UNITED STATES DEPARTMENT OF THE INTERIOR
RAY LYMAN WILBUR, Secretary
GEOLOGICAL SURVEY
GEORGE OTIS SMITH, Director

Water-Supply Paper 664

SURFACE WATER SUPPLY *of the* UNITED STATES

1928

PART IV

ST. LAWRENCE RIVER BASIN

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SURFACE WATER SUPPLY OF ST. LAWRENCE RIVER BASIN, 1928

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1928.

The data presented in these reports were collected by the United States Geological Survey under the following authority contained in the organic law (20 Stat. L., p. 394):

Provided, That this officer [the Director] shall have the direction of the Geological Survey and the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain.

The work was begun in 1888 in connection with special studies relating to irrigation. Since the fiscal year ending June 30, 1895, successive appropriation bills passed by Congress have carried the following items:

For gaging the streams and determining the water supply of the United States, and for the investigation of underground currents and artesian wells, and for the preparation of reports upon the best methods of utilizing the water resources.

Annual appropriations for the fiscal years ending June 30, 1895–1929

1895	$12,500.00	1907	$150,000.00	1921–1923	$180,000.00
1896	24,500.00	1908–1910	100,000.00	1924–25	170,000.00
1897–1899	50,000.00	1911–1917	150,000.00	1926	165,000.00
1900	70,000.00	1918	175,000.00	1927	151,000.00
1901–2	100,000.00	1919	148,244.10	1928	147,000.00
1903–1906	200,000.00	1920	175,000.00	1929	270,500.00

In the execution of the work many private and State organizations have cooperated, either by furnishing data or by assisting in collecting data. Acknowledgments for cooperation of the first kind are made in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 9.

Measurements of stream flow have been made at about 5,480 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1928, 1,830 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements were made at other points. In connection with this work data were also collected

in regard to precipitation, evaporation, storage reservoirs, river profiles, and water power in many sections of the country and will be made available in water-supply papers from time to time.

DEFINITION OF TERMS

The volume of water flowing in a stream—the "run-off" or "discharge"—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, miner's inches, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet, and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, run-off in inches, and acre-feet. They may be defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

"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 run-off is distributed uniformly both as regards time and area.

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

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

The following terms not in common use are here defined:

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

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

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1927, and ending September 30, 1928. At the beginning of January in most parts of the United States much of the precipitation in the preceding three months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as underground water, and this stored water passes off in the streams during the spring break-up. At the

end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff or chain 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

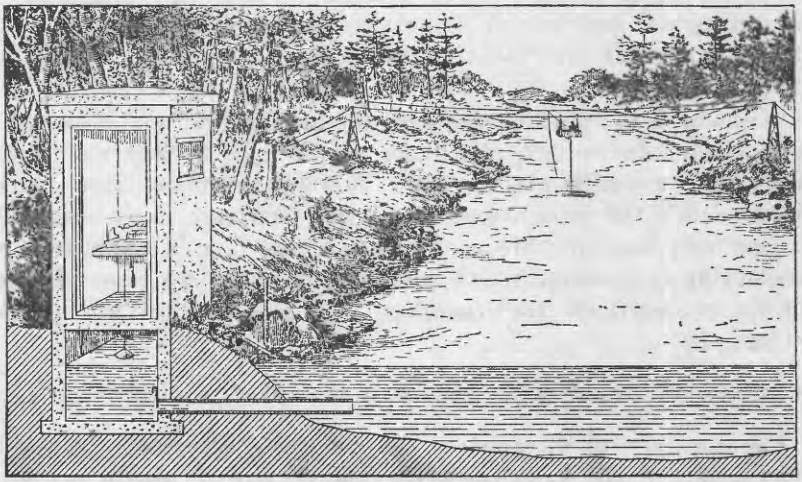

FIGURE 1.—Typical gaging station

discharge. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

From the discharge measurements rating tables are prepared that give the discharge for any stage. The application of the daily gage heights to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is determined.

The data presented for each gaging station in the area covered by this report comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded stages, and the accuracy of the records. The maximum discharge given under "Extremes" does not represent

the crest discharge unless a water-stage recorder was in operation or unless a nonrecording gage was read at the time of the crest.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height which may be a once daily reading or the mean of twice daily readings of a nonrecording gage, or the mean daily gage height obtained from a water-stage recorder graph.

At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using the discharge integrator, an instrument for obtaining mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the maximum daily discharge, and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on page 2.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

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

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

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

PUBLICATIONS

Investigation of water resources by the United States Geological Survey has consisted in large part of measurements of the volume of flow of streams and studies of the conditions affecting that flow, but it has comprised also investigation of such closely allied subjects as irrigation, water storage, water powers, underground waters, and quality of waters. Most of the results of these investigations have been published in the series of water-supply papers, but some have appeared in the bulletins, professional papers, monographs, and annual reports.

The results of stream-flow measurements are now published annually in 12 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below.

PART I. North Atlantic slope basins (St. John River to York River).
II. South Atlantic slope and eastern Gulf of Mexico basins (James River to the Mississippi).
III. Ohio River Basin.
IV. St. Lawrence River Basin.
V. Hudson Bay and upper Mississippi River Basins.
VI. Missouri River Basin.
VII. Lower Mississippi River Basin.
VIII. Western Gulf of Mexico basins.
IX. Colorado River Basin.
X. The Great Basin.
XI. Pacific slope basins in California.
XII. North Pacific slope basins, in three parts:
A, Pacific slope basins in Washington and upper Columbia River Basin.
B, Snake River Basin.
C, Pacific slope basins in Oregon and lower Columbia River Basin.

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

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

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

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

Augusta, Me., Statehouse.
Boston, Mass., 2500 Customhouse.
Hartford, Conn., 60 Washington Street.
Albany, N. Y., 506 Broadway-Arcade Building.
Trenton, N. J., 710 Trenton Trust Building.
Charlottesville, Va., Brooks Museum, University of Virginia.
South Charleston, W. Va., Naval Ordnance Plant.
Asheville, N. C., 210 Post Office Building.
Columbia, S. C., 801 National Loan & Exchange Bank Building.
Ocala, Fla., Post Office Building.
Chattanooga, Tenn., 630 Power Building.
Tuscaloosa, Ala., Post Office Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Chicago, Ill., 1503 Consumers Building.
Indianapolis, Ind., 319 Federal Building.
Lansing, Mich., M9 State Office Building.
Madison, Wis., 337N State Capitol.
St. Paul, Minn., 202 Old State Capitol.
Topeka, Kans., 23 Federal Building.
Rolla, Mo., Rolla Building, School of Mines and Metallurgy.
Fort Smith, Ark., Post Office Building.
Austin, Tex., State Capitol.
Tucson, Ariz., 210 Post Office Building.
Denver, Colo., 403 Post Office Building.
Salt Lake City, Utah, 313 Federal Building.
Idaho Falls, Idaho, 228 Federal Building.
Boise, Idaho, Federal Building.
Helena, Mont., 416 Power Block.
Tacoma, Wash., 406 Federal Building.
Portland, Oreg., 606 Post Office Building.
San Francisco, Calif., 303 Customhouse.
Los Angeles, Calif., 751 South Figueroa Street, room 510.
Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 5,480 points in the United States, and the data obtained have been published in the reports tabulated below.

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

[A=Annual report; B=Bulletin; W=Water-Supply Paper]

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	
11th A, pt. 2	Monthly discharge and descriptive information	1884 to Sept., 1890.
12th A, pt. 2	do	1884 to June 30, 1891.
13th A, pt. 3	Mean discharge in second-feet	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B 131	Descriptions, measurements, gage heights, and ratings	1893 and 1894.
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.

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

Report	Character o idata	Year
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895 and 1896.
W 15	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas.	1897.
W 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897
W 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)	1898.
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.
W 82 to 85	Complete data	1902.
W 97 to 100	do	1903.
W 124 to 135	do	1904.
W 165 to 178	do	1905.
W 201 to 214	do	1906.
W 241 to 252	do	1907–8.
W 261 to 272	do	1909.
W 281 to 292	do	1910.
W 301 to 312	do	1911.
W 321 to 332	do	1912.
W 351 to 362	do	1913.
W 381 to 394	do	1914.
W 401 to 414	do	1915.
W 431 to 444	do	1916.
W 451 to 464	do	1917.
W 471 to 484	do	1918.
W 501 to 514	do	1919–20.
W 521 to 534	do	1921.
W 541 to 554	do	1922.
W 561 to 574	do	1923.
W 581 to 594	do	1924.
W 601 to 614	do	1925.
W 621 to 634	do	1926.
W 641 to 654	do	1927.
W 661 to 674	do	1928.

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

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1928. The data for any particular station will be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by Part III are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

Numbers of water-supply papers containing results of stream measurements, 1899–1928

[For basins included see p. 5]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII-A	XII-B	XII-C
1899 [a]	35	[b] 35, 36	36	36	36	[c] 36, 37	37	37	[d] 37, 38	38, [e] 39	38, [f] 39	38	38	38
1900 [g]	47, [h] 48	48	48, [i] 49	49	49	49, [j] 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	[k] 65, 66, 75	66, 75	[k] 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	[b] 82, 83	83	[l] 82, 83	[k] 83, 85	84	[k] 83, 84	84	85	85	85	85	85	85
1903	97	[b] 97, 98	98	97	[k] 98, 99, [m] 100	99	[k] 98, 99	99	100	100	100	100	100	100
1904	[n] 124, [o] 125, [p] 126	[p] 126, 127	128	129	[k] 128, 130	130, [q] 131	[k] 128, 131	132	133	133, [r] 134	134	135	135	135
1905	[n] 165, [o] 166, [p] 167	[p] 167, 168	169	170	171	172	[k] 169, 173	174	175, [s] 177	176, [r] 177	177	178	178	[t] 177, 178
1906	[n] 201, [o] 202, [p] 203	[p] 203, 204	205	206	207	208	[k] 205, 209	210	211, [s] 213	212, [r] 213	213	214	214	214
1907–8	241	242	243	244	245	246	247	248	249	250, [r] 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, [r] 271	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

[a] Rating tables and index to Water-Supply Papers 35–39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in Twenty-first Annual Report, Part IV.
[b] James River only.
[c] Gallatin River.
[d] Green and Gunnison Rivers and Grand River above junction with Gunnison.
[e] Mohave River only.
[f] Kings and Kern Rivers and south Pacific slope drainage 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. Tables of monthly discharge for 1900 in Twenty-second Annual Report, Part IV.
[h] Wissahickon and Schuylkill Rivers to James River.
[i] Scioto River.
[j] Loup and Platte River, near Columbus, Nebr., and all tributaries below junction with the Platte.
[k] Tributaries of the Mississippi from east.
[l] Lake Ontario and tributaries to St. Lawrence River proper.
[m] Hudson Bay only.
[n] New England rivers only.
[o] Hudson River to Delaware River, inclusive.
[p] Susquehanna River to Yadkin River, inclusive.
[q] Platte and Kansas Rivers.
[r] Great Basin in California, except Truckee and Carson River Basins.
[s] Below junction with Gila.
[t] Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

The work in Wisconsin was done in cooperation with the Railroad Commission of Wisconsin, C. A. Halbert, chief engineer. Financial assistance was also rendered by the Wisconsin Power & Light Co.

The station on Pigeon River at International Bridge, Minn., was maintained in cooperation with the Pigeon River Lumber Co.

In Illinois the station on Little Calumet River at Harvey, was maintained in cooperation with the Illinois Department of Purchases and Construction, division of waterways, William F. Mulvihill, superintendent.

The work in Ohio was done in cooperation with the Ohio Cooperative Topographic Survey, C. E. Sherman, inspector. Financial assistance was also rendered by the Michigan Gas & Electric Co.

The work in New York was carried on in cooperation with the State and at certain stations in cooperation with the following organizations: Rochester Gas & Electric Corporation, city of Rochester; Cornell University; Utica Gas & Electric Co.; Black River Regulating District; Northern New York Utilities (Inc.); The Commission for the Improvement of the Oswegatchie River; International Paper Co.; Malone Light & Power Co.; New York & Pennsylvania Co.; Associated Gas & Electric System.

The work in Vermont was done in cooperation with the Public Service Commission of Vermont, H. B. Shaw, chairman. Financial assistance was rendered by C. E. Middlebrook.

Acknowledgment is due also to the Corps of Engineers, United States Army, for financial assistance in collecting records published herein.

DIVISION OF WORK

Data for stations in the Lake Superior and Lake Michigan drainage basins in Minnesota and Wisconsin were collected and prepared for publication under the direction of S. B. Soulé, district engineer, assisted by W. J. Parsons, A. H. Frazier, and A. O. Dahlen.

Data for the station in Illinois were collected and prepared for publication by H. E. Grosbach, district engineer.

Data for stations on Tittabawassee River at Freeland, Mich., and Huron River at Barton, Mich., were prepared for publication by A. H. Horton, district engineer.

Data for stations in Ohio and the station on St. Joseph River at Mottville, Mich., were collected and prepared for publication under the direction of Lasley Lee, district engineer, assisted by W. S. Frame, R. G. Kasel, J. I. Perrey, C. V. Youngquist, E. P. Coady, L. Engstrom, F. L. LeMert, and E. G. Barron.

Data for stations in New York were collected and prepared for publication under the direction of Arthur W. Harrington, district

engineer, assisted by B. L. Bigwood, J. L. Lamson, A. E. Johnson, H. F. Hill, jr., F. C. Christopherson, K. K. Hoyt, H. V. Palm, F. H. Harrington, and Agnes D. Buchanan.

Data for stations in Vermont were collected and prepared for publication under the direction of H. B. Kinnison, district engineer, assisted by Lillian H. Finnerty, H. F. Hill, jr., J. H. Morgan, Louise M. McGovern, K. K. Hoyt, O. D. Mussey, D. S. Wallace, W. S. Eisenlohr, G. K. Wood, J. H. Foster, R. A. Hovey, E. H. Curtis, and A. A. Fishback, jr.

The records were reviewed and manuscript assembled by H. F. Hill, jr.

GAGING-STATION RECORDS

STREAM TRIBUTARY TO LAKE SUPERIOR

PIGEON RIVER AT INTERNATIONAL BRIDGE, MINN.

LOCATION.—Staff gage in lot 3, sec. 20, T. 64 N., R. 6 E., 100 feet upstream from International Bridge, 9.3 miles above mouth.

DRAINAGE AREA.—580 square miles.

RECORDS AVAILABLE.—April, 1924, to October, 1928 (discontinued).

EXTREMES.—Maximum discharge during year, 5,880 second-feet April 4 (gage height, 6.1 feet); minimum, 145 second-feet October 27–29 (gage height, 0.6 foot).

1924–1928: Maximum discharge, 6,850 second-feet April 20, 1927 (gage height, 6.5 feet); minimum, 38 second-feet, measured by current meter February 5, 1926.

REMARKS.—Records fair. Observations discontinued during winter. Some regulation in the interest of log driving for short periods during spring.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.	Oct.
1	300	170	-------	2,290	615	1,190	735	855	465
2	300	170	-------	2,780	695	1,020	695	895	465
3	400	185	-------	3,320	655	935	695	855	400
4	432	185	5,880	3,320	540	775	655	855	400
5	372	185	5,230	2,780	540	775	655	815	615
6	345	185	4,690	2,530	502	615	655	815	615
7	345	185	4,500	2,290	465	855	615	775	615
8	300	185	4,380	1,970	578	1,520	578	695	540
9	300	185	4,100	1,870	502	1,970	540	615	540
10	265	180	3,780	1,870	540	1,870	540	615	540
11	248	175	3,780	1,690	502	1,610	540	655	540
12	215	170	3,470	1,520	540	1,280	540	615	465
13	215	170	2,910	1,360	1,020	935	502	540	465
14	215	170	2,410	1,190	1,520	775	502	540	465
15	215	170	1,970	935	1,190	615	615	578	465
16	200	170	1,440	695	935	935	655	615	540
17	200	170	1,110	735	1,780	935	695	655	615
18	185	170	1,190	735	4,380	935	615	615	615
19	185	170	1,020	735	2,780	935	615	540	615
20	170	170	935	695	2,180	855	615	540	615
21	170	170	1,110	695	1,970	855	615	540	615
22	158	170	1,280	615	1,780	855	578	540	615
23	158	170	1,280	615	1,970	1,020	615	615	615
24	158	170	1,360	615	3,180	935	615	615	695
25	158	170	1,520	695	2,650	855	615	578	695
26	158	-------	1,440	695	1,970	855	615	540	695
27	145	-------	1,610	695	1,610	855	655	540	695
28	145	-------	1,780	655	1,190	775	775	502	695
29	145	-------	1,970	695	935	695	735	502	615
30	158	-------	2,180	695	615	695	855	502	615
31	158	-------	-------	615	-------	735	815	-------	615

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1927-28					
October	432	145	230	0.397	0.46
November 1–25	185	170	175	.302	.28
April 4–30	5,880	935	2,530	4.36	4.38
May	3,320	615	1,370	2.36	2.72
June	4,380	465	1,340	2.31	2.58
July	1,970	615	983	1.69	1.95
August	855	502	637	1.10	1.27
September	895	502	639	1.10	1.23
1928					
October	695	400	573	.988	1.14

STREAMS TRIBUTARY TO LAKE MICHIGAN

MENOMINEE RIVER AT TWIN FALLS, NEAR IRON MOUNTAIN, MICH.

LOCATION.—In sec. 12, T. 40 N., R. 31 W., at power plant of Peninsular Power Co., 3 miles above mouth of Pine River and 3½ miles north of Iron Mountain.
DRAINAGE AREA.—1,790 square miles.
RECORDS AVAILABLE.—January, 1914, to September, 1928.
EXTREMES.—Maximum mean daily discharge during year, 10,600 second-feet May 6; minimum, 694 second-feet December 11.
1914–1928: Maximum mean daily discharge, 16,700 second-feet April 23 and 24, 1916; minimum, 154 second-feet August 9, 1925.
REMARKS.—Records good. Discharge determined from power-house records.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,110	1,330	1,550	947	1,160	975	2,210	6,080	1,680	2,210	1,070	2,190
2	1,420	1,340	1,280	1,260	1,130	974	2,180	6,890	1,810	2,140	1,360	1,310
3	2,100	1,770	1,010	1,230	1,110	982	2,530	7,010	1,450	1,970	1,360	1,930
4	2,010	1,590	793	1,170	1,080	837	5,190	8,300	1,530	1,590	1,220	1,920
5	2,140	1,560	937	1,180	710	1,030	6,830	10,000	1,600	1,880	1,150	1,660
6	2,170	1,280	1,010	1,160	1,050	1,000	8,520	10,600	1,650	1,640	1,630	1,480
7	2,070	1,270	1,380	1,100	1,060	953	9,080	9,760	1,580	1,490	1,810	1,510
8	1,760	1,260	1,210	872	1,080	1,030	6,630	8,330	1,560	1,270	1,770	1,250
9	968	1,190	1,160	1,070	1,080	999	3,790	7,720	1,420	1,850	1,610	976
10	1,630	1,220	1,020	1,110	1,030	1,030	4,950	6,940	1,480	1,560	1,440	1,340
11	1,490	1,270	694	1,080	1,040	822	5,550	5,890	1,930	1,600	1,190	2,190
12	1,330	1,310	1,210	1,130	833	1,050	4,570	5,970	2,210	1,770	1,220	2,230
13	1,360	934	1,470	1,350	1,100	1,050	5,030	5,860	2,200	1,680	1,230	3,080
14	1,400	1,260	1,430	1,550	1,230	1,040	4,450	4,660	2,210	1,380	1,250	4,000
15	1,600	1,250	1,360	1,070	1,220	1,060	3,400	4,330	2,240	1,290	1,210	4,470
16	837	1,450	1,440	1,130	1,150	1,150	3,910	4,120	2,210	1,410	1,150	5,500
17	1,030	1,350	1,360	1,190	1,150	1,590	3,770	4,420	1,700	1,430	1,250	4,710
18	1,000	1,470	1,020	1,220	1,040	1,210	3,170	4,000	1,630	1,390	1,050	4,300
19	1,020	1,420	1,320	1,260	896	1,330	3,880	3,440	1,550	1,290	927	3,470
20	1,100	1,230	1,340	1,350	1,050	1,360	3,390	2,590	1,550	1,320	1,180	3,410
21	1,150	1,390	1,320	1,290	1,060	1,120	3,580	2,290	1,580	1,320	1,430	3,180
22	1,190	1,430	1,350	928	1,040	1,290	3,640	2,410	1,850	1,200	1,620	2,640
23	880	1,560	1,640	1,150	1,050	1,680	3,870	2,200	2,040	1,230	1,770	2,250
24	1,100	1,250	1,240	1,130	1,090	2,130	4,500	2,180	2,450	1,220	1,330	2,260
25	1,280	1,680	1,060	1,170	1,020	2,180	4,190	2,150	2,810	1,830	1,200	2,170
26	1,280	1,670	1,080	1,180	892	2,200	4,590	2,090	3,540	2,200	965	1,980
27	1,280	1,050	1,310	1,230	956	2,210	3,810	1,450	2,680	2,120	1,220	1,910
28	1,190	1,360	1,350	1,240	1,160	2,230	3,810	1,760	2,910	1,680	1,290	1,910
29	1,020	1,460	1,320	1,060	983	2,220	4,260	1,310	2,460	1,450	1,590	1,810
30	918	1,500	1,320	1,150	-------	2,220	4,830	1,270	2,220	1,350	1,670	1,250
31	965	-------	1,240	1,220	-------	2,220	-------	1,540	-------	1,160	2,140	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,170	837	1,380	0.771	0.89
November	1,770	934	1,370	.765	.85
December	1,640	694	1,230	.687	.79
January	1,550	872	1,170	.654	.75
February	1,230	710	1,050	.587	.63
March	2,230	822	1,390	.777	.90
April	9,080	2,180	4,470	2.50	2.79
May	10,600	1,270	4,760	2.66	3.07
June	3,540	1,420	1,990	1.11	1.24
July	2,210	1,160	1,580	.883	1.02
August	2,140	927	1,360	.760	.88
September	5,500	976	2,480	1.39	1.55
The year	10,600	694	2,020	1.13	15.36

MENOMINEE RIVER BELOW KOSS, MICH.

LOCATION.—In sec. 9, T. 34 N., R. 27 W., at power plant of Menominee & Marinette Light & Traction Co., half a mile above mouth of Little Cedar River and 4 miles below Koss.

DRAINAGE AREA.—3,790 square miles.

RECORDS AVAILABLE.—July, 1913, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 16,900 second-feet May 8; minimum, 1,080 second-feet March 6.

1913–1928: Maximum mean daily discharge, 23,200 second-feet April 23 and 25, 1916; minimum, 706 second-feet January 13, 1926.

REMARKS.—Records good. Discharge determined from power-house records. Flow is regulated by six dams above station, which are used for developing power.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,160	1,670	1,970	2,140	1,680	1,740	7,150	8,900	2,300	4,670	2,670	3,880
2	3,300	1,830	1,460	2,010	1,710	1,540	7,780	9,210	2,640	4,600	2,580	3,940
3	1,900	1,830	2,110	1,520	1,540	1,680	9,020	9,690	2,670	4,310	2,240	3,820
4	1,810	2,600	1,900	1,930	1,610	1,580	9,830	10,600	2,920	4,000	1,970	3,030
5	2,940	2,480	1,830	2,280	1,890	1,460	9,880	12,000	2,820	3,340	2,480	3,750
6	3,310	1,380	2,060	1,970	1,450	1,080	11,400	14,000	2,190	2,690	2,130	3,890
7	2,440	2,090	1,850	1,780	1,420	1,520	13,400	15,000	2,590	3,020	1,800	3,370
8	2,780	2,260	1,680	2,040	1,620	1,610	15,400	16,900	2,740	3,530	2,920	3,580
9	3,260	2,180	1,640	1,720	1,620	1,660	15,100	16,200	3,010	2,710	3,390	2,760
10	2,960	2,440	1,790	2,150	1,610	1,670	10,500	13,900	2,520	3,740	2,850	2,510
11	1,820	2,220	2,230	1,820	1,480	1,600	8,990	12,800	2,600	3,620	3,120	2,380
12	3,230	1,860	1,710	2,000	1,880	1,610	9,740	11,400	2,210	3,770	1,980	3,780
13	2,940	1,660	1,630	2,060	1,520	1,230	10,400	10,800	3,160	3,080	2,130	5,950
14	2,360	1,920	1,740	2,140	1,340	1,920	10,100	8,540	3,810	3,180	1,930	7,060
15	2,600	2,150	2,270	1,920	1,660	1,900	8,740	8,410	3,470	3,060	2,490	8,840
16	2,920	2,270	2,230	2,120	1,750	1,720	7,160	7,110	3,700	2,770	2,010	9,970
17	2,740	2,300	2,090	2,220	1,920	1,830	7,280	6,710	3,840	2,590	1,750	12,100
18	2,240	1,900	2,150	1,880	1,900	1,770	7,520	6,080	3,770	2,420	2,100	10,900
19	1,570	1,790	1,890	2,150	1,920	2,080	7,010	6,190	2,900	2,790	1,940	10,600
20	1,920	2,040	1,890	2,040	1,520	2,000	6,970	5,820	2,790	2,730	2,200	8,980
21	1,930	2,900	2,210	2,120	1,320	2,080	7,400	5,260	3,000	2,440	2,710	7,750
22	1,970	2,450	2,210	2,070	1,600	2,360	6,960	4,740	2,710	2,050	3,120	6,910
23	2,080	2,480	2,210	1,860	1,750	2,340	6,440	4,530	3,460	2,920	3,540	7,620
24	1,680	1,590	1,960	2,020	1,490	3,010	5,960	4,030	4,200	2,480	3,960	6,000
25	1,790	2,330	2,230	1,900	1,530	4,020	6,350	3,950	4,390	2,440	3,820	4,280
26	2,200	2,460	2,050	1,860	1,880	5,000	6,980	3,770	4,200	2,560	3,340	4,160
27	2,100	1,590	1,840	1,860	1,330	5,520	7,530	3,650	5,000	3,100	2,350	3,670
28	1,700	2,350	1,930	1,700	1,340	5,390	9,020	3,350	4,570	3,860	2,840	3,490
29	2,160	2,420	2,070	2,050	1,520	6,320	6,240	3,100	4,730	2,730	2,950	3,630
30	1,670	2,360	2,150	1,780	-------	6,560	8,720	3,300	5,180	2,840	3,010	3,530
31	1,860	-------	2,210	1,550	-------	6,770	--------	3,110	-------	2,790	3,700	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,310	1,570	2,330	0.615	0.71
November	2,900	1,380	2,130	.562	.63
December	2,270	1,460	1,970	.520	.60
January	2,280	1,520	1,960	.517	.60
February	1,920	1,320	1,610	.425	.46
March	6,770	1,080	2,660	.702	.81
April	15,400	5,960	8,830	2.33	2.60
May	16,900	3,100	8,160	2.15	2.48
June	5,180	2,190	3,340	.881	.98
July	4,670	2,050	3,120	.823	.95
August	3,960	1,750	2,650	.699	.81
September	12,100	2,380	5,540	1.46	1.63
The year	16,900	1,080	3,690	.974	13.26

PINE RIVER AT PINE RIVER POWER PLANT, NEAR FLORENCE WIS.

LOCATION.—In sec. 28, T. 39 N., R. 18 E., at power plant of Peninsular Power Co. near Florence and 9 miles above mouth.

DRAINAGE AREA.—520 square miles.

RECORDS AVAILABLE.—October, 1923, to September, 1928. January, 1914, to September, 1923, records were obtained at a station 4 miles upstream, where drainage area is 488 square miles.

EXTREMES.—Maximum mean daily discharge during year, 2,730 second-feet May 5; minimum, 87 second-feet October 30.

1924–1928: Maximum mean daily discharge, 2,730 second-feet May 5, 1928; no flow January 20, 1924, Feburary 28, 1926, and September 4, 1927.

REMARKS.—Records good at medium and low stages; fair at high stages. Discharge determined from power-house records.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	593	394	308	295	232	238	676	1,420	363	295	378	590
2	592	387	294	278	231	232	805	1,520	420	366	325	586
3	827	429	284	233	232	232	1,070	1,690	246	382	263	591
4	840	393	131	264	232	228	1,570	2,070	382	494	348	430
5	837	381	322	269	259	229	1,940	2,730	343	574	297	481
6	830	295	375	246	216	233	1,840	2,700	337	564	395	407
7	836	305	332	291	205	24-	1,730	2,530	309	565	295	345
8	819	310	242	221	215	197	1,360	2,430	286	545	383	342
9	685	347	240	295	220	196	1,250	2,280	269	534	337	217
10	684	335	225	250	227	197	1,250	2,200	420	542	342	414
11	597	331	303	292	232	194	1,350	1,810	361	576	300	828
12	597	300	190	292	255	168	1,350	1,670	385	585	219	1,520
13	590	263	337	289	230	248	1,280	1,450	536	549	293	1,450
14	492	380	325	291	265	198	854	1,290	697	448	196	2,040
15	482	371	320	300	261	248	887	1,140	588	331	197	2,460
16	368	208	268	291	251	259	1,070	973	589	384	185	2,330
17	341	301	340	272	254	258	940	834	497	247	206	2,270
18	342	404	296	289	255	219	972	833	470	298	198	1,980
19	380	340	332	294	241	256	1,000	830	445	310	203	1,860
20	329	338	295	289	250	256	879	828	557	340	210	1,680
21	331	390	291	283	244	281	881	690	562	344	417	1,560
22	310	380	296	265	240	358	1,010	590	586	333	586	1,460
23	223	396	297	302	244	412	1,170	593	542	424	583	1,290
24	175	299	296	269	236	453	1,240	590	733	495	585	1,160
25	358	328	297	278	230	617	1,250	581	715	535	502	1,170
26	295	392	142	279	226	687	1,170	465	715	484	411	915
27	196	300	316	285	241	604	1,070	455	627	586	459	837
28	295	396	295	269	252	607	1,140	361	500	592	505	835
29	348	379	296	206	227	605	1,180	396	452	528	589	833
30	87	391	295	274	-------	606	1,260	375	390	496	591	673
31	318	-------	295	187	-------	607	-------	364	-------	388	590	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	840	87	484	0.931	1.07
November	429	208	349	.671	.75
December	375	131	286	.550	.63
January	302	187	272	.523	.60
February	265	205	238	.458	.49
March	687	168	334	.642	.74
April	1,940	676	1,180	2.27	2.53
May	2,730	361	1,250	2.40	2.77
June	733	269	477	.917	1.02
July	592	247	456	.877	1.01
August	591	185	367	.706	.81
September	2,460	217	1,120	2.15	2.40
The year	2,730	87	567	1.09	14.82

PIKE RIVER AT AMBERG, WIS.

LOCATION.—Chain gage in sec. 15, T. 35 N., R. 20 E., at Chicago, Milwaukee, St. Paul & Pacific Railway bridge half a mile south of Amberg, 1 mile below junction of two branches of Pike River, and 11 miles above mouth.

DRAINAGE AREA.—240 square miles.

RECORDS AVAILABLE.—February, 1914, to September, 1928.

EXTREMES.—Maximum discharge during year, 904 second-feet April 5 (gage height, 4.00 feet); minimum (estimated), 40 second-feet March 10.

1914–1928: Maximum discharge, 2,730 second-feet April 10, 1922 (gage height, 7.68 feet); minimum, 26 second-feet December 27, 1925 (gage height, 1.30 feet).

REMARKS.—Records excellent except those for period of ice effect (November 17–26 and December 1 to March 23) and for estimated period (July 29 to August 4), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	144	230	150	80	65	778	412	204	230		230
2	182	160	215	150	75	65	778	412	204	230	147	230
3	288	158	215	160	75	65	778	412	204	204		273
4	273	154	215	160	65	65	820	476	180	204		273
5	258	152	205	150	75	65	904	620	180	180	136	288
6	258	148	200	150	75	65	820	582	180	158	136	273
7	258	144	205	150	90	50	778	546	158	158	136	182
8	258	150	205	170	90	50	476	476	180	204	116	180
9	258	154	205	170	110	50	620	444	204	204	116	169
10	244	158	205	170	110	40	582	412	204	204	116	178
11	244	160	205	190	130	50	582	412	204	180	116	288
12	244	165	205	190	160	65	620	380	230	180	116	460
13	244	165	195	190	180	130	620	348	230	180	116	620
14	244	169	185	215	205	150	658	318	204	158	116	820
15	244	173	180	215	160	180	582	288	204	158	116	862
16	244	182	180	190	140	160	546	288	204	158	116	862
17	182	165	180	190	120	140	476	288	204	158	136	820
18	171	150	180	170	120	130	510	318	230	180	136	444
19	160	135	180	170	100	140	582	288	258	158	116	230
20	148	115	160	150	80	100	582	288	288	158	116	217
21	140	120	160	150	65	215	582	258	258	158	178	258
22	136	115	160	130	65	303	620	258	230	180	244	258
23	126	120	160	110	65	290	620	230	258	180	258	412
24	128	140	160	110	75	348	620	230	288	158	288	380
25	132	160	160	110	65	348	582	230	348	158	288	318
26	136	180	160	100	65	380	546	230	318	180	244	288
27	130	182	160	75	75	380	510	230	318	158	217	303
28	128	204	150	75	65	380	476	230	258	158	230	288
29	132	230	150	80	65	380	444	230	230		258	288
30	136	244	150	75	-------	348	412	230	230	147	258	273
31	152	-------	150	90	-------	348	-------	204	-------		230	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	288	126	194	0.808	0.93
November	244	115	160	.667	.74
December	230	150	183	.762	.88
January	215	75	147	.612	.71
February	205	65	98.1	.409	.44
March	380	40	179	.746	.86
April	904	412	617	2.57	2.87
May	620	204	341	1.42	1.64
June	348	158	230	.958	1.07
July	230	----------	175	.729	.84
August	288	116	169	.704	.81
September	862	169	366	1.52	1.70
The year	904	40	238	.992	13.49

PESHTIGO RIVER AT HIGH FALLS, NEAR CRIVITZ, WIS.

LOCATION.—In sec. 1, T. 32 N., R. 18 E., at High Falls power house of Wisconsin Public Service Corporation, 1 mile upstream from Thunder River and 15 miles northwest of Crivitz.

DRAINAGE AREA.—520 square miles.

RECORDS AVAILABLE.—August, 1912, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 2,510 second-feet September 15; minimum, 0 second-foot March 11, 18, and August 5.

1912–1928: Maximum mean daily discharge, 3,860 second-feet April 11, 1922 (gage height, 7.80 feet); minimum, 0 second-foot several days during 1925 and 1928.

REMARKS.—Records fair. Discharge determined from records at power plant. Flow is largely regulated by storage in the service reservoir at the plant.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	626	494	418	214	392	358	1,500	923	687	221	601	631
2	212	364	395	387	503	444	1,790	1,220	335	622	484	323
3	558	377	329	430	132	643	1,260	1,160	163	582	376	655
4	822	257	371	477	144	194	1,620	1,310	610	411	483	746
5	785	288	545	267	178	733	1,610	1,150	666	752	0	606
6	916	294	479	347	226	667	2,090	1,940	587	652	732	657
7	744	372	226	201	289	447	2,370	1,600	447	532	694	693
8	664	614	649	289	489	387	1,960	1,450	557	551	411	334
9	559	349	373	479	174	371	1,010	1,840	416	721	358	289
10	240	191	158	579	263	487	1,210	924	61	771	386	500
11	1,030	337	220	409	355	0	1,960	1,230	940	637	271	494
12	793	293	315	268	354	181	1,150	1,150	544	643	175	750
13	757	272	619	290	570	768	1,160	1,130	559	607	272	1,370
14	335	434	287	257	346	253	2,070	803	527	540	911	2,460
15	566	412	306	277	325	443	669	924	770	214	762	2,510
16	247	808	366	349	410	464	845	694	655	597	721	1,820
17	327	196	236	494	405	721	1,010	763	471	727	182	2,240
18	614	157	148	117	120	0	953	649	820	694	289	1,960
19	438	224	509	210	407	323	1,030	887	704	420	505	1,210
20	263	300	357	363	389	452	1,020	897	616	460	666	1,780
21	223	477	415	341	282	835	1,190	711	572	587	763	1,610
22	345	609	404	321	341	1,350	1,170	699	566	359	526	825
23	286	516	413	321	320	1,190	1,040	623	734	448	541	925
24	342	117	483	336	436	1,160	1,430	669	435	32	1,390	1,150
25	98	516	321	304	503	52	1,050	664	714	217	681	912
26	575	330	224	417	117	710	1,050	373	711	1,150	711	654
27	248	445	324	198	334	1,230	995	452	729	818	890	762
28	367	351	493	125	467	646	1,200	682	696	496	656	673
29	352	300	382	156	279	682	1,300	679	543	186	734	697
30	271	340	444	367	-------	697	1,170	351	532	611	682	512
31	341	-------	227	440	-------	891	-------	863	-------	1,180	623	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,030	98	482	0.927	1.07
November	808	117	368	.708	.79
December	649	148	369	.710	.82
January	579	117	324	.623	.72
February	570	117	329	.633	.68
March	1,350	0	574	1.10	1.27
April	2,370	669	1,330	2.56	2.86
May	1,940	351	949	1.82	2.10
June	940	61	579	1.11	1.24
July	1,180	32	563	1.08	1.24
August	1,390	0	564	1.08	1.24
September	2,510	289	1,020	1.96	2.19
The year	2,510	0	620	1.19	16.22

OCONTO RIVER NEAR GILLETT, WIS.

LOCATION.—Chain gage in sec. 34, T. 28 N., R. 18 E., at highway bridge 2½ miles southeast of Gillett.

DRAINAGE AREA.—678 square miles.

RECORDS AVAILABLE.—June, 1906, to March, 1909; January, 1914, to September, 1928.

EXTREMES.—Maximum discharge during year, 3,440 second-feet March 21; maximum gage height, 6.58 feet March 26 (ice jam); minimum discharge, 180 second-feet several days in December and January.

1906–1928: Maximum discharge, 6,470 second-feet April 11, 1922, caused by failure of a dam at Pulcifer, 4 miles upstream (gage height, 9.1 feet); minimum, 95 second-feet June 3 and 6, 1907 (gage height, 0.1 foot).

REMARKS.—Records good except those for period of ice effect, December 3 to March 24 and March 26–27.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	633	446	406	210	305	385	1,220	1,150	466	370	633	1,020
2	659	425	466	210	305	385	1,290	1,020	446	387	534	887
3	659	425	385	195	305	385	1,430	1,020	425	488	425	827
4	659	425	350	195	320	405	1,290	1,020	387	582	488	769
5	659	446	320	195	320	385	1,570	1,020	370	510	534	659
6	633	466	305	195	320	385	1,570	1,020	370	406	510	633
7	607	466	290	210	335	385	1,570	1,150	387	387	488	510
8	633	510	260	210	335	385	1,570	1,150	387	387	466	557
9	633	488	260	210	350	405	1,570	1,150	387	387	425	387
10	488	446	235	210	350	405	1,430	1,080	387	370	425	425
11	425	425	220	210	350	425	1,430	1,020	387	387	387	1,150
12	769	510	210	210	350	465	1,500	887	446	387	387	1,350
13	582	406	195	210	370	580	1,500	887	466	370	387	2,000
14	510	387	180	195	350	685	1,500	769	446	336	370	2,720
15	466	1,020	180	180	350	685	1,290	741	425	352	352	2,640
16	466	827	180	180	350	660	1,150	741	425	370	352	2,800
17	387	686	180	180	350	660	1,150	741	387	370	336	2,480
18	290	659	180	180	350	660	1,290	769	425	370	352	2,320
19	290	557	195	180	335	885	1,430	769	387	387	352	2,160
20	352	406	195	195	335	1,150	1,430	741	387	387	387	1,850
21	352	425	195	210	335	1,360	1,570	741	370	387	713	1,570
22	387	466	210	220	335	1,570	1,570	713	387	387	1,020	1,500
23	446	557	210	235	350	2,000	1,570	686	387	387	1,570	1,430
24	446	534	210	250	370	2,640	1,500	607	387	406	1,570	1,290
25	466	534	210	260	370	3,440	1,360	607	510	425	1,570	1,150
26	466	510	210	260	370	3,360	1,360	557	446	425	1,570	1,080
27	466	466	210	275	385	3,280	1,290	510	466	534	1,430	1,020
28	425	466	210	290	385	3,200	1,150	488	425	659	1,220	1,020
29	406	446	210	290	385	3,280	1,150	488	425	633	1,150	887
30	406	406	210	290	-------	1,710	1,150	466	446	488	950	827
31	406	-------	210	305	-------	1,500	-------	488	-------	466	950	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	769	290	499	0.736	0.85
November	1,020	387	508	.749	.84
December	466	180	242	.357	.41
January	305	180	221	.326	.38
February	385	305	346	.510	.55
March	3,440	385	1,230	1.81	2.09
April	1,570	1,150	1,400	2.06	2.30
May	1,150	466	813	1.20	1.38
June	510	370	415	.612	.68
July	659	336	425	.627	.72
August	1,570	336	719	1.06	1.22
September	2,800	387	1,350	1.99	2.22
The year	3,440	180	679	1.00	13.64

FOX RIVER AT BERLIN, WIS.

LOCATION.—Staff gage in sec. 16, T. 17 N., R. 13 E., at Government lock and dam 2⅓ miles upstream from Berlin.

DRAINAGE AREA.—1,430 square miles.

RECORDS AVAILABLE.—January, 1898, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 5,920 second-feet March 23, 24; minimum, 535 second-feet January 4.

1898–1928: Maximum mean daily discharge, 6,400 second-feet March 28, 30, 1916; minimum, 250 second-feet February 1–4, 1900.

REMARKS.—Open-water records good; winter records probably only fair. Daily-discharge records furnished by the United States Army Engineers.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	975	940	1,460	620	565	1,190	3,820	1,980	800	800	705	1,140
2	1,100	1,100	1,360	580	565	1,140	3,530	1,850	800	830	765	1,100
3	1,270	1,020	1,360	540	565	1,100	3,440	1,740	735	865	800	1,060
4	1,320	975	1,360	535	565	1,050	3,350	1,680	705	865	865	1,020
5	1,360	940	1,360	540	590	1,000	3,350	1,620	675	830	905	1,060
6	1,420	905	1,270	540	590	960	3,260	1,570	675	800	865	1,020
7	1,420	865	1,180	550	875	915	3,440	1,520	675	800	800	975
8	1,460	865	1,060	550	1,170	875	3,350	1,420	705	800	800	905
9	1,520	865	940	560	1,220	875	3,170	1,360	735	830	765	975
10	1,520	905	975	570	1,270	840	3,170	1,270	705	830	735	975
11	1,520	905	1,060	635	1,320	840	3,260	1,180	705	830	675	865
12	1,570	865	1,060	645	1,420	840	3,350	1,060	705	800	675	865
13	1,570	905	1,060	710	1,520	1,680	3,170	1,060	705	865	645	940
14	1,570	865	1,020	750	1,620	2,140	3,080	1,020	735	905	645	1,140
15	1,570	1,270	975	775	1,680	2,560	2,910	940	705	905	590	1,460
16	1,570	1,520	905	800	1,720	3,040	2,910	905	675	865	590	1,570
17	1,520	1,570	865	810	1,700	3,200	2,910	940	645	830	590	1,570
18	1,460	1,570	800	815	1,640	3,350	2,910	940	675	800	590	1,620
19	1,420	1,570	765	850	1,570	3,500	3,080	975	675	765	590	1,680
20	1,360	1,740	705	895	1,560	3,840	3,000	1,020	675	830	590	1,620
21	1,270	1,800	675	765	1,490	4,100	2,910	1,020	705	800	705	1,620
22	1,220	1,740	645	710	1,470	5,390	2,910	940	675	865	800	1,520
23	1,180	1,740	645	715	1,450	5,920	2,830	905	735	865	830	1,420
24	1,140	1,800	645	720	1,430	5,920	2,750	905	765	830	1,020	1,320
25	1,100	1,800	615	725	1,380	5,650	2,600	865	765	800	1,020	1,220
26	1,060	1,740	590	720	1,320	5,390	2,450	830	800	765	975	1,140
27	1,020	1,740	560	715	1,300	5,030	2,380	905	800	800	1,060	1,060
28	975	1,680	560	675	1,240	4,790	2,240	865	800	800	1,140	1,020
29	940	1,620	705	665	1,190	4,450	2,170	865	830	765	1,100	1,020
30	940	1,570	675	630	-------	4,340	2,100	865	830	735	1,180	1,020
31	940	-------	645	565	-------	4,020	-------	830	-------	705	1,180	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,570	940	1,300	0.909	1.05
November	1,800	865	1,310	.916	1.02
December	1,460	560	919	.643	.74
January	895	535	673	.471	.54
February	1,720	565	1,240	.867	.94
March	5,920	840	2,900	2.03	2.34
April	3,820	2,100	2,990	2.09	2.33
May	1,980	830	1,160	.811	.94
June	830	645	727	.508	.57
July	905	705	819	.573	.66
August	1,180	590	813	.569	.66
September	1,680	865	1,200	.839	.94
The year	5,920	535	1,340	.937	12.73

FOX RIVER AT RAPIDE CROCHE DAM, NEAR WRIGHTSTOWN, WIS.

LOCATION.—At Rapide Croche Dam, in sec. 4, T. 21 N., R. 19 E., 2 miles from Wrightstown.

DRAINAGE AREA.—6,150 square miles.

RECORDS AVAILABLE.—March, 1896, to September, 1928.

EXTREMES.—Maximum mean daily discharge during year, 15,100 second-feet April 11; minimum, 1,600 second-feet October 9.

1918–1928: Maximum mean daily discharge, 20,100 second-feet April 23, 1922; minimum, 742 second-feet August 15, 1921.

REMARKS.—Records good. Flow regulated by storage in Lake Winnebago. Daily-discharge records furnished by the United States Army Engineers.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,520	4,800	5,070	3,550	4,750	6,080	12,500	8,040	5,060	4,030	2,300	3,650
2	2,600	4,910	4,280	5,110	4,700	5,910	13,100	7,660	4,820	3,750	2,600	3,230
3	3,340	4,990	4,030	4,660	4,680	6,500	13,400	7,940	3,300	4,460	2,570	2,620
4	2,880	5,100	3,790	4,600	4,580	6,030	13,900	6,150	3,810	3,660	2,420	3,700
5	3,470	4,800	5,120	4,410	3,870	6,100	13,800	5,500	4,500	4,330	1,800	3,580
6	2,990	2,990	4,970	4,450	4,710	6,100	14,000	5,440	4,530	4,070	2,930	3,770
7	2,670	5,310	4,640	4,240	5,230	6,040	14,000	5,630	4,460	3,780	2,650	4,060
8	2,990	4,700	3,820	3,520	5,700	5,910	13,100	6,210	4,440	3,130	2,550	3,740
9	1,600	4,830	4,640	4,810	4,780	5,840	14,500	6,190	4,030	4,330	2,590	3,360
10	2,730	4,850	4,630	4,310	4,760	5,820	14,900	6,040	3,200	3,110	2,490	4,140
11	4,020	4,860	4,140	4,700	5,070	5,180	15,100	5,670	4,550	3,280	2,560	4,780
12	4,860	3,040	5,020	4,730	5,490	6,200	14,400	5,660	4,420	3,870	1,920	5,150
13	4,440	4,040	5,160	4,720	5,330	7,790	14,000	5,540	4,790	3,580	3,060	4,840
14	4,160	5,020	4,980	4,640	5,370	7,200	12,700	5,200	3,990	3,200	2,630	5,340
15	4,700	5,600	4,910	3,820	5,440	7,330	13,300	5,340	3,970	2,470	2,600	5,860
16	3,620	4,660	4,790	5,260	5,410	7,250	14,300	5,410	4,090	3,520	2,670	4,610
17	4,760	4,790	4,590	5,260	5,370	7,430	14,500	5,240	2,970	2,840	2,580	4,650
18	4,530	5,020	4,420	4,880	4,960	7,290	14,500	5,320	4,690	3,980	2,350	5,090
19	4,770	4,980	4,690	4,600	3,900	7,780	14,900	5,450	4,270	3,460	2,360	5,310
20	5,140	4,360	4,940	3,540	5,290	8,150	14,300	5,130	4,090	3,370	2,780	5,260
21	5,190	5,050	4,720	4,730	5,720	8,240	12,300	5,240	4,030	3,510	2,750	5,380
22	4,700	5,250	4,630	5,230	5,820	9,070	11,700	5,460	4,070	2,800	2,490	5,290
23	3,830	5,070	4,790	5,020	5,840	8,720	11,700	5,350	4,000	3,320	2,200	4,450
24	4,920	4,880	3,520	4,830	5,880	8,640	11,800	5,460	4,880	3,460	2,590	4,990
25	5,050	5,040	3,990	4,380	6,530	8,810	11,700	5,320	4,360	3,020	2,660	5,570
26	4,960	5,230	4,170	4,200	6,270	9,580	11,900	5,100	4,230	3,060	2,040	5,010
27	4,980	4,130	5,420	4,340	6,240	10,800	11,900	4,870	4,180	2,440	2,350	4,570
28	4,890	5,300	4,870	4,650	6,430	11,200	11,500	5,130	4,560	1,870	2,820	5,420
29	4,760	5,340	4,850	4,160	6,570	12,000	10,900	5,400	4,780	1,960	2,800	5,590
30	3,800	5,280	4,680	4,820	-------	12,400	10,400	5,130	4,500	2,830	2,010	5,360
31	4,800	-------	4,520	4,760	-------	12,800	-------	5,220	-------	2,280	2,430	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,190	1,600	4,020	0.654	0.75
November	5,600	2,990	4,810	.782	.87
December	5,420	3,520	4,610	.750	.86
January	5,260	3,520	4,550	.740	.85
February	6,570	3,870	5,330	.867	.94
March	12,800	5,180	7,880	1.28	1.48
April	15,100	10,400	13,200	2.15	2.40
May	8,040	4,870	5,690	.925	1.07
June	5,060	2,970	4,250	.691	.77
July	4,460	1,870	3,320	.540	.62
August	3,430	1,800	2,630	.428	.49
September	5,860	2,620	4,610	.750	.84
The year	15,100	1,600	5,390	.876	11.94

WOLF RIVER ABOVE WEST BRANCH OF WOLF RIVER, WI

LOCATION.—Staff gage installed March 28, 1928, in E. ½ sec. 3, T. 28 N., R. 15 E., half a mile above mouth of West Branch of Wolf River and 3 miles upstream from Keshena. Altitude of zero of gage, 856.57 feet above mean sea level.

DRAINAGE AREA.—633 square miles.

RECORDS AVAILABLE.—March to September, 1928.

EXTREMES.—Maximum discharge during period, 1,740 second-feet March 29 (gage height, 4.67 feet); minimum, 352 second-feet August 16 (gage height, 1.85 feet).

REMARKS.—Records excellent except those for high stages, which are fair.

Daily and monthly discharge, in second-feet, 1928

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	1,460	1,290	550	590	476	550
2	-------	1,400	1,290	550	590	476	550
3	-------	1,510	1,290	550	590	550	550
4	-------	1,400	1,290	550	550	590	512
5	-------	1,400	1,460	550	512	512	476
6	-------	1,570	1,620	512	512	476	476
7	-------	1,620	1,570	512	512	476	476
8	-------	1,570	1,510	550	512	476	476
9	-------	1,180	1,460	550	550	442	476
10	-------	1,350	1,350	550	550	410	476
11	-------	1,400	1,290	550	550	410	920
12	-------	1,510	1,240	550	550	410	1,020
13	-------	1,570	1,180	590	550	410	1,240
14	-------	1,620	1,130	676	550	380	1,240
15	-------	1,240	1,080	722	550	380	1,680
16	-------	1,180	1,020	722	512	352	1,680
17	-------	1,510	1,080	722	512	410	1,570
18	-------	1,400	1,020	722	550	410	1,510
19	-------	1,400	1,080	722	550	410	1,460
20	-------	1,350	1,180	722	590	410	1,400
21	-------	1,350	1,080	676	590	722	1,350
22	-------	1,350	970	676	550	920	1,290
23	-------	1,350	920	722	550	818	1,240
24	-------	1,350	920	818	512	818	1,240
25	-------	1,350	870	818	512	722	1,130
26	-------	1,350	818	769	676	590	1,130
27	-------	1,290	722	722	632	550	1,020
28	1,680	1,290	632	676	590	550	1,020
29	1,740	1,290	590	676	550	632	970
30	1,680	1,290	550	632	512	632	920
31	1,460	-------	550	-------	512	590	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
March 28–31	1,740	1,460	1,640	2.59	0.39
April	1,620	1,180	1,400	2.21	2.47
May	1,620	550	1,100	1.74	2.01
June	818	512	644	1.02	1.14
July	676	512	552	.872	1.01
August	920	352	529	.836	.96
September	1,680	476	1,000	1.58	1.76

WOLF RIVER AT KESHENA FALLS, WIS.

LOCATION.—At water-stage recorder in E. ½ sec. 22, T. 28 N., R. 15 E., 1½ miles above gaging station formerly maintained at Keshena.

DRAINAGE AREA.—812 square miles.

RECORDS AVAILABLE.—March to September, 1928. May, 1907, to March, 1909, and February, 1911, to March, 1928, records were collected at station on Wolf River at Keshena, 1½ miles downstream from present station.

EXTREMES.—Maximum discharge during period, 2,660 second-feet September 16 (gage height, 7.95 feet); minimum, 515 second-feet August 16.

REMARKS.—Records excellent.

Daily and monthly discharge, in second-feet, 1928

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1,530	1,580	687	707	642	791
2		1,680	1,580	674	714	655	748
3		1,780	1,630	667	728	721	748
4		1,780	1,630	680	707	813	714
5		1,900	1,840	648	655	784	694
6		2,170	2,120	655	648	707	680
7		2,220	2,060	630	655	630	655
8		2,000	1,840	667	661	623	642
9		1,530	1,780	721	680	611	636
10		1,680	1,680	714	721	599	707
11		1,780	1,580	707	707	576	1,630
12		1,900	1,480	667	687	547	1,950
13		1,950	1,380	741	734	547	2,060
14		2,060	1,330	835	748	531	2,060
15		1,730	1,240	858	707	520	2,170
16		1,530	1,200	828	680	515	2,660
17		1,780	1,240	820	630	570	2,440
18		1,730	1,240	858	707	593	2,120
19		1,730	1,280	858	762	593	1,950
20		1,780	1,380	843	820	593	1,840
21		1,840	1,280	791	791	1,040	1,730
22		1,680	1,150	784	748	1,530	1,680
23	1,900	1,680	1,090	820	728	1,480	1,580
24	1,780	1,730	1,030	904	727	1,330	1,580
25	1,950	1,680	1,030	936	725	1,150	1,430
26	2,120	1,630	984	928	724	912	1,380
27	1,950	1,530	904	866	722	828	1,280
28	1,780	1,580	828	791	721	784	1,240
29	1,730	1,580	721	762	674	820	1,200
30	1,680	1,580	700	741	655	873	1,150
31	1,530		714		655	858	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
March 23–31	2,120	1,530	1,820	2.24	0.75
April	2,220	1,530	1,760	2.17	2.42
May	2,120	700	1,340	1.65	1.90
June	936	630	769	.947	1.06
July	820	630	707	.871	1.00
August	1,530	515	773	.952	1.10
September	2,660	636	1,400	1.72	1.92

WOLF RIVER AT KESHENA, WIS.

LOCATION.—Chain gage in sec. 26, T. 28 N., R. 15 E., at highway bridge at Keshena, 3 miles below junction with West Branch of Wolf River.

DRAINAGE AREA.—826 square miles (revised).

RECORDS AVAILABLE.—May, 1907, to March, 1909; February, 1911, to March, 1928 (discontinued).

EXTREMES.—Maximum discharge during year, 2,140 second-feet March 26; maximum gage height 5.19 feet March 27 (ice jam); minimum discharge (estimated) 290 second-feet January 3–5 and February 2–4.

1907–1909, 1911–1928: Maximum discharge, 4,390 second-feet April 10, 1922 (gage height, 7.30 feet); minimum, 275 second-feet September 26, 1908.

REMARKS.—Records good except those for period of ice effect, December 3 to March 27, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	925	600	530	305	305	765	16	765	870	320	640	765	870
2	925	640	410	305	290	720	17	765	720	320	600	720	870
3	1,160	680	380	290	290	640	18	680	720	320	600	640	870
4	1,400	680	380	290	290	640	19	640	720	305	565	565	925
5	1,280	640	360	290	305	640	20	640	720	305	500	565	980
6	1,100	600	360	305	380	680	21	640	765	305	470	600	1,160
7	1,100	600	360	305	500	680	22	640	765	305	410	600	1,720
8	1,040	600	340	320	600	680	23	640	720	305	380	640	2,000
9	1,040	640	340	320	600	680	24	640	720	305	360	680	2,000
10	980	640	340	340	640	720	25	640	720	305	340	720	2,070
11	980	640	340	360	640	765	26	600	765	305	320	680	2,140
12	925	600	340	380	640	815	27	640	720	320	320	680	2,070
13	870	600	320	470	640	870	28	640	720	305	305	720	2,070
14	815	690	320	680	720	870	29	640	765	305	305	765	2,000
15	765	780	320	680	765	925	30	640	720	305	305	-------	1,930
							31	600	-------	305	305	-------	1,930

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,400	600	831	1.01	1.16
November	870	600	692	.838	.94
December	530	305	335	.406	.47
January	680	290	399	.483	.56
February	765	290	584	.707	.76
March	2,140	640	1,180	1.43	1.65

WOLF RIVER AT NEW LONDON, WIS.

LOCATION.—Staff gage in sec. 12, T. 22 N., R. 14 E., at Pearl Street highway bridge, New London. Embarrass River enters three-fourths mile above station and Little Wolf River 5 miles below.

DRAINAGE AREA.—2,240 square miles.

RECORDS AVAILABLE.—October, 1913, to September, 1928.

EXTREMES.—Maximum discharge during year, 7,810 second-feet March 26–27 (gage height, 9.5 feet); minimum (estimated), 875 second-feet February 5–6. 1914–1928: Maximum discharge, 15,500 second-feet April 13, 1922 (gage height, 11.4 feet); minimum, 550 second-feet December 29, 1925. The United States Engineer Corps reports a stage of 11.6 feet on April 16, 1888.

REMARKS.—Records good except those for period of ice effect, December 6 to March 23, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,480	1,160	1,860	1,200	910	1,050	6,140	3,990	1,440	1,710	1,320	3,660
2	1,530	1,240	1,620	1,200	910	1,020	5,600	3,820	1,400	1,620	1,240	3,500
3	1,810	1,280	1,440	1,160	910	1,020	5,150	3,580	1,320	1,530	1,200	3,360
4	2,010	1,240	1,360	1,120	910	1,020	4,900	3,500	1,240	1,480	1,240	3,150
5	2,110	1,240	1,280	1,120	875	1,020	4,680	3,430	1,240	1,480	1,320	2,780
6	2,210	1,240	1,280	1,050	875	1,020	4,570	3,430	1,160	1,480	1,360	2,360
7	2,360	1,240	1,280	980	945	1,020	4,680	3,430	1,160	1,280	1,480	2,060
8	2,480	1,160	1,320	1,020	1,480	1,020	4,790	3,430	1,200	1,320	1,480	1,910
9	2,540	1,160	1,280	1,050	1,710	1,050	4,790	3,430	1,200	1,240	1,440	1,710
10	2,540	1,160	1,280	1,050	1,760	1,050	4,790	3,430	1,200	1,280	1,360	1,530
11	2,480	1,160	1,320	980	1,710	1,050	5,020	3,430	1,240	1,240	1,280	1,530
12	2,540	1,160	1,280	1,050	1,530	1,050	5,020	3,360	1,240	1,320	1,200	1,620
13	2,540	1,160	1,240	1,160	1,440	1,200	5,020	3,220	1,320	1,320	1,120	1,960
14	2 420	1 160	1,280	1,320	1,320	1,530	4,900	3,150	1,320	1,320	1,050	2,360
15	2,260	1,320	1,200	1,400	1,280	1,860	6,340	3,020	1,320	1,320	980	2,900
16	2,110	1,760	1,240	1,440	1,280	2,160	4,680	2,960	1,320	1,400	945	3,290
17	1,960	2,210	1,240	1,440	1,280	2,720	4,680	2,900	1,320	1,400	945	3,580
18	1,760	2,260	1,240	1,440	1,200	2,900	4,570	2,720	1,400	1,320	910	3,900
19	1,660	2,110	1,280	1,440	1,160	3,020	4,790	2,660	1,440	1,240	910	4,370
20	1,620	2,160	1,240	1,400	1,120	3,360	5,020	2,600	1,480	1,320	980	4,680
21	1,530	2,160	1,240	1,280	1,080	3,820	5,150	2,540	1,530	1,240	1,320	4,900
22	1,480	2,010	1,200	1,200	1,020	4,470	5,150	2,480	1,480	1,580	1,910	5,020
23	1,440	2,010	1,200	1,120	945	5,150	5,150	2,360	1,530	1,660	2,310	4,900
24	1,440	2,160	1,200	1,080	945	7,280	5,150	2,260	1,580	1,620	2,720	4,790
25	1,320	2,310	1,200	1,050	910	7,280	5,020	2,210	1,620	1,530	2,960	4,570
26	1,320	2,260	1,120	1,020	910	7,810	4,900	2,160	1,760	1,440	3,150	4,370
27	1,280	2,160	1,120	980	980	7,810	4,790	2,060	1,910	1,400	3,430	4,080
28	1,280	1,960	1,120	980	1,020	7,540	4,570	1,960	1,910	1,400	3,660	3,900
29	1,280	1,910	1,160	980	1,050	7,280	4,470	1,810	1,910	1,440	3,740	3,660
30	1,240	1,960	1,240	945	-------	7,280	4,270	1,710	1,810	1,440	3,820	3,500
31	1,200	-------	1,240	945	-------	6,560	-------	1,620	-------	1,440	3,740	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,540	1,200	1,850	0.826	0.95
November	2,310	1,160	1,650	.737	.82
December	1,860	1,120	1,280	.571	.66
January	1,440	945	1,150	.513	.59
February	1,760	875	1,150	.513	.55
March	7,810	1,020	3,340	1.49	1.72
April	6,340	4,270	4,960	2.21	2.47
May	3,990	1,620	2,860	1.28	1.48
June	1,910	1,160	1,430	.638	.71
July	1,710	1,240	1,410	.629	.73
August	3,820	910	1,820	.812	.94
September	5,020	1,530	3,330	1.49	1.66
The year	7,810	875	2,180	.973	13.28

WEST BRANCH OF WOLF RIVER NEAR KESHENA, WIS.

LOCATION.—Staff gage (installed March 28) in SW. ¼ sec. 3, T. 28 N., R. 15
1 mile above mouth. Altitude of zero of gage, 858.37 feet.
DRAINAGE AREA.—170 square miles.
RECORDS AVAILABLE.—March to September, 1928.
EXTREMES.—Maximum discharge during period, 952 second-feet September
(gage height, 7.50 feet); minimum, 93 second-feet July 17 (gage heig
3.7 feet).
REMARKS.—Records excellent except those for high and low stages, which are f

Daily and monthly discharge, in second-feet, 1928

Day	Mar.	Apr.	May	June	July	Aug.	Sept.	Day	Mar.	Apr.	May	June	July	Aug.	S
1	------	462	295	126	146	114	187	16	------	153	178	126	132	103	
2	------	486	318	126	169	146	178	17	------	206	187	126	93	132	
3	------	318	295	126	187	153	206	18	------	238	196	161	139	153	
4	------	366	284	153	169	238	161	19	------	366	196	132	169	161	
5	------	462	462	114	139	206	153	20	------	366	227	153	227	161	
6	------	462	438	146	139	187	153	21	------	366	213	139	169	366	
7	------	462	342	108	161	146	146	22	------	318	187	132	169	560	
8	------	306	272	161	153	146	139	23	------	318	169	196	187	585	
9	------	206	272	153	146	132	108	24	------	318	153	206	146	510	
10	------	272	227	139	178	161	146	25	------	318	178	178	132	366	
11	------	295	216	146	146	120	871	26	------	295	153	216	146	249	
12	------	342	206	108	132	126	871	27	------	272	153	161	169	272	
13	------	284	161	146	169	139	764	28	560	260	187	139	216	196	
14	------	196	187	206	169	103	660	29	585	272	139	153	169	227	
15	------	249	153	169	103	103	952	30	535	295	146	146	178	272	
								31	462	------	169	------	114	238	

Month	Maximum	Minimum	Mean	Per square mile	Run-of inche
March 28–31	585	462	536	3.15	
April	486	153	318	1.87	
May	462	139	225	1.32	
June	216	108	150	.882	
July	227	93	157	.924	
August	585	103	218	1.28	
September	952	108	362	2.13	

EMBARRASS RIVER NEAR EMBARRASS, WIS.

LOCATION.—Chain gage at highway bridge on line between T. 26 N., R. 14 E., and T. 26 N., R. 15 E., 4 miles upstream from Embarrass.

DRAINAGE AREA.—395 square miles.

RECORDS AVAILABLE.—June, 1919, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,780 second-feet September 16 (gage height, 7.6 feet); minimum, 70 second-feet several times during February.

1919–1928: Maximum discharge, 6,760 second-feet April 10, 1922 (gage height, 11.5 feet); minimum (estimated), 30 second-feet February 2–3, 1926.

REMARKS.—Records excellent except those for period of ice effect, December 3 to March 21, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	406	210	268	235	90	90	672	450	226	305	175	594
2	672	220	268	270	85	85	672	450	194	268	194	520
3	544	200	235	270	80	80	672	450	197	250	210	406
4	780	194	175	270	110	90	945	520	175	250	233	344
5	780	197	185	285	95	105	1,000	780	166	213	233	305
6	780	184	250	225	85	110	1,000	780	216	197	250	286
7	780	194	285	215	120	115	1,110	780	223	203	305	268
8	672	197	305	250	155	115	945	620	250	197	305	305
9	620	178	305	225	135	160	780	520	268	268	305	520
10	569	175	305	225	85	140	672	406	226	305	286	569
11	520	210	285	270	105	140	725	385	286	305	268	672
12	520	210	285	305	135	165	890	344	286	250	233	1,000
13	473	208	305	325	135	325	835	324	305	250	188	1,350
14	473	216	305	345	140	385	672	344	286	268	169	1,710
15	385	344	270	305	125	405	594	286	305	250	169	2,500
16	344	620	305	270	135	475	594	305	286	250	172	2,780
17	344	620	285	250	80	475	594	305	286	286	175	2,220
18	305	620	305	250	80	570	594	364	223	268	161	1,890
19	268	520	270	270	70	670	725	344	286	268	226	1,170
20	216	385	270	200	75	725	1,170	450	305	305	305	835
21	250	385	270	215	80	890	1,350	406	344	364	1,110	725
22	233	385	270	225	70	1,890	1,060	385	250	344	1,830	672
23	220	364	270	235	75	2,080	1,000	324	305	305	2,150	620
24	268	385	225	190	70	1,950	890	324	385	286	1,950	569
25	233	364	225	155	70	2,080	780	324	520	305	1,650	544
26	163	344	250	165	85	2,150	672	286	428	233	1,110	473
27	286	385	250	155	95	1,710	520	286	344	233	890	428
28	220	305	285	150	95	1,470	496	324	344	223	672	385
29	230	324	250	140	105	1,230	473	286	305	207	672	385
30	268	305	270	185	-------	1,060	473	268	305	194	672	344
31	250	-------	270	115	-------	835	-------	268	-------	184	672	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	780	163	422	1.07	1.23
November	620	175	315	.797	.89
December	305	175	268	.678	.78
January	345	115	232	.587	.68
February	155	70	98.8	.250	.27
March	2,150	80	735	1.86	2.14
April	1,350	473	786	1.99	2.22
May	780	268	409	1.04	1.20
June	520	166	284	.719	.80
July	364	184	259	.656	.76
August	2,150	161	579	1.47	1.70
September	2,780	268	846	2.14	2.39
The year	2,780	70	437	1.11	15.06

LITTLE WOLF RIVER AT ROYALTON, WIS.

LOCATION.—Vertical staff gage in sec. 1, T. 22 N., R. 13 E., at Royalton.
DRAINAGE AREA.—485 square miles.
RECORDS AVAILABLE.—January, 1914, to September 1928.
EXTREMES.—Maximum discharge during year, 3,700 second-feet March 24 (gage height, 8.00 feet, ice jam); minimum, 145 second-feet February 3.
1914–1928: Maximum discharge, 5,780 second-feet April 10–11, 1922; maximum gage height, 8.00 feet March 24, 1928 (ice jam); minimum discharge, about 120 second-feet January 20, 1922, and January 28, 1926.
REMARKS.—Records good except those for period of ice effect, December 5 to March 25, which are poor.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	530	309	560	260	170	215	865	900	30[illegible]	424	288	865
2	590	353	530	245	160	230	800	900	33[illegible]	376	330	770
3	650	353	560	230	145	190	935	865	30[illegible]	376	288	620
4	770	330	590	260	170	215	900	900	33[illegible]	424	330	590
5	830	353	530	230	190	295	900	970	35[illegible]	424	353	530
6	900	330	530	275	245	295	970	970	376	424	376	475
7	800	330	500	260	415	320	935	970	353	424	400	424
8	740	353	430	275	530	320	830	935	376	424	376	376
9	680	309	365	340	590	365	900	900	353	560	376	330
10	710	330	320	340	620	365	935	800	376	424	353	424
11	680	330	295	415	560	320	1,010	740	353	376	400	530
12	680	309	415	415	500	415	1,130	620	353	376	353	900
13	620	309	340	470	500	900	1,090	590	353	353	330	1,130
14	530	309	295	470	415	1,010	970	530	353	376	309	1,480
15	424	376	320	445	390	1,570	935	530	400	330	288	1,870
16	450	450	365	500	275	1,870	800	502	353	309	288	2,180
17	400	710	365	445	295	1,970	935	530	309	330	309	2,070
18	353	800	295	365	275	1,970	1,480	530	288	330	288	1,670
19	353	900	245	340	245	2,180	1,870	530	288	330	228	1,390
20	353	900	275	245	215	2,400	1,970	530	309	475	330	900
21	376	680	275	190	295	2,620	1,970	475	288	475	830	710
22	353	650	245	205	245	2,980	1,870	424	353	450	1,050	710
23	353	620	245	190	245	3,220	1,390	376	353	376	1,210	680
24	353	530	215	160	190	3,700	1,050	330	353	424	1,300	770
25	330	502	215	170	190	3,460	900	330	424	376	1,300	650
26	330	475	215	170	215	3,340	900	309	530	353	1,300	501
27	330	450	275	160	230	2,620	800	353	475	330	1,050	560
28	353	424	260	170	215	1,770	770	330	530	353	970	530
29	330	450	320	160	190	1,480	740	353	424	400	935	530
30	353	530	320	170	-------	1,300	800	353	400	330	970	530
31	309	-------	245	160	-------	1,090	-------	353	-------	288	865	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	900	309	510	1.05	1.21
November	900	309	468	.965	1.08
December	590	215	353	.728	.84
January	500	160	282	.581	.67
February	620	145	308	.635	.68
March	3,700	190	1,450	2.99	3.45
April	1,970	740	1,080	2.23	2.49
May	970	309	604	1.25	1.44
June	530	288	365	.753	.84
July	560	288	388	.800	.92
August	1,300	288	595	1.23	1.42
September	2,180	330	856	1.76	1.96
The year	3,700	145	606	1.25	17.00

WAUPACA RIVER NEAR WAUPACA, WIS.

LOCATION.—Chain gage near north line of sec. 1, T. 21 N., R. 12 E., at highway bridge 4 miles below Waupaca.

DRAINAGE AREA.—305 square miles.

RECORDS AVAILABLE.—October, 1917, to September, 1928. June, 1916, to October, 1917, records were obtained at a station near Weyauwega, 1 mile below present site.

EXTREMES.—Maximum discharge during year, 1,440 second-feet March 23 (gage height, 4.9 feet); minimum (estimated), 140 second-feet December 17.

1918–1928: Maximum discharge, 2,600 second-feet March 17, 1919 (gage height, 5.6 feet); minimum (estimated), 35 second-feet January 22 and 28, 1926.

REMARKS.—Records fair except those for period of ice effect, December 1 to March 22, which are poor.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	266	199	190	170	180	350	348	235	220	235	220	266
2	315	220	170	155	180	365	348	250	235	250	199	235
3	348	210	155	150	180	315	348	266	235	235	220	220
4	282	190	235	170	180	330	348	282	199	250	235	199
5	266	199	175	170	200	380	365	451	210	210	210	220
6	266	220	170	175	180	315	451	348	210	210	199	220
7	315	199	165	180	400	350	434	315	210	210	210	199
8	282	220	165	190	595	380	382	282	210	210	220	235
9	220	235	160	175	595	400	374	266	220	210	210	220
10	250	220	170	190	485	435	365	266	220	210	199	266
11	250	250	155	210	435	450	399	235	220	210	190	258
12	282	199	150	220	365	450	399	235	220	210	182	250
13	266	210	150	250	380	485	382	235	298	199	190	332
14	250	199	150	280	400	560	348	235	220	315	168	559
15	250	235	155	265	380	635	348	235	250	220	175	634
16	250	487	175	220	350	675	365	250	235	210	210	596
17	220	348	140	200	280	710	399	235	250	220	235	451
18	210	332	160	200	220	795	451	235	235	210	199	332
19	210	382	150	210	280	875	434	250	235	199	182	315
20	210	328	170	185	275	1,000	399	250	220	220	220	282
21	235	274	160	160	270	1,130	382	266	250	250	220	266
22	235	220	160	200	265	1,310	365	235	210	235	434	266
23	220	235	150	190	235	1,440	365	235	235	220	382	266
24	235	250	150	190	265	1,130	332	250	235	199	365	250
25	235	235	160	180	280	793	298	220	228	182	348	235
26	235	220	160	170	250	752	282	220	220	190	282	235
27	217	235	180	170	315	559	282	235	220	190	315	298
28	199	220	175	160	330	487	266	235	220	190	282	235
29	210	235	190	180	330	416	250	235	220	199	282	235
30	220	235	190	175	------	399	266	220	235	210	266	220
31	220	------	170	190	------	382	------	220	------	220	298	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	348	199	247	0.810	0.93
November	487	190	248	.813	.91
December	235	140	166	.544	.63
January	280	150	191	.626	.72
February	595	180	313	1.03	1.11
March	1,440	315	615	2.02	2.33
April	451	250	359	1.18	1.32
May	451	220	256	.839	.97
June	298	199	228	.748	.83
July	315	182	217	.711	.82
August	434	168	243	.797	.92
September	634	199	293	.961	1.07
The year	1,440	140	281	.921	12.56

MILWAUKEE RIVER NEAR MILWAUKEE, WIS.

LOCATION.—Vertical staff gage in NW. ¼ sec. 5, T. 7 N., R. 22 E., immediately above an old quarry near the north limits of Milwaukee, half a mile below concrete highway bridge, 1 mile above Mineral Spring Road, and 5½ miles above confluence with Menominee River.

DRAINAGE AREA.—661 square miles.

RECORDS AVAILABLE.—April, 1914, to September, 1928.

EXTREMES.—Maximum discharge during year, 4,940 second-feet March 14 (gage height, 4.25 feet); minimum, 71 second-feet September 30 (gage height, 0.40 foot).

1914–1928: Maximum discharge, 15,100 second-feet March 20, 1918 (gage height, 9.00 feet); minimum, about 26 second-feet August 2, 1916.

REMARKS.—Records poor. Stage-discharge relation not permanent. Rating curve poorly defined. Stage-discharge relation affected by ice December 9–12, 16–20, December 31 to January 6, January 21, 22, 28, and February 7, 8, 10–13.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	620	216	1,040	377	148	148	1,290	236	278	469	164	181
2	810	469	540	300	181	148	1,800	236	2[illegible]	710	198	164
3	1,160	405	469	236	216	133	2,320	255	236	405	216	148
4	1,360	377	469	216	198	164	2,840	255	2[illegible]	437	236	148
5	1,220	349	505	216	255	148	3,350	405	2[illegible]	300	405	133
6	1,160	349	377	216	255	133	3,350	405	2[illegible]	1,040	710	106
7	2,790	349	620	255	300	133	3,540	377	2[illegible]	1,290	620	106
8	2,000	255	710	255	324	133	1,220	300	181	1,040	349	93
9	1,500	255	437	236	349	106	865	278	164	620	324	93
10	1,100	255	437	216	405	164	1,220	255	164	255	255	106
11	760	300	405	198	437	133	1,220	255	164	216	236	118
12	1,040	324	405	198	505	1,290	865	236	148	198	216	118
13	1,100	349	377	198	540	3,740	920	236	148	198	198	106
14	1,100	324	405	255	710	4,940	1,160	236	148	164	181	118
15	760	620	405	278	810	4,940	1,100	255	133	148	164	118
16	665	1,820	469	300	620	3,540	980	300	118	118	164	148
17	580	1,580	469	255	349	1,660	1,160	1,160	118	148	148	181
18	437	920	469	255	236	1,290	1,220	1,160	710	133	118	198
19	405	810	469	255	324	1,290	1,430	1,430	1,3[illegible]	164	106	181
20	377	710	469	216	236	920	1,220	1,290	1,3[illegible]	133	164	148
21	349	710	540	216	324	810	1,160	810	1,220	164	148	148
22	300	540	620	216	300	665	1,040	810	1,100	164	133	148
23	255	620	580	236	164	920	1,040	760	1,100	148	255	133
24	255	620	437	236	469	980	920	540	1,100	148	405	118
25	236	980	349	255	405	1,040	710	540	1,2[illegible]	118	216	93
26	216	920	349	216	324	1,580	580	437	1,100	118	207	82
27	216	980	2,430	255	580	1,290	437	377	1,100	181	198	93
28	216	920	2,080	236	164	1,580	580	236	1,0[illegible]	164	164	82
29	216	1,580	1,160	216	148	865	377	236	9[illegible]	148	181	71
30	216	1,160	865	255	-------	580	349	278	7[illegible]	181	181	71
31	255	-------	540	255	-------	1,100	-------	255	-------	164	181	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,790	216	76[illegible]	1.16	1.34
November	1,820	216	66[illegible]	1.01	1.13
December	2,430	349	64[illegible]	.971	1.12
January	377	198	24[illegible]	.368	.42
February	810	148	35[illegible]	.536	.58
March	4,940	106	1,18[illegible]	1.79	2.06
April	3,540	349	1,34[illegible]	2.03	2.26
May	1,430	236	47[illegible]	.725	.84
June	1,360	118	57[illegible]	.871	.97
July	1,290	118	31[illegible]	.483	.56
August	710	106	24[illegible]	.363	.42
September	198	71	125	.189	.21
The year	4,940	71	57[illegible]	.874	11.91

LITTLE CALUMET RIVER AT HARVEY, ILL.

LOCATION.—Staff gage in NW. ¼ sec. 9, T. 36 N., R. 14 E., at Illinois Central Railroad bridge at Harvey.

DRAINAGE AREA.—570 square miles.

RECORDS AVAILABLE.—October, 1916, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,860 second-feet November 29 (gage height, 7.5 feet); minimum, 12 second-feet September 26 (gage height, 2.70 feet).

1916–1928: Maximum discharge, 3,750 second-feet March 18, 1919 (gage height, 10.28 feet), minimum occurred September 26, 1928.

Maximum stage known, 13.4 feet March 6, 1908.

REMARKS.—Records good except those for ice-affected periods (December 18 to January 13, January 28 to February 6, February 18 to March 1), which are poor, and for August 19–22, which are estimated. Most of flow from the upper 330 square miles of drainage area of the stream is diverted to Lake Michigan above gage. Gage-height records furnished by Sanitary District of Chicago.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	322	46	870	146	40	292	353	51	28	31	17	51
2	710	81	630	92	40	263	322	48	26	23	17	33
3	420	77	525	102	48	235	235	45	26	118	17	31
4	369	70	420	112	56	182	182	42	21	374	69	29
5	249	63	369	123	82	134	170	45	28	505	55	26
6	182	56	322	123	102	132	710	39	42	326	80	26
7	182	53	353	170	123	123	960	36	42	199	58	23
8	170	46	1,680	212	208	112	1,050	36	33	127	39	21
9	146	50	915	292	222	130	770	36	31	88	29	20
10	112	46	830	322	157	170	575	36	28	65	23	19
11	102	50	455	525	130	143	472	36	23	55	21	21
12	130	100	369	670	116	136	374	33	22	48	26	42
13	235	130	385	630	104	195	281	31	21	39	33	31
14	249	123	1,500	595	170	455	326	31	21	33	31	21
15	195	157	1,200	630	420	338	358	28	19	31	21	76
16	146	490	830	490	322	263	281	28	19	26	19	73
17	123	402	750	402	235	208	238	65	17	21	17	48
18	112	292	595	353	182	182	186	65	26	19	17	33
19	100	222	385	490	134	157	162	65	28	45		26
20	92	182	263	750	102	139	138	62	39	150	20	23
21	84	235	170	490	92	134	116	51	69	97		20
22	73	222	146	490	92	130	116	48	86	80		21
23	64	182	112	292	134	134	109	45	65	55	31	19
24	59	438	102	208	170	139	101	36	51	42	32	16
25	59	830	92	322	157	152	80	39	42	33	26	13
26	59	560	82	222	146	152	73	39	38	28	21	12
27	56	1,350	82	182	157	195	65	39	33	26	20	23
28	53	1,560	82	112	208	195	65	36	29	21	19	26
29	53	1,860	208	73	292	182	62	36	33	21	17	20
30	50	1,250	263	56	------	182	56	33	38	19	116	20
31	46	------	208	48	------	195	------	29	------	19	73	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	710	46	161	May	65	28	41.6
November	1,860	46	374	June	86	17	34.1
December	1,680	82	490	July	505	19	89.2
January	750	48	314	August	116	17	33.0
February	420	40	153	September	76	12	28.8
March	455	112	186				
April	1,050	56	300	The year	1,860	12	184

ST. JOSEPH RIVER AT MOTTVILLE, MICH.

LOCATION.—Float gage at hydroelectric plant of Michigan Gas & Electric Co. in NE. ¼ sec. 6, T. 8 S., R. 12 W., at Mottville, St. Joseph County.

RECORDS AVAILABLE.—December, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 6,690 second-feet December 14, 15, and 16 (gage height, 3.6 feet); minimum, 233 second-feet July 24 (gage height, −1.15 feet).

1923–1928: Maximum discharge, 8,250 second-feet April 20, 1926 (gage height, 4.4 feet); minimum, 30 second-feet August 4 and September 13, 1927 (gage height, −1.82 feet).

REMARKS.—Records excellent. Gage-height record furnished by Michigan Gas & Electric Co.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,300	955	3,700	2,210	2,630	2,630	2,070	1,550	1,330	1,180	1,120	1,010
2	905	580	3,700	2,070	2,630	2,490	2,930	1,620	1,300	1,480	1,010	855
3	1,360	955	3,860	2,070	2,350	2,350	2,490	1,360	995	1,550	1,060	765
4	1,360	512	3,700	2,350	2,350	1,940	2,780	1,620	1,330	1,120	1,180	1,300
5	1,120	1,180	3,860	2,350	2,210	2,350	2,780	1,420	1,550	1,810	725	1,240
6	1,180	905	4,190	2,350	2,630	2,210	2,780	1,240	1,240	1,550	1,240	1,240
7	1,060	1,810	4,190	2,780	2,780	1,810	2,630	2,070	1,550	1,940	1,240	1,240
8	1,240	1,120	4,190	2,490	2,780	1,810	2,350	1,810	1,670	810	905	1,120
9	685	1,300	3,700	3,080	3,230	2,070	2,930	1,300	1,480	1,420	855	725
10	1,240	1,240	3,860	2,930	2,930	2,210	2,930	1,420	1,120	1,300	905	1,180
11	1,120	905	3,700	3,080	3,080	1,680	2,780	1,420	1,940	1,060	1,010	1,060
12	1,240	1,120	4,530	3,230	2,490	1,940	2,780	1,420	1,680	1,060	725	1,010
13	1,550	955	5,040	3,380	2,930	2,070	2,630	765	1,620	1,010	1,180	905
14	1,420	580	5,760	3,540	2,930	2,210	2,350	1,550	1,420	855	855	905
15	1,420	1,240	5,580	3,230	3,230	2,630	2,350	1,360	1,360	725	955	1,010
16	1,010	1,240	5,760	3,540	3,080	2,490	2,930	1,300	1,360	1,180	905	512
17	1,420	1,360	4,530	3,700	3,700	2,630	2,070	1,480	955	1,240	955	955
18	1,480	1,620	4,530	3,540	3,700	2,210	2,210	1,620	1,240	1,240	810	955
19	1,360	1,240	4,530	3,380	3,540	2,490	2,070	1,480	1,420	1,180	765	955
20	1,300	810	4,190	3,080	2,490	2,210	2,070	1,180	1,620	1,360	1,010	955
21	1,180	1,240	4,020	2,490	2,630	2,210	2,070	1,940	1,550	1,180	955	810
22	1,180	1,120	4,360	2,350	2,490	2,070	1,810	1,680	1,240	1,060	855	810
23	725	1,060	4,360	2,930	2,780	1,940	2,070	1,810	1,420	1,360	905	512
24	1,060	955	4,020	3,380	3,080	2,210	2,070	1,360	725	1,010	1,010	955
25	1,010	1,120	3,540	3,380	2,490	1,060	1,810	1,420	1,480	1,060	955	955
26	1,060	1,300	3,230	3,380	2,070	2,210	1,810	1,420	1,300	1,180	685	855
27	905	1,480	2,930	3,380	2,490	2,210	1,680	1,120	1,420	1,240	1,180	810
28	905	1,940	2,930	2,630	2,780	2,210	1,550	1,680	1,360	1,180	1,120	905
29	855	2,490	2,930	2,210	2,350	2,930	1,360	1,680	1,360	955	1,180	855
30	685	3,230	3,230	2,780	-------	2,210	2,070	1,060	1,360	1,480	1,240	580
31	905	-------	3,380	2,490	-------	2,350	-------	1,620	-------	1,240	1,180	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	1,550	685	1,140	May	2,070	765	1,480
November	3,230	512	1,250	June	1,940	725	1,380
December	5,760	2,930	4,070	July	1,940	725	1,230
January	3,700	2,070	2,900	August	1,240	685	990
February	3,700	2,070	2,790	September	1,300	512	931
March	2,930	1,060	2,190				
April	2,930	1,360	2,310	The year	5,760	512	1,890

STREAM TRIBUTARY TO LAKE HURON

TITTABAWASSEE RIVER AT FREELAND, MICH.

LOCATION.—At highway bridge at Freeland, Saginaw County.
DRAINAGE AREA.—2,530 square miles.
RECORDS AVAILABLE.—August, 1903, to December, 1909; January, 1912, to September, 1928.
REMARKS.—Daily-discharge record furnished by G. S. Williams, consulting engineer, Ann Arbor, Mich.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	930	489	2,520	577	838	630	4,250	1,520	1,080	5,800	540	540
2	730	489	2,400	928	821	577	5,800	1,270	1,170	4,750	465	513
3	566	675	1,980	866	821	561	7,680	1,140	930	3,760	1,980	545
4	930	646	1,600	948	858	577	9,560	1,640	730	3,200	1,570	513
5	815	566	1,240	928	910	612	13,600	985	700	2,190	4,750	513
6	786	489	1,200	866	928	648	15,300	2,100	990	2,440	4,100	489
7	930	440	1,600	838	1,110	480	15,900	1,940	2,380	2,190	3,380	489
8	1,240	465	1,520	735	1,520	350	18,800	1,780	2,920	1,600	2,920	465
9	1,450	489	2,000	700	3,860	334	20,000	1,410	3,760	1,240	2,570	489
10	1,240	566	2,460	1,060	3,330	318	13,200	1,240	3,020	990	2,320	465
11	1,140	620	2,520	1,080	2,840	350	8,100	1,110	2,840	1,240	1,980	513
12	1,270	646	2,050	1,090	1,410	365	6,650	1,050	1,980	930	1,780	540
13	1,700	815	1,760	1,130	1,110	577	6,040	960	1,240	845	1,600	592
14	2,020	1,170	1,460	1,090	750	2,540	5,280	990	1,050	700	1,240	566
15	1,780	1,200	1,300	928	1,340	3,260	4,950	1,020	990	675	1,050	566
16	1,600	1,600	1,130	948	1,240	2,400	4,850	1,240	900	646	1,020	592
17	1,240	2,150	1,020	1,280	1,130	2,250	4,800	1,600	700	620	930	620
18	786	2,060	1,110	577	1,040	2,020	4,700	2,840	646	620	815	592
19	730	1,900	1,520	928	1,020	1,760	4,600	3,280	1,640	640	592	646
20	700	1,980	1,300	1,800	928	1,640	4,200	4,800	4,200	845	440	592
21	675	1,980	928	1,710	1,110	1,300	3,760	4,250	2,840	990	465	646
22	646	1,900	821	2,400	1,300	1,430	2,960	3,620	2,020	930	489	675
23	620	1,780	750	2,100	1,110	1,570	2,790	2,840	2,840	730	540	646
24	620	1,600	700	1,760	1,090	1,760	1,980	2,920	2,400	730	489	646
25	675	1,980	577	1,520	1,060	3,170	2,440	2,400	2,270	646	489	540
26	700	2,840	529	1,300	681	3,620	2,270	1,980	8,760	620	465	513
27	646	3,100	480	1,130	700	4,820	2,100	1,600	16,400	730	465	465
28	566	2,840	495	1,040	681	3,710	1,940	1,340	19,100	786	513	440
29	465	1,940	529	928	663	3,000	1,340	1,740	15,400	646	513	440
30	440	2,440	495	858	-------	4,000	1,450	1,860	11,200	540	513	465
31	465	-------	462	858	-------	4,200	-------	900	-------	620	540	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,020	440	939	0.371	0.43
November	3,100	440	1,400	.553	.62
December	2,520	462	1,310	.518	.60
January	2,400	577	1,130	.447	.52
February	3,860	663	1,250	.494	.53
March	4,820	318	1,770	.700	.81
April	20,000	1,340	6,710	2.65	2.96
May	4,800	900	1,920	.759	.88
June	19,100	646	3,920	1.55	1.73
July	5,800	540	1,420	.561	.65
August	4,750	440	1,340	.530	.61
September	675	440	544	.215	.24
The year	20,000	318	1,960	.775	10.58

NOTE.—Monthly and yearly discharge computed by U. S. Geol. Survey from daily-discharge record furnished by G. S. Williams, consulting engineer, Ann Arbor, Mich.

STREAMS TRIBUTARY TO LAKE ERIE

HURON RIVER AT BARTON, MICH.

LOCATION.—At dam and power plant of Eastern Michigan Edison Co. at Barton, Washtenaw County, near Ann Arbor.
DRAINAGE AREA.—723 square miles.
RECORDS AVAILABLE.—January, 1914, to September, 1928.
DETERMINATION OF DISCHARGE.—Flow computed from records of operation of power plant, the flow through undersluice during floods, and the depth of flow over dam.
REMARKS.—Daily-discharge record furnished by G. S. Williams, consulting engineer, Ann Arbor, Mich.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	233	171	938	456	476	407	811	484	296	262	243	194
2	258	154	917	354	375	399	830	324	290	254	255	253
3	217	187	921	408	476	387	784	399	285	231	259	131
4	246	168	844	428	427	366	789	402	228	246	285	129
5	213	182	715	476	487	369	786	361	294	192	222	132
6	223	174	749	469	477	344	766	345	508	223	232	136
7	308	180	926	518	464	336	833	318	686	207	246	126
8	300	178	937	538	692	341	915	317	692	175	223	141
9	238	217	935	540	726	367	867	474	668	177	202	109
10	210	202	928	623	785	313	769	305	626	152	223	126
11	249	206	919	730	569	355	767	251	481	151	202	135
12	221	204	828	742	552	356	753	253	545	131	182	134
13	241	216	930	713	492	693	754	299	484	146	182	137
14	225	197	935	798	779	716	627	217	354	151	183	161
15	214	251	941	770	882	608	663	203	414	152	156	181
16	301	199	942	707	920	631	648	219	306	141	170	53
17	114	272	905	682	858	628	637	297	303	135	162	128
18	229	226	883	744	735	535	606	407	323	148	144	131
19	192	199	657	839	596	588	581	449	316	215	151	132
20	204	205	758	702	574	479	524	480	239	341	141	113
21	189	200	709	623	526	552	594	485	290	207	154	120
22	161	221	724	658	573	527	594	484	269	223	136	126
23	177	208	684	629	613	541	586	423	235	224	151	114
24	183	273	664	601	479	551	568	458	234	190	133	99
25	154	273	642	671	503	672	579	389	234	186	132	121
26	157	275	594	597	444	781	520	364	213	183	137	99
27	153	434	592	566	474	765	522	376	211	365	135	118
28	156	691	553	483	476	766	425	433	211	419	135	121
29	158	849	593	478	415	764	469	294	308	236	133	178
30	172	936	607	503	------	761	521	296	267	312	148	65
31	151	------	574	454	------	640	------	299	------	185	116	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	308	114	208	0.288	0.33
November	936	154	278	.385	.43
December	942	553	789	1.09	1.26
January	839	354	597	.826	.95
February	920	375	581	.804	.87
March	781	313	533	.737	.85
April	915	425	670	.927	1.03
May	485	203	358	.495	.57
June	692	211	360	.498	.56
July	419	131	212	.293	.34
August	285	116	180	.249	.29
September	253	53	131	.181	.20
The year	942	53	408	.564	7.68

NOTE.—Monthly and yearly discharge computed by U. S. Geol. Survey from daily-discharge record furnished by G. S. Williams, consulting engineer, Ann Arbor, Mich.

ST. JOSEPH RIVER NEAR BLAKESLEE, OHIO

LOCATION.—Chain gage in SE. ¼ sec. 36, T. 7 N., R. 1 E., at highway bridge 1¾ miles east of Blakeslee and 1 mile above mouth of Bear Creek.

DRAINAGE AREA.—369 square miles.

RECORDS AVAILABLE.—August, 1926, to September, 1928.

EXTREMES.—Maximum discharge during year, 5,210 second-feet December 1 (gage height, 14.8 feet); minimum, 22 second-feet September 28 (gage height, 1.32 feet).

1926–1928: Maximum discharge, that of December 1, 1927; minimum, 17 second-feet September 6, 1927 (gage height, 1.20 feet).

REMARKS.—Records good except those for extremely high water and for periods of ice effect (December 19–27, January 1–12, January 27 to February 14, and February 20 to March 5), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	229	53	5,050				712	187	96	666	63	42
2	229	49	4,730				906	173	91	578	59	43
3	259	53	3,630		300	200	984	160	76	370	53	31
4	180	63	2,830				880	135	86	274	42	36
5	147	59	1,990				712	154	112	201	52	36
6	123	68	1,570	500		215	578	154	259	160	63	34
7	101	68	1,800			201	712	135	622	135	81	28
8	81	68	1,870		1,000	215	1,010	129	556	106	72	29
9	81	76	2,230			180	1,010	123	428	112	68	26
10	76	76	2,590			166	808	129	336	129	55	27
11	59	68	2,590			180	600	118	274	96	49	28
12	68	72	1,950			187	512	106	187	81	41	30
13	86	91	1,910	1,140	700	259	370	106	154	72	34	30
14	112	96	3,350	1,140		760	370	96	129	68	30	31
15	129	86	4,250	1,110	1,470	784	408	91	106	63	35	32
16	118	91	3,280	1,040	1,680	578	352	101	91	63	33	34
17	96	91	2,470	832	1,540	408	304	112	86	55	32	38
18	76	81	1,910	600	1,010	336	289	154	76	49	30	32
19	72	72		534	622	289	259	166	81	51	30	28
20	68	72		958		274	244	129	147	91	29	24
21	72	72		1,200		274	259	129	118	166	27	25
22	68	72		1,010		274	490	112	96	135	35	24
23	59	76	500	808		274	578	112	86	129	33	24
24	59	135		666	350	320	408	96	81	123	41	27
25	55	289		622		352	336	141	76	106	36	22
26	55	274		556		428	274	304	76	96	31	26
27	54	370				448	244	229	72	129	28	22
28	52	932	320			468	229	173	72	154	27	22
29	55	1,760	428	300		428	215	141	129	106	34	24
30	55	3,420	644			336	187	123	448	86	36	25
31	59		760			336		106		68	54	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	259	52	97.8	0.265	0.31
November	3,420	49	295	.799	.89
December	5,050	320	1,830	4.96	5.72
January	1,200		636	1.72	1.98
February	1,680		659	1.79	1.93
March	784	166	322	.873	1.01
April	1,010	187	508	1.38	1.54
May	304	91	139	.377	.43
June	622	72	175	.474	.53
July	666	49	152	.412	.48
August	81	27	43.0	.117	.13
September	43	22	29.3	.079	.09
The year	5,050	22	407	1.10	15.04

MAUMEE RIVER AT ANTWERP, OHIO

LOCATION.—Water-stage recorder just below highway bridge 1 mile north of Antwerp, Paulding County, and about 7 miles downstream from State boundary.

DRAINAGE AREA.—2,050 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year not known (maximum gage height not recorded); minimum, 66 second-feet September 25 (gage height, 0.53 foot).

1921–1928: Maximum discharge, 16,400 second-feet February 1, 1927 (gage height, 18.1 feet); minimum, that of September 25, 1928.

REMARKS.—Records excellent except those for periods of ice effect and for periods when float was frozen, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,480	212	13,000			2,030	4,280	1,490	413	800	377	166
2	2,100	212	14,600	1,800		1,690	4,640	850	393	850	306	176
3	1,690	212	14,600		800	1,510	5,000	750	342	1,150	261	110
4	1,330	198	14,200			1,450	4,910	700	152	673	234	312
5	1,000	212	12,500	820		1,270	3,920	655	166	750	261	428
6	800	212	9,130			1,100	2,820	386	3,020	2,290	433	256
7	610	212	7,480			950	2,380	239	4,600	2,900	610	166
8	500	241	9,960		4,200	950	2,590	565	4,300	1,630	377	186
9	416	832	7,300	2,000		950	2,450	500	4,010	1,150	396	186
10	340	288	7,300			1,000	2,310	500	4,460	1,630	416	186
11	340	241	3,900	3,380		1,100	2,170	478	4,010	1,050	358	176
12	322	106	3,900	2,590		1,100	1,890	457	3,060	655	322	176
13	457	75		2,740	3,600	1,340	1,570	416	2,310	750	322	166
14	750	80	11,200	2,900		3,140	1,330	358	1,750	521	276	136
15	700	218		2,980		3,920	1,210	396	1,450	457	248	146
16	610	288		2,900		3,300	1,150	396	1,100	655	222	156
17	543	307		2,660	8,500	2,740	1,100	396	857	700	198	156
18	521	254	9,400	2,380		2,380	1,050	1,480	655	700	186	166
19	396	207		2,450	3,600	1,960	597	1,700	589	950	186	166
20	358	256		5,440	3,600	1,570	625	4,820	589	1,050	176	228
21	322	256	3,600			1,270	850	4,140	2,040	1,000	176	222
22	288	288	3,380			1,100	1,890	1,950	2,170	900	222	176
23	288	263	3,300	3,800	2,200	1,050	2,590	1,100	1,690	655	641	109
24	272	304	2,300			1,050	2,450	800	1,690	610	242	76
25	256	1,420	1,450			1,050	2,310	655	1,450	750	96	209
26	272	1,820	1,390			1,150	2,310	565	1,330	655	73	146
27	256	1,330	1,150			1,330	2,170	478	1,270	700	82	204
28	173	1,330	1,000	1,700	2,200	1,390	1,750	500	1,210	498	530	199
29	198	4,260	1,100			1,390	1,450	588	1,100	306	202	136
30	198	8,870	1,570			1,450	1,150	521	950	396	120	146
31	198	-------	2,660			2,560	-------	457	-------	457	210	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,100	173	580	0.283	0.33
November	8,870	75	833	.406	.45
December	----------	1,000	7,140	3.48	4.01
January	----------	----------	2,430	1.19	1.37
February	----------	----------	3,290	1.60	1.73
March	3,920	950	1,620	.790	.91
April	5,000	597	2,230	1.09	1.22
May	4,820	239	945	.461	.53
June	4,600	152	1,770	.863	.96
July	2,900	306	911	.444	.51
August	641	73	283	.138	.16
September	428	76	182	.089	.10
The year	----------	73	1,850	.902	12.28

NOTE.—Float frozen at frequent intervals and no record obtained Dec. 9–21, 24, Jan. 1–6, 21–31, and Feb. 1–29. Affected by ice Jan. 7–10. Discharge during these periods estimated.

MAUMEE RIVER NEAR DEFIANCE, OHIO

LOCATION.—Water-stage recorder in NW. ¼ sec. 22, T. 4 N., R. 5 E., at Independence Dam, 5 miles east of Defiance. Zero of gage is 659.12 feet above mean sea level.

DRAINAGE AREA.—5, 530 square miles.

RECORDS AVAILABLE.—November, 1924, to September, 1928.

EXTREMES.—Maximum combined daily discharge of river and canal during year, 39,700 second-feet December 15; minimum, 168 second-feet September 26.

1924–1928: Maximum combined daily discharge of river and canal, 64,600 second-feet April 9, 1926; minimum, 157 second-feet September 4, 1925.

REMARKS.—Records excellent except those for extremely low water, which are fair. Water is diverted past station by Miami & Erie Canal (see record of Miami & Erie Canal near Defiance, p. 47).

Daily discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	245	170	29,600	7,270	1,820	5,140	24,500	2,570	586	1,120	568	284
2	1,330	180	35,900	4,920	1,880	4,920	21,300	2,070	568	1,230	400	180
3	1,910	180	35,900	3,100	1,410	4,490	15,200	1,390	586	1,390	340	120
4	1,580	170	28,700	2,740	1,330	3,680	11,900	1,280	1,220	1,300	297	120
5	1,200	160	22,100	2,400	4,700	3,680	8,880	1,200	2,920	1,910	385	140
6	804	160	16,600	2,570	7,270	2,570	7,270	912	8,330	2,730	297	355
7	660	193	15,200	2,740	10,600	2,230	6,280	804	20,500	5,360	714	271
8	478	206	18,900	2,740	11,900	1,910	7,790	702	22,100	4,490	1,020	140
9	496	258	16,600	4,280	14,500	2,070	6,770	890	18,900	2,740	890	180
10	430	681	13,200	5,810	14,500	2,070	5,140	804	17,400	1,910	949	120
11	460	430	10,600	6,770	11,200	2,230	5,140	622	13,200	1,880	445	130
12	460	460	9,450	7,270	7,790	3,100	3,880	496	10,000	1,360	415	110
13	415	297	15,400	8,330	6,040	3,680	3,480	460	6,770	1,570	445	80
14	415	150	30,500	7,790	6,930	8,380	2,920	660	4,490	1,400	518	80
15	681	50	39,500	7,270	18,700	13,800	2,230	640	3,680	2,210	284	64
16	640	68	36,800	6,770	28,700	11,200	2,740	722	1,670	2,230	193	44
17	604	245	26,100	5,580	26,100	8,330	2,740	702	1,150	1,910	180	70
18	586	284	18,900	4,490	17,400	6,280	1,910	1,280	1,120	1,200	150	80
19	460	258	17,400	6,300	11,900	5,140	1,700	4,080	1,280	1,020	130	80
20	400	245	11,900	11,900	8,330	3,480	890	6,280	1,360	1,300	289	80
21	284	245	6,740	15,200	6,280	2,740	1,230	8,880	2,080	1,500	310	75
22	160	385	4,490	13,600	4,920	2,570	4,920	6,280	4,490	2,230	219	140
23	258	478	3,290	10,200	5,360	2,400	11,900	8,330	4,280	3,290	140	193
24	206	532	2,740	6,040	6,040	2,230	11,200	1,910	2,920	2,230	424	64
25	258	1,200	1,670	7,270	8,330	1,850	8,330	1,760	2,570	1,700	340	22
26	180	2,570	2,070	10,000	7,790	2,570	6,280	1,670	2,570	1,360	160	6
27	130	2,740	1,820	5,810	7,260	2,920	5,140	1,100	1,910	980	130	20
28	130	3,460	1,760	3,880	4,920	3,100	4,080	1,020	1,700	1,150	120	24
29	80	6,280	2,070	3,660	4,920	2,920	2,740	1,120	1,550	681	310	70
30	110	17,400	2,230	2,740	-------	4,080	2,230	804	1,670	721	258	64
31	130	-------	5,280	1,820	-------	15,000	-------	784	-------	702	90	------

Monthly discharge, in second-feet, of Maumee River and Miami & Erie Canal near Defiance, Ohio, 1927–28

Month	Maximum (combined)	Minimum (combined)	Mean		
			River	Canal	Combined
October	2,130	264	522	165	687
November	17,600	221	1,340	192	1,530
December	39,700	1,900	15,600	216	15,800
January	15,500	2,030	6,170	237	6,410
February	28,900	1,550	9,270	226	9,500
March	15,200	2,050	4,540	201	4,740
April	24,700	1,080	6,690	201	6,890
May	9,080	656	2,010	193	2,200
June	22,300	699	5,450	190	5,640
July	5,570	880	1,830	195	2,020
August	1,110	279	368	177	545
September	558	168	114	192	306
The year	39,700	168	4,480	199	4,680

MAUMEE RIVER AT WATERVILLE, OHIO

LOCATION.—Chain gage at highway bridge at Waterville, Lucas County, 3 miles below mouth of Tontogany Creek.

DRAINAGE AREA.—6,310 square miles.

RECORDS AVAILABLE.—November, 1898, to December, 1901, and August, 1921, to September, 1928.

EXTREMES.—Maximum combined daily discharge of river and canal during year, 41,400 second-feet December 16; minimum, 197 second-feet September 30.

1921–1928: Maximum combined daily discharge, 56 200 second-feet April 9, 1926; minimum, 195 second-feet October 27, 1924.

REMARKS.—Records good except those for periods of ice effect (January 1–7, January 27 to February 4, and March 1–7), which are fair. Water is diverted past station by Miami & Erie Canal (see record of Miami & Erie Canal at Waterville, p. 48).

Daily discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	70	31,100	8,100	1,700	5,500	24,700	2,110	535	2,000	509	37
2	94	102	37,100	5,400	1,800	5,100	26,800	2,440	386	1,230	266	67
3	62	102	38,700	3,300	1,200	4,700	20,000	1,700	141	1,420	141	24
4	520	110	34,100	2,900	1,100	4,000	14,200	1,230	200	1,510	78	26
5	1,270	94	26,800	2,500	5,560	3,900	11,200	1,070	2,000	1,600	78	31
6	940	78	21,300	2,700	11,200	2,500	8,430	970	7,990	2,110	78	78
7	706	70	16,400	2,900	13,700	2,200	6,730	656	24,000	3,580	78	67
8	424	86	15,300	3,580	13,200	2,110	9,320	813	26,800	5,560	57	106
9	323	110	21,300	4,490	17,000	2,000	8,430	535	26,800	3,440	726	91
10	126	102	16,400	6,730	19,400	1,900	6,330	783	22,000	2,330	458	42
11	250	102	14,800	7,560	15,300	2,560	5,560	642	18,800	1,900	410	42
12	290	110	10,700	8,430	13,200	2,560	5,190	290	13,200	1,510	78	67
13	290	70	15,300	8,430	9,780	3,180	3,580	233	9,780	1,230	49	29
14	230	82	26,800	8,870	6,730	7,990	3,720	132	5,940	1,900	37	78
15	70	78	38,700	9,320	17,000	14,800	2,440	434	4,170	1,070	42	42
16	190	110	40,900	7,560	28,900	12,200	1,900	561	2,800	1,900	42	42
17	356	126	37,100	6,730	29,600	11,200	3,180	726	1,510	2,110	57	42
18	190	102	20,000	5,940	19,400	7,560	2,330	587	970	1,700	57	24
19	334	86	18,800	4,830	14,200	5,940	2,560	2,000	1,070	1,230	37	42
20	250	110	13,200	11,200	12,200	4,170	970	5,940	1,700	906	37	42
21	190	110	7,560	15,300	5,560	3,180	535	10,700	1,900	1,230	57	49
22	230	102	7,560	10,700	5,940	2,680	4,830	9,320	3,180	1,600	57	67
23	190	110	4,490	5,940	5,940	2,560	8,430	4,830	4,490	2,110	57	57
24	86	230	4,170	7,140	5,560	2,440	13,200	874	4,490	2,920	78	26
25	94	210	3,870	7,560	9,320	2,220	9,320	2,100	2,650	1,900	78	24
26	70	290	2,110	5,190	10,200	2,000	7,560	2,220	2,560	1,510	78	37
27	110	3,310	1,420	6,300	8,430	2,920	5,940	1,600	2,330	1,070	33	91
28	102	2,410	1,800	4,100	5,940	3,050	5,190	874	1,900	906	42	57
29	90	5,600	2,110	3,900	4,170	2,920	3,440	1,000	2,000	813	91	57
30	70	10,700	2,330	2,700	-------	8,870	2,330	906	1,900	338	106	57
31	90	-------	3,870	1,700	-------	14,800	-------	783	-------	458	42	------

Monthly discharge, in second-feet, of Maumee River and Miami & Erie Canal at Waterville, Ohio, 1927–28

Month	Maximum (combined)	Minimum (combined)	Mean		
			River	Canal	Combined
October	1,770	430	268	458	726
November	11,200	412	832	375	1,210
December	41,400	1,900	17,300	461	17,800
January	15,900	----------	6,190	482	6,670
February	30,100	----------	10,800	518	11,300
March	15,300	2,400	4,960	484	5,440
April	27,200	1,010	7,610	489	8,100
May	11,200	629	1,910	493	2,400
June	27,300	602	6,610	495	7,100
July	6,090	835	1,780	515	2,300
August	1,240	418	130	448	578
September	503	197	51.4	256	307
The year	41,400	197	4,850	456	5,310

ST. MARYS RIVER NEAR WILLSHIRE, OHIO

LOCATION.—Chain gage in sec. 34, T. 3 S., R. 1 E., at highway bridge 3 miles southeast of Willshire and three-fourths mile above mouth of Black Creek.

DRAINAGE AREA.—355 square miles.

RECORDS AVAILABLE.—September, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,340 second-feet April 1 (gage height, 12.6 feet); minimum, 17 second-feet October 25 (gage height, 1.14 feet).

1925–1928: Maximum discharge, 3,960 second-feet March 22, 1927 (gage height, 16.1 feet); minimum discharge, 14 second-feet August 13, 1927; minimum gage height, 1.07 feet October 16, 1925.

REMARKS.—Records good except those for periods of high water and for ice-affected periods (January 1–14, 28–31, February 1–8, 24–29, and March 1), which are fair. Water flows from Lake St. Marys, at the head of this stream, into Wabash River Basin. Some water is diverted at this point by Miami & Erie Canal into Auglaize River Basin. Flow also regulated to some extent at Lake St. Marys.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	19	1,250			200	2,300	137	46	146	53	30
2	26	21	1,380		100	217	1,940	121	46	137	53	29
3	27	29	1,540			205	1,320	113	46	113	50	37
4	24	33	1,400	120		183	875	97	129	113	46	34
5	22	26	1,050			164	565	89	321	735	43	32
6	27	24	637		700	137	363	78	601	427	105	37
7	26	23	395			121	229	74	715	475	183	34
8	24	22	493			113	205	70	1,000	547	183	34
9	20	24	321		975	129	205	70	1,420	529	129	32
10	19	32	307		875	155	193	67	1,320	293	85	30
11	19	28	241	200	795	183	164	67	1,150	146	60	30
12	19	23	183		601	183	146	64	915	97	53	33
13	29	20	335		379	307	129	60	735	105	46	33
14	28	22	1,510		529	637	121	64	529	183	43	33
15	26	23	1,780	241	1,250	637	113	53	293	293	40	30
16	30	24	1,900	173	1,450	715	105	53	164	411	40	30
17	27	32	1,660	164	1,720	655	93	60	105	619	37	34
18	26	30	1,200	146	1,540	427	85	64	85	755	34	30
19	24	26	775	279	1,150	241	78	411	85	619	32	27
20	25	29	411	529	835	164	74	173	253	335	32	25
21	24	32	229	443	511	137	93	105	321	183	33	33
22	22	32	137	565	307	121	459	78	529	193	34	34
23	20	30	105	637	279	113	619	64	601	349	37	33
24	18	40	89	475		105	1,050	56	715	411	43	37
25	17	33	81	459		97	1,180	60	815	427	37	37
26	19	30	74	395	200	105	895	56	795	279	33	34
27	27	34	60	395		146	637	50	619	146	34	34
28	24	53	60			173	411	50	459	105	34	37
29	22	173	81	150		459	253	50	293	81	37	37
30	20	619	105		-------	1,150	183	50	183	70	37	37
31	18	-------	146		-------	1,570	-------	50	-------	60	37	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	30	17	23.2	May	411	50	85.6
November	619	19	52.9	June	1,420	46	510
December	1,900	60	643	July	755	60	303
January	637	-------	250	August	183	32	56.1
February	1,720	-------	607	September	37	25	32.9
March	1,570	97	321				
April	2,300	74	503	The year	2,300	17	281

TIFFIN RIVER NEAR STRYKER, OHIO

LOCATION.—Chain gage in sec. 17, T. 6 N., R. 4 E., at highway bridge 2 miles southwest of Stryker and 2 miles above mouth of Beaver Creek.

DRAINAGE AREA.—450 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1928 (discontinued).

EXTREMES.—Maximum discharge during year, 2,160 second-feet December 15 (gage height, 13.1 feet); minimum, 18 second-feet September 9 (gage height, 1.20 feet).

1921–1928: Maximum discharge, that of December 15, 1927; minimum, 10 second-feet August 29 and 30, 1925 (gage height, 0.92 foot).

REMARKS.—Records good except those for periods of ice effect (December 19–27, January 1–10, January 29 to February 3, and February 20 to March 5) and for extremely low water, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	102	57	1,610				878	156	90	581	48	38
2	102	53	1,960		300		1,110	156	90	501	42	30
3	137	53	1,910			300	1,150	137	80	320	39	32
4	113	55	1,760		292		1,030	131	85	195	38	31
5	74	58	1,560		951		788	131	102	143	38	24
6	61	58	1,310	550	1,090	182	649	125	250	107	48	22
7	51	58	1,070		1,170	222	752	131	683	96	53	25
8	42	59	1,380		1,190	264	1,130	119	752	90	48	20
9	39	53	1,650		1,230	208	1,250	113	549	80	41	20
10	45	57	1,820		1,250	264	1,230	107	410	85	36	23
11	42	55	1,850	1,010	1,230	182	878	107	278	90	34	27
12	42	60	1,630	1,110	970	182	598	102	182	74	32	24
13	42	61	1,440	1,190	683	306	470	96	143	63	30	25
14	48	80	1,780	1,050	649	842	425	90	113	59	29	28
15	63	68	2,140	1,010	1,270	989	455	85	113	49	26	32
16	63	63	2,070	951	1,440	842	440	90	96	63	26	35
17	58	62	1,850	770	1,310	598	350	107	80	55	27	37
18	49	63	1,800	615	1,150	440	306	131	74	48	28	35
19	48	57		734	666	395	278	182	85	45	26	28
20	44	50		1,190		335	250	250	96	102	25	26
21	44	52		1,250		306	236	264	85	250	27	28
22	44	54		1,230		306	410	208	80	131	23	30
23	42	53	600	1,130		335	549	156	80	107	23	28
24	42	68		896		365	470	131	74	102	31	28
25	45	85		824	400	425	365	250	68	85	32	30
26	42	96		824		501	292	264	63	68	30	32
27	48	102		752		581	236	222	61	61	30	30
28	49	380	350	632		598	208	150	61	107	28	32
29	55	734	470			485	195	119	74	85	20	35
30	49	1,110	717	400		440	169	107	250	68	28	32
31	53		951			455		102		54	48	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	137	39	57.4	0.128	0.15
November	1,110	50	130	.289	.32
December	2,140	350	1,240	2.76	3.18
January	1,250		770	1.71	1.97
February	1,440		739	1.64	1.77
March	989	182	405	.900	1.04
April	1,250	169	585	1.30	1.45
May	264	85	146	.324	.37
June	752	61	175	.389	.43
July	581	45	128	.284	.33
August	53	20	33.4	.074	.09
September	38	20	28.9	.064	.07
The year	2,140	20	369	.820	11.17

TIFFIN RIVER NEAR BRUNERSBURG, OHIO

LOCATION.—Chain gage to September 22 and water-stage recorder thereafter at highway bridge between secs. 32 and 33, T. 5 N., R. 4 E., 3 miles northwest of Brunersburg and three-eighths mile below mouth of Mud Creek.
DRAINAGE AREA.—766 square miles.
RECORDS AVAILABLE.—August and September, 1928.
EXTREMES.—Maximum discharge, 45 second-feet September 1 (gage height, 1.46 feet); minimum, 25 second-feet September 21 (gage height, 1.06 feet).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		42	11		30	21		26
2		40	12		30	22		26
3		37	13		29	23	32	28
4		37	14		28	24	32	28
5		37	15		28	25	32	27
6		34	16		31	26	32	27
7		30	17		32	27	34	27
8		29	18		32	28	34	26
9		30	19		32	29	32	26
10		30	20		28	30	32	26
						31	34	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
August 23-31	34	32	32.7	0.043	0.01
September	42	26	30.4	.040	.04

AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO

LOCATION.—Chain gage in SE. ¼ sec. 15, T. 1 S., R. 5 E., at highway bridge 3½ miles northeast of Fort Jennings and 6 miles above mouth of Ottawa River.

DRAINAGE AREA.—333 square miles.

RECORDS AVAILABLE.—August, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 5,120 second-feet March 31 (gage height, 13.9 feet); minimum, 26 second-feet September 24 (gage height 1.26 feet).

1921–1928: Maximum discharge, 7,400 second-feet March 21, 1927 (gage height, 16.4 feet); minimum, 12 second-feet November 26, 1923, and August 9, 11, 1924 (gage height, 1.10 feet).

REMARKS.—Records good except those for periods of ice effect (December 19–26, January 1–13, January 22 to February 8, and February 20 to March 3), which are fair. Diversion into this basin from Lake St. Marys by Miami & Erie Canal above station.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	49	38	3,640				3,180	137	61	145	85	46
2	49	43	4,050			250	1,080	115	43	130	61	49
3	33	49	1,880	190	160		660	102	52	246	85	36
4	36	40	540			236	410	90	61	257	80	38
5	38	43	386			137	314	85	386	207	76	43
6	61	40	268		970	153	226	90	1,880	1,240	68	49
7	43	31	291			108	246	80	3,000	750	68	46
8	43	30	870	300		153	386	80	1,910	314	122	46
9	58	40	386		1,490	153	257	80	1,840	179	96	55
10	33	52	460		780	246	216	72	1,560	130	68	49
11	36	43	510		435	236	188	76	990	137	58	46
12	43	43	338	490	280	198	170	76	510	102	55	43
13	52	43	435		246	338	153	76	291	108	49	43
14	49	31	3,440	338	435	1,880	145	58	207	1,380	55	43
15	38	36	4,720	268	3,640	1,080	122	55	153	1,520	49	49
16	49	43	2,500	216	3,570	810	102	68	130	1,210	55	49
17	32	40	720	188	1,520	386	108	55	108	460	55	40
18	43	52	268	179	1,210	246	102	72	102	280	52	38
19	49	55	200	257	540	188	96	85	108	188	49	28
20	40	55	200	1,520		170	85	170	246	153	43	33
21	49	58		570	440	153	90	96	1,140	122	55	30
22	49	55				137	1,980	90	660	570	49	38
23	43	49		420		137	2,140	68	1,050	1,280	61	38
24	30	49	100			137	1,140	72	870	570	58	26
25	29	55				130	630	80	780	314	55	29
26	33	55			470	130	386	76	386	198	49	33
27	38	49	85			236	268	72	236	153	38	27
28	33	540	108	180		198	207	49	188	122	49	32
29	38	900	122			153	188	72	170	122	58	36
30	43	1,210	130			2,500	153	68	153	115	58	31
31	32		226			5,120		46		108	49	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	61	29	41.6	May	170	46	81.0
November	1,210	30	129	June	3,000	43	642
December	4,720		883	July	1,520	102	413
January	1,520	179	330	August	122	38	61.5
February	3,640		801	September	55	26	39.6
March	5,120	108	532				
April	3,180	85	514	The year	5,120	26	370

AUGLAIZE RIVER NEAR DEFIANCE, OHIO

LOCATION.—Staff gage in NE. ¼ sec. 9, T. 3 N., R. 4 E., at dam and power plant of Toledo Edison Co., 3 miles south of Defiance, and just below mouth of Beetree Creek.

DRAINAGE AREA.—2,330 square miles.

RECORDS AVAILABLE.—April, 1915, to September, 1928. May to August, 1903, at highway bridge 1¾ miles below present gage.

EXTREMES.—Maximum mean daily discharge during year, 19,200 second-feet December 16; minimum, 37 second-feet October 27.

1915–1928: Maximum mean daily discharge, 36,100 second-feet March 18, 1919; minimum, 6 second-feet October 17, 1923.

REMARKS.—Records good. Daily discharge ascertained by power company from readings on head and tail gages. Record of daily discharge, not corrected for leakage, furnished by Toledo Edison Co. Ratings have been checked by current-meter measurements. Daily discharge determinations below 500 second-feet corrected for leakage.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	237	38	13,100	1,970	587	2,450	18,100	1,050	74	175	118	428
2	41	38	17,500	853	565	2,510	12,700	586	145	315	70	41
3	185	39	18,000	1,280	108	2,480	7,560	502	56	436	66	41
4	192	39	11,000	1,300	699	1,680	4,630	502	1,300	350	182	103
5	170	39	6,000	1,170	2,540	2,050	2,850	583	2,300	1,110	132	41
6	92	40	3,740	1,160	3,930	986	2,500	155	7,450	2,080	68	41
7	115	40	2,760	1,110	5,490	994	2,250	527	14,500	2,730	460	41
8	115	40	3,430	836	5,460	994	2,530	500	15,900	1,830	401	205
9	261	41	4,320	1,680	8,450	951	1,760	388	13,400	1,060	551	41
10	187	41	2,060	2,450	6,750	1,050	1,120	401	12,500	602	50	41
11	199	249	3,130	2,840	4,620	1,260	1,350	44	8,250	491	53	86
12	246	353	2,560	2,880	2,670	1,730	712	50	5,790	345	53	41
13	85	123	2,490	2,980	2,210	2,080	969	56	3,390	1,300	191	41
14	84	39	10,900	2,870	3,370	4,880	902	388	2,500	468	301	41
15	110	40	18,900	2,560	10,100	7,040	252	326	1,760	1,990	50	41
16	41	40	19,200	2,090	15,800	5,320	1,230	385	286	1,850	50	81
17	211	40	11,200	1,470	13,200	3,650	958	414	44	1,100	52	41
18	246	52	6,050	1,050	7,090	2,600	488	1,440	526	679	53	85
19	85	41	2,760	1,790	3,920	1,980	397	2,660	762	517	55	41
20	377	116	1,330	4,160	1,870	1,090	39	3,800	620	476	300	41
21	40	44	1,080	4,450	2,010	777	613	3,590	1,600	571	297	41
22	109	394	916	3,460	1,730	898	2,940	2,570	2,410	1,140	97	41
23	263	414	954	2,710	2,530	945	8,970	1,450	2,480	2,370	47	41
24	241	185	765	2,550	2,690	800	6,950	715	1,200	1,590	47	41
25	249	1,120	55	2,220	4,250	226	4,870	707	1,360	1,210	147	41
26	80	899	501	2,510	3,790	1,010	3,350	553	1,180	518	47	41
27	37	763	535	2,080	2,760	1,020	2,550	42	738	476	197	41
28	38	1,830	508	1,340	2,510	1,020	1,660	370	618	67	180	41
29	38	2,200	650	508	2,480	1,050	611	408	853	70	57	41
30	38	6,400	532	1,280	-------	2,540	1,030	46	785	684	42	41
31	48	-------	1,960	526	-------	13,300	-------	197	-------	369	44	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	377	37	144	May	3,800	42	820
November	6,400	38	525	June	15,900	44	3,490
December	19,200	55	5,450	July	2,730	67	934
January	4,450	508	2,000	August	551	42	144
February	15,800	108	4,280	September	428	41	65.7
March	13,300	226	2,300				
April	18,100	39	3,230	The year	19,200	37	1,940

OTTAWA RIVER AT ALLENTOWN, OHIO

LOCATION.—Water-stage recorder in NW. ¼ sec. 29, T. 3 S., R. 6 E., at highway bridge at Allentown.

DRAINAGE AREA.—168 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,620 second-feet March 30 (gage height, 8.2 feet); minimum, 7.4 second-feet September 7 (gage height, 0.72 foot).

1923–1928: Maximum discharge, 3,100 second-feet March 20, 1927 (gage height, 9.0 feet); minimum, 6.5 second-feet June 2, 1925 (gage height, 0.63 foot).

REMARKS.—Records excellent except those for extremely high and extremely low water and for periods of ice effect (December 8–12, 19–22, January 1–7, and January 26 to February 4), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	14	2,280	75		134	725	41	15	51	29	13
2	19	16	960		80	109	370	41	1[illegible]	239	26	12
3	19	14	424	25		117	210	28	14	56	24	13
4	14	12	176			109	134	26	7[illegible]	38	22	13
5	11	14	90		754	84	102	29	17[illegible]	935	26	13
6	10	11	65	45	528	68	81	21	1,28[illegible]	288	33	18
7	11	10	50	90	232	56	102	19	1,24[illegible]	117	143	12
8	11	12		298	508	46	109	18	96[illegible]	63	39	13
9	11	13		339	620	61	84	13	1,00[illegible]	39	21	11
10	9.7	11	70	221	288	109	50	24	72[illegible]	33	19	10
11	12	12		254	152	109	40	42	41[illegible]	33	18	10
12	30	16	94	243	102	94	34	35	221	26	17	10
13	20	13	466	190	87	441	31	33	143	439	16	10
14	14	11	2,330	170	464	800	27	27	91	650	17	11
15	13	12	1,320	134	1,600	360	33	28	28[illegible]	268	15	13
16	12	19	840	94	960	200	36	31	44	152	16	10
17	11	40	420	94	508	134	33	32	33	83	14	9.3
18	13	18	114	91	302	87	33	27	3[illegible]	55	14	10
19	12	14		242	180	68	32	37	7[illegible]	42	14	11
20	13	13	35	585	152	53	26	26	17[illegible]	54	13	11
21	12	14		514	109	45	430	22	102	1,250	14	12
22	11	14		370	125	44	1,120	20	71	760	14	10
23	10	14	32	430	252	43	690	16	7[illegible]	550	14	9.7
24	9.7	32	23	356	550	40	370	15	143	278	17	9.7
25	10	18	30	348	430	39	243	29	94	143	15	10
26	11	19	24		210	148	152	18	6[illegible]	67	14	10
27	11	19	22		125	161	109	15	57	65	13	10
28	11	210	21	70	117	102	81	14	4[illegible]	59	14	10
29	12	460	34		134	264	66	15	5[illegible]	40	14	10
30	12	1,230	46		-------	2,280	57	14	5[illegible]	33	13	10
31	11	------	88		-------	1,400	-------	14	-------	31	13	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	30	9.7	12.9	0.077	0.09
November	1,230	10	77.5	.461	.51
December	2,330	21	334	1.99	2.29
January	585	----------	184	1.10	1.27
February	1,600	----------	338	2.01	2.17
March	2,280	39	252	1.50	1.73
April	1,120	26	187	1.11	1.24
May	42	14	25.0	.149	.17
June	1,280	14	258	1.54	1.72
July	1,250	26	224	1.33	1.53
August	143	13	22.3	.133	.15
September	18	9.3	11.2	.067	.07
The year	2,330	9.3	160	.952	12.94

BLANCHARD RIVER NEAR FINDLAY, OHIO

LOCATION.—Chain gage on east line of sec. 10, T. 1 N., R. 10 E., at highway bridge 2 miles northwest of Findlay.

DRAINAGE AREA.—343 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 6,320 second-feet December 1 (gage height, 14.5 feet); minimum, 2.5 second-feet September 17 and 28 (gage height, 0.78 foot).

1923–1928: Maximum discharge, that of December 1, 1927; minimum, that of September 17 and 28, 1928.

The flood of March, 1913, reached a stage corresponding to 18.5 feet on gage.

REMARKS.—Records good except those for period of ice effect, January 2–6, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	13	5,560	123	61	383	2,600	109	31	87	20	11
2	54	15	3,960		49	310	1,070	113	33	77	23	4
3	123	17	1,160		48	292	539	75	31	52	22	3
4	100	19	619	40	54	258	364	95	55	46	20	6
5	86	21	383		1,070	52	258	54	241	60	17	7
6	74	29	258		539	131	200	68	2,010	162	18	16
7	67	20	328	91	499	136	206	65	3,350	83	15	5
8	36	12	539	328	1,420	126	209	65	2,600	56	16	5
9	40	11	241	499	1,200	164	209	58	2,060	48	12	5
10	38	10	209	480	440	258	185	68	1,780	46	14	5
11	53	13	206	499	275	173	153	81	864	58	16	6
12	56	14	241	460	209	182	113	81	402	38	13	7
13	60	10	823	421	118	480	99	60	241	50	17	8
14	74	14	4,290	383	402	1,830	89	68	182	75	19	11
15	50	14	4,340	402	2,450	1,200	79	70	126	258	14	8
16	42	20	2,750	258	1,650	539	75	63	95	162	16	5
17	37	50	499	258	659	328	65	66	72	83	14	4
18	44	157	258	241	440	206	75	75	58	52	12	6
19	45	107	167	402	275	200	77	87	60	54	10	8
20	59	86	128	1,520	206	159	56	79	63	49	16	8
21	82	64	131	700	197	136	209	70	70	52	14	8
22	25	62	95	275	164	134	2,450	61	74	142	13	5
23	19	56	91	225	383	139	1,780	55	79	346	13	4
24	22	619	91	225	823	131	990	52	85	194	14	4
25	20	579	68	383	659	123	499	60	116	113	12	6
26	49	310	56	292	421	188	310	58	104	65	9	5
27	22	225	54	164	258	364	225	48	72	49	8	4
28	28	539	55	89	292	275	167	43	56	36	11	3
29	13	1,960	93	91	364	194	136	40	60	29	10	4
30	12	2,800	134	79	-------	2,150	164	38	56	29	9	3
31	11	-------	99	63	-------	4,560	-------	34	-------	26	10	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	123	11	47.9	0.140	0.16
November	2,800	10	262	.764	.85
December	5,560	54	901	2.63	3.03
January	1,520	----------	295	.860	.99
February	2,450	48	539	1.57	1.69
March	4,560	52	510	1.49	1.72
April	2,600	56	455	1.33	1.48
May	113	34	66.4	.194	.22
June	3,350	31	504	1.47	1.64
July	346	26	86.4	.252	.29
August	23	8	14.4	.042	.05
September	16	3	6.1	.018	.02
The year	5,560	3	306	.892	12.14

BLANCHARD RIVER AT GLANDORF, OHIO

LOCATION.—Chain gage in NE. ¼ sec. 17, T. 1 N., R. 7 E., at highway bridge three-fourths mile northeast of Glandorf and 1¼ miles above mouth of Cranberry Creek.

DRAINAGE AREA.—643 square miles.

RECORDS AVAILABLE.—August, 1921, to July, 1928 (discontinued).

EXTREMES.—Maximum discharge during year, 5,710 second-feet December 2 (gage height, 21.7 feet); minimum, 20 second-feet November 2–5 (gage height, 1.84 feet).

1921–1928: Maximum discharge, 7,480 second-feet March 22, 1927 (gage height, 24.4 feet); minimum, 6.6 second-feet September 11, 1925 (gage height, 1.53 feet).

REMARKS.—Records good except those for period of ice effect (January 24 to February 7) and for period when gage was not read (March 18–31), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1	173	21	5,220	1,080		764	5,510	226	63	114
2	149	20	5,710	1,160		630	4,370	199	77	125
3	149	20	5,410	1,160		486	3,810	173	63	131
4	125	20	2,660	1,290	200	466	3,220	149	103	114
5	125	20	2,060	1,210		407	1,160	137	388	125
6	125	21	2,480	1,080		316	588	137	1,850	506
7	131	21	2,660	810		284	466	108	3,550	388
8	137	22	2,180	630	810	254	567	108	4,260	199
9	149	22	1,450	630	672	254	526	103	4,510	137
10	137	22	1,210	672	588	240	466	98	4,230	98
11	108	21	1,010	718	426	466	350	103	3,680	72
12	98	21	960	672	426	426	316	103	2,540	72
13	114	22	2,090	630	446	910	269	98	1,010	68
14	114	24	3,740	506	672	1,110	226	92	506	82
15	98	26	5,180	426	1,940	1,040	226	82	333	161
16	92	27	5,460	388	2,570	718	186	82	240	199
17	82	27	4,710	254	3,160	466	161	77	161	212
18	72	26	4,300	240	2,480		143	82	149	137
19	58	26	3,740	240	1,880		131	114	137	98
20	46	27	2,600	910	1,540		137	131	161	63
21	44	39	2,360	1,110	1,270		120	125	173	68
22	31	82	1,680	1,140	1,060		1,290	108	199	77
23	27	137	718	1,010	1,060	250	2,850	87	186	103
24	24	131	240		1,210		2,910	72	199	226
25	23	935	226		1,210		2,150	87	240	284
26	22	960	212		1,320		1,140	103	186	173
27	22	446	212	400	1,370		630	114	186	92
28	22	388	199		1,160		426	103	149	98
29	24	1,650	199		1,040		316	82	120	72
30	22	3,420	269			4,800	254	72	125	50
31	21		1,040			4,800		72		41

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	173	21	82.7	0.129	0.15
November	3,420	20	288	.448	.50
December	5,710	199	2,330	3.62	4.17
January	1,290		683	1.06	1.22
February	3,160		1,020	1.59	1.72
March			704	1.09	1.26
April	5,510	120	1,160	1.80	2.01
May	226	72	111	.173	.20
June	4,510	63	992	1.54	1.72
July	506	41	141	.219	.25

BLANCHARD RIVER NEAR DUPONT, OHIO

LOCATION.—Staff gage to August 25; water-stage recorder thereafter on east line of sec. 13, T. 1 N., R. 5 E., at highway bridge 4 miles east of Dupont.
DRAINAGE AREA.—749 square miles.
RECORDS AVAILABLE.—July to September, 1928.
EXTREMES.—Maximum discharge during period, 239 second-feet July 25 (gage height, 3.3 feet); minimum, 12 second-feet September 30 (gage height, 0.71 foot).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		37	17	11		25	18	21		22	14
2		34	17	12		24	16	22		21	13
3		34	16	13		23	15	23		21	13
4		32	16	14		23	14	24	223	23	14
5		40	16	15		23	15	25	239	23	16
6		65	16	16		24	18	26	223	22	15
7		50	16	17		25	18	27	122	21	14
8		42	15	18		23	17	28	82	20	13
9		34	18	19		24	16	29	68	19	13
10		30	19	20		24	16	30	53	18	12
								31	42	18	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
July 24-31	239	42	132	0.176	0.05
August	65	18	27.9	.037	.04
September	19	12	15.5	.021	.02

MIAMI & ERIE CANAL AT DELPHOS, OHIO

LOCATION.—Staff gage at old Lock 9, 70 feet below Third Street Bridge in Delphos, on the line between Van Wert and Allen Counties.

RECORDS AVAILABLE.—March to June, 1928.

EXTREMES.—Maximum discharge during period, 125 second-feet March 30 (gage height, 4.4 feet); minimum about 1 second-foot owing to leakage when canal shut down.

REMARKS.—Records fair. Water is diverted into canal by feeder at Lake St. Marys. Gage-height record furnished by State canal superintendent.

Daily and monthly discharge, in second-feet, 1928

Day	Mar.	Apr.	May	June	Day	Mar.	Apr.	May	June
1		36	14	21	16		28	24	25
2		29	16	25	17		26	28	24
3		26	15	14	18		28	24	29
4		25	17	30	19		22	33	28
5		17	21	64	20		25	18	45
6		21	18	59	21		26	25	45
7		39	21	56	22		49	26	45
8		33	24	56	23		56	22	52
9		26	20	42	24		34	29	29
10		26	23	27	25		38	39	40
11		27	25	32	26		22	24	30
12		26	26	27	27	28	19	18	34
13		26	19	26	28	29	21	26	25
14		29	26	26	29	30	18	30	37
15		17	26	20	30	121	18	18	37
					31	78		28	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
March 27–31	121	28	57.2	May	39	14	23.3
April	56	17	27.8	June	64	14	35.0

MIAMI & ERIE CANAL NEAR DEFIANCE, OHIO

LOCATION.—Water-stage recorder in NW. ¼ sec. 22, T. 4 N., R. 5 E., a quarter of a mile below head gate at Independence and 5 miles east of Defiance. Zero of gage is 658.81 feet above mean sea level.

RECORDS AVAILABLE.—November, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 340 second-feet January 1 (gage height, 3.28 feet); minimum, 90 second-feet August 8 and 9 (gage height, 0.30 foot).

1924–1928: Maximum discharge, 367 second-feet February 25, 1926 (gage height, 3.25 feet); minimum, 52 second-feet April 20–21, 1925 (gage height, −0.4 foot).

REMARKS.—Records fair. The canal diverts water from Maumee River at Independence, the water being used for power at Napoleon.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	181	189	195	286	212	248	221	209	188	200	194	204
2	212	186	218	255	222	248	209	207	161	189	192	203
3	216	184	221	253	234	233	192	191	113	200	189	201
4	207	180	221	253	218	188	211	185	185	203	183	200
5	211	179	213	253	215	220	215	185	193	197	184	a 201
6	205	180	227	258	228	210	215	197	192	199	183	a 203
7	199	183	214	260	233	193	219	202	194	214	183	a 204
8	192	182	223	260	232	186	204	195	200	202	92	a 206
9	193	185	301	268	230	184	199	201	191	187	90	207
10	116	203	243	239	229	175	202	204	192	175	106	205
11	94	193	230	232	203	178	210	199	192	188	180	204
12	94	197	205	233	212	195	201	193	193	190	181	203
13	94	192	201	232	233	200	195	196	193	192	186	199
14	94	181	206	213	234	216	184	204	192	188	185	199
15	95	171	190	209	220	204	172	202	189	177	a 183	197
16	96	173	184	220	212	209	185	205	169	178	a 182	194
17	96	185	197	218	197	208	181	207	162	177	a 180	198
18	97	189	218	211	210	204	175	214	184	206	a 179	198
19	124	189	193	227	206	197	196	214	189	210	177	197
20	185	189	191	230	213	186	191	221	204	217	185	195
21	197	190	165	291	204	181	189	202	210	203	187	194
22	189	197	183	253	226	173	208	185	204	175	179	163
23	195	203	203	258	240	185	223	193	200	192	177	129
24	197	203	230	238	237	198	200	186	193	201	189	180
25	197	226	230	221	252	204	218	197	212	201	a 186	171
26	193	214	228	205	249	210	226	166	211	a 201	a 184	162
27	189	196	236	230	254	187	219	117	197	a 200	181	181
28	185	194	238	220	252	198	208	189	198	a 200	181	183
29	184	207	235	211	244	209	189	170	199	a 199	204	191
30	188	223	222	204	------	192	182	160	206	199	203	192
31	188	------	220	206	------	227	------	177	------	199	189	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	216	94	165	May	221	117	193
November	226	171	192	June	212	113	190
December	301	165	216	July	217	175	195
January	291	204	237	August	204	90	177
February	254	197	226	September	207	129	192
March	248	173	201				
April	226	172	201	The year	301	90	199

a Interpolated.

MIAMI & ERIE CANAL AT WATERVILLE, OHIO

LOCATION.—Staff gage at highway bridge at Waterville, Lucas County, opposite gaging station on Maumee River at Waterville.

RECORDS AVAILABLE.—August, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 612 second-feet December 9 (gage height, 6.85 feet); minimum, 140 second-feet September 30 (gage height, 3.50 feet).

1921–1928: Maximum discharge, that of December 9, 1927; no flow in canal March 15, 1923, January 8–10, 12–16, and March 6–21, 1924.

REMARKS.—Records good except those for periods of ice effect (January 2–10, 19–23, and January 27 to February 5), which are fair. The canal diverts water from Maumee River at Grand Rapids, 10 miles above Waterville. The water is used for power at Maumee and Toledo.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	360	392	345	461	497	553	497	497	461	497	497	360
2	360	409	443	443	497	534	443	497	461	497	497	345
3	426	376	497	426	497	553	461	497	461	497	497	345
4	443	376	479	479	497	553	479	479	443	515	479	316
5	497	376	479	479	461	515	497	479	461	515	497	316
6	497	360	515	497	553	572	497	479	461	515	479	302
7	479	345	479	479	572	497	497	497	515	534	461	302
8	479	330	553	515	534	479	497	515	497	534	497	316
9	479	316	612	461	479	515	497	497	497	534	515	302
10	479	316	443	479	572	497	479	497	497	515	497	316
11	479	330	392	553	515	553	497	497	497	497	497	461
12	479	302	461	515	572	515	497	497	534	497	479	302
13	479	376	461	534	553	515	497	497	497	497	426	276
14	461	360	360	497	534	461	497	497	497	497	479	276
15	461	360	409	409	461	497	479	497	497	497	497	263
16	479	360	461	497	479	461	479	497	497	515	497	263
17	479	330	479	461	479	443	497	497	479	534	479	239
18	479	330	515	409	515	461	497	497	461	534	461	228
19	479	330	426	443	443	461	497	515	479	515	443	217
20	461	330	360	479	534	443	479	426	497	515	426	187
21	461	497	360	553	553	479	479	515	497	515	426	187
22	461	330	392	392	534	479	497	534	497	534	426	207
23	461	360	479	515	534	461	497	497	534	534	409	177
24	461	392	479	479	534	302	534	497	534	534	392	187
25	461	392	479	553	461	461	479	497	515	534	392	177
26	461	426	479	553	553	461	479	479	497	534	392	177
27	461	461	479	497	553	316	479	479	534	515	392	167
28	461	461	497	479	534	479	479	479	515	515	376	167
29	443	461	534	479	534	479	497	497	515	497	360	158
30	426	479	461	461	-------	497	479	479	515	497	330	140
31	409	-------	479	479	-------	497	-------	479	-------	497	376	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	497	360	458	May	534	426	493
November	497	302	375	June	534	443	495
December	612	345	461	July	534	497	515
January	553	392	482	August	515	330	448
February	572	443	518	September	461	140	256
March	572	302	484				
April	534	443	489	The year	612	140	456

NORTH BRANCH OF PORTAGE RIVER NEAR BOWLING GREEN, OHIO

LOCATION.—Chain gage in SE. ¼ sec. 14, T. 5 N., R. 11 E., at highway bridge half a mile below mouth of Poe ditch and 5 miles northeast of Bowling Green.

DRAINAGE AREA.—54.0 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 534 second-feet December 14 (gage height, 4.9 feet); minimum, 0.7 second-foot September 23 (gage height, 0.58 foot).

1923–1928: Maximum discharge, 756 second-feet April 8, 1926; minimum, 0.2 second-foot July 31, August 8 and 9, 1926.

REMARKS.—Records fair. Some water which otherwise might not reach this stream above gage is diverted into this stream by drainage ditches.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	1.3	456	256	e30		284	21	28	148	1.4	1.2
2	3.0	1.7	403		30		230	18	32	124	1.7	.8
3	6.3	1.4	270	e80	29		130	16	25	96	1.4	.8
4	3.0	1.4	130		37		90	14	48	85	1.0	.8
5	2.4	1.4	96		57	e30	70	14	118	80	1.9	.8
6	2.4	1.4	70	70	85		55	12	403	66	3.3	1.5
7	1.7	1.3	118	74	85		59	10	456	38	1.7	1.2
8	1.9	1.3	230	130	96	15	80	9.5	438	28	1.4	1.3
9	1.1	1.1	136	154	118	17	59	10	438	56	1.5	1.2
10	1.3	1.3	312	142	74	10	48	11	312	60	1.7	1.1
11	1.7	1.5	112	96	50	16	42	10	217	32	2.8	1.4
12	3.3	1.7	90	80	38	17	38	10	148	21	1.4	1.4
13	3.0	1.2	148	80	37	45	28	9.5	118	26	.9	1.2
14	2.6	1.3	534	80	70	191	32	8.0	102	59	1.1	1.9
15	2.2	1.5	456	68	230	107	27	8.0	80	80	1.0	3.0
16	1.3	2.2	326	50	191	80	23	12	73	55	1.1	2.2
17	1.0	3.3	204	43	118	65	23	15	59	25	1.1	1.0
18	1.4	2.2	154	43	90	42	22	16	56	14	1.4	1.9
19	1.0	1.4	e118	102	130	32	21	28	74	12	1.2	1.4
20	.9	1.4	e83	112		25	18	34	148	18	1.1	2.6
21	1.0	1.4	47		e80	23	41	32	124	25	1.0	1.5
22	1.0	1.4	39	e60		23	178	32	107	90	.9	.8
23	1.0	2.6	30		85	23	130	28	90	54	.8	.7
24	.9	28	23	50	112	23	90	28	136	23	1.7	.7
25	.9	54	18	148	90	25	54	48	124	9.5	1.0	1.3
26	.8	40	15	107		32	50	38	107	6.7	1.0	1.0
27	.9	35	12	70	e35	107	34	38	80	5.4	1.0	1.7
28	.8	36	15			66	26	38	58	4.6	1.4	1.1
29	1.0	124	30	e30		46	26	37	112	2.6	1.5	.9
30	1.0	256	43		-------	191	25	35	154	1.5	2.2	.8
31	1.2	-------	166		-------	270	-------	32	-------	1.7	1.1	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	6.3	0.8	1.73	May	48	8.0	21.7
November	256	1.1	20.3	June	456	25	149
December	534	12	158	July	148	1.5	43.5
January	256	-------	83.1	August	3.3	.8	1.41
February	230	29	78.0	September	3.0	.7	1.31
March	270	10	54.9				
April	284	18	67.8	The year	534	.7	56.5

e Estimated.

SANDUSKY RIVER NEAR BUCYRUS, OHIO

LOCATION.—Chain gage in NE. ¼ sec. 10, T. 3 S., R. 16 E., at highway bridge 1½ miles west of Bucyrus.

DRAINAGE AREA.—89.8 square miles.

RECORDS AVAILABLE.—August, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 3,360 second-feet December 14 (gage height, 9.2 feet); minimum, 1.5 second-feet August 25 (gage height, 0.73 foot).

1925–1928: Maximum discharge, that of December 14, 1927; minimum, 0.9 second-foot September 4, 1927 (gage height, 0.72 foot).

REMARKS.—Records good except those for extremely high water and those for periods of ice effect (January 3–7 and January 28 to February 4), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	6.0	2,500	259		53	186	34	7.7	12	8.4	5.1
2	38	5.1	510	158		46	196	28	10	28	7.0	4.2
3	34	8.4	247	132	10	43	115	23	8.4	32	7.0	4.0
4	14	11	132	90		49	79	21	52	17	6.7	4.0
5	9.4	4.7	90	46	950	39	61	22	99	675	13	3.6
6	7.7	3.6	67	26	225	53	49	24	1,040	295	34	4.0
7	12	5.4	66	28	247	27	67	20	450	76	17	4.0
8	5.7	3.6	124	186	830	27	115	16	215	40	9.0	3.6
9	4.7	2.3	68	283	420	58	81	15	345	32	9.0	3.6
10	4.4	2.3	53	186	167	79	60	14	308	236	7.0	3.4
11	4.0	3.6	53	196	109	40	51	22	124	62	8.4	3.6
12	10	4.0	176	186	81	51	47	24	76	158	6.4	3.6
13	5.7	2.1	910	167	76	167	36	17	50	870	5.4	3.1
14	6.7	4.0	2,850	158	345	570	44	15	35	1,700	5.1	3.6
15	8.4	2.2	540	167	1,040	225	49	13	24	345	4.4	3.4
16	7.0	3.9	450	99	320	149	35	12	20	158	4.2	2.9
17	6.4	510	196	96	186	84	30	15	16	83	4.2	2.9
18	6.4	271	80	78	140	75	27	12	18	53	4.0	2.7
19	5.1	115	81	196	88	62	27	12	32	37	3.6	2.7
20	5.1	71	51	395	76	52	23	11	35	52	3.8	3.6
21	4.4	59	40	81	71	76	124	10	25	71	7.7	3.6
22	4.0	60	33	90	57	84	870	9.4	21	41	12	3.4
23	4.4	44	28	47	176	74	370	8.4	18	28	3.6	3.4
24	4.0	110	26	53	450	67	205	8.7	16	20	3.6	3.6
25	3.8	167	28	247	167	64	140	13	14	16	1.7	3.8
26	3.8	81	17	109	115	259	87	12	12	15	2.5	3.6
27	3.6	96	16	88	105	259	70	9.7	11	12	3.6	3.6
28	3.6	480	16		67	105	58	8.4	9.7	13	3.1	3.6
29	5.1	750	38		56	78	45	8.0	10	9.0	41	3.6
30	5.1	1,220	105	20	------	750	39	7.7	12	8.7	13	3.1
31	4.0	------	640		------	271	------	7.7	------	8.0	8.4	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	38	3.1	7.85	0.087	0.10
November	1,220	2.1	137	1.53	1.71
December	2,850	16	330	3.67	4.23
January	395	----------	127	1.41	1.63
February	1,040	----------	228	2.54	2.74
March	750	27	130	1.45	1.67
April	870	23	113	1.26	1.41
May	34	7.7	15.3	.170	.20
June	1,040	7.7	104	1.16	1.29
July	1,700	8.0	168	1.87	2.16
August	41	1.7	8.64	.096	.11
September	5.1	2.7	3.56	.040	.04
The year	2,850	1.7	114	1.27	17.30

SANDUSKY RIVER NEAR UPPER SANDUSKY, OHIO

LOCATION.—Water-stage recorder in sec. 21, T. 2 S., R. 14 E., at highway bridge 2 miles northeast of Upper Sandusky and three-fourths mile above mouth of Rock Run.

DRAINAGE AREA.—299 square miles.

RECORDS AVAILABLE.—October, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 6,750 second-feet December 15 (gage height, 10.5 feet); minimum, 3.2 second-feet September 22 (gage height, 1.00 foot).

1921–1928: Maximum discharge, that of December 15, 1927; minimum that of September 22, 1928.

REMARKS.—Records excellent except those for periods of ice effect (December 18–23, January 1–15, 21–31, February 5, 8, 19, and March 1–7) and periods when recorder was not operating (February 20–28 and August 29 to September 16), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	33	4,990		257		775	130	30	40	28	
2	27	40	5,050		222		583	109	30	43	28	
3	32	54	1,260		215		474	97	31	129	26	
4	60	56	645		212	170	331	83	46	94	19	
5	40	53	406	300	1,000		257	79	134	475	25	
6	29	54	293		2,310		202	81	1,410	754	27	
7	25	56	241		988		195	75	1,950	334	32	
8	24	50	275		1,680	127	370	70	980	159	38	
9	24	46	600		1,620	139	370	66	988	97	27	15
10	25	44	600	600	825	205	257	66	1,490	75	24	
11	25	46	445		452	188	205	75	858	234	19	
12	27	46	293		331	159	175	83	410	102	17	
13	29	47	1,100		257	320	150	83	257	678	16	
14	37	48	5,340	700	358	1,410	130	71	185	2,240	14	
15	36	48	5,700		1,790	1,020	127	64	133	2,040	12	
16	32	56	1,400	410	1,700	539	122	62	97	629	10	
17	36	282	825	312	775	370	106	64	79	331	10	12
18	34	795		293	539	257	97	64	75	195	10	6.8
19	34	445		378	1,000	215	88	64	92	133	9.3	4.8
20	34	241		1,200		185	81	60	122	133	8.4	4.2
21	33	171	150			162	259	57	104	390	7.9	4.2
22	33	151				185	2,050	48	88	331	8.4	3.7
23	32	137		520		202	1,580	42	71	185	8.4	4.2
24	29	151	215		400	185	825	37	66	114	11	4.8
25	28	199	212			175	539	40	55	81	10	4.2
26	26	293	178			257	370	46	46	64	8.4	4.2
27	25	202	169			561	275	43	42	58	7.9	4.2
28	26	404	172			431	222	40	38	53	6.3	4.2
29	25	1,550	159	100	331	275	188	37	40	42		4.2
30	28	1,930	178		-------	1,600	153	34	40	32	60	4.2
31	31	------	326		-------	1,900	-------	32	------	28		------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	60	24	30.7	0.103	0.12
November	1,930	33	258	.863	.96
December	5,700	----------	1,030	3.44	3.97
January	1,200	----------	409	1.37	1.58
February	2,310	----------	706	2.36	2.54
March	1,900	----------	395	1.32	1.52
April	2,050	81	385	1.29	1.44
May	130	32	64.6	.216	.25
June	1,950	30	333	1.11	1.24
July	2,240	28	332	1.11	1.28
August	----------	6.3	20.9	.070	.08
September	----------	3.7	10.3	.034	.04
The year	5,700	3.7	330	1.10	15.02

SANDUSKY RIVER NEAR MEXICO, OHIO

LOCATION.—Chain gage in sec. 13, T. 1 N., R. 14 E., at highway bridge 4¼ miles north of Mexico and 3 miles above mouth of Honey Creek.

DRAINAGE AREA.—776 square miles.

RECORDS AVAILABLE.—March, 1923, to September, 1928, at present site; November, 1898, to November, 1900, at highway bridge at Mexico.

EXTREMES.—Maximum discharge during year, 11,100 second-feet December 16 (gage height, 17.7 feet); minimum, 4 second-feet August 25 (gage height, 1.50 feet).

1923–1928: Maximum discharge, 13,900 second-feet March 22, 1927 (gage height, 19.9 feet); minimum, that of August 25, 1928.

REMARKS.—Records good except those for periods affected by ice (January 1–5, January 26 to February 4, and February 21 to March 5), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	32	6,310				4,680	334	66	181	63	13
2	56	34	8,360				2,950	228	69	393	55	30
3	69	36	8,700	200	150	200	1,430	204	75	490	55	55
4	66	38	5,410				735	204	84	525	50	101
5	64	34	2,700		2,100		595	216	228	735	47	55
6	69	36	805	665	2,520	265	490	181	4,840	885	40	32
7	61	38	595	630	2,950	252	393	170	5,080	595	37	30
8	56	36	735	665	3,580	306	665	138	4,360	490	35	28
9	43	36	490	845	3,880	265	560	119	3,300	265	45	21
10	38	38	845	1,180	1,930	363	456	112	3,090	170	40	18
11	36	43	665	1,530	1,000	334	363	101	2,040	119	42	19
12	36	43	525	1,530	560	278	306	108	1,280	94	37	23
13	34	38	1,880	1,040	278	665	278	119	770	181	30	19
14	36	38	6,500	1,000	595	3,090	228	128	490	1,730	35	18
15	38	43	9,690	1,000	3,090	3,300	252	119	334	2,950	32	23
16	43	47	11,100	845	2,460	1,980	228	101	278	1,380	30	23
17	47	306	5,590	700	1,530	1,380	192	112	216	595	35	19
18	41	735	2,820	630	965	595	181	228	181	490	30	21
19	43	1,380	665	1,180	595	334	159	216	159	393	32	18
20	38	805	560	2,040	525	278	159	119	105	363	28	19
21	45	393	525	925		252	334	94	94	334	23	15
22	43	334	456	560		306	3,580	84	138	665	21	18
23	38	252	278	456		278	4,280	69	159	334	19	15
24	36	306	252	490		278	2,640	75	228	265	13	14
25	36	735	278	595	300	306	1,680	78	181	181	4	12
26	32	560	278			306	1,140	94	159	94	18	14
27	26	393	216			334	665	84	159	69	10	13
28	36	560	204	200		700	490	75	204	81	14	14
29	26	1,730	216			770	456	78	159	69	28	15
30	34	3,650	204		-------	5,770	393	69	138	75	40	12
31	32	-------	240		-------	5,500	-------	63	-------	69	23	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	69	26	43.1	0.056	0.06
November	3,650	32	425	.548	.61
December	11,100	204	2,520	3.25	3.75
January	2,040	----------	668	.861	.99
February	3,880	----------	1,100	1.42	1.53
March	5,770	----------	951	1.23	1.42
April	4,680	159	1,030	1.33	1.48
May	334	63	133	.171	.20
June	5,080	66	954	1.23	1.37
July	2,950	69	492	.634	.73
August	63	4	32.6	.042	.05
September	101	12	24.2	.031	.03
The year	11,100	4	696	.897	12.22

SANDUSKY RIVER NEAR FREMONT, OHIO

LOCATION.—Chain gage in sec. 17, T. 4 N., R. 15 E., at highway bridge 3½ miles southwest of Fremont and 2½ miles below mouth of Wolf Creek.

DRAINAGE AREA.—1,250 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1928. November, 1898, to March, 1901, 4 miles below present site.

EXTREMES.—Maximum discharge during year, 10,000 second-feet December 16 (gage height, 7.4 feet); maximum gage height, 8.2 feet February 6 (backwater from ice jam); minimum discharge, 23 second-feet September 18 (gage height, 0.94 foot).

1923–1928: Maximum discharge, 13,500 second-feet March 22, 1927 (gage height, 9.1 feet); minimum, 15 second-feet September 1, 1925 (gage height, 0.90 foot).

REMARKS.—Records good except those estimated because of ice (December 9–11, December 24 to January 15, and January 22 to February 7), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	51	7,610			995	6,470	534	178	297	88	162
2	45	43	7,800			825	4,610	461	168	242	83	129
3	64	35	8,800	500	500	775	2,720	415	162	216	80	67
4	67	33	6,090			725	1,840	370	168	222	67	64
5	67	39	2,400			680	1,250	370	362	276	67	54
6	140	41	1,390		6,000	493	935	370	4,080	333	97	39
7	92	39	1,120		6,000	550	825	348	6,660	880	70	47
8	67	35	1,250	1,000	6,470	477	935	348	5,520	550	67	47
9	57	43			5,900	430	1,120	325	5,150	362	57	41
10	115	41	1,000		3,570	469	995	318	4,790	235	80	28
11	70	49			1,840	550	725	355	3,740	184	129	39
12	51	61	880		1,120	550	680	362	2,560	311	80	39
13	45	51	1,180	1,500	880	534	550	377	1,390	325	61	35
14	49	43	8,800		935	4,790	477	377	825	775	64	39
15	67	49	8,800		4,430	4,430	518	340	592	2,890	37	33
16	51	45	9,800	1,470	4,790	3,060	438	333	469	2,890	51	31
17	92	97	6,280	1,120	3,910	1,770	377	355	370	1,250	51	26
18	47	235	2,560	1,060	2,240	1,120	348	526	333	680	39	23
19	61	1,540	1,390	995	1,320	775	311	592	348	454	41	28
20	67	1,060	1,180	4,430	825	680	304	526	469	415	41	33
21	43	635	1,060	2,720	1,060	592	333	407	400	454	39	35
22	39	477	825		825	550	4,970	348	370	725	45	30
23	41	392	592		995	550	5,150	304	325	775	39	30
24	57	493		900	1,770	592	4,610	269	297	501	37	28
25	54	935			2,400	592	3,230	304	276	348	43	26
26	37	1,060			2,080	635	1,770	318	276	229	41	27
27	37	880	300		1,320	1,060	1,180	304	197	184	33	28
28	33	680			935	1,250	880	235	173	156	39	28
29	31	1,840		1,000	880	935	825	242	156	120	45	28
30	39	4,080				7,230	635	203	222	92	61	26
31	49					8,000		190		61	124	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	140	31	59.1	0.047	0.05
November	4,080	33	503	.402	.45
December	9,800		2,750	2.20	2.54
January			1,170	.936	1.08
February			2,240	1.79	1.93
March	8,000	430	1,510	1.21	1.40
April	6,470	304	1,670	1.34	1.50
May	592	190	359	.287	.33
June	6,660	156	1,370	1.10	1.23
July	2,890	61	562	.450	.52
August	129	33	61.2	.049	.06
September	162	23	43.0	.034	.04
The year		23	1,020	.816	11.13

EAST BRANCH OF HURON RIVER NEAR NORWALK, OHIO

LOCATION.—Chain gage at highway bridge 1¾ miles northwest of Norwalk, Huron County, and 1½ miles below mouth of Cole Creek.

DRAINAGE AREA.—84.9 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,790 second-feet March 30 (gage height, 7.0 feet); minimum, 2.8 second-feet September 17 (gage height, 0.74 foot).

1923–1928: Maximum discharge, 3,810 second-feet October 5, 1926; minimum, 2.5 second-feet August 30 and 31, 1925.

REMARKS.—Records good except those for periods of ice effect (January 29 to February 6 and February 19 to March 8), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.7	7.6	1,240	132			408	23	9.2	11	7.0	4.1
2	14	8.4	408	150			332	20	11	9.2	6.4	3.8
3	9.2	10	114	183			196	18	9.9	8.4	6.1	3.4
4	8.8	10	60	109	10		164	16	22	8.0	5.5	3.3
5	7.2	11	36	61		20	93	16	62	9.5	8.4	3.6
6	7.2	11	30	49			62	16	690	9.5	14	3.6
7	8.0	9.6	30	62	134		70	13	313	8.0	11	3.6
8	8.0	9.2	126	228	369		87	12	183	6.4	9.2	4.1
9	8.0	9.2	34	313	225	26	64	12	295	12	11	3.6
10	7.6	10	46	137	105	26	44	14	150	23	14	3.4
11	8.0	10	21	155	44	26	34	16	77	15	9.9	3.4
12	11	10	26	114	36	28	30	13	40	15	7.0	3.4
13	12	9.6	260	107	33	91	26	11	30	52	5.5	3.4
14	9.2	9.6	1,910	93	114	350	24	10	24	242	5.5	3.4
15	7.6	10	277	72	645	129	22	9.5	16	105	4.3	3.4
16	6.8	12	145	66	202	89	20	9.9	12	47	4.3	3.1
17	6.8	86	85	54	122	44	18	12	12	24	4.3	2.9
18	8.8	74	66	50	77	30	17	24	49	15	4.1	2.9
19	8.4	34	57	180		31	18	21	49	111	3.8	2.9
20	7.6	19	46	208		28	18	15	44	208	3.6	3.8
21	7.6	19	39	68		28	75	12	68	64	4.3	4.6
22	6.8	18	50	54		30	511	9.9	52	37	5.2	3.8
23	6.8	18	34	50		33	199	8.8	28	20	4.3	3.6
24	6.8	108	34	46	40	37	124	8.8	20	18	4.3	3.6
25	6.0	126	32	147		50	87	12	18	13	4.3	4.1
26	6.8	40	29	116		70	52	12	16	11	4.3	4.0
27	6.8	34	28	74		61	40	11	12	46	4.3	3.6
28	6.8	86	29	68		47	31	10	10	21	5.8	3.8
29	6.8	350	50			37	27	8.8	11	11	8.4	4.0
30	7.6	735	72	10		1,910	26	8.8	11	9.9	6.1	4.0
31	7.6		101			369		8.8		5.5	5.2	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	14	5.7	7.95	0.094	0.11
November	735	7.6	63.5	.748	.83
December	1,910	21	178	2.10	2.42
January	313		102	1.20	1.38
February	645		89.8	1.06	1.14
March	1,910		120	1.41	1.63
April	511	17	97.3	1.15	1.28
May	24	8.8	13.3	.157	.18
June	690	9.2	78.1	.920	1.03
July	242	5.5	38.6	.455	.52
August	14	3.6	6.50	.077	.09
September	4.6	2.9	3.61	.043	.05
The year	1,910	2.9	66.6	.784	10.66

EAST BRANCH OF BLACK RIVER AT ELYRIA, OHIO

LOCATION.—Chain gage at Fuller Street Bridge, 1¼ miles southeast of center of Elyria, Lorain County, and 3 miles above junction with West Branch.

DRAINAGE AREA.—211 square miles.

RECORDS AVAILABLE.—July, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 5,000 second-feet December 14 (gage height, 6.90 feet); minimum, 0.5 second-foot September 15–21, 24, 25, 29, and 30 (gage height, 0.65 foot).

1922–1928: Maximum discharge, that of December 14, 1927; maximum gage height, 9.9 feet June 29, 1924 (backwater caused by tornado); minimum discharge, 0.2 second-foot October 5–6, 1922 (gage height, 0.57 foot).

REMARKS.—Records good except those for period of ice effect, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	3.9	4,440	1,640	106	55	1,100	42	39	1.8	23	e 5.6
2	4.9	2.8	3,340		68	69	755	44	45	1.8	24	4.9
3	6.0	3.9	1,640		160	77	275	34	45	2.3	9.4	4.9
4	6.0	4.9	310		320	e 70	280	32	330	8.6	19	3.9
5	4.9	6.0	150		385	e 64	285	28	1,920	13	47	3.9
6	4.9	15	84		385	57	179	e 30	1,730	6.8	190	2.8
7	5.5	18	82		242	73	232	33	1,730	e 7.0	117	1.2
8	3.9	16	69	e 300	510	73	280	39	1,730	e 7.2	47	.6
9	2.8	14	59		860	69	242	32	e 1,264	e 7.5	22	.6
10	2.8	13	62		510	69	194	22	e 797	7.7	19	.6
11	2.8	15	66		445	59	138	13	330	9.4	14	.6
12	2.8	18	80		325	64	75	10	295	8.6	e 11.7	.7
13	1.8	e 25	3,340		320	144	77	11	285	6.8	9.4	.7
14	1.8	e 32	4,660	285	900	315	98	14	237	82	9.4	.7
15	1.8	39	3,890	203	2,920	615	91	9.4	153	108	e 5.6	.5
16	2.8	478	3,230	128	2,720	300	80	14	62	32	1.8	.5
17	1.8	860	478	203	2,520	352	73	38	30	60	1.2	.5
18	2.3	1,020	198	224	1,640	280	122	64	38	60	.7	.5
19	2.8	980	445	685	e 1,370	261	194	82	23	219	1.8	.5
20	3.9	228	1,460	860	1,100	237	280	53	44	1,100	1.8	.5
21	6.8	71	1,280	685	580	190	900	47	52	1,190	e 1.8	.5
22	6.0	55	940		242	128	1,190	24	60	1,020	1.8	.5
23	4.9	73	580		66	88	1,370	21	47	790	4.4	.6
24	3.9	860	300		100	91	1,280	12	39	88	13	.5
25	2.8	755	186		26	100	275	9.4	28	66	5.5	.5
26	2.8	224	88	e 100	e 31	198	157	6.0	23	47	7.7	.6
27	2.8	980	95		36	211	75	e 7.7	6.8	49	7.7	.6
28	3.4	1,280	207		49	183	64	9.4	3.4	685	8.6	.5
29	3.4	1,100	82		71	478	52	12	1.8	e 466	e 7.9	.5
30	4.4	1,820	290		-------	2,920	42	19	1.8	e 246	e 7.1	.5
31	5.5	-------	1,100		-------	2,420	-------	49	-------	27	e 6.4	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6.8	1.8	3.77	0.018	0.02
November	1,820	2.8	367	1.74	1.94
December	4,660	59	1,070	5.07	5.84
January	3,560	----------	307	1.45	1.67
February	2,920	26	655	3.10	3.34
March	2,920	55	333	1.58	1.82
April	1,370	42	348	1.65	1.84
May	82	6.0	27.8	.132	.15
June	1,920	1.8	380	1.80	2.01
July	1,190	1.8	209	.991	1.14
August	190	.7	20.9	.099	.11
September	5.6	.5	1.33	.006	.01
The year	4,660	.5	309	1.46	19.89

e Interpolated or estimated.

ROCKY RIVER NEAR BEREA, OHIO

LOCATION.—Chain gage at highway bridge just below junction of East and West Branches, 3 miles northwest of Berea, Cuyahoga County. Zero of gage is 650.52 feet above mean sea level.

DRAINAGE AREA.—269 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 13,700 second-feet December 14 (gage height, 10.6 feet); minimum, 7 second-feet September 14 (gage height, 0.72 foot).

1923–1928: Maximum discharge, that of December 14, 1927; maximum gage height, 18.6 feet June 29, 1924 (backwater caused by tornado); minimum discharge, 3 second-feet September 2, 1925 (gage height, 0.43 foot).

Maximum known stage, 20.9 feet March, 1913.

REMARKS.—Records good except those estimated because of ice, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	13	8,920	1,080			740	88	20	33	40	16
2	13	14	1,080		a 260		700	74	20	26	34	12
3	12	15	500				367	60	22	24	55	11
4	12	24	250				349	48	42	19	40	10
5	12	24	159	a 300	1,170	a 150	220	48	65	31	53	9
6	12	43	119		555		159	45	2,810	81	945	9
7	13	38	130		349		116	42	1,040	57	195	9
8	12	29	465	625	1,970	46	250	36	450	30	83	9
9	11	25		860	1,650	72	207	31	740	29	48	9
10	11	21	a 130	520	485	159	145	33	1,750	30	42	9
11	11	22		450	308	129	107	31	418	26	34	9
12	11	22		411	245	78	96	36	159	26	26	8
13	12	24	1,380	355	199	152	83	29	81	27	20	8
14	11	21	11,700	314	900	780	86	28	74	555	20	7
15	13	21	2,550	235	5,470	485	96	21	57	430	18	8
16	12	30	2,310	167	1,550	225	72	22	45	212	16	8
17	15	2,190	1,260	174	625	141	62	31	34	91	15	8
18	13	1,490		220	385	110	65	392	40	48	16	8
19	13	222		276		91	58	156	83	46	15	9
20	12	85		1,040		81	45	126	74	2,190	13	11
21	13	114				86	74	76	62	1,750	14	9
22	13	116				102	1,550	53	50	367	15	9
23	14	96	a 400			135	740	36	45	235	25	8
24	13	945			a 150	141	404	29	72	126	26	16
25	12	690				167	260	26	50	76	19	13
26	13	209		a 260		191	163	26	38	52	18	14
27	12	262				230	116	25	27	48	16	10
28	13	430				276	96	26	26	740	18	11
29	14	1,490	990			145	86	22	20	250	16	10
30	13	2,550	1,750			4,970	83	20	27	116	15	10
31	11		2,080			1,080		20		58	13	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	15	11	12.4	0.046	0.05
November	2,550	13	376	1.40	1.56
December	11,700		1,310	4.86	5.60
January	1,080		367	1.36	1.57
February	5,470		640	2.38	2.57
March	4,970		359	1.33	1.53
April	1,550	45	253	.941	1.05
May	392	20	56.0	.208	.24
June	2,810	20	281	1.04	1.16
July	2,190	19	253	.941	1.08
August	945	13	62.0	.230	.27
September	16	7	9.90	.037	.04
The year	11,700	7	332	1.23	16.72

a Estimated because of ice.

CUYAHOGA RIVER NEAR HIRAM, OHIO

LOCATION.—Staff gage August 5–25, 1927; water-stage recorder thereafter 600 feet above highway bridge on road between Hiram and Mantua Corners and 2¾ miles west of Hiram, Portage County.

DRAINAGE AREA.—152 square miles.

RECORDS AVAILABLE.—August, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,630 second-feet December 15 (gage height, 6.8 feet); minimum, 19 second-feet October 9–12 (gage height, 0.70 foot).

1927–28: Maximum discharge, that of December 15, 1927; minimum, 18 second-feet September 28, 1927 (gage height, 0.67 foot).

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	31	27		1,050	1,220		168	590	136	43		70	36
2	------	28	32		1,440	a 900		168	618	128	41		54	36
3	------	25	32	a 30	1,330	a 900	a 200	152	562	113	41	a 120	48	35
4	------	25	31		1,080	a 750		152	478	92	48		59	33
5	29	24	25		794	a 650		144	426	76	86		75	31
6	28	23	22		618	a 600	a 450	128	349	68	447		106	30
7	40	22	21	a 40	452	562		113	266	63	534		136	30
8	52	23	20		374	400		120	224	58	618	a 140	144	26
9	84	24	19		388	426		120	204	52	719		144	26
10	71	25	19	43	562	452	a 1,000	168	195	48	824		134	25
11	53	25	19	44	374	506		168	186	48	734		128	24
12	41	25	19	45	204	506		168	168	47	646		99	23
13	42	27	24	45	382	478	a 600	256	152	45	506	a 200	82	22
14	42	28	30	45	1,000	452		548	144	40	400		74	22
15	40	28	34	42	1,630	426	590	734	144	40	300		66	21
16	36	25	36	47	1,560	400	674	764	144	40	224		60	20
17	31	22	32	106	1,330	312	764	618	136	43	152		51	19
18	28	24	28	186	1,050	266	704	452	120	83	106	a 400	45	19
19	26	23	26	234	824	244	590	312	113	144	82		43	19
20	26	24	29	277	618	312	461	244	99	186	75		42	21
21	26	23	35	288	506		349	195	114	186			40	24
22	26	21	36	255	426		300	204	224	168			41	27
23	26	20	31	214	306	a 350	234	214	349	144	a 100	a 200	44	25
24	28	20	26	224	288		312	204	426	113			46	24
25	29	21	24	224	244			204	452	85			49	24
26	28	20	23	277	214		a 200	204	374	71			48	26
27	28	19	22	374	195			214	300	62			46	25
28	28	19	22	426	168	a 380		214	234	56	a 100	a 150	43	25
29	28	21	21	426	263			209	177	51			39	24
30	29	25	21	610	562		-------	356	144	47			36	22
31	32	------	20	------	960		-------	506	------	46	------	92	36	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1927					
August 5–31	84	26	36.2	0.238	0.24
September	31	19	23.7	.156	.17
1927–28					
October	36	19	26.0	.172	.20
November	610	----------	158	1.04	1.16
December	1,630	168	684	4.50	5.19
January	1,220	----------	477	3.14	3.39
February	----------	----------	480	3.16	3.64
March	764	113	272	1.79	2.06
April	618	99	270	1.78	1.99
May	186	40	83.2	.548	.63
June	824	----------	254	1.67	1.86
July	----------	----------	198	1.30	1.50
August	144	36	68.6	.452	.52
September	36	19	25.5	.168	.19
The year	1,630	19	249	1.64	22.33

a Estimated.

CUYAHOGA RIVER AT KENT, OHIO

LOCATION.—Staff gage July 2–22, 1927; water-stage recorder thereafter four-tenths mile below Wheeling and Lake Erie Railroad crossing 1 mile southwest of Kent, Portage County, and 1¼ miles above mouth of Fish Creek.
DRAINAGE AREA.—302 square miles.
RECORDS AVAILABLE.—July, 1927, to September, 1928.
EXTREMES.—Maximum discharge during period of record, 2,530 second-feet December 16 (gage height, 8.5 feet); minimum, 9.8 second-feet October 29 (gage height, 0.29 foot).
REMARKS.—Records fair. Water is diverted by city of Akron for municipal supply at reservoir above Kent.

Daily discharge, in second-feet, 1927–28

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1927				1927				1927			
1	-------	180	66	11	170	141	39	21	150	84	101
2	109	150	121	12	180	109	48	22	150	141	84
3	160	170	150	13	133	90	59	23	205	125	37
4	192	150	170	14	87	113	129	24	220	94	24
5	170	109	180	15	121	160	170	25	235	62	38
6	137	80	160	16	117	94	160	26	205	48	76
7	150	129	98	17	160	80	170	27	101	44	44
8	150	180	62	18	220	48	180	28	101	62	21
9	160	160	52	19	160	48	160	29	117	109	22
10	192	160	32	20	150	48	117	30	150	66	22
								31	160	45	-------

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1927–28												
1	27	36	1,940	1,630	297	275	820	235	66	113	467	45
2	82	41	2,040	1,360	254	254	865	220	48	180	322	64
3	136	52	2,130	1,140	205	235	820	205	62	150	235	137
4	105	52	1,720	1,020	205	275	775	205	117	129	220	116
5	90	52	1,220	820	438	235	650	205	117	180	205	73
6	80	73	820	690	500	205	535	220	352	235	205	44
7	62	113	570	570	535	220	435	192	610	192	254	32
8	48	84	405	535	955	220	435	170	535	205	220	45
9	27	73	326	500	1,360	220	376	170	650	192	254	70
10	48	59	275	500	1,400	254	322	159	775	170	235	109
11	22	48	254	570	1,540	275	297	62	690	117	297	80
12	18	40	235	610	1,270	297	275	76	570	140	275	27
13	41	75	492	570	955	332	254	103	467	220	254	26
14	45	90	1,720	535	820	823	275	129	322	348	297	38
15	36	48	1,920	535	1,090	955	275	87	254	376	254	59
16	59	60	2,480	435	1,090	1,040	275	62	192	376	205	101
17	76	90	2,180	376	1,220	1,000	235	52	192	376	180	112
18	54	170	1,640	322	1,180	775	220	103	170	376	134	52
19	16	167	1,250	322	955	535	220	147	160	434	93	30
20	43	205	955	435	650	435	205	212	150	1,000	141	32
21	80	220	690	500	500	376	254	231	150	690	101	62
22	94	220	535	435	376	376	570	192	170	1,090	117	90
23	109	205	435	435	467	405	610	180	170	1,000	117	105
24	56	235	348	435	535	376	610	180	192	690	133	102
25	34	254	297	535	500	405	650	180	192	500	150	38
26	84	220	254	500	500	435	570	160	170	376	150	19
27	87	275	235	500	435	467	435	160	160	322	137	18
28	28	322	220	500	348	405	348	121	160	405	90	20
29	14	435	388	535	322	376	322	90	150	405	70	31
30	70	827	820	535	-------	672	297	107	102	435	43	52
31	96	-------	1,090	405	-------	775	-------	119	-------	535	48	-------

Monthly discharge, in second-feet, of Cuyahoga River at Kent, Ohio, 1927-28

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1927					
July 2-31	235	87	157	0.520	0.58
August	180	44	106	.351	.40
September	180	21	93.1	.308	.34
1927-28					
October	136	14	60.2	.199	.23
November	827	36	161	.533	.59
December	2,480	220	964	3.19	3.68
January	1,630	322	606	2.01	2.32
February	1,540	205	721	2.39	2.58
March	1,040	205	449	1.49	1.72
April	865	205	441	1.46	1.63
May	235	52	153	.507	.58
June	775	48	270	.894	1.00
July	1,090	113	386	1.28	1.48
August	467	43	190	.629	.73
September	137	18	61.0	.202	.23
The year	2,480	14	372	1.23	16.77

CUYAHOGA RIVER AT OLD PORTAGE, OHIO

LOCATION.—Water-stage recorder at highway bridge at Old Portage, Summit County, 4 miles northwest of Akron and 1¼ miles below mouth of Little Cuyahoga River.

DRAINAGE AREA.—405 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 3,430 second-feet December 16 (gage height, 9.4 feet); minimum, 67 second-feet October 10 (gage height, 1.03 feet).

1921–1928: Maximum discharge, 3,540 second-feet June 28, 1924 (gage height, 10.8 feet); minimum, 40 second-feet June 13, 1926 (gage height, 0.94 foot).

REMARKS.—Records good except those for extremely high water, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	153	222	3,330	2,080	496	490	1,190	518	221	172	656	280
2	107	268	3,060	1,690	430	458	1,130	476	186	300	518	258
3	141	240	2,830	1,480	394	423	1,170	458	144	286	341	221
4	192	219	2,530	1,280	384	382	1,200	446	280	182	299	258
5	232	175	1,950	1,140	660	436	1,070	410	362	389	308	242
6	224	104	1,470	1,030	823	396	868	360	924	500	302	252
7	216	110	1,200	942	847	386	773	348	1,240	398	273	264
8	135	216	1,000	875	1,270	400	720	386	1,070	328	299	277
9	91	165	806	868	1,740	456	664	388	1,160	340	337	158
10	154	206	633	834	1,810	449	617	372	1,220	318	308	145
11	146	216	569	862	1,780	405	582	374	1,240	250	458	187
12	150	238	567	920	1,730	512	538	328	1,130	236	420	210
13	135	261	1,400	891	1,490	588	494	292	992	516	324	184
14	134	265	3,030	839	1,290	1,140	494	278	840	652	398	168
15	162	289	2,700	780	1,840	1,260	496	290	694	668	326	126
16	78	324	3,190	762	1,760	1,250	495	289	564	647	245	106
17	98	492	3,050	682	1,600	1,240	498	357	458	622	252	186
18	138	493	2,270	611	1,530	1,140	464	254	446	622	213	222
19	146	395	1,620	657	1,250	980	438	286	392	1,030	190	185
20	116	390	1,260	804	1,010	818	412	323	360	1,550	185	213
21	114	482	1,050	529	800	722	570	508	350	1,500	315	166
22	108	526	878	424	683	684	985	424	353	1,330	266	136
23	99	494	732	549	758	674	1,060	361	416	1,340	236	106
24	174	557	621	704	899	674	954	386	344	1,060	228	137
25	146	592	540	926	804	648	914	418	370	786	217	182
26	168	540	467	826	658	686	872	308	358	658	196	200
27	127	516	437	723	660	774	768	254	303	784	244	138
28	148	720	425	698	607	770	672	244	310	875	252	132
29	128	880	647	606	550	712	572	229	310	698	264	128
30	86	1,820	1,160	592	------	981	535	134	270	649	298	100
31	107	------	1,560	542	------	1,140	------	218	------	684	231	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	232	78	140	May	518	134	346
November	1,820	104	414	June	1,240	144	577
December	3,330	425	1,520	July	1,550	172	657
January	2,080	424	876	August	656	185	303
February	1,840	384	1,050	September	280	100	186
March	1,260	382	712				
April	1,200	412	740	The year	3,330	78	626

CUYAHOGA RIVER AT INDEPENDENCE, OHIO

LOCATION.—Staff gage prior to October 8, 1927; water-stage recorder thereafter in T. 6 N., R. 12 W., at highway bridge on Rockside Road at Thornburg and a mile northeast of Independence.

DRAINAGE AREA.—709 square miles.

RECORDS AVAILABLE.—September, 1903, to July, 1906; September, 1921, to May, 1923; September, 1927, to September, 1928.

EXTREMES.—Maximum combined daily discharge of river and canal during period, about 8,080 second-feet December 1, 1927; minimum, about 108 second-feet September 17, 1928.

REMARKS.—Records good except those for high water, which are fair. Water is diverted into the Ohio Canal at Brecksville and carried past station. A small amount of water is diverted into this drainage basin from Tuscarawas River by the Ohio Canal.

Daily discharge, in second-feet, 1927–28

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	151	105	8,040			758	2,170	676	510	406	785	206
2	-------	370	166	5,760		900	668	1,920	561	504	235	668	140
3	-------	114	148	3,950			590	1,740	492	496	392	484	123
4	-------	192	128	3,190	2,500	590	506	1,740	464	484	318	351	72
5	272	207	194	2,320		2,370	532	1,690	460	486	301	336	193
6	290	186	249	1,740		1,490	492	1,430	444	4,080	630	574	209
7	207	207	144	1,440	1,340	1,550	500	1,240	425	2,460	638	376	195
8	159	146	212	1,420	1,640	3,580	490	1,240	429	2,010	454	401	196
9	410	146	198	972	1,640	3,760	516	1,190	418	2,980	394	326	168
10	332	85	199	748	1,440	2,760	590	1,140	400	2,950	512	386	76
11	255	154	203	725	1,390	2,340	625	1,040	396	2,040	380	407	124
12	89	152	212	792	1,390	2,120	630	944	374	1,540	314	488	180
13	222	182	186	3,120	1,340	1,800	706	876	344	1,240	520	409	173
14	222	144	100	8,020	1,290	2,550	2,680	816	334	995	1,240	379	157
15	151	137	192	5,300	1,190	4,860	2,290	795	322	816	1,290	440	138
16	124	146	590	5,580	1,140	3,780	1,850	768	330	666	974	349	100
17	54	70	3,080	5,130	1,040	2,730	1,690	738	332	558	805	232	58
18	163	96	2,010	3,490	950	2,260	1,440	726	622	516	732	228	162
19	272	129	1,040	[a]2,340	1,510	1,740	1,240	718	691	650	860	237	198
20	192	141	760	1,800	2,130	1,440	1,040	723	746	501	3,170	150	171
21	186	110	747	1,540	1,100	1,140	995	958	760	482	2,670	184	194
22	181	102	821	1,340	860	995	995	2,650	742	515	1,870	348	146
23	186	110	711	1,140	815	1,240	995	2,020	725	518	1,740	268	130
24	167	62	1,890	1,040	955	1,690	995	1,560	690	532	1,400	240	74
25	112	154	1,360	950	2,120	1,290	995	1,340	654	472	1,030	254	107
26	50	132	995	815	1,440	950	1,040	1,220	635	480	786	254	162
27	119	152	1,040	770	1,140	924	1,340	1,010	617	424	829	149	172
28	164	112	1,560	725	995	866	1,190	880	590	382	1,570	234	98
29	186	143	2,160	2,590	905	790	1,090	766	564	388	1,040	236	103
30	186	142	4,190	2,800	[a] 900	-------	4,420	698	548	568	848	192	108
31	-------	70	-------	3,580	[a] 900	-------	2,510	-------	527	-------	786	268	------

[a] Estimated because of ice.

Monthly discharge, in second-feet, of Cuyahoga River and Ohio Canal at Independence, Ohio, 1927–28

Month	Maximum (combined)	Minimum (combined)	Mean		
			River	Canal	Combined
1927					
September 5–30	460	118	190	55.0	
1927–28					
October	420	116	143	54.8	198
November	4,230	150	853	47.5	900
December	8,080	761	2,680	37.9	2,720
January			1,500	44.2	1,540
February	4,910		1,870	46.2	1,920
March	4,470	540	1,170	49.5	1,220
April	2,700	743	1,220	45.6	1,270
May	802	365	526	43.2	569
June	4,120	436	1,040	46.3	1,090
July	3,220	285	940	55.5	996
August	845	203	343	53.1	396
September	255		144	49.1	193
The year	8,080		1,040	47.7	1,090

CONGRESS LAKE OUTLET NEAR KENT, OHIO

LOCATION.—Staff gage prior to August 9, 1927; water-stage recorder thereafter at highway bridge on Kent-Ravenna highway, 2 miles east of Kent, Portage County, and 1 mile below mouth of Muddy Lake outlet.

DRAINAGE AREA.—76.9 square miles.

RECORDS AVAILABLE.—July, 1927, to September, 1928.

EXTREMES.—Maximum discharge during period of record, 934 second-feet December 2 (gage height, 8.9 feet); minimum, 8.8 second-feet September 11, 1928 (gage height, 1.84 feet).

REMARKS.—Records good except those for estimated periods (December 5, 6, 19–23, January 1–7, January 30 to February 3, and February 19 to March 7), which are fair.

Daily discharge, in second-feet, 1927–28

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1927				1927				1927			
1		49	11	11		38	17	21		12	35
2		66	11	12		30	17	22		11	30
3		81	10	13		28	26	23		12	28
4		73	10	14		30	28	24		14	26
5		40	9.4	15		32	26	25	46	12	25
6		32	9.6	16		24	24	26	40	12	24
7		30	9.8	17		20	20	27	32	9.8	24
8		52	13	18		12	25	28	32	9.6	24
9		52	13	19		12	32	29	32	10	27
10		52	14	20		12	40	30	43	11	25
								31	43	12	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1927–28												
1	26	18	576				190	52	19	35	273	20
2	43	20	892		50		179	52	19	25	190	18
3	30	19	792	175		100	149	49	19	20	113	15
4	40	19	498		66		159	46	26	19	73	14
5	32	25	290		122		149	40	40	32	62	14
6	19	30	190	100	113	70	140	32	114	46	62	15
7	16	30	140	100	127	70	109	30	149	56	59	15
8	15	28	105	113	201	49	97	28	140	70	59	14
9	14	26	62	122	235	62	97	28	159	52	45	14
10	13	24	66	140	223	70	97	26	140	38	35	13
11	13	23	56	149	223	70	85	28	105	49	59	11
12	14	24	62	131	190	77	73	29	77	70	85	11
13	28	22	130	131	122	86	66	30	49	93	131	12
14	30	21	475	131	131	187	66	30	38	122	149	12
15	26	20	742	113	223	212	66	28	30	140	113	12
16	19	28	731	97	327	223	70	27	28	169	62	12
17	17	85	523	89	385	201	62	32	24	223	47	12
18	17	140	320	77	327	131	52	59	24	235	28	13
19	18	122	283	99	210	97	46	61	35	190	25	13
20	20	113	246	95	160	97	43	81	40	212	24	15
21	19	105	209	81		105	61	62	49	371	29	18
22	18	77	172	97		122	193	49	52	810	43	26
23	17	56	134	73	140	131	201	38	38	674	52	23
24	15	77	97	82		131	201	30	32	448	73	22
25	15	97	77	113		113	190	26	30	313	72	22
26	15	89	62	105		131	122	24	30	223	35	25
27	15	93	56	113	130	149	77	22	28	190	24	24
28	14	97	49	97		140	62	20	26	190	22	24
29	14	140	108	73		131	56	20	26	212	14	24
30	14	191	190	60		170	56	20	46	294	13	22
31	13		242	60		190		20		364	16	

Monthly discharge, in second-feet, of Congress Lake outlet near Kent, Ohio, 1927–8

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1927					
July 25–31	46	32	38.3	0.498	0.13
August	81	9.6	28.7	.373	.43
September	40	9.4	21.1	.274	.31
1927–28					
October	43	13	20.0	.260	.30
November	191	18	62.0	.806	.90
December	892	49	277	3.60	4.15
January			113	1.47	1.70
February	385		164	2.13	2.30
March	223		120	1.56	1.80
April	201	43	107	1.39	1.55
May	81	20	36.1	.469	.54
June	159	19	54.4	.707	.79
July	810	19	193	2.51	2.89
August	273	13	67.3	.875	1.01
September	26	11	16.8	.218	.24
The year	892	11	103	1.34	18.17

LITTLE CUYAHOGA RIVER AT AKRON, OHIO

LOCATION.—Water-stage recorder at foot of Seiberling Street, Akron, Summit County, and half a mile below mouth of Springfield Lake outlet.
DRAINAGE AREA.—42.0 square miles.
RECORDS AVAILABLE.—July, 1920, to September, 1928.
EXTREMES.—Maximum discharge during year, 743 second-feet December 1 (gage height, 3.25 feet); minimum, 6.2 second-feet October 8 (gage height, 0.17 foot).

1920–1928: Maximum discharge not recorded; minimum, no flow June 24 and July 14, 1923 (on account of regulation above station).

REMARKS.—Records excellent except those for January 1, 2, February 24–26, July 20, and 21, when recorder was not operating, which are fair. Gage-height record furnished by Goodyear Tire & Rubber Co.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17.6	17.6	597	148	34	36	89	41	22	19.6	42	25
2	13.2	17.6	226	102	33	36	76	37	22	23	35	21
3	27	17.6	102	57	35	35	86	38	19.6	19.6	33	21
4	24	17.6	57	47	40	35	106	36	34	15.8	29	27
5	18.6	25	40	40	86	36	76	33	42	36	33	25
6	14.0	25	36	46	58	36	60	33	135	40	35	25
7	14.0	22	37	50	56	36	64	34	113	24	32	25
8	11.6	21	47	79	113	36	78	30	72	14.9	28	22
9	14.0	18.6	29	74	129	46	66	30	74	16.7	28	16.7
10	19.6	17.6	34	66	79	46	58	28	56	18.6	53	22
11	17.6	17.6	35	64	58	40	56	35	38	24	64	21
12	22	15.8	61	63	49	44	53	33	32	28	45	22
13	29	12.4	182	61	45	57	47	28	26	28	38	22
14	22	16.7	499	58	68	131	56	30	23	33	36	22
15	16.7	18.6	198	56	221	108	51	28	22	28	36	23
16	14.0	33	159	49	181	53	44	27	24	29	32	19.6
17	17.6	108	108	49	104	54	40	37	24	28	28	21
18	18.6	96	79	46	84	54	36	58	30	30	29	21
19	19.6	57	53	58	63	54	34	47	34	26	32	22
20	18.6	30	49	72	58	63	33	50	27	150	26	25
21	17.6	33	47	36	50	68	68	37	23	150	38	22
22	14.9	35	46	35	50	67	170	28	19.6	166	56	19.6
23	13.2	28	44	36	79	64	110	25	18.6	78	49	14.0
24	15.8	47	40	48	75	63	74	24	18.6	53	34	21
25	17.6	54	36	81	50	63	60	25	22	38	30	21
26	16.7	37	36	57	50	96	50	23	22	30	26	22
27	16.7	45	37	41	44	104	47	22	21	75	30	21
28	16.7	60	38	33	40	72	46	26	25	214	29	19.6
29	14.9	72	94	35	37	61	41	24	22	152	30	16.7
30	12.4	257	135	36	------	113	45	19.6	24	86	40	17.6
31	17.6	------	194	33	------	111	------	21	------	47	33	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	29	11.6	17.5	May	58	19.6	31.9
November	257	12.4	42.4	June	135	18.6	36.2
December	597	29	109	July	214	14.9	55.5
January	------	33	56.6	August	64	26	35.8
February	221	33	71.3	September	27	14.0	21.4
March	131	35	61.9				
April	170	33	64.0	The year	597	11.6	50.3

OHIO CANAL AT INDEPENDENCE, OHIO

LOCATION.—Staff gage prior to September 30, 1927; water-stage recorder thereafter at highway bridge a mile northeast of Independence, Cuyahoga County, opposite gaging station on Cuyahoga River at Independence.

RECORDS AVAILABLE.—September, 1921, to May, 1923; August, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 68 second-feet July 25 (gage height, 4.3 feet); minimum, 9 second-feet December 4 (gage height, 2.58 feet). 1921–1923, 1927–28: Maximum mean daily discharge, 92 second-feet June 13 and 15–17, 1922; minimum discharge, that of December 4, 1927.

REMARKS.—Records fair. Water is diverted into the canal from Cuyahoga River by feeder at dam at Brecksville, 6 miles above station.

Daily and monthly discharge, in second-feet, 1927–28

Day	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	50	60	57	43			46	50	45	43	45	60	46
2	------	50	50	57	18			50	50	43	45	50	60	38
3	------	46	57	54	a15	a30		50	45	43	46	54	57	42
4	------	26	57	54	12			50	45	43	50	54	57	50
5	------	38	57	54	22		a40	50	45	43	50	54	54	50
6	------	50	57	40	43	46		50	45	43	45	54	60	46
7	------	50	57	54	50	50		50	45	45	46	50		
8	------	50	57	54	54	54		50	45	43	46	50		
9	------	50	45	54	50	54	50	50	43	43	46	54		
10	------	50	57	50	50	54	50	50	45	43	38	54		
11	------	43	57	50	36	54	54	50	42	45	50	54		
12	------	40	57	50	50	54	50	50	32	45	50	54	a50	
13	------	43	57	40	46	54	50	50	50	43	46	54		
14	------	45	57	50	43	54	50	50	50	43	46	54		
15	------	50	54	46	50	50	47	50	50	43	46	57		
16	------	54	45	46	46	46	50	50	50	43	46	57		
17	------	68	57	46	50	50	50	50	50	43	46	57		
18	------	66	60	46	32	50	50	50	45	43	46	57	57	a50
19	------	64	60	46		50	50	46	46	42	36	49	50	
20	------	64	57	36		50	46	46	45	42	28	51	57	
21	------	64	57	46	a30	50	46	46	45	42	31	60	57	
22	------	64	54	46			46	46	45	43	40	57	57	
23	------	64	43	46			50	50	46	43	50	60	57	
24	------	68	54	43			50	50	45	43	54	64	57	
25	------	54	57	45	32		46	50	45	43	54	64	54	
26	------	68	57	43	31	a40	46	50	45	43	54	62	45	
27	------	68	57	38	36		46	50	45	43	54	60	54	
28	------	68	57	46	50		46	50	45	43	54	60	54	
29	43	68	54	46	50		46	50	45	43	54	50	50	
30	46	68	40	41	43		------	50	45	43	50	60	50	
31	50	------	54	------	42		------	54	------	43	------	60	50	------

Month	Maximum	Minimum	Mean
1927			
August 29–31	50	43	46.3
September	68	26	55.0
1927–28			
October	60	40	54.8
November	57	36	47.5
December	54	12	37.9
January	54	------	44.2
February	54	------	46.2
1927–28—Continued			
March	54	46	49.5
April	50	32	45.6
May	45	42	43.2
June	54	28	46.3
July	64	45	55.5
August	60	45	53.1
September	------	38	49.1
The year	64	12	47.7

a Estimated.

CHAGRIN RIVER AT WILLOUGHBY, OHIO

LOCATION.—Staff gage at dam nine-tenths mile southeast of Willoughby, Lake County, one-sixth mile below mouth of East Branch of Chagrin River, and about 5 miles above mouth.

DRAINAGE AREA.—251 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 8,450 second-feet December 14 (gage height, 5.6 feet); minimum, 25 second-feet September 17 and 19 (gage height, 0.28 foot).

1925–1928: Maximum discharge, that of December 14, 1927; minimum, 21 second-feet July 26, 1926, and September 6 and 7, 1927 (gage height, 0.26 foot).

REMARKS.—Records good except those for periods of ice effect and for June 15 and 21–22, when gage was not read, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	46	4,380				680	156	57	275	77	33
2	68	51	1,120		[a]300		580	123	68	156	68	33
3	51	57	630				396	112	51	94	161	33
4	44	46	380				411	101	77	90	136	54
5	40	101	282	[a]500	2,560		282	94	148	68	98	42
6	60	119	239		780	[a]150	234	90	2,900	171	308	33
7	42	115	256		561		200	94	1,060	94	161	37
8	49	77	437		3,250		245	74	453	68	119	35
9	44	54	321	1,060	1,930		256	80	1,000	51	84	35
10	35	51	152	630	730		216	94	1,060	262	63	28
11	33	94	211	515	543		222	87	373	115	40	37
12	40	60	506	350	380		190	71	216	77	57	35
13	57	66	835	373	336	403	171	57	156	66	66	28
14	98	80	6,080	321	1,240	1,780	180	54	140	437	57	33
15	66	57	1,300	308	2,560	630	161	51	[b]104	366	54	28
16	54	171	1,930	234	1,180	380	152	54	68	195	44	28
17	54	2,400	1,120	288	680	234	148	60	80	108	49	26
18	49	1,300	534	245		166	144	630	101	74	51	28
19	54	462	336	437		195	119	380	148	835	49	26
20	46	211				176	101	479	119	630	51	42
21	57	234				161	119	205	[b]161	239	57	46
22	60	328				166	1,240	108	[b]203	112	68	33
23	46	205				185	630	101	245	161	49	33
24	42	1,930	[a]200		[a]150	190	350	94	453	115	42	44
25	42	1,120		[a]300		171	288	68	239	90	51	46
26	37	437				269	216	68	104	74	46	40
27	37	453				445	180	63	94	71	35	42
28	51	1,000				216	152	54	87	1,500	40	35
29	37	1,500	2,900			171	119	54	80	358	37	35
30	57	3,250	2,240		-------	2,730	171	57	1,120	180	37	33
31	35	-------	2,240		-------	835	-------	51	-------	98	42	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	98	33	49.9	0.199	0.23
November	3,250	46	536	2.14	2.39
December	6,080	----------	975	3.88	4.47
January	----------	----------	399	1.59	1.83
February	3,250	----------	680	2.71	2.92
March	2,730	----------	365	1.45	1.67
April	1,240	101	285	1.14	1.27
May	630	51	125	.498	.57
June	2,900	51	372	1.48	1.65
July	1,500	51	233	.928	1.07
August	308	35	74.1	.295	.34
September	54	26	35.4	.141	.16
The year	6,080	26	343	1.37	18.57

[a] Estimated because of ice. [b] Interpolated.

GRAND RIVER NEAR MADISON, OHIO

LOCATION.—Chain gage at highway bridge 2 miles south of Madison, Lake County, and half a mile above Griswold Creek. Zero of gage is 674.47 feet above mean sea level.

DRAINAGE AREA.—587 square miles.

RECORDS AVAILABLE.—July, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 9,750 second-feet December 14 (gage height, 9.5 feet); minimum, 6.6 second-feet September 12 (gage height, 1.00 foot).

1922–1928: Maximum discharge, about 14,300 second-feet September 25, 1926 (gage height, 11.1 feet); minimum, 1.5 second-feet August 27, 1923.

REMARKS.—Records good except those for periods of ice effect, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	9,490	6,980			2,460	190	40	203	131	25
2	13	10	5,450	3,360	a520		2,000	164	47	203	106	20
3	11	12	3,360	2,220			1,800	152	36	152	74	23
4	11	14	2,600	1,620	368		910	113	29	106	142	19.5
5	10	17	1,710	a1,400	790	a170	732	111	54	104	152	12.8
6	10	16	1,110	1,180	2,460		553	122	467	177	488	15.6
7	12	18	488	732	1,800		426	93	3,040	313	910	16
8	10	18	1,110	1,320	3,200	90	349	78	2,110	296	553	12.4
9	10	18	1,710	1,900	6,520	152	426	66	2,110	217	203	11.4
10	12	21	262	1,540	5,240	313	530	62	3,710	177	99	9.6
11	10	26	368	1,320	2,740	349	732	60	2,220	217	190	10.5
12	12	32	790	1,110	2,110	279	530	71	1,460	177	106	8.5
13	19	13	1,620	1,040	2,000	488	349	53	970	164	164	10.8
14	51	19	9,490	850	3,360	3,530	279	25	509	2,340	131	11.4
15	14	25	6,520	910	3,710	2,460	142	34	279	2,460	103	12.8
16	15	30	4,260	601	3,360	1,540	96	26	152	1,320	57	9.6
17	27	153	2,890	530	2,340	1,250	246	40	82	850	25	15.6
18	22	700	2,220	426	2,000	970	190	78	84	576	16.5	17
19	26	950	1,460	467		530	164	678	90	426	14	17
20	16	430	1,040	2,890	a1,000	279	142	652	70	330	31	25
21	17	450	850	1,320		313	190	626	279	246	21	22
22	16	645	530	910	446	509	2,220	488	387	122	25	18.5
23	13	760	446	790	262	678	2,110	330	246	426	17.5	18
24	11	1,800		2,220	a250	601	1,620	177	553	652	33	14.8
25	11	2,480	a350	2,220	a250	678	1,540	131	387	368	31	15.2
26	9.8	1,250		1,800		576	1,040	80	488	313	23	14.4
27	10	2,120	246	1,460	a225	850	652	63	330	732	26	13.6
28	9	1,800	330	1,180		850	387	62	203	1,320	21	11.1
29	8.7	2,760	1,460			678	231	54	142	790	22	9.6
30	9	4,400	5,040	a850		2,000	190	57	131	330	18	9
31	7.8		5,870			2,740		47		203	15.6	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	51	7.8	14.3	0.024	0.03
November	4,400	10	700	1.19	1.33
December	9,490	246	2,380	4.05	4.67
January	6,980	426	1,510	2.57	2.96
February	6,520		1,680	2.86	3.08
March	3,530	90	771	1.31	1.51
April	2,460	96	775	1.32	1.47
May	678	25	161	.274	.32
June	3,710	29	690	1.18	1.32
July	2,460	104	526	.896	1.03
August	910	14	127	.216	.25
September	25	8.5	15.0	.026	.03
The year	9,490	7.8	777	1.32	18.00

a Estimated because of ice.

CONNEAUT CREEK AT AMBOY, OHIO

LOCATION.—Water-stage recorder at highway bridge half a mile east of Amboy, 3 miles southwest of Conneaut, Ashtabula County, and 6 miles above mouth.

DRAINAGE AREA.—178 square miles.

RECORDS AVAILABLE.—July, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 6,160 second-feet December 1 (gage height, 8.2 feet); minimum, 3.8 second-feet September 14 (gage height, 1.19 feet).

1922–1928: Maximum discharge, that of December 1, 1927; minimum, 1.6 second-feet October 20, 1923 (gage height, 1.06 feet).

REMARKS.—Records excellent except those for periods of ice effect and for extremely high water, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	16	4,200	2,750			552	66	25	102	21	11
2	19	14	2,500	580			329	65	24	122	21	15
3	6.9	7.2	608		a 410	a 60	204	59	24	89	21	5.9
4	11	20	298	a 230			215	53	23	78	19	6.7
5	13	23	190				190	47	26	79	18	16
6	7.9	62	147				129	42	183	98	87	7.8
7	6.3	76	129	a 330	a 1,900		108	41	980	106	58	10
8	4.7	66	190			a 70	108	37	350	66	50	5.1
9	14	49	235	1,080	2,460		129	35	190	44	33	4.8
10	6.6	42		572	1,240		131	32	820	40	18	5.1
11	9.8	46	a 200	378	383		135	32	620	52	17	12
12	14	49		278	254	a 150	131	30	200	166	18	13
13	13	62	1,720	224	179		135	26	98	120	13	5.1
14	63	60	4,060	207	218	1,700	129	25	68	129	20	4.0
15	74	42	2,310	172	931	1,290	120	24	54	329	13	4.4
16	60	46	840	137	880	373	135	25	48	190	14	4.8
17	48	562	1,210	124	460	206	98	30	38	100	7.8	4.8
18	29	1,560	611	133	308	147	84	35	42	64	14	4.8
19	22	989	280	446	186	124	74	48	56	82	11	5.5
20	25	404	215	1,180	a 70	110	68	97	207	116	7.0	11
21	36	298	224			116	68	84	106	129	15	10
22	44	490	232			207	712	62	200	81	8.5	9.2
23	31	520	220	a 280	a 40	308	920	47	144	58	13	8.5
24	22	928	220			249	432	35	378	46	14	15
25	22	1,470	211			215	224	30	158	41	15	15
26	16	812	204			186	155	26	98	33	11	16
27	13	761	164		a 70	340	116	25	71	52	5.5	20
28	12	1,650	196	a 290		432	93	25	66	64	12	19
29	10	1,740	887			193	81	25	65	60	12	16
30	12	1,930	2,790			343	73	25	60	50	11	16
31	6.6		2,680			862		25		35	14	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	74	4.7	22.0	0.124	0.14
November	1,930	7.2	493	2.77	3.09
December	4,200	129	915	5.14	5.93
January	2,750	124	422	2.37	2.73
February			545	3.06	3.30
March			274	1.54	1.78
April	920	68	203	1.14	1.27
May	97	24	40.6	.228	.26
June	980	23	181	1.02	1.14
July	329	33	91.0	.511	.59
August	87	5.5	19.7	.111	.13
September	20	4.0	10.0	.056	.06
The year	4,200	4.0	267	1.50	20.42

a Estimated because of ice.

STREAMS TRIBUTARY TO LAKE ONTARIO

LITTLE TONAWANDA CREEK AT LINDEN, N. Y.

LOCATION.—Staff gage above timber weir at highway bridge in Linden, Genesee County.

DRAINAGE AREA.—22 square miles.

RECORDS AVAILABLE.—July, 1912, to September, 1928.

EXTREMES.—Maximum discharge during year, 932 second-feet June 21 (gage height, 7.5 feet); minimum, 0.6 second-foot October 1 (gage height, 0.27 foot).

1912–1928: Maximum discharge, 2,400 second-feet April 22, 1916 (gage height, 14.6 feet); minimum, 0.4 second-foot several times in September and October, 1921 (gage height, 0.18 foot).

REMARKS.—Records good except those for periods of ice effect (December 19, 26–27, January 20–26, February 8–12, 19–23, and March 19–20), and those for period when weir crest was broken (December 30 to August 19), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	3.1	300	89	20	18	62	33	6.1	66	4.3	2.1
2	.8	4.1	94	66	17	14	58	26	5.6	36	3.8	2.1
3	.7	4.5	57	54	16	14	78	21	4.8	27	3.4	2.0
4	1.0	6.1	49	46	25	14	78	20	4.3	23	3.1	2.0
5	.8	6.4	34	38	48	14	50	17	14	20	3.2	1.8
6	.7	5.2	31	38	29	12	38	14	74	18	3.4	1.7
7	1.3	4.8	54	54	22	11	32	14	77	14	3.4	2.1
8	1.5	4.5	107	103	130	11	80	12	32	10	3.0	1.7
9	1.1	4.3	38	74	120	12	44	10	20	9.6	2.9	1.6
10	1.1	4.1	32	44	42	11	40	9.6	29	18	2.9	1.6
11	1.0	5.6	38	50	30	13	32	8.8	17	9.6	3.5	1.6
12	.9	13	175	46	22	87	30	7.5	11	7.5	3.1	1.7
13	1.6	10	208	115	26	248	26	6.9	8.4	6.9	2.8	1.4
14	1.2	7.2	365	86	66	171	38	6.9	7.2	20	2.7	1.4
15	1.4	6.7	89	100	239	50	38	6.1	6.9	10	2.6	1.5
16	1.2	8.0	190	66	74	44	25	5.9	5.2	8.0	4.8	1.4
17	1.2	225	92	58	58	35	23	5.6	4.5	5.9	2.9	1.2
18	1.4	140	61	43	47	27	21	8.8	6.4	4.8	2.9	1.2
19	14	39	50	40	34	26	20	12	346	5.6	2.7	1.1
20	141	24	42	50	24	22	17	17	94	6.9	2.4	1.4
21	37	22	41	75	22	25	17	12	455	6.9	6.4	1.5
22	16	25	38	50	18	46	55	8.4	186	35	6.7	1.2
23	10	170	35	42	38	103	104	6.9	108	28	4.1	1.4
24	7.2	191	34	38	62	265	58	5.6	139	12	4.5	1.2
25	6.1	103	24	34	32	222	37	5.2	70	8.4	4.1	1.5
26	5.4	49	18	40	21	188	31	4.8	62	6.9	2.9	1.5
27	4.8	401	16	35	19	295	26	4.3	44	8.4	2.7	2.1
28	4.5	201	21	30	18	127	25	5.2	33	8.8	2.5	2.1
29	3.9	298	182	26	20	44	58	9.6	36	6.9	2.2	1.7
30	3.6	578	183	23	-------	46	50	6.9	97	5.2	3.9	1.6
31	3.4	-------	321	20	-------	47	-------	9.6	-------	4.5	2.5	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	141	0.6	8.92	0.405	0.47
November	578	3.1	85.5	3.89	4.34
December	365	16	97.4	4.43	5.11
January	115	20	54.0	2.45	2.82
February	239	16	46.2	2.10	2.26
March	295	11	73.0	3.32	3.83
April	104	17	43.0	1.95	2.18
May	33	4.3	11.0	.500	.58
June	455	4.3	66.8	3.04	3.39
July	66	4.5	14.8	.673	.78
August	6.7	2.2	3.43	.156	.18
September	2.1	1.1	1.61	.073	.08
The year	578	.6	42.0	1.91	26.02

GENESEE RIVER AT SCIO, N. Y.

LOCATION.—Staff gage at highway bridge three-quarters of a mile upstream from Scio, Allegany County.

DRAINAGE AREA.—288 square miles.

RECORDS AVAILABLE.—June, 1916, to September, 1928.

EXTREMES.—Maximum discharge during year, 7,600 second-feet December 1 (gage height, 7.5 feet); minimum, 17 second-feet October 1 and 3 (gage height, 0.04 foot).

1916–1928: Maximum discharge, 10,600 second-feet May 22, 1919 (gage height, 9.1 feet); minimum, 15 second-feet September 3, 1925 (gage height, 0.12 foot).

REMARKS.—Records good except those for periods of ice effect (December 23–28, January 4–7, and January 30 to February 13), and for periods of estimate, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	88	7,090	945	200	68	670	1,920	181	251	142	53
2	a 17	86	5,770	840	180	130	640	1,520	164	234	111	49
3	18	832	4,680	640	150	134	678	905	152	216	106	45
4	68	1,300	3,140	460	170	104	1,300	700	164	200	100	44
5	54	980	1,300	360	240	86	1,060	550	624	170	105	40
6	38	770	805	300	200	81	1,060	a 440	2,070	167	308	36
7	36	550	770	260	190	74	1,200	370	1,580	142	200	41
8	41	492	1,730	288	220	62	4,220	370	772	127	164	a 39
9	a 35	465	805	308	550	60	1,860	349	610	127	164	a 37
10	33	492	700	270	480	62	1,300	328	a 640	317	155	a 35
11	33	2,090	805	251	440	88	1,060	288	580	328	147	33
12	36	1,570	980	251	380	178	1,060	288	550	234	137	31
13	430	910	2,430	288	460	1,410	945	270	520	216	129	30
14	149	735	4,680	288	593	3,040	875	251	492	181	118	28
15	100	640	1,870	480	1,570	999	805	234	415	158	106	27
16	a 79	550	2,240	308	705	580	580	234	370	139	96	26
17	62	3,090	1,760	349	550	440	520	216		124	90	27
18	79	4,020	1,300	288	415	415	492	234		124	86	33
19	172	1,580	1,060	308	370	328	465	270		218	81	29
20	554		805	415	270	328	440	308	a 700	340	72	31
21	492		670	392	200	476	415	251		251	71	57
22	370		580		155	455	1,050	216		270	154	38
23	288	a 1,400	480		161	396	1,140	200		646	96	31
24	234		420		127	1,420	910	178	142	985	81	48
25	184		360		104	2,070	770	164	155	415	76	34
26	161		340	a 320	a 94	2,000	670	152	318	308	71	32
27	134	4,720	320		81	4,050	580	142	209	216	66	33
28	122	5,340	360		94	1,440	520	145	167	200	62	39
29	113	3,360	875		88	1,060	854	172	172	a 172	56	41
30	115	4,570	1,060	280	------	980	2,360	234	270	158	50	a 41
31	96	------	1,060	240	------	805	------	216	------	200	63	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	554	17	141	0.490	0.56
November	5,340	86	1,630	5.66	6.32
December	7,090	320	1,650	5.73	6.61
January	945	240	367	1.27	1.46
February	1,570	81	325	1.13	1.22
March	4,050	60	768	2.67	3.08
April	4,220	415	1,020	3.54	3.95
May	1,920	142	391	1.36	1.57
June	2,070	142	541	1.88	2.10
July	985	124	253	.878	1.01
August	308	50	112	.389	.45
September	57	26	36.9	.128	.14
The year	7,090	17	602	2.09	28.47

a Estimated because of lack of gage readings.

GENESEE RIVER AT ST. HELENA, N. Y.

LOCATION.—Water-stage recorder at highway bridge in St. Helena, Wyoming County, 1½ miles downstream from mouth of Wolf Creek.

DRAINAGE AREA.—992 square miles.

RECORDS AVAILABLE.—August, 1908, to September, 1928.

EXTREMES.—Maximum discharge during year, 42,700 second-feet December 1 (gage height, 12.8 feet); minimum, 68 second-feet October 1 (gage height, 2.05 feet).

1908–1928: Maximum discharge, 44,400 second-feet May 17, 1916 (gage height, 12.81 feet); minimum, about 18 second-feet October 5 and 17, 1913 (gage height, 1.70 feet).

REMARKS.—Records good except those for periods of ice effect (December 21, December 26 to January 8, January 27 to February 16, February 21–23, and March 7–11) and for periods of estimate, which are fair. Readings from chain gage used August 1–5, 10, 13–17, and September 1–30.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	72	244	32,900	4,200	550	625	2,160	4,890	356		367	159
2	83	235	9,630	1,600	550	560	2,160	2,820	339		350	152
3	88	354	5,350	900	550	525	2,420	1,950	313		323	142
4	119	1,810	3,480	800	650	476	4,240	1,580	307		273	159
5	116	2,040	2,660	750	600	455	3,200	1,250	743		259	149
6	168	1,590	2,320	850	600	425	2,570	1,020	4,630		[a]340	139
7	134	1,250	2,080	1,100	700	420	2,240	876	4,710		[a]400	146
8	131	1,010	3,810	1,700	1,200	400	8,320	742	2,820	[a]650	[a]500	152
9	154	842	2,800	1,860	2,200	420	5,270	662	1,680		[a]400	159
10	128	834	1,400	1,440	1,800	400	3,200	625	2,980		323	142
11	128	2,420	1,510	1,200	1,100	440	2,480	741	1,880		[a]360	126
12	125	3,510	2,410	1,150	800	599	2,160	532	1,180		[a]400	112
13	174	2,200	4,470	1,250	700	2,570	2,240	476	884		245	98
14	559	1,440	12,700	2,240	900	7,810	1,770	437	858		227	126
15	356	1,090	6,870	2,080	5,500	3,630	2,320	413	804		218	120
16	253	928	5,740	1,710	3,200	1,810	1,640	367	655	490	206	126
17	206	12,200	7,780	1,220	2,160	1,220	1,320	356		389	218	118
18	206	18,900	3,860	1,180	1,580	980	1,200	504		373	[a]210	112
19	231	5,590	2,560	1,030	989	831	1,040	732		339	189	123
20	2,410	3,110	2,080	1,780	777	742	921	1,000		339	186	129
21	2,310	2,260	1,900	814	700	710	840	694		350	170	139
22	1,080	1,960	1,780	686	650	876	3,050	581		339	167	133
23	753	2,450	1,580	849	750	1,340	6,180	648		401	197	126
24	610	4,370	1,210	960	1,360	3,750	3,520	625	[a]2,000	734	210	118
25	512	6,670	858	867	1,350	7,360	2,320	434		786	186	112
26	436	3,540	800	702	742	6,120	2,000	334		532	193	98
27	378	11,600	800	650	678	11,500	1,580	308		525	193	106
28	330	11,400	900	600	632	5,120	1,320	313		[a]500	189	112
29	299	9,490	1,000	600	648	2,860	2,080	431		[a]440	186	120
30	266	10,700	2,000	550	-------	2,240	6,200	462		[a]360	178	123
31	262	-------	5,000	550	-------	2,000	-------	401	-------	[a]360	142	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,410	72	422	0.425	0.49
November	18,900	235	4,200	4.23	4.72
December	32,900	800	4,330	4.36	5.03
January	4,200	550	1,220	1.23	1.42
February	5,500	550	1,190	1.20	1.29
March	11,500	400	2,230	2.25	2.59
April	8,320	840	2,730	2.75	3.07
May	4,890	308	878	.885	1.02
June	4,710	308	1,770	1.78	1.99
July	786	339	549	.553	.64
August	500	142	258	.260	.30
September	159	98	129	.130	.14
The year	32,900	72	1,660	1.67	22.70

[a] Estimated.

GENESEE RIVER AT JONES BRIDGE, NEAR MOUNT MORRIS, N. Y.

LOCATION.—Water-stage recorder at highway bridge known as Jones Bridge, 3½ miles northeast of Mount Morris, Livingston County.

DRAINAGE AREA.—1,400 square miles.

RECORDS AVAILABLE.—May, 1903, to April, 1906; August, 1908, to December, 1913; July, 1915, to September, 1928.

EXTREMES.—Maximum discharge during year, 46,800 second-feet December 1 (gage height, 25.1 feet); minimum, 90 second-feet September 18 (gage height, 0.44 foot).

1903–1906, 1908–1913, 1915–1928: Maximum discharge, 55,100 second-feet May 17, 1916 (gage height, 25.44 feet); minimum, about 18 second-feet August 29, 1909.

REMARKS.—Records good except those for periods of ice effect (December 24 to January 14 and January 18 to March 13) and for periods when intake was partly obstructed (May 5 to June 5, June 16–18 and June 29 to August 17), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	130	345	33,800	6,000	750	900	3,100	7,160	610	1,670	410	227
2	164	348	24,200	a 3,800	750	850	3,240	a 4,940	585	1,460	394	230
3	143	439	13,100	a 1,700	750	750	3,180	a 3,440	540	1,080	371	193
4	241	1,950	8,070	a 1,200	850	700	5,230	a 2,520	545	858	386	221
5	220	2,600	a 5,500	a 1,200	900	700	4,400	a 1,940	819	720	363	254
6	229	2,190	a 4,100	a 1,200	850	650	3,720	1,460	5,320	720	457	245
7	244	1,810	3,440	a 1,400	950	600	3,170	1,250	6,640	802	540	239
8	232	1,510	4,530	1,900	1,700	600	7,740	1,080	a 4,620	670	645	224
9	232	1,240	a 4,550	2,400	2,800	600	7,910	968	a 2,650	545	520	198
10	214	1,160	a 2,020	2,200	2,800	a 600	a 4,400	912	3,410	580	422	179
11	214	2,070	a 2,300	1,800	1,900	a 660	a 3,400	1,220	2,900	768	560	185
12	203	4,180	a 3,100	1,600	1,300	a 1,000	a 2,840	940	2,020	885	620	177
13	289	a 2,980	a 5,610	1,700	1,100	a 2,600	a 2,840	775	1,590	748	439	167
14	559	a 2,120	14,500	2,400	1,400	8,710	a 2,520	695	1,520	695	386	164
15	506	a 1,630	10,200	2,710	6,000	6,140	3,150	695	1,370	670	360	169
16	367	a 1,360	8,640	2,500	6,000	a 3,600	2,590	670	1,160	620	390	182
17	320	10,200	9,970	1,880	3,600	a 2,200	a 2,130	645	968	590	475	202
18	302	22,100	6,360	1,600	2,400	1,660	a 1,880	863	885	520	a 371	199
19	350	13,600	a 4,130	1,400	1,700	1,520	a 1,770	1,190	3,560	475	a 334	218
20	2,430	8,000	a 3,100	1,800	1,100	1,400	1,580	1,650	3,770	498	322	177
21	3,830	a 5,000	a 2,720	1,600	950	1,430	1,430	1,460	5,460	511	287	187
22	1,770	a 3,300	a 2,460	1,000	900	1,690	3,330	1,020	6,590	452	371	185
23	1,200	a 2,500	a 2,200	1,100	1,000	2,270	7,670	1,100	3,650	466	254	191
24	852	a 4,700	a 1,900	1,200	1,400	4,120	a 5,350	1,020	2,980	645	352	177
25	690	a 8,740	1,500	1,200	1,600	8,630	a 3,540	802	2,830	1,160	a 334	167
26	615	a 5,260	1,300	1,000	1,200	7,800	a 3,040	595	2,920	858	a 308	152
27	547	9,980	1,200	950	950	12,300	a 2,780	516	2,190	645	284	164
28	448	15,500	1,200	850	950	9,060	a 2,580	571	1,630	645	287	184
29	406	13,600	1,700	800	900	a 4,890	a 3,070	748	1,370	570	261	a 140
30	382	13,000	3,000	a 800	-------	a 3,620	7,780	748	1,460	470	277	a 164
31	356	-------	5,500	a 750	-------	3,020	-------	695	-------	434	251	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,830	130	603	0.431	0.50
November	22,100	345	5,450	3.89	4.34
December	33,800	1,200	6,320	4.51	5.20
January	6,000	750	1,730	1.24	1.43
February	6,000	750	1,710	1.22	1.32
March	12,300	600	3,070	2.19	2.52
April	7,910	1,430	3,710	2.65	2.96
May	7,160	511	1,430	1.02	1.18
June	6,640	540	2,550	1.82	2.03
July	1,670	434	724	.517	.60
August	645	251	388	.277	.32
September	254	140	192	.137	.15
The year	33,800	130	2,320	1.66	22.55

a Gage-height record incomplete; discharge estimated.

GENESEE RIVER AT DRIVING PARK AVENUE, ROCHESTER, N. Y.

LOCATION.—Water-stage recorder 40 feet downstream from plant No. 5 of Rochester Gas & Electric Corporation and 100 feet upstream from Driving Park Avenue Bridge in Rochester, Monroe County.

DRAINAGE AREA.—2,460 square miles.

RECORDS AVAILABLE.—December, 1919, to September, 1928.

EXTREMES.—Maximum discharge during year, 29,600 second-feet December 2 (gage height, 13.5 feet); minimum, approaching 5 second-feet, occurs frequently during low-water periods when power plant shuts down.

1919–1928: Maximum discharge, that recorded on December 2, 1927.

REMARKS.—Records good. The Barge Canal crosses the river near the southern boundary of Rochester. It discharges water from Lake Erie into Genesee River and diverts, in general, a small amount to the east for canal purposes

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	884	1,200	22,100	13,200	1,510	2,290	4,540	12,000	1,820	3,620	1,530	1,020
2	777	1,250	25,900	8,920	1,480	2,150	5,080	10,000	1,720	3,470	1,670	971
3	795	1,250	27,400	4,150	1,490	1,890	4,940	6,370	1,400	2,940	1,450	1,080
4	863	1,500	23,600	2,770	1,580	1,270	5,320	4,860	1,620	2,640	1,390	1,050
5	804	3,130	17,500	2,220	1,410	1,730	7,010	4,040	1,660	2,310	1,070	1,010
6	939	3,670	9,520	2,610	1,820	1,800	5,460	3,330	2,750	2,130	1,400	978
7	1,060	2,950	7,160	3,470	2,320	1,830	4,410	3,150	10,200	1,930	1,430	1,050
8	772	2,710	6,870	3,980	3,880	1,750	4,840	2,850	8,440	1,920	1,450	1,000
9	812	2,470	8,060	4,960	5,570	1,650	11,500	2,560	5,450	1,840	1,550	944
10	982	2,310	5,380	4,980	6,180	1,550	8,430	2,500	3,900	1,740	1,480	1,100
11	826	2,400	4,190	3,810	5,310	1,300	5,140	2,470	4,830	1,720	1,310	992
12	827	4,300	4,110	3,960	3,860	2,430	3,860	2,430	3,670	1,750	1,270	1,020
13	1,080	4,940	6,480	3,740	3,500	4,900	2,900	2,020	3,000	1,810	1,590	1,020
14	848	3,850	13,100	3,740	3,150	10,100	2,620	2,110	2,580	1,760	1,430	970
15	1,200	2,920	17,400	3,860	9,140	13,300	2,060	1,810	2,530	1,560	1,360	898
16	1,350	2,680	17,600	4,160	15,600	7,390	3,830	1,870	2,130	1,820	1,320	920
17	1,110	5,570	16,300	3,900	11,500	3,720	3,790	1,720	2,080	1,730	1,240	1,020
18	988	15,900	13,900	3,700	6,670	2,560	3,430	1,750	2,030	1,610	1,460	811
19	1,290	18,400	8,530	3,570	4,590	3,140	3,320	2,500	2,540	1,450	1,250	790
20	2,080	17,600	5,870	3,270	3,240	2,580	3,320	2,740	7,720	1,780	1,390	883
21	5,400	12,900	4,570	2,780	2,350	2,210	2,840	3,170	8,180	1,760	1,270	1,020
22	4,720	6,620	4,470	1,230	2,390	2,690	2,950	2,750	14,400	2,840	1,210	905
23	3,380	5,660	4,210	1,820	2,990	3,710	8,150	2,320	13,200	3,900	1,170	772
24	2,650	6,810	3,920	2,230	3,030	5,490	11,200	2,130	8,060	2,790	1,260	980
25	2,130	11,800	2,400	2,510	3,570	10,300	7,750	2,060	6,520	2,650	1,240	940
26	1,950	12,100	2,090	2,180	3,040	13,700	5,070	1,900	7,340	2,720	1,130	956
27	1,400	10,200	2,840	1,930	2,780	14,700	4,350	1,430	5,890	2,340	1,200	940
28	1,200	16,700	3,020	1,840	2,400	16,600	3,690	1,830	3,920	2,180	1,220	956
29	1,250	18,400	3,660	1,480	2,350	12,600	4,080	1,800	3,120	1,900	1,160	905
30	1,200	19,300	5,610	1,680	------	7,080	8,160	1,790	3,120	1,830	1,200	839
31	1,150	------	11,400	1,580	------	4,970	------	1,960	------	1,600	1,180	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,400	772	1,510	0.614	0.71
November	19,300	1,200	7,380	3.00	3.35
December	27,400	2,090	9,970	4.05	4.67
January	13,200	1,230	3,560	1.45	1.67
February	15,600	1,410	4,090	1.66	1.79
March	16,600	1,270	5,270	2.14	2.47
April	11,500	2,060	5,130	2.09	2.33
May	12,000	1,430	3,100	1.26	1.45
June	14,400	1,400	4,860	1.98	2.21
July	3,900	1,450	2,190	.890	1.03
August	1,670	1,070	1,330	.541	.62
September	1,100	772	958	.389	.43
The year	27,400	772	4,110	1.67	22.73

NOTE.—The discharge and run-off figures given above do not represent the natural flow from the drainage basin on account of inflow and diversion at the crossing of the Barge Canal during the navigation season.

CANASERAGA CREEK NEAR DANSVILLE, N. Y.

LOCATION.—Water-stage recorder at highway bridge 1 mile west of Dansville, Livingston County.

DRAINAGE AREA.—148 square miles.

RECORDS AVAILABLE.—July, 1910, to December, 1912; July, 1915, to June, 1917; and March, 1919, to September, 1928.

EXTREMES.—Maximum discharge during year, 6,900 second-feet November 30 (gage height, 12.7 feet); minimum, 19 second-feet several times September 10–15 (gage height, 5.70 feet).

1910–1912, 1915–1917, 1919–1928: Maximum discharge, that of November 30, 1927; minimum, 14 second-feet September 10, 1921.

REMARKS.—Records fair except those for periods of ice effect (December 9–10, 19–27, January 3–7, January 22 to February 8, February 19–27, and March 4–13), and periods of estimate, which are poor.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	49	3,820	400	75	98	224	892	73	157	41	29
2	29	48	1,540	172	75	86	228	437	73	119	38	27
3	46	75	880	160	85	76	377	305	65	104	35	25
4	62	159	555	140	110	100	465	254	79	91	31	25
5	43	232	456	160	100	85	346	219	181	100	49	24
6	38	224	388	160	85	75	272	194	384	98	48	22
7	36	176	400	170	110	75	249	177	284	76	83	23
8	36	139	582	191	340	65	995	158	189	67	48	21
9	36	122	280	191	340	75	457	144	155	70	38	20
10	34	119	200	172	191	65	304	130	153	81	43	20
11	33	211	202	172	124	65	237	117	117	65	67	20
12	48	232	316	156	110	320	250	109	98	62	47	20
13	89	159	442	210	124	260	232	102	84	59	37	19
14	52	127	1,220	191	[a]340	592	219	95	82	73	35	19
15	43	110	964	195	865	255	246	93	76	59	31	19
16	39	114	1,230	172	462	191	183	91	67	50	40	22
17	38	1,710	881	162	255	139	165	93	61	47	61	22
18	38	1,930	516	152	191	139	152	135	72	44	43	22
19	136	718	340	[a]139	100	124	139	147	397	54	39	21
20	595	432	280	152	85	124	124	164	248	57	35	25
21	292	328	240	[a]110	85	124	138	130	690	56	95	25
22	172	277	220	100	100	172	559	112	503	[a]52	127	22
23	119	351	200	100	120	255	914	100	284	[a]55	62	22
24	93	702	170	110	100	847	523	93	216	[a]60	48	22
25	78	600	160	95	75	1,100	358	88	174	[a]50	47	23
26	70	437	160	90	65	960	266	80	148	[a]45	38	25
27	64	1,880	160	[a]90	110	1,620	219	78	141	[a]40	36	26
28	58	1,330	169	85	110	536	214	86	117	48	35	26
29	54	1,320	317	[a]80	98	304	730	95	122	38	32	29
30	52	2,510	528	[a]80	-------	255	1,530	86	168	37	31	29
31	49	-------	[a]677	75	-------	214	-------	80	-------	35	30	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	595	29	83.9	0.567	0.65
November	2,510	48	561	3.79	4.23
December	3,820	160	597	4.03	4.65
January	400	75	149	1.01	1.16
February	865	65	173	1.17	1.26
March	1,620	65	303	2.05	2.36
April	1,530	124	377	2.55	2.84
May	892	78	164	1.11	1.28
June	690	61	184	1.24	1.38
July	157	35	66.1	.447	.52
August	127	30	47.4	.320	.37
September	29	19	23.1	.156	.17
The year	3,820	19	227	1.53	20.87

[a] Estimated.

KESHEQUA CREEK AT CRAIG COLONY, SONYEA, N. Y.

LOCATION.—Staff gage on grounds of Craig Colony at Sonyea, Livingston County.
DRAINAGE AREA.—69 square miles.
RECORDS AVAILABLE.—July, 1910, to December, 1912; October, 1917, to September, 1928.
EXTREMES.—Maximum discharge during year, beyond limits of rating curve, November 17 (gage height, 5.9 feet); minimum, 1.2 second-feet October 1 (gage height, 0.22 foot).
1910–1912, 1917–1928: Maximum stage recorded, 5.9 feet on March 14, 1918, May 22, 1919, and November 17, 1927 (discharge not determined); minimum discharge, 0.7 second-foot August 20, 1918, and August 24, 1923.
REMARKS.—Records good except those for periods of ice effect (January 23 to February 6 and February 20–23), and for periods of obstruction on control (October 1–19), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	8.6	1,210	163	24	30	68	135	20	46	e 8.0	5.1
2	2.5	8.6	253	e 71	24	e 25	84	86	19	29	e 7.5	4.5
3	2.0	35	155	41	28	22	135	61	17	25	e 7.5	e 4.0
4	7.6	56	99	35	36	13	135	53	17	24	e 7.0	3.8
5	6.7	53	82	43	34	e 20	89	46	63	19	29	4.5
6	5.9	43	75	46	30	24	68	39	537	18	e 10	3.2
7	4.8	29	89	48	e 47	24	54	36	179	17	18	4.5
8	5.5	24	183	121	253	24	203	33	73	14	11	4.5
9	5.9	19	54	89	191	24	115	28	54	12	6.7	5.1
10	4.5	20	48	66	68	e 20	73	29	5[illegible]	12	11	3.2
11	4.1	61	51	61	59	15	61	25	33	9.7	61	3.8
12	6.7	43	121	54	43	131	71	23	29	9.7	16	3.8
13	11	28	678	89	e 40	104	62	21	2[illegible]	9.1	9.7	3.2
14	8.6	21	966	78	141	231	56	21	35	11	7.6	e 3.0
15	5.9	18	167	e 64	509	75	115	19	2[illegible]	11	6.7	2.7
16	8.1	20	554	48	152	e 60	64	18	19	8.6	125	e 3.0
17	5.1	2,300	222	56	96	e 50	54	19	18	7.6	51	4.5
18	7.6	713	86	43	86	e 40	48	51	18	6.7	23	5.1
19	18	171	64	40	30	34	41	43	464	6.7	19	e 5.5
20	344	99	64	68	30	35	36	53	159	9.1	13	5.9
21	66	80	68	28	26	35	38	38	81[illegible]	11	9.1	6.7
22	32	71	61	e 34	28	107	315	28	215	10	9.7	7.6
23	e 23	91	57	38	38	138	285	24	90	11	9.1	4.5
24	16	e 200	e 53	42	e 28	310	135	21	78	12	6.7	3.8
25	12	e 175	e 50	40	e 19	271	89	20	57	7.6	8.6	4.1
26	13	128	46	36	12	231	64	18	91	e 7.0	6.7	5.1
27	9.7	1,360	44	32	35	496	54	17	50	6.7	6.7	6.7
28	8.6	335	48	30	35	113	e 50	16	38	24	5.9	8.6
29	9.1	597	245	28	39	78	306	46	35	9.1	5.9	6.7
30	9.7	2,140	218	28	-------	80	315	28	42	7.6	5.1	6.7
31	8.1	-------	354	24	-------	71	-------	24	-------	e 8.0	5.9	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	344	1.8	21.7	0.314	0.36
November	2,300	8.6	298	4.32	4.82
December	1,240	44	210	3.04	3.50
January	163	24	54.3	.787	.91
February	509	12	75.2	1.09	1.18
March	496	13	94.5	1.37	1.58
April	315	36	109	1.58	1.76
May	135	16	36.1	.523	.60
June	813	17	113	1.64	1.83
July	46	6.7	13.5	.196	.23
August	125	5.1	17.0	.246	.28
September	8.6	2.7	4.78	.069	.08
The year	2,300	1.8	86.8	1.26	17.13

e Estimated.

CONESUS CREEK NEAR LAKEVILLE, N. Y.

LOCATION.—Staff gage at highway bridge known locally as Millville Bridge, 1½ miles downstream from Lakeville, Livingston County.

DRAINAGE AREA.—72 square miles (revised).

RECORDS AVAILABLE.—November, 1919, to September, 1928.

EXTREMES.—Maximum discharge during year, about 625 second-feet December 1 (gage height, 3.6 feet from estimated gage-height graph); minimum, 5.3 second-feet October 1 (gage height, 0.70 foot).

1919–1928: Maximum discharge, that of December 1, 1927; minimum, 0.45 second-foot November 22, 1923 (gage height, 0.52 foot).

REMARKS.—Records good. Discharge estimated December 1–3, January 25, and March 18. Natural storage and regulation afforded by Conesus Lake. Water supply for villages of Avon and Geneseo taken from Conesus Lake.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	16	501	181	78	85	113	124	54	202	52	35
2	7.3	18	590	161	80	84	110	124	54	202	52	34
3	8.7	20	488	171	76	82	115	121	51	192	50	31
4	8.7	26	470	161	74	80	110	124	50	181	50	31
5	9.2	24	455	152	73	80	110	120	51	143	47	30
6	7.7	24	380	143	71	76	107	112	67	134	48	28
7	11	24	351	141	69	72	108	108	67	129	48	28
8	10	24	351	140	82	72	113	106	69	121	46	28
9	9.2	24	323	138	82	68	110	100	66	116	46	28
10	8.2	24	284	131	81	68	106	96	71	106	44	26
11	7.7	24	247	131	78	73	104	94	72	98	46	26
12	11	24	236	128	77	81	101	85	67	98	50	26
13	10	24	247	126	76	77	98	84	68	98	50	25
14	7.7	25	337	123	92	82	100	81	71	91	52	24
15	6.9	25	323	121	110	82	96	80	69	87	50	23
16	7.3	27	380	116	110	81	95	77	66	82	50	23
17	6.9	144	380	115	108	78	94	71	62	85	47	23
18	6.9	124	351	110	110	78	92	73	66	80	46	22
19	11	134	310	110	108	78	94	72	118	68	44	22
20	41	136	284	106	108	78	87	77	108	69	45	23
21	18	136	284	98	106	77	87	72	287	67	44	23
22	18	136	236	106	101	84	89	72	310	72	42	21
23	18	139	213	101	101	85	96	69	284	68	41	21
24	18	178	213	100	98	91	98	67	296	68	42	21
25	18	165	192	95	98	94	98	66	284	66	39	20
26	18	167	181	92	98	98	92	64	284	63	39	19
27	17	245	171	96	92	120	89	61	271	63	37	20
28	18	245	161	91	92	116	87	58	236	63	36	18
29	18	282	171	98	88	115	106	56	213	62	36	17
30	16	392	161	89	------	118	123	56	202	56	37	17
31	16	------	192	84	------	116	------	54	------	53	36	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	41	6.1	12.8	0.178	0.21
November	392	16	99.9	1.39	1.55
December	590	161	305	4.24	4.89
January	181	84	121	1.68	1.94
February	110	69	90.2	1.25	1.35
March	120	68	86.1	1.20	1.38
April	123	87	101	1.40	1.56
May	124	54	84.6	1.18	1.36
June	310	50	134	1.86	2.08
July	202	53	99.5	1.38	1.59
August	52	36	44.9	.624	.72
September	35	17	24.4	.339	.38
The year	590	6.1	101	1.40	19.01

CANADICE LAKE OUTLET NEAR HEMLOCK, N. Y.

LOCATION.—Hook gage above weir at foot of Canadice Lake, Ontario County, 4 miles southeast of Hemlock, Livingston County.
DRAINAGE AREA.—12.6 square miles.
RECORDS AVAILABLE.—April, 1903, to September, 1928.
REMARKS.—Records good. Data collected, computed, and furnished for publication by the city engineer of Rochester, N. Y.

Monthly discharge, 1927–28

Month	Mean elevation of lake above low-water mark	Discharge in second-feet		Run-off in inches
		Mean	Per square mile	
October	1.831	0.072	0.006	0.007
November	3.423	30.254	2.401	2.679
December	3.434	59.561	4.727	5.450
January	2.511	23.666	1.878	2.165
February	1.983	12.855	1.020	1.100
March	2.576	11.525	.915	1.055
April	3.285	21.179	1.681	1.875
May	3.228	17.110	1.358	1.566
June	3.399	36.110	2.866	3.198
July	2.616	11.693	.928	1.070
August	1.553	12.151	.964	1.111
September	.626	5.099	.405	.452
The year	2.539	20.106	1.596	21.728

NOTE.—Terminal water surface elevation for the year was 1.18 feet lower than that of preceding year, corresponding to a loss in storage of 34,430,311 cubic feet, or a discharge of 1.089 second-feet for the year. This correction, applied to the mean discharge for the year, gives 19.017 second-feet, equivalent to 1.509 second-feet per square mile, or a run-off of 20.540 inches from the drainage area.

OSWEGO RIVER AT HIGH DAM, NEAR OSWEGO, N. Y.

LOCATION.—Water-stage recorder at High Dam, 1½ miles southeast from center of Oswego, Oswego County.

DRAINAGE AREA.—5,100 square miles.

RECORDS AVAILABLE.—April, 1897, to December, 1901; October, 1927, to September, 1928.

EXTREMES.—Maximum daily discharge during year, 27,900 second-feet December 5; minimum, 357 second-feet September 2.

REMARKS.—Records good except those for periods of estimate, whicl are fair. Flow regulated by natural and artificial storage in many large lal es. Records of power-plant operation furnished by Oswego River Power Corporation.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,300	4,850	24,200	20,000	10,000	11,000	a14,100	14,300	4,980	3,460	4,640	2,290
2	1,830	4,840	25,800	19,400	8,150	10,900	a13,800	14,500	4,440	5,820	4,590	357
3	2,310	5,220	26,300	18,000	7,820	11,000	a13,900	14,500	3,740	4,810	4,600	1,680
4	2,930	6,620	26,000	16,700	8,780	9,810	a13,200	14,400	5,110	3,090	4,090	2,330
5	2,840	11,000	27,900	16,100	7,030	10,800	a12,400	13,400	5,340	6,340	1,840	2,060
6	2,790	11,900	26,600	16,500	10,100	10,600	a11,500	13,200	5,880	5,220	4,860	2,010
7	3,070	11,400	26,400	16,200	10,500	10,400	a11,100	12,900	5,860	4,480	5,900	2,060
8	3,040	11,300	26,800	14,800	11,100	9,260	a10,600	12,500	5,440	1,680	6,110	2,300
9	1,820	11,500	26,200	15,400	12,300	10,100	a11,000	12,100	5,280	5,480	5,530	723
10	2,960	11,500	25,900	15,700	12,300	9,220	a11,600	11,100	2,970	4,720	5,020	3,000
11	3,040	11,500	25,000	15,200	12,600	7,930	a12,000	11,000	5,760	4,260	4,520	2,770
12	3,230	10,600	25,200	14,900	11,400	10,800	a12,600	10,400	5,800	4,260	2,180	2,430
13	3,140	10,200	24,300	14,500	12,900	11,300	a12,000	10,300	5,450	3,460	5,050	2,480
14	3,360	10,400	22,700	15,100	12,000	14,700	a11,200	10,800	5,560	4,350	4,090	1,860
15	4,140	10,300	23,000	14,800	12,900	15,300	a 9,910	10,400	5,690	2,450	3,940	2,000
16	2,450	8,790	22,500	14,700	15,600	14,300	a9,920	7,160	5,900	6,040	2,990	532
17	3,570	8,980	22,600	14,200	15,900	12,700	a9,860	6,490	2,870	5,530	4,600	1,990
18	4,070	11,500	22,400	13,400	16,100	11,300	a10,500	6,100	6,000	3,990	4,280	2,030
19	3,490	13,500	21,800	12,700	20,100	11,400	a11,000	6,320	4,680	4,260	1,760	2,390
20	4,130	13,200	21,600	12,300	14,100	9,910	a10,400	4,790	4,960	5,690	4,790	1,920
21	4,730	14,900	21,300	10,300	10,900	8,870	a10,300	7,760	4,190	4,790	4,430	1,620
22	5,810	15,200	21,100	8,970	10,800	8,970	a10,600	7,120	3,870	3,590	4,400	790
23	5,500	13,500	20,600	10,200	11,900	9,360	11,500	6,560	3,970	7,700	4,520	961
24	6,500	12,700	20,200	11,000	12,300	9,770	12,100	5,680	2,630	9,070	4,120	1,650
25	6,260	13,200	18,400	11,500	11,600	11,900	12,200	5,570	5,920	9,070	3,430	2,380
26	5,610	13,900	17,800	10,000	10,600	a13,800	11,700	5,210	5,550	8,430	1,720	1,710
27	5,230	13,900	16,800	10,400	12,100	a15,100	10,800	3,480	5,580	6,460	4,470	1,050
28	5,030	15,700	15,300	10,800	11,700	a16,000	11,300	5,100	5,900	5,350	3,400	1,670
29	4,920	17,300	15,400	8,150	11,300	a16,400	11,600	4,320	5,170	2,740	3,170	2,000
30	3,490	19,000	15,600	11,100	-------	a16,300	12,400	4,240	5,080	5,920	2,780	563
31	4,630	-------	17,800	10,500	-------	a14,100	-------	4,600	-------	5,180	2,570	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,500	1,820	3,810	0.747	0.86
November	19,000	4,840	11,600	2.27	2.53
December	27,900	15,300	22,400	4.39	5.06
January	20,000	8,150	13,700	2.69	3.10
February	20,100	7,030	11,900	2.33	2.51
March	16,400	7,930	11,700	2.29	2.64
April	14,100	9,860	11,600	2.27	2.53
May	14,500	3,480	8,910	1.75	2.02
June	6,000	2,630	4,990	.978	1.09
July	9,070	1,680	5,050	.990	1.14
August	6,110	1,720	4,010	.786	.91
September	3,000	357	1,790	.351	.39
The year	27,900	357	9,290	1.82	24.78

a Discharge through power plant estimated.

FALL CREEK NEAR ITHACA, N. Y.

LOCATION.—Water-stage recorder in Forest Home, Tompkins County, half a mile upstream from Cornell University dam and 1½ miles northwest of Ithaca.

DRAINAGE AREA.—126 square miles.

RECORDS AVAILABLE.—February, 1925, to September, 1928; July, 1908, to June 1909, at steel highway bridge 1¼ miles below present site.

EXTREMES.—Maximum discharge during year, 2,950 second-feet October 19 (gage height, 4.35 feet); minimum, 12 second-feet October 2 and January 21 (gage height, 0.40 foot).

1925–1928: Maximum discharge, 5,320 second-feet November 16, 1926 (gage height, 5.6 feet); minimum, about 3 second-feet August 25, 1927 (gage height, 0.18 foot).

REMARKS.—Records good except those for periods of ice effect (December 18–28, January 3–8, January 22 to February 4, February 20–22, and 25–29), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	99	942	819	75	108	252	1,040	120	492	61	41
2	17	108	563	235	75	95	278	500	135	278	118	34
3	14	521	464	170	75	86	278	349	118	208	74	37
4	34	718	364	150	100	78	329	296	97	196	61	46
5	46	528	385	140	196	79	364	244	305	174	56	37
6	26	359	349	160	124	73	339	244	493	192	65	36
7	22	265	423	200	118	72	296	200	464	135	85	31
8	38	212	1,320	260	471	79	385	174	239	113	93	32
9	26	196	520	269	771	74	273	160	200	99	97	27
10	30	182	287	244	296	73	227	146	324	92	66	26
11	31	374	344	215	200	78	196	137	178	111	61	27
12	26	329	401	208	164	138	227	127	137	97	53	25
13	461	223	520	212	132	632	235	120	118	92	47	26
14	192	192	878	244	283	1,140	227	106	171	106	40	25
15	101	174	500	260	1,540	375	314	104	188	95	38	22
16	80	168	514	160	369	227	204	99	115	72	37	22
17	73	600	610	164	248	178	178	95	97	64	38	25
18	174	1,200	420	160	204	143	157	115	99	61	45	42
19	2,080	458	280	149	136	140	151	322	252	58	39	36
20	1,750	314	240	140	110	143	127	386	244	68	34	25
21	886	278	220	37	100	137	129	248	146	78	37	27
22	446	278	240	110	100	164	377	171	185	74	106	25
23	324	301	220	130	322	242	695	151	164	269	461	23
24	252	750	190	150	780	962	645	127	143	171	113	21
25	215	791	180	260	220	1,550	412	113	185	106	104	24
26	178	423	170	120	130	971	319	104	260	82	90	25
27	157	1,740	160	95	110	1,200	260	101	273	76	63	20
28	143	1,490	180	85	100	484	287	97	208	108	54	26
29	127	983	259	80	100	334	423	115	283	113	46	24
30	120	652	418	80	------	339	865	120	965	74	45	21
31	130	------	671	75	------	278	------	196	------	58	50	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,080	14	265	2.10	2.42
November	1,740	99	497	3.94	4.40
December	1,320	160	427	3.39	3.91
January	819	37	186	1.48	1.71
February	1,540	75	264	2.10	2.26
March	1,550	72	344	2.73	3.15
April	865	127	315	2.50	2.79
May	1,040	95	210	1.67	1.92
June	965	97	230	1.83	2.04
July	492	58	129	1.02	1.18
August	401	34	74.7	.593	.68
September	46	20	28.6	.227	.25
The year	2,080	14	247	1.96	26.71

OWASCO LAKE OUTLET NEAR AUBURN, N. Y.

LOCATION.—Water-stage recorder above concrete dam 2½ miles downstream from center of Auburn, Cayuga County, and 4 miles downstream from State dam at outlet of Owasco Lake.

DRAINAGE AREA.—206 square miles.

RECORDS AVAILABLE.—November, 1912, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,700 second-feet December 2 (gage height, 4.05 feet); minimum, 12 second-feet October 15 (gage height, 1.48 feet).

1912–1928: Maximum discharge, determined by leveling from floodmarks, 2,750 second-feet during period March 25–30, 1913 (gage height, 6.4 feet); minimum, 3.8 second-feet August 21, 1920 (gage height, 1.38 feet).

REMARKS.—Records good except those for period of estimate (February 26 to March 11), which are fair. Seasonal regulation at State dam. Water supply for Auburn taken from Owasco Lake, part of which returns to outlet as sewage above gaging station.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	126	174	1,580	680	208	340	664	632	175	133	255	140
2	128	207	1,630	680	204	317	632	640	186	154	245	121
3	161	238	1,540	656	191		632	656	170	146	240	130
4	129	282	1,450	640	179		572	640	191	136	242	142
5	136	280	1,360	618	208		520	618	187	136	277	142
6	136	220	1,270	602	204		512	542	187	132	295	139
7	133	352	1,210	572	204	250	520	498	232	134	340	135
8	132	334	1,240	528	230		498	490	318	130	303	151
9	104	336	1,240	498	260		482	445	325	141	312	130
10	144	340	1,190	490	278		475	430	303	135	328	141
11	131	378	1,130	475	280		452	422	318	126	309	153
12	138	423	1,080	468	297	208	390	415	296	134	280	140
13	141	438	1,070	460	303	158	340	410	262	147	247	138
14	120	443	1,080	445	309	216	360	400	265	137	200	123
15	100	439	1,060	445	400	329	328	398	248	138	187	147
16	122	425	1,080	383	524	342	340	366	241	150	193	114
17	137	458	1,090	320	520	340	334	283	234	142	176	136
18	146	484	1,070	290	505	291	328	262	240	144	172	134
19	175	490	1,020	301	490	281	290	233	243	189	132	128
20	169	512	971	287	479	248	258	177	239	283	177	137
21	154	550	944	244	458	245	268	188	232	259	213	124
22	145	535	917	379	430	244	270	179	231	289	186	136
23	148	542	872	297	422	245	296	170	222	308	183	112
24	179	580	845	291	447	269	306	158	225	362	189	146
25	149	597	827	277	445	364	376	147	239	354	182	151
26	143	688	738	214	420	494	441	156	223	300	139	130
27	143	858	637	276	390	640	430	147	198	290	159	138
28	142	1,100	640	270	370	696	452	167	132	329	154	153
29	125	1,140	625	270	350	696	524	157	138	280	164	143
30	173	1,300	643	265	------	688	610	145	136	294	161	95
31	216	------	640	239	------	664	------	155	------	263	156	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	216	100	143	0.694	0.80
November	1,300	174	505	2.45	2.73
December	1,630	625	1,050	5.10	5.88
January	680	214	415	2.01	2.32
February	524	179	345	1.67	1.80
March	696	158	341	1.66	1.91
April	664	258	430	2.09	2.33
May	656	145	346	1.68	1.94
June	325	132	228	1.11	1.24
July	362	126	203	.985	1.14
August	340	132	219	1.06	1.22
September	153	95	135	.655	.73
The year	1,630	95	364	1.77	24.04

NOTE.—Elevation of water surface of Owasco Lake increased from 706.21 feet on Oct. 1 to 706.47 feet on Sept. 30. This indicates a net gain in storage of 74,658,000 cubic feet, equivalent to an average flow for the year of 2.36 second-feet, 0.011 second-foot per square mile or 0.15 inch on drainage area.

EAST BRANCH OF FISH CREEK AT FISH CREEK, NEAR CONSTABLEVILLE, N. Y.

LOCATION.—Chain gage at highway bridge half a mile west of Fish Creek, Lewis County, and 6½ miles southwest of Constableville.
DRAINAGE AREA.—75 square miles.
RECORDS AVAILABLE.—October, 1923, to September, 1928.
EXTREMES.—Maximum discharge during year, 5,520 second-feet April 8 (gage height, 5.5 feet); minimum, 36 second-feet October 1 (gage height, 1.33 feet).
1923–1928: Maximum discharge recorded on April 8, 1928; minimum, 21 second-feet October 18, 1923 (gage height, 1.28 feet).
REMARKS.—Records good except those for periods of ice effect (December 5–7 and December 15 to April 7), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	75	1,870	1,500	110	120	550	960	124	415	67	50
2	46	78	697	550	100	110	500	1,300	133	216	59	4(
3	51	258	481	380	100	100	600	1,570	130	138	286	149
4	448	355	316	260	130	100	700	1,710	95	388	345	297
5	307	288	240	220	220	100	1,100	2,190	186	244	445	124
6	162	253	220	200	190	100	2,000	2,190	325	150	508	78
7	182	219	240	200	160	100	3,800	1,360	288	102	578	60
8	491	175	1,260	260	200	95	4,880	1,070	186	84	415	49
9	311	162	632	300	280	95	1,860	960	179	69	240	44
10	193	146	394	260	280	95	1,360	960	306	60	147	39
11	134	236	583	240	240	95	1,020	730	183	60	147	64
12	105	639	619	260	220	100	770	730	127	60	109	176
13	2,190	619	619	300	200	140	690	475	102	46	82	150
14	950	351	1,070	380	180	340	540	388	415	119	67	82
15	421	307	700	440	360	440	860	340	274	119	57	76
16	279	293	500	280	400	380	770	310	150	170	52	86
17	231	437	440	240	300	340	575	283	112	112	46	71
18	204	987	360	220	260	300	476	288	91	71	52	54
19	307	547	320	190	220	280	860	330	95	59	52	46
20	326	326	280	160	180	260	910	610	91	65	44	42
21	316	244	260	120	150	240	770	388	78	64	39	64
22	236	295	240	100	130	220	610	270	99	132	73	74
23	175	1,080	220	100	130	220	575	208	112	193	82	74
24	140	979	180	110	200	260	610	183	216	99	60	78
25	125	697	140	220	220	500	540	173	240	65	112	86
26	110	451	120	200	180	850	475	173	216	52	99	136
27	100	850	120	180	150	1,500	388	150	179	154	67	186
28	94	844	130	160	140	1,200	388	133	147	388	57	445
29	88	1,050	260	130	130	900	350	201	186	388	57	197
30	80	975	550	120	-------	700	475	173	842	166	52	130
31	77	-------	1,200	110	-------	600	-------	153	-------	86	65	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,190	36	288	3.84	4.43
November	1,080	75	474	6.32	7.05
December	1,870	120	492	6.56	7.56
January	1,500	100	271	3.61	4.16
February	400	100	199	2.65	2.86
March	1,500	95	351	4.68	5.40
April	4,880	350	1,000	13.33	14.87
May	2,190	133	676	9.01	10.39
June	842	78	197	2.63	2.93
July	415	46	146	1.95	2.25
August	578	39	147	1.96	2.26
September	445	39	108	1.44	1.61
The year	4,880	36	362	4.83	65.77

EAST BRANCH OF FISH CREEK AT TABERG, N. Y.

LOCATION.—Water-stage recorder at highway bridge in Taberg, Oneida County, just below mouth of Furnace Creek.

DRAINAGE AREA.—188 square miles.

RECORDS AVAILABLE.—April, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 12,000 second-feet April 8 (gage height, 7.7 feet); minimum, 27 second-feet August 20 (gage height, 0.30 foot).

1923–1928: Maximum discharge, about 16,200 second-feet April 6, 1924 (gage height, 8.2 feet); minimum, 24 second-feet September 26, 1924 (gage height, 0.12 foot).

REMARKS.—Records good for ordinary open-water stages and fair for extremely high and low stages and for periods of ice effect, December 4–7, 25–28, January 2–7, January 22 to February 8, and February 20 to March 13.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	155	4,150	3,680	260	300	1,020	1,750	231	1,140	172	126
2	76	158	1,650	1,400	240	280	977	2,140	234	508	202	97
3	130	454	986	950	240	280	1,110	2,350	224	319	740	270
4	798	790	550	650	280	280	1,810	2,210	183	632	950	720
5	534	692	480	550	340	260	3,010	3,060	296	464	918	304
6	282	585	460	480	280	260	4,490	3,040	598	288	1,130	183
7	249	481	500	480	260	260	7,350	2,050	531	211	1,350	140
8	679	380	3,780	664	340	260	9,290	1,530	327	177	1,010	119
9	500	327	1,620	762	637	240	3,530	1,370	307	150	539	100
10	310	300	699	637	657	240	2,210	1,270	657	130	335	89
11	217	549	806	585	555	240	1,530	995	365	123	346	100
12	206	1,150	1,150	624	492	260	1,370	910	245	119	273	266
13	3,840	1,080	1,640	741	410	300	1,220	644	186	108	212	323
14	1,620	630	2,420	934	375	685	1,210	498	476	174	150	195
15	783	508	1,550	1,070	806	846	2,150	432	486	210	152	161
16	525	481	1,070	664	854	798	1,320	395	266	214	115	189
17	385	790	934	573	748	720	995	357	183	186	132	158
18	390	1,920	822	514	637	657	910	420	161	128	115	123
19	685	1,000	637	459	492	537	1,580	664	202	110	112	104
20	657	611	611	357	400	470	1,640	1,180	172	124	98	91
21	585	481	567	288	340	448	1,320	776	145	117	86	112
22	420	555	531	260	320	426	1,270	476	175	270	148	148
23	323	2,370	486	260	320	426	1,320	352	192	623	172	128
24	270	2,540	361	280	480	526	1,220	296	365	734	132	152
25	238	1,680	300	550	500	914	1,040	270	459	282	163	148
26	217	1,010	260	550	420	1,510	870	296	390	163	177	211
27	202	2,380	260	440	360	2,930	727	270	344	353	140	334
28	195	2,050	280	380	340	2,320	790	241	273	1,320	117	1,040
29	177	2,850	604	340	320	1,860	790	307	899	1,180	115	516
30	163	3,070	1,200	300	-------	1,560	886	311	2,810	438	148	290
31	158	-------	2,750	280	-------	1,200	-------	300	-------	244	175	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,840	57	512	2.72	3.14
November	3,070	155	1,070	5.69	6.35
December	4,150	260	1,100	5.85	6.74
January	3,680	260	668	3.55	4.09
February	854	240	438	2.33	2.51
March	2,930	240	719	3.82	4.40
April	9,290	727	1,970	10.48	11.69
May	3,060	241	1,010	5.37	6.19
June	2,810	145	413	2.20	2.46
July	1,320	108	363	1.93	2.22
August	1,350	86	343	1.82	2.10
September	1,040	89	231	1.23	1.37
The year	9,290	57	735	3.91	53.26

BLACK RIVER NEAR BOONVILLE, N. Y.

LOCATION.—Chain gage at highway bridge three-quarters of a mile above mouth of Sugar River and 2 miles northeast of Boonville, Oneida County.

DRAINAGE AREA.—303 square miles.

RECORDS AVAILABLE.—February, 1911, to September, 1928.

EXTREMES.—Maximum discharge during year, 6,240 second-feet April 8 (gage height, 10.5 feet); minimum, 97 second-feet October 1–2 (gage height, 3.7 feet).

1911–1928: Maximum discharge, about 10,000 second-feet March 28, 1913 (gage height, 12.5 feet); minimum, about 5 second-feet August 26, 1918 (gage height, 2.40 feet).

REMARKS.—Records good except those for periods of ice effect (December 5–6, 24–29, January 3–10, January 22 to February 24, March 1–12), which are fair. Flow partly regulated by storage in State pond at Forestport and other headwater reservoirs. Forestport feeder diverts water from State pond at Forestport. The portion of this diversion that does not pass down Black River Canal (flowing south), returns to Black River below station.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97	250	3,750	2,860	360	420	1,140	1,060	605	855	275	290
2	97	227	3,080	2,740	360	440	1,140	1,290	535	735	250	305
3	124	262	2,520	1,700	360	400	1,240	1,460	490	630	335	352
4	292	390	1,840	1,100	420	380	1,640	1,460	512	735	490	370
5	390	680	1,300	800	480	380	2,290	1,640	535	680	920	290
6	390	795	1,100	700	460	360	2,980	1,740	680	490	990	305
7	370	855	1,060	650	480	360	4,010	1,740	630	410	1,060	275
8	335	795	2,860	750	600	360	5,820	1,540	535	370	920	275
9	290	735	3,490	1,100	950	360	5,570	1,290	630	335	920	262
10	205	630	3,110	1,000	1,000	360	3,510	920	630	320	795	305
11	184	580	2,620	680	850	360	2,210	920	605	290	580	335
12	174	535	1,640	580	800	380	1,640	855	558	216	450	352
13	751	535	1,460	735	700	430	1,540	795	512	205	410	390
14	1,370	535	1,370	795	650	915	1,420	680	535	275	352	370
15	1,140	580	1,290	735	1,100	1,140	2,920	470	490	275	305	335
16	920	630	1,290	680	1,100	1,060	2,630	450	470	250	290	335
17	855	680	1,140	630	900	1,060	1,740	430	470	227	275	305
18	795	920	990	630	800	990	1,460	470	430	205	275	320
19	580	1,060	920	630	700	920	1,370	580	430	184	320	290
20	605	990	855	580	600	680	1,640	855	390	184	320	275
21	580	920	795	490	550	558	1,370	920	390	216	275	275
22	490	920	680	440	480	535	1,060	855	370	205	250	250
23	450	991	580	400	480	490	1,640	735	390	390	262	275
24	410	1,630	500	400	500	470	1,540	605	430	320	305	275
25	390	1,690	460	420	535	886	1,460	512	430	320	335	250
26	370	1,370	440	460	490	1,140	1,290	535	450	370	410	262
27	335	1,650	420	440	490	1,210	1,140	512	470	558	370	305
28	305	2,860	420	420	450	1,460	990	470	390	470	352	352
29	290	2,980	500	400	430	1,540	990	512	436	410	335	370
30	290	3,240	855	380	-------	1,460	990	535	920	390	305	335
31	275	-------	1,400	380	-------	1,370	-------	605	-------	335	290	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,370	97	456	1.50	1.73
November	3,240	227	1,030	3.40	3.79
December	3,750	420	1,440	4.75	5.48
January	2,860	380	797	2.63	3.03
February	1,100	360	623	2.06	2.22
March	1,540	360	738	2.44	2.81
April	5,820	990	2,010	6.63	7.40
May	1,740	430	885	2.92	3.37
June	920	370	512	1.69	1.89
July	855	184	382	1.26	1.45
August	1,060	250	452	1.49	1.72
September	390	250	310	1.02	1.14
The year	5,820	97	803	2.65	36.03

NOTE.—Water diverted past this station by the Forestport feeder is not included in above table.

BLACK RIVER AT WATERTOWN, N. Y.

LOCATION.—Water-stage recorder at Vanduzee Street Bridge in Watertown, Jefferson County.

DRAINAGE AREA.—1,880 square miles.

RECORDS AVAILABLE.—July, 1920, to September, 1928.

EXTREMES.—Maximum discharge during year, 33,900 second-feet April 9 (gage height, 10.6 feet); minimum, 457 second-feet September 18 (gage height, 0.81 foot).

1920–1928: Maximum discharge recorded on April 9, 1928; minimum, 155 second-feet August 6, 1923 (gage height, 0.30 foot).

REMARKS.—Records excellent. Flow regulated by storage in Fulton Chain of Lakes, and several reservoirs in upper drainage basin. During canal season water is diverted out of drainage basin through Forestport feeder and Black River Canal (flowing south).

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,480	1,790	14,400	9,540	3,080	3,540	10,000	8,520	3,130	4,600	2,050	1,940
2	952	1,970	16,600	7,720	3,540	3,150	9,050	8,520	3,260	5,040	1,670	1,820
3	1,640	2,540	16,100	8,800	3,440	3,140	8,520	8,800	2,650	4,140	1,790	1,080
4	2,410	4,430	13,600	8,520	3,280	2,680	9,510	9,080	3,230	2,930	2,460	1,500
5	3,740	6,030	11,000	7,460	[a] 2,370	3,160	13,900	9,380	3,130	3,770	2,500	1,910
6	3,280	6,550	9,380	6,810	3,670	3,660	17,700	9,380	3,620	3,360	4,380	1,800
7	3,180	6,550	8,250	6,420	3,220	3,120	21,100	9,680	4,200	2,950	5,510	1,920
8	4,030	6,000	9,030	6,030	3,340	3,140	27,300	10,000	4,530	1,940	5,260	1,480
9	3,820	5,110	10,300	6,550	3,470	3,170	30,700	9,080	4,200	2,350	5,260	1,690
10	2,950	4,300	11,300	6,550	4,080	3,230	26,700	7,980	3,540	1,960	4,420	1,180
11	2,820	4,170	12,100	6,420	4,420	2,770	19,500	6,680	3,840	2,030	3,750	1,740
12	2,480	6,060	11,300	6,290	4,120	2,830	14,000	5,710	4,080	2,060	2,780	2,320
13	5,600	[a] 5,870	10,700	6,030	4,890	2,770	11,000	4,600	3,540	1,850	2,290	2,180
14	7,720	5,930	12,100	6,290	4,420	4,870	10,000	4,240	3,020	1,870	2,120	2,490
15	7,300	5,510	12,400	5,930	4,540	6,420	10,000	3,790	3,140	1,140	2,400	2,610
16	6,160	5,130	12,100	6,000	5,510	6,680	10,000	3,450	3,010	1,550	1,930	[a] 1,840
17	4,890	8,390	10,700	5,900	5,770	6,940	10,300	3,220	2,430	1,460	1,690	1,820
18	4,080	11,600	10,000	5,130	5,900	6,680	10,000	3,090	2,660	1,660	1,540	1,940
19	3,860	9,380	8,660	4,890	5,370	6,420	9,080	2,980	2,550	1,580	1,080	2,260
20	4,540	8,800	7,460	3,700	5,080	5,770	8,800	3,030	2,720	1,540	1,430	2,200
21	4,770	8,860	6,580	3,300	4,830	5,130	8,800	4,880	2,650	1,250	1,320	2,080
22	4,020	7,690	6,290	3,030	4,080	4,650	8,800	5,510	2,560	1,450	1,530	2,030
23	3,100	7,460	6,160	3,260	3,540	4,590	8,520	4,980	1,990	1,250	1,770	1,620
24	3,200	7,980	4,110	3,480	3,970	4,740	8,800	4,360	1,780	1,650	1,930	1,490
25	2,450	8,520	3,420	3,970	4,310	6,550	8,800	4,020	2,270	1,910	1,790	2,050
26	2,500	9,380	3,640	3,810	4,060	9,040	8,520	3,320	2,600	1,490	1,890	2,090
27	2,310	9,080	3,970	4,140	4,160	14,300	8,250	2,670	2,650	1,490	1,400	2,190
28	2,280	9,380	3,970	4,420	4,420	14,000	7,720	3,480	2,560	1,590	1,800	2,520
29	2,090	10,300	4,080	3,690	3,640	14,400	7,460	3,040	2,450	2,230	1,920	2,690
30	[a] 1,700	11,000	5,460	[a] 3,540	-------	13,600	7,980	3,100	2,680	3,230	1,870	1,940
31	2,270	-------	7,830	[a] 2,820	-------	11,700	-------	3,350	-------	2,520	1,980	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7,720	952	3,470	1.85	2.13
November	11,600	1,790	6,860	3.65	4.07
December	16,600	3,420	9,130	4.86	5.60
January	9,540	2,820	5,500	2.93	3.38
February	5,900	2,370	4,160	2.21	2.38
March	14,400	2,680	6,030	3.21	3.70
April	30,700	7,460	12,400	6.60	7.36
May	10,000	2,670	5,610	2.98	3.44
June	4,530	1,780	3,020	1.61	1.80
July	5,040	1,140	2,250	1.20	1.38
August	5,510	1,080	2,440	1.30	1.50
September	2,690	1,080	1,950	1.04	1.16
The year	30,700	952	5,230	2.78	37.90

[a] Estimated.

FORESTPORT FEEDER NEAR BOONVILLE, N. Y.

LOCATION.—Slope station, with two water-stage recorders, at lower end of feeder above point where it enters the basin at Boonville, Oneida County. Gage No. 1 is in village of Hawkinsville; gage No. 2 is 2.53 miles downstream from gage No. 1 and 1 mile upstream from basin in Boonville.

RECORDS AVAILABLE.—October, 1915, to September, 1928, during canal seasons.

REMARKS.—Records fair except those for estimated periods, which are poor. From December to May 31 canal probably carried normal minimum flow of about 35 second-feet. Canal diverts water from Black River at Forestport.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	June	July	Aug.	Sept.
1	96	a 49			99	103
2	98	a 46			100	a 99
3	100	a 58			107	a 102
4	139	a 85			112	a 112
5	128	a 92		a 40	121	a 107
6	111	a 84			89	a 102
7	108	a 80			101	a 102
8	113	a 67			115	a 100
9	104	a 62			108	a 87
10	101	a 64		a 62	104	a 77
11	99	a 53		a 64	105	a 103
12	102	59		a 63	106	a 107
13	a 149	55		a 62	103	a 108
14	90	51		67	102	a 104
15	116	a 45	a 40	a 72	101	a 99
16	77	a 43		a 72	100	102
17	a 47	a 55		a 72	99	101
18	a 55	62		a 73	100	102
19	56	53		a 89	99	101
20	56	a 46		a 94	100	100
21	56	a 46		a 94	100	101
22	a 56	a 44		a 95	106	102
23	a 54	61		77	104	100
24	a 53	a 58		97	101	100
25	a 52	a 55		97	104	99
26	a 51	a 50		96	104	101
27	a 56			103	102	101
28	a 56	a 50		104	102	114
29	a 57			79	102	95
30	a 56			91	104	a 50
31	a 57			100	107	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	149	47	82.2	July	104		70.4
November	92	43	57.4	August	121	89	103
June			40.0	September	114	50	99.4

a Gage-height record unsatisfactory or incomplete; discharge estimated.

BLACK RIVER CANAL (FLOWING SOUTH) NEAR BOONVILLE, N. Y.

LOCATION.—Slope station, with two water-stage recorders, in summit level of Black River Canal, near Boonville, Oneida County. Gage No. 1 is in Boonville; gage No. 2 is 1.81 miles below gage No. 1 and 1,000 feet above Lock 70.

RECORDS AVAILABLE.—September, 1915, to September, 1928, during canal seasons.

REMARKS.—Records fair except those for estimated periods (November 7, May 27 and June 21 to July 12), which are poor. Flow inconsequential October 18 to November 1, November 3, and November 8 to May 26. Records obtained at this station represent the diversion from Black River Basin into Mohawk River Basin.

Daily and monthly discharge, in second-feet, 1927–28

Month	Oct.	Nov.	May	June	July	Aug.	Sept.
1	83			31	35	78	94
2	89	31		28	29	77	96
3	97			23	28	83	98
4	113	41		24	30	87	97
5	107	47		25	26	93	93
6	90	56		26	27	81	93
7	95	35		28	29	81	92
8	90			27	32	89	92
9	90			28	40	86	85
10	78			23	39	85	77
11	82			26	41	86	86
12	95			24	42	89	87
13	143			26	47	86	87
14	74			23	50	83	77
15	94			22	54	83	72
16	85			17	56	84	81
17	27			21	56	84	87
18				25	59	86	92
19				31	62	89	90
20				26	66	87	89
21				26	66	86	87
22					68	88	87
23					63	88	87
24					72	88	82
25					75	88	81
26				25	72	88	80
27			23		67	74	80
28			19		67	74	89
29			22		64	82	79
30			23	34	67	91	55
31			22		73	94	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October 1–17	143	27	90.1	July	75	26	51.7
May 27–31	23	19	21.8	August	94	74	85.1
June	34	17	25.5	September	98	55	85.7

SUGAR RIVER AT TALCOTTVILLE, N. Y.

LOCATION.—Staff gage, 150 feet upstream from crest of falls in Talcottville, Lewis County.

DRAINAGE AREA.—42 square miles.

RECORDS AVAILABLE.—July, 1926, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,440 second-feet April 7 (gage height, 5.2 feet); minimum, 7.5 second-feet October 17 (gage height, 0.90 foot).

1926–1928: Maximum discharge recorded on April 7, 1928; minimum, 6.5 second-feet July 27–28, 1926, and August 6, 1927 (gage height, 0.88 foot).

REMARKS.—Records good except those for periods of ice effect (December 17, 26–29, January 3–9, January 21 to February 14, and February 19 to March 13), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	30	632	435	46	60	258	520	32	162	25	17
2	14	30	278	267	44	55	237	390	34	74	28	14
3	19	207	221	180	48	50	380	278	28	51	235	62
4	195	253	149	140	55	48	762	278	24	147	222	74
5	62	180	169	120	70	44	1,180	262	62	70	312	32
6	30	169	162	110	65	42	1,330	229	146	44	260	22
7	77	132	157	120	60	40	1,640	146	74	34	628	19
8	159	105	858	130	55	38	986	102	40	29	191	18
9	58	99	219	150	120	38	439	94	37	25	111	14
10	40	91	218	169	100	36	366	76	99	24	72	14
11	32	301	229	198	90	36	344	66	52	24	79	27
12	35	321	398	180	75	38	373	56	36	20	58	105
13	651	155	612	245	70	55	302	47	29	18	42	58
14	205	105	970	300	70	324	262	40	162	21	36	32
15	35	132	373	278	400	366	463	37	54	20	30	27
16	13	105	278	169	366	245	330	36	37	22	27	32
17	32	274	240	129	253	206	271	34	28	18	27	23
18	117	375	206	123	162	169	313	54	24	14	27	20
19	198	176	180	117	110	146	553	82	29	15	24	18
20	191	111	162	84	85	123	344	191	25	18	22	16
21	129	123	146	70	70	105	258	94	23	17	20	21
22	79	249	136	65	65	99	245	60	34	59	37	20
23	62	779	129	60	60	102	438	47	28	47	37	22
24	54	865	114	60	100	146	366	40	64	27	25	20
25	51	370	89	85	90	680	278	40	70	19	28	19
26	47	229	70	110	75	985	237	39	47	15	23	24
27	44	639	55	90	70	1,370	194	34	70	67	20	56
28	37	391	65	65	65	734	198	30	40	324	21	184
29	34	823	180	55	60	513	270	58	118	162	20	62
30	32	675	390	50	-------	438	554	52	452	51	19	40
31	30	-------	822	48	-------	344	-------	58	-------	27	20	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	651	10	89.4	2.13	2.46
November	865	30	283	6.74	7.52
December	970	55	287	6.83	7.87
January	435	48	142	3.38	3.90
February	400	44	103	2.45	2.64
March	1,370	36	248	5.90	6.80
April	1,640	194	472	11.24	12.54
May	520	30	115	2.74	3.16
June	452	23	66.6	1.59	1.77
July	324	14	53.7	1.28	1.48
August	628	19	87.9	2.09	2.41
September	184	14	37.1	.883	.99
The year	1,640	10	165	3.93	53.54

MOOSE RIVER AT McKEEVER, N. Y.

LOCATION.—Water-stage recorder half a mile west of McKeever, Herkimer County, and 2 miles downstream from mouth of South Branch of Moose River.

DRAINAGE AREA.—366 square miles.

RECORDS AVAILABLE.—May, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, about 6,800 second-feet December 8 (gage height, 10.0 feet); minimum, 114 second-feet August 19 (gage height, 1.63 feet).

1922–1928: Maximum discharge, about 11,000 second-feet June 22, 1922 (gage height, 12.9 feet); minimum, 64 second-feet September 2, 1925 (gage height, 1.37 feet).

REMARKS.—Records good except those for periods of ice effect (December 25–28 and January 20 to April 9) and periods of estimate, which are fair. Flow regulated to some extent by storage in Fulton Chain of Lakes.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	376	310	4,260	2,880	550	a 700	1,500	2,120			404	607
2	388	296	3,560	a 2,490	a 550	a 700	1,500	3,090			324	242
3	464	341	2,520	a 1,710	a 600	650	1,400	3,010		a 650	324	304
4	700	1,620	1,960	a 1,360	a 650	650	1,500	2,670			522	317
5	1,020	2,380	1,780	a 1,210	a 700	650	1,800	a 5,600			901	296
6	798	1,560	1,570	a 1,060	a 650	650	2,200	a 5,240		685	994	283
7	660	1,190	1,360	945	600	650	3,000	a 4,050		581	1,150	289
8	685	a 1,050	3,730	890	550	650	4,800	a 3,270		338	1,150	334
9	710	a 1,060	a 4,740	835	a 600	600	6,000	a 2,820		564	1,010	257
10	612	a 862	a 2,350	760	a 650	600	4,720	a 2,400		376	912	453
11	536	a 760	1,850	710	a 600	a 650	a 3,850	a 2,080		314	785	412
12	448	a 1,340	1,680	685	a 550	a 850	a 3,090	a 1,780		324	505	576
13	1,180	1,740	1,570	685	a 500	a 1,100	a 2,480	1,360		376	705	785
14	1,830	1,220	2,280	660	a 550	a 1,700	1,850	1,220		366	394	760
15	1,120	1,000	2,360	735	a 850	a 1,800	2,430	972		242	334	635
16	890	890	1,850	810	a 900	a 1,900	2,270	972	a 665	580	328	371
17	800	919	1,570	810	a 750	a 1,700	1,920	918		380	320	720
18	612	3,090	1,540	735	a 700	a 1,400	1,640	810		356	317	556
19	554	2,590	1,360	660	650	a 1,200	1,750			292	194	492
20	563	1,610	1,240	600	600	a 1,000	2,040			286	324	480
21	685	1,240	1,150	600	550	a 950	1,880			303	300	480
22	760	1,060	1,030	600	500	a 950	1,750			205	286	484
23	660	1,530	918	550	550	a 950	1,610			492	303	470
24	563	3,090	785	600	a 600	a 1,000	1,670			424	310	710
25	480	2,560	750	700	a 850	a 1,100	1,600	a 750		324	334	472
26	420	2,020	700	650	a 750	a 1,300	1,500			300	264	456
27	352	1,860	650	600	a 700	a 1,600	1,330			292	448	348
28	342	2,660	650	550	a 700	a 1,800	1,500			490	370	452
29	345	2,710	660	550	a 650	a 1,700	1,270			496	317	637
30	342	3,090	785	550	-------	a 1,600	1,430			655	303	539
31	328	-------	1,090	550	-------	a 1,500	-------		-------	454	334	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,830	328	652	1.78	2.05
November	3,090	296	1,590	4.34	4.84
December	4,740	650	1,750	4.78	5.51
January	2,880	550	895	2.45	2.82
February	900	500	641	1.75	1.89
March	1,900	600	1,100	3.01	3.47
April	6,000	1,270	2,240	6.12	6.83
May	5,600	-------	1,750	4.78	5.51
June	-------	-------	665	1.82	2.03
July	-------	205	443	1.21	1.40
August	1,150	194	499	1.36	1.57
September	785	242	474	1.30	1.45
The year	6,000	194	1,060	2.90	39.37

a Gage-height record faulty or lacking; discharge estimated.

MIDDLE BRANCH OF MOOSE RIVER AT OLD FORGE, N. Y.

LOCATION.—Staff gage in Old Forge, Herkimer County, 400 feet downstream from State dam.

DRAINAGE AREA.—52 square miles (revised).

RECORDS AVAILABLE.—November, 1911, to September, 1928.

EXTREMES.—Maximum discharge during year, 426 second-feet November 29 (gage height, 3.4 feet); minimum, 0.94 second-foot October 22 (gage height, 0.13 foot).

1911–1928: Maximum discharge, 862 second-feet March 23, 1921; minimum, that of October 22, 1927.

REMARKS.—Records fair. Discharge October 1–13, December 24 to February 2, April 4–24, May 21–23, 25, June 7, 12–17, 23–26, and July 11 to August 31 computed from gate ratings, because of backwater from Thendara Dam.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	280		375	120	120	302	246	222	75	122	36	1
2	280		260	100	160	290	236	267	65	138	36	2
3	280		246	60	218	290	236	314	60	130	36	2
4	300		246	65	236	290	170	326	65	130	85	2
5	300		236	65	236	290	2	350	96	130	140	2
6	260		226	60	236	279	2	350	117	122	160	82
7	240		226	60	236	279	2	375	180	102	160	130
8	240		236	60	236	279	2	326	173	65	160	130
9	220	2	257	65	236	279	3	290	164	62	160	130
10	200		215	65	236	268	3	278	164	62	160	130
11	170		188	65	226	268	3	250	164	65	90	130
12	150		227	65	226	268	3	222	160	60	60	130
13	110		257	75	226	257	4	212	65	60	40	130
14			246	100	226	257	4	212	70	65	12	150
15			268	120	226	257	4	212	80	65	2	182
16			315	130	226	257	5	156	100	44	2	173
17		27	314	120	226	257	11	96	100	32	2	182
18			302	130	226	246	17	108	102	32	2	182
19		12	290	120	226	246	24	106	102	32	2	182
20			279	120	226	246	44	102	102	32	2	201
21		11	225	120	226	246	60	100	96	32	2	233
22	2	7	188	120	226	246	70	100	102	32	2	233
23		65	188	100	226	236	85	100	100	32	2	223
24		124	150	65	276	236	110	76	100	32	2	233
25		116	120	60	314	236	146	75	110	32	3	222
26		155	120	80	314	236	146	80	130	32	20	222
27		246	120	130	314	246	138	70	130	32	36	233
28		246	110	130	302	246	175	75	122	34	36	222
29		289	110	120	302	246	212	90	122	36	34	196
30		233	110	120	-------	257	212	90	138	36	34	222
31		-------	110	120	-------	257	-------	85	-------	36	24	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	300	----------	98.9	1.90	2.19
November	289	----------	52.9	1.02	1.14
December	375	110	218	4.19	4.83
January	130	60	94.8	1.82	2.10
February	314	120	238	4.58	4.94
March	302	236	261	5.02	5.79
April	246	2	79.2	1.52	1.70
May	375	70	184	3.54	4.08
June	180	60	110	2.12	2.36
July	138	32	61.8	1.19	1.37
August	160	2	49.7	.956	1.10
September	233	1	150	2.88	3.21
The year	375	----------	123	2.56	34.81

NOTE.—Lake levels drawn down during October in order to install new gates in State dam. Elevation of water surface in reservoir, 2.65 feet higher at end of year than at beginning of year. This is equivalent to a gain in storage represented by a mean yearly flow of 11.6 second-feet, or 0.223 second-foot per square mile, corresponding to 3.03 inches on drainage area.

MIDDLE BRANCH OF MOOSE RIVER NEAR McKEEVER, N. Y.

LOCATION.—Water-stage recorder half a mile upstream from confluence of Middle and South Branches of Moose River and 1½ miles northeast of McKeever, Herkimer County.

DRAINAGE AREA.—148 square miles (revised).

RECORDS AVAILABLE.—October, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,980 second-feet April 10 (gage height, 6.45 feet); minimum, 86 second-feet August 22 (gage height, 2.42 feet).

1925–1928: Maximum discharge, 2,100 second-feet April 27, 1926 (gage height, 6.6 feet); minimum, that of August 22, 1928.

REMARKS.—Records good except those for periods of ice effect (December 16–30, January 3 to February 14, February 19 to March 15, and March 30 to April 4) and for periods of estimate (January 3–6, 16–24, February 6–10, February 26 to March 2, and June 10–15), which are fair. Flow regulated by storage in Fulton Chain of Lakes.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	322	150	1,140	622	260	440	650	715	301	374	160	343
2	382	140	1,260	644	280	420	600	765	281	301	117	119
3	389	167	1,200	550	340	420	600	892	267	319	142	98
4	438	243	1,140	480	360	420	650	975	243	347	284	100
5	460	288	1,030	420	380	420	690	1,030	251	328	210	95
6	442	325	922	380	340	400	840	1,180	344	319	397	94
7	392	353	788	340	320	400	1,150	1,210	415	304	367	199
8	438	353	840	320	300	400	1,660	1,210	456	278	414	222
9	431	350	895	300	320	380	1,860	1,090	425	243	450	230
10	372	331	895	280	340	380	1,900	948	400	148	448	245
11	340	319	840	280	320	400	1,550	865	380	140	432	248
12	285	356	814	260	300	440	1,180	765	360	156	360	259
13	437	356	814	260	300	500	1,000	692	300	168	256	245
14	415	322	868	280	320	750	840	602	280	174	215	259
15	299	396	840	320	417	850	840	540	280	174	148	287
16	417	392	800	360	438	814	765	520	292	170	127	307
17	371	389	700	360	386	690	715	410	325	158	154	304
18	250	506	700	320	366	600	670	338	301	135	135	335
19	239	475	650	280	360	538	670	382	292	101	114	256
20	239	498	600	260	340	483	648	468	267	133	104	295
21	224	495	500	260	340	468	670	284	240	114	98	335
22	210	475	440	260	320	460	692	377	199	117	89	354
23	210	518	400	240	340	457	670	338	197	148	88	422
24	212	667	360	240	360	464	670	367	238	128	90	404
25	178	814	320	260	480	514	670	259	230	111	126	341
26	157	895	300	260	460	518	670	310	220	128	124	270
27	112	840	280	280	440	690	692	292	256	160	116	200
28	138	868	280	260	440	714	625	262	245	168	166	298
29	159	895	280	260	420	714	648	281	245	152	128	292
30	169	978	320	260	-------	700	670	295	325	185	126	281
31	161	-------	413	260	-------	650	-------	328	-------	177	167	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	460	112	300	2.03	2.34
November	978	140	472	3.19	3.56
December	1,260	280	698	4.72	5.44
January	644	240	328	2.22	2.56
February	480	260	358	2.42	2.61
March	850	380	532	3.59	4.14
April	1,900	600	872	5.89	6.57
May	1,210	259	613	4.14	4.77
June	456	197	295	1.99	2.22
July	374	101	195	1.32	1.52
August	450	88	205	1.39	1.60
September	422	94	258	1.74	1.94
The year	1,900	88	427	2.89	39.27

OTTER CREEK NEAR GLENFIELD, N. Y.

LOCATION.—Water-stage recorder a quarter of a mile upstream from dam of Otter Creek Power Corporation, 1¾ miles upstream from mouth, and 2½ miles northeast of Glenfield, Lewis County.

DRAINAGE AREA.—62 square miles.

RECORDS AVAILABLE.—July, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,130 second-feet April 8 (gage height, 7.1 feet); minimum, 29 second-feet October 1 (gage height, 1.48 feet).

1924–1928: Maximum discharge, that of April 8, 1928; minimum, 27 second-feet September 2, 1925.

REMARKS.—Records good except those for periods of ice effect (December 25–29, January 3–8, January 22 to February 7, and February 18 to March 12) and for periods of estimate, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	58	684	354	85	75	242	276	140	318	66	51
2	50	60	628	342	80	75	223	330	125	220	63	50
3	65	104	430	260	85	75	216	330	125	163	68	60
4	125	228	297	180	90	75	295	330	116	196	97	64
5	151	265	251	150	100	70	545	318	132	173	140	58
6	121	242	218	140	95	70	922	a 318	17[illegible]	132	153	52
7	108	218	201	150	100	70	1,440	299	18[illegible]	108	191	50
8	134	177	330	170	114	70	1,890	256	16[illegible]	94	267	46
9	149	155	392	171	129	70	a1,090	220	149	82	212	43
10	127	138	342	161	142	70	666	194	153	76	155	42
11	101	144	318	153	153	70	470	179	157	69	127	80
12	96	218	276	151	134	75	379	163	138	64	116	69
13	278	a 288	256	157	116	99	354	149	12[illegible]	62	101	84
14	367	a 249	354	173	114	179	342	138	161	60	85	79
15	267	a 216	404	157	157	201	456	127	15[illegible]	57	77	71
16	201	184	366	123	190	225	404	120	138	57	71	66
17	167	216	342	130	188	203	330	114	118	56	69	62
18	147	431	283	138	150	171	285	113	102	51	71	57
19	132	404	238	136	110	a 147	297	120	97	50	71	54
20	129	301	209	116	95	132	342	163	92	52	66	52
21	130	240	188	90	85	120	318	175	82	56	64	50
22	123	209	175	90	85	113	297	147	82	56	72	48
23	108	a 276	161	80	110	109	306	130	82	63	74	47
24	97	a 404	127	90	150	125	318	120	8[illegible]	58	66	47
25	87	a 392	100	95	140	173	306	118	87	54	69	46
26	82	a 342	90	120	100	260	292	132	87	50	71	46
27	77	292	90	110	85	456	256	127	8[illegible]	56	64	48
28	72	272	95	95	85	497	247	113	87	87	62	58
29	66	299	120	85	85	497	251	130	8[illegible]	102	57	63
30	63	354	159	85	-------	392	253	142	201	85	52	58
31	62	-------	212	85	-------	288	-------	147	-------	72	51	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	367	32	126	2.03	2.34
November	431	58	246	3.97	4.43
December	684	90	269	4.34	5.00
January	354	80	146	2.35	2.71
February	190	80	116	1.87	2.02
March	497	70	169	2.73	3.15
April	1,890	216	468	7.55	8.42
May	330	113	185	2.98	3.44
June	201	82	124	2.00	2.23
July	318	50	92.9	1.50	1.73
August	267	51	95.7	1.54	1.78
September	84	42	55.7	.898	1.00
The year	1,890	32	174	2.81	38.25

a Estimated from fragmentary gage-height record.

INDEPENDENCE RIVER AT SPERRYVILLE, N. Y.

LOCATION.—Staff gage half a mile upstream from highway bridge at Sperryville, Lewis County, and 9½ miles east of Lowville.

DRAINAGE AREA.—86 square miles.

RECORDS AVAILABLE.—December, 1927, to September, 1928.

EXTREMES.—Maximum discharge during period, from leveling to floodmarks, 3,700 second-feet April 8 (gage height, 8.1 feet); minimum, 44 second-feet July 20 (gage height, 1.25 feet).

REMARKS.—Records fair except those for periods of ice effect (December 18–28, January 2–8, and January 14 to March 26) and for periods of estimate, which are poor.

Daily and monthly discharge, in second-feet, 1927–28

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	a 435	80	80	354	402	207	a 465	62	a 66
2	------	a 420	80	75	281	655	186	295	54	a 66
3	------	a 320	95	75	255	615	a 156	196	58	a 71
4	------	220	110	75	390	577	138	a 207	a 81	71
5	------	150	120	70	828	a 577	129	156	a 176	71
6	------	150	110	70	a 1,430	a 469	196	111	295	58
7	196	160	120	65	a 2,340	a 394	242	94	376	54
8	435	170	150	65	a 2,990	a 295	196	a 76	504	a 54
9	672	176	180	65	a 1,380	268	156	66	354	a 54
10	469	166	180	a 70	a 690	242	a 166	58	207	a 58
11	402	156	a 180	a 70	504	218	186	62	a 156	62
12	339	147	a 160	a 75	469	196	147	62	a 120	88
13	309	147	a 140	130	469	a 166	147	50	88	156
14	540	a 160	130	320	402	147	129	a 50	71	166
15	655	a 150	200	380	a 577	129	a 111	a 50	66	a 138
16	435	130	300	360	586	120	a 94	50	58	a 102
17	402	140	280	300	435	111	a 81	54	58	81
18	a 320	150	200	220	285	111	66	a 50	a 62	66
19	260	130	150	190	404	120	71	47	a 62	62
20	200	120	120	160	577	a 176	66	47	54	54
21	180	100	110	130	469	218	66	a 50	50	58
22	160	85	120	120	a 402	196	66	a 54	54	a 58
23	130	80	140	120	402	156	71	62	62	a 54
24	a 110	90	180	a 140	435	138	81	62	62	54
25	a 95	110	a 160	a 260	435	129	81	54	a 62	54
26	a 85	130	a 110	a 400	309	147	81	50	a 62	54
27	90	120	a 95	577	230	a 129	88	47	62	58
28	110	a 100	90	785	281	111	81	a 94	54	94
29	129	a 85	85	740	a 281	138	76	a 120	50	129
30	196	a 80	------	655	281	a 166	a 216	88	54	94
31	268	80	------	504	------	218	------	71	66	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
December 7–31	672	85	287	3.34	3.10
January	435	80	157	1.83	2.11
February	300	80	144	1.67	1.80
March	785	65	237	2.76	3.18
April	2,990	230	639	7.43	8.29
May	655	111	249	2.90	3.34
June	242	66	126	1.47	1.64
July	465	47	96.7	1.12	1.29
August	504	50	116	1.35	1.56
September	166	54	76.8	.893	1.00

a Gage not read; discharge estimated.

BEAVER RIVER BELOW STILLWATER DAM, NEAR BEAVER RIVER, N. Y.

LOCATION.—Staff gage 1,000 feet downstream from Stillwater Dam at outlet of Beaver River Flow and 7½ miles west of Beaver River post office, Herkimer County.

DRAINAGE AREA.—178 square miles.

RECORDS AVAILABLE.—June, 1924, to September, 1928. Comparable records from station at State dam, May, 1908, to May, 1924.

EXTREMES.—Maximum discharge during year, 1,490 second-feet December 2 (gage height, 5.2 feet); minimum, 10 second-feet several times October 6 to November 10 (gage height, 1.40 feet, gates in dam practically closed).

1924–1928: Maximum discharge, 3,700 second-feet May 3, 1926 (gage height, about 7.1 feet); minimum, practically zero, occurs when gates in dam are closed and there is no spilling.

REMARKS.—Records good. Seasonal distribution of flow almost completely regulated at Stillwater Dam.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	536	700	1,350	760	357	565	738	1,140	588	138	260	13
2	412	588	1,490	880	472	565	738	1,140	486	350	384	13
3	520	527	1,380	820	583	565	738	1,140	366	65	384	180
4	458	343	1,240	765	635	565	738	1,140	366	60	276	588
5	280	10	1,070	685	610	565	738	889	366	180	84	588
6	10	10	962	610	610	565	684	685	378	180	302	588
7	10	22	895	542	588	565	565	561	384	133	346	519
8	10	10	962	505	588	588	588	241	372	85	384	239
9	10	10	1,100	490	588	673	437	50	366	446	384	137
10	10	91	1,030	480	588	765	258	51	366	542	384	483
11	10	295	985	480	588	765	258	45	366	456	159	588
12	198	121	940	460	588	765	258	36	366	421	38	588
13	421	10	910	460	588	765	342	36	366	421	114	588
14	224	10	970	440	588	765	457	332	366	470	194	514
15	10	10	1,040	460	588	765	820	500	366	588	288	226
16	10	10	1,070	460	588	765	820	520	366	602	381	180
17	10	10	1,050	460	588	765	880	442	366	635	500	588
18	10	10	940	440	588	765	910	350	366	584	337	588
19	10	10	880	421	588	765	910	350	366	362	154	588
20	10	10	792	460	588	765	910	350	366	318	500	588
21	178	10	685	460	588	765	1,010	519	366	229	500	588
22	172	12	660	421	588	738	1,140	588	409	154	500	345
23	10	34	604	402	588	738	1,140	473	408	500	500	498
24	232	216	542	384	588	738	1,140	384	390	435	337	588
25	333	456	500	384	588	738	1,140	205	419	384	12	588
26	333	531	460	402	588	738	1,140	187	366	384	199	556
27	333	588	426	384	588	738	1,140	244	366	384	610	460
28	333	660	421	366	588	738	1,140	315	366	268	610	460
29	284	710	421	333	565	738	1,140	366	366	91	610	329
30	104	966	440	318	------	738	1,140	366	272	384	610	119
31	571	------	528	302	------	738	------	431	------	348	350	------

Month	Observed discharge (second-feet)			Gain or loss in discharge owing to storage in Stillwater Reservoir (second-feet)	Discharge corrected for storage (second-feet)		Corrected run-off in inches
	Maximum	Minimum	Mean		Mean	Per square mile	
October	571	10	195	−167	362	2.03	2.34
November	966	10	233	−559	792	4.45	4.96
December	1,490	421	863	+45.2	818	4.60	5.30
January	880	302	491	+41.4	450	2.53	2.92
February	635	357	578	+305	273	1.53	1.65
March	765	565	702	+276	426	2.39	2.76
April	1,140	258	802	−546	1,350	7.58	8.46
May	1,140	36	454	−191	645	3.62	4.17
June	588	242	380	+72.5	308	1.73	1.93
July	635	60	342	+181	161	.904	1.04
August	610	12	345	+150	195	1.10	1.27
September	588	13	430	+301	129	.725	.81
The year	1,490	10	484	−7.37	491	2.76	37.61

STREAMS TRIBUTARY TO ST. LAWRENCE RIVER

EAST BRANCH OF OSWEGATCHIE RIVER AT CRANBERRY LAKE, N. Y.

LOCATION.—Staff gage 850 feet downstream from dam at outlet of Cranberry Lake, in Cranberry Lake village, St. Lawrence County.

DRAINAGE AREA.—144 square miles.

RECORDS AVAILABLE.—May, 1923, to September, 1928. Comparable records at station at Newton Falls, October, 1912, to May, 1923.

EXTREMES.—Maximum mean daily discharge during year, 1,100 second-feet April 10–12; minimum, 190 second-feet October 16–18.

1923–1928: Maximum discharge, 1,590 second-feet May 15–21, 1924 (gage height, 7.50 feet); minimum discharge occurs when gates in dam are closed and there is no discharge over spillway.

REMARKS.—Records good. Flow regulated by operation of gates in Cranberry Lake dam. Owing to unreliability of gage-height record daily discharge was computed from record of gate openings and reservoir gage height at dam.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	235	220	250	330	460	580	310	600	290	320	300	450
2	235	220	300	330	460	560	310	600	290	320	300	450
3	235	220	350	330	460	560	310	600	290	320	300	500
4	235	220	400	370	460	560	310	600	290	320	300	520
5	235	220	420	410	460	560	320	920	290	320	310	520
6	235	225	440	410	460	560	320	980	290	320	310	520
7	235	225	490	410	480	560	330	1,000	290	320	310	520
8	235	225	640	410	520	560	390	1,000	290	320	310	500
9	235	225	800	410	520	560	680	780	290	320	310	500
10	235	230	820	410	520	580	1,100	580	290	320	310	500
11	235	230	820	410	520	580	1,100	440	290	320	310	500
12	235	230	800	410	500	580	1,100	390	290	320	310	500
13	240	230	800	410	500	580	1,080	330	290	320	310	560
14	240	230	800	410	500	620	1,080	330	290	320	310	640
15	210	235	800	410	500	620	980	330	290	320	320	640
16	190	235	800	410	500	620	980	330	290	310	330	640
17	190	235	800	410	500	600	980	330	290	310	340	620
18	190	240	800	410	500	600	960	330	290	310	360	620
19	200	240	800	410	500	600	960	330	290	310	360	700
20	220	240	800	410	500	600	960	330	290	310	360	700
21	220	245	780	410	500	600	780	330	290	310	350	680
22	220	245	780	410	500	540	780	330	290	310	350	620
23	220	245	780	410	560	520	780	330	320	310	350	580
24	220	245	780	420	580	460	780	330	340	320	370	580
25	220	250	600	470	580	380	780	330	330	280	460	560
26	220	250	400	470	580	290	780	330	320	310	460	560
27	220	250	350	470	580	290	780	300	320	310	460	540
28	220	250	250	470	580	300	780	290	320	310	460	380
29	220	250	290	470	580	300	780	290	320	310	460	330
30	220	250	330	460	------	300	640	290	320	310	460	350
31	220	------	330	460	------	310	------	290	------	300	450	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	240	190	223	1.55	1.79
November	250	220	235	1.63	1.82
December	820	250	600	4.17	4.81
January	470	330	414	2.88	3.32
February	580	460	512	3.56	3.84
March	620	290	514	3.57	4.12
April	1,100	310	741	5.15	5.75
May	1,000	290	470	3.26	3.76
June	340	290	299	2.08	2.32
July	320	280	314	2.18	2.51
August	460	300	355	2.47	2.85
September	700	330	543	3.77	4.21
The year	1,100	190	434	3.01	41.10

NOTE.—Elevation of water surface in Cranberry Lake Reservoir at end of year was 1.83 feet lower than at beginning of year, corresponding to a loss in storage of 561,192,000 cubic feet. This is equivalent to a yearly mean discharge of 17.7 second-feet, 0.123 second-foot per square mile, or 1.67 inches on drainage area.

EAST BRANCH OF OSWEGATCHIE RIVER NEAR OSWEGATCHIE, N. Y.

LOCATION.—Water-stage recorder at Flat Rock hydroelectric plant of Northern New York Utilities (Inc.) and 2¾ miles north of Oswegatchie, St. Lawrence County.

DRAINAGE AREA.—262 square miles.

RECORDS AVAILABLE.—October, 1924, to September, 1928.

EXTREMES.—Maximum discharge for year, 4,010 second-feet April 6 (gage height, 7.1 feet); minimum approaching no flow, frequently occurs following complete shutdown of power plant.

1924–1928: Maximum discharge recorded on April 6, 1928; minimum, approaching no flow, frequently occurs following complete shutdown of power plant.

REMARKS.—Records excellent except those for estimated period, May 20–21, which are fair. Seasonal regulation by storage in Cranberry Lake.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	155	302	1,560	1,520	567	565	601	1,110	537	270	516	645
2	93	301	1,400	886	608	626	667	1,350	563	569	536	241
3	264	506	1,020	915	663	581	731	1,120	441	324	472	271
4	388	496	677	835	525	521	1,190	1,000	703	26	595	904
5	465	842	751	467	452	766	1,960	1,040	540	473	335	555
6	554	505	766	659	723	925	3,000	1,150	488	405	796	685
7	560	841	718	644	831	757	2,970	1,680	840	577	657	834
8	1,060	612	1,160	382	727	675	2,740	1,410	843	40	492	588
9	395	504	1,390	707	556	856	2,410	1,010	734	483	487	275
10	886	560	1,430	825	710	383	1,480	960	432	520	415	729
11	711	507	1,350	626	696	128	1,630	1,090	520	472	391	586
12	540	632	1,340	688	535	623	1,410	834	478	521	160	522
13	836	720	1,320	745	517	824	1,070	478	463	456	543	696
14	674	893	1,650	1,040	745	997	2,510	640	465	420	447	841
15	270	693	1,610	742	908	1,160	2,360	592	402	42	493	716
16	255	770	1,490	864	779	999	1,580	536	393	356	390	430
17	714	1,090	1,370	795	739	981	770	502	222	304	538	897
18	404	1,790	1,350	834	792	623	1,160	618	470	310	208	787
19	519	1,390	1,030	599	588	805	1,550	371	512	376	125	772
20	353	947	1,150	830	813	781	1,470	480	361	377	497	745
21	599	969	997	849	692	670	1,410	680	548	363	428	819
22	262	797	1,010	233	697	655	1,250	671	744	289	522	634
23	161	616	1,030	750	703	819	1,330	516	271	386	456	301
24	509	644	723	803	618	757	1,330	634	28	540	478	852
25	487	428	824	668	740	965	1,450	486	321	535	325	898
26	362	740	816	857	640	1,480	1,400	722	355	272	216	713
27	356	607	964	693	881	2,250	1,270	206	387	446	738	353
28	361	978	663	768	718	1,840	1,210	649	564	333	494	428
29	125	803	752	582	809	1,230	1,130	593	620	237	450	653
30	47	1,110	683	767	-------	1,060	690	442	537	312	483	169
31	455	-------	1,020	636	-------	789	-------	797	-------	446	726	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,060	47	445	1.70	1.96
November	1,790	301	770	2.94	3.28
December	1,650	663	1,100	4.20	4.84
January	1,520	233	749	2.86	3.30
February	908	452	689	2.63	2.84
March	2,250	128	874	3.34	3.85
April	3,000	601	1,530	5.84	6.52
May	1,680	206	786	3.00	3.46
June	843	29	493	1.88	2.10
July	577	26	370	1.41	1.63
August	796	125	465	1.77	2.04
September	904	169	618	2.36	2.63
The year	3,000	26	739	2.82	38.45

NOTE.—Values of daily and monthly discharge and run-off given in the above table do not necessarily represent the natural flow from the drainage basin owing to artificial storage in Cranberry Lake. See footnote to monthly discharge table for station on East Branch of Oswegatchie River at Cranberry Lake, N. Y.

OSWEGATCHIE RIVER NEAR HEUVELTON, N. Y.

LOCATION.—Water-stage recorder 2½ miles upstream from Heuvelton, St. Lawrence County.

DRAINAGE AREA.—967 square miles.

RECORDS AVAILABLE.—June, 1916, to September, 1928.

EXTREMES.—Maximum discharge during year, 12,400 second-feet November 20 (gage height, 7.9 feet); minimum, 235 second-feet October 3 (gage height, 0.80 foot).

1916–1928: Maximum discharge, 12,400 second-feet April 15, 1926, and November 20, 1927 (gage height, 7.9 feet); minimum, about 211 second-feet September 2, 1925 (gage height, 0.67 foot).

REMARKS.—Records excellent except those for extremely low stages, which are fair. Seasonal flow slightly regulated by storage in Cranberry Lake.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	336	504	6,190	7,450	1,910	1,490	7,190	3,860	1,320	1,120	589	636
2	331	542	7,240	7,670	1,780	1,440	5,580	3,380	1,550	1,360	678	826
3	252	736	7,240	7,670	1,730	1,270	4,380	3,460	1,360	1,230	686	859
4	284	984	6,610	7,030	1,520	1,220	4,200	3,380	1,170	1,280	736	724
5	342	2,190	5,170	6,000	1,500	1,120	4,380	3,080	1,170	1,000	620	497
6	502	3,000	4,120	5,600	1,360	1,110	5,600	2,860	1,380	814	870	764
7	842	3,220	3,250	3,960	1,170	1,200	6,400	2,790	1,760	788	1,210	850
8	1,020	3,150	3,460	3,380	1,480	1,350	7,240	3,000	2,170	823	1,670	850
9	1,220	2,860	4,200	3,380	1,520	1,280	7,670	3,000	2,510	779	1,610	942
10	1,770	2,440	5,600	3,380	1,430	1,190	8,330	2,720	2,300	728	1,440	826
11	1,640	2,100	5,400	3,540	1,360	1,260	8,330	2,140	1,840	604	1,280	620
12	1,780	2,100	4,200	3,860	1,420	1,010	7,670	2,170	1,540	771	1,190	781
13	1,650	2,370	4,290	3,780	1,560	864	6,200	1,840	1,460	762	844	933
14	1,680	2,720	4,830	3,860	1,360	3,790	4,830	1,480	1,200	796	678	841
15	2,040	3,080	5,600	3,950	1,480	6,020	4,740	1,310	1,110	702	686	1,060
16	2,170	3,000	5,600	4,200	2,170	5,820	5,400	1,380	1,020	628	762	1,180
17	1,980	4,170	5,800	3,950	2,440	4,810	5,020	1,350	859	527	711	1,030
18	1,700	8,430	5,800	3,220	2,300	4,200	4,200	1,200	711	542	669	850
19	1,710	11,800	5,400	3,000	2,100	3,540	3,460	1,150	702	482	636	1,030
20	1,370	12,200	5,020	2,790	1,840	2,860	3,700	1,310	762	468	532	1,050
21	1,230	10,600	4,120	3,620	1,770	2,510	3,950	1,090	823	475	399	971
22	1,160	8,380	3,780	3,310	1,620	2,370	3,860	1,400	644	520	433	962
23	1,090	6,590	3,540	2,580	1,500	2,440	4,040	1,780	736	542	461	933
24	933	5,400	2,850	2,040	2,160	3,060	4,120	1,780	942	454	652	779
25	868	4,560	2,370	2,240	2,370	4,910	4,120	1,620	653	454	788	678
26	971	4,200	2,240	2,930	1,980	6,480	4,120	1,530	542	581	762	854
27	952	4,200	2,300	2,720	1,670	7,730	4,120	1,350	557	636	589	1,210
28	895	3,950	2,170	2,720	1,600	8,760	3,780	1,300	644	805	512	1,140
29	745	4,200	2,300	2,580	1,600	9,720	3,780	1,150	753	859	750	764
30	686	4,830	3,670	2,300	-------	9,720	4,120	1,380	1,030	596	823	705
31	612	-------	5,810	1,840	-------	8,790	-------	1,360	-------	504	711	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,170	252	1,120	1.16	1.34
November	12,200	504	4,280	4.43	4.94
December	7,240	2,170	4,520	4.67	5.38
January	7,670	1,840	3,890	4.02	4.64
February	2,440	1,170	1,710	1.77	1.91
March	9,720	864	3,660	3.78	4.36
April	8,330	3,460	5,170	5.35	5.97
May	3,860	1,090	2,020	2.09	2.41
June	2,510	542	1,170	1.21	1.35
July	1,360	454	730	.755	.87
August	1,670	399	806	.834	.96
September	1,210	497	872	.902	1.01
The year	12,200	252	2,500	2.59	35.14

WEST BRANCH OF OSWEGATCHIE RIVER NEAR HARRISVILLE, N. Y.

LOCATION.—Staff gage at highway bridge half a mile northeast of Geers Corners and 4 miles downstream from Harrisville, Lewis County.

DRAINAGE AREA.—256 square miles.

RECORDS AVAILABLE.—July, 1916, to September, 1928.

EXTREMES.—Maximum discharge during year, 4,780 second-feet April 8 (gage height, 8.0 feet); minimum, 73 second-feet October 1–2 (gage height, 1.40 feet).

1916–1928: Maximum discharge, 5,760 second-feet April 26, 1926 (gage height, 8.8 feet); minimum, 27 second-feet several times during August and October, 1923 (gage height, 0.90 foot).

REMARKS.—Records good except possibly those for extremely low stages, which are subject to error from diurnal fluctuation.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77	214	2,220	2,000	425	345	1,510	1,040	545	625	115	132
2	74	214	2,950	2,180	405	325	1,100	1,100	505	585	100	132
3	82	354	2,360	1,910	365	305	980	1,160	485	445	108	124
4	141	795	1,830	1,510	365	270	1,230	1,100	445	385	288	132
5	325	1,230	1,440	1,370	385	288	1,950	1,100	425	325	545	150
6	345	1,440	980	1,160	385	305	3,010	1,040	545	255	670	160
7	365	1,230	870	980	385	288	3,730	1,040	925	202	765	150
8	674	980	1,100	925	385	270	4,580	980	980	191	765	132
9	925	815	1,370	870	425	255	4,540	870	815	170	670	115
10	980	670	1,510	815	425	255	3,510	715	670	170	505	108
11	765	625	1,370	815	425	255	2,420	585	585	160	385	132
12	545	910	1,230	815	445	255	1,830	505	505	141	288	227
13	765	1,320	1,230	815	445	345	1,370	465	405	132	202	325
14	1,160	1,160	1,370	980	425	765	1,160	425	345	132	180	305
15	1,100	870	1,670	980	505	980	1,230	385	365	124	150	240
16	1,040	1,040	1,670	980	585	1,100	1,370	385	288	115	132	214
17	815	2,060	1,830	870	670	1,230	1,230	365	255	115	115	180
18	625	3,770	1,590	815	625	1,230	1,100	405	227	108	108	160
19	505	3,160	1,300	765	585	870	1,040	445	202	108	108	132
20	425	2,080	1,040	670	405	670	1,100	545	180	108	100	115
21	485	1,670	870	625	485	585	1,100	715	180	115	100	108
22	505	1,230	765	625	425	545	1,100	765	170	108	124	100
23	465	1,230	670	585	425	505	1,160	715	170	108	180	100
24	425	1,440	625	545	505	585	1,160	670	191	108	191	100
25	385	1,750	545	625	485	980	1,230	585	202	108	180	100
26	345	1,670	505	625	465	1,680	1,230	545	240	100	180	115
27	305	1,510	465	585	445	3,200	1,100	505	240	100	180	141
28	270	1,370	465	585	425	3,860	1,040	485	214	100	160	227
29	240	1,370	545	545	385	3,380	1,040	485	214	124	141	345
30	240	1,550	870	505	-------	2,650	980	585	445	141	141	305
31	214	-------	1,300	465	-------	2,000	-------	545	-------	124	141	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,160	74	504	1.97	2.27
November	3,770	214	1,320	5.16	5.76
December	2,950	465	1,240	4.84	5.58
January	2,180	465	921	3.60	4.15
February	670	365	456	1.78	1.92
March	3,860	255	986	3.85	4.44
April	4,580	980	1,700	6.64	7.41
May	1,160	365	686	2.68	3.09
June	980	170	399	1.56	1.74
July	625	100	188	.734	.85
August	765	100	259	1.01	1.16
September	345	100	167	.652	.73
The year	4,580	74	736	2.88	39.10

GRASS RIVER AT PYRITES, N. Y.

LOCATION.—Water-stage recorder 1,000 feet downstream from lower bridge in Pyrites, St. Lawrence County, and half a mile upstream from mouth of Harrison Creek.

DRAINAGE AREA.—334 square miles.

RECORDS AVAILABLE.—August, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 8,300 second-feet November 18 (gage height, 13.0 feet); minimum, 77 second-feet October 2 (gage height, 1.46 feet).

1924–1928: Maximum discharge recorded on November 18, 1927; minimum, 40 second-feet September 28, 1924 (gage height, 1.10 feet).

REMARKS.—Records good, except those for periods of ice effect (December 4–7 and 20–29) and those for high stages and periods of estimate, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	144	210	3,090	3,250			1,530	1,470	a 600	1,040	242	242
2	130	216	2,970				1,350	1,470	670	760	196	199
3	150	354	2,200				1,320	1,470	640	482	181	166
4	237	1,200	1,400				1,700	1,370	535	385	251	169
5	413	1,730	1,100				2,680	1,270	469	373	462	230
6	417	1,730	1,000	a 1,400			3,740	1,220	667	373	626	213
7	335	1,500	950				4,460	1,220	1,260	325	730	181
8	545	1,140	1,670				5,290	1,100	1,470	261	730	157
9	850	820	1,790			a 550	a 4,200	950	1,270	224	610	129
10	712	610	1,730				a 2,500	790	920	213	460	135
11	478	610	1,580				a 2,000	700	670	207	354	139
12	339	945	1,440	1,020			a 1,700	610	525	196	a 290	259
13	550	1,460	1,470	1,020			a 1,500	555	434	191	236	515
14	1,010	1,380	2,120	1,220			1,370	510	381	a 192	205	520
15	955	1,100	2,350	1,100	a 550		1,800	478	366	a 193	181	434
16	700	985	2,030	955			1,800	443	347	194	164	354
17	510	4,020	1 910				1,520	421	307	199	148	273
18	385	7,780	1,790			1,020	1,320	421	286	202	137	222
19	317	4,950	1,470			760	1,270	487	267	205	139	194
20	315	2,680	1,200			610	1,470	640	242	205	150	171
21	397	1,810	950			510	1,570	885	230	183	148	159
22	451	1,500	800			492	1,520	920	227	181	148	157
23	417	1,830	700			520	1,570	760	242	188	152	166
24	350	2,150	700	a 750		1,110	1,740	604	242	183	164	169
25	310	1,910	650			2,330	1,860	535	277	173	173	169
26	283	1,580	650			2,580	1,800	515	321	161	186	176
27	264	1,470	600			4,370	1,620	a 500	325	164	191	186
28	242	1,380	600			3,550	1,420	a 550	290	233	176	230
29	227	1,760	800			2,810	1,370	a 550	324	354	159	270
30	207	1,880	2,040		-------	2,270	1,370	a 600	785	397	148	264
31	213	-------	2,550		-------	1,790	-------	a 650	-------	325	196	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,010	130	415	1.24	1.43
November	7,780	210	1,760	5.27	5.88
December	3,090	600	1,490	4.46	5.14
January	3,250	----------	1,090	3.26	3.76
February	----------	----------	550	1.65	1.78
March	4,370	----------	1,100	3.29	3.79
April	5,290	1,270	2,010	6.02	6.72
May	1,470	421	796	2.38	2.74
June	1,470	227	520	1.56	1.74
July	1,040	161	289	.865	1.00
August	730	137	269	.805	.93
September	520	129	228	.683	.76
The year	7,780	129	876	2.62	35.67

a Estimated.

NORTH BRANCH OF GRASS RIVER NEAR SOUTH COLTON, N. Y.

LOCATION.—Staff gage at Gleasons Mill, 4¼ miles southwest of South Colton, St. Lawrence County.

DRAINAGE AREA.—25.8 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 670 second-feet November 18 (gage height, 4.1 feet); minimum, 4.5 second-feet September 21 (gage height, 0.80 foot).

1924–1928: Maximum discharge, 700 second-feet April 25, 1926 (gage height, 4.3 feet); minimum, 2.3 second-feet August 20, 1927 (gage height, 0.73 foot).

REMARKS.—Records good except those for periods of ice effect (December 4, 19–30, January 2–10, and January 16 to April 5) and for periods of estimate (May 8–14, 19–22, and September 10 and 15), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	16	323	335	42	18	110	107	66	91	22	16
2	13	16	239	260	38	17	90	118	67	47	18	11
3	10	44	166	200	36	17	140	124	55	24	17	9.0
4	37	190	120	150	34	16	220	124	47	22	47	24
5	59	230	85	120	38	16	320	112	47	34	66	24
6	34	170	72	100	34	16	435	91	70	38	85	8.5
7	29	98	142	85	32	15	585	107	152	22	96	9.6
8	114	64	263	75	30	15	585	100	130	16	70	10
9	101	46	335	75	30	14	348	80	80	12	47	9.0
10	49	37	239	75	28	14	195	70	61	9.6	30	10
11	26	45	138	73	28	13	156	60	47	9.6	24	30
12	21	111	121	80	26	14	142	52	38	9.6	23	61
13	98	160	107	76	26	42	142	46	30	9.6	18	61
14	170	114	206	101	22	120	121	42	27	11	13	47
15	77	80	239	101	50	150	175	38	24	13	11	42
16	40	88	166	90	75	120	195	34	22	13	9.6	39
17	29	441	147	85	80	95	135	34	18	24	8.1	24
18	26	592	124	75	50	75	96	42	18	22	7.7	14
19	25	311	110	70	34	60	107	60	14	16	9.6	13
20	33	166	95	70	22	50	147	90	10	16	13	9.6
21	55	112	85	60	16	44	124	100	10	9.6	11	5.8
22	49	142	75	60	14	44	147	70	14	8.5	10	11
23	29	195	65	55	20	60	152	61	17	11	12	12
24	26	239	60	50	75	100	142	58	18	11	10	13
25	23	166	55	70	75	200	166	51	20	13	11	14
26	21	112	50	80	46	260	147	44	27	11	16	14
27	20	118	46	65	28	380	124	58	27	11	13	22
28	20	135	44	55	22	320	107	51	20	76	11	33
29	18	156	75	46	17	260	107	51	24	104	9.0	30
30	17	185	180	44	------	190	112	66	61	80	13	20
31	17	------	275	42	------	150	------	61	------	42	19	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	170	10	41.9	1.62	1.87
November	592	16	153	5.93	6.62
December	335	44	143	5.54	6.39
January	335	42	94.3	3.66	4.22
February	80	14	36.8	1.43	1.54
March	380	13	93.7	3.63	4.18
April	585	90	192	7.44	8.30
May	124	34	71.0	2.75	3.17
June	152	10	42.0	1.63	1.82
July	104	8.5	27.0	1.05	1.21
August	96	7.7	24.8	.961	1.11
September	61	5.3	21.5	.833	.93
The year	592	5.3	78.4	3.04	41.36

RAQUETTE RIVER AT PIERCEFIELD, N. Y.

LOCATION.—Water-stage recorder half a mile downstream from dam of International Paper Co. at Piercefield, St. Lawrence County.

DRAINAGE AREA.—723 square miles.

RECORDS AVAILABLE.—August, 1908, to September, 1928.

EXTREMES.—Maximum discharge during year, 6,750 second-feet April 14 (gage height, 11.1 feet); minimum, 77 second-feet October 2 (gage height, 2.04 feet).

1908–1928: Maximum discharge, 7,580 second-feet April 17, 1922 (gage height, 11.82 feet); minimum, about 10 second-feet September 2, 1913 (gage height, 0.85 foot).

REMARKS.—Records excellent except those for estimated periods, which are fair. Seasonal distribution of flow appreciably regulated by natural storage in lakes and ponds in upper drainage basin.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	401	1,170	a 3,680	a 2,140	a 1,320	a 975	1,880	3,680	1,980	454	640	735
2	207	1,140	a 3,790	a 2,220	a 1,270	a 952	2,150	3,680	1,980	821	622	350
3	409	1,140	a 3,900	a 2,140	a 1,240	a 930	2,220	3,680	1,700	895	622	197
4	490	1,270	3,900	a 2,140	a 1,200	540	2,310	3,790	1,910	471	632	708
5	444	1,500	4,140	a 2,060	a 852	798	2,580	3,790	1,900	1,020	334	632
6	459	1,430	4,140	a 2,060	a 1,250	975	3,050	3,790	1,900	1,020	618	554
7	474	1,760	4,020	a 1,980	a 1,240	865	3,790	4,020	1,900	1,040	930	604
8	570	1,900	3,900	1,770	a 1,220	823	4,630	4,260	1,860	593	1,040	788
9	278	1,860	4,020	2,020	a 1,200	862	5,570	4,260	1,830	999	1,040	445
10	494	1,830	3,790	1,980	a 1,200	840	6,150	4,260	1,540	1,040	1,070	341
11	622	1,830	3,570	1,900	1,170	528	6,450	4,140	1,750	1,020	1,070	474
12	755	1,830	3,790	1,860	885	735	6,600	4,020	1,720	1,020	701	555
13	885	1,610	3,680	1,800	1,180	952	6,600	3,680	1,660	1,020	1,070	677
14	998	1,930	3,680	1,800	a 1,200	952	6,600	3,790	1,590	1,020	1,070	715
15	1,070	1,940	3,790	1,620	a 1,170	719	6,300	3,680	1,500	411	1,040	755
16	671	1,940	3,790	1,700	a 1,140	870	6,150	3,460	1,440	708	1,040	395
17	1,090	1,980	3,680	1,660	1,120	975	5,850	3,250	1,180	930	1,040	784
18	1,140	2,140	3,460	1,560	1,140	513	5,570	3,050	1,380	930	1,040	885
19	1,140	2,220	3,460	a 1,500	752	842	5,290	2,950	1,320	908	477	885
20	1,120	2,210	3,350	a 1,470	1,100	975	5,020	2,670	1,270	888	838	862
21	1,140	2,570	3,250	a 1,410	1,140	1,020	4,890	2,760	1,220	755	1,020	862
22	1,170	2,580	3,250	a 1,200	1,100	1,070	4,500	2,670	1,170	360	898	952
23	878	2,670	a 3,050	a 1,440	1,070	1,070	4,500	2,580	1,120	660	785	451
24	1,200	2,850	a 2,850	a 1,470	1,070	1,070	4,380	2,490	765	696	748	712
25	1,240	2,850	2,580	a 1,410	1,070	580	4,260	2,490	1,070	677	658	840
26	1,220	a 2,950	a 2,580	a 1,380	a 629	1,020	4,140	2,400	1,070	677	357	797
27	1,200	a 2,950	a 2,490	a 1,380	a 952	1,380	4,020	2,040	1,020	677	599	755
28	1,140	a 3,250	a 2,490	a 1,380	a 1,040	1,590	3,900	2,230	1,020	696	607	715
29	1,140	a 3,350	a 2,400	1,020	a 998	1,800	3,680	2,140	1,020	304	637	677
30	806	a 3,460	a 2,400	a 1,370	-------	1,940	3,790	2,060	998	490	715	374
31	1,100	-------	a 2,310	a 1,380	-------	2,060	-------	2,060	-------	677	715	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,240	207	837	1.16	1.34
November	3,460	1,140	2,140	2.96	3.30
December	4,140	2,310	3,390	4.69	5.41
January	2,220	1,020	1,680	2.32	2.68
February	1,320	629	1,100	1.52	1.64
March	2,060	513	1,010	1.40	1.61
April	6,600	1,880	4,560	6.31	7.04
May	4,260	2,040	3,220	4.45	5.13
June	1,980	765	1,460	2.02	2.25
July	1,040	304	770	1.07	1.23
August	1,070	334	796	1.10	1.27
September	952	197	648	.896	1.00
The year	6,600	197	1,800	2.49	33.90

a Estimated.

ST. REGIS RIVER AT BRASHER CENTER, N. Y.

LOCATION.—Water-stage recorder 600 feet upstream from highway bridge at Brasher Center, St. Lawrence County, and 6½ miles downstream from junction of East and West Branches of St. Regis River.

DRAINAGE AREA.—616 square miles.

RECORDS AVAILABLE.—August, 1910, to November, 1917; January, 1919, to September, 1928.

EXTREMES.—Maximum discharge during year, 10,700 second-feet November 18 (gage height, 11.1 feet); minimum, 190 second-feet October 2 (gage height, 5.81 feet).

1910–1928: Maximum discharge, 16,200 second-feet March 27, 1914 (gage height, 9.1 feet, old datum); minimum, 34 second-feet August 8, 1917 (gage height, 5.25 feet).

REMARKS.—Records good except those for periods of ice effect (December 4–8, 17–30, January 3–9, 20–21, February 14–29, and March 14 to April 7) and for periods of estimate, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	225	451	5,090	4,220			3,800	2,430	1,430	892	914	369
2	201	418	4,160	3,210			3,400	2,520	1,310	849	786	369
3	201	667	3,210	2,600			3,000	2,520	1,480	600	744	339
4	262	1,950	2,200	2,200			3,400	2,430	1,570	542	786	339
5	392	2,680	1,800	1,800			4,000	2,270	1,260	640	849	401
6	570	2,270	1,700	[a] 1,700			5,000	2,270	1,480	744	1,340	434
7	496	1,920	1,600	[a] 1,700	[a] 950	[a] 400	6,500	2,190	2,270	702	1,370	451
8	514	1,580	2,200	1,600			9,100	1,920	2,350	640	1,340	[a] 400
9	723	1,290	2,770	1,600			8,730	1,710	2,080	542	1,150	[a] 350
10	807	1,080	3,300	1,590			5,940	1,570	1,800	486	914	[a] 296
11	681	1,050	3,210	1,740			4,470	1,450	1,510	418	786	[a] 350
12	505	1,220	2,190	1,650			3,480	1,370	1,200	384	723	[a] 600
13	824	1,480	2,110	1,430			2,940	1,260	1,100	384	542	[a] 750
14	1,100	1,430	3,210	1,640	800	2,400	2,430	1,230	1,060	362	505	[a] 870
15	1,090	1,310	3,030	1,380	900	3,000	3,120	1,080	914	369	523	849
16	881	1,310	2,680	1,180	1,100	2,400	2,770	1,000	828	401	451	765
17	754	5,420	2,400	1,300	1,400	2,000	2,520	980	702	620	369	723
18	702	8,680	2,200	1,410	1,200	1,600	2,110	980	640	892	369	650
19	620	4,920	2,000	1,410	1,100	1,300	1,980	1,030	723	807	451	523
20	630	3,390	1,900	1,300	1,000	1,200	2,270	1,270	600	640	324	434
21	734	2,680	1,800	1,200	900	1,000		1,740	580	600	339	401
22	744	2,520	1,600		950	950		1,590	505	486	339	443
23	776	3,760	1,500		1,000	1,000		1,480	451	468	354	468
24	786	3,300	1,400		1,200	1,600	[a] 2,550	1,340	523	434	354	409
25	776	2,770	1,300		[a] 1,300	3,400		1,450	600	401	354	392
26	630	2,520	[a] 1,200	[a] 1,200	[a] 1,100	5,500		1,480	702	418	369	401
27	551	2,680	[a] 1,200		[a] 1,000	[a] 8,000		1,400	702	451	384	392
28	514	2,520	[a] 1,100		[a] 900	[a] 7,000	2,190	1,430	660	612	369	514
29	460	3,310	[a] 1,500		[a] 850	[a] 6,000	2,350	1,510	620	1,700	309	600
30	451	3,420	[a] 3,000		-------	[a] 5,000	2,270	1,680	807	1,650	324	551
31	409	-------	3,670		-------	[a] 4,200	-------	1,510	-------	1,150	369	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,100	201	613	0.995	1.15
November	8,680	418	2,470	4.01	4.47
December	5,090	1,100	2,330	3.78	4.36
January	4,220	1,180	1,610	2.61	3.01
February	1,400	800	1,000	1.62	1.75
March	8,000	-------	2,020	3.28	3.78
April	9,100	1,980	3,520	5.71	6.37
May	2,520	980	1,620	2.63	3.03
June	2,350	451	1,080	1.75	1.95
July	1,700	362	654	1.06	1.22
August	1,370	309	616	1.00	1.15
September	870	296	494	.802	.89
The year	9,100	201	1,500	2.44	33.13

[a] Estimated.

SALMON RIVER AT CHASM FALLS, N. Y.

LOCATION.—Water-stage recorder at Chasm Falls, Franklin County, a quarter of a mile downstream from power plant of Malone Light & Power Co.

DRAINAGE AREA.—131 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,820 second-feet April 8 (gage height, 4.95 feet); minimum, 25 second-feet August 26 (gage height, 0.61 foot).

1925–1928: Maximum discharge, 2,890 second-feet April 25, 1926 (gage height, 5.0 feet); minimum, 24 second-feet August 14, 1927 (gage height, 0.74 foot).

REMARKS.—Records good. A small diversion from a tributary stream above gage is used as water supply for the village of Malone.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	135	861	759	165	151	415	547	343	231	180	124
2	52	132	824	520	159	148	333	612	335	189	167	116
3	111	266	631	438	151	148	370	600	414	162	183	136
4	158	632	369	410	168	135	571	600	350	148	206	151
5	120	612	400	371	196	147	970	600	304	160	229	148
6	100	450	357	357	195	135	1,660	567	374	153	302	140
7	98	357	325	326	168	135	2,200	485	618	129	234	134
8	197	295	453	289	159	140	2,640	396	550	110	203	134
9	137	240	484	285	162	130	1,960	351	404	147	234	83
10	112	215	412	262	165	137	1,290	315	343	166	195	132
11	109	240	376	247	171	160	874	300	304	162	170	150
12	89	352	329	244	165	137	678	293	268	136	175	184
13	201	300	302	244	162	158	546	268	238	134	166	183
14	232	251	552	285	150	238	459	254	225	157	140	180
15	164	266	596	228	174	289	582	238	206	170	140	154
16	137	272	475	187	186	285	494	231	200	164	136	165
17	138	635	445	238	171	251	428	218	195	228	138	151
18	137	1,020	376	240	165	219	364	222	183	209	82	137
19	130	818	298	222	174	206	389	238	178	173	131	131
20	203	540	276	209	174	202	460	251	162	155	148	130
21	251	405	310	186	143	189	409	268	160	143	145	129
22	266	397	274	177	142	183	391	266	167	150	102	132
23	206	690	244	240	162	180	391	447	165	160	86	143
24	192	740	190	227	216	243	432	373	175	143	132	142
25	165	546	247	209	226	440	475	351	192	146	131	143
26	151	415	266	222	224	670	450	347	186	141	106	140
27	146	522	272	219	221	986	396	323	175	146	132	142
28	137	534	244	196	177	936	360	335	167	223	119	174
29	134	527	248	187	159	874	364	398	165	396	113	195
30	118	582	414	196	-------	686	396	404	221	316	127	165
31	147	-------	579	168	-------	507	-------	355	-------	215	144	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	266	52	150	1.15	1.33
November	1,020	132	446	3.40	3.79
December	861	190	401	3.06	3.53
January	759	168	277	2.11	2.43
February	226	142	174	1.33	1.43
March	986	130	305	2.33	2.69
April	2,640	333	725	5.53	6.17
May	612	218	369	2.82	3.25
June	618	160	266	2.03	2.26
July	396	110	176	1.34	1.54
August	302	82	158	1.21	1.40
September	195	83	146	1.11	1.24
The year	2,640	52	299	2.28	31.06

CHATEAUGAY RIVER NEAR CHATEAUGAY, N. Y.

LOCATION.—Water-stage recorder 150 feet downstream from dam of High Falls Pulp & Paper Co., 1 mile south of Chateaugay, Franklin County.

DRAINAGE AREA.—114 square miles.

RECORDS AVAILABLE.—September to December, 1908; October, 1926, to September, 1928.

EXTREMES.—Maximum discharge during year, 2,060 second-feet April 8 (gage height, 7.3 feet); minimum, 32 second-feet August 23 (gage height, 0.85 foot). 1926–1928: Maximum discharge recorded on April 8, 1928; minimum, 26 second-feet October 17, 1926 (gage height, 0.83 foot).

REMARKS.—Records good, except those for extremely low stages, which are fair. Flow regulated by storage in Upper and Lower Chateaugay Lakes.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115	79	670	415	157	161	470	269	317	135	132	135
2	111	79	690	440	153	164	428	317	365	139	128	129
3	109	108	620	590	195	158	465	365	390	130	135	140
4	126	148	590	708	178	160	500	402	378	134	133	135
5	118	98	518	655	159	162	696	455	378	135	142	158
6	101	104	428	380	168	179	942	440	390	130	136	159
7	91	99	402	270	177	166	1,480	428	390	133	129	158
8	93	94	485	260	155	168	1,990	470	378	133	137	162
9	92	100	470	244	142	152	1,840	390	378	133	121	176
10	95	97	544	228	148	165	1,490	391	344	137	125	174
11	90	112	378	221	154	154	1,180	412	135	130	131	176
12	87	111	340	217	143	162	1,010	409	127	128	125	180
13	106	96	352	219	148	178	850	245	141	131	130	178
14	91	99	428	212	161	168	760	245	162	131	123	180
15	93	110	455	210	155	155	672	229	160	127	120	210
16	86	115	500	207	136	162	590	219	165	134	130	204
17	90	345	455	208	125	149	530	210	169	131	134	182
18	71	328	428	189	133	135	485	208	159	136	138	135
19	68	365	415	196	136	138	470	209	134	133	127	152
20	74	378	402	183	136	136	440	215	133	129	120	145
21	76	390	340	183	147	135	440	222	143	130	119	151
22	72	390	302	235	165	133	428	273	153	130	119	125
23	67	455	280	178	152	134	402	269	151	126	117	127
24	70	485	250	172	159	228	390	257	148	130	120	114
25	70	470	250	154	147	290	402	312	139	131	116	112
26	79	455	260	196	162	533	390	365	127	116	131	98
27	78	455	228	231	161	546	378	341	133	127	122	101
28	78	453	196	207	164	545	365	341	134	136	128	104
29	79	546	225	203	162	575	378	341	132	133	133	103
30	78	555	290	234	------	545	353	329	142	133	126	97
31	82	------	358	192	------	515	------	317	------	127	137	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	126	67	88.3	0.775	0.89
November	555	79	257	2.25	2.51
December	690	196	405	3.55	4.09
January	708	154	272	2.39	2.76
February	195	125	154	1.35	1.46
March	575	133	237	2.08	2.40
April	1,990	353	707	6.20	6.92
May	470	208	319	2.80	3.23
June	390	127	220	1.93	2.15
July	139	116	131	1.15	1.33
August	142	116	128	1.12	1.29
September	210	97	147	1.29	1.44
The year	1,990	67	255	2.24	30.47

NOTE.—Determinations of daily and monthly discharge and run-off given in above table do not necessarily represent the natural flow from the drainage basin owing to artificial storage in Upper and Lower Chateaugay Lakes.

RICHELIEU RIVER AT ROUSES POINT, N. Y.

LOCATION.—Staff gage at Rutland Railroad bridge in Rouses Point, Clinton County, 1 mile south of Fort Montgomery. Zero of gage is 92.50 feet above mean sea level.

DRAINAGE AREA.—7,870 square miles.

RECORDS AVAILABLE.—1875 to September, 1928.

EXTREMES.—Maximum elevation during year, 99.80 feet December 10; minimum, 93.20 feet October 1.

1869–1928: Maximum elevation known, 103.28 feet April, 1869 (Water-Supply Paper 97, p. 340); minimum, 91.9 feet November 13, 1908.

REMARKS.—Gage heights observed under direction of the Corps of Engineers, United States Army, and reported monthly to the United States Geological Survey.

Daily gage height, in feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.70	1.65	6.30	5.93	4.63	3.50	4.48	6.10	5.22	3.73	2.47	1.70
2	.72	1.90	6.85	5.80	4.55	3.45	4.50	6.03	5.45	3.68	2.35	1.88
3	.85	1.60	6.65	6.18	4.50	3.38	4.70	6.07	5.18	3.65	2.27	1.60
4	.80	2.43	6.63	6.10	4.48	3.35	4.50	6.08	5.20	3.60	2.35	1.50
5	.80	4.30	6.65	5.83	4.37	3.25	4.65	6.22	5.13	3.48	2.27	1.48
6	.90	5.23	6.52	6.07	4.30	3.20	4.90	6.07	5.10	3.45	2.33	1.50
7	1.03	5.28	6.48	5.88	4.25	3.15	5.35	6.07	5.05	3.48	2.55	1.45
8	.78	5.50	6.50	5.80	4.18	3.10	5.88	6.08	5.17	3.38	2.52	1.50
9	.87	5.55	6.90	5.75	4.15	3.10	6.20	6.00	5.30	3.35	2.32	1.15
10	.72	5.67	7.30	5.72	4.10	3.07	6.42	5.95	5.05	3.35	2.34	1.47
11	.88	5.65	7.10	5.70	4.05	3.08	6.50	5.82	5.03	3.27	2.18	1.28
12	1.45	5.50	6.88	5.60	4.00	2.98	6.42	5.65	4.95	3.17	2.28	1.40
13	.85	5.50	7.10	5.58	3.93	2.93	6.45	5.57	4.98	3.08	2.27	1.60
14	1.05	6.25	6.78	5.32	3.95	2.93	6.45	5.52	4.83	3.15	2.27	1.38
15	1.17	5.70	6.82	5.20	3.88	3.12	6.45	5.45	4.57	3.30	2.18	2.10
16	1.50	5.50	6.97	5.35	3.95	3.18	6.42	5.32	4.62	3.10	2.17	1.50
17	1.12	5.28	6.95	5.30	3.97	3.20	6.30	5.23	4.55	3.08	2.20	1.47
18	1.10	5.68	6.82	5.25	3.85	3.25	6.40	5.17	4.45	2.98	2.09	1.40
19	1.10	6.05	6.68	5.18	3.80	3.32	6.35	5.20	4.35	2.92	2.05	1.30
20	1.18	6.10	6.60	5.20	3.77	3.28	6.15	5.05	4.25	2.87	1.97	1.38
21	1.30	6.40	6.52	5.12	3.72	3.25	6.20	4.97	4.25	2.83	2.15	1.57
22	1.32	6.10	6.44	5.05	3.65	3.28	6.15	4.97	4.30	2.95	1.85	1.40
23	1.52	6.00	6.20	4.95	3.72	3.20	6.12	5.00	4.15	2.78	1.90	1.18
24	1.50	6.00	6.15	4.93	3.65	3.20	6.05	5.05	3.98	2.70	2.28	1.33
25	1.52	6.15	6.08	4.97	3.62	3.20	6.13	5.25	3.90	2.58	1.75	1.45
26	1.67	6.25	6.03	4.80	3.60	3.37	6.10	5.20	3.85	2.57	1.84	1.18
27	1.65	6.18	6.00	4.82	3.58	3.60	6.05	5.27	3.80	2.54	1.78	1.25
28	1.58	6.10	5.95	4.77	3.58	4.08	6.00	5.25	3.80	2.55	1.95	1.15
29	1.53	5.90	6.03	4.73	3.60	4.40	6.05	5.25	3.67	2.48	1.69	1.18
30	1.58	6.28	5.75	4.70	-------	4.50	6.15	5.27	3.65	2.50	1.90	1.18
31	1.95	-------	5.77	4.68	-------	4.50	-------	5.25	-------	2.50	1.70	-------

LAKE CHAMPLAIN AT BURLINGTON, VT.

LOCATION.—Staff gage on south side of wharf of Champlain Transportation Co., at foot of King Street, Burlington, Chittenden County. Zero of gage is about 92.5 feet above mean sea level.

RECORDS AVAILABLE.—May, 1907, to September, 1928.

EXTREMES.—Maximum stage recorded during year, 7.00 feet December 5; minimum, 1.02 feet October 1.

1907–1928: Maximum stage recorded, 8.22 feet April 19, 1922; minimum, −0.25 foot December 4, 1908.

REMARKS.—Gage-height record furnished by D. A. Loomis, general manager, Champlain Transportation Co.

Daily gage height, in feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.02		6.70						5.62			
2			6.95	6.30	4.82		4.85	6.40	5.58	4.02		
3		1.90		6.32		3.73		6.42		3.97	2.70	1.87
4	1.10	2.77		6.30				6.37	5.45			
5		4.62	7.00	6.25		3.62			5.42	3.95	2.70	1.84
6	1.08	5.52	6.95	6.25	4.60			6.44	5.43	3.90	2.72	1.80
7		5.75		6.18		3.52	5.75	6.48	5.45	3.70		
8	1.14	5.84	6.82					6.39	5.50	3.62	2.72	1.72
9		6.00		6.08	4.42	3.45	6.58	6.33				
10		5.90		5.98				6.28				1.68
11	1.14			5.98				6.22	5.32		2.67	
12				5.90		3.33	6.83	6.12	5.23	3.50		1.80
13	1.24			5.80		3.26	6.78	6.04		3.46	2.60	
14	1.32			5.75			6.76	5.92	5.12		2.56	1.80
15	1.46				4.26	3.49		5.80	5.07		2.52	
16		5.65		5.68	4.26	3.55	6.84	5.70	4.98	3.32		
17	1.56	5.75		5.66		3.60		5.58	4.84			1.74
18	1.56	6.10		5.57	4.18		6.65	5.52	4.78		2.40	
19	1.60	6.40		5.50		3.70		5.40	4.71	3.26		1.76
20	1.70	6.46			4.15	3.67	6.60	5.38	4.62	3.22	2.34	
21		6.36				3.64	6.50	5.35	4.52	3.18	2.30	1.71
22						3.60		5.32	4.42			1.68
23		6.40		5.20	4.08		6.50	5.32	4.30		2.22	
24	1.96	6.48		5.20		3.60	6.48	5.45		3.08		1.64
25	1.96	6.52					6.45	5.52			2.16	
26				5.20		3.68	6.45	5.56	4.14			1.60
27	2.02			5.19	3.95	4.10	6.42	5.60	4.10	2.98	2.15	1.56
28	2.00	6.52				4.50	6.38	5.60	4.02			1.54
29	1.98				3.82	4.70			3.95		2.04	1.52
30	1.96	6.40		5.04		4.85	6.30	5.58	3.92	2.80		
31						4.90		5.57		2.70	2.04	

NOTE.—Gage not checked with level between Aug. 28, 1912, and July 29, 1929. At later date gage was reading 0.32 foot too high and was reset. Observed gage heights have not been corrected.

SARANAC RIVER NEAR PLATTSBURG, N. Y.

LOCATION.—Water-stage recorder at Indian Rapids power plant of Associated Gas & Electric System, 4½ miles upstream from mouth of river at Plattsburg, Clinton County.

DRAINAGE AREA.—607 square miles.

RECORDS AVAILABLE.—March, 1903, to September, 1928.

EXTREMES.—Maximum daily discharge during year, 8,600 second-feet April 8; minimum, 226 second-feet September 23.

1903–1928: Maximum daily discharge, that of April 8, 1928; minimum, 15 second-feet August 4, 1908.

REMARKS.—Records poor. Discharge ascertained by adding to flow over spillway, the quantity of water passing through gates and power plant. Flow partly regulated by storage in Lower Saranac Lake and elsewhere.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	520	630	3,750	2,040	690	700	1,460	2,120	1,100	1,060	580	600
2	500	660	2,850	950	640	700	1,840	2,260	1,100	710	630	420
3	400	780	2,440	1,240	590	700	2,950	2,100	1,040	790	640	450
4	465	1,620	1,960	1,200	630	590	4,700	2,220	1,000	660	580	620
5	510	1,620	1,560	1,160	650	520	4,750	2,180	930	650	590	700
6	495	1,020	2,120	1,080	580	580	4,850	2,300	1,460	630	670	710
7	445	1,060	1,880	1,180	620	670	6,400	2,100	2,240	610	540	680
8	400	1,080	1,940	1,180	690	670	8,600	1,940	1,720	315	520	630
9	460	940	1,900	1,000	690	660	5,900	1,820	1,420	430	530	455
10	375	910	1,480	1,180	680	690	4,350	1,600	1,240	1,040	530	475
11	410	880	1,800	1,100	610	660	3,450	1,520	1,160	850	520	540
12	355	850	1,640	1,040	540	570	3,100	1,440	1,080	660	530	640
13	530	820	1,620	970	530	660	2,650	1,300	1,100	500	550	590
14	670	1,000	2,550	1,080	590	870	2,300	1,240	1,040	670	630	405
15	630	1,080	2,380	960	650	1,040	2,600	1,200	1,000	740	670	390
16	520	1,300	1,460	670	650	900	2,200	1,080	1,000	580	670	290
17	550	2,140	1,840	800	650	830	2,100	1,020	790	520	640	395
18	650	2,060	1,780	1,020	620	760	1,880	1,020	940	530	580	370
19	690	1,460	1,240	1,040	580	600	1,940	1,080	870	470	560	465
20	770	1,400	1,420	1,020	570	730	2,100	1,100	880	435	530	490
21	850	1,260	1,440	700	580	740	1,900	1,120	910	460	680	445
22	940	1,320	1,360	680	660	710	1,800	1,020	610	445	660	435
23	800	1,680	1,320	760	710	700	1,900	1,040	730	510	690	226
24	770	1,760	1,120	870	780	780	2,080	950	640	565	630	232
25	830	1,620	880	890	630	1,840	2,160	880	760	510	680	360
26	770	1,460	860	670	540	2,300	2,060	850	920	475	445	455
27	690	1,780	1,000	670	570	3,250	1,860	800	840	495	480	540
28	680	1,660	1,060	700	640	2,220	1,680	970	800	660	440	470
29	690	1,760	1,080	660	680	2,080	1,820	1,080	830	930	455	465
30	490	1,860	1,240	530	-------	1,900	1,920	1,060	1,340	600	520	460
31	660	-------	1,740	620	-------	1,620	-------	1,140	-------	620	670	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	940	355	597	0.984	1.13
November	2,140	630	1,320	2.17	2.42
December	3,750	860	1,700	2.80	3.23
January	2,040	530	957	1.58	1.82
February	780	530	629	1.04	1.12
March	3,250	520	1,040	1.71	1.97
April	8,600	1,460	2,980	4.91	5.48
May	2,260	800	1,400	2.31	2.66
June	2,240	610	1,050	1.73	1.93
July	1,060	315	617	1.02	1.18
August	690	440	582	.959	1.11
September	710	226	480	.791	.88
The year	8,600	226	1,110	1.83	24.93

NOTE.—The monthly discharge in second-feet per square mile and run-off in inches shown by the table do not necessarily represent the natural flow from the basin because of artificial storage in the upper part of the basin. The yearly mean doubtless represents very nearly the natural flow.

WEST BRANCH OF AUSABLE RIVER NEAR NEWMAN, N. Y.

LOCATION.—Water-stage recorder 4 miles northeast of Newman, Essex County, and 5 miles downstream from mouth of Lake Placid outlet.

DRAINAGE AREA.—116 square miles.

RECORDS AVAILABLE.—June, 1916, to December, 1917; July, 1919, to September, 1928.

EXTREMES.—Maximum discharge during year, 3,810 second-feet November 18 (gage height, 7.9 feet); minimum, 43 second-feet September 10 (gage height, 2.47 feet).

1916–1917, 1919–1928: Maximum discharge, 5,150 second-feet October 1, 1924 (gage height, 9.0 feet); practically no flow September 13, 1920, caused by closing gates in logging dam (gage height, 1.60 feet).

REMARKS.—Records excellent except those for periods of ice effect (December 4–7 and December 10 to March 26) and for period of estimate (May 31 to June 1), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	134	2,140	800	95	90	320	643	477	258	75	115
2	60	129	980	380	90	85	293	815	418	180	68	89
3	62	329	615	280	90	85	309	630	380	151	117	80
4	144	1,590	440	200	95	85	565	989	309	146	453	91
5	228	894	340	170	100	85	1,510	1,360	273	215	585	83
6	146	506	300	150	95	80	2,200	1,240	418	200	547	72
7	122	372	260	150	95	80	2,670	680	477	136	320	74
8	470	287	1,110	160	100	80	2,950	520	418	111	234	72
9	313	247	887	150	110	80	1,170	496	328	101	183	45
10	224	212	480	150	100	80	675	535	343	94	148	61
11	172	228	340	150	95	85	496	575	298	98	129	137
12	136	576	280	140	95	95	414	491	243	86	114	763
13	643	449	280	130	90	120	355	332	212	78	101	492
14	525	309	600	140	90	380	320	270	203	220	94	270
15	317	284	480	130	180	400	580	243	186	273	83	221
16	237	277	360	110	260	260	397	243	166	169	78	197
17	200	788	300	110	180	190	287	298	143	183	82	146
18	189	2,640	240	110	150	150	240	380	136	143	75	129
19	206	893	200	110	120	130	319	565	125	134	88	113
20	542	496	170	120	100	130	359	585	115	125	85	96
21	719	372	150	110	90	120	266	472	109	129	72	108
22	535	332	150	100	90	130	256	397	116	109	83	120
23	351	639	140	100	110	130	270	454	109	183	113	103
24	273	714	140	110	160	200	291	351	103	146	99	109
25	224	501	130	120	110	650	273	384	111	118	129	102
26	200	384	130	120	100	1,000	247	372	255	98	139	85
27	177	397	130	110	95	1,760	212	347	221	86	108	88
28	169	477	140	110	90	1,060	221	477	164	98	90	104
29	158	502	140	100	90	665	212	410	143	98	119	105
30	143	656	190	95	-------	477	262	347	393	88	132	92
31	136	-------	240	95	-------	388	-------	440	-------	78	175	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	719	59	261	2.25	2.59
November	2,640	129	554	4.78	5.33
December	2,140	130	403	3.47	4.00
January	800	95	162	1.40	1.61
February	260	90	113	.974	1.05
March	1,760	80	302	2.60	3.00
April	2,950	212	631	5.44	6.07
May	1,360	243	527	4.54	5.23
June	477	103	246	2.12	2.36
July	273	78	140	1.21	1.40
August	585	68	159	1.37	1.58
September	763	45	145	1.25	1.40
The year	2,950	45	304	2.62	35.62

AUSABLE RIVER NEAR AUSABLE FORKS, N. Y.

LOCATION.—Water-stage recorder 1¾ miles downstream from junction of East and West Branches of Ausable River at Ausable Forks, Clinton County.

DRAINAGE AREA.—448 square miles (revised).

RECORDS AVAILABLE.—September, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 11,500 second-feet November 18 (gage height, 8.1 feet); minimum, 120 second-feet October 2 (gage height, 1.19 feet).

1924–1928: Maximum discharge, 19,100 second-feet October 1, 1924 (gage height, 10.55 feet); minimum, 93 second-feet November 9, 1924 (gage height, 1.08 feet).

REMARKS.—Records good except those for period of ice effect (March 16–27) and for periods of estimate, which are fair. Flow slightly regulated by storage, principally in Taylor Pond and Fern Lake.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178	329	7,140				860	2,330	1,260	1,080	221	321
2	175	315	3,160				738	2,820	1,150	675	207	259
3	181	777	1,940				900	2,190	1,060	483	278	239
4	272	6,100	1,160				1,780	3,140	875	382	706	232
5	552	3,340					4,840	4,140	772	422	993	247
6	413	1,760					7,390	4,110	1,360	460	1,360	214
7	338	1,200					8,310	2,360	1,690	363	826	201
8	825	876				[a] 450	8,880	1,690	1,360	286	614	211
9	679	710					4,130	1,470	1,040	274	495	181
10	462	619					2,180	1,520	1,030	278	392	201
11	363	661					1,580	1,640	883	321	334	358
12	293	1,230					1,310	1,580	712	291	299	1,380
13	1,380	1,200					1,130	1,070	607	251	[a] 291	1,420
14	1,530	828					992	850	[a] 525	518	[a] 250	782
15	894	738			[a] 390		1,720	734	[a] 475	882	[a] 230	574
16	633	717		[a] 550		800	1,230	704	[a] 425	574	[a] 210	422
17	510	2,450	[a] 1,050			650	983	803	397	495	[a] 210	377
18	486	8,280				550	795	958	363	428	[a] 243	321
19	609	3,110				500	912	1,560	330	334	235	266
20	1,630	1,670				480	1,140	1,930	316	334	259	243
21	2,000	1,190				440	875	1,640	291	348	225	243
22	1,400	1,020				440	891	1,360	299	291	218	282
23	914	1,590				440	992	1,520	316	405	286	270
24	696	2,140				1,000	1,140	1,210	278	412	282	282
25	570	1,520				2,200	1,090	1,140	321	344	286	262
26	498	1,120				3,600	958	1,110	840	282	397	255
27	444	1,310				6,000	810	1,040	675	255	330	239
28	428	1,410				3,100	867	1,160	489	274	274	255
29	400	1,520				1,880	1,060	1,150	412	259	262	270
30	358	2,140				1,390	1,210	1,030	1,470	266	308	251
31	338	------				1,090	------	1,080	------	239	367	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,000	175	660	1.47	1.70
November	8,280	315	1,730	3.86	4.31
December	7,140	----------	1,350	3.01	3.47
January	----------	----------	550	1.23	1.42
February	----------	----------	390	.871	.94
March	6,000	----------	1,010	2.25	2.59
April	8,880	738	2,060	4.60	5.13
May	4,140	704	1,650	3.68	4.24
June	1,690	278	734	1.64	1.83
July	1,080	239	403	.900	1.04
August	1,360	207	383	.855	.99
September	1,420	181	369	.824	.92
The year	8,880	175	940	2.10	28.58

[a] Estimated.

BLACK BROOK AT BLACK BROOK, N. Y.

LOCATION.—Staff gage 100 feet downstream from hydroelectric plant of Associated Gas & Electric System and three-quarters of a mile south of Black Brook, Clinton County.

DRAINAGE AREA.—49.3 square miles (revised).

RECORDS AVAILABLE.—September, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 670 second-feet April 8 (gage height, 5.4 feet); minimum, about 6 second-feet, occurred frequently when power plant was shut down.

1924–1928: Maximum discharge, 720 second-feet April 25, 1926 (gage height, 5.6 feet); minimum, approaching 5 second-feet, occurs frequently when power plant is shut down.

REMARKS.—Records good. Flow regulated by storage in Taylor Pond, Fern Lake, and by operation of power plant.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	14	180	103	79	36	86	196	85	43	30	46
2	58	14	228	87	73	45	69	164	82	36	33	41
3	42	29	152	67	68	39	69	145	78	25	24	50
4	42	96	73	48	67	34	93	134	79	12	25	52
5	42	117	89	44	82	52	170	120	71	26	14	46
6	43	82	56	43	72	45	450	130	92	20	53	35
7	47	54	52	23	56	45	558	129	138	13	58	35
8	51	43	81	55	51	45	589	110	140	6	42	40
9	24	35	84	72	51	45	279	81	106	14	30	37
10	32	31	84	65	50	45	160	65	85	23	33	54
11	19	35	76	65	48	45	122	54	77	20	26	80
12	8	40	67	74	47	45	114	50	70	19	29	100
13	6	36	50	72	45	45	105	48	64	21	34	64
14	35	34	106	80	44	52	96	45	36	24	29	30
15	32	33	126	64	41	60	117	43	30	7	27	8
16	21	36	112	65	51	51	108	42	24	33	26	6
17	15	46	89	51	51	43	99	42	28	22	26	6
18	16	108	78	55	49	25	87	42	20	27	33	17
19	18	114	60	59	36	39	89	45	22	14	27	6
20	33	107	53	53	42	17	102	51	20	26	39	17
21	36	68	52	50	42	19	88	60	9	23	29	22
22	27	44	47	52	45	30	81	63	17	6	26	35
23	26	71	46	83	41	28	114	60	18	19	32	39
24	22	83	33	83	67	36	110	60	6	19	40	43
25	18	65	24	88	47	77	126	63	23	20	41	34
26	17	54	43	83	30	102	119	85	20	20	42	35
27	16	45	46	88	44	166	117	93	28	20	57	33
28	18	67	29	84	46	162	132	89	21	23	48	35
29	16	86	22	82	40	146	147	86	17	6	45	33
30	14	68	40	83	------	132	180	86	53	25	49	30
31	14	------	79	73	------	105	------	84	------	24	50	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	58	6	27.5	0.558	0.64
November	117	14	58.5	1.19	1.33
December	228	22	76.0	1.54	1.78
January	103	23	67.5	1.37	1.58
February	82	30	51.9	1.05	1.13
March	166	17	59.9	1.22	1.41
April	589	69	159	3.23	3.60
May	196	42	82.7	1.68	1.94
June	140	6	52.0	1.05	1.17
July	43	6	20.5	.416	.48
August	58	14	35.4	.718	.83
September	100	6	37.0	.751	.84
The year	589	6	60.5	1.23	16.73

NOTE.—Discharge and run-off figures in the above table do not necessarily represent the natural flow from the drainage basin owing to artificial storage in Fern Lake and Taylor Pond and diversion from Little Black Brook.

EAST BRANCH OF AUSABLE RIVER AT AUSABLE FORKS, N. Y.

LOCATION.—Staff gage at lower highway bridge in Ausable Forks, Essex County, 400 feet upstream from confluence with West Branch of Ausable River.

DRAINAGE AREA.—199 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 7,170 second-feet November 18 (gage height, 6.0 feet); minimum, 41 second-feet October 1 (gage height, 0.56 foot).

1924–1928: Maximum discharge, March 28, 1925, not determined (gage height, 11.4 feet); minimum, 38 second-feet July 23, 1926 (gage height, 0.55 foot).

REMARKS.—Records good except those for periods of ice effect (December 5–7, 20–30, January 3–7, and January 15 to March 15), which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	141	4,140	1,240	160	170	353	1,140	610	610	83	116
2	46	132	1,340	424	160	160	301	1,340	575	418	72	95
3	46	482	870	320	150	140	380	1,040	477	258	116	79
4	72	3,630	498	260	170	130	812	1,610	392	193	236	87
5	231	1,630	420	240	180	130	2,420	2,080	340	188	405	83
6	171	870	400	220	170	130	3,340	2,080	645	188	640	75
7	132	540	380	220	180	120	3,800	1,240	750	166	346	72
8	264	412	2,910	282	170	120	3,650	830	610	136	270	64
9	184	334	1,480	253	170	120	1,720	715	464	128	216	60
10	132	288	790	231	170	130	910	750	484	128	175	52
11	107	320	610	211	170	140	680	830	412	171	141	132
12	91	519	512	206	150	150	575	790	327	149	120	528
13	666	470	533	202	160	220	505	540	254	132	103	645
14	680	372	1,190	216	170	900	457	470	231	358	95	398
15	450	327	750	200	260	550	830	398	216	508	87	301
16	294	301	526	140	360	379	575	334	198	340	68	202
17	211	1,580	470	180	280	327	470	366	184	264	60	184
18	220	4,900	392	180	220	308	366	505	154	202	68	149
19	258	1,500	327	200	160	275	405	830	141	166	68	136
20	910	750	280	200	140	270	498	1,000	128	141	72	120
21	955	575	240	180	130	248	386	870	124	136	64	107
22	610	512	240	170	130	236	438	750	116	132	64	120
23	405	645	220	160	150	226	470	830	120	198	91	112
24	294	910	220	180	180	673	519	610	124	202	95	112
25	248	680	200	190	170	1,240	498	575	128	166	91	107
26	216	505	200	220	160	2,020	431	505	320	141	166	95
27	188	610	200	200	150	3,480	366	477	398	120	132	91
28	184	645	200	180	160	1,290	340	498	253	120	103	99
29	175	680	240	170	170	750	477	526	198	145	99	107
30	162	970	280	160	------	540	540	464	870	132	103	103
31	145	------	386	150	------	464	------	533	------	99	124	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	955	41	283	1.42	1.64
November	4,900	132	874	4.39	4.90
December	4,140	200	692	3.48	4.01
January	1,240	140	245	1.23	1.42
February	360	130	178	.894	.96
March	3,480	120	517	2.60	3.00
April	3,800	301	917	4.61	5.14
May	2,080	334	823	4.14	4.77
June	870	116	342	1.72	1.92
July	610	99	208	1.05	1.21
August	540	60	144	.724	.83
September	645	52	154	.774	.86
The year	4,900	41	448	2.25	30.66

BOUQUET RIVER AT WILLSBORO, N. Y.

LOCATION.—Water-stage recorder half a mile southwest of Willsboro, Essex County.

DRAINAGE AREA.—271 square miles.

RECORDS AVAILABLE.—August and September, 1904; August to November, 1908; and July, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 4,650 second-feet November 18 (gage height, 7.0 feet); minimum, 62 second-feet October 1 (gage height, 2.38 feet).

1923–1928: Maximum discharge, 11,800 second-feet October 1, 1924 (gage height, 10.85 feet); minimum, 30 second-feet October 23, 1923 (gage height, 2.17 feet).

REMARKS.—Records good except those for periods of ice effect (December 5–7 and December 11 to March 26) and for periods of estimate, which are fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	146	3,720	1,200	150	190	480	1,110	e 600	942	135	110
2		135	1,720	600	e 150	190	444	1,340	e 590	478	132	92
3		853	960	360		170	574	1,070	e 500	339	142	83
4		3,800	586	280			773	1,120	e 400	273	268	90
5	e 135	2,300	460	260			1,710	1,160	e 350	236	308	98
6		927	420	240			3,200	e 1,150	e 652	219	365	95
7		668	400	240	e 180		3,550	e 900	785	202	293	83
8		524	3,140	300			3,740	e 678	581	e 189	e 240	83
9	132	438	2,640	280		e 170	e 2,300	600	462	e 181	e 200	79
10	114	393	846	260			e 1,500	568	438	181	e 170	e 70
11	105	398	650	240			e 1,100	549	398	193	154	e 150
12	108	404	550	220	170		e 850	530	339	181	139	e 500
13	343	404	550	220	170		e 700	444	298	154	117	e 550
14	637	350	1,100	240	190	900	e 675	398	273	365	108	e 300
15	344	323	800	e 220	300	700	990	360	255	e 680	100	e 185
16	259	323	500	200	460	500	741	355	236	e 375	92	150
17	206	666	440	190	380	380	640	344	214	308	88	128
18	210	4,020	400	190	300	340	555	365	202	268	90	124
19	210	1,930	340	190	240	e 300	568	565	189	232	95	110
20	366	894	300	200	220	280	713	720	181	210	90	105
21	486	659	260	190	170	280	594	640	173	210	88	95
22	382	600	240	180	160	260	672	542	169	206	92	98
23	293	600	240	170	180	260	870	692	181	227	116	100
24	236	666	e 220	180	260	700	926	614	173	250	124	90
25	210	594	220	190	190	1,400	902	574	185	236	117	98
26	189	536	200	190	e 180	2,200	741	530	259	206	117	98
27	173	706	200	190	170	3,380	646	e 490	313	181	114	100
28	166	720	200	e 180	180	1,920	659	e 500	236	185	100	98
29	162	748	260	170	180	942	862	e 540	210	181	90	98
30	162	1,040	340	160	------	748	942	e 490	1,060	154	92	98
31	142	------	500	150	------	574	------	e 550	------	146	102	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	637	73	215	0.793	0.91
November	4,020	135	892	3.29	3.67
December	3,720	200	755	2.79	3.22
January	1,200	150	261	.963	1.11
February	460	150	208	.768	.83
March	3,380	170	591	2.18	2.51
April	3,740	444	1,120	4.13	4.61
May	1,340	344	661	2.44	2.81
June	1,060	169	363	1.34	1.50
July	942	146	271	1.00	1.15
August	365	88	144	.531	.61
September	550	70	139	.513	.57
The year	4,020	70	468	1.73	23.50

e Estimated.

LAKE GEORGE AT ROGERS ROCK, N. Y.

LOCATION.—Staff gage at Hooper's dock on south side of Stones Bay, Rogers Rock, Essex County.

RECORDS AVAILABLE.—July, 1913, to September, 1928.

EXTREMES.—Maximum stage during year, 4.57 feet December 17 and 18; minimum, 2.47 feet October 11 and 29.

1913–1928: Maximum stage, 5.07 feet April 18, 1922; minimum, 1.06 feet December 29, 1922.

REMARKS.—Elevation of lake surface regulated by operation of gates and wheels at dam at Ticonderoga. Gage-height record furnished by C. S. Colson, hydraulic engineer, International Paper Co.

Daily gage height, in feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.50	2.52	3.60	4.30	4.05	4.05	4.10	4.42	4.27	4.02	3.55	3.20
2	2.57	2.50	3.60	4.32	4.02	4.02	4.15	4.40	4.25	4.00	3.60	3.17
3	2.60	2.60	3.65	4.30	4.00	4.00	4.15	4.35	4.25	4.02	3.57	3.05
4	2.55	2.90	3.70	4.27	4.02	3.97	4.17	4.35	4.22	4.05	3.52	3.02
5	2.52	3.10	3.75	4.25	3.97	3.95	4.20	4.37	4.25	4.02	3.55	3.00
6	2.50	3.20	3.80	4.20	3.97	3.92	-------	4.40	4.30	4.00	-------	3.00
7	2.52	3.25	3.90	4.15	4.00	3.95	4.22	4.37	4.32	3.97	-------	2.97
8	2.50	3.27	4.30	4.12	4.12	3.92	4.27	4.35	4.30	3.95	-------	2.95
9	2.55	3.25	4.50	4.10	4.10	3.90	4.30	4.30	4.25	3.95	-------	2.80
10	2.50	3.22	4.50	4.07	4.15	3.87	4.27	4.27	4.22	3.97	-------	2.87
11	2.47	3.20	4.52	4.07	4.20	3.85	4.22	4.20	4.22	4.00	-------	2.85
12	2.50	3.15	4.55	4.05	4.22	3.87	4.27	4.15	4.22	4.02	-------	3.05
13	2.62	3.10	4.52	4.02	4.12	3.85	4.30	4.10	4.20	4.05	-------	3.00
14	2.65	3.15	4.55	4.00	4.17	3.90	4.32	4.12	4.17	4.00	-------	2.90
15	2.55	3.10	4.50	3.97	4.20	3.95	4.40	4.10	4.10	4.02	-------	2.87
16	2.55	3.15	4.52	3.95	4.22	4.00	4.45	4.07	4.07	4.00	-------	2.90
17	2.57	3.20	4.57	4.00	4.25	4.02	4.40	4.07	4.05	3.97	-------	2.92
18	2.50	3.30	4.57	3.97	4.20	4.00	4.37	4.10	4.00	3.90	-------	2.95
19	2.55	3.40	4.55	3.95	4.17	4.02	4.35	4.02	3.97	3.87	3.30	2.85
20	2.60	3.42	4.52	3.97	4.15	4.00	4.40	4.15	3.95	3.85	3.27	2.82
21	2.65	3.50	4.40	4.00	4.12	3.95	4.42	4.17	3.92	3.82	3.25	2.82
22	2.60	3.47	4.35	4.02	4.10	3.92	4.45	4.17	3.95	3.80	3.27	2.80
23	2.60	3.45	4.32	4.10	4.07	3.90	4.42	4.15	3.97	3.77	3.25	2.82
24	2.62	3.47	4.30	4.10	4.25	3.82	4.40	4.12	3.95	3.75	3.22	2.80
25	2.60	3.50	4.25	4.15	4.22	3.85	4.37	4.17	3.92	3.72	3.27	2.75
26	2.57	3.52	4.20	4.10	4.20	3.90	4.35	4.20	3.95	3.65	3.37	2.70
27	2.55	3.50	4.25	4.10	4.15	3.95	4.35	4.20	3.97	3.60	3.30	2.70
28	2.55	3.52	4.22	4.07	4.12	3.95	4.37	4.22	4.00	3.55	3.27	2.65
29	2.47	3.55	4.20	4.10	4.10	4.05	4.40	4.25	4.02	3.57	3.25	2.60
30	2.52	3.57	4.17	4.10	-------	4.20	4.45	4.27	4.05	3.55	3.20	2.57
31	-------	-------	4.25	4.07	-------	4.15	-------	4.30	-------	3.60	3.22	------

NOTE.—Levels of Sept. 8 indicate that gage reads 0.05 foot high. No correction has been applied to the above figures. No record Oct. 31, Apr. 6, and Aug. 6–18.

OTTER CREEK AT CENTER RUTLAND, VT.

LOCATION.—Chain gage at highway bridge in Center Rutland, Rutland County, 100 feet below dam and 1 mile below mouth of East Creek.

DRAINAGE AREA.—307 square miles.

RECORDS AVAILABLE.—May to September, 1928.

REMARKS.—Records fair; estimated discharge poor. Diurnal regulation. Seasonal storage on East Creek at Pittsford and Chittendon.

Daily and monthly discharge, in second-feet, of Otter Creek at Center Rutland, Vt., 1927–28

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1		1,320	a 402	213	435	16		500	380	302	a 174
2		1,060	575	190	a 252	17		a 30'	360	284	248
3		a 526	465	205	360	18		435	320	405	435
4		780	a 392	380	435	19		405	230	a 266	360
5		780	435	a 350	380	20		405	340	380	284
6		1,230	380	500	a 340	21		380	340	340	213
7		1,830	340	465	320	22		380	a 434	340	a 192
8		1,230	a 211	405	340	23		380	620	435	a 211
9		910	302	340	a 224	24		a 30'	500	380	302
10		a 742	340	320	320	25		435	340	380	248
11		1,060	380	360	320	26		535	320	a 374	302
12		840	575	a 197	340	27		575	266	535	360
13		670	535	284	380	28		535	340	435	360
14		535	340	360	380	29		380	a 238	435	a 326
15		575	a 266	302	a 342	30		575	340	360	a 288
						31	1,230		248	720	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
June	1,830	304	687	2.24	2.50
July	620	211	373	1.21	1.40
August	720	190	363	1.18	1.36
September	435	174	316	1.03	1.15

a Estimated.

WINOOSKI RIVER AT MONTPELIER, VT.

LOCATION.—Water-stage recorder 1 mile downstream from depot in Montpelier, Washington County, and three-eighths mile above mouth of Dog River. Zero of gage is 499.97 feet above mean sea level.

DRAINAGE AREA.—420 square miles.

RECORDS AVAILABLE.—May, 1909, to September, 1923; August to September, 1928.

EXTREMES.—1909–1923: Maximum discharge, 20,200 second-feet April 7, 1912 (gage height, 17.31 feet); minimum, 6 second-feet September 30, 1921 (gage height, 2.58 feet).

Maximum discharge known, 57,000 second-feet November 3, 1927 (gage height, 27.1 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		223	11	338	168	21	209	220
2		148	12	392	1,170	22	212	208
3		124	13	380	1,030	23	228	136
4		198	14	252	502	24	234	165
5		172	15	200	340	25	300	220
6		215	16	240	294	26	283	251
7		195	17	202	282	27	233	285
8	234	220	18	192	415	28	212	344
9	265	110	19	238	274	29	208	306
10	552	97	20	210	222	30	180	223
						31	288	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
August 8-31	552	180	262	0.624	0.56
September	1,170	97	292	.695	.78

GREEN RIVER AT GARFIELD, VT.

LOCATION.—Sloping staff gage in pool at dam at Garfield, Lamoille County. Zero of gage is at 1,100.60 feet above mean sea level.

DRAINAGE AREA.—18 square miles (revised).

RECORDS AVAILABLE.—January, 1915, to March, 1921; December, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year unknown November 3 (gage height, about 7.6 feet); minimum, 2.8 second-feet October 3 (gage height, 0.19 foot). 1915–1921, 1922–1928: Maximum discharge recorded on November 3, 1927; minimum, 2.2 second-feet August 11 and 12, 1923, and September 6, 1925.

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	11	139	124	23	15	68	246	131	17	8.6	10
2	3.0	11	88	109	21	14	62	280	82	13	8.6	8.6
3	3.0	458	60	82	19	14	52	229	52	11	9.6	8.4
4	30	1,130	50	60	17	14	56	229	43	9.6	11	8.2
5	36	383	49	40	16	14	75	246	33	11	12	8.6
6	16	204	44	31	16	14	195	204	52	11	16	8.2
7	10	102	40	27	15	13	448	109	147	9.6	13	7.8
8	71	70	139	28	15	13	628	67	78	8.6	12	7.5
9	66	57	195	29	18	13	388	52	60	8.2	14	7.1
10	29	48	116	27	19	13	263	45	49	7.8	15	7.1
11	16	43	78	26	18	13	139	38	34	8.0	15	9.1
12	12	61	51	25	16	13	147	28	26	9.3	14	20
13	65	58	55	23	16	13	163	27	21	8.6	11	38
14	110	48	95	24	16	19	102	23	22	10	9.6	21
15	48	40	109	24	16	21	109	21	20	13	8.8	14
16	26	34	55	23	21	21	102	21	20	13	8.6	14
17	20	44	46	23	19	19	82	20	16	18	8.6	16
18	17	246	42	23	17	19	65	18	14	13	8.8	13
19	17	187	36	21	17	19	109	25	13	11	9.3	11
20	38	102	33	20	16	18	116	66	12	9.6	8.2	9.3
21	78	62	30	20	16	18	102	65	11	8.6	7.8	8.6
22	80	56	26	19	16	17	84	36	11	7.8	8.6	8.4
23	51	102	23	19	16	17	85	298	11	8.6	17	8.2
24	36	139	21	19	18	17	95	212	14	8.6	8.6	8.6
25	25	88	20	23	17	26	80	212	22	8.2	9.8	8.2
26	20	60	20	31	16	38	72	116	25	8.2	14	9.3
27	17	102	20	28	16	76	63	102	20	8.2	11	11
28	16	62	21	27	15	72	70	116	16	10	8.6	19
29	14	56	24	26	15	131	85	131	15	34	8.6	22
20	13	102	28	26	------	131	124	131	20	17	11	16
31	12	------	42	24	------	95	------	147	------	11	12	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	110	3.0	32.2	1.79	2.06
November	1,130	11	139	7.72	8.61
December	195	20	57.9	3.22	3.71
January	124	19	33.9	1.88	2.17
February	23	15	17.1	.950	1.02
March	131	13	30.6	1.70	1.96
April	628	52	141	7.83	8.74
May	298	18	115	6.39	7.37
June	147	11	36.3	2.02	2.25
July	34	7.8	11.3	.628	.72
August	16	7.8	10.7	.594	.68
September	38	7.1	12.2	.678	.76
The year	1,130	3.0	53.0	2.94	40.05

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