1943.

Average discharge.- 13 years, 57.6 second-feet.

Extremes.- Maximum discharge observed during year, 980 second-feet Mar. 25 (affected by ice); maximum gage height observed, 11.58 feet Mar. 16 (affected by ice); minimum discharge observed, 6.7 second-feet Sept. 9-12, 16-27 (gage height, 5.22 feet).
1930-43: Maximum discharge, 3,180 second-feet by discharge measurement June 23, 1940; maximum gage height observed, 12.00 feet Feb. 7, 1938 (affected by ice); minimum discharge observed, 0.2 second-foot Aug. 9-12, 1936.

Remarks.- Records good except those for period of ice effect, which are fair. Gage read once daily.

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-30, Sept. 9-30)

5.2	8.2	5.8	94	7.0	472
5.4	19	6.0	152	7.5	682
5.6	44	6.5	310		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	188	37	285	76	230	214	54	97	26	12	12
2	35	146	35	260	76	193	195	49	102	22	15	11
3	35	111	34	240	76	160	170	44	114	22	17	10
4	35	111	33	210	77	125	140	41	165	20	16	9.2
5	35	116	32	200	79	89	134	38	211	18	15	8.2
6	35	128	31	180	81	66	116	38	198	20	14	8.2
7	32	122	31	170	85	57	105	35	143	20	12	8.2
8	29	111	30	160	88	52	105	35	114	18	12	8.2
9	25	94	30	150	94	49	100	32	71	17	12	6.7
10	25	390	31	140	100	*48	89	32	61	17	11	6.7
11	25	374	29	135	100	46	89	32	51	17	11	6.7
12	25	374	29	125	97	45	94	29	46	16	12	6.7
13	25	201	29	118	91	45	100	29	42	15	18	7.4
14	23	146	29	113	84	62	89	32	36	15	18	7.4
15	25	122	29	107	79	150	78	32	30	15	16	7.4
16	25	100	*29	102	77	590	78	61	28	15	15	6.7
17	25	89	28	97	76	690	78	56	28	15	14	6.7
18	23	84	28	92	76	610	78	46	30	14	12	6.7
19	21	78	28	89	110	540	73	46	26	14	12	6.7
20	21	78	29	85	200	450	58	46	22	14	11	6.7
21	23	134	30	83	270	450	54	46	22	14	11	6.7
22	23	128	30	81	450	510	49	51	22	12	11	6.7
23	23	122	30	82	640	580	49	46	26	12	11	6.7
24	21	105	30	80	600	710	49	42	22	12	12	6.7
25	17	94	30	78	500	980	49	46	18	16	14	6.7
26	13	84	33	78	410	620	49	46	18	15	16	6.7
27	15	58	90	*78	330	422	63	42	18	15	18	6.7
28	18	51	535	77	270	310	63	46	36	15	17	7.4
29	23	44	440	76	-	246	63	56	42	14	15	7.4
30	100	40	370	76	-	246	58	76	40	12	14	7.4
31	176	-	320	76	-	230	-	97	-	12	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,017	176	13	32.8	0.290	0.33
November	4,023	390	40	134	1.19	1.33
December	2,549	535	28	82.2	.727	.84
Calendar year 1942	26,022.4	800	9.6	71.3	.631	8.57
January	3,923	285	76	127	1.12	1.29
February	5,292	640	76	189	1.67	1.74
March	9,601	980	45	310	2.74	3.16
April	2,729	214	49	91.0	.805	.90
May	1,401	97	29	45.2	.400	.46
June	1,899	211	18	63.3	.560	.62
July	499	26	12	16.1	.142	.16
August	427	18	11	13.8	.122	.14
September	236.6	12	6.7	7.55	.067	.07
Water year 1942-43	33,586.6	980	6.7	92.0	.814	11.04

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 28 to Mar. 25.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Wolf Lake at Chicago, Ill.

Location.- Water-stage recorder, lat. 41°40'00", long. 87°32'15", in SW¼ sec. 29, T. 37 N., R. 15 E., at outlet on west shore, in Chicago. Datum of gage is 580.45 feet above mean sea level, datum of 1929 (Cook County Highway bench mark).

Records available.- December 1939 to September 1943.

Extremes.- Maximum mean hourly gage height during year, 1.82 feet Aug. 26; minimum mean hourly, 1.04 feet Apr. 16 (affected by wind).
1939-43: Maximum mean hourly gage height, that of Aug. 26, 1943; minimum gage height observed, 0.76 foot Aug. 3, 1940.

Remarks.- Mean hourly values used to determine extremes, in order to dampen effects of wind action.

Gage height, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.36	1.26	1.26	1.43	1.36	1.30	1.22	1.25	1.51	1.38	f1.45	1.74
2	1.35	1.26	1.25	1.41	1.37	1.29	1.22	1.22	1.52	1.38	f1.45	1.75
3	1.34	1.28	1.25	1.41	1.37	1.29	1.20	1.20	1.50	1.36	f1.44	1.75
4	1.31	1.29	1.25	1.40	1.37	1.29	1.13	1.20	1.57	1.36	1.44	1.75
5	1.32	1.30	1.24	1.39	1.38	1.28	1.15	1.18	1.58	1.39	1.43	1.75
6	1.31	1.32	1.24	1.40	1.45	1.28	1.16	1.15	1.56	1.48	1.43	1.70
7	1.31	1.32	1.23	1.41	1.45	1.28	1.17	1.20	1.55	1.58	1.42	1.68
8	1.29	1.31	1.23	1.40	1.44	1.28	1.18	1.29	1.54	1.58	1.42	1.65
9	1.30	1.31	1.23	1.38	1.45	1.28	1.18	1.28	1.53	1.57	1.42	1.64
10	1.29	1.32	1.23	1.37	1.45	1.30	1.21	1.30	1.53	1.57	1.43	1.65
11	1.27	1.34	1.23	1.35	1.45	1.31	1.18	1.45	1.52	1.56	1.42	1.65
12	1.27	1.32	1.22	1.34	1.45	1.30	1.14	1.46	1.48	1.56	1.42	1.67
13	1.26	1.31	1.20	1.33	1.45	1.30	1.15	1.45	1.50	1.55	1.51	1.68
14	1.26	1.30	1.19	1.34	1.45	1.29	1.14	1.43	1.49	1.53	1.53	1.68
15	1.29	1.26	1.20	1.35	1.45	1.34	1.15	1.47	1.47	1.51	1.53	1.69
16	1.30	1.24	1.20	1.35	1.45	1.40	1.12	1.43	1.47	1.52	1.62	1.69
17	1.30	1.25	1.22	1.33	1.45	1.38	1.17	1.50	1.45	1.53	1.63	1.69
18	1.28	1.27	1.23	1.35	1.45	1.44	1.16	1.54	1.45	1.52	1.63	1.69
19	1.26	1.26	1.23	1.36	1.43	1.43	1.17	1.55	1.44	1.49	1.63	1.67
20	1.25	1.28	1.23	f1.36	1.42	1.42	1.18	1.58	1.44	1.46	1.61	1.66
21	1.24	1.35	1.24	f1.36	1.40	1.42	1.17	1.59	1.45	f1.44	1.60	1.65
22	1.24	1.36	1.26	f1.36	1.39	1.41	1.17	1.57	1.46	f1.42	1.60	1.64
23	1.23	1.34	1.27	f1.36	1.38	1.38	1.17	1.56	1.46	f1.40	1.60	1.64
24	1.22	1.31	1.28	f1.36	1.38	1.35	1.15	1.63	1.45	f1.38	1.61	1.62
25	1.18	1.30	1.28	f1.36	1.38	1.35	1.15	1.61	1.45	f1.36	1.67	1.63
26	1.14	1.20	1.31	f1.35	1.35	1.36	1.18	1.59	1.44	f1.35	1.78	1.62
27	1.17	1.27	1.46	f1.35	1.33	1.34	1.21	1.58	1.42	f1.40	1.80	1.60
28	1.19	1.26	1.49	f1.35	1.31	1.31	1.24	1.57	1.40	f1.46	1.79	1.60
29	1.19	1.27	1.48	1.35	-	1.26	1.24	1.54	1.39	f1.46	1.77	1.60
30	1.22	1.27	1.47	1.35	-	1.22	1.23	1.52	1.38	f1.46	1.77	1.59
31	1.26	-	1.45	1.35	-	1.22	-	1.50	-	f1.45	1.76	-

f Fragmentary gage-height record; computed on basis of recorded range in stage and weather records.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Hart ditch at Munster, Ind.

Location.- Water-stage recorder and concrete control, lat. 41°33'35", long. 87°28'50", in N½ sec. 20, T. 36 N., R. 9 W., at city limit of Munster, a quarter of a mile downstream from U. S. Highway 6 and 0.4 mile upstream from mouth.
Drainage area.- 57 square miles.
Records available.- September 1942 to September 1943.
Extremes.- 1942: Maximum daily discharge during period Sept. 18-30, 20 second-feet Sept. 27; minimum, 7.0 second-feet Sept. 24, 25 (gage height, 0.54 foot, from graph based on gage readings).
1942-43: Maximum discharge during water year, 2,280 second-feet Mar. 16 (gage height, 6.95 feet); minimum, 6.2 second-feet Oct. 8 (gage height, 0.53 foot).
Records.- Records excellent except those for periods of ice effect or no gage-height record, which are fair.

Discharge, in second-feet, 1942-43

1942

Day	Sept.	Day	Sept.	Day	Sept.
18	10	23	7.8	28	19
19	10	24	7.0	29	14
20	a9.5	25	7.0	30	12
21	9.5	26	15		
22	7.8	27	a20		

a No gage-height record; discharge computed on basis of observations by engineer.

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	18	30	181	60	31	42	132	121	11	24	28
2	9.5	33	21	145	65	a29	36	97	271	11	19	23
3	8.6	33	19	154	93	a26	32	71	100	12	66	20
4	8.6	21	18	156	*313	*23	32	55	316	12	259	19
5	8.6	21	*17	80	*289	22	30	48	218	14	122	23
6	8.6	33	16	71	975	19	30	40	107	156	56	21
7	7.8	30	15	58	870	20	42	35	86	225	38	16
8	7.8	24	15	50	364	30	48	254	69	82	28	14
9	7.8	30	15	44	267	a70	40	199	58	48	22	12
10	7.8	416	15	44	496	116	45	165	50	35	19	11
11	7.8	309	15	40	318	216	39	1,590	45	30	15	10
12	7.8	*132	14	33	a200	124	55	1,100	39	26	15	12
13	7.8	84	13	31	a120	133	55	444	32	21	218	15
14	7.8	56	12	30	a80	106	40	258	30	18	348	19
15	7.8	45	11	28	60	366	35	186	27	16	109	18
16	8.6	38	11	26	a60	1,930	31	467	24	80	97	16
17	8.6	32	12	24	a60	885	27	425	22	271	56	16
18	7.8	28	12	24	a60	393	24	557	21	90	40	15
19	7.8	26	11	22	a65	302	23	442	19	53	30	13
20	7.8	26	10	35	a70	278	36	653	20	38	26	12
21	7.8	83	11	35	80	190	45	1,490	21	27	21	11
22	9.5	88	12	30	67	142	35	582	19	21	18	10
23	9.5	75	14	28	67	114	32	386	18	19	15	10
24	9.5	95	15	50	64	106	33	409	16	15	15	10
25	7.8	69	21	130	50	100	35	500	16	14	15	10
26	7.8	51	111	a102	42	109	53	288	15	12	222	9.5
27	7.8	38	986	a90	33	82	686	162	14	11	239	8.6
28	7.8	32	*1,760	a70	44	64	712	114	15	10	114	8.6
29	8.6	32	*640	50	-	53	249	86	14	117	67	8.6
30	13	30	399	32	-	80	207	70	12	68	46	7.8
31	20	-	245	39	-	46	-	66	-	33	36	-

Peak discharge.- Dec. 28 (6 a.m.) 2,080 sec.-ft.; Feb. 6 (12 p.m.) 1,250 sec.-ft.; Mar. 16 (2 p.m.) 2,280 sec.-ft.; Apr. 27 (12 p.m.) 1,250 sec.-ft.; May 11 (6 p.m.) 2,090 sec.-ft.; May 21 (9 a.m.) 1,840 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations on Kankakee River at Davis and at Shelby.
Note.- Stage-discharge relation affected by ice Dec. 2-20, Jan. 14-24, Feb. 15.

Monthly discharge, in second-feet, 1942-43

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
September 18-30, 1942	148.6	20	7.0	11.4	0.200	0.10
October 1942	273.8	20	7.8	8.83	.155	.18
November	2,028	416	18	67.6	1.19	1.32
December	4,516	1,760	10	146	2.56	2.95
Calendar year	-	-	-	-	-	-
January 1943	1,932	181	22	62.3	1.09	1.26
February	5,332	975	33	190	3.33	3.48
March	6,166	1,930	19	199	3.49	4.02
April	2,829	712	23	94.3	1.65	1.85
May	11,371	1,590	35	367	6.44	7.42
June	1,835	316	12	61.2	1.07	1.20
July	1,596	271	10	51.5	.904	1.04
August	2,415	348	15	77.9	1.37	1.58
September	427.1	28	7.8	14.2	.249	.28
Water year 1942-43	40,720.9	1,930	7.8	112	1.96	26.58

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

St. Joseph River at Mottville, Mich.

Location.- Float gage, lat. 41°48', long. 85°45', in NE¼ sec. 6, T. 8 S., R. 12 W., at hydroelectric plant of Michigan Gas & Electric Co. at Mottville, 5 miles downstream from Fawn River. Datum of gage is 759.5 feet above mean sea level (levels by Michigan Gas & Electric Co.).

Records available.- December 1923 to September 1943.

Average discharge.- 19 years (1924-43), 1,444 second-feet.

Extremes (regulated).- Maximum discharge during year, 7,490 second-feet May 30 (gage height, 4.69 feet); minimum daily, 836 second-feet Dec. 20.
1924-43: Maximum discharge, 8,250 second-feet Apr. 20, 1926 (gage height, 4.4 feet); minimum, 20 second-feet Sept. 7, 1930; minimum daily, 44 second-feet Oct. 17, 1937.

Remarks.- Records good. Flow regulated by power plant. Gage read hourly.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,370	1,190	1,870	4,760	2,200	3,030	2,770	2,440	5,970	1,850	1,670	1,390
2	1,120	1,490	1,870	4,620	2,210	2,440	2,640	2,380	6,100	1,830	1,610	1,390
3	1,370	1,570	1,550	4,350	2,190	2,440	2,580	2,840	6,100	1,660	1,710	1,240
4	1,190	1,510	1,440	3,550	2,040	2,250	2,640	2,640	5,910	1,600	1,810	1,210
5	1,400	1,550	1,300	3,550	2,070	2,250	2,510	2,510	5,780	2,270	1,760	1,560
6	1,590	1,570	1,260	3,420	2,170	2,510	2,380	2,440	5,110	2,830	1,760	2,170
7	1,320	1,480	1,670	2,960	2,510	1,860	2,320	2,380	4,710	3,120	1,760	2,390
8	1,100	1,630	1,560	3,100	2,700	1,760	2,320	2,510	4,530	3,310	1,710	2,270
9	1,270	1,470	1,560	2,900	2,840	1,920	2,250	2,580	4,390	3,310	1,550	2,490
10	1,150	1,630	1,490	2,700	3,160	1,980	2,180	2,700	4,140	3,090	1,800	1,950
11	923	1,940	1,510	2,840	3,290	2,180	2,060	3,290	3,860	3,090	1,730	2,050
12	1,280	1,910	1,530	2,640	3,220	2,380	2,180	4,220	3,570	3,200	1,320	1,830
13	1,190	2,020	1,180	2,510	3,420	2,640	2,250	5,300	3,440	3,200	1,340	1,830
14	1,120	2,190	1,580	2,510	2,960	2,770	2,040	5,560	3,190	3,050	1,390	2,000
15	1,170	1,980	1,500	2,240	3,100	3,030	2,170	5,700	3,030	2,830	1,490	1,890
16	1,490	2,090	1,460	2,250	3,030	3,810	1,960	5,700	3,090	2,670	1,230	1,730
17	1,120	2,010	1,260	2,300	2,770	4,480	2,190	5,840	3,000	2,940	1,490	1,670
18	1,140	2,020	1,270	2,460	2,580	5,300	1,940	5,840	2,880	3,020	1,490	1,690
19	1,220	1,840	1,470	2,300	2,580	5,430	1,980	5,840	2,760	2,910	1,390	1,630
20	1,670	1,930	836	2,260	2,900	5,560	2,090	6,100	2,480	2,690	1,290	1,380
21	1,380	1,840	1,560	1,860	3,100	5,020	2,010	6,510	2,360	2,580	1,390	1,580
22	1,300	1,830	1,510	2,140	3,220	4,890	2,000	7,070	2,460	2,690	1,190	1,580
23	1,460	1,720	1,290	2,100	3,810	4,350	2,020	7,350	2,400	2,410	1,200	1,480
24	1,310	1,890	1,430	2,040	3,550	4,350	2,000	7,350	2,330	2,350	1,340	1,380
25	1,030	1,980	1,090	2,220	3,420	4,080	1,810	7,350	2,240	2,170	1,340	1,500
26	1,220	1,830	1,720	2,210	3,420	3,680	2,030	7,210	2,130	2,170	1,390	1,440
27	1,430	2,000	1,900	2,270	3,220	3,420	2,120	7,070	1,930	2,110	1,340	1,500
28	1,150	1,800	2,700	2,260	3,100	3,160	2,120	6,930	1,930	1,950	1,340	1,600
29	1,110	1,760	3,680	2,190	-	3,160	2,250	6,790	1,960	1,890	1,290	1,600
30	1,350	1,960	4,350	2,170	-	2,960	2,250	6,790	1,960	1,780	1,240	1,710
31	1,420	-	4,760	1,990	-	2,840	-	6,240	-	1,780	1,440	-

Month	Second-foot-days	Maximum	Minimum	Mean
October	39,363	1,670	923	1,270
November	53,630	2,190	1,190	1,788
December	55,156	4,760	836	1,779
Calendar year 1942	687,844	5,480	515	1,885
January	83,670	4,760	1,860	2,699
February	80,780	3,810	2,040	2,885
March	101,930	5,560	1,760	3,288
April	66,060	2,770	1,810	2,202
May	155,270	7,350	2,380	5,009
June	105,740	6,100	1,930	3,525
July	78,350	3,310	1,600	2,527
August	45,800	1,810	1,190	1,477
September	51,130	2,490	1,210	1,704
Water year 1942-43	916,879	7,350	836	2,512

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

St. Joseph River at Niles, Mich.

Location.- Water-stage recorder, lat. 41°49'45", long. 86°15'35", in sec. 26, T. 7 S., R. 17 W., at Niles, 1 mile upstream from Dowagiac Creek. Datum of gage is 634.98 feet above mean sea level (levels by city of Niles).

Drainage area.- 3,620 square miles.

Records available.- October 1930 to September 1943.

Average discharge.- 11 years (1930-37, 1938-39, 1940-43), 2,768 second-feet.

Extremes.- Maximum discharge during year, 17,300 second-feet May 26 (gage height, 11.78 feet); minimum daily, 1,440 second-feet Oct. 11.
1930-43: Maximum discharge, that of May 26, 1943; minimum daily, 407 second-feet (regulated) Aug. 2, 1936.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow regulated by power plants above station.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,310	2,500	3,500	8,320	b3,800	6,000	5,900	4,800	13,400	3,250	2,620	3,060
2	2,000	2,190	3,120	8,320	b3,400	4,930	5,540	4,540	13,200	3,250	3,000	3,120
3	2,380	2,500	2,190	*7,900	4,020	3,630	5,910	5,060	13,200	3,060	3,630	2,880
4	2,250	2,750	1,620	7,480	*4,410	3,890	5,220	4,930	12,100	2,880	3,760	3,000
5	2,500	2,500	2,060	6,000	4,410	3,760	4,870	4,930	11,000	3,760	a3,600	4,410
6	2,250	2,500	2,250	5,460	6,270	3,760	5,520	4,150	10,500	4,540	a3,500	6,940
7	2,000	2,440	2,940	6,000	7,220	3,250	5,320	4,410	9,200	5,600	a3,500	7,080
8	a1,900	2,310	2,690	5,730	7,220	2,560	5,180	5,320	8,900	6,540	a3,000	5,730
9	a1,900	2,940	2,500	5,060	6,680	2,250	5,200	6,810	8,320	6,680	a3,200	5,600
10	a1,900	3,500	2,620	4,930	6,810	4,540	4,950	7,220	8,040	6,000	3,000	5,460
11	1,440	4,540	2,500	5,190	7,620	5,190	4,900	8,040	7,080	5,190	3,250	4,280
12	2,000	4,930	2,500	4,540	6,810	5,320	5,000	13,400	6,810	5,860	3,000	4,150
13	1,810	4,540	2,120	4,020	6,540	5,320	5,020	13,400	5,730	5,600	2,810	4,670
14	2,060	3,380	2,120	2,880	6,140	5,320	5,210	11,900	6,140	5,060	2,560	5,060
15	1,750	4,020	2,060	3,380	6,000	5,860	4,870	11,400	5,460	5,460	2,690	5,060
16	2,250	3,250	2,500	3,500	6,400	7,620	4,740	10,700	5,320	4,670	4,020	4,540
17	2,120	3,380	2,560	4,410	6,400	10,800	4,650	11,500	4,800	5,320	2,190	3,890
18	1,490	3,380	2,380	3,000	5,860	10,300	4,200	13,000	5,190	5,860	3,000	3,500
19	2,120	3,000	1,880	3,380	4,930	10,200	4,980	14,200	4,800	6,400	3,000	3,380
20	1,690	3,250	2,060	2,560	6,680	9,830	4,530	14,400	4,540	5,600	3,120	3,760
21	2,190	3,500	2,190	3,120	7,220	9,830	4,740	14,700	4,280	4,800	2,880	3,250
22	2,190	2,810	2,060	2,880	6,680	8,900	4,660	14,600	4,540	5,320	2,380	3,380
23	1,690	3,760	2,560	3,380	6,680	8,750	4,930	14,000	4,280	5,060	3,250	3,380
24	1,880	3,060	1,810	3,380	6,680	7,830	4,660	14,000	3,890	4,670	2,560	3,250
25	1,490	3,250	2,440	3,000	6,540	8,060	4,170	14,900	3,760	3,760	3,250	3,120
26	1,940	2,940	2,380	b4,000	6,140	7,570	4,800	17,100	3,760	4,410	4,280	2,940
27	1,750	3,380	5,860	b3,800	6,140	6,870	5,440	15,500	3,760	3,380	4,280	3,630
28	1,940	3,120	9,050	b3,700	5,320	6,640	5,860	14,000	3,250	3,500	3,120	2,940
29	2,060	2,690	9,350	b3,500	-	6,350	5,860	12,800	3,380	3,630	2,810	3,500
30	1,750	3,060	8,750	b3,500	-	6,040	5,060	13,000	3,300	3,120	3,500	3,060
31	2,060	-	8,750	b3,200	-	5,630	-	14,700	-	3,250	3,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	61,060	2,500	1,440	1,970	0.544	0.63
November	95,370	4,930	2,190	3,179	.878	.98
December	103,370	9,350	1,620	3,335	.921	1.06
Calendar year 1942	1,239,950	12,400	1,440	3,397	.938	12.74
January	139,520	8,320	2,560	4,501	1.24	1.43
February	169,020	7,620	3,400	6,036	1.67	1.74
March	196,800	10,800	2,250	6,348	1.75	2.02
April	151,890	5,910	4,170	5,063	1.40	1.56
May	333,410	17,100	4,150	10,760	2.97	3.43
June	201,930	13,400	3,250	6,731	1.86	2.07
July	145,480	6,680	2,880	4,693	1.30	1.49
August	97,760	4,280	2,190	3,154	.871	1.00
September	122,020	7,080	2,880	4,067	1.12	1.25
Water year 1942-43	1,817,630	17,100	1,440	4,980	1.38	18.66

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for station at Mottville.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

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East Branch Coldwater River at Coldwater, Mich.

Location.- Staff gage, lat. 41°55'50", long. 85°00'50", in sec. 21, T. 6 S., R. 6 W., at sewage-treatment plant in Coldwater, 2 miles upstream from mouth.

Drainage area.- 59 square miles.

Records available.- December 1937 to September 1943.

Extremes.- Maximum discharge during year, 490 second-feet May 25 (gage height, 3.65 feet, from graph based on gage readings); minimum, 8.5 second-feet Oct. 12, 13; minimum gage height, 0.80 foot Sept. 25, 29, 30, from graph based on gage readings.
1937-43: Maximum discharge, that of May 25, 1943; minimum observed, 0.7 second-foot Oct. 17-21, 1941.

Remarks.- Records good. Gage read twice daily.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	18	46	145	61	91	130	126	285	44	37	32
2	10	20	45	141	63	78	124	123	265	42	39	32
3	11	20	44	140	65	68	119	130	257	40	45	31
4	11	18	44	145	65	86	116	127	247	114	51	32
5	12	16	42	141	68	86	112	123	231	118	48	31
6	11	18	39	135	112	76	105	123	218	86	47	31
7	10	22	36	130	138	69	103	124	205	80	46	32
8	9.4	20	36	126	135	63	100	162	193	74	46	31
9	9.4	25	35	124	135	61	98	176	180	62	47	35
10	9.0	43	35	117	121	80	98	165	168	55	45	37
11	9.0	47	35	109	130	98	96	325	156	55	44	35
12	8.6	47	32	95	142	107	95	412	144	64	45	34
13	8.5	47	29	91	124	110	90	375	132	70	45	32
14	9.4	46	27	89	120	107	92	362	122	63	49	33
15	12	45	25	92	114	121	89	350	110	54	48	32
16	13	46	25	94	100	211	87	315	99	53	49	30
17	13	47	26	94	95	197	86	325	95	77	47	30
18	13	46	28	92	95	183	82	388	89	75	43	28
19	13	45	29	90	103	190	80	388	84	61	41	27
20	13	43	30	85	116	197	78	438	80	53	40	27
21	13	44	30	81	117	190	78	412	76	49	39	26
22	14	45	30	77	114	183	78	375	72	48	37	24
23	13	47	30	77	120	176	78	338	69	46	35	22
24	11	51	29	77	114	166	77	338	66	45	34	22
25	11	52	30	74	106	155	78	462	61	44	33	22
26	11	50	42	67	92	149	78	412	56	42	39	23
27	11	48	99	63	85	144	100	362	55	42	40	25
28	11	47	179	63	85	138	105	325	51	40	38	24
29	11	48	175	62	-	133	120	305	49	39	37	22
30	12	47	158	65	-	128	126	295	46	38	35	22
31	15	-	152	62	-	128	-	285	-	37	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	348.2	15	8.5	11.2	0.190	0.22
November	1,158	52	16	38.6	.654	.73
December	1,642	179	25	53.0	.898	1.04
Calendar year 1942	16,715.0	256	4.1	45.8	.776	10.55
January	3,043	145	62	98.2	1.66	1.92
February	2,935	142	61	105	1.78	1.85
March	3,969	211	61	128	2.17	2.50
April	2,898	130	77	96.6	1.64	1.83
May	8,966	462	123	289	4.90	5.65
June	3,961	285	46	132	2.24	2.50
July	1,810	118	37	58.4	.990	1.14
August	1,302	51	33	42.0	.712	.82
September	864	37	22	28.8	.488	.54
Water year 1942-43	32,896.2	462	8.5	90.1	1.53	20.74

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Elkhart River at Goshen, Ind.

Location.- Water-stage recorder, lat. 41°35' (corrected), long. 85°50', near line between secs. 8 and 9, T. 36 N., R. 6 E., at River Avenue Bridge at Goshen, half a mile upstream from Rock Run.

Drainage area.- 573 square miles.

Records available.- April 1931 to September 1943 in reports of Geological Survey. September 1924 to September 1927 in reports of Indiana Department of Conservation.

Average discharge.- 15 years (1924-27, 1931-43), 441 second-feet.

Extremes.- Maximum discharge during year, 5,090 second-feet May 25 (gage height, 9.46 feet), from rating curve extended above 4,000 second-feet; minimum, 75 second-feet (regulated) Oct. 26; minimum daily, 196 second-feet Oct. 29; minimum gage height, 1.69 feet Oct. 28.
1931-43: Maximum discharge, that of May 25, 1943; minimum, 28 second-feet (regulated) Sept. 5, 6, 1941; minimum daily, 35 second-feet Sept. 26, 1941; minimum gage height, 1.27 feet May 25, 30, 1932.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by three power plants above station.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	325	334	594	1,440	671	642	866	792	2,070	429	517	386
2	318	329	522	1,390	637	514	816	743	2,280	409	498	345
3	313	331	330	1,340	647	417	768	719	1,930	389	531	333
4	317	*334	*400	1,260	*743	*521	743	695	1,710	445	500	362
5	318	339	440	1,080	890	565	743	671	1,560	422	499	930
6	308	329	445	1,080	1,360	504	a720	647	1,430	457	421	998
7	286	334	440	1,070	1,560	360	a700	741	1,350	1,030	429	719
8	286	356	395	1,040	1,340	350	a680	1,230	1,260	1,290	429	576
9	263	387	370	960	1,140	469	a670	1,740	1,200	836	404	499
10	270	676	365	920	1,220	557	a670	1,380	1,110	690	407	468
11	274	988	360	900	1,390	965	a660	3,010	1,060	861	401	445
12	270	799	360	820	1,200	940	a660	4,440	926	653	371	429
13	258	690	350	720	1,050	841	647	2,900	831	634	377	452
14	238	644	380	720	940	816	599	2,200	799	626	387	483
15	269	623	370	740	800	890	585	1,960	799	618	368	490
16	251	618	390	700	760	2,000	566	2,040	752	572	353	459
17	251	609	390	680	*790	2,510	566	2,430	698	695	389	433
18	226	620	370	620	840	1,980	520	3,450	853	958	380	411
19	234	604	370	520	841	1,660	520	3,780	624	742	395	398
20	225	634	370	400	965	1,660	534	3,790	624	614	374	379
21	233	624	410	500	990	1,610	576	3,380	585	607	371	381
22	234	688	395	600	940	1,500	580	3,070	636	815	348	380
23	219	712	380	620	890	1,440	525	2,810	622	785	336	360
24	218	688	420	640	866	1,340	506	3,010	541	635	322	359
25	222	664	390	720	841	1,290	497	4,720	472	600	371	374
26	211	641	470	760	768	1,220	452	4,140	543	588	475	371
27	204	628	1,300	740	637	1,140	743	3,110	570	575	498	366
28	200	594	2,500	720	671	1,120	1,160	2,580	549	555	453	358
29	196	599	*2,120	620	-	990	890	2,250	443	592	424	350
30	225	599	*1,780	600	-	940	816	2,380	407	582	395	339
31	288	-	1,560	604	-	890	-	2,160	-	549	389	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	7,950	325	196	256	0.447	0.52
November	17,015	988	329	567	.990	1.10
December	19,736	2,500	330	637	1.11	1.28
Calendar year 1942	178,168	2,500	125	488	.852	11.55
January	25,524	1,440	400	823	1.44	1.66
February	26,287	1,560	637	939	1.64	1.71
March	32,571	2,510	360	1,051	1.83	2.11
April	19,978	1,160	452	666	1.16	1.30
May	72,968	4,720	647	2,354	4.11	4.74
June	29,034	2,280	407	968	1.69	1.88
July	20,056	1,290	389	647	1.13	1.30
August	12,842	531	322	414	.723	.83
September	13,633	998	333	454	.792	.88
Water year 1942-43	297,594	4,720	196	815	1.42	19.31

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Kalamazoo River near Battle Creek and at Comstock, Mich.
Note.- Stage-discharge relation affected by ice Dec. 3-28, Jan. 5-30, Feb. 12-15, Mar. 7, 8.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Kalamazoo River near Battle Creek, Mich.

Location.- Water-stage recorder, lat. 42°20'45", long. 85°15'45", in NE¼ sec. 32, T. 1 S., R. 8 W., half a mile upstream from Wabascon Creek and 3 miles downstream from city of Battle Creek. Datum of gage is 797.00 feet above mean sea level, datum of 1929.

Drainage area.- 849 square miles.

Records available.- July 1937 to September 1943.

Extremes.- Maximum discharge during year, 4,020 second-feet June 4 (gage height, 8.00 feet); minimum, 267 second-feet (regulated) Dec. 22; minimum daily, 428 second-feet (regulated) Oct. 8; minimum gage height, 1.95 feet Aug. 17.
1937-43: Maximum discharge, that of June 4, 1943; minimum, 50 second-feet (regulated) Sept. 22, 1939; minimum daily, 143 second-feet (regulated) Aug. 21, 1941; minimum gage height, 1.51 feet Feb. 22, 1940.

Remarks.- Records excellent Dec. 1 to June 15; others good except those for periods of ice effect, which are fair. Slight regulation by power plants above station.

Rating tables, water year 1942-43, except periods of ice effect,
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 21,
June 13 to Sept. 4, Sept. 23-30)

Oct. 1 to Mar. 17				Mar. 18 to Sept. 30			
2.4	410	6.0	2,060	2.3	425	6.6	2,470
3.5	855	6.6	2,460	3.4	825	7.5	3,380
5.0	1,540	7.4	3,260	5.0	1,540	8.0	4,020
				6.0	2,060		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	466	773	750	*2,820	b580	*1,170	945	968	2,650	870	645	599
2	498	801	770	2,380	*b540	900	968	1,040	3,260	804	612	567
3	479	801	570	1,890	b600	832	885	945	3,750	786	699	552
4	464	770	570	1,540	b680	810	905	865	4,020	900	752	594
5	530	790	590	1,260	770	750	905	885	3,500	1,090	734	1,400
6	532	819	650	1,100	968	670	865	805	2,940	1,170	681	1,350
7	451	646	730	1,120	1,080	690	745	745	2,560	1,160	645	1,300
8	428	672	630	1,080	1,080	518	785	865	2,310	1,240	656	1,260
9	464	716	650	900	1,220	610	805	968	2,060	1,320	620	1,220
10	494	856	610	945	1,350	750	785	1,010	1,840	1,160	673	1,120
11	470	910	630	900	1,590	1,100	745	1,490	1,640	1,030	559	945
12	531	931	570	878	b1,600	1,300	725	2,120	1,540	1,160	590	865
13	429	1,060	610	900	b1,520	1,440	805	2,650	1,430	1,030	590	845
14	491	1,040	610	790	b1,380	1,790	745	2,940	1,290	1,060	605	905
15	592	929	550	810	b1,230	1,890	745	2,650	1,150	1,020	574	845
16	782	894	466	770	b1,130	2,380	825	2,240	1,150	965	620	825
17	896	786	570	790	b1,040	3,030	765	2,060	1,270	1,270	482	670
18	864	696	502	750	b980	3,380	825	1,940	1,260	1,400	638	725
19	948	774	494	b710	855	3,150	765	1,940	1,180	1,310	451	745
20	959	782	530	b640	1,120	2,740	765	2,180	1,130	1,360	544	705
21	959	891	570	b660	1,400	2,310	845	2,840	1,020	1,260	528	745
22	863	922	462	b700	1,540	1,890	865	3,150	1,040	1,050	538	582
23	784	878	570	730	1,890	1,640	865	3,260	998	936	522	612
24	680	990	530	790	2,060	1,540	825	2,940	940	832	538	629
25	647	1,080	570	810	1,940	1,260	825	2,940	860	742	552	612
26	654	1,010	610	b730	1,790	1,170	705	2,840	822	706	718	657
27	586	922	1,080	b660	1,490	1,170	885	2,940	822	742	648	622
28	628	832	1,740	b590	1,260	1,120	925	2,840	870	688	599	657
29	525	832	2,540	b600	-	990	968	2,470	888	663	631	667
30	670	790	3,260	b610	-	990	1,060	2,180	888	663	567	582
31	752	-	3,140	b630	-	925	-	2,240	-	627	506	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	19,516	959	428	630	0.742	0.85
November	25,593	1,080	646	853	1.00	1.12
December	27,124	3,260	462	875	1.03	1.19
Calendar year 1942	292,195	3,500	374	801	.943	12.80
January	30,483	2,820	590	983	1.16	1.34
February	34,583	2,060	540	1,235	1.45	1.51
March	44,905	3,380	518	1,449	1.71	1.97
April	25,071	1,060	705	836	.985	1.10
May	61,946	3,260	745	1,998	2.35	2.71
June	51,078	4,020	822	1,703	2.01	2.24
July	31,014	1,400	627	1,000	1.18	1.36
August	18,717	752	451	604	.711	.82
September	24,402	1,400	552	813	.958	1.07
Water year 1942-43	394,432	4,020	428	1,081	1.27	17.28

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Kalamazoo River at Comstock, Mich.

Location.- Wire-weight gage, lat. 42°17'10", long. 85°30'50", in NE¼ sec. 19, T. 2 S., R. 10 W., at highway bridge at Comstock, a quarter of a mile downstream from Comstock Creek. Datum of gage is 759.13 feet above mean sea level, datum of 1929.

Drainage area.- 1,010 square miles.

Records available.- April to August 1931, October 1932 to September 1943.

Extremes.- Maximum discharge during year, 4,770 second-feet June 5 (gage height, 6.41 feet, from graph based on gage readings); minimum, 482 second-feet Oct. 14 (gage height, 1.27 feet, from graph based on gage readings).
1931, 1932-43: Maximum discharge, that of June 5, 1943; minimum observed, 199 second-feet Oct. 14, 1934; minimum gage height observed, 0.56 foot May 4, 1931.

Remarks.- Records fair. Gage read twice daily. Flow regulated by power plants above station.

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-31, July 13 to Sept. 30)

1.1	460	4.0	2,560
1.4	640	5.5	3,850
2.0	1,060	6.4	4,770

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	654	1,250	1,020	3,580	a1,050	1,320	1,250	1,280	2,720	1,210	906	717
2	682	1,360	955	3,310	1,060	1,320	1,170	1,280	3,130	1,210	892	717
3	703	1,100	955	2,720	990	1,280	1,170	1,280	3,760	1,210	906	710
4	717	822	885	1,700	1,060	1,170	1,140	1,250	4,550	1,400	1,020	745
5	759	801	787	1,660	1,140	990	1,060	1,210	4,770	1,580	1,020	2,110
6	773	787	899	1,470	1,280	955	1,020	1,170	4,150	1,550	990	2,110
7	745	787	780	1,360	1,400	899	1,020	1,170	3,400	1,550	920	2,040
8	588	794	899	1,320	1,400	899	1,020	1,060	2,880	1,550	864	1,810
9	588	780	920	1,250	1,440	913	990	1,360	2,480	1,580	815	1,620
10	627	766	920	1,170	1,660	1,060	990	1,400	1,960	1,620	794	1,550
11	759	955	878	1,100	1,770	1,360	990	1,580	1,810	1,620	780	1,440
12	752	1,170	822	1,100	1,620	1,440	990	1,850	1,740	1,620	731	1,360
13	759	1,210	773	1,140	1,400	1,470	990	2,560	1,470	1,580	738	1,210
14	563	1,170	731	1,100	1,320	1,470	990	3,220	1,360	1,580	801	1,170
15	717	1,140	745	1,060	1,320	1,880	990	3,580	1,360	1,510	829	1,140
16	1,020	1,100	773	1,060	1,400	2,720	990	3,130	1,360	1,400	808	1,020
17	1,250	920	794	1,060	1,360	2,800	990	2,800	1,510	1,470	773	990
18	1,320	955	794	1,020	1,360	3,400	1,020	2,720	1,510	1,700	738	990
19	1,280	990	787	906	1,440	4,150	1,020	2,640	1,400	1,960	724	955
20	1,320	1,020	752	773	1,660	3,850	1,020	2,640	1,320	1,960	731	892
21	1,280	1,060	731	801	1,960	3,400	1,060	2,800	1,280	1,850	745	843
22	1,250	1,020	759	885	1,960	2,960	1,100	3,400	1,280	1,740	731	766
23	1,060	1,170	822	1,020	2,110	2,040	1,100	3,760	1,280	1,660	724	745
24	990	1,210	857	1,250	2,260	1,810	1,140	3,850	1,280	1,580	717	731
25	920	1,140	864	1,250	2,410	1,770	1,140	3,950	1,280	1,510	710	843
26	955	1,170	871	1,100	2,340	1,740	1,140	3,580	1,280	1,060	724	857
27	913	1,170	913	913	2,180	1,660	1,100	3,130	1,250	920	759	850
28	906	1,060	990	878	1,550	1,580	1,100	3,400	1,250	913	731	843
29	990	1,020	1,580	892	-	1,660	1,170	3,580	1,250	906	724	822
30	1,170	1,100	2,880	1,170	-	1,360	1,280	3,490	1,250	920	724	794
31	1,250	-	3,580	a1,100	-	1,280	-	2,880	-	920	717	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	28,260	1,320	563	912	0.903	1.04
November	30,997	1,360	766	1,033	1.02	1.14
December	31,716	3,580	731	1,023	1.01	1.17
Calendar year 1942	379,798	3,960	522	1,041	1.03	13.99
January	41,118	3,580	773	1,326	1.31	1.51
February	43,900	2,410	990	1,568	1.55	1.62
March	56,606	4,150	899	1,826	1.81	2.08
April	32,150	1,280	990	1,072	1.06	1.18
May	77,000	3,950	1,060	2,484	2.46	2.84
June	61,320	4,770	1,250	2,044	2.02	2.26
July	44,859	1,960	906	1,446	1.43	1.65
August	24,786	1,020	710	800	.792	.91
September	33,390	2,110	710	1,113	1.10	1.23
Water year 1942-43	506,082	4,770	563	1,387	1.37	18.63

a No gage-height record; discharge computed on basis of weather records and records for stations near Battle Creek and Allegan.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Kalamazoo River at Calkin Dam, near Allegan, Mich.

Location.- Water-stage recorder, lat. 42°34', long. 85°57', in sec. 15, T. 2 N., R. 14 W., at hydroelectric plant of city of Allegan, 1 mile upstream from Swan Creek and 8 miles northwest of Allegan. Datum of gage is at mean sea level (levels by city of Allegan).

Drainage area.- 1,540 square miles.

Records available.- April 1929 to September 1936, October 1937 to September 1943.

Extremes.- Maximum daily discharge during year, 7,020 second-feet Mar. 16; maximum gage height, 605.42 feet Mar. 16 (discharge not determined); minimum daily discharge, 858 second-feet Dec. 26; minimum gage height, 597.67 feet Oct. 2 (discharge not determined). 1929-36, 1937-43: Maximum daily discharge, that of Mar. 16, 1943; maximum gage height, 605.63 feet Aug. 27, 1940 (discharge not determined); minimum daily discharge, 73 second-feet Aug. 31, 1941; minimum gage height, 594.32 feet Sept. 21, 22, 1941.

Remarks.- Records good except those above 6,000 second-feet, which are fair. Discharge regulated by city of Allegan power plant.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,050	2,700	1,370	4,200	1,670	3,060	2,010	1,860	3,840	1,460	1,360	1,010
2	865	1,600	1,670	5,230	1,590	2,510	1,870	2,050	3,420	1,620	1,450	1,150
3	970	1,910	1,790	4,160	1,610	1,400	2,060	1,800	4,810	1,550	1,140	954
4	1,610	2,350	1,460	4,350	1,410	1,840	1,890	1,690	4,550	1,790	1,230	1,070
5	970	1,550	2,260	3,130	1,950	1,730	1,700	1,790	5,810	2,440	1,350	1,190
6	1,160	1,620	1,630	1,570	2,410	1,810	1,800	1,680	5,900	2,360	1,500	2,280
7	964	1,490	2,500	2,700	2,600	1,540	1,790	1,680	5,210	2,080	1,180	2,780
8	1,230	1,540	1,400	1,500	2,620	1,530	1,700	1,580	4,020	2,060	1,340	1,570
9	1,190	1,430	1,830	2,100	2,210	1,350	1,700	2,240	3,720	1,890	1,400	2,420
10	955	1,500	1,550	2,210	2,490	1,330	1,500	1,880	3,490	1,960	948	2,040
11	1,130	1,620	1,450	1,940	3,030	1,620	1,640	2,740	3,170	2,150	992	1,730
12	976	2,230	1,490	1,840	3,400	2,080	1,590	3,320	3,200	2,400	1,520	1,660
13	936	2,060	1,480	1,550	2,860	2,340	1,540	3,050	2,080	2,190	926	1,900
14	1,310	2,400	1,160	1,560	2,650	2,540	1,630	2,880	2,600	1,840	1,070	1,280
15	1,150	1,580	1,130	2,040	2,250	3,710	1,630	4,210	2,560	1,690	1,110	1,950
16	967	1,510	1,380	1,780	2,150	7,020	1,610	3,770	1,970	1,780	1,120	1,410
17	2,350	2,300	1,200	1,600	2,060	6,410	1,610	4,560	1,980	1,880	945	1,480
18	1,550	1,530	1,300	1,570	1,750	4,190	1,730	3,400	2,230	3,150	936	1,310
19	2,180	1,480	1,330	1,400	2,390	4,270	1,640	4,050	1,620	2,610	988	1,150
20	2,140	1,650	1,180	1,300	2,960	4,660	1,620	3,230	2,660	2,360	936	1,320
21	1,970	2,260	1,110	1,370	2,670	4,440	1,640	4,180	1,800	2,460	945	1,190
22	1,500	1,180	1,200	1,400	4,120	4,300	1,670	4,050	1,690	2,040	867	1,030
23	1,350	1,360	1,180	1,340	3,000	3,410	1,710	4,080	1,780	2,340	967	1,250
24	1,610	1,510	1,240	2,000	3,370	2,780	1,760	4,440	1,680	1,650	924	1,900
25	1,860	1,720	868	2,090	3,520	2,900	1,670	6,360	1,800	1,690	956	1,870
26	1,280	2,110	858	1,720	3,730	2,890	1,640	5,410	1,830	1,730	1,020	1,330
27	1,160	1,610	1,690	1,800	3,400	2,320	1,690	4,500	1,780	1,300	1,140	1,570
28	1,190	1,790	4,640	1,820	2,750	2,050	1,830	4,160	1,280	1,100	1,520	1,190
29	1,290	2,540	4,060	1,480	-	2,020	2,030	3,930	2,060	1,110	1,380	1,030
30	1,440	1,380	3,440	2,370	-	1,740	1,720	3,760	1,490	1,510	1,000	986
31	1,600	-	3,500	2,030	-	2,020	-	4,400	-	1,050	960	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	41,903	2,350	865	1,352	0.878	1.01
November	53,510	2,700	1,180	1,784	1.16	1.29
December	54,346	4,640	858	1,753	1.14	1.31
Calendar year 1942	605,055	5,730	652	1,658	1.08	14.60
January	67,150	5,230	1,300	2,166	1.41	1.62
February	72,620	4,120	1,410	2,594	1.68	1.75
March	87,870	7,020	1,330	2,835	1.84	2.12
April	51,620	2,060	1,500	1,721	1.12	1.25
May	102,710	6,360	1,580	3,313	2.15	2.48
June	86,030	5,900	1,280	2,868	1.86	2.08
July	59,240	3,150	1,050	1,911	1.24	1.43
August	35,130	1,520	867	1,133	.736	.85
September	45,000	2,780	954	1,500	.974	1.09
Water year 1942-43	757,129	7,020	858	2,074	1.35	18.28

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Battle Creek at Battle Creek, Mich.

Location.- Staff gage, lat. 42°19'55", long. 85°09'15", in sec. 5, T. 2 S., R. 7 W., 350 feet upstream from Verona Street Bridge in city of Battle Creek and 3 miles upstream from mouth.

Drainage area.- 241 square miles.

Records available.- October 1930 to July 1931, October 1932 to September 1943.

Extremes.- Maximum discharge during year, 2,580 second-feet June 3 (gage height, 3.52 feet, from floodmark); minimum, 88 second-feet Aug. 22 (gage height, 0.75 foot, from graph based on gage readings).
1930-31, 1932-43: Maximum discharge, that of June 3, 1943; minimum, 22 second-feet Aug. 14, 1934; minimum gage height, about -0.5 foot in July 1936, and Aug. 31, 1939, caused by opening of gates at dam forming control.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Gage read twice daily.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	135	212	236	*1,370	*b200	*433	300	317	1,170	241	146	109
2	123	236	207	980	b210	334	294	311	1,570	217	139	105
3	116	262	172	845	b210	289	289	305	2,340	203	142	105
4	112	268	189	673	227	268	283	273	2,220	262	189	105
5	127	257	176	518	241	246	262	a270	1,780	268	134	222
6	123	236	176	420	268	203	252	a270	1,470	278	176	317
7	120	246	212	388	300	184	241	a260	1,220	283	159	376
8	123	227	193	363	345	189	231	a280	980	246	150	413
9	127	222	189	340	433	207	231	a320	757	212	142	413
10	135	246	193	322	554	236	227	a450	632	184	135	382
11	139	262	189	311	632	283	212	a600	632	203	123	231
12	127	289	180	305	673	376	227	876	518	212	116	189
13	123	328	176	300	714	714	227	1,470	433	212	112	176
14	131	363	176	283	518	890	227	1,370	413	222	109	172
15	167	351	172	278	467	890	227	1,075	357	231	109	167
16	227	328	172	252	474	1,170	236	935	311	236	105	159
17	252	289	172	236	433	2,220	241	673	294	454	105	150
18	401	252	172	236	474	2,220	236	632	311	440	105	142
19	433	231	172	227	554	1,670	241	673	334	481	98	131
20	474	231	172	212	845	1,370	257	890	305	467	95	127
21	394	268	172	207	890	935	257	1,270	294	413	92	123
22	334	273	176	203	1,030	714	273	1,570	268	328	88	112
23	283	340	176	203	1,080	593	278	1,570	241	246	92	109
24	241	382	184	207	1,080	481	262	1,270	222	203	95	109
25	222	376	207	203	980	447	252	1,170	198	189	98	131
26	198	345	227	207	935	388	262	1,270	193	180	109	159
27	184	322	420	b210	1,080	376	294	1,270	184	176	131	146
28	176	300	632	b220	757	363	300	1,220	184	172	142	131
29	167	278	1,310	b210	-	340	311	935	252	159	131	123
30	159	257	1,890	b210	-	300	311	845	262	146	120	123
31	172	-	1,670	b200	-	294	-	935	-	146	112	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	6,245	474	112	201	0.834	0.96
November	8,477	382	212	283	1.17	1.31
December	10,760	1,890	172	347	1.44	1.66
Calendar year 1942	105,543	2,340	95	289	1.20	16.30
January	11,139	1,370	200	359	1.49	1.72
February	16,604	1,080	200	593	2.46	2.56
March	19,623	2,220	184	633	2.63	3.03
April	7,741	311	212	258	1.07	1.19
May	25,575	1,570	260	825	3.42	3.95
June	20,345	2,340	184	678	2.81	3.14
July	7,910	481	146	255	1.06	1.22
August	3,849	189	88	124	.515	.59
September	5,457	413	105	182	.755	.84
Water year 1942-43	143,725	2,340	88	394	1.63	22.17

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records, observer's notes, and records for Kalamazoo River near Battle Creek and East Branch Coldwater River at Coldwater.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Grand River at Jackson, Mich.

Location.- Water-stage recorder, lat. 42°17'05", long. 84°24'30", in sec. 22, T. 2 S., R. 1 W., 1 mile north of Jackson and 2¼ miles upstream from Portage River. Datum of gage is 900.00 feet above mean sea level (Fargo Engineering Co. bench mark).

Drainage area.- 174 square miles.

Records available.- April 1935 to September 1943.

Extremes.- Maximum discharge observed during year, 995 second-feet June 3 (gage height, 13.20 feet); minimum, 34 second-feet Dec. 13 (gage height, 8.66 feet).
1935-43: Maximum discharge, 1,070 second-feet (revised) June 25, 1937 (gage height, 13.50 feet); minimum, 9.2 second-feet Aug. 22, 1936; minimum daily, 12 second-feet Aug. 23, 1936.

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

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	217	150	470	125	186	178	259	759	a190	83	61
2	44	211	128	449	125	176	171	261	899	a180	88	61
3	41	165	100	428	123	154	161	263	971	a190	98	65
4	45	75	142	376	132	146	157	253	971	a220	90	99
5	65	70	120	303	148	141	154	253	923	a200	90	114
6	48	62	116	235	194	120	148	239	828	a190	89	105
7	48	a60	101	227	169	109	150	225	736	a190	88	97
8	50	a58	60	217	174	135	148	263	623	188	79	97
9	50	a80	60	205	197	123	144	249	557	188	88	100
10	44	a115	56	209	273	200	135	257	513	190	86	101
11	42	a160	56	194	273	194	123	454	470	209	80	97
12	44	a150	50	182	251	194	109	502	438	195	79	92
13	44	a140	48	169	251	209	101	546	407	167	86	100
14	73	a110	52	163	382	217	100	601	386	161	79	101
15	146	a95	56	161	b255	263	100	623	376	157	70	95
16	163	88	54	163	221	365	111	645	365	150	74	90
17	229	90	54	199	213	428	108	623	365	293	70	86
18	213	144	55	*197	192	449	105	579	334	165	68	80
19	207	141	51	184	201	334	126	601	217	154	67	74
20	194	133	48	165	249	323	186	623	171	146	66	83
21	182	174	56	157	253	418	217	623	173	141	63	114
22	137	154	56	161	263	407	213	623	163	130	59	111
23	65	178	57	a170	*245	386	211	579	157	121	66	108
24	59	186	60	a170	249	365	197	603	152	113	65	109
25	51	180	59	a170	239	344	146	645	146	118	65	120
26	52	171	109	a160	233	293	148	623	139	111	66	105
27	51	163	309	126	203	259	213	579	180	106	66	106
28	47	160	386	123	215	209	205	557	194	100	63	105
29	47	132	470	120	-	199	209	524	197	124	59	100
30	126	152	470	120	-	188	233	574	a190	106	61	100
31	229	-	449	118	-	178	-	744	-	94	61	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,881	229	41	92.9	0.534	0.62
November	4,004	217	58	133	.764	.85
December	4,038	470	48	130	.747	.86
Calendar year 1942	42,723	470	29	117	.672	9.11
January	6,491	470	118	209	1.20	1.38
February	6,018	352	123	215	1.24	1.29
March	7,712	449	109	249	1.43	1.65
April	4,707	233	100	157	.902	1.01
May	14,993	744	225	484	2.78	3.20
June	13,000	971	139	433	2.49	2.78
July	4,987	293	94	161	.925	1.07
August	2,312	98	59	74.6	.429	.49
September	2,876	120	61	95.9	.551	.61
Water year 1942-43	74,019	971	41	203	1.17	15.81

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for station at Lansing.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Grand River at Lansing, Mich.

Location.- Water-stage recorder, lat. 42°45'20", long. 84°34'55", in SW¼ sec. 5, T. 4 N., R. 2 W., at northwest limits of Lansing, 3⅜ miles downstream from Cedar River.

Drainage area.- 1,230 square miles.

Records available.- November 1934 to September 1943. March 1901 to August 1906 at site at Seymour Street Bridge, 1¾ miles upstream.

Extremes.- Maximum discharge during year, 8,130 second-feet June 3 (gage height, 11.26 feet); minimum, 48 second-feet (regulated) Sept. 1; minimum daily, 160 second-feet Oct. 13.
1934-43: Maximum discharge, that of June 3, 1943; minimum, 6 second-feet (regulated) Aug. 26, 1941; minimum daily, 20 second-feet Aug. 25, 1941.

Remarks.- Records good except those for period of no gage-height record, which are fair. Flow regulated by power plants above station.

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 7, July 6 to Sept. 30)

1.5	159	3.0	685	6.0	2,560
1.7	209	3.5	930	7.0	3,410
2.0	295	4.0	1,220	9.0	5,450
2.5	470	5.0	1,840	11.2	8,010

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	225	632	905	3,880	780	1,700	1,340	1,460	6,330	955	618	240
2	245	708	805	3,230	830	1,520	1,400	1,400	7,290	880	530	305
3	270	755	464	2,560	805	1,210	1,280	1,370	8,010	780	526	284
4	241	708	526	2,050	830	1,220	1,280	1,310	7,170	930	490	239
5	183	708	582	1,770	805	1,070	1,160	1,310	5,670	955	559	a450
6	214	662	655	1,580	1,160	980	1,070	1,250	4,580	1,040	534	a600
7	275	568	737	1,640	1,520	685	1,070	1,100	3,780	1,040	527	a750
8	333	506	715	1,580	1,640	780	930	1,340	3,410	955	383	a700
9	260	494	652	1,460	1,770	662	980	1,490	3,140	830	440	a650
10	292	618	622	1,340	2,050	913	1,160	1,640	2,800	755	468	a620
11	265	780	596	1,400	2,800	1,840	803	2,520	2,560	730	617	a570
12	316	930	620	1,370	3,140	2,400	618	4,580	2,260	880	345	435
13	160	880	442	1,160	3,050	2,720	830	5,120	2,120	1,070	285	451
14	290	805	525	980	2,720	2,720	855	4,790	1,700	1,040	233	542
15	396	708	411	955	2,120	2,880	730	3,980	1,700	905	318	498
16	516	640	439	980	1,700	4,790	780	3,500	1,520	730	367	443
17	633	595	448	930	1,460	6,570	685	3,410	1,520	830	292	395
18	730	590	454	930	1,340	6,000	830	3,590	1,490	980	254	399
19	730	590	419	905	1,310	4,790	567	3,780	1,400	1,100	256	358
20	730	640	373	780	1,980	3,680	930	3,980	1,510	1,130	298	352
21	708	880	411	730	3,050	3,050	1,040	5,340	1,130	1,100	293	357
22	662	980	426	780	3,500	2,720	1,280	6,330	1,220	930	265	368
23	618	1,040	445	855	3,590	2,560	1,250	5,670	1,130	805	404	333
24	586	1,100	456	805	3,980	2,260	1,160	4,680	1,040	685	215	375
25	488	1,310	439	880	3,780	2,120	1,100	4,900	930	546	276	436
26	386	1,400	603	905	3,230	2,050	955	6,330	805	590	377	350
27	462	1,250	1,150	930	2,120	1,910	1,040	6,110	730	595	333	369
28	368	1,160	2,330	880	2,260	1,770	1,310	4,790	1,220	484	405	398
29	309	1,040	5,010	880	-	1,580	1,400	3,880	1,250	530	347	363
30	416	905	5,890	830	-	1,490	1,520	3,680	1,070	640	315	345
31	394	-	4,900	805	-	1,370	-	4,790	-	618	250	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	12,701	730	160	410	0.333	0.38
November	24,582	1,400	494	819	.666	.74
December	33,350	5,890	373	1,076	.875	1.01
Calendar year 1942	310,060	7,290	92	849	.690	9.36
January	40,760	3,880	730	1,315	1.07	1.23
February	59,320	3,980	780	2,119	1.72	1.79
March	72,010	6,570	662	2,323	1.89	2.18
April	31,353	1,520	567	1,045	.850	.95
May	109,420	6,330	1,110	3,530	2.87	3.31
June	80,285	8,010	730	2,676	2.18	2.43
July	26,038	1,130	484	840	.683	.79
August	11,820	618	215	381	.310	.36
September	12,975	750	239	432	.351	.39
Water year 1942-43	514,614	8,010	160	1,410	1.15	15.56

a No gage-height record; discharge computed on basis of weather records and records for Grand River at Jackson and Grand Rapids and Cedar River at East Lansing.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Grand River at Grand Rapids, Mich.

Location.- Water-stage recorder, lat. 42°57'10", long. 85°41'15", at municipal sewage-pumping plant near west limits of Grand Rapids, Kent County, three-quarters of a mile upstream from Plaster Creek. Datum of gage is 589.01 feet above mean sea level (levels by city of Grand Rapids).
Drainage area.- 4,900 square miles.
Records available.- October 1930 to September 1943. March 1901 to December 1905 and January 1906 to September 1918 (gage heights only) at site at Fulton Street Bridge in Grand Rapids.
Average discharge.- 13 years (1930-43), 3,077 second-feet.
Extremes.- Maximum discharge during year, 29,200 second-feet Mar. 19 (gage height, 14.07 feet); minimum, 1,240 second-feet Sept. 5 (gage height, -3.48 feet).
1930-43: Maximum discharge, 34,000 second-feet Mar. 20, 1942 (gage height, 15.13 feet); minimum observed, 341 second-feet Aug. 17, 1936; minimum daily, 381 second-feet Aug. 17, 1936.
A stage of 19.3 feet occurred at Fulton Street gage Mar. 27, 1904 (discharge, 53,000 second-feet).
Remarks.- Records good except those for periods of ice effect, which are fair. Flow slightly regulated by power plants above station. City of Grand Rapids diverts about 30 second-feet above station, most of which is returned to river 1 mile below.
Cooperation.- Gage-height record furnished by city of Grand Rapids.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

-3.2	1,380	2.0	5,720	12.0	21,800
-3.0	1,480	4.0	7,820	13.5	26,800
-2.0	2,160	6.0	10,300	13.9	28,400
-1.0	2,940	8.0	13,300		
0	3,790	10.0	17,100		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,810	2,460	5,320	19,600	5,100	15,300	7,160	5,720	14,000	4,240	2,090	1,810
2	1,670	2,780	5,120	19,300	5,100	13,900	6,420	5,820	14,900	3,790	2,090	1,740
3	1,480	3,100	3,700	17,300	5,120	13,000	6,320	5,620	17,300	3,610	2,090	1,670
4	1,540	3,520	2,780	14,900	5,120	12,000	6,320	5,420	20,300	4,150	2,020	1,540
5	1,600	3,700	3,260	12,200	5,120	11,000	5,920	5,120	22,700	4,720	2,090	1,380
6	1,740	3,610	3,970	9,670	5,420	10,500	5,320	5,120	22,100	4,150	2,020	2,160
7	1,810	3,260	4,150	8,300	6,320	9,800	5,120	5,120	20,000	3,610	2,020	3,100
8	1,670	3,100	3,970	7,820	6,830	9,020	5,120	4,920	17,700	3,610	2,090	3,020
9	1,810	3,260	3,790	7,600	7,270	8,660	4,920	4,920	15,900	3,610	1,810	2,860
10	1,740	4,920	3,610	7,500	7,710	8,180	4,620	5,620	14,000	3,020	1,880	2,700
11	1,600	5,620	3,700	7,600	8,780	7,940	4,420	6,120	12,200	3,020	1,740	2,540
12	1,540	5,520	3,260	7,400	9,800	8,180	4,620	7,380	10,900	3,430	1,740	2,300
13	1,600	5,420	3,020	7,100	10,500	8,900	4,620	9,150	9,540	3,260	2,300	2,300
14	1,810	5,120	2,940	6,500	11,300	10,600	4,240	10,600	8,060	3,430	1,950	2,160
15	2,300	4,720	2,700	6,100	12,200	13,000	4,150	11,900	7,600	3,520	1,480	2,090
16	3,180	4,420	2,600	6,200	12,200	17,300	4,520	12,700	6,520	3,430	1,740	2,300
17	4,060	4,150	2,500	6,200	11,700	20,600	4,150	13,000	5,820	3,430	1,740	2,230
18	4,240	3,880	*2,400	6,000	10,500	24,800	4,150	12,700	5,720	3,100	1,540	2,160
19	4,060	3,700	2,300	5,700	9,020	28,400	3,970	12,200	5,320	2,940	1,600	1,950
20	3,880	3,970	2,300	5,200	8,540	*28,000	4,150	11,900	4,820	3,100	1,670	1,880
21	3,520	5,520	2,400	5,000	9,540	23,600	4,330	11,900	4,620	2,940	1,540	1,810
22	3,340	6,830	2,500	5,000	10,600	20,000	4,620	11,900	4,720	2,940	1,380	1,880
23	3,020	7,380	2,500	5,000	12,000	17,300	4,820	12,700	4,520	2,940	1,540	1,600
24	3,020	7,050	2,500	5,200	16,100	14,900	5,020	14,000	4,150	2,460	1,810	1,740
25	2,940	6,520	2,600	5,400	18,100	13,500	4,820	15,700	3,880	2,380	1,950	1,740
26	2,860	6,420	2,600	5,600	18,600	12,200	4,520	16,300	3,430	2,460	1,430	1,880
27	2,780	6,220	4,850	5,500	17,700	11,200	4,520	15,900	3,340	2,460	1,540	1,880
28	2,460	*5,920	10,100	5,400	17,300	10,300	4,620	15,900	3,610	2,020	2,020	2,020
29	2,380	5,720	12,500	5,300	-	9,410	4,920	16,100	3,700	2,300	1,950	2,020
30	2,700	5,420	16,500	5,200	-	8,540	5,120	15,500	3,880	2,230	1,740	1,600
31	2,780	-	18,800	5,200	-	7,820	-	14,800	-	2,090	1,950	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	76,940	4,240	1,480	2,482	0.507	0.58
November	143,230	7,380	2,460	4,774	.974	1.09
December	145,240	18,800	2,300	4,685	.956	1.10
Calendar year 1942	1,529,250	34,000	1,280	4,190	.855	11.61
January	245,990	19,600	5,000	7,935	1.62	1.87
February	283,590	18,600	5,100	10,130	2.07	2.16
March	427,850	28,400	7,820	13,800	2.82	3.25
April	147,540	7,160	3,970	4,918	1.00	1.12
May	321,750	16,300	4,920	10,380	2.12	2.44
June	295,250	22,700	3,340	9,842	2.01	2.24
July	98,460	4,720	2,090	3,176	.648	.75
August	56,550	2,300	1,380	1,824	.372	.43
September	62,060	3,100	1,380	2,069	.422	.47
Water year 1942-43	2,304,450	28,400	1,380	6,314	1.29	17.50

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 16-26, Jan. 10 to Feb. 2, Mar. 3-6.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Cedar River at East Lansing, Mich.

Location.- Water-stage recorder and concrete dam, lat. 42°43'40", long. 84°28'40", in SW¼ sec. 18, T. 4 N., R. 1 W., at East Lansing, 3 miles upstream from Sycamore Creek and 4 miles upstream from mouth. Datum of gage is 824.39 feet (revised) above mean sea level, datum of 1929.

Drainage area.- 355 square miles.

Records available.- March 1931 to September 1943. August 1902 to December 1903 at site three-quarters of a mile downstream.

Average discharge.- 12 years (1931-43), 168 second-feet.

Extremes.- Maximum discharge during year, 2,490 second-feet Dec. 29 (gage height, 7.60 feet); minimum, 23 second-feet Oct. 1, 6 (gage height, 3.10 feet).
1902-3, 1931-43: Maximum discharge, 4,020 second-feet Feb. 14, 1938 (gage height, 9.20 feet); minimum, 3 second-feet July 31, 1931.
Maximum stage known, about 14.5 feet during flood of 1921.

Remarks.- Records good.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 11-17)

3.1	23	3.6	141	5.0	720
3.2	41	3.9	237	6.0	1,290
3.3	63	4.2	350	7.0	2,000
3.4	87	4.5	478	7.5	2,400

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	127	203	1,140	*177	b450	303	460	1,690	130	70	31
2	26	147	165	964	174	300	327	404	1,690	108	65	45
3	52	133	108	694	174	251	307	354	h1,760	95	68	31
4	45	121	135	408	187	241	281	323	h1,420	113	68	45
5	30	105	162	366	213	223	262	303	h1,020	147	75	85
6	25	105	168	370	319	165	230	300	720	150	92	103
7	35	100	168	375	487	130	210	288	h589	121	75	121
8	41	100	150	338	538	162	200	319	h478	105	63	95
9	61	82	150	300	h550	153	197	478	408	87	108	80
10	65	138	141	277	h600	224	184	496	346	80	80	70
11	28	210	138	266	h950	670	165	810	296	87	63	68
12	31	234	133	241	h1,200	936	177	1,760	262	150	56	59
13	41	200	116	203	h1,000	1,080	200	1,800	237	177	63	50
14	45	162	116	200	h800	b990	193	1,420	213	150	75	63
15	103	133	119	200	h650	964	177	1,110	190	116	54	59
16	130	127	116	190	h500	1,750	174	964	184	95	52	56
17	119	121	116	181	h350	2,400	197	1,020	187	97	50	45
18	113	119	119	181	h250	1,960	197	1,020	171	103	43	54
19	103	113	108	174	h280	1,420	184	992	144	105	43	48
20	90	133	105	147	h700	1,110	223	992	133	90	63	37
21	82	226	110	150	1,260	826	327	1,350	124	77	61	50
22	68	300	121	156	1,420	694	383	1,760	116	70	56	52
23	70	303	113	168	1,450	570	342	1,590	108	63	48	52
24	75	330	119	171	1,520	487	292	1,260	97	61	35	56
25	54	496	133	190	1,260	434	241	1,450	92	56	28	59
26	68	510	153	213	936	412	210	2,160*	85	65	28	54
27	80	412	398	217	638	395	232	1,690	80	61	48	31
28	77	319	1,660	203	542	354	452	1,230	206	54	45	54
29	59	248	2,400	184	-	315	465	908	244	95	48	52
30	56	220	2,000	171	-	296	469	826	174	108	37	50
31	82	-	1,480	168	-	281	-	1,420	-	90	45	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,982	130	25	63.9	0.180	0.21
November	6,074	510	82	202	.569	.63
December	11,423	2,400	105	368	1.04	1.20
Calendar year 1942	77,372	2,460	19	212	.597	8.11
January	9,206	1,140	147	297	.837	.96
February	19,125	1,520	174	683	1.92	2.00
March	20,643	2,400	130	666	1.88	2.17
April	7,801	469	165	260	.732	.82
May	31,257	2,160	288	1,008	2.84	3.27
June	13,464	1,760	80	449	1.26	1.41
July	3,106	177	54	100	.282	.33
August	1,805	108	28	58.2	.164	.19
September	1,755	121	31	58.5	.165	.18
Water year 1942-43	127,641	2,400	25	350	.986	13.37

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
h Discharge computed on basis of gage heights at U. S. Weather Bureau gage, half a mile downstream by use of relation curve.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Higgins Lake Outlet near Roscommon, Mich.

Location.- Staff gage, lat. 44°25'50", long. 84°40'10", in sec. 34, T. 24 N., R 3 W., an eighth of a mile downstream from Higgins Lake Dam, 3 miles southwest of Roscommon, and 8 miles upstream from Backus Creek.

Drainage area.- 58 square miles.

Records available.- June 1942 to September 1943.

Extremes.- Maximum discharge observed during year, 110 second-feet June 28 (gage height, 3.15 feet); minimum daily, 30 second-feet Nov. 29, 30, Dec. 4-8, 12-26; minimum gage height observed, 1.40 feet, Dec. 5, 6.
1942-43: Maximum discharge observed, that of June 28, 1943; minimum daily, 28 second-feet Aug. 17, 1942; minimum gage height observed, that of Dec. 5, 6, 1942.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read once daily.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.4	30	2.5	80
1.6	39	3.0	102
2.0	57	3.2	112

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	34	32	36	41	47	64	49	82	*97	64	50
2	42	34	32	36	41	47	66	46	88	95	62	50
3	42	34	31	37	41	47	64	46	91	95	a61	50
4	43	33	30	37	41	47	62	45	88	95	64	49
5	43	33	30	37	41	47	64	44	88	93	62	50
6	42	33	30	37	41	47	62	48	91	91	62	49
7	41	33	30	37	42	47	59	48	93	88	62	50
8	41	33	30	37	42	47	59	57	95	88	59	51
9	40	33	32	37	43	47	59	68	95	86	a57	48
10	39	33	33	37	45	48	59	68	95	86	55	44
11	39	35	31	37	47	48	59	68	95	84	55	43
12	39	38	30	37	50	49	62	68	98	84	55	42
13	39	40	30	37	50	50	62	68	98	84	56	41
14	39	35	30	37	50	53	62	66	98	84	57	41
15	39	34	30	37	49	59	62	66	100	82	59	40
16	39	34	30	37	49	64	62	66	102	80	57	41
17	39	34	30	37	48	66	64	64	102	82	57	42
18	38	34	30	38	48	66	64	62	104	82	55	40
19	37	36	30	39	47	64	64	62	104	77	55	39
20	37	36	30	39	*47	66	64	62	104	77	55	39
21	37	36	30	39	47	64	64	64	104	75	57	37
22	36	35	30	39	47	64	62	64	107	70	55	36
23	36	35	*30	39	47	*62	62	64	107	68	53	37
24	35	35	30	39	46	62	59	64	104	66	53	37
25	34	34	30	*39	46	59	57	68	104	64	52	36
26	34	34	30	40	45	59	56	70	107	64	52	36
27	33	33	34	41	45	59	54	70	107	68	52	34
28	32	31	36	41	46	59	52	75	110	66	50	34
29	32	30	36	41	-	59	54	75	a105	64	52	34
30	34	30	36	41	-	59	57	75	a100	64	52	34
31	34	-	36	41	-	61	-	75	-	64	50	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,176	43	32	37.9	0.653	0.75
November	1,022	40	30	34.1	.588	.66
December	969	36	30	31.3	.540	.62
Calendar year	-	-	-	-	-	-
January	1,183	41	36	38.2	.659	.76
February	1,272	50	41	45.4	.783	.82
March	1,723	66	47	55.6	.959	1.11
April	1,820	66	52	60.7	1.05	1.17
May	1,935	75	44	62.4	1.08	1.24
June	2,966	110	82	98.9	1.71	1.91
July	2,463	97	64	79.5	1.37	1.58
August	1,747	64	50	56.4	.972	1.12
September	1,254	51	34	41.8	.721	.80
Water year 1942-43	19,530	110	30	53.5	.922	12.54

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records of stage for Higgins Lake near Roscommon.
Note.- Stage-discharge relation affected by ice Nov. 26 to Dec. 4, Dec. 14 to Mar. 14.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Muskegon River at Evart, Mich.

Location.- Wire-weight gage, lat. 43°54', long. 85°15', in sec. 34, T. 18 N., R. 8 W., on highway bridge at east edge of Evart, half a mile upstream from Twin Creek.

Drainage area.- 1,450 square miles.

Records available.- November 1930 to June 1931, January 1934 to September 1943.

Extremes.- Maximum discharge during year, 6,140 second-feet Mar. 31 (gage height, 13.28 feet); minimum observed, 352 second-feet Sept. 18 (gage height, 6.87 feet).
1930-31, 1934-43: Maximum discharge observed, that of Mar. 31, 1943; minimum observed, 237 second-feet Aug. 28, 1941 (gage height, 6.58 feet).

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily.

Rating tables, water year 1941-42, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 26				Mar. 27 to Sept. 30					
7.1	460	9.0	1,850	6.9	365	8.0	965	11.0	3,510
7.5	685	10.0	2,800	7.0	410	9.0	1,680	12.0	4,590
8.0	1,030	11.3	4,190	7.5	670	10.0	2,540	13.1	5,900

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	589	806	711	1,500	*770	1,760	5,540	1,840	2,630	1,310	648	582
2	577	834	670	1,400	790	*1,600	5,540	1,840	3,930	1,240	648	555
3	583	855	600	1,300	800	1,500	5,300	1,840	3,820	1,170	698	535
4	589	834	560	1,200	800	1,400	4,590	1,800	3,710	1,170	752	545
5	601	799	530	*1,150	800	1,300	4,040	1,880	4,040	1,140	780	535
6	589	799	520	1,100	800	1,200	3,510	1,920	3,930	1,100	708	560
7	571	771	520	1,050	800	1,100	3,110	1,880	3,710	1,100	752	560
8	560	764	520	1,000	800	1,000	2,910	1,880	3,410	998	720	490
9	560	744	520	1,000	800	970	2,630	1,760	3,010	965	752	515
10	560	1,220	570	1,000	750	950	2,360	1,680	2,630	998	659	530
11	526	1,500	620	980	750	950	2,140	1,600	2,270	965	664	535
12	526	1,540	680	940	750	950	2,140	1,560	2,090	965	654	555
13	538	1,420	670	920	750	960	2,040	1,520	2,000	1,060	648	525
14	538	1,220	660	880	750	995	1,920	1,480	1,800	1,060	648	550
15	538	1,140	660	850	700	1,030	1,800	1,380	1,600	965	615	555
16	631	1,100	660	800	700	1,500	1,760	1,560	1,600	965	615	550
17	692	1,100	660	750	700	1,850	1,760	1,600	1,840	932	620	515
18	692	a1,100	660	700	750	2,080	1,720	1,520	1,880	932	588	388
19	667	1,060	670	650	800	2,160	1,680	1,520	1,840	870	576	520
20	661	1,030	680	600	900	2,210	1,720	1,240	1,680	840	576	530
21	637	1,030	700	600	1,050	2,350	1,760	1,450	1,600	810	582	465
22	619	960	720	600	1,260	2,210	1,800	1,340	1,920	780	598	480
23	613	960	760	610	1,420	2,160	1,760	1,420	1,840	780	576	490
24	532	960	800	640	1,760	2,500	1,640	1,380	1,720	725	576	495
25	532	960	850	660	2,080	3,420	1,600	1,960	1,560	692	593	480
26	495	855	995	680	2,030	4,190	1,560	2,090	1,380	686	604	490
27	565	*848	1,300	700	2,030	4,820	1,560	2,220	1,450	698	632	505
28	571	631	1,760	730	1,940	5,060	1,680	2,220	1,380	686	604	500
29	601	730	1,940	750	-	*4,940	1,600	1,960	1,340	676	582	515
30	667	730	1,720	750	-	5,420	1,760	1,880	1,380	703	588	490
31	792	-	1,600	750	-	5,900	-	1,920	-	659	598	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	18,412	792	495	594	0.410	0.47
November	29,300	1,540	631	977	.674	.75
December	25,486	1,940	520	822	.567	.65
Calendar year 1942	373,505	4,190	302	1,023	.706	9.57
January	27,240	1,500	600	879	.606	.70
February	29,030	2,080	700	1,037	.715	.74
March	70,435	5,900	950	2,272	1.57	1.81
April	74,930	5,540	1,560	2,498	1.72	1.92
May	53,140	2,220	1,240	1,714	1.18	1.36
June	68,990	4,040	1,340	2,300	1.59	1.77
July	28,640	1,310	659	924	.637	.73
August	13,854	780	576	640	.441	.51
September	15,540	582	388	518	.357	.40
Water year 1942-43	460,997	5,900	388	1,263	.871	11.81

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records.
Note.- Stage-discharge relation affected by ice Dec. 2-25, Dec. 31 to Feb. 21, Mar. 2-13.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Muskegon River at Newaygo, Mich.

Location.- Water-stage recorder, lat. 43°25', long. 85°48', in sec. 24, T. 12 N., R. 13 W., in tailrace of power plant operated by Consumers Power Co. at Newaygo, 600 feet downstream from Penoyer Creek.

Drainage area.- 2,350 square miles.

Records available.- October 1930 to September 1943. June 1901 to December 1906 at site above Newaygo.

Average discharge.- 13 years (1930-43), 1,704 second-feet.

Extremes (regulated).- Maximum discharge during year, 8,940 second-feet Apr. 2 (gage height, 51.99 feet); minimum, 581 second-feet Aug. 2 (gage height, 46.48 feet); minimum daily, 777 second-feet July 31.
1901-6, 1930-43: Maximum discharge recorded, that of Apr. 2, 1943; minimum, about 150 second-feet June 4, 1941; minimum daily, 390 second-feet July 13, 1934.

Remarks.- Records good. Flow regulated by Hardy Dam (since 1931), Croton Dam, and several smaller dams, and by power plant at Newaygo.

Revisions.- Revised figures of discharge for high-water periods in the water years 1933, 1935, 1937, 1938 are given herein. They supersede those published in Water-Supply Papers 744, 784, 824, 854.

Day (water year)	Discharge (second-feet)	Day (water year)	Discharge (second-feet)	Day (water year)	Discharge (second-feet)
1932-33		1934-35		1937-38	
Apr. 11.....	5,930	Mar. 28.....	5,590	Feb. 13.....	5,930
12.....	6,100	29.....	5,420	14.....	8,760
14.....	5,590			15.....	7,320
18.....	6,100	1936-37		16.....	6,270
19.....	5,930	Dec. 28.....	5,420	17.....	6,100
20.....	6,100	29.....	5,250	18.....	6,100
21.....	5,760	30.....	5,420	19.....	5,420
22.....	5,590	31.....	5,420	Mar. 26.....	5,590
May 3.....	6,610	Feb. 6.....	5,590	27.....	6,610
4.....	6,440	7.....	8,580	28.....	5,590
5.....	5,420	8.....	7,680	29.....	5,420
		9.....	7,140	30.....	6,270
1934-35		10.....	6,780	31.....	6,440
Mar. 26.....	5,250	11.....	5,930	Apr. 1.....	5,930
27.....	5,250	12.....	6,270	2.....	5,760

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
April 1933.....	-	6,100	1,640	3,984	1.70	1.90
May.....	-	6,610	1,640	3,325	1.41	1.63
Water year 1932-33...	-	6,610	615	1,777	.756	10.29
March 1935.....	126,380	5,590	1,910	4,077	1.73	1.99
Water year 1934-35...	614,785	5,590	555	1,684	.717	9.71
Calendar year 1935...	570,815	5,590	555	1,564	.666	9.01
December 1936.....	53,275	5,420	665	1,719	.731	.84
Calendar year 1936...	482,215	5,420	425	1,318	.561	7.63
Water year 1936-37...	641,590	5,420	580	1,758	.748	10.17
February 1938.....	144,500	8,580	2,590	5,161	2.20	2.29
March.....	117,980	6,610	2,120	3,806	1.62	1.87
April.....	89,090	5,930	1,760	2,970	1.26	1.41
Water year 1937-38...	744,265	8,580	580	2,050	.872	11.79
Calendar year 1938...	726,105	8,580	580	1,989	.846	11.49

Rating tables, water year 1942-43 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to June 7				June 8 to Sept. 30			
46.7	805	49.0	3,800	46.7	750	48.0	2,190
47.0	1,090	50.0	5,420	47.0	1,020	49.0	3,740
47.5	1,640	51.8	8,580	47.5	1,550	50.1	5,590
48.0	2,300						

Discharge, in second-feet, of Muskegon River at Newaygo, Mich., water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,520	1,070	1,700	3,650	1,760	3,500	7,500	3,120	4,120	2,780	993	1,860
2	971	1,640	1,640	3,350	1,760	3,500	8,580	2,230	4,760	1,980	1,040	1,330
3	1,010	1,760	1,040	3,120	1,890	3,420	8,400	2,820	5,760	1,980	1,550	975
4	990	1,820	841	3,120	2,090	3,120	6,960	3,120	5,760	1,730	1,860	1,040
5	1,230	1,760	895	2,900	2,090	3,050	4,920	3,120	5,760	1,670	1,320	1,040
6	1,760	1,820	895	2,160	2,090	2,020	5,420	3,280	5,760	1,860	1,060	1,010
7	1,700	1,760	1,320	2,090	2,090	2,020	5,420	3,350	5,440	1,980	1,050	1,240
8	1,010	1,700	1,760	1,760	2,090	2,600	5,080	3,350	5,420	2,050	1,110	1,250
9	1,040	1,760	1,700	1,760	2,750	2,980	5,080	2,980	5,420	1,980	1,430	1,120
10	1,060	2,090	1,760	895	2,750	2,980	4,760	2,820	5,590	1,730	1,920	993
11	1,010	2,750	1,760	1,640	2,750	2,980	4,440	3,120	4,570	1,070	1,920	1,100
12	1,070	2,900	990	1,960	2,520	2,450	3,500	3,120	3,740	1,420	1,920	984
13	1,380	2,980	1,010	2,160	2,020	1,960	3,120	3,120	3,660	1,730	1,980	1,000
14	1,760	2,750	1,460	2,160	2,090	1,960	3,120	2,600	3,500	1,730	1,610	1,130
15	1,700	2,090	1,700	2,160	2,090	2,520	3,120	1,820	3,130	1,730	1,010	1,130
16	1,130	2,160	1,700	2,090	2,380	3,200	3,120	1,890	3,020	1,500	1,500	1,020
17	1,070	2,090	1,700	2,090	2,750	3,420	3,120	2,520	3,260	1,730	1,920	1,040
18	1,070	2,090	1,700	2,090	2,750	3,280	2,680	3,200	3,340	1,730	1,920	1,020
19	1,140	2,380	924	2,160	2,520	3,350	2,820	3,120	3,100	1,790	1,500	1,010
20	1,410	2,380	895	2,160	2,160	3,350	3,120	3,200	2,560	1,790	1,090	1,200
21	1,640	2,090	1,390	2,090	2,090	3,350	3,120	3,200	2,700	1,790	1,090	1,500
22	1,820	2,090	1,820	2,020	2,520	3,350	3,120	3,200	2,860	1,790	1,090	1,500
23	1,460	2,450	1,700	1,700	3,200	3,350	3,420	2,230	3,020	1,790	1,280	1,500
24	1,090	2,750	1,640	1,760	3,580	3,720	3,120	2,820	3,100	1,790	1,120	1,190
25	1,070	2,300	895	1,760	3,500	4,760	2,520	3,200	3,020	1,140	1,440	1,240
26	1,580	2,090	952	1,760	3,500	5,100	2,680	3,420	3,020	1,500	1,860	1,070
27	1,760	1,890	1,890	1,760	3,500	5,930	2,900	3,650	2,260	1,860	1,790	1,350
28	1,410	1,760	3,420	1,820	3,280	5,930	3,120	3,650	1,980	1,790	1,730	1,310
29	980	1,700	3,650	1,820	-	5,590	3,120	3,650	2,630	1,790	1,030	1,070
30	1,130	1,700	3,650	1,760	-	4,920	3,200	3,580	3,100	1,550	984	1,000
31	1,100	-	3,650	1,760	-	6,780	-	3,500	-	777	1,550	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	40,071	1,820	971	1,293	0.550	0.63
November	62,570	2,980	1,070	2,086	.888	.99
December	52,047	3,650	841	1,679	.714	.82
Calendar year 1942	691,766	5,780	798	1,895	.806	10.95
January	65,485	3,650	895	2,112	.899	1.04
February	70,560	3,580	1,760	2,520	1.07	1.11
March	111,400	6,780	1,960	3,595	1.53	1.76
April	124,600	8,580	2,520	4,153	1.77	1.98
May	94,000	3,650	1,820	3,032	1.29	1.49
June	116,410	6,440	1,980	3,880	1.65	1.84
July	53,527	2,780	777	1,727	.735	.85
August	44,667	1,980	984	1,441	.613	.71
September	35,222	1,860	975	1,174	.500	.56
Water year 1942-43	870,599	8,580	777	2,385	1.01	13.78

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Pere Marquette River at Scottville, Mich.
(Formerly published as Pere Marquette River at Custer, Mich.)

Location.- Water-stage recorder, lat. 43°56'40", long. 86°16'45", in sec. 19, R. 16 W., T. 18 N., at Scottville, 5¾ miles downstream from South Branch. Datum of gage is 606.30 feet above mean sea level, datum of 1929. Prior to June 12, 1943, wire-weight gage at highway bridge 4¾ miles upstream.

Drainage area.- 709 square miles. 702 square miles at site used prior to June 12, 1943.

Records available.- August 1939 to September 1943.

Extremes.- Maximum discharge observed during year, 1,900 second-feet Mar. 27 (gage height, 5.97 feet, site and datum then in use); minimum recorded, 426 second-feet Sept. 10 (gage height, 2.27 feet).
1939-43: Maximum discharge observed, 1,900 second-feet Mar. 19, 1942, Mar. 27, 1943; maximum gage height observed, that of Mar. 27, 1943; minimum discharge observed, 310 second-feet Aug. 9, 10, 1941 (gage height, 2.12 feet, site and datum then in use).

Remarks.- Records good except those for period of ice effect, which are fair. Gage read twice daily prior to June 12, 1943.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 19		Mar. 20 to June 11		June 12 to Sept. 30	
2.5	414	3.5	620	2.2	415
3.0	554	4.0	770	2.5	488
4.0	850	4.5	960	3.0	640
5.0	1,240	5.0	1,190	3.5	825
6.0	1,960	5.5	1,500	3.7	910
		6.0	1,960		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	512	498	670	900	650	650	1,460	860	980	910	502	488
2	498	498	685	800	600	630	1,460	900	1,160	805	488	475
3	470	498	670	750	*600	*630	1,360	900	1,360	728	502	462
4	442	512	656	700	650	630	1,240	860	1,500	692	530	450
5	428	512	670	*690	650	630	1,120	840	1,430	675	530	450
6	442	540	670	690	650	600	1,040	800	a1,270	640	530	450
7	470	612	670	690	650	600	980	820	1,140	622	515	450
8	470	612	685	650	650	600	940	800	1,020	605	502	438
9	470	*598	685	650	650	600	900	740	a960	575	488	438
10	456	656	685	650	650	600	a880	695	900	560	488	438
11	442	805	650	700	650	600	860	680	880	545	475	438
12	442	835	650	700	650	600	a860	665	888	575	462	450
13	442	850	650	650	650	650	840	650	865	675	475	450
14	428	850	650	650	650	650	840	635	865	765	502	450
15	442	850	600	650	600	700	840	a635	845	728	502	462
16	456	850	600	600	600	900	840	665	845	658	488	462
17	484	850	600	600	600	1,400	820	740	825	640	462	462
18	512	835	600	600	600	1,300	840	860	845	605	462	450
19	512	820	600	600	650	1,200	820	880	845	590	462	450
20	498	805	600	600	650	1,100	785	860	865	575	450	438
21	484	775	600	550	650	1,000	770	840	805	545	450	438
22	484	775	600	550	700	1,000	755	800	745	530	450	438
23	470	745	650	550	700	1,000	755	800	710	530	450	438
24	484	730	650	600	750	1,100	725	800	710	515	462	438
25	498	715	650	600	800	1,500	695	820	692	515	475	450
26	498	715	700	600	700	1,850	680	880	692	502	462	462
27	512	700	700	650	650	1,900	680	960	728	515	488	475
28	526	715	800	650	650	1,900	710	1,000	765	515	515	462
29	526	670	900	650	-	1,700	755	1,000	785	530	530	462
30	512	670	1,000	650	-	*1,620	820	940	865	530	515	450
31	498	-	950	650	-	1,460	-	900	-	515	488	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	14,808	526	428	478	0.681	0.79
November	21,096	850	498	703	1.00	1.12
December	21,146	1,000	600	682	.972	1.12
Calendar year 1942	241,926	1,900	359	663	.944	12.83
January	20,220	900	550	652	.929	1.07
February	18,300	800	600	654	.932	.97
March	31,300	1,900	600	1,010	1.44	1.66
April	27,070	1,460	680	902	1.28	1.43
May	25,225	1,000	635	814	1.16	1.34
June	27,785	1,500	692	926	1.31	1.46
July	18,910	910	502	610	.860	.99
August	15,100	530	450	487	.687	.79
September	13,564	488	438	452	.638	.71
Water year 1942-43	254,524	1,900	428	697	.990	13.45

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Manistee River near Sherman.
Note.- Stage-discharge relation affected by ice Dec. 11 to Mar. 25.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Big Sable River near Free Soil, Mich.

Location.- Staff gage, lat. 44°07'15", long. 86°16'50", in sec. 24, T. 20 N., R. 17 W., 30 feet downstream from bridge on U. S. Highway 31, 2¾ miles northwest of Free Soil and 6 miles upstream from Hamlin Lake. Datum of gage is 615.32 feet above mean sea level, datum of 1929 (levels by Michigan State Department of Conservation).

Drainage area.- 127 square miles.

Records available.- May 1942 to September 1943.

Extremes.- Maximum discharge observed during year, 419 second-feet Mar. 26, 27; maximum gage height observed, 3.26 feet Jan. 20; minimum discharge observed, 98 second-feet Sept. 4, 23 (gage height, 1.05 feet).

1942-43: Maximum discharge observed, that of Mar. 26, 27, 1943; maximum gage height observed, Jan. 20, 1943; minimum discharge observed, 94 second-feet Aug. 21, 22, 26, 1942 (gage height, 1.09 feet).

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 16				Mar. 17 to Sept. 30			
1.20	106	2.30	244	1.00	93	2.30	244
1.40	128	2.80	356	1.40	134	2.80	356
1.80	176	3.30	540	1.80	178	3.30	540

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	132	142	142	210	140	135	383	197	200	136	106	103
2	126	142	147	190	*135	135	368	197	221	133	105	103
3	121	142	134	175	135	*130	320	194	239	130	107	99
4	122	141	128	150	140	130	284	189	231	132	122	99
5	124	144	145	*145	140	130	255	191	208	133	120	104
6	122	148	150	140	150	125	234	195	191	128	113	107
7	120	148	146	140	145	125	227	189	182	125	108	105
8	118	146	130	135	135	125	220	180	178	122	107	102
9	117	*144	138	135	135	125	● 215	171	169	119	106	102
10	116	197	146	135	140	125	210	167	172	117	106	104
11	115	199	144	140	130	125	204	164	169	117	104	103
12	115	210	142	140	130	130	206	160	165	119	103	103
13	113	203	140	135	130	130	206	157	164	118	107	102
14	114	192	135	135	130	140	204	155	160	117	108	103
15	114	180	125	130	120	170	200	153	156	117	106	104
16	116	171	130	130	120	220	208	162	152	117	104	103
17	121	164	130	130	120	300	209	167	171	124	102	101
18	122	162	130	125	130	280	206	165	167	121	102	101
19	119	156	125	125	135	255	200	164	156	117	101	100
20	119	154	*125	125	140	240	193	162	158	113	99	100
21	118	152	120	120	150	220	188	158	153	111	99	101
22	121	150	125	120	150	215	181	155	149	111	99	99
23	126	148	125	125	160	210	178	153	144	109	101	99
24	126	146	125	125	180	300	175	162	140	108	104	101
25	125	144	130	130	170	374	171	175	136	108	103	106
26	125	144	140	135	150	409	168	178	146	106	101	104
27	122	145	160	135	140	416	172	177	152	107	107	103
28	122	144	210	135	140	406	180	175	149	107	108	103
29	122	141	230	140	-	386	181	169	152	111	105	102
30	135	141	251	140	-	*359	194	168	142	111	103	101
31	142	-	241	140	-	365	-	171	-	108	102	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,770	142	113	122	0.961	1.11
November	4,740	210	141	158	1.24	1.38
December	4,589	251	120	148	1.17	1.35
Calendar year	-	-	-	-	-	-
January	4,315	210	120	139	1.09	1.26
February	3,920	180	120	140	1.10	1.14
March	6,935	416	125	224	1.76	2.03
April	6,540	383	168	218	1.72	1.92
May	5,320	197	153	172	1.35	1.56
June	5,072	239	136	169	1.33	1.48
July	3,652	136	106	118	.929	1.07
August	3,268	122	99	105	.827	.95
September	3,067	107	99	102	.803	.90
Water year 1942-43	55,188	416	99	151	1.19	16.15

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 13-29, Jan. 1 to Mar. 24.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

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Manistee River near Grayling, Mich.

Location.- Water-stage recorder, lat. 44°41'35", long. 84°50'50", in sec. 31, T. 27 N., R. 4 W., just upstream from bridge on State Highway 72, 2½ miles downstream from Goose Creek and 6½ miles northwest of Grayling.

Drainage area.- 159 square miles.

Records available.- November 1942 to September 1943.

Extremes.- Maximum discharge during period, 330 second-feet June 2 (gage height, 1.86 feet); minimum, 122 second-feet Feb. 14 (gage height, 0.49 foot).

Remarks.- Records good.

Rating table, Nov. 12, 1942, to Sept. 30, 1943, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.6	133	1.4	243
1.0	161	1.8	320

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	a180	a180	a180	166	300	210	261	195	181	181
2		-	181	a170	a170	168	300	202	320	188	181	181
3		-	a175	a180	a170	a170	270	a200	310	188	181	174
4		-	a175	181	a170	a170	252	a200	261	210	181	174
5		-	a175	188	168	174	261	a200	234	226	181	195
6		-	a175	181	174	b170	243	202	226	210	181	188
7		-	a175	a165	174	b170	243	a200	226	202	181	181
8		-	a175	a185	168	b170	243	195	218	195	174	181
9		-	181	188	168	b170	243	188	210	188	181	181
10		-	174	188	168	166	243	188	202	188	202	181
11		-	174	188	168	168	243	188	202	188	188	188
12		195	a174	181	168	b175	234	188	202	195	181	181
13		195	a174	181	174	174	234	181	202	202	188	181
14		188	a174	174	138	162	226	181	202	195	188	181
15		188	a174	181	181	165	218	174	202	188	181	181
16		188	174	181	181	174	218	181	234	188	181	181
17		195	174	181	174	181	218	188	310	210	181	181
18		195	174	174	b170	174	226	181	261	210	181	174
19		188	168	156	*174	174	218	181	226	195	174	174
20		188	181	138	195	168	218	181	210	195	174	174
21		188	174	174	181	168	210	188	210	195	174	174
22		188	174	202	174	*168	210	181	243	195	174	174
23		181	181	*195	174	168	210	174	234	188	181	174
24		181	a175	188	174	165	202	181	218	188	181	174
25		181	a170	188	174	181	210	218	210	188	181	174
26		181	a170	181	174	202	202	218	210	188	181	174
27		181	218	b170	162	210	195	202	210	188	181	174
28		181	a250	a180	174	202	202	195	202	188	181	174
29		a180	a215	a180	-	195	195	188	195	188	a181	174
30		a180	195	a180	-	202	210	188	195	188	181	174
31		-	a190	a180	-	252	-	202	-	188	181	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	-	-	-	-	-	-
November	3,542	195	180	186	1.17	0.83
December	5,619	250	170	181	1.14	1.31
Calendar year	-	-	-	-	-	-
January	5,559	202	138	179	1.13	1.30
February	4,820	195	138	172	1.08	1.12
March	5,532	252	162	178	1.12	1.29
April	6,897	300	195	230	1.45	1.62
May	5,944	218	174	192	1.21	1.40
June	6,846	320	195	228	1.43	1.60
July	6,038	226	188	195	1.23	1.42
August	5,618	202	174	181	1.14	1.31
September	5,353	195	174	178	1.12	1.25
Water year	-	-	-	-	-	-

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for station at Sherman.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard, subtract 1 hour.

Manistee River near Sherman, Mich.

Location.- Wire-weight gage, lat. 44°26', long. 85°42', on line between sec. 36, T. 24 R. 12 W., and sec. 31, T. 24 N., R. 11 W., 150 feet upstream from Wheeler Creek and three-quarters of a mile north of Sherman.

Drainage area.- 900 square miles.

Records available.- July 1903 to May 1916, November 1930 to June 1931, January 1934 to September 1943.

Average discharge.- 21 years (1903-15, 1934-43), 1,091 second-feet.

Extremes.- Maximum discharge observed during year, 2,840 second-feet Apr. 3 (gage height, 14.08 feet); minimum observed, 860 second-feet Sept. 22 (gage height, 9.74 feet).

1903-16, 1930-31, 1934-43: Maximum discharge observed, 3,500 second-feet Mar. 25, 1913 (gage height, 7.0 feet, datum then in use); minimum observed, 540 second-feet Aug. 9, 1936 (gage height, 8.55 feet).

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read once daily.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

9.8	890	12.0	1,750
10.0	950	13.0	2,230
11.0	1,330	14.1	2,840

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,130	985	1,020	1,330	1,090	1,170	2,540	1,700	1,930	1,170	1,020	890
2	1,130	1,020	985	1,290	*1,060	1,150	2,750	1,750	2,480	1,130	985	890
3	1,090	1,020	985	1,210	1,060	1,100	2,840	1,660	2,330	1,090	985	890
4	1,090	985	a1,000	1,170	1,090	1,100	2,720	1,570	2,330	1,130	1,020	890
5	1,090	985	1,000	1,100	1,090	1,100	2,380	1,570	2,330	1,170	1,020	920
6	1,060	985	1,000	1,100	1,090	1,050	2,080	1,530	2,080	1,250	a895	950
7	1,020	985	1,000	1,100	1,090	1,050	1,930	1,490	1,840	1,250	985	920
8	1,020	950	1,000	1,050	1,090	1,050	1,840	1,450	1,660	1,210	950	890
9	985	950	1,000	1,050	1,090	1,050	1,750	1,410	1,570	1,170	950	890
10	985	1,090	1,050	1,050	1,090	1,050	1,700	1,370	1,570	1,090	1,020	920
11	a950	1,210	1,090	1,100	1,060	1,050	1,660	1,330	1,490	1,060	1,020	920
12	950	1,210	1,020	1,100	1,060	1,050	1,660	1,250	1,410	1,090	985	920
13	950	1,210	985	1,050	1,050	1,100	1,660	1,250	1,330	1,130	1,020	920
14	920	1,170	950	1,050	1,050	1,100	1,620	1,210	1,410	1,130	985	890
15	920	1,130	950	1,000	1,000	1,150	1,570	1,170	1,490	1,090	985	890
16	950	1,130	950	1,000	1,000	1,250	1,530	1,170	a1,450	1,090	950	890
17	950	1,170	950	1,000	1,000	1,500	1,530	1,210	1,450	1,170	950	920
18	950	1,210	950	950	1,050	1,490	1,530	1,210	1,410	1,130	950	890
19	950	1,210	950	950	1,100	1,410	1,530	1,210	1,410	1,090	950	890
20	950	1,170	950	950	1,100	1,330	1,530	1,170	1,490	1,090	920	890
21	920	1,130	950	900	1,200	1,290	1,490	1,170	1,530	1,060	920	890
22	920	1,130	1,000	900	1,300	1,250	1,490	1,130	1,570	1,060	920	860
23	950	1,090	1,000	950	1,410	1,290	1,450	1,090	1,450	1,060	920	890
24	920	1,060	1,050	950	1,450	1,410	1,410	1,130	1,330	1,060	920	890
25	920	1,060	1,100	1,020	1,370	1,750	1,410	1,210	1,330	1,020	920	890
26	920	1,060	1,090	1,050	1,290	2,130	1,370	1,290	1,290	1,020	950	890
27	920	1,060	1,330	1,050	1,170	2,330	1,370	1,370	1,250	1,020	920	890
28	920	1,060	1,620	1,060	1,210	2,280	1,410	1,370	1,250	1,060	920	890
29	920	1,020	1,530	1,090	-	2,130	1,490	1,330	1,210	1,130	920	890
30	950	1,020	1,490	1,090	-	*2,180	1,570	1,330	1,170	1,090	920	890
31	950	-	1,410	1,090	-	2,430	-	1,330	-	1,060	890	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	30,250	1,130	920	976	1.08	1.24
November	32,465	1,210	950	1,082	1.20	1.34
December	33,355	1,620	950	1,076	1.20	1.38
Calendar year 1942	399,415	2,190	840	1,094	1.22	16.48
January	32,750	1,330	900	1,056	1.17	1.35
February	31,710	1,450	1,000	1,132	1.26	1.32
March	43,770	2,430	1,050	1,412	1.57	1.81
April	52,840	2,840	1,370	1,761	1.96	2.19
May	41,430	1,750	1,090	1,336	1.48	1.71
June	47,840	2,480	1,170	1,595	1.77	1.98
July	34,370	1,250	1,020	1,109	1.23	1.42
August	29,755	1,020	890	960	1.07	1.23
September	26,940	950	860	898	.998	1.11
Water year 1942-43	437,475	2,840	860	1,199	1.33	18.07

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records.
Note.- Stage-discharge relation affected by ice Dec. 5-10, 15-25, Jan. 5-24, 26, 27, Feb. 13-22, Mar. 2-17.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Sturgeon River near Wolverine, Mich.

Location.- Staff gage, lat. 45°17'25", long. 84°36'15", in sec. 31, T. 34 N., R. 2 W., 1½ miles north of Wolverine and 2 miles downstream from West Branch.

Drainage area.- 164 square miles.

Records available.- April 1942 to September 1943.

Extremes.- Maximum discharge during year, 919 second-feet Apr. 1 (gage height, 5.45 feet, from floodmark); minimum observed, 144 second-feet, Aug. 4, 8 (gage height, 2.30 feet).
1942-43: Maximum discharge, that of Apr. 1, 1943; minimum observed, that of Aug. 4, 8, 1943.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read once daily.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.3	144	4.0	569
3.0	319	5.0	819

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	242	234	186	220	210	240	819	269	419	169	152	159
2	222	212	186	210	200	230	*619	266	519	166	152	152
3	196	204	182	210	210	230	456	264	319	164	152	152
4	202	206	174	210	210	230	406	269	269	166	144	152
5	202	199	179	220	210	240	444	272	246	172	146	158
6	194	209	182	210	210	230	382	264	242	176	152	176
7	192	189	182	210	210	240	382	254	242	172	152	182
8	192	184	182	210	220	*240	394	244	226	162	146	169
9	186	192	184	200	220	240	a400	232	209	162	146	169
10	186	232	184	200	210	240	369	219	176	159	146	184
11	182	232	180	200	210	240	344	219	172	164	169	189
12	182	222	180	200	*210	240	332	219	209	159	202	174
13	176	222	180	190	210	240	314	216	219	166	184	176
14	174	219	*180	180	210	230	272	216	216	169	164	182
15	172	192	180	200	210	236	252	216	224	164	159	182
16	172	219	180	190	210	239	254	219	214	164	a159	179
17	172	206	180	190	210	232	264	216	214	166	159	176
18	174	206	170	*190	210	232	289	204	214	159	162	172
19	176	204	170	200	210	220	299	206	204	152	164	166
20	174	204	170	200	210	215	296	206	212	156	162	164
21	172	204	170	200	210	209	292	204	222	162	156	164
22	184	204	170	200	200	204	294	192	226	159	154	159
23	186	199	170	220	200	209	294	a250	214	164	156	164
24	186	199	170	220	210	210	284	292	206	164	154	166
25	186	202	170	220	210	220	296	319	202	162	152	166
26	186	206	170	210	210	230	289	282	202	154	152	166
27	192	206	180	210	230	250	284	244	199	154	152	169
28	192	196	230	210	230	270	272	234	186	152	156	166
29	189	192	292	220	-	316	272	226	179	152	164	164
30	209	184	284	220	-	494	269	234	176	152	166	164
31	266	-	252	210	-	719	-	299	-	152	162	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,916	266	172	191	1.16	1.34
November	6,179	234	184	206	1.26	1.41
December	5,849	292	170	189	1.15	1.33
Calendar year	-	-	-	-	-	-
January	6,380	220	180	206	1.26	1.45
February	5,910	230	200	211	1.29	1.34
March	8,015	719	204	259	1.58	1.82
April	10,433	819	252	348	2.12	2.36
May	7,466	319	192	241	1.47	1.70
June	6,977	519	172	233	1.42	1.58
July	5,014	176	152	162	.988	1.14
August	4,896	202	144	158	.963	1.11
September	5,059	189	152	169	1.03	1.15
Water year 1942-43	78,094	819	144	214	1.30	17.73

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records.
Note.- Stage-discharge relation affected by ice Dec. 11-28, Jan. 1 to Mar. 14, Mar. 19, 20, 24-28.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Indian River at Indian River, Mich.

Location.- Water-stage recorder, lat. 45°24'35", long. 84°37'10", in sec. 24, T. 35 N., R. 3 W., at Indian River, an eighth of a mile downstream from Burt Lake and 3½ miles upstream from Mullett Lake. Prior to Nov. 12, 1942, staff gage at same site and datum. Datum of gage is 590.21 feet above mean sea level, datum of 1929 (levels by Michigan State Department of Conservation).

Drainage area.- 583 square miles.

Records available.- April 1942 to September 1943.

Extremes.- Maximum discharge during year, 1,080 second-feet Apr. 25 (gage height, 5.65 feet); minimum, 425 second-feet Sept. 29, 30 (gage height, 4.00 feet).
1942-43: Maximum discharge, that of Apr. 25, 1943; minimum observed, 360 second-feet Sept. 5-8, 13, 1942 (gage height, 3.80 feet).

Remarks.- Records fair. Gage read once daily Oct. 1 to Nov. 11.

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)

4.0	425	5.2	820
4.4	520	5.6	1,040
4.8	650		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a470	495	a560	650	a600	580	730	950	820	845	598	495
2	470	495	a560	650	a600	a580	798	950	845	820	598	495
3	470	495	a560	650	a600	a580	820	950	845	820	580	495
4	482	a495	a560	650	a610	a580	845	950	845	845	565	482
5	a480	a495	a560	650	a610	a580	870	950	845	845	565	482
6	482	495	a560	650	a610	a580	870	950	845	820	550	482
7	482	495	565	a650	615	580	895	950	845	798	550	482
8	482	495	565	a650	a615	a580	920	950	845	798	535	470
9	482	508	565	a650	a615	a570	950	950	820	798	550	470
10	470	520	580	650	a615	565	980	920	820	775	550	470
11	470	520	580	a640	615	565	980	895	820	775	550	470
12	470	550	a570	a640	a615	565	980	895	845	752	550	470
13	470	565	a570	a640	a615	565	980	870	845	752	550	458
14	a470	535	565	a640	a615	565	980	845	845	730	565	458
15	470	535	565	a630	615	580	980	820	845	730	550	458
16	470	550	550	a630	a610	598	980	845	845	710	550	458
17	470	550	550	632	a600	598	980	820	870	710	535	445
18	470	550	a550	a630	a590	598	980	820	845	710	520	435
19	458	550	a550	a630	a590	598	980	820	a870	690	520	435
20	458	550	a550	a630	a580	598	980	798	895	690	508	445
21	458	a550	a560	a630	580	580	980	798	895	690	508	445
22	458	550	580	a630	a580	a580	980	798	920	690	520	445
23	470	a550	a580	a630	a580	a580	980	775	a910	670	520	445
24	470	a550	a580	632	580	a590	980	775	a900	650	520	435
25	470	a550	a580	a620	580	a590	1,010	798	a900	650	520	a430
26	470	a550	a600	a620	580	a600	980	798	895	650	508	a430
27	482	a550	632	a610	580	a610	980	798	920	632	508	a430
28	a480	a550	650	a610	580	615	980	798	895	632	495	a430
29	470	a550	650	a600	-	615	950	798	895	615	495	a430
30	a480	a550	650	a600	-	650	980	775	870	615	495	425
31	495	-	650	598	-	690	-	775	-	598	495	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	14,649	495	458	473	0.811	0.94
November	15,943	565	495	531	.911	1.02
December	17,947	650	550	579	.993	1.14
Calendar year	-	-	-	-	-	-
January	19,622	650	598	633	1.09	1.26
February	16,775	615	580	599	1.03	1.07
March	18,305	690	565	590	1.01	1.16
April	28,278	1,010	730	943	1.62	1.81
May	26,584	950	775	858	1.47	1.70
June	25,900	920	820	863	1.48	1.65
July	22,505	845	598	726	1.25	1.44
August	16,623	598	495	536	.919	1.06
September	13,700	495	425	457	.784	.87
Water year 1942-43	236,831	1,010	425	649	1.11	15.12

a No gage-height record; discharge computed on basis of weather records.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Pigeon River at Afton, Mich.

Location.- Staff gage, lat. 45°22'25", long. 84°30'50", in sec. 2, T. 34 N., R. 2 W., three-quarters of a mile west of Afton, 2 miles downstream from Wilkes Creek, and 5½ miles upstream from Mullett Lake.
Drainage area.- 159 square miles.
Records available.- April 1942 to September 1943.
Extremes.- Maximum daily discharge during year, 1,100 second-feet Mar. 31; maximum gage height, about 10.5 feet Mar. 31 from floodmarks (ice jam); minimum discharge observed, 67 second-feet Sept. 14 (gage height, 4.08 feet).
1942-43: Maximum daily discharge, that of Mar. 31, 1943; maximum gage height, that of Mar. 31, 1943; minimum discharge observed, that of Sept. 14, 1943.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Gage read once daily.

Rating tables, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 30		Mar. 31 to Sept. 13		Sept. 14-30	
4.3	84	4.1	62	4.1	72
4.5	118	4.4	107	4.2	98
4.8	182	4.7	164	4.4	156
5.1	260	5.0	235		
5.5	392	5.4	356		
6.0	600	5.8	510		
6.6	910	6.2	695		
		7.0	1,150		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	157	120	270	120	120	970	271	230	109	76	84
2	134	134	120	230	120	110	*745	285	336	105	73	84
3	130	132	110	200	120	100	645	262	422	105	75	80
4	124	134	110	170	120	100	470	230	474	111	79	90
5	128	126	105	150	120	100	434	225	506	116	78	104
6	124	122	100	130	110	100	411	235	426	114	76	111
7	124	118	100	120	110	100	360	235	276	99	82	123
8	120	120	100	120	110	100	325	225	188	96	85	107
9	114	124	95	110	110	105	353	191	156	96	82	99
10	113	140	95	110	*105	*105	385	168	150	86	107	94
11	111	164	90	120	110	110	370	164	144	84	118	102
12	124	173	90	130	110	110	411	162	148	85	105	90
13	116	175	90	130	110	110	363	148	152	93	107	90
14	111	144	*85	110	110	110	385	142	156	94	114	77
15	111	130	85	110	100	110	392	142	158	88	104	82
16	109	136	90	110	105	110	396	148	148	88	105	104
17	113	138	90	105	105	100	276	160	152	86	96	93
18	113	146	90	*105	110	100	220	160	162	90	80	82
19	114	136	90	105	110	100	238	154	164	91	79	85
20	111	134	90	100	110	100	248	148	136	90	79	85
21	113	136	85	105	120	100	265	144	150	94	80	104
22	118	138	85	110	120	110	265	142	225	102	80	120
23	116	130	85	120	130	130	265	134	177	a80	82	106
24	113	120	85	140	160	160	257	152	146	73	90	104
25	114	124	90	140	170	230	246	186	138	96	88	98
26	113	130	100	130	160	330	268	218	123	88	90	109
27	116	132	110	120	140	450	291	257	131	a75	88	112
28	116	136	150	110	120	600	248	235	127	a75	82	129
29	118	130	250	110	-	750	212	188	114	79	86	147
30	134	120	350	110	-	900	243	162	111	84	88	123
31	155	-	320	110	-	1,100	-	158	-	78	86	-

Month	Second-foot-days	Maximum	Minimum	Mean.	Per square mile	Runoff in inches
October	3,716	155	109	120	0.755	0.87
November	4,079	175	118	136	.855	.95
December	3,655	350	85	118	.742	.86
Calendar year	-	-	-	-	-	-
January	4,040	270	100	130	.818	.94
February	3,345	170	100	119	.748	.78
March	6,960	1,100	100	225	1.42	1.64
April	10,957	970	212	365	2.30	2.57
May	5,831	285	134	188	1.18	1.36
June	6,126	506	111	204	1.28	1.43
July	2,850	116	73	91.9	.578	.67
August	2,740	118	73	88.4	.556	.64
September	3,018	147	77	101	.635	.71
Water year 1942-43	57,317	1,100	73	157	.987	13.42

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Sturgeon River near Wolverine.
Note.- Stage-discharge relation affected by ice Nov. 29 to Mar. 31.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Black River near Tower, Mich.

Location.- Water-stage recorder, lat. 45°22'55", long. 84°19'10", in sec. 33, T. 35 N., R. 1 E., 1½ miles upstream from Milligan Creek and 2 miles northwest of Tower.

Drainage area.- 310 square miles.

Records available.- November 1942 to September 1943.

Extremes.- Maximum discharge during period, 1,660 second-feet Apr. 1 (gage height, 5.30 feet); minimum, 13 second-feet (regulated) Sept. 22 (gage height, 1.99 feet); minimum daily, 119 second-feet (regulated) Aug. 22.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Low and medium flow regulated by power plant at Tower.

Rating table, Nov. 12, 1942, to Sept. 30, 1943, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.5	96	3.0	246	4.0	755
2.6	120	3.3	369	4.5	1,080
2.8	177	3.6	521	5.2	1,580

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	230	594	220	260	1,500	494	344	200	127	137
2		-	220	543	220	230	*1,540	532	437	197	137	139
3		-	210	501	220	210	1,500	549	504	184	129	138
4		-	210	b430	220	200	1,360	499	571	200	124	122
5		-	220	b370	210	200	1,220	505	512	221	125	133
6		-	220	b330	220	210	1,010	494	427	217	125	230
7		-	210	b290	220	210	912	483	343	200	139	260
8		-	200	b250	230	200	848	478	340	180	121	245
9		-	200	b220	220	200	785	447	330	170	129	228
10		-	210	b240	200	210	749	402	302	160	138	188
11		-	190	b250	210	210	743	388	277	160	215	166
12		289	180	b250	b220	b210	743	338	263	170	219	187
13		297	180	b260	220	b210	713	354	253	190	180	201
14		280	*160	250	220	b200	623	330	253	200	191	146
15		229	b150	230	200	b220	594	307	258	184	169	151
16		276	b200	220	200	b250	538	302	244	170	180	154
17		290	b230	210	220	b240	521	298	260	167	149	171
18		290	200	200	210	230	555	310	254	154	160	150
19		280	190	200	210	210	543	305	261	163	154	143
20		260	180	200	220	210	571	294	240	154	144	154
21		270	180	210	225	210	600	286	241	145	132	150
22		270	b180	220	230	220	571	277	284	148	119	153
23		250	180	240	250	240	566	261	348	185	154	143
24		250	170	260	*270	300	555	267	322	173	138	145
25		250	180	260	b290	500	555	268	268	157	148	144
26		260	190	240	320	686	577	348	194	169	150	142
27		260	220	230	300	880	555	397	216	157	127	147
28		260	280	220	290	1,010	521	415	259	142	146	138
29		250	400	210	-	1,010	489	398	254	137	134	137
30		240	543	210	-	1,010	472	339	207	144	138	141
31		-	576	220	-	1,150	-	312	-	133	142	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	-	-	-	-	-	-
November 12-30	5,051	297	229	266	0.858	0.61
December	7,089	576	150	229	.739	.85
Calendar year	-	-	-	-	-	-
January	8,558	594	200	276	.890	1.03
February	6,485	320	200	232	.748	.78
March	11,536	1,150	200	372	1.20	1.38
April	23,029	1,540	472	768	2.48	2.77
May	11,677	549	261	377	1.22	1.41
June	9,266	571	194	309	.997	1.11
July	5,331	221	133	172	.555	.64
August	4,583	219	119	148	.477	.55
September	4,883	260	122	163	.526	.59
Water year	-	-	-	-	-	-

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Nov. 17 to Dec. 14, Dec. 18-21, 23-29, Jan. 14 to Feb. 11, Feb. 13-24, Feb. 26 to Mar. 11, Mar. 18-25, July 7-13; discharge computed on basis of two discharge measurements, weather records, and records for Pigeon River at Afton.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Black River near Cheboygan, Mich.

Location.- Water-stage recorder, lat. 45°30'00", long. 84°19'24", in sec. 21, T. 36 N., R. 1 E., half a mile downstream from Black Lake, 5½ miles upstream from Alverno Dam, and 12 miles southeast of Cheboygan. Datum of gage is 609.04 feet above mean sea level (levels by Michigan State Department of Conservation. Auxiliary water-stage recorder 3 miles downstream at same datum.

Drainage area.- 597 square miles.

Records available.- November 1942 to September 1943.

Extremes.- Maximum daily discharge during period, 2,070 second-feet Apr. 12; minimum daily, 83 second-feet July 22.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Discharge computed by using fall as determined by auxiliary water-stage recorder as a factor. Flow regulated by power plant at Alverno Dam.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	338	300	486	479	1,140	994	401	360	186	282
2		-	463	320	510	350	1,510	726	354	337	271	264
3		-	393	250	517	200	1,660	745	314	360	236	302
4		-	425	360	598	400	1,810	731	347	379	244	269
5		-	340	380	624	550	1,970	773	276	453	250	118
6		-	180	450	676	450	1,900	991	208	386	230	110
7		-	360	450	780	200	1,980	874	244	396	230	226
8		-	380	450	719	550	1,940	776	209	505	200	236
9		-	340	400	719	800	1,920	733	209	484	250	270
10		-	320	350	708	800	2,000	753	436	358	250	248
11		410	290	353	689	600	2,050	745	334	125	300	250
12		427	310	350	750	559	2,070	780	278	329	350	101
13		543	310	350	700	546	2,010	800	178	266	350	260
14		392	308	358	650	507	1,980	759	471	248	350	256
15		324	296	283	650	545	1,920	700	583	221	300	271
16		438	305	306	650	599	1,700	800	513	148	324	258
17		419	341	300	650	574	1,740	750	576	182	300	203
18		450	337	350	650	517	1,700	750	566	96	200	192
19		360	340	385	600	428	1,620	750	654	128	149	163
20		370	320	400	550	450	1,470	750	312	125	155	263
21		390	400	400	450	300	1,400	700	462	178	186	229
22		407	380	400	520	384	1,280	692	603	83	121	254
23		591	400	400	592	500	1,270	657	696	131	135	255
24		555	400	350	494	376	1,210	644	612	103	148	250
25		606	230	440	500	405	1,210	538	601	143	165	251
26		640	260	392	500	467	1,120	473	599	219	153	120
27		725	201	440	500	500	1,100	401	427	315	164	252
28		640	348	432	450	450	1,130	283	473	238	205	210
29		200	316	498	-	499	1,150	338	445	320	223	218
30		356	299	485	-	656	1,100	254	504	246	323	246
31		-	286	486	-	810	-	298	-	216	309	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	-	-	-	-	-	-
November 11-30	9,243	725	200	462	0.774	0.58
December	10,216	463	180	330	.553	.64
Calendar year	-	-	-	-	-	-
January	11,868	498	250	383	.642	.74
February	16,882	780	450	603	1.01	1.05
March	15,451	810	200	498	.834	.96
April	48,060	2,070	1,100	1,602	2.68	2.99
May	20,958	994	254	676	1.13	1.30
June	12,885	696	178	430	.720	.80
July	8,078	505	83	261	.437	.50
August	7,257	350	121	234	.392	.45
September	6,827	302	101	228	.382	.43
Water year	-	-	-	-	-	-

Note.- No gage-height record at one or both of the gages Nov. 18-21, 26-29, Dec. 5-13, 19-26, Jan. 1-10, 12, 13, 17, 18, 20-24, Feb. 12-21, 25-28, Mar. 2-11, 20, 21, 23, 27, 28, Apr. 10, 11, May 15-21, Aug. 5-15, 17, 18, Sept. 11, 24; discharge computed on basis of available gage heights and hourly observations at Alverno Dam.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Rainy River near Onaway, Mich.

Location.- Staff gage, lat. 45°21'25", long. 84°10'00", in sec. 2, T. 34 N., R. 2 E., 1¼ miles downstream from Little Rainy River and 3 miles east of Onaway.

Drainage area.- 79 square miles.

Records available.- January 1942 to September 1943.

Extremes.- Maximum discharge observed during year, 668 second-feet Apr. 1 (gage height, 5.55 feet); minimum observed, 0.2 second-foot Aug. 30, Sept. 4 (gage height, 1.60 feet).

1942-43: Maximum discharge observed, that of Apr. 1, 1943; minimum observed, that of Aug. 30, Sept. 4, 1943.

Remarks.- Records good except those for periods of ice effect, which are poor. Gage read once daily.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.8	0.2	2.4	12	3.4	101
1.9	.6	2.5	18	3.6	132
2.0	1.5	2.6	23	4.0	210
2.1	3.0	2.8	37	4.5	337
2.2	5.2	3.0	54	5.0	485
2.3	8.6	3.2	75	5.5	650

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	4.5	3.2	20	7.9	14	650	95	35	9.0	0.7	0.4
2	3.4	3.9	3.0	18	8.3	13	470	94	44	8.3	.6	.3
3	3.4	3.9	3.0	16	8.3	13	352	97	47	7.6	.4	.3
4	3.2	3.4	2.8	14	7.9	12	315	93	40	7.9	.4	.3
5	3.0	3.4	2.8	12	7.2	12	282	90	32	7.6	.4	3.4
6	3.2	3.4	2.8	11	7.9	12	254	91	31	6.9	.3	8.3
7	3.2	3.2	2.8	10	7.9	12	212	93	30	6.6	.4	6.2
8	3.0	3.0	2.7	9	8.3	11	200	93	28	6.6	.3	2.0
9	3.0	3.0	2.7	8.5	8.3	11	217	82	24	7.2	.4	1.6
10	2.8	4.5	2.7	8	8.6	*11	210	68	23	7.2	.8	1.7
11	2.8	5.9	2.7	7.5	8.6	10	210	64	21	6.6	.8	1.6
12	2.5	5.9	2.7	7.5	8.5	10	179	58	19	2.7	.6	1.7
13	2.8	5.2	2.7	7.5	8.5	10	177	53	19	2.2	.8	1.7
14	2.5	4.5	*2.7	7.5	8.5	10	169	45	19	2.2	1.4	1.5
15	2.3	4.1	2.5	7.5	8.5	10	156	41	18	2.0	1.6	1.4
16	2.5	5.2	2.5	7	8.5	10	141	40	16	1.8	1.2	1.2
17	2.7	5.9	2.5	7	8.5	10	122	40	18	1.7	.8	1.0
18	2.8	5.2	2.5	7	8	10	116	39	17	1.3	.7	1.3
19	2.8	5.0	2.5	7	8	11	113	35	16	.9	.5	1.4
20	2.8	5.2	2.5	7	8	11	108	32	14	1.2	.5	1.4
21	2.8	5.2	2.5	7	8	12	106	30	21	1.3	.5	1.2
22	2.8	5.0	2.5	7	8	14	100	26	43	1.8	.5	1.2
23	3.0	5.0	2.4	7	8	15	97	24	47	2.0	.5	1.0
24	2.5	5.0	2.3	7	9	18	94	26	37	1.8	1.2	1.0
25	2.8	4.5	2.4	7	12	26	95	28	27	1.5	.9	1.0
26	2.8	4.1	3.0	7.5	16	50	90	34	19	1.2	.5	.9
27	3.0	4.1	11	7.5	17	127	88	39	15	.9	.7	1.0
28	3.0	3.9	16	7.5	15	279	93	37	14	.6	3.0	.9
29	3.0	3.4	19	7.5	-	334	88	31	12	.6	3.7	1.0
30	3.7	3.2	22	7.5	-	425	93	29	11	.8	.4	.9
31	4.8	-	21	7.5	-	580	-	28	-	.8	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	93.6	4.8	2.3	3.02	0.038	0.04
November	131.7	5.9	3.0	4.39	.056	.06
December	158.4	22	2.3	5.11	.065	.07
Calendar year	-	-	-	-	-	-
January	279.0	20	7	9.00	.114	.13
February	257.2	17	7.2	9.19	.116	.12
March	2,103	580	10	67.8	.858	.99
April	5,597	650	88	187	2.37	2.64
May	1,675	97	24	54.0	.684	.79
June	759	47	11	25.3	.320	.36
July	110.8	9.0	.6	3.57	.045	.05
August	25.8	3.7	.3	.83	.011	.01
September	48.8	8.3	.3	1.63	.021	.02
Water year 1942-43	11,239.3	650	.3	30.8	.390	5.28

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 2-26, Jan. 5-31, Feb. 12 to Mar. 9, Mar. 11-23.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Middle Branch Au Sable River at Grayling, Mich.

Location.- Water-stage recorder, lat. 44°39'35", long. 84°42'45", in sec. 7, T. 26 N., R. 3 W., just upstream from bridge on U. S. Highway 27 at Grayling and three-quarters of a mile upstream from East Branch. Datum of gage is 1,123.49 feet above mean sea level, datum of 1929.

Drainage area.- 110 square miles.

Records available.- November 1942 to September 1943.

Extremes.- Maximum discharge during period, 274 second-feet June 2 (gage height, 3.00 feet); minimum, 34 second-feet Dec. 3 (gage height, 0.98 foot).

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

Rating table, Nov. 12, 1942, to Sept. 30, 1943 (gage height, in feet, and discharge, in second-feet)

1.1	46
1.7	110
2.3	181
2.9	260

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	67	75	62	73	233	118	181	85	a80	66
2		-	65	68	59	61	226	113	260	84	a75	63
3		-	51	75	59	58	188	112	233	81	a70	59
4		-	59	63	57	64	163	107	169	111	a70	62
5		-	68	67	62	66	151	108	132	138	a70	75
6		-	70	72	58	63	145	114	116	121	a70	89
7		-	69	a70	76	60	135	112	121	101	a70	84
8		-	a68	a68	a57	59	129	99	120	96	a70	78
9		-	a66	a66	a54	59	129	95	107	88	a80	72
10		-	64	a68	54	61	135	87	a100	84	109	72
11		-	62	66	67	62	133	89	99	79	90	72
12		84	61	68	65	60	129	89	106	92	74	69
13		77	57	67	62	61	125	85	117	92	64	68
14		66	56	64	60	60	116	84	112	90	76	67
15		72	63	62	56	64	111	79	110	85	76	68
16		76	a64	64	56	68	108	91	113	79	72	67
17		72	a63	63	64	78	111	94	194	99	70	62
18		79	61	63	61	77	118	89	188	106	68	62
19		73	59	62	63	72	143	87	143	90	66	63
20		76	53	55	72	74	117	87	116	85	64	62
21		73	59	60	70	73	100	86	113	82	64	62
22		68	61	63	74	74	109	81	a140	84	61	63
23		a65	63	a65	82	77	110	76	a130	80	64	60
24		a62	62	a66	85	84	110	80	117	80	66	61
25		a60	60	67	77	97	109	112	102	76	66	64
26		a58	58	64	75	112	102	131	123	78	64	60
27		60	88	65	66	131	102	122	114	82	65	61
28		63	107	a64	68	125	101	108	109	86	65	63
29		64	111	a64	-	117	96	98	97	81	a67	63
30		65	103	a64	-	129	120	92	90	81	68	61
31		-	90	a63	-	175	-	98	-	a80	66	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per squsre mile	Runoff in inches
October	-	-	-	-	-	-
November 12-30	1,313	84	58	69.1	0.628	0.44
December	2,108	111	51	68.0	.618	.71
Calendar year	-	-	-	-	-	-
January	2,031	75	55	65.5	.595	.69
February	1,821	86	54	65.0	.591	.62
March	2,494	175	58	80.5	.732	.84
April	3,904	233	96	130	1.18	1.32
May	3,023	131	76	97.5	.886	1.02
June	3,972	260	90	132	1.20	1.34
July	2,776	138	76	89.5	.814	.94
August	2,200	109	61	71.0	.645	.74
September	1,998	89	59	66.6	.605	.68
Water year	-	-	-	-	-	-

a No gage-height record; discharge computed on basis of weather records and records for Manistee River near Grayling.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Rifle River at Michigan Highway 70, near Sterling, Mich.

Location.- Water-stage recorder, lat. 44°04', long. 84°02', in sec. 5, T. 19 N., R. 4 E., at bridge on State Highway 70, 3 miles north of Sterling.

Drainage area.- 320 square miles.

Records available.- January 1937 to September 1943.

Extremes.- Maximum discharge during year, 3,610 second-feet June 2; maximum gage height, 13.90 feet, Mar. 25 (backwater from ice); minimum discharge, 140 second-feet Sept. 23 (gage height, 151 feet).

1937-43: Maximum discharge, that of June 2, 1943; maximum gage height, that of Mar. 25, 1943 (backwater from ice); minimum discharge, 108 second-feet Aug. 6, 1941 (gage height, 1.28 feet).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.5	138	4.5	865
2.0	224	6.0	1,410
2.5	327	8.0	2,260
3.5	570	10.3	3,410

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a180	284	222	540	230	650	1,810	1,040	1,490	294	182	173
2	a180	274	235	450	230	520	1,410	790	3,410	263	170	170
3	a180	274	220	390	230	450	970	685	2,480	253	173	160
4	a170	255	216	320	220	380	775	595	1,590	274	243	160
5	a150	235	235	330	240	330	685	558	900	327	294	175
6	a190	235	250	280	250	300	570	700	640	327	218	194
7	a180	232	260	250	270	270	520	595	685	372	194	189
8	a150	218	220	230	250	270	495	495	610	274	192	198
9	170	216	220	225	240	270	*532	445	508	209	224	184
10	180	665	230	230	250	280	495	408	458	201	305	180
11	180	700	220	230	270	290	470	372	408	207	257	187
12	164	482	220	230	260	300	445	372	372	246	216	189
13	175	384	210	200	250	300	508	349	396	482	205	173
14	178	338	200	210	240	300	420	327	420	384	247	177
15	175	305	*210	210	220	300	384	305	384	305	216	184
16	200	284	a220	220	240	900	384	551	338	249	194	184
17	a230	294	a210	200	250	1,600	420	790	349	327	178	175
18	a240	284	a200	210	250	1,600	545	610	327	384	170	173
19	a250	259	a200	220	250	1,400	508	545	294	305	177	175
20	a230	284	a190	200	350	1,100	558	458	274	247	173	157
21	a210	261	a190	*190	600	900	790	458	263	234	165	170
22	a200	251	200	200	800	900	685	445	396	230	165	167
23	196	245	210	220	1,100	1,000	570	384	372	211	160	160
24	192	247	200	220	1,500	1,200	482	372	274	207	168	157
25	192	257	220	230	1,400	1,500	470	694	251	205	185	164
26	196	*249	270	220	1,200	1,700	396	820	349	191	170	175
27	191	239	400	210	900	2,000	408	670	532	187	177	151
28	189	235	940	200	800	1,600	508	545	745	201	178	173
29	191	228	1,000	210	-	1,410	470	470	532	191	173	168
30	216	226	800	210	-	1,330	787	445	372	196	180	168
31	316	-	650	230	-	1,730	-	408	-	185	173	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	6,101	316	164	197	0.616	0.71
November	8,940	700	216	298	.931	1.04
December	9,468	1,000	190	305	.953	1.10
Calendar year 1942	111,513	2,310	134	306	.956	12.95
January	7,715	540	190	249	.778	.90
February	13,290	1,500	220	475	1.48	1.54
March	27,080	2,000	270	874	• 2.73	3.15
April	18,470	1,810	384	616	1.92	2.14
May	16,701	1,040	305	539	1.68	1.94
June	20,419	3,410	251	681	2.13	2.38
July	8,168	482	185	263	.822	.95
August	6,122	305	160	197	.616	.71
September	5,210	198	151	174	.544	.61
Water year 1942-43	147,684	3,410	151	405	1.27	17.17

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Chippewa River near Mount Pleasant.

Note.- Stage-discharge relation affected by ice Dec. 6 to Mar. 28.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Shiawassee River at Owosso, Mich.

Location.- Water-stage recorder, lat. 43°00'54", long. 84°10'52", in SW¼ sec. 12, T. 7 N., R. 2 E., a quarter of a mile north of Owosso. Datum of gage is 707.25 feet above mean sea level, datum of 1929.
Drainage area.- 538 square miles.
Records available.- March 1931 to September 1943.
Average discharge.- 10 years (1931-33, 1935-43), 279 second-feet.
Extremes.- Maximum discharge during year, 3,940 second-feet June 2 (gage height, 8.35 feet); minimum, 53 second-feet (regulated) Oct. 14 (gage height, 1.82 feet); minimum daily, 78 second-feet (regulated) Oct. 13.
1931-43: Maximum discharge, 4,230 second-feet Mar. 17, 1942 (gage height, 8.74 feet); minimum, 0.2 second-foot (regulated) July 27, 1934 (gage height, 1.12 feet); minimum daily, 2.0 second-feet (regulated) July 28, 1934.
Maximum stage known, 726 feet above mean sea level, at site of former gage, during ice jam in 1918.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow regulated by power plant at Shiawasseetown.
Cooperation.- Water-stage recorder inspected by employee of city of Owosso.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge in second-feet)
(Shifting-control method used Oct. 1-17, June 30 to Sept. 30)

1.9	75	4.4	970
2.2	138	5.2	1,390
2.5	214	6.0	1,950
3.0	372	7.0	2,750
3.6	605	8.2	3,760

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar	Apr.	May	June	July.	Aug.	Sept.
1	96	240	427	1,540	300	668	521	920	1,530	228	123	101
2	100	284	362	1,360	310	500	545	780	3,580	212	120	98
3	99	227	300	1,040	310	420	525	690	3,760	189	111	99
4	97	209	262	645	300	380	509	625	3,070	344	110	105
5	102	189	348	580	320	400	446	605	2,270	327	119	127
6	91	186	431	600	500	330	408	565	1,790	231	148	134
7	105	197	404	600	802	250	404	513	1,390	205	155	143
8	112	192	327	600	848	300	368	645	1,140	191	143	122
9	96	188	270	580	825	290	344	802	970	185	134	124
10	93	287	240	540	895	400	324	735	870	170	120	137
11	87	408	210	500	1,360	1,040	298	1,560	758	155	116	125
12	103	354	180	440	1,510	1,200	307	2,350	712	169	114	124
13	78	330	160	380	1,390	1,240	301	1,990	625	168	120	125
14	85	294	*150	*340	1,170	1,220	298	1,830	545	172	119	112
15	111	260	130	350	1,000	1,360	291	1,870	477	167	106	125
16	190	218	130	340	800	2,910	304	2,110	438	151	112	122
17	256	201	140	350	650	2,510	320	1,830	450	147	103	128
18	252	203	130	330	520	1,950	314	1,540	383	146	95	129
19	233	209	130	290	450	1,950	311	1,480	368	146	101	126
20	186	268	120	280	1,200	1,760	351	1,450	337	134	106	117
21	176	895	130	280	1,620	1,480	585	2,190	278	141	98	108
22	165	870	140	280	*1,540	1,270	668	1,950	255	128	94	113
23	150	690	120	290	1,480	1,100	565	1,580	243	131	105	125
24	146	735	130	280	1,790	1,020	489	1,540	216	122	91	114
25	132	780	140	290	1,620	*970	419	2,510	195	123	93	132
26	135	712	170	310	1,330	825	394	2,190	185	125	105	128
27	115	668	700	330	1,020	712	473	1,650	a175	116	119	121
28	120	565	2,750	340	870	645	645	1,510	a620	108	111	101
29	117	497	2,750	330	-	585	668	1,390	443	120	115	107
30	149	450	2,270	300	-	525	1,040	1,650	286	112	117	119
31	214	-	1,760	280	-	517	-	1,620	-	114	103	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	4,181	256	78	135	0.251	0.29
November	11,806	895	186	394	.732	.82
December	15,911	2,750	120	513	.954	1.10
Calendar year 1942	123,857	3,940	70	339	.630	8.58
January	14,985	1,540	280	483	.898	1.04
February	26,730	1,790	300	955	1.78	1.85
March	30,727	2,910	250	991	1.84	2.12
April	13,435	1,040	291	448	.833	.93
May	44,670	2,510	513	1,441	2.68	3.09
June	28,359	3,760	175	945	1.76	1.96
July	5,177	344	108	167	.310	.36
August	3,528	155	91	114	.212	.24
September	3,591	143	98	120	.223	.25
Water year 1942-43	203,098	3,760	78	556	1.03	14.05

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for station near Fergus.
Note.- Stage-discharge relation affected by ice Dec. 9-27, Jan. 5 to Feb. 6, Feb. 15-19, Mar. 2-10.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Shiawassee River near Fergus, Mich.

Location.- Wire-weight gage, lat. 43°15'17", long. 84°06'20", in sec. 22, T. 10 N., R. 3 E., at highway bridge, 1 1/5 miles east of Fergus and 1¾ miles upstream from Bear Creek. Datum of gage is 587.80 feet above mean sea level, datum of 1929.

Drainage area.- 637 square miles.

Records available.- January 1940 to September 1943.

Extremes.- Maximum daily discharge during year, 4,100 second-feet June 3 (includes overflow bypassing gage); maximum gage height observed, 12.29 feet Mar. 16 (affected by ice); minimum discharge observed, 94 second-feet Oct. 15 (gage height, 3.95 feet).
1940-43: Maximum daily discharge, that of June 3, 1943; maximum gage height observed, that of Mar. 16, 1943; minimum discharge observed, 35 second-feet Aug. 11, 13, 1941 (gage height, 2.68 feet).

Remarks.- Records fair. Gage read twice daily.

Rating table, water year 1942-43, except periods of ice effect and periods when overflow bypassed gage (gage height, in feet, and discharge, in second-feet)

4.0	97	5.5	246	7.4	680	10.0	2,110
4.5	137	6.0	324	8.2	1,000	11.0	2,960
5.0	186	6.6	456	9.0	1,430	11.9	3,880

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	344	521	1,900	350	800	635	1,250	1,640	306	120	120
2	100	324	508	1,600	360	640	665	960	e3,900	246	128	112
3	100	375	470	1,200	360	560	650	830	e4,100	214	128	108
4	108	306	400	850	360	540	605	732	e3,600	246	120	112
5	116	267	450	700	390	520	590	698	e2,900	364	120	142
6	108	253	500	700	500	470	508	680	2,190	315	128	146
7	100	232	450	720	800	380	482	620	2,030	246	155	160
8	100	239	400	740	1,100	330	482	680	1,580	226	165	165
9	116	246	340	700	1,100	400	444	810	1,280	220	160	146
10	104	501	300	680	1,100	420	420	830	1,100	197	150	146
11	108	590	270	650	1,700	700	386	1,460	938	186	132	146
12	104	495	240	590	1,900	1,500	375	e3,300	810	186	124	142
13	112	420	210	520	1,700	1,500	386	e2,600	770	180	124	137
14	112	397	*170	480	1,400	1,500	375	2,110	665	180	132	137
15	116	344	150	450	1,200	1,800	364	2,110	576	175	128	128
16	246	315	150	430	1,000	3,400	375	2,270	562	170	120	132
17	364	267	160	420	820	3,300	386	2,190	830	165	120	137
18	375	253	150	*420	660	*2,600	397	1,820	590	160	112	132
19	282	253	150	410	620	2,190	386	1,720	469	155	104	132
20	246	267	140	360	1,400	2,110	469	1,680	420	155	108	132
21	208	1,130	150	350	2,100	1,820	698	2,110	386	150	116	120
22	192	1,340	160	330	2,000	1,610	810	e2,600	334	142	108	112
23	197	960	140	350	1,900	1,370	715	1,890	267	132	112	120
24	197	*850	150	380	1,900	1,200	635	1,820	246	132	120	124
25	180	982	160	400	1,900	1,020	548	e2,900	232	132	108	124
26	165	870	200	400	1,500	1,050	482	e3,000	214	128	104	128
27	150	790	500	400	1,200	960	534	2,110	202	132	128	132
28	146	680	3,400	410	1,000	830	732	1,750	267	124	142	128
29	160	605	3,400	410	-	732	732	1,580	915	108	132	116
30	160	562	2,800	390	-	680	1,100	1,610	469	124	128	116
31	297	-	2,200	360	-	635	-	1,890	-	124	132	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,173	375	100	167	0.262	0.30
November	15,457	1,340	232	515	.808	.90
December	19,389	3,400	140	625	.981	1.13
Calendar year 1942	144,989	3,550	73	397	.623	8.45
January	18,700	1,900	330	603	.947	1.09
February	32,320	2,100	350	1,154	1.81	1.88
March	37,567	3,400	330	1,212	1.90	2.19
April	16,366	1,100	364	546	.857	.96
May	52,610	3,300	620	1,697	2.66	3.07
June	34,482	4,100	202	1,149	1.80	2.01
July	5,720	364	108	185	.290	.33
August	3,908	165	104	126	.198	.23
September	3,932	165	108	131	.206	.23
Water year 1942-43	245,624	4,100	100	673	1.06	14.32

* Winter discharge measurement made on this day.
e Overflow bypassing gage included in discharge.
Note.- Stage-discharge relation affected by ice Dec. 3 to Mar. 17.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Saginaw River at Saginaw, Mich.

Location.- Staff gage, lat. 43°26'00", long. 83°56'30", in sec. 24, T. 12 N., R. 4 E., at Genesee Street Bridge in Saginaw, 3¾ miles downstream from Tittabawassee River and 18.1 miles upstream from mouth. Datum of gage is 566.85 feet above mean sea level (levels by U. S. Weather Bureau).

Drainage area.- 6,060 square miles.

Records available.- December 1942 to June 1943 (high-water records only). Gage-height records collected at same site since 1910 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 33,300 second-feet Mar. 19 (gage height, 18.9 feet, from graph based on gage readings).
U. S. Army Engineers measured 42,400 second-feet Mar. 20, 1942 (gage height, 21.0 feet). Highest stage known, 24.3 feet Mar. 31, 1916 (U. S. Weather Bureau records).

Remarks.- Records fair except those for period of ice effect, which are poor. Gage read every two hours during navigation season and every two hours, 8 a.m. to 5 p.m. daily during closed season.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	22,700	-	20,000	†11,000	-	13,000	-		
2			-	*21,200	-	18,000	-	-	16,400	-		
3			-	19,500	-	17,000	-	-	22,900	-		
4			-	18,300	-	16,000	-	-	25,600	-		
5			-	18,200	-	-	-	-	25,700	-		
6			-	16,900	-	-	-	-	23,100	-		
7			-	-	-	-	-	-	20,900	-		
8			-	-	-	-	-	-	18,300	-		
9			-	-	-	-	-	-	16,000	-		
10			-	-	-	-	-	-	13,100	-		
11			-	-	-	-	-	-	-	-		
12			-	-	-	-	-	13,200	-	-		
13			-	-	-	-	-	16,600	-	-		
14			-	-	-	-	-	16,500	-	†3,430		
15			-	-	-	-	-	15,600	-	-		
16			-	-	-	20,700	-	15,100	-	-		
17			-	-	-	26,300	-	15,100	†6,890	-		
18			-	-	-	31,700	-	17,000	-	-		
19			-	-	-	*32,900	-	16,200	-	-	†2,350	
20			-	-	-	30,400	-	14,400	-	-		
21			-	-	-	27,900	-	14,300	-	-		
22			-	-	15,000	25,200	†10,100	14,900	-	-		†1,840
23			-	-	17,000	22,700	-	15,700	-	-		
24			-	-	19,000	21,600	-	14,900	-	-		
25			-	-	22,000	21,300	-	14,500	-	-		
26			-	-	24,000	21,600	-	16,600	-	-		
27			-	-	24,000	21,500	-	18,100	-	-		
28			16,900	-	22,000	20,700	-	17,400	-	†2,350		
29			*18,700	-	-	20,000	-	15,500	-	-		
30			24,000	-	-	17,700	-	14,000	-	-		
31			*23,200	-	-	-	-	13,200	-	-		

* Winter discharge measurement made on this day.
† Result of discharge measurement.
Note.- Stage-discharge relation affected by ice Feb. 22 to Mar. 4.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Flint River at Genesee, Mich.

Location.- Wire-weight gage, lat. 43°06'25", long. 83°37'00", in sec. 10, T. 8 N., R. 7 E., at highway bridge at Genesee, three-quarters of a mile downstream from Butternut Creek. Datum of gage is 695.27 feet above mean sea level, datum of 1929.

Drainage area.- 593 square miles.

Records available.- March 1931 to September 1943.

Average discharge.- 12 years, 308 second-feet.

Extremes.- Maximum discharge observed during year, 3,610 second-feet Mar. 18; maximum gage height observed, 23.10 fest Feb. 25 (backwater from ice); minimum discharge observed, 63 second-feet Sept. 30 (gage height, 13.15 feet).
1931-43: Maximum discharge observed, 4,800 second-feet Mar. 19, 1942 (gage height, 24.49 feet); minimum observed, about 10 second-feet Aug. 15, 1936.

Remarks.- Records fair. Gage read twice daily.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 27 to Sept. 30)

Oct. 1 to June 5						June 6 to Sept. 30					
13.2	69	15.0	385	19.0	1,560	13.0	59	15.0	420	19.0	1,560
13.4	94	16.0	600	20.0	2,000	13.2	84	16.0	652	20.4	2,200
13.6	122	17.0	860	21.0	2,510	13.5	129	17.0	908		
14.0	188	18.0	1,160	22.7	3,540	14.0	217	18.0	1,190		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	71	230	325	1,300	280	2,200	455	675	1,160	285	143	94
2	75	241	325	1,150	280	1,500	562	725	1,360	265	132	85
3	76	230	300	1,050	280	1,000	562	750	1,320	255	156	81
4	86	201	300	950	280	750	525	700	1,720	325	177	85
5	79	183	320	800	280	600	475	650	2,450	420	177	138
6	77	179	300	680	320	500	455	538	2,200	464	170	168
7	81	190	250	620	350	410	415	505	1,720	409	151	a172
8	76	190	220	590	400	380	395	525	1,360	356	143	176
9	77	188	200	540	500	350	395	612	1,050	305	138	a167
10	71	237	190	490	620	440	335	612	a800	255	136	156
11	70	261	180	460	780	600	325	920	a700	285	172	131
12	69	275	170	440	950	950	325	1,760	a600	356	172	115
13	77	261	160	410	1,200	1,200	325	2,050	a550	398	158	110
14	82	232	*160	400	1,100	1,400	335	2,990	a500	398	167	102
15	102	201	160	400	950	2,300	345	3,170	420	315	190	104
16	150	209	170	370	850	3,290	365	2,750	409	251	192	100
17	165	211	160	360	750	3,290	375	1,900	486	232	188	97
18	165	181	150	340	650	3,540	385	1,560	508	201	149	95
19	181	181	150	320	600	3,350	395	1,400	592	a160	134	91
20	163	198	150	300	1,000	2,810	455	1,480	604	a140	121	81
21	170	425	150	300	1,600	2,250	600	1,520	652	a160	110	78
22	175	475	150	300	1,700	1,720	675	1,480	532	151	107	83
23	177	455	160	290	1,900	*1,320	650	1,440	464	148	107	74
24	168	525	160	320	2,200	1,100	625	1,480	377	143	102	72
25	147	575	160	300	2,500	980	612	1,480	305	138	104	71
26	147	550	200	280	2,400	860	a560	1,480	285	127	101	75
27	136	485	500	280	2,200	800	465	1,360	255	127	118	74
28	128	435	2,050	280	2,300	725	588	1,160	247	129	106	69
29	124	385	1,760	280	-	650	625	1,040	275	126	104	71
30	150	355	1,600	280	-	650	650	980	295	127	101	65
31	201	-	1,400	280	-	588	-	1,010	-	143	98	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,716	201	69	120	0.202	0.23
November	8,944	575	179	298	.503	.56
December	12,630	2,050	150	407	.686	.79
Calendar year 1942	133,534	4,730	53	366	.617	8.36
January	15,160	1,300	280	489	.825	.95
February	29,220	2,500	280	1,044	1.76	1.83
March	42,503	3,540	350	1,371	2.31	2.66
April	14,254	675	325	475	.801	.89
May	40,702	3,170	505	1,313	2.21	2.55
June	24,196	2,450	247	807	1.36	1.52
July	7,594	464	126	245	.413	.48
August	4,304	192	98	139	.234	.27
September	3,080	176	65	103	.174	.19
Water year 1942-43	206,303	3,540	65	565	.953	12.92

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for station near Flint.
Note.- Stage-discharge relation affected by ice Dec. 3-27, Dec. 30 to Mar. 14.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Flint River near Flint, Mich.

Location.- Water-stage recorder, lat. 43°02'20", long. 83°46'10", in SW¼ sec. 4 T. 7 N., R. 6 E., at sewage-treatment plant 2 miles downstream from Flint and 5 miles downstream from Swartz Creek. Datum of gage is 678.80 feet above mean sea level (levels by U. S. Weather Bureau and city of Flint).

Drainage area.- 927 square miles.

Records available.- August 1932 to September 1943.

Average discharge.- 11 years, 463 second-feet.

Extremes.- Maximum discharge during year, 8,810 second-feet June 2 (gage height, 12.95 feet); minimum, 82 second-feet Oct. 13; minimum gage height, 2.70 feet July 3. 1932-43: Maximum discharge, that of June 2, 1943; minimum, 9.0 second-feet Aug. 7, 1934.

Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation by reservoirs above station. City of Flint diverts water above station for municipal and industrial use, but sewage from city is included in flow at station.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	105	472	600	2,430	450	2,350	1,040	1,680	1,720	400	142	115
2	101	463	625	2,350	450	1,790	1,040	1,540	7,380	391	128	111
3	99	396	274	2,030	450	1,340	1,040	1,440	5,400	262	133	111
4	122	324	314	1,510	450	1,050	1,040	1,340	3,700	522	211	111
5	113	314	450	1,480	500	900	980	1,190	3,700	630	201	232
6	105	249	450	1,130	750	750	868	1,070	3,800	615	174	249
7	109	253	380	950	950	580	705	922	3,040	530	152	229
8	107	283	380	900	940	530	758	1,070	2,350	476	144	215
9	103	296	280	820	1,070	440	730	1,250	1,760	337	137	208
10	103	600	280	700	1,340	630	680	1,280	1,310	298	133	201
11	97	630	290	700	1,990	1,580	548	2,780	1,130	350	142	185
12	99	558	290	660	2,270	1,910	610	4,700	980	562	168	168
13	91	517	260	530	2,030	2,110	680	3,800	922	553	174	160
14	95	432	*220	*510	1,790	2,190	544	4,100	812	544	168	152
15	126	445	250	490	1,550	2,430	476	4,600	605	494	176	152
16	669	319	230	480	1,350	5,500	562	4,000	730	382	191	160
17	562	418	210	460	1,150	5,800	630	2,770	1,100	241	165	168
18	522	458	220	430	1,000	5,100	600	2,270	812	237	147	140
19	427	310	200	400	800	4,900	610	2,190	785	199	135	135
20	270	368	210	350	1,920	4,100	758	2,190	922	152	124	135
21	270	1,340	210	350	2,950	3,400	1,160	3,130	1,070	168	117	126
22	319	1,190	220	360	2,680	2,350	1,370	2,860	840	168	115	126
23	378	980	220	370	2,770	1,910	1,250	2,510	595	154	115	124
24	314	1,100	220	420	3,800	*1,620	1,190	2,270	558	147	119	117
25	208	1,160	230	460	*4,200	1,510	1,130	3,220	382	137	115	119
26	201	980	250	460	4,000	1,370	980	2,860	328	135	122	115
27	191	922	1,770	370	3,400	1,310	1,040	2,350	314	126	258	113
28	182	680	6,200	380	2,950	1,220	1,250	1,870	504	126	128	117
29	182	571	4,600	390	-	1,160	1,130	1,650	440	139	122	115
30	301	566	3,310	400	-	1,040	1,620	1,650	409	128	122	115
31	440	-	2,510	450	-	1,040	-	1,760	-	140	119	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	7,011	669	91	226	0.244	0.28
November	17,594	1,340	249	586	.632	.71
December	26,153	6,200	200	844	.910	1.05
Calendar year 1942	220,905	8,480	77	605	.653	8.86
January	23,720	2,430	350	765	.825	.95
February	49,950	4,200	450	1,784	1.92	2.00
March	63,910	5,800	440	2,062	2.22	2.56
April	27,019	1,620	476	901	.972	1.08
May	72,312	4,700	922	2,333	2.52	2.90
June	48,398	7,380	314	1,613	1.74	1.94
July	9,743	630	126	314	.339	.39
August	4,597	258	115	148	.160	.18
September	4,524	249	111	151	.163	.18
Water year 1942-43	354,931	7,380	91	972	1.05	14.22

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 5-26, Jan. 7 to Feb. 8, Feb. 15-19, Mar. 4-10.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Flint River near Fosters, Mich.

Location.- Wire-weight gage, lat. 43°17'56", long. 83°55'58", in sec. 6, T. 10 N., R. 5 E., at bridge on Sheridan Road, 1 mile west of Fosters and 4 miles downstream from Silver Creek. Datum of gage is 582.22 feet above mean sea level (levels by U. S. Weather Bureau). Prior to Aug. 21, 1943, chain gage at same site and datum.
Drainage area.- 1,120 square miles.
Records available.- January 1940 to September 1943.
Extremes.- Maximum daily discharge during year, 9,000 second-feet June 3 (including unmeasured flow bypassing gage); maximum gage height observed, 17.80 feet Mar. 16; minimum discharge observed, 105 second-feet Oct. 14 (gage height, 4.39 feet).
1940-43: Maximum daily discharge, 11,000 second-feet Mar. 17, 1942 (including unmeasured flow bypassing gage); maximum gage height observed, that of Mar. 16, 1943; minimum discharge observed, 27 second-feet Aug. 6, 1941 (gage height, 3.67 feet).
Maximum stage known, about 18.4 feet (from U. S. Weather Bureau data) in March 1904.
Remarks.- Records good except those for period of ice effect and those for periods when unmeasured flow bypassed station, which are fair. During high stages, an unmeasured amount of flow bypassed station through breaks in dikes. This flow is included in figures of daily discharge. Gage read twice daily.

Rating table, water year 1942-43, except period of ice effect and for periods of unmeasured over-flow (gage height, in feet, and discharge, in second-feet) (Shifting-control method used Oct. 1-14)

4.4	108	6.8	550	13.5	2,890
4.7	151	8.0	860	15.0	3,790
5.0	198	10.0	1,490	16.5	4,980
5.5	284	12.0	2,210	17.8	6,330
6.0	380				

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	145	675	725	3,000	540	3,100	1,160	2,130	2,050	450	157	145
2	145	625	775	2,900	520	2,500	1,130	1,980	e6,000	440	160	135
3	133	588	800	2,800	520	1,900	1,160	1,740	e9,000	420	139	129
4	138	512	550	2,100	520	1,500	1,130	1,520	e5,700	390	156	128
5	146	440	500	1,800	580	1,300	1,070	1,380	e4,500	725	222	160
6	158	410	650	1,500	700	1,100	950	1,350	e4,500	750	222	248
7	145	400	550	1,300	1,100	900	860	1,040	e4,300	600	212	214
8	126	380	500	1,100	1,200	720	700	980	3,220	512	180	222
9	126	380	450	950	1,300	740	775	1,520	2,450	460	185	231
10	125	550	400	900	1,400	720	725	1,460	1,910	284	158	212
11	*128	1,130	390	900	2,200	1,500	625	2,220	1,320	275	142	211
12	125	1,040	360	850	2,600	2,300	550	e6,000	1,130	470	162	203
13	116	700	330	750	2,700	3,000	800	e5,200	1,070	575	196	190
14	111	600	*300	650	2,300	3,000	675	e4,600	920	550	201	192
15	320	575	290	600	1,900	2,800	525	e5,100	800	512	185	182
16	980	562	300	570	1,700	e6,500	525	e5,400	675	450	179	179
17	1,520	550	300	550	1,500	e7,800	625	e4,700	1,190	350	208	172
18	1,220	538	290	*520	1,300	e6,200	625	3,300	1,250	266	179	180
19	750	512	290	480	1,000	e5,800	588	2,840	1,130	266	151	152
20	550	360	280	450	1,500	e4,900	775	2,640	920	231	138	151
21	380	1,820	290	430	3,500	4,140	1,420	3,410	1,040	177	139	150
22	340	2,640	310	430	3,500	3,520	1,600	4,140	1,100	198	139	142
23	370	1,840	310	470	3,300	2,590	1,560	3,400	750	200	136	138
24	450	1,770	310	510	4,400	2,170	1,320	2,840	625	200	144	136
25	410	2,090	320	550	5,000	*1,910	1,250	3,900	550	198	145	136
26	311	1,770	330	580	4,700	1,740	1,160	e4,800	400	188	138	145
27	293	1,520	800	510	4,300	1,630	980	3,460	380	160	156	132
28	275	1,220	e7,500	500	3,700	1,490	1,770	2,640	562	152	248	129
29	275	1,010	e5,800	500	-	1,350	1,770	1,980	1,160	169	158	133
30	293	750	*4,500	500	-	1,220	1,520	1,880	562	166	152	132
31	575	-	3,400	500	-	1,160	-	2,020	-	171	145	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	11,179	1,520	111	361	0.322	0.37
November	27,957	2,640	360	932	.832	.93
December	32,900	7,500	280	1,061	.947	1.09
Calendar year 1942	282,601	11,000	91	774	.691	9.38
January	30,150	3,000	430	973	.869	1.00
February	59,480	5,000	520	2,124	1.90	1.98
March	81,200	7,800	720	2,619	2.34	2.70
April	30,323	1,770	525	1,011	.903	1.01
May	91,570	6,000	980	2,954	2.64	3.04
June	61,164	9,000	380	2,039	1.82	2.03
July	10,955	750	152	353	.315	.36
August	5,232	248	136	169	.151	.17
September	5,029	248	128	168	.150	.17
Water year 1942-43	447,139	9,000	111	1,225	1.09	14.85

* Winter discharge measurement made on this day.
e Unmeasured flow bypassing station; discharge computed on basis of weather records and records for station at Flint.
Note.- Stage-discharge relation affected by ice Dec. 4 to Mar. 15.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

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Farmers Creek near Lapeer, Mich.

Location.- Staff gage and concrete control, lat. 43°02', long. 83°20', at sewage-treatment plant at Michigan Home and Training School, 2 miles west of Lapeer, Lapeer County. Datum of gage is 806.48 feet above mean sea level.

Drainage area.- 57 square miles.

Records available.- March 1933 to September 1943.

Average discharge.- 10 years, 24.3 second-feet.

Extremes.- Maximum discharge observed during year, 793 second-feet June 3 (gage height, 19.74 feet); minimum observed, 3.5 second-feet Aug. 22-26 (gage height, 15.10 feet). 1933-43: Maximum discharge observed, that of June 3, 1943; minimum not determined.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily. Occasional regulation by dam above station.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

15.1	3.5	15.5	22	16.0	76	18.0	417
15.2	6.4	15.6	30	16.5	149	19.0	627
15.3	10	15.8	50	17.0	231	19.5	745
15.4	16						

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.5	16	29	110	17	108	52	84	90	18	6.4	5.4
2	3.9	19	29	100	17	90	51	90	320	16	7.1	5.4
3	3.9	19	27	90	17	75	50	83	745	15	10	4.2
4	4.5	18	24	80	18	66	50	70	487	21	10	3.9
5	4.5	17	20	65	18	55	48	62	294	24	10	3.9
6	4.5	16	18	56	23	46	43	56	194	36	9.5	7.5
7	4.5	15	16	50	22	39	40	51	159	36	9.1	9.9
8	4.5	14	15	46	21	33	38	55	134	32	7.9	10
9	4.5	14	14	41	22	35	36	55	118	25	6.7	10
10	4.5	18	13	37	30	40	34	65	100	19	6.0	9.5
11	4.5	17	12	33	45	50	31	77	86	17	5.7	8.3
12	4.5	21	12	30	65	65	31	287	73	19	5.4	7.1
13	3.9	23	11	28	110	150	31	407	62	20	5.4	6.7
14	3.9	24	11	25	95	160	31	276	54	20	5.4	6.0
15	4.5	24	10	*23	80	140	31	184	49	19	5.4	5.7
16	7.5	22	*10	21	70	258	33	146	44	17	5.4	5.7
17	7.9	20	10	20	60	*357	32	132	41	15	5.7	5.4
18	10	19	10	20	55	330	33	146	39	13	5.4	5.4
19	19	19	10	19	50	218	34	136	36	11	5.4	5.7
20	23	19	10	18	65	179	40	122	32	10	4.2	6.4
21	27	27	10	18	90	128	48	134	34	9.1	3.9	6.4
22	29	32	10	17	110	110	60	176	31	8.7	3.5	6.4
23	26	49	10	17	170	97	72	181	28	8.3	3.5	6.4
24	23	62	11	17	220	90	66	137	23	7.5	3.5	6.4
25	22	60	11	17	267	79	55	134	20	7.1	3.5	6.4
26	21	55	12	17	218	73	50	146	19	6.4	3.5	6.4
27	17	52	30	17	178	69	50	162	17	6.4	4.2	5.4
28	16	47	184	17	126	65	56	132	17	6.4	5.7	5.1
29	15	39	160	17	-	62	69	107	17	6.0	7.1	4.5
30	15	31	140	17	-	57	76	98	17	5.7	6.7	4.5
31	16	-	125	17	-	54	-	86	-	6.4	5.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	359.5	29	3.9	11.6	0.204	0.24
November	828	62	14	27.6	.484	.54
December	1,014	184	10	32.7	.574	.66
Calendar year 1942	9,252.6	369	1.6	25.3	.444	6.03
January	1,100	110	17	35.5	.623	.72
February	2,279	267	17	81.4	1.43	1.49
March	3,378	357	33	109	1.91	2.20
April	1,371	76	31	45.7	.802	.89
May	4,077	407	51	132	2.32	2.68
June	3,380	745	17	113	1.98	2.21
July	481.0	36	5.7	15.5	.272	.31
August	186.9	10	3.5	6.03	.106	.12
September	190.0	10	3.9	6.33	.111	.12
Water year 1942-43	18,644.4	745	3.5	51.1	.896	12.18

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 28, Dec. 3-27, Dec. 29 to Feb. 24, Mar. 5-15.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Cass River at Frankenmuth, Mich.

Location.- Water-stage recorder, lat. 43°19'42", long. 83°45'28", on line between secs. 27 and 28, T. 11 N., R. 6 E., at highway bridge, 1 mile west of Frankenmuth and 2.6 miles upstream from Dead Creek.

Drainage area.- 848 square miles.

Records available.- February 1908 to March 1909, July 1935 to September 1936, June 1939 to September 1943.

Extremes.- Maximum discharge during year, 16,100 second-feet Mar. 16 (gage height, 20.50 feet); minimum, about 6 second-feet (regulated) Oct. 11 (gage height, 1.64 feet); minimum daily, 12 second-feet (regulated) Oct. 11.
1908-9, 1935-36, 1939-43: Maximum discharge, 17,700 second-feet Mar. 18, 1942; maximum gage height, 20.91 feet Mar. 10, 1942 (backwater from ice); minimum daily discharge, 2 second-feet (regulated) Sept. 28, 1908, July 27, 1941.

Remarks.- Records good except those for period of ice effect and those below 200 second-feet, which are fair, and those below 50 second-feet, which are poor. Flow regulated by mill above station.

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.7	8	2.2	40	4.0	278	10.0	2,110	18.0	7,900
1.8	13	2.4	57	5.0	494	12.0	3,020	18.5	9,050
1.9	18	2.6	77	6.0	730	14.0	4,240	19.5	12,100
2.0	25	3.0	121	7.0	1,010	16.0	5,740		
2.1	32	3.5	190	8.0	1,330	17.0	6,660		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	51	527	325	2,500	250	2,000	890	1,190	680	461	87	87
2	46	516	333	2,100	250	1,600	980	1,260	2,870	439	138	88
3	45	373	350	1,700	280	1,200	980	1,190	4,520	330	118	39
4	87	505	310	1,300	250	900	739	538	4,170	233	114	37
5	88	395	270	1,100	250	700	705	680	2,870	311	97	28
6	109	308	280	950	280	550	607	655	1,950	405	82	123
7	131	395	260	850	350	450	516	769	1,100	362	74	131
8	146	278	180	760	500	370	483	584	680	439	69	192
9	83	278	190	650	700	300	490	860	527	406	81	193
10	48	417	180	580	800	400	406	755	461	288	174	155
11	12	872	230	510	1,300	500	362	1,570	428	148	251	81
12	56	550	200	450	1,600	800	362	4,380	384	194	319	63
13	47	538	105	400	1,700	1,400	488	4,600	527	210	288	77
14	48	340	110	360	1,500	2,200	516	3,220	527	180	160	69
15	47	322	*200	320	1,200	4,000	472	2,370	472	144	113	73
16	95	350	280	290	1,000	9,360	439	2,070	330	122	98	85
17	655	318	260	260	850	*12,100	538	2,460	897	117	177	84
18	584	309	130	250	700	7,570	705	1,980	954	113	187	77
19	527	233	220	*240	600	5,260	607	1,710	870	104	156	64
20	418	262	280	240	1,200	3,970	730	1,330	472	100	100	80
21	282	871	170	250	2,500	2,760	1,880	1,440	330	105	91	72
22	279	1,360	140	220	2,700	1,950	2,460	2,460	240	98	90	70
23	280	1,160	160	140	3,000	1,390	1,840	2,140	192	94	81	71
24	272	920	300	270	4,000	1,130	1,260	1,440	165	73	46	68
25	232	830	230	280	4,500	1,300	920	1,780	157	28	41	72
26	107	705	130	270	3,800	1,400	680	2,150	110	69	52	61
27	212	607	1,000	260	3,000	1,400	607	1,580	87	56	121	78
28	263	538	4,000	250	2,500	1,220	780	1,070	268	53	146	68
29	211	516	3,500	210	-	950	780	780	705	55	129	66
30	101	328	3,200	200	-	805	830	680	408	63	107	65
31	368	-	2,900	250	-	780	-	607	-	66	104	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,930	655	12	191	0.225	0.26
November	15,621	1,360	233	521	.614	.68
December	20,423	4,000	105	659	.777	.90
Calendar year 1942	211,243.5	15,700	7.7	579	.683	9.28
January	18,400	2,500	140	594	.700	.81
February	41,530	4,500	250	1,483	1.75	1.82
March	70,715	12,100	300	2,281	2.69	3.10
April	23,952	2,460	362	798	.941	1.05
May	50,198	4,600	538	1,619	1.91	2.20
June	28,349	4,520	87	945	1.11	1.24
July	5,865	461	26	189	.223	.26
August	3,871	319	41	125	.147	.17
September	2,489	193	28	83.0	.098	.11
Water year 1942-43	287,343	12,100	12	787	.928	12.60

Peak discharge.- Mar. 16 (7 p.m.) 16,100 sec.-ft.; Apr. 21 (11:30 p.m.) 2,640 sec.-ft.; May 12 (12 p.m.) 5,420 sec.-ft.; May 22 (6 p.m.) 2,780 sec.-ft.; June 3 (9 p.m.) 4,730 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3 to Mar. 14 (no gage-height record Jan. 1-6, 14-18, Feb. 15-19, Mar. 1-5).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Tittabawassee River at Midland, Mich.

Location.- Water-stage recorder, lat. 40°36', long. 84°15', in NE¼ sec. 28, T. 14 N., R. 2 E., 0.5 mile south of Midland and 1 mile downstream from Chippewa River. Datum of gage is 590.28 feet above mean sea level, datum of 1929.
Drainage area.- 2,400 square miles.
Records available.- March 1936 to September 1943.
Extremes.- Maximum discharge during year, 17,500 second-feet June 2 (gage height, 14.79 feet); minimum, 39 second-feet (regulated) Oct. 12; minimum gage height, -0.25 foot Sept. 2.
1936-43: Maximum discharge, 26,000 second-feet Mar. 18, 1942 (gage height, 17.07 feet); minimum, that of Oct. 12, 1942; minimum gage height, that of Sept. 2, 1943.
Remarks.- Records good except those for periods of no gage-height record, which are fair. Water is diverted from river a short distance above station for industrial use; small part returned to river a quarter of a mile below station; remainder returned 1 mile below and below control. Records of daily discharge not adjusted for diversion. Low flow regulated by power plants above station.
Cooperation.- Gage-height record and records of diversion furnished by Dow Chemical Co.

Rating tables, water year 1942-43 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to June 2

0.6	345	7.0	5,380
1.5	810	9.0	7,390
2.2	1,240	11.0	9,750
3.0	1,830	13.0	12,800
5.0	3,480	14.2	15,700

June 3 to Sept. 30

0.0	145	1.0	590
.2	216	2.2	1,270
.5	340	3.0	1,830

Note.- Same as preceding table above 3.0 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	432	560	1,400	5,780	922	3,660	6,880	4,020	7,690	1,240	255	599
2	672	1,020	1,280	4,780	964	3,120	5,780	3,660	15,700	1,200	438	475
3	664	1,610	531	3,660	1,290	2,620	4,480	3,030	13,600	1,150	727	421
4	390	1,130	1,010	2,090	1,450	a2,500	4,020	2,970	8,740	804	510	275
5	488	1,660	806	1,890	850	a2,200	3,390	2,680	5,380	1,060	468	599
6	438	1,280	658	1,780	1,580	a1,800	2,450	2,800	4,110	1,170	474	629
7	554	990	999	2,300	1,690	1,530	2,250	2,740	3,750	1,280	690	532
8	604	850	1,140	2,040	1,600	1,520	2,180	2,650	3,570	870	404	489
9	480	1,190	1,060	1,270	1,710	1,240	2,340	1,640	3,300	879	486	627
10	688	2,200	1,400	1,040	1,830	1,450	2,220	1,680	2,740	641	441	572
11	424	3,840	803	1,570	2,630	1,250	1,960	2,260	2,370	924	608	332
12	424	3,660	550	1,420	2,590	1,550	2,410	2,520	2,100	1,330	580	236
13	374	3,210	450	1,580	1,950	1,810	2,770	2,120	1,520	928	688	552
14	429	1,700	886	1,740	a2,000	1,540	2,670	1,370	1,670	854	578	506
15	376	1,310	1,160	1,540	2,070	2,250	2,490	1,100	2,000	692	344	568
16	613	1,890	632	886	1,990	7,890	2,470	2,590	2,060	864	434	569
17	947	1,750	736	865	1,500	12,800	2,280	4,480	2,150	585	499	407
18	943	1,820	725	894	1,330	11,400	1,520	4,200	3,210	500	470	430
19	1,270	1,820	492	1,290	1,460	9,490	1,900	3,660	3,120	402	532	316
20	1,260	1,910	648	a1,200	1,910	7,610	2,900	3,480	1,280	788	584	467
21	960	1,840	681	a1,300	3,570	5,780	4,380	3,750	1,690	876	296	595
22	1,040	1,860	729	1,410	5,480	5,680	4,480	4,110	2,130	414	169	566
23	602	1,890	966	911	8,740	6,780	3,840	2,870	2,300	292	498	262
24	392	1,780	1,100	867	12,800	8,980	3,390	2,630	2,100	385	465	473
25	538	1,840	652	1,320	13,400	11,600	2,160	4,480	1,720	741	508	422
26	690	1,920	1,300	1,340	a10,400	13,800	1,890	7,830	1,420	285	614	172
27	1,080	1,840	1,870	1,350	a7,500	12,800	2,290	6,580	706	408	772	304
28	852	1,840	5,380	908	5,680	11,000	2,780	5,080	1,640	480	314	756
29	895	1,030	7,940	978	-	7,720	2,680	4,290	1,370	537	532	498
30	776	1,140	8,500	1,440	-	5,380	3,030	3,750	1,410	390	583	336
31	612	-	6,980	1,180	-	5,280	-	3,570	-	280	716	-

Month	Observed				Mean diversion (second-feet)†	Adjusted for diversion		
	Second-feet-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
October	21,107	1,270	374	681	90	771	0.321	0.37
November	52,380	3,840	560	1,746	82	1,828	.762	.85
December	53,464	8,500	450	1,725	76	1,801	.750	.86
Calendar year 1942	593,513	24,500	191	1,626	84	1,710	.712	9.68
January	52,619	5,780	865	1,697	75	1,772	.738	.85
February	100,886	13,400	850	3,603	80	3,683	1.53	1.59
March	174,030	13,800	1,240	5,614	76	5,690	2.37	2.73
April	90,280	6,880	1,520	3,009	85	3,094	1.29	1.44
May	104,590	7,830	1,100	3,374	93	3,467	1.44	1.66
June	106,546	15,700	706	3,552	101	3,653	1.52	1.70
July	23,249	1,330	280	750	99	849	.354	.41
August	15,678	772	169	506	102	608	.253	.29
September	13,985	756	172	466	99	565	.235	.26
Water year 1942-43	808,814	15,700	169	2,216	88	2,304	.960	13.01

† Diversion by Dow Chemical Co. for industrial use.
a No gage-height record; discharge estimated.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Salt River near North Bradley, Mich.

Location.- Wire-weight gage, lat. 43°42', long. 84°28', at bridge on U. S. Highway 10, 1½ miles southeast of North Bradley.

Drainage area.- 138 square miles.

Records available.- June 1934 to September 1943.

Extremes.- Maximum discharge observed during year, 2,860 second-feet June 1; maximum gage height observed, 11.91 feet Mar. 17 (backwater from ice); minimum discharge observed, 6.8 second-feet Aug. 18, 20, 21.

1934-43: Maximum discharge observed, 4,460 second-feet Feb. 7, 14, 1938; maximum gage height, 13.77 feet Feb. 6, 1938 (backwater from ice); minimum discharge observed, 1.9 second-feet July 24, 1934.

Remarks.- Records fair except those for periods of ice effect, which are poor. Gage read twice daily.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	32	32	350	32	170	202	243	2,420	26	10	10
2	11	44	32	250	32	130	175	149	1,660	22	9.1	9.5
3	10	46	32	150	32	100	124	113	386	23	8.8	9.1
4	11	34	30	100	32	80	96	92	202	27	11	10
5	10	29	30	90	32	70	86	89	129	36	10	13
6	11	25	30	80	35	65	77	102	105	31	9.5	19
7	10	23	30	70	40	60	73	99	134	22	9.1	20
8	10	22	30	60	45	55	77	73	124	19	9.1	16
9	10	23	30	50	50	52	71	63	97	17	8.8	13
10	8.8	214	30	45	47	50	*68	60	86	16	11	11
11	10	297	30	42	47	50	61	63	79	17	9.1	11
12	9.5	123	30	40	47	50	72	69	69	18	8.4	11
13	10	83	30	38	45	50	144	55	77	18	8.8	11
14	10	57	29	36	45	52	97	51	98	20	9.5	12
15	12	53	*28	35	45	60	73	62	430	20	9.5	14
16	26	46	29	35	46	300	81	154	188	18	8.8	17
17	64	45	29	35	47	2,000	97	338	463	18	8.0	15
18	39	41	29	35	50	1,500	87	192	603	18	7.2	13
19	28	38	28	33	60	1,000	76	139	180	15	7.2	12
20	20	39	28	30	100	700	158	114	92	13	6.8	12
21	17	116	28	*30	250	500	273	250	66	12	6.8	12
22	16	270	28	30	600	700	243	331	96	12	7.6	11
23	15	85	29	30	*1,500	1,000	180	170	110	11	7.2	10
24	14	*85	30	31	2,100	1,500	92	149	70	12	9.1	9.5
25	14	103	32	33	1,500	1,880	72	926	49	11	10	11
26	15	69	35	35	800	1,100	58	851	39	11	9.5	12
27	13	50	50	35	450	568	69	305	36	11	15	12
28	13	36	300	35	250	331	164	186	38	10	15	11
29	13	32	900	35	-	231	175	134	41	10	11	11
30	23	32	800	35	-	197	255	116	32	11	9.5	11
31	36	-	500	33	-	225	-	125	-	10	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	520.3	64	8.8	16.8	0.122	0.14
November	2,192	297	22	73.1	.530	.59
December	3,328	900	28	107	.775	.89
Calendar year 1942	31,573.5	3,730	5.5	86.5	.627	8.51
January	1,966	350	30	63.4	.459	.53
February	8,359	2,100	32	299	2.17	2.26
March	14,826	2,000	50	478	3.46	3.99
April	3,578	273	58	119	.862	.96
May	5,863	926	51	189	1.37	1.58
June	8,199	2,420	32	273	1.98	2.21
July	535	36	10	17.3	.125	.14
August	290.4	15	6.8	9.37	.068	.08
September	369.1	20	9.1	12.3	.089	.10
Water year 1942-43	50,025.8	2,420	6.8	137	.993	13.47

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 27, Nov. 30 to Mar. 24.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Chippewa River near Mount Pleasant, Mich.

Location.- Water-stage recorder, lat. 43°37'35", long. 84°42'30", on line between secs. 7 and 8, T. 14 N., R. 3 W., 4 miles northeast of Mount Pleasant.

Drainage area.- 416 square miles.

Records available.- October 1930 to July 1931, October 1932 to September 1943.

Average discharge.- 11 years (1932-43), 282 second-feet.

Extremes.- Maximum discharge during year, 2,110 second-feet June 3 (gage height, 8.78 feet); minimum, 59 second-feet Sept. 9; minimum gage height, 3.01 feet Dec. 8.
1930-31, 1932-43: Maximum discharge observed, 3,120 second-feet Feb. 6, 1938 (gage height, 12.02 feet), from rating curve extended above 1,900 second-feet; minimum observed, 19 second-feet Aug. 16, 1936.

Remarks.- Records good except those for periods of ice effect, which are fair. Regulation at low flow by power plant above station.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	182	248	305	623	220	770	1,080	561	809	326	144	173
2	182	296	266	576	220	650	1,040	530	1,080	320	173	144
3	182	290	225	485	220	530	940	500	1,990	308	130	147
4	167	281	260	365	230	450	809	455	1,750	299	161	144
5	182	237	290	310	230	380	700	470	1,290	347	173	193
6	190	272	293	310	250	330	592	470	1,010	323	199	158
7	173	248	299	310	260	310	592	455	809	305	156	188
8	176	246	243	300	260	300	576	440	778	263	161	182
9	176	269	246	300	280	310	546	395	685	266	167	121
10	173	440	257	300	300	320	500	380	608	248	156	156
11	167	638	248	280	320	310	470	371	592	243	144	173
12	179	576	246	270	310	310	485	356	561	266	135	135
13	147	485	240	270	310	310	470	350	515	284	144	158
14	153	425	230	250	310	330	500	332	500	302	196	147
15	153	359	220	250	280	350	455	323	608	299	132	156
16	190	356	*240	250	300	1,200	425	440	530	263	164	161
17	260	323	240	240	300	1,900	455	576	623	275	130	182
18	260	323	230	230	290	1,800	440	576	840	246	138	164
19	281	320	220	220	300	1,700	425	530	685	263	144	144
20	257	308	220	200	350	1,400	440	485	515	240	150	170
21	219	425	220	200	600	1,200	530	592	455	228	144	132
22	208	440	220	*210	1,000	1,100	546	592	561	216	147	158
23	225	395	230	220	1,200	1,000	485	470	608	216	156	158
24	211	380	250	230	1,700	1,200	455	470	515	185	130	158
25	231	*380	270	230	1,700	1,510	410	799	440	182	161	185
26	211	362	330	240	1,600	1,670	395	1,120	395	185	173	188
27	196	350	500	240	1,200	1,750	374	1,040	395	179	190	214
28	193	302	1,000	240	950	1,630	455	872	410	156	205	188
29	196	287	1,000	240	-	1,430	515	685	410	170	202	185
30	202	305	809	240	-	1,080	530	561	374	173	121	182
31	222	-	720	230	-	1,080	-	608	-	185	147	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	6,150	281	147	198	0.476	0.55
November	10,566	638	237	352	.946	.94
December	10,567	1,000	220	341	.820	.95
Calendar year 1942	108,012	1,790	100	296	.712	9.64
January	8,859	623	200	286	.688	.79
February	15,490	1,700	220	553	1.33	1.38
March	28,610	1,900	300	923	2.22	2.56
April	16,635	1,080	374	554	1.33	1.48
May	16,804	1,120	323	542	1.30	1.50
June	21,341	1,990	374	711	1.71	1.91
July	7,761	347	156	250	.601	.69
August	4,873	205	121	157	.377	.43
September	4,944	214	121	165	.397	.44
Water year 1942-43	152,600	1,990	121	418	1.00	13.62

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 14-29, 31, Jan. 5 to Mar. 24.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Pine River at Alma, Mich.

Location.- Water-stage recorder, lat. 43°23', long. 84°39', in sec. 34, T. 12 N., R. 3 W., at Alma, 270 feet downstream from highway bridge. Datum of gage is 718.37 feet above mean sea level, datum of 1929.

Drainage area.- 288 square miles.

Records available.- October 1930 to September 1943.

Average discharge.- 13 years, 171 second-feet.

Extremes.- Maximum discharge during year, 2,450 second-feet Mar. 16 (gage height, 7.89 feet); minimum daily, 34 second-feet Aug. 3.
1930-43: Maximum discharge observed, 4,070 second-feet Feb. 6, 1938 (gage height, 10.43 feet), from rating curve extended above 2,000 second-feet; minimum daily, 2 second-feet (regulated) July 23, 1938.

Remarks.- Records good except those for period of ice effect or no gage-height record; which are fair. Occasional regulation by dam above station.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	95	206	a220	705	150	578	515	330	615	169	87	88
2	81	232	a200	a600	140	505	485	344	678	131	178	84
3	84	238	a170	a400	130	400	458	314	640	115	34	86
4	98	232	a180	a300	140	320	422	293	615	119	69	89
5	96	212	a190	a240	160	260	367	272	497	125	62	110
6	90	180	a190	220	380	230	314	272	431	144	61	114
7	85	160	a180	220	270	220	300	258	330	130	84	114
8	87	157	197	210	290	180	225	244	292	115	75	113
9	78	173	166	210	300	190	279	232	301	92	77	120
10	72	314	160	200	320	190	265	225	279	97	72	105
11	77	344	148	190	350	200	258	272	251	102	69	99
12	87	352	159	180	350	190	258	367	199	128	67	90
13	80	352	160	170	300	190	272	374	199	160	73	91
14	66	330	137	170	260	240	272	322	206	238	87	90
15	84	279	128	160	270	500	244	258	186	244	84	98
16	159	244	*140	160	240	2,210	244	368	166	180	73	108
17	218	212	143	160	210	1,290	258	449	186	157	67	108
18	238	199	140	150	280	*1,420	279	467	179	137	72	108
19	218	186	140	150	200	1,420	265	485	141	130	66	114
20	192	192	140	140	320	980	286	467	54	104	63	110
21	166	344	140	130	682	a800	337	518	122	98	64	96
22	143	374	143	140	1,070	690	352	505	166	96	66	89
23	128	362	144	*150	1,180	640	352	476	244	98	66	84
24	125	406	166	160	*1,370	705	322	467	265	87	67	83
25	135	a380	180	160	a1,200	870	286	705	192	87	70	79
26	129	a330	186	160	a1,100	980	212	690	152	84	72	102
27	102	a290	244	170	885	900	232	665	139	154	78	108
28	93	a250	798	170	665	810	279	690	155	56	96	95
29	116	a210	705	170	-	720	300	565	180	57	125	75
30	133	a220	870	160	-	640	330	505	199	74	120	71
31	156	-	810	160	-	555	-	449	-	84	96	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,711	238	66	120	0.417	0.48
November	7,980	406	157	266	.924	1.03
December	7,674	870	128	248	.861	.99
Calendar year 1942	71,169	2,050	47	195	.677	9.18
January	6,665	705	130	215	.747	.86
February	13,212	1,370	130	472	1.64	1.71
March	20,023	2,210	180	646	2.24	2.58
April	9,268	515	212	309	1.07	1.19
May	12,848	705	225	414	1.44	1.66
June	8,259	678	54	275	.955	1.07
July	3,783	244	56	122	.424	.49
August	2,460	178	34	79.4	.276	.32
September	2,919	120	71	97.5	.338	.38
Water year 1942-43	98,802	2,210	34	271	.941	12.76

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Cedar River at East Lansing.
Note.- Stage-discharge relation affected by ice Dec. 18-21, Jan. 6 to Feb. 20, Mar. 3-15.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Sebewaing River (State drain) near Sebewaing, Mich.

Location.- Water-stage recorder, lat. 43°43', long. 83°26', on line between secs. 16 and 21, T. 15 N., R. 9 E., at highway bridge on Rescue Road, 1½ miles upstream from East Fork, and 1½ miles southeast of Sebewaing. Datum of gage is 590.0 feet above mean sea level (levels by Corps of Engineers, U. S. Army).
Drainage area.- 62 square miles.
Records available.- January 1940 to September 1943.
Extremes.- Maximum daily discharge during year, 1,800 second-feet Mar. 16; maximum gage height, 12.52 feet Mar. 16 (ice jam); minimum daily discharge, 0.1 second-foot on many days.
1940-43: Maximum discharge, 2,660 second-feet Mar. 16, 1942; maximum gage height, 12.81 feet Mar. 9, 1942 (ice jam); no flow for long periods.
Remarks.- Records fair except those for periods of ice effect, which are poor.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-9)

Oct. 1 to May 11

1.5	0.3	2.8	49
1.6	.9	3.0	74
1.7	2.0	3.4	134
1.8	3.4	3.9	221
2.0	6.7	4.5	359
2.2	10	4.8	448
2.4	18	5.5	700
2.6	31	8.3	1,820

May 12 to Sept. 30

1.3	0.1	1.9	4.4	3.0	56
1.4	.3	2.0	5.8	3.2	79
1.5	.7	2.2	8.9	3.5	126
1.6	1.3	2.4	14	3.8	185
1.7	2.1	2.6	23	4.2	279
1.8	3.2	2.8	37	4.5	359

Note.- Same as preceding table above 4.5 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	46	12	50	8	300	91	57	290	7.6	0.1	0.9
2	.9	56	10	30	8	200	75	37	187	4.7	.1	.6
3	.8	51	9	20	8	130	46	32	99	3.1	.6	.4
4	.9	28	8	14	10	80	40	23	48	30	.4	.3
5	.9	22	8	10	18	50	38	19	22	27	.5	2.1
6	1.4	19	8	9	40	35	22	30	14	11	.4	13
7	1.5	14	7	9	70	23	18	22	12	6.1	.3	7.2
8	1.4	13	6	9	140	16	17	18	11	3.8	.2	4.2
9	1.0	13	6	9	170	10	18	29	8.4	2.5	5.6	2.5
10	.7	141	6	8	200	15	15	21	7.6	1.6	68	2.1
11	.5	81	6	8	500	35	11	279	7.0	1.3	14	2.2
12	.3	42	6	8	600	50	14	302	66	1.1	5.1	1.5
13	.3	35	6	8	400	300	30	88	127	2.3	15	.9
14	.2	25	5	8	300	600	24	46	29	1.6	26	.7
15	.6	21	5.5	7	200	1,500	18	30	14	1.0	11	3.0
16	125	16	*6	7	140	*1,800	15	113	8.6	.8	3.9	7.8
17	196	14	6	7	90	262	39	76	8.4	.6	1.9	7.8
18	77	12	6	6	50	159	33	42	9.3	.4	1.0	5.8
19	41	10	5.5	5	30	114	23	38	5.5	.3	.6	3.8
20	26	12	5	*4	500	98	54	29	3.9	.2	.4	2.5
21	19	*132	5.5	4	700	81	134	43	3.1	.2	.3	1.9
22	15	76	6	4	*500	68	64	55	3.0	.2	.2	1.3
23	11	43	6	4.5	600	54	38	31	2.5	.1	1.4	1.0
24	9.9	42	6	4.5	1,500	55	28	23	1.8	.1	11	.7
25	8.0	46	6.5	5	1,000	73	22	173	1.3	.2	10	.6
26	7.8	37	7	5.5	750	87	15	79	3.4	.1	3.9	.5
27	7.8	25	90	6	600	70	16	32	40	.1	4.6	.4
28	6.4	20	500	6	400	37	31	31	345	.1	10	.4
29	5.5	17	250	6	-	29	22	22	61	.2	4.6	.3
30	8.7	14	150	7	-	48	47	24	16	.2	2.3	.3
31	69	-	90	8	-	81	-	22	-	.1	1.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	645.7	196	0.2	20.8	0.335	0.39
November	1,123	141	10	37.4	.603	.67
December	1,254.0	500	5	40.5	.653	.75
Calendar year 1942	14,941.0	1,570	0	40.9	.660	8.95
January	296.5	50	4	9.56	.154	.18
February	9,532	1,500	8	340	5.48	5.71
March	6,460	1,800	10	208	3.35	3.86
April	1,058	134	11	35.3	.569	.63
May	1,866	302	18	60.2	.971	1.12
June	1,454.8	345	1.3	48.5	.782	.87
July	108.6	30	.1	3.50	.056	.06
August	204.7	68	.1	6.60	.106	.12
September	76.7	13	.3	2.56	.041	.05
Water year 1942-43	24,080.0	1,800	.1	66.0	1.06	14.41

Peak discharge.- Oct. 16 (6 p.m.) 338 sec.-ft.; May 11 (9:30 p.m.) 860 sec.-ft.; May 25 (12 m.) 313 sec.-ft.; June 1 (5:30 p.m.) 550 sec.-ft.; June 12 (11 p.m.) 373 sec.-ft.; June 27 (11 p.m.) 800 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 13, 14, Nov. 27 to Mar. 16.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

East Fork Sebewaing River (Columbia drain) near Sebewaing, Mich.

Location.- Water-stage recorder, lat. 43°44', long. 83°24', on line between secs. 10 and 11, T. 15 N., R. 9 E., at highway bridge on Gettel Road, 2¼ miles upstream from mouth and 2½ miles southeast of Sebewaing. Datum of gage is 607.0 feet above mean sea level (levels by Corps of Engineers, U. S. Army).
Drainage area.- 38 square miles.
Records available.- January 1940 to September 1943.
Extremes.- Maximum daily discharge during year, 690 second-feet Mar. 16; maximum gage height, 9.70 feet Mar. 15 (ice jam); no flow for some periods.
1940-43: Maximum discharge, 1,050 second-feet Mar. 17, 1942; maximum gage height, that of Mar. 15, 1943; no flow for long periods.
Remarks.- Records good above 3 second-feet and fair below, except those for periods of ice effect and those below 1 second-foot, which are poor.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 29 to Aug. 11)

Oct. 1 to Mar. 15

1.1	0.2	2.0	28
1.2	.4	2.2	50
1.3	1.0	2.4	80
1.4	2.0	2.6	118
1.5	3.7	2.9	190
1.6	6.2	3.3	302
1.7	9.6	4.0	530
1.8	14	4.5	730

Mar. 16 to Sept. 30

1.0	0.1	1.7	14
1.1	.3	1.8	21
1.2	.9	2.0	38
1.3	1.9	2.2	61
1.4	3.6	2.4	89
1.5	6.1	2.6	124
1.6	9.5	2.9	190

Note.- Same as preceding table above 2.9 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	14	3.9	20	3	50	64	40	285	2.7	0	0.7
2	.7	14	4.1	12	3	20	45	12	193	1.5	0	.5
3	.7	16	4.1	8	2.7	8	30	8.8	61	.9	0	.4
4	.7	9.3	3.3	6.5	2.7	4.5	22	7.7	26	24	0	.4
5	.6	6.2	3.1	4.8	2.9	2.9	20	6.1	10	42	.2	1.0
6	.6	5.4	3.1	3.7	5	2.0	8.9	12	5.5	8.7	.3	6.1
7	1.1	5.0	2.9	3.5	20	1.6	6.7	11	4.7	3.2	.2	3.6
8	1.0	4.3	2.3	3.5	40	1.2	6.4	6.1	4.7	1.8	.2	1.9
9	.8	4.3	2.0	3.5	70	1.1	8.8	10	4.1	1.1	1.3	1.3
10	.7	32	1.9	3.5	100	1.1	7.0	7.0	3.2	.7	15	1.1
11	.4	32	2.0	3	200	1.2	4.7	141	2.8	.6	4.0	7.2
12	.4	14	2.3	3	300	1.4	5.3	226	25	.4	1.2	3.6
13	.3	10	2.3	3	200	1.8	21	50	254	.4	7.3	3.2
14	.3	8	2.3	3	100	60	9.5	20	45	.3	55	1.1
15	.4	4.5	2.0	3	50	590	5.5	11	15	.3	10	3.2
16	13	4.1	*1.6	2.9	30	*690	5.0	54	7.0	.2	2.7	9.9
17	78	4.5	1.6	2.7	20	399	27	45	5.0	.2	1.2	6.7
18	25	4.3	1.8	2.4	10	144	13	17	4.1	.2	.7	3.6
19	12	3.9	1.8	2.0	20	64	8.0	14	2.7	.1	.6	2.4
20	6.8	3.9	1.8	*1.9	100	38	40	11	1.6	.1	.4	1.6
21	4.8	*26	1.8	1.6	400	37	78	23	1.4	.1	.4	1.2
22	3.9	25	1.8	1.4	300	40	27	48	1.2	.1	.3	1.0
23	3.3	12	1.9	1.4	400	30	13	16	1.0	0	.4	.8
24	3.1	10	2.0	1.6	600	31	8.8	9.5	.8	0	2.2	.7
25	2.7	14	2.2	1.8	450	42	6.7	96	.7	0	3.2	.7
26	2.4	12	2.4	1.9	300	51	5.0	44	.7	0	1.5	.6
27	2.2	8.8	3	2.0	200	43	4.3	16	3.6	0	1.9	.5
28	2.2	5.6	250	2.0	100	18	8.8	11	213	0	2.7	.4
29	1.8	4.1	100	2.0	-	12	7.3	8.4	61	0	1.9	.4
30	2.4	3.5	75	2.3	-	28	18	7.7	8.6	0	1.2	.4
31	14	-	55	2.7	-	60	-	6.0	-	0	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	187.1	78	0.3	6.04	0.159	0.18
November	320.7	32	3.5	10.7	.282	.31
December	548.3	250	1.6	17.7	.466	.54
Calendar year 1942	6,541.8	955	0	17.9	.471	6.40
January	116.6	20	1.4	3.76	.099	.11
February	4,029.3	600	2.7	144	3.79	3.95
March	2,473.8	690	1.1	79.8	2.10	2.42
April	554.7	78	4.3	17.8	.468	.52
May	997.3	226	6.1	32.2	.847	.98
June	1,251.4	285	.7	41.7	1.10	1.23
July	89.6	42	0	2.89	.076	.09
August	116.9	55	0	3.77	.099	.11
September	66.2	9.9	.4	2.21	.058	.06
Water year 1942-43	10,731.9	690	0	29.4	.774	10.50

Peak discharge.- Oct. 17 (4 a.m.) 112 sec.-ft.; May 11 (9:30 p.m.) 548 sec.-ft.; May 25 (1:30 p.m.) 178 sec.-ft.; June 1 (5:30 p.m.) 585 sec.-ft.; June 13 (2 a.m.) 460 sec.-ft.; June 28 (10:30 a.m.) 326 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 13, 14, Dec. 27 to Jan. 4, Jan. 7-15, Feb. 1, 2, Feb. 6 to Mar. 4, Mar. 14-16.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Black River near Port Huron, Mich.

Location.- Wire-weight gage, lat. 42°59', long. 83°32', in sec. 2, T. 6 N., R. 16 E., at highway bridge, 6 miles west of Port Huron and 10 miles upstream from mouth. Prior to Aug. 14, 1943, chain gage at same site and datum. Datum of gage is 574.42 feet above mean sea level, datum of 1929.

Drainage area.- 634 square miles.

Records available.- April to June 1931, October 1932 to September 1943.

Average discharge.- 11 years (1932-43), 290 second-feet.

Extremes.- Maximum discharge during year, 13,600 second-feet May 12 (gage height, 24.2 feet, from high-water mark); minimum discharge observed, 17 second-feet Oct. 2 (gage height, 4.82 feet).
1931, 1932-43: Maximum discharge, that of May 12, 1943; minimum observed, 4.0 second-feet June 22, 1931 (gage height, 4.48 feet).

Remarks.- Records good above 500 second-feet and fair below, except those for periods of ice effect or no gage-height record and those below 100 second-feet in July, August, and September, which are poor. Gage read twice daily.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	60	125	3,460	110	1,500	660	1,420	415	167	47	68
2	18	74	110	2,500	100	1,200	905	1,220	1,820	131	54	70
3	21	72	88	1,700	100	850	870	800	5,080	106	40	55
4	22	64	55	1,200	100	600	695	660	4,420	143	58	60
5	25	64	70	850	110	450	590	555	2,440	131	70	78
6	25	61	80	650	140	370	446	468	1,220	191	106	74
7	24	55	75	500	200	300	394	429	730	234	108	88
8	24	52	65	370	300	270	314	429	520	162	84	148
9	25	61	66	300	500	280	281	905	415	127	52	157
10	18	84	63	250	800	250	265	960	359	108	167	98
11	23	118	66	220	1,500	600	249	2,950	301	93	642	89
12	23	167	57	190	2,000	1,200	240	10,500	272	91	429	74
13	21	127	52	170	2,500	2,000	265	7,400	285	88	a330	59
14	23	110	57	160	2,000	3,000	325	5,140	485	426	285	49
15	25	104	56	*150	1,500	3,500	325	3,250	446	298	800	51
16	42	95	52	140	1,100	6,000	291	3,100	311	210	a600	51
17	59	80	*59	130	800	*10,400	412	3,350	291	152	a400	51
18	50	70	57	130	600	7,700	590	2,000	231	112	a250	40
19	88	55	54	110	400	4,900	538	1,780	219	93	a160	39
20	86	51	53	110	500	2,800	980	1,380	202	66	125	a44
21	67	160	52	110	1,000	1,820	3,000	2,250	167	67	82	a47
22	54	418	54	100	1,500	1,420	4,290	3,050	170	93	88	a48
23	46	468	52	100	2,200	1,100	5,100	2,350	148	54	82	a49
24	37	373	58	100	3,200	835	1,540	1,620	123	58	84	48
25	38	335	58	90	4,000	818	765	2,100	88	47	129	46
26	36	301	58	95	3,300	835	a1,000	2,300	76	51	301	42
27	30	259	110	100	2,500	922	a1,200	1,500	70	60	216	39
28	30	216	1,720	95	2,000	818	a1,300	980	66	68	116	a37
29	33	148	4,600	95	-	608	818	678	79	70	96	35
30	56	129	5,080	100	-	502	1,000	520	131	52	79	38
31	67	-	4,420	110	-	502	-	450	-	64	73	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,154	88	18	37.2	0.059	0.07
November	4,431	468	51	148	.233	.26
December	17,652	5,080	52	569	.897	1.03
Calendar year 1942	125,838	10,600	12	345	.544	7.39
January	14,385	3,460	90	464	.732	.84
February	35,060	4,000	100	1,252	1.97	2.05
March	58,350	10,400	250	1,882	2.97	3.42
April	27,648	4,290	240	922	1.45	1.62
May	66,494	10,600	429	2,145	3.38	3.90
June	21,560	5,080	66	719	1.13	1.26
July	3,813	426	47	123	.194	.22
August	6,153	800	40	198	.312	.36
September	1,872	157	35	62.4	.098	.11
Water year 1942-43	258,572	10,500	18	708	1.12	15.14

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Farmers Creek near Lapeer.
Note.- Stage-discharge relation affected by ice Dec. 4-27, Jan. 2 to Mar. 16.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Clinton River at Mount Clemens, Mich.

Location.- Water-stage recorder, lat. 42°35'45", long. 82°54'35", 20 feet downstream from Moravian Drive highway bridge, a quarter of a mile downstream from confluence of North and South Branches, and half a mile west of Mount Clemens. Auxiliary wire-weight gage 8,500 feet downstream on Gratiot Avenue Bridge. Datum of gage is 570.43 feet above mean sea level, datum of 1929.

Drainage area.- 733 square miles.

Records available.- May 1934 to September 1943.

Extremes.- Maximum discharge during year, 14,600 second-feet May 12 (gage height, 21.89 feet, from high-water mark); minimum daily, 139 second-feet Oct. 1.
1934-43: Maximum discharge, that of May 12, 1943; minimum gage height, 2.90 feet Oct. 15, 1934.

Remarks.- Records good except those below 1,000 second-feet and those for periods of ice effect or no gage-height record, which are fair, and those for August and September, which are poor. Discharge computed by using fall as determined by twice-daily readings of auxiliary gage as a factor for part of year.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	139	720	346	1,500	540	780	720	1,750	1,750	317	482	156
2	143	526	340	1,060	540	670	825	1,220	a2,100	307	a350	a170
3	153	429	320	614	560	610	858	980	a3,600	a300	283	a150
4	181	343	330	a570	560	570	765	892	2,890	592	409	a180
5	172	318	340	a550	750	540	660	810	1,550	980	380	240
6	190	348	350	a640	960	470	605	795	1,080	706	282	310
7	186	354	345	a600	1,300	420	597	735	1,210	399	172	493
8	163	330	341	a580	1,200	430	592	858	1,340	321	196	355
9	152	267	406	a580	1,100	460	580	1,380	1,020	302	197	286
10	145	555	353	a560	1,200	550	543	1,020	889	245	193	239
11	156	825	343	a580	2,950	2,500	519	3,740	788	301	195	236
12	157	605	309	570	3,800	3,800	519	13,200	713	450	170	211
13	149	507	300	560	2,710	2,710	580	7,290	670	470	169	192
14	139	358	300	500	1,950	2,050	543	2,890	615	461	190	167
15	179	329	280	540	1,500	1,650	519	1,850	595	373	193	182
16	564	294	300	530	1,200	4,830	526	2,170	639	302	188	159
17	1,000	303	280	520	1,000	7,040	618	3,590	711	512	162	178
18	690	277	280	520	750	3,530	592	3,660	870	482	165	160
19	467	261	290	500	1,000	1,850	558	3,380	756	321	265	194
20	390	288	270	470	1,500	1,380	1,300	4,080	562	243	a230	156
21	308	452	270	450	2,100	1,140	2,000	4,470	495	244	190	154
22	270	705	280	470	a3,000	1,000	1,500	4,150	444	273	165	152
23	314	483	280	490	a3,500	*928	962	2,290	407	260	165	148
24	275	735	290	500	*4,080	875	780	1,600	362	244	208	149
25	269	980	300	560	3,380	875	.690	2,770	359	315	230	169
26	278	750	300	560	1,760	892	630	3,310	331	576	a180	184
27	277	568	a700	540	1,260	892	941	2,050	345	417	211	147
28	226	384	3,480	510	1,020	810	2,410	1,340	372	282	266	180
29	220	372	6,160	520	-	735	1,600	1,110	457	477	229	190
30	279	351	5,190	520	-	720	1,530	1,380	343	731	182	175
31	910	-	2,690	520	-	720	-	1,800	-	733	181	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	9,141	1,000	139	295	0.402	0.46
November	14,017	980	261	467	.637	.71
December	26,373	6,160	270	851	1.16	1.34
Calendar year 1942	147,041	6,160	91	403	.550	7.46
January	18,184	1,500	450	587	.801	.92
February	47,170	4,080	540	1,685	2.30	2.40
March	46,417	7,040	420	1,497	2.04	2.35
April	26,062	2,410	519	869	1.19	1.33
May	82,560	13,200	735	2,663	3.63	4.18
June	28,263	3,600	331	942	1.29	1.44
July	12,936	980	243	417	.569	.66
August	7,078	482	162	228	.311	.36
September	6,062	493	147	202	.276	.31
Water year 1942-43	324,263	13,200	139	888	1.21	16.46

Peak discharge.- Dec. 29 (11 a.m.) 6,450 sec.-ft.; Mar. 17 (2 a.m.) 8,050 sec.-ft.; May 12 (10 a.m.) 14,600 sec.-ft.; May 18 (12:30 a.m.) 4,150 sec.-ft.; May 21 (9 p.m.) 5,190 sec.-ft.; May 26 (4 a.m.) 3,520 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Cedar River at East Lansing.

Note.- Stage-discharge relation affected by ice Dec. 2-6, 13-26, Jan. 12 to Feb. 10, Feb. 15-21, Mar. 2-11.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

River Rouge at Detroit, Mich.

Location.- Wire-weight gage, lat. 42°21'40", long. 83°15'15", on line between secs. 33 and 34, T. 1 S., R. 10 E., at Detroit and 3 miles upstream from Middle Rouge River. Datum of gage is 579.90 feet above mean sea level. Prior to Aug. 10, 1943, chain gage at same site and datum.

Drainage area.- 194 square miles.

Records available.- November 1930 to September 1943.

Average discharge.- 13 years, 91.8 second-feet.

Extremes.- Maximum discharge during year, 3,060 second-feet May 12 (gage height, 18.7 feet, from floodmark), from rating curve extended above 1,600 second-feet; minimum discharge observed, 18 second-feet Sept. 20, 21; minimum gage height observed, 4.23 feet Oct. 11.
1930-43: Maximum discharge observed, 3,630 second-feet Feb. 20, 1939 (gage height, 18.87 feet), from rating curve extended above 1,300 second-feet; minimum observed, 2.7 second-feet Aug. 11, 1934 (gage height, 3.50 feet).

Remarks.- Records fair. Gage read twice daily.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	184	109	393	100	130	152	a450	481	53	56	26
2	28	116	106	273	110	120	170	a350	580	49	42	26
3	31	93	100	218	110	110	154	377	540	47	44	24
4	38	76	100	170	120	100	132	265	318	71	165	22
5	46	67	100	140	200	95	129	197	219	78	150	34
6	46	86	100	140	400	90	113	*218	186	62	68	104
7	44	88	100	140	500	85	101	183	343	55	50	103
8	37	75	95	140	400	85	105	292	372	47	a48	58
9	32	63	95	140	350	85	101	a350	231	43	50	a40
10	30	240	90	120	600	100	102	313	186	42	51	32
11	26	285	85	110	1,380	844	a105	1,540	160	a100	41	27
12	28	156	80	110	829	791	102	2,580	136	128	36	27
13	26	120	75	110	513	545	140	1,130	123	96	33	24
14	30	100	70	110	350	369	114	463	113	66	36	24
15	47	89	.65	110	250	313	92	333	103	48	34	24
16	130	82	60	*100	200	1,080	95	a500	141	43	32	25
17	299	75	57	100	170	*1,160	a130	1,080	132	71	29	23
18	178	65	*54	100	150	529	a120	1,060	112	111	29	20
19	120	59	53	100	160	385	111	1,000	89	68	27	20
20	89	67	53	90	313	337	241	1,530	79	57	27	19
21	71	116	54	90	662	265	a400	1,360	74	45	a27	19
22	66	178	55	90	594	234	273	870	71	38	26	19
23	69	120	59	100	*545	204	190	a450	64	a35	28	20
24	68	196	65	100	577	183	147	380	62	a33	29	19
25	62	299	70	110	417	a180	124	740	56	32	32	a21
26	59	184	80	120	289	a190	114	560	54	a50	28	a24
27	56	140	570	120	200	a170	243	333	53	42	29	22
28	49	116	1,830	110	160	a150	465	263	63	36	36	21
29	46	116	1,830	110	-	133	289	225	68	45	a30	21
30	102	109	1,020	100	-	147	377	304	62	63	28	20
31	311	-	561	100	-	143	-	412	-	a70	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,295	311	26	74.0	0.381	0.44
November	3,760	299	59	125	.644	.72
December	7,841	1,830	53	253	1.30	1.50
Calendar year 1942	39,338	1,830	15	108	.557	7.54
January	4,064	393	90	131	.675	.78
February	10,649	1,380	100	380	1.96	2.04
March	9,362	1,160	85	302	1.56	1.80
April	5,131	465	92	171	.881	.98
May	20,108	2,580	183	649	3.35	3.86
June	5,276	580	53	176	.907	1.01
July	1,824	128	32	58.8	.303	.35
August	1,371	165	26	44.2	.228	.26
September	908	104	19	30.3	.156	.17
Water year 1942-43	72,589	2,580	19	199	1.03	13.91

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Clinton River at Mount Clemens.
Note.- Stage-discharge relation affected by ice Dec. 3-26, Jan. 4 to Feb. 10, Feb. 14-19, Feb. 27 to Mar. 10.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Raisin River at Monroe, Mich.

Location.- Water-stage recorder and concrete dam, lat. 41°54'50", long. 83°23'15", at municipal water-supply plant in Monroe, 4 miles upstream from mouth. Datum of gage is 570.00 feet above mean sea level (city of Monroe bench mark).

Drainage area.- 1,020 square miles.

Records available.- September 1937 to September 1943.

Extremes.- Maximum discharge during year, 10,900 second-feet May 20 (gage height, 9.80 feet); minimum, 63 second-feet Oct. 12 (gage height, 5.66 feet).
1937-43: Maximum discharge, that of May 20, 1943; minimum, about 2 second-feet Sept. 19, 20, 1941; minimum gage height observed, 3.22 feet Aug. 26, 1941 (gates in dam open).

Remarks.- Records good except those for periods of ice effect, which are fair.

Cooperation.- Water-stage recorder inspected by employees of city of Monroe.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

5.7	87	6.2	550	8.0	4,000
5.8	156	6.5	970	8.6	5,700
5.9	237	6.9	1,630	9.2	7,900
6.0	328	7.4	2,610	9.8	10,900

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	172	589	708	6,000	446	750	778	2,690	5,850	435	458	156
2	205	806	628	4,400	492	538	764	2,260	7,300	403	414	196
3	166	955	504	3,270	516	516	708	2,040	8,350	392	371	172
4	155	806	527	2,460	563	492	654	1,630	6,900	458	328	180
5	127	654	516	1,700	800	550	628	1,360	4,960	1,230	319	205
6	174	550	538	1,400	1,400	470	538	1,200	3,630	2,260	319	230
7	156	492	550	1,300	1,600	481	527	1,100	3,510	2,500	328	606
8	121	424	504	1,200	1,900	492	527	1,500	3,270	2,100	292	895
9	169	392	481	1,100	2,300	481	492	2,720	2,820	1,490	282	925
10	154	668	470	1,000	3,300	492	446	2,630	2,590	1,250	282	680
11	145	1,400	424	940	4,260	950	424	4,700	2,240	1,120	246	492
12	109	1,470	403	860	3,750	1,800	504	9,550	1,810	1,650	229	382
13	180	1,560	392	780	3,390	2,480	654	9,050	1,490	2,120	264	360
14	149	1,420	349	700	2,780	2,740	764	9,300	1,260	2,020	246	328
15	142	1,000	320	650	2,140	2,530	778	6,520	1,140	1,900	229	292
16	205	635	310	620	1,500	3,540	910	4,960	1,020	1,770	246	246
17	349	694	300	590	1,080	4,960	820	5,400	985	1,680	255	237
18	414	602	300	*538	880	4,810	680	7,100	940	1,420	164	229
19	492	589	292	481	880	4,960	680	7,700	865	1,250	196	221
20	504	527	273	371	1,060	4,400	736	10,600	792	1,150	229	229
21	424	538	301	349	1,420	3,270	910	9,800	708	910	205	237
22	382	955	319	414	1,760	*2,460	1,000	7,900	628	708	213	237
23	371	1,040	301	392	2,080	1,890	955	5,700	602	602	188	188
24	349	1,280	319	414	2,020	1,580	850	4,400	550	538	205	180
25	301	1,720	349	424	1,810	1,420	764	4,260	504	470	164	196
26	282	1,610	382	435	1,500	1,330	694	3,880	458	492	149	196
27	273	1,380	1,160	470	1,120	1,200	1,050	3,510	458	446	205	213
28	256	1,120	4,800	516	1,030	1,090	2,320	3,270	424	371	196	237
29	435	925	6,900	527	-	970	2,260	2,800	392	371	196	213
30	349	792	6,520	516	-	865	2,590	2,280	392	470	164	282
31	492	-	6,900	458	-	820	-	3,200	-	470	205	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	8,202	504	109	265	0.260	0.30
November	27,793	1,720	392	926	.908	1.01
December	37,040	6,900	273	1,195	1.17	1.35
Calendar year 1942	283,615	6,900	76	777	.762	10.35
January	35,275	6,000	349	1,138	1.12	1.29
February	47,777	4,260	446	1,760	1.67	1.74
March	55,327	4,960	470	1,785	1.75	2.02
April	26,405	2,590	424	880	.863	.96
May	145,010	10,600	1,100	4,678	4.59	5.29
June	66,838	8,350	392	2,228	2.18	2.43
July	34,646	2,500	371	1,118	1.10	1.27
August	7,787	458	149	251	.246	.28
September	9,440	925	156	315	.309	.34
Water year 1942-43	501,540	10,600	109	1,374	1.35	18.28

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 15-18, 28, Jan. 5-17, Feb. 5-10, Mar. 11, 12.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Maumee River at Antwerp, Ohio

Location.- Water-stage recorder, lat. 41°11'56", long. 84°44'40", in sec. 22, T. 3 N., R. 1 E., just downstream from highway bridge, 1 mile north of Antwerp, 7 miles downstream from State line, and 10 miles upstream from Marie DeLarme Creek. Datum of gage is 695.49 feet above mean sea level, adjustment of 1912.
Drainage area.- 2,049 square miles.
Records available.- September 1921 to December 1935, April 1939 to September 1943.
Average discharge.- 18 years, 1,541 second-feet.
Extremes.- Maximum discharge during year, 26,200 second-feet May 20 (gage height, 20.29 feet); minimum, 142 second-feet Oct. 25 (gage height, 1.02 feet).
1921-35, 1939-43: Maximum discharge, that of May 20, 1943; minimum, 24 second-feet Oct. 17, 1930, June 21, 22, 1933 (gage height, 0.32 foot).
Remarks.- Records good except those for periods of ice effect, which are fair. Low flow slightly regulated by power plant at Fort Wayne, Ind.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 29

1.1	160	2.5	625	5.0	2,000
1.2	184	3.0	850	6.0	2,700
1.5	268	3.5	1,100	8.0	4,400
2.0	436	4.0	1,380		

Note.- Same as following table above 8.7 feet.

Dec. 30 to Sept. 30

1.4	251	5.5	2,450	16.0	14,100
1.5	281	8.5	4,900	17.5	17,200
2.0	446	10.0	6,400	18.7	20,300
2.4	602	12.0	8,600	19.3	22,100
3.2	980	13.5	10,400	20.2	25,800
3.8	1,320	15.0	12,400		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	555	1,130	1,080	8,600	1,450	1,380	1,260	2,310	4,210	1,260	1,840	357
2	670	1,380	1,000	8,380	1,450	1,200	1,140	2,310	3,330	1,200	1,200	260
3	443	1,350	950	7,500	1,420	900	1,060	2,170	2,930	735	929	338
4	202	1,240	1,000	6,180	1,450	700	980	1,900	2,930	667	1,060	312
5	378	1,080	1,130	5,180	1,840	800	980	1,680	3,090	581	2,170	397
6	426	875	1,050	4,050	3,010	700	929	1,420	3,330	602	3,650	885
7	409	728	1,000	2,930	4,450	650	879	1,260	3,010	1,590	3,090	5,380
8	402	648	900	2,690	4,370	680	904	2,190	2,930	5,380	2,310	3,170
9	361	605	805	2,240	3,570	700	954	4,540	2,690	7,280	2,450	2,100
10	320	2,620	738	1,840	3,570	800	830	4,630	2,170	5,880	2,770	1,480
11	327	4,980	715	1,550	5,380	2,310	904	9,060	2,240	4,630	2,610	1,080
12	334	4,580	715	1,380	5,980	3,730	1,200	14,900	2,240	4,630	1,970	712
13	368	3,420	507	1,230	4,720	*3,490	2,850	17,000	1,780	4,210	1,350	667
14	303	2,630	450	1,060	3,650	3,170	2,380	17,700	1,610	3,170	1,380	645
15	320	2,070	550	1,030	2,850	3,170	1,840	17,200	2,530	2,530	1,420	501
16	300	1,740	550	980	2,300	5,330	1,610	16,100	2,100	2,310	879	624
17	253	1,380	530	980	2,000	10,500	1,420	16,300	1,900	5,000	1,030	404
18	300	2,070	500	980	1,700	11,600	1,230	21,200	1,710	7,940	1,030	501
19	271	*2,860	540	980	1,600	11,600	1,030	23,700	1,780	5,580	712	446
20	297	2,210	500	800	1,700	11,200	1,030	25,800	1,780	3,090	367	338
21	489	2,140	500	650	1,710	10,500	1,290	23,700	1,620	2,100	468	360
22	344	3,590	520	660	2,100	9,440	1,420	20,300	1,840	3,730	397	347
23	320	3,180	540	700	2,380	7,610	1,380	17,900	1,740	4,810	374	344
24	238	3,420	540	800	*2,380	5,580	1,290	15,900	1,740	3,810	384	303
25	174	3,500	605	1,600	2,530	4,210	1,110	15,100	1,610	2,690	364	322
26	232	3,420	715	2,600	2,310	3,250	1,030	13,700	1,420	2,040	377	306
27	259	2,000	4,710	*2,200	1,970	2,610	1,010	12,600	1,010	1,840	453	293
28	244	1,620	11,700	1,800	1,640	2,170	1,680	10,700	1,110	1,740	418	287
29	238	1,320	*12,600	1,700	-	1,840	2,690	7,610	1,520	1,480	384	257
30	262	1,130	11,900	1,600	-	1,550	2,530	5,880	1,450	2,690	377	293
31	416	-	10,000	1,500	-	1,350	-	4,900	-	2,930	501	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	10,485	670	174	338	0.165	0.19
November	64,926	4,980	605	2,164	1.06	1.18
December	69,540	12,600	450	2,243	1.09	1.26
Calendar year 1942	629,219	12,600	115	1,724	.841	11.43
January	76,370	8,600	650	2,464	1.20	1.38
February	75,480	5,980	1,420	2,696	1.32	1.38
March	124,720	11,600	650	4,023	1.96	2.26
April	40,840	2,850	830	1,361	.664	.74
May	351,660	25,800	1,260	11,340	5.53	6.38
June	65,250	4,210	1,010	2,175	1.06	1.18
July	98,125	7,940	581	3,165	1.54	1.78
August	38,714	3,650	364	1,249	.610	.70
September	23,709	5,380	257	790	.386	.43
Water year 1942-43	1,039,819	25,800	174	2,849	1.39	18.86

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 14-24, Jan. 20-31, Feb. 16-20, Mar. 3-10.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Maumee River near Defiance, Ohio

Location.- Water-stage recorder and concrete dam, lat. 41°17'30", long. 84°16'50", in NW¼ sec. 22, T. 4 N., R. 5 E., 40 feet upstream from Independence Dam, 275 feet downstream from point of diversion to Miami & Erie Canal, 4 miles downstream from Auglaize River, and 4⅛ miles east of Defiance. Datum of gage is 659.12 feet above mean sea level.

Drainage area.- 5,530 square miles.

Records available.- October 1924 (revised) to December 1935, March 1939 to September 1943.

Average discharge (revised).- 15 years, 3,559 second-feet (not including flow in Miami & Erie Canal).

Extremes.- Maximum discharge during year, 80,800 second-feet May 19 (gage height, 13.1 feet); minimum, 270 second-feet Oct. 27 (gage height, 1.60 feet).

1924-35, 1939-43: Maximum discharge, that of May 19, 1943; minimum, 18 second-feet Aug. 2, 1934 (gage height, 1.24 feet).

Revisions.- The maximum discharge for the water year 1950 has been revised to 79,400 second-feet Jan. 16, 1930 (gage height, 12.9 feet), superseding figure published in previous water-supply papers.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow affected by regulation of Auglaize River at hydroelectric plant of Toledo Edison Co., 3 miles south of Defiance. Diversion into Miami & Erie Canal above station not included in records.

Revisions.- An estimated discharge for October 1924 (not previously published), revised discharges for high-water periods in water years 1926, 1927, and 1930, and a corrected discharge for Nov. 3, 1929, superseding figures published in Water-Supply Papers 624, 644, and 699, are given below, in second-feet:

Apr. 8, 1926	44,800	Mar. 23, 1927	47,900
9	54,700	Nov. 3, 1929	22,100
10	49,000	Jan. 15, 1930	73,800
Mar. 22, 1927	51,800	16	75,200

Month	Maximum (combined)	Minimum (combined)	Mean		
			River	Canal	Combined
October 1924	-	-	93.0	-	-
Water year 1924-25	50,700	-	2,370	-	-
April 1926	54,800	1,290	13,600	194	13,800
Water year 1925-26	54,800	247	4,630	208	4,840
March 1927	52,000	3,280	13,600	185	13,800
Water year 1926-27	52,000	256	5,180	186	5,370

Note.- Figures for combined discharge include flow in Miami & Erie Canal as measured at gage near Defiance.

Month	Maximum	Minimum	Mean
November 1929	22,100	1,280	7,090
January 1930	75,200	2,070	26,400
Water year 1929-30	75,200	103	5,590

Note.- Figures for water year 1929-30 are discharges for river only.

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 19 to Sept. 30)

1.6	270	2.2	1,560	3.6	7,410	8.0	43,200
1.7	430	2.5	2,460	4.6	13,400	9.0	50,900
1.9	625	2.8	3,540	5.4	19,400	11.0	65,900
2.0	1,060	3.1	4,810	6.6	30,100	12.6	77,300

Discharge, in second-feet, of Maumee River near Defiance, Ohio, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	690	586	2,050	22,000	2,460	2,700	1,990	4,190	11,800	6,050	4,190	646
2	797	1,510	2,020	19,400	2,400	1,960	2,020	4,190	11,800	2,940	2,700	528
3	884	1,730	1,350	17,800	2,240	1,400	1,960	3,660	10,600	2,080	1,670	350
4	a670	1,730	1,380	15,200	3,020	1,250	1,780	3,460	9,720	1,180	2,140	414
5	a380	1,560	1,530	13,400	4,280	1,380	1,530	2,870	7,700	1,350	2,770	508
6	a320	1,380	1,480	10,300	7,410	1,300	1,480	2,460	6,630	2,530	5,950	1,960
7	a450	1,350	1,400	7,410	9,720	972	1,640	2,460	6,800	7,810	6,000	4,480
8	a450	1,180	1,620	4,680	8,840	1,040	1,330	5,760	7,700	12,800	3,500	6,690
9	a440	950	1,060	3,120	8,550	1,200	1,430	9,720	7,410	15,500	3,160	4,360
10	a430	2,980	906	2,600	8,260	2,440	1,590	11,200	5,390	13,800	2,980	2,770
11	a390	7,700	906	3,160	12,100	5,890	1,250	24,400	4,450	12,400	3,050	1,960
12	a380	7,980	950	3,160	15,200	7,700	3,030	41,600	4,280	10,600	2,490	1,230
13	a420	6,000	884	1,960	12,400	8,840	5,540	45,500	3,160	9,420	2,300	1,040
14	a430	4,150	711	1,670	8,260	7,700	6,740	39,000	3,620	8,550	1,400	884
15	508	3,160	586	1,560	5,150	7,130	5,640	29,200	6,850	8,550	2,300	754
16	469	2,730	732	1,730	4,230	12,400	4,360	28,200	11,200	8,260	2,400	625
17	366	2,050	754	1,760	b3,800	30,100	2,400	39,900	8,840	11,800	1,380	797
18	350	3,820	690	1,810	3,160	39,000	2,430	59,300	5,890	20,200	1,590	566
19	414	6,000	646	1,840	3,050	37,100	2,400	77,300	3,860	24,600	1,620	606
20	450	6,420	754	1,590	3,350	29,200	2,660	77,300	2,600	15,200	1,160	625
21	430	5,790	566	1,060	3,740	26,400	2,460	63,000	2,600	8,840	469	469
22	566	8,260	606	1,250	5,440	21,100	3,350	50,100	2,300	5,740	488	469
23	566	9,720	606	1,250	6,630	16,200	3,660	39,900	3,050	8,550	450	430
24	450	9,130	646	1,840	5,690	11,800	3,050	34,100	3,580	9,130	690	469
25	382	8,550	797	3,940	5,490	9,130	2,660	35,100	3,160	7,130	469	625
26	382	7,130	1,740	5,590	5,100	6,530	2,170	32,100	2,430	4,320	430	414
27	366	4,630	10,400	6,850	4,020	5,290	2,430	24,600	1,840	2,870	566	414
28	382	3,430	34,100	5,440	3,240	4,190	2,840	19,800	6,050	3,700	508	398
29	366	2,460	39,900	3,660	-	3,090	3,940	14,400	6,690	3,090	488	711
30	382	2,300	34,100	3,050	-	2,080	4,910	10,600	8,550	3,860	469	469
31	398	-	27,300	2,600	-	2,020	-	10,000	-	5,440	450	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	14,358	884	320	463		
November	126,366	9,720	586	4,212		
December	173,170	39,900	566	5,586		
Calendar year 1942	1,542,562	42,300	166	4,226		
January	172,680	22,000	1,060	5,570		
February	167,230	15,200	2,240	5,972		
March	308,532	39,000	972	9,953		
April	84,670	6,740	1,250	2,822		
May	845,370	77,300	2,460	27,270		
June	180,550	11,800	1,840	6,018		
July	258,290	24,600	1,180	8,332		
August	60,227	6,000	430	1,943		
September	36,661	6,690	350	1,222		
Water year 1942-43	2,428,104	77,300	320	6,652		

a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for Maumee River at Antwerp and Waterville and Auglaize River near Defiance.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Maumee River at Waterville, Ohio

Location.- Water-stage recorder, lat. 41°30'00", long. 83°42'46", at highway bridge in Waterville, Lucas County, 3 miles downstream from Tontogany Creek. Datum of gage is 596.33 feet above mean sea level, adjustment of 1912.
Drainage area.- 6,314 square miles.
Records available.- November 1898 to December 1901, August 1921 to December 1935, March 1939 to September 1943.
Average discharge.- 18 years (1921-35, 1939-43), 4,255 second-feet (does not include flow in Miami and Erie Canal; canal was abandoned in 1929 and was filled in prior to March 1959).
Extremes.- Maximum discharge during year, 78,000 second-feet May 20 (gage height, 13.9 feet); minimum, 214 second-feet Oct. 28 (gage height, 1.80 feet).
1921-35, 1939-43: Maximum discharge, that of May 20, 1943; minimum, 32 second-feet Sept. 29, 1941.
Remarks.- Records fair. Low flow slightly regulated by power plants above station.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 3, Mar. 31 to Apr. 12, Apr. 26)

Oct. 1 to May 20

1.7	180	2.6	1,460	4.4	6,860	8.0	26,900
1.8	264	2.8	1,860	5.0	9,350	10.0	42,200
1.9	372	3.0	2,320	5.5	11,700	12.0	59,500
2.0	500	3.4	3,380	6.0	14,300	14.0	79,000
2.3	950	3.8	4,640	7.0	20,200		

May 21 to Sept. 30

1.8	285	2.8	2,030
1.9	410	3.1	2,750
2.2	890	3.6	4,080
2.5	1,420		

Note.- Same as preceding table above 4.0 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	500	385	2,150	26,200	b2,800	3,050	2,130	6,290	17,800	7,650	5,350	522
2	500	770	2,340	21,400	b2,700	2,470	2,250	5,170	16,000	4,670	3,800	666
3	665	1,500	1,180	20,200	2,860	1,760	2,010	5,170	12,700	2,550	2,450	474
4	830	1,480	b1,500	17,800	3,400	1,480	2,130	4,990	10,700	2,190	2,240	372
5	575	1,540	b1,700	15,500	5,000	1,500	2,040	4,170	8,480	1,330	2,800	842
6	398	1,350	b1,600	13,200	9,000	1,500	1,540	3,200	7,060	1,960	4,670	1,290
7	340	1,250	b1,550	8,500	12,700	1,200	1,730	3,200	7,860	6,130	6,670	2,780
8	515	1,130	b1,600	5,300	11,900	1,200	1,860	2,600	8,480	14,900	4,670	6,480
9	462	920	b1,500	3,600	10,500	*b1,200	1,540	10,000	8,060	17,800	3,420	5,540
10	474	2,860	1,100	3,400	f8,700	b1,300	1,690	11,200	6,480	16,600	3,230	3,720
11	487	9,130	1,000	3,400	14,900	6,700	1,840	25,500	5,000	14,000	3,420	2,480
12	410	10,000	1,050	3,300	17,200	8,270	2,060	49,000	4,670	12,900	3,130	1,710
13	398	7,860	1,050	2,200	16,000	10,300	5,910	49,000	3,940	12,200	2,550	1,290
14	530	5,540	900	*2,000	9,000	9,130	7,650	44,800	3,030	15,500	2,520	1,170
15	620	4,080	700	b1,800	6,000	7,650	6,860	32,800	4,840	11,500	1,900	992
16	620	2,960	800	b1,650	5,000	12,500	5,000	31,300	9,810	9,580	2,850	826
17	530	2,620	800	1,900	4,300	32,800	2,800	41,400	10,300	13,500	2,080	826
18	449	3,150	750	2,100	3,500	39,800	f2,570	62,400	6,860	22,800	1,570	842
19	436	6,290	700	2,270	3,400	39,800	f2,420	74,000	4,840	25,500	1,880	682
20	462	7,250	800	1,800	3,800	33,600	2,500	77,000	3,210	20,800	1,630	714
21	487	*6,290	b600	b1,350	4,300	28,300	2,500	68,000	2,750	11,000	1,240	682
22	500	8,700	b650	b1,400	6,000	23,400	4,000	55,100	2,680	8,060	620	650
23	665	10,700	b650	b1,450	7,500	18,400	4,000	43,000	2,480	7,860	540	570
24	515	10,700	b700	1,460	6,670	14,300	3,500	35,800	3,480	9,810	550	474
25	462	10,300	b1,000	3,070	*5,720	10,300	2,800	40,600	3,560	8,480	700	538
26	545	8,910	b2,500	b6,850	5,910	7,650	f2,340	37,400	2,880	6,100	520	778
27	410	5,720	b8,500	b8,500	4,170	6,100	2,570	29,000	2,480	5,350	522	522
28	256	3,730	39,000	b7,600	4,080	4,640	f3,920	22,100	6,300	3,800	650	442
29	329	3,130	45,600	b5,200	-	3,730	f4,140	17,200	8,910	3,580	634	410
30	410	2,220	40,600	3,410	-	2,830	f4,990	12,200	9,580	3,940	570	794
31	410	-	32,800	2,750	-	2,100	-	12,200	-	5,180	806	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	15,190	830	256	490	0.078	0.09
November	142,485	10,700	385	4,749	.752	.84
December	197,370	45,600	600	6,367	1.01	1.16
Calendar year 1942	1,798,974	46,400	188	4,929	.781	10.60
January	200,560	26,200	1,350	6,470	1.02	1.18
February	197,010	17,200	2,700	7,036	1.11	1.16
March	338,960	39,800	1,200	10,930	1.73	1.99
April	93,310	7,650	1,540	3,110	.493	.55
May	915,790	77,000	2,600	29,540	4.68	5.40
June	205,220	17,800	2,480	6,841	1.08	1.20
July	307,220	25,500	1,330	9,910	1.57	1.81
August	69,882	6,670	506	2,254	.357	.41
September	40,078	6,480	372	1,336	.212	.24
Water year 1942-43	2,723,055	77,000	256	7,460	1.18	16.03

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record Dec. 10-20, Jan. 7-14, 17, 18, Feb. 4-6, 14-23, Mar. 5-8, Apr. 16, 17, 20-25, May 6-9, Aug. 22-26; discharge computed on basis of weather records and records for station *near* Defiance.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

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St. Marys River near Fort Wayne, Ind.

Location.- Water-stage recorder, lat. 41°00', long. 85°08', in sec. 35, T. 30 N., R. 12 E., 130 feet downstream from highway bridge, 4 miles south of Fort Wayne, and 12 miles upstream from mouth.
Drainage area.- 753 square miles.
Records available.- November 1930 to September 1943 in reports of Geological Survey. October 1924 to October 1925 and July to September 1927 in reports of Indiana Department of Conservation.
Average discharge.- 11 years (1931-33, 1934-43), 498 second-feet.
Extremes.- Maximum discharge during year, 13,400 second-feet May 19 (gage height, 18.79 feet); minimum, 17 second-feet Oct. 8, 9 (gage height, 0.67 foot).
1930-43: Maximum discharge, that of May 19, 1943; minimum observed, 3.4 second-feet Oct. 19, 1934 (gage height, 0.28 foot).
Revisions: The maximum discharge for the water year 1942 has been revised to 5,070 second-feet Apr. 13, 1942 (gage height, 12.74 feet), superseding figure published in Water-Supply Paper 954.
Remarks.- Records good except those for periods of ice effect or backwater from debris on control, which are fair.
Revisions.- Revised figures of discharge, in second-feet, for the high-water period in the water year 1942, superseding those published in Water-Supply Paper 954, are given herewith:

Apr. 10	3,920	Apr. 13	5,070
11	4,470	14	4,540
12	4,840		

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
April	39,927	5,070	84	1,331	1.77	1.97
Water year 1941-42	153,893	5,070	12	422	.560	7.59

Rating table, water year 1942-43, except periods of ice effect and backwater from debris on control (gage height, in feet, and discharge, in second-feet)

1.0	47	2.3	211	4.2	670	10.5	3,540	17.0	9,850
1.5	99	2.9	324	5.8	1,220	13.0	5,310	18.6	13,000
1.9	150	3.4	436	8.0	2,150	15.3	7,480		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	32	*137	1,920	330	284	237	144	492	438	702	136
2	19	30	120	1,780	280	220	228	128	412	304	425	130
3	19	33	110	1,540	290	190	220	121	358	228	264	124
4	19	34	96	1,400	380	185	211	116	314	192	1,290	126
5	21	34	86	1,200	540	175	208	109	274	182	3,000	140
6	24	32	80	1,000	720	165	198	99	246	182	2,720	761
7	21	30	74	750	1,000	155	185	101	618	1,640	1,870	817
8	19	30	68	600	900	145	181	339	902	3,150	2,000	355
9	19	71	64	500	868	145	174	499	464	2,100	2,350	284
10	20	669	60	420	863	250	168	976	355	970	2,300	246
11	21	487	56	350	2,050	1,100	164	4,680	304	1,340	1,780	195
12	20	238	53	310	1,580	1,120	491	6,060	264	1,700	902	157
13	21	137	50	270	900	648	936	6,660	237	1,000	783	146
14	22	91	47	250	750	552	640	5,620	674	817	1,030	137
15	23	67	46	250	650	581	520	3,950	655	766	535	122
16	23	53	45	260	590	1,760	478	3,540	655	628	625	109
17	22	101	45	230	540	3,400	344	6,270	625	4,190	640	112
18	21	1,150	45	210	500	3,560	255	11,900	868	3,800	400	98
19	25	1,120	44	180	480	3,510	220	13,000	970	1,500	274	104
20	25	601	41	160	470	3,810	228	11,800	834	492	211	121
21	26	944	40	180	760	3,890	324	10,200	595	397	179	105
22	26	1,470	43	200	800	3,480	377	8,180	580	2,500	163	87
23	27	940	50	220	702	2,690	344	5,940	686	2,500	151	77
24	27	870	65	430	734	2,050	324	4,270	412	1,580	147	71
25	26	675	95	1,500	655	1,470	274	3,830	295	1,140	147	65
26	27	432	450	1,400	535	1,010	237	3,880	228	1,110	153	61
27	28	274	3,300	800	412	696	228	3,210	328	936	161	60
28	30	190	3,920	650	*334	482	211	1,790	800	670	156	58
29	40	162	3,360	600	-	350	182	1,060	783	1,500	147	56
30	43	141	2,670	500	-	286	164	778	625	2,350	144	55
31	38	-	*2,150	*390	-	254	-	604	-	1,380	139	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	761	43	19	24.5	0.033	0.04
November	11,138	1,470	30	371	.493	.55
December	17,510	3,920	40	565	.750	.86
Calendar year 1942	176,720	5,070	17	484	.643	8.72
January	20,450	1,920	160	660	.876	1.01
February	19,613	2,050	280	700	.930	.97
March	38,613	3,890	145	1,246	1.65	1.91
April	8,951	936	164	298	.396	.44
May	119,854	13,000	99	3,866	5.13	5.92
June	15,853	970	228	528	.701	.78
July	41,712	4,190	182	1,346	1.79	2.06
August	25,788	3,000	139	832	1.10	1.27
September	5,116	817	55	171	.227	.25
Water year 1942-43	325,359	13,000	19	891	1.18	16.06

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 2-27, Jan. 4 to Feb. 8, Feb. 13-22, Mar. 3-13. Backwater from debris on control Oct. 1 to Dec. 1.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

St. Joseph River near Fort Wayne, Ind.

Location.- Water-stage recorder, lat. 41°10', long. 85°04', in SW¼NW¼SE¼ sec. 4, T. 31 N., R. 13 E., at Ely Bridge on Mayhew Road, 3½ miles downstream from Cedar Creek and 8 miles northeast of Fort Wayne.

Drainage area.- 1,060 square miles.

Records available.- August 1941 to September 1943.

Extremes.- Maximum discharge during year, 10,600 second-feet May 18 (gage height, 16.70 feet); minimum daily, 144 second-feet Aug. 20; minimum gage height, 2.09 feet Sept. 24. 1941-43: Maximum discharge, that of May 18, 1943; minimum daily, 27 second-feet Aug. 21, 1941; minimum gage height, 1.40 feet Sept. 20, 29, 1941.

Remarks.- Records good except those below 200 second-feet and those for periods of ice effect or backwater from aquatic vegetation, which are fair. Discharge below 330 second-feet computed by using fall as determined from record of automatic turbine operation as a factor.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	370	1,370	*670	5,620	640	755	*755	1,970	2,390	515	324	185
2	306	1,320	600	5,170	640	660	704	1,850	2,150	441	292	195
3	282	1,240	550	4,130	640	620	654	1,620	2,270	412	289	185
4	311	1,020	520	3,000	1,050	660	638	1,370	2,550	370	370	195
5	334	825	470	2,300	1,600	620	638	1,140	2,830	466	370	169
6	344	704	450	1,900	2,500	550	590	1,000	2,620	772	308	1,420
7	308	606	420	1,700	3,100	500	575	1,010	2,150	2,190	280	1,670
8	277	545	400	1,500	2,700	460	560	2,160	1,570	3,890	248	1,280
9	254	720	370	1,300	2,480	460	545	3,300	1,520	3,810	224	900
10	257	2,620	350	1,200	2,830	700	545	3,110	1,730	2,900	208	622
11	314	3,730	330	1,100	3,890	2,500	515	6,860	1,730	2,830	192	485
12	257	2,970	310	1,000	3,200	2,480	825	9,830	1,470	2,550	195	344
13	238	2,270	300	950	2,700	2,130	980	10,400	1,100	2,030	206	282
14	202	1,970	280	900	2,500	2,190	880	10,400	920	1,470	215	308
15	208	1,570	300	900	2,250	2,210	825	9,540	980	1,370	222	266
16	231	1,190	300	940	2,050	5,590	738	7,760	900	1,320	222	248
17	188	960	290	900	1,950	7,640	654	8,340	880	1,520	167	229
18	183	860	290	840	1,850	7,020	590	10,200	790	1,280	152	220
19	234	738	290	700	1,800	5,990	560	10,200	720	1,370	162	206
20	248	670	270	600	1,800	5,880	606	9,510	654	1,280	144	174
21	227	984	250	620	2,090	4,880	738	8,740	560	1,060	176	178
22	199	1,240	310	620	1,520	3,730	738	8,500	654	1,420	173	157
23	213	1,280	330	640	1,420	2,710	704	7,690	808	1,060	170	147
24	188	2,150	350	680	1,570	1,940	654	6,400	960	920	160	151
25	188	1,670	420	950	1,470	1,540	590	7,250	980	704	170	151
26	167	1,420	560	850	1,280	1,360	545	7,550	772	560	185	145
27	157	1,190	3,000	750	1,040	1,200	909	6,130	720	470	193	153
28	154	920	6,340	650	*860	1,080	2,270	5,180	704	436	187	173
29	171	808	6,610	600	-	958	2,150	4,650	638	436	197	192
30	251	704	5,980	550	-	865	1,970	3,760	606	412	206	178
31	1,280	-	*5,530	*520	-	796	-	2,960	-	357	202	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	8,541	1,280	154	276	0.260	0.30
November	40,264	3,730	545	1,342	1.27	1.41
December	37,440	6,610	250	1,208	1.14	1.31
Calendar year 1942	342,751	6,610	77	939	.886	12.03
January	44,080	5,620	520	1,422	1.34	1.55
February	53,420	3,890	640	1,908	1.80	1.87
March	70,674	7,640	460	2,280	2.15	2.48
April	24,645	2,270	515	822	.775	.86
May	180,380	10,400	1,000	5,819	5.49	6.33
June	39,326	2,830	560	1,311	1.24	1.38
July	40,621	3,890	357	1,310	1.24	1.43
August	6,809	370	144	220	.208	.24
September	11,208	1,670	145	374	.353	.39
Water year 1942-43	557,408	10,400	144	1,527	1.44	19.55

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 2-27, Jan. 4 to Feb. 8, Feb. 12-20, Mar. 2-11. Backwater from aquatic vegetation Oct. 1-31, June 20 to Sept. 30.
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Tiffin River at Stryker, Ohio

Location.- Water-stage recorder, lat. 41°30'05", long. 84°25'50", in SW¼ sec. 5, T. 6 N., R. 4 E., at electric railroad bridge at west edge of Stryker. Datum of gage is 685.5 feet above mean sea level, adjustment of 1912.

Drainage area.- 444 square miles.

Records available.- October 1940 to September 1943. September 1921 to September 1928 at site about 3 miles downstream, published as Tiffin River near Stryker.

Average discharge.- 10 years (1921-28, 1940-43), 295 second-feet.

Extremes.- Maximum discharge during year, 5,060 second-feet May 20 (gage height, 14.2 feet); minimum, 34 second-feet Oct. 3-5, 14; minimum gage height, 1.46 feet Sept. 4. 1921-28, 1940-43: Maximum discharge, that of May 20, 1943; minimum, 5.0 second-feet Sept. 20, 1941.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1942-43, except periods of ice effect, (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 10, Mar. 22 to May 10, Sept. 10-30)

1.4	32	7.0	745	10.5	1,570
1.5	42	8.0	920	11.0	1,820
2.0	105	9.0	1,110	11.5	2,220
4.0	355	9.5	1,230	13.0	3,800
6.0	605	10.0	1,380	14.1	4,960

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	311	168	2,640	160	270	280	884	1,110	205	119	45
2	38	299	168	1,890	160	190	280	813	2,850	151	102	42
3	36	224	174	1,450	170	160	255	631	3,380	121	92	40
4	34	165	162	1,110	200	140	224	530	2,440	457	96	40
5	36	134	142	766	670	160	224	442	1,660	956	98	49
6	36	118	174	530	1,050	140	205	380	1,210	1,180	91	242
7	38	109	149	442	1,260	110	192	505	920	1,930	85	822
8	38	105	129	360	1,320	100	192	752	848	3,060	76	806
9	40	105	115	300	1,570	110	192	1,030	974	2,440	71	418
10	38	224	132	320	1,660	200	186	1,130	1,050	1,570	66	192
11	38	492	139	310	1,710	796	174	2,100	796	1,070	60	124
12	38	592	134	300	1,600	*974	192	3,900	530	796	59	92
13	36	530	128	280	1,300	1,230	318	4,320	405	813	72	80
14	34	380	115	250	1,000	1,210	355	3,900	355	1,030	78	76
15	36	280	99	230	a800	992	280	2,750	330	1,110	72	71
16	52	224	*110	240	a600	1,610	236	2,130	342	1,110	65	69
17	88	186	105	230	a450	2,860	230	2,540	330	884	59	64
18	114	168	102	210	a350	3,170	218	4,010	274	745	55	58
19	95	159	104	200	a300	2,540	199	4,220	224	715	51	55
20	80	151	101	150	368	1,960	199	4,740	192	511	49	52
21	68	159	98	135	505	1,450	242	4,540	168	355	46	50
22	61	230	98	150	644	1,090	261	3,380	174	631	50	50
23	58	292	111	160	730	741	242	2,330	211	442	45	49
24	54	318	122	170	730	580	211	1,890	236	268	45	45
25	51	368	142	190	*568	518	186	2,220	192	205	48	55
26	46	355	205	185	418	480	180	2,540	152	174	59	62
27	42	299	761	*185	318	455	299	2,130	140	145	70	60
28	42	230	1,720	185	299	405	618	1,710	442	134	68	52
29	40	192	3,330	180	-	342	830	1,320	631	125	62	45
30	46	180	*4,010	170	-	311	938	956	368	120	55	42
31	106	-	3,480	160	-	299	-	762	-	136	49	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,603	114	34	51.7	0.116	0.13
November	7,579	592	105	253	.570	.64
December	16,727	4,010	98	540	1.22	1.41
Calendar year 1942	107,925	4,010	16	296	.667	9.05
January	14,068	2,640	135	454	1.02	1.18
February	20,910	1,710	160	747	1.68	1.75
March	25,593	3,170	100	826	1.86	2.14
April	8,638	938	174	288	.649	.72
May	65,485	4,740	380	2,112	4.76	5.49
June	22,934	3,380	140	764	1.72	1.92
July	23,589	3,060	120	761	1.71	1.97
August	2,113	119	45	68.2	.154	.18
September	3,947	822	40	132	.297	.33
Water year 1942-43	213,186	4,740	34	584	1.32	17.86

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Bean Creek at Powers.
Note.- Stage-discharge relation affected by ice Jan. 8 to Feb. 5, Feb. 12-14, Mar. 1-10.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Bean Creek at Powers, Ohio

Location.- Water-stage recorder, lat. 41°40'40", long. 84°13'50", in NE¼ sec. 24, T. 9 S., R. 1 E., at bridge on U. S. Highway 20, 1 mile east of Powers and 2½ miles upstream from Iron Creek. Datum of gage is 722.6 feet above mean sea level, adjustment of 1912.

Drainage area.- 238 square miles.

Records available.- October 1940 to September 1943.

Extremes.- Maximum discharge during year, 3,560 second-feet May 12 (gage height, 12.6 feet); minimum, 23 second-feet Oct. 14 (gage height, 1.06 feet).
1940-43: Maximum discharge, that of May 12, 1943; minimum, 6.4 second-feet Sept. 17, 1941; minimum gage height, 0.62 foot Aug. 7-10, 1941.

Remarks.- Records good except those for periods of ice effect, which are poor.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-8, 10-30, Mar. 23 to Apr. 27)

1.0	21	2.0	89	8.0	1,220
1.1	26	2.5	142	9.0	1,500
1.2	31	3.0	208	10.0	1,880
1.3	36	4.0	380	11.0	2,380
1.4	42	6.0	750	12.0	3,050
1.6	56	7.0	975	12.5	3,470

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	317	120	630	110	155	192	488	1,470	107	80	34
2	35	224	126	560	110	110	186	353	1,640	90	75	32
3	31	162	140	506	115	115	156	333	1,170	84	71	31
4	31	131	130	416	125	120	144	290	771	810	76	31
5	33	110	150	380	240	110	135	240	579	1,640	71	37
6	34	102	115	326	680	90	131	208	488	1,140	60	210
7	33	96	100	290	950	80	121	232	999	836	62	299
8	30	90	90	256	660	75	119	452	858	674	56	142
9	28	89	80	232	690	90	119	750	579	452	54	84
10	27	402	90	220	610	160	113	560	470	335	50	64
11	26	655	100	216	1,100	860	101	2,020	389	299	49	54
12	25	470	90	204	770	*830	114	3,470	335	389	52	48
13	24	326	85	183	620	650	204	2,360	299	416	57	45
14	24	240	80	170	410	488	172	1,250	273	712	55	43
15	32	182	75	160	390	389	140	858	248	506	50	43
16	70	158	72	170	370	*1,440	130	881	256	353	47	42
17	118	144	70	145	330	1,880	139	1,350	240	459	44	39
18	98	133	70	130	270	1,200	128	1,970	204	470	42	37
19	79	127	73	115	240	712	112	1,970	185	308	39	36
20	66	*121	65	100	260	598	127	2,600	166	248	38	35
21	57	141	70	110	400	470	158	1,570	148	198	41	34
22	52	224	73	125	430	398	154	1,200	154	175	36	34
23	48	190	80	130	400	353	135	904	216	149	36	33
24	45	240	85	125	350	317	120	858	180	131	37	31
25	40	273	105	130	*290	290	109	1,250	146	117	37	36
26	39	232	145	125	240	281	98	1,170	129	102	39	39
27	37	179	570	135	180	256	339	927	112	96	42	36
28	35	144	1,900	*125	175	232	904	881	147	91	43	35
29	34	132	1,700	110	-	205	542	560	159	87	39	35
30	61	124	1,150	105	-	200	488	488	126	114	36	34
31	389	-	*810	105	-	190	-	741	-	100	35	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,718	389	24	55.4	0.233	0.27
November	6,158	655	89	205	.861	.96
December	8,609	1,900	65	278	1.17	1.35
Calendar year 1942	58,257	1,900	12	160	.672	9.12
January	6,734	630	100	217	.912	1.05
February	11,415	1,100	110	408	1.71	1.78
March	13,344	1,880	75	430	1.81	2.09
April	5,830	904	98	194	.815	.91
May	33,186	3,470	208	1,071	4.50	5.19
June	13,136	1,640	112	438	1.84	2.05
July	11,688	1,640	84	377	1.58	1.82
August	1,557	80	35	50.2	.211	.24
September	1,733	299	31	57.8	.243	.27
Water year 1942-43	115,108	3,470	24	315	1.32	17.98

Peak discharge.- Mar. 16 (10 p.m.) 2,210 sec.-ft.; May 12 (2 p.m.) 3,560 sec.-ft.; May 18 (2 a.m.) 2,260 sec.-ft.; May 20 (2 a.m.) 3,050 sec.-ft.; July 5 (2 a.m.) 2,110 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3 to Jan. 2, Jan. 10, Jan. 14 to Mar. 13 (no gage-height record Dec. 6-9, 11-16).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Auglaize River near Fort Jennings, Ohio

Location.- Water-stage recorder, lat. 40°56'55", long. 84°15'58", in SE¼ sec. 15, T. 1 S., R. 5 E., at highway bridge, 3⅛ miles northeast of Fort Jennings and 6 miles upstream from Ottawa River. Datum of gage is 713.9 feet above mean sea level, adjustment of 1912.

Drainage area.- 333 square miles.

Records available.- August 1921 to December 1935, October 1940 to September 1943.

Average discharge.- 17 years, 281 second-feet.

Extremes.- Maximum discharge during year, 7,920 second-feet May 18 (gage height, 16.4 feet); minimum, 18 second-feet Sept. 30; minimum gage height, 1.58 feet Sept. 3, 4.
1921-35, 1940-43: Maximum discharge, 8,200 second-feet (revised) Jan. 15, 1930 (gage height, 16.6 feet); minimum, 5.0 second-feet Aug. 28, 1932 (gage height, 0.75 foot).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Some diversion from Lake St. Marys by Miami & Erie Canal into Jennings Creek, tributary to Auglaize River above station.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 18, Sept. 15-30)

1.4	16	2.0	61	4.0	385	9.0	1,770	15.0	6,060
1.5	20	2.2	89	4.5	501	11.0	2,550	16.0	7,360
1.6	26	2.4	125	5.0	632	12.0	3,200		
1.7	32	2.8	174	6.0	870	13.0	4,010		
1.9	50	3.4	267	7.0	1,140	14.0	4,960		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	41	91	845	170	149	112	92	226	160	195	30
2	23	38	110	795	160	100	108	89	182	110	127	28
3	23	34	110	698	170	90	94	91	148	80	a110	26
4	22	32	100	1,100	188	80	89	83	125	71	a200	25
5	24	35	90	a600	407	75	84	84	103	64	a1,500	28
6	26	38	80	a400	501	70	82	77	88	138	2,150	32
7	23	38	75	a250	464	68	82	76	149	398	654	103
8	22	38	70	156	452	65	76	114	218	267	276	202
9	22	38	68	a90	276	67	73	322	267	164	185	138
10	24	46	65	a95	242	75	80	464	147	123	136	83
11	24	46	61	a95	1,030	202	88	1,030	117	98	103	54
12	23	43	56	*90	974	374	169	2,640	92	103	77	44
13	23	42	56	85	396	332	528	2,510	126	169	70	38
14	23	43	*52	80	303	242	488	974	1,750	269	336	34
15	25	46	48	85	230	242	276	542	3,600	250	407	31
16	28	46	48	90	180	*886	210	795	4,100	276	184	28
17	28	46	49	120	160	4,010	202	1,740	1,170	922	218	31
18	29	128	49	130	150	4,680	161	6,580	595	1,030	177	38
19	30	200	49	90	150	1,930	143	6,710	322	1,060	125	51
20	29	258	49	80	180	1,350	148	3,840	202	488	77	38
21	28	264	46	70	429	2,310	210	2,350	154	250	58	32
22	30	418	45	70	555	948	258	2,230	135	370	48	28
23	32	276	50	75	*365	528	250	1,140	110	922	44	26
24	35	234	57	140	332	363	195	654	89	363	41	24
25	38	195	99	600	285	285	170	795	76	195	36	23
26	38	165	233	*770	218	234	147	820	64	136	35	23
27	34	135	1,560	520	168	202	135	528	64	110	34	21
28	38	108	*2,510	350	164	168	129	342	195	106	34	20
29	40	96	1,930	250	-	141	119	242	187	117	35	20
30	45	88	1,290	200	-	128	108	195	210	375	33	18
31	45	-	1,170	160	-	116	-	210	-	385	32	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	900	45	22	29.0		
November	3,255	418	32	108		
December	10,366	2,510	45	334		
Calendar year 1942	88,897	4,300	22	244		
January	9,139	1,110	70	296		
February	9,319	1,030	150	333		
March	21,010	4,680	65	678		
April	5,014	528	73	167		
May	38,359	6,710	76	1,237		
June	15,011	4,100	64	500		
July	9,589	1,060	64	309		
August	7,737	2,150	32	250		
September	1,317	202	18	43.9		
Water year 1942-43	131,066	6,710	18	359		

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Blanchard River near Findlay.

Note.- Stage-discharge relation affected by ice, Dec. 2-7, Jan. 12 to Feb. 3, Feb. 15-20, Mar. 2-10.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Auglaize River near Defiance, Ohio

Location.- Water-stage recorder, lat. 41°14'15", long. 84°24'02", in NE¼ sec. 9, T. 3 N., R. 4 E., 125 feet downstream from dam and power plant of Toledo Edison Co., a quarter of a mile upstream from Jackson ditch, and 3 miles south of Defiance. Datum of gage is 660.00 feet above mean sea level, adjustment of 1912.

Drainage area.- 2,329 square miles.

Records available.- April 1915 to December 1935, October 1940 to September 1943. May to August 1903 at site at highway bridge 1¾ miles downstream.

Average discharge.- 23 years (1915-35, 1940-43), 1,599 second-feet.

Extremes.- Maximum discharge during year, 48,000 second-feet May 19 (gage height, 25.5 feet, from floodmark), from rating curve extended above 22,000 second-feet on basis of flood-routing studies; minimum daily, 31 second-feet Mar. 30.
1915-35, 1940-43: Maximum discharge, that of May 19, 1943; minimum daily, 6 second-feet Oct. 17, 1923.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Flow regulated by power plant above station. Some diversion by Miami & Erie Canal from Lake St. Marys into Jennings Creek, tributary to Auglaize River above station.

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 21 to Sept. 5, Sept. 11-30)

4.35	22	4.8	170	6.2	960	10.0	5,400	20.0	30,000
4.4	33	5.0	249	7.0	1,650	11.0	7,100	23.0	39,700
4.45	45	5.4	440	8.0	2,690	14.0	13,200	25.0	46,300
4.5	65	5.8	675	9.0	3,950	17.0	21,000		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	117	514	5,910	792	852	485	554	4,650	3,560	1,510	208
2	92	72	650	6,760	662	485	480	686	5,400	1,050	900	36
3	117	48	352	6,080	606	444	585	372	4,220	866	577	42
4	156	91	834	5,570	1,230	449	392	609	3,040	198	1,160	45
5	39	125	869	a6,100	1,710	437	320	395	1,290	173	1,790	365
6	39	220	378	a4,400	2,860	399	422	370	904	951	2,940	1,620
7	81	345	344	a3,200	2,670	354	486	724	1,560	3,330	2,170	892
8	45	136	636	a1,700	2,020	268	186	2,150	3,120	5,100	724	908
9	102	55	65	a750	2,200	358	520	2,090	2,630	4,500	810	766
10	78	1,190	65	a600	2,140	1,600	396	3,100	1,520	3,690	586	364
11	39	1,470	216	a1,100	4,080	2,350	428	9,530	906	3,300	344	381
12	45	1,310	262	a700	5,910	2,350	2,010	17,400	849	2,670	120	45
13	115	722	219	638	4,220	2,850	2,920	21,900	327	2,060	553	231
14	108	436	109	592	a2,200	2,070	3,200	13,700	1,680	2,540	55	150
15	185	87	161	523	a1,380	1,870	2,760	6,080	5,040	3,560	990	55
16	39	463	178	578	a1,100	3,370	2,080	5,570	7,640	3,690	1,060	196
17	42	161	160	436	802	12,500	568	13,800	5,310	4,900	446	151
18	36	2,370	146	524	720	19,900	876	30,300	3,240	9,800	654	138
19	39	4,740	148	668	684	18,800	998	46,000	1,600	14,600	624	140
20	36	2,870	140	609	1,210	11,900	1,380	a39,000	622	8,400	462	138
21	45	2,740	162	308	1,110	10,600	870	a27,000	744	4,800	68	106
22	45	4,080	132	495	2,430	7,640	1,970	a19,000	382	2,740	48	108
23	108	4,650	118	421	2,540	5,570	1,750	h15,000	1,070	2,980	48	42
24	42	3,820	194	823	1,880	3,690	1,450	h11,400	1,670	3,560	398	106
25	45	3,240	244	2,610	1,860	2,710	1,010	h12,100	1,220	3,100	45	268
26	124	2,360	1,380	3,430	1,670	1,820	834	h10,400	570	1,500	45	39
27	114	1,330	4,040	3,690	1,230	1,520	1,100	7,280	242	944	192	42
28	48	946	14,600	2,600	878	1,200	576	4,220	2,920	1,610	42	42
29	48	474	16,600	1,560	-	478	754	2,580	3,950	1,470	42	454
30	76	596	13,900	1,130	-	31	938	1,430	5,400	2,110	39	62
31	51	-	10,200	930	-	252	-	2,580	-	2,230	48	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,212	185	33	71.4		
November	39,264	4,650	48	1,309		
December	68,016	16,600	65	2,194		
Calendar year 1942	609,392	25,200	31	1,670		
January	65,435	6,760	308	2,111		
February	52,794	5,910	606	1,886		
March	119,117	19,900	31	3,842		
April	32,744	3,200	186	1,091		
May	325,320	46,000	370	10,490		
June	73,716	7,640	242	2,457		
July	105,982	14,600	173	3,419		
August	19,490	2,940	39	629		
September	8,140	1,620	36	271		
Water year 1942-43	912,230	46,000	31	2,499		

a No gage-height record; discharge computed on basis of flood-routing studies and computed flow past power plant.
h Computed from staff-gage readings.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

STREAMS TRIBUTARY TO LAKE ERIE

Blanchard River near Findlay, Ohio

Location.- Water-stage recorder, lat. 41°03'21", long. 83°41'17", on east line sec. 10, T. 1 N., R. 10 E., at highway bridge, 2 miles northwest of Findlay. Datum of gage is 754.55 feet above mean sea level.
Drainage area.- 343 square miles.
Records available.- November 1923 to December 1935, October 1940 to September 1943.
Average discharge.- 14 years, 214 second-feet.
Extremes.- Maximum discharge during year, 4,520 second-feet May 18 (gage height, 10.3 feet); minimum, 3.0 second-feet Nov. 13 (gage height, 0.78 foot).
1923-35, 1940-43: Maximum discharge, 6,320 second-feet Dec. 1, 1927 (gage height, 14.5 feet); minimum, 0.4 second-foot Aug. 26, 27, Sept. 3, 1934.
Flood of March 1913 reached a stage of 18.5 feet.
Revisions.- The maximum discharge for the water year 1942 has been revised to 5,760 second-feet Apr. 10, 1942 (gage height, 11.8 feet), superseding figure published in Water-Supply Paper 954.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair.
Revisions.- Revised figures of discharge in second-feet, for high-water period in the water year 1942, superseding those published in Water-Supply Paper 954, are given herewith:

Apr. 10.....4,520
11.....4,520

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
April.....	24,053	4,520	48	802	2.34	2.61
Water year 1941-42.....	66,840.7	4,520	3.4	183	.534	7.24

Peak discharge.- Mar. 17 (12:30 p.m.) 4,000 sec.-ft.; Apr. 10 (11 p.m.) 5,760 sec.-ft.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	7.0	53	965	125	109	101	103	1,300	47	97	11
2	5.0	6.6	51	738	99	99	90	88	685	37	64	13
3	4.8	8.2	53	842	103	90	82	97	392	32	94	8.6
4	5.8	7.8	53	1,110	220	78	76	88	223	31	82	732
5	9.6	8.2	50	930	459	71	76	75	155	410	48	244
6	7.0	8.6	38	580	540	67	67	71	123	313	73	125
7	6.2	9.0	37	324	490	67	65	90	423	601	88	90
8	5.0	7.8	32	223	400	59	65	346	302	560	56	40
9	5.4	10	30	139	288	48	65	615	306	232	37	29
10	5.4	16	27	b140	298	67	65	374	178	160	33	23
11	3.8	11	27	*b125	965	343	56	405	133	172	23	18
12	5.8	7.0	27	b120	772	324	140	1,000	103	121	33	17
13	5.8	4.2	23	101	418	282	441	580	92	854	185	16
14	8.2	5.0	20	96	195	254	369	260	84	1,150	129	14
15	9.6	5.8	16	101	170	285	212	180	69	580	50	13
16	a10	6.6	18	*105	150	1,380	170	400	69	292	40	19
17	a10	16	17	168	121	3,860	145	1,840	69	1,310	30	16
18	a11	64	17	168	101	3,020	127	4,210	64	1,300	22	16
19	9.0	44	16	182	101	1,190	119	3,440	51	1,040	28	13
20	8.2	44	15	143	*215	1,780	165	2,600	47	490	33	13
21	6.2	113	15	109	540	1,940	344	2,540	43	220	26	11
22	11	123	15	96	536	834	254	2,720	37	148	21	11
23	11	127	21	101	374	486	182	1,000	36	105	16	11
24	6.2	131	23	237	405	340	148	598	33	82	15	10
25	5.8	121	27	755	396	271	127	540	31	69	14	20
26	6.6	107	141	580	271	226	115	632	30	57	16	13
27	6.6	78	1,480	332	145	192	107	441	29	48	22	11
28	7.0	59	1,940	b220	175	162	141	264	345	50	15	10
29	7.0	53	1,640	158	-	129	127	190	165	133	14	9.0
30	7.4	53	1,380	135	-	117	113	152	78	178	13	8.6
31	8.2	-	*1,340	111	-	107	-	685	-	133	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October.....	222.8	11	3.8	7.19	0.021	0.02
November.....	1,261.8	131	4.2	42.1	.123	.14
December.....	8,642	1,940	15	279	.813	.94
Calendar year 1942	72,810.5	4,520	3.8	199	.580	7.89
January.....	10,124	1,110	96	327	.953	1.10
February.....	9,072	965	99	324	.945	.98
March.....	18,267	3,860	48	589	1.72	1.98
April.....	4,354	441	56	145	.423	.47
May.....	26,624	4,210	71	859	2.50	2.88
June.....	5,695	1,300	29	190	.554	.62
July.....	10,952	1,310	31	353	1.03	1.19
August.....	1,425	185	10	46.0	.134	.15
September.....	1,585.2	732	8.6	52.8	.154	.17
Water year 1942-43	98,224.8	4,210	3.8	269	.784	10.64

Peak discharge.- Dec. 27 (8:30 p.m.) 2,060 sec.-ft.; Mar. 17 (9:30 a.m.) 4,210 sec.-ft.; Mar. 21 (11 a.m.) 2,180 sec.-ft.; May 18 (12 m.) 4,520 sec.-ft.; May 22 (1 a.m.) 3,440 sec.-ft.; Sept. 4 (5 p.m.) 2,120 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Auglaize River near Fort Jennings.
b Stage-discharge relation affected by ice.
Time basis.- Eastern war time. To convert war time to standard time, subtract 1 hour.

Portage River at Woodville, Ohio

Location.- Water-stage recorder, lat. 41°26'55", long. 83°21'41", in sec. 28, T. 6 N., R. 13 E., at bridge on U. S. Highway 20 in Woodville. Datum of gage is 615.14 feet above mean sea level, adjustment of 1912.

Drainage area.- 433 square miles.

Records available.- July 1928 to December 1935, October 1939 to September 1943.

Average discharge.- 11 years, 252 second-feet.

Extremes.- Maximum discharge during year, 8,150 second-feet May 19 (gage height, 12.3 feet); minimum, 7.6 second-feet Sept. 3 (gage height, 2.02 feet).

1928-35, 1939-43: Maximum discharge, 9,150 second-feet Jan. 15, 1930 (gage height, 12.96 feet); minimum, 0.3 second-foot Aug. 26, 1931; minimum gage height, 1.60 feet July 25, 26, 1934.

Flood of March 1913 reached a stage of 17 feet, from information by local residents.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	16	101	1,210	b200	a130	113	232	4,930	528	92	10
2	13	17	b120	1,060	b190	a100	113	182	4,490	235	55	9.1
3	14	17	b150	1,150	b180	a80	95	169	1,570	128	40	8.0
4	13	17	b200	1,060	253	a60	a85	159	698	92	62	9.1
5	13	17	b175	644	585	a55	a78	117	398	97	113	1,900
6	17	17	107	355	652	b53	a70	193	266	81	85	3,600
7	16	18	79	328	720	b42	a67	103	232	161	50	1,580
8	26	20	62	b179	492	b43	a66	206	398	1,890	36	813
9	24	22	50	b150	496	*b41	65	980	275	1,150	28	376
10	21	52	43	b130	398	70	64	745	189	576	21	209
11	20	363	41	b125	1,670	536	58	2,870	171	622	18	133
12	18	321	43	b120	870	820	76	4,490	140	652	18	90
13	17	*164	38	b105	532	544	650	3,950	107	415	23	62
14	18	109	33	b95	348	476	556	1,610	81	1,960	294	49
15	21	68	26	*b83	b250	492	311	845	68	1,610	255	43
16	24	46	22	b90	b200	1,300	217	1,260	71	745	107	41
17	26	37	23	140	b150	4,600	220	2,520	95	780	61	123
18	26	79	*23	200	b110	4,380	182	6,130	71	3,050	41	115
19	22	675	24	214	101	*1,610	152	7,860	52	2,300	29	67
20	19	428	24	b130	152	1,540	226	5,770	38	820	22	47
21	17	284	21	b90	321	952	536	3,750	31	380	18	37
22	18	691	20	b85	355	630	554	2,200	25	317	15	32
23	19	544	21	b85	281	472	372	1,120	22	272	13	28
24	18	456	25	b100	328	366	294	745	20	166	12	26
25	20	745	38	b650	398	324	223	652	18	111	12	26
26	19	516	b50	1,470	*294	286	179	630	18	81	12	27
27	20	304	b1,000	820	a250	229	156	436	18	65	13	28
28	18	169	4,800	572	a175	187	352	311	481	55	13	26
29	15	128	4,380	394	-	144	301	235	1,890	49	15	23
30	17	107	2,870	256	-	119	232	200	1,060	162	14	22
31	16	-	2,120	217	-	111	-	1,640	-	184	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	580	26	13	18.7	0.043	0.05
November	6,447	745	16	215	.497	.55
December	16,529	4,600	20	533	1.23	1.42
Calendar year 1942	100,642.4	5,530	5.5	276	.637	8.64
January	12,307	1,470	83	397	.917	1.06
February	10,951	1,670	101	391	.903	.94
March	20,778	4,600	41	670	1.55	1.79
April	6,665	650	58	222	.513	.57
May	52,220	7,860	103	1,685	3.89	4.48
June	17,923	4,930	18	597	1.38	1.54
July	19,740	3,050	49	637	1.47	1.70
August	1,597	294	12	51.5	.119	.14
September	9,559.2	3,600	8.0	319	.737	.82
Water year 1942-43	175,296.2	7,860	8.0	480	1.11	15.06

Peak discharge.- Dec. 28 (8 p.m.) 5,170 sec.-ft.; Mar. 18 (1:30 a.m.) 5,890 sec.-ft.; May 13 (3 a.m.) 4,710 sec.-ft.; May 19 (9 a.m.) 8,150 sec.-ft.; June 1 (9 p.m.) 5,530 sec.-ft.; Sept. 6 (11 a.m.) 4,050 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for Blanchard River near Findlay.

b Stage-discharge relation affected by ice.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Sandusky River near Bucyrus, Ohio

Location.- Water-stage recorder, lat. 40°48'13", long. 83°00'21", in NE¼ sec. 10, T. 3 S., R. 16 E., at highway bridge, 1½ miles west of Bucyrus and 12 miles downstream from Loss Creek. Datum of gage is 955.9 feet above mean sea level, adjustment of 1912.

Drainage area.- 89.8 square miles.

Records available.- August 1925 to November 1935, July 1938 to September 1943.

Average discharge.- 15 years, 76.6 second-feet.

Extremes.- Maximum discharge during year, 2,420 second-feet Mar. 20 (gage height, 7.50 feet); minimum, 1.0 second-foot Sept. 29; minimum gage height, 0.87 foot Aug. 23.
1925-35, 1938-43: Maximum discharge observed, 6,900 second-feet Dec. 14, 1927 (gage height, 9.15 feet); minimum discharge, 0.4 second-foot Sept. 29, 1941, July 16, 1942.
Flood of Mar. 23, 1913, reached a stage of 14.5 feet, from floodmarks.

Remarks.- Records good except those for period of no gage-height record, which are fair, and those for periods of ice effect, which are poor. Low flow slightly affected by operation of reservoirs for municipal supply of Bucyrus.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	6.9	16	56	292	b60	42	31	48	1,140	14	10	3.1
2	5.8	24	239	219	b40	28	27	39	314	9.1	8.6	4.3
3	5.2	11	g74	403	48	33	25	39	128	7.3	51	3.1
4	5.8	6.0	g56	741	117	28	26	37	71	28	178	3.4
5	7.0	4.5	g48	226	123	26	26	30	45	31	246	8.7
6	7.2	3.8	g33	100	210	26	23	26	36	14	58	9.4
7	7.8	3.3	g24	83	251	23	22	30	50	35	29	95
8	4.7	3.1	*19	61	91	20	22	155	44	51	19	43
9	3.8	2.9	18	47	81	19	22	310	30	29	15	15
10	3.3	48	17	b40	195	34	21	107	23	162	13	6.9
11	2.5	150	17	b35	1,380	384	19	96	22	222	10	4.0
12	5.5	55	17	b32	304	217	46	96	16	89	13	2.7
13	4.7	35	15	b30	123	263	42	59	17	276	15	2.5
14	4.0	28	13	b29	74	181	34	44	16	123	15	2.9
15	4.0	15	12	b28	59	169	33	43	17	50	13	6.2
16	6.4	13	12	47	44	545	30	282	20	317	8.2	2.9
17	4.7	14	12	146	37	1,530	28	535	15	212	7.3	2.2
18	a4.0	284	12	124	31	342	28	255	11	61	6.4	2.9
19	a3.7	200	11	79	*34	543	33	255	11	61	6.4	2.9
20	a3.5	88	9.9	b60	100	1,840	111	152	8.6	36	5.7	2.2
21	a5.5	149	9.5	51	227	348	87	786	8.2	86	4.0	2.0
22	3.6	222	b11	*43	152	176	64	346	6.9	20	2.9	2.0
23	8.8	99	b15	52	122	110	49	142	6.0	16	2.5	2.2
24	18	239	b25	207	187	85	41	88	5.4	14	2.7	2.3
25	12	230	48	702	162	72	35	119	5.1	14	2.7	3.1
26	8.1	101	121	212	93	62	31	231	10	14	5.8	1.6
27	4.5	64	1,290	b70	61	54	30	113	53	10	8.0	3.4
28	3.3	45	1,490	b50	60	44	205	66	72	9.1	10	2.0
29	3.3	41	1,010	b40	-	37	96	48	49	22	5.7	1.2
30	3.3	42	1,200	b37	-	36	60	43	25	22	3.1	1.6
31	6.2	-	834	b35	-	33	-	769	-	16	2.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	177.1	18	2.5	5.71	0.064	0.07
November	2,230.6	284	2.9	74.4	.829	.92
December	6,768.4	1,490	9.5	218	2.43	2.80
Calendar year 1942	30,280.4	1,700	1.1	83.0	.924	12.54
January	4,321	741	28	139	1.55	1.79
February	4,466	1,380	31	160	1.78	1.85
March	7,350	1,840	19	237	2.64	3.04
April	1,348	205	19	44.9	.500	.56
May	5,218	769	26	168	1.87	2.16
June	2,283.2	1,140	5.1	76.1	.847	.94
July	2,050.5	317	7.3	66.1	.736	.85
August	780.8	246	2.5	25.2	.281	.32
September	244.5	95	1.2	8.15	.091	.10
Water year 1942-43	37,238.1	1,840	1.2	102	1.14	15.40

Peak discharge.- Dec. 27 (10:30 p.m.) 1,870 sec.-ft.; Dec. 30 (10 p.m.) 1,600 sec.-ft.; Feb. 11 (2 p.m.) 1,700 sec.-ft.; Mar. 17 (12 m.) 1,870 sec.-ft.; Mar. 20 (10 a.m.) 2,420 sec.-ft.; June 1 (2:30 p.m.) 1,300 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of recorded range in stage and weather records.

b Stage-discharge relation affected by ice.

g Computed from graph based on tape-gage readings.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Sandusky River near Upper Sandusky, Ohio

Location.- Water-stage recorder, lat. 40°51'02", long. 83°15'23", in sec. 21, T. 2 S., R. 14 E., at highway bridge, three-quarters of a mile upstream from Rock Run and 2 miles northeast of Upper Sandusky. Datum of gage is 792.8 feet above mean sea level, adjustment of 1912.

Drainage area.- 299 square miles.

Records available.- October 1921 to December 1935, January 1938 to September 1943.

Average discharge.- 19 years, 243 second-feet.

Extremes.- Maximum discharge during year, 4,270 second-feet Mar. 21 (gage height, 8.2 feet); minimum, 6.9 second-feet Oct. 13; minimum gage height, 1.07 feet Sept. 24, 25. 1921-35, 1938-43: Maximum discharge, 8,900 second-feet Dec. 15, 1927 (gage height, 10.5 feet); minimum, 0.9 second-foot Sept. 24, 1939; minimum gage height, 0.67 foot Sept. 6, 7, 1934.
Flood in June 1937 reached a stage of 14.3 feet, from marks in gage well.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	12	106	1,480	158	100	101	161	1,960	97	45	18
2	23	24	180	895	170	110	94	126	1,700	63	40	14
3	19	46	800	1,000	177	100	84	106	522	46	100	12
4	17	35	400	1,790	402	90	79	105	281	106	250	9.5
5	17	26	230	1,250	650	85	81	92	180	575	800	14
6	19	23	190	500	539	85	78	81	135	646	200	26
7	22	21	130	300	841	75	71	78	130	403	150	30
8	26	19	*90	230	402	70	71	148	158	564	90	85
9	24	17	70	200	301	65	70	724	132	333	60	96
10	22	27	60	170	301	60	73	442	103	305	50	50
11	16	202	55	150	2,020	200	66	300	84	1,530	45	30
12	10	241	50	130	1,810	1,000	79	370	74	1,310	40	22
13	7.9	112	45	110	574	700	135	300	66	510	35	16
14	8.5	74	42	100	350	525	135	210	58	734	45	12
15	9.0	54	40	120	250	439	112	150	50	646	50	10
16	10	41	40	150	200	1,180	96	120	60	301	40	14
17	12	36	38	500	150	3,350	90	551	60	965	33	15
18	12	257	37	400	*135	2,160	84	1,880	55	1,400	28	16
19	16	656	35	270	110	1,270	84	1,680	46	520	26	15
20	14	329	33	230	150	*3,890	142	868	38	231	23	13
21	13	278	32	210	450	3,020	263	1,430	30	150	21	10
22	22	682	40	*200	809	814	192	1,730	26	108	20	11
23	28	448	45	160	416	505	148	744	25	87	12	11
24	28	*534	60	350	439	354	120	411	22	80	16	10
25	34	814	130	2,200	515	278	105	530	22	70	15	11
26	35	434	240	2,500	313	221	96	554	21	60	14	9.5
27	27	231	1,500	500	172	189	89	448	28	52	16	9.5
28	22	152	3,000	200	130	155	189	248	87	45	20	11
29	18	116	3,440	150	-	128	380	169	259	80	36	11
30	14	106	2,850	140	-	114	192	132	186	84	30	8.5
31	11	-	3,180	130	-	106	-	299	-	60	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	591.4	35	7.9	19.1	0.064	0.07
November	6,047	814	12	202	.676	.75
December	17,188	3,440	32	554	1.85	2.13
Calendar year 1942	89,069.0	4,130	3.2	244	.816	11.08
January	16,715	2,500	100	539	1.80	2.08
February	12,934	2,020	110	462	1.55	1.61
March	21,438	3,890	60	692	2.31	2.66
April	3,599	380	66	120	.401	.45
May	15,187	1,880	78	490	1.64	1.89
June	6,598	1,960	21	220	.736	.82
July	12,161	1,530	45	392	1.31	1.51
August	2,380	800	14	76.8	.257	.30
September	620.0	96	8.5	20.7	.069	.08
Water year 1942-43	115,458.4	3,890	7.9	316	1.06	14.35

Peak discharge.- Dec. 28 (11:30 p.m.) 3,980 sec.-ft.; Dec. 31 (9:30 a.m.) 3,350 sec.-ft.; Feb. 11 (12 p.m.) 2,610 sec.-ft.; Mar. 17 (8 p.m.) 3,610 sec.-ft.; Mar. 21 (3 a.m.) 4,270 sec.-ft.; June 2 (3 a.m.) 2,460 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 2-28, Jan. 6-8, 23-26, 30, 31, Feb. 2, 5, 14-22, Feb. 28 to Mar. 13. No gage-height record Jan. 9-22, 27-29, May 11-15, July 24 to Aug. 19; discharge computed on basis of recorded range in stage, weather records, and records for stations near Bucyrus and Mexico.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Sandusky River near Mexico, Ohio

Location.- Water-stage recorder, lat. 41°02'39", long. 83°11'42", in sec. 13, T. 1 N., R. 14 E., at highway bridge, 3 miles upstream from Honey Creek and 4½ miles north of Mexico. Datum of gage is 733.1 feet above mean sea level, adjustment of 1912.

Drainage area.- 776 square miles.

Records available.- March 1923 to December 1935, July 1938 to September 1943.

Average discharge.- 17 years, 548 second-feet.

Extremes.- Maximum discharge during year, 6,820 second-feet Mar. 22 (gage height, 13.6 feet); minimum, 1.8 second-feet (regulated) Oct. 31 (gage height, 1.46 feet).

1923-35, 1938-43: Maximum discharge observed, 15,200 second-feet Mar. 22, 1927 (gage height, 19.9 feet); minimum, that of Oct. 31, 1942.

Flood in June 1937 reached a stage of 22.5 feet, from information by local residents.

Remarks.- Records good except those for periods of no gage-height record, which are fair, and those for periods of ice effect, which are poor. Flow Oct. 27-31 affected by storage, resulting from repairs made to small dam 1¼ miles above station.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 18, Sept. 2-30)

1.3	0.7	1.9	41	4.0	520	8.0	2,400
1.4	2.5	2.1	68	4.5	699	10.0	3,720
1.5	5.8	2.5	132	5.0	895	12.0	5,320
1.6	11	2.9	213	6.0	1,340	13.2	6,420
1.7	19	3.4	336	7.0	1,830		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115	37	253	5,500	330	330	248	336	4,360	213	166	44
2	83	41	347	3,550	400	270	231	265	a3,600	124	129	36
3	65	40	550	2,520	350	250	209	234	a2,000	89	99	31
4	54	58	650	3,370	400	225	187	209	a1,000	100	190	31
5	45	65	500	a3,300	800	210	180	178	a500	1,050	557	45
6	46	58	350	2,220	1,500	250	168	154	a400	1,060	1,060	49
7	58	53	250	1,240	1,600	185	160	148	a370	795	622	44
8	57	49	200	795	900	175	156	220	a350	1,930	275	45
9	51	44	150	650	600	165	146	775	a450	1,060	170	88
10	46	48	130	700	500	160	146	1,020	407	643	127	105
11	42	81	120	600	2,730	460	146	625	262	1,680	102	70
12	40	290	110	500	3,440	975	180	737	209	2,460	86	50
13	36	290	105	450	2,320	1,380	503	699	172	1,380	88	41
14	31	193	100	420	800	1,290	537	454	142	1,730	83	36
15	31	137	95	400	650	1,090	422	320	132	1,430	74	31
16	27	105	90	370	550	2,060	313	280	129	835	71	34
17	27	93	85	350	450	6,130	268	956	141	1,970	68	36
18	26	132	*82	600	350	6,320	234	4,200	134	3,650	67	31
19	27	634	77	800	300	5,320	222	5,500	118	2,700	124	27
20	29	915	73	600	*405	5,680	310	4,470	102	1,630	93	26
21	33	607	70	500	900	6,320	466	4,280	89	680	a70	26
22	35	1,020	67	450	1,200	5,720	537	4,440	78	364	a55	25
23	40	1,090	64	400	1,000	*2,200	392	2,640	70	262	a50	24
24	50	835	70	450	900	1,090	313	1,340	61	202	a45	22
25	55	*1,290	80	2,400	1,000	795	262	1,160	58	162	a42	26
26	43	1,160	130	a3,300	800	643	234	1,530	54	137	a40	30
27	4.6	680	1,800	a2,580	554	520	206	1,430	54	118	a45	29
28	2.5	438	3,500	a1,100	422	438	248	915	151	104	a60	26
29	2.0	323	5,000	*a510	-	364	470	572	222	104	49	23
30	2.0	272	6,420	400	-	305	438	438	331	195	42	22
31	3.7	-	6,420	350	-	268	-	1,600	-	202	48	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,206.8	115	2.0	38.9	0.050	0.06
November	11,076	1,290	37	369	.476	.53
December	27,938	6,420	64	901	1.16	1.34
Calendar year 1942	185,504.0	9,470	2.0	508	.655	8.88
January	41,375	5,500	350	1,335	1.72	1.98
February	26,151	3,440	300	934	1.20	1.25
March	51,588	6,320	160	1,664	2.14	2.47
April	8,552	537	146	285	.367	.41
May	42,125	5,500	148	1,359	1.75	2.02
June	16,152	4,360	54	538	.693	.77
July	29,059	3,650	89	937	1.21	1.40
August	4,797	1,060	40	155	.200	.23
September	1,152	105	22	38.4	.049	.05
Water year 1942-43	261,173.8	6,420	2.0	716	.923	12.51

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of two discharge measurements, recession curve, and records for stations near Upper Sandusky and Fremont.

Note.- Stage-discharge relation affected by ice Dec. 3-29, Jan. 9-24, Jan. 30 to Feb. 10, Feb. 14-26, Mar. 1-11.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Sandusky River near Fremont, Ohio

Location.- Water-stage recorder, lat. 41°18'28", long. 83°09'32", in sec. 17, T. 4 N., R. 15 E., at highway bridge, 2½ miles downstream from Wolf Creek and 3½ miles southwest of Fremont. Datum of gage is 626.3 feet above mean sea level, adjustment of 1912.
Drainage area.- 1,248 square miles.
Records available.- November 1923 to December 1935, July 1938 to September 1943. November 1898 to March 1901 at site 4 miles downstream.
Average discharge.- 17 years (1923-35, 1938-43), 856 second-feet.
Extremes.- Maximum discharge during year, 13,600 second-feet Mar. 17, May 19; maximum gage height, 9.6 feet Jan. 25 (ice jam); minimum discharge, 19 second-feet Nov. 3 (gage height, 0.93 foot).
1923-35, 1938-43: Maximum discharge (not determined) occurred Jan. 15, 1930 (gage height, 11.1 feet); maximum gage height, 11.4 feet Mar. 3, 1940 (ice jam); minimum discharge, 5.0 second-feet Sept. 27, 28, 1941 (gage height, 0.80 foot).
Remarks.- Records good except those for period of no gage-height record, which are fair, and those for periods of ice effect, which are poor.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 11, Sept. 11-30)

Oct. 1 to Mar. 17

0.9	15	1.6	320	3.0	2,180
1.0	34	1.8	465	4.0	4,660
1.1	64	2.0	660	5.0	7,520
1.2	97	2.4	1,150	6.0	10,600
1.3	142	2.6	1,420	7.0	13,900
1.4	195	2.8	1,760		

Mar. 18 to Sept. 30

1.0	34	1.4	207
1.1	64	1.6	337
1.2	97	1.8	480
1.3	147	2.0	665

Note.- Same as preceding table above 2.1 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	124	30	361	7,670	550	555	g391	575	11,900	472	298	61
2	120	28	388	6,780	550	501	g364	480	7,070	324	252	61
3	87	20	1,000	3,600	570	450	337	428	3,850	220	201	55
4	74	24	1,450	4,120	600	420	304	391	1,720	189	177	426
5	67	32	1,550	4,260	1,200	400	278	357	1,050	681	326	2,340
6	61	71	1,020	2,800	2,000	360	272	330	700	1,220	900	858
7	55	74	500	2,000	2,500	370	259	330	625	1,390	1,010	450
8	55	64	400	1,500	2,230	360	252	517	585	3,350	506	266
9	58	67	300	1,150	1,410	350	252	1,500	665	2,230	318	153
10	55	80	230	1,000	1,050	1,500	240	1,690	665	1,270	252	142
11	52	80	200	900	3,500	3,000	233	1,690	635	1,980	183	153
12	40	119	180	800	4,000	2,000	285	3,720	458	3,480	132	107
13	43	361	170	750	3,000	1,690	681	2,870	357	2,800	171	84
14	49	320	160	700	1,500	1,760	852	1,280	292	2,320	337	74
15	52	219	150	650	1,200	1,560	711	864	252	2,200	259	64
16	46	163	140	600	1,000	3,220	540	925	246	1,520	220	80
17	37	133	135	700	800	12,600	458	2,460	405	2,090	177	84
18	37	194	130	900	700	9,690	405	10,300	298	4,930	132	77
19	34	418	125	1,500	600	8,120	378	12,200	240	4,390	97	64
20	37	1,020	120	1,000	962	*8,430	531	8,430	189	a3,220	90	61
21	37	888	115	850	1,500	8,120	900	7,520	165	a2,180	97	55
22	43	1,040	110	700	2,200	8,120	988	7,520	137	a1,350	87	52
23	74	1,340	105	650	1,960	4,120	768	5,200	122	816	74	52
24	71	1,150	115	1,200	1,500	g1,710	585	2,710	102	522	71	43
25	67	*1,440	130	4,500	1,550	g1,160	497	1,880	94	378	67	46
26	55	1,550	300	6,000	1,350	g900	420	2,180	90	304	64	49
27	64	1,090	2,000	3,500	*925	g722	405	2,030	90	246	84	49
28	58	684	5,000	1,500	672	g615	450	1,440	122	207	80	49
29	55	492	8,430	*900	-	g556	50o	962	278	189	77	49
30	40	403	9,690	650	-	g480	734	722	465	240	74	46
31	32	-	9,370	580	-	g428	-	3,190	-	318	67	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,779	124	32	57.4	0.046	0.05
November	13,594	1,550	20	453	.363	.40
December	44,074	9,690	105	1,422	1.14	1.31
Calendar year 1942	309,659	15,600	20	848	.679	9.23
January	64,410	7,670	580	2,078	1.67	1.92
February	41,579	4,000	550	1,485	1.19	1.24
March	84,287	12,600	350	2,719	2.18	2.51
April	14,276	988	233	476	.381	.43
May	86,691	12,200	330	2,796	2.24	2.58
June	33,867	11,900	90	1,129	.905	1.01
July	47,026	4,930	189	1,517	1.22	1.41
August	6,880	1,010	64	222	.178	.21
September	6,150	2,340	43	205	.164	.18
Water year 1942-43	444,613	12,600	20	1,218	.976	13.25

Peak discharge.- Dec. 31 (2:30 a.m.) 10,600 sec.-ft.; Mar. 17 (2 p.m.) 13,600 sec.-ft.; May 19 (1 a.m.) 13,600 sec.-ft.; May 21 (12 p.m.) 8,740 sec.-ft.; June 1 (10 a.m.) 12,900 sec.-ft.; July 18 (7 a.m.) 6,630 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of normal recession curve, weather records, and records for station near Mexico.
g Computed from graph based on gage readings.
Note.- Stage-discharge relation affected by ice Dec. 3, 7-28, Jan. 7 to Feb. 7, Feb. 11-19, Mar. 3-12.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Cuyahoga River at Old Portage, Ohio

Location.- Water-stage recorder, lat. 41°08'04", long. 81°32'49", at Old Portage, Summit County, at highway bridge 1¼ miles downstream from Little Cuyahoga River and 4 miles northwest of Akron.

Drainage area.- 405 square miles.

Records available.- September 1921 to December 1935, March 1939 to September 1943.

Average discharge.- 18 years, 427 second-feet.

Extremes.- Maximum discharge during year, 3,480 second-feet Dec. 31 (gage height, 9.45 feet); minimum, 34 second-feet Sept. 26 (gage height, 0.50 foot).
1921-35, 1939-43: Maximum discharge, 3,820 second-feet Apr. 5, 1929 (gage height, 10.1 feet); minimum, 25 second-feet Dec. 7, 11, 1934.

Remarks.- Records good except those for period of no gage-height record or those above 1,800 second-feet, which are fair. Diurnal fluctuation caused by power plants above station. Flow regulated by Lake Rockwell, about 16 miles above gage, where an average of 46 second-feet was diverted for municipal supply of city of Akron. Sewage from city enters river below station.

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 23, Aug. 16 to Sept. 30)

Oct. 1 to May 20						May 21 to Sept. 30			
0.7	56	1.4	183	4.0	1,010	0.5	36	1.5	212
.8	70	1.7	251	6.0	1,810	.6	45	1.8	296
.9	87	2.0	332	8.0	2,730	.7	56	2.2	427
1.0	104	2.5	496	9.4	3,480	.8	70	4.0	1,060
						1.2	142	6.0	1,810

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110	134	319	2,990	513	581	288	666	1,130	297	175	91
2	108	143	375	2,540	445	479	275	615	881	280	168	174
3	63	135	302	2,030	384	392	289	683	776	275	163	97
4	99	133	232	1,730	435	332	261	717	654	430	188	65
5	146	125	202	1,310	479	301	278	666	548	458	162	116
6	131	138	282	975	581	377	217	632	424	437	150	195
7	152	108	286	905	683	383	183	615	478	1,210	135	214
8	156	80	260	853	649	319	159	905	436	988	148	108
9	119	162	213	717	683	303	148	1,230	378	601	139	95
10	95	213	220	649	734	315	152	940	376	724	103	117
11	96	255	281	632	1,350	564	144	870	434	584	101	68
12	106	255	261	564	1,150	819	223	888	377	566	95	123
13	113	262	248	462	1,120	940	205	870	364	413	160	152
14	126	257	250	372	1,150	1,190	205	819	357	374	164	117
15	130	234	189	391	975	1,310	244	700	557	295	137	118
16	207	264	168	496	734	1,470	259	564	548	225	173	142
17	147	276	140	683	632	1,850	462	615	601	349	92	164
18	224	436	162	700	547	1,680	425	700	1,020	278	106	91
19	245	408	130	700	496	1,900	632	751	952	238	85	139
20	160	377	154	530	581	2,210	1,150	751	988	186	90	160
21	137	470	150	547	802	1,730	1,120	1,530	916	200	68	124
22	276	479	156	547	888	1,430	1,040	1,280	758	224	63	119
23	292	496	168	496	905	1,230	1,040	1,100	618	134	124	103
24	254	496	158	547	1,230	940	870	952	496	183	118	94
25	244	479	133	870	1,230	785	700	916	407	182	85	60
26	251	425	202	836	1,010	649	615	828	314	220	82	80
27	233	378	630	666	836	564	530	706	274	143	113	43
28	227	341	1,640	615	666	455	768	636	347	177	60	72
29	153	324	a2,830	581	-	414	615	566	371	245	57	75
30	137	337	3,370	513	-	346	666	811	321	223	132	75
31	157	-	3,430	513	-	325	-	1,280	-	172	79	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,103	292	63	165		
November	8,620	496	80	287		
December	17,541	3,430	130	566		
Calendar year 1942	156,444	3,430	46	429		
January	26,960	2,990	372	870		
February	21,888	1,350	384	782		
March	26,583	2,210	301	858		
April	14,163	1,150	144	472		
May	25,802	1,530	564	832		
June	17,101	1,130	274	570		
July	11,311	1,210	134	365		
August	3,715	188	57	120		
September	3,391	214	43	113		
Water year 1942-43	182,178	3,430	43	499		

a No gage-height record; discharge computed on basis of records for station at Independence.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Cuyahoga River at Independence, Ohio

Location.- Water-stage recorder, lat. 41°23'44", long. 81°37'54", in T. 6 N., R. 12 W., at highway bridge 1 mile northeast of Independence. Datum of gage is 584.14 feet above mean sea level (levels by city of Cleveland).
Drainage area.- 709 square miles.
Records available.- September 1903 to July 1906, September 1921 to May 1923, September 1927 to December 1935, March 1940 to September 1943.
Average discharge.- 12 years (1921-22, 1927-35, 1940-43), 669 second-feet.
Extremes.- Maximum discharge during year, 8,550 second-feet Dec. 30 (gage height, 16.5 feet, from floodmark); minimum, 78 second-feet Sept. 27, 28 (gage height, 2.60 feet). 1921-23, 1927-35, 1940-43: Maximum discharge, 10,800 second-feet Jan. 19, 1929 (gage height, 18.9 feet); minimum, 14 second-feet Nov. 30, 1930; minimum combined discharge of river and canal, 48 second-feet Aug. 29, 1933.
Remarks.- Records good except those for periods of no gage height record, which are poor. A small amount of water from Tuscarawas River is diverted into this basin at Portage Lakes. Water diverted into Ohio Canal at Brecksville 6 miles above station bypasses station; measurements of canal made during water year 1942-43 are as follows:

Date	Second-feet	Date	Second-feet	Date	Second-feet
Nov. 6	51.1	Apr. 6	47.7	July 16	64.6
Feb. 11	53.3	May 15	52.1	Aug. 21	64.4
Mar. 15	54.2	June 16	66.0	Sept.21	68.5

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	180	404	648	f5,380	928	905	547	1,220	2,780	551	256	135
2	168	285	1,320	4,160	770	748	494	1,040	1,960	477	234	486
3	150	256	635	3,180	635	635	481	1,570	1,370	428	233	236
4	143	250	502	3,240	860	551	477	1,320	1,060	625	256	172
5	175	223	396	2,400	972	518	510	1,130	838	1,320	249	154
6	254	226	388	1,740	1,080	535	398	1,020	658	882	216	206
7	240	226	432	a1,500	1,270	638	313	928	770	680	214	538
8	234	193	384	a1,400	1,060	551	356	1,930	702	2,340	190	307
9	203	193	358	a1,200	1,040	498	316	2,560	593	1,130	203	200
10	187	1,120	316	a1,100	1,320	535	318	1,960	535	815	182	172
11	157	1,020	a350	a1,000	4,030	1,900	296	1,680	614	1,175	157	176
12	152	635	a450	a900	2,340	1,840	360	1,470	543	1,270	139	138
13	154	510	a400	a800	1,840	2,180	551	1,370	502	860	203	162
14	198	457	351	a700	1,650	2,120	551	1,220	469	551	658	196
15	245	381	316	a650	a1,500	2,180	551	1,060	702	539	248	156
16	620	388	282	a900	a1,200	3,600	1,020	950	1,470	409	201	178
17	351	428	250	a1,200	a950	5,760	2,400	1,130	4,350	391	220	238
18	337	1,450	a300	a1,600	815	3,120	1,320	2,120	1,840	680	152	214
19	351	972	a250	a1,200	725	3,300	1,520	1,790	1,620	381	152	155
20	282	770	a230	1,040	1,740	5,610	3,910	1,470	1,320	320	134	176
21	245	905	a240	882	2,450	3,180	2,400	3,190	1,220	276	136	206
22	502	905	a250	860	1,900	2,400	1,840	2,400	1,020	340	117	173
23	593	770	a300	815	2,400	1,960	1,620	1,790	770	245	102	170
24	436	1,130	388	1,320	1,960	1,620	1,370	1,420	658	223	228	159
25	358	950	351	3,120	2,010	1,270	1,110	1,420	547	282	158	140
26	351	748	469	1,790	1,620	1,080	1,060	1,320	412	302	135	121
27	337	614	2,840	1,320	1,270	950	972	1,080	487	273	150	115
28	316	518	a3,500	1,040	1,080	792	1,420	928	1,900	236	169	95
29	263	477	f5,020	905	-	680	1,570	815	1,270	374	109	126
30	210	535	f7,760	815	-	614	1,220	2,000	1,220	420	102	130
31	220	-	f7,340	815	-	593	-	3,000	-	362	159	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	8,612	620	143	278		
November	17,939	1,450	193	598		
December	37,016	7,760	230	1,194		
Calendar year 1942	290,182	7,760	83	795		
January	48,972	5,380	650	1,580		
February	41,445	4,030	635	1,480		
March	53,063	5,760	498	1,712		
April	31,273	3,910	296	1,042		
May	48,301	3,190	815	1,558		
June	34,200	4,350	412	1,140		
July	19,157	2,340	223	618		
August	6,062	658	102	196		
September	5,830	538	95	194		
Water year 1942-43	351,870	7,760	95	964		

Peak discharge.- Dec. 30 (8 p.m.) 8,550 sec.-ft.; Feb. 11 (6 a.m.) 5,160 sec.-ft.; Mar. 17 (3 a.m.) 7,340 sec.-ft.; Mar. 20 (4 a.m.) 6,570 sec.-ft.; Apr. 20 (4:30 a.m.) 5,020 sec.-ft.; June 17 (4 a.m.) 7,500 sec.-ft.
a No gage-height record; discharge computed on basis of weather records and records for station at Old Portage.
f Computed on basis of partly estimated gage-height record.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Chagrin River at Willoughby, Ohio

Location.- Water-stage recorder, lat. 41°37'51", long. 81°24'13", at city water works, 800 feet downstream from East Branch, 1 mile southeast of Willoughby, Lake County, and 5 miles upstream from mouth.
Drainage area.- 251 square miles.
Records available.- July 1925 to November 1935, October 1939 to September 1943.
Average discharge.- 14 years, 288 second-feet (not including diversion).
Extremes.- Maximum discharge during year, 8,160 second-feet Mar. 17 (gage height, 10.2 feet); minimum, 1.3 second-feet (regulated) Aug. 23 (gage height, 1.45 feet); minimum daily, 28 second-feet Sept. 29, 30.
1925-35, 1940-43: Maximum discharge, 20,500 second-feet June 26, 1931 (gage height, 9.90 feet, site and datum then in use); minimum daily, 3.0 second-feet July 25, 26, 1934.
Flood of Mar. 23, 1913, reached a stage of 17.3 feet, present datum, from floodmarks.
Remarks.- Records good except those for periods of ice effect, which are poor. Water diverted at dam just above station for municipal supply of city of Willoughby.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Apr. 21 to June 16, Sept. 27-30)

Oct. 1 to Dec. 27

1.9	41	2.6	205	4.5	1,440
2.0	57	2.8	275	5.0	1,920
2.1	75	3.0	360	6.0	2,870
2.2	96	3.5	640		
2.4	145	4.0	1,020		

Dec. 28 to Sept. 30

1.7	24	2.6	237	4.5	1,440
1.8	38	2.8	314	5.0	1,920
1.9	53	3.0	403	6.0	2,870
2.0	71	3.3	556	7.0	3,900
2.2	116	3.6	730	7.5	4,480
2.4	172	4.0	1,020		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	279	464	1,020	423	170	149	653	524	130	55	32
2	52	175	1,030	*712	278	150	135	442	702	92	44	76
3	49	218	315	567	206	140	127	804	348	75	41	78
4	51	212	250	1,060	622	130	119	508	248	250	55	42
5	66	163	210	616	738	130	116	362	188	493	58	38
6	106	148	190	400	660	150	109	331	182	267	52	47
7	101	148	180	350	642	250	102	263	742	152	41	139
8	73	130	169	300	300	250	116	850	524	194	38	106
9	61	118	175	275	275	210	111	1,000	302	149	35	57
10	54	1,140	h103	250	*751	200	102	508	217	114	35	86
11	52	1,140	a120	230	3,510	2,500	94	551	178	140	32	83
12	51	465	h151	220	700	1,220	149	503	149	114	31	42
13	56	279	h101	210	350	1,060	302	389	130	90	49	35
14	59	199	h120	200	225	918	282	302	116	79	165	32
15	128	160	*133	200	200	*736	200	248	154	67	79	31
16	190	151	120	300	180	2,000	260	256	682	64	48	41
17	196	229	110	900	170	3,710	1,110	417	4,290	58	41	47
18	240	1,410	105	601	160	851	472	676	1,040	67	41	50
19	169	736	100	428	150	866	750	598	406	58	38	41
20	128	390	95	375	700	1,970	2,170	389	227	48	34	37
21	110	370	95	350	1,820	622	880	998	172	46	32	35
22	354	421	90	325	823	385	498	642	121	105	31	35
23	360	268	125	300	530	302	357	403	109	73	29	35
24	212	786	175	350	590	267	294	302	86	60	48	31
25	145	588	250	2,400	483	244	256	461	77	55	50	31
26	125	338	400	814	318	217	318	442	65	50	42	34
27	115	244	2,500	450	234	197	390	310	62	44	46	31
28	96	196	4,240	350	200	169	989	248	1,320	42	48	30
29	88	205	2,770	300	-	149	493	133	490	79	41	28
30	81	258	4,310	250	-	155	691	293	217	114	35	28
31	96	-	2,390	230	-	158	-	413	-	77	31	-

Month	Observed				Diversion (mean sec.-ft.)†	Adjusted for diversion		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	3,723	360	49	120	1.48	121	0.482	0.56
November	11,564	1,410	118	386	1.48	386	1.54	1.72
December	21,586	4,310	90	696	1.45	697	2.78	3.20
Calendar year 1942	139,038	5,370	28	381	1.52	383	1.53	20.70
January	15,333	2,400	200	495	1.48	496	1.98	2.28
February	16,238	3,510	150	580	1.56	582	2.32	2.42
March	20,476	3,710	130	661	2.09	663	2.64	3.04
April	12,141	2,170	94	405	1.62	407	1.62	1.81
May	14,755	1,000	193	476	1.45	477	1.90	2.19
June	14,068	4,290	62	469	1.64	471	1.88	2.10
July	3,446	493	42	111	1.67	113	.450	.52
August	1,445	165	29	46.6	1.76	48.4	.193	.22
September	1,428	139	28	47.6	1.64	49.2	.196	.22
Water year 1942-43	136,203	4,310	28	373	1.61	375	1.49	20.28

Peak discharge.- Dec. 28 (5 a.m.) 4,980 sec.-ft.; Dec. 30 (2 p.m.) 6,310 sec.-ft.; Feb. 11 (3 a.m.) 6,030 sec.-ft.; Mar. 11 (5 a.m.) 4,850 sec.-ft.; Mar. 17 (12:30 a.m.) 8,160 sec.-ft.; June 17 (11 a.m.) 6,170 sec.-ft.
* Winter discharge measurement made on this day.
† Diversion for municipal supply of city of Willoughby.
a No gage-height record; discharge computed on basis of records for Grand River near Madison.
h Computed from staff-gage readings.
Note.- Stage-discharge relation affected by ice, Dec. 4-7, 14-27, Jan. 6-17, 20-25, 27-30, Feb. 8, 9, 12-20, Feb. 28 to Mar. 11.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Grand River near North Bristol, Ohio

Location.- Water-stage recorder, lat. 41°24'45", long. 80°54'45", at highway bridge, an eighth of a mile downstream from Center Creek and 2½ miles west of North Bristol, Trumbull County.

Drainage area.- 89.7 square miles.

Records available.- March 1942 to September 1943.

Extremes.- Maximum discharge during year, 2,500 second-feet June 17 (gage height, 13.0 feet, affected by backwater), from unit-hydrograph and recession curve studies; minimum, 3.3 second-feet Sept. 28 (gage height, 2.67 feet).
1942-43: Maximum discharge, that of June 17, 1943; minimum, that of Sept. 28, 1943.

Remarks.- Records good except those above 500 second-feet, which are fair, and those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1942-43, except periods of ice effect, and backwater from vegetation (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-15, July 17 to Sept. 6, Sept. 11-30)

2.6	2.8	3.3	21	5.5	119	9.0	435	11.8	1,110
2.7	4.5	3.8	40	6.0	150	10.0	590	12.0	1,350
2.8	6.5	4.4	64	7.0	222	11.0	790	12.5	2,350
3.0	12	5.0	90	8.0	314	11.5	955		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a7.8	51	104	546	95	50	19	230	86	20	11	5.3
2	7.5	107	421	264	105	41	17	143	96	14	8.2	5.9
3	7.2	68	a320	192	a65	33	17	240	70	11	7.5	5.7
4	6.7	44	a210	282	66	27	15	238	38	11	7.7	4.9
5	6.3	32	a90	408	210	25	14	104	24	132	8.2	5.1
6	8.4	25	a55	a340	175	28	15	62	18	140	7.9	5.1
7	11	22	a36	a250	250	90	14	45	45	68	7.0	6.1
8	7.7	19	29	a200	a220	a150	15	194	100	164	6.7	7.9
9	7.0	15	26	a150	*86	a150	16	1,020	34	116	5.3	6.1
10	7.0	56	*23	a110	120	a130	14	393	21	64	6.1	5.5
11	7.2	371	25	a85	1,160	250	14	230	16	518	5.3	5.1
12	6.5	192	27	*65	793	470	13	164	14	208	4.9	5.9
13	5.7	90	31	52	283	470	28	125	12	56	6.7	4.5
14	7.2	56	30	45	a140	350	48	72	12	26	10	5.9
15	32	38	25	44	a80	246	51	45	17	23	7.0	5.5
16	204	30	23	50	a50	368	77	35	490	17	4.5	5.5
17	493	34	21	300	a38	815	482	38	2,000	15	6.1	6.5
18	230	388	19	400	a32	*378	327	221	980	36	5.7	7.0
19	96	524	21	350	a30	150	236	336	254	17	5.1	5.7
20	49	238	20	a160	60	555	a1,550	134	72	13	4.3	4.3
21	31	150	20	a90	592	270	a570	298	36	11	4.9	4.2
22	48	255	22	a58	493	110	178	508	35	12	5.1	4.9
23	128	154	33	43	273	70	88	169	33	12	4.2	4.5
24	128	168	65	50	*397	52	56	66	26	10	6.5	4.0
25	70	293	110	350	404	43	40	110	17	9.2	7.9	4.3
26	39	174	150	450	154	36	40	293	14	8.4	5.7	4.2
27	32	88	550	a300	79	32	44	154	12	7.9	5.5	4.0
28	25	56	*1,630	a110	64	26	243	66	13	9.7	6.1	3.8
29	20	41	*1,550	a60	-	22	150	40	55	24	5.7	4.5
30	18	50	1,770	41	-	20	131	35	28	40	4.5	4.5
31	16	-	*1,460	43	-	21	-	79	-	18	4.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,762.2	493	5.7	56.8	0.633	0.73
November	3,829	524	15	128	1.43	1.60
December	8,916	1,770	19	288	3.21	3.70
Calendar year	-	-	-	-	-	-
January	5,887	545	41	190	2.12	2.44
February	6,517	1,160	30	233	2.60	2.71
March	5,478	815	20	177	1.97	2.27
April	4,522	1,550	13	151	1.68	1.87
May	5,887	1,020	35	190	2.12	2.44
June	4,668	2,000	12	156	1.74	1.94
July	1,831.2	518	7.9	59.1	.659	.76
August	195.8	11	4.3	6.32	.070	.08
September	156.4	7.9	3.8	5.21	.058	.06
Water year 1942-43	49,649.6	2,000	3.8	136	1.52	20.60

Peak discharge.- Dec. 28 (2 p.m.) 2,150 sec.-ft.; Dec. 30)10 p.m.) 1,950 sec.-ft.; Feb. 11 (4 p.m.) 1,550 sec.-ft.; May 9 (8 a.m.) 1,350 sec.-ft.; June 17 (12 m.) 2,500 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for stations near Madison and near Rome.
Note.- Stage-discharge relation affected by ice Dec. 8-26, Jan. 12-19, 23-26, Jan. 30 to Feb. 10, Feb. 20, Feb. 28 to Mar. 7, Mar. 11-14.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

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Grand River near Rome, Ohio

Location.- Water-stage recorder, lat. 41°36'20", long. 80°53'40", at bridge on U. S. Highway 6, 2¼ miles upstream from Mud Creek and 2½ miles west of Rome, Ashtabula County.

Drainage area.- 276 square miles.

Records available.- March 1942 to September 1943.

Extremes.- Maximum discharge during year, 4,530 second-feet Dec. 31 (gage height, 20.0 feet); minimum, 7.2 second-feet Sept. 27 (gage height, 1.12 feet).
1942-43: Maximum discharge, that of Dec. 31, 1942; minimum, that of Sept. 27, 1943.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	72	219	3,640	260	200	74	605	153	a200	45	11
2	23	113	497	2,640	350	170	70	590	235	a90	29	10
3	21	165	506	1,530	300	140	62	605	264	a50	21	10
4	19	191	536	1,080	350	120	55	605	200	52	20	10
5	20	*151	506	a1,200	740	110	52	515	128	212	19	11
6	22	110	341	a1,100	760	100	51	350	85	284	19	11
7	24	84	227	a800	780	120	46	217	466	249	18	13
8	29	72	172	a650	660	190	46	398	1,000	204	16	13
9	30	62	144	a580	*530	250	48	1,060	800	274	15	14
10	25	145	119	a500	450	250	50	1,080	284	254	15	13
11	21	536	113	a450	1,600	850	46	1,430	136	784	14	12
12	18	536	119	a370	a2,500	1,200	45	1,260	85	605	13	11
13	17	450	125	310	a2,000	1,500	67	760	64	515	14	9.7
14	18	330	119	270	a1,500	1,640	109	427	51	338	18	9.3
15	22	203	113	260	a550	1,430	118	254	43	153	27	9.5
16	134	134	107	250	a300	1,430	122	172	129	82	25	9.5
17	450	119	98	500	a210	2,160	411	160	910	58	18	9.9
18	478	486	88	840	a170	*1,820	575	305	1,970	45	15	10
19	437	736	80	900	a150	1,460	751	427	2,680	44	14	11
20	319	649	70	a650	200	1,560	1,970	545	2,190	47	13	11
21	191	600	64	a400	900	1,200	1,820	665	1,230	35	13	11
22	154	520	75	a300	1,000	920	1,700	680	650	32	12	9.5
23	211	413	100	a270	1,000	560	1,160	650	362	35	12	8.4
24	243	437	170	a300	*1,050	305	530	590	160	37	13	7.e
25	227	506	260	a1,100	1,000	204	244	387	97	32	14	8.0
26	176	464	330	a1,300	750	164	168	413	70	28	15	7.8
27	122	401	828	a800	550	139	168	470	a60	25	16	7.4
28	89	278	2,460	a450	320	118	311	400	a140	23	16	7.8
29	72	191	3,150	a260	-	100	515	235	a450	22	15	8.0
30	59	172	4,030	a200	-	85	485	153	a400	34	14	7.6
31	52	-	*4,380	a190	-	80	-	139	-	48	13	-

Month	Second-feet-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,752	478	17	121	0.438	0.50
November	9,326	736	62	311	1.13	1.26
December	20,146	4,380	64	650	2.36	2.72
Calendar year	-	-	-	-	-	-
January	24,090	3,640	190	777	2.82	3.25
February	20,930	2,500	150	748	2.71	2.82
March	20,575	2,160	80	664	2.41	2.78
April	11,869	1,970	45	396	1.43	1.60
May	16,547	1,430	139	534	1.93	2.22
June	15,492	2,680	43	516	1.87	2.09
July	4,891	784	22	158	.572	.66
August	541	45	12	17.5	.063	.07
September	302.2	14	7.4	10.1	.037	.04
Water year 1942-43	148,461.2	4,380	7.4	407	1.47	20.01

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for other stations in upper Grand River Basin.
Note.- Stage-discharge relation affected by ice Dec. 18-26, Jan. 13-17, Feb. 1-11, Feb. 20 to Mar. 13.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Grand River near Madison, Ohio

Location.- Water-stage recorder, lat. 41°44'26", long. 81°02'48", at highway bridge, half a mile upstream from Griswold Creek and 2 miles south of Madison, Lake County. Datum of gage is 674.47 feet above mean sea level, adjustment of 1912.
Drainage area.- 587 square miles.
Records available.- July 1922 to December 1935, February 1938 to September 1943.
Average discharge.- 18 years, 629 second-feet.
Extremes.- Maximum discharge during year, 8,900 second-feet Dec. 31 (gage height, 9.67 feet); minimum, 8.6 second-feet Sept. 30 (gage height, 0.92 foot).
1922-35, 1938-43: Maximum discharge, 16,400 second-feet Jan. 19, 1929 (gage height, 12.0 feet); practically no flow July 31, Aug. 1-2, 1934.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 20				Apr. 21 to Sept. 30					
1.2	24	3.5	670	0.9	7.6	1.S	110	5.0	1,610
1.3	32	4.0	940	1.0	13	2.0	147	6.0	2,590
1.4	40	5.0	1,610	1.1	20	2.3	216	6.5	3,170
1.6	62	6.0	2,590	1.2	2e	2.6	300	7.0	3,850
1.8	88	6.5	3,170	1.3	39	3.0	434	8.0	5,430
2.0	125	7.0	3,850	1.4	51	3.5	650	9.0	7,280
2.3	200	S.0	5,430	1.6	78	4.0	930	9.4	S,160
2.6	300	9.0	7,280						
3.0	460								

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	197	820	*6,490	600	480	148	1,650	442	263	58	15
2	40	356	2,160	4,600	800	364	132	1,320	560	160	65	15
3	33	550	1,650	3,050	700	300	119	1,530	900	110	50	14
4	31	820	1,000	2,480	900	270	107	1,500	582	101	40	24
5	32	580	620	2,010	2,000	250	100	990	560	158	32	20
6	39	388	g500	1,570	2,100	300	87	675	316	308	27	16
7	40	282	g460	1,390	2,160	500	87	458	1,000	394	23	20
8	41	218	g392	1,150	1,320	600	91	873	2,420	316	23	14
9	40	173	g328	1,000	1,030	500	75	2,990	1,460	297	23	13
10	41	668	g293	910	*1,220	400	81	2,010	675	433	22	16
11	38	2,210	*g279	770	5,660	1,500	81	2,010	350	3,660	20	20
12	30	1,610	364	620	4,760	2,870	98	2,420	214	2,420	20	17
13	25	1,060	392	a550	2,590	3,290	125	1,610	151	1,050	19	15
14	25	745	320	a500	1,600	3,850	237	930	123	628	18	13
15	39	480	308	a500	a900	3,050	282	538	90	373	16	12
16	987	328	340	580	a500	3,440	344	380	92	211	16	13
17	2,070	360	320	1,180	a450	6,400	1,440	408	256	134	30	16
18	1,280	2,200	300	1,730	a400	3,550	1,360	548	1,600	107	27	14
19	910	2,760	280	1,610	a500	*2,260	1,580	1,180	2,590	74	20	13
20	645	1,610	260	1,200	680	3,170	6,210	1,140	2,930	71	19	13
21	456	1,280	250	900	2,260	2,370	4,360	2,080	2,110	74	17	12
22	520	1,280	250	750	2,370	1,460	2,590	2,880	1,050	63	16	12
23	645	940	350	700	1,860	1,030	1,860	1,320	628	50	16	12
24	580	1,260	500	700	2,160	645	1,080	930	360	46	17	12
25	480	1,820	700	1,600	2,260	448	538	755	201	55	16	11
26	372	1,280	1,000	2,300	1,500	352	394	700	138	50	16	10
27	272	940	2,640	1,500	1,060	293	533	755	110	41	17	10
28	186	645	7,480	*1,100	720	244	1,360	650	74	36	16	9.5
29	141	500	7,480	800	-	206	1,020	470	298	36	15	9.5
30	117	520	7,700	600	-	173	1,080	331	419	33	15	9.0
31	107	-	8,160	500	-	158	-	466	-	35	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	10,304	2,070	25	332	0.566	0.65
November	28,090	2,760	173	936	1.59	1.77
December	47,896	8,160	250	1,545	2.63	3.03
Calendar year 1942	334,516	9,040	19	916	1.56	21.16
January	45,340	6,490	500	1,463	2.49	2.87
February	45,060	5,660	400	1,609	2.74	2.85
March	44,923	6,300	158	1,449	2.47	2.85
April	27,599	6,210	75	920	1.57	1.75
May	36,797	2,990	331	1,187	2.02	2.33
June	22,699	2,930	74	757	1.29	1.44
July	11,787	3,660	33	380	.647	.75
August	745	65	15	24.0	.041	.05
September	420.0	24	9.0	14.0	.024	.03
Water year 1942-43	321,660.0	S,160	9.0	881	1.50	20.37

Peak discharge.- Dec. 28 (11 p.m.) S,650 sec.-ft.; Dec. 31 (4 a.m.) 8,900 sec.-ft.; Feb. 11 (8 p.m.) 7,080 sec.-ft.; Mar. 17 (10 a.m.) 6,680 sec.-ft.; Apr. 20 (4 p.m.) 6,880 sec.-ft.; July 11 (2 p.m.) 4,760 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations on nearby streams.
g Computed from graph based on gage readings.
Note.- Stage-discharge relation affected by ice Dec. 17-26, Jan. 20 to Feb. 6, Feb. 14, Mar. 3-11.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Phelps Creek near Windsor, Ohio

Location.- Water-stage recorder, lat. 41°30'55", long. 80°56'05", at bridge on State Highway 534, 1.4 miles south of Windsor, Ashtabula County, and 1½ miles upstream from mouth.
Drainage area.- 26.4 square miles.
Records available.- March 1942 to September 1943.
Extremes.- Maximum discharge during year, 1,400 second-feet Feb. 11 (gage height, 7.3 feet); from rating curve extended above 840 second-feet; no flow Aug. 20, 21.
1942-43: Maximum discharge, 1,500 second-feet Aug. 2, 1942 (gage height, 7.6 feet), from rating curve extended above 840 second-feet; no flow Aug. 20, 21, 1943.
Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-15, Oct. 24 to Nov. 9, Jan. 2, 3, 6-12, July 21 to Sept. 30)

Oct. 1 to Apr. 19

0.4	0.8	1.5	43
.5	1.5	1.7	61
.6	2.5	1.9	84
.7	3.9	2.1	113
.8	6.0	2.5	185
.9	9.4	3.0	294
1.0	14	4.0	516
1.3	30	5.0	749

Apr. 20 to Sept. 30

0.25	0	0.9	8.6
.3	.2	1.0	14
.4	.8	1.2	25
.5	1.4	1.5	48
.6	2.2	1.8	78
.7	3.3	2.0	103
.8	4.9	2.3	148

Note.- Same as preceding table above 2.3 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	17	28	80	56	14	5.2	110	14	14	1.4	0.6
2	1.1	15	b66	48	40	13	4.5	42	42	8.6	1.1	.7
3	1.1	16	b22	45	21	10	4.1	115	26	6.4	1.1	.7
4	1.2	18	21	116	b180	11	3.9	46	9.6	14	1.1	1.0
5	1.5	11	15	74	219	9.4	3.9	25	4.7	74	1.1	1.2
6	2.6	8.4	12	55	166	11	3.6	18	3.9	25	1.1	1.2
7	3.8	7.7	11	46	69	17	3.5	14	340	10	1.2	1.4
8	2.9	6.3	10	38	28	28	3.5	257	138	27	1.2	1.4
9	1.9	5.4	9.4	36	28	26	3.6	123	23	15	.8	1.2
10	1.8	162	9.1	36	216	25	3.6	38	9.6	5.6	.6	1.2
11	1.7	187	9.9	34	594	b500	3.2	65	5.3	16	.1	1.0
12	1.7	39	14	31	52	179	4.5	116	3.5	16	.1	.9
13	1.9	23	12	a25	31	237	16	38	2.9	4.9	.6	.9
14	2.3	14	9.9	a24	16	158	17	19	2.4	4.1	1.5	.8
15	4.7	9.1	9.9	a24	15	104	11	16	6.7	3.8	.9	.7
16	209	9.9	10	a30	11	376	17	15	92	3.0	.5	.8
17	92	16	10	a80	8.7	398	110	28	606	2.6	.3	.7
18	32	306	9.9	a110	7.0	50	33	62	76	2.2	.2	.6
19	20	74	9.4	a70	6.7	146	203	46	22	2.0	.1	.6
20	16	32	9.9	a50	b235	237	401	26	7.5	1.9	0	.6
21	7.4	29	11	a30	370	37	a45	116	4.1	1.8	0	.6
22	22	32	12	a18	80	24	a25	55	3.0	1.8	.1	.6
23	45	20	27	a15	57	16	a18	23	2.3	2.1	.2	.6
24	22	53	58	a25	122	12	14	103	2.0	2.2	.5	.6
25	12	52	55	a160	49	11	9.1	44	1.9	2.0	.3	.6
26	8.0	27	61	a80	26	9.4	11	48	1.8	1.8	.2	.6
27	6.7	19	b430	31	15	8.7	23	20	56	1.6	.9	.4
28	5.4	12	749	16	16	7.0	118	11	112	1.5	.6	.4
29	4.7	12	393	11	-	5.8	40	6.0	38	1.8	.8	.4
30	4.3	19	579	10	-	5.8	66	4.9	20	2.0	.7	.4
31	4.5	-	176	11	-	5.8	-	13	-	1.6	.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	542.4	209	1.1	17.5	0.663	0.76
November	1,251.8	306	5.4	41.7	1.58	1.76
December	2,859.4	749	9.1	92.2	3.49	4.02
Calendar year	-	-	-	-	-	-
January	1,459	160	10	47.1	1.78	2.05
February	2,736.4	594	6.7	97.7	3.70	3.85
March	2,691.9	500	5.8	86.8	3.29	3.79
April	1,224.2	401	3.2	40.8	1.55	1.73
May	1,662.9	257	4.9	53.6	2.03	2.34
June	1,676.2	606	1.8	55.9	2.12	2.36
July	276.3	74	1.5	8.91	.338	.39
August	20.0	1.5	0	.65	.025	.03
September	23.4	1.4	.4	.78	.030	.03
Water year 1942-43	16,423.9	749	0	45.0	1.70	23.11

Peak discharge.- Dec. 28 (4 a.m.) 1,120 sec.-ft.; Dec. 30 (2 p.m.) 922 sec.-ft.; Feb. 11 (2 a.m.) 1,400 sec.-ft.; Mar. 17 (12:30 a.m.) 948 sec.-ft.; Apr. 20 (1 a.m.) 948 sec.-ft.; June 17 (3:30 a.m.) 1,200 sec.-ft.
a No gage-height record; discharge computed on basis of weather records and records for Grand River near North Bristol and Rome.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard time, subract 1 hour.

Rock Creek near Rock Creek, Ohio

Location.- Water-stage recorder, lat. 41°39'05", long. 80°50'10", at highway bridge, 0.4 mile downstream from Plum Creek, 1.4 miles southeast of village of Rock Creek, Ashtabula County, 1½ miles downstream from Sugar Creek, and 3 miles upstream from mouth.
Drainage area.- 56.6 square miles.
Records available.- March 1942 to September 1943.
Extremes.- Maximum discharge during year, 1,770 second-feet Feb. 11 (gage height, 5.3 feet); no flow Aug. 12, 13, Sept. 3, 22-30.
1942-43: Maximum discharge, 2,930 second-feet May 16, 1942 (gage height, 6.60 feet); no flow Aug. 12, 13, Sept. 3, 22-30, 1943.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 17-19)

Oct. 1 to Dec. 29

0.3	0.5	1.0	30	2.3	197
.4	2.3	1.2	46	2.6	281
.5	4.5	1.4	65	3.0	430
.6	6.9	1.6	86	3.5	675
.7	12	1.8	112	4.0	945
.9	24	2.0	142	4.6	1,290

Dec. 30 to Sept. 30

0.1	0	0.8	20
.2	.1	1.0	33
.3	.9	1.2	50
.4	3.3	1.6	94
.5	6.5	1.9	133
.6	10	2.2	181

Note.- Same as preceding table above 2.5 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	75	190	470	110	35	12	181	27	25	1.3	0.1
2	2.7	67	525	266	120	30	11	86	47	13	.9	.1
3	2.3	62	157	171	80	21	9.5	167	39	8.0	.6	0
4	2.3	*62	96	360	110	18	8.7	123	21	13	.9	.5
5	2.1	44	55	284	250	16	8.4	59	13	41	.7	1.3
6	3.2	32	34	219	220	20	7.6	38	a9.1	58	.5	.7
7	3.2	27	29	153	160	57	6.9	27	a80	27	.4	1.1
8	4.5	20	25	115	100	75	6.9	336	a475	16	.3	.6
9	a4.6	19	23	105	*90	44	7.2	484	a150	18	.2	.5
10	a4.1	185	22	94	150	35	6.9	172	a60	14	.1	.4
11	3.6	307	24	a84	1,260	310	5.9	262	a20	801	.1	.3
12	3.0	134	44	*a75	371	350	6.9	210	a13	354	0	.4
13	3.0	73	30	66	164	480	19	105	9.1	54	0	.5
14	3.2	48	25	60	60	297	26	54	7.2	20	.1	.5
15	4.1	33	23	60	40	232	20	33	6.9	11	.1	.3
16	180	26	20	80	32	594	33	25	8.7	7.6	.5	.2
17	142	44	18	334	25	780	220	37	108	5.9	1.7	.3
18	91	569	17	327	21	244	96	125	224	4.6	1.5	.3
19	51	291	15	240	19	*220	232	99	109	3.9	.6	.2
20	32	139	14	148	60	489	1,040	66	49	3.3	.3	.1
21	26	121	a13	114	450	167	348	584	31	2.8	.2	.1
22	64	105	*a17	88	290	86	130	318	33	2.2	.1	0
23	85	69	a40	53	200	54	69	101	46	2.0	.1	0
24	55	306	a100	76	*297	39	39	52	21	2.0	.2	0
25	36	262	a160	550	216	32	27	55	12	2.2	.4	0
26	26	128	a170	380	94	27	25	125	7.6	1.7	.5	0
27	22	75	a650	190	61	23	39	73	5.9	1.5	.5	0
28	18	50	*1,260	75	50	19	95	39	19	1.1	.4	0
29	15	47	1,000	40	-	16	78	24	106	1.5	.2	0
30	12	76	1,140	32	-	14	78	20	83	2.0	.1	0
31	14	-	918	33	-	14	-	24	-	1.5	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	918.1	180	2.1	29.6	0.523	0.60
November	3,496	569	19	117	2.07	2.31
December	6,854	1,260	13	221	3.90	4.50
Calendar year	-	-	-	-	-	-
January	5,342	550	32	172	3.04	3.50
February	5,090	1,260	19	182	3.22	3.35
March	4,838	780	14	156	2.76	3.18
April	2,711.9	1,040	5.9	90.4	1.60	1.78
May	4,104	584	20	132	2.33	2.69
June	1,840.5	475	5.9	61.4	1.08	1.20
July	1,518.8	801	1.1	49.0	.866	1.00
August	13.6	1.7	0	.44	.0078	.009
September	8.5	1.3	0	.28	.0049	.005
Water year 1942-43	36,735.4	1,260	0	101	1.78	24.12

Peak discharge.- Dec. 28 (9 a.m.) 1,490 sec.-ft.; Dec. 30 (6 p.m.) 1,700 sec.-ft.; Feb. 11 (5 a.m.) 1,770 sec.-ft.; Mar. 17 (2 a.m.) 1,260 sec.-ft.; Apr. 20 (2:30 a.m.) 1,560 sec.-ft.; July 11 (12 m.) 1,260 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for other stations in upper Grand River Basin.
Note.- Stage-discharge relation affected by ice Dec. 5, 7-10, 12-20, Jan. 8, 9, 13-16, Jan. 25 to Feb. 10, 14-23, Feb. 28 to Mar. 5, 11-13.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Mill Creek near Jefferson, Ohio

Location.- Water-stage recorder, lat. 41°45'10", long. 80°48'00", at bridge on State Highway 307, 1¾ miles northwest of Jefferson, Ashtabula County, and 3½ miles downstream from Griggs Creek.
Drainage area.- 78.3 square miles.
Records available.- March 1942 to September 1943.
Extremes.- Maximum discharge during year, 3,000 second-feet Dec. 28 (gage height, 7.9 feet); no flow Aug. 10 to Sept. 6, Sept. 8-30.
1942-43: Maximum discharge, 5,900 second-feet May 16, 1942 (gage height, 9.5 feet); no flow at times.
Remarks.- Records fair except those for rapidly rising stages and those for periods of ice effect or no gage-height record, which are poor.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 16-28, Nov. 1-18, May 17, 19, 20, May 23 to June 7, June 9-28, July 2-10, 13-25)

Oct. 1 to Dec. 28

0.7	0.1	1.3	6.7
.8	.4	1.4	10
.9	.9	1.5	20
1.0	1.6	1.6	36
1.1	2.7	1.8	58
1.2	4.3	2.2	96

Note.- Same as following table above 2.2 feet.

Dec. 29 to Sept. 30

0.7	0	1.4	21	4.0	451
.8	.6	1.8	54	5.0	812
.9	1.6	2.2	96	6.0	1,320
1.0	3.2	2.5	135	7.0	2,000
1.1	5.5	3.0	215	7.5	2,510
1.2	9.3	3.3	275		
1.3	14	3.6	344		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	62	154	408	119	26	7.4	320	102	0.3	0.8	0
2	.1	101	564	a225	167	21	6.6	153	186	2.6	.5	0
3	.1	169	283	a165	96	15	5.9	352	252	3.4	.5	0
4	.1	*230	175	254	234	12	5.3	218	108	4.6	.5	0
5	.1	122	134	270	530	11	5.5	99	144	15	.4	0
6	.2	82	95	220	344	12	4.8	57	57	47	.2	0
7	.1	70	78	178	286	22	4.6	41	157	33	.2	.3
8	.1	59	69	142	95	28	4.6	282	408	15	.2	0
9	.1	52	62	125	*82	30	4.1	549	124	9.3	.1	0
10	.1	161	52	105	220	32	4.1	156	48	135	0	0
11	.1	451	56	88	1,970	500	3.4	216	30	880	0	0
12	.1	214	84	74	344	450	5.0	176	19	387	0	0
13	.1	110	70	*64	183	600	15	105	13	102	0.	0
14	.1	77	60	58	80	510	40	58	8.2	43	0	0
15	.4	52	50	56	55	356	42	35	5.5	18	0	0
16	300	43	45	90	40	751	70	27	5.3	7.8	0	0
17	160	87	40	284	33	1,310	481	41	4.8	5.5	0	0
18	105	752	38	344	28	245	206	190	4.8	4.1	0	0
19	82	510	35	267	24	*126	445	171	22	2.9	0	0
20	63	179	33	195	100	472	2,200	173	14	2.1	0	0
21	52	158	35	125	639	168	385	874	7.4	1.9	0	0
22	81	165	40	76	332	78	152	464	7.0	1.4	0	0
23	102	104	60	55	236	50	81	115	5.5	1.1	0	0
24	91	266	160	64	293	35	48	56	4.8	1.0	0	0
25	74	297	210	729	*232	27	33	46	3.9	.9	0	0
26	61	165	a260	635	92	23	37	69	2.6	.8	0	0
27	51	99	a850	226	48	18	103	65	1.6	.5	0	0
28	43	68	2,510	105	43	13	353	43	1.1	.3	0	0
29	38	62	1,140	59	-	10	156	31	.8	.4	0	0
30	30	88	1,520	42	-	8.9	166	81	.4	.4	0	0
31	27	-	960	39	-	8.2	-	252	-	.9	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,361.9	300	0.1	43.9	0.561	0.65
November	5,055	752	43	168	2.15	2.40
December	9,922	2,510	33	320	4.09	4.72
Calendar year	-	-	-	-	-	-
January	5,769	729	39	186	2.38	2.74
February	6,945	1,970	24	248	3.17	3.30
March	5,968.1	1,310	8.2	193	2.46	2.84
April	5,076.3	2,200	3.4	169	2.16	2.41
May	5,515	874	27	178	2.27	2.62
June	1,747.7	408	.4	58.3	.745	.83
July	1,727.2	880	.3	55.7	.711	.82
August	3.4	.8	0	.11	.0014	.002
September	.3	.3	0	.01	.00013	.0001
Water year 1942-43	49,090.9	2,510	0	134	1.71	23.33

Peak discharge.- Dec. 28 (11 a.m.) 3,000 sec.-ft.; Dec. 30 (4 p.m.) 2,000 sec.-ft.; Feb. 11 (12 m.) 2,740 sec.-ft.; Mar. 17 (1:30 a.m.) 2,090 sec.-ft.; Apr. 20 (8:30 a.m.)2,620 sec.-ft.; May 21 (6 p.m.) 1,760 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Rock Creek near Rock Creek.
Note.- Stage-discharge relation affected by ice Dec. 13-25; Jan. 5, 6, 9-16, Feb. 8-10, 14-20, Mar. 1-14.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Ashtabula River near Ashtabula, Ohio

Location.- Water-stage recorder, lat. 41°51'19", long. 80°45'43", at highway bridge, 1 mile upstream from Hubbard Run, 1¼ miles southeast of Ashtabula, Ashtabula County, and 5¼ miles upstream from mouth.
Drainage area.- 118 square miles.
Records available.- July 1924 to December 1935, March 1939 to September 1943.
Average discharge.- 15 years, 140 second-feet.
Extremes.- Maximum discharge during year, 3,930 second-feet Dec. 28; no flow Sept. 25-30.
1924-35, 1939-43: Maximum discharge, 10,800 second-feet May 16, 1942 (gage height, 9.67 feet); no flow at times during 1925-35, 1939-43.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor.
Revisions.- Revised figures of discharge, in second-feet, for low-water periods in the water year 1942, superseding those published in Water-Supply Paper 954, are given herein:

June 9...	15	Aug. 22...	7.0	Sept. 2...	2.1	Sept. 14...	2.9
10...	12	23...	7.0	3...	2.4	15...	2.4
21...	17	24...	6.5	4...	3.3	16...	2.1
28...	18	25...	8.4	5...	2.4	17...	1.6
29...	12	26...	10	6...	1.9	18...	1.4
30...	15	27...	8.4	7...	1.9	19...	1.4
July 16...	18	28...	7.0	8...	12	27...	9.8
Aug. 7...	15	29...	5.4	9...	10	28...	18
19...	14	30...	4.3	10...	16	29...	13
20...	11	31...	3.3	12...	5.4	30...	12
21...	9.1	Sept. 1...	2.6	13...	4.3		

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
June	3,921	1,090	12	131	1.11	1.24
July	9,293	4,740	18	300	2.54	2.93
August	1,865.4	471	3.3	60.2	.510	.59
September	160.8	18	1.4	5.36	.045	.05
Water year 1941-42	70,150.7	5,000	0	192	1.63	22.09

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	181	315	562	150	80	31	555	262	1.8	2.4	0.1
2	6.5	227	1,030	231	175	65	28	242	350	1.4	4.0	.1
3	4.8	316	216	193	150	55	24	478	321	1.2	3.6	.1
4	4.3	402	150	305	200	50	21	373	152	27	4.4	.4
5	5.9	178	125	396	450	50	20	182	286	37	3.6	.5
6	17	93	110	305	350	60	20	96	96	48	2.6	.5
7	18	75	98	189	422	150	20	72	273	29	2.1	1.2
8	15	62	91	139	157	150	18	367	520	16	1.6	.8
9	15	51	80	123	100	80	17	895	171	10	1.6	.5
10	11	429	77	115	*296	60	16	299	67	10	1.8	.5
11	9.1	805	62	93	2,300	900	15	431	38	207	1.6	1.2
12	8.4	290	93	85	470	703	18	361	27	218	1.2	.8
13	9.1	149	91	*80	224	895	49	208	20	78	1.2	.4
14	9.8	91	68	75	109	769	150	114	15	32	1.8	.2
15	30	57	*83	75	a80	559	131	69	13	20	1.4	.1
16	860	50	75	90	a65	961	118	53	14	11	1.0	.5
17	799	109	70	300	a55	1,780	748	48	12	7.4	.8	.7
18	240	1,400	65	400	a50	434	400	285	13	5.7	.8	.8
19	112	654	60	350	a45	*197	500	338	18	4.8	.7	.5
20	62	210	55	250	a150	606	2,500	321	20	3.6	.5	.4
21	45	189	50	180	1,040	340	643	1,240	11	2.9	.7	.4
22	91	240	50	140	488	189	257	731	7.9	5.7	.7	.1
23	146	118	70	120	346	127	128	232	6.3	4.8	.5	.1
24	123	286	100	110	483	97	75	103	4.8	5.2	.8	.1
25	64	362	150	1,200	*390	81	57	72	4.0	4.8	.7	0
26	45	193	200	809	179	71	78	100	3.6	4.4	.7	0
27	41	112	900	329	109	62	328	103	2.9	3.2	.5	0
28	42	73	3,280	179	100	49	1,120	72	2.4	2.6	.5	0
29	50	68	1,730	109	-	36	384	48	2.4	2.6	.5	0
30	48	126	2,240	76	-	31	318	140	2.1	2.9	.4	0
31	41	-	1,330	60	-	29	-	522	-	2.1	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,982.0	860	4.3	96.2	0.815	0.94
November	7,596	1,400	50	253	2.14	2.39
December	13,114	3,280	50	423	3.58	4.13
Calendar year 1942	89,578.9	5,000	1.4	245	2.08	28.21
January	7,668	1,200	60	247	2.09	2.41
February	9,133	2,300	45	326	2.76	2.97
March	9,716	1,780	29	313	2.65	3.06
April	8,232	2,500	15	274	2.32	2.59
May	9,150	1,240	48	295	2.50	2.88
June	2,735.4	520	2.1	91.2	.773	.86
July	810.1	218	1.2	26.1	.221	.25
August	44.9	4.4	.2	1.45	.012	.01
September	11.0	1.2	0	.37	.0031	.003
Water year 1942-43	71,192.4	3,280	0	195	1.65	22.39

Peak discharge.- Dec. 28 (12 m.) 3,930 sec.-ft.; Dec. 30 (9 p.m.) 3,090 sec.-ft.; Jan. 25 (2 p.m.) 2,550 sec.-ft.; Feb. 11 (10 a.m.) 3,590 sec.-ft.; Apr. 20 (8 a.m.) 3,700 sec.-ft.; May 21 (3 p.m.) 2,550 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Grand River near Madison and other nearby stations.
Note.- Stage-discharge relation affected by ice, Dec. 4-6, 15-27, Jan. 12-25, Feb. 1-6, 9, Feb. 28 to Mar. 11.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Cattaraugus Creek at Gowanda, N. Y.

Location.- Water-stage recorder, lat. 42°27'50", long. 78°56'10", at Gowanda, Erie County, 380 feet downstream from highway bridge, 600 feet downstream from powerhouse of Niagara, Lockport, & Ontario Power Co., and 4.2 miles downstream from South Branch.

Drainage area.- 428 square miles.

Records available.- November 1939 to September 1943.

Extremes.- Maximum discharge during year, 16,800 second-feet Dec. 30 (gage height, 9.72 feet), from rating curve extended above 6,500 second-feet by logarithmic plotting; minimum, 18 second-feet (regulated) Sept. 23 (gage height, 1.26 feet); minimum daily, 112 second-feet (regulated) Sept. 27, 29.
1939-43: Maximum discharge, 35,900 second-feet Mar. 17, 1942 (gage height, 13.73 feet), from rating curve extended above 6,500 second-feet by logarithmic plotting; minimum, 6 second-feet (regulated) Aug. 21, 1941 (gage height, 1.01 feet); minimum daily, 53 second-feet (regulated) Sept. 19, 1941.

Remarks.- Records good except those for periods of ice effect or doubtful gage-height record, which are fair. Flow regulated by municipal power plant and several industrial plants above station. Diurnal fluctuation at low and medium stages

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	160	5,000	900	*2,200	858	b720	1,080	4,500	2,410	311	193	146
2	149	1,700	1,700	1,480	653	b600	946	2,250	3,550	288	174	159
3	145	1,040	800	1,230	558	b520	860	2,310	1,560	279	238	152
4	135	780	900	b1,080	*1,250	b470	805	2,470	1,060	384	563	149
5	139	560	1,000	b840	1,780	b520	884	1,650	1,540	454	348	188
6	157	470	910	b760	1,780	b500	744	1,200	840	351	249	182
7	172	400	840	b680	b1,400	b450	647	1,080	961	298	201	164
8	150	350	b720	b640	b780	b380	646	3,340	1,170	292	179	153
9	135	310	b640	b560	b760	b320	652	3,500	776	252	175	142
10	132	800	b580	b620	1,000	b450	595	1,820	641	255	201	137
11	126	2,040	*b620	b580	2,880	b1,020	516	4,240	576	251	182	148
12	120	1,090	b640	b540	1,430	b2,300	527	3,680	520	305	158	139
13	120	1,600	554	b520	b1,000	1,870	759	1,950	2,310	276	155	124
14	130	984	481	b520	b800	1,520	701	1,390	892	390	190	129
15	250	692	b520	b560	b700	1,97	588	1,080	1,050	276	148	118
16	400	805	b450	b620	b620	5,800	545	916	2,150	213	182	144
17	900	980	b380	b700	b560	5,810	1,090	898	1,210	211	308	161
18	410	3,500	b340	b640	b520	2,170	926	961	1,230	217	243	153
19	250	1,760	b320	b520	b800	1,480	2,070	1,050	684	204	193	141
20	180	1,080	b290	b450	b3,000	1,670	5,550	2,020	545	186	172	122
21	170	2,700	b320	b430	b4,500	1,070	2,400	3,260	479	182	165	130
22	180	1,700	b400	b410	b2,500	884	1,530	2,170	434	301	158	126
23	280	1,000	b560	b440	b2,600	723	1,080	1,270	402	262	151	121
24	290	1,160	b600	b580	b6,000	708	864	952	386	215	159	122
25	230	1,750	b580	b2,500	*2,540	759	744	1,110	365	189	147	123
26	540	1,240	b520	1,760	1,330	836	1,020	4,040	340	193	136	118
27	580	920	b600	1,110	b1,000	891	1,360	1,870	346	189	292	112
28	700	780	b4,500	b800	b860	708	5,950	1,120	335	189	412	116
29	1,600	698	10,900	b680	-	*582	1,960	943	365	214	213	112
30	1,000	760	13,100	b600	-	1,110	4,500	808	316	338	178	114
31	520	-	3,700	614	-	1,770	-	752	-	225	159	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	10,450	1,600	120	337	0.787	0.91
November	38,629	5,000	310	1,288	3.01	3.36
December	49,365	13,100	290	1,592	3.72	4.29
Calendar year 1942	309,724	22,900	86	849	1.98	26.92
January	25,664	2,500	410	828	1.93	2.23
February	44,459	6,000	520	1,588	3.71	3.86
March	40,581	5,810	320	1,309	3.06	3.53
April	42,539	5,950	516	1,418	3.31	3.70
May	60,400	4,500	752	1,948	4.55	5.25
June	29,443	3,550	316	981	2.29	2.56
July	8,190	454	182	264	.617	.71
August	6,624	563	138	214	.500	.58
September	4,145	188	112	138	.322	.36
Water year 1942-43	360.489	13,100	112	988	2.31	31.34

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Doubtful gage-height record Oct. 1, 3, 4, 8, 9, Oct. 12 to Nov. 10, Nov. 17, 18, 21-28, Nov. 30 to Dec. 5; discharge computed on basis of records for nearby stations, gage heights, and engineers' and observer's notes.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Buffalo Creek at Gardenville, N. Y.

Location.- Water-stage recorder, lat. 42°51'15", long. 78°45'30", in Gardenville, Erie County, 700 feet downstream from bridge on Union Road and 2 miles upstream from Cayuga Creek. Datum of gage is 604.04 feet above mean sea level, unadjusted.

Drainage area.- 145 square miles.

Records available.- October 1938 to September 1943.

Extremes.- Maximum discharge during year, 7,480 second-feet Apr. 28 (gage height, 6.58 feet), from rating curve extended above 4,000 second-feet by logarithmic plotting; maximum gage height, 11.58 feet Feb. 21 (ice jam); minimum discharge, 11 second-feet Sept. 26-30; minimum gage height, 1.15 feet Sept. 28-30.
1938-43: Maximum discharge, 14,000 second-feet Mar. 17, 1942, from rating curve extended above 4,000 second-feet by logarithmic plotting; maximum gage height, 11.90 feet Mar. 9, 1942 (ice jam); minimum discharge, 0.7 second-foot (regulated) Aug. 22, 24, 25, 1941; minimum gage height observed, 0.70 foot Aug. 28, 31, Sept. 3, 1939 (affected by backwater from leaves and debris), Aug. 22, 24, 25, 1941.

Remarks.- Records good except those for periods of ice effect; doubtful gage-height record, or shifting control, which are fair. Diurnal fluctuation at low flow caused by mill 3.2 miles above station.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	1,710	283	*593	240	160	334	1,220	1,360	28	22	12
2	27	490	600	404	220	130	286	475	482	28	20	13
3	23	275	220	330	*180	116	272	520	281	26	24	16
4	22	172	245	245	360	112	258	555	187	31	79	13
5	23	116	300	220	600	122	272	334	139	47	65	14
6	42	99	270	200	580	116	212	240	118	41	38	14
7	34	102	240	185	380	102	162	226	173	31	27	13
8	28	90	215	175	320	90	170	1,510	294	26	23	13
9	23	80	195	170	290	72	162	991	139	25	22	15
10	19	601	185	180	290	96	143	405	109	24	20	23
11	18	777	215	170	720	290	115	915	94	25	19	27
12	19	317	*220	160	430	560	112	1,070	82	41	17	20
13	18	958	185	155	310	540	166	d443	146	47	19	15
14	18	284	155	155	240	520	174	d300	136	36	27	13
15	18	168	160	165	190	700	122	d230	97	35	20	12
16	49	230	135	175	160	2,150	122	d183	347	27	20	17
17	256	238	120	200	145	1,700	307	d166	327	25	20	28
18	134	2,020	106	185	140	477	284	183	328	24	25	25
19	73	511	96	150	150	329	628	d260	122	23	21	18
20	55	311	90	130	960	477	2,090	427	87	25	19	14
21	45	2,270	100	124	1,400	243	544	d707	73	21	18	13
22	46	542	116	120	1,160	204	324	433	60	23	17	12
23	62	269	170	130	900	162	222	235	52	32	18	12
24	99	511	180	150	*2,090	166	170	170	44	28	17	12
25	64	642	170	680	573	191	155	d188	38	23	17	12
26	158	378	155	780	315	208	217	d1,190	35	20	17	11
27	260	275	175	400	253	226	299	313	34	20	18	11
28	285	230	1,300	260	210	179	2,840	217	33	20	71	11
29	651	209	3,680	210	-	125	482	191	30	25	41	11
30	348	220	4,350	180	-	461	1,460	155	29	26	22	11
31	176	-	825	195	-	591	-	143	-	33	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,128	651	18	101	0.697	0.80
November	15,095	2,270	80	503	3.47	3.87
December	15,456	4,350	90	499	3.44	3.96
Calendar year 1942	99,749.4	7,200	7.8	273	1.88	25.56
January	7,576	780	120	244	1.68	1.94
February	13,806	2,090	140	493	3.40	3.54
March	11,615	2,150	72	375	2.59	2.98
April	13,104	2,840	112	437	3.01	3.36
May	14,595	1,510	143	471	3.25	3.74
June	5,476	1,360	29	183	1.26	1.40
July	886	47	20	28.6	.197	.23
August	817	79	14	26.4	.182	.21
September	451	28	11	15.0	.103	.12
Water year 1942-43	102,005	4,350	11	279	1.92	26.15

Peak discharge.- Dec. 30 (1:30 p.m.) 6,360 sec.-ft.
* Winter discharge measurement made on this day.
d Doubtful gage-height record; discharge computed on basis of engineers' notes and records for Cazenovia Creek at Ebenezer.
Note.- Stage-discharge relation affected by ice Dec. 2-28, Jan. 3 to Feb. 23, Feb. 28 to Mar. 16 (doubtful gage-height record Feb. 12-20). Shifting-control method used Dec. 30 to Jan. 2.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Cayuga Creek near Lancaster, N. Y.

Location.- Water-stage recorder, lat. 42°53'20", long. 78°38'40", just upstream from low flat-crested dam in Como Lake Park, 700 feet downstream from bridge on Bowen Road, 800 feet downstream from Little Buffalo Creek, and 2 miles southeast of Lancaster, Erie County. Datum of gage is 672.80 feet above mean sea level, unadjusted.

Drainage area.- 93.3 square miles.

Records available.- September 1938 to September 1943.

Extremes.- Maximum discharge during year, 3,900 second-feet Dec. 30 (gage height, 7.22 feet); maximum gage height, 9.69 feet Feb. 21 (ice jam); minimum discharge, 2.5 second-feet Sept. 28; minimum gage height, 2.68 feet Aug. 2.
1938-43: Maximum discharge, 7,480 second-feet Mar. 17, 1942; maximum gage height, 12.36 feet Mar. 9, 1942 (ice jam); practically no flow Aug. 8, 9, 1939, when permanent stop logs were installed in dam.

Remarks.- Records good except those for periods of ice effect or shifting control, which are fair.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	1,540	197	280	175	84	242	824	828	12	4.6	5.2
2	23	332	380	220	165	78	188	270	322	11	3.2	5.3
3	19	230	170	180	*135	74	175	299	170	10	7.4	6.4
4	19	135	195	165	280	70	157	344	96	15	46	4.6
5	22	97	220	150	520	72	181	162	69	23	34	5.3
6	90	94	205	140	440	66	128	114	152	18	20	6.2
7	45	104	180	130	320	60	90	120	123	13	11	5.2
8	27	81	160	120	260	50	99	1,270	141	11	10	4.2
9	19	71	145	114	220	44	96	647	68	9.5	13	5.8
10	16	609	135	125	240	58	82	209	49	8.5	9.9	11
11	14	451	150	120	470	250	60	709	41	9.0	8.1	16
12	13	219	*155	114	340	380	60	694	35	14	6.5	10
13	12	848	125	110	230	360	93	257	148	13	9.3	5.9
14	12	185	104	110	175	350	85	154	82	14	16	4.4
15	14	124	108	114	140	562	60	114	49	12	8.6	3.6
16	50	188	94	120	120	1,290	57	96	603	8.5	8.9	9.6
17	331	239	84	135	110	1,030	207	85	167	6.9	28	15
18	114	1,510	78	130	102	266	171	93	116	6.9	19	8.5
19	66	336	72	110	120	171	518	93	56	5.9	12	5.8
20	46	252	68	96	800	351	1,570	128	38	7.5	8.1	4.4
21	36	2,160	72	88	1,120	135	455	248	30	6.1	7.2	4.0
22	37	374	84	82	880	114	219	204	26	8.5	6.3	3.6
23	68	198	116	90	700	93	131	102	23	9.0	5.7	3.3
24	112	365	130	104	*1,350	93	99	71	20	7.4	6.3	3.4
25	76	448	125	560	*250	104	93	90	17	6.3	5.3	3.8
26	286	252	116	620	135	114	161	660	17	5.9	4.4	3.3
27	213	188	135	320	110	131	254	139	16	5.2	7.8	3.0
28	321	161	1,350	210	94	90	1,040	99	15	5.0	16	2.8
29	692	148	2,100	165	-	67	226	82	13	5.0	10	2.8
30	326	161	2,500	140	-	442	996	67	12	6.3	8.0	2.8
31	179	-	*400	150	-	365	-	60	-	5.4	6.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,327	692	12	107	1.15	1.33
November	12,100	2,160	71	403	4.32	4.82
December	10,153	2,500	68	328	3.52	4.05
Calendar year 1942	71,585.2	5,000	1.6	196	2.10	28.52
January	5,312	620	82	171	1.83	2.12
February	10,001	1,350	94	357	3.83	3.99
March	7,414	1,290	44	239	2.56	2.96
April	7,993	1,570	57	266	2.85	3.19
May	8,504	1,270	60	274	2.94	3.39
June	3,442	828	12	115	1.23	1.37
July	298.8	23	5.0	9.64	.103	.12
August	366.6	46	3.2	11.8	.126	.15
September	175.2	16	2.8	5.84	.063	.07
Water year 1942-43	69,086.6	2,500	2.8	189	2.03	27.56

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 14, 15, Dec. 2 to Mar. 14. Shifting-control method used Aug. 6-9, Aug. 15 to Sept. 1.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Cazenovia Creek at Ebenezer, N. Y.

Location.- Water-stage recorder, lat. 42°49'45", long. 78°46'40", 40 feet upstream from highway bridge on Ridge Road in Ebenezer, Erie County, 4.4 miles upstream from mouth, and 5 miles southeast of Buffalo. Datum of gage is 606.86 feet above mean sea level, unadjusted.

Drainage area.- 136 square miles.

Records available.- June 1940 to September 1943.

Extremes.- Maximum discharge during year, 6,620 second-feet Apr. 28 (gage height, 9.85 feet); minimum, 6.5 second-feet (regulated) Oct. 9 (gage height, 0.47 foot, backwater from leaves).
1940-43: Maximum discharge, 11,200 second-feet Mar. 17, 1942 (gage height, 13.11 feet); minimum, 3.7 second-feet Aug. 25, 1941 (gage height, 0.42 foot).

Remarks.- Records good except those for periods of shifting control or backwater from ice or leaves, which are fair.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	2,060	303	669	250	180	444	1,180	1,050	30	18	22
2	c28	520	560	422	210	145	339	499	368	29	14	26
3	c24	410	250	329	*180	125	296	590	241	27	56	20
4	c23	250	280	253	380	116	277	574	168	35	210	16
5	c26	164	320	225	640	120	305	337	125	60	67	17
6	c41	136	299	205	540	114	229	247	102	43	41	20
7	c49	142	260	190	370	106	171	232	177	34	28	21
8	c34	110	230	180	310	94	176	1,330	250	28	24	18
9	c19	92	210	170	280	74	176	879	125	26	20	21
10	c23	886	195	190	300	100	155	384	95	23	20	26
11	c21	834	220	175	700	350	123	1,000	82	47	18	27
12	c19	368	*230	165	460	540	120	933	70	70	17	20
13	c17	905	190	160	350	520	195	441	117	46	20	16
14	c17	300	160	160	270	500	174	287	110	38	31	13
15	c26	203	170	170	205	760	125	218	80	42	23	11
16	c104	246	140	180	180	2,200	111	179	282	28	18	20
17	402	326	120	200	160	2,020	332	163	318	23	36	28
18	171	2,180	110	190	150	612	262	182	304	22	27	23
19	88	549	102	160	165	424	774	236	118	21	20	19
20	61	340	94	140	920	586	2,250	438	80	19	18	15
21	50	2,040	104	130	1,350	272	567	847	64	17	16	13
22	54	547	125	125	1,040	218	326	505	56	21	15	12
23	124	289	180	135	820	166	224	257	50	28	14	12
24	133	547	200	160	1,900	182	176	182	46	23	15	12
25	71	767	190	740	*600	221	158	212	42	19	14	11
26	268	420	165	720	350	271	267	1,040	40	17	16	10
27	324	309	190	410	270	322	453	290	37	18	438	10
28	331	252	1,450	280	220	198	2,790	218	35	18	252	10
29	798	226	3,400	220	-	132	514	182	32	20	65	9.5
30	479	243	4,020	190	-	682	1,460	142	30	23	40	9.5
31	241	-	*966	215	-	693	-	130	-	24	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	4,102	798	17	132	0.971	1.12
November	16,661	2,180	92	555	4.08	4.56
December	15,433	4,020	94	498	3.66	4.22
Calendar year 1942	99,843.3	6,650	6.7	274	2.01	27.32
January	7,858	740	125	253	1.86	2.15
February	13,570	1,900	150	485	3.57	3.71
March	13,043	2,200	74	421	3.10	3.57
April	13,969	2,790	111	466	3.43	3.82
May	14,334	1,330	130	462	3.40	3.92
June	4,694	1,050	30	156	1.15	1.28
July	919	70	17	29.6	.218	.25
August	1,639	438	14	52.9	.389	.45
September	508.0	28	9.5	16.9	.124	.14
Water year 1942-43	106,730.0	4,020	9.5	292	2.15	29.19

Peak discharge.- Dec. 30 (1:45 p.m.) 5,400 sec.-ft.
* Winter discharge measurement made on this day.
c Backwater from leaves.
Note.- Stage-discharge relation affected by ice Dec. 2-5, 7-29, Jan. 5 to Mar. 16 (no gage-height record Feb. 14-20). Shifting-control method used Aug. 4-26.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Little Tonawanda Creek at Linden, N. Y.

Location.- Water-stage recorder and concrete control, lat. 42°52'35", long. 78°09'45", at highway bridge in Linden, Genesee County, and 7 miles upstream from mouth. Prior to Aug. 26, 1943, staff gage at same site and datum.

Drainage area.- 22.0 square miles.

Records available.- July 1912 to September 1943.

Average discharge.- 30 years (1912-19, 1920-43), 27.3 second-feet.

Extremes.- Maximum discharge during year, 1,020 second-feet Dec. 30 (gage height, 7.9 feet, from floodmarks); minimum, 0.8 second-foot Sept. 28-30 (gage height, 0.30 foot). 1912-43: Maximum discharge, about 2,400 second-feet Apr. 22, 1916 (gage height, 14.6 feet, from floodmarks), from rating curve extended above 1,500 second-feet by logarithmic plotting; minimum, about 0.1 second-foot Sept. 5-7, 1934, and several times during Aug. 4-28, 1936.

Remarks.- Records good. Gage read twice daily Oct. 1 to Aug. 25.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 29

0.6	4.9	1.1	20	2.1	78
.7	7.2	1.2	24	2.5	113
.8	9.9	1.4	33	3.0	164
.9	13	1.6	44	4.0	284
1.0	16	1.8	56	5.1	440

Dec. 30 to Sept. 30

0.3	0.8	0.6	4.7	1.6	44	4.5	359
.32	1.0	.7	6.8	1.8	56	5.0	437
.36	1.3	.8	9.3	2.0	70	6.0	617
.4	1.7	.9	12	2.5	113	6.2	657
.45	2.3	1.0	16	3.0	164		
.5	3.0	1.2	23	3.5	222		
.55	3.8	1.4	33	4.0	288		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.3	141	46	113	41	32	63	178	165	4.1	1.7	1.1
2	8.2	60	77	78	37	b28	66	82	113	3.6	1.3	1.9
3	7.4	41	b43	56	32	b25	53	104	60	3.3	2.7	1.4
4	7.2	28	b41	46	65	b23	41	104	43	3.8	2.4	1.3
5	8.2	23	44	b39	118	24	53	56	26	4.5	2.3	1.2
6	7.9	22	50	b35	104	23	36	46	21	4.1	1.7	1.1
7	7.4	21	46	b32	66	b18	31	46	35	3.5	1.6	1.1
8	6.4	18	44	b30	56	b15	38	260	36	3.0	2.0	1.1
9	5.7	17	41	b29	53	12	33	142	23	2.8	1.7	1.0
10	5.7	59	38	30	55	18	31	74	17	2.7	1.7	1.1
11	5.5	71	41	28	124	73	22	176	14	2.8	1.6	1.2
12	5.1	49	b39	27	82	70	28	197	13	4.3	1.5	1.1
13	4.9	128	*b33	25	53	66	33	82	44	4.1	1.6	1.0
14	4.9	44	b26	25	38	91	27	56	28	3.6	1.6	1.0
15	5.3	30	b30	26	b30	149	22	44	15	2.8	1.3	1.0
16	14	41	b25	27	b25	320	24	36	54	2.6	1.3	1.5
17	60	44	b23	32	b22	319	79	33	37	2.4	2.0	1.4
18	25	206	b21	30	b21	108	50	36	38	2.3	1.6	1.2
19	17	76	b20	23	25	78	142	36	18	2.0	1.5	1.0
20	13	65	b19	b21	149	114	284	50	12	1.9	1.5	1.0
21	11	378	b20	b20	210	48	212	79	9.6	1.9	1.4	1.0
22	12	93	b24	b19	168	44	153	64	10	2.6	1.3	1.0
23	12	60	33	b20	*129	35	82	38	7.5	2.4	1.3	1.0
24	11	90	35	23	248	39	53	28	6.6	2.0	1.3	1.0
25	10	95	34	126	100	53	44	38	5.5	1.8	1.2	1.0
26	22	63	30	118	79	66	41	261	5.5	1.8	1.1	1.0
27	26	50	35	74	41	63	63	66	5.5	1.8	1.6	1.0
28	29	44	210	60	38	38	192	44	4.7	1.7	1.8	.8
29	43	41	428	41	-	27	70	36	4.3	1.8	1.5	.8
30	28	44	*656	33	-	95	237	32	4.3	1.8	1.2	.8
31	25	-	188	36	-	105	-	28	-	1.9	1.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	457.1	60	4.9	14.7	0.668	0.77
November	2,142	378	17	71.4	3.25	3.62
December	2,440	656	19	78.7	3.58	4.12
Calendar year 1942	15,340.4	1,640	.7	42.0	1.91	25.90
January	1,322	126	19	42.6	1.94	2.23
February	2,209	248	21	78.9	3.59	3.73
March	2,219	320	12	71.6	3.25	3.75
April	2,303	284	22	76.8	3.49	3.89
May	2,542	261	28	82.0	3.73	4.30
June	875.5	165	4.3	29.2	1.33	1.48
July	85.7	4.5	1.7	2.76	.125	.14
August	49.5	2.7	1.1	1.60	.073	.08
September	33.1	1.9	.8	1.10	.050	.06
Water year 1942-43	16,677.9	656	.8	45.7	2.08	28.17

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Genesee River at Scio, N. Y.

Location.- Water-stage recorder, lat. 42°09'50", long. 77°58'50", at highway bridge, three-quarters of a mile upstream from Scio, Allegany County.

Drainage area.- 309 square miles.

Records available.- June 1916 to September 1943.

Average discharge.- 27 years, 375 second-feet.

Extremes.- Maximum discharge during year, 8,290 second-feet Dec. 30 (gage height, 9.07 feet); minimum, 18 second-feet Sept. 29 (gage height, 0.67 foot).
1916-43: Maximum discharge observed, 10,600 second-feet May 22, 1919 (gage height, 10.1 feet, present datum), from rating curve extended above 3,600 second-feet by logarithmic plotting; minimum, 5.8 second-feet Sept. 4, 1939 (gage height, 0.71 foot).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr	May	June	July	Aug.	Sept.
1	290	1,460	492	1,990	398	553	402	1,590	672	88	47	27
2	253	928	550	1,260	325	445	406	1,120	662	82	42	32
3	221	797	355	*984	242	360	383	1,170	786	76	43	34
4	215	687	417	842	a375	310	336	948	510	75	66	49
5	243	585	397	641	*480	330	376	763	438	87	67	50
6	212	515	369	573	488	300	343	662	364	82	54	41
7	189	466	333	514	438	270	288	688	626	73	47	41
8	164	417	298	446	335	230	312	2,080	641	67	43	40
9	151	373	275	337	325	190	301	2,450	430	64	40	33
10	146	544	247	340	325	246	285	1,790	391	64	86	31
11	133	742	268	310	516	580	243	1,850	350	66	82	29
12	121	530	261	280	338	2,870	253	2,090	298	62	51	27
13	112	786	233	260	292	1,440	383	1,510	477	60	49	27
14	108	585	180	245	250	956	361	1,140	325	93	141	27
15	141	502	200	260	230	1,010	295	912	259	67	82	26
16	475	545	190	28e	215	2,630	262	774	234	57	61	27
17	1,080	620	170	450	210	3,030	410	709	205	50	64	29
18	635	1,110	160	364	200	1,660	506	845	222	47	58	26
19	474	770	150	790	260	1,250	1,500	944	176	44	53	25
20	409	676	140	456	600	1,600	2,300	1,350	156	41	47	24
21	365	1,210	140	370	1,900	1,010	3,610	2,100	146	40	43	24
22	409	860	150	340	1,340	831	3,400	1,410	144	81	41	24
23	341	687	170	330	1,230	657	2,210	1,060	124	75	37	23
24	283	692	179	370	3,070	588	1,520	865	115	53	36	22
25	250	1,200	185	836	1,830	550	1,140	991	105	47	32	20
26	597	854	191	984	1,060	492	1,120	4,930	98	43	30	20
27	670	709	182	526	854	454	899	1,930	98	40	31	20
28	436	610	611	420	*686	402	3,110	1,260	94	38	47	20
29	389	560	3,180	380	-	343	1,530	984	120	58	37	20
30	353	540	7,000	360	-	385	1,940	802	101	148	32	20
31	325	-	3,900	354	-	*493	-	688	-	61	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	10,192	1,080	108	329	1.05	1.23
November	21,560	1,460	373	719	2.33	2.59
December	21,573	7,000	140	696	2.25	2.60
Calendar year 1942	191,249	7,000	44	524	1.70	23.03
January	16,900	1,990	245	545	1.76	2.03
February	18,712	3,070	200	668	2.16	2.25
March	26,465	3,030	130	854	2.76	3.19
April	30,424	3,610	243	1,014	3.28	3.66
May	42,405	4,930	662	1,368	4.43	5.10
June	9,367	786	94	312	1.01	1.13
July	2,029	148	38	65.5	.212	.24
August	1,619	141	30	52.2	.169	.19
September	858	50	20	28.6	.093	.10
Water year 1942-43	202,104	7,000	20	554	1.79	24.31

Peak discharge.- Dec. 30 (1 p.m.) 8,290 sec.-ft.; Feb. 24 (4 p.m.) 4,030 sec.-ft.; Mar. 12 (7:30 a.m.) 3,780 sec.-ft.; Apr. 21 (9 p.m.) 4,550 sec.-ft.; Apr. 28 (7 a.m.) 4,430 sec.-ft.; May 26 (9 a.m.) 5,850 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed from estimated gage-height graph.

Note.- Stage-discharge relation affected by ice Dec. 15-23, Jan. 10-15, 21-24, 29, 30, Feb. 15-20, Mar. 3-9.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Genesee River at St. Helena, N. Y.

Location.- Water-stage recorder, lat. 42°37'20", long. 77°59'20", at highway bridge in St. Helena, Wyoming County, 1½ miles downstream from Wolf Creek and 3 miles east of Castile.
Drainage area.- 1,017 square miles.
Records available.- August 1908 to September 1943.
Average discharge.- 35 years, 1,212 second-feet.
Extremes.- Maximum discharge during year, 27,400 second-feet May 26; maximum gage height, 14.15 feet Feb. 21 (ice jam); minimum discharge, 100 second-feet Sept. 14, 15, 24 (gage height, 2.37 feet).
1908-43: Maximum discharge, 44,400 second-feet May 17, 1916, from rating curve extended above 29,000 second-feet; maximum gage height, that of Feb. 21, 1943; minimum discharge, 18 second-feet Oct. 5, 17, 1913 (gage height, 1.70 feet).
Remarks.- Records good except those for periods of ice effect, which are fair. Some diurnal fluctuation caused by power plants during low flow. Flow slightly regulated by Caneadea Reservoir (capacity 1,106,000,000 cubic feet).

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 26						May 26 to Sept. 30					
2.9	326	4.5	1,950	7.0	6,700	2.5	136	4.0	1,100	6.5	5,440
3.2	516	5.0	2,600	8.0	9,720	2.7	206	4.5	1,690	7.0	6,700
3.5	761	5.5	3,390	9.0	13,800	3.0	341	5.0	2,450	7.6	8,390
3.9	1,200	6.0	4,330	10.2	19,700	3.3	516	5.5	3,340		
						3.6	735	6.0	4,330		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	671	2,350	1,660	5,820	1,020	1,540	1,870	8,160	3,360	332	445	144
2	522	3,360	1,730	3,570	976	1,240	1,630	4,470	3,480	308	402	151
3	602	1,780	1,110	*2,710	840	920	1,410	4,510	2,380	277	411	137
4	618	1,530	876	2,250	868	780	1,200	3,820	1,760	268	410	133
5	614	1,200	1,430	1,790	*1,830	*850	1,190	2,960	2,030	265	332	143
6	636	990	1,470	1,530	2,270	1,300	1,290	2,400	1,330	278	249	179
7	601	1,060	1,410	1,400	2,230	1,090	1,010	2,250	1,410	274	305	176
8	426	986	1,290	1,160	1,350	960	980	5,980	2,340	235	388	158
9	344	920	1,170	1,040	1,120	900	1,290	10,300	1,380	217	366	139
10	452	963	871	1,040	1,200	1,050	1,270	5,070	1,100	263	376	137
11	514	2,570	723	1,120	2,220	1,540	1,140	8,740	930	256	372	122
12	495	1,730	1,040	950	2,050	6,800	1,070	6,500	813	237	296	120
13	474	2,180	1,030	794	1,200	5,460	1,450	4,890	979	252	211	108
14	470	2,090	*888	702	1,300	3,380	1,290	3,320	1,400	249	280	120
15	365	1,430	898	851	1,250	3,340	1,020	2,590	924	231	436	108
16	362	1,390	860	1,120	860	7,420	912	2,170	1,120	228	448	110
17	1,760	2,070	500	1,440	720	11,000	1,220	1,990	830	208	438	112
18	1,870	4,140	380	1,770	940	5,350	1,860	2,120	1,030	202	460	152
19	1,120	3,270	360	1,760	1,300	3,470	4,060	2,560	705	174	308	281
20	834	2,040	660	1,600	2,500	3,980	9,050	4,640	582	175	202	296
21	696	3,670	660	1,160	6,600	2,990	7,160	6,360	568	162	272	301
22	666	3,530	700	1,000	4,900	2,230	6,770	5,890	486	256	345	292
23	695	2,060	780	940	4,400	1,780	4,510	3,280	388	241	340	220
24	762	1,850	500	1,700	11,000	1,620	3,180	2,470	362	244	351	112
25	753	2,600	450	3,000	7,330	1,790	2,490	2,250	370	212	326	172
26	749	2,560	450	4,200	3,090	1,830	2,350	19,300	338	171	236	268
27	1,750	1,910	450	2,730	2,270	1,830	2,380	8,220	339	186	251	272
28	1,150	1,530	1,850	1,610	*1,850	1,600	10,900	4,580	305	234	408	279
29	861	1,330	10,800	1,290	-	1,370	5,630	1,830	358	228	235	277
30	744	1,350	19,200	1,150	-	1,750	7,300	2,790	341	358	156	274
31	800	-	14,300	950	-	2,960	-	2,420	-	432	156	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	23,376	1,870	344	754	0.741	0.85
November	60,439	4,140	920	2,015	1.98	2.21
December	70,496	19,200	360	2,274	2.24	2.58
Calendar year 1942	559,525	26,000	156	1,533	1.51	20.46
January	54,147	5,820	702	1,747	1.72	1.98
February	69,504	11,000	720	2,482	2.44	2.54
March	84,120	11,000	780	2,714	2.67	3.08
April	88,882	10,900	912	2,963	2.91	3.25
May	148,830	19,300	1,830	4,801	4.72	5.44
June	33,738	3,480	305	1,125	1.11	1.23
July	7,653	432	162	247	.243	.28
August	10,220	460	156	330	.324	.37
September	5,493	301	108	183	.180	.20
Water year 1942-43	656,898	19,300	108	1,800	1.77	24.01

Peak discharge.- Dec. 30 (11 p.m.) 22,800 sec.-ft.; Feb. 24 (8:40 p.m.) 14,800 sec.-ft.; Mar. 17 (9 a.m.) 12,300 sec.-ft.; Apr. 28 (11:20 a.m.) 13,800 sec.-ft.; May 26 (6 p.m.) 27,400 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 16-29, Jan. 7-9, 20-26, Feb. 3, 12-23, Mar. 2-4, 8, 9.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Genesee River at Jones Bridge, near Mount Morris, N. Y.

Location.- Water-stage recorder, lat. 42°45'55", long. 77°50'25", at Jones Bridge, 3½ miles northeast of Mount Morris, Livingston County. Datum of gage is 540.00 feet above mean sea level (levels by New York State Conservation Commission).

Drainage area.- 1,419 square miles.

Records available.- May 1903 to April 1906, August 1908 to April 1914, July 1915 to September 1943.

Average discharge.- 33 years (1908-13, 1915-43), 1,575 second-feet.

Extremes.- Maximum discharge during year, 27,800 second-feet Dec. 31 (gage height, 24.18 feet); minimum, 45 second-feet (regulated) Sept. 15 (gage height, 0.33 foot); minimum daily, 78 second-feet (regulated) Sept. 12.
1903-6, 1908-14, 1915-43: Maximum discharge, 55,100 second-feet May 17, 1916 (gage height, 25.44 feet); minimum, 18 second-feet Aug. 29, 1909; minimum daily, 30 second-feet Aug. 8, 1909.

Remarks.- Records good except those for periods of ice effect, doubtful or no gage-height record, which are fair. Diurnal fluctuation at low stages caused by power plants. Slight seasonal regulation by Caneadea Reservoir (capacity, 1,106,000,000 cubic feet).

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	SS5	a1,800	1,870	12,800	1,450	2,140	2,450	11,200	4,390	500	560	205
2	624	a4,200	2,420	7,840	1,350	1,810	2,130	6,950	5,090	478	480	190
3	605	a2,100	1,590	5,190	1,180	1,340	1,920	6,150	3,580	474	480	225
4	6S6	1,680	1,200	3,970	1,250	1,120	1,660	5,270	2,860	465	520	180
5	658	1,410	1,500	3,040	2,450	1,040	1,560	4,370	2,760	392	500	145
6	693	1,200	1,740	2,250	*3,100	1,350	1,690	3,530	2,200	424	370	200
7	667	1,170	1,660	1,850	2,900	1,510	1,470	3,200	1,910	340	350	260
8	595	1,150	1,560	1,600	1,650	1,300	1,350	4,610	3,020	388	420	190
9	462	1,080	1,470	1,400	1,500	1,240	1,490	12,600	2,260	346	420	205
10	432	1,060	1,290	1,300	1,640	1,200	1,610	7,710	d1,700	330	420	185
11	550	2,450	1,080	1,220	2,710	1,750	1,510	9,800	d1,400	453	430	175
12	564	2,010	1,200	1,350	3,000	6,400	1,420	9,270	d1,200	476	430	78
13	553	2,060	1,180	1,120	1,900	7,600	1,570	7,030	d1,120	413	350	205
14	541	2,570	*1,040	1,060	1,600	4,690	1,810	5,090	d1,850	447	390	170
15	534	1,620	940	1,120	1,650	4,290	1,480	4,000	d1,250	383	380	160
16	454	1,460	1,000	1,270	1,450	8,020	1,300	3,300	d1,600	370	410	118
17	1,480	2,010	860	1,600	1,060	13,100	1,370	2,850	d1,350	274	520	190
18	2,170	3,790	540	2,050	1,140	7,800	2,110	2,840	d1,500	305	520	205
19	1,340	4,450	500	2,100	1,800	4,740	3,760	3,340	d1,200	258	470	155
20	1,020	2,460	600	1,950	2,600	4,990	11,800	5,640	934	256	400	290
21	S52	4,190	840	1,650	5,600	4,080	8,840	6,470	807	246	350	330
22	773	4,940	860	1,300	7,000	2,970	8,000	8,320	722	406	210	340
23	799	2,750	920	1,220	6,200	2,320	5,680	4,820	604	425	410	340
24	790	2,330	820	1,850	13,000	d2,150	4,140	3,560	550	311	410	205
25	a800	3,080	620	3,400	9,880	d2,050	3,230	2,970	517	328	410	185
26	a980	3,390	640	5,000	4,790	d2,300	2,850	15,700	494	244	350	195
27	a1,700	2,450	620	4,200	3,210	d2,250	2,860	15,800	499	270	320	300
28	a1,400	1,970	2,350	3,000	*2,520	2,130	11,900	8,090	490	348	540	330
29	a1,060	1,680	12,200	1,800	-	1,840	8,680	5,680	491	296	450	320
30	a920	1,620	21,900	1,600	-	1,720	8,010	4,330	514	422	240	320
31	a880	-	23,600	1,400	-	3,660	-	3,530	-	459	235	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	26,467	2,170	432	854	0.602	0.69
November	70,130	4,940	1,060	2,338	1.65	1.84
December	90,610	23,600	500	2,923	2.06	2.37
Calendar year 1942	705,367	27,700	236	1,933	1.36	18.47
January	82,500	12,800	1,060	2,661	1.88	2.16
February	89,580	13,000	1,060	3,199	2.25	2.35
March	104,900	13,100	1,040	3,384	2.38	2.75
April	109,650	11,900	1,300	3,655	2.58	2.87
May	198,020	15,800	2,840	6,388	4.50	5.19
June	48,862	5,090	490	1,629	1.15	1.28
July	11,527	500	244	372	.262	.30
August	12,745	560	210	411	.290	.33
September	6,596	340	78	220	.155	.17
Water year 1942-43	851,587	23,600	78	2,333	1.64	22.30

Peak discharge.- Dec. 31 (6:30 a.m.) 27,800 sec.-ft.; Mar. 17 (12 m.) 13,900 sec.-ft.; Apr. 20 (4 p.m.) 12,100 sec.-ft.; Apr. 28 (5 p.m.) 13,600 sec.-ft.; May 9 (11 a.m.) 14,200 sec.-ft.; May 27 (12:30 a.m.) 22,900 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of gage-height graph based on recorded range in stage and twice-daily gage readings.

d Doubtful gage-height record; discharge computed on basis of discharge measurement of June 19, gage-height record, engineers' notes, weather records, and records for nearby stations.

Note.- Stage-discharge relation affected by ice Dec. 13-29, Jan. 6-14, Jan. 17 to Feb. 9, Feb. 12-24, Mar. 4, 5, 8-13.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Genesee River at Driving Park Avenue, Rochester, N. Y.

Location.- Water-stage recorder, lat. 43°11'05", long. 77°37'40", in Rochester, Monroe County, 40 feet downstream from plant 5 of Rochester Gas & Electric Corporation and 100 feet upstream from Driving Park Avenue Bridge.

Drainage area.- 2,467 square miles.

Records available.- December 1919 to September 1943.

Average discharge.- 23 years (1920-43), 2,704 second-feet.

Extremes.- Maximum discharge during year, 25,400 second-feet (regulated) Jan. 1 (gage height, 11.36 feet); minimum, 72 second-feet (regulated) Oct. 16 (gage height, -1.27 feet); minimum daily, 720 second-feet (regulated) Sept. 14.

1919-43: Maximum discharge, 35,500 second-feet Apr. 2, 1940 (gage height, 14.08 feet); minimum, less than 10 second-feet, occurred during low-water periods in some years when power plant was shut down; minimum daily, 219 second-feet (regulated) Aug. 14, 1927.

Maximum discharge known, about 54,000 second-feet sometime in March 1865.

Remarks.- Records good except those for period of no gage-height record or between 3,500 second-feet and 5,500 second-feet, which are fair. New York State Barge Canal crosses river near southern boundary of Rochester. Water diverted by the canal from Lake Erie is discharged into river from the west, the canal again diverting a smaller amount of water from river to the east. Additional regulation is provided by Caneadea Reservoir.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,990	2,270	3,370	23,200	3,370	3,650	5,290	15,200	5,680	1,450	1,190	936
2	1,540	3,950	4,120	21,800	3,360	3,240	4,650	15,800	10,300	1,370	1,260	929
3	1,300	4,960	4,410	15,700	a3,200	2,830	4,660	12,200	9,720	1,290	1,220	874
4	1,260	3,390	2,650	9,470	a2,800	1,840	4,570	10,300	7,240	1,280	1,280	887
5	1,470	2,740	2,350	5,640	a4,000	1,900	4,380	8,470	4,810	1,380	1,230	857
6	1,380	2,460	3,150	4,280	a5,200	2,090	3,940	6,700	4,080	1,270	1,250	886
7	1,020	2,080	3,670	3,920	a6,600	1,630	3,730	4,830	3,780	1,280	1,180	838
8	1,250	1,980	3,150	3,660	5,200	2,030	3,550	5,070	3,580	1,270	1,070	912
9	1,220	1,930	2,670	3,090	3,820	1,790	3,460	13,700	3,780	1,210	1,180	892
10	1,140	2,100	2,990	3,190	3,600	1,620	3,240	15,600	3,780	1,130	1,090	865
11	994	2,350	3,190	3,240	3,560	2,620	3,190	13,300	3,210	981	1,170	842
12	1,130	4,030	3,020	3,540	5,070	4,350	3,320	15,600	2,860	1,340	1,150	732
13	1,130	3,890	2,780	3,250	4,080	11,300	3,370	15,300	2,650	1,370	1,160	856
14	1,160	3,840	2,290	2,790	3,680	11,000	3,920	11,800	2,830	1,350	1,180	720
15	1,130	4,030	1,800	2,620	2,500	8,190	3,900	8,050	3,220	1,350	1,050	805
16	1,160	3,020	2,010	2,690	2,590	8,740	3,200	6,060	2,800	1,210	1,160	951
17	1,500	2,850	1,880	2,720	2,220	14,700	3,190	4,550	2,830	1,120	1,080	890
18	3,170	3,760	1,790	3,420	2,340	17,000	3,540	4,050	2,880	1,070	1,200	843
19	3,540	6,250	1,630	3,440	2,260	12,500	4,300	3,930	2,990	1,080	1,250	818
20	2,390	5,540	1,320	2,930	2,450	7,500	12,900	5,890	2,600	1,060	1,150	823
21	1,860	5,580	1,760	3,050	4,570	7,270	16,500	9,140	2,120	1,030	1,040	852
22	1,700	8,790	1,660	3,070	9,330	5,300	15,100	12,000	1,900	1,140	1,040	1,020
23	1,620	6,940	1,790	2,580	11,300	4,500	12,200	10,900	1,750	1,330	1,050	974
24	1,630	4,710	2,340	2,570	12,600	4,270	8,240	6,650	1,590	1,340	1,100	1,010
25	1,550	4,580	2,140	3,260	14,900	3,400	6,370	5,320	1,610	1,010	1,100	915
26	1,700	5,700	2,380	5,020	13,300	3,690	4,940	12,000	1,560	1,120	1,070	785
27	1,840	5,120	1,850	7,520	7,220	3,470	4,640	17,500	1,310	1,050	1,020	899
28	3,010	4,500	3,750	5,420	4,200	2,510	9,910	18,100	1,550	949	1,040	907
29	2,280	4,010	10,300	3,770	-	3,050	15,100	14,000	1,490	1,030	1,190	924
30	1,880	3,600	18,000	3,480	-	2,990	13,900	8,940	1,460	1,040	1,170	919
31	1,740	-	21,400	3,120	-	3,970	-	6,230	-	1,140	945	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	51,684	3,540	994	1,667	-	-
November	120,950	8,790	1,930	4,032	-	-
December	121,610	21,400	1,320	3,923	-	-
Calendar year 1942	1,187,874	32,500	613	3,254	1.32	17.89
January	167,450	23,200	2,570	5,402	-	-
February	149,320	14,900	2,220	5,333	-	-
March	164,940	17,000	1,620	5,321	-	-
April	193,200	16,500	3,190	6,440	-	-
May	317,180	18,100	3,930	10,230	-	-
June	101,960	10,300	1,310	3,399	-	-
July	37,040	1,450	949	1,195	-	-
August	35,265	1,280	945	1,138	-	-
September	26,361	1,020	720	879	-	-
Water year 1942-43	1,486,960	23,200	720	4,074	1.65	22.41

a No gage-height record; discharge computed on basis of power-plant records.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Canaseraga Creek near Dansville, N. Y.

Location.- Water-stage recorder, lat. 42°33'40", long. 77°42'55", just downstream from Ossian Street Bridge, half a mile downstream from Mill Creek and 1 mile west of Dansville, Livingston County. Datum of gage is 640.00 feet above mean sea level (levels by New York State Conservation Commission).

Drainage area.- 153 square miles.

Records available.- July 1910 to December 1912, July 1915 to June 1917, March 1919 to September 1943. October 1917 to September 1919 at Cumminsville, 1¼ miles downstream, published as Canaseraga Creek at Cumminsville, N. Y.

Average discharge.- 23 years (1920-43), 146 second-feet.

Extremes.- Maximum discharge during year, 7,560 second-feet May 26 (gage height, 12.35 feet); minimum, 24 second-feet Sept. 30 (gage height, 6.03 feet).
1910-12, 1915-43: Maximum discharge at present site, 8,830 second-feet July 23, 1940 (gage height, 13.1 feet, from floodmark) by contracted-opening method; maximum at former site, 9,110 second-feet July 23, 1940 (gage height, 9.93 feet) by slope-area method; minimum, 10 second-feet Aug. 9, 1934, Sept. 27, 28, 1941.

Remarks.- Records good, except those for periods of ice effect or no gage-height record, which are fair.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	247	138	583	170	199	194	856	568	81	44	34
2	34	154	192	381	135	174	186	503	462	76	41	40
3	33	101	126	322	125	160	177	560	330	76	45	36
4	34	83	142	270	180	145	166	419	276	78	56	36
5	34	73	129	*230	273	155	186	336	296	80	53	34
6	33	63	121	200	*256	134	164	205	208	75	47	33
7	32	62	112	180	a235	124	148	299	310	70	43	32
8	31	56	103	170	a200	116	151	1,520	288	68	41	30
9	33	56	101	155	a190	110	151	1,230	211	64	40	29
10	34	76	97	160	a195	130	143	749	186	63	40	30
11	32	150	99	151	a280	265	130	951	164	80	39	29
12	32	102	101	139	a195	751	132	856	143	89	40	30
13	31	169	*93	125	a165	426	158	648	141	70	56	29
14	31	122	89	122	a145	338	153	503	125	69	44	28
15	32	96	85	118	a130	400	134	414	181	62	39	26
16	69	102	82	134	a120	769	125	362	218	57	47	29
17	160	126	76	173	a110	760	177	336	196	56	53	29
18	101	355	72	151	a108	394	174	336	204	54	44	29
19	68	206	68	229	a140	311	550	345	141	51	40	28
20	56	159	66	195	a330	385	940	561	121	48	39	26
21	50	553	66	180	521	261	596	660	112	47	36	26
22	48	289	72	165	399	218	425	637	103	78	34	28
23	46	206	78	155	433	183	311	476	98	59	34	26
24	42	203	80	160	957	174	258	390	94	53	34	28
25	39	298	81	620	480	171	226	376	89	48	34	26
26	76	242	80	424	307	169	226	2,770	86	48	33	26
27	97	184	78	230	250	164	276	786	86	50	75	26
28	66	153	360	175	*219	148	1,190	514	89	56	64	25
29	56	140	1,800	160	-	134	453	395	98	58	47	26
30	50	140	3,120	155	-	196	1,310	317	89	60	40	25
31	47	-	1,190	151	-	243	-	280	-	50	36	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,565	160	31	50.5	0.330	0.38
November	4,966	553	56	166	1.08	1.21
December	9,097	3,120	66	293	1.92	2.21
Calendar year 1942	67,255	5,430	26	184	1.20	16.35
January	6,763	620	118	218	1.42	1.64
February	7,248	957	108	259	1.69	1.76
March	8,307	769	110	268	1.75	2.02
April	9,610	1,310	125	320	2.09	2.34
May	19,679	2,770	280	635	4.15	4.78
June	5,713	568	86	190	1.24	1.39
July	1,974	89	47	63.7	.416	.48
August	1,358	75	33	43.8	.286	.33
September	879	40	25	29.3	.192	.21
Water year 1942-43	77,159	3,120	25	211	1.38	18.75

Peak discharge.- Dec. 30 (9:30 a.m.) 4,410 sec.-ft.; Apr. 28 (2:30 a.m.) 2,880 sec.-ft.; Apr. 30 (2 p.m.) 3,480 sec.-ft.; May 8 (9:30 p.m.) 3,230 sec.-ft.; May 26 (3 a.m.) 7,560 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for nearby stations.

Note.- Stage-discharge relation affected by ice Dec. 16-24, 28, Jan. 4-10, 13-15, 20-23, 25, 27-30, Feb. 2-4, Mar. 3-5, 7-10.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Canadice Lake Outlet near Hemlock, N. Y.

Location.- Hook gage, lat. 42°44'25", long. 77°34'15", upstream from weir at outlet of Canadice Lake, Ontario County, 4 miles southeast of Hemlock, Livingston County.

Drainage area.- 12.6 square miles.

Records available.- April 1903 to September 1943.

Average discharge.- 40 years, 11.6 second-feet.

Cooperation.- Records furnished by Department of Public Works, Division of Water, city of Rochester, N. Y.

Monthly discharge, water year October 1942 to September 1943

Month	Mean elevation of lake above low-water mark (feet)	Discharge in second-feet		Runoff in inches
		Mean	Per square mile	
October	-0.540	5.285	0.419	0.484
November	+.120	4.070	.323	.360
December	+1.356	12.758	1.013	1.167
Calendar year 1942	+1.233	13.145	1.043	14.164
January	+3.161	21.029	1.669	1.924
February	+3.050	18.283	1.451	1.511
March	+3.378	22.264	1.767	2.037
April	+3.693	31.850	2.528	2.820
May	+4.015	55.910	4.437	5.116
June	+3.662	9.394	.746	.832
July	+3.458	1.072	.085	.098
August	+3.008	8.445	.670	.773
September	+2.498	.144	.011	.013
Water year 1942-43	+2.569	15.905	1.262	17.135

Note.- Terminal water-surface elevation for year ending Dec. 31, 1942 was 4.32 feet higher than that of preceding year, corresponding to an increase in storage of 128,093,571 cubic feet, or a discharge of 4.062 second-feet for year. This correction applied to above, gives a mean for year of 17.207 second-feet, 1.366 second-feet per square mile, and 18.543 inches runoff from drainage area.

Terminal water-surface elevation for year ending Sept. 30, 1943 was 2.70 feet higher than that of preceding year, corresponding to an increase in storage of 78,963,163 cubic feet, or a discharge of 2.504 second-feet for year. This correction applied to above gives a mean for year of 18.409 second-feet, 1.461 second-feet per square mile and 19.832 inches runoff from drainage area.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Oswego River at lock 7, Oswego, N. Y.

Location.- Water-stage recorders, lat. 43°27'00", long. 76°30'25", at lock 7 in Oswego, Oswego County, three-quarters of a mile upstream from mouth. Datum of gage is 246.00 feet above mean sea level (New York State Barge Canal datum).
Drainage area.- 5,121 square miles.
Records available.- November 1933 to September 1943. April 1897 to December 1901 and, of doubtful accuracy, October 1927 to September 1928 at High Dam, about three-quarters of a mile upstream.
Extremes.- Maximum discharge during year, 25,400 second-feet (regulated) May 15 (gage height, 10.92 feet), includes mean daily discharge of canals; minimum (river only), 36 second-feet (regulated) Oct. 4 (gage height, 1.11 feet); minimum daily discharge, 1,150 second-feet Sept. 26.
1933-43: Maximum discharge, 37,500 second-feet Mar. 28, 1936, includes mean daily discharge of canals; maximum gage height, 13.46 feet Apr. 10, 1940; minimum discharge (river only), that of Oct. 4, 1942; minimum gage height, 0.97 foot Aug. 24, 1934; minimum daily discharge, 465 second-feet Aug. 12, 1934.
Remarks.- Records excellent except those for period of backwater from Lake Ontario, which are fair. This record represents total discharge at Oswego and includes flow in Hydraulic and Barge Canals. A large amount of natural storage and some artificial regulation is afforded by many large lakes and Barge Canal system in river basin. Large diurnal fluctuations at low and medium stages caused by power plants above station. Oswego River Basin receives water from Erie division of Barge Canal through lock 32 near Pittsford. Small diversion from basin is occasionally made from tributary streams through summit level of Barge Canal at New London into Mohawk River Basin. During a part of year entire flow from 45 square miles of drainage area of Mud Creek may be diverted from Chemung River Basin into Lake Keuka in Oswego River Basin. During year nearly all of flow from 15.7 square miles of Tioughnioga River Basin was diverted into DeRuyter Reservoir, in Oswego River Basin.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,030	3,620	7,550	22,100	11,800	14,000	11,400	22,300	16,500	7,450	1,750	3,500
2	2,580	4,580	7,790	21,800	11,300	12,900	8,690	23,000	17,000	6,800	3,200	3,400
3	2,490	4,540	7,630	21,400	11,500	12,300	8,160	23,200	18,800	6,400	2,800	2,900
4	1,700	4,750	7,760	21,200	11,600	11,800	9,870	22,900	19,500	5,400	3,300	2,900
5	2,800	5,220	7,940	21,200	11,100	12,100	10,400	22,500	18,600	6,000	3,300	2,150
6	3,320	5,160	7,610	21,400	11,200	12,100	10,400	21,800	18,200	6,200	2,900	2,300
7	2,880	5,060	7,580	22,300	12,000	10,600	10,400	21,200	17,600	6,000	2,900	3,700
8	3,010	4,260	7,830	21,300	12,000	10,400	10,300	20,700	17,100	5,600	2,000	3,900
9	2,910	5,510	7,750	19,800	12,200	11,000	9,730	20,700	16,100	5,400	2,800	3,500
10	2,520	5,990	7,790	18,300	12,400	9,470	8,280	19,200	15,800	5,000	3,200	3,500
11	1,930	4,980	7,620	17,800	12,100	9,310	6,830	19,000	14,800	4,000	3,000	3,100
12	2,870	5,010	7,320	17,700	11,800	11,600	6,110	20,300	14,100	4,400	2,800	2,250
13	3,430	4,950	6,930	16,900	12,200	14,800	4,900	21,300	13,700	4,200	2,900	2,700
14	3,310	4,530	6,880	16,300	11,200	15,000	4,980	23,000	12,500	4,000	3,300	2,800
15	2,900	4,470	7,550	16,300	8,300	14,900	5,290	23,300	12,300	3,900	2,200	2,800
16	2,890	4,930	6,320	15,600	9,200	15,800	5,780	23,500	12,200	3,600	3,300	2,700
17	3,310	5,770	7,350	14,900	9,750	18,800	5,900	23,000	12,000	3,500	3,600	2,800
18	3,150	6,340	7,320	14,100	9,940	19,900	5,690	22,800	12,200	2,600	3,400	2,900
19	3,820	6,930	6,720	14,200	9,790	20,000	6,450	21,800	11,500	3,000	3,100	1,550
20	3,950	6,930	6,350	12,600	10,600	19,800	10,100	20,600	10,800	3,300	2,900	1,350
21	3,790	5,520	6,590	12,200	11,300	18,800	12,300	19,900	10,500	3,300	3,000	1,950
22	3,560	5,050	7,250	13,200	12,200	18,000	12,300	19,800	10,000	3,200	2,000	2,050
23	3,590	6,810	6,380	12,500	13,900	16,400	13,200	18,700	9,620	3,200	2,600	1,800
24	2,820	8,130	5,880	12,800	16,200	15,000	13,400	17,300	9,700	3,000	3,100	1,600
25	2,660	8,000	5,480	12,700	17,600	15,100	12,500	16,300	9,670	2,250	3,300	1,450
26	3,450	7,270	6,150	13,300	17,200	13,400	12,800	17,200	9,260	3,000	3,100	1,150
27	4,230	7,570	6,440	13,300	16,200	11,600	12,600	17,500	9,400	3,200	3,500	1,850
28	4,050	7,500	7,570	13,100	15,100	12,200	15,500	17,400	9,090	3,300	3,600	2,700
29	4,510	7,460	9,200	12,900	-	12,400	17,400	17,100	9,280	2,900	3,200	2,150
30	4,430	7,300	16,000	12,500	-	12,500	20,200	17,000	8,420	2,450	3,600	1,200
31	4,100	-	22,800	11,800	-	12,200	-	16,700	-	2,600	3,500	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	99,990	4,510	1,700	3,225	0.630	0.73
November	174,130	8,130	3,620	5,804	1.13	1.26
December	247,330	22,800	5,480	7,978	1.56	1.80
Calendar year 1942	2,171,340	25,500	880	5,949	1.16	15.77
January	507,500	22,300	11,800	16,370	3.20	3.68
February	341,680	17,600	8,300	12,200	2.38	2.48
March	434,180	20,000	9,310	14,010	2.74	3.15
April	301,860	20,200	4,900	10,060	1.96	2.19
May	651,000	23,500	16,300	20,350	3.97	4.58
June	396,240	19,500	8,420	13,210	2.58	2.88
July	129,150	7,450	2,250	4,166	.814	.94
August	93,150	3,600	1,750	3,005	.587	.68
September	74,600	3,900	1,150	2,487	.486	.54
Water year 1942-43	3,430,810	23,500	1,150	9,399	1.84	24.91

Note.- Backwater from Lake Ontario July 2 to Sept. 30 (no gage-height record Sept. 16-28).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Fall Creek near Ithaca, N. Y.

Location.- Water-stage recorder and concrete control, lat. 42°27'20", long. 76°28'30", in Forest Home, Tompkins County, half a mile upstream from Cornell University Dam and 1½ miles northeast of Ithaca. Datum of gage is 794.81 feet above mean sea level, adjustment of 1912 (levels by Corps of Engineers, U. S. Army).
Drainage area.- 124 square miles.
Records available.- February 1925 to September 1943. July 1908 to June 1909 at site 1½ miles downstream.
Average discharge.- 18 years, 184 second-feet.
Extremes.- Maximum discharge during year, 5,660 second-feet Dec. 30 (gage height, 5.86 feet); minimum, 14 second-feet (probably result of regulation) Sept. 20, 27 (gage height, 0.35 foot).
1925-43: Maximum discharge, 15,500 second-feet July 8, 1935 (gage height, 9.52 feet), from average of computed flow over each of four dams; minimum, about 3 second-feet Aug. 25, 1927 (gage height, 0.18 foot).
Remarks.- Records excellent except those for periods of ice effect, which are fair. Cornell University diverted 291,660,000 gallons during year from a point about 1 mile above station for water supply, equivalent to a mean discharge at station of 1.24 second-feet, or about 0.5 percent of average flow for year.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

0.3	12	1.2	104	3.0	1,200
.4	18	1.4	153	3.5	1,710
.5	24	1.6	225	4.0	2,340
.6	32	1.8	320	4.5	3,080
.8	49	2.0	434	4.9	3,750
1.0	71	2.5	775		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	272	186	1,140	140	248	280	817	462	65	32	30
2	65	330	878	768	130	205	275	509	953	57	29	28
3	58	186	360	615	125	165	266	446	444	52	27	28
4	54	153	256	496	140	160	213	440	303	52	30	28
5	72	129	225	350	170	180	270	353	696	78	56	28
6	167	119	217	310	230	170	207	275	300	74	41	20
7	139	117	190	280	360	155	186	305	359	57	32	27
8	90	108	176	245	206	135	238	793	472	50	30	26
9	74	100	156	230	198	120	221	996	248	46	28	23
10	83	99	145	220	179	140	213	561	206	46	27	21
11	69	174	142	225	221	450	163	977	194	49	26	20
12	61	134	145	215	210	1,350	156	1,270	156	51	27	20
13	54	126	125	190	185	917	179	1,030	148	58	32	19
14	50	112	70	180	160	568	176	578	137	86	36	19
15	51	104	125	210	88	663	153	410	119	52	28	19
16	53	106	116	215	116	1,470	150	331	117	44	27	19
17	118	119	98	243	120	2,040	191	305	119	37	71	20
18	302	432	102	234	*114	1,100	238	469	161	37	53	20
19	150	343	*96	280	122	686	868	614	108	33	35	19
20	108	213	74	171	155	722	1,410	623	93	31	29	18
21	93	978	72	165	580	496	786	520	84	29	27	17
22	90	528	78	*150	780	370	678	780	93	50	26	18
23	91	305	98	145	760	280	399	426	88	44	24	17
24	90	285	106	155	1,350	261	310	305	74	36	23	17
25	78	611	110	175	859	266	266	256	67	32	24	17
26	241	110	108	210	446	248	393	545	63	36	23	17
27	503	290	100	160	353	238	270	463	75	35	39	17
28	238	225	420	135	290	209	686	295	89	44	172	16
29	186	194	1,600	130	-	176	410	285	144	41	68	16
30	145	194	*3,710	124	-	227	817	225	80	51	41	16
31	124	-	1,970	125	-	434	-	194	-	39	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,773	503	50	122	0.984	1.13
November	7,496	978	99	250	2.02	2.25
December	12,254	3,710	70	395	3.19	3.68
Calendar year 1942	71,801	3,710	18	197	1.59	21.53
January	8,491	1,140	124	274	2.21	2.55
February	8,790	1,350	88	314	2.53	2.64
March	14,749	2,040	120	476	3.84	4.42
April	11,068	1,410	150	369	2.98	3.32
May	16,396	1,270	194	529	4.27	4.92
June	6,552	853	63	218	1.76	1.97
July	1,492	86	29	48.1	.388	.45
August	1,196	172	23	38.6	.311	.36
September	620	30	16	20.7	.167	.19
Water year 1942-43	92,877	3,710	16	254	2.05	27.88

Peak discharge.- Dec. 30 (5:30 p.m.) 5,660 sec.-ft.; Mar. 16 (11:45 p.m.) 2,210 sec.-ft.; Apr. 20 (3:30 a.m.) 1,870 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 14, 15, Dec. 13-29, Jan. 5-16, Jan. 21 to Feb. 7, Feb. 12-24, Mar. 2-12.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Cayuga Inlet near Ithaca, N. Y.

Location.- Water-stage recorder and concrete control, lat. 42°23'35", long. 76°32'40", half a mile upstream from Butternut Creek and 5 miles south of Ithaca, Tompkins County. Datum of gage is 437.16 feet above mean sea level (levels by Corps of Engineers, U. S. Army).
Drainage area.- 36.7 square miles.
Records available.- March 1937 to September 1943.
Extremes.- Maximum discharge during year, 2,020 second-feet Dec. 30 (gage height, 5.49 feet); minimum, 4.2 second-feet Sept. 23, 24 (gage height, 0.535 foot).
1937-43: Maximum discharge, 4,110 second-feet Aug. 13, 1942 (gage height, 7.58 feet), from rating curve extended above 650 second-feet on basis of slope-area determinations at gage heights 5.5 feet and 7.58 feet; minimum, 1.8 second-feet Aug. 30, 31, Sept. 1, 2, 1939 (gage height, 0.42 foot).
Remarks.- Records good except those for periods of ice effect, doubtful gage-height record, or above 100 second-feet, which are fair.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Dec. 29)

Oct. 1 to Dec. 29				Dec. 29 to Sept. 30					
0.7	10	1.6	124	0.5	3.3	1.2	61	2.6	540
.8	16	1.8	168	.6	6.2	1.4	97	3.0	738
.9	25	2.0	220	.7	10	1.6	141	3.5	950
1.0	34	2.2	279	.8	16	1.8	196	4.1	1,190
1.2	56	2.5	375	.9	25	2.0	264		
1.4	86			1.0	35	2.2	347		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	92	43	208	39	59	63	103	150	18	9.0	6.4
2	22	66	172	d146	33	49	61	82	145	16	8.2	6.4
3	20	55	75	120	28	42	57	86	86	14	8.6	6.2
4	20	48	62	97	36	b40	55	71	68	14	13	8.7
5	23	42	55	66	46	b43	61	61	58	20	10	8.2
6	47	40	51	66	60	b41	50	57	51	16	9.5	6.8
7	30	37	45	57	65	b40	48	65	77	13	8.4	6.0
8	23	35	40	b52	47	b35	50	272	65	13	9.0	5.8
9	21	31	37	b50	41	b31	47	203	48	12	8.2	5.6
10	20	43	34	b48	38	b40	42	209	46	13	8.2	5.4
11	19	46	34	b46	54	b102	37	199	42	23	7.6	5.3
12	17	36	34	45	42	b250	41	415	36	20	7.2	5.2
13	16	37	32	39	38	139	45	229	46	14	8.4	5.0
14	16	32	b27	b37	b33	108	45	149	36	13	11	5.0
15	19	29	30	b40	b25	120	39	110	d35	12	7.8	5.0
16	21	30	27	b42	b34	231	36	89	d33	10	7.4	5.4
17	71	30	b25	51	b32	235	57	123	33	10	8.2	5.8
18	61	63	27	45	b30	144	65	134	32	9.5	7.2	5.3
19	40	45	b24	67	b35	120	249	116	24	8.6	6.4	5.0
20	35	41	b19	40	b140	137	293	110	21	8.2	6.0	4.7
21	31	113	b19	b38	160	91	202	136	35	8.0	6.4	4.7
22	30	73	b21	*b39	*119	78	146	136	37	21	6.0	4.6
23	30	59	*b23	b39	140	66	105	99	23	11	5.8	4.4
24	26	62	b24	b46	*207	63	88	76	20	9.0	5.9	4.7
25	24	81	24	58	114	60	76	68	17	11	5.8	5.0
26	95	64	23	51	73	55	70	153	16	12	5.4	4.8
27	83	54	21	42	75	51	70	89	27	17	15	4.7
28	55	48	95	36	71	46	140	86	31	24	16	4.6
29	45	44	*344	b35	-	41	82	88	28	13	9.2	4.6
30	40	45	*1,180	34	-	88	135	66	19	15	7.8	4.6
31	38	-	381	33	-	83	-	57	-	10	6.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,062	95	16	34.3	0.935	1.08
November	1,521	113	29	50.7	1.38	1.54
December	3,048	1,180	19	98.3	2.68	3.09
Calendar year 1942	18,026.5	1,180	5.4	49.4	1.35	18.27
January	1,813	208	33	58.5	1.59	1.84
February	1,855	207	25	66.2	1.80	1.88
March	2,728	250	31	88.0	2.40	2.76
April	2,555	293	36	85.2	2.32	2.59
May	3,937	415	57	127	3.46	3.99
June	1,385	150	16	46.2	1.26	1.40
July	428.3	24	8.0	13.8	.376	.43
August	259.4	16	5.4	8.37	.228	.26
September	163.9	8.7	4.4	5.46	.149	.17
Water year 1942-43	20,755.6	1,180	4.4	56.9	1.55	21.03

Peak discharge.- Dec. 30 (8 a.m.) 2,020 sec.-ft.; May 12 (3:30 p.m.) 733 sec.-ft.
* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge computed on basis of outside gage readings, weather records, and records for nearby stations.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Canandaigua Lake at Canandaigua, N. Y.

Location.- Staff gage, lat. 42°52'30", long. 77°16'20", at west outlet at northern end of Canandaigua Lake on west side of E. T. Waldorf's boathouse, 1 mile southeast of Canandaigua, Ontario County. Datum of gage is 680.76 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 189 square miles.

Records available.- November 1939 to September 1943. Records previously collected at same site by Oswego River Watershed Corporation of Fulton, N. Y.

Extremes.- Maximum gage height observed during year, 8.55 feet May 12, 13, 16; minimum observed, 5.35 feet Dec. 21.
1939-43: Maximum gage height observed, 9.09 feet Apr. 12, 13, 1940; minimum observed, 4.45 feet Jan. 30, 1942.

Remarks.- Lake is formed by dams at two outlets. West outlet, which usually carries most of the lake outflow, is a canal 1¼ miles long emptying into Canandaigua Lake Outlet; spillway consists of permanent stop log, 9.8 feet long with top at elevation 683.96 feet extending across a masonry arch opening under roadway. East outlet is at head of natural outlet channel from lake; spillway consists of 40 feet of detachable stop logs mounted in several layers on concrete footing. The city engineer, Canandaigua, N. Y., regulates storage in lake for Oswego River Watershed Corporation, Fulton, N. Y., by operation of stop logs at east outlet. Capacity of lake not determined. Area of water surface is about 16.57 square miles at elevation 686 feet. Staff gage read twice daily.

Gage height, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	5.95	6.15	7.2	a6.5	6.55	6.6	8.3	8.3	6.8	6.5	6.4
2	6.15	5.9	6.0	7.2	6.45	6.6	6.6	8.35	8.45	6.75	6.5	6.4
3	6.0	5.9	6.0	7.0	6.4	6.55	6.75	8.3	8.45	6.75	6.55	6.4
4	6.1	5.95	6.0	6.95	6.45	6.55	6.75	8.25	8.45	6.75	6.6	6.4
5	6.1	5.9	6.1	7.1	6.4	6.55	6.95	8.3	8.35	6.8	6.6	6.4
6	6.0	5.85	6.0	6.95	6.45	6.55	6.95	8.15	8.25	6.75	6.6	6.4
7	5.95	5.75	6.0	7.05	6.5	6.55	6.95	8.05	8.15	6.65	6.6	6.4
8	5.95	5.85	5.85	6.9	6.45	6.55	7.0	8.2	8.1	6.6	6.55	6.4
9	5.9	5.8	5.75	6.95	6.5	6.55	6.95	8.3	8.05	6.6	6.55	6.4
10	6.0	5.8	5.75	6.9	6.45	6.55	6.95	8.3	7.9	6.6	6.55	6.35
11	6.0	5.75	5.7	6.95	6.45	6.55	6.95	8.45	7.95	6.6	6.55	6.35
12	5.95	5.75	5.55	6.9	6.5	6.55	7.0	8.55	7.85	6.55	6.55	6.3
13	5.9	5.7	5.55	6.9	6.5	6.55	6.95	8.55	7.85	6.65	6.55	6.3
14	5.9	5.7	5.45	6.95	6.45	6.6	7.0	8.5	7.75	6.7	6.5	6.2
15	5.9	5.65	5.5	6.9	6.45	6.6	7.0	8.45	7.75	6.6	6.5	6.2
16	5.95	5.7	5.45	7.05	6.45	6.6	7.0	8.55	7.7	6.6	6.45	6.15
17	6.0	5.7	5.5	6.8	6.45	6.6	7.05	8.35	7.6	6.6	6.45	6.15
18	6.05	5.7	5.55	6.7	6.4	6.75	7.05	8.2	7.5	6.6	6.5	6.15
19	5.9	5.65	5.5	6.75	6.4	6.75	7.1	8.2	7.45	6.55	6.5	6.2
20	6.0	5.75	5.4	6.65	6.35	6.9	7.1	8.2	7.4	6.55	6.45	6.2
21	5.9	5.8	5.35	6.65	6.4	6.75	7.3	8.2	7.35	6.55	6.45	6.1
22	5.85	5.95	5.4	6.6	6.4	6.6	7.7	8.2	7.3	6.55	6.4	6.15
23	5.9	5.85	5.45	6.55	6.4	6.6	7.75	8.2	7.2	6.55	6.45	6.1
24	5.95	5.85	5.55	6.55	6.5	6.6	7.75	8.15	7.2	6.55	6.45	6.1
25	5.8	5.9	5.6	6.6	6.55	6.6	7.8	8.15	7.15	6.5	6.45	6.1
26	5.85	5.9	5.6	6.5	6.55	6.6	7.7	8.2	7.1	6.5	6.45	6.1
27	5.9	5.9	5.65	6.55	6.6	6.6	7.7	8.35	7.05	6.55	6.45	6.15
28	5.85	5.95	5.75	6.55	6.55	6.6	7.85	8.4	7.0	6.6	6.4	6.15
29	5.95	6.05	5.95	a6.55	-	6.6	8.15	8.4	6.95	6.7	6.45	6.1
30	5.9	6.15	6.15	a6.5	-	6.6	8.2	8.4	6.85	6.6	6.45	6.0
31	5.95	-	6.65	a6.5	-	6.6	-	8.3	-	6.55	6.45	-

a No gage-height record; mean daily gage heights estimated on basis of precipitation record and record for Canandaigua Lake Outlet at Chapin.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Canandaigua Lake Outlet at Chapin, N. Y.

Location.- Water-stage recorder, lat. 42°55'00", long. 77°14'00", in Chapin, Ontario County, about 500 feet upstream from highway bridge and 3 miles downstream from Canandaigua Lake. Datum of gage is 676.37 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 199 square miles.

Records available.- November 1939 to September 1943.

Extremes.- Maximum discharge during year, 964 second-feet May 26 (gage height, 4.36 feet); minimum, 11 second-feet Sept. 28 (gage height, 1.235 feet, backwater from weeds).
1939-43: Maximum discharge, 1,100 second-feet Mar. 17, 1942 (gage height, 4.64 feet); minimum, 11 second-feet Feb. 1, 1942, Sept. 28, 1943; minimum gage height, 1.22 feet Feb. 1, 1942.

Remarks.- Records excellent except those for periods of backwater from weeds, which are good, and those for periods of ice effect or no gage-height record, which are fair. Seasonal regulation caused by operation of stop logs on dam at east outlet of Canandaigua Lake.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	80	74	169	*458	317	291	150	720	754	269	38	28
2	78	74	b190	472	*b290	b280	140	720	813	254	38	29
3	78	72	b175	b460	b280	276	140	726	774	237	40	27
4	80	68	b170	b450	302	b270	142	711	757	167	43	28
5	78	70	b160	b440	332	265	145	699	738	145	42	28
6	76	68	161	b430	324	254	135	684	705	132	40	27
7	76	68	158	b430	324	b245	135	669	687	127	38	26
8	74	66	156	b420	287	b240	137	708	675	123	36	26
9	74	64	151	413	b280	b230	137	744	650	123	36	26
10	74	70	148	405	b280	234	135	747	628	118	36	25
11	72	68	148	398	b300	265	132	806	605	115	36	24
12	72	66	146	386	b280	339	140	840	578	115	36	23
13	72	64	b140	374	b260	302	137	796	568	105	35	23
14	70	64	b124	366	b215	302	140	778	540	64	35	22
15	68	66	*b108	355	b190	309	137	754	519	54	32	21
16	72	82	b106	343	b235	339	142	754	512	46	33	21
17	78	124	b100	339	b200	370	145	726	494	43	34	20
18	76	144	b96	332	b290	362	137	699	484	42	32	20
19	74	146	b92	b330	298	358	213	681	461	40	31	20
20	72	157	b88	b320	328	366	317	678	443	40	30	20
21	72	210	b88	b320	280	362	254	681	421	40	30	20
22	72	177	b108	b310	*272	355	284	678	401	42	30	20
23	72	172	b120	b300	284	347	298	672	382	42	29	18
24	70	174	b114	295	328	347	302	660	362	41	28	14
25	68	174	b110	306	302	339	306	650	347	40	28	13
26	74	174	111	324	298	332	306	816	332	39	27	13
27	72	174	122	b310	298	324	335	747	324	40	30	12
28	70	172	244	302	298	313	522	747	309	41	30	15
29	70	166	332	295	-	306	564	744	298	40	29	45
30	72	169	571	291	-	287	650	729	284	39	28	50
31	72	-	417	295	-	186	-	714	-	39	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,278	80	68	73.5	-	-
November	3,437	210	64	115	-	-
December	5,123	571	88	165	-	-
Calendar year 1942	55,171	928	18	151	0.759	10.32
January	11,269	472	291	364	-	-
February	7,972	332	190	285	-	-
March	9,395	370	186	303	-	-
April	6,857	650	132	229	-	-
May	22,478	840	650	725	-	-
June	15,845	813	284	528	-	-
July	2,802	269	39	90.4	-	-
August	1,037	43	27	33.5	-	-
September	704	50	12	23.5	-	-
Water year 1942-43	89,197	840	12	244	1.23	16.67

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Backwater from weeds Oct. 1 to Nov. 17, July 14 to Sept. 30 (no gage-height record Nov. 8-14).
Increase in contents in Canandaigua Lake during calendar year 1942, about 1,053,000,000 cubic feet (equivalent mean discharge, 33.4 sec.-ft.; runoff, 2.28 inches); increase in elevation, 2.28 feet. Decrease in contents during water year 1942-43, about 87,770,000 cubic feet (equivalent mean discharge, 2.78 sec.-ft.; runoff, 0.19 inch); decrease in elevation, 0.19 foot.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Owasco Lake Outlet near Auburn, N. Y.

Location.- Water-stage recorder and concrete control, lat. 42°56'45", long. 76°36'05", 2⅛ miles downstream from center of Auburn, Cayuga County, and 4 miles downstream from State dam at outlet of Owasco Lake.
Drainage area.- 208 square miles.
Records available.- November 1912 to September 1943.
Average discharge.- 30 years (1913-43), 283 second-feet.
Extremes (regulated).- Maximum discharge during year, 1,610 second-feet Dec. 31 (gage height, 4.02 feet); minimum, 3.4 second-feet Sept. 29 (gage height, 1.40 feet, backwater from weeds); minimum daily, 14 second-feet Sept. 28.
1912-43: Maximum discharge, 2,090 second-feet Mar. 19, 1936, Apr. 9, 1940 (gage height, 4.88 feet); minimum, about 2 second-feet Dec. 5, 1936 (gage height, 1.36 feet); minimum daily, 5 second-feet Nov. 11, 1934.
Remarks.- Records excellent except those for period of backwater from weeds, which are good. Diurnal fluctuation caused by mills in Auburn; seasonal regulation at State dam. Water supply for Auburn taken from Owasco Lake, part of which returns as sewage to outlet above gaging station.

Rating table, water year 1942-43, except period of backwater from weeds
(gage height, in feet, and discharge, in second-feet)

1.47	13	1.9	91	3.0	665
1.5	17	2.0	116	3.4	1,040
1.55	23	2.2	181	3.9	1,510
1.6	31	2.4	267		
1.7	49	2.7	441		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	145	155	321	1,510	438	612	466	1,000	670	302	157	68
2	143	151	338	1,490	406	599	471	1,040	894	301	143	66
3	140	148	333	1,450	401	584	462	1,040	930	297	145	42
4	141	164	333	1,400	402	574	462	1,010	920	290	143	52
5	143	170	332	1,320	398	551	436	1,000	930	281	146	62
6	139	163	328	1,260	408	531	414	970	906	290	130	60
7	136	166	330	1,190	427	520	410	930	852	298	116	58
8	135	169	324	1,120	417	495	401	900	802	299	126	60
9	134	173	325	1,060	421	483	399	910	773	308	124	78
10	132	175	319	1,010	420	471	399	920	664	259	112	45
11	129	171	315	950	417	481	390	980	595	209	135	45
12	136	172	308	910	409	554	404	1,040	596	215	105	52
13	132	173	291	855	409	604	397	1,100	548	216	108	52
14	130	169	304	805	399	632	408	1,090	428	214	107	49
15	131	171	316	753	385	649	403	1,060	422	214	112	44
16	134	173	315	720	419	768	409	1,050	413	218	95	33
17	166	173	320	701	424	1,010	399	990	425	218	42	47
18	144	188	324	682	375	1,120	380	950	420	211	82	47
19	140	178	317	667	354	1,130	431	870	411	206	63	47
20	136	188	323	644	362	1,120	657	831	409	201	66	52
21	137	203	328	613	358	1,090	934	813	350	198	66	47
22	135	213	323	591	387	1,050	970	804	295	195	66	45
23	136	266	256	576	410	1,000	970	795	299	194	62	44
24	132	313	220	563	506	920	930	767	308	194	64	45
25	132	327	207	561	591	870	900	650	311	192	62	41
26	156	328	195	525	633	767	880	683	229	186	69	37
27	144	328	199	624	654	607	890	763	63	176	74	66
28	146	320	295	511	631	464	920	763	217	185	72	14
29	148	310	332	498	-	464	920	691	288	179	66	24
30	148	315	900	476	-	479	940	629	311	173	66	34
31	142	-	1,420	458	-	467	-	621	-	166	66	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	4,322	166	129	139	-	-
November	6,313	328	148	210	-	-
December	11,091	1,420	195	358	-	-
Calendar year 1942	97,159	1,420	66	266	1.28	17.38
January	26,393	1,510	458	851	-	-
February	12,231	633	354	437	-	-
March	21,666	1,130	464	699	-	-
April	17,852	970	380	595	-	-
May	27,660	1,100	621	892	-	-
June	15,677	930	63	523	-	-
July	7,084	308	166	229	-	-
August	2,981	157	42	96.2	-	-
September	1,456	78	14	48.5	-	-
Water year 1942-43	154,726	1,510	14	424	2.04	27.66

Note.- Backwater from weeds Aug. 21 to Sept. 30.
Increase in contents in Owasco Lake during calendar year 1942, about 1,516,100,000 cubic feet (equivalent mean discharge, 48.0 sec.-ft.; runoff, 3.14 inches); increase in elevation, 5.28 feet. Decrease in contents during water year 1942-43, about 252,700,000 cubic feet (equivalent mean discharge, 8.01 sec.-ft.; runoff, 0.53 inch); decrease in elevation, 0.88 foot.
Time basis: Eastern war time. To convert war time to standard tire, subtract 1 hour.

Onondaga Creek at Syracuse, N. Y.

Location.- Water-stage recorder and steel plate weir, lat. 43°00'35", long. 76°09'00", 75 feet upstream from end of channel improvement, 300 feet upstream from Ballantyne Road Bridge, and 2 miles south of center of Syracuse, Onondaga County. Datum of gage is 401.25 feet above mean sea level, datum of 1929.
Drainage area.- 98.2 square miles (revised).
Records available.- November 1939 to September 1943.
Extremes.- Maximum discharge during year, 3,980 second-feet Dec. 30 (gage height, 9.58 feet); minimum, 7.0 second-feet (regulated) Oct. 13, 14 (gage height, 2.025 feet); minimum daily, 16 second-feet (regulated) Oct. 16.
1939-43: Maximum discharge, that of Dec. 30, 1942; minimum, 1.2 second-feet (regulated) Sept. 12, 1941 (gage height, 1.85 feet); minimum daily, 8.5 second-feet (regulated) Sept. 6, 1942.
Remarks.- Records excellent except those for periods of backwater, which are fair. Diurnal fluctuation at low and medium stages caused by mills.

Rating tables, water year 1942-43, except periods of backwater
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 29						Dec. 30 to Sept. 30					
2.2	16	2.7	77	3.4	216	2.2	18	3.0	136	5.0	755
2.3	25	2.8	93	3.6	267	2.3	28	3.2	179	5.5	978
2.4	36	2.9	111	4.0	385	2.4	38	3.4	226	6.0	1,225
2.5	48	3.0	130	4.4	519	2.5	51	3.6	277	6.5	1,520
2.6	62	3.2	171	4.7	630	2.6	65	4.0	392	7.0	1,870
						2.8	98	4.5	562	7.4	2,180

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	51	98	798	144	221	211	548	173	55	27	29
2	17	76	277	*489	134	194	202	454	467	52	25	27
3	17	62	226	373	120	173	200	359	748	49	25	27
4	17	58	153	293	131	157	178	389	330	49	39	26
5	17	c49	133	254	221	174	192	325	296	80	43	26
6	20	c40	122	228	226	162	173	270	251	90	32	26
7	26	c36	*115	b215	288	160	160	324	242	61	28	25
8	21	c33	103	b180	196	124	183	336	293	50	29	24
9	18	29	93	b170	183	115	178	506	221	47	27	24
10	18	28	90	b185	151	130	179	364	188	43	26	23
11	18	47	90	b185	227	351	155	421	177	41	27	23
12	18	45	96	181	192	815	146	661	157	43	25	23
13	17	42	86	161	169	619	161	698	144	43	32	23
14	17	47	71	152	b160	346	167	451	136	42	105	24
15	17	42	81	160	b94	335	154	330	120	39	44	22
16	16	48	76	159	b130	570	152	285	114	35	36	24
17	44	71	b66	181	b122	1,110	183	261	120	33	185	24
18	91	145	b68	166	b112	759	189	270	119	35	66	24
19	54	159	b62	203	117	440	282	249	102	32	40	23
20	35	106	b50	b140	*178	450	935	253	92	28	36	22
21	28	248	b52	b135	478	352	566	260	82	29	33	22
22	25	217	b56	b122	376	288	427	380	79	31	34	21
23	25	132	b64	b130	405	245	310	282	71	33	31	21
24	24	123	b70	136	845	234	259	220	67	30	28	21
25	22	215	b72	*185	853	229	241	199	64	30	29	22
26	33	205	b70	242	338	216	279	277	62	28	27	22
27	119	155	61	178	289	202	236	325	72	28	30	22
28	72	119	283	145	248	186	525	247	62	32	99	20
29	55	100	630	134	-	166	445	199	63	33	56	20
30	47	101	2,180	126	-	174	346	177	57	33	38	20
31	44	-	1,920	124	-	248	-	160	-	29	32	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,010	119	16	32.6	0.332	0.38
November	2,829	248	28	94.3	.960	1.07
December	7,614	2,180	50	246	2.51	2.88
Calendar year 1942	38,350.5	2,180	8.5	105	1.07	14.53
January	6,530	798	122	211	2.15	2.47
February	7,127	853	94	255	2.60	2.70
March	9,945	1,110	115	321	3.27	3.77
April	8,014	935	146	267	2.72	3.04
May	10,460	698	160	337	3.43	3.96
June	5,169	748	57	172	1.75	1.96
July	1,283	90	28	41.4	.422	.49
August	1,334	185	25	43.0	.438	.51
September	700	29	20	23.3	.237	.27
Water year 1942-43	62,015	2,180	16	170	1.73	23.50

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
c Backwater from debris.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Limestone Creek at Fayetteville, N. Y.

Location.- Water-stage recorder, lat. 43°01'45", long. 76°00'50", 100 feet downstream from Genesee Street Bridge in Fayetteville, Onondaga County, and about 8 miles upstream from mouth. Datum of gage is 427.62 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 85.7 square miles, not including 15.7 square miles of Middle Branch Tioughnioga Creek Basin, flow from which is probably almost completely diverted into Limestone Creek Basin through DeRuyter Reservoir.

Records available.- November 1939 to September 1943.

Extremes.- Maximum discharge during year, 6,260 second-feet Dec. 30 (gage height, 7.18 feet); minimum, 22 second-feet (regulated) July 20 (gage height, 1.45 feet).
1939-43: Maximum discharge, that of Dec. 30, 1942; minimum, 14 second-feet (regulated) Aug. 10, 1940, Aug. 17, 1941; minimum gage height, 1.365 feet Aug. 17, 1941.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow affected by canal diverting from Limestone Creek about 3 miles above station, and returning water to creek about 400 feet above station, and by regulation of DeRuyter Reservoir.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 30				Dec. 30 to Sept. 30					
1.5	27	2.4	187	1.5	27	2.4	178	3.8	745
1.6	40	2.6	247	1.6	40	2.6	231	4.0	880
1.7	55	2.8	317	1.7	55	2.8	292	4.5	1,300
1.8	72	3.0	396	1.8	71	3.0	360	5.0	1,870
1.9	89	3.2	485	1.9	88	3.2	438	5.5	2,600
2.0	106	3.4	586	2.0	105	3.4	525	6.0	3,480
2.2	143	3.6	699	2.2	139	3.6	627	6.2	3,870

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	93	143	752	146	228	220	575	166	52	40	44
2	44	122	467	*545	b135	209	217	406	573	50	39	44
3	42	99	268	434	b125	186	193	394	472	48	38	44
4	39	119	201	356	b145	b165	172	455	261	49	46	44
5	40	98	185	283	214	174	198	322	246	63	54	44
6	48	89	170	252	232	170	157	267	183	76	44	46
7	60	87	*153	234	298	165	170	364	248	a60	42	48
8	48	82	139	b200	186	b140	196	418	273	a52	40	44
9	43	75	128	b180	183	b130	190	562	176	a49	39	43
10	43	72	124	b190	168	146	200	402	159	a46	42	42
11	42	120	126	186	228	508	157	512	157	a43	43	42
12	40	98	130	178	206	1,230	159	943	132	a56	37	40
13	39	101	117	*165	178	698	193	684	124	a60	51	40
14	37	98	101	161	b165	426	180	406	114	57	106	40
15	37	96	115	157	b104	516	170	318	103	49	58	40
16	38	106	b110	159	b140	1,420	151	270	102	46	55	40
17	99	141	b94	176	b130	1,810	194	255	108	40	329	42
18	168	332	b96	170	b122	753	191	255	105	39	140	42
19	104	226	b90	196	*132	494	497	240	91	37	88	40
20	77	179	b70	b150	220	525	986	240	83	35	68	39
21	67	382	b76	b135	530	375	476	335	78	35	58	38
22	64	236	b82	b125	484	302	394	544	74	35	57	37
23	65	161	b92	b130	610	240	276	302	68	39	50	37
24	64	203	b96	136	1,750	234	228	225	65	43	50	38
25	57	400	98	171	813	252	214	200	63	43	49	38
26	66	336	96	220	388	228	248	289	60	43	46	37
27	194	215	87	163	302	228	215	308	58	44	46	37
28	122	163	367	b140	261	193	618	237	58	44	92	37
29	111	145	690	b135	-	168	354	193	60	44	69	42
30	91	149	*3,750	b130	-	191	380	170	55	48	54	46
31	80	-	1,430	b130	-	280	-	155	-	44	49	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,137	194	37	68.9	-	-
November	4,823	400	72	161	-	-
December	9,891	3,750	70	319	-	-
Calendar year 1942	49,315	3,750	26	135	1.58	21.41
January	6,739	752	125	217	-	-
February	8,595	1,750	104	307	-	-
March	12,784	1,810	130	412	-	-
April	8,194	986	151	273	-	-
May	11,246	943	155	363	-	-
June	4,515	573	55	150	-	-
July	1,469	76	35	47.4	-	-
August	2,019	329	37	65.1	-	-
September	1,235	48	37	41.2	-	-
Water year 1942-43	73,647	3,750	35	202	2.36	31.97

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Onondaga Creek at Syracuse.
b Stage-discharge relation affected by ice.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

East Branch Fish Creek at Taberg, N. Y.

Location.- Water-stage recorder, lat. 43°18'05", long. 75°37'10", at highway bridge in Taberg, Oneida County, just downstream from Furnace Creek.

Drainage area.- 189 square miles.

Records available.- April 1923 to September 1943.

Average discharge.- 20 years, 543 second-feet.

Extremes.- Maximum discharge during year, 6,540 second-feet May 1 (gage height, 6.74 feet); minimum, 16 second-feet (regulated) Aug. 31, Sept. 2 (gage height, 0.19 foot). 1923-43: Maximum discharge, about 16,500 second-feet Oct. 6, 1932 (gage height, 9.18 feet), from rating curve extended above 2,700 second-feet by logarithmic plotting; minimum, 5.4 second-feet (regulated) June 28, 1941 (gage height, -0.10 foot).

Remarks.- Records good except those for periods of ice effect, which are fair. The city of Rome diverted 4,874,700,000 gallons during year above station for water supply, equivalent to a mean discharge of 20.7 second-feet or 2.9 percent of average flow for year. Gates at Rome diversion dam occasionally cause diurnal fluctuation during low stages.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	369	490	468	2,450	275	768	2,500	4,720	569	106	61	77
2	266	635	636	1,810	249	637	2,630	2,230	1,190	95	49	127
3	201	546	508	1,410	237	550	1,520	2,310	1,050	87	51	157
4	176	408	525	1,140	274	479	1,050	3,210	667	98	104	99
5	214	310	522	874	287	474	971	2,120	545	912	295	84
6	284	320	522	*756	282	410	702	2,560	404	801	162	118
7	428	359	492	673	313	375	636	2,540	431	344	101	254
8	311	302	473	587	284	337	610	2,620	604	197	104	195
9	224	251	468	533	273	313	567	2,430	431	139	87	123
10	183	434	*496	503	261	337	616	2,300	330	108	448	92
11	157	1,400	483	468	*330	*407	568	1,700	307	92	642	84
12	139	917	455	430	372	769	655	3,110	265	92	287	74
13	128	658	423	388	423	1,030	752	2,390	246	95	219	65
14	121	500	380	366	466	1,020	661	1,530	262	294	811	58
15	120	475	390	358	420	g1,000	552	1,160	224	208	615	53
16	114	482	328	337	410	g1,400	497	1,040	311	122	273	73
17	171	520	322	325	400	3,120	483	1,320	494	89	249	239
18	336	1,950	306	320	390	3,060	591	1,170	708	80	242	172
19	288	1,850	290	349	380	2,410	1,130	1,050	408	69	215	117
20	211	1,400	280	332	373	2,180	1,930	818	322	68	146	89
21	173	1,890	260	350	499	1,730	1,800	2,120	252	86	116	74
22	241	1,140	250	340	596	1,410	1,930	2,430	202	121	86	65
23	321	651	250	330	641	1,210	2,900	1,230	167	162	72	60
24	342	672	260	330	830	1,160	3,250	805	146	97	141	53
25	250	1,310	260	330	1,090	1,590	3,900	638	129	74	154	50
26	459	1,060	256	340	1,120	2,000	4,690	1,730	115	63	102	45
27	900	828	269	349	1,070	3,210	3,920	1,910	119	61	93	43
28	577	557	504	319	921	2,620	4,110	1,060	108	81	112	41
29	454	594	702	306	-	1,780	2,800	722	158	84	102	41
30	441	553	2,250	290	-	1,450	3,910	565	115	123	96	40
31	396	-	3,200	289	-	1,550	-	568	-	81	57	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	8,995	900	114	290	1.53	1.77
November	23,462	1,950	251	782	4.14	4.62
December	17,206	3,200	250	555	2.94	3.39
Calendar year 1942	185,789	5,120	16	509	2.69	36.56
January	17,962	2,450	289	579	3.06	3.53
February	13,466	1,120	237	481	2.54	2.65
March	40,786	3,210	313	1,316	6.96	8.03
April	52,831	4,690	483	1,761	9.32	10.40
May	56,006	4,720	468	1,807	9.56	11.02
June	11,279	1,190	108	376	1.99	2.22
July	5,129	912	61	165	.873	1.01
August	6,292	811	49	203	1.07	1.24
September	2,862	254	40	95.4	.505	.56
Water year 1942-43	256,276	4,720	40	702	3.71	50.44

Peak discharge.- Apr. 26 (4:45 a.m.) 5,680 sec.-ft.; Apr. 28 (9:20 a.m.) 4,730 sec.-ft.; May 1 (2 a.m.) 6,540 sec.-ft.

* Winter discharge measurement made on this day.

g Computed from graph based on twice-daily gage readings.

Note.- Stage-discharge relation affected by ice Dec. 18-25, Jan. 21-26, Feb. 11, 15-19.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Black River near Boonville, N. Y.

Location.- Water-stage recorder, lat. 43°30'35", long. 75°18'25", at highway bridge, three-quarters of a mile upstream from Sugar River and 2 miles northeast of Boonville, Oneida County.
Drainage area.- 295 square miles.
Records available.- February 1911 to September 1943.
Average discharge.- 32 years, 663 second-feet (unadjusted).
Extremes.- Maximum discharge during year, 4,920 second-feet May 1; maximum gage height, 9.42 feet Feb. 26, backwater from ice; minimum discharge, 130 second-feet (regulated) Sept. 28 (gage height, 3.80 feet).
1911-43: Maximum discharge, about 10,000 second-feet Mar. 28, 1913 (gage height, about 12.5 feet); minimum, about 5 second-feet (regulated) Aug. 26, 1918 (gage height, 2.40 feet).
Remarks.- Records excellent except those for periods of ice effect, which are good. Flow partly regulated by several headwater reservoirs. Forestport feeder diverts water from State Pond at Forestport. That portion of diverted water which does not pass down Black River Canal (flowing south) returns to Black River below station through Mill Creek sluiceway.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Feb. 23

5.5	778	7.6	2,730
6.1	1,180	8.5	4,030
6.8	1,810		

Note.- Same as following table below 5.5 feet.

Feb. 24 to Sept. 30

3.8	130	5.0	516	7.6	2,610
4.0	174	5.5	778	8.5	3,770
4.3	255	6.1	1,170	9.1	4,680
4.6	354	6.8	1,750		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	1,290	946	720	4,000	460	900	1,950	4,620	950	380	340	249
2	892	1,040	1,070	3,140	460	800	2,070	3,660	1,590	322	280	442
3	737	920	1,150	2,170	450	*700	1,700	3,020	1,730	293	249	573
4	655	796	1,040	1,500	*430	660	1,320	3,660	1,260	296	302	418
5	603	704	900	1,100	420	600	1,300	3,100	1,020	893	504	336
6	711	623	888	900	410	560	1,050	2,980	881	1,480	516	373
7	1,060	588	820	780	410	560	900	3,180	869	855	380	521
8	807	583	*755	700	430	560	920	3,370	1,110	540	347	563
9	598	516	620	660	430	540	850	3,480	906	403	312	498
10	512	646	580	620	410	500	863	3,200	749	333	517	430
11	455	1,530	640	600	410	580	802	2,750	704	306	965	384
12	422	1,520	649	580	450	980	838	3,410	649	333	660	354
13	399	1,210	593	560	600	1,500	952	3,910	593	354	525	336
14	372	1,120	525	560	620	1,700	1,040	2,900	568	326	1,050	312
15	347	*972	480	560	560	1,550	881	2,200	512	414	999	223
16	336	857	450	540	520	1,500	796	1,870	512	403	568	215
17	347	802	430	520	500	2,500	814	2,080	578	316	634	235
18	426	1,370	400	500	480	3,410	820	1,800	766	277	676	218
19	455	2,060	370	500	470	3,100	1,100	1,540	649	238	588	202
20	407	1,520	410	520	460	2,530	1,420	1,330	540	235	447	189
21	380	1,470	410	520	540	2,130	1,440	1,410	472	249	354	182
22	687	1,370	400	520	660	1,790	1,460	1,920	430	252	344	174
23	1,180	1,080	440	500	720	1,490	2,240	1,530	384	261	319	169
24	1,040	1,010	460	490	840	1,350	2,790	1,170	344	243	330	162
25	790	1,270	460	490	1,200	1,520	3,300	991	330	232	426	158
26	821	1,360	450	520	1,350	1,760	3,940	1,140	312	274	372	153
27	1,880	1,140	440	520	1,300	2,200	4,260	2,090	302	267	302	153
28	1,630	1,030	430	500	1,040	2,310	4,330	1,680	296	299	293	151
29	1,260	926	460	480	-	1,830	3,900	1,270	534	309	280	151
30	1,080	863	1,250	480	-	1,610	3,620	1,090	525	365	255	149
31	979	-	*2,800	470	-	1,440	-	906	-	438	238	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	23,558	1,880	336	760	2.58	2.97
November	31,842	2,060	516	1,061	3.60	4.01
December	21,490	2,800	370	693	2.35	2.71
Calendar year 1942	251,051	5,790	100	688	2.33	31.66
January	26,500	4,000	470	855	2.90	3.34
February	17,030	1,350	410	608	2.06	2.15
March	45,160	3,410	500	1,457	4.94	5.69
April	53,566	4,330	796	1,786	6.05	6.75
May	73,257	4,620	906	2,363	8.01	9.24
June	21,065	1,730	296	702	2.38	2.66
July	12,186	1,480	232	393	1.33	1.54
August	14,372	1,050	238	464	1.57	1.81
September	8,673	573	149	289	.980	1.09
Water year 1942-43	348,699	4,620	149	955	3.24	43.96

Peak discharge.- Jan. 1 (12:20 p.m.) 4,620 sec.-ft.; Mar. 18 (9:20 p.m.) 3,590 sec.-ft.; May 1 (4 p.m.) 4,920 sec.-ft.; May 4 (12:30 p.m.) 3,840 sec.-ft.; May 13 (6 a.m.) 4,160 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 1, 5, 9-11, Dec. 15 to Jan. 1, Jan. 4 to Mar. 17.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Black River at Watertown, N. Y.

Location.- Water-stage recorder, lat. 43°59'05", long. 75°55'30", at Vanduzee Street Bridge, in Watertown, Jefferson County.

Drainage area.- 1,876 square miles.

Records available.- July 1920 to September 1943.

Average discharge.- 23 years, 3,850 second-feet.

Extremes.- Maximum discharge during year, 19,400 second-feet May 2 (gage height, 8.13 feet); minimum, 80 second-feet (regulated) Sept. 5 (gage height, 0.09 foot); minimum daily, 955 second-feet (regulated) July 26.
1920-43: Maximum discharge, 33,900 second-feet Apr. 9, 1928 (gage height, 10.6 feet); minimum, 10 second-feet (estimated, regulated), Sept. 2, 1934 (gage height, -0.19 foot); minimum daily, 137 second-feet (regulated) Sept. 4, 1939.
Maximum discharge known, about 39,700 second-feet in April 1869.

Remarks.- Records good except those for periods of ice effect or doubtful or no gage-height record, which are fair. Flow partly regulated by Stillwater Reservoir, Fulton Chain of Lakes, and other reservoirs. During canal season water is diverted out of basin through Forestport feeder and Black River Canal (flowing south). Large diurnal fluctuation at low and medium stages caused by mills and power plants in Watertown and above.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	11,500	4,340	4,430	d6,400	2,810	7,420	11,900	17,400	5,210	1,670	1,100	1,570
2	8,730	4,280	4,210	9,430	2,600	7,190	12,700	18,600	5,010	1,780	1,670	1,770
3	6,040	4,730	3,020	11,300	2,900	6,620	11,900	18,000	5,940	1,840	1,660	2,300
4	3,890	4,550	2,700	*11,500	2,660	5,990	10,900	16,500	6,030	1,490	1,570	2,700
5	2,770	4,110	2,660	10,300	2,720	5,400	9,530	15,300	5,650	1,260	1,700	1,070
6	2,650	3,230	3,210	8,600	2,740	4,800	8,240	14,400	4,800	2,340	2,230	1,540
7	2,770	3,080	3,440	7,200	2,940	4,200	7,390	13,400	3,940	3,320	2,460	1,960
8	3,890	2,620	3,900	6,200	2,760	3,600	6,420	13,200	4,220	3,150	2,160	2,110
9	3,840	2,340	4,220	5,200	*2,700	*3,200	5,960	15,300	4,530	2,480	1,900	2,400
10	2,980	2,800	4,490	4,700	2,800	3,100	5,480	16,900	4,260	2,160	1,940	2,190
11	2,310	4,480	4,530	4,100	2,950	3,300	4,820	16,900	3,700	1,810	2,620	1,800
12	1,980	5,960	*4,540	3,900	3,100	4,300	4,330	16,700	3,040	1,400	3,490	1,500
13	2,160	6,200	4,390	3,500	3,570	5,670	4,650	16,400	2,530	1,370	3,160	1,540
14	1,880	5,720	3,940	3,900	3,820	6,590	5,020	18,200	2,420	1,540	2,910	1,480
15	1,840	5,080	3,840	3,600	3,490	6,990	5,150	17,300	2,380	1,560	3,410	1,380
16	1,780	4,350	3,600	3,300	3,900	7,540	4,980	14,300	2,500	1,640	3,290	1,460
17	1,790	4,640	3,330	3,400	3,600	9,890	4,630	11,400	2,920	1,490	2,720	1,850
18	1,310	5,930	3,160	3,000	3,400	12,600	4,510	10,100	2,950	1,450	2,360	a2,100
19	1,760	6,850	2,700	3,200	3,080	15,200	4,980	9,700	3,400	1,410	2,530	a1,800
20	2,160	7,370	2,800	3,000	2,970	16,500	6,760	9,280	3,040	1,430	2,460	a1,750
21	2,230	7,880	2,350	3,400	3,420	17,400	7,720	9,430	2,600	1,310	2,280	1,810
22	2,030	7,780	2,100	3,800	3,820	16,100	7,840	10,800	2,330	1,450	1,870	1,780
23	2,400	6,990	2,400	3,600	4,450	13,600	8,580	10,500	2,180	1,280	1,610	1,640
24	3,960	6,310	2,460	3,100	5,560	11,800	9,630	10,200	1,990	1,310	1,850	1,650
25	3,850	5,870	2,720	3,300	6,770	11,300	11,400	9,310	1,780	1,250	1,680	1,570
26	3,230	6,270	2,900	3,000	7,260	12,100	13,900	8,620	1,710	955	1,760	1,350
27	3,680	6,010	2,620	3,300	7,420	15,700	16,200	8,960	1,260	1,520	1,840	1,220
28	5,380	5,560	2,720	3,300	7,480	16,900	18,100	8,190	1,300	1,560	1,720	1,580
29	5,900	5,200	2,830	3,270	-	15,600	18,200	7,720	1,470	1,480	1,510	1,580
30	5,680	4,560	d4,000	3,020	-	13,800	17,500	7,260	1,460	1,940	1,560	1,600
31	4,870	-	d5,800	2,770	-	11,700	-	6,260	-	2,020	1,560	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per sqsre mile	Runoff in inches
October	111,240	11,500	1,310	3,588	-	-
November	155,090	7,880	2,340	5,170	-	-
December	106,010	5,800	2,100	3,420	-	-
Calendar year 1942	1,375,002	19,200	673	3,767	2.01	27.26
January	151,590	11,500	2,770	4,890	-	-
February	107,590	7,480	2,600	3,842	-	-
March	296,100	17,400	3,100	9,552	-	-
April	269,320	18,200	4,330	8,977	-	-
May	396,530	18,600	6,260	12,790	-	-
June	96,550	6,030	1,260	3,218	-	-
July	52,665	3,320	955	1,699	-	-
August	66,580	3,490	1,100	2,148	-	-
September	52,050	2,700	1,070	1,735	-	-
Water year 1942-43	1,861,315	18,600	955	5,099	2.72	36.87

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of record of flow at Central New York power plant at Black River.
d Doubtful gage-height record; discharge computed on basis of weather records and power-plant records at Black River.
Note.- Stage-discharge relation affected by ice Dec. 19-23, Jan. 6-28, Feb. 2, 3, 9, 10, 16-18, Mar. 5-11.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Black River Canal (flowing south) near Boonville, N. Y.

Location.- Two water-stage recorders and concrete controls, lat. 43°27'20", long. 75°19'25", No. 1 on main canal at lock 69, and No. 2 on Lansingkill spillway, 100 feet downstream from head gates in summit level of canal, 600 feet upstream from lock 70, and 2 miles south of Boonville, Oneida County.

Records available.- September 1915 to September 1942 (canal seasons only), October 1942 to September 1943.

Extremes.- Maximum daily discharge during year, 84 second-feet Nov. 18; minimum daily discharge, 1.5 second-feet Feb. 15, 16.
1915-43: Maximum daily discharge recorded, 323 second-feet Nov. 30, 1915; practically no flow at times when no water is being diverted.

Remarks.- Records good except those for periods of ice effect or those below 10 second-feet, which are fair. Record shows combined flow at gages 1 and 2 and represents total diversion from Black River at Forestport, through Forestport feeder, into Mohawk River Basin. Discharge during period Oct. 1 to June 15, when no water was diverted, made up of leakage through head gates and runoff from area draining into canal above station.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	28	8.5	23	2.3	7.0	18	40	11	24	35	53
2	24	34	11	*17	2.1	*6.0	15	21	24	21	33	57
3	20	34	45	13	2.0	5.2	10	27	13	20	33	59
4	18	26	40	10	*2.3	4.6	9.5	29	7.9	20	37	57
5	19	22	10	7.8	2.8	4.0	12	18	6.4	54	45	55
6	32	20	9.8	6.0	2.6	3.5	9.6	15	4.8	54	41	61
7	45	21	9.0	4.7	2.5	3.2	8.6	16	7.4	33	37	66
8	33	20	*8.7	3.7	2.3	3.0	7.7	17	12	35	36	58
9	22	18	7.8	3.2	2.1	2.8	7.6	20	6.3	36	35	57
10	19	36	6.7	3.0	2.0	2.8	6.8	13	4.5	34	51	56
11	17	60	6.1	3.0	2.1	9.0	6.1	16	4.3	33	44	56
12	15	37	6.3	2.8	2.3	16	5.7	60	3.9	34	44	56
13	14	26	5.6	2.8	2.1	17	10	29	4.2	34	55	55
14	13	*24	6.8	2.8	1.8	14	9.7	17	3.6	33	42	55
15	12	28	5.9	2.8	1.5	14	7.4	11	3.3	35	33	53
16	12	29	5.4	2.6	1.5	23	6.0	12	4.4	37	53	55
17	14	33	4.7	2.5	1.6	45	8.1	19	4.5	33	58	56
18	22	84	4.3	2.4	1.8	32	12	15	6.8	33	58	55
19	22	70	3.7	2.4	2.0	21	13	16	8.1	33	58	55
20	18	45	3.5	2.5	2.3	22	25	12	23	33	55	55
21	15	44	3.2	2.4	3.0	18	27	33	21	34	53	55
22	27	40	3.2	2.3	4.0	15	26	34	20	35	54	53
23	46	*28	3.5	2.1	5.6	14	26	15	18	34	54	54
24	39	29	3.7	2.1	15	15	23	11	17	33	54	53
25	27	52	3.5	2.3	15	22	27	8.9	17	32	56	54
26	36	43	2.8	2.4	16	23	35	22	17	38	55	54
27	76	37	3.0	2.3	10	29	25	23	18	39	54	54
28	58	32	6.3	2.1	8.2	18	48	14	19	36	55	54
29	43	14	7.5	2.0	-	13	22	9.9	30	35	54	55
30	33	11	24	2.0	-	12	36	7.9	37	36	53	55
31	28	-	30	2.1	-	16	-	5.2	-	38	53	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	847	76	12	27.3		
November	1,025	84	11	34.2		
December	299.5	45	2.8	9.66		
Calendar year	-	-	-	-		
January	142.1	23	2.0	4.58		
February	118.8	16	1.5	4.24		
March	450.1	45	2.8	14.5		
April	502.8	48	5.7	16.8		
May	606.9	60	5.2	19.6		
June	377.4	37	3.3	12.6		
July	1,059	54	20	34.2		
August	1,478	58	33	47.7		
September	1,671	66	53	55.7		
Water year 1942-43	8,577.6	84	1.5	23.5		

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 14, 15, Dec. 9, 16-26, Jan. 4 to Feb. 28, Mar. 2-11.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Moose River at McKeever, N. Y.

Location.- Water-stage recorder, lat. 43°36'40", long. 75°06'35", half a mile west of McKeever, Herkimer County, and 2 miles downstream from South Branch.
Drainage area.- 365 square miles.
Records available.- May 1922 to September 1943. June 1900 to December 1922 at site at Moose River, 2½ miles downstream.
Average discharge.- 35 years (1907-13, 1914-43), 833 second-feet (unadjusted).
Extremes.- Maximum discharge during year, 6,990 second-feet May 12 (gage height, 10.21 feet); minimum, 140 second-feet (regulated) July 22, 23 (gage height, 1.76 feet).
1900-1943: Maximum discharge recorded, about 16,500 second-feet Mar. 27, 1913 (gage height, 16.2 feet from floodmarks, site and datum then in use); minimum, about 42 second-feet (regulated) July 21, 23, and 25-27, 1913.
Remarks.- Records good except those for periods of ice effect or fragmentary or no gage-height record, which are fair. Flow regulated to some extent by Fulton Chain of Lakes. Occasional slight diurnal fluctuation during low and medium stages caused by paper mill in McKeever.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 12				May 13 to Sept. 30					
2.2	251	3.5	775	1.7	126	3.1	601	6.0	2,470
2.5	343	4.0	1,040	2.0	202	3.5	783	7.0	3,320
3.0	535			2.3	292	4.0	1,040	8.0	4,300
Note.- Same as following table above 4.0 feet.				2.7	435	5.0	1,700	9.6	6,200

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,040	1,090	865	*2,450	580	860	*1,500	4,910	972	230	286	197
2	852	1,120	941	1,750	580	800	2,010	3,850	1,280	219	233	261
3	640	1,040	820	1,400	580	740	1,760	3,370	1,390	205	216	375
4	553	930	770	1,240	580	700	1,300	4,060	1,120	188	245	361
5	484	785	765	1,100	*560	*660	1,210	3,610	920	329	361	319
6	612	680	780	980	560	640	920	3,880	a812	575	451	292
7	1,320	630	790	920	580	620	880	4,560	a793	545	368	450
8	1,000	589	760	860	580	600	850	5,410	a915	451	273	632
9	720	576	*700	800	580	580	755	5,510	a895	358	236	427
10	566	706	705	760	600	560	690	5,100	797	282	358	309
11	484	1,780	685	720	660	1,040	616	4,060	713	251	850	f254
12	417	1,700	665	700	720	1,760	616	5,470	632	222	592	f224
13	381	1,300	690	640	780	2,350	630	6,200	571	213	427	f202
14	343	1,020	594	620	780	2,280	616	4,540	541	197	451	f202
15	321	*900	540	620	740	2,030	571	3,560	504	183	491	333
16	283	875	509	600	700	1,900	522	3,030	516	175	435	393
17	271	855	480	600	680	2,740	540	3,020	614	180	412	435
18	314	1,600	460	600	660	3,450	514	3,120	645	175	550	463
19	350	2,480	440	580	620	3,020	635	2,680	610	158	451	451
20	346	1,880	430	560	620	2,500	740	2,350	512	150	383	435
21	317	1,940	420	560	700	2,030	805	2,230	451	148	358	427
22	667	1,800	470	540	760	1,660	897	2,860	372	145	326	416
23	1,470	1,340	640	540	820	1,440	1,620	2,460	326	143	286	408
24	1,220	1,150	620	560	900	1,280	2,520	2,010	270	148	263	397
25	870	1,220	620	620	1,250	1,210	3,390	1,740	242	150	260	401
26	788	1,380	600	660	1,100	1,270	4,780	1,640	251	155	236	420
27	1,790	1,340	580	640	1,020	f1,800	4,800	2,120	254	180	208	439
28	1,600	1,210	560	620	920	f2,250	4,200	1,840	245	210	188	431
29	1,250	1,060	580	600	-	1,840	3,990	1,380	242	202	183	427
30	1,180	985	940	600	-	1,510	4,030	1,030	230	224	199	416
31	1,180	-	2,400	580	-	1,270	-	1,010	-	378	208	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	23,629	1,790	271	762	-	-
November	35,961	2,480	576	1,199	-	-
December	21,819	2,400	420	704	-	-
Calendar year 1942	291,321	7,880	124	798	2.19	29.68
January	26,020	2,450	540	807	-	-
February	20,210	1,250	560	722	-	-
March	47,390	3,450	560	1,529	-	-
April	48,907	4,800	514	1,630	-	-
May	102,610	6,200	1,010	3,310	-	-
June	18,635	1,390	230	621	-	-
July	7,369	575	143	238	-	-
August	10,784	850	183	348	-	-
September	11,197	632	197	373	-	-
Water year 1942-43	373,531	6,200	143	1,023	2.80	38.05

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of estimated gage-height graph and records for Middle Branch Moose River at Old Forge and near McKeever.
f Fragmentary gage-height record; discharge computed on basis of estimated gage-height graph, and records for Middle Branch Moose River at Old Forge and near McKeever.
Note.- Stage-discharge relation affected by ice Nov. 14, 15, Dec. 8, 9, Dec. 17 to Mar. 11, Apr. 4, 6, 7 (no gage-height record Jan. 30 to Feb. 3; fragmentary gage-height record Jan. 11-14, 17).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Middle Branch Moose River at Old Forge, N. Y.

Location.- Staff gage, lat. 43°42'50", long. 74°58'10", at Old Forge, Herkimer County, 400 feet downstream from State dam.
Drainage area.- 52 square miles.
Records available.- November 1911 to September 1943.
Average discharge.- 31 years (1912-43), 104 second-feet (unadjusted).
Extremes (regulated).- Maximum discharge observed during year, 741 second-feet May 13, 14 (gage height, 4.6 feet); maximum daily, 741 second-feet May 13; minimum observed, 2.2 second-feet Oct. 24-26 (gage height, 1.64 feet); minimum daily, 2.2 second-feet Oct. 25.

1911-43: Maximum daily discharge, 862 second-feet Mar. 23, 1921, from rating curve extended above 450 second-feet by logarithmic plotting; minimum daily, about 0.1 second-foot many times during 1938-39, when gates in dam were closed.

Remarks.- Records good except those for periods of backwater from debris and for days when gate changes were not recorded, which are fair. On days when gate openings are changed, the discharge is averaged for intervals of a day from graph based on gage readings and record of gate operations. Gage read twice daily. Flow regulated by Fulton Chain of Lakes.

Rating tables, water year 1942-43, except periods of backwater
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 13					May 14 to Sept. 30				
1.6	1.2	2.1	24	3.0	160	1.7	3.6	2.2	37	3.3	270
1.7	3.6	2.2	33	3.3	245	1.8	6.8	2.3	50	3.6	365
1.8	6.8	2.4	54	3.6	341	1.9	11	2.5	82	4.0	508
1.9	11	2.6	82	4.0	483	2.0	16	2.7	122	4.5	701
2.0	17	2.8	117	4.6	741	2.1	26	3.0	191		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	137	186	245	276	215	4.8	e331	118	6.2	13	11
2	3.6	137	170	245	276	215	4.8	358	107	6.2	e12	e24
3	3.6	137	127	245	276	200	4.9	e416	97	6.2	e24	56
4	3.1	121	137	245	260	200	4.9	521	97	e9.5	e98	82
5	3.6	59	137	245	260	200	4.9	561	97	e44	191	82
6	3.9	59	137	245	260	200	4.9	561	97	e138	e153	82
7	3.6	59	137	245	260	200	4.9	561	97	144	62	e67
8	3.6	76	137	245	260	200	5.0	561	97	e119	62	e29
9	3.6	137	137	245	260	186	5.0	603	e104	47	e26	14
10	3.6	137	137	230	260	186	5.0	603	122	e19	e55	9.6
11	3.6	137	137	230	260	186	5.0	603	e71	4.2	82	9.6
12	3.6	137	137	230	260	186	5.0	647	e53	4.2	86	9.6
13	3.6	137	137	230	260	186	5.0	741	70	4.2	88	e81
14	3.6	137	121	230	245	186	5.0	701	68	4.2	86	256
15	e21	137	82	230	245	186	5.0	661	e46	4.2	82	256
16	e27	137	82	230	245	186	5.0	545	e26	4.2	82	e268
17	4.2	137	82	230	245	186	5.0	435	3.6	4.2	82	300
18	3.6	137	82	230	230	186	5.0	417	3.6	4.2	82	300
19	4.2	137	82	215	230	186	5.2	382	3.6	4.2	e34	300
20	4.2	137	85	215	230	130	5.2	365	3.6	4.2	9.6	300
21	e65	137	125	215	215	4.4	5.2	365	3.6	4.2	9.6	300
22	137	137	245	215	215	4.4	5.2	348	3.6	4.2	9.6	300
23	e70	137	245	240	215	4.4	5.4	332	3.6	4.2	9.6	300
24	2.4	137	245	306	215	4.4	5.4	316	3.9	4.2	9.6	300
25	2.2	158	245	308	215	4.5	5.4	300	4.2	4.2	10	e309
26	70	200	245	308	215	4.5	5.4	300	4.2	e7.2	11	348
27	137	200	245	308	215	4.6	27	e233	4.2	8.6	11	348
28	137	200	245	292	215	4.6	e95	88	5.2	8.6	e24	348
29	137	186	245	292	-	4.7	186	90	6.2	e10	79	332
30	137	186	245	276	-	4.7	e253	109	6.2	13	79	332
31	137	-	245	276	-	4.7	-	118	-	13	e34	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,146.0	137	2.2	37.0	-	-
November	4,107	200	59	137	-	-
December	5,044	245	82	163	-	-
Calendar year 1942	35,937.6	333	.9	98.5	1.89	25.73
January	7,743	308	215	250	-	-
February	6,818	276	215	244	-	-
March	3,855.9	215	4.4	124	-	-
April	692.5	253	4.8	23.1	-	-
May	13,172	741	88	425	-	-
June	1,426.3	122	3.6	47.5	-	-
July	662.5	144	4.2	21.4	-	-
August	1,696.0	191	9.6	54.7	-	-
September	5,753.8	348	9.6	192	-	-
Water year 1942-43	52,117.0	741	2.2	143	2.75	37.29

e No record of gate changes; discharge computed on basis of estimated times of change.

Note.- Backwater from debris Mar. 20 to Apr. 27 (no record of gate changes Mar. 20 and Apr. 27). Increase in combined storage in Old Forge and Sixth Lake Reservoirs during calendar year 1942, about 30,600,000 cubic feet (equivalent mean discharge, 0.970 sec.-ft.; runoff 0.25 inch); decrease during water year 1942-43, about 246,700,000 cubic feet (equivalent mean discharge, 7.32 sec.-ft.; runoff 2.04 inches).

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Middle Branch Moose River near McKeever, N. Y.

Location.- Water-stage recorder, lat. 43°37'45", long. 75°04'55", half a mile upstream from confluence with South Branch and 1½ miles northeast of McKeever, Herkimer County.
Drainage area.- 148 square miles.
Records available.- October 1925 to September 1943.
Average discharge.- 18 years, 323 second-feet (unadjusted).
Extremes.- Maximum discharge during year, 1,870 second-feet May 14 (gage height, 6.30 feet); minimum, 65 second-feet (regulated) July 25 (gage height, 2.23 feet).
1925-43: Maximum discharge, 2,100 second-feet Apr. 27, 1926; maximum gage height, 7.15 feet Jan. 18, 1938 (ice jam); minimum discharge, 36 second-feet Aug. 15, 1940.
Remarks.- Records good except those for periods of ice effect, which are fair. Flow partly regulated by Fulton Chain of Lakes.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 13				May 14 to Sept. 30					
2.3	73	4.0	499	2.2	62	3.3	273	5.0	1,000
2.5	98	4.5	724	2.4	85	3.6	370	5.5	1,320
2.8	144	5.0	1,000	2.7	131	4.0	526	6.3	1,870
3.1	207	5.5	1,320	3.0	190	4.5	748		
3.5	322	6.3	1,870						

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	348	472	470	660	400	430	*507	1,450	522	105	72	93
2	322	487	500	600	400	410	540	1,510	530	102	85	99
3	285	480	430	560	390	400	515	1,480	492	96	91	98
4	250	453	390	540	390	380	490	1,490	464	78	108	138
5	220	388	380	520	370	370	480	1,530	429	117	214	149
6	223	332	400	500	*370	360	420	1,530	402	153	270	140
7	217	310	410	480	380	350	410	1,510	395	261	207	136
8	198	288	400	460	380	340	385	1,550	399	267	145	129
9	182	313	370	440	380	330	351	1,670	384	201	128	102
10	169	396	*370	430	390	310	316	1,700	381	145	151	81
11	159	464	360	410	400	370	288	1,720	363	122	168	73
12	150	468	350	400	410	480	276	1,770	301	96	179	71
13	142	491	360	390	410	660	261	1,810	285	85	177	70
14	134	480	320	380	390	620	253	1,830	279	79	195	113
15	124	470	290	380	370	580	239	1,710	267	73	181	280
16	88	*445	260	370	360	560	225	1,530	264	77	177	330
17	83	456	245	370	350	680	217	1,390	246	84	190	360
18	102	566	240	370	340	680	215	1,270	226	79	188	384
19	106	588	235	360	330	666	230	1,180	210	73	151	381
20	104	592	220	350	330	685	236	1,080	198	70	129	374
21	104	628	210	340	340	596	285	1,060	186	69	172	367
22	223	596	260	330	360	520	316	1,050	141	68	168	363
23	306	574	390	340	390	480	416	1,030	128	70	151	360
24	233	557	380	380	430	464	507	1,030	121	66	144	353
25	191	566	370	440	500	449	583	972	117	66	129	367
26	216	574	360	450	480	453	714	935	119	70	105	392
27	374	588	360	450	460	524	883	890	117	70	84	406
28	430	574	350	440	440	536	1,110	767	114	78	77	399
29	460	540	360	420	-	511	1,230	612	112	71	80	395
30	464	520	450	420	-	503	1,330	433	108	80	108	388
31	456	-	720	400	-	487	-	526	-	74	112	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	7,063	464	83	228	-	-
November	14,656	628	288	489	-	-
December	11,210	720	210	362	-	-
Calendar year 1942	115,381	1,230	55	316	2.14	28.99
January	13,380	660	330	432	-	-
February	10,940	500	330	391	-	-
March	15,184	685	310	490	-	-
April	14,228	1,330	215	474	-	-
May	40,015	1,830	433	1,291	-	-
June	8,300	530	108	277	-	-
July	3,145	267	66	101	-	-
August	4,536	270	72	146	-	-
September	7,391	406	70	246	-	-
Water year 1942-43	150,048	1,830	66	411	2.78	37.71

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 14, 15, Nov. 29 to Mar. 18, Mar. 22, 23, Apr. 4, 6, 7 (no gage-height record Jan. 6-19, Feb. 16-21, Mar. 3, 10).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

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Independence River at Donnattsburg, N. Y.

Location.- Wire-weight gage, lat. 43°44'50", long. 75°20'05", at highway bridge at Donnattsburg, Lewis County, 1¼ miles below Chase Lake Outlet and 5 miles above mouth.

Drainage area.- 91.7 square miles.

Records available.- July 1942 to September 1943. December 1927 to June 1942 at site 3½ miles upstream, published as Independence River at Sperryville, N. Y. (drainage area, 85 square miles).

Extremes.- Maximum discharge observed during year, 1,380 second-feet Apr. 25; maximum gage height observed, 8.05 feet, Jan. 2, (ice jam); minimum discharge observed, 36 second-feet July 21 (gage height, 3.06 feet).
1942-43: Maximum discharge observed, that of Apr. 25, 1943; maximum gage height observed, that of Jan. 2, 1943; minimum discharge observed, 33 second-feet Aug. 31, 1942.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Jan. 2				Jan. 2 to Sept. 30			
3.3	59	4.2	267	3.0	31	4.0	205
3.4	73	4.6	415	3.1	40	4.5	364
3.6	109	5.0	592	3.3	61	5.0	560
3.9	178	5.5	842	3.5	92	5.5	792
				3.7	132	6.4	1,300

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	205	235	153	840	84	364	560	1,300	167	52	109	52
2	151	301	178	*780	80	296	843	1,000	249	48	72	97
3	117	284	153	660	76	220	695	743	296	48	60	148
4	101	220	205	540	74	185	419	895	234	46	72	113
5	90	176	235	410	74	155	364	843	192	76	160	82
6	100	156	251	320	84	*135	296	792	144	157	167	72
7	148	148	220	280	*96	122	264	895	155	113	107	67
8	146	142	205	215	106	110	234	950	220	78	82	78
9	124	130	192	185	96	102	205	1,000	179	60	69	72
10	103	139	168	165	92	96	205	792	155	53	106	61
11	92	362	163	150	100	113	179	649	132	48	205	55
12	85	457	153	135	130	220	205	843	117	48	155	50
13	76	301	140	125	125	346	205	1,060	113	46	102	46
14	70	205	*130	116	114	346	205	695	113	46	122	42
15	65	178	118	108	106	220	167	458	105	46	155	42
16	65	192	108	100	100	312	155	382	130	46	124	62
17	66	192	98	94	96	604	167	346	167	44	100	214
18	94	430	90	90	92	792	167	329	192	44	94	192
19	120	739	84	90	92	895	234	312	167	40	89	124
20	107	592	78	94	100	792	346	264	144	38	92	90
21	92	524	74	98	130	649	458	312	117	37	75	71
22	105	*415	72	92	150	518	477	604	94	40	67	60
23	192	284	70	88	170	438	792	560	80	39	55	54
24	192	251	70	84	205	382	1,120	364	72	39	55	51
25	151	301	72	82	329	400	1,300	280	65	42	54	46
26	156	356	74	90	518	458	1,240	264	60	61	54	44
27	380	337	72	84	518	695	1,300	329	58	64	48	44
28	415	267	84	80	419	792	1,060	264	55	62	50	44
29	301	251	110	78	-	649	1,000	249	51	55	48	42
30	284	205	170	76	-	498	895	220	48	114	46	42
31	267	-	440	76	-	*400	-	192	-	179	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	4,660	415	65	150	1.64	1.89
November	8,770	739	130	292	3.18	3.56
December	4,430	440	70	143	1.56	1.80
Calendar year	-	-	-	-	-	-
January	6,385	840	76	206	2.25	2.59
February	4,356	518	74	156	1.70	1.77
March	12,304	895	96	397	4.33	4.99
April	15,757	1,300	155	525	5.73	6.39
May	18,186	1,300	192	587	6.40	7.38
June	4,071	296	48	136	1.48	1.65
July	1,909	179	37	61.6	.672	.77
August	2,838	205	44	91.5	.998	1.15
September	2,257	214	42	75.2	.820	.92
Water year 1942-43	86,923	1,300	37	235	2.56	34.86

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 13 to Feb. 23, Mar. 4-10.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Stillwater Reservoir near Beaver River, N. Y.

Location.- Float-tape gage, lat. 43°53'50", long. 75°03'05", at Stillwater Dam, 7½ miles west of Beaver River post office, Herkimer County. Datum of gage is at mean sea level, adjustment of 1912.

Drainage area.- 172 square miles.

Records available.- February 1925 to September 1943.

Extremes.- Maximum elevation during year, 1,679.50 feet May 12 (contents, 4,681,000,000 cubic feet); minimum, 1,664.84 feet Mar. 16 (contents, 1,402,000,000 cubic feet).
1925-43: Maximum elevation, that of May 12, 1943; minimum since first filling, 1,644.80 feet Mar. 25-27, 1940.

Remarks.- Reservoir originally formed about 1885; enlarged at various times and in 1924 enlarged to a usable capacity of 4,623,000,000 cubic feet between elevations 1,650.3 feet and 1,679.3 feet (high flow line) above mean sea level. Elevation of gate sill of lowest outlet, 1,642.3 feet. Capacity below elevation 1,650.3 feet, about 90,000,000 cubic feet. Reservoir is used to regulate flow of Beaver and Black Rivers for control of floods, for power development, and for general welfare of the public. Records of contents given herein represent those above elevation 1,650.3 feet. Daily observations made about 8 a.m.

Cooperation.- Records furnished by Board of Black River Regulating District.

Elevation, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70.73	71.31	74.42	72.72	69.84	66.17	68.65	77.82	79.32	78.86	75.90	73.05
2	70.86	71.52	74.49	73.06	69.70	66.10	69.16	78.32	79.35	78.78	75.75	73.01
3	70.90	71.71	74.48	73.32	69.54	66.00	69.68	78.66	79.36	78.70	75.60	72.95
4	70.95	71.78	74.47	73.56	69.36	65.91	70.05	79.07	79.36	78.65	75.54	72.84
5	70.99	71.82	74.45	73.58	69.21	65.81	70.39	79.25	79.30	78.77	75.60	72.71
6	70.98	71.84	74.39	73.56	69.03	65.63	70.71	79.40	79.30	78.78	75.55	72.60
7	70.97	71.87	74.45	73.50	68.89	65.55	70.95	79.42	79.27	78.68	75.45	72.47
8	70.95	71.93	74.37	73.43	68.74	65.43	71.16	79.46	79.31	78.57	75.50	72.36
9	70.91	72.04	74.30	73.36	68.57	65.27	71.34	79.39	79.31	78.46	75.46	72.22
10	70.86	72.01	74.25	73.27	68.38	65.10	71.55	79.27	79.31	78.29	75.41	72.07
11	70.85	72.08	74.11	73.19	68.21	65.01	71.72	79.37	79.30	78.29	75.29	71.92
12	70.92	72.24	74.03	73.06	68.16	64.96	71.88	79.50	79.29	78.25	75.20	71.76
13	70.86	72.33	73.94	72.93	68.04	64.97	72.06	79.45	79.24	78.17	75.13	71.60
14	70.79	72.40	73.90	72.76	67.92	64.96	72.11	79.22	79.28	78.09	75.09	71.44
15	70.71	72.44	73.75	72.60	67.78	64.91	72.11	79.41	79.25	77.99	75.06	71.27
16	70.64	72.45	73.68	72.44	67.62	64.84	72.09	79.49	79.28	77.84	74.99	71.11
17	70.56	72.47	73.57	72.28	67.49	64.94	72.10	79.46	79.30	77.73	74.90	71.12
18	70.54	72.57	73.46	72.11	67.30	65.25	72.07	79.38	79.35	77.58	74.81	70.99
19	70.53	72.77	73.34	71.95	67.13	65.50	72.05	79.28	79.35	77.47	74.70	70.84
20	70.40	73.00	73.29	71.77	66.95	65.82	72.09	79.27	79.36	77.34	74.59	70.66
21	70.22	73.29	73.23	71.61	66.76	66.10	72.12	79.32	79.35	77.20	74.47	70.49
22	70.10	73.51	73.13	71.44	66.61	66.32	72.32	79.38	79.34	77.10	74.37	70.32
23	70.02	73.69	72.95	71.25	66.43	66.50	72.53	79.29	79.31	76.99	74.28	70.15
24	69.94	73.76	72.81	71.09	66.25	66.63	73.03	79.29	79.29	76.86	74.14	69.96
25	69.92	73.76	72.65	70.94	66.20	66.78	73.60	79.32	79.22	76.73	74.05	69.78
26	70.02	73.96	72.46	70.80	66.17	66.94	74.51	79.35	79.17	76.65	73.94	69.58
27	70.28	74.05	72.39	70.63	66.16	67.21	75.29	79.40	79.12	76.51	73.79	69.36
28	70.53	74.14	72.20	70.47	66.17	67.61	75.96	79.36	79.10	76.40	73.65	69.16
29	70.74	74.24	72.11	70.31	-	67.95	76.58	79.35	79.04	76.27	73.51	68.96
30	70.91	74.36	72.01	70.15	-	68.21	77.09	79.31	78.94	76.17	73.36	68.76
31	71.11	-	72.39	69.98	-	68.43	-	79.32	-	76.05	73.20	-

Note.- Add 1,600 feet to obtain elevations above mean sea level.

Elevation and contents, water year October 1942 to September 1943

Date	Elevation (feet)†	Contents (millions of cubic feet)	Change in contents during month (equivalent, mean second-feet)
Sept.30	1,670.67	2,479	-
Oct. 31	1,671.24	2,600	+45.2
Nov. 30	1,674.40	3,319	+277
Dec. 31	1,672.61	2,901	-156
Calendar year 1942	-	-	-4.5
Jan. 31	1,669.89	2,319	-217
Feb. 28	1,666.17	1,623	-288
Mar. 31	1,668.58	2,060	+163
Apr. 30	1,677.58	4,138	+802
May 31	1,679.32	4,629	+183
June 30	1,678.89	4,504	-48.2
July 31	1,675.95	3,706	-298
Aug. 31	1,673.10	3,013	-259
Sept.30	1,668.62	2,068	-365
Water year 1942-43	-	-	-13.0

† Reservoir elevations at midnight obtained by interpolation.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Beaver River below Stillwater Dam, near Beaver River, N. Y.

Location.- Float-tape gage, lat. 43°53'50", long. 75°03'05", at outlet of Stillwater Reservoir, 7⅛ miles west of Beaver River post office, Herkimer County.

Drainage area.- 172 square miles.

Records available.- May 1908 to September 1943.

Average discharge.- 35 years, 360 second-feet (unadjusted).

Extremes (regulated).- Maximum daily discharge during year, 1,990 second-feet May 12; minimum daily, 13 second-feet at times during year.
1908-43: Maximum discharge, 3,700 second-feet May 3, 1926; practically no flow at times when gates in dam are closed.

Remarks.- Records good. Flow regulated by Stillwater Reservoir (see preceding page). Discharge determined from ratings for gates and spillway of Stillwater Dam. Gage read once daily.

Cooperation.- Records of gate openings and reservoir elevations furnished by Board of Black River Regulating District.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	13	410	14	619	622	124	435	464	365	572	547
2	126	13	587	14	617	619	13	597	474	365	572	547
3	202	149	587	14	615	619	13	601	478	280	569	547
4	83	298	587	334	613	619	13	862	478	21	569	547
5	311	298	587	552	611	615	13	1,360	461	150	569	544
6	337	300	395	552	631	615	13	1,660	461	531	569	544
7	337	222	395	550	658	615	13	1,950	360	527	206	542
8	337	13	587	549	654	611	13	1,980	295	526	130	542
9	337	286	587	549	652	609	13	1,930	295	525	567	539
10	252	487	586	549	651	605	13	1,740	295	399	567	539
11	13	353	583	649	648	605	13	1,690	294	116	567	539
12	228	193	583	723	647	605	13	1,990	294	408	564	535
13	336	326	583	723	645	605	226	1,980	294	405	564	534
14	336	326	583	723	645	605	432	1,240	294	405	564	532
15	336	326	582	719	642	605	432	1,050	294	417	564	532
16	336	311	579	718	639	603	432	1,270	294	518	564	527
17	297	302	579	716	638	605	432	1,520	294	518	564	558
18	205	302	578	712	636	609	432	1,560	307	515	562	578
19	485	134	436	712	634	479	432	1,210	307	513	561	578
20	625	14	213	709	632	323	153	878	311	512	561	575
21	622	14	603	705	629	325	13	881	307	509	518	570
22	619	14	702	705	672	328	13	1,570	303	509	402	570
23	619	195	708	665	722	330	14	1,080	295	509	505	567
24	473	308	706	633	718	330	14	731	294	509	554	567
25	13	308	704	633	718	331	14	610	294	525	554	566
26	114	308	676	631	718	333	14	620	294	579	554	564
27	13	308	605	629	660	335	14	773	292	579	554	592
28	13	228	605	627	622	338	169	710	341	574	552	610
29	13	14	602	625	-	340	322	620	365	574	552	609
30	13	211	422	623	-	342	324	510	365	574	549	606
31	13	-	13	621	-	342	-	464	-	572	547	-

Month	Observed				Adjusted†		
	Second-foot-days	Maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches
October	8,059	625	13	260	305	1.77	2.04
November	6,574	487	13	219	496	2.88	3.21
December	16,961	708	13	547	391	2.27	2.62
Calendar year 1942	141,765	1,310	12	388	384	2.23	30.29
January	17,878	723	14	577	360	2.09	2.41
February	18,186	722	611	650	362	2.10	2.19
March	15,467	622	323	499	662	3.85	4.44
April	4,149	432	13	138	940	5.47	6.10
May	36,082	1,990	435	1,164	1,347	7.83	9.03
June	10,194	478	292	340	292	1.70	1.90
July	14,029	579	21	453	155	.901	1.04
August	16,366	572	130	528	269	1.56	1.80
September	16,747	610	527	558	193	1.12	1.25
Water year 1942-43	180,692	1,990	13	495	482	2.80	38.03

† Adjusted for change in contents in Stillwater Reservoir.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Beaver River at Croghan, N. Y.

Location.- Water-stage recorder, lat. 43°53'50", long. 75°24'15", about 1,000 feet upstream from Black Creek and half a mile west of Croghan, Lewis County.
Drainage area.- 294 square miles.
Records available.- September 1930 to September 1943.
Average discharge.- 13 years, 548 second-feet.
Extremes (regulated).- Maximum discharge during year, 4,310 second-feet May 13 (gage height, 6.47 feet); minimum, 70 second-feet July 4, 5 (gage hei ht, 1.23 feet); minimum daily, 100 second-feet Oct. 4.
1930-43: Maximum discharge, that of May 13, 1943; minimum, about 18 second-feet Feb. 24, 1936 (gage height, 0.89 foot); minimum daily, 35 second-feet May 13, 1934.
Remarks.- Records good except those for periods of ice effect, which are good. Flow almost completely regulated by Stillwater Reservoir (see p. 173). Between Stillwater Dam and this station flow is further regulated by nine power-plant ponds. Diurnal fluctuation at low and medium stages.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.4	100	2.8	600	5.0	2,410
1.6	144	3.2	842	5.5	3,000
1.8	196	3.6	1,120	6.3	4,070
2.1	290	4.0	1,430		
2.4	406	4.5	1,880		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	419	108	565	1,430	759	939	1,110	1,680	790	536	596	694
2	263	354	760	1,210	786	920	677	1,770	803	759	459	899
3	246	530	805	*1,000	759	920	605	1,900	790	550	581	729
4	100	520	837	867	776	920	304	1,560	771	146	549	532
5	246	455	816	760	803	935	616	1,470	769	374	712	387
6	266	412	504	780	839	*946	566	1,460	411	378	781	690
7	371	424	628	820	724	925	502	1,550	588	600	771	762
8	506	168	622	800	798	900	727	2,700	770	682	640	681
9	500	423	775	800	786	760	806	3,750	757	748	759	.641
10	501	551	730	520	*781	758	587	3,730	745	690	759	572
11	138	588	806	834	800	867	129	2,860	616	253	708	514
12	405	605	749	890	873	1,030	370	2,800	479	449	774	433
13	487	555	*770	1,020	818	1,100	353	4,060	113	499	.648	633
14	489	536	740	928	800	1,020	401	3,850	366	577	949	528
15	479	149	746	814	780	931	624	2,500	500	708	700	604
16	491	584	760	804	780	959	775	1,930	449	592	762	682
17	434	606	740	418	760	1,310	816	1,510	453	680	777	800
18	115	637	760	808	700	1,270	160	1,870	713	556	756	596
19	425	685	740	808	740	1,350	643	1,640	640	606	679	410
20	579	782	560	793	802	2,040	453	1,810	120	611	636	652
21	578	798	520	803	816	1,360	385	1,730	460	654	655	694
22	677	267	538	900	816	1,040	468	1,670	540	600	488	701
23	730	460	643	840	814	1,040	752	1,640	583	610	691	680
24	466	583	805	800	1,060	1,050	896	1,810	587	527	694	695
25	105	636	788	760	1,100	1,080	959	1,490	607	195	702	540
26	326	528	771	780	1,060	1,120	805	1,310	532	615	727	289
27	571	288	579	820	1.000	1,160	1,180	1,110	144	695	701	740
28	493	368	544	760	961	1,050	1,220	1,000	514	636	704	640
29	574	207	726	660	-	994	1,490	1,060	511	607	671	688
30	432	540	1,130	741	-	959	1,530	1,130	499	688	701	677
31	262	-	1,150	798	-	*1,040	-	945	-	600	671	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	12,674	730	100	409	-	-
November	14,347	798	108	478	-	-
December	22,607	1,150	504	729	-	-
Calendar year 1942	215,631	1,770	81	591	2.01	27.26
January	25,786	1,430	418	832	-	-
February	23,291	1,100	700	832	-	-
March	32,593	2,040	758	1,051	-	-
April	20,909	1,530	129	697	-	-
May	61,295	4,060	945	1,977	-	-
June	16,620	803	113	554	-	-
July	17,421	759	146	562	-	-
August	21,401	949	459	690	-	-
September	18,783	899	289	626	-	-
Water year 1942-43	287,727	4,060	100	788	2.68	36.38

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 14, 16-21, Jan. 3, 5-10, 22-29, Feb. 14-19, 25, 26, Mar. 2-4, 8, 9.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Deer River at Copenhagen, N. Y.

Location.- Water-stage recorder, lat. 43°53'55", long. 75°39'40", at power plant half a mile northeast of Copenhagen, Lewis County.

Drainage area.- 89 square miles.

Records available.- September 1929 to September 1943.

Average discharge.- 14 years, 214 second-feet.

Extremes.- Maximum discharge during year, 3,060 second-feet May 1 (gage height, 6.22 feet); maximum gage height, 8.54 feet Mar. 27 (backwater from landslide); minimum discharge, 4.1 second-feet (regulated) July 18 (gage height, 0.385 foot); minimum daily, 5.0 second-feet (regulated) July 17.
1929-43: Maximum discharge, 14,400 second-feet Sept. 1, 1941 (gage height, 12.08 feet), by computation of flow over dam; minimum, 0.7 second-foot (regulated) Aug. 12, 1940 (gage height, 0.17 foot); minimum daily, 0.8 second-foot (regulated) July 22 to Aug. 2, 1933.

Remarks.- Records good except those for periods of ice effect or backwater from landslide, which are fair. Diurnal fluctuation at low and medium stages caused by power plant.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	239	135	955	96	506	2,220	1,940	130	21	13	18
2	72	324	203	787	91	415	1,640	904	531	19	9.4	79
3	57	320	96	*687	87	354	728	1,330	400	19	16	51
4	50	181	103	596	91	305	466	1,420	206	19	30	34
5	53	123	176	467	119	257	364	745	138	136	85	24
6	87	124	214	419	136	207	244	831	99	182	57	23
7	155	133	228	360	136	172	232	893	131	84	34	37
8	97	104	230	312	129	146	214	954	206	45	28	47
9	65	84	222	265	118	*134	208	938	126	30	25	33
10	53	539	232	228	112	122	250	634	89	22	126	27
11	46	815	218	195	150	177	227	630	77	19	170	26
12	41	428	204	166	204	334	245	1,260	65	20	83	21
13	38	274	*189	154	247	380	291	755	71	19	78	17
14	36	187	165	153	253	351	268	435	79	16	178	16
15	35	211	166	135	240	353	200	302	55	14	134	15
16	32	262	140	127	210	486	168	240	124	9.6	69	38
17	42	717	131	118	190	1,560	204	306	158	5.0	51	94
18	89	1,260	120	118	175	1,800	335	283	168	5.1	69	60
19	79	653	110	116	165	1,460	530	264	123	5.7	84	40
20	60	419	102	132	160	1,400	1,030	190	121	6.9	54	29
21	57	454	96	150	290	1,150	950	1,250	77	6.8	35	22
22	56	311	92	155	370	874	1,060	1,100	55	14	25	18
23	59	168	90	140	405	697	1,580	428	44	16	19	16
24	63	158	90	120	668	658	1,750	248	36	15	20	17
25	55	448	93	120	929	889	1,950	174	29	12	28	18
26	108	389	98	148	845	1,350	1,940	770	26	11	26	16
27	283	296	96	151	742	c2,150	1,330	656	24	14	20	15
28	203	203	140	136	617	1,470	1,680	340	22	33	20	15
29	240	177	220	121	-	921	975	212	21	33	23	13
30	242	159	600	108	-	698	1,500	163	21	22	18	13
31	143	-	948	99	-	1,010	-	135	-	16	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,799	283	32	90.3	1.01	1.17
November	10,160	1,260	84	339	3.81	4.25
December	5,937	948	90	192	2.16	2.48
Calendar year 1942	79,141.0	2,520	4.3	217	2.44	33.07
January	7,938	955	99	256	2.88	3.32
February	7,975	929	87	285	3.20	3.33
March	22,786	2,150	122	735	8.26	9.52
April	24,779	2,220	168	826	9.28	10.35
May	20,730	1,940	135	669	7.52	8.66
June	3,452	531	21	115	1.29	1.44
July	890.1	182	5.0	28.7	.322	.37
August	1,646.4	178	9.4	53.1	.597	.69
September	892	94	13	29.7	.334	.37
Water year 1942-43	109,984.5	2,220	5.0	301	3.38	45.95

Peak discharge.- Apr. 1 (6:15 p.m.) 3,040 sec.-ft.; Apr. 25 (11:15 p.m.) 2,860 sec.-ft.; Apr. 28 (9:30 a.m.) 2,480 sec.-ft.; May 1 (12:30 a.m.) 3,060 sec.-ft.
* Winter discharge measurement made on this day.
c Backwater from landslide.
Note.- Stage-discharge relation affected by ice Dec. 18-24, 28-30, Jan. 21-25, Feb. 15-22.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

East Branch Oswegatchie River at Cranberry Lake, N. Y.

Location.- Water-stage recorder, lat. 44°13'15", long. 74°51'00", at village of Cranberry Lake, St. Lawrence County, 900 feet downstream from dam at outlet of Cranberry Lake.
Drainage area.- 144 square miles.
Records available.- May 1923 to September 1943.
Average discharge.- 20 years, 290 second-feet (unadjusted).
Extremes (regulated).- Maximum discharge during year, 1,940 second-feet May 13 (gage height, 7.70 feet); minimum, 97 second-feet Nov. 20-24 (gage height, 4.01 feet); minimum daily, 97 second-feet Nov. 21-24.
1923-43: Maximum daily discharge, 1,910 second-feet May 13, 1943; minimum daily, about 3 second-feet Apr. 9-16, 1931.
Remarks.- Records excellent except those for periods of doubtful or no gage-height record, which are good. Flow completely regulated by Cranberry Lake Dam.

Rating tables, water year 1942-43 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 4-12)

Oct. 1 to May 12				May 13 to Sept. 30			
4.0	96	5.5	497	4.3	148	6.0	767
4.2	126	6.0	720	4.5	191	6.5	1,055
4.5	185	6.5	990	4.8	272	7.0	1,400
4.8	260	7.0	1,300	5.1	371	7.7	1,940
5.1	350	7.7	1,810	5.5	527		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	177	124	192	257	360	581	271	737	382	186	275	249
2	177	126	192	257	376	581	274	1,070	389	186	275	252
3	177	126	192	257	447	581	391	1,210	375	184	275	255
4	177	126	192	257	443	581	493	1,460	350	184	263	329
5	187	126	194	270	439	577	493	1,500	316	184	243	426
6	218	126	194	318	435	572	493	1,500	303	184	220	396
7	218	126	234	318	435	572	276	1,520	297	184	150	375
8	218	126	271	318	435	568	142	1,590	294	186	150	375
9	218	126	268	318	435	564	142	1,670	291	186	150	375
10	218	128	266	318	a435	560	142	1,680	288	227	150	371
11	218	130	263	318	a435	555	142	1,660	252	252	150	371
12	218	130	266	318	a435	555	140	1,800	246	249	150	371
13	218	130	268	318	a435	551	140	1,910	238	249	150	368
14	218	130	271	318	463	547	140	1,850	204	249	150	368
15	218	130	271	318	497	542	140	1,700	204	249	150	368
16	218	184	271	318	d489	538	140	1,580	201	249	150	368
17	194	213	271	318	d489	542	140	1,130	208	249	150	368
18	213	213	268	318	485	547	140	761	211	249	150	368
19	213	213	303	318	485	547	140	655	211	249	150	364
20	213	159	328	318	501	547	140	502	216	249	150	364
21	213	97	324	d347	522	551	142	493	216	249	150	364
22	213	97	321	d364	522	551	144	506	211	249	150	364
23	213	97	318	d360	518	495	146	523	206	249	150	364
24	213	97	318	360	518	402	150	527	201	246	162	364
25	213	122	315	360	518	406	152	523	196	246	238	364
26	213	192	315	360	513	406	156	514	194	246	252	364
27	213	192	315	360	513	413	158	514	191	249	252	360
28	188	192	312	360	551	314	162	502	194	275	252	357
29	126	192	312	360	-	263	168	493	191	275	249	357
30	124	192	315	360	-	266	326	481	189	275	249	354
31	124	-	303	360	-	268	-	453	-	275	249	-

Month	Observed					Adjusted*		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
October	6,179	218	124	199		176	1.22	1.41
November	4,362	213	97	145		311	2.16	2.41
December	8,443	328	192	272		208	1.44	1.66
Calendar year 1942	84,396	1,240	43	231		249	1.73	23.43
January	10,019	364	257	323		294	2.04	2.35
February	13,129	551	360	469		261	1.81	1.88
March	15,543	581	263	501		515	3.58	4.13
April	6,223	493	140	207		739	5.13	5.72
May	33,014	1,910	453	1,065		1,065	7.40	8.53
June	7,465	389	189	249		205	1.42	1.58
July	7,218	275	184	233		124	.861	.99
August	6,004	276	150	194		194	1.35	1.56
September	10,693	426	249	356		260	1.81	2.02
Water year 1942-43	128,292	1,910	97	351		363	2.52	34.24

* Adjusted for change in contents in Cranberry Lake Reservoir.
& No gage-height record; discharge computed on basis of record of gate openings and reservoir elevations at Cranberry Lake Dam.
d Doubtful gage-height record; discharge computed on basis of partly estimated gage-height record and record of gate openings and reservoir elevations at Cranberry Lake Dam.
Note.- Elevations of water surface in Cranberry Lake Reservoir at midnight, 1,483.12 feet Sept. 30, 1942; 1,484.57 feet Sept. 30 1943; 1,481.62 feet Dec. 31, 1941; 1,483.87 feet Dec. 31, 1942.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

East Branch Oswegatchie River near Oswegatchie, N. Y.

Location.- Water-stage recorder, lat. 44°13'25", long. 75°04'35", at Flat Rock hydroelectric plant of Northern New York Utilities, 2¾ miles north of Oswegatchie, St. Lawrence County.

Drainage area.- 263 square miles.

Records available.- October 1924 to September 1943.

Average discharge.- 18 years (1925-43), 514 second-feet.

Extremes (regulated).- Maximum discharge during year, 3,100 second-feet May 13 (gage height, 6.27 feet); minimum, 12 second-feet Sept. 27 (gage height, 1.04 feet); minimum daily, 190 second-feet June 22.
1924-43: Maximum discharge, 4,010 second-feet Apr. 6, 1928 (gage height, 7.1 feet), from rating curve extended 1,900 second-feet by logarithmic plotting; minimum, probably less than 1 second-foot during complete shut-down of power plant; minimum daily, 1 second-foot July 25, 1926.

Remarks.- Records excellent except those for periods of ice effect or fragmentary or no gage-height record, which are good. Large diurnal fluctuation at low and medium stages caused by power plant; seasonal flow partly regulated by Cranberry Lake (see preceding page).

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

2.4	188	4.0	873
2.7	269	4.5	1,240
3.0	368	5.0	1,680
3.3	491	5.5	2,190
3.6	639	6.2	3,010

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	484	288	341	957	496	1,120	1,250	1,520	649	a360	321	299
2	468	497	301	942	433	1,000	1,330	1,540	646	a270	380	619
3	267	397	284	654	500	870	1,550	1,540	731	a280	358	680
4	261	368	291	799	595	560	1,010	1,540	1,050	a300	358	613
5	251	397	443	624	541	535	798	1,870	406	a240	272	705
6	269	410	288	700	620	640	768	2,170	370	a240	335	675
7	257	417	279	660	520	450	1,110	2,200	371	a290	311	354
8	291	396	318	676	519	580	778	2,180	373	a300	341	335
9	282	375	342	674	537	656	484	2,290	350	a290	292	675
10	258	388	348	660	531	749	553	2,230	354	a400	315	715
11	224	402	351	580	609	856	305	2,170	401	a270	308	317
12	286	470	349	540	755	885	504	2,750	339	a380	324	339
13	279	388	334	580	720	1,250	464	3,000	225	a330	326	469
14	278	394	329	511	600	1,040	598	2,700	a350	a330	349	317
15	295	f340	*342	433	580	973	643	2,430	a270	a330	333	508
16	278	384	330	477	*600	903	585	2,280	a290	300	348	528
17	280	387	370	534	340	1,060	536	2,040	a280	354	475	579
18	274	392	340	520	620	1,540	321	1,700	a430	333	480	386
19	261	512	320	540	620	1,470	570	1,490	a600	315	466	421
20	268	*449	340	520	638	1,470	508	1,340	a270	368	491	537
21	250	488	350	420	624	1,530	590	1,370	a245	324	397	470
22	230	478	390	540	749	1,190	643	1,270	a190	353	313	690
23	214	481	354	520	607	773	847	884	a240	369	308	460
24	217	437	438	218	966	811	1,140	946	a310	328	325	586
25	f230	443	490	518	1,300	815	1,360	680	a430	283	472	563
25	274	434	500	510	1,290	1,280	1,580	708	a340	355	402	404
27	227	408	*441	460	1,260	1,500	1,590	1,130	a245	329	321	390
28	f400	402	474	470	933	1,520	1,560	1,290	a400	380	332	449
29	460	372	442	420	-	1,400	1,550	867	a300	376	328	510
30	385	306	*794	501	-	1,120	1,530	396	a380	350	308	489
31	386	-	1,330	437	-	978	-	923	-	372	241	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	9,034	484	214	291	-	-
November	12,300	512	288	410	-	-
December	12,741	1,330	279	411	-	-
Calendar year 1942	158,178	1,890	13	433	1.65	22.38
January	17,595	957	218	568	-	-
February	19,403	1,300	433	693	-	-
March	31,524	1,540	450	1,017	-	-
April	27,055	1,590	305	902	-	-
May	51,444	3,000	396	1,659	-	-
June	11,838	1,050	190	395	-	-
July	10,099	400	240	326	-	-
August	10,930	491	241	353	-	-
September	15,082	715	299	503	-	-
Water year 1942-43	229,045	3,000	190	628	2.39	32.39

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of power-plant records.
f Fragmentary gage-height record; discharge computed on basis of normal daily gage-height pattern.
Note.- Stage-discharge relation affected by ice Dec. 17-22, Jan. 6, 7, 10-13, 18-23, 27-29, Feb. 3, 6, 13-19, Mar. 4, 7, 8.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Oswegatchie River near Heuvelton, N. Y.

Location.- Water-stage recorder, lat. 44°36'00", long. 75°22'45", 2½ miles upstream from Heuvelton, St. Lawrence County.

Drainage area.- 973 square miles.

Records available.- June 1916 to September 1943.

Average discharge.- 27 years, 1,671 second-feet.

Extremes.- Maximum discharge during year, 9,010 second-feet May 14 (gage height, 6.62 feet); minimum, 399 second-feet Oct. 20 (gage height, 1.15 feet).
1916-43: Maximum discharge, 15,600 second-feet Jan. 11, 1930 (gage height, 9.1 feet); minimum, 200 second-feet (regulated) Aug. 18, 1934 (gage height, 0.65 foot).

Remarks.- Records excellent except those for periods of ice effect, which are fair. Seasonal flow slightly regulated by Cranberry Lake; slight diurnal fluctuation at low and medium stages caused by power plants. During high stages on Grass River, part of flow of that stream may pass through Upper Lake, Indian Creek, and Lower Lake and enter Oswegatchie River at Rensselaer Falls, 4½ miles above station.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.1	370	2.2	1,300	5.0	5,560
1.4	562	3.0	2,280	6.0	7,610
1.8	895	4.0	3,760	6.6	8,960

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,260	1,480	1,480	*2,800	1,240	4,860	5,050	4,770	2,330	735	570	548
2	1,270	1,590	1,480	3,300	1,240	4,170	5,140	5,070	2,330	702	541	527
3	1,110	1,660	1,190	*3,400	1,240	3,630	5,290	5,220	2,020	645	520	506
4	1,030	1,710	1,070	3,400	1,230	2,970	5,330	5,310	1,850	555	520	770
5	904	1,580	1,060	3,300	1,320	2,420	5,070	5,260	1,950	562	592	1,170
6	727	1,380	1,270	3,200	1,520	2,050	4,520	5,070	1,780	607	577	1,270
7	645	1,240	1,500	2,800	1,650	1,830	3,860	4,940	1,290	822	699	1,320
8	534	1,150	1,500	2,500	1,790	1,670	3,300	4,860	1,090	850	831	1,180
9	513	1,090	1,300	2,300	1,840	1,470	3,000	4,760	1,050	804	718	886
10	548	1,080	1,270	2,100	1,740	1,420	2,590	4,720	1,030	735	686	770
11	534	1,120	1,230	1,900	1,900	1,780	2,280	4,740	990	653	607	877
12	466	1,440	1,190	1,750	2,100	3,090	2,030	6,210	952	661	600	942
13	466	1,670	*1,140	1,650	2,300	3,680	1,890	7,960	962	584	600	688
14	486	1,790	1,080	1,500	2,450	3,830	2,030	8,960	840	577	607	600
15	466	1,680	1,040	1,400	*2,350	3,980	2,110	8,590	795	570	614	584
16	479	1,440	1,000	1,300	2,200	*3,700	2,110	7,900	787	548	622	614
17	473	1,350	940	1,220	2,050	4,330	2,110	6,840	744	584	761	630
18	499	1,380	880	1,120	1,900	5,750	2,190	5,690	822	622	822	752
19	466	1,480	820	1,140	1,800	6,490	2,110	4,740	895	534	914	924
20	416	1,650	800	1,220	1,800	6,890	2,120	3,950	980	570	942	859
21	473	1,820	760	1,350	2,050	7,240	2,620	3,440	1,050	562	914	822
22	548	1,820	760	1,350	2,700	6,860	2,890	4,130	952	555	877	877
23	541	1,720	761	1,350	3,200	6,470	2,950	4,810	859	506	787	787
24	479	1,620	787	1,250	4,400	6,070	2,960	4,340	718	541	630	831
25	456	1,560	859	1,200	5,200	5,580	3,190	3,380	645	534	577	761
26	466	1,730	895	1,180	5,600	5,580	3,620	3,630	562	492	534	727
27	506	1,840	952	1,200	5,890	5,830	3,950	4,970	600	534	619	761
28	813	1,860	962	1,300	5,400	6,390	4,290	5,240	722	506	710	678
29	1,260	1,760	1,000	1,250	-	6,760	4,490	4,760	795	479	584	600
30	1,490	1,580	1,120	1,240	-	6,610	4,560	3,950	661	541	527	534
31	1,520	-	1,800	1,220	-	5,600	-	3,080	-	607	534	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per squsre mile	Runoff in inches
October	21,874	1,520	416	706	0.726	0.84
November	46,290	1,880	1,080	1,543	1.59	1.77
December	33,896	1,800	760	1,093	1.12	1.30
Calendar year 1942	521,411	7,810	328	1,429	1.47	19.93
January	57,190	3,400	1,120	1,845	1.90	2.19
February	70,100	5,890	1,230	2,504	2.57	2.68
March	139,000	7,240	1,420	4,484	4.61	5.31
April	99,650	5,330	1,890	3,322	3.41	3.81
May	161,290	8,960	3,080	5,203	5.35	6.16
Jnne	33,073	2,330	562	1,102	1.13	1.26
July	18,777	850	479	606	.623	.72
August	20,636	942	520	666	.684	.79
September	23,795	1,320	506	793	.815	.91
Water year 1942-43	725,571	8,960	416	1,988	2.04	27.74

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 8, 9, 13-22, Dec. 31 to Jan. 31, Feb. 12-26.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

West Branch Oswegatchie River near Harrisville, N. Y.

Location.- Water-stage recorder, lat. 44°11'10", long. 75°19'55", at highway bridge, half a mile northeast of Geers Corners and 4 miles downstream from Harrisville, Lewis County.
Drainage area.- 258 square miles.
Records available.- July 1916 to September 1943.
Average discharge.- 27 years, 510 second-feet.
Extremes.- Maximum discharge during year, 3,330 second-feet Mar. 18 (gage height, 6.60 feet); minimum, 56 second-feet (regulated) Oct. 18 (gage height, 1.21 feet).
1916-43: Maximum discharge, 6,920 second-feet Jan. 9, 1930 (gage height, 9.6 feet), from rating curve extended above 2,400 second-feet; minimum, 25 second-feet Sept. 1, 1934 (gage height, 0.86 foot).
Remarks.- Records good except those for periods of no gage-height record, which are fair. Diurnal fluctuations, principally during low flows, caused by pondage for pulp mill at Harrisville.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1-26				Oct. 26 to Mar. 18				Mar. 19 to Sept. 30			
1.6	99	2.4	267	2.1	188	3.5	744	1.4	76	3.0	498
1.8	129	2.8	399	2.4	261	4.0	1,055	1.6	101	3.5	752
2.1	189	3.3	609	2.7	357	5.0	1,810	1.8	132	4.0	1,070
				3.0	480	6.1	2,830	2.1	192	5.0	1,830
								2.4	270	6.2	2,930
								2.7	372		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	579	625	492	1,130	280	a1,100	1,320	1,910	613	169	89	134
2	454	664	450	1,430	260	a920	1,770	2,220	573	144	136	260
3	367	680	334	1,550	260	a740	1,970	2,060	544	148	135	634
4	291	619	455	1,490	254	a600	1,620	1,930	494	116	134	751
5	196	524	519	1,320	271	a520	1,390	1,870	437	217	233	619
6	209	449	534	1,140	270	462	1,150	1,700	369	358	354	480
7	201	403	512	958	303	416	902	1,570	337	361	327	415
8	228	350	470	800	317	387	847	1,370	385	307	280	354
9	203	306	420	660	314	352	746	1,660	400	243	232	296
10	164	312	384	560	303	337	670	1,640	347	197	211	250
11	160	554	368	490	373	418	613	1,520	351	180	220	191
12	151	744	355	440	450	582	603	1,750	301	131	236	188
13	143	750	330	390	520	686	613	2,490	271	146	208	178
14	116	664	*300	360	580	756	655	2,360	286	146	231	164
15	115	542	290	340	620	785	629	1,810	231	232	403	141
16	123	542	280	320	*560	827	588	a1,300	228	244	450	144
17	100	518	270	300	490	*1,400	578	a1,080	229	197	445	266
18	116	609	260	290	440	2,780	588	a920	334	173	432	424
19	176	809	250	300	420	2,920	697	a820	329	154	422	374
20	170	*902	245	320	403	2,440	902	a760	311	130	360	288
21	154	855	210	340	440	2,130	1,170	a840	335	a125	299	224
22	154	787	215	350	504	1,890	1,250	947	303	a140	229	196
23	144	640	210	330	567	1,620	1,330	1,070	245	a135	197	167
24	153	540	211	310	738	1,370	1,620	1,040	201	134	177	148
25	191	552	223	320	971	1,290	1,950	890	186	79	192	143
26	196	692	228	330	1,270	1,350	2,190	865	171	136	230	91
27	373	758	218	340	a1,350	1,650	2,310	1,100	122	138	195	150
28	567	730	240	330	a1,250	1,930	2,230	1,110	200	159	154	111
29	598	649	272	310	-	1,780	2,100	980	235	156	159	116
30	588	572	*450	280	-	1,550	1,890	834	211	146	169	105
31	604	-	800	270	-	1,320	-	708	-	148	130	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	7,984	604	100	258	1.00	1.15
November	18,341	902	306	611	2.37	2.64
December	10,795	800	210	348	1.35	1.56
Calendar year 1942	164,925	2,540	46	452	1.75	23.78
January	18,098	1,550	270	584	2.26	2.61
February	14,778	1,350	254	528	2.05	2.13
March	37,308	2,920	337	1,203	4.66	5.38
April	36,891	2,310	578	1,230	4.77	5.32
May	43,324	2,490	708	1,398	5.42	6.25
June	9,579	613	122	319	1.24	1.38
July	5,489	361	79	177	.686	.79
August	7,669	450	89	247	.957	1.11
September	8,002	751	91	267	1.03	1.15
Water year 1942-43	218,258	2,920	79	598	2.32	31.47

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and record for Independence River at Donnattsburg.
Note.- Stage-discharge relation affected by ice Dec. 8, 9, 13-22, 30, 31, Jan. 8 to Feb. 3, Feb. 12-18.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Grass River at Pyrites, N. Y.

Location.- Water-stage recorder, lat. 44°31'30", long. 75°11'50", 1,000 feet downstream from lower bridge in Pyrites, St. Lawrence County, and half a mile upstream from Harrison Creek.

Drainage area.- 335 square miles.

Records available.- August 1924 to September 1943.

Average discharge.- 19 years, 579 second-feet.

Extremes.- Maximum discharge during year, 3,860 second-feet May 13 (gage height, 8.79 feet, backwater from Harrison Creek); minimum, 140 second-feet Oct. 17 (gage height, 1.50 feet); minimum daily, 143 second-feet Oct. 17.
1924-43: Maximum discharge, about 8,300 second-feet Nov. 18, 1927 (gage height, 13.0 feet), from rating curve extended above 2,100 second-feet by logarithmic plotting; minimum, 37 second-feet July 15, 1933; minimum daily, 59 second-feet Aug. 29 to Sept. 1, 1934.

Remarks.- Records good except those for periods of ice effect or backwater from Harrison Creek, which are fair. Occasional diurnal fluctuations at low and medium stages caused by power plants.

Rating tables, water year 1942-43, except periods of ice effect or backwater from Harrison Creek (gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 13						May 13 to Sept. 30			
1.5	140	2.4	427	5.0	1,760	1.6	157	4.0	1,200
1.8	223	3.0	675	6.0	2,420	2.0	277	5.0	1,760
2.1	319	4.0	1,170	7.7	3,640	2.5	472	6.6	2,840
						3.0	702		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	436	505	383	1,020	290	800	1,570	c2,600	654	579	247	244
2	333	530	412	*1,060	280	680	2,430	c2,800	630	438	254	391
3	267	530	769	1,100	270	600	2,380	2,600	593	338	257	785
4	220	477	940	1,000	270	520	1,630	2,570	534	280	346	722
5	194	401	960	800	290	*470	1,510	2,340	476	570	679	607
6	194	350	780	640	330	440	1,130	1,950	413	1,020	835	494
7	223	319	622	540	370	410	920	1,780	384	920	621	404
8	254	296	540	480	400	390	920	1,740	380	826	463	349
9	238	280	480	430	380	370	780	1,820	376	413	365	312
10	211	309	440	390	360	420	734	1,750	349	305	323	291
11	183	585	400	360	460	520	635	1,560	388	254	327	260
12	169	748	380	340	880	1,100	675	c2,800	433	232	305	235
13	161	644	*360	320	860	1,200	706	c3,600	380	219	257	219
14	156	514	340	300	*780	1,100	752	c2,800	368	213	267	204
15	150	426	320	290	640	1,000	698	1,980	361	280	425	190
16	145	446	310	280	560	900	635	1,480	624	327	392	193
17	143	481	290	270	490	*1,600	734	1,280	1,020	260	396	305
18	150	618	270	260	440	2,350	702	1,140	1,230	222	503	468
19	172	837	260	270	400	1,900	856	1,040	1,060	196	494	396
20	180	790	245	300	440	1,700	1,090	935	845	187	417	312
21	174	711	235	340	680	1,650	1,320	967	722	190	319	260
22	169	640	230	320	800	1,550	1,310	1,980	589	228	257	235
23	174	493	225	300	840	1,450	1,500	2,070	446	260	228	216
24	229	450	225	290	1,700	1,400	2,040	1,520	345	247	238	207
25	248	513	220	280	1,600	1,590	2,480	1,130	291	216	373	198
26	257	631	220	300	1,300	1,960	2,860	1,460	257	253	421	190
27	510	631	250	330	1,120	2,660	2,970	1,780	274	450	323	181
28	702	563	300	320	940	2,670	2,720	1,380	682	455	277	173
29	640	450	310	310	-	2,140	2,380	1,100	865	450	270	168
30	584	435	390	300	-	1,750	2,070	900	771	353	247	165
31	554	-	840	290	-	1,430	-	751	-	291	228	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	8,419	702	143	272	0.812	0.93
November	15,603	837	280	520	1.55	1.73
December	12,946	960	220	418	1.25	1.44
Calendar year 1942	186,686	4,060	86	511	1.53	20.73
January	13,830	1,100	260	446	1.33	1.54
February	18,170	1,700	270	649	1.94	2.02
March	38,720	2,670	370	1,249	3.73	4.30
April	43,137	2,970	635	1,438	4.29	4.79
May	55,603	3,600	751	1,794	5.36	6.17
June	16,740	1,230	257	558	1.67	1.86
July	11,272	1,020	187	364	1.09	1.25
August	11,354	835	228	366	1.09	1.26
September	9,374	785	165	312	.931	1.04
Water year 1942-43	255,168	3,600	143	699	2.09	28.33

* Winter discharge measurement made on this day.
c Backwater from Harrison Creek.
Note.- Stage-discharge relation affected by ice Dec. 8 to Mar. 24 (doubtful gage-height record Jan. 5-10, Feb. 15-20, Mar. 2-16).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

STREAMS TRIBUTARY TO ST. LAWRENCE RIVER

Raquette River at Piercefield, N. Y.

Location.- Water-stage recorder, lat. 44°14'05", long. 74°34'20", half a mile downstream from dam of International Paper Co. and Piercefield, St. Lawrence County.

Drainage area.- 722 square miles.

Records available.- August 1908 to September 1943.

Average discharge.- 35 years, 1,272 second-feet.

Extremes.- Maximum discharge during year, 8,240 second-feet May 16 (gage height, 12.09 feet); minimum, 376 second-feet (regulated) July 26 (gage height, 3.65 feet); minimum daily, 555 second-feet (regulated) July 26.
1908-43: Maximum discharge, that of May 16, 1943; minimum, about 10 second-feet (regulated) Sept. 2, 1913 (gage height, 0.85 foot); minimum daily, 11 second-feet (regulated) Sept. 2, 1913.

Remarks.- Records excellent except those for periods of no gage-height record, which are good. Large diurnal fluctuation in flow for short periods caused by paper mill. Seasonal distribution of flow appreciably modified by natural storage in lakes and ponds above station.

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)

4.2	533	8.0	2,850
4.5	632	9.0	3,900
5.2	916	10.0	5,150
6.0	1,310	11.0	6,600
7.0	1,980	12.1	8,250

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,800	1,840	1,450	853	1,020	1,090	2,000	4,400	3,750	1,180	706	574
2	1,720	1,790	1,480	905	975	1,100	2,120	4,750	3,540	1,070	698	708
3	1,640	1,670	1,420	1,010	925	1,120	2,150	5,030	3,310	890	722	989
4	1,570	1,670	1,360	1,070	890	1,120	2,160	5,290	3,130	881	779	885
5	1,500	1,650	1,320	1,120	898	1,110	2,180	5,530	2,930	920	885	702
6	1,450	1,600	1,300	1,140	930	1,110	2,140	a5,800	2,780	833	961	738
7	1,410	a1,540	1,290	1,180	970	1,110	2,080	a6,000	2,650	706	1,040	775
8	1,390	a1,480	1,280	1,180	1,010	1,090	2,050	6,140	2,530	730	1,060	787
9	1,350	1,440	1,240	1,180	1,020	1,050	2,010	a6,360	2,400	750	1,070	783
10	1,300	1,450	1,210	1,160	1,040	1,030	1,960	6,600	2,270	750	1,080	775
11	1,140	1,430	1,190	1,140	1,080	1,030	1,890	6,870	2,060	746	1,070	912
12	960	1,440	1,200	1,140	1,100	1,060	1,850	7,280	1,840	758	1,060	1,120
13	820	1,460	1,190	1,120	1,110	1,080	1,800	7,640	1,840	796	1,070	1,060
14	834	1,420	1,100	1,100	1,120	1,090	1,760	7,940	1,820	833	1,140	1,020
15	872	1,410	956	1,080	1,120	1,090	1,710	a8,130	1,710	825	1,170	956
16	858	1,380	950	1,060	1,090	1,110	1,660	8,140	1,670	812	1,210	934
17	758	1,360	938	1,040	1,070	1,170	1,630	7,780	1,670	842	1,290	915
18	794	1,390	916	1,020	1,030	1,210	1,570	7,420	1,660	833	1,550	934
19	824	1,430	920	1,020	989	1,250	1,550	7,100	1,690	787	1,470	956
20	816	1,480	900	1,010	946	1,290	1,540	6,760	1,790	775	1,390	975
21	825	1,520	872	970	939	1,320	1,540	6,480	1,840	819	1,320	979
22	859	1,570	842	931	934	1,350	1,570	6,270	1,840	758	1,170	984
23	881	1,570	825	914	925	1,370	1,680	6,060	1,850	710	830	989
24	907	1,540	816	893	969	1,410	a1,850	5,850	1,830	687	816	989
25	912	1,530	808	825	1,000	1,440	a2,200	5,600	1,760	664	968	979
26	970	1,530	780	812	1,020	1,490	2,510	5,300	1,680	555	1,180	966
27	1,100	1,510	714	1,360	1,040	1,630	2,960	5,030	1,610	680	1,140	970
28	1,190	1,480	725	1,290	1,070	1,720	3,370	4,720	1,610	714	1,000	966
29	1,270	1,490	714	1,210	-	1,810	3,680	4,450	1,540	710	880	872
30	1,550	1,460	780	1,130	-	1,880	4,070	4,220	1,380	698	1,030	730
31	1,900	-	842	1,060	-	1,930	-	3,970	-	702	966	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	36,070	1,900	758	1,164	1.61	1.86
November	45,580	1,840	1,360	1,519	2.10	2.35
December	32,334	1,480	714	1,043	1.44	1.67
Calendar year 1942	434,270	4,880	134	1,190	1.65	22.37
January	32,923	1,360	812	1,062	1.47	1.70
February	28,230	1,120	890	1,008	1.40	1.45
March	39,660	1,930	1,030	1,279	1.77	2.04
April	63,240	4,070	1,540	2,108	2.92	3.26
May	188,910	8,140	3,970	6,094	8.44	9.73
June	63,980	3,750	1,380	2,133	2.95	3.30
July	24,414	1,180	555	788	1.09	1.26
August	32,621	1,550	698	1,052	1.46	1.68
September	26,932	1,120	574	898	1.24	1.39
Water year 1942-43	614,894	8,140	555	1,685	2.33	31.89

a No gage-height record; discharge computed on basis of estimated gage-height graph, observer's readings, and recorded range in stage.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

St. Regis River at Brasher Center, N. Y.

Location.- Water-stage recorder, lat. 44°51'50", long. 74°46'45", 600 feet upstream from highway bridge at Brasher Center, St. Lawrence County, and 6½ miles downstream from confluence of East and West Branches at Winthrop.

Drainage area.- 616 square miles.

Records available.- August 1910 to November 1917, January 1919 to September 1943.

Average discharge.- 30 years (1910-13, 1914-17, 1919-43), 1,057 second-feet.

Extremes.- Maximum discharge during year, 9,310 second-feet May 12 (gage height, 10.67 feet); minimum, 224 second-feet Oct. 16 (gage height, 5.87 feet).
1910-17, 1919-43: Maximum discharge, 16,800 second-feet Apr. 6, 1937, from rating curve extended above 8,300 second-feet by logarithmic plotting; maximum gage height recorded, about 15.3 feet Apr. 6, 1937 (ice jam); minimum discharge, about 34 second-feet Aug. 8, 1917 (gage height, 5.25 feet).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

5.8	181	6.6	887	9.0	4,970
5.9	243	7.0	1,420	10.0	7,350
6.1	392	7.5	2,180	10.2	7,910
6.3	569	8.0	3,020		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	948	1,050	452	1,200	390	1,000	2,580	5,580	1,340	1,350	689	753
2	797	998	495	1,300	380	880	3,490	5,220	1,220	1,180	609	998
3	668	912	392	1,300	370	780	*3,000	4,680	1,130	1,040	599	1,080
4	505	819	569	*1,200	360	700	2,470	4,930	1,010	a924	532	1,010
5	409	710	679	980	380	640	2,550	4,530	785	a1,580	710	936
6	426	648	753	800	430	600	2,000	3,950	732	a1,440	998	864
7	523	551	785	660	490	560	1,650	4,110	721	a1,280	1,170	732
8	532	514	742	600	540	540	1,550	4,230	700	a1.110	1.130	589
9	541	523	589	560	500	500	1,440	4,350	579	a948	1,040	541
10	452	532	680	520	480	560	1,360	3,910	589	830	924	541
11	434	853	560	490	520	700	a1,090	3,550	589	668	924	486
12	330	1,110	*600	460	*900	1,500	a1,130	7,860	700	668	1,080	460
13	314	1,180	560	430	800	1,550	a1,290	7,220	732	599	1,100	443
14	330	1,000	520	420	740	*1,450	a1,310	5,310	742	742	1,040	426
15	243	840	490	400	640	1,350	a1,240	4,170	721	a887	961	384
16	231	853	460	380	580	1,250	a1,170	3,530	710	a1,020	936	409
17	243	936	430	370	540	2,200	1,220	3,400	936	742	658	452
18	250	1,040	410	360	500	3,000	1,180	3,020	1,290	648	912	551
19	257	1,310	400	370	470	2,400	1,410	2,670	1,250	523	1,170	599
20	257	1,350	380	420	540	2,150	1,760	2,180	1,280	452	1,050	541
21	286	1,580	370	460	820	2,100	1,980	2,120	1,660	486	887	505
22	293	1,390	360	430	1,080	1,980	1,960	3,130	1,600	477	774	409
23	278	1,110	350	410	1,140	1,870	2,600	3,220	1,340	514	700	384
24	300	936	350	390	2,100	1,780	3,650	2,810	1,050	589	579	376
25	369	924	340	380	2,000	2,020	4,720	2,360	936	541	732	369
26	400	924	340	410	1,650	2,470	5,600	2,200	819	486	1,010	361
27	834	797	380	450	1,400	3,530	5,530	2,280	941	514	1,050	353
28	1,040	679	450	440	1,180	3,200	5,140	2,070	1,420	560	998	345
29	1,050	628	460	420	-	3,000	4,700	1,820	1,630	569	948	337
30	1,050	443	540	400	-	2,690	4,270	1,620	1,520	514	853	330
31	1,080	-	880	390	-	2,360	-	1,440	-	589	785	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	15,670	1,080	231	505	0.820	0.95
November	27,140	1,580	443	905	1.47	1.64
December	15,766	880	340	509	.826	.95
Calendar year 1942	312,574	6,560	160	856	1.39	18.87
January	17,800	1,300	360	574	.932	1.07
February	21,920	2,100	360	783	1.27	1.32
March	51,310	3,530	500	1,655	2.69	3.10
April	75,040	5,600	1,090	2,501	4.06	4.53
May	113,470	7,860	1,440	3,660	5.94	6.85
June	30,672	1,660	579	1,022	1.66	1.85
July	24,470	1,580	452	789	1.28	1.48
August	27,548	1,170	532	889	1.44	1.66
September	16,564	1,080	330	552	.896	1.00
Water year 1942-43	437,370	7,860	231	1,198	1.94	26.40

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for Grass River at Pyrites.
Note.- Stage-discharge relation affected by ice Nov. 14, 15, Dec. 10 to Mar. 18, Apr. 6-8.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Salmon River at Chasm Falls, N. Y.

Location.- Water-stage recorder, lat. 44°45'20", long. 74°13'10", at Chasm Falls, Franklin County, a quarter of a mile downstream from power plant of Central New York Power Corporation.

Drainage area.- 132 square miles.

Records available.- July 1925 to September 1943.

Average discharge.- 18 years, 224 second-feet.

Extremes.- Maximum discharge during year, 1,950 second-feet May 12 (gage height, 4.13 feet); minimum, 14 second-feet (regulated) Feb. 12 (gage height, 0.44 foot); minimum daily, 79 second-feet Nov. 8.

1925-43: Maximum discharge, 2,890 second-feet Apr. 25, 1926 (gage height, 5.0 feet), from rating curve extended above 2,400 second-feet on basis of velocity-area studies; minimum, that of Feb. 12, 1943; minimum daily, 28 second-feet Sept. 4, 1934.

Remarks.- Records excellent. Diurnal fluctuation at low and medium stages caused by power plant. A small diversion from tributary stream above station is used as water supply for village of Malone.

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)

1.1	77	1.6	190	2.5	613
1.2	93	1.8	260	3.0	960
1.3	112	2.0	344	3.5	1,360
1.4	134	2.2	442	3.8	1,630

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	149	108	183	196	112	217	424	1,150	213	151	144	236
2	128	100	197	189	102	184	656	1,080	204	150	130	389
3	138	94	150	178	109	187	584	945	201	119	144	345
4	130	91	188	170	115	227	441	1,050	177	128	174	275
5	126	86	190	151	120	228	412	899	179	259	270	244
6	146	84	190	147	118	204	284	892	154	284	227	206
7	161	81	177	138	123	189	342	1,000	152	204	180	195
8	147	79	149	131	118	180	304	1,180	149	163	151	206
9	131	82	160	130	113	167	260	1,070	136	148	148	186
10	138	102	204	118	115	162	244	877	138	131	144	161
11	133	219	187	123	143	163	227	735	199	129	213	149
12	118	161	176	122	130	200	231	1,560	172	172	328	144
13	110	209	153	123	238	203	230	1,630	161	332	264	136
14	114	178	115	116	145	189	243	1,100	166	749	363	148
15	112	201	144	117	156	173	231	749	154	557	288	159
16	105	236	130	117	137	163	210	589	298	344	232	183
17	107	231	114	115	124	212	201	547	322	263	284	202
18	103	261	116	106	118	263	199	486	306	221	351	221
19	100	212	106	113	119	283	244	378	248	171	300	218
20	102	259	95	112	129	286	295	237	719	178	256	200
21	100	265	95	130	155	251	310	317	868	171	213	195
22	109	205	106	120	169	238	355	484	504	197	181	187
23	124	192	95	114	176	229	580	411	321	224	168	191
24	118	228	103	112	212	224	771	343	251	170	211	191
25	112	203	95	115	239	253	938	303	203	149	359	186
26	140	214	98	123	259	347	1,210	298	182	161	275	177
27	213	213	100	127	258	635	1,260	355	190	148	242	168
28	136	202	102	121	251	626	1,090	300	210	187	228	115
29	122	223	111	112	-	496	976	259	228	152	198	122
30	139	209	140	113	-	435	930	244	187	170	192	f124
31	123	-	168	110	-	356	-	226	-	163	231	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,934	213	100	127	0.962	1.11
November	5,228	265	79	174	1.32	1.47
December	4,337	204	95	140	1.06	1.22
Calendar year 1942	68,862	1,690	68	189	1.43	19.41
January	4,009	196	106	129	.977	1.13
February	4,303	259	102	154	1.17	1.21
March	8,170	635	162	264	2.00	2.30
April	14,682	1,260	199	489	3.70	4.14
May	21,694	1,630	226	700	5.30	6.11
June	7,592	868	136	253	1.92	2.14
July	6,745	749	119	218	1.65	1.90
August	7,079	363	130	228	1.73	1.99
September	5,859	389	115	195	1.48	1.65
Water year 1942-43	93,632	1,630	79	257	1.95	26.37

f Computed on basis of partly estimated gage-height record.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Chateaugay River near Chateaugay, N. Y.

Location.- Water-stage recorder, lat. 44°54'35", long. 74°05'10", 150 feet downstream from dam of International Paper Co. and 1 mile south of Chateaugay, Franklin County.
Drainage area.- 112 square miles.
Records available.- September to December 1908, October 1926 to September 1943.
Average discharge.- 17 years (1926-43), 172 second-feet.
Extremes (regulated).- Maximum discharge during year, 1,100 second-feet May 12 (gage height, 5.07 feet); minimum, 66 second-feet Nov. 18-20 (gage height, 1.33 feet); minimum daily, 73 second-feet Oct. 21, 25.
1908, 1926-43: Maximum discharge, 2,060 second-feet Apr. 8, 1928 (gage height, 7.3 feet), from rating curve extended above 970 second-feet by logarithmic plotting; minimum, 6 second-feet Nov. 20, 1928 (gage height, 0.23 foot); minimum daily, 26 second-feet July 8, 1934.
Remarks.- Records excellent except those for periods of ice effect or doubtful or fragmentary gage-height record, which are fair. Flow regulated by Upper and Lower Chateaugay Lakes. Large diurnal fluctuation at all stages caused by power operations.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 12				May 12 to Sept. 30			
1.3	63	3.0	340	1.6	94	3.5	479
1.6	98	3.5	479	2.0	146	4.0	649
2.0	151	4.0	649	2.5	231	4.6	885
2.5	234	4.7	930	3.0	339		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84	77	84	96	130	165	356	796	144	140	113	130
2	79	78	83	92	130	160	378	841	144	136	116	134
3	79	80	66	98	125	160	372	886	141	134	122	120
4	79	79	88	110	125	160	*366	839	125	130	117	101
5	83	78	90	*112	129	155	361	796	127	129	128	100
6	82	78	90	110	126	155	380	779	122	121	124	125
7	79	75	88	108	124	155	400	752	112	124	124	128
8	82	78	88	108	122	150	405	762	107	121	123	129
9	82	78	86	108	121	155	412	724	107	115	123	128
10	78	82	91	106	*125	165	405	673	105	116	124	126
11	76	79	*92	104	143	185	397	680	103	116	121	124
12	83	81	95	104	141	d173	370	911	100	117	121	123
13	74	80	94	104	130	*158	314	851	102	123	124	121
14	80	77	94	104	124	157	310	811	102	171	129	123
15	80	79	94	114	120	174	301	752	103	183	122	122
16	77	84	94	124	118	183	297	729	117	165	122	f126
17	74	85	92	125	118	284	294	678	110	168	124	f128
18	78	83	92	125	118	206	277	656	108	150	123	122
19	78	80	90	125	118	194	277	633	109	135	129	122
20	80	91	90	124	124	230	280	565	145	138	127	121
21	73	87	90	122	140	233	270	222	204	133	127	122
22	79	83	90	122	125	225	281	222	224	136	127	121
23	78	80	90	120	135	220	295	216	180	141	128	122
24	80	83	90	118	240	223	311	204	195	127	128	122
25	73	80	94	124	185	230	378	158	175	127	127	122
26	84	84	92	122	170	275	439	163	165	124	129	118
27	89	86	92	120	165	276	471	162	152	120	127	116
28	84	77	94	118	165	270	537	162	169	120	128	104
29	78	82	94	130	-	311	574	173	158	119	126	100
30	85	81	100	135	-	312	672	161	148	118	128	104
31	78	-	98	130	-	311	-	144	-	117	127	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,468	89	73	79.6	-	-
November	2,425	91	75	80.8	-	-
December	2,825	100	83	91.1	-	-
Calendar year 1942	55,488	1,100	73	152	1.36	18.41
January	3,562	135	92	115	-	-
February	3,836	240	118	137	-	-
March	6,410	312	150	207	-	-
April	11,180	672	270	373	-	-
May	17,101	911	144	552	-	-
June	4,103	224	100	137	-	-
July	4,114	183	115	133	-	-
August	3,858	129	113	124	-	-
September	3,604	134	100	120	-	-
Water year 1942-43	65,486	911	73	179	1.60	21.75

* Winter discharge measurement made on this day.
d Doubtful gage-height record; discharge computed on basis of partial gage-height record and normal recession.
f Fragmentary gage-height record; discharge computed from partly estimated gage heights.
Note.- Stage-discharge relation affected by ice Dec. 4-9, Dec. 13 to Feb. 4, Feb. 7, Feb. 13 to Mar. 11, Apr. 6, 7 (no gage-height record Dec. 17-25, Jan. 9-15, 21-23, Feb. 15, 16, Mar. 10, 11). Increase in storage in Chateaugay Lakes during calendar year 1942, about 29,133,000 cubic feet (equivalent mean discharge, 0.924 sec.-ft.; runoff, 0.11 inch); increase in elevation 0.22 feet. Increase in storage during water year 1942-43, about 186,720,000 cubic feet (equivalent mean discharge, 5.92 sec.-ft.; runoff 0.72 inch); increase in elevation, 1.41 feet.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Richelieu River (Lake Champlain) at Rouses Point, N. Y.

Location.- Water-stage recorder, lat. 44°59'45", long. 73°21'40", in Rouses Point, Clinton County, at outlet of Lake Champlain, 90 feet north of Rutland Railroad bridge and 1 mile south of Fort Montgomery. Datum of gage is 95.00 feet above mean sea level, datum of 1929.

Drainage area.- 8,277 square miles.

Records available.- October 1863 to December 1870 (maximum and minimum monthly gage heights at St. Johns, Quebec, published in Water-Supply Paper 97) and March 1871 to September 1943 (daily gage heights; those for 1871-1907 published in Water-Supply Paper 894). January 1875 to September 1916 (monthly discharge) at Chambly, Quebec, published in Water-Supply Paper 424. Gage heights prior to Oct. 1, 1925, published as Richelieu River at Fort Montgomery, Rouses Point, N. Y.

Extremes.- Maximum gage height during year, 7.03 feet May 16; minimum, 0.64 foot Oct. 26.
1871-1943: Maximum gage height observed, 8.80 feet Mar. 30, 1903; minimum observed -0.83 foot Oct. 23, 1941.
Observations at St. Johns, Quebec, indicate a maximum gage height of 8.83 feet (computed) during April 1869.

Gage height, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.02	1.16	1.68	1.63	1.61	2.43	4.29	4.82	5.65	4.05	2.68	2.39
2	.95	1.32	1.69	1.68	1.55	2.46	4.23	5.07	5.51	4.03	2.68	2.40
3	.96	1.16	1.62	1.69	1.54	2.48	4.19	5.18	5.35	4.01	2.56	2.55
4	1.16	1.23	1.63	1.69	1.56	2.53	4.24	5.27	5.28	4.06	2.52	2.52
5	1.03	1.55	1.66	1.72	1.52	2.51	4.19	5.39	5.10	3.93	2.62	2.63
6	.94	1.35	1.64	1.75	1.53	2.48	4.09	5.47	5.02	3.80	2.62	2.46
7	.99	1.24	1.62	1.73	1.56	2.52	4.12	5.51	4.94	3.83	2.71	2.46
8	1.13	1.24	1.63	1.73	1.55	2.50	4.09	5.56	4.86	3.78	2.69	2.45
9	.95	1.29	1.66	1.72	1.53	2.49	4.06	5.65	4.77	3.75	2.68	2.36
10	.91	1.90	1.67	1.72	1.55	2.52	3.96	5.71	4.71	3.67	2.66	2.31
11	.92	1.11	1.66	1.72	1.55	2.51	3.89	5.72	4.61	3.62	2.70	2.33
12	.84	1.27	1.66	1.71	1.53	2.66	3.94	5.93	4.60	3.55	2.73	2.23
13	.92	1.39	1.55	1.69	1.53	2.84	3.84	6.20	4.57	3.48	2.85	2.22
14	.90	1.06	1.62	1.70	1.54	2.96	3.88	6.38	4.42	3.43	2.77	2.28
15	.85	1.38	1.55	1.69	1.54	3.04	3.90	6.42	4.44	3.42	2.69	2.16
16	.81	1.36	1.50	1.65	d1.57	3.15	3.94	6.65	4.38	3.22	2.83	2.10
17	.82	1.29	1.56	1.61	d1.56	3.26	3.88	6.43	4.60	3.20	2.73	2.02
18	.82	1.18	1.50	1.62	1.55	3.37	3.85	6.31	4.47	3.12	2.71	2.02
19	.76	1.20	1.49	1.66	1.56	3.52	3.85	6.27	4.47	3.00	2.69	2.09
20	.76	1.28	1.51	1.63	1.58	3.64	3.89	6.21	4.54	3.10	2.72	2.06
21	.88	1.23	1.51	1.63	1.56	3.68	3.94	6.16	4.54	2.96	2.73	1.93
22	.78	1.34	1.58	1.63	1.60	3.73	3.99	6.12	4.57	2.86	2.68	1.96
23	.78	1.45	1.47	1.63	1.67	3.78	4.06	6.10	4.50	2.85	2.65	1.90
24	.80	1.44	1.48	1.63	1.80	3.83	4.16	6.04	4.48	2.81	2.59	1.82
25	.80	1.37	1.44	1.64	2.01	3.82	4.35	5.98	4.38	2.79	2.57	1.78
26	.89	1.47	1.39	1.58	2.21	3.90	4.29	5.88	4.29	2.77	2.50	1.73
27	1.12	1.45	1.49	1.59	2.30	3.94	4.55	5.87	4.26	2.74	2.52	1.82
28	1.08	1.43	1.39	1.59	2.41	4.09	4.69	5.86	4.24	2.64	2.50	1.83
29	1.29	1.50	1.43	1.56	-	4.19	4.70	5.79	4.19	2.63	2.51	1.81
30	1.48	1.52	1.43	1.59	-	4.27	4.90	5.73	4.13	2.62	2.49	1.64
31	1.31	-	1.60	1.60	-	4.28	-	5.63	-	2.67	2.42	-

d Record doubtful; gage heights partly estimated.

Monthly gage height, in feet, water year October 1942 to September 1943

Month	Maximum	Minimum	Mean
October	1.48	0.76	0.96
November	1.90	1.06	1.34
December	1.69	1.39	1.56
Calendar year 1942	6.12	.57	2.16
January	1.75	1.56	1.66
February	2.41	1.52	1.66
March	4.28	2.43	3.21
April	4.90	3.84	4.13
May	6.65	4.82	5.85
June	5.65	4.13	4.66
July	4.06	2.62	3.30
August	2.85	2.42	2.65
September	2.63	1.61	2.13
Water year 1942-43	6.65	.76	2.76

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Lake Champlain at Burlington, Vt.

Location.- Water-stage recorder, lat. 44°29'00", long. 73°13'30", in Burlington, Chittenden County, 0.6 mile north of railroad station. Datum of gage is 92.86 feet above mean sea level, datum of 1929.

Records available.- May 1907 to September 1943.

Extremes.- Maximum gage height during year, 6.53 feet May 15; minimum, 0.75 foot Oct. 21. 1907-43: Maximum gage height observed, 8.65 feet Mar. 27, 28, 1936; minimum observed, -0.25 foot Dec. 4, 1908.

Gage height, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.03	1.19	1.61	1.73	1.67	2.49	4.28	5.07	5.64	4.20	2.67	2.47
2	1.04	1.22	1.67	1.76	1.67	2.52	4.34	5.20	5.52	4.11	2.63	2.50
3	1.04	1.32	1.67	1.78	1.65	2.54	4.37	5.29	5.46	4.02	2.65	2.50
4	.99	1.38	1.68	1.80	1.62	2.59	4.33	5.42	5.35	3.87	2.67	2.49
5	.92	1.32	1.70	1.81	1.63	2.57	4.28	5.51	5.24	3.85	2.75	2.47
6	1.01	1.31	1.72	1.81	1.62	2.54	4.28	5.55	5.14	3.88	2.81	2.47
7	1.01	1.36	1.73	1.82	1.64	2.58	4.22	5.57	5.03	3.89	2.82	2.46
8	1.00	1.36	1.72	1.83	1.64	2.56	4.18	5.65	4.94	3.87	2.79	2.45
9	1.00	1.33	1.72	1.82	1.63	2.55	4.13	5.74	4.84	3.80	2.74	2.44
10	1.02	1.18	1.70	1.81	1.61	2.58	4.09	5.76	4.75	3.74	2.74	2.42
11	1.00	1.24	1.69	1.79	1.60	2.57	4.04	5.79	4.72	3.66	2.73	2.38
12	1.00	1.31	1.70	1.79	1.71	2.72	3.97	6.01	4.67	3.59	2.74	2.31
13	.96	1.26	1.70	1.78	1.72	2.93	3.94	6.38	4.57	3.53	2.74	2.28
14	.95	1.31	1.67	1.75	1.74	3.05	3.99	6.50	4.52	3.48	2.76	2.20
15	.95	1.26	1.65	1.75	1.74	3.15	4.00	6.52	4.46	3.43	2.79	2.16
16	.93	1.17	1.65	1.74	1.73	3.22	3.97	6.45	4.48	3.36	2.76	2.19
17	.91	1.19	1.62	1.73	1.70	3.30	3.94	6.37	4.51	3.32	2.76	2.21
18	.87	1.24	1.61	1.72	1.68	3.45	3.95	6.42	4.53	3.24	2.79	2.18
19	.86	1.29	1.60	1.72	1.70	3.59	3.96	6.38	4.54	3.15	2.81	2.12
20	.83	1.32	1.58	1.73	1.68	3.66	4.01	6.32	4.58	3.06	2.78	2.06
21	.78	1.43	1.55	1.73	1.66	3.75	4.06	6.26	4.65	3.02	2.74	2.04
22	.83	1.46	1.49	1.74	1.67	3.84	4.11	6.24	4.64	2.98	2.70	2.01
23	.86	1.45	1.51	1.75	1.73	3.89	4.15	6.17	4.62	2.95	2.66	1.99
24	.86	1.45	1.50	1.74	1.86	3.89	4.23	6.11	4.54	2.90	2.68	1.96
25	.89	1.50	1.49	1.72	2.07	3.92	4.31	6.00	4.47	2.83	2.69	1.92
26	.90	1.52	1.48	1.72	2.27	3.93	4.45	5.96	4.42	2.79	2.67	1.88
27	1.03	1.56	1.42	1.71	2.36	4.06	4.63	5.96	4.35	2.76	2.64	1.78
28	1.10	1.58	1.46	1.70	2.47	4.23	4.72	5.95	4.34	2.74	2.60	1.77
29	1.14	1.61	1.45	1.70	-	4.31	4.85	5.91	4.33	2.71	2.55	1.74
30	1.11	1.65	1.53	1.68	-	4.33	4.91	5.84	4.27	2.72	2.51	1.70
31	1.12	-	1.68	1.67	-	4.34	-	5.76	-	2.69	2.49	-

Note.- Gage heights for periods Feb. 12-22, May 13, computed from graph based on once-daily readings of float gage in pump house of Burlington Water Department. Gage heights for period Feb. 23 to Mar. 12 computed on basis of records for Richelieu River (Lake Champlain) at Rouses Point, N. Y.

Monthly gage height, in feet, water year October 1942 to September 1943

Month	Maximum	Minimum	Mean
October	1.14	0.78	0.97
November	1.65	1.17	1.36
December	1.73	1.42	1.61
Calendar year 1942	6.05	.60	2.19
January	1.83	1.67	1.75
February	2.47	1.60	1.77
March	4.34	2.49	3.28
April	4.91	3.94	4.22
May	6.52	5.07	5.94
June	5.64	4.27	4.74
July	4.20	2.69	3.36
August	2.82	2.49	2.71
September	2.50	1.70	2.18
Water year 1942-43	6.52	.78	2.83

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

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Smaller reservoirs in Richelieu River Basin, Vt.

Chittenden and East Pittsford Reservoirs on East Creek are operated as a unit for conservation for hydroelectric power development. Their downstream order and usable capacity of each are as follows: Chittenden Reservoir, 5 miles northeast of Chittenden, Vt., completed in 1902, has usable capacity of 819,800,000 cubic feet; East Pittsford Reservoir, at East Pittsford, Vt., completed in 1901, has usable capacity of 150,000,000 cubic feet. Records furnished by Central Vermont Public Service Corporation.

Peacham Pond and Mollys Falls Reservoir are operated as a unit for conservation for hydroelectric power development. Their downstream order and usable capacity of each are as follows: Peacham Pond on Peacham Brook, 4 miles east of Marshfield, Vt., 126,000,000 cubic feet; Mollys Falls Reservoir on Mollys Brook, 2 miles east of Marshfield, Vt., 366,000,000 cubic feet. Records furnished by Green Mountain Power Corporation.

Monthly change in reservoir contents, in equivalent mean second-feet, water year October 1942 to September 1943

Month	Chittenden and East Pittsford Reservoirs on East Creek	Peacham Pond and Mollys Falls Reservoir in Winooski River Basin
October	-12.1	-9.78
November	+22.3	+9.95
December	-30.9	-19.9
Calendar year 1942	+5.61	+.485
January	-40.3	-35.9
February	-27.5	-19.1
March	-2.24	-16.7
April	+94.6	+67.7
May	+82.8	+69.9
June	-7.41	-1.08
July	+5.90	-3.43
August	-9.56	-8.18
September	-38.1	-39.9
Water year 1942-43	+3.21	-.492

Great Chazy River at Perry Mills, N. Y.

Location.- Water-stage recorder, lat. 45°00'00", long. 73°30'05", 500 feet upstream from highway bridge at Perry Mills, Clinton County.

Drainage area.- 247 square miles.

Records available.- September 1928 to September 1943.

Average discharge.- 15 years, 258 second-feet.

Extremes.- Maximum discharge during year, 3,610 second-feet May 12; maximum gage height, 8.79 feet Mar. 27 (backwater from ice); minimum discharge, 7.3 second-feet (regulated) Oct. 13 (gage height, 1.44 feet); minimum daily, 30 second-feet (regulated) Oct. 13.
1928-43: Maximum discharge, 6,000 second-feet Apr. 7, 1937; maximum gage height, 11.2 feet Mar. 15, 1929 (ice jam); minimum discharge, about 0.8 second-foot (regulated) Sept. 18, 1932 (gage height, 1.33 feet); minimum daily, 10 second-feet (regulated) Sept. 18, 1932.

Remarks.- Records good except those for periods of ice effect, which are fair. Diurnal fluctuation at low and medium stages caused by sawmill. Partial regulation by Chazy Lake. Clinton Prison at Dannemora obtains its water supply from Chazy Lake.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.8	22	3.2	310	5.0	1,170
2.1	52	3.6	457	6.0	1,890
2.4	100	4.0	631	6.8	2,580
2.8	196	4.5	882		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	83	70	235	130	350	538	1,340	254	167	91	82
2	38	78	73	260	120	320	1,160	1,040	231	127	67	77
3	34	79	81	270	125	300	724	1,060	212	107	80	104
4	32	71	80	260	130	280	499	1,690	196	98	96	107
5	31	87	96	235	135	260	574	983	177	188	102	114
6	34	91	123	*190	130	250	454	771	154	328	117	112
7	41	87	94	170	145	240	458	766	136	210	95	100
8	42	60	100	150	155	230	444	774	141	157	101	99
9	38	45	100	140	*155	220	428	718	137	114	92	90
10	40	59	104	130	145	220	431	590	138	98	94	92
11	43	118	*106	130	150	230	307	514	231	79	82	95
12	56	156	104	135	155	*340	317	2,420	184	70	98	95
13	30	122	96	135	140	540	344	2,520	155	109	106	96
14	55	86	90	130	130	520	505	1,120	162	267	116	84
15	102	89	86	124	125	480	475	773	173	535	139	62
16	97	100	82	130	124	380	468	628	333	266	96	51
17	96	129	78	130	122	520	487	642	336	169	96	69
18	64	163	76	125	120	1,060	524	551	291	132	92	85
19	42	148	74	122	122	900	584	483	200	108	74	71
20	33	117	72	120	130	720	679	418	266	105	69	64
21	34	191	74	*140	190	840	684	379	478	96	77	63
22	35	178	90	130	360	780	675	488	266	97	74	62
23	82	109	90	125	400	660	1,090	469	211	178	60	61
24	83	84	86	124	560	560	1,260	382	178	154	74	61
25	61	99	78	122	780	640	1,210	336	143	121	76	62
26	59	81	72	130	540	920	1,430	317	131	106	69	61
27	178	107	70	140	440	1,500	978	421	118	128	74	61
28	190	106	80	135	390	1,450	746	403	229	116	74	58
29	135	70	92	130	-	1,000	789	352	277	110	78	57
30	95	98	125	130	-	708	609	323	223	118	70	57
31	91	-	205	125	-	524	-	276	-	144	84	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,040	190	30	65.8	0.266	0.31
November	3,091	191	45	103	.417	.47
December	2,847	205	70	91.8	.372	.43
Calendar year 1942	76,422	3,370	22	209	.946	11.52
January	4,752	270	120	153	.619	.72
February	6,348	780	120	227	.919	.96
March	17,942	1,500	220	579	2.34	2.70
April	19,871	1,430	307	662	2.68	2.99
May	23,947	2,520	276	772	3.13	3.61
June	6,381	478	118	213	.862	.96
July	4,802	535	70	155	.628	.72
August	2,713	139	60	87.5	.354	.41
September	2,352	114	51	78.4	.317	.35
Water year 1942-43	97,086	2,520	30	266	1.08	14.63

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 7 to Mar. 29.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Saranac River at Saranac, N. Y.

Location.- Water-stage recorder, lat. 44°38'45", long. 73°44'40", 500 feet upstream from highway bridge at Saranac, Clinton County.
Drainage area.- 521 square miles.
Records available.- September 1930 to September 1943 (discontinued).
Average discharge.- 13 years, 668 second-feet.
Extremes.- Maximum discharge during year, 7,060 second-feet May 12, from rating curve extended above 4,000 second feet; maximum gage height, 9.69 feet Dec. 20 (backwater from ice); minimum discharge, 127 second-feet (regulated) Oct. 16, 17 (gage height, 1.80 feet); minimum daily discharge, 131 second-feet Oct. 14-16.
1930-43: Maximum discharge, that of May 12, 1943; maximum gage height, 12.74 feet Dec. 2, 1936 (ice jam); minimum discharge, 67 second-feet (regulated) Aug. 27, 1934 (gage height, 1.63 feet); minimum daily discharge, 78 second-feet Sept. 15, 1941.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Records during periods of backwater from ice consist essentially of adjusted daily discharge at Kents Falls hydroelectric plant 7 miles downstream. Considerable diurnal fluctuation caused by power operations. Flow partly regulated by Lower Saranac Lake and elsewhere.

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.8	127	2.7	598	5.0	2,810
2.0	203	3.0	830	6.0	4,160
2.2	295	3.5	1,245	6.9	5,420
2.4	403	4.0	1,690		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a340	298	688	480	800	850	1,540	2,910	1,120	1,290	858	844
2	a320	268	656	500	750	750	1,700	2,350	382	1,230	809	1,070
3	a310	270	550	420	800	700	1,450	2,450	406	1,170	892	933
4	a290	324	480	500	850	700	1,250	2,590	354	1,040	1,060	908
5	a280	510	550	440	900	650	1,250	2,300	311	1,310	1,470	765
6	a290	398	500	400	800	650	1,110	2,300	267	1,250	1,480	882
7	a270	368	550	440	750	650	1,040	2,380	326	1,140	1,400	867
8	a310	478	600	550	*750	600	985	2,430	608	1,080	1,310	828
9	a330	331	700	480	700	600	944	2,470	662	1,040	1,240	782
10	a370	512	750	440	700	600	911	2,330	789	944	1,220	760
11	a380	732	700	440	700	*600	856	2,280	1,040	910	1,330	724
12	405	627	550	440	700	750	878	5,300	818	908	1,690	622
13	148	668	550	460	650	800	882	4,120	748	939	1,610	657
14	131	600	550	440	650	750	952	3,600	730	971	1,690	632
15	131	378	650	440	500	700	869	2,970	696	983	1,690	606
16	131	486	600	400	550	650	838	2,550	918	804	1,430	716
17	174	648	550	420	600	750	834	2,410	823	612	1,520	756
18	557	652	500	460	600	900	794	2,180	882	475	1,330	690
19	646	631	460	460	600	900	928	2,000	820	418	1,170	604
20	672	661	500	400	600	900	1,020	1,860	2,230	537	950	606
21	586	756	550	440	550	900	1,030	1,860	2,390	484	818	622
22	612	689	550	420	650	850	1,180	2,020	1,780	419	648	622
23	540	717	480	420	700	900	1,630	1,920	1,510	387	598	616
24	610	644	420	460	750	850	2,100	1,830	1,330	330	1,160	574
25	345	662	400	400	950	1,000	2,610	1,710	1,230	302	1,050	552
26	452	604	400	750	950	1,300	3,140	1,670	1,190	547	857	509
27	542	667	400	460	900	1,810	2,780	1,720	1,090	799	806	566
28	458	661	440	750	850	1,690	2,520	1,570	1,240	915	887	592
29	340	595	550	850	-	1,520	2,340	1,460	1,360	843	734	630
30	312	660	600	900	-	1,380	2,350	1,290	1,350	802	753	606
31	344	-	650	650	-	1,300	-	1,200	-	822	824	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	11,626	672	131	375	0.720	0.83
November	16,495	756	268	550	1.06	1.18
December	17,074	750	400	551	1.06	1.22
Calendar year 1942	231,852	3,800	131	635	1.22	16.57
January	15,510	900	400	500	.960	1.11
February	20,250	950	500	723	1.39	1.45
March	27,950	1,810	600	902	1.73	2.00
April	42,711	3,140	794	1,424	2.73	3.05
May	72,030	5,300	1,200	2,324	4.46	5.14
June	29,400	2,390	267	980	1.88	2.10
July	25,701	1,310	302	829	1.59	1.83
August	35,284	1,690	598	1,138	2.18	2.52
September	21,141	1,070	509	705	1.35	1.51
Water year 1942-43	335,172	5,300	131	918	1.76	23.94

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage and plant records at Kents Falls.
Note.- Stage-discharge relation affected by ice Dec. 3 to Mar. 26 (no gage-height record Dec. 21 to Jan. 7, doubtful gage-height record Jan. 19 to Feb. 8, Feb. 14-22, Mar. 2-10).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

West Branch Ausable River near Newman, N. Y.

Location.- Water-stage recorder, lat. 44°18'40", long. 73°55'00", 4 miles northwest of Newman, Essex County, and 4 miles downstream from Lake Placid Outlet.

Drainage area.- 116 square miles.

Records available.- June 1916 to December 1917, July 1919 to September 1943.

Average discharge.- 24 years (1919-43), 215 second-feet.

Extremes.- Maximum discharge during year, 2,820 second-feet May 12 (gage height, 7.08 feet); minimum daily, 45 second-feet Feb. 17, 18.
1916-17, 1919-43: Maximum discharge, 10,800 second-feet Sept. 22, 1938 (gage height, 12.20 feet), from rating curve extended above 3,200 second-feet by logarithmic plotting; practically no flow Sept. 13, 1920 (gage height, 1.60 feet), caused by closing gates in logging dam; minimum daily, 7.2 second-feet (regulated) July 29, 1920.

Remarks.- Records excellent except those for periods of ice effect, which are fair. Diurnal fluctuation at low and medium stages caused by power plants.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge in second-feet)

2.4	38	3.2	178	5.0	1,040
2.5	48	3.5	269	5.5	1,380
2.6	60	3.8	388	6.0	1,790
2.8	92	4.2	576	6.4	2,150
3.0	132	4.6	796		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	170	244	132	340	66	201	293	1,040	253	332	132	108
2	127	224	119	246	66	172	516	653	282	255	111	427
3	112	181	105	208	64	153	325	593	252	203	141	386
4	83	151	120	188	62	134	276	662	215	173	303	238
5	83	126	117	159	64	122	223	520	187	487	812	173
6	142	117	110	135	62	108	172	659	159	416	410	176
7	260	110	105	124	*58	100	231	1,330	156	261	255	167
8	172	104	96	114	56	*92	171	1,460	218	200	195	162
9	134	95	*85	106	54	90	153	1,340	171	168	163	135
10	105	105	96	*100	52	106	142	982	144	145	152	113
11	90	584	90	94	52	150	142	760	138	129	184	99
12	82	286	87	88	50	235	136	2,310	124	126	214	89
13	74	199	82	84	49	302	138	1,640	120	116	196	86
14	69	143	71	78	48	245	146	1,020	129	108	453	76
15	66	125	82	74	47	191	132	701	115	133	384	70
16	63	120	62	70	46	161	120	637	623	110	256	81
17	61	155	74	68	45	480	116	1,270	396	88	282	163
18	62	336	67	64	45	617	112	990	393	81	227	168
19	62	340	62	64	66	383	136	728	288	72	196	130
20	81	295	58	70	110	308	137	612	849	71	167	106
21	52	390	54	68	205	313	147	912	795	76	144	90
22	128	246	52	66	185	254	168	981	441	86	126	84
23	274	198	54	64	167	215	277	666	288	105	112	74
24	222	164	88	62	234	192	445	576	203	82	122	78
25	158	169	86	64	542	200	731	510	167	73	164	70
26	199	176	76	72	383	229	1,260	790	157	113	149	69
27	602	174	72	68	331	628	836	816	500	202	134	67
28	310	144	70	66	242	508	792	495	990	193	126	64
29	203	140	82	64	-	315	733	380	756	143	123	60
30	290	132	155	64	-	237	681	313	444	154	110	59
31	318	-	520	64	-	204	-	274	-	166	106	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	4,860	602	52	157	1.35	1.56
November	5,973	584	95	199	1.72	1.91
December	3,149	520	52	102	.879	1.01
Calendar year 1942	72,212	2,330	35	198	1.71	23.15
January	3,196	340	62	103	.888	1.02
February	3,463	542	45	123	1.06	1.11
March	7,665	628	90	247	2.13	2.46
April	9,887	1,260	112	330	2.84	3.17
May	26,620	2,310	274	859	7.41	8.53
June	9,953	990	115	332	2.86	3.19
July	5,067	487	71	163	1.41	1.62
August	6,631	812	106	214	1.84	2.13
September	3,868	427	59	129	1.11	1.24
Water year 1942-43	90,322	2,310	45	247	2.13	28.95

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 15, 16, 29, Dec. 19-30, Jan. 6 to Feb. 22, Mar. 6-12.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Ausable River near Ausable Forks, N. Y.

Location.- Water-stage recorder, lat. 44°27'05", long. 73°38'35", 1¾ miles downstream from confluence of East and West Branches and Ausable Forks, Clinton County. Datum of gage is 505.61 feet above mean sea level, adjustment of 1912.

Drainage area.- 448 square miles.

Records available.- September 1924 to September 1943. August 1910 to September 1925 at Ausable Forks, 1¾ miles upstream.

Average discharge.- 19 years (1924-43), 664 second-feet.

Extremes.- Maximum discharge during year, 8,570 second-feet May 12 (gage height, 7.18 feet); minimum, 108 second-feet (regulated) Sept. 26 (gage height, 1.16 feet).
1910-43: Maximum discharge, 24,200 second-feet Sept. 22, 1938, from rating curve extended above 9,100 second-feet by logarithmic plotting; maximum gage height, about 14.0 feet Mar. 27, 1934 (ice jam); practically no flow July 21, 1912.

Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are fair. Flow partly regulated, principally by Taylor Pond and Fern Lake. Diurnal fluctuations at low and medium stages caused by power plants above station.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.2	118	2.3	630	5.0	3,850
1.4	178	2.9	1,065	6.0	5,740
1.6	252	3.5	1,690	6.6	7,090
1.9	391	4.2	2,610		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	577	650	a360	1,500	195	640	801	2,880	784	658	457	291
2	424	584	a420	1,080	190	540	1,550	1,890	936	657	351	715
3	341	497	a380	860	180	460	1,060	1,680	776	522	432	991
4	278	418	a390	720	180	400	768	1,980	671	445	1,000	671
5	282	366	a380	540	195	350	806	1,560	591	1,390	2,960	497
6	329	327	a360	430	190	310	597	1,870	497	1,500	1,480	440
7	565	309	a330	360	*185	280	542	3,510	451	928	858	462
8	486	295	a280	*300	175	260	565	4,150	572	637	671	402
9	381	278	*200	280	165	*245	497	3,850	503	491	528	346
10	304	265	270	260	160	290	468	2,910	429	402	462	295
11	274	1,160	260	240	155	600	429	2,180	434	295	944	256
12	248	823	240	230	150	1,350	434	6,940	396	341	1,020	232
13	229	598	220	220	145	1,250	451	5,070	356	336	843	217
14	213	442	200	210	145	960	546	3,150	386	327	1,390	210
15	199	312	215	200	140	760	474	2,110	336	437	1,340	199
16	192	300	210	190	135	640	407	1,770	1,230	336	858	222
17	185	410	200	185	130	1,140	407	2,920	1,270	265	828	348
18	185	645	185	175	135	2,050	381	2,930	1,170	236	719	418
19	185	828	170	175	160	1,420	440	2,110	843	210	610	346
20	202	671	160	190	240	1,160	522	1,760	3,450	209	503	286
21	181	912	155	185	600	1,190	598	2,130	2,750	232	423	240
22	251	684	150	180	560	984	617	3,480	1,370	232	371	221
23	608	457	155	175	520	828	890	2,300	866	300	323	219
24	617	a420	200	170	920	726	1,370	1,760	630	236	346	238
25	462	a460	230	170	1,600	799	2,110	1,480	480	237	451	206
26	406	a500	205	190	1,400	919	3,860	1,920	418	418	413	181
27	1,560	a500	195	215	1,100	2,170	2,660	2,900	1,560	560	371	178
28	984	a430	195	205	800	1,730	2,390	1,730	2,360	712	351	168
29	671	a390	215	190	-	1,090	2,260	1,270	1,880	528	332	159
30	687	a360	380	185	-	866	1,980	1,030	1,120	565	318	185
31	776	-	1,800	180	-	*734	-	882	-	559	300	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	13,282	1,560	181	428	0.955	1.10
November	15,291	1,160	265	510	1.14	1.27
December	9,310	1,800	150	300	.670	.77
Calendar year 1942	213,490	7,260	120	585	1.31	17.70
January	10,390	1,500	170	335	.748	.86
February	11,050	1,800	130	395	.882	.92
March	27,141	2,170	245	876	1.96	2.25
April	30,880	3,860	381	1,029	2.30	2.56
May	78,102	6,940	882	2,519	5.62	6.48
June	29,415	3,450	336	980	2.19	2.44
July	15,401	1,500	209	497	1.11	1.28
August	22,253	2,960	300	718	1.60	1.85
September	9,839	991	159	328	.732	.82
Water year 1942-43	272,354	6,940	130	746	1.67	22.60

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of sum of records for East and West Branches and Black Brook at Black Brook.
Note.- Stage-discharge relation affected by ice Nov. 16, 17, Dec. 9 to Mar. 16 (no gage-height record Dec. 27-31).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Black Brook at Black Brook, N. Y.

Location.- Water-stage recorder, lat. 44°26'50", long. 73°44'45", 100 feet downstream from abandoned hydroelectric plant of Associated Gas & Electric System and three-quarters of a mile south of town of Black Brook, Clinton County.

Drainage area.- 49.4 square miles.

Records available.- September 1924 to September 1943.

Average discharge.- 19 years, 47.7 second-feet.

Extremes.- Maximum discharge during year, 413 second-feet May 12 (gage height, 4.54 feet); minimum, 4.0 second-feet, Nov. 15 (gage height, 1.35 feet).
1924-43: Maximum discharge, 1,050 second-feet Apr. 6, 1937 (gage height, 6.95 feet), from rating curve extended above 450 second-feet by logarithmic plotting; minimum, 0.8 second-foot (regulated) July 2, Aug. 29, 1931.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow regulated by Fern Lake and Taylor Pond.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Aug. 5								Aug. 5 to Sept. 30					
1.4	5.1	1.7	17	2.3	61	3.5	222	1.4	5.1	1.7	15	2.0	32
1.5	8.1	1.8	22	2.6	94	3.9	291	1.5	7.9	1.8	20	2.2	49
1.6	12	2.0	36	3.0	146			1.6	11	1.9	25	2.4	70

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	a26	11	35	10	47	55	105	31	12	16	14
2	8.7	a24	13	29	10	37	81	104	29	10	13	22
3	7.2	a19	19	26	9.6	28	77	80	26	9.3	14	26
4	6.9	a16	12	23	10	24	58	95	22	8.5	30	20
5	6.6	13	12	21	10	21	60	83	20	29	70	16
6	9.3	10	12	19	11	18	51	66	16	35	47	14
7	12	9.7	12	17	*11	17	43	64	16	20	24	11
8	9.7	8.9	11	15	10	16	41	62	17	13	18	9.6
9	8.5	8.5	*9.2	14	10	*15	36	73	16	10	15	8.6
10	7.4	9.3	10	*13	10	20	36	66	18	8.9	14	7.6
11	6.9	12	11	13	9.6	33	32	56	30	8.5	19	7.0
12	6.6	13	11	12	9.2	47	34	242	24	8.5	28	6.7
13	6.3	12	10	12	8.8	42	35	274	21	8.5	20	6.4
14	6.3	10	9.2	12	8.2	40	47	138	40	8.1	18	6.2
15	6.3	9.2	8.4	11	7.4	38	45	88	18	7.8	15	6.2
16	6.0	8.8	7.8	11	7.0	33	36	68	24	6.9	12	9.3
17	6.0	12	7.4	11	6.6	34	36	66	33	6.0	11	17
18	6.0	14	7.2	10	7.0	42	32	57	37	6.0	9.6	13
19	6.3	16	7.0	10	8.8	47	42	51	26	5.4	9.3	11
20	6.3	15	6.6	13	12	45	57	46	60	6.8	8.9	8.9
21	6.6	17	6.2	13	18	46	69	47	92	9.3	7.9	8.2
22	8.1	15	6.0	12	28	46	71	73	48	12	7.6	7.0
23	11	12	6.2	12	36	42	102	71	28	13	7.0	6.7
24	10	12	7.8	11	44	40	129	54	20	9.7	16	6.7
25	8.9	12	7.4	11	62	51	138	43	16	9.0	25	6.7
26	12	14	7.2	13	128	72	150	41	13	20	18	6.4
27	45	15	7.0	12	133	162	122	51	15	20	14	6.4
28	36	13	6.6	12	79	179	96	47	19	22	14	6.4
29	a22	12	7.4	11	-	113	87	42	21	18	15	7.4
30	a24	12	19	11	-	79	72	36	16	17	17	34
31	a29	-	44	10	-	60	-	33	-	15	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	362.9	45	6.0	11.7	-	-
November	400.4	26	8.5	13.3	-	-
December	331.6	44	6.0	10.7	-	-
Calendar year 1942	12,815.0	459	6.0	35.1	0.711	9.62
January	455	35	10	14.7	-	-
February	714.2	133	6.6	25.5	-	-
March	1,534	179	15	49.5	-	-
April	1,970	150	32	65.7	-	-
May	2,422	274	33	78.1	-	-
June	812	92	13	27.1	-	-
July	393.2	35	5.4	12.7	-	-
August	568.3	70	7.0	18.3	-	-
September	336.4	34	6.2	11.2	-	-
Water year 1942-43	10,300.0	274	5.4	28.2	.571	7.74

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of record for West Branch Ausable River near Newman.

Note.- Stage-discharge relation affected by ice Nov. 14-16, Dec. 1, 8-10, Dec. 13 to Feb. 22, Mar. 2-11.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

East Branch Ausable River at Ausable Forks, N. Y.

Location.- Water-stage recorder, lat. 44°26'20", long. 73°40'55", 700 feet upstream from upper highway bridge in Ausable Forks, Essex County, and half a mile upstream from confluence with West Branch. Datum of gage is 545.37 feet above mean sea level, datum of 1929.

Drainage area.- 198 square miles.

Records available.- September 1924 to September 1943.

Average discharge.- 19 years, 302 second-feet.

Extremes.- Maximum discharge during year, 4,650 second-feet May 12 (gage height, 6.47 feet); minimum, 62 second-feet Sept. 30, but may have been less during period of ice effect.

1924-43: Maximum discharge, 20,100 second-feet Sept. 22, 1938 (gage height, 12.91 feet, present site and datum, or 11.2 feet, site and datum then in use, from flood-marks); minimum observed, 20 second-feet Aug. 11, 14, 28, 1934.

Remarks.- Records excellent except those for periods of ice effect, which are fair.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Aug. 5						Aug. 6 to Sept. 30	
1.2	53	2.5	437	5.0	2,420	1.2	54
1.4	79	3.0	704	5.5	3,060	1.3	67
1.6	117	3.5	1,030	5.9	3,660	1.4	81
1.8	170	4.0	1,410			1.5	97
2.1	269	4.5	1,880			1.6	117

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	316	312	170	841	94	290	*430	1,310	388	349	210	111
2	213	277	230	663	92	235	801	822	419	265	148	342
3	167	233	203	500	90	195	460	790	392	210	219	404
4	140	197	207	400	84	165	340	926	328	176	493	269
5	120	167	207	290	98	140	360	722	285	815	1,640	197
6	163	150	188	220	*96	122	260	967	233	852	714	188
7	273	134	170	180	90	110	250	1,870	210	499	406	200
8	216	127	135	150	86	*102	240	2,070	285	316	312	176
9	173	122	116	*130	82	98	223	1,950	233	226	230	140
10	140	120	*120	120	78	130	210	1,400	197	176	203	115
11	122	696	125	110	78	350	188	1,070	185	148	534	105
12	106	428	112	102	74	900	194	3,560	167	148	505	94
13	94	312	100	96	70	760	213	2,270	153	145	447	86
14	91	237	92	92	68	540	265	1,420	153	142	864	81
15	84	189	98	88	66	430	210	953	134	274	711	78
16	78	165	94	84	66	350	176	834	714	162	428	84
17	75	197	90	82	64	580	182	1,420	716	120	475	150
18	73	317	84	80	68	1,240	167	1,380	611	104	366	164
19	73	383	80	80	72	960	197	1,080	415	91	300	127
20	76	320	76	86	94	680	230	913	1,870	89	233	107
21	76	424	74	82	310	740	273	1,120	1,170	94	185	89
22	124	312	72	78	280	580	285	1,860	616	103	159	86
23	296	215	74	76	250	470	428	1,200	383	130	134	83
24	285	185	92	74	540	380	728	926	281	91	148	80
25	210	220	106	76	1,000	430	1,200	778	216	107	182	80
26	188	251	96	82	700	460	2,000	1,150	186	195	156	74
27	889	255	90	110	500	1,220	1,280	1,600	917	318	137	70
28	521	213	94	100	370	840	1,260	960	1,230	353	137	66
29	353	185	100	92	-	526	1,110	698	769	251	127	63
30	375	165	170	88	-	415	1,010	541	451	292	115	62
31	379	-	1,000	84	-	353	-	442	-	277	117	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	6,489	889	73	209	1.06	1.22
November	7,508	696	120	250	1.26	1.41
December	4,665	1,000	72	150	.758	.88
Calendar year 1942	102,839	3,570	35	282	1.42	19.33
January	5,336	841	74	172	.869	1.00
February	5,560	1,000	64	199	1.01	1.04
March	14,791	1,240	98	477	2.41	2.78
April	15,170	2,000	167	506	2.56	2.85
May	39,002	3,560	442	1,258	6.35	7.33
June	14,307	1,870	134	477	2.41	2.69
July	7,518	852	89	243	1.23	1.41
August	11,035	1,640	115	356	1.80	2.07
September	3,971	404	62	132	.667	.75
Water year 1942-43	135,352	3,560	62	371	1.87	25.43

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 16, 23, 24, Nov. 30 to Dec. 2, Dec. 8-31, Jan. 3 to Mar. 27, Apr. 3-8.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Bouquet River at Willsboro, N. Y.

Location.- Water-stage recorder, lat. 44°21'30", long. 73°23'50", half a mile southwest of Willsboro, Essex County.

Drainage area.- 275 square miles.

Records available.- August and September 1904 (gage heights and discharge measurements only), August to November 1908, July 1923 to September 1943.

Average discharge.- 20 years (1923-43), 293 second-feet.

Extremes.- Maximum discharge during year, 2,630 second-feet May 12; maximum gage height, 5.88 feet Mar. 18 (backwater from ice); minimum discharge, 65 second-feet Nov. 15 (gage height, 2.37 feet).
1923-43: Maximum discharge, about 11,800 second-feet Oct. 1, 1924 (gage height, 10.85 feet), from rating curve extended above 4,600 second-feet by logarithmic plotting; minimum, 10 second-feet Nov. 26, 1941 (gage height, 1.87 feet).

Remarks.- Records good except those for periods of ice effect, which are fair. Occasional slight diurnal fluctuation at low stages caused by power plants above station.

Rating table, water year 1942-43, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

2.4	70	2.8	182	4.0	960
2.5	91	3.0	272	4.5	1,390
2.6	116	3.3	448	5.0	1,910
2.7	146	3.6	653		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	232	243	145	800	102	380	448	1,300	379	267	234	131
2	178	220	195	660	100	320	625	864	373	216	178	254
3	150	195	180	500	96	270	568	772	332	186	168	332
4	131	171	190	390	*104	235	423	944	283	168	304	229
5	116	153	185	320	110	205	461	711	253	278	869	178
6	139	146	170	260	106	185	385	756	216	595	596	157
7	241	137	155	220	100	*170	302	864	199	350	326	150
8	200	127	*145	185	94	160	350	1,100	262	238	248	143
9	157	134	130	165	90	155	304	1,170	243	190	211	131
10	134	121	135	145	88	170	299	904	203	157	190	114
11	122	213	140	*130	88	320	277	704	199	140	326	106
12	117	288	125	120	84	840	283	1,750	199	136	512	101
13	114	220	116	116	80	720	385	1,880	178	220	361	94
14	98	183	100	106	78	640	646	1,070	168	186	644	89
15	96	135	110	100	76	560	461	772	164	199	687	89
16	89	175	100	96	74	500	344	653	240	182	379	94
17	84	184	94	92	72	660	332	682	393	145	391	140
18	82	199	88	88	74	1,000	332	802	350	122	344	137
19	82	248	84	90	78	1,160	356	603	272	108	262	119
20	80	220	80	94	100	840	474	528	957	104	216	106
21	80	203	78	88	250	880	534	507	1,140	116	178	101
22	112	199	74	84	360	720	501	1,180	541	122	157	96
23	240	143	74	80	340	580	660	941	350	140	150	96
24	224	166	78	80	640	500	896	653	258	119	150	85
25	178	182	90	82	920	560	1,060	534	211	104	171	87
26	184	190	86	86	680	620	1,510	522	178	173	153	85
27	745	199	84	98	560	1,500	1,230	1,570	470	216	143	78
28	545	178	86	104	450	1,290	1,050	888	681	229	140	78
29	350	156	92	98	-	760	1,070	639	616	190	134	78
30	277	145	200	94	-	603	912	507	358	199	125	74
31	272	-	700	90	-	*501	-	423	-	248	128	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,849	745	80	189	0.687	0.79
November	5,473	288	121	182	.662	.74
December	4,309	700	74	139	.505	.58
Calendar year 1942	92,866	2,660	31	254	.924	12.53
January	5,661	800	80	183	.665	.77
February	5,994	920	72	214	.778	.81
March	18,004	1,500	155	581	2.11	2.43
April	17,479	1,510	277	583	2.12	2.36
May	27,193	1,880	423	877	3.19	3.68
June	10,664	1,140	164	355	1.29	1.44
July	6,043	595	104	195	.709	.82
August	9,075	869	125	293	1.07	1.23
September	3,752	332	74	125	.455	.51
Water year 1942-43	119,495	1,880	72	327	1.19	16.16

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 30 to Mar. 27 (no gage-height record Feb. 26 to Mar. 6).
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Lake George at Rogers Rock, N. Y.

Location.- Water-stage recorder, lat. 43°48'10", long. 73°27'25", about 500 feet north of Hooper's dock, on south side of Stones Bay, Rogers Rock, Essex County. Datum of gage is 315.93 feet above mean sea level, adjustment of 1912.

Records available.- July 1913 to September 1943.

Extremes.- Maximum gage height during year, 4.18 feet Apr. 30; minimum, 2.18 feet Oct. 21, Nov. 20.
1913-43: Maximum gage height observed, 5.09 feet Apr. 9, 1936; minimum gage height, 0.64 foot Dec. 20, 1941.

Remarks.- Elevation of lake surface regulated by power plant and flood gates at Ticonderoga. Lake George has been controlled by a dam at its outlet for more than 100 years.

Gage height, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.60	2.51	2.44	2.60	2.67	2.66	3.50	4.03	3.93	3.67	3.57	3.44
2	2.50	2.53	2.62	2.65	2.65	2.67	3.53	4.00	3.96	3.64	3.58	3.45
3	2.53	2.47	2.59	2.65	2.63	2.65	3.56	3.97	3.94	3.63	3.55	3.45
4	2.55	2.45	2.56	2.66	2.62	2.69	3.58	3.95	3.94	3.62	3.54	3.44
5	2.52	2.50	2.55	2.71	2.61	2.67	3.61	3.92	3.95	3.67	3.66	3.45
6	2.56	2.48	2.52	2.72	2.58	2.66	3.62	3.90	3.90	3.61	3.68	3.46
7	2.53	2.42	2.51	2.70	2.65	2.75	3.60	3.88	3.89	3.62	3.66	3.46
8	2.53	2.43	2.50	2.69	2.66	2.68	3.61	3.90	3.93	3.60	3.65	3.44
9	2.48	2.44	2.49	2.69	2.63	2.66	3.62	3.94	3.92	3.59	3.65	3.42
10	2.42	2.54	2.48	2.70	2.62	2.64	3.62	3.95	3.92	3.58	3.69	3.39
11	2.44	2.45	2.48	2.70	2.64	2.62	3.62	3.97	3.90	3.58	3.72	3.38
12	2.37	2.45	2.47	2.72	2.65	2.66	3.64	4.01	3.88	3.58	3.73	3.32
13	2.40	2.48	2.44	2.73	2.62	2.70	3.71	4.07	3.90	3.59	3.78	3.30
14	2.39	2.45	2.49	2.71	2.65	2.70	3.81	4.06	3.85	3.59	3.79	3.28
15	2.38	2.42	2.47	2.73	2.65	2.65	3.83	4.02	3.91	3.59	3.77	3.25
16	2.32	2.40	2.43	2.70	2.63	2.67	3.84	4.00	3.86	3.54	3.76	3.25
17	2.33	2.39	2.42	2.69	2.62	2.77	3.88	4.02	3.90	3.49	3.78	3.18
18	2.33	2.38	2.37	2.72	2.60	2.84	3.90	3.98	3.94	3.48	3.76	3.17
19	2.31	2.38	2.37	2.77	2.58	2.90	3.90	3.97	3.89	3.43	3.72	3.17
20	2.27	2.37	2.35	2.76	2.57	2.98	3.96	3.94	3.90	3.42	3.71	3.16
21	2.26	2.34	2.34	2.74	2.54	3.04	3.97	3.93	3.85	3.39	3.68	3.09
22	2.33	2.38	2.35	2.73	2.54	3.06	3.98	3.95	3.88	3.39	3.66	3.08
23	2.34	2.38	2.31	2.70	2.53	3.11	4.01	3.96	3.81	3.40	3.65	3.06
24	2.34	2.37	2.30	2.66	2.56	3.14	4.01	3.96	3.81	3.42	3.64	3.01
25	2.32	2.37	2.27	2.66	2.57	3.16	4.02	3.95	3.80	3.40	3.58	2.96
26	2.37	2.41	2.25	2.65	2.60	3.22	4.00	3.97	3.75	3.43	3.52	2.96
27	2.53	2.43	2.30	2.63	2.64	3.30	3.98	4.04	3.71	3.46	3.51	2.98
28	2.51	2.42	2.29	2.61	2.67	3.35	4.06	4.04	3.75	3.40	3.47	2.89
29	2.51	2.41	2.31	2.61	-	3.40	4.04	3.99	3.76	3.40	3.49	2.83
30	2.51	2.43	2.40	2.62	-	3.45	4.05	3.96	3.71	3.48	3.48	2.83
31	2.49	-	2.62	2.64	-	3.47	-	3.92	-	3.52	3.44	-

Monthly gage height, in feet, water year October 1942 to September 1943

Month	Maximum	Minimum	Mean
October	2.60	2.26	2.43
November	2.54	2.34	2.43
December	2.62	2.25	2.43
Calendar year 1942	3.85	1.33	2.71
January	2.77	2.60	2.69
February	2.67	2.53	2.61
March	3.47	2.62	2.90
April	4.06	3.50	3.80
May	4.07	3.88	3.97
June	3.96	3.71	3.87
July	3.67	3.39	3.52
August	3.79	3.44	3.64
September	3.46	2.83	3.22
Water year 1942-43	4.07	2.25	3.13

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Lake George Outlet at Ticonderoga, N. Y.

Location.- Water-stage recorder and concrete control on river channel, lat. 43°50'35", long. 73°26'00", at Ticonderoga, Essex County, N. Y., 250 feet downstream from "C" Mill dam of International Paper Co., 250 feet upstream from Trout Brook, and half a mile downstream from upper dam ("A" Mill dam) of International Paper Co. Turbine gate-opening recorder, 250 feet upstream, on tailrace. Datum of gage on river channel is 190.41 feet above mean sea level, datum of 1929.

Drainage area.- 234 square miles.

Records available.- October 1942 to September 1943. August 1904 to December 1905 at site at "B" Mill 2,000 feet upstream.

Extremes (regulated).- Maximum daily discharge during year, 1,100 second-feet May 13, 14; minimum daily, 61 second-feet Dec. 25, July 5.

Remarks.- Records excellent. Discharge in tailrace determined from rating for turbine gates developed from discharge measurements. Records represent total discharge from Lake George and include flow in river channel and in tailrace. Flow regulated by Lake George and three power plants.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	218	160	201	202	195	278	286	1,060	537	254	123	311
2	214	170	202	227	239	278	286	1,050	382	255	190	281
3	212	185	188	94	261	278	286	1,040	321	252	251	253
4	115	188	198	172	281	324	288	1,030	320	141	255	250
5	174	191	190	223	281	396	289	1,020	319	61	241	150
6	230	184	77	222	281	399	288	1,010	315	200	256	79
7	220	193	154	232	164	493	288	705	439	249	254	192
8	220	145	193	228	231	606	289	291	402	242	186	266
9	217	174	199	226	278	604	289	293	493	239	234	265
10	182	187	200	99	277	603	287	293	423	233	271	252
11	68	184	200	164	277	620	287	413	379	195	282	249
12	163	185	192	219	278	600	288	973	298	234	310	140
13	205	193	72	223	276	612	290	1,100	241	246	296	198
14	188	198	149	217	229	605	296	1,100	241	240	288	251
15	180	148	197	224	272	600	293	1,020	248	235	250	251
16	188	174	194	208	281	455	292	881	246	230	295	261
17	178	195	201	103	280	281	292	881	248	227	377	241
18	188	192	202	187	278	286	300	869	251	177	416	234
19	196	187	196	227	277	283	296	864	316	212	416	173
20	188	193	107	230	278	286	498	756	302	220	416	223
21	188	191	183	232	280	285	820	608	339	225	414	238
22	190	171	213	223	282	284	863	574	346	248	388	237
23	182	176	211	198	285	283	1,030	683	368	273	308	236
24	183	209	155	101	290	283	1,060	561	441	215	305	230
25	170	206	61	185	280	284	1,060	439	397	174	305	225
26	180	203	76	218	279	286	1,060	502	397	225	305	200
27	160	206	73	216	278	286	1,040	802	259	245	303	226
28	177	209	154	224	279	285	1,070	890	227	251	303	231
29	177	95	196	230	-	284	1,070	873	253	235	251	229
30	184	164	193	224	-	285	1,060	876	254	232	287	224
31	189	-	176	109	-	284	-	776	-	227	311	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,724	230	68	185	-	-
November	5,456	209	95	182	-	-
December	5,203	213	61	168	-	-
Calendar year	-	-	-	-	-	-
January	6,087	232	94	196	-	-
February	7,467	290	164	267	-	-
March	12,016	620	278	388	-	-
April	16,201	1,070	286	540	-	-
May	24,133	1,100	291	778	-	-
June	10,002	537	227	333	-	-
July	6,892	273	61	222	-	-
August	9,087	416	123	293	-	-
September	6,796	311	79	227	-	-
Water year 1942-43	115,064	1,100	61	315	1.35	18.30

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Poultney River below Fair Haven, Vt.

Location.- Water-stage recorder, lat. 43°37'40", long. 73°18'50", a third of a mile downstream from Carver Falls, 1.9 miles upstream from Hubbardton River, and 3¼ miles northwest of Fair Haven, Rutland County.

Drainage area.- 187 square miles.

Records available.- October 1928 to September 1943.

Average discharge.- 15 years, 241 second-feet.

Extremes.- Maximum discharge during year, 3,000 second-feet Aug. 5, from rating curve extended above 900 second-feet on basis of computations of flow over dam at gage heights 16.10 feet and 21.40 feet; maximum gage height, 12.29 feet Feb. 25 (ice jam); minimum discharge, 8.9 second-feet (regulated) Oct. 9; minimum daily, 12 second-feet (regulated) Oct. 11.

1928-43: Maximum discharge, 10,300 second-feet Sept. 22, 1938, from rating curve extended above 1,200 second-feet on basis of computations of flow over dam at gage heights 16.10 feet and 21.40 feet; maximum gage height, 22.90 feet Mar. 12, 1936 (ice jam); minimum discharge, 2.3 second-feet (regulated) July 18, 1937; minimum daily, 2.9 second-feet (regulated) Oct. 13, 1935.

Remarks.- Records fair. Flow regulated by power plant above station and by Lake Bomoseen.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	139	234	350	120	360	390	654	344	63	355	157
2	64	312	445	240	120	320	376	598	358	54	237	294
3	39	251	594	200	110	270	350	556	297	70	311	304
4	14	184	376	220	115	260	d235	486	279	29	614	222
5	57	158	309	180	140	260	298	458	240	66	2,030	210
6	97	150	274	240	110	230	287	417	182	127	1,050	255
7	70	125	258	260	130	200	271	404	182	99	727	252
8	53	91	*252	260	120	210	282	390	237	75	612	239
9	46	142	247	250	115	220	258	612	178	73	486	223
10	39	122	239	220	95	250	255	500	169	72	584	189
11	12	176	250	230	120	300	209	472	184	47	684	136
12	13	188	217	210	140	850	201	640	194	70	556	155
13	57	153	227	230	155	1,100	287	905	98	110	605	183
14	54	171	224	230	130	700	417	712	150	73	570	161
15	57	114	210	160	160	500	355	612	147	80	390	162
16	75	148	170	95	140	700	322	390	122	63	331	150
17	27	119	140	90	130	1,100	472	425	126	54	556	165
18	13	139	140	150	150	1,200	458	985	147	26	528	134
19	49	265	165	140	100	1,100	458	684	140	57	500	88
20	60	247	170	120	190	1,000	640	654	100	59	390	133
21	62	217	175	120	160	1,100	756	584	169	49	322	138
22	85	207	220	120	330	800	712	684	111	56	257	139
23	86	182	240	115	450	460	654	626	106	59	236	120
24	38	169	220	100	900	410	612	486	112	69	238	133
25	22	211	210	140	1,100	654	444	320	88	43	284	123
26	86	374	200	130	850	712	404	373	75	83	243	34
27	431	325	200	120	600	875	355	815	51	90	196	115
28	272	290	200	120	470	d620	652	785	72	64	192	108
29	177	259	190	120	-	514	612	626	73	78	127	104
30	147	247	230	110	-	d390	598	584	64	331	137	115
31	141	-	600	120	-	404	-	376	-	376	163	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	2,498	431	12	80.6	0.431	0.50
November	5,875	374	91	196	1.05	1.17
December	7,826	600	140	252	1.35	1.56
Calendar year 1942	66,962	1,800	11	183	.979	13.32
January	5,390	350	90	174	.930	1.07
February	7,450	1,100	95	266	1.42	1.48
March	18,059	1,200	200	583	3.12	3.59
April	12,620	756	201	421	2.25	2.51
May	17,813	985	320	575	3.07	3.54
June	4,795	358	51	160	.856	.95
July	2,665	376	26	86.0	.460	.53
August	14,511	2,030	127	468	2.50	2.89
September	4,941	304	34	165	.882	.98
Water year 1942-43	104,443	2,030	12	286	1.53	20.77

* Winter discharge measurement made on this day.

d Doubtful gage-height record; discharge computed on basis of recorded gage-height and engineer's notes.

Note.- No gage-height record Mar. 8-24; discharge computed on basis of power-plant records and records for Otter Creek at Center Rutland. Stage-discharge relation affected by ice Dec. 16 to Mar. 7 (no gage-height record Feb. 26 to Mar. 4). There was probably some backwater from ice during period Mar. 8-24. Discharge in second-feet per square mile and runoff in inches may not represent natural flow because of regulation.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Otter Creek at Center Rutland, Vt.

Location.- Water-stage recorder, lat. 43°36'15", long. 73°00'50", at highway bridge in Center Rutland, Rutland County, 200 feet downstream from dam, 1.2 miles downstream from East Creek, and 1½ miles west of Rutland.

Drainage area.- 307 square miles.

Records available.- May 1928 to September 1943.

Average discharge.- 15 years, 547 second-feet.

Extremes.- Maximum discharge during year, 3,400 second-feet Apr. 29 (gage height, 6.04 feet); minimum daily, 106 second-feet (regulated) Oct. 18.
1928-43: Maximum discharge, 13,700 second-feet Sept. 22, 1938 (gage height, 12.45 feet), by computation of flow over dam; minimum daily, 55 second-feet (regulated) July 5, 1941.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow regulated by power plants and by East Pittsford and Chittenden Reservoirs on East Creek (see p. 188).

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 28

0.7	105	1.6	306	3.0	910	5.0	2,380
1.0	156	2.0	442	3.5	1,210	6.0	3,400
1.3	222	2.5	650	4.0	1,550		

Apr. 29 to Sept. 30

0.8	126	1.8	380
1.0	164	2.4	620
1.4	262	3.0	910

Note.- Same as preceding table above 3.0 feet.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	217	510	412	410	210	658	709	2,200	754	210	539	247
2	172	836	669	290	220	589	855	1,940	712	180	341	843
3	124	507	796	220	210	505	713	1,660	648	152	327	735
4	115	362	576	250	220	435	587	1,860	525	133	784	484
5	154	295	493	260	220	452	694	1,620	484	340	2,150	438
6	359	283	413	265	240	452	589	1,520	472	608	1,020	677
7	423	245	445	240	170	284	508	1,580	504	288	656	596
8	280	216	*409	240	230	380	519	1,940	870	234	508	460
9	224	255	355	250	225	360	471	2,420	560	183	387	374
10	147	288	376	190	220	377	452	2,060	468	176	938	311
11	127	461	381	260	270	532	419	1,520	497	154	1,250	284
12	163	445	368	235	410	1,360	458	1,520	433	364	772	226
13	173	401	258	230	390	1,520	564	2,020	388	455	1,240	269
14	159	308	270	230	250	1,140	850	1,780	441	614	1,210	252
15	168	230	270	220	300	1,000	682	1,210	369	490	853	257
16	177	293	270	210	300	970	567	970	351	307	555	272
17	119	302	220	150	300	1,040	555	1,090	352	238	1,200	311
18	106	552	250	210	280	1,410	723	1,840	732	202	881	301
19	163	777	230	215	300	1,520	910	1,340	507	167	751	193
20	170	553	180	220	260	1,180	850	1,090	590	183	557	204
21	165	494	230	225	464	1,180	970	910	445	170	456	239
22	194	470	225	230	801	1,030	1,090	1,160	348	a350	400	234
23	223	327	220	240	797	940	1,340	1,140	295	a300	364	242
24	236	385	230	150	1,220	832	1,550	860	250	a250	337	230
25	177	498	200	190	1,740	860	1,820	782	216	207	385	229
26	277	804	200	220	1,580	1,110	2,240	982	209	845	339	151
27	958	664	150	250	1,060	1,820	2,570	2,270	278	353	296	168
28	604	571	200	230	725	1,860	2,870	2,370	309	295	332	224
29	387	394	230	210	-	1,320	3,070	1,560	291	289	242	201
30	311	444	330	225	-	1,000	2,240	1,040	226	506	262	208
31	231	-	530	150	-	802	-	885	-	412	242	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	7,503	958	106	242	0.788	0.91
November	13,170	836	216	439	1.43	1.60
December	10,386	796	150	335	1.09	1.26
Calendar year 1942	164,317	4,760	65	450	1.47	19.91
January	7,115	410	150	230	.749	.86
February	13,612	1,740	170	486	1.58	1.65
March	28,918	1,860	284	933	3.04	3.50
April	32,435	3,070	419	1,081	3.52	3.93
May	47,139	2,420	782	1,521	4.95	5.71
June	15,524	870	209	451	1.47	1.64
July	9,655	845	133	311	1.01	1.17
August	20,574	2,150	242	664	2.16	2.49
September	9,860	843	151	329	1.07	1.19
Water year 1942-43	213,891	3,070	106	586	1.91	25.91

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Otter Creek at Middlebury and East Creek at Rutland.
Note.- Stage-discharge relation affected by ice Dec. 15 to Feb. 20, Mar. 8, 9.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Otter Creek at Middlebury, Vt.

Location.- Water-stage recorder, lat. 44°00'45", long. 73°10'05", 150 feet upstream from highway bridge in Middlebury, Addison County, and 3½ miles downstream from Middlebury River.

Drainage area.- 628 square miles.

Records available.- April 1903 to May 1907, October 1910 to January 1920, October 1928 to September 1943.

Average discharge.- 27 years (1903-6, 1910-19, 1928-43), 966 second-feet.

Extremes.- Maximum discharge during year, 3,290 second-feet May 13 (gage height, 4.91 feet); minimum, 192 second-feet Oct. 5, 19.

1903-7, 1910-20, 1928-43: Maximum discharge, 11,000 second-feet Mar. 20, 21, 1936 (gage height, 10.3 feet); minimum, 93 second-feet Mar. 5, 1929.

Maximum discharge known, 13,600 second-feet Nov. 4, 1927 (gage height, 13.3 feet, present datum, at chain-gage site, 1,800 feet upstream), from rating curve extended above 9,000 second-feet by logarithmic plotting.

Remarks.- Records good except those for periods of ice effect or backwater from aquatic vegetation, which are fair. Some regulation by Chittenden and East Pittsford Reservoirs on East Creek (see p. 188).

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	426	596	762	880	330	1,870	1,970	g2,780	g2,070	552	840	461
2	364	1,130	964	800	360	1,770	1,770	g2,830	g1,820	468	797	1,010
3	309	1,170	1,340	650	410	1,620	1,570	g2,940	g1,480	405	643	1,520
4	256	885	1,260	500	400	1,390	1,340	g3,170	g1,210	332	804	1,300
5	205	664	1,050	500	420	1,090	1,170	g3,170	g975	533	1,620	975
6	280	538	940	470	420	952	1,170	g3,170	g832	1,130	1,870	908
7	538	482	830	500	410	811	1,050	g3,050	g797	1,050	1,820	1,050
8	594	426	*790	500	370	680	975	3,050	g1,010	734	1,620	975
9	468	381	710	470	390	690	945	3,050	1,170	573	1,300	840
10	376	454	671	420	410	680	870	2,940	952	461	975	762
11	300	601	671	310	420	913	790	2,940	840	393	1,390	594
12	219	734	657	350	*540	1,770	776	3,170	790	317	1,620	489
13	284	699	594	400	660	1,870	870	3,290	699	538	1,520	433
14	296	636	420	440	640	1,870	1,170	3,170	671	685	1,670	461
15	284	517	420	420	520	1,870	1,390	g3,170	685	776	1,670	447
16	256	419	410	410	560	1,920	1,260	g3,050	783	671	1,440	489
17	267	482	400	360	560	2,020	1,130	2,940	727	496	1,340	608
18	263	643	380	310	560	2,070	1,210	2,780	832	405	1,520	573
19	208	1,090	400	360	560	2,070	1,340	g2,610	968	305	1,440	489
20	239	1,130	390	390	560	2,120	1,520	g2,500	930	309	1,260	399
21	271	945	370	410	620	2,220	1,620	g2,440	1,170	318	1,010	346
22	328	840	390	420	900	2,500	1,720	g2,340	878	355	797	364
23	358	741	380	430	1,300	2,830	1,870	g2,170	664	580	692	364
24	440	636	370	400	1,800	2,660	2,020	g2,020	552	510	657	352
25	358	734	360	330	2,000	2,440	2,120	g1,770	405	381	762	341
26	305	1,010	320	360	1,970	2,340	2,280	g1,520	393	489	720	318
27	983	1,210	310	410	1,920	2,340	2,340	g1,370	671	885	629	271
28	1,260	1,130	270	440	1,920	2,340	2,500	g2,070	720	629	594	280
29	976	945	310	430	-	2,340	2,560	g2,170	769	503	587	300
30	720	776	480	420	-	2,340	2,660	g2,170	664	724	489	305
31	545	-	800	370	-	2,220	-	g2,170	-	976	476	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	12,975	1,260	205	419	0.667	0.77
November	22,644	1,210	381	755	1.20	1.34
December	18,419	1,340	270	594	.946	1.09
Calendar year 1942	277,897	3,020	130	761	1.21	16.45
January	13,860	880	310	447	.712	.82
February	21,930	2,000	330	783	1.25	1.30
March	56,616	2,830	680	1,826	2.91	3.35
April	45,976	2,660	776	1,533	2.44	2.72
May	82,480	3,290	1,520	2,661	4.24	4.88
June	27,127	2,070	393	904	1.44	1.61
July	17,482	1,130	305	564	.898	1.04
August	34,571	1,870	476	1,115	1.78	2.05
September	18,024	1,520	271	601	.957	1.07
Water year 1942-43	372,104	3,290	205	1,019	1.62	22.04

* Winter discharge measurement made on this day.
g Computed from graph based on once-daily gage readings.
Note.- Stage-discharge relation affected by ice Dec. 6, 7, 9, Dec. 14 to Feb. 25, Mar. 8-10.
Backwater from aquatic vegetation June 22 to Sept. 30.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

East Creek at Rutland, Vt.

Location.- Water-stage recorder, lat. 43°37'40", long. 72°59'20", at Rutland, Rutland County, on grounds of Rutland Country Club, 280 feet downstream from Grove Street covered bridge and 2 miles upstream from mouth.
Drainage area.- 51.1 square miles.
Records available.- August 1940 to September 1943.
Extremes.- Maximum discharge during year, 975 second-feet Aug. 4 (gage height, 3.46 feet), from rating curve extended above 600 second-feet by logarithmic plotting; minimum daily, 13 second-feet (regulated) Oct. 3, 11.

1940-43: Maximum discharge, 1,480 second-feet Sept. 2, 1940 (gage height, 3.96 feet), from rating curve extended above 600 second-feet by logarithmic plotting; minimum daily, that of Oct. 3, 11, 1942.

Maximum discharge known, 5,300 second-feet Sept. 21, 1938, by computation of flow over dam a quarter of a mile above gage.

Remarks.- Records good. Diversion above station from Mendon Brook for municipal supply of Rutland. Flow regulated by power plants and by Chittenden and East Pittsford Reservoirs which have a combined usable capacity of 969,800,000 cubic feet (see p. 188).

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)

0.8	11	1.2	39	1.7	147
.9	15	1.3	54	2.0	243
1.0	20	1.4	72	2.4	390
1.1	28	1.5	94	2.8	570

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	125	110	119	87	125	87	220	134	62	84	63
2	46	114	157	66	101	116	94	119	100	46	65	261
3	13	82	132	23	88	129	53	176	131	28	118	226
4	16	41	124	95	99	142	57	174	74	19	304	145
5	73	44	91	97	91	118	102	120	80	88	525	66
6	135	69	36	97	104	133	87	119	86	130	300	153
7	78	35	112	84	17	17	87	168	104	42	236	157
8	86	14	109	75	88	114	61	206	117	59	166	104
9	84	68	93	106	84	115	57	274	80	36	107	98
10	20	106	97	16	95	127	42	180	94	42	210	72
11	13	76	129	91	125	155	33	157	101	25	234	82
12	73	54	97	91	142	226	63	207	73	66	178	40
13	82	102	21	98	114	194	76	287	70	100	255	103
14	70	30	97	100	30	66	90	238	72	69	236	77
15	82	22	102	96	93	165	70	164	70	56	165	114
16	105	94	103	105	101	184	70	99	90	52	96	128
17	32	32	95	16	110	220	63	270	104	50	184	114
18	14	164	93	97	79	228	59	353	119	50	148	121
19	84	111	65	104	105	220	96	254	79	39	139	22
20	85	122	31	88	106	198	73	223	110	73	90	63
21	85	101	92	91	64	120	62	156	67	56	113	122
22	96	95	102	93	128	163	130	223	57	151	96	101
23	97	46	93	88	130	185	136	143	64	70	81	114
24	44	97	99	15	211	169	178	136	54	54	91	111
25	14	148	54	91	211	151	216	162	34	54	90	103
26	122	120	63	103	133	169	276	207	47	231	86	23
27	139	123	16	95	127	224	213	345	83	66	87	83
28	76	121	71	96	44	150	279	259	105	63	87	106
29	76	36	109	78	-	150	195	198	70	84	22	112
30	72	106	151	102	-	123	166	120	57	170	75	104
31	30	-	159	16	-	48	-	152	-	110	55	-

Month	Observed				Change in contents and diversion (equivalent, second-feet)†	Adjusted		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
October	2,113	139	13	68.2	-7.97	60.2	1.18	1.36
November	2,558	164	14	85.3	+26.7	112	2.19	2.45
December	2,903	159	16	93.6	-26.1	67.5	1.32	1.52
Calendar year 1942	26,785	474	13	73.4	+10.3	83.7	1.64	22.27
January	2,632	119	15	81.7	-35.2	46.5	.910	1.05
February	2,907	211	17	104	-22.5	81.3	1.59	1.66
March	4,644	228	17	150	+2.73	153	2.99	3.44
April	3,271	279	33	109	+99.2	208	4.07	4.55
May	6,109	353	99	197	+87.2	284	5.56	6.41
June	2,526	134	34	84.2	-2.78	81.4	1.59	1.78
July	2,241	231	19	72.3	+10.5	82.7	1.62	1.87
August	4,723	525	22	152	-5.13	147	2.88	3.32
September	3,188	261	22	106	-33.8	72.4	1.42	1.58
Water year 1942-43	39,715	525	13	109	+7.82	117	2.29	30.99

† Change in contents in Chittenden and East Pittsford Reservoirs and diversion from Mendon Brook for municipal supply of Rutland.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Winooski River at Montpelier, Vt.

Location.- Water-stage recorder, lat. 44°15'25", long. 72°35'35", three-eighths of a mile upstream from Dog River and 1 mile downstream from depot in Montpelier, Washington County. Datum of gage is 499.99 feet above mean sea level, datum of 1929.
Drainage area.- 397 square miles.
Records available.- May 1909 to September 1923, August 1928 to September 1943.
Average discharge.- 24 years (1914-23, 1928-43), 582 second-feet (adjusted for change in reservoir contents since October 1938).
Extremes.- Maximum discharge during year, 4,160 second-feet May 12 (gage height, 8.05 feet); minimum daily, 85 second-feet (regulated) Oct. 18, July 18.
1909-23, 1928-43: Maximum discharge, 20,200 second-feet Apr. 7, 1912 (gage height, about 16.7 feet, present datum), from rating curve extended above 10,000 second-feet on basis of slope-area determination at gage height 27.1 feet; minimum, 6 second-feet (regulated) Sept. 30, 1921 (gage height, 2.58 feet); minimum daily, 17 second-feet (regulated) Sept. 3, 1933.
Maximum discharge known, 57,000 second-feet Nov. 3, 1927 (gage height, 27.1 feet), by slope-area method.
Remarks.- Records good except those for periods of ice effect or doubtful gage-height record, which are fair. Flow regulated by several small power plants above station and by Peacham Pond and Mollys Falls Reservoir (combined usable capacity, 492,000,000 cubic feet; see p.188), which regulate runoff from 24 square miles, and since 1935 by East Barre and Wrightsville Detention Reservoirs (combined usable capacity, 1,379,500,000 cubic feet (see pp. 204, 206).

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	211	d970	438	500	190	470	1,200	2,730	569	278	227	274
2	174	1,240	*789	400	250	400	*1,280	2,190	552	267	190	475
3	137	g810	902	370	240	370	1,010	2,190	558	216	196	527
4	113	g646	649	*340	*240	350	749	2,290	425	159	303	384
5	107	503	575	340	250	380	861	1,990	445	555	1,350	268
6	586	403	491	350	240	360	721	1,940	356	1,420	704	280
7	568	361	478	360	190	310	749	1,990	361	693	428	316
8	347	312	430	350	220	290	676	1,990	481	688	289	441
9	241	328	380	320	260	340	622	2,240	370	532	247	403
10	187	372	470	220	260	330	622	1,890	330	386	248	398
11	137	724	482	230	270	*380	536	1,790	1,030	219	306	351
12	140	572	429	290	290	900	580	3,560	818	255	348	248
13	210	507	360	300	290	1,000	756	2,960	508	254	345	243
14	162	462	310	260	250	740	1,460	2,240	465	242	464	280
15	182	348	410	300	265	680	1,200	1,940	390	265	435	270
16	183	361	370	310	270	700	926	1,740	830	249	309	319
17	152	446	300	220	240	640	974	1,510	1,010	159	495	550
18	85	556	350	230	280	760	1,110	1,420	868	85	436	374
19	121	632	350	290	280	800	1,280	1,280	658	147	359	268
20	158	645	190	270	260	780	1,510	1,150	1,330	166	304	248
21	202	832	220	280	350	850	1,510	1,030	1,460	182	258	282
22	256	667	260	280	450	770	1,640	1,200	950	294	162	270
23	279	524	330	270	500	720	2,190	990	630	346	173	259
24	253	486	360	200	950	680	2,400	777	459	206	241	268
25	215	513	300	205	1,100	860	2,510	652	394	135	322	229
26	285	578	250	260	900	1,300	2,840	865	326	171	297	136
27	1,220	622	230	260	640	2,300	2,560	1,690	388	194	276	154
28	d720	584	240	220	540	2,100	2,780	1,420	440	192	362	222
29	d500	431	300	260	-	1,790	2,460	1,110	450	214	264	196
30	d410	461	450	240	-	1,560	2,290	819	318	252	232	182
31	d350	-	600	180	-	1,280	-	652	-	336	283	-

Month	Observed				Change in contents (equivalent, second-feet) †	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
October	8,891	1,220	85	287	-8.66	278	0.700	0.81
November	16,896	1,240	312	563	+10.4	574	1.45	1.61
December	12,693	902	190	409	-19.3	390	.982	1.13
Calendar year 1942	198,807	4,860	30	545	+.62	545	1.37	18.65
January	8,905	500	180	287	-39.0	248	.625	.72
February	10,465	1,100	190	374	-15.4	358	.902	.94
March	25,190	2,300	290	813	-5.52	807	2.03	2.34
April	42,002	2,840	536	1,400	+180	1,580	3.98	4.44
May	52,235	3,560	652	1,685	-49.6	1,635	4.12	4.75
June	18,169	1,460	318	606	-3.83	602	1.52	1.69
July	9,957	1,420	85	321	-3.81	317	.798	.92
August	10,853	1,350	162	350	-8.26	342	.861	.99
September	9,115	550	136	304	-41.1	263	.662	.74
Water year 1942-43	225,371	3,560	85	617	-.60	617	1.55	21.08

Peak discharge.- Apr. 26 (7 a.m.) 2,900 sec.-ft.; May 12 (7:30 a.m.) 4,160 sec.-ft.
* Winter discharge measurement made on this day.
† Change in contents in Peacham Pond, Mollys Falls Reservoir, and East Barre and Wrightsville Detention Reservoirs.
d Doubtful gage-height record; discharge computed on basis of available gage-height record, weather records, power-plant records, and records for Dog River at Northfield Falls.
g Computed from graph based on staff-gage readings.
Note.- Stage-discharge relation affected by ice Dec. 8-10, Dec. 13 to Mar. 28.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Winooski River near Essex Junction, Vt.

Location.- Water-stage recorder, lat. 44°28'40", long. 73°08'20", half a mile downstream from Muddy Brook and 2 miles southwest of Essex Junction, Chittenden County.
Drainage area.- 1,044 square miles.
Records available.- October 1928 to September 1943.
Average discharge.- 15 years, 1,599 second-feet (adjusted for change in reservoir contents since October 1938).
Extremes.- Maximum discharge during year, 12,900 second-feet May 12 (gage height, 8.35 feet); minimum daily, 107 second-feet (regulated) Oct. 4.
1928-43: Maximum discharge, 45,300 second-feet Mar. 19, 1936 (gage height, 23.54 feet); from rating curve extended above 25,000 second-feet on basis of slope-area determination and computations of flow over dam at gage heights 18.72 feet, 23.54 feet, and 50.4 feet; minimum daily, 70 second-feet (regulated) Sept. 25, 1937.
Maximum discharge known, 113,000 second-feet Nov. 4, 1927 (gage height, 50.4 feet, from floodmarks), by slope-area determination and computation of flow over dam.
Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by power plants above station and by Peacham Pond, Mollys Falls and Waterbury Reservoirs (combined usable capacity, 3,304,300,000 cubic feet (see pp. 188, 210), which regulate runoff from 24 square miles and 109 square miles, respectively, and by East Barre and Wrightsville Detention Reservoirs (combined usable capacity, 1,379,500,000 cubic feet (see pp. 204, 206).

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.3	99	2.1	1,150
.4	121	2.5	1,610
.6	179	3.0	2,300
.8	255	3.5	3,130
1.1	400	4.0	4,110
1.4	575	5.5	7,180
1.7	780	7.0	10,200

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	560	1,480	1,080	1,300	840	2,000	2,450	7,380	1,480	986	502	836
2	536	4,520	1,210	1,050	780	1,800	2,700	5,380	1,450	987	890	1,200
3	358	2,500	1,870	850	820	1,600	2,300	5,380	1,830	604	793	1,960
4	107	1,740	2,380	940	800	1,400	1,800	7,580	1,320	301	882	1,300
5	431	1,400	2,080	740	720	1,400	1,950	6,180	847	952	2,440	960
6	925	1,090	1,470	790	600	1,100	1,700	6,180	848	2,630	2,220	884
7	1,540	916	1,300	720	500	900	2,200	6,580	1,100	1,960	1,330	1,080
8	974	608	1,340	660	850	1,250	2,800	7,380	1,180	1,920	378	1,290
9	688	840	1,350	600	800	1,300	1,600	7,380	1,090	1,670	974	1,020
10	340	976	*1,420	950	840	1,400	1,350	6,180	1,010	1,300	1,010	962
11	393	1,250	1,470	1,100	880	1,800	1,340	5,380	1,260	913	1,100	1,040
12	416	1,510	1,060	1,000	880	2,600	1,360	9,400	1,530	1,220	1,480	783
13	652	1,460	908	1,000	800	3,000	2,470	9,380	1,110	898	1,300	860
14	695	1,140	1,350	860	700	2,600	3,760	6,780	1,160	780	1,060	820
15	379	652	1,480	760	600	2,000	2,810	5,580	1,130	750	1,240	978
16	600	1,070	1,400	640	940	1,700	2,060	5,180	1,430	888	1,050	822
17	166	960	1,000	500	800	1,700	2,010	4,650	1,800	510	1,120	1,060
18	139	1,440	940	800	820	2,000	2,390	4,220	1,690	364	1,220	1,040
19	639	1,650	900	880	650	2,400	2,780	3,500	1,890	482	1,100	726
20	542	1,540	650	820	720	2,900	3,220	3,130	2,840	586	1,090	850
21	517	2,010	700	680	950	2,500	3,600	2,950	3,710	410	661	844
22	576	1,740	900	530	1,300	2,100	3,600	3,400	2,950	828	768	624
23	775	1,360	970	500	1,500	2,000	5,180	3,220	2,780	1,000	794	638
24	734	1,160	840	470	2,900	1,800	6,180	2,610	2,450	557	757	800
25	370	2,070	600	940	3,500	1,900	6,580	2,300	2,220	396	846	758
26	1,110	2,700	450	900	3,100	2,800	8,180	2,220	2,050	702	836	407
27	2,360	2,780	500	840	2,600	6,200	6,780	4,630	1,550	559	769	710
28	2,470	2,950	900	860	2,300	5,800	6,580	3,500	1,260	496	773	709
29	1,570	2,610	800	780	-	4,110	6,180	2,700	1,440	586	832	621
30	1,210	1,380	850	640	-	3,400	5,380	2,120	1,120	784	892	565
31	824	-	1,350	470	-	*2,780	-	1,740	-	632	892	-

Month	Observed				Change in contents (equivalent, second-feet)†	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
October	23,576	2,470	107	761	+79.5	840	0.805	0.93
November	49,502	4,520	608	1,650	+80.4	1,730	1.66	1.85
December	35,518	2,380	450	1,146	-173	975	.932	1.07
Calendar year 1942	559,968	19,400	88	1,534	-8.61	1,526	1.46	19.64
January	24,570	1,300	470	793	-120	673	.645	.74
February	33,690	3,500	500	1,203	-81.0	1,122	1.07	1.12
March	72,240	6,200	900	2,330	+66.5	2,397	2.30	2.65
April	103,310	8,180	1,340	3,444	+545	3,988	3.82	4.26
May	154,190	9,400	1,740	4,974	-64.1	4,910	4.70	5.42
June	49,525	3,710	847	1,651	-110	1,540	1.48	1.65
July	27,651	2,630	301	892	-3.55	886	.851	.98
August	31,899	2,440	378	1,029	-35.5	993	.951	1.10
September	27,547	1,960	407	918	-108	811	.777	.87
Water year 1942-43	633,218	9,400	107	1,735	+6.04	1,741	1.67	22.64

* Winter discharge measurement made on this day.
† Change in contents in Peacham Pond and Mollys Fall Reservoir, East Barre and Wrightsville Detnetion Reservoirs, and Waterbury Reservoir.
Note.- Stage-discharge relation affected by ice Dec. 16 to Mar. 28, Apr. 3-10.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

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East Barre Detention Reservoir at East Barre, Vt.

Location.- Staff gage, lat. 44°10', long. 72°27', at reservoir on Jail Branch at East Barre, Washington County, 3½ miles upstream from mouth of Jail Branch. Datum of gage is 1,127.9 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 32.2 square miles.

Records available.- March and April 1936, September 1938 to September 1943.

Extremes.- Maximum gage height observed during year, 15.8 feet Apr. 26; minimum, 0.2 foot July 17-20.
1936, 1938-43: Maximum gage height, 36.0 feet Mar. 22, 1936; minimum, 0.1 foot several days in August and September 1939.

Remarks.- Reservoir is formed by earth-fill dam completed by Corps of Engineers, U. S. Army, in 1935 for flood control. Capacity of reservoir, 506,000,000 cubic feet between gage heights 0.0 foot (bottom of outlet opening) and 37.1 feet (crest of spillway). Dam has no gates; below gage height 37.1 feet outflow from reservoir is dependent on capacity of outlet opening, 4 feet square, near base of dam. Gage read at 8 a.m.

Cooperation.- Gage readings furnished by State of Vermont Board of Public Works.

Gage height at 8 a.m., in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	10.2	1.4	3.2	.8	2.0	3.3	12.6	3.2	2.2	2.5	2.1
2	1.2	9.4	2.4	2.8	.8	1.9	4.2	12.1	3.0	2.1	1.6	5.2
3	1.2	5.2	6.4	2.0	.8	1.8	3.8	12.4	2.9	1.9	1.0	4.8
4	1.1	2.1	3.6	1.5	.8	1.8	3.7	12.7	2.9	1.7	2.5	4.6
5	1.0	2.0	2.8	1.4	.85	1.7	3.6	11.5	2.7	3.2	8.0	4.2
6	3.4	1.8	2.6	1.3	.85	1.6	3.5	10.2	2.7	7.0	4.6	3.6
7	2.3	1.6	2.5	1.2	.95	1.5	2.8	9.7	2.6	3.3	3.2	5.2
8	1.7	1.5	2.3	1.1	1.0	1.5	2.3	9.5	-	2.1	2.1	4.1
9	1.5	1.6	2.1	1.1	1.0	1.3	3.8	11.2	2.3	1.5	1.9	3.3
10	1.4	1.6	2.0	1.1	1.0	1.2	3.4	10.3	2.3	1.3	2.5	2.6
11	1.4	4.0	2.0	1.1	1.2	1.3	3.2	9.5	3.0	1.1	2.9	2.4
12	1.3	2.0	1.9	1.0	1.6	3.6	2.9	13.1	2.7	.9	2.4	2.3
13	1.3	1.8	1.7	1.0	1.4	5.8	2.8	13.7	2.5	.75	7.5	2.3
14	1.2	1.7	1.7	1.0	1.3	4.7	6.2	12.3	2.2	.7	6.2	2.0
15	1.2	1.8	1.6	1.0	1.2	3.6	4.5	11.4	2.0	.55	5.5	1.9
16	1.3	1.9	1.6	1.0	1.1	3.0	3.8	10.1	-	.4	3.7	1.7
17	1.3	1.9	1.5	1.0	1.1	3.6	3.3	6.2	-	.2	5.2	3.2
18	1.3	2.1	1.5	1.0	1.0	3.2	4.2	5.0	-	.2	4.0	3.0
19	1.4	2.5	1.4	1.0	1.0	3.5	6.6	4.8	2.4	.2	3.1	2.7
20	1.3	2.3	1.1	1.0	1.0	3.3	6.2	4.7	3.8	.2	2.6	2.4
21	1.3	2.2	.9	.95	2.1	3.5	7.5	5.1	6.3	.5	2.4	2.3
22	1.3	2.1	.8	.95	3.3	3.2	8.3	4.5	3.2	2.2	2.3	2.0
23	1.5	1.9	.6	.9	2.3	3.0	11.1	3.7	2.1	2.5	2.5	1.8
24	1.4	2.1	.5	.9	6.3	3.0	12.2	3.3	1.6	1.8	2.4	1.5
25	1.4	2.3	.5	.9	5.7	3.2	14.3	3.1	1.3	1.1	3.0	1.1
26	1.3	2.1	.45	.9	4.1	6.2	15.8	3.0	1.3	.8	2.7	1.0
27	9.2	2.0	.4	.85	3.3	11.4	15.1	10.8	1.9	.6	2.5	.8
28	3.5	2.0	.4	.85	2.3	12.6	14.8	10.5	3.5	.6	4.0	.6
29	2.2	2.1	.4	.8	-	10.2	14.5	6.6	2.9	1.3	3.2	.5
30	1.8	2.3	.6	.8	-	6.7	13.5	4.8	2.4	2.5	2.7	.45
31	1.6	-	4.1	.8	-	3.7	-	3.4	-	3.2	2.6	-

Gage height and contents, water year October 1942 to September 1943

Date	Gage height (feet)†	Contents (millions of cubic feet)	Change in contents during month: Millions of cubic feet	Change in contents during month: Equivalent, second-feet
Sept.30	1.2	0.62	-	-
Oct. 31	1.6	.87	+0.25	+0.09
Nov. 30	1.6	.87	0	0
Dec. 31	3.5	2.30	+1.43	+.53
Calendar year 1942	-	-	+1.62	+.05
Jan. 31	.8	.40	-1.90	-.71
Feb. 28	2.1	1.18	+.78	+.32
Mar. 31	3.4	2.20	+1.02	+.38
Apr. 30	13.5	34.2	+32.00	+12.3
May 31	3.3	2.12	-32.08	-12.0
June 30	2.2	1.26	-.86	-.33
July 31	2.7	1.64	+.38	+.14
Aug. 31	2.4	1.41	-.23	-.09
Sept.30	.4	.20	-1.21	-.47
Water year 1942-43	-	-	-.42	-.01

† Gage height at midnight determined from graph based on observer's readings and on gage-height graph for station on Jail Branch, below reservoir.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Jail Branch at East Barre, Vt.

Location.- Water-stage recorder, lat. 44°10', long. 72°27', at East Barre, Washington County, just downstream from highway bridge, three-quarters of a mile downstream from East Barre Detention Reservoir and 2¾ miles upstream from Stevens Branch. Datum of gage is 1,071.59 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 33.0 square miles.

Records available.- August 1920 to September 1923, November 1933 to September 1943.

Average discharge.- 13 years, 57.1 second-feet (adjusted).

Extremes.- Maximum discharge during year, 299 second-feet Apr. 28; maximum gage height, 2.96 feet Feb. 25 (ice jam); minimum discharge, 2.8 second-feet July 20.
1920-23, 1933-43: Maximum discharge observed, 1,350 second-feet Apr. 10, 1922 (gage height, 8.38 feet, site and datum then in use), from rating curve extended above 900 second-feet; minimum observed, 0.5 second-foot Sept. 11, 1921.

Remarks.- Records good except those below 20 second-feet and those for periods of ice effect or no gage-height record, which are fair. High flow controlled by East Barre Detention Reservoir since 1935 (see p. 204). Diversion from reservoir on Orange Brook, a tributary above station for city of Barre.

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	144	*25	48	13	35	71	277	49	16	16	14
2	15	216	45	42	12	28	95	261	47	13	11	46
3	12	*76	70	*36	*11	25	*70	261	39	9.6	9.1	47
4	8.0	44	64	32	12	28	67	261	34	8.3	27	26
5	8.0	37	56	28	12	27	69	240	30	76	176	19
6	97	32	50	26	12	26	66	216	24	100	72	20
7	86	32	47	23	13	24	70	198	36	31	22	18
8	32	27	38	21	13	19	52	206	62	18	17	18
9	20	32	33	20	13	18	45	234	32	12	14	14
10	15	40	34	19	12	*17	49	211	27	9.8	17	14
11	12	87	35	18	13	25	45	173	69	9.2	37	12
12	10	49	34	18	14	70	51	250	40	9.0	36	11
13	9.6	39	30	18	16	110	71	266	28	10	29	11
14	12	36	28	17	15	90	150	256	24	7.3	50	9.6
15	11	39	25	16	14	71	84	224	20	6.0	35	7.0
16	10	43	24	15	13	63	63	162	34	5.7	23	10
17	9.9	45	21	15	13	52	68	104	41	5.3	45	22
18	8.3	65	19	14	12	60	106	92	48	3.8	35	14
19	8.6	62	17	14	11	73	139	80	28	3.3	22	10
20	9.6	49	15	13	12	70	132	71	123	3.4	16	9.8
21	11	44	13	13	22	72	146	65	166	6.4	13	9.1
22	19	40	11	13	50	64	176	87	52	43	11	7.0
23	22	35	11	12	40	58	245	76	29	29	11	7.2
24	28	38	12	12	48	52	266	59	20	11	11	6.4
25	21	42	13	11	125	65	277	50	16	7.3	15	6.6
26	37	52	13	13	95	135	288	103	15	10	13	5.7
27	193	60	13	13	64	250	288	240	25	8.8	12	6.3
28	84	50	12	13	45	256	288	202	49	7.0	25	6.6
29	41	37	12	13	-	220	282	112	37	6.2	23	5.3
30	32	32	14	12	-	119	271	71	18	32	20	6.0
31	27	-	54	12	-	69	-	58	-	39	18	-

Month	Observed				Change in contents (equivalent, second-feet)†	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
October	926.0	193	8.0	29.9	+0.09	30.0	0.909	1.05
November	1,624	216	27	54.1	0	54.1	1.64	1.83
December	888	70	11	28.6	+.53	29.2	.885	1.02
Calendar year 1942	20,234.0	319	2.5	55.4	+.05	55.5	1.68	22.84
January	590	48	11	19.0	-.71	18.3	.555	.64
February	745	125	11	26.6	+.32	26.9	.815	.85
March	2,291	256	17	73.9	+.38	74.3	2.25	2.60
April	4,090	288	45	136	+12.3	149	4.52	5.03
May	5,166	277	50	167	-12.0	155	4.70	5.40
June	1,262	166	15	42.1	-.33	41.7	1.26	1.41
July	556.4	100	3.3	17.9	+.14	18.1	.548	.63
August	881.1	176	9.1	28.4	-.09	28.3	.858	.99
September	418.6	47	5.3	14.0	-.47	13.5	.409	.46
Water year 1942-43	19,438.1	288	3.3	53.3	-.01	53.2	1.61	21.91

* Winter discharge measurement made on this day.
† Change in contents in East Barre Detention Reservoir.
Note.- Stage-discharge relation affected by ice Nov. 14-16, Dec. 1-6, 8-10, Dec. 13 to Mar. 14, Mar. 18-22, 25-27, Apr. 3, 4, 6, 7. No gage-height record Nov. 21-30, Dec. 17 to Jan. 1, Aug. 16-30; discharge computed on basis of recorded range in stage, weather records, records for East Barre Detention Reservoir, and records for other stations in Winooski River Basin.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Wrightsville Detention Reservoir at Wrightsville, Vt.

Location.- Staff gage, lat. 44°18'35", long. 72°34'30", at reservoir on North Branch Winooski River at Wrightsville, Washington County, a third of a mile downstream from Long Meadow Brook and 4¼ miles upstream from mouth. Datum of gage is 612.75 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 66.5 square miles.

Records available.- March and April 1936, September 1938 to September 1943.

Extremes.- Maximum gage height observed during year, 41.0 feet Apr. 29, May 1; minimum observed, 0.7 foot Oct. 18.
1936, 1938-43: Maximum gage height, 63.7 feet Mar. 22, 1936, from graph based on gage readings; minimum observed, 0.3 foot several days in August and September 1942.

Remarks.- Reservoir is formed by earth-fill dam completed by Corps of Engineers, U. S. Army, in 1935 for flood control. Capacity of reservoir is 873,500,000 cubic feet between gage heights 0.0 foot (bottom of outlet opening) and 72.25 feet (crest of spillway). Dam has no gates; below gage height 72.25 feet outflow from reservoir is dependent on capacity of outlet opening, 5½ feet square, near base of dam. Gage read at 8 a.m.

Cooperation.- Gage readings furnished by State of Vermont Board of Public Works.

Gage height at 8 a.m., in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	3.2	3.3	3.8	1.4	3.8	9.9	41.0	3.9	2.1	1.7	1.7
2	2.0	14.8	3.2	3.8	1.4	3.4	8.7	39.8	3.5	1.8	1.2	2.2
3	1.8	13.0	4.5	3.4	1.4	3.0	5.9	38.3	3.0	1.5	1.2	4.5
4	1.0	9.5	4.2	2.8	1.4	2.7	4.3	38.7	2.6	1.4	2.3	3.8
5	.8	6.0	3.8	2.5	1.4	2.6	4.6	37.4	3.0	2.7	9.0	3.2
6	1.5	4.0	3.6	2.3	1.4	2.4	4.0	37.0	2.6	16.8	7.4	2.9
7	4.4	3.5	3.4	2.1	1.4	2.3	3.5	36.4	2.2	15.0	4.6	3.0
8	3.3	-	3.1	2.0	1.4	2.2	3.9	37.3	2.4	10.8	3.0	4.2
9	3.0	2.5	2.6	1.9	1.4	2.1	3.8	37.7	2.1	6.5	2.3	3.6
10	2.8	1.7	2.7	1.8	1.4	2.0	3.6	36.5	1.9	3.8	1.8	3.5
11	2.2	6.7	2.7	1.7	1.4	2.0	3.5	36.2	7.0	2.6	1.6	3.7
12	2.0	6.6	2.8	1.7	1.8	2.9	3.5	36.3	6.5	2.0	2.1	3.0
13	1.4	5.2	2.6	1.7	2.1	5.8	3.6	38.7	4.4	1.7	2.2	2.5
14	1.2	4.2	2.4	1.7	2.0	5.6	5.0	37.3	3.7	1.6	2.7	2.1
15	.9	3.6	2.4	1.6	1.9	5.0	6.8	34.7	3.0	1.6	4.1	1.7
16	.9	3.0	2.4	1.6	1.8	4.5	5.6	31.4	5.4	1.6	3.2	1.5
17	1.0	3.1	2.2	1.6	1.6	4.4	4.5	38.1	9.2	1.4	3.2	-
18	.7	4.3	2.0	1.6	1.6	4.3	4.6	25.0	9.0	1.2	3.4	-
19	.8	6.6	1.8	1.6	1.6	4.9	6.4	21.6	6.5	1.0	2.8	2.9
20	.8	5.7	1.7	1.6	1.5	4.6	7.6	17.7	6.4	1.0	2.4	2.6
21	1.0	10.8	1.6	1.6	2.0	4.8	9.4	13.5	11.0	1.0	2.0	2.2
22	1.0	9.8	1.4	1.5	2.5	4.7	10.0	9.9	8.7	1.1	1.6	1.7
23	1.7	7.0	1.4	1.4	2.7	4.5	16.8	8.0	5.8	-	1.4	1.7
24	2.9	4.8	1.5	1.4	3.1	4.4	23.8	5.6	4.0	-	1.2	1.6
25	2.8	4.0	1.6	1.4	6.1	4.4	29.3	4.3	3.0	-	2.3	1.4
26	2.3	4.5	1.7	1.4	6.6	5.8	35.0	3.7	2.4	-	2.2	1.3
27	8.8	4.5	1.6	1.4	5.8	14.1	39.0	11.0	2.7	1.0	2.0	1.2
28	8.6	5.0	1.6	1.4	4.8	18.9	39.4	12.0	2.8	1.0	2.2	1.2
29	5.8	4.0	1.6	1.4	-	18.0	41.0	10.0	2.6	1.0	2.6	1.1
30	4.0	3.8	1.7	1.4	-	16.2	40.3	7.2	2.5	1.0	2.2	1.0
31	3.5	-	3.6	1.4	-	14.2	-	5.2	-	1.7	1.8	-

Gage height and contents, water year October 1942 to September 1943

Date	Gage height (feet)†	Contents (millions of cubic feet)	Change in contents during month: Millions of cubic feet	Change in contents during month: Equivalent mean second-feet
Sept.30	2.2	5.35	-	-
Oct. 31	3.2	8.15	+2.8	+1.05
Nov. 30	3.6	9.35	+1.2	+.46
Dec. 31	3.7	9.65	+.3	+.11
Calendar year 1942	-	-	+2.65	+.08
Jan. 31	1.4	3.25	-6.4	-2.39
Feb. 28	4.2	11.25	+8.0	+3.31
Mar. 31	11.5	40.2	+28.95	+10.8
Apr. 30	40.5	299.5	+259.3	+100
May 31	4.3	11.55	-287.95	-108
June 30	2.2	5.35	-6.2	-2.39
July 31	1.7	4.0	-1.35	-.50
Aug. 31	1.7	4.0	0	0
Sept.30	1.0	2.25	-1.75	-.68
Water year 1942-43	-	-	-3.1	-.10

† Gage height at midnight determined from graph based on observer's readings and on graph for station on North Branch Winooski River below reservoir.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

North Branch Winooski River at Wrightsville, Vt.

Location.- Water-stage recorder and concrete control, lat. 44°18'00", long. 72°34'45", at Wrightsville, Washington County, three-quarters of a mile downstream from Wrightsville Detention Reservoir and 3½ miles upstream from mouth. Datum of gage is 550.53 feet above mean sea level (levels by Corps of Engineers, U. S. Army).
Drainage area.- 69.2 square miles.
Records available.- October 1933 to September 1943.
Average discharge.- 10 years, 129 second-feet (adjusted).
Extremes.- Maximum discharge during year, 745 second-feet Apr. 28 to May 2; maximum gage height, 3.62 feet Apr. 28 to May 1; minimum daily discharge, 15 second-feet Oct. 5, 17-19.

1933-43: Maximum discharge, 2,170 second-feet Apr. 12, 1934 (gage height, 6.53 feet), from rating curve extended above 920 second-feet; minimum daily, 0.2 second-foot Aug. 15, 1941.

Maximum discharge known, 17,200 second-feet Nov. 3, 1927, by computation of flow over dam three-quarters of a mile above gage.

Remarks.- Records good except those for periods of ice effect, which are fair. High flow controlled since 1935 by Wrightsville Detention Reservoir (see p. 206). Diurnal fluctuation at low stages caused by small mill above station.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.4	14	.9	48	2.3	301
.5	18	1.1	75	2.8	434
.6	24	1.4	123	3.3	610
.7	30	1.8	195	3.5	745
.8	38				

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	227	*90	120	26	120	350	745	123	52	37	38
2	30	434	108	*100	26	100	*294	745	101	41	29	70
3	21	390	147	85	*26	86	223	720	86	35	30	137
4	18	313	137	73	26	74	158	720	69	29	62	114
5	15	209	121	64	26	70	a160	695	81	230	294	82
6	59	126	108	56	26	64	a130	695	69	482	261	78
7	133	92	100	52	26	58	109	695	58	434	142	90
8	100	75	90	48	27	54	109	720	64	350	84	126
9	62	64	70	45	28	50	101	720	58	222	58	100
10	43	63	73	42	29	48	100	695	54	111	45	104
11	33	248	78	40	30	*50	93	672	265	67	41	103
12	26	246	76	39	34	90	100	695	229	46	51	78
13	21	172	72	38	38	200	118	720	142	37	57	60
14	19	137	65	38	36	190	237	695	109	36	92	47
15	17	104	60	38	35	165	241	672	87	36	126	39
16	16	90	60	37	34	145	182	650	238	36	90	57
17	15	92	55	36	33	140	162	610	338	29	93	140
18	15	170	47	35	32	145	169	570	313	25	96	113
19	15	246	42	34	32	162	237	533	233	21	75	81
20	16	254	39	33	34	158	301	465	289	21	58	60
21	16	350	35	32	45	162	338	390	363	24	46	47
22	22	325	32	31	60	156	390	338	301	27	37	40
23	42	250	32	29	72	149	516	292	186	39	32	36
24	78	165	34	28	88	138	590	193	116	35	31	32
25	75	137	38	27	200	158	650	138	78	28	53	a29
26	72	144	39	27	225	241	695	164	57	23	53	a26
27	294	160	38	27	190	451	720	376	71	21	49	a25
28	292	165	37	27	160	516	745	390	78	22	56	a23
29	204	130	36	27	-	498	745	338	81	25	64	a22
30	133	114	45	26	-	465	745	269	65	30	51	a21
31	103	-	100	26	-	419	-	171	-	43	42	-

Month	Observed				Change in contents (equivalent, second-feet)†	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
October	2,050	294	15	66.1	+1.05	67.2	0.971	1.12
November	5,692	434	63	190	+.46	190	2.75	3.07
December	2,102	147	32	67.8	+.11	67.9	.981	1.13
Calendar year 1942	45,052.0	795	4.2	123	+.08	124	1.79	24.23
January	1,360	120	26	43.9	-2.39	41.5	.600	.69
February	1,644	225	26	58.7	+3.31	62.0	.896	.93
March	5,522	516	48	178	+10.8	189	2.73	3.15
April	9,708	745	93	324	+100	424	6.13	6.83
May	16,491	745	138	532	-108	424	6.13	7.07
June	4,402	363	54	147	-2.39	144	2.08	2.33
July	2,657	482	21	85.7	-.50	85.2	1.23	1.42
August	2,335	294	29	75.3	0	75.3	1.09	1.25
September	2,018	140	21	67.3	-.68	66.6	.962	1.07
Water year 1942-43	55,981	745	15	153	-.10	153	2.21	30.06

* Winter discharge measurement made on this day.
† Change in contents in Wrightsville Detention Reservoir.
a No gage-height record; discharge computed on basis of weather records and records for Wrightsville Detention Reservoir.
Note.- Stage-discharge relation affected by ice Nov. 23, Dec. 8-10, Dec. 13 to Mar. 15.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Dog River at Northfield Falls, Vt.

Location.- Water-stage recorder, lat. 44°10'55", long. 72°38'30", 1 mile downstream from Northfield Falls, Washington County, and 1½ miles downstream from Cox Branch. Datum of gage is 603.00 feet above mean sea level (levels by Corps of Engineers, U. S. Army).
Drainage area.- 76.1 square miles.
Records available.- November 1934 to September 1943.
Extremes.- Maximum discharge during year, 1,560 second-feet May 12 (gage height, 4.49 feet), from rating curve extended above 900 second-feet on basis of computation of flow over dam at gage height 8.49 feet and slope area determination at gage height 11.53 feet; minimum, 10 second-feet (regulated) Oct. 3, 6.
1934-43: Maximum discharge, 9,750 second-feet Sept. 21, 1938 (gage height, 11.53 feet), by slope-area method; minimum, 4.3 second-feet (regulated) Aug. 31, Sept. 7, 1942.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Some regulation at low stages caused by power plant above station.

Rating tables, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 10-16)

Oct. 1-16				Oct. 17 to Sept. 30					
0.8	16	1.1	36	0.7	12	1.2	51	2.5	405
.9	22	1.2	48	.8	17	1.4	79	3.0	645
1.0	28	1.4	78	.9	23	1.6	117	3.9	1,150
				1.0	30	1.9	190		
				1.1	40	2.2	283		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	270	100	95	37	140	230	620	133	56	37	46
2	23	234	*146	76	36	120	240	396	124	45	34	136
3	16	142	162	*63	*37	115	190	532	109	41	29	113
4	18	113	135	58	36	110	*165	530	95	39	51	81
5	23	93	122	54	35	110	175	414	86	120	189	68
6	66	90	105	50	34	98	150	423	76	99	75	70
7	74	79	90	50	36	98	155	450	90	63	54	64
8	47	76	80	52	37	85	150	433	111	53	49	60
9	38	70	65	52	35	82	140	455	78	47	46	54
10	25	90	84	54	33	82	140	313	75	40	47	56
11	26	160	82	58	39	*110	133	279	111	37	80	49
12	28	113	72	48	46	240	140	992	79	41	79	46
13	24	107	65	45	40	259	167	585	72	37	92	46
14	22	97	58	42	41	207	313	382	70	38	106	36
15	23	86	60	42	40	193	215	294	59	41	83	36
16	22	90	54	38	40	185	182	246	71	34	64	41
17	15	111	50	38	39	182	198	224	71	30	97	57
18	19	172	46	40	38	224	243	196	80	28	90	44
19	25	147	42	41	37	224	294	174	60	22	75	39
20	21	126	40	38	37	227	316	152	149	23	62	38
21	19	122	38	38	90	249	328	147	155	42	55	33
22	43	102	42	38	115	221	514	196	90	71	50	31
23	48	88	46	37	130	204	757	157	69	53	48	32
24	48	90	52	37	300	193	844	133	58	36	44	25
25	39	107	47	37	320	265	958	117	51	30	52	31
26	79	147	43	44	220	484	1,010	360	43	35	46	24
27	357	157	40	39	190	1,110	648	483	86	31	39	30
28	138	138	40	37	160	624	790	266	106	28	70	26
29	96	113	45	38	-	396	530	212	80	28	56	23
30	81	115	70	35	-	298	523	174	61	47	50	23
31	72	-	110	36	-	246	-	150	-	44	46	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	1,605	357	15	51.8	0.681	0.78
November	3,646	270	70	122	1.60	1.78
December	2,231	162	38	72.0	.946	1.09
Calendar year 1942	41,266.7	1,760	4.3	113	1.48	20.16
January	1,450	95	35	46.8	.615	.71
February	2,278	320	33	81.4	1.07	1.11
March	7,381	1,110	82	238	3.13	3.61
April	10,838	1,010	133	361	4.74	5.30
May	10,485	992	117	338	4.44	5.12
June	2,598	155	43	86.6	1.14	1.27
July	1,379	120	22	44.5	.585	.67
August	1,995	189	29	64.4	.846	.97
September	1,458	156	23	48.6	.639	.71
Water year 1942-43	47,344	1,110	15	130	1.71	23.12

Peak discharge.- Mar. 27 (5 to 6 a.m.) 1,350 sec.-ft.; Apr. 25 (10 p.m.) 1,460 sec.-ft.; May 12 (7 a.m.) 1,560 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 4 to Mar. 12, Apr. 3-6. No gage-height record Dec. 6 to Jan. 3; discharge computed on basis of one discharge measurement, weather records, and records for Mad River near Moretown and for stations on other nearby streams.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Mad River near Moretown, Vt.

Location.- Water-stage recorder and concrete control, lat. 44°16'40", long. 72°44'35", at highway bridge, 2.4 miles downstream from Moretown, Washington County, and 3.8 miles upstream from mouth.

Drainage area.- 139 square miles.

Records available.- November 1928 to September 1943.

Average discharge.- 15 years, 244 second-feet.

Extremes.- Maximum discharge during year, 2,830 second-feet May 12; maximum gage height, 10.84 feet Feb. 24 (ice jam); minimum discharge, 6.2 second-feet (regulated) July 20; minimum daily, 35 second-feet (regulated) July 20.

1928-43: Maximum discharge, 18,400 second-feet Sept. 22, 1938 (gage height, 16.34 feet, from floodmarks), from rating curve extended above 2,700 second-feet on basis of computations of flow over dam at gage heights 9.98, 16.34, and 19.4 feet; minimum, 1.4 second-feet (regulated) Oct. 1, 1930.

Maximum discharge known, 23,000 second-feet Nov. 3, 1927 (gage height, 19.4 feet, from floodmarks), by computation of flow over dam.

Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are fair. Regulation at low flow by mill in Moretown.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

3.2	24	3.7	128	4.5	570
3.3	36	3.8	163	5.0	1,000
3.4	53	4.0	249	5.5	1,460
3.5	74	4.2	360	6.2	2,190
3.6	99				

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	80	610	145	150	54	240	343	1,520	231	107	89	116
2	64	562	*256	100	56	210	412	892	217	87	67	793
3	54	302	296	84	52	190	*328	1,180	177	74	64	457
4	48	218	235	78	48	175	293	1,270	150	63	139	a276
5	49	175	203	*74	*53	200	311	955	133	334	679	a210
6	217	157	187	74	54	165	250	1,070	111	273	206	220
7	291	138	171	76	57	175	277	1,530	127	149	130	246
8	146	125	155	76	62	160	240	1,610	190	112	108	269
9	102	118	110	74	62	150	224	1,410	125	87	94	178
10	83	126	160	77	58	160	219	1,000	109	73	90	199
11	70	401	170	80	65	200	201	836	184	74	205	150
12	66	231	152	75	76	430	212	2,110	128	117	267	122
13	58	197	120	68	68	470	270	1,300	100	95	227	108
14	52	179	105	66	68	360	442	874	134	87	231	95
15	49	142	110	68	68	340	286	667	95	76	195	82
16	47	151	100	68	67	320	242	570	159	52	134	160
17	45	206	90	66	66	330	294	686	161	48	194	200
18	43	335	80	61	64	410	373	618	178	41	193	134
19	45	298	74	62	62	380	422	474	121	40	177	105
20	43	249	70	64	70	420	493	392	498	35	136	95
21	40	249	66	62	170	470	507	380	458	76	104	81
22	110	199	72	61	210	420	654	586	225	149	85	75
23	131	153	80	60	240	390	910	412	154	114	76	71
24	149	156	84	58	500	334	1,180	336	120	60	104	65
25	99	184	80	60	570	420	1,540	285	95	50	183	64
26	136	275	74	70	400	710	1,970	759	79	85	115	57
27	662	301	70	65	340	1,490	1,220	949	157	63	91	60
28	261	250	70	58	270	843	1,560	540	256	68	231	a62
29	199	191	84	56	-	526	1,120	412	139	57	155	a56
30	168	191	110	54	-	407	1,160	330	126	146	116	a58
31	150	-	200	52	-	349	-	265	-	117	128	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	3,747	662	40	121	0.871	1.00
November	7,069	610	118	236	1.70	1.89
December	3,979	296	66	128	.921	1.06
Calendar year 1942	82,082.1	3,180	5.6	225	1.62	21.96
January	2,197	150	52	70.9	.510	.59
February	3,930	570	48	140	1.01	1.05
March	11,834	1,490	150	382	2.75	3.17
April	17,953	1,970	201	598	4.30	4.80
May	26,218	2,110	265	846	6.09	7.01
June	5,187	498	79	173	1.24	1.39
July	3,009	334	35	97.1	.699	.81
August	5,013	679	64	162	1.17	1.34
September	4,864	793	56	162	1.17	1.30
Water year 1942-43	95,000	2,110	35	260	1.87	25.41

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of recorded range in stage, weather records, and records for Dog River at Northfield Falls.

Note.- Stage-discharge relation affected by ice Dec. 1, Dec. 8-10, Dec. 13 to Mar. 23.

Time basis.- Eastern war time. To convert war time to standard time, subtract 1 hour.

Waterbury Reservoir near Waterbury, Vt.

Location.- Water-stage recorder, lat. 44°22'55", long. 72°46'15", at dam on Waterbury River, 2 2/3 miles upstream from mouth and 3½ miles north of Waterbury, Washington County. Datum of gage is at mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 109 square miles.

Records available.- September 1938 to September 1943.

Extremes.- Maximum elevation during year, 604.38 feet May 3; minimum, 551.4 feet (from graph based on gage readings) Mar. 11.
1938-43: Maximum elevation, 613.45 feet May 4, 1940; minimum observed, 501.3 feet Oct. 16, 1938.

Remarks.- Reservoir is formed by earth-fill dam completed by Corps of Engineers, U. S. Army, during summer of 1937 for conservation and flood control. Total usable capacity for flood control, 2,812,300,000 cubic feet between elevations 500.0 feet (bottom of lowest outlet) and 617.5 feet (crest of spillway) above mean sea level. Usable capacity for conservation, 1,582,700,000 cubic feet between elevations 500.0 feet and 592.0 feet (sill of taintor gate) above mean sea level.

Elevation at midnight, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	578.76	588.51	591.51	579.90	570.71	563.4	573.72	602.45	599.15	591.86	592.05	590.27
2	578.93	589.85	592.04	580.20	569.74	561.6	574.72	603.67	598.56	591.59	591.63	591.10
3	579.10	590.42	591.71	580.53	568.88	560.5	575.48	604.09	597.97	591.78	591.76	591.58
4	579.25	590.83	590.64	580.85	568.34	559.4	576.17	603.19	598.29	591.94	592.67	592.02
5	579.38	591.17	590.55	581.11	567.9	559.1	576.89	601.94	598.52	595.70	594.36	592.30
6	580.47	591.47	590.95	581.36	568.1	559.6	577.17	601.01	598.64	596.94	594.83	592.29
7	581.26	591.73	590.89	581.60	568.0	559.4	573.73	601.44	598.29	596.56	595.13	592.02
8	581.64	591.96	590.77	581.84	567.2	557.3	571.61	601.39	598.08	595.47	595.38	591.81
9	581.92	592.19	589.64	581.15	566.3	554.7	572.23	600.94	598.14	594.59	594.86	592.07
10	582.13	592.52	588.57	580.09	565.2	552.6	572.76	599.80	598.37	593.79	593.65	592.20
11	582.33	593.20	588.91	579.01	565.0	551.9	573.18	599.01	599.32	592.57	592.51	591.91
12	582.15	593.56	589.24	578.02	564.7	553.93	572.65	601.98	599.67	591.84	591.85	591.93
13	581.72	593.94	588.81	577.57	565.1	555.68	569.18	601.90	599.55	592.24	591.65	591.47
14	581.87	594.24	587.44	577.15	565.5	556.63	568.91	600.55	599.25	592.36	592.44	590.86
15	581.26	594.49	586.16	576.82	565.1	557.81	569.74	598.93	599.16	592.10	592.46	590.20
16	581.39	594.79	584.71	577.06	564.6	558.74	570.46	597.16	600.77	591.86	591.90	590.51
17	581.50	595.29	583.74	576.93	564.2	559.74	571.27	596.78	601.64	592.05	592.06	590.99
18	581.47	596.65	582.77	576.17	563.7	560.97	572.20	596.68	601.40	592.01	592.00	591.27
19	580.73	597.38	582.3	575.40	563.2	558.65	573.33	596.20	601.39	591.74	591.80	591.31
20	580.59	599.66	581.4	574.91	563.6	556.55	574.92	595.58	603.62	591.93	591.43	590.86
21	580.17	600.95	581.0	574.47	564.2	556.13	576.29	595.04	603.56	592.12	591.48	590.33
22	580.37	601.52	581.9	574.69	564.9	557.19	578.28	594.84	602.01	591.91	590.91	589.87
23	580.99	601.96	581.1	574.90	565.6	558.15	581.03	594.20	599.66	591.80	590.41	589.30
24	581.65	600.92	580.70	574.38	567.9	559.08	584.10	593.41	597.18	591.99	590.24	588.68
25	582.02	598.69	580.43	573.52	569.2	560.48	588.02	592.50	594.55	591.96	590.24	588.28
26	582.81	596.43	580.16	572.74	568.1	562.86	591.81	594.51	592.50	591.72	590.60	588.15
27	584.36	594.68	579.2	572.35	566.7	567.30	593.80	596.52	591.98	591.99	590.88	587.32
28	585.01	592.14	578.8	571.87	565.1	569.52	596.42	597.45	592.29	592.14	591.34	586.49
29	585.47	591.04	578.49	571.41	-	570.93	598.14	598.12	592.25	591.84	591.39	586.02
30	585.99	591.42	578.62	571.64	-	571.95	599.96	598.64	592.35	592.15	590.97	585.67
31	586.43	-	579.33	571.53	-	572.83	-	599.05	-	592.37	590.49	-

Elevation and contents, water year October 1942 to September 1943

Date	Elevation (feet)†	Contents (millions of cubic feet)	Change in contents during month	
			Millions of cubic feet	Equivalent, second-feet
Sept.30	579.10	1,142.4	-	-
Oct. 31	586.43	1,378.6	+236.2	+38.2
Nov. 30	591.42	1,560.1	+181.5	+70.0
Dec. 31	579.33	1,149.1	-411.0	-153
Calendar year 1942	-	-	-291.1	-9.23
Jan. 31	571.53	932.1	-217.0	-81.0
Feb. 28	565.1	773.4	-158.7	-65.6
Mar. 31	572.83	966.3	+192.9	+72.0
Apr. 30	599.96	1,911.7	+945.4	+365
May 31	599.05	1,872.7	-39.0	-14.6
June 30	592.35	1,596.4	-276.3	-107
July 31	592.37	1,597.1	+.7	+.26
Aug. 31	590.49	1,524.0	-73.1	-27.3
Sept.30	585.67	1,351.8	-172.2	-66.4
Water year 1942-43	-	-	+209.4	+6.64

† Elevation at midnight.

Note.- Elevations for periods Dec. 19-23, 26-28, Feb. 5 to Mar. 11, determined from graph based on twice-daily gage readings, time of valve operation, and records for station on Waterbury River, below reservoir.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Waterbury River near Waterbury, Vt.

Location.- Water stage recorder and concrete control, lat. 44°22'10", long. 72°46'10", 1 2/3 miles upstream from mouth and 2¾ miles north of Waterbury, Washington County. Datum of gage is 428.00 feet above mean sea level (levels by Corps of Engineers, U. S. Army).
Drainage area.- 111 square miles.
Records available.- December 1935 to September 1943.
Extremes.- Maximum discharge during year, 1,500 second-feet (regulated) May 3 (gage height, 9.46 feet); minimum daily, 0.7 second-foot (regulated) Oct. 5.
1935-43: Maximum discharge, 6,520 second-feet Mar. 18, 1936 (gage height, 19.38 feet); minimum daily, 0.6 second-foot (regulated) several times during summers of 1938, 1939, 1941.
Remarks.- Records excellent except those below 25 second-feet, which are good. Flow completely regulated by Waterbury Reservoir (see preceding page).

Rating table, water year 1942-43 (gage height, in feet, and discharge, in second-feet)

4.74	0.7	5.2	9.8	6.5	150
4.8	1.2	5.3	14	6.8	216
4.85	1.7	5.4	19	7.1	301
4.9	2.4	5.6	32	7.5	450
4.95	3.2	5.8	49	8.0	665
5.0	4.2	6.0	71	8.5	935
5.1	6.6	6.2	98	9.4	1,450

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	220	7.8	96	3.0	306	598	6.9	22	141	350	212	233
2	1.0	4.4	80	2.5	322	598	6.9	15	458	238	266	4.8
3	.9	2.5	350	2.2	308	380	5.9	663	478	2.1	186	2.4
4	.8	1.8	661	2.0	205	340	5.9	1,450	4.4	1.8	264	1.8
5	.7	1.7	248	2.0	210	205	6.1	1,450	3.6	15	6.0	1.7
6	5.5	1.8	3.6	2.0	2.1	2.4	22	1,450	33	6.7	2.4	205
7	1.9	1.7	172	2.0	94	183	1,320	1,450	282	438	5.3	279
8	1.2	1.6	165	1.7	306	575	882	1,450	245	715	2.0	234
9	1.2	1.5	576	273	302	575	5.4	1,450	60	581	326	1.8
10	1.2	2.4	579	435	308	566	4.7	1,450	250	459	690	47
11	1.2	3.2	4.3	416	204	382	4.4	1,200	6.1	690	690	236
12	93	2.1	5.8	417	171	7.6	362	900	3.6	467	436	49
13	230	2.4	283	228	2.4	4.9	1,290	1,190	224	3.0	218	276
14	1.3	2.1	665	200	2.1	4.0	529	1,450	292	202	3.4	332
15	260	2.0	665	175	176	3.8	7.6	1,450	265	265	171	329
16	2.6	2.1	665	2.2	202	3.6	6.1	1,450	264	247	388	231
17	1.1	3.0	436	81	166	5.2	6.6	980	9.2	2.1	120	2.4
18	46	5.6	437	304	202	5.6	9.6	715	438	73	189	1.7
19	321	3.8	223	306	193	735	11	715	244	217	273	57
20	100	7.9	366	231	2.1	800	13	690	26	2.2	274	271
21	203	6.5	524	197	2.9	356	13	690	458	2.0	52	279
22	111	4.2	415	2.1	2.5	5.6	19	690	1,100	435	338	270
23	3.3	3.2	229	1.5	2.5	5.2	22	690	1,450	248	257	334
24	1.8	645	2.2	185	4.4	4.9	23	690	1,450	2.1	253	314
25	1.4	1,400	2.0	309	358	7.3	24	690	1,400	59	197	219
26	4.0	1,400	1.7	306	620	15	22	384	1,170	231	2.0	115
27	5.6	1,180	141	222	620	25	15	20	474	2.0	1.5	390
28	2.5	1,400	234	196	620	14	23	11	116	16	2.5	380
29	1.8	746	205	190	-	10	15	8.8	242	257	97	221
30	1.6	3.8	124	1.6	-	8.2	16	7.2	113	3.0	282	194
31	1.4	-	5.3	100	-	6.9	-	6.1	-	1.7	297	-

Month	Observed				Change in contents (equivalent, second-feet)†	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Runoff in inches
October	1,628.0	321	0.7	52.5	+88.2	141	1.27	1.46
November	6,850.1	1,400	1.5	228	+70.0	298	2.68	3.00
December	8,563.9	665	1.7	276	-153	123	1.11	1.28
Calendar year 1942	84,683.4	1,450	.7	232	-9.23	223	2.01	27.25
January	4,795.8	435	1.5	155	-81.0	73.7	.664	.77
February	5,914.0	620	2.1	211	-65.6	146	1.32	1.37
March	6,432.2	800	2.4	207	+72.0	280	2.52	2.90
April	4,697.1	1,320	4.4	157	+365	521	4.69	5.24
May	25,477.1	1,450	6.1	822	-14.6	807	7.27	8.38
June	11,699.9	1,450	3.6	390	-107	283	2.55	2.85
July	6,231.7	715	1.7	201	+.26	201	1.81	2.09
August	6,501.1	690	1.5	210	-27.3	182	1.64	1.89
September	5,511.6	390	1.7	184	-66.4	117	1.05	1.18
Water year 1942-43	94,302.5	1,450	.7	258	+6.64	265	2.39	32.41

† Change in contents in Waterbury Reservoir.
Note.- Discharge for periods Oct. 23-25, Oct. 27 to Nov. 3, Dec. 20-22, Feb. 16 to Mar. 11, June 19 to July 2, Sept. 1-3, computed from graph based on observer's twice-daily readings and record of gate operations at Waterbury Reservoir.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Lamoille River at Johnson, Vt.

Location.- Water-stage recorder, lat. 44°37'20", long. 72°40'50", at falls 0.9 mile upstream from bridge in Johnson, Lamoille County, and 1 1/8 miles upstream from Gihon River.
Drainage area.- 310 square miles.
Records available.- July 1910 to December 1913, September 1928 to September 1943.
Average discharge.- 15 years (1928-43), 516 second-feet.
Extremes.- Maximum discharge during year not determined; minimum, 22 second-feet (regulated) Oct. 5; minimum daily, 41 second-feet (regulated) Oct. 4.
1910-13, 1928-43: Maximum discharge, 13,000 second-feet Mar. 18, 1936 (gage height, 16.48 feet), by computation of flow over dam; minimum, 11 second-feet (regulated) Sept. 2, 1935; minimum daily, 20 second-feet (regulated) Aug. 18, 1940.
Remarks.- Records good except those for periods of ice effect or fragmentary or no gage-height record, which are fair. Flow regulated by power plant above station.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 28						Mar. 29 to Sept. 30					
1.6	34	2.0	128	4.0	1,020	1.8	74	2.2	200	7.0	2,570
1.7	52	2.2	197	5.0	1,520	1.9	100	3.0	520	8.5	3,600
1.8	74	2.5	314	6.6	2,360	2.0	131	5.0	1,510	10.0	4,940
1.9	99	3.0	535								

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	338	1,110	333	430	195	460	760	3,820	460	422	166	351
2	122	2,340	465	430	180	400	860	2,090	336	325	322	360
3	77	1,040	786	370	170	350	*685	2,100	360	312	289	662
4	41	742	737	380	185	330	620	2,570	322	174	a900	543
5	91	164	626	340	*200	310	685	1,910	482	a700	a1,850	332
6	375	229	550	*320	210	300	460	2,080	392	a1,600	960	388
7	544	263	511	290	140	250	540	2,520	347	1,060	485	411
8	349	243	344	270	220	280	512	2,460	325	478	345	444
9	269	285	328	240	210	270	460	3,300	325	168	336	458
10	194	380	*329	240	210	260	432	1,710	330	163	272	452
11	126	1,040	334	260	210	280	392	1,460	f2,200	92	219	468
12	187	780	325	250	190	560	500	f4,800	1,310	147	211	218
13	167	594	310	230	210	860	528	3,470	785	165	269	233
14	150	423	330	235	190	800	985	1,860	835	179	436	254
15	146	292	270	230	260	740	885	1,460	352	182	578	261
16	164	325	250	220	260	650	660	1,210	f3,900	167	364	292
17	144	429	220	180	230	640	580	910	2,360	175	449	655
18	59	1,040	250	230	230	660	735	810	1,510	117	508	508
19	129	976	240	210	190	680	1,110	529	1,110	180	379	272
20	167	1,210	200	185	230	650	1,360	722	1,390	171	318	335
21	161	1,620	250	190	220	500	1,510	876	1,610	167	262	331
22	221	970	230	180	400	520	1,780	815	910	307	159	237
23	261	592	230	160	390	490	3,000	1,010	558	323	222	174
24	425	220	210	160	660	490	3,630	1,010	638	253	263	181
25	237	454	160	220	900	550	3,840	633	402	129	282	190
26	299	540	260	180	720	800	4,540	733	243	200	279	102
27	1,830	662	210	160	580	2,200	3,100	1,290	415	209	274	241
28	1,070	563	280	180	450	2,100	3,160	985	709	161	280	209
29	590	388	265	190	-	1,560	2,710	685	755	182	203	216
30	666	442	250	170	-	1,110	2,340	556	604	257	293	205
31	445	-	380	130	-	860	-	468	-	223	277	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	10,044	1,830	41	324	1.05	1.20
November	20,356	2,340	164	679	2.19	2.44
December	10,463	786	160	338	1.09	1.26
Calendar year 1942	199,602	8,480	26	547	1.76	23.95
January	7,500	430	130	242	.781	.90
February	8,440	900	140	301	.971	1.01
March	20,800	2,200	250	671	2.16	2.50
April	43,359	4,540	392	1,445	4.66	5.20
May	49,852	4,800	468	1,608	5.19	5.98
June	26,275	3,900	243	876	2.83	3.15
July	9,388	1,600	92	303	.977	1.13
August	12,454	1,850	159	402	1.30	1.49
September	9,983	662	102	333	1.07	1.20
Water year 1942-43	228,914	4,800	41	627	2.02	27.46

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for station at East Georgia and stations on nearby streams.
f Fragmentary gage-height record; discharge computed from partly estimated gage heights.
Note.- Stage-discharge relation affected by ice Dec. 12 to Mar. 28, Apr. 6, 7.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Lamoille River at East Georgia, Vt.

Location.- Water-stage recorder, lat. 44°40'45", long. 73°04'20", at East Georgia, Franklin County, 0.5 mile upstream from railroad bridge and 1 mile downstream from Beaver Meadow Brook.

Drainage area.- 686 square miles.

Records available.- October 1937 to September 1943. August 1929 to November 1937 at site near Milton, 3½ miles downstream, published as Lamoille River near Milton, Vt.

Average discharge.- 14 years, 1,207 second-feet, adjusted to present drainage area.

Extremes.- Maximum discharge during year, 12,600 second-feet May 13; maximum gage height, 12.55 feet Mar. 27 (ice jam); minimum discharge, 152 second-feet (regulated) Oct. 21; minimum daily, 262 second-feet (regulated) Oct. 4.
1929-43: Maximum discharge, 23,200 second-feet Mar. 19, 1936 (gage height, 12.52 feet, site and datum then in use), by computation of flow over dam; minimum, 49 second-feet (regulated) July 30, 1933; minimum daily, 91 second-feet (regulated) July 30, 1933.

Remarks.- Records good except those for period of ice effect, which are fair. Low flow regulated by power plants above station.

Rating table, water year 1942-43, except period of ice effect (gage height, in feet, and discharge, in second-feet)

2.6	250	4.0	1,020	7.0	5,050
2.8	319	4.5	1,470	8.0	7,150
3.0	400	5.0	2,000	9.4	10,900
3.3	545	5.5	2,620		
3.6	725	6.0	3,350		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	815	1,190	1,000	1,100	320	850	1,620	7,390	1,010	1,040	607	756
2	704	4,360	1,220	1,020	340	780	1,720	5,750	881	780	539	1,560
3	395	2,660	1,670	890	340	700	1,570	4,690	799	687	678	2,280
4	262	1,570	1,670	800	300	620	1,240	5,550	732	613	1,370	1,430
5	320	1,140	1,670	750	340	560	1,420	4,510	667	1,310	4,590	1,040
6	470	745	1,470	660	350	580	1,050	4,240	766	3,510	2,640	880
7	1,510	752	1,370	600	*350	540	1,070	5,050	699	1,910	1,320	1,030
8	1,060	725	1,150	560	340	440	1,180	5,850	646	1,560	925	1,140
9	800	674	1,000	500	390	500	1,090	5,050	621	760	778	1,010
10	643	611	900	480	370	450	1,020	4,150	549	545	698	910
11	488	1,340	780	480	400	500	902	3,280	3,660	459	678	879
12	446	1,520	700	500	440	900	932	8,810	2,900	375	789	783
13	336	1,160	640	440	440	1,500	1,040	10,800	1,520	315	706	594
14	410	1,080	700	440	430	1,300	1,660	5,390	1,420	387	1,000	554
15	358	778	660	410	410	1,100	1,720	3,350	1,200	764	1,320	524
16	373	786	610	430	405	1,000	1,370	2,760	4,920	593	980	660
17	399	880	560	400	405	1,200	1,420	2,490	6,390	459	1,420	1,320
18	286	1,510	520	320	390	1,350	1,570	2,180	3,510	432	1,420	1,160
19	306	2,180	500	420	410	1,250	2,060	1,840	2,300	354	1,280	791
20	378	2,170	470	390	390	1,100	2,770	1,260	3,130	416	974	643
21	404	4,150	480	350	450	1,080	3,050	1,620	3,990	706	740	652
22	429	2,490	500	340	600	1,050	2,980	2,120	2,220	498	601	601
23	917	1,620	510	350	700	1,020	4,740	2,000	1,420	724	564	506
24	1,370	1,080	520	330	1,100	1,000	5,850	1,570	1,080	631	709	396
25	1,070	989	480	320	1,600	1,100	6,490	1,670	1,120	435	1,250	428
26	824	1,240	490	380	1,400	1,600	7,630	1,040	718	412	948	353
27	3,040	1,420	490	400	1,150	5,400	6,710	3,300	903	416	786	365
28	2,710	1,470	500	380	950	4,700	5,050	2,570	1,040	620	845	424
29	1,720	1,010	560	370	-	3,100	5,650	1,670	1,520	494	825	416
30	1,420	988	620	370	-	2,300	4,690	1,370	1,370	620	668	404
31	1,520	-	1,150	300	-	*1,780	-	1,160	-	858	724	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	26,185	3,040	262	845	1.23	1.42
November	44,308	4,360	611	1,477	2.15	2.40
December	25,560	1,670	470	825	1.20	1.39
Calendar year 1942	449,073	16,100	146	1,230	1.79	24.33
January	15,500	1,100	300	500	.729	.84
February	15,510	1,600	300	554	.808	.84
March	41,350	5,400	440	1,334	1.94	2.24
April	81,264	7,630	902	2,709	3.95	4.41
May	114,580	10,800	1,040	3,696	5.39	6.21
June	53,721	6,390	549	1,791	2.61	2.91
July	23,683	3,510	315	764	1.11	1.28
August	33,372	4,590	539	1,077	1.57	1.81
September	24,489	2,280	353	816	1.19	1.33
Water year 1942-43	499,522	10,800	262	1,369	2.00	27.08

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 8 to Mar. 29.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Missisquoi River near North Troy, Vt.

Location.- Water-stage recorder, lat. 44°58'20", long. 72°23'15", just upstream from Big Falls, 1⅛ miles downstream from Jay Branch and 2¼ miles upstream from North Troy, Troy County.

Drainage area.- 131 square miles.

Records available.- August 1931 to September 1943.

Average discharge.- 12 years, 265 second-feet.

Extremes.- Maximum discharge during year, 5,650 second-feet May 12 (gage height, 10.77 feet); minimum, 38 second-feet (regulated) Oct. 18 (gage height, 1.43 feet); minimum daily, 46 second-feet (regulated) Sept. 30.
1931-43: Maximum discharge, 7,980 second-feet May 3, 1940 (gage height, 12.87 feet), from rating curve extended above 3,600 second-feet by logarithmic plotting, verified by computation of flow over dam at gage height 11.70 feet; minimum, 10 second-feet (regulated) Aug. 22, 1934 (gage height, 0.81 foot); minimum daily, 12 second-feet (regulated) Sept. 24, 1941.

Remarks;- Records good except those for periods of ice effect or no gage-height record, which are fair. Some regulation from small power plant above station.

Rating table, water year 1942-43, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.5	44	2.6	234	6.0	1,700
1.6	53	3.0	346	7.0	2,350
1.8	75	3.5	518	8.0	3,100
2.0	105	4.0	718	9.3	4,220
2.3	164	5.0	1,170		

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a170	811	123	190	74	190	*309	2,030	158	161	113	97
2	a135	960	184	155	70	160	431	894	158	123	89	361
3	a110	370	228	130	68	140	299	1,110	158	101	187	469
4	a90	239	241	115	67	130	250	1,280	125	88	256	204
5	a80	182	223	105	72	120	255	901	145	576	822	139
6	a170	157	200	90	69	110	204	1,160	112	441	265	160
7	a340	144	182	80	70	105	200	1,610	107	204	148	153
8	a220	128	167	74	73	98	207	1,750	95	134	113	193
9	a140	124	144	*71	*71	92	219	1,240	85	105	103	128
10	a110	193	158	70	69	87	224	988	122	86	89	117
11	a86	667	153	82	75	135	200	772	658	78	121	105
12	81	297	*151	90	84	430	215	4,170	256	81	113	92
13	60	224	144	90	81	550	280	1,620	305	143	500	88
14	59	187	113	88	77	370	390	783	451	204	420	75
15	60	166	115	86	74	280	299	556	721	193	328	66
16	57	193	105	86	73	250	250	500	2,270	116	209	74
17	56	306	96	80	72	300	239	615	738	85	913	200
18	47	626	90	80	72	467	367	518	442	78	403	116
19	59	407	83	77	72	387	556	368	371	69	267	88
20	98	705	76	68	80	331	740	302	836	63	187	80
21	77	727	84	69	180	349	656	282	570	62	134	63
22	114	339	82	70	210	304	959	420	276	86	108	67
23	337	208	94	74	250	284	1,520	319	186	132	98	57
24	376	178	105	72	350	260	1,830	239	142	83	210	50
25	195	198	98	80	450	360	2,220	202	114	62	306	51
26	168	230	92	84	350	700	2,640	344	131	60	181	57
27	745	255	85	78	280	1,700	1,320	702	282	58	132	47
28	336	208	92	73	220	1,150	1,400	365	363	93	201	49
29	240	140	88	72	-	576	1,290	274	412	80	158	48
30	254	160	150	74	-	403	1,140	226	231	391	117	46
31	215	-	220	69	-	310	-	184	-	222	102	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,285	745	47	170	1.30	1.50
November	9,729	960	124	324	2.47	2.76
December	4,166	241	76	134	1.02	1.18
Calendar year 1942	102,322	4,700	24	280	2.14	29.06
January	2,722	190	68	87.8	.670	.77
February	3,753	450	67	134	1.02	1.07
March	11,128	1,700	87	359	2.74	3.16
April	21,109	2,640	200	704	5.37	5.99
May	26,724	4,170	184	862	6.58	7.59
June	11,020	2,270	85	367	2.80	3.13
July	4,458	576	58	144	1.10	1.27
August	7,393	913	89	238	1.82	2.10
September	3,540	469	46	118	.901	1.00
Water year 1942-43	111,027	4,170	46	304	2.32	31.52

Peak discharge.- Apr. 26 (7 a.m.) 3,180 sec.-ft.; May 12 (2:30 p.m.) 5,650 sec.-ft.; June 16 (1 a.m.) 3,270 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of one discharge measurement, weather records, and records for station near Richford.

Note.- Stage-discharge relation affected by ice Nov. 29, Dec. 15 to Jan. 8, Jan. 11-19, Jan. 23 to Mar. 17, Mar. 25-27, Apr. 4, 7, 11-13.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Missisquoi River near Richford, Vt.

Location.- Water-stage recorder, lat. 44°57'30", long. 72°41'55", 1 2/3 miles upstream from Trout River, 3 miles south of Richford, Franklin County, and 3½ miles downstream from North Branch.

Drainage area.- 479 square miles.

Records available.- May 1909 to November 1910, July 1911 to September 1923, October 1928 to September 1943.

Average discharge.- 23 years (1911-19, 1928-43), 929 second-feet.

Extremes.- Maximum discharge during year, 8,950 second-feet June 16 (gage height, 11.37 feet); minimum, 118 second-feet Sept. 30 (gage height, 2.81 feet).

1909-10, 1911-23, 1928-43: Maximum discharge, 17,200 second-feet May 4, 1940 (gage height, 15.15 feet), from rating curve extended above 9,300 second-feet on basis of computation of flow over dam at gage height 14.70 feet, slope-area determination at gage height 12.90 feet, and study of discharge per foot of width at measuring section; maximum gage height, 17.64 feet Apr. 1, 1918 (ice jam); minimum discharge, 8 second-feet July 14, 1911.

Maximum discharge known, 45,000 second-feet during flood of November 1927 (gage height, 23.1 feet, from floodmarks), from rating curve extended as above.

Remarks.- Records good except those for periods of ice effect, which are fair. Slight diurnal fluctuation at low stages.

Rating tables, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to June 15				June 16 to Sept. 30			
3.0	182	5.0	1,370	2.8	116	3.9	535
3.3	284	6.0	2,240	3.0	165	4.4	850
3.6	420	7.5	3,810	3.3	261	5.0	1,310
3.9	580	9.0	5,600	3.6	385	6.0	2,240
4.4	910	10.5	7,600	Note.- Same as preceding table above 6.0 feet.			

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	707	1,810	540	710	240	750	1,410	4,760	510	837	602	276
2	532	3,510	630	610	240	660	1,700	4,400	470	649	455	812
3	430	2,190	790	550	235	580	1,450	3,590	475	530	486	1,840
4	348	1,250	860	500	230	520	1,200	4,160	410	445	663	1,060
5	304	945	810	440	230	460	1,130	3,480	870	1,960	1,230	613
6	629	777	760	400	230	420	910	3,150	580	2,290	1,110	480
7	1,020	664	700	370	235	390	940	3,700	435	1,140	552	530
8	886	580	640	*340	*255	370	890	3,920	385	700	398	625
9	592	520	580	320	240	350	945	3,370	334	518	332	502
10	435	534	560	290	240	340	1,020	2,640	400	412	294	372
11	361	1,620	550	280	260	500	880	2,060	2,320	340	327	332
12	313	1,370	540	290	290	1,300	903	5,920	1,780	319	336	298
13	284	945	510	280	300	1,600	1,090	7,190	1,500	455	502	272
14	254	847	450	270	280	1,600	1,790	4,070	1,790	770	976	250
15	240	707	420	270	270	1,400	1,450	2,150	2,030	674	1,010	220
16	223	777	410	270	260	1,100	1,210	1,610	7,500	468	674	230
17	210	903	380	260	260	1,600	1,130	1,570	5,930	344	1,020	349
18	194	1,370	360	260	260	1,900	1,380	1,450	4,230	291	1,500	385
19	213	1,370	340	250	260	1,600	2,200	1,130	2,640	265	804	280
20	240	1,670	330	250	270	1,400	2,740	945	2,830	244	565	230
21	247	2,440	310	240	500	1,450	2,840	826	2,840	230	416	213
22	337	1,520	300	240	650	1,300	2,940	910	1,600	236	332	188
23	960	980	320	240	820	1,200	4,160	945	969	306	287	177
24	1,330	740	350	240	1,200	1,100	5,300	721	694	291	298	165
25	868	798	370	240	1,500	1,150	6,290	586	530	233	520	155
26	734	826	350	270	1,250	2,500	7,320	600	527	200	547	149
27	1,980	980	340	270	1,000	5,000	6,380	1,410	1,070	204	426	142
28	1,840	861	330	260	900	4,280	4,640	1,330	1,420	258	416	144
29	1,250	570	320	260	-	3,480	4,160	945	1,990	280	455	137
30	1,170	590	400	250	-	2,240	3,590	777	1,310	1,040	354	128
31	1,050	-	800	240	-	*1,570	-	622	-	1,090	315	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	20,181	1,980	194	651	1.36	1.57
November	34,664	3,510	520	1,155	2.41	2.69
December	15,350	860	300	495	1.03	1.19
Calendar year 1942	362,407	10,900	70	993	2.07	28.15
January	9,960	710	240	321	.670	.77
February	12,985	1,500	230	460	.960	1.00
March	44,110	5,000	340	1,423	2.97	3.42
April	73,988	7,320	890	2,466	5.15	5.74
May	74,937	7,190	586	2,417	5.05	5.82
June	50,369	7,500	334	1,679	3.51	3.91
July	18,022	2,290	200	581	1.21	1.40
August	18,202	1,500	287	587	1.23	1.41
September	11,554	1,840	128	385	.804	.90
Water year 1942-43	384,222	7,500	128	1,053	2.20	29.82

Peak discharge.- Apr. 26 (2 a.m.) 7,750 sec.-ft.; May 13 (8 to 9 a.m.) 7,900 sec.-ft.; June 16 (4:30 a.m.) 8,950 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 24, Nov. 29 to Mar. 27, Apr. 3, 4, 7, 8, 11.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Lake Memphremagog at Newport, Vt.

Location.- Chain gage, lat. 44°56'10", long. 72°12'15", on concrete highway bridge in Newport, Orleans County. Datum of gage is 673.00 feet above mean sea level, datum of 1929.

Records available.- May 1931 to September 1943.

Extremes.- Maximum gage height observed during year, 10.86 feet June 16, 17; minimum observed, 8.11 feet Oct. 22.
1931-43: Maximum gage height observed, 12.92 feet Apr. 20, 1933; minimum observed, 6.69 feet Nov. 4, 1934.

Remarks.- Gage read twice daily.

Gage height, in feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.21	8.89	9.93	10.18	9.97	9.12	9.48	10.27	10.17	10.35	9.91	9.47
2	8.33	9.16	9.95	10.18	9.95	9.24	9.46	10.27	10.15	10.18	9.87	9.58
3	8.25	9.34	9.95	10.18	9.97	9.25	9.34	10.28	10.17	10.17	9.94	9.66
4	8.23	9.34	9.96	10.18	9.99	9.25	9.27	10.33	10.13	10.07	9.92	9.76
5	8.15	9.34	10.07	10.16	10.00	9.25	9.20	10.30	10.23	10.09	10.01	9.69
6	8.35	9.38	10.09	10.18	10.00	9.25	9.05	10.26	10.17	10.05	10.02	9.79
7	8.43	9.42	10.07	10.18	10.03	9.37	8.97	10.26	10.15	10.07	9.96	9.84
8	8.35	9.42	10.07	10.16	10.04	9.45	8.81	10.20	10.11	10.01	9.96	9.85
9	8.33	9.44	10.07	9.88	9.13	9.27	8.72	10.17	10.07	10.03	9.96	9.87
10	8.35	9.47	10.07	9.91	9.17	9.27	8.62	10.10	10.01	10.01	9.92	9.85
11	8.39	9.60	10.09	9.90	9.19	9.23	8.56	10.04	10.21	9.99	9.91	9.82
12	8.40	9.67	10.16	9.89	9.19	9.24	8.51	10.31	10.23	10.00	9.90	9.84
13	8.32	9.78	10.16	9.90	9.19	9.26	8.44	10.68	10.29	9.97	9.92	9.77
14	8.29	9.85	10.14	9.91	9.19	9.30	8.46	10.55	10.33	10.00	10.01	9.83
15	8.29	9.81	10.12	9.90	-	9.50	8.62	10.53	10.36	10.06	10.11	9.70
16	8.26	9.79	10.12	9.92	9.23	9.37	8.62	10.43	10.35	10.08	10.09	9.70
17	8.18	9.77	10.12	9.92	9.33	9.45	8.58	10.42	10.35	10.00	10.07	9.77
18	8.19	9.91	10.12	9.92	9.19	9.56	8.55	10.30	10.71	10.08	9.92	9.69
19	8.25	9.95	10.12	9.94	9.20	9.55	8.65	10.16	10.77	10.01	9.72	9.66
20	8.15	10.06	10.12	9.93	9.20	9.56	8.72	10.16	10.49	9.93	9.60	9.74
21	8.13	10.20	10.12	9.94	9.18	9.52	8.81	10.03	10.42	9.92	9.52	9.63
22	8.12	10.15	10.12	-	9.17	9.23	8.91	10.05	10.25	9.96	9.56	9.56
23	8.18	10.07	10.12	10.09	9.14	9.22	9.07	10.05	10.11	10.10	9.55	9.55
24	8.20	10.09	10.10	10.09	9.15	9.15	9.28	10.03	10.02	9.88	9.53	9.52
25	8.29	9.91	10.12	9.96	9.16	9.16	9.48	10.02	10.00	9.89	9.57	9.48
26	8.25	9.91	10.12	9.96	9.16	9.15	9.76	10.05	10.09	9.84	9.54	9.52
27	8.46	9.95	10.12	9.97	9.14	9.31	9.91	10.09	10.10	9.80	9.54	9.40
28	8.53	9.95	10.16	9.97	9.16	9.31	10.01	10.14	10.18	9.85	9.57	9.40
29	8.59	9.93	10.16	9.97	-	9.56	10.13	10.19	10.28	9.80	9.51	9.28
30	8.56	9.93	10.18	9.97	-	9.50	10.06	10.16	10.37	9.91	9.50	9.20
31	8.56	-	10.18	9.97	-	9.52	-	10.17	-	9.91	9.43	-

Note.- Gage heights for periods Nov. 30, Dec. 1, 7-9, Dec. 14 to Jan. 8, Jan. 10 to Feb. 8, Feb. 10-28, Mar. 2-12, 14, 15, were taken to top of ice. Ice removed at gage Jan. 9, Feb. 9, Mar. 13.

Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Clyde River at Newport, Vt.

Location.- Water-stage recorder, lat. 44°56'20", long. 72°11'25", at Newport, Orleans County, just downstream from unnamed tributary entering from north and 1 mile upstream from mouth. Datum of gage is 682.36 feet above mean sea level, datum of 1929.
Drainage area.- 142 square miles.
Records available.- September 1938 to September 1943. May 1909 to September 1924 and November 1928 to May 1936 at site 0.65 mile upstream.
Average discharge.- 21 years (1909-19, 1929-35, 1938-43), 245 second-feet.
Extremes.- Maximum discharge during year, 1,720 second-feet May 14 (gage height, 6.98 feet); minimum daily, 40 second-feet (regulated) Jan. 17.
1909-24, 1928-36, 1938-43: Maximum discharge, 3,900 second-feet Mar. 20, 1936 (gage height, 5.76 feet, site and datum then in use), by computation of flow over dam; minimum daily, 3.0 second-feet (regulated) Oct. 27, 1930; practically no flow at times because of regulation.
Remarks.- Records excellent except those for periods of ice effect and periods of no gage-height record during November and December, which are good, and those for period of no gage-height record in March, which are fair. Flow regulated by power plant and reservoirs above station.

Rating table, water year 1942-43, except periods of ice effect
(gage height, in feet, and discharge in second-feet)

2.6	38	3.1	87	4.5	450
2.7	46	3.3	121	5.0	650
2.8	55	3.6	181	5.5	880
2.9	64	3.9	251	6.0	1,140
3.0	74	4.2	342	6.6	1,600

Discharge, in second-feet, water year October 1942 to September 1943

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	170	409	184	92	100	164	*300	1,160	263	359	77	203
2	189	438	192	150	93	163	338	1,160	251	354	128	206
3	177	423	197	92	105	175	353	1,140	234	338	134	199
4	155	407	201	140	126	165	327	1,110	225	299	145	213
5	180	392	194	150	144	175	330	1,060	228	301	160	225
6	187	362	177	175	139	185	311	1,000	178	277	189	243
7	174	300	193	170	75	140	215	1,000	219	251	194	242
8	171	280	189	170	125	175	147	1,060	203	235	192	231
9	174	260	189	170	110	170	154	1,190	202	226	241	238
10	159	240	197	100	120	169	180	1,240	197	230	219	247
11	119	229	202	155	105	171	158	1,190	246	190	209	250
12	172	228	*190	160	130	174	198	1,420	274	211	199	231
13	168	231	170	141	115	180	235	1,600	312	207	206	240
14	172	225	184	100	52	150	246	1,600	374	205	195	224
15	171	212	174	95	110	200	259	1,390	444	200	143	209
16	135	221	173	70	105	190	305	1,140	762	154	197	208
17	140	186	155	40	110	190	393	955	740	133	253	194
18	80	187	160	100	145	210	319	830	718	86	277	199
19	142	190	135	110	95	280	334	740	718	143	273	162
20	130	217	91	140	101	300	337	695	740	138	256	194
21	110	231	140	150	62	230	356	650	718	121	254	195
22	118	236	130	140	126	200	407	630	672	118	209	189
23	148	239	120	110	141	190	515	560	610	120	225	188
24	128	232	130	60	175	200	695	551	560	112	207	191
25	91	222	83	120	160	210	855	488	504	71	197	194
26	167	197	105	115	170	230	1,000	452	466	123	196	132
27	168	218	100	105	157	410	1,140	435	425	126	192	186
28	161	211	110	120	143	490	1,160	276	427	127	201	186
29	179	188	92	129	-	550	1,110	218	406	137	164	166
30	288	197	140	120	-	500	1,080	171	373	130	200	140
31	281	-	110	75	-	450	-	220	-	117	197	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
October	5,004	288	80	161	1.13	1.31
November	7,808	438	186	260	1.83	2.04
December	4,807	202	83	155	1.09	1.26
Calendar year 1942	100,172	1,640	30	274	1.93	26.24
January	3,764	175	40	121	.852	.99
February	3,339	175	52	119	.838	.87
March	7,386	550	140	238	1.68	1.93
April	13,757	1,160	147	459	3.23	3.60
May	27,331	1,600	171	882	6.21	7.16
June	12,889	762	178	423	2.98	3.32
July	5,839	359	71	188	1.32	1.53
August	6,129	277	77	198	1.39	1.61
September	6,122	250	132	204	1.44	1.60
Water year 1942-43	103,975	1,600	40	285	2.01	27.22

* Winter discharge measurement made on this day.
Note.- No gage-height record Nov. 7-9, Dec. 19-30, Mar. 13-31; discharge computed on basis of recorded range in stage, power-plant records, weather records, observer's twice-daily gage readings, and records for stations on nearby streams. Stage-discharge relation affected by ice Dec. 17, 18, Dec. 31 to Jan. 11, Jan. 14-28, 30, Feb. 1-3, 7-13, 15-19, 24-26, Mar. 3-6, 9. Discharge in second-feet per square mile and runoff in inches may not represent natural flow because of regulation.
Time basis: Eastern war time. To convert war time to standard time, subtract 1 hour.

Measurements of stream flow in the St. Lawrence River Basin made at points other than gaging stations are given in the following table:

Miscellaneous discharge measurements in St. Lawrence River Basin during water year October 1942 to September 1943*

Streams tributary to Lake Superior

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
1942				
Aug. 22	Mineral River	Lake Superior	White Pine, Mich.	a3,700
22	Potato River	....do	Ontonagon, Mich.	b810
22	Deer Creek	Potato River	....do	c5,100
22	Baltimore River	Ontonagon River	Bruces Crossing, Mich.	d2,300
22	Clear Creek	....do	....do	e2,500

* Includes discharge measurements of streams tributary to Lake Superior and Lake Huron made during water year October 1941 to September 1942.
a Average of three contracted-opening determinations plus overflow; drainage area, 7¼ square miles.
b Determination of flow through two culverts; drainage area, 1 3/4 square miles.
c Average of four contracted-opening determinations; drainage area, 13 square miles.
d Average of three contracted-opening determinations plus overflow; drainage area, 24 square miles.
e Average of three determinations of flow through two culverts; drainage area, 9 3/4 square miles.

Streams tributary to Lake Michigan

Nov. 19	Creighton River	Manistique River	Shingleton, Mich.	94.6
Apr. 22	....do	....do	....do	233
Nov. 19	Driggs River	....do	Seney, Mich.	87.0
Apr. 22	....do	....do	....do	174
Nov. 21	Holland Creek	....do	....do	33.9
Apr. 22	....do	....do	....do	204
Nov. 19	Marsh Creek	....do	Shingleton, Mich.	26.4
Apr. 22	....do	....do	....do	95.4
Nov. 19	Walsh Creek	....do	Seney, Mich.	37.9
Apr. 22	....do	....do	....do	200
Aug. 12	James Lake Outlet	Fawn River	Angola, Ind.	32.1
12	Sylvan Lake Outlet	North Branch Elkhart River.	Rome City, Ind.	14.9
12	Bear Lake Outlet	South Branch Elkhart River.	Wolflake, Ind.	.35
14	Syracuse Lake Outlet	Turkey Creek	Syracuse, Ind.	16.4
Mar. 23	Gun River	Kalamazoo River	Shelbyville, Mich.	102
Oct. 7	Crystal Lake Outlet	Fish Creek	Crystal, Mich.	4.36
June 8	Inlet to fish ponds	Rogue River	Belmont, Mich.	1.90
8	Outlet from fish ponds.	....do	....do	.43
May 7	Brooks Creek	Muskegon River	Fremont, Mich.	19.9
Jan. 6	Big Sable River	Lake Michigan	Ludington, Mich.	300
Feb. 3	....do	....do	....do	206
Mar. 4	....do	....do	....do	263
31	....do	....do	....do	570
Apr. 8	....do	....do	....do	473
May 5	....do	....do	....do	226
30	....do	....do	....do	336
June 13	....do	....do	....do	170
Oct. 2	Portage Creek	Manistee River	Grayling, Mich.	32.0
Nov. 11	....do	....do	....do	25.1
Dec. 24	....do	....do	....do	22.0
Jan. 25	....do	....do	....do	25.6
Mar. 30	....do	....do	....do	30.2
June 2	....do	....do	....do	77.2
July 7	....do	....do	....do	34.0
Sept. 30	....do	....do	....do	11.7

Streams tributary to Lake Huron

1942				
Nov. 20	Maple River	Burt Lake	Brutus, Mich.	140
Dec. 15	....do	....do	....do	109
1943				
Apr. 3	....do	....do	....do	274
May 11	....do	....do	....do	162
July 12	....do	....do	....do	160
Sept. 11	....do	....do	....do	126
1942				
Nov. 20	East Fork Maple River	Maple River	Pellston, Mich.	22.0
Dec. 15	....do	....do	....do	17.7
1943				
Jan. 19	....do	....do	....do	17.5
May 10	....do	....do	....do	75.4
July 12	....do	....do	....do	47.2
Sept. 11	....do	....do	....do	12.9
1941				
Nov. 27	Black River	Cheboygan River	Tower, Mich.	412
1942				
Jan. 15	....do	....do	....do	285
Feb. 18	....do	....do	....do	281
Apr. 8	....do	....do	....do	1,190
10	....do	....do	....do	1,020
13	....do	....do	....do	741
May 26	....do	....do	....do	348
June 17	....do	....do	....do	241
July 22	....do	....do	....do	224
Aug. 18	....do	....do	....do	100
Sept. 29	....do	....do	....do	392
Nov. 8	....do	....do	....do	156
Apr. 10	....do	....do	Cheboygan, Mich.	2,100
12	....do	....do	....do	2,060
13	....do	....do	....do	2,010
21	....do	....do	....do	1,590
May 27	....do	....do	....do	787

Miscellaneous discharge measurements in St. Lawrence River Basin during water year October 1942 to September 1943--Continued

Streams tributary to Lake Huron--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
June 17	Black River	Cheboygan River	Cheboygan, Mich.	762
July 22	....do	....do	....do	285
Aug. 18	....do	....do	....do	200
Oct. 1 1941	....do	....do	....do	434
Nov. 26 1942	Rainy River	Black River	Onaway, Mich.	77.1
Nov. 26 1943	C. K. Eddy Creek	West Branch Rifle River.	West Branch, Mich.	1.62
Mar. 17	Flint River	Shiawassee River	Burt, Mich.	6,580
18	....do	....do	....do	5,250
June 3	....do	....do	....do	6,340
July 29	Clinton River	Lake St. Clair	Drayton Plains, Mich.	44.2
		Streams tributary to Lake Erie		
Aug. 2	Cedar Lake Outlet	Cedar Creek	Waterloo, Ind.	6.48
July 30	Hamilton Lake Outlet.	Fish Creek	Hamilton, Ind.	5.05
Aug. 2	Round Lake Outlet	West Branch St. Joseph River.	Ray, Ind.	6.80

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