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RAY LYMAN WILBUR, Secretary
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W. C. MENDENHALL, Director

Water-Supply Paper 699

SURFACE WATER SUPPLY *of the* UNITED STATES

1930

PART 4

ST. LAWRENCE RIVER BASIN

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AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting records of measurements of flow made on streams in the United States during the year ending September 30, 1930.

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 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, 1895–1931

1895	$12,500.00	1919	$148,244.10
1896	24,500.00	1920	175,000.00
1897–1899	50,000.00	1921–1923	180,000.00
1900	70,000.00	1924–1925	170,000.00
1901–1902	100,000.00	1926	165,000.00
1903–1906	200,000.00	1927	151,000.00
1907	150,000.00	1928	147,000.00
1908–1910	100,000.00	1929	270,500.00
1911–1917	150,000.00	1930	275,000.00
1918	175,000.00	1931	565,000.00

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 6,070 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1930, 2,430 gaging stations were being maintained by the Geological Survey and the cooperating organ-

izations. 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, 1929, and ending September 30, 1930. 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 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 height 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 recorder discharges, 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.

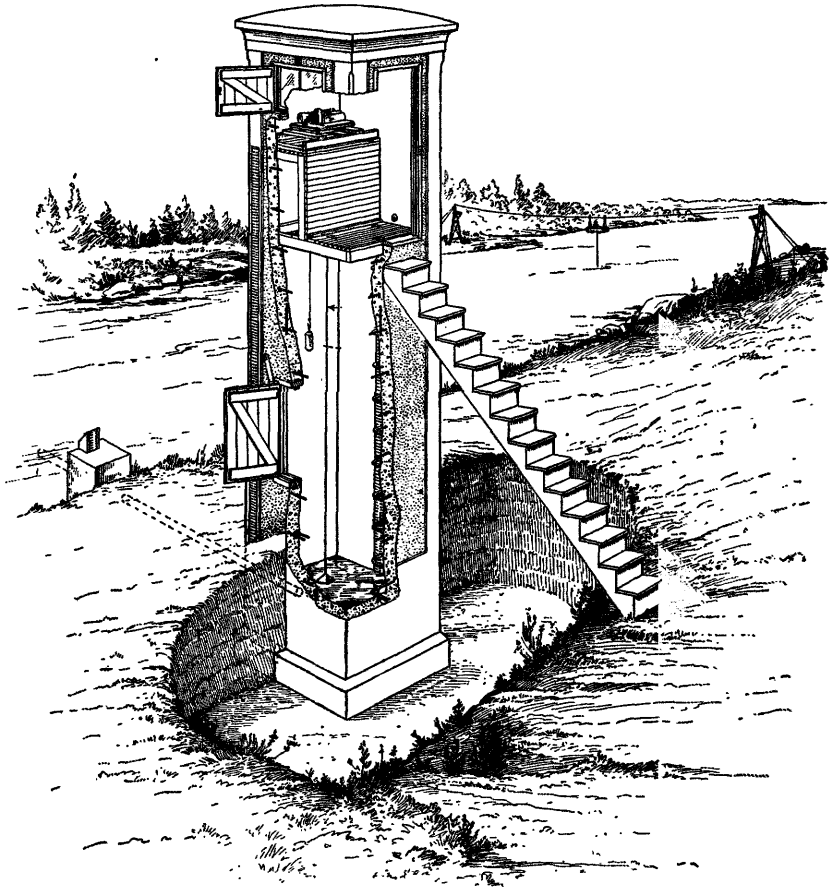

FIGURE 1.—Typical river-measurement station showing concrete well and house for water-stage recorder and staff gages, cable, and car

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," within 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 run-off 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 located 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 investigations of such closely allied subjects as irrigation, water storage, water power, 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 result 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 1. North Atlantic slope basins (St. John River to York River).
2. South Atlantic slope and eastern Gulf of Mexico basins (James River to the Mississippi).
3. Ohio River Basin.
4. St. Lawrence River Basin.
5. Hudson Bay and upper Mississippi River Basins.
6. Missouri River Basin.
7. Lower Mississippi River Basin.
8. Western Gulf of Mexico basins.
9. Colorado River Basin.
10. The Great Basin.
11. Pacific slope basins in California.

Part 12. North Pacific slope drainage 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 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., 318 State Office Building.
Albany, N. Y., 506 Broadway-Arcade Building.
Trenton, N. J., 710 Trenton Trust Building.
Harrisburg, Pa., Claster 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.
Tuscaloosa, Ala., Post Office Building.
Chattanooga, Tenn., 630 Power Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Indianapolis, Ind., 319 Federal Building.
Chicago, Ill., 1503 Consumers 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.
Santa Fe, N Mex., 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 6,070 points in the United States, and the data obtained have been published in the reports tabulated below and on page 8.

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 height (also gage heights for earlier years)	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895 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 and 1908.
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 and 1920.
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.
W 681 to 694	do	1929.
W 696 to 709	do	1930.

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.

Numbers of water-supply papers containing results of stream measurements, 1899–1930

[For basins included see p. 5]

Year	1	2	3	4	5	6	7	8	9	10	11	12-A	12-B	12-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	[f] 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
1929	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1930	696	697	698	699	700	701	702	703	704	705	706	707	708	709

[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 4.
[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 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 4.
[h] Wissahickon and Schuylkill Rivers to James River.
[i] Scioto River.
[j] Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.
[k] Tributaries of Mississippi from east.
[l] Lake Ontario and tributaries to St. Lawrence 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.

The preceding table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1930. The data for any particular station will, as a rule, be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by Part 3 are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

COOPERATION

The work was done under cooperative agreements with the several States as follows: In Wisconsin with the Public Service Commission of Wisconsin, C. B. Hayden, chief engineer; in Illinois with the Illinois Department of Purchases and Construction, division of waterways, William F. Mulvihill, supervisor; in Ohio with the Ohio Cooperative Topographic Survey, C. E. Sherman, inspector; in New York with the State Department of Public Works, Frederick Stuart Greene, superintendent; and in Vermont with the Public Service Commission of Vermont, H. B. Shaw, chairman. Work was also done in New York under cooperative agreement with the Black River Regulating District.

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

Assistance in collecting records was also rendered by the following organizations and individuals: In Wisconsin by the Wisconsin-Michigan Power Co., Wisconsin Power & Light Co., and Wisconsin Public Service Corporation; in Illinois by the Sanitary District of Chicago; in Michigan by the Michigan Gas & Electric Co., Fargo Engineering Co., city of Allegan, and Gardner S. Williams, consulting engineer; in New York by Northern New York Utilities (Inc.), International Paper Co., J. J. Rogers Co., Utica Gas & Electric Co., Cornell University, Malone Light & Power Co., New York & Pennsylvania Co., Associated Gas & Electric System, Rochester Gas & Electric Corporation, city of Rochester, and Commission for Improvement of Oswegatchie River; and in Vermont by the Green Mountain Power Co. and Newport Electric Light Co.

DIVISION OF WORK

Data for stations in Wisconsin were collected and prepared for publication under the direction of S. B. Soulé, district engineer, assisted by C. C. Yonker, A. H. Frazier, Jacob Schmidt, and L. A. Miller.

Data for the station in Illinois were collected by H. E. Grosbach and J. H. Morgan, district engineers, assisted by E. F. Rutkowski and L. C. Crawford, and prepared for publication by J. H. Morgan.

Data for stations in Michigan except as noted below were collected and prepared for publication under the direction of Berkeley Johnson, district engineer, assisted by R. H. Brigham.

Data for stations in Ohio were collected and prepared for publication under the direction of Lasley Lee, district engineer, who also collected the data for St. Joseph River at Mottville, Mich., assisted by J. I. Perrey, C. V. Youngquist, L. Engstrom, E. G. Barron, C. L. Muntz, H. E. Cox, J. P. Bonner, and H. P. Brooks.

Data for stations in New York were collected and prepared for publication under the direction of Arthur W. Harrington, district engineer, assisted by J. L. Lamson, H. F. Hill, jr., F. C. Christopherson, J. V. B. Wells, W. B. Hanlon, Kyle Forrest, Agnes D. Buchanan, and Elizabeth L. Connors.

Data for stations in Vermont were collected and prepared for publication under the direction of H. B. Kinnison, district engineer, assisted by J. H. Morgan, Thyra V. Larson, J. H. Foster, G. K. Wood, E. H. Curtis, A. A. Fishback, jr., and G. R. Williams.

The records were reviewed and the manuscript assembled by F. F. LeFever.

GAGING-STATION RECORDS

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 Wisconsin-Michigan 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, 1930.

EXTREMES.—Maximum mean daily discharge during year, 7,290 second-feet May 8; minimum, 604 second-feet Aug. 16.

1914–1930: Maximum mean daily discharge, 16,700 second-feet Apr. 23, 24, 1916; minimum, 154 second-feet Aug. 9, 1925.

REMARKS.—Records good. Discharge determined from power-house records. Besides regulation by power plant at which station is located, flow is regulated by plant on Brule River about 5 miles above station, where drainage area is 58 per cent of that at station. Records of daily discharge furnished by Wisconsin-Michigan Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,890	1,990	926	1,280	953	1,410	1,270	2,850	1,630	3,130	1,090	659
2	1,330	2,030	1,110	1,220	953	1,240	1,310	3,440	1,580	2,300	1,030	728
3	1,310	1,630	1,120	1,290	983	1,250	1,370	4,090	1,730	2,230	976	816
4	1,460	2,070	1,160	1,200	998	1,240	1,850	4,610	1,830	2,210	1,010	832
5	1,320	1,930	1,270	1,030	1,010	1,270	2,140	4,390	2,000	2,210	927	865
6	1,080	1,930	1,260	1,140	1,020	1,270	2,130	4,540	2,100	1,740	932	800
7	1,120	1,920	1,360	1,290	1,030	1,230	2,230	6,280	2,240	1,580	894	803
8	1,140	1,900	1,130	1,230	1,040	1,220	2,400	7,290	2,180	1,730	920	758
9	1,140	1,690	1,240	1,300	983	1,200	2,850	7,060	1,910	1,720	894	716
10	1,210	1,290	1,280	1,190	1,020	1,210	2,860	4,960	1,530	1,690	891	703
11	1,190	1,550	1,270	1,190	1,040	1,260	3,100	5,010	1,550	1,470	900	692
12	1,250	2,080	1,420	1,110	1,070	1,550	4,080	4,370	1,730	1,520	884	676
13	1,270	2,110	1,310	1,030	1,070	1,500	4,290	3,520	2,010	1,280	795	735
14	1,630	2,210	1,220	1,130	1,040	1,220	4,540	4,060	2,180	1,370	745	722
15	1,890	2,230	1,050	1,150	1,040	1,240	4,380	3,870	4,590	1,300	680	978
16	1,900	2,170	1,210	1,110	979	1,160	4,630	3,500	5,760	1,270	604	1,040
17	1,830	1,700	1,300	1,030	1,040	1,260	4,450	3,410	4,590	1,260	640	1,040
18	1,620	1,680	1,350	1,060	1,010	1,450	4,860	2,840	3,980	1,190	629	1,040
19	1,230	1,690	1,320	1,010	999	1,710	5,580	2,860	3,660	1,090	648	1,020
20	965	1,480	1,360	945	967	1,560	5,600	2,610	3,300	1,150	696	937
21	1,250	1,740	1,180	1,040	1,050	1,590	5,530	2,220	3,090	1,290	670	894
22	1,410	1,470	1,050	1,020	1,430	1,320	4,820	2,210	2,370	1,160	658	877
23	1,300	1,190	1,070	1,070	1,290	1,220	3,790	2,220	2,290	1,160	681	870
24	1,150	940	1,010	1,050	2,030	1,240	4,260	2,230	2,720	1,140	680	847
25	1,200	1,080	959	1,080	1,850	1,220	3,670	2,050	2,310	1,400	635	801
26	1,260	1,180	1,120	1,020	1,650	1,250	3,440	2,030	2,220	1,200	609	728
27	1,140	1,420	1,330	1,020	1,670	1,190	3,380	2,050	2,210	1,030	640	785
28	1,270	1,220	1,350	1,030	1,480	1,250	2,500	2,200	2,220	1,240	745	727
29	1,340	1,240	1,080	1,000	-------	1,270	2,250	2,200	1,780	1,180	729	797
30	1,510	1,150	1,190	972	-------	1,160	2,390	2,220	2,100	1,150	704	814
31	1,570	-------	1,290	955	-------	1,230	-------	2,080	-------	1,130	661	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,900	965	1,360	0.760	0.88
November	2,230	940	1,660	.927	1.03
December	1,420	926	1,200	.670	.77
January	1,300	945	1,100	.615	.71
February	2,030	953	1,170	.654	.68
March	1,710	1,160	1,300	.726	.84
April	5,600	1,270	3,400	1.90	2.12
May	7,290	2,030	3,520	1.97	2.27
June	5,760	1,530	2,510	1.40	1.56
July	3,130	1,030	1,500	.838	.97
August	1,090	604	781	.436	.50
September	1,040	659	823	.460	.51
The year	7,290	604	1,700	.950	12.84

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, 1930.

EXTREMES.—Maximum mean daily discharge during year, 9,380 second-feet Apr. 21; minimum, 324 second-feet Aug. 22.

1913–1930: Maximum mean daily discharge, 23,200 second-feet Apr. 23, 25, 1916; minimum, that of Aug. 22, 1930.

REMARKS.—Records good. Discharge determined from power-house records. Flow regulated by six dams above station, which are used for developing power. Records of daily discharge furnished by Wisconsin Public Service Corporation.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,140	2,340	2,020	2,120	1,620	2,300	2,490	3,370	4,400	3,480	1,760	961
2	2,620	2,720	1,640	1,840	1,470	2,420	2,880	5,140	2,890	3,500	1,670	416
3	2,700	2,440	1,630	2,190	1,240	2,260	2,950	5,170	3,190	3,670	1,350	428
4	2,320	2,560	1,590	1,910	1,450	2,300	3,210	6,110	2,600	3,700	1,040	833
5	2,070	3,180	1,890	2,110	1,620	2,330	3,370	6,740	3,750	3,420	1,370	1,080
6	2,260	3,230	1,920	1,740	1,390	2,380	4,230	6,310	2,950	3,520	1,340	1,080
7	1,760	3,110	2,060	1,710	1,610	2,510	4,860	6,200	3,440	3,000	1,470	1,080
8	1,670	3,140	1,830	1,710	1,560	2,180	4,870	6,970	2,970	2,370	1,260	718
9	2,020	3,170	1,840	2,050	1,570	2,770	5,370	8,340	3,210	2,760	1,500	1,040
10	2,110	2,520	1,660	1,550	1,030	1,820	4,940	9,270	3,340	2,500	903	1,160
11	1,850	2,360	2,020	2,070	1,620	2,010	4,920	8,690	3,010	2,490	694	845
12	1,860	2,340	2,110	1,660	1,620	2,220	5,050	7,340	2,380	2,780	984	949
13	2,220	2,620	2,060	1,770	1,670	2,240	5,570	6,820	2,190	1,850	1,310	1,080
14	1,850	2,890	2,140	1,480	1,480	2,220	5,720	6,570	3,080	2,060	1,040	926
15	1,640	3,000	2,120	1,840	1,480	2,510	5,640	6,420	4,430	2,110	1,350	1,090
16	2,420	2,900	1,810	1,770	1,660	2,210	5,490	6,230	5,940	1,490	975	799
17	2,870	2,930	1,780	1,550	1,410	1,790	5,460	7,240	7,850	1,940	1,060	718
18	2,990	2,380	1,790	1,670	1,630	2,290	6,230	5,590	7,820	2,110	521	1,080
19	2,950	2,640	2,100	1,620	1,670	2,670	6,960	4,430	6,960	1,820	868	1,460
20	2,600	2,980	1,810	1,240	1,700	3,160	9,140	4,030	5,900	1,400	868	1,620
21	1,590	2,460	2,100	1,460	1,680	3,090	9,380	3,810	5,050	1,530	432	1,180
22	1,880	1,530	2,010	1,600	1,860	3,320	8,440	3,580	4,290	1,560	324	1,080
23	1,690	1,600	2,080	1,540	1,840	3,140	7,780	3,470	3,590	1,820	370	1,170
24	2,180	2,120	1,780	1,460	1,940	2,560	6,710	3,900	3,340	1,750	637	1,090
25	2,120	1,980	1,740	1,590	2,080	2,090	5,700	4,040	3,920	1,500	799	972
26	1,940	1,570	1,560	1,480	2,490	2,170	5,560	3,970	3,380	1,540	718	1,300
27	1,830	2,180	1,570	1,240	2,960	2,110	5,120	3,800	2,920	1,860	625	1,310
28	1,770	1,630	1,750	1,170	3,610	1,860	4,910	3,670	3,160	1,780	775	1,080
29	2,110	1,540	1,940	1,570	-------	1,710	4,290	3,880	3,170	1,830	671	1,080
30	2,370	1,550	1,850	1,610	-------	3,010	3,490	4,200	3,170	1,550	602	775
31	2,320	-------	1,920	1,520	-------	2,450	-------	4,760	-------	2,000	799	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,990	1,590	2,150	0.567	0.65
November	3,230	1,530	2,450	.646	.72
December	2,140	1,560	1,870	.493	.57
January	2,190	1,170	1,670	.441	.51
February	3,610	1,030	1,750	.462	.48
March	3,320	1,710	2,390	.631	.73
April	9,380	2,490	5,360	1.41	1.57
May	9,270	3,370	5,490	1.45	1.67
June	7,850	2,190	3,940	1.04	1.16
July	3,700	1,400	2,280	.602	.69
August	1,760	324	970	.256	.30
September	1,620	416	1,010	.266	.30
The year	9,380	324	2,610	.689	9.35

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

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

DRAINAGE AREA.—520 square miles.

RECORDS AVAILABLE.—October, 1923, to September, 1930. January, 1914, to September, 1923, records were obtained at station 4 miles upstream, where drainage area is 488 square miles.

EXTREMES.—Maximum mean daily discharge during year, 1,220 second-feet Apr. 19; no flow several times in August and September.

1923–1930: Maximum mean daily discharge, 4,380 second-feet Apr. 9, 1929; no flow Jan. 20, 1924, Feb. 28, 1926, Sept. 4, 1927, and on several days in 1930.

REMARKS.—Records good for medium and low stages; fair for high stages. Discharge determined from power-house records. Flow regulated by power plant at station, but pondage is small and monthly discharge is very nearly natural flow. Records of daily discharge furnished by Wisconsin-Michigan Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	373	474	131	196	184	386	295	547	483	431	147	49
2	337	574	278	275	191	291	295	647	377	328	120	159
3	332	485	228	232	183	343	398	574	378	337	54	135
4	328	582	229	235	192	295	401	574	373	262	167	135
5	293	437	233	229	194	295	586	510	382	283	156	131
6	282	429	282	277	196	295	584	526	397	284	143	135
7	270	419	184	195	191	295	586	649	386	287	147	0
8	275	338	217	280	195	295	582	820	359	282	131	143
9	273	350	279	184	192	209	524	816	337	235	143	131
10	276	442	236	246	195	290	584	795	283	239	83	131
11	280	479	231	204	193	283	682	696	295	215	165	128
12	292	482	233	172	196	249	822	711	295	205	161	93
13	364	582	236	279	196	282	815	707	302	146	143	93
14	444	571	283	180	203	251	822	707	650	179	143	0
15	439	571	191	196	196	266	814	709	1,040	233	137	149
16	428	442	275	206	196	229	783	707	990	146	132	146
17	368	403	279	234	191	430	716	617	879	143	0	147
18	316	417	233	194	190	504	888	587	696	147	131	133
19	372	371	243	195	188	559	1,220	584	674	147	125	119
20	253	282	246	243	246	474	1,130	494	540	113	95	142
21	282	208	282	191	204	392	1,060	460	569	165	95	0
22	282	242	159	206	291	312	892	411	347	190	82	109
23	282	184	275	203	427	335	702	481	411	186	47	98
24	295	196	278	197	488	340	702	546	468	162	0	97
25	295	282	147	170	478	297	622	486	385	178	94	166
26	292	209	282	172	425	313	581	375	331	298	93	203
27	354	282	278	209	331	292	582	452	329	287	93	196
28	292	291	196	196	378	251	482	499	275	287	93	82
29	280	182	233	180	------	291	484	588	170	275	93	159
30	295	194	275	180	------	232	516	584	362	152	93	155
31	377	------	275	195	------	295	------	582	------	180	88	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	444	253	320	0.615	0.71
November	582	182	380	.731	.82
December	283	131	240	.462	.53
January	280	170	211	.406	.47
February	488	183	248	.477	.50
March	559	209	318	.612	.71
April	1,220	295	672	1.29	1.44
May	820	375	595	1.14	1.31
June	1,040	170	459	.883	.99
July	431	113	226	.435	.50
August	167	0	109	.210	.24
September	203	0	119	.229	.26
The year	1,220	0	324	.623	8.48

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.

DRAINAGE AREA.—240 square miles.

RECORDS AVAILABLE.—February, 1914, to September, 1930.

EXTREMES.—Maximum discharge during year, 546 second-feet Apr. 19 (gage height, 3.10 feet); minimum, 79 second-feet Aug. 25–27 (gage height, 1.38 feet).

1914–1930: Maximum discharge, 2,730 second-feet Apr. 10, 1922 (gage height, 7.68 feet); minimum, 26 second-feet Dec. 27, 1925 (gage height, 1.30 feet).

REMARKS.—Records good except those for periods of ice effect, Dec. 6, 1926, to Mar. 5, 1927, Dec. 1, 1929, to Mar. 17, 1930, and those estimated, which are fair. Records of daily and monthly discharge for year ending Sept. 30, 1927, supersede those published in Water-Supply Paper 644.

Daily and monthly discharge, in second-feet, 1926–27 and 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1926-27												
1	180	a 210	a 348	195	110	185	a 318	288	244	158	158	93
2	169	204	348	200	120	190	a 318	288	230	169	158	84
3	192	a 192	a 356	200	130	185	318	318	192	158	138	102
4	244	180	364	205	140	180	348	318	217	138	128	87
5	273	a 186	a 372	205	150	180	412	318	192	158	128	95
6	244	192	380	205	140	a 192	380	288	192	169	138	98
7	230	204	370	205	130	204	348	288	180	180	138	105
8	217	a 198	365	205	125	a 231	318	258	180	169	128	118
9	217	192	360	205	115	258	288	288	192	169	118	116
10	217	a 192	350	205	110	a 320	288	412	192	158	102	114
11	217	192	335	205	105	a 382	288	546	180	180	109	113
12	230	a 204	320	190	100	444	288	476	169	217	105	116
13	192	217	300	180	100	a 495	288	364	158	230	102	111
14	169	a 275	280	180	100	546	258	380	158	244	105	107
15	a 180	333	260	170	100	a 662	258	476	158	230	100	102
16	192	a 333	245	160	115	778	288	412	148	204	98	104
17	244	333	230	160	135	904	318	a 404	158	412	113	93
18	348	348	240	150	155	990	348	396	158	582	118	91
19	273	a 340	250	140	170	778	380	380	169	493	116	95
20	258	333	260	140	175	a 662	380	396	158	364	114	102
21	273	a 333	250	140	180	546	412	380	158	348	102	107
22	273	333	245	140	190	476	412	364	288	364	105	109
23	273	a 333	240	140	205	444	380	318	258	180	109	111
24	303	333	230	130	210	412	348	333	230	180	105	113
25	273	a 333	230	120	210	380	348	318	217	180	104	116
26	258	333	230	115	215	412	348	318	204	158	102	105
27	244	a 333	220	115	200	412	318	288	180	180	100	102
28	244	333	215	110	180	412	318	258	169	169	100	91
29	230	a 340	200	110	-------	318	288	244	158	138	102	102
30	230	348	190	110	-------	288	288	244	158	118	98	116
31	217	-------	195	110	-------	318	-------	244	-------	118	95	------

a Estimated.

Daily and monthly discharge, in second-feet, of Pike River at Amberg, Wis., 1926–27 and 1929–30—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1929–30												
1	128	258	130	140	150	275	244	258	a 249	180	100	86
2	128	288	130	140	140	275	258	273	a 236	20[illegible]	93	89
3	128	303	140	140	140	275	303	288	a 223	230	100	89
4	138	258	140	140	140	245	333	288	a 210	19[illegible]	100	86
5	148	230	140	140	140	215	428	258	a 197	180	93	86
6	148	204	140	140	140	190	460	258	a 184	169	89	89
7	148	180	140	140	130	205	428	273	a 171	15[illegible]	86	89
8	138	192	140	130	130	140	364	333	158	15[illegible]	93	89
9	138	192	140	130	120	140	303	303	169	14[illegible]	86	86
10	128	204	140	130	120	160	303	288	158	13[illegible]	86	82
11	148	217	140	110	115	170	303	288	138	118	82	82
12	158	230	145	120	115	205	288	303	138	114	82	89
13	180	217	150	140	110	215	303	303	158	107	86	93
14	169	204	150	140	110	205	288	273	230	10[illegible]	93	104
15	169	192	150	120	110	170	288	288	364	10[illegible]	89	114
16	158	192	145	120	115	180	288	273	396	100	86	118
17	158	192	140	140	150	335	273	288	288	96	86	111
18	148	180	140	130	160	396	428	204	258	107	82	107
19	138	169	145	140	160	380	546	204	217	107	82	107
20	148	158	120	170	170	380	510	204	204	98	86	104
21	138	158	120	120	170	303	412	192	158	100	89	100
22	158	148	125	130	150	288	318	169	158	107	82	96
23	180	148	120	120	190	273	288	318	148	111	82	96
24	169	148	125	120	275	273	273	444	169	10[illegible]	82	96
25	169	148	125	120	290	217	273	380	180	107	79	100
26	158	158	125	120	380	217	258	288	158	118	79	104
27	158	158	130	140	335	192	258	288	158	111	79	107
28	158	148	130	140	320	217	258	288	148	13[illegible]	86	111
29	158	138	130	140	------	217	230	288	128	13[illegible]	82	114
30	180	138	130	160	------	192	230	a 275	169	12[illegible]	86	111
31	192	------	130	150	------	217	------	a 262	------	114	82	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1926–27					
October	348	169	236	0.983	1.13
November	348	180	274	1.14	1.27
December	380	190	283	1.18	1.36
January	205	110	163	.679	.78
February	215	100	147	.612	.64
March	990	180	425	1.77	2.04
April	412	258	329	1.37	1.53
May	546	244	342	1.42	1.64
June	288	148	188	.783	.87
July	582	118	223	.929	1.07
August	158	95	114	.475	.55
September	118	84	104	.433	.48
The year	990	84	236	.983	13.36
1929–30					
October	192	128	154	.642	.74
November	303	138	192	.800	.89
December	150	120	135	.562	.65
January	170	110	134	.558	.64
February	380	110	171	.713	.74
March	396	140	237	.988	1.14
April	546	230	325	1.35	1.51
May	444	169	279	1.16	1.34
June	396	128	197	.821	.92
July	230	96	132	.550	.63
August	100	79	86.7	.361	.42
September	118	82	97.8	.408	.46
The year	546	79	178	.742	10.08

a Estimated.

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 above Thunder River and 10 miles west of Crivitz.

DRAINAGE AREA.—520 square miles.

RECORDS AVAILABLE.—August, 1912, to September, 1930.

EXTREMES.—Maximum mean daily discharge during year, 1,440 second-feet, Aug. 20; no flow Oct. 15, Nov. 17, 28, Dec. 7, 29.

1912–1930: Maximum discharge, 3,860 second-feet Apr. 11, 1922 (gage height, 7.80 feet); no flow on several days in 1925, 1928, 1929.

REMARKS.—Records fair. Discharge determined from records of power plant. Flow largely regulated by storage in service reservoir at plant. Records of daily discharge furnished by Wisconsin Public Service Corporation.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	434	820	454	223	287	818	566	707	367	536	293	272
2	320	614	822	471	445	627	584	421	1,000	519	470	348
3	433	287	767	556	371	745	524	1,080	637	678	350	276
4	474	1,090	616	433	440	633	508	574	431	272	764	443
5	613	786	677	2	406	629	517	819	783	329	677	394
6	359	427	434	754	458	853	618	652	426	2	372	474
7	707	538	0	780	475	651	706	617	335	767	284	2
8	605	487	579	687	311	606	424	596	445	327	223	392
9	428	856	582	459	117	388	546	772	581	91	2	175
10	367	214	534	312	496	833	904	678	769	762	2	233
11	540	977	368	271	455	569	981	562	804	379	119	301
12	242	666	514	214	794	679	503	759	520	517	182	296
13	117	556	714	621	587	546	117	665	542	320	290	314
14	481	722	431	356	428	757	1,280	537	939	2	488	236
15	0	709	284	346	361	980	730	736	522	384	387	318
16	176	466	668	653	2	503	664	610	886	672	2	422
17	57	0	215	385	1,000	786	682	562	730	537	2	377
18	175	850	597	299	365	659	758	471	878	290	664	380
19	367	226	206	2	579	712	924	784	841	305	353	293
20	408	647	340	453	806	779	464	663	825	386	1,440	296
21	520	355	434	398	407	553	1,400	588	690	311	378	2
22	320	472	625	334	387	746	1,110	561	508	310	595	427
23	602	669	477	331	2	435	937	519	613	517	346	467
24	507	287	201	441	693	550	859	818	554	475	266	332
25	388	888	156	402	594	404	826	117	650	223	425	290
26	430	527	389	56	567	768	659	735	434	366	502	396
27	117	356	656	699	823	763	635	845	602	175	300	214
28	277	0	431	412	683	635	920	717	565	465	213	2
29	627	324	0	214	------	389	740	777	329	354	425	370
30	341	287	608	329	------	353	580	767	509	462	329	232
31	341	------	652	307	------	423	------	729	------	178	329	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	707	0	380	0.731	0.84
November	1,090	0	537	1.03	1.15
December	822	0	466	.896	1.03
January	780	2	394	.758	.87
February	1,000	2	476	.915	.95
March	980	353	638	1.23	1.42
April	1,400	117	722	1.39	1.55
May	1,080	117	659	1.27	1.46
June	1,000	329	624	1.20	1.34
July	767	2	384	.738	.85
August	1,440	2	370	.712	.82
September	474	2	299	.575	.64
The year	1,440	0	495	.952	12.92

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, 1930.

EXTREMES.—Maximum discharge during year, 920 second-feet Feb. 24, Apr. 18; minimum, 172 second-feet Aug. 21 (gage height, 0.52 foot).

1906–1909, 1914–1930: Maximum discharge, 6,470 second-feet Apr. 11, 1922, caused by failure of a dam at Pulcifer, 4 miles upstream (gage height, 9.1 feet); minimum, 95 second-feet June 3, 6, 1907 (gage height, 0.1 foot).

REMARKS.—Records good except those for period of ice effect, Nov. 22 to Mar. 23, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	371	503	413	392	258	599	526	599	624	387	258	212
2	371	526	392	371	226	574	550	755	624	396	258	212
3	351	526	371	382	226	526	574	755	574	404	258	212
4	351	526	413	392	258	538	599	755	550	413	258	212
5	351	503	392	392	258	550	624	755	550	392	258	197
6	351	526	392	392	258	574	650	755	526	413	242	197
7	351	526	413	392	276	550	702	702	526	392	242	197
8	351	526	413	392	312	550	650	702	503	392	242	197
9	351	550	413	392	312	574	650	650	480	371	226	197
10	351	550	392	371	312	574	702	480	457	351	226	197
11	351	550	435	371	312	599	650	392	435	331	212	212
12	351	550	435	392	312	599	650	351	413	331	212	197
13	351	550	457	371	322	624	702	392	371	312	212	197
14	371	526	480	371	331	624	702	574	392	312	212	197
15	371	526	457	371	331	650	650	574	392	293	212	197
16	392	526	435	351	331	650	702	574	480	276	197	197
17	392	550	435	312	331	650	755	574	526	276	197	212
18	392	526	414	312	331	624	920	574	550	258	197	197
19	413	526	392	293	371	624	865	550	574	258	197	212
20	413	457	392	312	371	702	865	526	550	242	184	197
21	413	413	392	331	480	702	865	435	550	242	172	197
22	435	392	392	341	702	650	865	480	526	242	226	197
23	435	331	371	351	755	702	920	458	503	226	212	197
24	413	312	371	351	920	702	865	435	480	212	212	197
25	435	392	371	331	702	702	810	457	435	226	212	212
26	435	392	371	331	702	650	810	480	413	258	212	212
27	435	413	371	331	702	624	755	480	351	258	212	197
28	457	413	392	312	574	574	650	503	360	258	197	197
29	457	435	371	312	------	526	574	526	369	242	197	197
30	480	413	392	293	------	503	526	574	378	258	212	197
31	503	------	413	276	------	503	------	624	------	242	212	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	503	351	395	0.583	0.67
November	550	312	482	.711	.79
December	480	371	405	.597	.69
January	392	276	351	.518	.60
February	920	226	413	.609	.63
March	702	503	606	.894	1.03
April	920	526	711	1.05	1.17
May	755	351	563	.830	.96
June	624	351	482	.711	.79
July	413	212	305	.450	.52
August	258	172	219	.323	.37
September	212	197	202	.298	.33
The year	920	172	427	.630	8.55

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, 1930.
EXTREMES.—Maximum mean daily discharge during year, 3,000 second-feet Mar. 5; minimum, 506 second-feet Jan. 11.
1898–1930: Maximum mean daily discharge, 6,620 second-feet Mar. 21, 1929; minimum, 250 second-feet Feb. 1–4, 1900.
REMARKS.—Open-water records good; winter records fair. Daily discharge records furnished by United States Army Engineers.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	865	1,020	635	564	572	2,750	1,520	1,460	1,020	975	865	645
2	865	1,060	610	533	570	2,750	1,570	1,460	975	975	830	705
3	865	1,060	635	552	601	2,910	1,620	1,360	905	940	800	705
4	865	1,060	600	571	602	2,830	1,680	1,270	905	940	765	675
5	865	1,020	545	565	604	3,000	1,680	1,270	940	940	765	675
6	865	1,020	545	576	635	2,830	1,620	1,220	1,060	975	735	675
7	865	1,020	580	579	637	2,600	1,570	1,140	1,220	940	705	675
8	830	975	580	547	638	2,450	1,460	1,220	1,320	905	735	645
9	830	975	595	515	640	2,380	1,460	1,220	1,360	865	705	675
10	800	1,020	595	511	637	2,310	1,420	1,140	1,320	830	735	675
11	800	1,060	595	506	635	2,240	1,360	1,100	1,320	800	705	645
12	830	1,060	595	523	631	2,170	1,320	1,100	1,270	800	705	645
13	865	1,060	595	519	629	2,100	1,320	1,100	1,320	765	675	675
14	865	1,020	600	540	626	2,040	1,270	1,060	1,570	765	675	705
15	865	1,020	600	536	623	1,980	1,220	1,020	1,620	765	645	735
16	830	1,020	665	532	620	1,980	1,270	1,020	1,740	735	675	675
17	830	1,020	665	528	587	1,980	1,460	975	1,740	735	675	675
18	800	1,020	665	525	603	1,910	1,680	940	1,680	735	645	675
19	800	975	620	550	647	1,850	1,800	905	1,620	705	645	675
20	800	940	520	550	860	1,850	1,910	865	1,570	705	645	645
21	800	770	520	550	960	1,800	1,980	940	1,460	645	645	645
22	800	745	560	550	1,060	1,680	2,040	980	1,420	645	615	645
23	765	750	560	550	1,120	1,680	2,040	1,020	1,320	615	645	645
24	905	775	600	550	1,360	1,570	1,980	1,100	1,270	615	645	645
25	940	765	600	550	2,220	1,420	1,980	1,140	1,180	645	615	645
26	975	755	600	550	2,830	1,270	1,850	1,100	1,100	735	645	675
27	940	800	600	579	2,830	1,270	1,800	1,060	1,020	865	645	705
28	940	750	600	577	2,750	1,270	1,740	1,060	1,020	905	645	735
29	865	655	600	576	------	1,320	1,570	1,060	975	940	615	705
30	905	545	600	574	------	1,360	1,460	1,020	1,020	940	645	705
31	940	------	611	573	------	1,460	------	1,020	------	905	645	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	975	765	857	0.599	0.69
November	1,060	545	924	.646	.72
December	665	520	596	.417	.48
January	579	506	548	.383	.44
February	2,830	570	990	.692	.72
March	3,000	1,270	2,030	1.42	1.64
April	2,040	1,220	1,620	1.13	1.26
May	1,460	865	1,110	.776	.89
June	1,740	905	1,280	.895	1.00
July	975	615	815	.570	.66
August	865	615	688	.481	.55
September	735	645	675	.472	.53
The year	3,000	506	1,010	.706	9.58

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

LOCATION.—In sec. 4, T. 21 N., R. 19 E., at Rapide Croche Dam, 2 miles above Wrightstown.

DRAINAGE AREA.—6,150 square miles.

RECORDS AVAILABLE.—March, 1896, to September, 1930.

EXTREMES.—Maximum mean daily discharge during year, 6,600 second-feet Mar. 8; minimum, 620 second-feet Sept. 21.

1918–1930: Maximum mean daily discharge, 20,600 second-feet Apr. 4, 1929; minimum, that of Sept. 21, 1930.

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

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,190	2,440	3,130	4,520	4,360	4,860	4,870	5,340	2,750	3,660	1,120	721
2	2,760	2,170	3,660	4,290	3,440	3,740	5,060	4,730	4,260	3,720	1,300	1,320
3	2,860	2,720	4,020	4,300	4,270	4,740	3,920	4,990	4,300	3,000	1,200	1,510
4	3,040	2,290	4,020	4,190	4,190	4,860	4,150	4,130	4,520	3,120	1,190	1,320
5	3,350	2,920	3,900	3,100	4,260	5,000	3,830	5,330	4,610	3,070	1,120	1,560
6	2,290	2,750	3,900	4,280	4,380	5,860	3,000	4,540	4,560	3,010	1,670	859
7	2,740	2,530	3,330	4,290	4,160	6,500	3,250	4,670	4,170	3,620	1,080	979
8	3,220	2,880	3,200	3,980	4,080	6,600	3,910	4,580	3,210	3,750	1,340	929
9	2,650	2,620	3,460	3,870	4,110	6,040	4,220	4,040	4,250	3,470	1,560	760
10	2,860	2,550	3,970	4,050	4,690	6,370	3,970	4,030	4,220	3,320	945	934
11	3,110	2,550	3,930	4,090	4,720	6,310	3,860	3,130	4,240	3,680	1,170	1,010
12	3,140	2,850	3,780	3,690	4,620	6,500	4,160	4,340	4,500	3,840	1,250	1,120
13	2,170	3,370	3,720	3,560	4,660	6,520	3,200	4,430	4,620	2,620	1,330	1,020
14	3,100	3,680	3,380	4,430	4,400	6,500	3,830	4,180	4,110	3,070	1,300	899
15	2,960	3,600	2,820	4,420	4,230	6,400	4,000	4,340	2,880	3,510	1,200	914
16	2,600	3,480	3,710	4,120	3,630	5,640	4,130	4,400	3,920	3,360	1,170	1,160
17	2,340	2,560	3,780	4,150	4,680	5,180	4,090	4,420	4,220	3,310	1,100	1,140
18	1,840	3,410	2,230	3,600	4,690	4,490	4,350	3,420	4,120	3,050	1,170	1,160
19	2,370	3,860	3,450	3,680	4,730	4,360	4,240	4,390	4,150	2,420	1,570	1,160
20	2,000	4,030	3,580	3,700	4,920	4,280	3,460	4,520	4,100	1,670	1,440	1,020
21	1,850	3,600	3,710	4,260	5,280	4,330	4,680	4,650	3,770	2,240	1,300	620
22	2,190	3,370	3,070	4,040	5,140	3,980	4,610	4,680	2,750	2,530	1,360	952
23	1,930	3,590	3,560	4,300	4,310	3,490	4,660	4,550	4,410	2,560	1,330	1,200
24	2,220	2,850	3,210	4,480	4,390	4,320	4,700	4,290	4,050	2,520	983	1,260
25	2,720	3,620	2,740	4,320	4,930	4,360	4,800	3,460	4,230	2,390	994	1,130
26	2,270	3,950	3,370	3,500	4,800	4,480	4,770	4,200	4,000	1,580	1,320	1,330
27	1,540	4,110	3,730	4,200	4,830	4,760	3,960	4,320	4,030	1,830	1,340	924
28	1,920	3,550	3,610	4,170	4,910	4,740	4,860	4,280	3,900	2,140	1,240	699
29	2,370	4,180	2,750	4,650	-------	4,780	4,670	4,370	2,080	1,430	1,160	921
30	2,180	3,270	3,580	5,040	-------	4,160	4,750	3,940	4,750	1,380	1,390	1,120
31	2,880	-------	3,910	4,520	-------	4,580	-------	3,910	-------	1,360	1,280	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,350	1,540	2,540	0.413	0.48
November	4,180	2,170	3,180	.517	.58
December	4,020	2,230	3,490	.567	.65
January	5,040	3,100	4,120	.670	.77
February	5,280	3,440	4,490	.730	.76
March	6,600	3,490	5,120	.833	.96
April	5,060	3,000	4,200	.683	.76
May	5,340	3,130	4,340	.706	.81
June	4,750	2,080	3,990	.649	.72
July	3,840	1,360	2,780	.452	.52
August	1,670	945	1,260	.205	.24
September	1,560	620	1,060	.172	.19
The year	6,600	620	3,370	.548	7.44

WOLF RIVER ABOVE WEST BRANCH OF WOLF RIVER, WIS.

LOCATION.—Chain gage installed Dec. 4, 1929, 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. Prior to that date staff gage at same site was used. Elevation of zero of gages, 856.57 feet.

DRAINAGE AREA.—633 square miles.

RECORDS AVAILABLE.—March, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,180 second-feet Apr. 19 (gage height, 3.66 feet); minimum, 201 second-feet Nov. 21 (gage height, 1.35 feet). 1928–1930: Maximum discharge, 2,580 second-feet Apr. 8, 1929 (gage height, 6.10 feet); minimum, that of Nov. 21, 1930.

REMARKS.—Records excellent except those for period of ice effect, Nov. 22 to Mar. 21, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	457	722	475	387	354	676	632	722	55[illegible]	590	337	290
2	475	722	475	370	354	632	590	870	55[illegible]	590	321	305
3	512	676	439	370	370	550	590	920	51[illegible]	550	370	290
4	475	632	439	370	370	550	590	870	55[illegible]	590	387	290
5	475	590	404	370	387	590	632	818	55[illegible]	632	404	274
6	475	550	404	370	354	632	632	769	59[illegible]	632	370	274
7	475	550	404	370	354	632	722	818	59[illegible]	590	337	274
8	475	550	404	357	370	550	722	818	59[illegible]	550	337	274
9	475	512	404	305	387	550	676	769	59[illegible]	512	321	274
10	475	512	404	321	387	590	676	769	55[illegible]	512	321	274
11	475	550	404	337	387	632	676	769	51[illegible]	475	305	274
12	512	590	404	337	404	550	699	769	51[illegible]	475	305	305
13	512	632	404	370	404	590	722	769	55[illegible]	457	305	321
14	550	590	404	370	422	550	722	722	72[illegible]	439	305	337
15	550	590	404	404	404	550	722	722	1, 13[illegible]	439	305	337
16	512	550	404	387	387	512	676	722	1, 13[illegible]	404	290	321
17	512	550	370	387	404	632	676	676	1, 08[illegible]	404	290	305
18	475	550	370	404	404	722	818	632	1, 02[illegible]	404	290	305
19	512	512	370	370	439	818	1, 180	632	1, 02[illegible]	387	290	290
20	512	512	370	370	457	769	1. 180	590	1, 02[illegible]	370	290	290
21	475	201	370	404	512	676	1, 120	590	1, 02[illegible]	337	290	290
22	475	244	370	404	512	676	1, 050	550	92[illegible]	404	290	290
23	512	354	370	404	590	1, 020	985	676	920	370	321	274
24	512	475	370	387	676	818	920	769	87[illegible]	354	274	290
25	475	475	370	387	722	722	870	722	76[illegible]	337	290	305
26	475	475	370	387	722	512	818	676	722	321	290	354
27	475	550	370	387	722	512	769	676	67[illegible]	337	274	337
28	475	475	370	387	676	512	769	676	59[illegible]	337	305	354
29	475	475	370	370	-------	818	722	676	59[illegible]	321	290	337
30	475	457	370	370	-------	632	722	676	632	321	290	337
31	512	-------	404	337	-------	676	-------	632	-------	337	290	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	550	457	491	0. 776	0. 89
November	722	201	527	. 833	. 93
December	475	370	395	. 624	. 72
January	404	305	373	. 589	. 68
February	722	354	462	. 730	. 76
March	1, 020	512	640	1. 01	1. 16
April	1, 180	590	776	1. 23	1. 37
May	920	550	725	1. 15	1. 33
June	1, 130	512	734	1. 16	1. 29
July	632	321	444	. 701	. 81
August	404	274	312	. 493	. 57
September	354	274	302	. 477	. 53
The year	1, 180	201	515	. 814	11. 04

WOLF RIVER AT KESHENA FALLS, WIS.

LOCATION.—Water-stage recorder in E. ½ sec. 22, T. 28 N., R. 15 E., 500 feet below Keshena Falls and 1½ miles above gaging station formerly maintained at Keshena.

DRAINAGE AREA.—812 square miles.

RECORDS AVAILABLE.—March, 1928, to September, 1930. May, 1907, to March, 1909, February, 1911, to March, 1928, at station on Wolf River at Keshena, 1½ miles downstream.

EXTREMES.—Maximum discharge during year, 1,620 second-feet Apr. 19; minimum, 311 second-feet Nov. 21–22.

1928–1930: Maximum discharge, 4,100 second-feet Apr. 8, 1929; minimum, that of Nov. 21–22, 1930.

REMARKS.—Records Oct. 1 to Nov. 21, excellent; Nov. 22 to Mar. 31, fair; Apr. 1 to Sept. 30, good. Period of ice effect began Nov. 21. Gage-height record missing Jan. 1 to Sept. 30; discharges based on flow at station on Wolf River above West Branch of Wolf River and at station on West Branch of Wolf River near Keshena.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	713	930	555	533	457	866	764	932	727	778	444	413
2	681	1,010	624	508	483	803	768	1,170	719	857	427	419
3	681	970	587	496	524	701	768	1,250	663	815	478	407
4	681	890	587	479	494	710	795	1,180	709	835	513	396
5	652	852	558	494	518	742	839	1,090	736	878	605	387
6	652	780	558	516	479	786	839	1,000	777	888	505	385
7	652	745	558	503	469	811	970	1,030	777	795	452	393
8	652	745	551	478	491	701	960	1,050	750	745	447	397
9	622	713	551	424	512	680	904	990	768	680	419	393
10	622	713	551	446	513	769	875	990	684	662	434	390
11	595	780	551	468	507	821	924	960	654	612	387	397
12	622	815	551	490	530	701	942	1,000	662	580	396	425
13	681	815	543	524	530	760	960	990	719	578	403	448
14	681	780	542	534	560	727	991	879	961	587	370	471
15	681	780	551	586	537	736	940	914	1,520	506	354	474
16	681	780	551	551	499	688	885	914	1,490	466	352	448
17	681	745	508	534	523	848	885	848	1,370	475	385	435
18	681	745	504	551	526	992	1,170	785	1,250	535	410	425
19	681	713	493	503	565	1,010	1,620	811	1,230	458	382	407
20	681	713	493	524	586	990	1,530	743	1,190	441	396	413
21	681	311	488	558	662	875	1,440	729	1,190	471	390	416
22	652	311	500	536	662	822	1,330	718	1,090	472	382	413
23	652	461	507	517	777	1,200	1,230	893	1,010	439	388	400
24	681	600	503	541	914	1,020	1,140	1,040	1,010	483	340	410
25	681	600	516	533	992	940	1,080	951	910	473	363	435
26	681	617	516	524	980	706	1,020	875	855	465	348	500
27	652	686	516	551	951	688	952	875	820	471	327	482
28	652	600	496	541	848	706	970	857	750	430	374	465
29	622	600	494	516	------	1,040	914	831	701	473	352	474
30	622	561	494	494	------	858	878	848	839	473	358	461
31	681	------	538	440	------	856	------	811	------	403	410	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	713	595	662	0.815	0.94
November	1,010	311	712	.877	.98
December	624	488	533	.656	.76
January	586	424	513	.632	.73
February	992	457	610	.751	.78
March	1,200	680	824	1.01	1.16
April	1,620	764	1,010	1.24	1.38
May	1,250	718	934	1.15	1.33
June	1,520	654	918	1.13	1.26
July	888	403	588	.724	.83
August	605	327	406	.500	.58
September	500	385	426	.525	.59
The year	1,620	311	678	.835	11.32

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, three-fourths mile below Embarrass River and 5 miles above Little Wolf River.

DRAINAGE AREA.—2,240 square miles.

RECORDS AVAILABLE.—October, 1913, to September, 1930.

EXTREMES.—Maximum discharge during year, 2,900 second-feet Mar. 18–21 (gage height, 5.6 feet); minimum, 463 second-feet Sept. 3, 10 (gage height, 0.0 foot).

1913–1930: Maximum discharge, 15,500 second-feet Apr. 13, 1922 (gage height, 11.4 feet); minimum, that of Sept. 3, 10, 1930.

United States Engineer Corps reports a stage of 11.6 feet Apr. 16, 1888.

REMARKS.—Records good except those for period of ice effect, Nov. 24 to Mar. 15, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,050	1,320	1,080	1,050	875	1,620	1,810	1,810	1,480	1,280	805	538
2	1,080	1,400	1,050	1,050	875	1,580	1,910	1,910	1,400	1,200	770	538
3	1,120	1,530	1,020	1,080	875	1,530	1,910	2,010	1,320	1,160	735	463
4	1,080	1,620	980	1,080	840	1,530	1,910	2,110	1,280	1,240	700	598
5	1,080	1,660	945	1,080	805	1,440	1,910	2,160	1,240	1,240	665	598
6	1,050	1,660	1,020	1,080	875	1,400	1,960	2,210	1,280	1,280	665	538
7	1,050	1,530	1,020	1,080	875	1,440	1,960	2,210	1,320	1,360	735	567
8	1,020	1,400	1,050	1,020	945	1,440	2,010	2,210	1,400	1,400	735	598
9	1,020	1,360	1,020	980	980	1,480	2,010	2,160	1,530	1,360	770	538
10	1,020	1,320	1,050	980	980	1,580	2,060	2,160	1,580	1,280	700	463
11	1,020	1,320	1,020	910	945	1,660	2,010	2,160	1,530	1,200	598	511
12	1,020	1,360	1,050	875	910	1,810	2,010	2,110	1,440	1,080	567	511
13	1,050	1,400	1,020	875	945	1,910	1,960	2,010	1,440	1,020	567	538
14	1,080	1,480	1,020	840	1,020	1,960	1,960	1,910	1,480	945	598	538
15	1,050	1,480	1,020	910	1,050	2,060	1,960	1,810	1,660	875	598	511
16	1,120	1,530	980	945	1,050	2,540	1,910	1,710	1,810	910	598	538
17	1,240	1,440	980	910	1,050	2,720	1,960	1,620	2,010	875	567	567
18	1,160	1,360	945	910	1,050	2,900	2,060	1,530	2,160	840	567	631
19	1,080	1,320	945	945	1,020	2,900	2,260	1,480	2,210	735	538	770
20	1,120	1,320	945	945	1,050	2,900	2,360	1,440	2,160	700	486	700
21	1,160	1,280	945	875	1,200	2,900	2,480	1,400	2,060	770	567	631
22	1,080	1,160	945	805	1,400	2,780	2,600	1,360	1,960	735	567	567
23	1,200	1,050	945	805	1,480	2,540	2,660	1,400	1,810	700	538	538
24	1,200	1,020	945	875	1,580	2,310	2,660	1,660	1,660	770	486	486
25	1,200	1,020	945	910	1,620	2,060	2,600	1,860	1,660	735	486	567
26	1,120	1,050	945	875	1,620	1,910	2,480	1,960	1,530	735	511	805
27	1,120	1,080	945	875	1,620	1,860	2,310	1,960	1,400	770	511	631
28	1,120	1,080	945	840	1,620	1,760	2,210	1,960	1,280	805	538	631
29	1,120	1,080	1,020	770	-------	1,580	2,060	1,910	1,200	805	511	598
30	1,120	1,120	1,050	840	-------	1,580	1,910	1,810	1,280	840	511	538
31	1,200	-------	1,050	875	-------	1,660	-------	1,620	-------	840	538	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,240	1,020	1,100	0.491	0.57
November	1,660	1,020	1,320	.589	.66
December	1,080	945	995	.444	.51
January	1,080	770	932	.416	.48
February	1,620	805	1,110	.496	.52
March	2,900	1,400	1,980	.884	1.02
April	2,660	1,810	2,130	.951	1.06
May	2,210	1,360	1,860	.830	.96
June	2,210	1,200	1,590	.710	.79
July	1,400	700	983	.439	.51
August	805	486	604	.270	.31
September	805	463	575	.257	.29
The year	2,900	463	1,260	.562	7.68

WEST BRANCH OF WOLF RIVER NEAR KESHENA, WIS.

LOCATION.—Staff gage in SW. ¼ sec. 3, T. 28 N., R. 15 E., 1 mile above mouth and 4 miles northwest of Keshena. Zero of gage is 858.37 feet above mean sea level.

DRAINAGE AREA.—170 square miles.

RECORDS AVAILABLE.—March, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 390 second-feet Apr. 19 (gage height, 5.27 feet); minimum, 43 second-feet Aug. 27 (gage height, 3.34 feet). 1928–1930: Maximum discharge, 1,260 second-feet Apr. 8, 1929 (gage height, 8.60 feet); minimum, that of Aug. 27, 1930.

REMARKS.—Records excellent except those for period of ice effect, Nov. 21 to Apr. 1, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	148	296	64	131	89	165	110	183	156	183	104	111
2	156	296	131	123	114	148	156	263	148	253	104	102
3	156	252	131	112	139	131	156	296	131	263	104	105
4	148	252	131	95	110	139	183	274	139	23	122	94
5	156	174	139	110	116	131	183	242	165	242	202	102
6	139	156	139	131	111	131	183	202	165	242	131	100
7	156	156	139	118	101	156	221	183	165	203	112	108
8	139	156	131	107	107	131	211	202	139	183	107	111
9	139	148	131	107	110	111	202	192	156	165	95	108
10	139	165	131	112	111	156	174	192	114	139	110	105
11	148	263	131	118	105	165	221	165	123	13	80	111
12	165	183	131	139	111	131	216	202	131	98	88	108
13	174	174	123	139	111	148	211	192	148	116	95	114
14	192	174	122	148	122	156	242	131	211	148	61	120
15	174	174	131	165	118	165	192	165	342	59	45	123
16	165	156	131	148	98	156	183	165	319	59	59	114
17	165	156	123	131	104	192	183	148	252	5	93	117
18	156	156	120	131	107	242	319	131	192	6	118	108
19	165	183	108	118	110	165	390	156	174	66	90	105
20	156	174	108	139	112	192	308	131	139	66	104	111
21	156	101	104	139	131	174	276	118	139	13	89	114
22	156	58	116	117	131	123	245	148	139	6	81	111
23	165	94	122	98	165	148	214	192	156	6	56	114
24	174	108	118	139	211	174	183	242	114	12	56	108
25	156	108	131	131	242	192	183	202	114	13	62	117
26	165	123	131	122	231	174	174	174	108	148	48	131
27	156	116	131	148	202	156	156	174	120	13	43	131
28	156	108	112	139	148	174	174	156	139	90	58	97
29	148	108	110	131	-------	192	165	131	91	148	52	123
30	156	88	110	110	-------	202	131	148	183	148	58	111
31	192	-------	118	90	-------	156	-------	156	-------	6	108	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	192	139	159	0.935	1.08
November	296	58	162	.953	1.06
December	139	64	123	.724	.83
January	165	90	125	.735	.85
February	242	89	131	.771	.80
March	242	111	161	.947	1.09
April	390	110	205	1.21	1.35
May	296	118	182	1.07	1.23
June	342	91	160	.941	1.05
July	263	59	136	.800	.92
August	202	43	88.2	.519	.60
September	131	94	111	.653	.73
The year	390	43	145	.853	11.59

EMBARRASS RIVER NEAR EMBARRASS, WIS.

LOCATION.—Chain gage 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, 1930.
EXTREMES.—Maximum discharge during year, 835 second-feet Apr. 19–21 (gage height, 4.5 feet); minimum, 50 second-feet Aug. 25 (gage height, 2.50 feet). 1919–1930: Maximum discharge, 6,760 second-feet Apr. 10, 1922 (gage height, 11.5 feet); minimum, 30 second-feet Feb. 2, 3, 1926.
REMARKS.—Records excellent except those for period of ice effect, Nov. 22 to Mar. 12, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	165	364	165	145	110	594	221	267	214	131	113	64
2	136	385	156	123	110	569	249	364	207	105	103	64
3	168	385	136	128	128	344	267	496	224	153	85	64
4	131	324	142	108	132	249	344	544	249	200	85	67
5	113	267	148	89	103	231	385	450	286	231	87	75
6	150	231	139	103	115	207	385	406	385	231	79	67
7	148	214	133	105	159	187	450	364	450	217	71	62
8	162	214	118	108	131	191	406	364	496	231	79	67
9	156	194	118	108	165	175	385	344	428	224	81	87
0	126	224	115	98	115	207	428	364	324	207	73	69
11	131	249	123	115	156	221	450	364	305	181	79	71
12	168	231	126	101	165	267	406	344	324	145	73	75
13	131	249	187	105	128	305	428	286	305	165	71	79
14	178	286	118	92	118	305	406	305	406	123	75	83
15	214	267	101	92	131	305	364	305	672	101	64	94
16	145	249	103	103	131	305	385	286	672	89	62	101
17	73	231	110	94	131	520	385	249	594	96	62	89
18	113	224	110	118	131	620	646	249	496	94	57	101
19	207	231	96	98	150	569	835	224	364	96	65	85
20	197	231	145	105	207	450	835	214	249	94	67	89
21	175	249	103	159	221	428	835	211	214	89	67	83
22	128	231	96	105	344	305	646	191	204	89	62	81
23	165	231	85	87	520	231	473	324	200	92	65	94
24	136	168	110	73	569	221	406	385	197	94	65	83
25	171	159	110	94	725	224	344	385	162	96	55	87
26	184	153	110	94	672	221	324	344	162	133	71	113
27	165	150	101	159	620	224	305	324	178	108	69	85
28	178	165	131	142	569	221	286	305	101	96	81	85
29	168	231	131	110	-------	231	267	286	120	94	85	79
30	286	191	142	105	-------	224	286	267	171	87	85	87
31	344	-------	142	98	-------	217	-------	249	-------	96	64	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	344	73	165	0.418	0.48
November	385	150	239	.605	.68
December	187	85	124	.314	.36
January	159	73	109	.276	.32
February	725	103	248	.628	.65
March	620	175	309	.782	.90
April	835	221	428	1.08	1.20
May	544	191	325	.823	.95
June	672	101	312	.790	.88
July	231	87	135	.342	.39
August	113	55	74.2	.188	.22
September	113	62	81.0	.205	.23
The year	835	55	211	.534	7.26

LITTLE WOLF RIVER AT ROYALTON, WIS.

LOCATION.—Staff gage in sec. 1, T. 22 N., R. 13 E., at Royalton.
DRAINAGE AREA.—485 square miles.
RECORDS AVAILABLE.—January, 1914, to September, 1930.
EXTREMES.—Maximum discnarge during year, 1,500 second-feet Feb. 23 (gage height, 4.4 feet); minimum (estimated), 95 second-feet Jan. 7.
1914–1930: Maximum discharge, 5,780 second-feet Apr. 10, 11, 1922 (gage height, 6.92 feet); minimum, that of Jan. 7, 1930.
REMARKS.—Records good except those for period of ice effect, Nov. 25 to Mar. 13, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	314	358	255	185	135	560	456	670	314	456	218	160
2	314	358	200	200	135	585	456	795	314	336	228	147
3	314	336	255	170	145	615	456	587	294	314	195	147
4	314	314	235	160	125	560	456	560	314	294	201	147
5	314	314	255	125	135	405	507	587	314	336	178	160
6	358	314	255	120	145	335	507	614	314	314	172	152
7	314	314	235	95	135	200	670	587	358	314	167	147
8	358	358	255	120	135	185	642	560	336	314	160	147
9	273	314	275	120	135	185	560	560	456	314	160	160
10	294	314	315	145	125	185	560	534	507	273	152	167
11	273	294	275	120	135	235	560	560	507	254	160	167
12	273	273	295	120	145	315	560	560	456	235	152	152
13	273	314	315	145	135	455	534	560	534	235	147	167
14	314	336	255	135	120	560	560	507	560	235	152	167
15	314	406	235	135	125	587	587	482	587	186	147	160
16	314	358	200	145	170	670	587	456	614	195	147	167
17	273	358	185	125	275	700	587	406	560	172	152	160
18	314	358	160	120	480	700	795	336	482	167	137	152
19	336	358	170	125	560	670	1,010	314	431	160	143	167
20	314	358	185	135	615	560	1,010	336	431	167	143	152
21	336	358	170	125	795	560	972	336	406	186	147	160
22	314	358	185	120	970	534	935	431	358	178	147	147
23	336	406	200	110	1,500	358	730	670	358	195	147	152
24	314	406	185	120	1,090	358	730	795	382	208	160	152
25	314	360	235	125	795	431	642	730	336	218	152	167
26	314	275	220	145	830	431	560	560	314	228	147	172
27	314	255	200	160	1,050	406	614	456	314	218	152	160
28	294	295	185	145	640	406	560	406	314	235	147	147
29	314	275	185	135	-------	431	587	358	358	208	160	152
30	314	295	185	145	-------	358	670	336	507	208	152	152
31	314	-------	235	145	-------	406	-------	314	-------	218	147	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	358	273	311	0.641	0.74
November	406	255	333	.687	.77
December	315	160	226	.466	.54
January	200	95	136	.280	.32
February	1,500	120	421	.868	.90
March	700	185	450	.928	1.07
April	1,010	456	635	1.31	1.46
May	795	314	515	1.06	1.22
June	614	294	411	.847	.94
July	456	160	244	.503	.58
August	228	137	160	.330	.38
September	172	147	157	.324	.36
The year	1,500	95	332	.685	9.28

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, 1930; June, 1916, to October, 1917, at station near Weyauwega, 1 mile below present site.

EXTREMES.—Maximum discharge during year (estimated), 1,090 second-feet Mar. 3; minimum (estimated), 120 second-feet Dec. 19.

1917–1930: Maximum discharge, 2,600 second-feet Mar. 17, 1919 (gage height, 5.6 feet); minimum (estimated), 35 second-feet Jan. 22, 28, 1926.

REMARKS.—Records fair except those for period of ice effect, Nov. 21 to Feb. 24, which are poor.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	252	280	195	185	205	325	280	280	288	310	238	186
2	215	280	205	180	205	708	295	420	288	238	215	238
3	226	295	225	160	215	1,090	295	295	265	215	205	238
4	238	238	225	145	205	918	280	238	252	226	238	186
5	238	265	225	150	250	325	295	252	252	226	215	186
6	265	265	215	160	240	265	280	325	265	215	215	186
7	252	265	215	165	205	310	310	295	310	226	226	178
8	265	252	205	130	250	325	288	295	252	238	178	186
9	252	265	185	160	250	252	265	252	265	252	238	158
10	252	252	225	170	250	265	265	295	256	252	226	226
11	252	252	205	205	225	265	295	280	288	205	195	226
12	205	280	195	185	240	265	265	265	215	238	178	205
13	340	265	240	195	225	280	252	226	280	205	226	215
14	310	265	240	205	215	310	238	280	356	205	226	164
15	265	252	220	185	205	295	252	252	325	252	226	205
16	265	252	195	185	195	356	252	238	265	215	195	238
17	265	238	240	180	225	404	280	265	325	186	178	226
18	205	252	165	170	180	356	388	238	265	186	226	171
19	280	265	120	240	215	325	420	265	238	226	215	205
20	238	252	180	195	240	295	325	265	25[illegible]	186	226	265
21	226	240	180	185	525	265	356	265	265	178	186	238
22	226	225	185	195	675	265	295	226	265	252	215	195
23	280	215	170	195	710	272	280	388	372	238	205	226
24	265	205	180	185	750	280	238	340	310	238	215	215
25	252	195	180	180	834	295	252	325	310	238	226	205
26	265	185	185	180	356	252	238	310	215	248	205	252
27	252	185	185	180	388	280	238	295	215	260	215	238
28	238	180	225	195	325	280	310	280	265	270	215	171
29	265	180	185	170	-------	265	238	295	215	280	226	158
30	252	185	205	170	-------	295	238	280	280	252	215	164
31	252	-------	240	265	-------	280	-------	252	-------	238	178	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	340	205	253	0.830	0.96
November	295	180	241	.790	.88
December	240	120	201	.659	.76
January	265	130	182	.597	.69
February	834	180	322	1.06	1.10
March	1,090	252	354	1.16	1.34
April	420	238	283	.928	1.04
May	420	226	283	.928	1.07
June	372	205	266	.872	.97
July	310	178	232	.761	.88
August	238	178	212	.695	.80
September	265	158	205	.672	.75
The year	1,090	120	252	.826	11.24

MILWAUKEE RIVER NEAR MILWAUKEE, WIS.

LOCATION.—Chain gage in sec. 5, T. 7 N., R. 22 E., at Port Washington highway bridge near the north limits of Milwaukee.

DRAINAGE AREA.—661 square miles.

RECORDS AVAILABLE.—April, 1914, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,970 second-feet Feb. 26 (gage height, 3.7 feet); minimum, 27 second-feet Aug. 10 (gage height, 0.57 foot). 1914–1930: Maximum discharge, 15,100 second-feet Mar. 20, 1918 (gage height, 9.00 feet); minimum (estimated), 25 second-feet Jan. 16, 1929.

REMARKS.—Records good except those for period of ice effect, Jan. 2 to Feb. 18, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	254	105	254	110	2,380	608	945	200	52	110	42
2	105	267	340	195	110	1,420	1,010	1,210	168	85	62	45
3	105	254	420	110	130	830	1,010	2,380	200	85	62	42
4	95	227	124	100	130	773	945	945	168	85	42	45
5	100	254	80	100	110	1,140	1,070	1,010	168	124	62	105
6	95	267	110	75	130	715	1,070	773	168	110	85	110
7	95	146	420	110	110	510	888	588	168	124	105	45
8	105	146	267	110	130	456	694	510	227	124	36	42
9	95	95	254	110	145	372	510	510	227	110	42	80
10	85	110	139	110	145	372	456	492	254	105	27	59
11	95	227	146	100	130	340	372	340	227	105	30	55
12	105	189	85	100	130	372	404	267	146	52	85	59
13	100	254	62	100	175	340	372	227	146	48	71	55
14	146	267	124	110	235	372	372	325	110	80	71	59
15	100	254	139	110	235	372	404	325	85	71	55	36
16	95	200	139	100	380	404	510	588	139	62	67	45
17	95	200	124	130	420	420	1,210	372	146	36	55	42
18	105	189	420	100	265	372	1,210	456	139	59	62	36
19	105	168	549	85	1,580	420	945	372	146	62	80	42
20	105	146	200	60	1,500	404	945	296	110	42	80	36
21	380	168	189	75	1,500	372	830	227	85	45	139	39
22	296	200	200	100	2,200	227	549	168	85	30	110	52
23	296	227	267	85	2,380	227	510	168	105	28	80	42
24	267	168	420	100	2,200	178	510	227	80	168	110	36
25	267	189	549	110	2,020	227	372	456	62	110	42	36
26	254	124	146	100	3,970	178	296	420	62	110	42	42
27	227	110	267	100	3,560	200	296	296	85	59	39	36
28	267	588	267	85	2,380	325	296	267	80	52	42	36
29	296	124	340	100	-------	296	227	254	85	124	42	30
30	227	105	254	85	-------	296	227	227	85	110	39	45
31	227	-------	267	110	-------	296	-------	254	-------	124	110	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	380	85	162	0.245	0.28
November	588	95	204	.309	.34
December	549	62	239	.362	.42
January	254	60	107	.162	.19
February	3,970	110	947	1.43	1.49
March	2,380	178	503	761	.88
April	1,210	227	637	.964	1.08
May	2,380	168	513	.776	.89
June	254	62	139	.210	.23
July	168	28	83.3	.126	.15
August	139	27	67.2	.102	.12
September	110	30	49.1	.074	.08
The year	3,970	27	299	.452	6.15

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, 1930.

EXTREMES.—Maximum discharge during year, 1,440 second-feet Apr. 1 (gage height, 6.84 feet); minimum, 9.0 second-feet Aug. 4 (gage height, 2.64 feet).

1916–1930: Maximum discharge, 3,750 second-feet Mar. 18, 1919 (gage height, 10.28 feet); minimum, that of Aug. 4, 1930.

Maximum stage known, 13.4 feet Mar. 6, 1908.

REMARKS.—Records good except those for low water, for periods of ice effect, Dec. 18–28, Jan. 10 to Feb. 9, and those estimated, which are poor. Most of flow from upper 330 square miles of drainage area diverted to Lake Michigan above gage. Gage-height records furnished by Sanitary District of Chicago.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	62	39	212		422	1,440	132	33	17	11	12
2	33	56	36	540		358	1,080	174	31	16	12	84
3	33	45	36	575		296	690	138	65	16	10	162
4	36	38	36	472		238	540	109	31	17	10	112
5	33	34	42	406	e 100	212	422	88	26	26	12	63
6	27	33	45	439		186	342	84	39	23	11	46
7	27	33	44	895		174	296	73	65	16	12	28
8	27	33	40	770		150	238	67	56	18	13	31
9	27	33	40	439		132	174	63	44	20	12	28
10	27	97	38		252	123	150	55	36	20	26	21
11	36	186	39		311	123	123	45	33	19	14	21
12	45	162	44		374	105	105	73	38	17	12	21
13	40	141	51		650	94	86	65	33	21	11	21
14	33	145	53		472	94	90	53	27	21	12	21
15	33	e 160	51		225	105	118	48	23	21	12	23
16	31	e 105	48		296	101	810	45	21	21	27	23
17	33	84	50		238	101	1,080	38	23	21	38	21
18	27	78			186	138	770	51	22	21	32	20
19	27	84			281	174	610	162	23	21	22	20
20	33	74		e 87	505	162	472	225	23	21	18	17
21	48	67			540	145	e 500	162	21	9.5	18	15
22	56	65			472	123	e 600	114	19	11	18	12
23	132	62	e 35		770	92	406	86	20	12	15	15
24	101	51			690	92	311	80	18	12	16	20
25	80	46			1,330	92	252	62	15	12	14	21
26	62	42			940	80	174	46	40	12	13	21
27	56	45			690	84	174	48	29	21	13	21
28	45	48			505	107	162	42	20	14	14	12
29	33	45	94		-------	266	150	45	18	12	15	12
30	40	40	97		-------	472	138	39	17	11	16	12
31	45	-------	118		-------	770	-------	36	-------	11	13	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	132	27	43.2	May	225	36	82.2
November	186	33	73.1	June	65	15	30.3
December	118	-------	46.0	July	26	9.5	17.1
January	895	-------	215	August	38	10	15.9
February	1,330	-------	380	September	162	12	31.9
March	770	80	187				
April	1,440	86	417	The year	1,440	9.5	126

e Estimated.

ST. JOSEPH RIVER AT MOTTVILLE, MICH.

LOCATION.—Float gage in NE. ¼ sec. 6, T. 8 S., R. 12 W., at hydroelectric plant of Michigan Gas & Electric Co. at Mottville, 5 miles below mouth of Fawn River. Zero of gage 759.5 feet above mean sea level.

RECORDS AVAILABLE.—December, 1923, to September, 1929.

EXTREMES.—1923–1929: Maximum discharge, 8,250 second-feet Apr. 2[illegible], 1926 (gage height, 4.4 feet); minimum, 30 second-feet Aug. 4, Sept. 1[illegible] 1927, Sept. 8, 9, 1929.

REMARKS.—Recent information indicates that the stage-discharge relation is affected by operation of Taintor gates. Records of discharge for the year ending Sept. 30, 1930, withheld from publication.

KALAMAZOO RIVER NEAR ALLEGAN, MICH.

LOCATION.—Water-stage recorder in sec. 15, T. 2 N., R. 14 W., at Calkins Bridge, 6 miles northwest of Allegan and 1 mile above Swan Creek. Gage heights refer to mean sea level.

DRAINAGE AREA.—1,540 square miles.

RECORDS AVAILABLE.—April, 1929, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,580 second-feet Jan. 8 (gage height, 603.82 feet); minimum, 157 second-feet July 29 (gage height, 595.30 feet).

1929–30: Maximum discharge, that of Jan. 8, 1930; minimum, that of July 29, 1930.

REMARKS.—Records fair except those for estimated periods, which are poor. Flow regulated by power plant in Allegan. Gage-height record furnished by city of Allegan.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Jan.	May	June	July	Aug.	Sept.
1	1,020	755			905		462	478
2	871	755			1,060		358	519
3	804	685			865		401	475
4	819	685			905		399	574
5	958	755	2,280		985		512	468
6	842	865	2,440		1,020		473	[a] 525
7	688	985	2,990		807		511	
8	616	755	3,520		755		504	552
9	584	1,060			844		360	510
10	771	945			905		435	543
11	708	790			970	[a] 600	480	618
12	728	790			755		553	642
13	697	905			755		537	557
14	850	720			685		587	334
15	759	790			601		527	505
16	862	720			865		424	587
17	790	825			703		409	612
18	781	865			796		419	587
19	790	905			734		448	501
20	685	825			728		523	478
21	685	945			757		528	329
22	790	945			905	930	554	500
23	825	[a] 700			864	614	500	483
24	448				905	638	477	489
25	358				709	356	442	490
26	379	1,100			720	183	492	401
27	424	1,060		[a] 1,400	905	183	443	[a] 475
28	557			1,360	868	165	441	
29	650	[a] 850		1,230	685	165	479	565
30	685			1,280	[a] 650	389	502	587
31	755			1,180		684	377	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,020	358	715	0.464	0.53
November			836	.543	.61
January 5–8	3,520	2,280	2,810	1.82	.27
May 27–31		1,180	1,290	.838	.16
June	1,060	601	820	.532	.59
July		165	545	.354	.41
August	587	358	470	.305	.35
September	642	329	516	.335	.37

[a] Estimated.

NOTE.—No record for months omitted and for days for which no discharge is shown.

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, 1930.
COOPERATION.—Daily-discharge record furnished by G. S. Williams, consulting engineer, Ann Arbor, Mich.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,020	1,980	787	804	897	7,620	2,400	1,640	1,240	730	737	566
2	2,100	1,740	804	866	1,520	6,650	3,480	2,480	930	700	700	566
3	2,060	1,980	838	928	1,600	5,580	3,760	2,840	930	730	649	592
4	1,940	1,980	1,000	967	1,740	3,520	4,950	2,570	930	760	627	620
5	1,740	1,740	1,450	967	1,820	3,570	5,060	2,270	930	760	649	646
6	1,600	1,600	1,410	750	1,900	3,150	4,250	2,100	1,240	730	649	675
7	1,240	1,410	1,450	928	1,860	3,380	3,760	1,980	1,200	730	649	700
8	930	1,240	1,300	1,390	1,060	3,760	3,960	1,940	1,110	760	649	730
9	870	1,240	1,170	2,200	750	3,480	3,280	1,900	1,050	730	649	700
10	815	1,240	1,200	1,760	700	3,480	2,480	1,600	930	700	649	675
11	845	1,270	1,080	1,520	700	3,620	2,020	1,480	620	700	649	675
12	845	1,270	1,300	1,520	681	3,570	1,980	1,240	870	675	675	646
13	870	1,240	1,270	1,390	700	3,760	1,980	1,410	900	700	675	675
14	870	1,240	1,110	2,610	1,110	3,480	1,670	1,670	900	730	649	675
15	870	1,200	1,080	2,660	1,620	3,100	1,860	2,230	870	730	675	700
16	900	1,170	1,020	2,360	1,690	2,400	2,480	1,980	845	700	649	730
17	900	1,110	990	2,400	1,620	1,980	2,700	1,600	900	646	620	730
18	870	1,080	1,080	1,520	2,740	2,520	4,450	1,450	870	620	627	700
19	845	1,020	1,760	1,460	1,900	3,150	4,850	1,240	900	620	627	700
20	845	1,020	1,800	1,360	2,740	2,480	4,250	1,200	870	592	649	675
21	930	990	1,760	1,280	6,800	2,230	3,570	1,240	815	592	627	675
22	1,980	960	1,730	1,300	8,950	2,020	3,280	1,240	870	620	627	675
23	3,150	930	1,520	1,300	10,800	1,980	2,920	1,240	815	620	592	646
24	3,280	960	1,390	1,320	11,800	1,860	2,480	1,270	815	620	592	760
25	3,150	930	1,300	1,280	10,200	1,740	2,400	1,240	786	592	549	900
26	1,980	900	1,130	1,150	13,600	1,670	2,190	1,270	760	592	549	815
27	1,600	870	1,060	1,020	16,400	2,480	1,780	1,300	786	620	566	760
28	1,900	845	910	1,040	8,950	3,200	1,520	1,380	815	620	592	930
29	1,980	910	866	910	-------	3,330	1,560	1,480	786	646	566	1,020
30	2,230	750	858	948	-------	1,780	1,520	1,600	760	646	566	990
31	2,400	-------	821	910	-------	1,740	-------	1,600	-------	646	540	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,280	815	1,570	0.621	0.72
November	1,980	750	1,230	.486	.54
December	1,800	787	1,200	.474	.55
January	2,660	750	1,380	.545	.63
February	16,400	681	4,170	1.65	1.72
March	7,620	1,670	3,170	1.25	1.44
April	5,060	1,520	2,960	1.17	1.30
May	2,840	1,200	1,670	.660	.76
June	1,240	620	901	.356	.40
July	760	592	673	.266	.31
August	730	540	625	.247	.28
September	1,020	566	718	.284	.32
The year	16,400	540	1,670	.660	8.97

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, 1930.
REMARKS.—Flow computed from records of operation of power plant, flow through undersluice during floods, and depth of flow over dam. Daily discharge record furnished by G. S. Williams, consulting engineer, Ann Arbor, Mich.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	116	452	230	679	540	1,620	695	745	378	175	85	86
2	113	398	284	962	554	1,560	721	770	341	185	84	64
3	121	428	251	988	532	1,370	651	726	293	166	77	79
4	119	350	289	899	572	1,260	658	670	293	178	86	86
5	121	369	228	838	504	1,180	646	673	293	165	66	74
6	110	303	263	862	457	1,110	619	663	290	161	76	72
7	118	316	260	1,270	539	1,080	632	562	293	164	67	76
8	115	307	238	1,610	512	950	613	588	295	149	72	79
9	125	292	265	1,470	516	937	579	534	303	172	68	66
10	104	326	251	1,080	476	894	583	511	191	112	56	79
11	108	305	253	1,060	480	874	527	483	290	148	37	74
12	131	455	363	1,130	582	791	496	452	290	127	65	80
13	112	413	399	1,200	710	747	511	410	195	131	65	76
14	125	484	533	1,400	724	746	468	368	184	101	60	102
15	124	447	509	1,800	644	717	484	369	161	118	59	71
16	136	422	536	1,700	499	653	642	362	192	128	60	108
17	119	400	663	1,480	586	720	868	302	174	94	73	73
18	118	446	572	1,260	611	667	1,390	363	293	110	59	83
19	121	528	430	1,080	866	663	1,340	439	293	104	73	122
20	134	491	378	1,110	1,320	670	1,200	447	293	110	53	50
21	160	440	386	1,060	1,500	652	1,140	448	290	96	62	86
22	345	431	418	986	1,490	634	1,080	405	291	113	68	85
23	421	429	461	843	1,590	593	1,080	448	293	108	75	104
24	332	478	523	774	1,710	613	1,080	446	291	101	59	166
25	429	331	507	762	1,650	626	1,020	444	290	95	80	200
26	444	342	570	736	1,820	606	930	444	290	86	66	212
27	523	369	524	731	1,820	594	903	376	291	111	66	190
28	449	318	534	657	1,670	584	867	445	189	91	71	192
29	473	314	516	647	-------	633	799	438	208	96	79	194
30	395	230	525	561	-------	653	757	403	197	84	71	179
31	490	-------	554	607	-------	729	-------	376	-------	91	76	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	523	104	218	0.302	0.35
November	528	230	387	.535	.60
December	663	228	410	.567	.65
January	1,800	561	1,040	1.44	1.66
February	1,820	457	910	1.26	1.31
March	1,620	584	843	1.17	1.35
April	1,390	468	799	1.11	1.24
May	770	302	487	.674	.78
June	378	161	252	.349	.39
July	185	84	125	.173	.20
August	86	37	68.0	.094	.11
September	212	50	107	.148	.17
The year	1,820	37	468	.647	8.81

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, 1930.

EXTREMES.—Maximum discharge during year, 3,280 second-feet Jan. 4 (gage height, 12.3 feet); minimum, 13 second-feet Aug. 13 (gage height, 1.18 feet). 1926–1930: Maximum discharge, 5,210 second-feet Dec. 1, 1927 (gage height, 14.8 feet); minimum, that of Aug. 13, 1930.

REMARKS.—Records good except those for extremely high water and for periods of ice effect, Nov. 30 to Dec. 13, Dec. 22–26, Jan. 21 to Feb. 13, Feb. 16–24, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	320		1,540		1,220	408	244	86	39	14	18
2	59	856		2,370		880	408	274	76	41	15	21
3	38	906		2,890	200	832	304	244	72	39	14	33
4	36	736		3,210		578	274	229	72	38	15	48
5	34	408		2,470		468	244	187	72	38	15	29
			160									
6	35	320		2,330		448	215	173	72	33	16	24
7	35	259		2,470		408	215	159	81	40	16	22
8	30	215		2,710	300	388	215	138	99	42	31	22
9	30	201		3,070		352	201	132	86	41	21	20
10	31	244		2,530		320	173	126	76	32	18	19
11	39	760		2,180		320	173	109	68	32	18	19
12	44	958	200	1,800	600	304	173	109	68	32	15	19
13	49	1,060		1,640		274	152	114	63	30	14	20
14	45	1,170	712	1,830	1,220	244	145	114	63	27	15	20
15	45	1,110	880	2,650	1,220	229	120	114	59	25	15	20
16	49	736	1,010	2,710		215	145	126	59	29	15	18
17	44	578	1,220	2,470		215	512	138	59	30	22	22
18	35	428	1,620	2,090	800	244	1,280	109	59	24	26	20
19	33	448	1,760	1,830		336	1,440	152	138	24	27	18
20	33	448	1,310	1,410		336	1,170	370	201	25	25	18
21	55	370	1,140			336	880	370	126	20	23	17
22	259	289				304	760	289	90	21	24	16
23	736	259		700	1,000	274	578	244	76	19	23	17
24	1,090	244	800			274	428	201	68	18	20	16
25	1,110	215			2,530	274	336	166	63	19	21	23
26	688	201			2,180	289	289	152	55	18	18	31
27	622	215	666		1,870	289	274	132	50	18	18	33
28	336	215	666		1,600	304	244	114	45	18	16	30
29	259	180	666	300	-------	370	244	120	44	19	16	28
30	215	180	688		-------	428	244	109	44	18	17	25
31	201	-------	984		-------	448	-------	99	-------	14	16	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,110	30	206	0.558	0.64
November	1,170	180	484	1.31	1.46
December	1,760	----------	630	1.71	1.97
January	3,210	----------	1,660	4.50	5.19
February	2,530	----------	819	2.22	2.31
March	1,220	215	394	1.07	1.23
April	1,440	120	408	1.11	1.24
May	370	99	173	.469	.54
June	201	44	76.3	.207	.23
July	42	14	27.8	.075	.09
August	31	14	18.7	.051	.06
September	48	16	22.9	.062	.07
The year	3,210	14	408	1.11	15.03

MAUMEE RIVER AT ANTWERP, OHIO

LOCATION.—Water-stage recorder just below highway bridge 1 mile north of Antwerp, Paulding County, and 7 miles downstream from State boundary.
DRAINAGE AREA.—2,050 square miles.
RECORDS AVAILABLE.—September, 1921, to September, 1930.
EXTREMES.—Maximum discharge during year, 22,000 second-feet Jan. 16 (gage height, 19.4 feet); minimum, 61 second-feet Aug. 2 (gage height, 0.62 foot). 1921–1930: Maximum discharge, that of Jan. 16, 1930; minimum, 61 second-feet Sept. 1, 1929, Aug. 2, 1930 (gage height, 0.62 foot).
REMARKS.—Records good except those estimated, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	200	1,000		4,310		6,380	2,170	950	365	243	112	151
2	187	2,890		12,000		5,400	1,960	950	348	243	94	141
3	187	4,910	a 400	15,300	a 900	4,370	1,750	900	332	228	103	146
4	175	5,200		15,300		3,220	1,510	850	302	187	103	153
5	187	4,730		13,700		2,450	1,020	850	287	128	103	132
6	200	3,920		11,700		1,960	1,330	800	302	228	105	132
7	187	3,140		12,100		1,690	1,000	700	348	175	141	123
8	245	2,310	a 500	14,800	a 1,200	1,510	950	655	348	114	86	187
9	244	1,690		16,900		1,390	850	610	332	175	134	175
10	175	1,330		16,600		1,330	800	565	317	79	141	175
11	100	1,970		a 13,000		1,330	750	521	332	134	187	137
12	152	3,140	a 700	a 12,000		1,270	550	521	332	146	187	125
13	214	3,470		13,700	a 1,600	1,270	221	500	317	144	158	116
14	200	4,100	4,840	16,200		1,100	610	478	302	139	151	94
15	187	3,830	5,830	20,900		1,000	655	438	272	134	144	116
16	187	3,470	5,400	21,800		900	1,160	438	272	128	141	153
17	187	3,060	6,630		a 2,500	850	4,030	419	302	125	141	139
18	187	2,590	10,700			1,090	8,090	400	317	118	149	118
19	175	2,590		a 12,000		2,380	2,030	8,220	500	400	130	132	114
20	122	2,740				2,590	2,100	6,050	565	655	114	137	107
21	200	2,380				3,380	1,750	4,190	565	700	109	149	107
22	280	1,960				3,830	1,510	3,740	700	610	163	146	107
23	2,360	1,570	a 5,000		a 2,000	4,550	1,390	3,220	900	521	200	151	153
24	4,910	1,270				5,940	1,270	2,380	900	438	146	139	200
25	4,910	1,050				6,710	1,150	1,420	700	382	130	156	228
26	4,010	950				7,960	1,880	1,510	565	317	116	134	214
27	3,140	900	2,380			8,610	2,520	1,270	521	302	137	156	228
28	2,520	800	2,310			7,720	2,170	1,100	478	272	a 137	121	287
29	1,960	a 500	2,310	a 1,000			2,170	1,050	438	258	a 137	121	200
30	1,390	a 500	2,240				2,310	1,000	419	228	137	175	175
31	1,050		2,520				2,310		382		118	144	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,910	100	982	0.479	0.55
November	5,200	500	2,470	1.20	1.34
December	10,700		2,960	1.44	1.66
January	21,800		9,490	4.63	5.34
February	8,610		2,850	1.39	1.45
March	6,380	850	2,030	.990	1.14
April	8,220	221	2,150	1.05	1.17
May	950	382	619	.302	.35
June	700	228	360	.176	.20
July	243	79	150	.073	.08
August	187	86	137	.067	.08
September	287	94	154	.075	.08
The year	21,800	79	2,030	.990	13.44

a 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, Defiance County. Zero of gage is 659.12 feet above mean sea level.

DRAINAGE AREA.—5,530 square miles.

RECORDS AVAILABLE.—November, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, about 87,000 second-feet Jan. 16 (gage height, 12.9 feet); minimum, 58 second-feet Aug. 16 (gage height, 1.41 feet).

1924–1930: Maximum and minimum discharges occurred during 1930.

REMARKS.—Records excellent except those for extremely high and low water and for estimated periods, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	370	4,130	545	9,080	1,910	15,200	6,040	2,230	569		126	153
2	290	12,600	890	30,600	1,670	11,200	5,360	2,000	569		118	139
3	234	14,500	980	43,100	2,070	8,880	4,700	1,910	569	300	118	126
4	220	20,500	980	43,100	2,230	6,280	3,480	1,330	450		126	126
5	206	14,500	868	33,200	2,740	5,140	2,920	1,640	413		118	153
6	220	10,600	890	22,100	3,480	3,880	2,070	1,500	589		166	153
7	290	7,270	1,110	22,100	3,680	3,290	2,400	1,330	430		139	153
8	338	5,140	2,230	32,300	3,480	3,100	2,070	1,150	651		358	139
9	248	3,480	2,070	44,000	2,520	3,100	1,910	1,100	802		233	166
10	322	2,740	3,480	46,700	2,920	3,880	1,730	912	629	200	153	166
11	276	5,140	3,480	40,400	2,920	3,100	1,360	868	629		166	180
12	234	8,330	2,920	33,200	3,100	2,570	1,120	1,100	609		166	139
13	164	10,000	4,360	32,300	5,580	2,400	1,100	802	490	20[illegible]	206	139
14	338	9,450	13,900	48,500	8,330	2,070	1,050	737	396	19[illegible]	166	118
15	370	8,880	21,300	79,000	16,000	1,910	1,200	823	490	19[illegible]	139	118
16	276	8,330	18,900	81,000	7,790	1,530	5,420	715	569	180	126	118
17	248	7,790	19,700	59,200	6,040	1,500	11,600	549	510	180	166	118
18	262	6,770	27,800	41,300	5,360	2,390	26,100	737	430	180		139
19	262	6,770	32,300	26,900	5,140	4,700	23,700	890	651	180		118
20	262	7,270	29,600	19,700	5,790	5,810	16,600	845	912	180		103
21	354	7,270	22,100	11,900	8,330	5,360	12,500	1,050	823	180		111
22	1,690	5,810	14,500	6,770	8,880	4,280	11,200	1,070	912	20[illegible]	150	126
23	5,750	4,280	10,600	4,080	11,900	2,610	10,000	1,070	912	20[illegible]		139
24	16,400	2,740	7,790	3,290	14,500	2,880	7,270	1,300	912	247		206
25	20,500	2,400	6,280	2,570	17,400	4,490	4,920	1,230	569	233		490
26	16,600	2,230	5,810	2,570	20,500	9,780	3,290	1,120	470	19[illegible]		629
27	11,900	2,070	4,700	2,570	23,700	11,900	2,740	845	470	19[illegible]	126	980
28	14,500	1,330	4,490	2,570	18,900	8,880	2,400	823	470	180	139	508
29	5,360	1,610	3,680	2,400	-------	8,880	2,070	672	450	180	118	294
30	3,680	1,280	4,280	2,230	-------	8,330	1,910	609	450	193	111	362
31	2,230	-------	4,920	2,070	-------	7,270	-------	845	-------	180	153	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	20,500	164	3,370	May	2,400	549	1,100
November	20,500	1,280	6,840	June	912	396	593
December	32,300	545	8,950	July	-------	139	211
January	81,000	2,070	26,800	August	358	111	154
February	23,700	1,670	7,530	September	980	103	220
March	15,200	1,500	5,370				
April	26,100	1,050	6,010	The year	81,000	103	5,600

MAUMEE RIVER AT WATERVILLE, OHIO

LOCATION.—Water-stage recorder installed July 31, 1930, at highway bridge at Waterville, Lucas County, 3 miles below mouth of Tontogany Creek. Prior to that date chain gage at same site and datum was used.

DRAINAGE AREA.—6,310 square miles.

RECORDS AVAILABLE.—November, 1898, to December, 1901; August, 1921, to September, 1930.

EXTREMES.—Maximum discharge during year, about 72,600 second-feet Jan. 16 (gage height, 13.6 feet); minimum, 63 second-feet July 15 (gage height, 1.50 feet).

1921–1930: Maximum and minimum discharges occurred in 1930.

REMARKS.—Records good except those for extremely high and low stages and for periods of ice effect, Dec. 1–7, Jan. 23 to Feb. 20, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	315	2,800		11,700		17,600	8,430	2,460	995	490	122	138
2	399	16,400		31,800		13,200	6,730	2,800	978	360	150	182
3	315	26,800		47,300	2,700	10,700	5,940	2,230	944	280	155	175
4	215	26,800	1,100	47,300		7,560	4,830	2,230	910	280	138	145
5	198	20,000		40,900		6,730	3,580	1,380	830	300	110	105
6	172	14,200		28,900		4,830	3,050	1,680	750	300	122	130
7	99	10,200		25,400		4,020	3,180	1,680	578	226	145	99
8	70	7,140	2,440	37,100	4,000	3,720	2,340	1,480	380	160	176	115
9	180	4,170	4,020	49,700		3,720	2,230	1,380	262	262	350	122
10	215	5,190	4,020	51,400		3,580	2,230	1,280	280	244	248	134
11	378	6,330	4,490	44,900		3,870	2,120	1,260	750	208	190	166
12	295	9,780	4,490	38,700		3,440	1,380	1,180	846	190	145	190
13	235	13,200	4,490	37,100	7,500	2,800	1,380	1,220	750	190	138	175
14	70	12,200	11,200	45,700		2,570	1,280	1,160	512	190	204	182
15	172	11,700	22,600	69,900		2,570	1,200	1,080	534	63	217	175
16	399	10,700	25,400	72,600		2,340	1,680	1,010	556	105	182	152
17	128	10,200	20,000	63,600		1,790	13,200	961	690	115	217	240
18	163	9,320	34,100	41,700	7,500	1,480	32,600	910	750	160	182	171
19	198	11,700	37,100	26,100		5,560	30,400	995	534	168	152	105
20	215	11,200	34,100	18,800		6,730	22,600	1,030	720	175	138	130
21	315	10,200	25,400	13,700	9,320	6,730	16,400	1,010	1,050	190	122	122
22	628	7,990	16,400	8,430	9,320	7,140	15,300	1,050	978	244	152	145
23	8,870	5,940	13,200		11,700	4,020	13,200	1,160	1,080	160	260	122
24	18,800	5,190	10,200	4,000	16,400	2,570	9,780	1,240	1,200	115	250	155
25	25,400	2,680	5,940		19,400	5,940	7,140	1,380	910	190	194	310
26	21,300	3,050	4,490		22,600	10,200	4,490	1,380	578	190	145	597
27	17,000	3,180	5,940		24,700	13,700	3,580	1,380	424	244	145	774
28	7,560	2,800	5,940		22,600	13,200	2,680	1,280	244	190	152	881
29	7,990	1,330	5,940	3,000		12,200	3,050	1,280	490	130	152	294
30	5,190	1,630	6,730			10,200	2,570	1,120	446	190	145	290
31	3,580		6,730			9,320		1,010		115	115	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	25,400	70	3,910	May	2,800	910	1,380
November	26,800	1,330	9,470	June	1,200	244	698
December	37,100		10,400	July	490	63	207
January	72,600		28,500	August	350	110	171
February			8,730	September	881	99	224
March	17,600	1,480	6,580				
April	32,600	1,200	7,620	The year	72,600	63	6,490

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, 1930.
EXTREMES.—Maximum discharge during year, about 4,260 second-feet Jan. 15 (gage height, 16.65 feet); minimum, 11 second-feet Aug. 1, 2.
1925–1930: Maximum and minimum discharges occurred in 1930.
REMARKS.—Records good except those for periods of high water and for period of ice effect, Jan. 22 to Feb. 13, which are fair. Water flows from Lake St. Marys, at 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, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	193	88	1,000		1,320	427	84	17	30	11	22
2	33	1,320	76	1,900		975	321	76	16	26	11	22
3	36	1,660	76	2,820	170	655	241	68	15	24	20	19
4	30	1,780	76	2,900		395	205	61	15	22	22	23
5	32	1,540	72	2,180		241	163	54	13	22	22	26
6	32	1,220	76	1,510		173	145	47	16	22	25	25
7	35	795	92	1,380		163	136	46	19	23	28	23
8	35	443	173	2,020	250	163	118	44	26	22	29	23
9	34	265	217	2,820		229	109	39	31	20	29	22
10	36	163	293	3,150		307	96	38	26	20	28	22
11	33	427	349	2,740		307	80	35	20	19	25	21
12	32	475	321	2,580	280	241	72	33	18	18	26	20
13	33	547	795	3,050		173	68	30	14	18	24	21
14	35	493	1,420	3,850	547	145	68	29	14	19	24	21
15	35	493	1,450	4,200	511	118	64	28	14	18	23	23
16	37	529	1,840	3,500	715	92	68	28	34	15	24	24
17	36	529	2,020	2,420	637	88	88	26	44	18	23	23
18	33	529	2,420	1,720	427	145	363	27	68	20	22	22
19	31	443	2,540	1,450	307	183	411	27	64	20	20	23
20	32	321	2,300	1,180	253	293	253	27	58	17	20	24
21	47	241	2,220	975	279	321	183	26	64	16	20	24
22	293	183	1,940		307	253	205	27	47	19	21	23
23	695	154	1,400	400	411	173	183	26	35	25	20	22
24	655	100	1,100		475	145	145	24	27	23	17	24
25	619	100	835		775	241	109	23	24	20	19	27
26	583	109	601		1,150	583	88	22	25	17	20	31
27	443	109	411		1,350	601	76	22	64	16	20	30
28	293	109	321	200	1,450	655	68	20	64	16	22	36
29	163	118	321		-------	655	64	19	42	16	21	34
30	109	92	335		-------	565	68	18	41	16	22	28
31	92	-------	443		-------	511	-------	18	-------	12	21	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	695	28	150	May	84	18	35.2
November	1,780	92	516	June	68	13	32.5
December	2,540	72	859	July	30	12	19.6
January	4,200	-------	1,680	August	29	11	21.9
February	1,450	-------	448	September	36	19	24.3
March	1,320	88	358				
April	427	64	156	The year	4,200	11	360

TIFFIN RIVER NEAR BRUNERSBURG, OHIO

LOCATION.—Water-stage recorder near 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, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year occurred during estimated period; minimum, 10 second-feet Aug. 14, 15 (gage height, 0.81 foot).

1928–1930: Maximum discharge not known; minimum, that of Aug. 14, 15, 1930.

REMARKS.—Records good except those for periods of low water and for estimated periods, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	888	293			2,640	836	407	97	39	14	15
2	45	3,040	309			2,100	726	390	82	36	14	16
3	45	3,080	309	4,000	600	1,520	616	373	72	36	12	16
4	39	2,460	293			1,080	514	325	68	35	12	17
5	30	2,000	248		594	748	424	293	60	35	12	22
6	28	1,580	233		704	638	373	263	68	35	18	20
7	26	962	248		704	572	341	233	68	35	16	18
8	25	594	373	3,000	660	550	309	218	68	34	42	14
9	25	442	496		550	514	293	204	82	36	56	13
10	26	390	478		514	478	263	176	82	36	36	13
11	30	998	407		496	442	233	156	72	34	22	13
12	34	1,300	373		550	407	218	150	64	30	16	13
13	36	1,390	849	6,000	1,390	390	218	144	68	28	13	13
14	42	1,650	1,650		1,830	373	204	131	64	26	11	12
15	42	1,580	1,720			325	190	119	56	25	12	14
16	39	1,520	1,520		1,400	293	596	113	68	25	12	14
17	36	1,330	2,120			293	2,200	119	87	24	14	14
18	34	1,080	3,650	8,000	1,000	380	4,670	119	92	23	15	14
19	31	1,420			973	682	3,920	119	82	22	18	13
20	31	1,650			1,550	770	3,000	131	87	21	30	12
21	35	1,420	3,000		1,760	638	2,820	176	119	20	29	12
22	161	1,050			1,940	532	2,720	218	108	25	22	12
23	1,740	726		2,200	2,680	424	2,100	190	92	25	18	12
24	2,950	572			3,220	373	1,420	163	72	24	17	14
25	2,680	460			4,030	442	902	156	64	22	16	18
26	2,180	407			4,920	550	638	150	56	20	16	19
27	1,830	373			4,360	594	514	137	58	19	15	18
28	1,420	357	1,200	600	3,310	660	442	125	48	18	14	17
29	836	341			------	1,000	424	108	45	17	14	20
30	496	373			------	1,050	424	108	42	16	14	22
31	407	------			------	946	------	108	------	15	14	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,950	25	497	0.649	0.75
November	3,080	341	1,180	1.54	1.72
December	3,650	233	1,410	1.84	2.12
January	------	------	3,860	5.04	5.81
February	4,920	496	1,590	2.08	2.17
March	2,640	293	723	.944	1.09
April	4,670	190	1,080	1.41	1.57
May	407	108	188	.245	.28
June	119	42	73.0	.095	.11
July	39	15	27.0	.035	.04
August	56	11	18.8	.025	.03
September	22	12	15.3	.020	.02
The year	------	11	886	1.16	15.71

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, Putnam County, and 6 miles above mouth of Ottawa River.

DRAINAGE AREA.—333 square miles.

RECORDS AVAILABLE.—August, 1921, to September, 1930.

EXTREMES.—Maximum discharge during year, 7,860 second-feet Jan. 15 (gage height, 16.6 feet); minimum, 14 second-feet July 8, Sept. 22 (gage height, 0.96 foot).

1921–1930: Maximum discharge, that of Jan. 15, 1930; minimum, 12 second-feet Nov. 26, 1923, Aug. 9, 11, 1924 (gage height, 1.10 feet).

REMARKS.—Records good except those for periods of ice effect, Nov. 29 to Dec. 7, Dec. 21–31, Jan. 18 to Feb. 19, which are fair. Diversion into this basin from Lake St. Marys by Miami & Erie Canal above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	192		1,980		485	337	101	31	39	22	19
2	26	2,940		4,330		460	292	80	27	30	23	21
3	26	2,610		4,640	110	192	230	71	30	26	24	18
4	34	1,080	90	3,120		174	220	71	28	29	22	22
5	36	510		960		174	166	85	28	22	24	20
6	29	314		630		150	142	134	60	29	25	29
7	25	220		860		142	134	107	39	18	33	32
8	29	174	292	4,560	90	157	120	96	63	14	34	19
9	36	142	660	5,660		385	120	63	34	15	29	25
10	22	134	720	5,290		271	120	60	31	28	26	24
11	33	960	385	5,290	150	201	101	56	32	32	26	19
12	47	1,050	292	1,600	150	174	90	50	30	30	29	25
13	42	840	1,240	4,720		142	90	36	27	28	26	25
14	22	435	3,310	7,200	950	120	90	31	30	27	24	20
15	32	840	3,700	7,860		101	90	42	30	29	21	24
16	26	720	1,560	4,480		96	120	50	27	27	39	31
17	47	435	1,350	1,050		101	192	47	50	26	34	30
18	27	337	4,190		200	150	435	39	44	24	21	18
19	42	385	4,800	250		660	220	36	76	23	29	17
20	39	360	2,780		210	510	157	53	166	23	23	17
21	28	271	700		337	271	220	44	90	24	29	18
22	113	192	700		314	192	220	50	67	26	34	14
23	1,460	157		150	360	142	201	42	53	27	22	24
24	1,940	150			600	150	142	39	53	29	28	25
25	1,600	127			1,240	1,020	120	39	50	31	18	32
26	810	120	210		1,630	1,740	101	31	36	15	26	30
27	510	113			1,840	1,020	101	36	39	22	22	25
28	271	113			810	720	101	42	42	22	24	96
29	192	90		80		690	96	36	56	22	22	60
30	157	90				600	101	29	47	22	20	50
31	142					410		28		22	18	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	1,940	22	254	May	134	27	55.6
November	2,940	90	537	June	166	27	47.2
December	4,800		942	July	39	14	25.2
January	7,860		2,140	August	39	18	25.7
February	1,840		439	September	96	14	27.6
March	1,740	96	381				
April	435	90	162	The year	7,860	14	422

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, Defiance County, and just below mouth of Beetree Creek.

DRAINAGE AREA.—2,330 square miles.

RECORDS AVAILABLE.—April, 1915, to September, 1930. May to August, 1903, at highway bridge 1¾ miles downstream.

EXTREMES.—Maximum mean daily discharge during year, 38,700 second-feet Jan. 15; minimum, 30 second-feet Oct. 2, 3, Sept. 24, 28, 29.

1915–1930: Maximum mean daily discharge, that of Jan. 15, 1930; minimum, 6 second-feet Oct. 17, 1923.

REMARKS.—Records good except those for extremely low water, which are fair. Daily discharge ascertained from power plant records. Daily discharge values below 500 second-feet corrected for leakage. Record of daily discharge, not corrected for leakage, furnished by Toledo Edison Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	193	1,630	38	5,870	515	4,440	3,050	922	43	131	36	33
2	30	7,540	370	17,500	184	2,910	2,620	1,010	134	40	36	33
3	30	15,000	340	24,000	671	2,130	2,050	653	134	40	36	33
4	31	11,700	292	23,300	651	1,220	1,150	209	43	40	36	33
5	31	6,540	292	13,900	1,150	1,130	1,060	432	100	40	36	32
6	31	4,230	394	8,280	1,370	1,030	769	431	189	40	36	32
7	183	2,660	798	8,900	1,250	858	773	344	262	40	36	32
8	184	1,340	1,290	16,200	1,360	1,130	804	314	285	39	36	32
9	32	1,400	1,480	26,200	507	1,180	773	314	285	39	35	32
10	32	869	2,470	28,300	1,050	2,040	713	253	134	39	35	32
11	32	2,500	2,430	23,000	1,040	1,180	381	164	285	39	35	32
12	32	4,490	2,090	17,200	1,310	946	408	350	174	39	35	32
13	48	4,580	2,730	18,000	2,400	829	404	164	43	39	35	32
14	185	3,510	10,800	31,000	4,930	625	716	164	134	39	35	32
15	185	2,960	15,100	38,700	5,570	648	541	283	43	38	35	31
16	33	3,330	11,800	36,200	3,900	340	2,390	164	268	38	35	31
17	34	3,250	12,000	24,500	2,230	427	3,370	276	147	38	35	31
18	34	2,700	15,000	11,300	1,630	1,480	8,670	134	42	38	34	31
19	34	2,490	19,400	5,240	1,010	2,380	9,000	315	425	60	34	31
20	34	2,820	16,400	3,380	1,270	2,700	5,270	164	405	38	34	31
21	187	2,890	9,790	2,500	2,540	2,570	3,780	315	273	38	34	31
22	1,710	2,470	5,220	1,770	2,540	2,100	3,790	315	42	38	196	31
23	3,150	1,860	3,600	1,290	3,470	340	3,410	164	359	37	34	31
24	9,990	659	2,770	1,040	4,330	1,660	2,580	341	377	37	34	30
25	12,000	921	2,250	821	5,150	2,880	1,600	43	41	37	34	272
26	9,620	888	1,720	849	7,090	8,350	845	285	41	37	34	686
27	5,560	941	2,080	738	9,270	8,220	458	134	222	37	33	935
28	3,510	38	1,980	572	6,230	5,660	701	164	132	37	33	30
29	2,160	891	907	529	-------	4,940	562	43	132	37	33	30
30	1,270	332	2,040	440	-------	4,520	570	43	274	37	33	119
31	511	-------	2,540	352	-------	3,820	-------	480	-------	37	33	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	12,000	30	1,650	May	1,010	43	303
November	15,000	38	3,250	June	435	41	181
December	19,400	38	4,850	July	131	37	42.0
January	38,700	352	12,600	August	196	33	39.9
February	9,270	184	2,660	September	935	30	94.4
March	8,350	340	2,410				
April	9,000	381	2,110	The year	38,700	30	2,530

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, Allen County.

DRAINAGE AREA.—168 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1930.

EXTREMES.—Maximum discharge during year, about 2,800 second-feet Jan. 8 (gage height, 8.5 feet); minimum, 7.4 second-feet Aug. 25, Sept. 5.

1923–1930: Maximum discharge, about 3,100 second-feet Mar. 20, 1927 (gage height, 9.0 feet); minimum, 6.5 second-feet June 2, 1925 (gage height, 0.63 foot).

REMARKS.—Records good except those for extremely high water and for periods of ice effect Nov. 29 to Dec. 7, Dec. 19–26, Jan. 17 to Feb. 7, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	273		1,160		173	53	35	12	12	11	12
2	13	940		1,640		138	164	23	12	12	10	14
3	13	423		1,460		82	121	20	12	12	11	14
4	13	218	30	692	70	85	92	22	12	12	11	11
5	12	118		339		68	67	21	12	12	12	8.8
6	11	75		221		66	56	20	24	12	57	8.8
7	11	54	50	704		72	60	20	15	12	59	
8	11	37	383	2,330	71	198	42	19	13	12	18	
9	11	28	387	2,230	65	201	37	18	13	12	13	15
10	11	89	192	1,420	52	129	32	17	16	12	12	
11	15	554	146	1,080	54	99	31	27	13	12	9.8	
12	14	366	190	1,880	142	82	32	18	12	12	10	
13	12	211	1,150	2,680	655	65	22	16	12	16	10	
14	10	220	1,460	2,560	478	49	27	16	12	16	10	
15	12	400	768	2,110	208	41	24	16	11	12	11	
16	11	286	558	866	106	38	29	17	16	11	10	
17	11	173	1,260		92	41	152	16	13	11	13	
18	11	164	2,230		72	146	121	16	20	11	13	10
19	12	254	1,600	260	67	278	81	21	15	11	10	
20	12	221	600		113	182	56	19	12	11	9.4	
21	45	142	600		201	106	71	15	12	11	9.8	
22	490	92			173	73	106	14	12	32	16	
23	1,600	66		120	211	58	79	16	12	12	13	
24	750	55	140		356	90	53	23	15	11	22	
25	401	46			436	652	44	14	17	11	8.4	
26	232	44			787	690	37	13	15	11	9.4	
27	142	44	121		490	370	33	14	14	15	9.2	35
28	81	45	155	70	243	315	31	17	13	12	9.1	
29	55	30	192		------	430	36	14	12	11	10	9.8
30	39	30	192		------	356	63	13	12	11	9.4	10
31	41	------	441		------	243	------	12	------	11	12	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,600	10	133	0.792	0.91
November	940	28	190	1.13	1.26
December	2,230	------	437	2.60	3.00
January	2,680	------	820	4.88	5.63
February	787	52	199	1.18	1.23
March	690	38	181	1.08	1.25
April	164	22	61.7	.367	.41
May	35	12	18.1	.108	.12
June	24	11	13.7	.082	.09
July	32	11	12.6	.075	.09
August	59	8.4	14.5	.086	.10
September	------	------	13.4	.080	.09
The year	2,680	------	175	1.04	14.18

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, Hancock County.

DRAINAGE AREA.—343 square miles.

RECORDS AVAILABLE.—November, 1923, to September, 1930.

EXTREMES.—Maximum discharge during year, 5,720 second-feet Jan. 14 (gage height, 13.4 feet); minimum, 1.0 second-foot Aug. 14 (gage height, 0.70 foot).

1923–1930: Maximum discharge, 6,320 second-feet, Dec. 1, 1927 (gage height, 14.5 feet); minimum, that of Aug. 14, 1930.

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

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	197	70	2,010	64	346	539	80	19	20	3.9	2.8
2	4.2	209	72	3,500	56	310	619	113	18	16	2.8	2.5
3	4.2	209	58	3,750	78	346	539	62	16	15	2.8	3.2
4	18	191	52	2,200	142	480	499	64	16	13	2.8	3.6
5	11	176	46	948	170	440	480	62	18	11	3.0	4.3
6	9.5	162	49	421	142	383	346	58	27	11	7.3	5.0
7	6.7	142	128	310	110	402	328	56	27	11	3.2	6.8
8	5.7	134	539	4,620	75	460	292	62	38	9.9	3.6	4.6
9	3.3	131	619	5,120	54	460	185	54	29	11	3.2	4.6
10	2.4	147	741	2,850	45	383	131	48	20	10	3.2	4.3
11	3.3	194	906	1,030	118	310	85	39	18	7.8	1.9	5.7
12	5.3	258	1,160	2,150	241	292	105	36	19	7.8	1.4	6.1
13	5.7	383	2,060	5,280	990	225	80	34	20	22	1.9	3.6
14	4.2	700	2,550	5,610	782	156	75	34	15	11	1.2	2.5
15	3.9	948	2,010	5,060	539	87	83	32	13	3.9	1.2	3.0
16	5.3	948	2,060	2,250	364	62	123	32	18	6.1	1.4	4.6
17	6.4	864	2,550	659	209	90	823	32	15	8.9	2.8	3.9
18	6.4	990	4,680	328	197	275	499	45	18	6.8	2.5	3.6
19	5.3	1,200	3,550	258	179	421	310	58	16	6.8	1.9	3.2
20	5.7	990	1,650	225	225	346	197	48	37	6.1	1.9	3.2
21	12	823	1,070	197	364	275	200	39	28	6.1	2.5	3.0
22	156	619	579	173	480	203	275	30	18	9.9	2.5	2.8
23	1,420	480	346	145	659	134	128	29	18	5.4	2.1	3.2
24	2,200	364	209	128	864	182	275	31	56	6.1	1.9	13
25	2,150	241	241	102	1,030	906	100	26	50	6.4	2.1	6.4
26	1,290	145	206	95	990	1,070	83	28	38	6.8	2.5	5.7
27	480	111	162	92	906	948	75	27	126	6.4	2.3	3.0
28	402	109	159	83	539	823	73	25	69	6.8	2.3	3.2
29	383	97	159	78	-------	741	78	25	32	6.4	2.8	3.0
30	328	87	164	75	-------	741	69	22	25	5.7	3.6	3.2
31	241	-------	258	67	-------	539	-------	19	-------	5.0	3.2	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,200	2.4	296	0.862	0.99
November	1,200	87	408	1.19	1.33
December	4,680	46	939	2.74	3.16
January	5,610	67	1,610	4.69	5.41
February	1,030	45	379	1.10	1.14
March	1,070	62	414	1.21	1.40
April	823	69	256	.746	.83
May	113	19	43.5	.127	.15
June	126	13	29.2	.085	.09
July	22	3.9	9.23	.027	.03
August	7.3	1.2	2.64	.008	.01
September	13	2.5	4.25	.012	.01
The year	5,610	1.2	368	1.07	14.55

BLANCHARD RIVER NEAR DUPONT, OHIO

LOCATION.—Water-stage recorder on east line of sec. 13, T. 1 N., R. 5 E., at highway bridge 500 feet above Ohio Valley Electric Railway crossing and 4 miles east of Dupont, Putnam County.

DRAINAGE AREA.—749 square miles.

RECORDS AVAILABLE.—July, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 16,800 second-feet Jan. 15 (gage height, 26.7 feet); minimum, 2.8 second feet Aug. 22, 23 (gage height, 0.52 foot).

1928–1930: Maximum and minimum discharges occurred during 1930.

REMARKS.—Records good except those for estimated periods, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	690			223	1,540	1,360	207	47	53	5.5	4.6
2	22	3,360			223	923	1,000	192	41	38	4.6	5.5
3	25	5,040	a 150	a5,000	239	650	769	170	38	30	4.2	8.0
4	25	3,940			358	495	604	142	34	26	4.2	8.2
5	23	1,930			537	434	474	122	31	22	4.2	7.4
6	22	900	135		604	377	396	111	38	21	4.9	6.4
7	23	558	148		558	358	358	106	79	18	5.1	6.4
8	22	415	408	a6,000	453	377	322	100	75	16	5.7	6.2
9	19	322	872		396	650	304	96	60	14	6.0	5.5
10	18	340	1,120		377	721	255	87	50	13	6.9	6.2
11	17	1,400	923		340	581	223	83	56	12	8.7	7.4
12	18	1,780	673		413	474	207	75	47	11	7.2	8.5
13	19	1,330	1,410	a7,500	1,460	396	192	71	38	11	5.5	8.5
14	19	897	4,060		2,750	304	184	64	33	11	5.1	8.0
15	18	950	5,680	16,400	2,420	255	192	60	30	11	4.9	7.7
16	19	1,360	5,320	14,900	a 1,500	207	336	60	29	10	4.6	8.2
17	17	1,240	4,550	10,200	a 1,000	207	1,170	60	28	12	5.5	9.3
18	15	897	5,820		650	346	2,650	60	116	12	4.6	10
19	15	1,090	a 7,800	a2,000	558	650	1,810	67	97	9.9	3.8	9.3
20	15	1,420	a 7,000		581	745	900	75	56	8.0	3.3	8.5
21	19	1,270			697	650	769	96	41	6.4	2.9	8.2
22	261	871			871	474	950	91	38	6.9	2.9	8.5
23	2,450	581	a1,700	a 500	1,090	340	769	71	44	7.2	2.9	9.0
24	4,620	434			1,360	420	537	64	41	6.7	3.3	9.0
25	5,320	340			1,780	2,020	396	60	60	6.2	4.6	17
26	4,480	287			2,350	3,720	322	56	83	6.2	4.9	18
27	2,620	255			3,150	4,200	255	53	79	6.9	4.9	18
28	1,050	255	a 800	a 200	2,650	3,450	223	50	64	6.7	5.7	22
29	558	207			-------	2,550	207	50	83	6.0	4.9	20
30	396	a 160			-------	2,450	192	50	79	6.0	5.5	16
31	304	-------			-------	1,950	-------	50	-------	6.4	4.6	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,320	15	725	0.968	1.12
November	5,040	160	1,150	1.54	1.72
December	-------	-------	1,930	2.58	2.97
January	16,400	-------	4,390	5.86	6.76
February	3,150	223	1,060	1.42	1.48
March	4,200	207	1,060	1.42	1.64
April	2,650	184	611	.816	.91
May	207	50	87.1	.116	.13
June	116	28	54.5	.073	.08
July	53	6.0	13.9	.019	.02
August	8.7	2.9	4.89	.007	.01
September	22	4.6	9.85	.013	.01
The year	16,400	2.9	929	1.24	16.85

a Estimated.

SOUTH BRANCH OF PORTAGE RIVER NEAR PEMBERVILLE, OHIO

LOCATION.—Chain gage in sec. 21, T. 5 N., R. 12 E., at highway bridge 2½ miles southwest of Pemberville, Wood County.
DRAINAGE AREA.—334 square miles.
RECORDS AVAILABLE.—August to September, 1930.
EXTREMES.—Maximum discharge during period, 19 second-feet Sept. 26 (gage height, 1.10 feet); minimum, 1.2 second-feet Aug. 14–16 (gage height, 0.53 foot).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1930

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	------	3.1	11	4.2	1.9	21	2.2	2.1
2	------	3.3	12	2.2	1.9	22	2.2	1.6
3	1.8	3.3	13	1.6	1.8	23	3.1	1.8
4	1.6	3.1	14	1.4	1.6	24	3.1	2.6
5	1.6	2.2	15	1.2	1.8	25	2.6	15
6	1.4	1.9	16	1.4	1.9	26	1.9	17
7	1.4	1.9	17	1.8	2.2	27	1.5	11
8	4.2	1.6	18	2.6	3.5	28	1.4	4.4
9	5.0	1.6	19	3.5	4.4	29	1.5	3.7
10	8.0	1.9	20	3.5	2.6	30	1.8	3.1
						31	2.6	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
August 3–31	8	1.2	2.49	0.0075	0.01
September	17	1.6	3.66	.011	.01

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, 1930.
EXTREMES.—Maximum discharge during year, 962 second-feet Jan. 10 (gage height, 6.7 feet); minimum, 0.1 second-foot June 27 to July 8 1923–1930: Maximum and minimum discharges occurred during 1930.
REMARKS.—Records fair. Some water which otherwise might not reach this stream above gage is diverted into this stream by drainage ditches. Discharge estimated Dec. 22–27, Jan. 19–30, because of ice effect.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	29	18	356	49	74	56	18	0.5	0.2	0.2	1.5
2	2.2	178	15	514	43	59	44	17	.3	.2	.2	1.5
3	2.2	166	12	576	50	52	38	15	.3	.2	.2	1.5
4	2.2	102	15	341	58	49	32	13	.3	.2	.3	1.4
5	2.2	70	21	154	53	32	28	12	1.2	.1	.4	1.7
6	1.4	38	28	142	50	26	26	10	20	.1	.4	1.7
7	1.7	28	40	243	45	28	25	7.6	25	.2	.5	1.4
8	2.2	24	74	664	38	36	23	9.0	25	.2	.9	.8
9	2.2	20	62	780	33	30	19	8.0	20	.3	.8	1.0
10	2.2	20	48	884	40	26	15	5.8	14	.3	.6	.8
11	2.4	107	40	514	51	25	14	4.6	12	.3	.6	1.0
12	2.4	178	36	256	55	22	12	3.5	4.1	.5	.7	1.4
13	1.4	154	90	387	50	16	8.5	2.8	5.8	.5	.7	1.4
14	1.0	112	130	642	44	12	6.3	1.7	4.1	.5	.7	.7
15	1.3	102	102	780	42	12	6.7	1.3	3.7	.6	.7	.6
16	1.4	90	96	598	38	11	63	1.0	7.6	.6	.8	1.0
17	1.7	74	312	312	34	12	270	.8	11	.6	1.0	1.0
18	1.7	74	403	178	35	40	256	1.4	13	.6	.7	1.2
19	1.7	96	356		45	112	148	3.7	11	.5	.7	1.4
20	6.3	90	284		70	67	90	5.8	6.7	.5	.8	1.4
21	28	85	204		96	39	67	4.6	5.0	.5	1.0	1.2
22	52	73			90	31	74	3.5	2.2	1.3	1.0	.8
23	96	61			112	28	54	2.6	1.3	1.0	1.0	1.0
24	85	47			148	63	37	6.3	.7	.9	1.1	1.2
25	55	38	110	60	191	298	31	1.4	.4	.5	1.2	1.2
26	32	30			217	326	27	.5	.3	.6	1.1	1.3
27	23	26			166	154	24	1.0	.1	.6	1.2	1.3
28	18	22	96		96	118	22	1.0	.1	.6	1.5	.9
29	12	22	107		-------	102	20	.8	.1	.6	1.9	.7
30	7.6	19	112		-------	85	20	.7	.1	.5	1.5	.7
31	9.0	-------	112	43	-------	71	-------	.6	-------	.4	1.7	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	96	1.0	14.8	May	18	0.5	5.32
November	178	19	72.5	June	25	.1	6.53
December	403	12	112	July	1.3	.1	.474
January	884	-------	293	August	1.9	.2	.842
February	217	33	72.8	September	1.7	.6	1.16
March	326	11	66.3				
April	270	6.3	51.9	The year	884	.1	58.3

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, 1930.

EXTREMES.—Maximum discharge during year, about 2,430 second-feet Jan. 8 (gage height, 8.05 feet); minimum, 1.3 second-feet Aug. 13, Sept. 21 (gage height, 0.84 foot).

1925–1930: Maximum discharge, about 3,360 second-feet Dec. 14, 1927 (gage height, 9.2 feet); minimum, 0.9 second-foot Sept. 4, 1927 (gage height, 0.72 foot).

REMARKS.—Records good except those for extremely high and extremely low stages and for periods of ice effect, Nov. 30 to Dec. 6, Jan. 17–31, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.3	52		925	14	134	134	17	8.6	7.1	2.4	24
2	4.8	655		1,560	17	134	275	15	6.3	6.3	2.1	3.1
3	5.3	210		845	32	83	151	13	6.7	5.4	2.1	2.8
4	5.7	118	20	275	67	81	96	12	4.4	5.1	1.8	1.8
5	12	89		126	74	89	70	11	6.3	6.0	1.5	1.7
6	6.7	64		103	57	103	59	11	26	4.6	7.1	3.2
7	5.5	50	49	400	44	96	78	11	7.1	4.6	1.4	2.1
8	5.0	40	725	2,310	47	322	180	11	7.8	5.6	2.4	1.8
9	4.5	35	210	1,710	36	253	96	10	7.1	4.6	1.6	1.8
10	4.3	37	118	1,410	70	151	66	9.3	5.6	3.7	1.6	1.7
11	4.8	180	96	373	70	110	53	8.6	5.1	3.4	1.8	1.8
12	4.3	134	82	1,320	81	96	42	8.6	5.1	3.2	1.8	2.4
13	4.3	142	845	2,190	1,000	72	34	8.2	4.6	66	1.3	2.4
14	4.3	620	845	1,410	253	58	33	12	4.4	15	1.4	2.4
15	4.3	490	298	690	126	44	33	10	3.9	10	1.5	2.6
16	5.0	180	170	118	103	40	65	10	12	10	1.6	15
17	5.3	151	322		59	40	110	8.9	9.3	7.4	1.8	3.4
18	5.3	490	1,000	70	49	83	160	12	20	6.0	2.1	1.8
19	4.5	430	400		56	180	126	10	15	5.4	1.8	1.5
20	5.7	264	160		96	96	72	15	11	4.6	1.5	1.4
21	64	142	126		142	75	63	13	7.8	4.6	1.6	1.3
22	765	89	89		126	54	54	11	5.6	5.6	2.1	1.4
23	1,360	64	76	50	347	44	45	9.3	5.1	5.4	1.8	1.8
24	460	53	70		347	50	34	50	20	4.6	3.4	2.9
25	286	37	64		460	1,140	29	67	134	4.6	1.7	9.3
26	160	37	64		1,100	725	26	20	89	17	1.7	10
27	96	38	64		347	231	23	14	49	4.9	1.6	3.2
28	64	43	110	20	180	190	20	14	26	5.6	1.6	2.1
29	47	30	142		-------	373	20	11	15	7.1	1.7	1.7
30	37	25	134		-------	275	18	10	8.9	3.7	1.8	2.1
31	37	-------	253		-------	170	-------	9.3	-------	2.6	1.8	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,360	4.3	112	1.25	1.44
November	655	25	166	1.85	2.06
December	1,000	----------	214	2.38	2.74
January	2,310	----------	530	5.90	6.80
February	1,100	14	193	2.15	2.24
March	1,140	40	180	2.00	2.31
April	275	18	75.5	.841	.94
May	67	8.2	14.6	.163	.19
June	134	3.9	17.9	.199	.22
July	66	2.6	8.05	.090	.10
August	7.1	1.3	1.98	.022	.03
September	24	1.3	3.82	.043	.05
The year	2,310	1.3	127	1.41	19.12

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, 1930.

EXTREMES.—Maximum discharge during year, 6,310 second-feet Jan. 13 (gage height, 10.1 feet); minimum, 1.8 second-feet Aug. 17 (gage height, 0.98 foot).

1921–1930: Maximum discharge, 6,750 second-feet Dec. 15, 1927 (gage height 10.5 feet); minimum, that of Aug. 17, 1930.

REMARKS.—Records good except those for periods of ice effect, Nov. 30 to Dec. 5, Dec. 20 to Jan. 1, Jan. 18 to Feb. 11, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	162		1,400		462	418	64	24	24	5.6	16
2	25	785		3,280		352	418	59	22	19	5.6	21
3	19	888	70	4,080		274	462	56	20	16	4.8	10
4	21	432		1,690		218	293	56	19	14	4.8	5.6
5	26	293		629		197	211	58	16	11	4.8	4.0
6	36	222	94	431	150	200	176	58	28	10	4.4	4.5
7	28	172	114	726		222	170	56	25	10	4.0	9.6
8	27	135	857	3,800		449	219	56	27	8.4	4.8	5.2
9	26	112	1,110	6,100		675	274	55	22	8.4	8.4	5.2
10	20	112	496	4,770		429	182	47	19	7.8	5.6	5.6
11	20	486	331	2,710		312	146	44	16	7.8	4.4	4.8
12	20	596	293	2,170	298	244	124	42	14	7.2	4.0	4.4
13	20	370	1,210	5,260	1,230	188	110	33	13	17	3.6	5.6
14	20	909	2,930	5,730	1,860	149	100	30	11	54	2.8	4.0
15	20	1,490	1,750	4,080	666	116	97	31	9.6	48	2.8	4.8
16	20	828	725	1,620	330	103	110	31	15	26	2.4	23
17	21	495	877	675	244	100	220	30	21	17	2.4	12
18	20	815	2,390		204	140	577	30	24	14	2.4	16
19	21	1,260	2,020	250	173	420	507	31	24	11	2.8	9.6
20	25	878			229	365	266	35	28	9.0	2.8	6.6
21	42	518			332	229	200	37	24	7.2	2.8	5.6
22	549	331	470		374	167	197	32	20	6.6	3.6	4.0
23	2,540	240			686	129	164	30	16	6.6	4.4	4.4
24	2,680	188			1,200	148	126	30	15	6.0	3.6	6.6
25	1,080	151			980	1,160	103	44	52	6.6	3.6	18
26	629	132		100	1,950	2,380	90	65	132	7.2	5.2	29
27	390	126			1,740	1,100	81	44	92	16	5.6	23
28	257	129	300		713	577	76	42	71	21	4.8	16
29	185	75			-------	775	70	38	47	13	4.4	11
30	143	70			-------	775	66	31	33	8.4	3.6	7.8
31	124	-------			-------	554	-------	27	-------	5.6	7.7	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,680	19	293	0.980	1.13
November	1,490	70	447	1.49	1.66
December	2,930	----------	651	2.18	2.51
January	6,100	----------	1,650	5.52	6.36
February	1,950	----------	531	1.78	1.85
March	2,380	100	439	1.47	1.69
April	577	66	208	.696	.78
May	65	27	42.6	.142	.16
June	132	9.6	30.0	.100	.11
July	54	5.6	14.3	.048	.06
August	8.4	2.4	4.27	.014	.02
September	29	4.0	10.1	.034	.04
The year	6,100	2.4	360	1.20	16.37

SANDUSKY RIVER NEAR MEXICO, OHIO

LOCATION.—Water-stage recorder 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, 1930. November, 1898, to November, 1900 (gage heights only), at highway bridge at Mexico.
EXTREMES.—Maximum discharge during year, 13,600 second-feet Jan. 15 (gage height, 19.7 feet); minimum, 13 second-feet Aug. 31 (gage height, 1.66 feet).
1923–1930: Maximum discharge, 13,900 second-feet Mar. 22, 1927 (gage height, 19.9 feet); minimum, 4 second-feet Aug. 25, 1928.
REMARKS.—Records good except those estimated because of ice, Nov. 30 to Dec. 5, Dec. 23–28, Jan. 17 to Feb. 11, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	347		2,370		1,630	1,000	173	59	77	20	14
2	28	1,540		6,040		965	805	162	53	60	19	15
3	28	2,160	200	7,500		735	805	140	49	52	18	16
4	30	1,500		7,300		602	735	130	45	45	17	19
5	39	805		4,470		507	558	118	44	40	16	20
6	33	560	170	1,550	300	476	445	120	140	36	17	18
7	31	393	204	1,700		476	385	114	173	35	16	18
8	35	320	1,420	6,750		724	385	110	98	35	16	17
9	31	252	2,340	10,000		1,230	445	106	82	32	15	17
10	28	228	1,870	12,000		1,140	414	96	64	31	15	18
11	28	580	1,000	9,970		770	329	86	56	29	15	17
12	27	1,140	735	7,800	439	602	277	80	50	26	16	16
13	26	1,040	2,480	9,580	2,120	476	253	74	46	23	16	17
14	26	1,430	4,840	12,200	2,820	385	242	67	41	22	16	19
15	24	2,700	4,920	12,800	2,490	316	230	65	40	74	15	20
16	22	2,520	3,720	9,100	1,360	277	265	67	49	84	15	26
17	22	1,530	2,580	5,000	845	253	536	68	80	53	16	82
18	22	1,270	4,760		666	290	1,260	72	122	40	15	54
19	22	2,460	5,160	800	570	668	1,280	82	112	33	15	37
20	25	2,220	3,800		538	845	850	82	75	27	15	33
21	36	1,430	1,730		770	666	538	80	82	25	15	29
22	452	845	1,000		885	445	476	79	86	23	16	23
23	4,220	560			1,350	342	414	75	67	22	16	21
24	4,920	424	580		2,400	340	356	82	70	21	15	20
25	4,600	334			2,520	2,300	290	77	106	21	15	24
26	3,080	278		250	3,040	3,880	253	75	239	21	15	44
27	1,360	265	400		3,650	3,690	218	104	385	20	15	56
28	770	252			3,100	2,040	196	91	230	20	15	54
29	525	204	525		-------	1,780	196	82	151	20	15	53
30	363	200	665		-------	1,830	184	75	106	20	15	44
31	292	-------	992		-------	1,430	-------	65	-------	20	15	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,920	22	683	0.880	1.01
November	2,700	200	993	1.28	1.43
December	5,160	----------	1,580	2.04	2.35
January	12,800	----------	4,230	5.45	6.28
February	3,650	----------	1,170	1.51	1.57
March	3,880	253	1,040	1.34	1.54
April	1,280	184	487	.628	.70
May	173	65	93.5	.120	.14
June	385	40	100	.129	.14
July	84	20	35.1	.045	.05
August	20	15	15.8	.020	.02
September	82	14	28.7	.037	.04
The year	12,800	14	874	1.13	15.27

SANDUSKY RIVER NEAR FREMONT, OHIO

LOCATION.—Chain gage prior to Sept. 5, 1930, and water-stage recorder thereafter 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, 1930. November, 1898, to March, 1901, 4 miles below present site.

EXTREMES.—Maximum discharge during year, about 17,900 second-feet Jan. 15 (gage height, 11.1 feet); minimum, 19 second-feet July 13, Aug. 5, 12, 15, 26, 28–30, Sept. 15 (gage height, 0.94 foot).

1923–1930: Maximum discharge, that of Jan. 15, 1930; minimum, 15 second-feet Sept. 1, 1925 (gage height, 0.90 foot).

REMARKS.—Records good except those for extremely low water and for periods of ice effect, Nov. 30 to Dec. 8, Dec. 21–30, Jan. 19 to Feb. 13, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	469		7,230		2,560	1,770	349	92	144	26	29
2	40	1,700		9,200		1,540	1,320	334	64	130	26	34
3	45	2,890		9,800		1,120	1,180	313	80	96	26	29
4	51	2,400		7,800		935	1,120	286	101	53	22	26
5	96	1,320	350	5,710	450	775	880	356	68	64	22	26
6	64	935		2,890		775	725	300	110	45	24	24
7	42	680		2,890		725	592	313	415	27	22	29
8	45	542		11,400		995	592	320	320	76	29	29
9	42	461	2,890	12,700		2,000	592	313	191	40	27	27
10	45	407	3,230	11,600		1,920	550	300	170	32	29	29
11	48	680	2,560	10,600	500	1,320	501	246	115	24	26	29
12	48	1,620	1,120	8,400	1,500	935	461	218	96	26	22	27
13	45	1,770	935	12,900	7,000	775	423	218	110	27	26	27
14	45	1,770	6,470	14,400	8,400	635	392	125	56	42	22	27
15	42	3,400	5,520	16,800	7,230	534	392	120	60	40	19	26
16	45	3,400	4,970	10,800	4,790	469	526	160	88	76	24	29
17	40	2,400	3,910	5,900	3,060	454	2,240	154	84	106	24	48
18	42	1,840	7,420	2,560	1,840	1,060	3,400	160	313	56	22	96
19	48	3,740	5,330	2,000	1,180	1,320	2,560	191	356	60	22	76
20	32	3,570	4,970	1,000	995	1,120	1,620	207	241	64	27	34
21	37	2,240			1,390	775	995	196	186	32	40	40
22	125	1,470			1,540	680	825	165	130	34	29	34
23	5,150	995	1,700	600	2,080	592	313	149	120	34	22	56
24	5,900	775			3,910	592	635	160	115	34	26	53
25	5,330	592			3,740	4,430	518	115	320	34	24	48
26	4,250	518			4,430	6,090	488	125	246	29	22	76
27	2,240	461			4,610	4,970	363	139	550	27	24	48
28	1,250	461	700	400	4,080	3,400	378	160	423	26	20	56
29	825	378			------	2,890	342	149	252	26	20	64
30	680	350			------	2,890	349	125	180	29	19	56
31	526	------	5,330		------	2,240	------	115	------	26	24	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,900	29	879	0.703	0.81
November	3,740	----------	1,470	1.18	1.32
December	7,420	----------	2,240	1.79	2.06
January	16,800	----------	5,550	4.44	5.12
February	8,400	----------	2,380	1.90	1.98
March	6,090	454	1,660	1.33	1.53
April	3,400	313	900	.720	.80
May	356	115	212	.170	.20
June	550	56	188	.150	.17
July	144	24	50.3	.040	.05
August	40	19	24.4	.020	.02
September	96	24	41.1	.033	.04
The year	16,800	19	1,300	1.04	14.10

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, 1930.

EXTREMES.—Maximum discharge during year, 3,490 second-feet Jan. 8 (gage height, 8.0 feet); minimum, 2.3 second-feet Aug. 4, 15, 19, 29 (gage height, 0.66 foot).

1923–1930: Maximum discharge, 3,810 second-feet Oct. 5, 1926, Feb. 26, 1929; minimum, that of Aug. 4, 15, 19, 29, 1930.

REMARKS.—Records good except those for periods of extremely low water and for periods of ice effect, Nov. 29 to Dec. 8, Jan. 19 to Feb. 12, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.2	17		511		80	70	25	11	6.7	3.2	7.5
2	6.2	97		880		70	78	22	10	6.2	2.7	5.8
3	6.2	82		533		51	64	18	9.2	6.2	2.6	4.2
4	9.2	43	30	182		43	49	15	7.5	6.2	2.3	3.2
5	8.8	28		94	70	40	38	15	7.1	6.2	2.6	2.9
6	7.5	23		89		43	36	15	11	7.1	3.2	2.9
7	6.7	17		533		47	41	15	11	6.2	3.4	2.9
8	5.8	15	210	3,280		226	54	14	9.6	5.8	3.6	3.9
9	5.4	14	99	780		153	43	14	9.2	5.4	3.6	4.2
10	5.4	15	67	555		120	32	13	7.9	4.6	3.2	3.4
11	6.7	151	46	226	60	78	30	13	7.9	4.6	2.6	3.4
12	7.1	105	42	2,390		58	27	13	7.5	5.2	2.6	3.9
13	7.1	54	533	1,680	533	43	25	12	7.1	4.9	2.6	4.6
14	6.2	226	313	830	146	36	24	14	7.1	7.9	2.6	4.4
15	6.2	277	169	332	84	29	23	15	6.2	7.1	2.3	4.4
16	6.2	105	99	144	70	27	108	14	12	5.8	2.4	15
17	6.2	78	408	108	42	26	428	14	16	4.9	2.6	6.7
18	6.2	260	555	75	36	62	388	17	13	3.9	2.4	4.6
19	6.2	428	226	70	43	112	124	18	13	3.9	2.3	3.9
20	6.2	169	112		87	69	72	19	9.2	3.6	2.7	3.9
21	14	96	99		108	49	58	16	8.8	3.2	2.4	3.9
22	105	55	82		97	34	65	14	11	3.2	2.4	3.6
23	645	46	70		132	29	46	12	9.6	3.9	2.7	11
24	226	31	64		132	67	40	27	32	3.4	5.4	13
25	97	23	56		369	930	32	27	20	3.2	4.4	11
26	55	21	50	50	469	469	28	21	15	3.2	3.4	11
27	36	24	55		158	169	27	16	12	5.2	2.7	8.3
28	24	28	101		97	135	29	16	10	4.9	2.6	6.7
29	17	25	128		-------	182	28	14	8.8	3.6	2.3	6.2
30	15		118		-------	126	27	13	7.9	3.4	2.6	6.2
31	14	-------	209		-------	82	-------	13	-------	3.4	4.9	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	645	5.4	44.5	0.524	0.60
November	428	14	85.9	1.01	1.13
December	555	----------	133	1.57	1.81
January	3,280	----------	449	5.29	6.10
February	533	36	122	1.44	1.50
March	930	26	119	1.40	1.61
April	428	23	71.1	.837	.93
May	27	12	16.3	.192	.22
June	32	6.2	10.9	.128	.14
July	7.9	3.2	4.94	.058	.07
August	5.4	2.3	2.95	.035	.04
September	15	2.9	5.89	.069	.08
The year	3,280	2.3	89.0	1.05	14.23

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, 1930.

EXTREMES.—Maximum discharge during year, 5,360 second-feet Jan. 9 (gage height, 7.2 feet); no flow Aug. 9–16, 18–22.

1922–1930: Maximum discharge, 5,360 second-feet Feb. 27, 1929, Jan. 9, 1930 (gage height, 7.2 feet); maximum stage, 9.9 feet June 29, 1924 (backwater caused by tornado); no flow Aug. 9–16, 18–22, 1930.

REMARKS.—Records good except those for extremely high and extremely low stages and for periods of ice effect, Nov. 29 to Dec. 5, Jan. 19 to Feb. 12, which are poor.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	9.4		1,820		268	196	55	9.4	3.0	0.4	3.5
2	6.4	9.4		3,340		196	249	49	6.4	1.6	.2	2.6
3	6.4	9.4	40	3,340		181	330	45	7.2	1.3	.2	1.6
4	4.5	11		1,100		128	214	45	8.7	1.3	.1	1.3
5	4.5	9.4		860		122	119	41	9.4	1.3	.1	1.0
6	4.5	8.7	6.4	615		132	92	39	11	1.3	.1	1.0
7	4.5	9.4	6.4	615	100	151	125	20	11	1.3	.1	.8
8	5.9	9.4	6.4	3,450		480	357	20	9.4	1.3	.1	.6
9	5.4	9.4	6.4	5,120		650	301	13	7.9	1.0	0	.7
10	4.5	9.4	6.4	3,020		390	162	14	7.9	.7	0	.8
11	5.4	9.4	11	1,730		286	103	12	7.9	.7	0	.4
12	6.4	9.4	12	2,720		192	79	6.4	6.4	.7	0	.1
13	6.4	9.4	16	3,670	1,370	138	70	21	6.4	1.0	0	.1
14	5.4	10	20	4,220	1,020	97	57	36	7.2	3.5	0	.4
15	5.4	11	24	2,520	368	64	49	49	7.9	3.5	0	.4
16	5.4	12	240	1,190	268	57	66	52	7.9	2.1	0	.8
17	4.5	24	650	420	173	63	1,190	41	8.7	1.2	.1	1.3
18	4.5	36	450	315	114	103	1,100	53	7.2	1.6	0	1.0
19	3.5	55	258	250	97	340	480	53	5.4	1.3	0	.7
20	3.5	61	315		188	306	214	21	5.4	1.0	0	.7
21	5.0	63	315		420	166	125	20	5.4	.8	0	.4
22	6.4	59	320		384	97	103	18	5.4	.2	0	.1
23	9.4	55	281	140	390	64	92	27	5.0	.1	.6	.6
24	66	55	301		790	74	83	24	6.4	.2	4.5	.8
25	97	47	420		1,820	1,730	70	18	5.4	.2	3.5	1.3
26	108	39	615		2,220	3,020	66	16	6.4	.4	2.6	1.3
27	100	44	720		1,280	1,020	61	16	5.4	.4	1.6	1.3
28	81	53	825	80	545	352	55	18	5.4	.4	1.6	.7
29	63	50	940		------	335	49	14	5.4	.4	2.6	.4
30	14		940		------	379	55	12	4.0	.2	1.4	.4
31	14	------	1,100		------	258	------	11	------	.4	2.1	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	108	3.5	21.5	0.102	0.12
November	63	8.7	28.2	.134	.15
December	1,100	6.4	290	1.37	1.58
January	5,120	------	1,350	6.40	7.38
February	2,220	------	452	2.14	2.23
March	3,020	57	382	1.81	2.09
April	1,190	49	210	.995	1.11
May	55	6.4	28.4	.135	.16
June	11	4.0	7.10	.034	.04
July	3.5	.1	1.11	.0053	.01
August	4.5	0	.71	.003	.004
September	3.5	.1	.90	.0043	.005
The year	5,120	0	231	1.09	14.88

ROCKY RIVER NEAR BEREA, OHIO

LOCATION.—Staff gage at highway bridge just below junction of East and West Branches and 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, 1930.

EXTREMES.—Maximum discharge during year, 7,780 second-feet Jan. 8 (gage height, 7.4 feet); minimum, 0.4 second-foot Aug. 5 (gage height, 0.16 foot).

1923–1930: Maximum discharge, 13,700 second-feet Dec. 14, 1927 (gage height, 10.6 feet); maximum stage, 18.6 feet June 29, 1924 (backwater caused by tornado); minimum discharge, that of Aug. 5, 1930.

Maximum known stage, 20.9 feet March, 1913.

REMARKS.—Records fair except those for Oct. 3 to Feb. 20, which are poor. Discharge estimated Nov. 29 to Dec. 7, Jan. 21–31 because of ice effect.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	6.7		1,360	101	390	264	59	18	7.5	1.2	5.8
2	8.8	21		5,300	117	390	630	54	14.4	7.1	1.0	2.3
3	7.1	86		2,880	157	315	390	38	13.8	7.1	.6	1.4
4	7.5	39	40	810	315	272	242	44	12.7	9.2	.5	1.0
5	8.4	23		259	735	365	181	37	11.5	9.8	.4	.7
6	5.8	16		234	595	470	154	34	15	10.4	.5	.6
7	5.0	11.5		268	415	440	365	38	12.1	9.2	.5	.7
8	7.5	9.2	1,090	7,600	340	1,550	735	26	11.5	11.5	.5	.6
9	8.4	5.8	415	5,300	340	700	340	22	10.9	9.8	.5	.9
10	7.5	6.3	207	1,970	290	500	219	20	12.7	9.2	.5	1.2
11	9.2	9.2	117	630	290	415	174	17	9.2	8.8	.5	1.6
12	9.8	55	135	4,970	390	340	132	21	7.9	8.4	.5	1.7
13	7.1	29	1,270	4,350	2,640	315	111	19	8.4	12.1	.5	1.9
14	6.3	78	1,270	2,410	1,180	264	108	24	9.2	10.9	.5	1.9
15	8.4	315	277	890	1,010	177	91	29	7.9	4.4	2.3	2.9
16	8.8	132	188	415	810	141	219	31	26	3.5	1.3	11.5
17	7.5	65	770	272	930	144	1,270	28	15	4.4	1.9	3.2
18	5.8	810	2,080	250	850	290	560	29	50	5.4	1.6	3.2
19	7.1	930	595	415	850	530	315	38	84	7.1	1.4	2.6
20	6.3	415	141	560	440	365	207	38	46	5.4	.7	2.3
21	8.8	219	154		530	151	160	67	29	7.5	.7	2.3
22	36	123	160		340	114	151	39	18	12.1	1.6	1.9
23	106	61	167		223	114	135	26	12.7	5.0	3.8	5.0
24	71	43	141		890	207	106	24	10.9	4.1	7.1	4.4
25	157	31	96		1,860	4,060	84	20	8.8	3.5	3.2	7.5
26	103	41	86	200	2,880	1,970	78	18	13.8	4.1	1.9	4.1
27	50	40	89		930	440	62	18	18	5.8	1.4	4.1
28	23	36	132		530	560	65	26	10.9	2.9	1.2	5.0
29	9.2	30	286		-------	530	69	21	8.8	2.0	1.0	3.8
30	6.7		264		-------	500	64	21	6.7	1.6	.9	2.9
31	6.7	-------	340		-------	315	-------	20	-------	1.3	2.9	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	157	5.0	23.7	0.088	0.10
November	930	5.8	124	.461	.51
December	2,080	----------	347	1.29	1.49
January	7,600	----------	1,400	5.20	6.00
February	2,880	101	749	2.78	2.89
March	4,060	114	559	2.08	2.40
April	1,270	62	256	.952	1.06
May	67	17	30.5	.113	.13
June	84	6.7	17.8	.066	.07
July	12.1	1.3	6.81	.025	.03
August	7.1	.4	1.39	.0052	.01
September	11.5	.6	2.97	.011	.01
The year	7,600	.4	291	1.08	14.70

CUYAHOGA RIVER NEAR HIRAM, OHIO

LOCATION.—Water-stage recorder 600 feet above highway bridge on road between Hiram and Mantua Corners 2¾ miles west of Hiram, Portage County.

DRAINAGE AREA.—152 square miles.

RECORDS AVAILABLE.—August, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,710 second-feet Jan. 14 (gage height, 7.0 feet); minimum, 11 second-feet Aug. 13 (gage height, 0.56 foot). 1927–1930: Maximum discharge, 2,260 second-feet Jan. 20, 1929 (gage height, 8.2 feet); minimum, that of Aug. 13, 1930.

REMARKS.—Records good except those estimated because of ice, Nov. 29 to Dec. 6, Dec. 19–26, Jan. 19–31, Feb. 15–19, and those for high water, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	40		193	145	674	562	85	39	25	14	22
2	26	58		482	145	562	590	75	37	26	13	27
3	26	76		857	152	478	618	69	34	25	13	26
4	26	78	100	1,150	186	400	618	62	32	21	13	21
5	26	77		1,120	224	349	506	58	28	20	14	19
6	26	70		854	234	349	400	57	30	18	14	18
7	26	64	130	734	224	400	374	57	33	21	14	18
8	26	56	244	854	214	618	426	53	36	27	14	16
9	25	49	374	1,220	195	764	478	48	36	23	13	17
10	25	46	452	1,480	195	794	506	43	37	20	13	15
11	23	53	506	1,330	186	704	452	39	45	17	13	15
12	25	68	506	1,260	192	590	374	37	50	17	13	15
13	26	77	534	1,480	426	506	288	36	45	19	13	15
14	27	90	562	1,710	633	400	224	36	37	33	13	14
15	26	103	618	1,630		349	168	41	31	52	13	14
16	25	110	618	1,400	500	234	177	46	32	50	14	17
17	25	110	618	1,120		234	288	48	40	39	15	22
18	24	166	674	854		214	506	45	48	29	15	26
19	21	277				244	734	46	66	23	15	24
20	21	349			349	277	704	58	79	20	15	19
21	24	400			400	300	562	66	77	19	17	17
22	33	400	400	300	452	255	426	60	69	20	18	15
23	53	374			452	204	312	53	62	20	23	14
24	68	277			426	168	234	48	54	21	29	14
25	80	234			506	236	186	46	49	19	32	18
26	88	160			646	478	152	42	40	18	33	23
27	82	138	168		734	704	130	39	34	18	32	23
28	66	138	123	150	764	794	116	37	34	18	26	21
29	53	130	130		-------	674	103	41	31	16	22	19
30	43	130	145		-------	590	96	43	25	15	21	17
31	39	-------	145		-------	562	-------	43	-------	15	20	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	88	21	36.5	0.240	0.28
November	400	40	147	.97	1.08
December	674	----------	334	2.20	2.54
January	1,710	----------	733	4.82	5.56
February	764	145	378	2.49	2.59
March	794	168	455	2.99	3.45
April	734	96	377	2.48	2.77
May	85	36	50.2	.330	.38
June	79	25	43.0	.283	.32
July	52	15	23.4	.154	.18
August	33	13	17.6	.116	.13
September	27	14	18.7	.123	.14
The year	1,710	13	217	1.43	19.42

CUYAHOGA RIVER AT KENT, OHIO

LOCATION.—Water-stage recorder 0.4 mile below Wheeling & Lake Erie Railway crossing 1 mile southwest of Kent, Portage County, and 1½ miles above mouth of Fish Creek.

DRAINAGE AREA.—302 square miles.

RECORDS AVAILABLE.—July, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 2,630 second-feet Jan. 15 (gage height, 8.3 feet); minimum not recorded.

1927–1930: Maximum discharge, 2,880 second-feet Jan. 21, 1929 (gage height, 8.85 feet); minimum not recorded.

REMARKS.—Records fair. Water diverted by city of Akron for municipal supply at reservoir above Kent.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	72	187	570	215	1,140	730	224	181	72	158	
2	82	96	215	712	232	1,000	865	224	138	60	152	
3	48	169	215	1,250	241	775	865	208	86	75	152	
4	43	215	224	1,360	250	610	820	208	60	72	120	
5	41	232	232	1,450	250	535	730	200	46	106	75	
6	28	224	215	1,500	232	535	610	163	44	98	69	
7	32	187	208	1,220	232	610	690	72	48	142	60	
8	38	152	260	1,400	224	1,000	730	57	60	66	38	
9	30	137	260	1,720	232	1,090	690	54	98	28		
10	34	152	250	1,940	215	1,140	690	60	94			
11	44	175	270	1,990	194	1,140	650	92	102	[a] 20		
12	63	158	375	1,990	215	955	535	152	78			
13	94	158	535	2,330	306	775	467	132	60	46		
14	114	194	775	2,480	406	610	375	132	48	70		
15	54	250	775	2,580	570	500	293	118	54	38	[a] 20	
16	27	241	775	2,280	730	435	282	66	106			
17	40	260	865	1,810	690	360	435	54	98			
18	27	332	1,090	1,360	535	375	570	84	90			
19	27	405	1,090	[a] 950	435	405	730	137	60			
20	27	500	1,000	[a] 800	435	405	865	142	57	[a] 20		
21	36	535	1,040	[a] 650	467	405	775	169	44			
22	70	535	1,090	[a] 550	500	360	610	158	54		27	
23	158	467	1,000	[a] 450	570	345	467	82	90		28	[a] 25
24	169	405	650	[a] 350	610	293	375	75	63	29	27	
25	175	318	500	[a] 300	955	360	318	102	46	44		
26	169	270	360	[a] 250	1,180	610	282	147	44	63		
27	169	232	282	232	1,180	775	270	128	41	102	[a] 20	
28	163	250	260	208	1,220	910	250	175	46	132		
29	137	260	270	241	------	955	232	181	51	152		
30	118	224	250	250	------	955	215	181	90	158		
31	90	------	232	224	------	820	------	181	------	158		------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	175	27	79.5	May	224	54	134
November	535	72	260	June	181	41	72.6
December	1,090	187	508	July	158	------	62.3
January	2,580	208	1,140	August	158	------	42.1
February	1,220	194	483	September	------	------	22.5
March	1,140	293	683				
April	865	215	547	The year	2,580	------	336

[a] Estimated.

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, 1930.

EXTREMES.—Maximum discharge during year, 3,280 second-feet Jan. 13 (gage height, 9.4 feet); minimum, 35 second-feet Aug. 10 (gage heigl t, 1.01 feet).
1921–1930: Maximum discharge, 3,820 second-feet Apr. 5, 1929 (gage height, 10.1 feet); minimum, that of Aug. 10, 1930.

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

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	172	176	142		392	1,380	970	343	118	202	54	48
2	164	164	178		398	1,250	1,090	331	192	172	94	72
3	150	135		[a]1,700	464	1,050	1,050	306	171	165	46	67
4	114	242	[a] 250		488	893	1,010	276	143	118	53	[a] 62
5	104	291			502	826	924	312	155	104	74	58
6	74	279			457	820	894	334	153	137	64	50
7	134	242		[a]1,100	462	914	1,050	244	106	172	74	72
8	104	158	[a] 380		430	1,340	1,090	192	78	178	89	59
9	106	144		2,280	408	1,380	934	156	111	152	53	76
10	86	134		2,330	470	1,380	884	128	178	137	50	83
11	90	216		2,230	416	1,340	847	112	116	139	46	68
12	68	171		2,470	458	1,210	754	158	155	117	51	70
13	55	180	[a] 790	3,060	681	1,050	650	176	154	142	52	63
14	77	198		3,120	701	896	574	190	98	102	53	58
15	120	286		3,010	829	772	489	196	82	115	82	56
16	127	296		2,680	901	660	495	198	222	116	62	80
17	96	337		2,180	970	626	644	150	223	130	44	94
18	98	623	[a]1,300	1,680	868	659	772	115	282	124	57	80
19	86	633		1,170	736	686	845	190	248	92	77	60
20	64	664		934	718	663	954	216	133	74	70	52
21	72	676		866	744	661	950	154	207	74	96	44
22	284	696		766	761	618	828	160	86	82	68	48
23	200	620	[a] 740	616	832	540	684	193	153	89	83	70
24	169	512		494	930	552	576	185	219	64	60	80
25	197	432		478	1,340	732	515	106	192	50	84	114
26	152	356		422	1,680	914	415	140	216	54	70	94
27	127	310		481	1,510	970	391	165	186	47	70	64
28	157	270	[a] 350	424	1,460	1,090	392	128	166	46	75	46
29	150	256		396	-------	1,170	381	144	88	44	67	62
30	142	226		414	-------	1,130	328	98	139	44	56	76
31	136	-------		386	-------	1,050	-------	128	-------	50	52	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	284	55	125	May	343	98	191
November	696	134	331	June	282	78	159
December	-------	-------	620	July	202	44	107
January	3,120	-------	1,540	August	90	44	65.4
February	1,680	392	750	September	114	44	67.5
March	1,380	540	943				
April	1,090	328	746	The year	3,120	44	470

[a] Estimated.

CUYAHOGA RIVER AT INDEPENDENCE, OHIO

LOCATION.—Water-stage recorder in T. 6 N., R. 12 W., at highway bridge 1 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, 1930.

EXTREMES.—Maximum combined daily discharge of river and canal during year, about 6,970 second-feet Jan. 13; minimum, about 87 second-feet Sept. 22.

1927–1930: Maximum combined daily discharge, about 8,960 second-feet Jan. 19, 1929; minimum, that of Sept. 22, 1930.

REMARKS.—Records good except those for high water and for estimated periods, which are fair. Water diverted into Ohio Canal at Brecksville, 6 miles upstream, and carried past station. (For record of this diversion see p. 59.) Small amount of water diverted into this drainage basin from Tuscarawas River by the Ohio Canal. Daily-discharge table does not include flow in canal.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	177	185	344	1,380	475		1,520	423	214	128	70	80
2	178	371	274	4,470	492		1,990	403	212	168	70	64
3	171	296	387	4,380	550	1,300	1,740	356	164	139	111	88
4	180	246	426	2,850	756		1,460	322	170	124	52	70
5	136	358	395	2,340	819		1,310	298	183	98	60	70
6	116	330	343	2,240	770		1,160	381	174	85	90	72
7	84	318	370	2,750	692		2,020	339	175	104	77	60
8	146	268	1,350	6,360	610	2,600	2,290	244	222	137	76	82
9	122	220	804	6,150	560		1,680	165	280	140	90	73
10	132	182	653	5,520	604		1,360	215	216	119	46	84
11	108	256	530	3,760	596		1,210	237	142	108	44	92
12	130	316	729	5,790	851		1,060	258	188	109	35	77
13	150	254	2,180	6,920	3,040	1,300	943	192	182	96	54	74
14	72	388	2,020	6,710	1,520		810	175	170	132	60	62
15	120	491	1,630	5,730	1,360		704	168	116	97	70	58
16	158	452	1,360	4,340	1,140		776	142	152	108	88	86
17	162	430	2,000	3,270	1,180		1,970	167	255	98	78	96
18	136	1,380	3,700		1,130	850	1,520	196	430	120	52	96
19	138	1,630	2,620	1,700	1,050		1,310	208	345	100	64	86
20	115	1,260	1,960		1,170		1,260	106	239	68	82	58
21	94	1,110	1,310				1,310	134	158	56	82	54
22	199	952	1,050				710	171	156	76	117	30
23	534	830	1,000	800	1,500	850	958	166	82	83	82	50
24	294	713	938				783	152	126	92	114	82
25	336	580	710				684	185	198	72	76	107
26	298	501	626				596	248	179	63	100	126
27	207	488	628		3,000		459	192	186	89	86	94
28	170	460	563	500			512	165	160	56	89	53
29	213	357	564			2,000	500	195	129	62	91	38
30	198	358	551				448	184	81	58	86	55
31	193		655					230		59	80	

Month	River			Canal (mean)	Combined		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October	534	72	176	56.8	594	96	233
November	1,630	182	533	54.6	1,680	239	588
December	3,700	274	1,050	52.7		328	1,100
January	6,920		2,810	56.0	6,970		2,870
February		475	1,280	54.3		535	1,330
March			1,500	50.0			1,550
April	2,290	448	1,170	54.9	2,350	502	1,220
May	423	106	226	61.4	477	166	287
June	430	81	189	58.6	490	131	248
July	168	56	98.2	45.7	218	101	144
August	117	35	76.5	55.5	177	95	132
September	126	30	73.9	59.4	183	87	133
The year	6,920	30	764	55.0	6,970	87	819

CONGRESS LAKE OUTLET NEAR KENT, OHIO

LOCATION.—Water-stage recorder at 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, 1930.

EXTREMES.—Maximum discharge during year, 617 second-feet Jan. 15 (gage height, 7.3 feet); minimum, 3.1 second-feet July 12.

1927–1930: Maximum discharge, 1,060 second-feet Feb. 28, 1929 (gage height, 9.5 feet); minimum, that of July 12, 1930.

REMARKS.—Records good except those estimated, Jan. 18–21, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	19	28	78	46	291	115	61	18	16	8.0	7.5
2	16	30	24	200	43	212	134	55	17	17	7.2	7.5
3	16	38	24	319	61	154	144	38	17	16	6.2	8.2
4	18	43	24	378	82	134	134	30	17	15	6.0	8.0
5	16	38	26	378	86	124	94	26	17	13	6.5	8.0
6	16	30	30	291	78	124	78	30	18	13	7.2	7.5
7	15	26	38	225	78	144	124	30	17	13	7.2	7.2
8	14	23	58	238	64	225	165	30	16	13	7.5	7.2
9	15	21	72	319	61	251	176	28	16	14	7.0	7.8
10	15	20	75	410	61	277	165	26	19	13	5.8	8.8
11	16	26	58	460	61	251	115	24	19	13	5.2	8.2
12	16	28	46	394	72	188	72	22	18	7.2	5.6	7.8
13	15	28	78	477	134	144	61	22	16	7.2	6.0	7.5
14	14	43	134	581	134	124	52	22	15	14	6.0	6.8
15	14	52	154	581	134	102	49	23	14	8.5	6.2	6.5
16	15	52	165	460	144	78	55	24	18	7.5	5.8	11
17	15	49	188	319	144	68	106	22	19	7.0	6.5	11
18	15	98	225	}	119	78	124	22	21	7.0	6.0	11
19	15	154	251	210	68	98	124	24	24	6.5	6.0	12
20	14	176	238	}	98	115	98	33	22	5.8	6.5	10
21	15	188	212	98	106	106	75	28	19	5.4	15	9.5
22	21	188	176	82	106	78	64	24	18	8.5	12	8.5
23	33	134	115	82	106	61	61	22	17	7.5	11	9.8
24	40	68	75	72	124	58	58	24	17	7.0	16	11
25	49	46	58	64	176	82	55	22	17	6.2	11	14
26	38	40	46	61	238	134	52	20	17	6.2	10	16
27	33	38	49	64	319	144	46	20	17	12	9.2	16
28	23	38	55	68	348	144	43	21	15	9.0	7.8	15
29	19	36	55	61	------	134	43	21	13	8.5	7.0	14
30	18	40	55	58	------	134	43	20	14	8.2	6.8	13
31	19	------	55	52	------	134	------	19	------	8.5	7.0	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	49	14	19.8	0.257	0.30
November	188	19	60.3	.784	.87
December	251	24	93.1	1.21	1.40
January	581	52	242	3.15	3.63
February	348	43	118	1.53	1.59
March	291	58	142	1.85	2.13
April	176	43	90.8	1.18	1.32
May	61	19	26.9	.350	.40
June	24	13	17.4	.226	.25
July	17	5.4	10.1	.131	.15
August	16	5.2	7.78	.101	.12
September	16	6.5	9.88	.129	.14
The year	581	5.2	69.7	.906	12.30

LITTLE CUYAHOGA RIVER AT AKRON, OHIO

LOCATION.—Water-stage recorder at foot of Seiberling Street, Akron, half a mile below mouth of Springfield Lake outlet.

DRAINAGE AREA.—42.0 square miles.

RECORDS AVAILABLE.—July, 1920, to September, 1930.

EXTREMES.—Maximum discharge during year, 315 second-feet Jan. 12 (gage height, 1.91 feet); minimum 6.0 second-feet July 13, 26, Sept. 7 (gage height, 0.18 foot).

1920–1930: Maximum discharge not known; no flow June 24, July 14, 1923, on account of regulation above station.

REMARKS.—Records excellent. Staff gage used June 28 to July 6 Gage-height record furnished by Goodyear Tire & Rubber Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	22	17.6	49	30	58	58	40	16.3	22	13.7	8.5
2	21	44	19.6	113	31	60	89	32	20	20	12.2	12.9
3	21	40	22	160	49	46	66	28	20	22	7.0	12.9
4	22	29	21	64	52	45	52	24	20	12.9	12.2	12.9
5	15.8	23	21	54	48	48	41	30	18.2	11.4	12.9	12.2
6	13.2	22	23	49	36	58	54	34	20	10.7	12.9	10.0
7	22	19.6	24	62	34	70	126	26	21	19.2	12.9	6.5
8	23	18.6	50	176	30	150	113	21	14.4	18.2	13.7	12.2
9	22	17.6	36	214	32	108	72	22	21	17.3	12.9	12.2
10	22	17.6	27	160	42	66	54	20	25	18.2	7.7	12.9
11	23	33	27	76	39	56	46	19.2	22	17.3	11.4	12.2
12	15.8	24	26	220	45	55	40	25	18.2	10.0	12.9	12.2
13	14.0	26	69	296	110	52	35	25	18.2	10.7	13.7	12.2
14	21	47	111	219	62	42	35	31	13.7	22	12.9	7.0
15	21	42	76	140	36	39	36	32	10.7	17.3	12.9	12.2
16	19.6	28	46	86	29	37	42	30	25	16.3	10.7	20
17	18.6	32	73	52	37	39	76	23	22	16.3	8.5	18.2
18	18.6	98	124	42	40	64	66	23	30	16.3	14.4	11.4
19	18.6	89	93	39	44	70	48	35	19.2	14.4	14.4	10.7
20	15.8	61	44	44	55	50	39	41	19.2	7.0	14.4	10.7
21	21	41	32	45	54	50	39	30	17.3	12.9	25	7.0
22	40	28	23	45	45	41	44	25	12.2	18.2	15.4	12.2
23	57	22	28	36	52	37	39	22	17.3	17.3	12.9	13.7
24	40	19.6	28	41	62	40	39	30	22	16.3	12.9	15.4
25	37	24	23	30	113	76	40	20	21	16.3	17.3	18.2
26	28	23	29	26	152	89	35	23	20	14.4	15.4	14.4
27	19.6	26	30	32	113	62	31	26	19.2	10.7	12.2	10.0
28	19.6	25	30	39	70	60	35	28	12.9	15.4	12.2	8.5
29	18.6	19.6	30	34	-------	72	36	24	10.0	13.7	11.4	10.0
30	19.6	21	33	34	-------	67	35	19.2	23	12.9	10.7	10.0
31	21	-------	32	35	-------	61	-------	17.3	-------	13.7	7.7	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	57	13.2	22.9	May	41	17.3	26.6
November	98	17.6	32.8	June	30	10.0	19.0
December	124	17.6	40.9	July	22	7.0	15.5
January	296	26	87.5	August	25	7.0	12.8
February	152	29	55.1	September	20	6.5	12.0
March	150	37	60.3				
April	126	31	52.0	The year	296	6.5	36.4

OHIO CANAL AT INDEPENDENCE, OHIO

LOCATION.—Water-stage recorder at highway bridge 1 mile northeast of Independence, opposite gaging station on Cuyahoga River at Independence.

RECORDS AVAILABLE.—September, 1921, to May, 1923; August, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 75 second-feet Oct. 7 (gage height, 4.26 feet); minimum discharge not determined; minimum stage, 1.65 feet Oct. 13.

1927–1930: Maximum discharge, 99 second-feet Apr. 5, 1929 (gage height, 5.09 feet); minimum not determined.

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

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	57	54		60		57	54	60	50	50	60
2	45	60	54		60		57	60	57	50	46	60
3	57	60	54		64		57	60	60	46	43	60
4	64	60	54		64		57	60	60	46	46	60
5	68	60	54	50	60		54	60	60	46	50	60
6	68	60	57		64		57	64	60	46	50	60
7	68	57	57		64		60	64	60	46	46	60
8	68	60	60		60		60	60	60	46	46	60
9	68	60	57	57	57		54	64	60	45	57	60
10	68	57	54	54	60		50	64	60	45	57	64
11	68	57	54	45	57		54	64	60	45	57	64
12	68	54	57	50			54	64	57	45	60	60
13	18	54	57	54			54	64	57	45	57	64
14	24	54	57	54			54	64	57	46	57	64
15	42	54	54	50			54	64	57	45	57	64
16	57	50		54		50	57	64	60	45	57	64
17	57	46		54			57	64	60	45	57	57
18	54	54		57			54	64	60	45	57	57
19	50	54		50			54	60	54	45	57	57
20	57	50		60	50		54	60	64	45	60	57
21	57	42		68			50	60	64	45	64	57
22	57	45		68			54	60	64	45	60	57
23	60	54		68			57	60	60	45	57	57
24	60	54	50	68			54	60	60	45	60	57
25	60	54		64			54	60	57	45	60	57
26	60	54		60			54	60	54	45	60	57
27	57	54		60			54	60	57	46	60	57
28	64	54		60			54	60	54	46	60	57
29	57	54		60			54	60	54	46	57	57
30	57	54		60			54	60	50	46	57	57
31	57			60				60		46	60	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	68	18	56.8	May	64	54	61.4
November	60	42	54.6	June	64	50	58.6
December			52.7	July	50	45	45.7
January			56.0	August	64	43	55.5
February			54.3	September	64	57	59.4
March			50.0				
April	60	50	54.9	The year		18	55.0

CHAGRIN RIVER AT WILLOUGHBY, OHIO

LOCATION.—Staff gage at dam 0.9 mile southeast of Willoughby, Lake County, 5 miles above mouth and one-sixth mile below mouth of East Branch.
DRAINAGE AREA.—251 square miles.
RECORDS AVAILABLE.—July, 1925, to September, 1930.
EXTREMES.—Maximum discharge during year, 7,000 second-feet Jan. 12 (gage height, 5.0 feet); minimum, 5.2 second-feet Aug. 12, 13, 15 (gage height, 0.18 foot).
1925–1930: Maximum discharge, about 19,000 second-feet Jan. 19, 1929 (gage height, 9.4 feet); minimum, that of Aug. 12, 13, 15, 1930.
REMARKS.—Records good except those for estimated periods, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	50		945		418	680	128	48	40	16	23
2	28	150		3,800		434	1,060	119	38	38	14	43
3	28	97	[a] 100	1,780	[a] 180	335	580	90	38	43	14	33
4	28	90		466		342	365	77	38	33	12	28
5	33	108		442		342	213	83	36	30	10	18
6	38	77	164	402		474	252	137	46	56	10	18
7	28	74	207	1,000		580	890	105	59	46	9	14
8	28	74	2,080	5,210		1,570	945	112	53	40	9	12
9	33	77	680	2,730		835	580	83	48	38	10	14
10	28	50	418	1,860	[a] 220	508	350	74	48	33	9	10
11	28	115	274	730		426	286	68	68	28	10	12
12	30	108	240	5,210		350	229	[a] 65	68	28	5.2	10
13	43	101	2,560	4,380	3,250	317	191	62	46	28	5.2	16
14	28	164	1,000	2,900	1,300	280	191	71	43	53	10	14
15	33	229	490	1,370	450	186	150	87	43	38	7.6	14
16	50	128	450	630	252	191	1,440	97	83	36	10	71
17	33	97	1,120	402	263	213	2,560	83	164	26	10	46
18	28	1,060	1,000		311	945	1,000	74	517	28	18	38
19	30	1,120	630	[a] 310	410	630	490	105	426	23	10	30
20	26	458	311		580	358	323	164	164	23	10	23
21	28	280	213		434	280	280	94	108	20	30	23
22	[a] 80	213	196		335	169	274	80	77	30	26	18
23	132	191	191	[a] 230	474	137	252	65	74	30	28	18
24	97	150	191		535	186	202	80	62	30	48	18
25	142	160	160		1,930	2,730	180	59	48	26	38	28
26	97	128	160		1,860	1,440	164	48	50	18	33	43
27	68	180	175		835	730	128	53	59	16	30	36
28	65	191	202	[a] 170	508	499	146	71	53	16	18	28
29	50	132	213		-------	553	137	83	46	16	23	28
30	46	115	224		-------	780	128	80	38	16	18	23
31	43	-------	235		-------	730	-------	53	-------	12	20	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	142	26	47.6	0.190	0.22
November	1,120	50	206	.821	.92
December	2,560	----------	461	1.84	2.12
January	5,210	----------	1,210	4.82	5.56
February	3,250	----------	577	2.30	2.40
March	2,730	137	580	2.31	2.66
April	2,560	128	489	1.95	2.18
May	164	48	85.5	.341	.39
June	517	36	89.6	.357	.40
July	56	12	30.3	.121	.14
August	48	5.2	16.8	.067	.08
September	71	10	25.0	.100	.11
The year	5,210	5.2	317	1.26	17.18

[a] Estimated.

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, 1930.

EXTREMES.—Maximum discharge during year, about 8,460 second-feet Jan. 13 (gage height, 9.0 feet); minimum, 1.4 second-feet Aug. 18, 20 (gage height, 0.72 foot).

1922–1930: Maximum discharge, about 16,400 second-feet Jan. 19, 1929 (gage height, 12.0 feet); minimum, that of Aug. 18, 20, 1930.

REMARKS.—Records good except those for periods of extremely high water and for estimated periods, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	32		732		1,710	1,900	121	24	16	3.2	12
2	9.3	15		5,040		1,320	2,460	111	26	16	2.2	12
3	9.3	19		6,750		1,040	1,540	99	22	16	2.2	11
4	8.0	18		4,070		850	970	66	20	15	2.4	8.3
5	7.3	18	[a] 300	2,460		732	652	79	16	15	2.8	7.4
6	8.3	48		2,110		467	446	52	18	15	2.0	6.5
7	8.5	41		2,460	[a] 350	2,340	553	52	20	13	2.0	8.0
8	8.3	36	3,360	6,750		4,070	1,110	20	20	14	1.8	7.7
9	9.9	33	2,600	6,300		3,200	2,110	45	18	13	1.8	7.4
10	9.0	29	1,900	5,240		2,000	1,390	18	28	7.1	1.8	5.9
11	8.3	27	1,390	3,040		1,460	910	18	38	10	4.2	6.5
12	8.5	27	1,180	4,640		1,110	530		33	10	3.5	4.8
13	9.0	31	1,710	8,210	2,460	790	330		28	12	2.6	4.4
14	7.8	51	3,710	7,220	3,890	970	236		31	9.8	3.0	4.6
15	8.3	122	2,000	6,080	2,220	732	188		27	10	3.2	4.6
16	8.0	177	1,540	4,070	1,460	446	732		35	121	4.2	19
17	7.8	152	1,620	2,460	1,110	330	5,660		137	83	2.0	9.0
18	7.3	190	4,640	1,390	626	426	4,260		102	43	1.8	9.8
19	8.3	1,900	2,890	626	488	1,460	2,110	[a] 35	137	24	2.2	7.4
20	7.8	1,460	1,620	488	1,110	910	1,320		187	16	1.6	5.1
21	9.3	1,110	1,180	387	1,540	601	790		145	14	9.4	6.5
22	10	970	910	330	1,180	426	467		100	15	5.1	10
23	12	732	732		850	265	296		33	12	14	10
24	14	576	509		1,320	223	236		20	9.8	26	7.7
25	19	330	296		3,040	1,040	210		21	9.0	16	9.0
26	44	246	217	[a] 300	4,840	4,640	187	27	26	5.6	15	8.0
27	50	509	203		3,360	2,340	155	25	20	3.7	20	8.7
28	71	732	217		2,220	1,390	137	28	18	2.4	19	8.0
29	71	330	177		-------	1,320	121	23	15	5.6	13	6.8
30	53	[a] 300	203		-------	2,340	129	24	15	5.3	12	7.7
31	34	-------	313		-------	2,740	-------	23	-------	4.6	11	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	71	7.3	18.0	0.031	0.04
November	1,900	15	342	.583	.65
December	4,640	177	1,200	2.04	2.35
January	8,210	----------	2,700	4.60	5.30
February	4,840	----------	1,280	2.18	2.27
March	4,640	223	1,410	2.40	2.77
April	5,660	121	1,070	1.82	2.03
May	----------	----------	42.6	.073	.08
June	187	15	46.0	.078	.09
July	121	2.4	18.3	.031	.04
August	26	1.6	6.81	.012	.01
September	19	4.4	8.13	.014	.02
The year	8,210	1.6	677	1.15	15.65

[a] Estimated.

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, 1930.
EXTREMES.—Maximum discharge during year, 3,010 second-feet Jan. 13 (gage height, 5.7 feet); minimum, 1.0 second-foot Aug. 21–23 (gage height, 1.11 feet).

1922–1930: Maximum discharge, 6,160 second-feet Dec. 1, 1927, Jan. 19, 1929 (gage height, 8.2 feet); minimum, that of Aug. 21–23, 1930.

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

Daily and monthly discharge, in second-feet, 1929-30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	15		a 200		379	940	56	21	14	6.1	4.2
2	7.2	23		a1,800		406	1,060	41	18	15	4.2	4.6
3	6.8	18	a 250	2,460		375	725	50	18	15	3.2	5.6
4	9.1	31		996		286	368	46	16	7.5	3.2	7.5
5	21	41		378		306	245	36	14	15	2.7	12
6	18	29	a 170	245		331	194	38	20	20	2.7	7.0
7	12	25	a 170	415	a100	644	348	52	16	15	2.4	4.2
8	9.1	23	a 360	1,750		1,300	975	60	12	9.4	2.1	3.2
9	7.7	18	1,210	2,460		1,140	615	36	15	12	1.8	3.0
10	7.2	17	622	1,480		788	680	31	63	10	1.3	2.7
11	6.8	17	345	740		788	522	28	166	8.0	2.7	2.1
12	6.8	14	288	966		825	321	26	137	13	3.2	1.8
13	6.8	18	815	2,570	a350	462	224	23	58	8.0	3.0	1.8
14	6.8	31	1,480	2,100	1,470	587	180	32	34	4.6	3.0	1.5
15	6.8	51	792	1,220	798	414	149	38	23	16	2.7	1.5
16	6.3	74	378	648	358	250	417	39	106	34	2.4	5.6
17	5.4	69	467	321	241	202	1,650	41	224	17	2.1	9.4
18	6.3	110	1,660		202	228	1,320	36	190	18	1.8	8.0
19	6.8	918	1,120		218	530	508	54	187	13	1.5	18
20	6.8	590	432		678	382	296	90	170	5.1	1.3	9.4
21	6.3	276	167		774	241	209	78	90	4.6	1.0	6.1
22	10	169	168		434	190	180	52	52	11	1.0	4.6
23	20				316	133	159	38	36	6.6	1.0	4.6
24	13	a 150			434	121	133	35	26	13	7.0	5.1
25	15			a 100	958	323	115	24	22	5.1	5.1	
26	19		a 150		1,740	1,380	104	23	21	7.0	3.7	
27	23				1,380	799	93	22	18	5.1	3.7	a 6.0
28	27	a 140			538	363	78	23	15	4.6	3.2	
29	19				-------	374	73	25	15	4.6	8.7	
30	16				-------	565	67	23	15	8.0	7.5	
31	14	-------			-------	825	-------	22	-------	4.6	3.7	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	27	5.4	11.4	0.064	0.07
November	918	15	124	.697	.78
December	1,660	----------	427	2.40	2.77
January	2,570	----------	714	4.01	4.62
February	1,740	----------	432	2.43	2.53
March	1,380	121	514	2.89	3.33
April	1,650	67	432	2.43	2.71
May	90	22	39.3	.221	.25
June	224	12	60.6	.340	.38
July	34	4.6	11.1	.062	.07
August	8.7	1.0	3.19	.018	.02
September	18	1.5	5.65	.032	.04
The year	2,570	1.0	230	1.29	17.57

a Estimated.

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. Weir washed out Jan. 8, 1930, and gage lowered several times by observer; readings after Jan. 8 corrected to datum established Aug. 19, 1930, which is 1.30 feet below datum used before weir washed out.

DRAINAGE AREA.—22 square miles.

RECORDS AVAILABLE.—July, 1912, to September, 1930.

EXTREMES.—Maximum discharge during year, 994 second-feet Mar. 17; minimum, 0.9 second-foot Sept. 5–15.

1912–1930: Maximum discharge, about 2,400 second-feet Apr. 22, 1916 (gage height, 14.6 feet); minimum, 0.4 second-foot several times in September and October, 1921.

REMARKS.—Records fair except those for very low stages, which are poor. Record corrected for ice effect Dec. 1–6, 22–26, Jan. 18 to Feb. 19, and for backwater from temporary dam July 20 to Aug. 19.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	3.4	6	46		42	120	18	5.7	6.0	2	1.7
2	3.3	3.8	6	272		69	157	22	5.0	4.8	2	1.4
3	41	4.5	5	155		69	90	20	4.5	4.5	2	1.1
4	13	3.8	5	67		49	84	16	4.0	4.0	2	1.0
5	7.2	4.5	5	70		38	73	13	3.8	3.6	2	.9
6	5.6	3.8	5	57		38	65	13	3.6	5.0	2	.9
7	5.2	3.5	7.2	172		46	90	10	6.0	4.5	2	.9
8	4.8	3.4	11	490		118	45	9.8	4.5	3.6	2	.9
9	4.1	3.3	13	216		82	49	8.4	4.0	3.3	2	.9
10	3.9	3.2	12	122	[a] 6	84	58	8.4	10	5.0	2	.9
11	3.8	3.4	10	102		141	58	7.7	12	4.0	2	.9
12	3.8	3.3	10	52		109	48	7.0	8.1	3.6	1	.9
13	3.9	3.5	35	178		125	40	7.7	6.4	3.1	1	.9
14	3.8	9.6	151	391		136	39	7.4	4.5	6.4	1	.9
15	3.6	8.4	75	380		96	28	8.4	4.0	4.8	1	.9
16	3.5	6.9	43	84		71	24	8.4	3.6	4.0	1	2.0
17	3.3	5.9	34	66		439	28	7.7	4.8	3.1	1	2.3
18	3.4	21	48	55		253	28	6.7	7.0	2.6	1	1.4
19	3.4	20	41	48	75	102	32	7.4	14	2.6	1	1.2
20	3.2	13	32	40	283	116	25	19	38	2	1.1	1.1
21	3.0	9.2	19	34	164	90	23	12	20	2	1.0	1.1
22	3.4	7.8	16	30	90	61	38	9.3	8.9	3	1.0	1.1
23	4.8	6.4	14	26	73	64	28	7.4	7.0	3	1.1	1.1
24	4.1	6.1	12	22	57	42	29	6.7	8.4	3	2.0	1.1
25	3.8	5.6	10	19	166	40	32	6.4	6.7	2	2.0	1.1
26	3.5	6.4	12	[a] 17	103	81	41	6.0	6.4	2	1.6	1.4
27	3.3	6.9	17	[a] 14	60	52	30	5.7	12	2	1.4	1.6
28	3.4	15	29	[a] 12	45	41	24	6.7	9.3	2	1.4	1.2
29	3.0	12	32	[a] 11	------	39	20	8.4	6.7	2	1.4	1.1
30	3.2	6.7	29	[a] 9	------	43	19	7.0	5.0	2	1.4	1.2
31	3.3	------	27	[a] 8	------	43	------	6.4	------	2	1.4	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	41	2.2	5.32	0.242	0.28
November	21	3.2	7.14	.325	.36
December	151	5	24.9	1.13	1.30
January	490	8	105	4.77	5.50
February	283	----------	43.7	1.99	2.07
March	439	38	90.9	4.13	4.76
April	157	19	48.8	2.22	2.48
May	22	5.7	9.94	.452	.52
June	38	3.6	8.13	.370	.41
July	6.4	2	3.40	.155	.18
August	2.0	1.0	1.51	.069	.08
September	2.3	.9	1.17	.053	.06
The year	490	.9	29.2	1.33	18.00

[a] Estimated.

GENESEE RIVER AT SCIO, N. Y.

LOCATION.—Staff gage at highway bridge three-fourths mile above Scio, Allegany County.

DRAINAGE AREA.—288 square miles.

RECORDS AVAILABLE.—June, 1916, to September, 1930.

EXTREMES.—Maximum discharge during year, 4,710 second-feet Feb. 25 (gage height, 5.8 feet); minimum, 17 second-feet Sept. 24 (gage height, −0.02 foot).

1916–1930: Maximum discharge, about 10,600 second-feet May 22, 1919 (gage height, 9.1 feet); minimum, 15 second-feet Sept. 3, 1925.

REMARKS.—Records good except those for periods of ice effect, Dec. 1–6, 22–27, Jan. 18–31, Feb. 5–12, 16–19, Mar. 5, 6, and those estimated, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	181	150	255	145	735	420	255	176	69	23	25
2	168	221	160	a 388	145	935	1,140	310	148	86	23	25
3	3,190	255	160	1,810	148	735	618	273	133	75	22	23
4	1,110	221	150	829	145	534	560	238	128	a 65	21	22
5	560	221	150	645	140	500	509	221	113	55	21	20
6	392	206	150	588	130	500	484	206	100	66	20	19
7	329	190	158	615	120	536	1,040	190	86	210	19	a 19
8	273	181	551	1,390	110	939	800	221	75	96	19	20
9	221	170	431	2,280	100	818	735	190	69	79	19	19
10	173	a 158	273	1,560	95	631	768	167	339	77	20	18
11	153	151	221	851	90	1,300	705	153	307	65	19	18
12	138	143	173	1,260	100	1,230	675	140	176	69	18	18
13	130	133	586	3,000	111	865	832	130	158	71	18	18
14	130	135	1,400	2,570	116	1,010	675	130	135	161	18	18
15	128	341	732	1,970	88	768	560	164	116	103	18	18
16	116	273	509	1,250	85	705	509	184	92	77	20	20
17	113	256	615	800	80	946	705	145	173	63	19	24
18	107	870	1,800	650	80	2,170	768	153	354	57	18	20
19	96	735	1,470	500	90	1,970	935	298	282	48	18	19
20	88	588	865	420	350	1,250	705	1,030	329	41	18	18
21	80	509	509	380	560	935	615	584	255	34	18	18
22	85	414	380	340	484	768	645	370	184	47	18	18
23	566	350	340	300	484	705	509	329	158	41	19	18
24	310	329	320	280	509	645	460	291	156	38	20	17
25	273	291	a 300	260	2,790	696	460	273	148	35	20	20
26	255	273	300	240	2,840	982	414	221	125	33	25	25
27	221	255	320	220	1,380	a 750	392	206	135	31	22	29
28	190	221	350	220	935	588	350	310	107	29	20	23
29	176	206	291	200	------	534	291	350	86	28	19	22
30	158	153	273	190	------	484	273	273	73	26	19	21
31	190	------	273	170	------	414	------	206	------	25	19	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,190	46	328	1.14	1.31
November	870	133	288	1.00	1.12
December	1,800	150	463	1.61	1.86
January	3,000	170	853	2.96	3.41
February	2,840	80	445	1.55	1.61
March	2,170	414	857	2.98	3.44
April	1,140	273	618	2.14	2.40
May	1,030	130	265	.920	1.06
June	354	69	164	.569	.63
July	210	25	64.5	.224	.26
August	25	18	19.7	.068	.08
September	29	17	20.4	.071	.08
The year	3,190	17	366	1.27	17.26

a Estimated.

GENESEE RIVER AT ST. HELENA, N. Y.

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

DRAINAGE AREA.—992 square miles.

RECORDS AVAILABLE.—August, 1908, to September, 1930.

EXTREMES.—Maximum discharge during year, 20,500 second-feet Feb. 26 (gage height, 9.9 feet); minimum, 63 second-feet Oct. 2, Sept. 11, 12 (gage height, 1.97 feet).

1908–1930: Maximum discharge, about 44,400 second-feet May 17, 1916 (gage height, 12.8 feet); minimum, about 18 second-feet Oct. 5, 17, 1913 (gage height, 1.70 feet).

REMARKS.—Records good except those for periods of ice effect, Nov. 22–24, Nov. 29 to Dec. 1, Dec. 11, 12, 22–24, Jan. 6, Jan. 18 to Feb. 22, Mar. 4–6, and those estimated, which are fair. Flow slightly regulated by storage in Caneadea Reservoir.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	e 110	294	600	1,260	950	2,040	1,350	732	536	310	140	80
2	175	313	718	4,230	1,100	2,250	4,160	680	446	277	265	80
3	5,120	323	725	7,960	1,100	1,700	2,600	1,030	382	252	265	94
4	4,430	376	688	3,900	1,100	1,100	2,040	948	329	235	203	84
5	1,660	394	531	2,030	500	950	1,690	794	279	207	108	78
6	982	394	465	1,600	800	1,000	1,500	740	265	210	91	73
7	732	365	735	3,290	950	1,260	2,070	718	294	199	80	73
8	606	344	998	8,770	900	2,540	2,610	507	316	315	76	71
9	509	472	2,320	9,500	900	2,450	1,890	542	289	267	94	69
10	411	599	1,090	5,470	900	1,910	1,980	465	780	214	244	69
11	360	e 600	750	3,200	850	4,270	1,890	399	2,740	191	270	65
12	323	e 580	550	2,500	850	5,520	1,620	388	1,020	174	220	65
13	284	e 560	609	7,150	650	3,320	1,500	478	665	176	99	69
14	275	e 540	4,930	10,400	420	4,710	1,620	452	533	183	82	73
15	265	e 550	4,220	11,700	750	2,760	1,300	428	431	235	80	235
16	256	e 900	2,530	5,290	850	2,260	1,210	516	323	247	101	256
17	248	e 874	1,810	2,550	750	3,650	1,120	577	446	195	244	261
18	231	1,300	5,880	1,500	600	9,170	1,230	465	712	164	256	275
19	218	2,430	3,270	900	550	6,450	1,570	594	995	152	215	216
20	202	1,570	3,340	800	1,100	3,520	1,760	2,640	957	147	101	109
21	191	1,190	1,490	1,400	3,000	3,300	1,500	1,950	957	210	84	89
22	195	900	950	1,300	2,800	2,040	1,380	1,170	755	212	82	69
23	206	650	900	750	2,460	1,500	1,320	858	665	155	97	67
24	689	650	1,400	550	2,110	1,440	1,160	725	416	139	215	67
25	503	650	1,500	850	8,150	1,310	1,170	658	360	136	112	69
26	446	826	1,050	1,200	13,900	2,780	1,380	613	386	123	87	117
27	405	838	874	1,200	4,690	2,030	1,260	542	619	123	84	289
28	365	786	957	1,200	2,500	1,440	1,100	517	680	107	80	232
29	329	550	966	1,200	-------	1,300	984	837	483	117	82	112
30	299	340	874	700	-------	1,380	898	797	360	112	78	101
31	270	-------	1,120	550	-------	1,380	-------	650	-------	112	78	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,120	110	686	0.692	0.80
November	2,430	294	705	.711	.79
December	5,880	465	1,580	1.59	1.83
January	11,700	550	3,380	3.41	3.93
February	13,900	420	2,010	2.03	2.11
March	9,170	950	2,670	2.69	3.10
April	4,160	898	1,630	1.64	1.83
May	2,640	388	755	.761	.88
June	2,740	265	614	.619	.69
July	315	107	190	.192	.22
August	270	76	139	.140	.16
September	289	65	120	.121	.14
The year	13,900	65	1,200	1.21	16.48

e 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, 1930.

EXTREMES.—Maximum discharge during year, 19,600 second-feet Feb. 26 (gage height, 22.4 feet); minimum, 38 second-feet Sept. 13 (gage height, 0.12 foot).

1903–1906, 1908–1913, 1915–1930: Maximum discharge, 55,100 second-feet May 17, 1916 (gage height, 25.44 feet); minimum, about 18 second-feet Aug. 29, 1909.

REMARKS.—Records good except those for periods of ice effect, Nov. 27 to Dec. 9, Dec. 11–14, 21–31, Jan. 17 to Feb. 24, Mar. 3–7, and those estimated, which are fair. Slight seasonal regulation by storage in Caneadea Reservoir.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	141	382	950	2,320	a1,300	3,440	2,120	1,100	a700	461	154	116
2	168	398	950	4,890	1,300	3,650	4,690	908	a600	423	167	116
3	3,460	444	950	9,880	1,300	2,600	4,210	1,170	a500	390	277	122
4	6,140	452	900	6,250	1,300	1,800	3,090	1,360	a460	356	263	128
5	2,370	502	750	3,320	750	1,600	2,580	1,100	a400	320	213	124
6	1,450	493	700	2,460	a1,000	1,600	2,320	1,020	a380	279	143	108
7	995	480	1,100	3,300	a1,300	1,900	2,830	935	a420	279	135	106
8	830	457	1,800	8,510	a1,300	a4,000	3,760	984	a440	282	126	98
9	695	422	3,400	11,600	1,200	a3,600	2,810	715	a400	379	114	98
10	585	670	2,600	8,050	1,200	a3,000	2,670	665	576	341	112	97
11	516	695	1,200	4,590	1,200	a7,500	2,600	566	3,220	316	219	76
12	470	695	900	3,410	1,000	a8,500	2,390	506	1,620	306	282	40
13	414	695	1,100	7,430	1,000	a5,000	2,190	640	905	249	220	38
14	386	704	6,000	12,100	650	a6,500	2,260	615	715	242	a141	104
15	382	595	6,240	14,300	900	a4,280	2,000	615	566	256	a132	148
16	363	1,030	3,490	9,610	1,100	3,580	1,750	640	474	294	a154	174
17	360	1,060	2,260	4,400	950	4,640	1,690	742	440	292	200	276
18	326	1,160	5,840	2,600	800	10,500	1,750	640	726	262	220	282
19	319	2,810	4,540	1,500	800	9,210	2,060	665	1,220	229	247	282
20	312	2,080	3,860	1,100	2,100	5,840	2,320	2,370	1,220	171	244	182
21	294	1,580	2,400	1,600	a3,200	4,980	2,060	2,700	1,270	211	182	135
22	294	1,310	1,500	1,600	a4,000	3,490	1,870	1,650	1,020	252	157	130
23	558	1,000	1,300	a1,200	3,400	2,490	1,930	1,180	798	263	a148	126
24	706	885	1,600	a850	2,800	2,320	1,630	935	615	223	161	114
25	720	802	1,700	a1,200	5,460	2,190	1,570	852	501	176	161	122
26	595	933	1,300	a1,500	16,300	3,410	1,810	770	465	161	161	128
27	545	1,000	1,200	a1,500	9,130	3,380	1,750	715	665	a162	143	143
28	488	950	1,300	a1,500	4,830	2,390	1,570	665	890	a163	143	247
29	452	700	1,300	a1,500	-------	2,190	1,390	900	665	164	143	244
30	414	850	1,200	a1,000	-------	2,190	1,270	1,160	514	159	154	187
31	390	-------	1,700	a850	-------	2,260	-------	a852	-------	157	139	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,140	141	843	0.602	0.69
November	2,810	382	874	.624	.70
December	6,240	700	2,130	1.52	1.75
January	14,300	850	4,380	3.13	3.61
February	16,300	650	2,560	1.83	1.91
March	10,500	1,600	4,000	2.86	3.30
April	4,690	1,270	2,300	1.64	1.83
May	2,700	506	979	.699	.81
June	3,220	380	780	.557	.62
July	461	157	265	.189	.22
August	282	112	176	.126	.15
September	282	38	143	.102	.11
The year	16,300	38	1,620	1.16	15.70

a Estimated.

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

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

DRAINAGE AREA.—2,460 square miles.

RECORDS AVAILABLE.—December, 1919, to September, 1930.

EXTREMES.—Maximum discharge during year, 19,200 second-feet Jan. 16 (gage height, 9.8 feet); minimum, approaching zero, occurs frequently during low-water periods when power plant shuts down.

1919–1930: Maximum discharge, about 29,600 second-feet Dec. 2, 1927 (gage height, 13.5 feet); minimum, as noted above.

REMARKS.—Records good. Barge Canal crosses river near southern boundary of Rochester. It discharges water from Lake Erie into Genesee River and diverts in general a smaller amount to the east for canal purposes. Some regulation by storage in Caneadea Reservoir.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	840	1,040	907	2,990	1,920	6,980	3,970	2,430	1,910	1,460	847	a 808
2	1,080	1,150	1,010	5,720	1,650	5,720	5,450	2,530	1,720	1,310	849	a 800
3	2,110	975	1,570	11,900	1,960	4,580	7,920	2,340	1,610	1,280	838	a 850
4	6,350	1,120	1,560	13,700	2,220	3,580	5,880	2,350	1,460	1,240	927	a 850
5	5,910	1,100	1,540	8,550	2,270	3,260	4,020	2,540	1,440	1,150	993	841
6	3,280	1,190	1,500	4,540	2,160	3,050	3,430	2,350	1,510	1,240	942	860
7	2,280	1,140	1,520	4,380	1,960	3,350	3,740	2,120	1,520	1,220	854	725
8	1,910	1,150	1,150	8,680	1,520	8,570	4,480	2,060	1,320	1,130	857	766
9	1,700	1,130	1,820	15,000	1,310	10,600	4,640	1,960	1,440	1,160	824	778
10	1,450	1,050	2,560	15,300	1,530	9,700	3,820	1,780	1,510	1,300	714	796
11	1,330	1,270	2,530	10,200	2,040	10,300	3,710	1,600	2,110	1,320	789	858
12	1,250	1,380	2,050	6,740	1,920	15,400	3,850	1,610	3,770	1,260	790	924
13	1,090	1,390	1,820	8,490	2,090	14,600	4,130	1,540	2,450	1,040	854	a 850
14	1,200	1,370	2,120	13,700	2,480	14,000	3,930	1,700	1,890	1,390	870	733
15	1,180	1,680	6,560	17,700	2,260	12,400	3,790	1,960	1,500	1,460	807	819
16	1,170	1,420	6,510	18,500	1,530	8,780	3,330	1,930	1,630	972	717	884
17	1,080	1,770	4,370	14,500	1,730	7,660	3,140	1,800	1,440	1,050	686	833
18	1,070	1,860	3,860	7,400	1,740	13,200	3,260	1,760	1,710	1,350	856	830
19	1,090	2,390	a 7,520	4,600	1,890	16,400	3,540	1,800	2,110	1,380	856	865
20	1,020	3,290	a 5,030	2,910	4,040	14,100	3,740	2,180	2,360	982	849	877
21	1,040	2,740	3,720	2,700	7,070	11,400	3,740	3,740	2,510	1,030	972	790
22	897	2,400	2,550	3,360	9,070	8,320	3,710	3,640	2,310	998	838	829
23	873	2,090	1,830	3,160	8,010	6,050	3,610	2,620	1,990	1,030	959	835
24	1,280	1,750	1,720	2,470	6,200	4,310	3,570	2,350	1,860	1,010	910	802
25	1,530	1,690	1,850	2,000	5,230	4,090	3,350	1,940	1,700	1,030	877	780
26	1,530	1,600	a 2,550	1,680	12,400	5,240	3,160	1,930	1,540	897	a 960	785
27	1,360	2,000	a 3,000	2,340	16,200	7,030	3,260	1,860	1,490	822	a 922	822
28	1,250	1,970	2,950	2,450	11,700	5,400	3,180	1,810	1,850	863	a 936	818
29	1,100	1,800	2,530	2,530	-------	4,400	2,830	1,800	1,790	828	862	870
30	1,070	1,100	3,100	2,580	-------	4,320	2,620	1,920	1,730	798	1,070	909
31	1,060	-------	2,870	2,430	-------	4,220	-------	2,250	-------	786	802	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,350	840	1,660	0.675	0.78
November	3,290	975	1,600	.650	.73
December	7,520	907	2,780	1.13	1.30
January	18,500	1,680	7,200	2.93	3.38
February	16,200	1,310	4,150	1.69	1.76
March	16,400	3,050	8,100	3.29	3.79
April	7,920	2,620	3,890	1.58	1.76
May	3,740	1,540	2,140	.870	1.00
June	3,770	1,320	1,840	.748	.83
July	1,460	786	1,120	.455	.52
August	1,070	686	865	.351	.41
September	924	725	826	.336	.37
The year	18,500	686	3,010	1.22	16.63

a Estimated.

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; March, 1919, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,850 second-feet Mar. 17 (gage height, 9.0 feet); minimum mean daily discharge, 15 second-feet Aug. 14 (gage height, 5.98 feet).

1910–1912, 1915–1917, 1919–1930: Maximum discharge, about 6,900 second-feet Nov. 30, 1927 (gage height, 12.7 feet); minimum, 14 second-feet Sept. 10, 1921.

REMARKS.—Records fair; corrected for ice effect Nov. 30 to Dec 6, Dec. 22–25, Jan. 17 to Feb. 19, Mar. 4.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	47	48	92	70	256	266	132	93	48	19	19
2	65	48	46	833	70	237	574	148	83	44	19	19
3	826	50	46	812	80	202	370	171	78	42	17	19
4	272	50	44	345	75	190	280	138	73	39	18	17
5	128	47	44	181	70	187	290	126	68	35	19	a 16
6	84	44	48	181	70	187	280	120	66	35	18	a 16
7	73	42	57	196	65	318	516	115	76	33	18	17
8	65	41	98	679	65	738	437	117	68	30	17	17
9	54	41	112	938	65	486	340	106	68	28	17	16
10	48	40	83	369	65	414	320	101	160	30	17	16
11	44	40	74	184	65	952	295	93	168	32	16	16
12	42	38	73	233	70	1,230	270	90	109	30	16	16
13	41	41	218	938	110	679	261	90	88	28	16	19
14	41	73	800	1,090	85	724	243	90	76	33	15	18
15	40	95	404	1,160	75	a 492	213	129	66	33	16	18
16	37	79	a 226	568	70	400	193	135	61	28	26	21
17	37	66	238	240	75	960	189	115	80	26	21	21
18	35	153	593	160	75	1,370	189	106	123	25	19	19
19	34	166	a 275	140	a 95	716	221	175	139	22	19	18
20	33	135	a 178	120	436	436	189	257	123	22	19	17
21	33	116	a 120	100	305	403	178	182	109	22	19	18
22	158	99	95	95	237	a 360	193	141	78	28	18	17
23	199	88	90	95	237	a 340	182	120	64	33	20	17
24	101	83	85	90	237	a 310	178	123	66	26	26	18
25	77	73	80	85	296	a 295	174	120	57	24	24	25
26	66	69	81	80	296	398	178	106	57	22	21	27
27	57	81	81	75	441	305	164	96	93	22	20	36
28	50	95	81	75	341	270	150	110	80	22	19	20
29	47	60	110	75	------	252	141	147	64	24	18	19
30	45	a 50	120	70	------	266	135	120	53	20	18	19
31	44	------	99	70	------	261	------	106	------	19	19	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	826	25	93.6	0.632	0.73
November	166	38	71.7	.484	.54
December	800	44	153	1.03	1.19
January	1,160	70	334	2.26	2.61
February	441	65	151	1.02	1.06
March	1,370	187	472	3.19	3.68
April	574	135	254	1.72	1.92
May	257	90	127	.858	.99
June	168	53	86.2	.582	.65
July	48	19	29.2	.197	.23
August	26	15	18.8	.127	.15
September	36	16	19.0	.128	.14
The year	1,370	15	151	1.02	13.89

a Estimated.

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

LOCATION.—Staff gage on grounds of Craig Colony, Sonyea, Livingston County.
DRAINAGE AREA.—69 square miles.
RECORDS AVAILABLE.—July, 1910, to December, 1912; October, 1917, to September, 1930.
EXTREMES.—Maximum discharge during year, 2,330 second-feet Jan. 14 (gage height, 3.5 feet); minimum, 0.2 second-foot Aug. 12, 13.
1910–1912, 1917–1930: Maximum stage, 5.9 feet Mar. 14, 1918 May 22, 1919, Nov. 17, 1927 (discharge not determined); minimum discharge, that of Aug. 12, 13, 1930.
REMARKS.—Records fair. Record corrected for ice effect, Nov. 23–25, Nov. 30 to Dec. 6, Dec. 11, 12, 20–31, Mar. 4–6; for ice and tree on control, Jan. 15 to Feb. 20; for backwater from sandbag on control, Aug. 9 to Sept. 19.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	6.5	12	179	9	100	95	23	e 14	8.0	1.2	1.2
2	13	8.5	11	556	10	181	243	26	11	7.0	1.2	1.8
3	238	9.0	10	384	e 13	92	110	30	8.5	7.0	1.0	2.0
4	53	8.5	9	116	13	65	90	e 23	7.5	6.1	1.0	1.3
5	24	9.0	10	55	10	60	74	20	6.5	e 7.0	.8	.8
6	17	8.0	14	69	8	55	67	18	7.5	8.0	1.0	.8
7	14	8.0	19	136	8	94	174	18	14	5.7	.8	.7
8	15	8.0	42	494	7	494	105	30	11	5.3	.6	e .6
9	11	8.0	47	395	8	170	78	20	10	4.5	.5	.5
10	10	7.0	29	133	8	276	74	19	86	5.3	.4	1.0
11	9.0	6.5	e 19	59	9	e955	63	15	51	7.5	.3	1.2
12	8.0	9.6	16	281	10	358	60	14	23	5.3	.2	.7
13	8.0	11	155	490	65	384	56	28	15	3.8	.2	.8
14	8.5	18	358	1,200	30	221	52	20	11	7.0	.4	.9
15	7.5	24	133	600	11	119	46	25	e 9.0	7.0	.5	.8
16	7.0	17	78	130	8	108	41	28	9.0	5.3	1.0	1.6
17	7.0	14	119	56	7	464	44	18	15	3.5	.9	2.0
18	6.1	40	250	34	8	594	41	14	18	3.5	.8	1.6
19	6.1	41	68	22	85	257	69	32	14	3.2	.8	1.6
20	8.0	35	42	20	140	173	e 51	51	29	3.2	1.0	1.2
21	5.7	29	24	18	146	148	41	31	22	1.5	.8	e 1.1
22	6.1	e 20	18	16	103	56	47	24	e 11	4.1	.9	1.0
23	16	17	16	14	103	46	41	19	8.5	4.5	1.3	.7
24	11	16	13	13	95	63	41	18	8.5	3.2	3.0	1.0
25	10	15	11	e 11	635	63	40	18	9.0	3.5	3.2	1.3
26	11	17	12	10	327	142	40	16	9.6	2.0	e 2.7	3.5
27	10	29	22	10	118	90	33	14	46	1.8	2.0	5.3
28	7.0	e 42	32	10	83	72	31	17	30	1.2	1.5	3.5
29	7.5	24	40	10	-------	72	28	32	18	2.0	1.1	e 3.5
30	7.5	15	34	10	-------	78	26	22	11	1.5	1.2	e 3.5
31	6.5	-------	34	9	-------	83	-------	e 18	-------	1.2	1.0	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	238	3.5	18.5	0.268	0.31
November	42	6.5	17.4	.252	.28
December	358	9	54.7	.793	.91
January	1,200	9	179	2.59	2.99
February	635	7	74.2	1.08	1.12
March	955	46	198	2.87	3.31
April	243	26	66.7	.967	1.08
May	51	14	22.6	.328	.38
June	86	6.5	18.1	.262	.29
July	8.0	1.2	4.51	.065	.07
August	3.2	.2	1.07	.016	.02
September	5.3	.5	1.58	.023	.03
The year	1,200	0.2	54.8	0.794	10.79

e Estimated.

CONESUS CREEK NEAR LAKEVILLE, N. Y.

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

DRAINAGE AREA.—72 square miles.

RECORDS AVAILABLE.—November, 1919, to September, 1930.

EXTREMES.—Maximum discharge during year, 278 second-feet Mar. 22 (gage height, 2.61 feet); minimum, 1.1 second-feet several times Sept. 13–23 (gage height, 0.53 foot).

1919–1930: Maximum discharge, about 625 second-feet Dec. 1, 1928 (gage height, from estimated gage-height graph, 3.6 feet); minimum, 0.45 second-foot Nov. 22, 1923 (gage height, 0.52 foot).

REMARKS.—Records good. Slight backwater effect from ice Dec. 3–6, 22–26, Jan. 21 to Feb. 2, Feb. 6–11, 16, 17. Natural storage and regulation afforded by Conesus Lake. Water supply for Avon and Geneseo taken from Conesus Lake.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	9.6	7.6	40	70	80	171	78	45	34	15	3.1
2	6.6	11	6.6	50	75	85	171	74	45	33	14	3.1
3	16	8.6	6	50	79	85	161	71	42	29	12	3.4
4	13	8.6	6	51	76	80	152	70	42	29	11	3.1
5	14	8.6	6	53	74	79	152	70	41	28	11	2.6
6	14	9.6	7	56	70	82	152	67	40	28	12	2.2
7	14	8.1	11	62	65	85	152	65	38	28	11	2.2
8	14	7.6	9.6	73	65	106	142	62	38	26	11	1.8
9	13	7.6	12	82	65	102	142	62	36	25	11	1.6
10	13	8.6	12	87	65	104	140	60	40	26	10	1.6
11	13	8.6	11	92	60	131	133	62	40	26	9.4	1.6
12	13	7.6	14	100	64	161	126	62	39	25	8.6	1.4
13	13	7.6	15	110	66	152	121	61	38	25	7.4	1.1
14	12	8.6	16	152	64	171	118	55	40	25	7.0	1.1
15	12	8.6	16	152	61	181	111	58	38	24	6.2	1.4
16	12	9.6	19	161	55	181	106	56	36	24	6.2	1.4
17	11	9.6	20	152	50	192	110	58	36	23	5.5	1.4
18	11	12	22	138	54	250	110	54	37	22	4.8	1.6
19	11	11	22	129	59	262	110	52	37	22	4.6	1.4
20	11	11	22	124	61	262	110	56	36	21	4.0	1.4
21	9.6	11	20	110	62	275	108	55	35	21	4.0	1.2
22	9.6	11	19	100	59	275	106	51	34	20	3.6	1.1
23	11	11	18	95	61	238	104	51	34	20	3.1	1.1
24	11	12	16	95	64	226	98	51	33	19	3.1	2.6
25	11	12	15	90	69	214	98	51	32	19	3.1	5.2
26	11	12	18	85	76	226	94	50	34	18	4.0	5.8
27	10	12	26	80	79	214	92	49	36	17	4.0	7.4
28	8.6	12	28	80	79	203	86	47	35	16	4.0	6.2
29	8.6	11	27	80	------	192	80	48	34	16	3.6	6.2
30	9.1	8.6	27	75	------	181	80	48	34	16	3.4	5.5
31	8.6	------	33	70	------	181	------	47	------	16	3.1	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	16	4.1	11.3	0.157	0.18
November	12	7.6	9.82	.136	.15
December	33	6	16.4	.228	.26
January	161	40	92.7	1.29	1.49
February	79	50	66.0	.917	.95
March	275	79	170	2.36	2.72
April	171	80	121	1.68	1.87
May	78	47	58.1	.807	.93
June	45	32	37.5	.521	.58
July	34	16	23.3	.324	.37
August	15	3.1	7.12	.099	.11
September	7.4	1.1	2.69	.037	.04
The year	275	1.1	51.3	.712	9.65

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, 1930.
REMARKS.—Records good. Data collected, computed, and furnished for publication by city engineer of Rochester, N. Y.

Monthly discharge, 1929–30

Month	Mean elevation of lake above low-water mark (feet)	Discharge in second-feet		Run-off in inches
		Mean	Per square mile	
October	0.135	2.395	0.190	0.219
November	−.180	3.547	.282	.314
December	−.077	3.720	.295	.340
January	1.970	15.494	1.230	1.418
February	1.682	13.021	1.033	1.076
March	2.857	34.761	2.759	3.181
April	2.612	21.418	1.700	1.897
May	2.033	9.334	.741	.854
June	2.113	9.206	.731	.815
July	1.545	7.070	.561	.647
August	.663	4.102	.326	.376
September	.150	1.760	.140	.156
The year	1.292	10.486	.832	11.293

NOTE.—Terminal water-surface elevation for the year was 0.30 foot higher than that of preceding year, corresponding to a gain in storage of 8,428,860 cubic feet, or a discharge of 0.267 second-foot for the year. This correction applied to the mean discharge for the year gives 10.753 second-feet, equivalent to 0.853 second-foot per square mile or a run-off of 11.579 inches from the drainage area.

FALL CREEK NEAR ITHACA, N. Y.

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

DRAINAGE AREA.—126 square miles.

RECORDS AVAILABLE.—February, 1925, to September, 1930. July, 1908, to June, 1909, 1¼ miles below present site.

EXTREMES.—Maximum discharge during year, 2,260 second-feet Mar. 8 (gage height, 3.9 feet); minimum 13 second-feet Sept. 22 (gage height, 0.39 foot).

1925–1930: Maximum discharge, about 5,320 second-feet Nov. 16, 1926; maximum stage, 7.6 feet Feb. 27, 1929; minimum discharge, about 3 second-feet Aug. 25, 1927 (gage height, 0.18 foot).

REMARKS.—Records good except those for periods of ice effect, Dec. 1–6, 22–26, Jan. 17 to Feb. 19, which are fair. Water supply for Cornell University diverted from Fall Creek about a mile above gage.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	88	60	221	85	252	210	113	120	90	26	20
2	368	104	60	782	90	339	323	125	100	152	26	52
3	1,250	147	60	849	95	190	260	187	83	102	25	123
4	552	139	60	412	85	247	222	125	71	85	26	57
5	273	139	60	236	85	226	195	104	66	73	24	35
6	188	136	75	252	75	218	190	97	59	75	22	29
7	216	106	91	341	75	311	1,390	85	65	83	24	28
8	256	97	139	617	80	2,000	760	102	60	80	22	27
9	174	97	166	702	80	1,040	512	93	67	72	20	26
10	133	99	111	426	80	611	500	80	181	254	20	23
11	122	99	88	214	70	728	440	78	190	139	20	21
12	109	109	44	311	70	688	339	60	90	95	21	20
13	118	93	127	666	70	498	291	61	65	82	19	17
14	127	155	350	812	65	541	252	59	59	125	20	19
15	109	347	305	718	65	324	214	116	50	106	22	18
16	97	230	177	412	55	319	191	130	49	78	29	27
17	113	163	175	220	50	433	184	100	648	64	27	20
18	147	488	908	180	55	880	191	85	1,920	56	22	20
19	116	446	429	150	85	820	191	113	1,100	49	22	20
20	100	273	364	140	393	440	174	302	590	47	21	20
21	91	218	170	130	631	385	144	156	412	43	20	18
22	111	184	150	120	603	250	191	116	264	54	18	15
23	190	130	140	120	481	228	174	97	187	99	26	14
24	136	147	140	120	435	230	160	110	180	65	60	15
25	136	136	150	110	442	247	170	331	174	47	40	17
26	111	122	170	110	573	546	199	177	133	46	35	19
27	100	130	188	100	319	362	170	160	142	39	26	26
28	91	139	191	120	238	256	139	153	147	40	26	26
29	85	88	188	100	-------	234	122	384	111	35	22	28
30	83	53	177	85	-------	256	111	195	95	29	20	21
31	86	-------	184	85	-----	247	-------	150	-------	31	18	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,250	31	188	1.49	1.72
November	488	53	163	1.29	1.44
December	908	44	184	1.46	1.68
January	849	85	318	2.52	2.90
February	631	50	198	1.57	1.64
March	2,000	190	463	3.67	4.23
April	1,390	111	287	2.28	2.54
May	384	59	137	1.09	1.26
June	1,920	49	249	1.98	2.21
July	254	29	78.5	.623	.72
August	60	18	24.8	.197	.23
September	123	14	27.2	.216	.24
The year	2,000	14	193	1.53	20.81

NOTE.—During the year Cornell University diverted 211,086,000 gallons, equivalent to a mean yearly discharge of about 0.9 second-foot.

OWASCO LAKE OUTLET NEAR AUBURN, N. Y.

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

DRAINAGE AREA.—206 square miles.

RECORDS AVAILABLE.—November, 1912, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,110 second-feet June 19 (gage height, 3.53 feet); minimum, 4 second-feet May 23 (gage height, 1.40 feet).

1912–1930: Maximum discharge, 2,750 second-feet during period Mar. 25–30, 1913 (gage height, from flood marks, 6.4 feet); minimum, 3.8 second-feet Aug. 21, 1920.

REMARKS.—Records good except those estimated, 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 gage.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	162	201	217	330	e 380	342	463	226	156	447	178	150
2	175	196	224	381	e 400	360	468	223	199	466	172	177
3	213	199	205	427	e 400	369	436	175	179	502	157	164
4	164	219	204	449	392	356	357	190	176	483	177	145
5	139	212	204	452	367	350	277	212	182	454	183	146
6	144	211	197	445	332	345	281	204	177	417	196	142
7	177	202	190	462	e 325	355	347	197	165	340	189	143
8	170	193	200	508	e 320	496	399	208	126	257	191	144
9	148	190	218	550	316	554	425	199	178	195	183	154
10	183	177	211	561		602	434	207	187	270	157	138
11	237	177	218	552		653	441	179	183	351	197	128
12	209	172	240	567		744	418	227	178	297	192	137
13	216	206	252	593		784	404	211	172	220	187	137
14	245	286	223	690		788	412	229	135	316	146	122
15	235	256	200	745	e 245	788	398	230	132	386	182	170
16	221	290	236	737		784	395	223	198	372	163	132
17	226	224	277	721		784	450	190	222	337	196	147
18	212	301	285	720		835	599	154	525	312	175	137
19	223	257	809	672		868	529	217	938	306	156	136
20	212	273	330		226	867	475	204	1,030	225	156	125
21	220	279	295		238	827	400	205	1,030	228	152	98
22	225	278	270		262	800	479	170	977	207	161	145
23	218	264	287		291	780	476	168	950	197	e 160	125
24	217	269	331		313	752	464	165	937	203	158	117
25	214	275	325	e 500	328	700	455	124	876	190	178	120
26	215	258	326		333	724	450	199	834	180	151	122
27	197	262	319		339	736	346	186	778	161	149	126
28	205	238	309		343	712	295	178	710	193	140	98
29	204	258	280		-------	688	286	182	672	177	147	138
30	210	208	304		-------	668	270	127	540	207	134	114
31	192	-------	304		-------	573	-------	169	-------	213	148	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	245	139	201	0.976	1.13
November	301	172	234	1.14	1.27
December	331	190	258	1.25	1.44
January	745	330	534	2.59	2.99
February	400	-------	298	1.45	1.51
March	868	342	645	3.13	3.61
April	599	270	411	2.07	2.23
May	230	124	193	.937	1.08
June	1,030	126	458	2.22	2.48
July	508	161	293	1.42	1.64
August	197	134	168	.816	.94
September	177	98	136	.660	.74
The year	1,030	98	319	1.55	21.06

e Estimated.

NOTE.—Elevation of surface of Owasco Lake decreased from 706.72 feet Oct. 1 to 705.73 feet Sept. 30, indicating a net loss in storage of about 284,276,000 cubic feet, equivalent to an average flow for the year of 9.0 second-feet, 0.044 second-foot per square mile, or a run-off of 0.60 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, 1930.

EXTREMES.—Maximum mean daily discharge during year, 3,600 second-feet Jan. 8; minimum discharge, 20 second-feet Aug. 23 (gage height, 1.20 feet).

1923–1930: Maximum discharge, about 5,520 second-feet Apr. 8, 1928; maximum stage 8.3 feet Apr. 6, 1928; minimum discharge, that of Aug. 23, 1930.

REMARKS.—Records good except those for periods of ice effect, Nov. 23–26, Nov. 29 to Jan. 13, Jan. 17 to Mar. 6, Mar. 14–16, 22–24, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	84	140	180	110	220	269	1,060	98	406	29	38
2	136	370	130	260	110	260	1,120	890	87	272	27	39
3	560	305	130	440	110	200	890	1,000	71	143	27	64
4	485	194	120	340	100	180	635	550	62	91	29	39
5	325	194	120	240	100	170	510	402	54	74	32	32
6	188	188	130	240	100	160	815	346	57	205	27	27
7	268	167	130	340	95	*205	1,860	260	78	158	24	26
8	245	144	140	3,600	90	939	1,170	210	67	91	24	24
9	167	122	140	2,400	90	1,180	730	173	59	64	27	23
10	124	114	130	1,500	85	890	590	133	154	73	27	23
11	100	122	120	700	80	590	472	123	189	64	37	22
12	91	160	120	600	80	550	1,180	100	98	64	36	21
13	184	148	110	700	85	416	1,600	93	67	60	32	21
14	225	272	160	780	85	340	1,530	85	53	129	29	33
15	167	420	220	945	80	300	945	220	44	106	44	33
16	124	300	170	680	80	240	590	352	39	64	32	40
17	164	229	170	360	75	215	550	294	301	50	27	87
18	154	436	600	300	75	550	472	189	984	43	24	52
19	119	685	550	240	95	435	945	126	1,000	39	26	36
20	104	365	700	200	150	383	680	418	590	35	24	31
21	91	250	500	180	480	240	730	310	370	34	23	27
22	85	184	360	170	750	200	680	230	245	42	21	25
23	91	170	280	160	850	180	510	161	136	39	24	24
24	89	150	240	150	1,200	180	376	123	91	34	82	23
25	119	140	220	140	1,000	154	316	220	87	32	78	33
26	119	140	220	140	600	493	316	154	71	30	129	44
27	96	233	200	130	400	402	409	133	282	30	100	100
28	80	295	200	130	280	294	635	114	370	60	46	78
29	73	200	190	120	-------	272	590	201	189	44	33	49
30	69	140	180	120	-------	230	945	161	106	35	27	62
31	73	-------	180	120	-------	201	-------	120	-------	30	26	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	560	57	160	2.13	2.46
November	685	84	231	3.08	3.44
December	700	110	226	3.01	3.47
January	3,600	120	536	7.15	8.24
February	1,200	75	266	3.55	3.70
March	1,180	154	364	4.85	5.59
April	1,860	269	769	10.3	11.49
May	1,060	85	289	3.85	4.44
June	1,000	39	203	2.71	3.02
July	406	30	85.2	1.14	1.31
August	129	21	37.8	.504	.58
September	100	21	39.2	.523	.58
The year	3,600	21	267	3.56	48.32

* Estimated.

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, 1930.

EXTREMES.—Maximum discharge during year, 13,700 second-feet Jan. 8 (gage height, 8.1 feet); minimum, about 12 second-feet July 31 (gage height, −0.04 foot).

1923–1930: Maximum discharge, about 16,200 second-feet Apr. 6, 1924 (gage height, 8.2 feet); minimum, that of July 31, 1930.

REMARKS.—Records good for ordinary open-water stages and fair for extremely high and low stages and for periods of ice effect, Nov. 24–26, Dec. 1–15, 22–26, Jan. 20 to Feb. 19, Mar. 4–6. Small amount of water diverted above station by city of Oneida for municipal supply.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	135	183	280	357	240	494	655	1,300	226	718	48	70
2	367	794	300	544	220	547	2,130	1,490	204	711	43	110
3	*1,220	720	280	830	220	410	1,390	1,610	176	382	42	151
4	928	426	260	716	200	360	1,090	906	153	256	47	114
5	684	400	240	470	200	340	908	607	135	193	61	78
6	428	356	260	486	*200	320	1,420	488	130	350	50	62
7	549	307	260	636	*190	386	5,800	410	182	369	41	55
8	542	280	280	7,150	180	2,990	2,730	359	163	226	*36	47
9	346	252	280	7,160	180	2,000	1,540	304	144	171	*47	43
10	262	224	260	3,070	170	1,190	1,110	264	262	174	51	36
11	224	257	240	1,490	170	937	1,150	233	400	166	62	36
12	202	323	240	1,240	160	845	2,300	217	242	136	55	34
13	305	280	220	1,540	180	732	2,810	201	166	105	48	33
14	459	694	280	1,650	180	625	2,520	187	135	251	51	97
15	344	1,030	480	1,940	170	538	2,110	512	116	260	62	130
16	266	871	415	1,250	160	494	1,230	658	108	166	79	139
17	270	538	410	753	150	500	1,010	601	602	122	55	224
18	277	1,100	1,170	601	150	1,030	921	391	2,610	99	43	174
19	231	1,660	1,180	488	180	802	1,510	304	2,130	92	36	103
20	208	854	1,370	440	353	*603	1,250	882	1,280	82	37	91
21	186	561	1,040	380	952	525	1,140	677	901	73	33	49
22	177	390	750	340	1,440	401	1,250	517	568	82	25	79
23	177	323	550	320	1,650	378	935	350	363	82	45	30
24	186	300	460	300	2,440	*312	691	285	256	73	124	56
25	248	280	420	300	2,100	*725	632	456	217	64	148	60
26	266	280	420	280	1,260	1,320	625	350	201	61	125	169
27	217	429	405	280	842	898	704	289	514	83	292	274
28	183	530	400	280	595	644	875	260	677	126	121	236
29	158	385	380	280	-------	589	1,000	333	420	96	86	154
30	152	262	348	260	-------	571	1,130	320	256	83	66	134
31	155	-------	365	240	-------	505	-------	267	-------	46	55	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,220	135	334	1.78	2.05
November	1,660	183	510	2.71	3.02
December	1,370	220	459	2.44	2.81
January	7,160	240	1,160	6.17	7.11
February	2,440	150	540	2.87	2.99
March	2,990	312	742	3.95	4.55
April	5,800	625	1,490	7.93	8.85
May	1,610	187	517	2.75	3.17
June	2,610	108	465	2.47	2.76
July	718	46	190	1.01	1.16
August	292	25	68.2	.363	.42
September	274	30	102	.543	.61
The year	7,160	25	547	2.91	39.50

* Estimated.

BLACK RIVER NEAR BOONVILLE, N. Y.

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

DRAINAGE AREA.—305 square miles (revised).

RECORDS AVAILABLE.—February, 1911, to September, 1930.

EXTREMES.—Maximum discharge during year, 5,520 second-feet Jan. 9 (gage height, 10.0 feet); minimum, 88 second-feet Sept. 13, 14 (gage height, 3.65 feet).

1911–1930: Maximum discharge, about 10,000 second-feet Mar. 28, 1913 (gage height, about 12.5 feet); minimum, about 5 second-feet Aug. 26, 1918 (gage height, 2.40 feet).

REMARKS.—Records good except those for periods of ice effect, Nov. 29, Dec. 2–15, Dec. 22 to Jan. 1, Jan. 23 to Feb. 21, 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. That portion of diversion which does not pass down Black River Canal (flowing south) returns to Black River below station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	358	340	377	600	400	940	875	815	522	593	113	167
2	416	377	360	593	400	875	1,290	815	500	815	108	167
3	920	377	340	593	380	815	1,070	875	457	755	108	190
4	815	377	340	593	380	755	1,000	875	416	700	110	156
5	545	377	340	619	380	700	1,070	815	396	619	192	146
6	593	340	340	645	360	645	1,140	755	377	645	258	138
7	645	305	340	700	360	619	2,380	755	377	569	229	124
8	700	340	360	2,030	360	1,230	3,360	645	377	436	215	110
9	593	340	340	5,100	360	1,450	2,860	593	416	396	229	106
10	500	377	320	4,280	360	1,210	2,000	522	478	377	215	98
11	478	423	320	3,620	340	1,070	1,540	478	457	322	202	95
12	478	688	300	2,510	340	1,210	1,910	457	396	289	190	92
13	593	606	300	2,860	380	1,140	3,280	436	377	322	178	99
14	619	919	300	3,110	400	1,070	2,980	377	358	340	178	88
15	593	1,070	320	2,400	380	1,000	2,740	457	340	289	167	136
16	545	1,070	340	2,100	360	815	2,400	457	322	273	229	229
17	569	755	479	1,450	340	940	1,810	457	590	243	243	478
18	569	875	1,180	1,140	360	1,000	1,810	436	976	229	229	457
19	522	875	1,950	1,000	420	940	1,720	436	1,510	215	215	377
20	457	700	1,810	815	550	875	1,630	749	1,630	190	202	377
21	416	645	1,370	700	750	875	1,540	875	1,450	178	178	243
22	396	593	1,100	645	1,000	875	1,450	755	875	167	190	178
23	396	593	900	600	1,540	875	1,290	645	755	167	190	146
24	396	593	800	550	1,200	815	1,290	545	619	146	324	131
25	457	522	750	500	1,000	815	1,210	593	545	135	305	146
26	416	478	700	480	875	875	1,140	700	522	110	273	273
27	377	457	650	460	875	1,000	1,000	672	593	136	243	305
28	340	416	650	440	1,000	1,140	940	645	569	167	229	305
29	340	400	600	420	------	1,070	875	593	500	142	215	273
30	322	377	550	420	------	940	875	569	416	124	190	273
31	340	------	550	400	------	940	------	545	------	112	190	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	920	322	507	1.66	1.91
November	1,070	305	554	1.82	2.03
December	1,950	300	625	2.05	2.36
January	5,100	400	1,370	4.49	5.18
February	1,540	340	566	1.86	1.94
March	1,450	619	952	3.12	3.60
April	3,360	875	1,680	5.51	6.15
May	875	377	624	2.05	2.36
June	1,630	322	604	1.98	2.21
July	815	110	329	1.08	1.24
August	324	108	204	.669	.77
September	478	88	203	.666	.74
The year	5,100	88	685	2.25	30.49

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, 1930.

EXTREMES.—Maximum discharge during year, 22,300 second-feet Jan. 11 (gage height, 8.2 feet); minimum, 306 second-feet June 15 (gage height, 0.61 foot). 1920–1930: Maximum discharge, 33,900 second-feet Apr. 9, 1928 (gage height, 10.6 feet); minimum, 155 second-feet Aug. 6, 1923 (gage height, 0.30 foot).

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

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,850	2,500	1,670	3,890	3,160	8,010	4,960	5,270	3,650	2,750	1,490	960
2	1,950	2,370	2,680	4,320	3,260	6,830	8,360	5,460	3,480	3,050	1,420	1,070
3	2,930	2,610	3,150	6,090	3,260	5,500	9,260	5,860	3,370	3,820	1,340	1,350
4	5,940	2,900	2,930	6,490	3,380	5,460	9,260	5,860	3,240	3,840	1,070	1,800
5	6,050	3,150	2,930	5,900	3,270	4,620	8,630	6,300	3,030	2,940	1,460	1,550
6	4,930	3,160	2,800	5,180	3,040	4,280	8,050	6,410	2,370	2,140	1,380	1,500
7	4,090	2,880	3,040	6,290	3,250	3,940	10,700	5,780	2,160	2,550	1,540	1,310
8	4,280	2,430	2,510	13,200	3,280	7,270	13,100	5,230	2,230	2,770	1,230	1,240
9	4,040	2,330	2,990	17,500	2,950	9,260	15,200	4,900	2,260	2,570	1,320	1,560
10	3,710	1,760	3,830	20,800	2,930	9,260	14,800	4,400	2,680	2,210	1,150	1,640
11	3,130	2,110	4,240	20,800	3,150	9,580	12,000	3,570	2,910	2,370	1,150	1,560
12	2,770	2,380	4,090	16,500	3,020	9,580	10,900	3,290	3,120	2,200	1,160	1,390
13	1,780	2,920	3,610	13,300	2,900	9,260	10,600	3,290	3,240	2,300	1,340	1,410
14	2,450	2,770	3,570	12,000	3,020	7,730	10,900	3,140	2,910	2,410	1,400	1,360
15	2,730	4,180	3,430	12,400	3,250	7,730	12,800	2,920	1,650	2,700	1,440	1,170
16	2,820	5,020	3,830	12,400	2,830	6,660	13,100	3,200	1,800	2,530	1,430	1,470
17	2,570	4,580	3,600	12,000	2,770	5,500	12,400	3,660	2,290	2,230	1,500	1,710
18	2,970	4,760	3,300	10,400	2,510	7,000	10,900	3,860	3,140	2,030	1,210	2,180
19	3,000	6,740	3,980	8,100	2,700	7,140	9,900	3,340	5,650	1,810	1,550	2,270
20	2,090	6,850	5,270	6,870	3,500	6,630	8,940	3,880	5,740	1,630	1,620	2,020
21	2,330	6,560	6,380	6,060	6,320	5,980	8,940	4,620	5,360	1,530	1,430	1,790
22	2,410	5,730	6,810	5,410	8,070	4,790	8,630	5,080	4,650	1,550	1,600	1,340
23	2,340	4,640	7,560	4,800	9,750	3,780	8,010	4,800	4,460	1,830	1,570	1,600
24	2,350	3,330	4,410	4,420	11,300	3,990	7,410	4,500	4,000	1,270	1,540	1,450
25	2,470	3,080	6,380	4,040	11,300	3,770	6,830	3,700	3,170	1,630	1,500	1,590
26	2,960	2,880	5,380	3,810	10,200	5,570	6,270	3,840	2,800	1,550	1,880	1,500
27	2,350	3,870	5,170	3,650	9,900	7,200	5,470	4,310	3,500	1,440	1,710	1,520
28	2,310	4,290	4,800	3,490	9,260	6,730	5,090	4,480	4,000	1,370	1,710	1,460
29	2,260	3,900	4,260	3,610	-------	6,040	5,080	4,480	3,530	1,600	1,500	1,710
30	2,540	2,540	4,010	3,470	-------	5,070	5,010	4,620	3,300	1,630	1,620	2,070
31	2,390	-------	3,960	3,300	-------	4,760	-------	4,320	-------	1,530	1,130	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,050	1,780	2,990	1.59	1.83
November	6,850	1,760	3,640	1.94	2.16
December	7,560	1,670	4,180	2.22	2.56
January	20,800	3,300	8,400	4.47	5.15
February	11,300	2,510	4,910	2.61	2.72
March	9,580	3,770	6,420	3.41	3.93
April	15,200	4,960	9,380	4.99	5.57
May	6,410	2,920	4,460	2.37	2.73
June	5,740	1,650	3,320	1.77	1.98
July	3,840	1,250	2,190	1.16	1.34
August	1,880	1,070	1,430	.761	.88
September	2,270	960	1,550	.824	.92
The year	20,800	960	4,400	2.34	31.77

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 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, 1930, during canal seasons

REMARKS.—Records fair. Slope relation nonexistent Oct. 1 to Nov. 14, May 27 to June 4; open-water rating used. Canal diverts water from Black River at Forestport.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	May	June	July	Aug.	Sept.
1	2	2		13	76	130	106
2	12	5		12	87	130	108
3	39	6		11	81	111	109
4	23	4		10	77	109	107
5	10	4		49	75	110	103
6	5	11		64	88	110	104
7	7	13		67	99	110	104
8	7	12		63	98	108	105
9	5	12		63	99	110	105
10	5	11		76	97	109	104
11	5	13		75	96	108	106
12	3	17		53	95	108	106
13	5	17		38	94	107	106
14	5	29		70	100	107	108
15	4	35		74	105	107	107
16	5	31		[a] 73	116	108	110
17	8	17		[a] 99	118	107	100
18	4	22		[a] 101	116	107	113
19	3	48		[a] 102	114	107	115
20	3	32		[a] 105	115	104	113
21	2	22		[a] 100	118	105	112
22	2	30		[a] 94	118	105	110
23	2	66		[a] 89	115	107	108
24	2			[a] 88	120	112	104
25	3			[a] 83	135	110	110
26	3			[a] 68	135	108	112
27	3		5	[a] 55	134	107	116
28	2		4	[a] 53	133	106	116
29	2		8	[a] 53	133	106	115
30	2		16	49	132	105	114
31	2		14		132	105	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	39	2	6.0	July	135	75	108
November 1–23	66	2	20.0	August	130	104	109
May 27–31	16	4	9.4	September	116	100	109
June	105	10	65.0				

[a] Estimated.

NOTE.—From Nov. 24 to May 26 canal probably carried normal minimum flow of about 35 second-feet.

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

LOCATION.—Two water-stage recorders—No. 1 on main canal at Lock 69 and No. 2 on Lansingkill spillway 100 feet downstream from headgates in summit level of canal, 600 feet upstream from Lock 70 and 2 miles south of Boonville, Oneida County.

RECORDS AVAILABLE.—September, 1915, to September, 1930, during canal seasons.

REMARKS.—Records excellent. They include combined flow at gages Nos. 1 and 2 and represent total diversion from Black River through Forestport feeder, which passes out of Black River Basin into Mohawk River Basin.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	May	June	July	Aug.	Sept.
1	2	2		1	36	103	84
2	4	2		1	45	108	82
3	44	3		1	45	95	82
4	17	4		1	44	93	76
5	5	3		1	42	87	79
6	4	3		6	44	88	78
7	8	5		12	50	90	79
8	4	5		10	49	87	79
9	4	5		9	53	85	76
10	3	5		17	25	87	75
11	3	5		24	10	87	79
12	2	6		13	10	87	80
13	e 3	6		1	10	87	90
14	e 4	23		28	46	85	100
15	e 3	30		42	57	84	93
16	e 2	14		44	56	83	104
17	e 2	8		79	64	80	91
18	e 2	30		82	e 70	80	105
19	e 2	38		60	e 72	80	100
20	2	37		74	80	79	99
21	2	22		75	82	75	99
22	2			70	82	74	100
23	2			48	85	78	87
24	2			43	90	86	100
25	2			43	e 111	79	102
26	2		e 1	38	108	74	100
27	3		1	31	110	75	106
28	3		1	19	112	77	104
29	2		1	11	110	79	102
30	2		1	12	110	83	102
31	2		1		104	84	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	44	2	4.6	July	112	10	64.9
November 1–21	38	2	12.2	August	108	74	84.5
May 26–31	1	1	1.0	September	106	75	91.1
June	82	1	29.9				

e Estimated.

NOTE.—Practically no diversion Nov. 22 to May 25.

SUGAR RIVER AT TALCOTTVILLE, N. Y.

LOCATION.—Staff gage 150 feet above crest of falls in Talcottville, Lewis County.
DRAINAGE AREA.—42 square miles.
RECORDS AVAILABLE.—July, 1926, to September, 1930.
EXTREMES.—Maximum discharge during year, about 2,800 second-feet Jan. 8 (gage height, 5.3 feet); minimum, 4.2 second-feet Sept. 24 (gage height, 0.73 foot).

1926–1930: Maximum discharge, that of Jan. 8, 1930; minimum, that of Sept. 24, 1930.

REMARKS.—Records good except those for periods of ice effect, Nov. 23–25, Nov. 30 to Dec. 17, Dec. 23–31, Jan. 5, Jan. 19 to Feb. 19, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	38	75	85	44	119	276	63	24	248	6.4	8.1
2	268	207	65	195	42	125	628	180	22	108	6.4	9.2
3	382	87	55	301	40	111	419	142	18	45	6.4	16
4	182	63	46	188	38	95	292	63	16	28	6.4	9.6
5	92	111	44	140	38	83	374	43	14	21	6.7	7.0
6	65	78	55	125	36	73	677	39	16	51	5.8	6.4
7	132	65	60	351	34	100	1,250	34	22	34	5.5	6.2
8	78	55	60	1,780	34	786	412	32	16	22	5.8	5.3
9	55	50	60	832	32	478	260	27	17	16	6.7	5.1
10	43	47	50	423	30	324	215	24	73	18	6.7	5.0
11	37	69	44	227	30	341	384	22	40	16	6.2	5.0
12	37	69	38	227	28	256	598	20	23	14	6.4	4.8
13	97	53	38	278	34	227	450	17	18	16	6.4	4.7
14	78	175	75	448	34	158	398	20	14	30	6.2	5.5
15	57	271	95	693	30	151	219	82	14	24	6.2	6.7
16	47	146	100	235	28	103	148	78	18	15	21	10
17	78	85	70	176	26	246	125	65	61	13	11	18
18	50	567	398	119	26	372	132	34	135	10	8.1	9.6
19	39	322	301	95	26	151	195	30	97	11	6.7	7.3
20	36	142	457	85	231	142	132	155	132	10	6.4	6.2
21	32	97	301	70	612	119	124	73	63	9.1	6.2	5.8
22	34	85	195	60	503	92	246	57	40	10	5.5	5.0
23	40	80	140	55	544	85	132	37	27	10	6.2	4.7
24	40	70	95	55	808	63	97	32	20	8.1	24	4.3
25	50	70	75	50	686	232	97	75	18	7.3	16	4.5
26	42	71	55	50	278	544	97	39	18	7.0	10	6.2
27	34	180	50	48	151	265	85	36	61	15	10	23
28	29	150	55	48	165	158	73	32	45	11	9.1	11
29	27	119	55	48	------	119	63	57	24	9.1	7.3	7.3
30	27	90	65	46	------	142	63	37	20	7.3	6.7	7.7
31	27	------	65	46	------	103	------	30	------	6.7	6.2	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	382	20	72.7	1.73	1.99
November	567	38	124	2.95	3.29
December	457	38	108	2.57	2.96
January	1,780	46	244	5.81	6.70
February	808	26	165	3.93	4.09
March	786	63	205	4.88	5.63
April	1,250	63	289	6.88	7.68
May	180	17	54.0	1.29	1.49
June	135	14	37.5	.893	1.00
July	248	6.7	27.4	.652	.75
August	24	5.5	8.21	.195	.22
September	23	4.3	7.84	.187	.21
The year	1,780	4.3	111	2.64	36.01

MOOSE RIVER AT McKEEVER, N. Y.

LOCATION.—Water-stage recorder half a mile west of McKeever, Herkimer County, and 2 miles below mouth of South Branch of Moose River.
DRAINAGE AREA.—364 square miles (revised).
RECORDS AVAILABLE.—May, 1922, to September, 1930.
EXTREMES.—Maximum discharge during year, 10,500 second-feet Jan. 9 (gage height, 12.7 feet); minimum, 75 second-feet Aug. 31 (gage height, 1.44 feet).
1922–1930: Maximum discharge, 11,000 second-feet June 22, 1922 (gage height, 12.9 feet); minimum, 64 second-feet Sept. 2, 1925 (gage height, 1.37 feet).
REMARKS.—Records good except those for periods of ice effect, Nov. 30 to Dec. 5, Dec. 9 to Jan. 7, Jan. 18 to Feb. 24, and those estimated, which are fair. Flow regulated to some extent by storage in Fulton Chain of Lakes.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	428	338	600	650	e 700	1,220	597	1,500	1,010	884	224	136
2	436	541	600	700	650	948	1,200	1,920	927	1,790	220	169
3	1,300	670	550	800	600	1,040	1,350	3,100	908	1,470	211	191
4	1,530	849	500	950	550	899	1,180	2,170	728	849	195	268
5	1,020	580	500	800	500	862	956	1,600	533	750	181	486
6	e 1,000	603	513	750	e 480	834	1,080	1,240	686	674	189	322
7	e 850	559	510	800	e 460	798	3,480	1,290	686	860	188	324
8	e 700	521	485	3,570	e 460	852	4,520	1,240	642	600	198	316
9	e 600	493	480	8,760	480	1,190	2,830	1,190	453	565	197	335
10	e 550	366	460	5,360	500	1,260	2,060	1,010	440	577	193	358
11	e 500	437	440	e 4,470	480	1,280	1,800	943	1,010	586	203	361
12	e 500	366	420	e 3,360	480	1,120	2,770	897	1,020	632	200	328
13	440	436	440	2,820	500	997	4,250	839	702	572	189	253
14	526	603	460	2,560	500	1,040	4,250	638	483	563	175	287
15	556	1,060	480	2,730	460	840	3,860	514	464	580	185	352
16	538	1,300	550	2,560	460	772	2,820	849	412	491	188	348
17	544	1,080	550	2,080	460	753	2,290	933	589	424	188	494
18	611	1,180	800	1,800	480	936	1,990	726	1,090	380	206	754
19	553	1,910	1,500	1,500	460	1,180	2,230	791	1,300	316	196	441
20	523	1,680	2,800	e 1,300	480	1,110	2,380	908	1,140	280	174	302
21	609	1,340	2,200	e 1,100	500	1,000	1,930	1,380	1,200	278	171	220
22	542	910	1,300	e 950	600	832	1,770	1,210	1,140	268	163	210
23	578	761	e 1,000	e 900	750	768	1,360	922	971	270	167	254
24	985	557	e 800	e 850	1,700	696	1,260	851	771	271	170	360
25	937	789	e 650	e 800	2,530	650	1,160	924	687	253	197	372
26	792	612	e 600	750	2,180	707	1,180	1,380	546	231	234	394
27	537	699	e 550	e 700	1,840	1,120	984	1,400	735	244	235	473
28	723	595	550	e 700	1,440	1,030	1,020	1,290	870	301	182	499
29	544	595	500	e 650	------	747	1,090	1,400	772	308	174	428
30	511	650	550	e 700	------	738	1,220	1,480	613	293	166	430
31	372	------	600	e 700	------	639	------	1,270	------	256	112	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,530	372	672	1.85	2.13
November	1,910	338	769	2.11	2.35
December	2,800	420	740	2.03	2.34
January	8,760	650	1,840	5.05	5.82
February	2,530	460	774	2.13	2.22
March	1,280	639	931	2.56	2.95
April	4,520	597	2,030	5.58	6.23
May	3,100	514	1,220	3.35	3.86
June	1,300	412	784	2.15	2.40
July	1,790	231	542	1.49	1.72
August	235	112	189	.519	.60
September	754	136	349	.959	1.07
The year	8,760	112	904	2.48	33.69

e Estimated.

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

LOCATION.—Staff gage in Old Forge, Herkimer County, 400 feet below State dam.
DRAINAGE AREA.—52 square miles.
RECORDS AVAILABLE.—November, 1911, to September, 1930.
EXTREMES.—Maximum discharge during year, 433 second-feet Jan. 10; minimum (estimated), 2 second-feet Oct. 6–12, 14–15, May 6, Sept. 19–21.
1911–1930: Maximum discharge, 862 second-feet Mar. 23, 1921; minimum, 0.7 second-foot Oct. 20–23, 1928 (gage height, 0.11 foot).
REMARKS.—Records fair. Discharge Oct. 1–15, Nov. 18, 19, Jan. 10–13, Apr. 12–23, May 1–16, June 11, 14–17, 27, 28, July 3 to Sept. 3, Sept. 19–21, computed mostly from gate ratings; probable backwater from Thendara Dam. Flow regulated by storage in Fulton Chain of Lakes.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	e 190	122	70	122	190	158	55	80	166	122		32
2	e 230	65	70	147	190	158	71	80	174	136		32
3	121	5	70	174	182	158	71	80	166	140	e 33	84
4	e 200	5	70	145	182	158	60	80	166	150		225
5	124	5	70	122	174	158	58	45	174	150		198
6		4	71	122	174	158	56	e 2	150	150		198
7		3	71	129	166	158	106	16	143	150		198
8		3	71	217	166	158	150	18	122	149		198
9		3	71	330	158	208	158	127	93	146		198
10	e 2	3	71	433	158	234	176	127	81	146		207
11		4	71	346	158	196	206	e 220	81	144		198
12		92	71	180	158	158	211	e 220	81	144		19
13	23	122	97	332	158	166	216	e 220	81	144		198
14	e 2	116	122	354	158	166	222	e 160	51	121		190
15	e 2	116	122	330	158	158	229	e 120	53	89		190
16	62	129	122	330	158	158	226	130	53	80	e 32	209
17	116	129	122	307	158	158	220	122	57	50		216
18	78	132	122	273	158	166	216	129	150			101
19	150	159	122	129	158	158	211	122	143			e 2
20	150	225	136	129	158	158	211	136	150			e 2
21	150	179	143	129	158	166	183	143	158			e 2
22	143	68	143	122	158	158	148	129	150			134
23	143	68	143	116	158	158	152	136	143			234
24	143	68	150	129	158	114	150	136	150	e 33		234
25	143	68	150	136	158	58	150	129	125			234
26	143	68	143	129	158	64	150	136	116			234
27	143	69	136	129	158	59	143	143	116		35	234
28	143	70	136	129	158	58	150	136	116			234
29	110	70	129	145	------	61	120	136	122		e 32	234
30	136	70	129	207	------	59	81	136	122			234
31	122	------	122	198	------	56	------	152	------			------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	230	2	96.2	1.85	2.13
November	225	3	74.7	1.44	1.61
December	150	70	108	2.08	2.40
January	433	116	201	3.87	4.46
February	190	158	164	3.15	3.28
March	234	56	141	2.71	3.12
April	229	55	152	2.92	3.26
May	220	2	121	2.33	2.69
June	174	51	122	2.35	2.62
July	150	----------	86.2	1.66	1.91
August	35	----------	32.3	.621	.72
September	234	2	169	3.25	3.63
The year	433	2	122	2.35	31.83

e Estimated.

NOTE.—Elevation of water surface in reservoir at end of year was 0.41 foot lower than at beginning of year, corresponding to loss in storage of 56,922,117 cubic feet. This is equivalent to yearly mean discharge of 1.80 second-feet, 0.035 second-foot per square mile, or 0.48 inch on drainage area.

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

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

DRAINAGE AREA.—148 square miles.

RECORDS AVAILABLE.—October, 1925, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,780 second-feet Jan. 11 (gage height, 6.2 feet); minimum, about 61 second-feet Sept. 22 (gage height, 2.18 feet).

1925–1930: Maximum discharge, 2,100 second-feet Apr. 27, 1926 (gage height, 6.6 feet); minimum, about 57 second-feet Sept. 5, 1929 (gage height, 2.20 feet).

REMARKS.—Records good except those for periods of ice effect, Nov. 29 to Jan. 6, Jan. 17 to Feb. 23, and those estimated, which are fair. Flow partly regulated by storage in Fulton Chain of Lakes.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	175	320	300	360	484	222	364	422	364	92	71
2	310	298	300	320	340	446	316	456	436	357	116	78
3	404	218	280	360	a 320	472	357	560	484	367	114	104
4	289	192	260	360	a 300	480	377	540	357	364	92	200
5	251	192	240	400	a 280	439	354	560	324	341	88	311
6	322	210	220	380	a 280	411	a 422	500	383	341	89	238
7	220	213	220	360	a 260	400	a 540	460	357	304	102	243
8	300	186	220	777	a 260	408	a 670	484	319	295	101	248
9	238	169	220	1,210	a 280	425	a 840	500	197	313	101	267
10	243	159	220	1,380	a 280	480	a 790	500	173	319	96	319
11	222	157	200	1,700	a 260	520	a 715	560	192	292	87	304
12	206	155	200	1,620	a 260	397	948	500	259	310	82	281
13	228	192	220	1,380	a 260	357	1,000	480	210	325	80	264
14	210	213	240	1,240	a 280	411	1,060	328	169	313	82	264
15	197	275	260	1,240	a 280	368	1,180	222	175	245	87	262
16	201	310	280	1,150	260	347	1,180	393	157	222	99	275
17	287	341	280	1,100	260	335	1,120	387	262	204	85	298
18	328	380	300	850	260	390	1,000	351	494	179	82	289
19	245	480	340	650	260	404	948	319	520	137	79	182
20	380	496	480	550	280	377	865	273	520	133	78	89
21	301	453	550	460	300	377	840	367	520	133	75	70
22	292	380	500	400	360	387	765	390	520	133	75	76
23	289	370	420	360	480	378	670	354	476	133	78	305
24	350	322	340	340	711	341	670	367	404	130	87	335
25	364	316	320	320	733	267	602	425	411	106	79	278
26	301	295	a 300	320	560	248	560	374	347	108	78	298
27	287	289	a 300	300	602	295	540	425	341	155	110	319
28	275	298	280	300	560	267	480	450	357	144	92	313
29	256	320	280	300	-------	245	480	460	347	133	65	313
30	206	340	300	340	-------	262	417	439	331	119	63	307
31	110	-------	300	360	-------	240	-------	418	-------	89	64	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	404	110	270	1.82	2.10
November	496	155	280	1.89	2.11
December	550	200	296	2.00	2.31
January	1,700	300	682	4.61	5.32
February	733	260	354	2.39	2.49
March	520	240	376	2.54	2.93
April	1,180	222	698	4.72	5.27
May	560	222	426	2.88	3.32
June	520	157	349	2.36	2.63
July	367	89	229	1.55	1.79
August	116	63	87.0	.588	.68
September	335	70	240	1.62	1.81
The year	1,700	63	357	2.41	32.76

a Estimated.

OTTER CREEK NEAR GLENFIELD, N. Y.

LOCATION.—Water-stage recorder 1¼ miles above mouth and 2½ miles northeast of Glenfield, Lewis County.

DRAINAGE AREA.—64 square miles (revised).

RECORDS AVAILABLE.—July, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,470 second-feet Jan. 9 (gage height, 6.2 feet); minimum, 26 second-feet Sept. 14 (gage height, 1.50 feet). 1924–1930: Maximum discharge, about 2,130 second-feet Apr. 8, 1928 (gage height, 7.1 feet); minimum, that of Sept. 14, 1930.

REMARKS.—Records good except those for periods of ice effect, Dec. 1–13, 17–31, Jan. 5–6, Jan. 18 to Feb. 18, and those estimated, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	77	100	123	70	e186	165	169	e 192	149	39	e 38
2	80	106	95	157	70	e205	322	194	e 157	177	38	e 39
3	205	130	95	207	70	e186	320	260	e 134	142	37	e 41
4	253	118	90	203	65	e165	278	260	e 116	113	34	e 39
5	242	111	95	160	65	e147	238	227	e 104	96	33	e 37
6	203	102	100	160	65	e 130	286	198	e 102	108	32	34
7	186	99	100	191	60	e 118	807	186	101	111	31	33
8	188	97	95	514	60	240	865	175	99	97	32	33
9	169	97	90	1,290	60	354	557	171	96	90	37	32
10	144	96	90	840	55	301	382	153	118	92	36	31
11	130	89	85	480	55	260	318	142	118	96	36	30
12	121	84	85	354	55	265	468	127	97	121	34	28
13	116	87	110	330	60	240	694	118	85	109	31	27
14	120	123	132	306	65	203	698	111	79	138	28	33
15	111	163	132	404	65	177	592	123	72	149	42	33
16	106	157	120	404	65	163	440	136	72	106	58	41
17	130	149	120	294	60	157	342	145	122	85	48	52
18	123	184	100	240	70	214	306	127	231	76	39	46
19	113	267	100	200	77	216	330	121	238	69	37	39
20	104	249	90	180	92	189	306	171	267	64	34	37
21	97	196	85	160	120	165	278	188	260	62	33	37
22	94	171	80	150	149	140	260	167	209	60	33	36
23	89	157	75	130	207	130	236	147	167	58	43	34
24	84	151	70	120	306	122	207	134	136	54	76	32
25	89	145	65	110	354	137	194	161	116	50	58	33
26	90	140	60	100	330	260	190	186	114	50	46	37
27	89	140	60	95	272	269	190	179	171	58	41	46
28	85	140	65	90	227	234	188	181	190	57	38	50
29	79	118	80	85	-------	198	175	247	155	50	36	43
30	76	101	90	80	-------	181	169	242	118	46	e 36	42
31	76	-------	100	75	-------	163	-------	e 227	-------	42	e 37	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	253	52	124	1.94	2.24
November	267	77	135	2.11	2.35
December	132	60	92.1	1.44	1.66
January	1,290	75	266	4.16	4.80
February	354	55	117	1.83	1.91
March	354	118	197	3.08	3.55
April	865	165	360	5.62	6.27
May	260	111	173	2.70	3.11
June	267	72	141	2.20	2.46
July	177	42	89.5	1.40	1.61
August	76	28	39.1	.611	.70
September	52	27	37.1	.580	.65
The year	1,290	27	148	2.31	31.31

e Estimated.

INDEPENDENCE RIVER AT SPERRYVILLE, N. Y.

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

DRAINAGE AREA.—86 square miles.

RECORDS AVAILABLE.—December, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 2,860 second-feet Jan. 9 (gage height, 7.2 feet); minimum, 20 second-feet Sept. 10–13.

1927–1930: Maximum discharge, about 3,700 second-feet Apr. 8, 1928 (gage height, 8.1 feet); minimum, that of Sept. 10–13, 1930.

REMARKS.—Records good except those for periods of ice effect, Dec. 1–13, Dec. 18 to Jan. 9, Jan. 20 to Feb. 22, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	84	110	150	80	228	231	302	185	156	33	31
2	64	189	120	190	75	185	490	344	146	196	32	34
3	267	336	120	280	70	165	566	508	121	156	28	34
4	443	257	110	300	70	156	421	421	100	128	27	30
5	410	191	120	260	65	156	302	240	88	97	31	28
6	282	144	140	220	65	121	409	251	79	101	30	27
7	269	127	130	240	60	137	1,420	240	83	125	28	25
8	322	104	120	1,000	60	249	1,700	228	79	95	30	23
9	245	97	120	2,600	55	496	766	228	77	80	32	21
10	172	90	110	1,350	55	455	464	185	101	82	33	20
11	136	90	110	648	50	389	398	156	125	83	36	20
12	111	97	110	490	50	344	714	137	95	109	34	20
13	111	97	140	421	60	302	1,270	121	74	105	31	20
14	127	153	212	472	70	251	1,210	114	62	156	27	25
15	127	257	212	648	70	206	925	128	57	217	41	25
16	111	308	201	691	65	185	566	165	55	146	49	30
17	127	257	172	421	65	168	421	175	78	101	41	52
18	153	257	150	330	70	260	374	146	280	72	40	55
19	127	515	130	264	70	296	527	125	330	62	34	40
20	119	410	140	220	90	276	527	217	374	53	32	31
21	104	269	160	190	140	206	421	302	405	49	34	28
22	90	201	120	170	200	175	359	240	289	53	33	24
23	90	172	100	150	330	165	289	196	206	51	34	23
24	97	172	90	130	527	146	240	156	137	47	62	22
25	97	136	85	120	648	142	228	196	108	40	61	27
26	104	144	75	110	566	321	206	289	95	36	49	62
27	104	136	70	100	421	417	240	276	289	55	40	83
28	90	162	75	95	289	344	264	240	330	66	34	105
29	84	144	100	90	-------	251	276	240	251	51	34	65
30	78	104	120	85	-------	206	289	228	156	42	30	50
31	73	-------	130	80	-------	175	-------	217	-------	37	29	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	433	49	154	1.79	2.06
November	515	84	190	2.21	2.47
December	212	70	126	1.47	1.70
January	2,600	80	404	4.70	5.42
February	648	50	158	1.84	1.92
March	496	121	244	2.84	3.27
April	1,700	206	550	6.40	7.14
May	508	114	226	2.63	3.03
June	405	55	162	1.88	2.10
July	217	36	91.8	1.07	1.23
August	62	27	35.8	.416	.48
September	105	20	36.0	.419	.47
The year	2,600	20	198	2.30	31.29

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

LOCATION.—Staff gage at Stillwater Dam at outlet of Beaver River Flow, 7½ miles west of Beaver River post office, Herkimer County. Staff gage 1,000 feet below Stillwater Dam used until Nov. 14, 1929.

DRAINAGE AREA.—173 square miles (revised).

RECORDS AVAILABLE.—May, 1908, to September, 1930.

EXTREMES.—Maximum daily discharge during year, 1,020 second-feet Apr. 20, May 4; practically no flow occasionally when gates are closed and there is no spilling.

1908–1930: Maximum discharge, 3,700 second-feet May 3, 1926; minimum, practically zero, as noted above.

REMARKS.—Records good. Seasonal distribution of flow almost completely regulated at Stillwater Dam. Staff gage 1,000 feet below dam drowned out by Moshier Pond about Nov. 15, and discharge subsequent to this date determined from gate and spillway ratings. Record of gate openings and reservoir elevations furnished by Black River Regulating District.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	550	620	380	0	680	420	230	102	220	265	620	248
2	550	465	620	100	670	150	290	104	138	265	500	490
3	270	335	620	345	670	540	212	720	315	222	232	610
4	5	540	610	236	670	520	154	1,020	550	25	485	600
5	5	395	610	196	670	495	154	550	480	25	610	600
6	5	395	610	620	670	495	154	310	435	25	610	510
7	5	395	510	660	670	495	156	500	435	390	610	600
8	150	395	375	360	660	320	156	780	435	570	570	600
9	290	395	610	104	660	82	156	700	435	570	350	600
10	290	390	610	222	660	280	156	560	435	530	230	590
11	380	390	610	160	770	280	156	390	435	395	485	590
12	360	455	530	70	840	285	156	234	435	255	610	590
13	140	560	420	290	700	285	190	184	435	25	600	190
14	510	560	340	450	650	285	410	400	435	325	600	166
15	560	310	255	455	650	206	740	510	435	385	600	495
16	560	0	520	455	650	0	900	415	430	385	510	620
17	560	0	630	490	650	315	960	355	430	385	228	620
18	550	120	630	570	720	445	1,000	250	340	385	475	610
19	465	110	630	570	870	445	970	198	218	345	600	610
20	320	110	385	700	920	445	1,020	680	240	230	600	455
21	580	110	78	800	690	350	820	570	124	510	590	0
22	580	110	0	800	400	202	455	345	25	650	590	405
23	580	110	222	650	0	0	530	305	184	650	500	600
24	580	110	136	700	485	190	530	295	260	650	224	600
25	580	110	0	550	810	285	530	510	260	650	470	600
26	520	275	405	350	810	232	530	690	260	550	590	600
27	410	395	590	680	750	152	530	740	188	260	590	500
28	580	0	580	680	580	152	510	475	25	450	600	204
29	590	206	580	680	-------	152	495	280	25	640	610	465
30	620	510	580	680	-------	152	265	340	188	620	520	590
31	620	-------	265	680	-------	154	-------	370	-------	620	250	-------

Month	Observed			Corrected for storage		Run-off in inches
	Maximum	Minimum	Mean	Mean	Per square mile	
October	620	5	412	307	1.77	2.04
November	620	0	296	442	2.55	2.84
December	630	0	450	436	2.52	2.90
January	800	0	461	881	5.09	5.87
February	920	0	665	318	1.84	1.92
March	540	0	284	452	2.61	3.01
April	1,020	154	450	996	5.76	6.43
May	1,020	102	448	484	2.80	3.23
June	550	25	308	279	1.61	1.80
July	650	25	395	198	1.14	1.31
August	620	224	505	122	.705	.81
September	620	0	499	145	.838	.94
The year	1,020	0	430	423	2.45	33.10

NOTE.—Corrections for storage based on data furnished by Black River Regulating District.

DEER RIVER AT COPENHAGEN, N. Y.

LOCATION.—Water-stage recorder at power plant half a mile northeast of Copenhagen, Lewis County.
DRAINAGE AREA.—88 square miles.
RECORDS AVAILABLE.—September, 1929, to September, 1930.
EXTREMES.—Maximum discharge during period of record, about 4,500 second-feet Jan. 8 (gage height, 9.3 feet); minimum, 5 second-feet Aug. 14 (gage height, 0.37 foot).
REMARKS.—Records fair; corrected for ice effect Dec. 8–14 and for backwater from gravel Sept. 2–30.

Daily and monthly discharge, in second-feet, 1929–30

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		42	89	153	200	100	213	564	436	101	58	17	22
2		115	433	184	459	96	217	1,020	469	92	91	11	28
3		810	316	203	696	91	184	836	570	54	49	10	34
4		943	220	181	676	78	173	635	301	31	33	11	50
5		594	234	172	508	82	155	596	220	45	26	11	28
6		298	196	192	430	82	151	998	196	42	44	11	20
7		471	161	181	1,070	80	164	1,770	165	89	66	14	16
8		358	133	200	3,190	80	836	992	144	78	33	13	15
9		234	a 125	200	1,710	75	582	629	99	63	26	13	14
10		178	109	200	980	61	542	482	101	140	46	13	14
11		141	100	190	534	59	492	794	55	189	41	19	14
12		111	125	190	390	61	516	1,400	40	135	36	19	14
13		141	122	220	452	58	439	1,230	35	78	32	20	14
14		192	248	300	625	70	374	1,080	35	56	94	15	14
15		164	490	378	1,210	64	290	770	92	55	114	16	15
16		127	380	349	638	72	225	488	122	30	54	17	15
17		252	214	310	323	70	326	396	155	31	31	19	46
18		170	634	343	207	52	818	520	101	215	24	19	36
19		110	778	439	119	72	548	822	91	446	24	16	20
20	a 92	83	436	533	143	416	402	515	341	283	21	14	18
21	76	73	280	516	170	977	293	484	287	252	21	14	15
22	50	56	154	427	174	1,200	200	674	208	153	23	12	11
23	125	52	209	378	157	1,500	165	410	138	94	17	16	11
24	100	142	a 203	313	133	1,420	134	276	93	74	17	33	11
25	51	196	a 181	246	120	1,050	250	279	139	56	18	28	13
26	24	192	205	223	110	545	988	366	126	126	19	19	16
27	24	143	317	205	122	370	573	340	123	542	22	15	18
28	26	98	407	209	131	268	369	360	110	540	25	14	55
29	30	71	294	207	114		293	381	191	261	22	15	38
30	41	52	157	207	109		241	408	189	112	19	26	30
31		57		205	105		225		139		18	27	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1929					
September 20–30	125	24	58.1	0.660	0.27
1929–30					
October	943	42	215	2.44	2.81
November	778	89	265	3.01	3.36
December	533	153	266	3.02	3.48
January	3,190	105	516	5.86	6.76
February	1,500	52	327	3.72	3.87
March	988	134	367	4.17	4.81
April	1,770	276	684	7.77	8.67
May	570	35	178	2.02	2.33
June	542	30	149	1.69	1.89
July	114	17	37.5	.427	.49
August	33	10	16.7	.190	.22
September	55	11	22.2	.253	.28
The year	3,190	10	253	2.88	38.97

a Estimated.

STREAMS TRIBUTARY TO ST. LAWRENCE RIVER

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

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

DRAINAGE AREA.—144 square miles.

RECORDS AVAILABLE.—May, 1923, to September, 1930.

EXTREMES.—Maximum daily discharge during year, 1,320 second-feet Apr. 15, 16; minimum, 234 second-feet Dec. 26, 27.

1923–1930: Maximum discharge, 1,590 second-feet May 15–21, 1924; minimum occurs when gates in dam are closed and there is no discharge over spillway.

REMARKS.—Records fair. 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 heights.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	315	240	240	480	305	455	405	405	325	315	295
2	320	315	240	244	480	305	460	390	405	325	315	295
3	320	315	240	244	480	305	485	380	405	325	315	290
4	325	315	238	246	475	305	485	380	405	325	315	290
5	325	315	238	246	475	305	485	390	405	325	315	290
6	325	315	238	248	475	305	485	405	405	325	310	290
7	325	315	238	248	475	305	510	405	355	325	310	290
8	325	315	238	250	475	325	590	430	330	325	310	290
9	325	315	238	255	475	360	620	500	330	325	310	285
10	325	315	236	260	475	365	690	500	330	320	310	285
11	325	305	236	265	425	365	740	500	325	320	310	285
12	325	275	236	265	385	365	940	500	325	320	310	285
13	325	275	236	265	385	365	980	440	325	320	310	280
14	325	275	236	270	385	365	1,140	405	325	320	305	280
15	325	275	236	295	385	365	1,320	405	325	320	305	280
16	325	275	236	345	385	365	1,320	405	325	320	305	280
17	325	275	236	375	385	365	1,300	405	325	320	305	280
18	325	275	236	375	385	365	1,280	375	325	320	305	280
19	325	250	236	375	385	365	1,260	355	325	320	305	280
20	325	238	236	385	385	365	1,260	380	325	320	305	280
21	325	238	236	420	385	365	1,080	435	320	320	300	280
22	325	238	236	485	385	365	1,040	435	255	320	300	275
23	325	240	236	495	385	365	1,040	435	290	320	300	275
24	325	240	236	495	385	365	1,040	435	325	320	300	275
25	320	240	236	495	335	405	900	530	325	320	300	275
26	320	240	234	490	300	455	700	600	325	320	300	275
27	320	240	234	490	305	455	630	600	325	320	300	275
28	320	240	236	490	305	455	540	520	325	320	300	275
29	320	240	236	485	-------	455	435	405	325	320	295	275
30	315	240	238	485	-------	455	400	405	325	320	295	275
31	315	-------	238	485	-------	455	-------	405	-------	315	295	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	325	315	323	2.24	2.58
November	315	238	275	1.91	2.13
December	240	234	237	1.65	1.90
January	495	240	355	2.47	2.85
February	480	300	409	2.84	2.96
March	455	305	369	2.56	2.95
April	1,320	400	820	5.69	6.35
May	600	355	437	3.03	3.49
June	405	255	339	2.35	2.62
July	325	315	321	2.23	2.57
August	315	295	306	2.12	2.44
September	295	275	282	1.96	2.19
The year	1,320	234	372	2.58	35.03

NOTE.—Elevation of water surface in Cranberry Lake at end of year was 0.59 foot lower than at beginning of year, corresponding to loss in storage of 180,930,800 cubic feet. This is equivalent to mean yearly discharge of 5.74 second-feet, 0.040 second-foot per square mile, or run-off of 0.54 inch 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.), 2¾ miles north of Oswegatchie, St. Lawrence County.

DRAINAGE AREA.—262 square miles.

RECORDS AVAILABLE.—October, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,910 second-feet Jan. 8 (gage height, 7.0 feet); minimum, approaching zero flow occasionally when power plant shuts down.

1924–1930: Maximum discharge, 4,010 second-feet Apr. 6, 1928 (gage height, 7.1 feet); minimum, approaching zero flow, frequently occurs after complete shutdown of power plant.

REMARKS.—Records excellent. Seasonal regulation by storage in Cranberry Lake.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	338	446	113	203	615	504	874	741	398	409	597	327
2	706	519	435	918	206	161	1,160	781	935	680	355	265
3	822	231	367	792	564	701	1,140	781	751	593	180	388
4	926	613	410	*619	800	484	1,170	453	627	219	301	352
5	775	584	505	270	586	529	1,040	1,090	615	124	466	331
6	233	652	369	761	815	635	416	881	703	34	312	342
7	1,030	493	270	890	717	508	1,910	800	555	381	292	95
8	636	577	123	2,420	784	938	1,930	785	264	460	350	370
9	694	383	584	2,900	22	323	1,460	954	757	680	317	440
10	617	224	585	1,650	528	1,050	1,460	878	399	551	183	486
11	581	608	456	1,170	693	1,010	1,140	263	686	596	302	459
12	424	401	470	711	618	1,020	1,180	834	636	522	378	245
13	172	422	463	986	631	1,040	2,060	770	533	182	455	352
14	569	429	292	955	650	822	2,260	725	388	514	471	153
15	527	600	191	1,260	507	408	2,010	712	44	700	549	230
16	604	551	497	1,150	105	400	1,910	700	673	534	225	386
17	703	218	555	867	678	789	1,810	878	570	621	135	338
18	511	731	430	569	494	1,010	1,720	188	577	507	445	389
19	679	923	590	358	552	989	1,750	852	574	390	479	345
20	115	780	503	670	713	886	1,690	856	538	144	395	384
21	595	597	470	661	956	684	1,820	990	693	411	383	277
22	652	594	558	677	920	511	1,630	1,040	230	496	441	215
23	574	462	817	811	524	37	1,540	1,130	651	419	266	256
24	599	201	566	665	1,090	688	1,540	822	603	406	121	466
25	540	471	225	746	1,220	612	1,500	173	719	310	291	335
26	456	634	548	139	1,120	1,070	1,070	865	456	401	329	264
27	305	738	610	819	963	861	1,200	950	454	206	333	230
28	481	150	455	876	637	865	1,390	929	670	272	393	111
29	512	589	113	631	-------	790	1,370	1,010	302	401	401	276
30	521	526	566	825	-------	135	1,110	389	463	522	271	361
31	487	-------	664	1,000	-------	954	-------	774	-------	590	123	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,030	115	561	2.14	2.47
November	923	150	512	1.95	2.18
December	817	113	445	1.70	1.96
January	2,900	139	902	3.44	3.97
February	1,220	22	668	2.55	2.66
March	1,070	37	691	2.64	3.04
April	2,260	416	1,480	5.65	6.30
May	1,130	173	774	2.95	3.40
June	935	44	549	2.10	2.34
July	700	34	428	1.63	1.88
August	597	121	340	1.30	1.50
September	486	95	316	1.21	1.35
The year	2,900	22	637	2.43	33.05

* Estimated.

OSWEGATCHIE RIVER NEAR HEUVELTON, N. Y.

LOCATION.—Water-stage recorder 2½ miles above Heuveltor, St. Lawrence County.

DRAINAGE AREA.—967 square miles.

RECORDS AVAILABLE.—June, 1916, to September, 1930.

EXTREMES.—Maximum discharge during year, 15,600 second-feet Jan. 11 (gage height, about 9.1 feet); minimum, 317 second-feet Sept. 30 (gage height, 0.95 foot).

1916–1930: Maximum discharge, that of Jan. 11, 1930; minimum, 211 second-feet Sept. 2, 1925 (gage height, 0.67 foot).

REMARKS.—Records excellent except those for period of ice effect, Nov. 29 to Dec. 1, and those estimated, which are fair. Seasonal flow slightly regulated by storage in Cranberry Lake.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	458	952	1,400	1,540		a 4,120	2,940	2,700	1,480	1,140	835	521
2	478	970	1,380	1,780		a 3,380	4,710	2,400	1,490	1,110	844	445
3	735	989	1,270	2,970		2,610	6,000	2,190	1,330	998	808	375
4	1,290	1,210	1,320	4,040		1,780	5,800	2,400	1,530	970	646	363
5	2,120	1,320	1,390	4,040		1,950	5,400	2,400	1,350	952	514	412
6	2,480	1,440	1,290	3,700	a1,200	1,720	5,020	2,400	1,190	704	451	500
7	2,330	1,470	1,280	4,170		1,590	5,400	2,480	1,070	478	598	500
8	1,980	1,420	1,140	8,250		2,630	6,820	2,190	1,070	431	605	438
9	2,260	1,300	1,070	12,400		3,700	7,890	1,980	998	521	521	381
10	2,050	1,180	1,060	14,500		4,470	8,110	1,850	835	871	458	363
11	1,850	1,010	1,360	a15,600		5,020	7,450	1,920	1,120	998	464	425
12	1,620	898	1,550	14,100		5,800	6,200	1,720	1,010	1,020	405	582
13	1,450	970	1,420	11,600	1,160	6,400	5,210	1,300	1,070	1,060	418	629
14	1,170	1,050	1,420	9,170	1,330	6,400	5,020	1,500	998	1,010	507	521
15	916	1,390	1,450	7,670	1,350	6,200	5,210	1,540	898	844	613	381
16	1,100	1,850	1,340	7,670	1,350	5,210	5,400	a 1,460	679	1,180	613	345
17	1,140	1,980	1,280	7,450	1,220	3,960	5,400	a 1,400	478	1,350	687	399
18	1,220	2,170	1,400	6,400	822	3,300	4,830	a 1,340	709	1,280	585	471
19	1,330	3,520	1,470	4,950	1,020	3,460	4,380	1,330	970	1,120	458	507
20	1,190	4,040	1,410	3,640	2,150	3,460	3,950	1,150	1,240	952	485	551
21	1,190	3,780	1,420	2,920	3,960	3,380	3,700	1,870	1,360	781	646	638
22	889	3,300	1,440	2,700	4,470	3,300	3,700	2,330	1,380	543	638	598
23	1,050	2,780	1,440	2,400	5,020	2,700	3,700	2,550	1,300	566	613	551
24	1,110	2,260	1,610	a 1,980	6,200	2,120	3,540	2,480	1,120	781	551	431
25	1,080	1,780	1,920	a 1,780	6,400	1,580	3,380	2,260	1,300	646	514	369
26	1,060	1,410	1,560	a 1,620	5,800	1,850	3,380	1,850	1,190	598	431	477
27	1,080	1,500	1,290	a 1,460	a 5,600	2,780	3,220	1,410	1,150	613	418	638
28	925	1,900	1,460	a 1,320	a 4,830	3,220	2,700	1,850	1,160	500	451	471
29	853	2,200	1,610	a 1,650	-------	3,220	2,850	1,980	1,240	521	507	375
30	844	1,900	1,530	a 1,500	-------	3,220	2,920	2,050	1,410	500	536	334
31	916	-------	1,290	a 1,460	-------	3,080	-------	1,980	-------	605	551	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,480	458	1,300	1.34	1.54
November	4,040	898	1,800	1.86	2.08
December	1,920	1,060	1,400	1.45	1.67
January	15,600	1,320	5,370	5.55	6.40
February	6,400	822	2,400	2.48	2.58
March	6,400	1,580	3,470	3.59	4.14
April	8,110	2,700	4,810	4.97	5.54
May	2,700	1,150	1,940	2.01	2.32
June	1,530	478	1,140	1.18	1.32
July	1,350	431	827	.855	.99
August	844	405	560	.579	.67
September	638	334	466	.482	.54
The year	15,600	334	2,120	2.19	29.79

a Estimated.

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 below Harrisville, Lewis County.

DRAINAGE AREA.—256 square miles.

RECORDS AVAILABLE.—July, 1916, to September, 1930.

EXTREMES.—Maximum discharge during year, 6,920 second-feet Jan. 9 (gage height, 9.6 feet); minimum, 55 second-feet Sept. 13, 14 (gage height, 1.24 feet).

1916–1930: Maximum discharge, that of Jan. 9, 1930; minimum, 27 second-feet several times during August and October, 1923 (gage height, 0.90 foot).

REMARKS.—Records good except those for periods of ice effect, Dec. 2–12, 21–29, Jan. 27 to Feb. 13, Feb. 17, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	124	255	305	485	260	1,050	670	765	545	485	191	100
2	124	345	320	585	260	752	1,110	765	485	345	170	83
3	240	505	320	870	240	670	1,610	1,040	445	255	124	83
4	727	670	320	1,160	240	625	1,510	1,160	365	227	115	80
5	1,050	715	300	1,100	240	585	1,370	1,100	325	202	108	73
6	1,100	585	300	1,040	240	485	1,390	925	270	202	132	71
7	1,100	485	280	1,300	240	445	2,580	765	365	202	100	68
8	980	405	400	3,230	220	832	3,960	715	325	214	108	62
9	870	325	550	6,140	220	1,780	3,040	715	305	227	93	62
10	765	305	550	5,720	220	2,300	2,150	670	325	255	115	68
11	625	270	500	3,480	220	1,940	1,590	585	325	305	132	67
12	465	288	480	2,490	220	1,890	1,510	505	270	288	124	60
13	385	288	505	1,790	260	1,540	2,000	445	214	227	108	56
14	385	305	505	1,510	240	1,370	2,180	385	202	365	108	61
15	385	505	545	1,670	240	1,160	2,180	405	191	505	100	76
16	325	765	545	1,750	227	980	1,830	425	170	505	124	80
17	365	815	465	1,590	220	870	1,370	405	202	385	150	108
18	445	797	445	1,370	227	965	1,100	385	365	288	141	160
19	425	1,060	425	1,100	240	1,100	1,100	385	545	255	124	160
20	425	1,160	485	925	405	1,100	1,100	670	545	180	132	150
21	365	1,100	550	765	585	925	1,100	980	585	191	132	170
22	305	925	480	670	753	765	1,040	1,100	585	170	115	141
23	288	670	400	585	1,110	670	980	980	545	150	108	77
24	255	545	380	545	1,700	585	925	870	385	124	108	83
25	288	485	360	485	2,140	505	870	765	385	115	132	74
26	305	445	360	425	2,080	720	815	670	227	115	132	93
27	305	465	380	380	1,700	1,040	815	670	405	170	115	108
28	305	585	420	360	1,430	1,100	870	625	585	202	108	150
29	270	465	440	340	-------	870	870	625	625	227	93	160
30	255	345	465	300	-------	765	815	585	585	214	115	132
31	240	-------	465	280	-------	715	-------	545	-------	202	100	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,100	124	467	1.82	2.10
November	1,160	255	563	2.20	2.46
December	550	280	427	1.67	1.92
January	6,140	280	1,430	5.59	6.44
February	2,140	220	585	2.29	2.38
March	2,300	445	1,000	3.91	4.51
April	3,960	670	1,480	5.78	6.45
May	1,160	385	693	2.73	3.15
June	625	170	390	1.52	1.70
July	505	115	252	.984	1.13
August	191	93	121	.473	.55
September	170	56	97.2	.380	.42
The year	6,140	56	627	2.45	33.21

GRASS RIVER AT PYRITES, N. Y.

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

DRAINAGE AREA.—334 square miles.

RECORDS AVAILABLE.—August, 1924, to September, 1930.

EXTREMES.—Maximum stage during year, about 10.7 feet Jan. 9 (discharge not determined); minimum discharge, 61 second-feet Aug. 2 (gage height, 1.24 feet).

1924–1930: Maximum discharge, about 8,300 second-feet Nov. 18, 1927 (gage height, 13.0 feet); minimum, 40 second-feet Sept. 28, 1924 (gage height, 1.10 feet).

REMARKS.—Records for Oct. 1 to Nov. 28, Mar. 24 to Sept. 30, good except those estimated, which are fair; for Nov. 29 to Mar. 23, poor.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	257		a 460	360	a 885	809	a 1,100	a 950	358	248	137
2	155	370		a 850	360	a 900	2,220	a 1,300	766	290	175	135
3	432	a 651		a 1,000	a 340	a 700	2,220	a 1,800	610	261	a 170	131
4	1,160	547		a 900	a 340	a 600	1,920	a 2,000	496	230	a 148	125
5	1,470	467		a 850	a 340	a 550	1,500	1,620	426	219	150	119
6	1,310	397		a 950	a 320	a 600	a 1,520	1,300	377	a 227	148	117
7	1,060	266		a 1,500	a 320	a 600	a 2,400	1,070	421	a 248	139	115
8	890	337		a 3,600	a 320	a 850	a 2,500	980	421	283	137	110
9	729	305		a 5,000	a 320	950	a 2,000	950	377	296	139	106
10	547	282		a 2,600	a 320	1,010	a 1,600	857	366	300	137	103
11	413	282		a 1,600	a 300	1,160	a 1,540	718	381	307	188	99
12	344	273		a 1,400	a 300	1,440	a 1,700	604	377	296	216	99
13	319	289		a 1,300	a 340	1,440	a 2,200	530	339	310	183	97
14	344	368		a 1,200	320	1,320	a 2,500	487	293	460	161	99
15	381	743		a 1,500	300	980	a 2,200	492	254	688	a 152	99
16	351	1,010	a 390	a 1,300	300	832	a 1,800	560	236	545	a 181	117
17	388	980		1,000	280	748	a 1,600	599	230	369	a 240	196
18	585	985		900	280	920	a 1,400	535	562	270	a 270	227
19	556	1,310		a 850	320	800	a 1,340	474	857	224	a 240	202
20	442	1,260		a 750	550	650	1,470	890	778	194	a 170	173
21	374	980		a 700	1,100	600	1,470	1,440	878	176	a 150	171
22	329	670		a 650	1,400	600	1,400	1,440	1,160	166	a 140	176
23	298	442		a 600	1,650	550	1,370	1,220	1,220	288	a 130	166
24	298	a 421		a 550	2,100	500	1,300	920	882	358	a 140	139
25	302	a 425		a 500	2,220	500	1,190	826	542	270	a 140	127
26	333	393		a 480	1,920	871	a 1,160	1,070	385	207	a 130	139
27	359	446		a 460	1,520	a 1,070	a 1,100	1,070	393	194	a 130	a 196
28	337	460		a 440	1,130	a 871	a 1,200	950	540	298	a 130	a 190
29	298	380		420	-------	a 670	a 1,300	899	a 566	325	a 140	a 170
30	270	340		400	-------	a 640	a 1,200	980	a 447	339	a 139	a 150
31	257	-------		380	-------	a 676	-------	1,040	-------	300	144	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,470	147	499	1.49	1.72
November	1,310	257	545	1.63	1.82
December	----------	----------	390	1.17	1.35
January	5,000	380	1,130	3.38	3.90
February	2,220	280	702	2.10	2.19
March	1,440	500	822	2.46	2.84
April	2,500	809	1,640	4.91	5.48
May	2,000	474	991	2.97	3.42
June	1,220	230	551	1.65	1.84
July	688	166	300	.898	1.04
August	270	130	165	.494	.57
September	227	97	141	.422	.47
The year	5,000	97	655	1.96	26.64

a Estimated.

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

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

DRAINAGE AREA.—25.8 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 522 second-feet Jan. 9 (gage height, 3.55 feet); minimum, 4.7 second-feet Sept. 8 (gage height, 0.75 foot).

1924–1930: Maximum discharge, about 700 second-feet Apr. 25, 1926 (gage height, 4.3 feet); minimum, 2.3 second-feet Aug. 20, 1927 (gage height, 0.73 foot).

REMARKS.—Records good except those for periods of ice effect, Nov. 23, Nov. 28 to Dec. 13, Dec. 16–31, Jan. 4–6, Jan. 10 to Feb. 22, Feb. 25 to Mar. 7, Mar. 14–26, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	26	30	39	19	90	45	101	66	23	12	9.2
2	24	42	30	50	18	60	198	129	47	18	10	10
3	82	61	28	96	18	55	217	271	38	18	12	10
4	172	57	28	75	17	50	166	185	31	16	8.0	8.0
5	195	42	28	70	16	50	112	112	27	11	8.4	6.8
6	124	37	28	80	16	55	146	88	26	18	8.4	6.0
7	98	32	26	115	15	65	302	70	33	23	8.0	6.8
8	85	28	26	334	15	88	287	72	27	16	7.6	5.2
9	66	26	24	518	16	156	195	76	23	18	7.6	5.5
10	47	27	24	260	17	140	107	58	26	21	7.2	5.5
11	44	28	22	160	17	101	145	44	30	63	10	5.7
12	32	30	22	130	19	104	217	39	25	44	8.4	5.5
13	23	32	26	120	22	98	311	37	19	42	7.6	5.7
14	26	47	50	110	20	75	275	32	16	61	7.6	5.5
15	28	94	58	120	18	60	217	37	14	72	10	5.5
16	36	106	42	160	15	48	156	58	12	55	22	18
17	55	99	34	120	14	44	121	47	18	26	20	33
18	64	73	30	90	15	42	96	38	81	14	13	21
19	61	76	30	65	19	40	142	34	112	12	10	16
20	47	78	28	50	40	40	166	88	89	10	9.2	10
21	42	70	26	40	75	40	130	175	206	13	8.4	15
22	34	42	24	34	120	38	107	130	120	16	7.6	21
23	28	40	22	30	166	36	121	80	111	16	8.0	15
24	24	52	20	28	185	36	94	61	47	16	8.4	12
25	30	45	20	26	150	38	111	73	37	11	8.4	11
26	39	37	32	24	110	60	79	101	28	12	6.8	22
27	37	34	50	24	75	101	88	80	42	14	6.4	22
28	31	34	55	22	80	85	124	67	70	16	6.8	16
29	28	32	50	22	-------	74	118	70	61	24	10	14
30	23	30	42	20	-------	70	104	76	34	38	10	12
31	22	-------	40	20	-------	44	-------	76	-------	18	11	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	195	11	53.5	2.07	2.39
November	106	26	48.6	1.88	2.10
December	58	20	32.1	1.24	1.43
January	518	20	98.5	3.82	4.40
February	185	14	47.4	1.84	1.92
March	156	36	67.2	2.60	3.00
April	311	45	157	6.09	6.80
May	271	32	84.0	3.26	3.76
June	206	12	50.5	1.96	2.19
July	72	10	25.0	.969	1.12
August	22	6.4	9.64	.374	.43
September	33	5.2	12.0	.465	.52
The year	518	5.2	57.0	2.21	30.06

RAQUETTE RIVER AT PIERCEFIELD, N. Y.

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

DRAINAGE AREA.—723 square miles.

RECORDS AVAILABLE.—August, 1908, to September, 1930.

EXTREMES.—Maximum discharge during year, 4,760 second-feet Apr. 21 (gage height, 9.7 feet); minimum, 80 second-feet Sept. 15 (gage height, 2.07 feet). 1908–1930: Maximum discharge, 7,580 second-feet Apr. 17, 1922 (gage height, 11.8 feet); minimum, about 10 second-feet Sept. 2, 1913 (gage height, 0.85 foot).

REMARKS.—Records good except those estimated, 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, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	521	816	1,000	1,320	e 1,830	1,530	1,500	3,250	2,490	1,560	853	180
2	474	842	1,190	1,320	1,590	1,360	1,560	3,250	2,760	1,500	788	409
3	459	464	1,200	1,350	1,690	1,560	1,590	3,250	2,670	1,410	411	444
4	554	732	1,170	1,350	1,620	1,530	1,590	3,250	2,490	1,200	692	430
5	604	790	1,140	e 1,240	1,560	1,500	1,590	3,570	2,400	1,240	703	415
6	391	790	1,120	e 1,400	e 1,500	1,440	1,460	3,570	2,310		640	415
7	809	885	1,100	e 1,600	e 1,470	1,410	2,000	3,570	2,220		622	214
8	885	930	859	e 1,800	e 1,440	1,470	2,310	3,570	1,890		604	294
9	891	930	1,050	e 2,000	e 1,160	e1, 290	2,490	3,460	2,060	e 1,400	488	415
10	886	652	1,070	e 2,200	e 1,210	e1, 580	2,670	3,460	1,980		277	415
11	897	954	1,040	e 2,400	1,220	1,590	2,850	3,350	1,860		478	387
12	942	1,020	e 1,020	2,400	e 1,170	1,620	3,050	3,460	1,830	e 1,170	491	401
13	537	1,020	e 998	2,760	e 1,140	1,660	3,250	3,250	1,760	875	483	401
14	763	1,020	975	2,850	e 1,120	1,620	3,790	3,150	1,720	1,240	494	196
15	874	1,070	695	3,050	1,100	1,620	4,140	3,150	e 1,470	1,170	467	311
16	902	1,140	868	3,050	783	1,420	4,260	3,050	e 1,660	1,120	498	374
17	930	1,020	998	e 3,150	1,020	1,590	4,380	2,850	e 1,620	1,120	301	374
18	930	1,350	998	e 3,150	1,020	1,620	4,500	2,580	e 1,590	1,120	456	430
19	952	1,410	975	3,050	1,020	1,660	4,500	2,670	e 1,560	1,100	521	452
20	e 525	1,470	998	3,150	998	1,620	4,380	2,670	e 1,560	695	459	415
21	e 750	1,500	998	3,050	998	1,620	4,630	2,670	1,590	1,080	430	220
22	837	1,530	816	3,050	998	1,420	4,500	2,670	1,430	998	430	352
23	826	1,530		2,850	789	e1, 510	4,380	2,670	1,720	958	444	415
24	842	1,320		2,760	1,150	1,530	4,260	2,580	1,690	930	286	426
25	841	1,460	e 1,200	2,670	1,300	1,560	4,020	2,490	1,660	908	427	405
26	847	1,470		e 2,310	1,380	1,560	3,900	2,670	1,660	885	459	459
27	e 510	1,440		e 2,500	1,470	1,560	3,680	2,670	1,620	455	430	416
28	e 715	1,380	e 1,320	e 2,300	1,530	1,560	3,680	2,670	1,590	716	415	281
29	e 800	1,350	1,140	e 2,100	-------	1,530	3,460	2,670	1,400	740	448	378
30	e 800	1,270	1,330	e 2,000	-------	1,350	3,350	2,760	1,600	640	459	459
31	794	-------	1,350	e 1,900	-------	1,500	-------	2,760	-------	797	271	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	952	391	751	1.04	1.20
November	1,530	464	1,120	1.55	1.73
December	1,350	695	1,080	1.49	1.72
January	3,150	1,240	2,330	3.22	3.71
February	1,830	783	1,260	1.74	1.81
March	1,660	1,290	1,530	2.12	2.44
April	4,630	1,460	3,260	4.51	5.03
May	3,570	2,490	3,020	4.18	4.82
June	2,760	1,400	1,860	2.57	2.87
July	1,560	455	1,100	1.52	1.75
August	853	271	491	.679	.78
September	459	180	373	.516	.58
The year	4,630	180	1,510	2.09	28.44

e Estimated.

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

LOCATION.—Water-stage recorder 600 feet above highway bridge at Brasher Center, St. Lawrence County, and 6½ miles below junction of East and West Branches at Winthrop.

DRAINAGE AREA.—616 square miles.

RECORDS AVAILABLE.—August, 1910, to November, 1917; January, 1919, to September, 1930.

EXTREMES.—Maximum discharge during year, 8,200 second-feet Apr. 2 (gage height, 10.3 feet); minimum, 184 second-feet Sept. 8–11 (gage height, 5.80 feet).

1910–1917, 1919–1930: Maximum discharge, about 16,200 second-feet Mar. 27, 1914 (gage height, 9.1 feet, old datum); minimum, about 34 second-feet Aug. 8, 1917 (gage height, 5.25 feet).

REMARKS.—Records for Oct. 1 to Nov. 26, Mar. 2 to Sept. 30, good except those estimated, which are fair; for Nov. 27 to Mar. 1, poor.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	340	524	800	a 800	a 750	a 2,000	1,750	2,270	1,880	914	514	309
2	374	520	771	a 1,400	a 750	1,860	6,280	2,500	1,620	786	451	282
3	762	702	744	a 2,200	a 750	1,360	3,350	3,480	1,300	660	426	315
4	1,610	855	702	a 2,000	a 700	1,190	2,390	3,760	1,230	590	316	290
5	2,110	796	650	1,570	a 700	1,090	1,980	3,190	1,100	553	289	290
6	1,830	708	620	1,580	a 700	1,220	2,520	2,680	1,020	640	316	288
7	1,520	687	580	3,340	a 650	1,070	4,220	2,350	936	692	302	256
8	1,290	672	670	6,040	a 650	1,500	4,700	2,090	936	754	242	209
9	1,180	569	723	6,640	a 650	1,610	3,650	1,880	914	702	332	244
10	962	942	670	4,160	a 600	1,720	3,300	a 1,650	914	670	316	233
11	712	470	702	3,600	a 600	1,950	2,940	a 1,380	925	650	276	226
12	768	426	681	3,200	a 600	2,430	3,230	a 1,140	914	650	409	236
13	685	479	734	3,000	650	2,940	4,090	a 958	903	692	346	230
14	575	636	a 750	2,940	650	2,340	4,930	a 849	734	882	340	225
15	610	1,310	a 850	3,340	600	1,790	4,790	a 892	670	1,150	400	207
16	568	1,830	a 750	2,600	600	1,600	3,960	a 1,140	542	1,090	a 468	207
17	850	1,590	a 700	2,000	a 550	1,510	3,210	a 1,380	505	881	486	213
18	903	1,540	a 700	1,900	a 550	1,540	2,860	1,260	735	712	477	395
19	1,080	2,260	a 650	1,700	a 650	1,620	2,770	1,310	1,050	580	535	407
20	1,000	1,820	a 650	1,500	a 850	1,480	3,120	1,950	1,110	505	357	316
21	807	1,610	a 650	1,400	a 1,400	1,510	2,880	2,680	2,510	401	310	309
22	712	1,430	650	1,400	a 2,200	1,050	2,680	2,430	3,390	418	386	424
23	654	1,110	a 600	a 1,200	a 3,000	1,230	2,680	2,110	2,680	637	310	384
24	601	903	a 600	a 1,100	a 3,800	1,200	2,350	1,690	2,090	620	a 300	272
25	523	887	a 600	a 1,000	a 4,200	1,200	2,270	1,570	1,610	505	a 300	289
26	648	771	a 650	a 950	a 3,400	1,130	2,350	1,900	1,230	451	a 300	a 296
27	608	723	a 750	a 950	a 2,800	1,700	2,190	1,940	1,150	434	a 300	302
28	532	1,000	a 800	a 900	a 2,200	1,630	2,350	2,190	1,130	a 505	a 320	346
29	552	950	a 750	a 900	-------	1,450	2,350	2,270	1,180	a 542	a 340	302
30	504	900	a 750	a 850	-------	1,330	2,430	2,190	992	590	a 360	289
31	508	-------	a 750	a 800	-------	1,480	-------	2,110	-------	640	354	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,110	340	851	1.38	1.59
November	2,260	426	972	1.58	1.76
December	850	580	698	1.13	1.30
January	6,640	800	2,160	3.51	4.05
February	4,200	550	1,290	2.09	2.18
March	2,940	1,050	1,570	2.55	2.94
April	6,280	1,750	3,150	5.11	5.70
May	3,760	849	1,970	3.20	3.69
June	3,390	505	1,260	2.05	2.29
July	1,150	401	661	1.07	1.23
August	535	242	361	.586	.68
September	424	207	286	.464	.52
The year	6,640	207	1,270	2.06	27.93

a Estimated.

SALMON RIVER AT CHASM FALLS, N. Y.

LOCATION.—Water-stage recorder at Chasm Falls, Franklin County, one-fourth mile below power plant of Malone Light & Power Co.

DRAINAGE AREA.—131 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,300 second-feet Apr. 7 (gage height, 3.5 feet); minimum, about 27 second-feet Dec. 1 (gage height, 0.69 foot).

1925–1930: Maximum discharge, 2,890 second-feet Apr. 25, 1926 (gage height, 5.0 feet); minimum, about 21 second-feet Sept. 22, 1929 (gage height, 0.63 foot).

REMARKS.—Records good except those estimated, which are fair. Small diversion from tributary stream above gage is used as water supply for Malone.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	156	142	144	132	264	209	445	391	185	122	132
2	143	190	180	205	148	244	351	542	339	194	122	145
3	264	197	157	296	170	182	289	796	293	171	127	148
4	300	182	150	254	155	215	261	795	258	162	142	138
5	271	179	144	200	153	203	[a] 301	584	234	154	134	127
6	222	171	144	241	152	191	479	460	225	195	124	86
7	247	165	131	326	141	204	1,020	422	238	206	122	72
8	261	157	154	862	173	234	1,060	455	212	188	102	121
9	222	154	166	1,190	117	225	[a] 600	400	209	174	90	134
10	191	133	144	858	146	228	[a] 594	331	251	188	110	133
11	176	158	142	617	142	225	[a] 708	308	234	171	147	134
12	165	159	133	530	143	241	[a] 837	278	200	191	132	134
13	160	156	152	472	168	234	990	254	188	176	121	100
14	174	230	141	427	144	[a] 218	1,180	241	171	242	105	72
15	157	331	132	475	146	[a] 209	1,040	264	165	249	82	129
16	152	349	148	490	119	197	774	315	154	191	174	135
17	243	275	131	372	131	185	594	293	214	162	144	140
18	241	278	140	335	168	203	550	261	254	149	163	132
19	206	351	152	331	167	206	666	247	215	139	139	118
20	218	289	151	342	190	180	708	535	373	136	124	104
21	206	234	182	326	300	187	584	584	574	146	115	85
22	188	209	187	308	386	159	[a] 545	485	704	[a] 134	122	121
23	176	159	211	269	406	170	500	382	430	174	100	125
24	176	194	144	257	570	165	404	323	315	146	58	124
25	188	185	164	238	600	168	373	388	271	132	118	122
26	206	174	154	171	450	234	382	550	238	117	108	120
27	179	182	152	239	360	241	432	520	225	202	111	108
28	179	184	160	232	293	209	436	594	249	191	118	106
29	162	151	154	196	-------	194	414	525	215	165	125	126
30	154	152	154	168	-------	176	422	470	188	149	105	129
31	148	-------	138	176	-------	176	-------	450	-------	132	74	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	300	138	197	1.50	1.73
November	351	133	203	1.55	1.73
December	211	131	153	1.17	1.35
January	1,190	144	372	2.84	3.27
February	600	117	228	1.74	1.81
March	264	159	205	1.56	1.80
April	1,180	209	590	4.50	5.02
May	796	241	435	3.32	3.83
June	704	154	274	2.09	2.33
July	249	117	171	1.31	1.51
August	174	58	119	.908	1.05
September	148	72	120	.916	1.02
The year	1,190	58	255	1.95	26.45

[a] Estimated.

CHATEAUGAY RIVER NEAR CHATEAUGAY, N. Y.

LOCATION.—Water-stage recorder 150 feet below dam of International Paper Co. and 1 mile south of Chateaugay, Franklin County.

DRAINAGE AREA.—114 square miles.

RECORDS AVAILABLE.—September to December, 1908; October, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 910 second-feet Apr. 7 (gage height, 5.1 feet); minimum, 24 second-feet Dec. 6 (gage height, 0.80 foot). 1908, 1926–1930: Maximum discharge, 2,060 second-feet Apr. 8 1928 (gage height, 7.3 feet); minimum, 6 second-feet Nov. 20, 1928 (gage height, 0.23 foot).

REMARKS.—Records good except those corrected for backwater, May 18–19, June 6–20, June 29 to Aug. 18, and those estimated, which are fair. Flow regulated by storage in Upper and Lower Chateaugay Lakes.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	100	126	e 190	175	170	390	474	319	160	152	
2	120	107	123	e 190	e 170	160	415	207	304	160	134	
3	144	105	114	188	170	210	402	243	273	158	120	
4	e 140	105	114	172	161	254	390	268	242	154	112	e 115
5	e 130	99	130	176	164	244	415	282	238	152	116	
6	115	95	34	172	169	221	584	280	200	160	118	
7	120	105	84	324	166	214	766	284	156	154	118	123
8	110	103	e 150	332	172	224	470	302	158	156	116	113
9	107	106	e 142	170	174	221	440	294	154	156	114	113
10	e 102	e 100	144	195	184	221	440	288	172	154	114	112
11	e 110	e 100	141	197	168	220	470	e 280	156	154	114	110
12	e 110	97	139	194	168	221	485	272	148	152	114	116
13	112	106	147	195	181	224	500	262	146	152	112	112
14	100	113	136	201	174	214	515	261	140	158	114	111
15	100	124	e 180	266	155	219	515	270	134	152	120	121
16	96	117	156	193	131	e 220	515	263	126	144	116	129
17	e 126	111	146	221	125	218	500	366	140	142	120	128
18	e 110	114	140	230	120	229	500	186	136	148	110	132
19	e 110	113	147	238	150	238	515	190	140	148	116	126
20	111	101	147	236	196	244	515	238	176	144	126	125
21	107	103	148	208	165	237	515	259	305	142	114	132
22	106	106		212	126	284	515	289	284	150	119	121
23	104	108	e 145	216	165	313	500	277	273	140	124	120
24	106	68		205	171	302	485	272	273	148	115	125
25	109	46		191	157	281	485	276	247	140	124	117
26	106	47	e 148	214	161	282	500	303	234	140	113	124
27	106	44	139	213	180	284	485	351	225	164	119	119
28	94	27		197	189	311	470	354	214	140	115	128
29	96	104	e 150	184	------	415	470	367	208	152	119	122
30	105	124		203	------	402	455	354	190	140	e 115	125
31	105	------		185	------	390	------	339	------	134	e 115	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	144	94	111	0.974	1.12
November	124	27	96.6	.847	.94
December	180	34	137	1.20	1.38
January	332	170	210	1.84	2.12
February	196	120	164	1.44	1.50
March	415	160	254	2.23	2.57
April	766	390	487	4.27	4.76
May	474	186	289	2.54	2.93
June	319	126	204	1.79	2.00
July	164	134	150	1.32	1.52
August	152	110	118	1.04	1.20
September	132	110	120	1.05	1.17
The year	766	27	195	1.71	23.21

e Estimated.

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, 1930.

EXTREMES.—Maximum elevation during year, 98.38 feet Apr. 18; minimum, 93.16 feet Oct. 17.

1869–1930: Maximum elevation known, 103.28 feet April 1869 (Water-Supply Paper 97, p. 340); minimum, 91.9 feet Nov. 13, 1908.

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

Daily gage height, in feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.86	1.07	1.04	1.21	3.01	3.80	4.61	4.90	4.58	4.40	2.81	1.58
2	.84	.72	1.17	1.27	2.94	3.80	4.48	4.88	4.65	4.23	2.79	1.57
3	.89	.87	.99	1.24	2.89	3.80	4.55	4.90	4.60	4.10	2.74	1.48
4	.96	1.01	1.02	1.32	2.89	3.80	4.48	4.68	4.51	4.08	2.69	1.35
5	.94	.84	.99	1.39	2.84	3.82	4.53	4.90	4.48	4.06	2.46	1.70
6	1.24	1.07	.84	1.56	2.84	3.73	4.58	4.81	4.48	4.05	2.34	1.38
7	.92	.86	.89	1.66	2.81	3.70	4.70	4.78	4.30	3.98	2.40	1.35
8	.89	.89	.87	1.74	2.79	3.68	5.06	4.73	4.26	3.85	2.38	1.28
9	.84	.92	.89	2.02	2.77	4.03	5.15	4.73	4.15	3.85	2.45	1.25
10	.82	1.04	.91	2.44	2.75	4.20	5.38	4.65	4.33	3.76	2.23	1.20
11	.94	1.19	.92	2.89	2.74	4.29	5.36	4.60	4.43	3.78	2.12	1.40
12	1.07	.84	.92	3.01	2.72	4.43	5.41	4.58	4.36	3.63	2.05	1.15
13	.94	.84	.87	3.06	2.67	4.56	5.48	4.46	4.38	3.65	2.20	1.15
14	.82	.91	.86	3.19	2.59	4.58	5.46	4.38	4.35	3.48	2.22	1.07
15	.84	.89	.84	3.19	2.56	4.58	5.65	4.28	4.26	3.50	2.12	1.35
16	.87	1.04	.87	3.17	2.54	4.63	5.55	4.38	4.21	3.48	1.98	1.07
17	.66	1.07	.89	3.31	2.54	4.58	5.78	4.23	4.18	3.48	1.95	1.18
18	.69	1.29	.94	3.38	2.53	4.60	5.88	4.08	4.15	3.51	1.97	1.13
19	.94	1.17	.97	3.36	2.46	4.58	5.51	4.08	4.16	3.33	1.85	1.17
20	.87	1.14	1.02	3.48	2.44	4.56	5.43	3.98	4.30	3.29	1.83	1.40
21	1.02	1.24	1.04	3.38	2.49	4.48	5.53	4.10	4.43	3.24	1.82	1.10
22	.84	1.17	1.06	3.28	2.67	4.43	5.30	4.13	4.55	3.09	1.75	1.30
23	1.02	1.29	1.11	3.32	2.84	4.40	5.28	4.06	4.58	3.06	1.65	.98
24	.92	1.59	1.16	3.33	3.05	4.36	5.28	4.43	4.68	2.99	2.00	1.15
25	.91	.94	1.19	3.31	3.35	4.28	5.21	3.93	4.70	2.91	1.78	1.07
26	.84	1.64	1.23	3.24	3.60	4.33	5.18	3.96	4.65	2.92	1.75	1.03
27	1.09	1.27	1.24	3.19	3.71	4.51	5.13	4.13	4.63	2.82	1.68	.98
28	.74	1.04	1.16	3.15	3.78	4.60	5.06	4.38	4.41	2.89	1.67	1.00
29	.82	.99	1.14	3.09	-------	4.58	5.03	4.58	4.51	2.76	1.72	.95
30	1.04	1.41	1.21	3.07	-------	4.58	4.96	4.65	4.53	2.74	1.58	.87
31	.84	-------	1.17	3.03	-------	4.56	-------	4.56	-------	2.72	1.58	-------

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, 1930.

EXTREMES.—Maximum stage recorded during year, 5.75 feet Apr. 15; minimum, 0.80 foot Oct. 19.

1907–1930: Maximum stage recorded, 8.22 feet Apr. 19, 1922; minimum, —0.25 foot Dec. 4, 1908.

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

Daily gage height, in feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.92					3.87		4.93			2.72	
2	.91			1.22					4.66	4.25		1.57
3	1.02		1.08	1.31		3.89		4.93		4.22	2.62	1.52
4		0.92		1.40	2.97				4.54	4.22	2.56	
5	1.00	.96	1.08			3.80	4.65	4.98	4.52	4.15	2.52	1.48
6			1.06		2.92	3.80		4.96	4.42		2.51	1.44
7	.96	.96				3.78		4.92	4.35	4.00		
8		.96				3.84	5.15	4.86	4.32	3.90	2.42	1.40
9		.94		1.65				4.86		3.86		1.36
10	.98		1.00	1.84	2.77	4.24		4.83	4.30	3.85		1.33
11		.92					5.45		4.39	3.78		1.26
12	.90							4.57	4.38	3.74	2.18	1.26
13		.92	.96	3.16	2.72			4.52			2.12	1.24
14	.92	1.00	.94	3.17		4.72	5.68	4.47	4.32	3.60		
15		1.08		3.24	2.64		5.75	4.37		3.52	2.03	
16		1.12	1.00				5.72			3.50	1.94	1.18
17				3.36	2.60		5.72	4.26	4.18	3.44	2.04	1.24
18		1.16		3.40					4.18	3.40	2.00	1.22
19	.80	1.20						4.09	4.24		2.00	1.21
20		1.26	1.00	3.43				4.11	4.36	3.30	1.97	1.18
21		1.33		3.38	2.64			4.10	4.44	3.22	1.94	
22	.90			3.42			5.44	4.10	4.62	3.18	1.91	1.15
23	.90	1.29					5.46	4.10	4.74	3.12	1.88	1.12
24	.90			3.36	3.10		5.40			3.06		1.08
25					3.46		5.35		4.72	3.00	1.73	1.04
26	.90				3.70		5.30	4.10	4.68	2.92		1.08
27		1.13	1.20	3.23	3.80			4.18	4.64		1.72	
28	.90		1.22	3.22	3.84	4.60	5.18	4.49		2.87	1.67	
29	.92						5.10	4.64		2.86		.96
30				3.14			5.03	4.68	4.34	2.82	1.64	.95
31	.88		1.24	3.07		4.64		4.70		2.76		

GREAT CHAZY RIVER AT PERRY MILLS, N. Y.

LOCATION.—Water-stage recorder 500 feet above highway bridge at Perry Mills, Clinton County.

DRAINAGE AREA.—243 square miles.

RECORDS AVAILABLE.—September, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 4,450 second-feet Jan. 9 (gage height, 8.8 feet); minimum, 4.6 second-feet Sept. 29 (gage height, 1.61 feet).

1928–1930: Maximum discharge, 5,810 second-feet Mar. 16, 1929; maximum stage, 11.2 feet Mar. 15, 1929; minimum discharge, 4.6 second-feet Sept. 7, 1929, Sept. 29, 1930 (gage height, 1.61 feet).

REMARKS.—Records good except those for periods of ice effect, Nov. 22–25, Nov. 29 to Jan. 1, Jan. 8 to Mar. 12, Mar. 23, 24, and those estimated, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	39	55	420	a 240	600	1,060	337	284	127	73	31
2	31	64	70	575	a 240	550	1,290	423	240	127	89	35
3	71	73	60	732	a 240	420	1,140	770	211	114	80	44
4	151	96	55	815	a 240	400	1,080	616	184	89	87	56
5	172	65	50	652	a 220	380	1,040	392	123	87	76	52
6	130	50	55	690	a 220	400	1,470	310	108	102	69	39
7	76	48	50	1,110	a 220	440	2,620	262	112	136	66	27
8	62	34	50	3,000	a 220	500	3,440	252	104	108	69	31
9	61	46	48	4,000	220	750	1,390	265	104	95	48	37
10	56	39	46	1,500	220	900	832	220	151	102	42	33
11	37	91	44	1,000	200	1,000	879	203	161	106	37	22
12	39	55	42	1,000	200	1,100	1,350	198	125	121	44	27
13	62	52	40	1,100	200	1,210	1,630	144	106	116	37	29
14	73	66	65	1,000	200	1,060	1,580	130	95	119	30	24
15	43	210	110	1,100	190	a 900	1,000	139	87	144	30	32
16	36	256	95	700	190	a 800	665	226	82	112	40	39
17	38	192	75	460	180	a 750	506	262	194	89	44	48
18	84	168	65	380	180	a 700	506	198	520	80	36	43
19	73	264	55	360	180	a 650	726	200	562	87	43	45
20	61	282	55	340	340	a 600	732	715	1,670	78	36	38
21	73	111	50	340	1,300	a 550	514	885	1,240	86	37	28
22	65	90	48	320	1,600	a 550	637	494	1,110	93	45	33
23	52	80	46	300	1,800	550	656	344	558	114	38	47
24	78	70	44	300	2,200	550	482	256	334	93	28	33
25	99	60	44	280	1,800	522	438	252	249	104	42	30
26	68	60	70	280	1,000	845	478	615	198	75	43	24
27	40	86	120	2 0	750	1,030	454	588	161	134	38	30
28	50	78	130	260	700	920	400	482	156	163	40	19
29	45	65	120	260	------	815	362	403	139	224	36	26
30	38	55	190	260	------	740	344	430	123	204	31	29
31	41	------	280	240	------	850	------	351	------	112	22	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	172	31	65.7	0.270	0.31
November	282	34	98.2	.404	.45
December	280	40	75.1	.309	.36
January	4,000	240	775	3.19	3.68
February	2,200	180	553	2.28	2.37
March	1,210	380	711	2.93	3.38
April	3,440	344	990	4.07	4.54
May	885	130	367	1.51	1.74
June	1,670	82	316	1.30	1.45
July	224	75	114	.469	.54
August	89	22	47.6	.196	.23
September	56	19	34.4	.142	.16
The year	4,000	19	344	1.42	19.21

a Estimated.

SARANAC RIVER NEAR PLATTSBURG, N. Y.

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

DRAINAGE AREA.—607 square miles.

RECORDS AVAILABLE.—March, 1903, to September, 1930.

EXTREMES.—Maximum mean daily discharge during year, 4,700 second-feet Apr. 7; minimum, 310 second-feet Dec. 1.

1903–1930: Maximum mean daily discharge, 8,600 second-feet Apr. 8, 1928; minimum, 15 second-feet Aug. 4, 1908.

REMARKS.—Records poor. Discharge includes flow over spillway and through gates and power plant. Flow partly regulated by storage in Lower Saranac Lake and elsewhere. Gage-height records and wattmeter readings furnished by Associated Gas & Electric System, Herbert A. Stutchbury, superintendent, northern division.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	500	390	310	460	560	960	900	1,640	1,680	780	480	
2	380	475	375	415	540	980	1,520	1,820	1,560	720	475	
3	740	490	445	560	530	820	1,380	2,480	1,400	640	620	
4	600	540	520	570	520	790	1,480	2,400	1,260	580	520	
5	620	540	520	455	530	740	1,480	2,120	1,080	540	460	
6	485	530	470	490	560	750	1,920	1,980	990	590	480	[a] 400
7	415	520	480	510	490	710	4,700	1,880	900	620	455	
8	460	470	415	1,000	550	1,200	4,100	1,920	820	530	495	
9	570	470	410	2,500	690	1,040	2,900	1,760	880	490	490	
10	510	435	520	960	660	990	2,340	1,540	1,060	600	395	
11	510	520	470	700	580	990	2,280	1,420	1,020	540	435	
12	465	550	495	520	590	1,160	2,750	1,360	870	630	485	620
13	445	550	500	550	630	1,160	3,400	1,380	900	485	485	455
14	530	650	510	610	620	980	3,950	1,200	830	620	495	340
15	500	640	580	850	570	860	3,500	1,120	750	670	490	390
16	485	640	540	950	520	830	2,800	1,480	750	610	495	495
17	510	520	500	810	670	840	2,320	1,280	710	580	445	740
18	530	550	495	760	540	780	2,260	1,120	900	580	480	820
19	495	650	465	820	590	790	2,550	1,080	990	530	495	760
20	485	640	495	700	850	690	2,500	2,420	970	390	510	640
21	540	560	495	700	1,520	750	2,280	2,220	1,200	445	560	425
22	530	475	425	740	2,000	530	2,240	1,760	1,440	500	550	475
23	540	490	560	780	1,640	405	2,180	1,500	1,260	510	475	475
24	520	420	530	550	2,140	610	1,900	1,320	990	560	500	455
25	520	550	530	750	2,220	640	1,740	1,280	920	530	470	375
26	530	510	530	550	1,620	1,020	1,720	1,960	890	500	455	355
27	485	580	510	510	1,300	1,200	1,700	1,980	890	485	540	445
28	560	550	560	530	1,200	920	1,740	1,980	1,080	590	445	430
29	520	465	465	680	-------	840	1,600	2,080	610	620	500	395
30	510	410	520	590	-------	730	1,600	2,080	740	600	520	415
31	460	-------	520	600	-------	820	-------	1,860	-------	600	[a] 630	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	740	380	515	0.848	0.98
November	650	390	526	.867	.97
December	580	310	491	.809	.93
January	2,500	415	715	1.18	1.36
February	2,220	490	908	1.50	1.56
March	1,200	405	856	1.41	1.63
April	4,700	900	2,320	3.82	4.26
May	2,480	1,080	1,720	2.83	3.26
June	1,680	610	1,010	1.66	1.85
July	780	390	570	.939	1.08
August	630	395	495	.815	.94
September	820	340	464	.764	.85
The year	4,700	310	881	1.45	19.67

[a] Estimated.

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

LOCATION.—Water-stage recorder 4 miles northeast of Newman, Essex County, and 4 miles (previously published as 5 miles) below mouth of Lake Placid outlet.

DRAINAGE AREA.—116 square miles.

RECORDS AVAILABLE.—June, 1916, to December, 1917; July, 1919, to September, 1930.

EXTREMES.—Maximum discharge during year, 4,190 second-feet Jan. 8 (gage height, 8.2 feet); minimum, 32 second-feet Sept. 12 (gage height, 2.33 feet). 1916–17, 1919–1930: Maximum discharge, 5,150 second-feet Oct. 1, 1924 (gage height, 9.0 feet); minimum, practically zero Sept. 13, 1920, caused by closing gates in logging dam (gage height, 1.60 feet).

REMARKS.—Records good except those for periods of ice effect, Nov. 22–24, Dec. 1–20, 24–31, Jan. 6, Jan. 10 to Feb. 22, Mar. 4–6, 14–16, 21–24, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	110	75	172	90	160	194	849	430	201	74	59
2	74	374	75	215	90	156	396	1,450	355	228	77	63
3	452	326	75	352	90	128	290	1,750	298	164	67	61
4	400	202	75	346	90	120	254	796	254	139	69	57
5	234	180	70	212	85	110	259	667	222	121	67	53
6	178	138	75	190	85	110	402	875	198	123	56	53
7	223	123	75	276	85	117	1,750	905	198	136	61	49
8	234	112	80	1,310	80	137	1,030	875	192	123	62	49
9	166	108	90	2,270	80	186	528	655	202	118	53	46
10	127	106	75	1,000	80	172	376	470	528	119	84	48
11	108	102	70	550	75	168	413	371	526	114	89	46
12	98	106	[a] 65	420	75	198	860	316	322	130	74	46
13	120	107	70	380	75	186	1,300	305	228	132	66	62
14	180	230	80	360	75	150	1,420	309	183	174	60	33
15	164	453	90	480	70	120	870	375	159	198	67	65
16	135	394	80	550	70	120	541	426	146	141	82	56
17	137	254	75	340	70	138	430	332	174	105	80	113
18	133	256	140	260	70	238	601	276	307	88	66	94
19	103	405	500	200	80	298	1,190	231	335	75	60	70
20	111	294	1,200	180	100	209	700	562	259	73	62	58
21	117	212	620	170	150	160	484	551	821	67	61	41
22	104	170	430	140	200	130	388	409	680	67	58	60
23	280	140	268	130	330	130	312	339	442	74	55	52
24	242	140	220	130	581	120	276	301	290	62	67	49
25	169	134	190	120	457	149	258	449	225	61	65	55
26	154	127	190	110	367	502	244	758	186	55	64	58
27	152	128	190	100	238	539	268	670	189	86	59	60
28	146	117	190	100	185	351	324	785	189	92	55	68
29	124	85	170	95	-------	262	324	725	164	164	54	59
30	112	80	160	95	-------	210	430	625	137	128	61	54
31	101	-------	150	95	-------	204	-------	536	-------	91	50	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	452	60	166	1.43	1.65
November	453	80	190	1.64	1.83
December	1,200	65	191	1.65	1.90
January	2,270	95	366	3.16	3.64
February	581	70	147	1.27	1.32
March	539	110	193	1.66	1.91
April	1,750	194	570	4.91	5.48
May	1,750	231	611	5.27	6.08
June	821	137	295	2.54	2.83
July	228	55	118	1.02	1.18
August	89	50	65.3	.563	.65
September	113	33	57.9	.499	.56
The year	2,270	33	248	2.14	29.03

[a] Estimated.

AUSABLE RIVER NEAR AUSABLE FORKS, N. Y.

LOCATION.—Water-stage recorder 1¾ miles below junction of East and West Branches of Ausable River at Ausable Forks, Clinton County.
DRAINAGE AREA.—448 square miles.
RECORDS AVAILABLE.—September, 1924, to September, 1930.
EXTREMES.—Maximum discharge during year, 12,100 second-feet Apr. 7 (gage height, 8.3 feet); minimum, 112 second-feet Sept. 20 (gage height, 1.16 feet). 1924–1930: Maximum discharge, about 19,100 second-feet Oct. 1, 1924 (gage height, 10.55 feet); minimum, 93 second-feet Nov. 9, 1924 (gage height, 1.08 feet).
REMARKS.—Records good except those for periods of ice effect, Nov. 24–25, Nov. 30 to Jan. 7, Jan. 18 to Feb. 24, Mar. 4–6, 21–24, which are fair. Flow partly regulated by storage, principally in Taylor Pond and Fern Lake.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	237	284	220	400	280	605	722	2,240	1,120	399	219	234
2	274	499	220	550	260	551	1,360	4,320	920	624	212	248
3	1,020	840	200	1,100	260	392	938	5,710	762	487	208	248
4	931	575	220	900	260	340	895	2,680	657	387	205	222
5	602	444	220	550	240	320	887	1,870	563	331	195	212
6	455	402	220	550	240	340	1,430	2,400	493	309	195	208
7	402	335	240	950	a 240	408	8,370	2,540	522	344	195	198
8	499	325	240	3,560	a 240	533	4,800	2,620	510	309	188	205
9	414	303	260	6,210	a 220	528	2,160	2,060	601	335	178	195
10	335	292	240	2,370	220	545	1,520	1,470	2,150	349	198	201
11	288	284	240	1,400	220	621	1,600	1,090	2,130	314	260	195
12	264	305	240	1,050	220	946	3,120	895	1,280	305	241	191
13	247	309	240	989	200	794	4,590	815	831	309	219	181
14	331	454	260	855	200	643	5,020	839	624	344	201	188
15	397	1,010	300	1,370	220	510	3,270	1,030	499	423	219	191
16	340	1,110	280	1,420	200	465	1,930	1,470	438	354	260	212
17	326	746	260	770	220	444	1,420	1,110	502	284	264	284
18	331	675	320	600	220	465	1,560	855	1,000	245	256	272
19	291	1,140	1,000	440	240	599	3,590	748	1,210	226	252	215
20	258	847	2,600	420	340	487	2,340	1,920	831	208	248	195
21	296	599	1,500	400	550	420	1,640	1,870	1,690	222	230	184
22	288	476	1,000	380	800	360	1,310	1,360	1,750	226	219	188
23	1,070	338	750	360	1,300	340	1,090	1,050	1,130	245	222	184
24	1,010	320	600	340	1,700	340	920	863	740	222	230	188
25	620	340	550	320	1,690	368	855	1,080	575	215	276	184
26	496	363	550	300	1,210	1,160	823	2,260	476	212	260	195
27	438	382	550	300	895	1,400	847	1,930	444	234	237	198
28	408	340	500	280	698	815	938	2,000	438	296	222	205
29	358	265	440	280	-------	644	954	1,870	413	436	219	208
30	318	240	420	260	-------	563	1,160	1,640	358	387	215	198
31	301	-------	400	280	-------	569	-------	1,420	-------	280	208	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,070	237	447	0.998	1.15
November	1,140	240	495	1.10	1.23
December	2,600	200	493	1.10	1.27
January	6,210	260	966	2.16	2.49
February	1,700	200	485	1.08	1.12
March	1,400	320	565	1.26	1.45
April	8,370	722	2,070	4.62	5.16
May	5,710	748	1,810	4.04	4.66
June	2,150	358	855	1.91	2.13
July	624	208	318	.71	.82
August	276	178	224	.50	.58
September	284	181	208	.464	.52
The year	8,370	178	745	1.66	22.58

a Estimated.

BLACK BROOK AT BLACK BROOK, N. Y.

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

DRAINAGE AREA.—49.3 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 475 second-feet Apr. 7 (gage height, 4.55 feet); minimum, 2.5 second-feet Oct. 14 (plant shut down).

1924–1930: Maximum discharge, 720 second-feet Apr. 25, 1926 (gage height, 5.6 feet); minimum, that of Oct. 14, 1929.

REMARKS.—Records good except those estimated, which are fair. Flow regulated by storage in Taylor Pond and Fern Lake and by operation of power plant.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	11	17	20	35	49	44	a 41	a 67	17		
2	67	14	24	18	16	39	92	48	56	21		
3	87	7	17	24	39	42	107	51	31	16		
4	28	21	31	33	43	33	114	a 56				
5	21	14	33	30	41	32	112	a 60			a 38	a 80
6	19	24	21	30	32	30	149	a 67				
7	22	12	32	33	40	26	326	a 73				
8	17	24	8	79	41	34	426	93	a 35			
9	11	10	42	114	22	44	238	78				70
10	18	10	28	100	34	43	145	49				73
11	18	16	38	92	38	38	122	14		a 20		74
12	17	33	36	64	33	34	200	a 15				69
13	9	29	41	44	24	44	285	20	31			61
14	4	18	34	39	19	46	328	40	8			64
15	4	41	39	43	37	46	212	49	a 11		a 60	74
16	6	42	18	43	21	42	137	46	19			79
17	26	36	35	35	42	48	100	52	23			94
18	12	34	41	22	38	30	86	a 34	a 29	a 30		56
19	10	42	27	39	30	35	92	56	35	a 30		65
20	6	42	31	43	54	31	50	116	a 42	39		44
21	14	25	46	27	115	34	70	108	50	a 50		56
22	17	18	57	22	109	43	68	76	40	a 50		66
23	15	25	54	18	100	15	68	71	33	a 50		65
24	44	7	53	16	102	22	67	57	27	a 60	a 75	68
25	22	19	54	19	150	20	62	36	24	a 60		78
26	24	15	56	15	131	33	60	93	a 23	57		69
27	9	11	46	21	85	45	61	122	a 22	a 60		79
28	26	17	30	14	62	44	61	93	21	62		67
29	18	35	6	6	-------	39	52	82	18	a 65		66
30	21	43	19	16	-------	30	48	93	a 15	39		69
31	11	-------	20	42	-------	35	-------	80	-------	a 38		-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	87	4	22.5	0.456	0.53
November	43	7	23.2	.471	.53
December	57	6	33.4	.677	.78
January	114	6	37.5	.761	.88
February	150	16	54.8	1.11	1.16
March	49	15	36.3	.736	.85
April	426	44	133	2.70	3.01
May	122	14	63.5	1.29	1.49
June	67	8	31.3	.635	.71
July	65	16	33.0	.669	.77
August	-------	-------	59.7	1.21	1.40
September	94	44	71.5	1.45	1.62
The year	426	4	49.8	1.01	13.73

a Estimated.

EAST BRANCH OF AUSABLE RIVER AT AUSABLE FORKS, N. Y.

LOCATION.—Staff gage at lower highway bridge in Ausable Forks, Essex County, 400 feet above confluence with West Branch of Ausable River.

DRAINAGE AREA.—199 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 9,030 second-feet Apr. 7 (gage height, 6.8 feet); minimum, 37 second-feet several times during Sept. 11–26 (gage height, 0.48 foot).

1924–1930: Maximum stage, 11.4 feet Mar. 28, 1925 (discharge not determined); minimum discharge, that of Sept. 11–26, 1930.

REMARKS.—Records good except those for periods of ice effect, Nov. 24–25, Nov. 30 to Dec. 19, Jan. 5, 6, Jan. 18 to Feb. 22, Mar. 4–6, 18–24, and 29–31, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	121	90	153	95	311	449	1,190	465	15[illegible]	76	50
2	80	224	85	240	90	263	712	2,030	374	257	62	62
3	558	380	85	593	90	169	406	2,850	298	22[illegible]	67	67
4	380	268	85	439	85	150	400	1,240	252	16[illegible]	62	57
5	252	203	85	200	85	140	374	870	213	14[illegible]	62	50
6	179	161	90	200	85	140	658	1,090	174	13[illegible]	62	45
7	157	140	95	535	80	174	5,530	1,240	213	15[illegible]	54	47
8	161	128	100	2,040	80	311	2,200	1,240	208	13[illegible]	52	50
9	132	118	95	3,420	75	335	1,000	1,000	228	14[illegible]	47	42
10	118	114	95	1,140	75	335	712	712	1,390	157	59	40
11	96	110	90	675	70	292	760	514	1,190	13[illegible]	64	38
12	93	110	90	535	70	479	1,720	420	750	12[illegible]	57	42
13	90	110	90	500	70	507	2,080	361	465	114	54	40
14	136	179	100	420	65	368	2,340	374	323	121	50	38
15	136	440	110	675	65	286	1,500	458	229	15[illegible]	54	38
16	124	479	95	712	65	208	870	712	208	13[illegible]	87	40
17	121	323	80	380	65	203	640	535	271	107	73	73
18	114	313	85	280	65	220	682	413	676	84	64	78
19	96	640	360	220	85	260	1,670	351	750	78	70	64
20	93	394	1,070	180	150	220	1,040	917	493	70	70	57
21	96	257	585	180	220	200	750	790	730	62	62	47
22	100	213	380	170	360	160	605	605	750	67	52	40
23	601	157	298	160	605	160	535	486	521	73	47	37
24	533	140	246	150	830	180	387	406	329	62	57	37
25	342	130	229	140	790	252	361	535	246	57	81	38
26	257	179	218	130	605	730	374	955	194	52	73	37
27	218	179	224	130	472	750	361	750	189	64	62	42
28	189	144	208	120	406	413	400	790	179	84	54	42
29	161	100	194	110	-------	260	413	750	169	14[illegible]	54	45
30	136	95	169	100	-------	220	570	640	157	13[illegible]	52	40
31	124	-------	161	95	-------	260	-------	570	-------	9[illegible]	54	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	601	57	191	0.960	1.11
November	640	95	218	1.10	1.23
December	1,070	80	193	.970	1.12
January	3,420	95	485	2.44	2.81
February	830	65	211	1.06	1.10
March	750	140	289	1.45	1.67
April	5,530	361	1,020	5.13	5.72
May	2,850	351	832	4.18	4.82
June	1,390	157	421	2.12	2.36
July	257	52	119	.598	.69
August	87	47	61.1	.307	.35
September	78	37	47.4	.238	.27
The year	5,530	37	340	1.71	23.25

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; July, 1923, to September, 1930.

EXTREMES.—Maximum discharge during year, 5,940 second-feet Apr. 7 (gage height, 7.8 feet); minimum, 43 second-feet Sept. 14 (gage height, 2.26 feet). 1923–1930: Maximum discharge, about 11,800 second-feet Oct. 1, 1924 (gage height, 10.85 feet); minimum, 30 second-feet Oct. 23, 1923 (gage height, 2.17 feet).

REMARKS.—Records good except those for periods of ice effect, Nov. 23-25, Nov. 29 to Jan. 8, Jan. 12 to Mar. 6, Mar. 23, 24, and those estimated, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	e 109	85	e 140	e 130	e 360	e 298		450	181	87	67
2	96	e 111	80	e 200	e 130	280	e 525		382	227	81	81
3	316	127	75	e 500	e 130	220	e 400		334	210	79	81
4	e 273	140	75	360	e 130	e 180	e 390		298	173	85	79
5	e 200	e 127	75	190	e 120	e 170	e 376		255	151	85	71
6	e 170	e 114	80	190	e 120	e 170	e 1,670		227	144	81	65
7	e 170	e 109	85	e 400	e 120	e 200	3,940		223	147	71	65
8	e 150	e 103	90	e 1,000	e 120	e 340	1,040		245	140	77	63
9	e 120	e 98	90	e 2,020	120	e 440	672		283	140	81	58
10	e 98	98	e 85	841	110	e 360	e 652		1,240	214	83	62
11	98	90	80	549	e 110	e 340	e 700		1,600	177	87	56
12	103	e 103	80	480	e 100	e 700	e 1,400		820	158	83	58
13	95	e 110	80	460	e 100	e 600	e 1,800		517	144	77	58
14	87	e 150	95	e 440	e 100	e 460	1,910	e 750	393	162	75	e 60
15	90	e 240	110	e 550	e 100	e 340	1,320		308	170	83	56
16	98	e 270	95	e 600	95	241	699		259	144	127	62
17	106	e 220	e 85	e 440	90	227	568		283	121	137	87
18	95	e 200	e 85	e 320	e 95	227	e 600		490	111	98	90
19	95	e 400	280	260	e 120	e 280	e 1,200		902	109	130	77
20	92	e 300	800	e 220	150	e 220	e 800		562	98	121	e 67
21	87	e 220	500	e 200	220	e 200	e 650		564	87	98	e 69
22	85	e 160	340	e 200	340	e 180	e 550		678	87	87	65
23	113	e 140	280	190	500	170	e 500		456	90	83	60
24	337	130	e 240	e 180	750	170	e 480		339	87	81	63
25	206	130	e 220	e 170	e 1,000	162	474		288	85	85	60
26	162	155	e 220	e 170	e 700	e 432	456		245	e 83	87	67
27	144	144	e 220	e 160	e 550	e 870	e 432		227	e 87	81	63
28	117	137	e 200	e 160	e 440	e 421	e 460	e 720	219	e 95	75	54
29	109	110	180	e 150	------	e 303	e 480	678	189	151	73	60
30	111	100	160	e 140	------	259	e 550	685	170	181	75	58
31	109	------	e 140	e 130	------	241	------	555	------	111	69	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	337	69	136	0.502	0.58
November	400	90	155	.572	.64
December	800	75	171	.631	.73
January	2,020	130	387	1.43	1.65
February	1,000	90	242	.893	.93
March	870	162	315	1.16	1.34
April	3,940	298	866	3.20	3.57
May	------	------	738	2.72	3.14
June	1,600	170	448	1.65	1.84
July	227	83	138	.509	.59
August	137	69	87.8	.324	.37
September	90	54	66.1	.244	.27
The year	3,940	54	312	1.15	15.65

e Estimated.

LAKE GEORGE AT ROGERS ROCK, N. Y.

LOCATION.—Staff gage installed Nov. 4, 1929, about 500 feet north of Hoopers Dock on south side of Stones Bay, Rogers Rock, Essex County. Prior to that date staff gage at Hoopers Dock at same datum was used.

RECORDS AVAILABLE.—July, 1913, to September, 1930.

EXTREMES.—Maximum stage during year, 4.58 feet June 20; minimum, 2.70 feet Dec. 2.

1913–1930: Maximum stage, 5.07 feet Apr. 18, 1922; minimum, 1.06 feet Dec. 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, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.95	2.85	2.72	3.86	3.60	3.86	4.14	4.06	4.32	4.08	3.70	3.18
2	2.92	2.87	2.70	3.88	3.62	3.82	4.12	4.00	4.20	4.06	3.68	3.16
3	2.97	2.85	2.72	3.90	3.60	3.78	4.12	4.02	4.16	4.04	3.64	3.14
4	3.00	2.88	2.74	3.88	3.58	3.80	4.10	4.04	4.14	4.02	3.64	3.12
5	3.02	2.86	2.76	3.90	3.56	3.82	4.08	4.02	4.12	4.00	3.56	3.06
6	3.00	2.87	2.74	3.88	3.54	3.84	3.96	4.04	4.08	3.98	3.52	3.04
7	2.97	2.83	2.72	3.81	3.50	3.86	4.12	4.02	4.06	3.96	3.53	3.02
8	3.00	2.73	2.78	3.75	3.48	3.88	4.28	4.00	4.04	3.94	3.54	3.00
9	2.97	2.77	2.76	3.68	3.46	3.94	4.32	4.00	4.10	3.96	3.58	2.98
10	2.95	2.79	2.78	3.64	3.46	3.96	4.36	4.02	4.22	3.94	3.56	2.96
11	2.97	2.78	2.80	3.58	3.44	3.99	4.31	4.08	4.24	3.92	3.54	2.96
12	2.95	2.76	2.86	3.52	3.42	4.04	4.42	4.10	4.20	3.92	3.50	2.94
13	2.92	2.77	2.88	3.48	3.40	4.06	4.38	4.14	4.18	3.88	3.46	2.96
14	2.90	2.88	3.02	3.56	3.40	4.10	4.36	4.12	4.16	3.88	3.44	2.94
15	2.85	2.78	3.00	3.52	3.42	4.14	4.28	4.12	4.18	3.86	3.46	3.00
16	2.82	2.78	3.02	3.54	3.40	4.16	4.22	4.14	4.14	3.82	3.44	3.04
17	2.80	2.84	3.04	3.58	3.38	4.20	4.20	4.06	4.24	3.80	3.42	3.02
18	2.77	2.88	3.08	3.60	3.40	4.22	4.18	4.04	4.30	3.78	3.40	3.00
19	2.75	2.86	3.30	3.66	3.42	4.16	4.12	4.06	4.44	3.76	3.40	2.98
20	2.75	2.88	3.32	3.68	3.44	4.14	4.08	4.08	4.58	3.74	3.38	2.96
21	2.77	2.86	3.34	3.66	3.48	4.12	4.56	4.08	4.44	3.72	3.36	2.90
22	2.80	2.88	3.38	3.64	3.54	4.10	4.50	4.10	4.40	3.70	3.32	2.88
23	2.82	2.84	3.42	3.62	3.58	4.10	4.46	4.08	4.14	3.68	3.28	2.84
24	2.85	2.82	3.50	3.60	3.60	4.08	4.36	4.10	4.16	3.68	3.26	2.86
25	2.90	2.80	3.54	3.62	3.68	4.06	4.30	4.28	4.18	3.70	3.24	2.88
26	2.87	2.81	3.60	3.60	3.76	4.02	4.16	4.36	4.16	3.72	3.22	2.86
27	2.85	2.78	3.62	3.64	3.86	4.04	4.12	4.40	4.14	3.74	3.22	2.84
28	2.82	2.74	3.66	3.66	3.88	4.06	4.14	4.36	4.16	3.78	3.20	2.82
29	2.80	2.76	3.68	3.62	-------	4.08	4.12	4.34	4.12	3.76	3.18	2.80
30	2.82	2.74	3.70	3.64	-------	4.10	4.10	4.30	4.10	3.70	3.16	2.76
31	2.82	-------	3.74	3.62	-------	4.12	-------	4.26	-------	3.68	3.14	-------

POULTNEY RIVER BELOW FAIR HAVEN, VT.

LOCATION.—Water-stage recorder one-third mile below Carver Falls, 1.9 miles above mouth of Hubbardton River, and 3¼ miles northwest of Fair Haven, Rutland County.

DRAINAGE AREA.—187 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year (estimated), 2,500 second-feet about Feb. 24; minimum, 18 second-feet July 2 (gage height, 1.99 feet).

1928–1930: Maximum discharge, 3,190 second-feet Mar. 16, 1929 (gage height, 13.48 feet); minimum, 14 second-feet Oct. 26, 27, Dec. 25, 1928.

REMARKS.—Records excellent except those for period of ice effect, Nov. 21 to Feb. 20, and those estimated, which are fair. Lake Bomoseen may produce seasonal storage.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	135	63	50	80	116	a 467	a 354	188	308	168	52	30
2	146	54	93	148	74	416	a 351	194	258	173	44	31
3	198	67	85	255	111	383	a 357	194	258	161	33	32
4	240	110	78	395	111	361	a 354	142	226	92	46	33
5	190	86	84	267	116	a 336	a 360	182	210	80	32	33
6	124	78	82	305	112	a 345	a 320	168	192	85	37	32
7	190	75	95	247	120	a 360	a 450	168	199	138	45	32
8	155	74	55	540	110	a 740	a 730	236	144	160	65	31
9	176	96	99	1,600	92	a 1,100	a 600	245	330	137	32	31
10	168	23	90	1,200	107	a 600	a 565	187	675	141	60	36
11	142	80	87	a 600	120	a 480	555	142	725	145	84	50
12	132	78	82	a 500	110	a 760	514	188	531	133	52	67
13	112	68	100	373	117	a 580	423	194	405	106	44	30
14	166	98	91	255	170	a 520	420	159	318	133	62	52
15	152	173	46	330	166	a 445	375	174	268	195	40	35
16	138	220	70	340	115	a 345	341	198	258	145	45	66
17	136	152	75	212	168	a 310	322	171	249	137	58	92
18	138	204	86	212	175	a 318	333	119	288	141	44	76
19	134	277	110	240	168	a 310	325	120	557	120	38	50
20	65	235	153	243	284	a 312	239	176	383	76	43	32
21	138	200	185	222	a 770	a 298	268	161	361	119	37	40
22	106	170	130	190	a 770	a 300	281	159	350	100	32	88
23	128	147	152	198	a 720	a 236	278	139	340	96	32	91
24	113	95	158	187	a 1,410	a 295	227	140	308	109	32	106
25	104	140	138	209	a 1,250	a 362	246	240	308	100	32	115
26	122	112	174	141	a 950	a 458	226	555	288	64	32	98
27	40	116	142	150	a 760	a 840	167	450	268	76	34	106
28	121	115	130	130	a 522	a 650	205	383	249	116	30	84
29	80	112	80	108	-------	a 512	189	340	181	116	30	82
30	74	75	148	104	-------	a 382	192	439	198	110	30	110
31	72	-------	130	100	-------	a 315	-------	405	-------	104	30	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	240	40	133	0.711	0.82
November	277	23	120	.642	.72
December	185	46	106	.567	.65
January	1,600	80	325	1.74	2.01
February	1,410	74	350	1.87	1.95
March	1,100	236	456	2.44	2.81
April	730	167	352	1.88	2.10
May	555	119	224	1.20	1.38
June	725	144	321	1.72	1.92
July	195	64	122	.652	.75
August	84	30	42.2	.226	.26
September	115	30	59.7	.319	.36
The year	1,600	23	217	1.16	15.73

a Estimated.

OTTER CREEK AT CENTER RUTLAND, VT.

LOCATION.—Water-stage recorder 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, 1928, to September, 1930.
EXTREMES.—Maximum discharge during year, 2,700 second-feet Mar. 8 (gage height, 5.73 feet); minimum, 14 second-feet about midnight on Saturday nights during August and September (gage height, 0.24 foot).
1928–1930: Maximum discharge, 8,070 second-feet Apr. 30, 1929 (gage height, 8.47 feet); minimum, 14 second-feet about midnight on Saturday nights during August and September (gage height, 0.24 foot).
REMARKS.—Records good. Seasonal storage on East Creek at Pittsford and Chittendon.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	282	256	238	352	330	636	684	483	338	222	148	164
2	240	264	328	517	257	626	986	592	294	252	142	208
3	302	311	354	869	391	556	902	830	246	233	94	220
4	448	342	352	778	368	533	781	664	179	184	199	176
5	374	366	333	378	343	509	713	584	148	175	188	161
6	265	292	328	540	316	546	855	528	350	236	156	159
7	312	248	311	709	340	609	1,800	498	446	273	158	171
8	338	272	224	1,590	256	1,710	2,520	1,080	373	282	178	148
9	270	242	316	2,260	200	2,180	1,880	841	612	256	196	196
10	240	164	320	1,590	360	1,280	1,170	586	1,450	336	336	188
11	236	194	294	888	321	1,150	1,080	454	1,550	292	336	196
12	204	282	235	666	229	1,730	1,150	442	1,210	214	232	153
13	178	244	315	897	285	1,420	1,230	447	774	243	202	150
14	252	332	320	1,010	614	1,110	1,270	429	568	426	196	94
15	243	584	244	1,420	550	796	1,150	450	436	458	260	140
16	210	644	361	1,420	385	704	899	570	449	320	222	348
17	263	396	336	750	368	724	771	492	377	251	194	536
18	306	666	694	602	302	954	752	338	400	217	252	235
19	238	1,120	1,280	455	417	1,560	808	406	842	182	208	208
20	192	760	1,400	572	975	1,120	752	746	502	159	180	157
21	250	513	1,020	588	1,840	987	704	732	443	207	188	82
22	244	478	734	576	1,730	750	704	590	474	174	166	188
23	524	333	582	536	1,380	642	725	469	490	188	160	164
24	620	281	476	488	2,100	681	626	378	427	233	150	149
25	412	384	428	468	1,770	900	596	930	358	180	212	150
26	348	284	436	366	1,260	1,800	592	1,770	338	141	198	154
27	274	338	465	502	882	1,590	501	1,410	302	162	186	152
28	251	322	519	522	710	1,080	544	1,260	251	198	188	82
29	189	308	378	444	-------	842	625	1,260	245	229	196	208
30	236	190	473	441	-------	693	476	1,190	236	202	184	170
31	242	-------	448	394	-------	732	-------	970	-------	190	137	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	620	178	290	0.945	1.09
November	1,120	164	380	1.24	1.38
December	1,400	224	469	1.53	1.76
January	2,260	352	761	2.48	2.86
February	2,100	200	689	2.24	2.33
March	2,180	509	1,000	3.26	3.76
April	2,520	476	942	3.07	3.42
May	1,770	338	723	2.36	2.72
June	1,550	148	504	1.64	1.83
July	458	141	236	.769	.89
August	336	94	195	.635	.73
September	536	82	184	.599	.67
The year	2,520	82	530	1.73	23.44

OTTER CREEK AT MIDDLEBURY, VT.

LOCATION.—Chain gage on railroad bridge at Middlebury, Addison County, 3½ miles below Middlebury River.

DRAINAGE AREA.—628 square miles.

RECORDS AVAILABLE.—April, 1903, to May, 1907; October, 1910, to January, 1920; October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,080 second-feet Apr. 8 (gage height, 5.66 feet); minimum, 256 second-feet Sept. 15 (gage height, 2.04 feet).

1903–1907, 1910–1920, 1928–1930: Maximum discharge, 10,100 second-feet Mar. 30, 1913 (gage height, 21.07 feet); minimum, 93 second-feet Mar. 5, 1929.

REMARKS.—Records fair. Slight diurnal regulation. Small seasonal storage in Chittenden Reservoir on East Creek.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	435	410	542	630	660	2,900	1,700	820	1,880	515	488	388
2	488	435	460	600	600	2,520	1,520	820	1,520	542	460	460
3	542	460	435	600	542	2,060	1,520	1,270	1,190	515	388	460
4	690	460	460	600	600	1,790	1,520	1,190	1,110	460	320	460
5	690	488	460	722	515	1,270	1,430	1,030	890	388	435	460
6	570	488	410	820	722	1,030	1,350	890	788	410	435	488
7	488	460	388	890	660	1,110	2,150	820	722	488	435	388
8	515	410	365	960	542	1,700	2,990	960	722	660	410	342
9	488	388	342	1,520	570	2,610	2,900	1,270	820	630	460	410
10	460	388	365	2,150	460	2,610	2,610	1,110	2,150	630	488	410
11	435	342	410	2,240	388	2,700	2,610	855	2,240	630	630	435
12	342	320	388	2,240	388	2,800	2,610	690	2,240	630	660	435
13	600	365	342	2,150	435	2,800	2,610	630	2,150	488	570	410
14	300	435	388	2,060	488	2,700	2,520	630	1,880	660	488	388
15	388	690	342	1,970	410	2,610	2,420	660	1,430	960	515	272
16	410	890	342	1,880	410	2,420	2,240	722	1,110	855	542	460
17	410	788	342	2,150	460	2,330	2,060	788	1,110	630	515	1,030
18	435	722	488	1,970	515	1,880	1,880	722	960	542	515	960
19	435	1,030	788	1,430	570	1,700	1,700	570	2,520	460	630	630
20	435	1,270	1,030	1,190	1,520	1,970	1,520	855	2,240	435	570	515
21	410	960	1,270	1,030	2,150	1,880	1,350	1,030	2,240	388	542	435
22	388	820	1,350	1,030	2,240	1,700	1,190	1,030	2,060	410	488	388
23	410	660	1,110	960	2,330	1,430	1,190	890	1,700	460	435	365
24	660	515	820	890	2,610	1,190	1,190	690	1,350	410	410	410
25	660	410	630	890	2,800	1,030	1,030	660	1,110	388	342	388
26	600	388	570	820	2,610	2,330	960	1,790	855	410	410	365
27	542	410	630	660	2,700	2,420	960	2,150	690	460	460	365
28	435	410	660	660	2,520	2,420	820	2,240	630	460	435	388
29	410	410	600	630	-------	2,330	820	2,150	570	542	435	320
30	388	515	600	755	-------	2,060	890	2,150	515	660	515	365
31	388	-------	630	722	-------	1,880	-------	2,060	-------	515	460	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	690	300	479	0.763	0.88
November	1,270	320	558	.889	.99
December	1,350	342	579	.922	1.06
January	2,240	600	1,220	1.94	2.24
February	2,800	388	1,120	1.78	1.85
March	2,900	1,030	2,070	3.30	3.80
April	2,990	820	1,740	2.77	3.09
May	2,240	570	1,100	1.75	2.02
June	2,520	515	1,380	2.20	2.46
July	960	388	536	.854	.98
August	660	320	480	.764	.88
September	1,030	272	453	.721	.80
The year	2,990	272	975	1.55	21.05

WINOOSKI RIVER AT MONTPELIER, VT.

LOCATION.—Water-stage recorder 1 mile downstream from 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, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 6,500 second-feet Apr. 7 (gage height, 9.85 feet); minimum, 15 second-feet Oct. 15, 21, 23 (gage height, 2.71 feet).

1909–1923, 1928–1930: Maximum discharge, 20,200 second-feet Apr. 7, 1912 (gage height, 17.31 feet); minimum, 6 second-feet Sept. 30, 1921 (gage height, 2.58 feet).

Maximum discharge known, 57,000 second-feet Nov. 3, 1927 (gage height, 27.1 feet).

REMARKS.—Records excellent except those for periods of ice effect, Nov. 30 to Jan. 4, Jan. 23 to Mar. 7, and those estimated, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	146	167	203	202	490	878	686	718	308	204	126
2	182	280	178	227	168	380	1,450	930	686	585	211	169
3	382	246	200	267	210	290	1,020	1,550	547	380	128	250
4	340	179	210	370	208	274	1,020	1,100	468	284	189	260
5	252	249	205	e 324	210	268	1,320	781	390	232	243	202
6	133	225	217	e 292	195	300	1,750	706	320	238	190	145
7	154	211	180	e 450	168	348	5,060	660	276	204	225	143
8	172	184	150	e 1,120	172	1,650	4,420	725	262	252	192	146
9	168	162	175	e 3,200	122	1,850	2,050	614	708	226	437	178
10	142	128	192	e 1,950	140	1,140	1,500	458	2,050	232	378	196
11	160	116	200	e 915	140	1,060	1,600	390	1,020	196	290	212
12	124	164	152	e 660	140	1,600	2,050	381	660	306	236	206
13	94	186	135	e 620	140	1,270	2,320	377	422	222	216	200
14	118	388	147	e 690	232	930	2,270	350	346	817	174	161
15	120	884	130	e 642	310	658	1,800	426	298	672	166	138
16	132	640	133	e 718	250	614	1,320	541	358	310	222	156
17	146	356	140	e 570	200	531	1,060	449	760	236	236	1,000
18	178	498	150	e 450	180	494	1,140	364	732	207	170	344
19	143	839	265	e 380	240	467	1,270	368	1,400	162	230	218
20	98	513	310	e 400	350	436	1,100	1,360	1,100	152	198	174
21	132	335	340	e 350	1,200	398	908	945	1,270	162	219	154
22	118	264	240	e 341	1,700	369	1,020	621	1,100	188	209	129
23	164	188	250	336	1,800	375	1,060	444	686	246	180	196
24	247	182	253	332	2,000	375	848	386	514	246	142	207
25	178	218	249	330	1,600	887	795	982	430	199	132	212
26	208	240	240	311	785	4,150	832	1,850	355	185	148	214
27	130	256	230	294	710	2,160	774	2,050	302	628	183	195
28	140	276	216	276	625	1,140	739	1,700	276	414	210	180
29	156	206	195	262	-------	915	660	1,060	236	567	206	136
30	134	182	200	250	-------	802	647	945	221	326	194	208
31	138	-------	212	235	-------	818	-------	885	-------	204	191	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	382	94	165	0.393	0.45
November	884	116	298	.710	.79
December	340	130	202	.481	.55
January	3,200	203	573	1.36	1.57
February	2,000	122	514	1.22	1.27
March	4,150	268	885	2.11	2.43
April	5,060	647	1,490	3.55	3.96
May	2,050	350	809	1.93	2.22
June	2,050	221	630	1.50	1.67
July	817	152	312	.743	.86
August	437	128	211	.502	.58
September	1,000	126	215	.512	.57
The year	5,060	94	524	1.25	16.92

e Estimated.

WINOOSKI RIVER NEAR ESSEX JUNCTION, VT.

LOCATION.—Water-stage recorder half a mile below mouth of Muddy Brook and 2 miles southwest of Essex Junction, Chittenden County.

DRAINAGE AREA.—1,070 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 23,500 second-feet Jan. 9 (gage height, 12.60 feet); minimum (estimated), 120 second-feet Sept. 30 (gage height, estimated, 0.03 foot; possibly lower).

1928–1930: Maximum discharge, that of Jan. 9, 1930; minimum, that of Sept. 30, 1930.

Maximum discharge known, 116,000 second-feet Nov. 4, 1927 (gage height, 50.4 feet from flood marks).

REMARKS.—Records good. Corrections for ice effect, Nov. 22–29, Dec. 9 to Jan. 8, Jan. 16 to Mar. 8.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	224	686	a 325	362	565	1,200	1,980	2,280	3,100	662	771	278
2	236	916	a 440	440	530	1,070	3,580	3,580	2,360	1,020	490	460
3	555	1,420	a 380	1,180	712	828	3,000	5,140	1,930	1,130	460	472
4	1,030	1,080	a 362	1,360	719	788	2,530	4,140	1,590	852	644	498
5	1,220	915	a 350	1,200	621	780	2,800	2,800	1,330	786	530	422
6	808	997	a 362	1,460	726	804	3,970	2,360	1,160	650	510	335
7	856	896	a 386	2,160	670	1,000	9,680	2,200	1,050	892	486	396
8	934	796	a 386	11,300	579	2,710	14,100	2,200	880	844	481	482
9	770	564	362	18,700	614	6,080	5,640	1,980	1,260	776	426	534
10	552	489	340	4,760	780	3,880	4,290	1,600	5,530	698	364	490
11	524	490	300	2,800	726	3,580	4,420	1,300	4,200	744	814	503
12	434	818	282	2,120	670	4,550	5,050	1,220	2,810	491	920	421
13	366	755	255	1,770	614	4,420	5,890	1,100	1,820	710	759	228
14	510	670	189	1,910	551	3,100	6,190	1,060	1,350	1,240	781	280
15	520	1,980	172	2,530	518	1,910	5,180	1,090	1,040	2,570	548	549
16	505	2,900	180	2,530	705	1,910	3,970	1,640	1,020	1,360	422	404
17	430	1,580	185	1,410	726	1,700	3,000	1,470	1,980	985	249	280
18	652	1,480	205	1,140	705	1,620	3,000	1,200	2,080	834	834	553
19	576	2,800	225	1,080	684	1,540	4,140	1,110	5,420	590	683	532
20	415	2,120	410	1,110	1,050	1,280	3,880	3,100	3,940	360	570	334
21	1,110	1,410	910	1,110	2,360	1,340	2,800	3,850	5,390	626	579	294
22	988	952	820	820	4,920	920	2,710	2,280	5,150	640	525	510
23	896	684	590	804	5,450	1,070	2,900	1,670	3,140	480	454	555
24	1,290	458	605	896	7,170	1,130	2,360	1,310	2,140	461	335	515
25	1,030	565	520	952	7,000	1,180	2,200	2,100	1,690	514	616	502
26	902	544	400	924	4,420	8,090	2,360	6,220	1,370	459	572	375
27	848	551	360	905	2,530	7,340	2,200	7,340	1,180	378	406	255
28	872	670	350	740	1,520	3,680	2,050	6,750	1,090	1,160	354	258
29	839	440	350	600	------	2,530	1,910	4,290	902	1,040	294	533
30	694	a 362	355	600	------	2,120	1,910	3,680	738	1,090	242	512
31	548	------	360	621	------	2,120	------	4,140	------	906	241	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,290	224	714	0.667	0.77
November	2,900	362	1,030	.963	1.07
December	910	172	378	.353	.41
January	18,700	362	2,270	2.12	2.44
February	7,170	518	1,740	1.63	1.70
March	8,090	780	2,460	2.30	2.65
April	14,100	1,910	3,990	3.73	4.16
May	7,340	1,060	2,780	2.60	3.00
June	5,530	738	2,290	2.14	2.39
July	2,570	360	837	.782	.90
August	920	241	528	.493	.57
September	555	228	425	.397	.44
The year	18,700	172	1,620	1.51	20.50

a Estimated.

DOG RIVER AT NORTHFIELD, VT.

LOCATION.—Water-stage recorder at highway bridge at Norwich University, Northfield, Washington County, 1 mile above Union Brook.

DRAINAGE AREA.—52 square miles.

RECORDS AVAILABLE.—May, 1909, to October, 1920; October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,690 second-feet Apr. 7 (gage height, 5.93 feet); minimum (estimated), 4 second-feet Oct. 1.

1910–1920, 1928–1930: Maximum discharge, 3,400 second-feet Mar. 25, 1913 (gage height, 8.50 feet); minimum (estimated), 2.0 second-feet several times during August and September, 1929.

Maximum known discharge, 8,000 second-feet Nov. 3, 1927 (gage height, 10.9 feet).

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

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 4	17	a 16	25	40	99	146	93	a 113	72	21	16
2	a 6	21	a 16	28	40	95	219	103	a 93	77	20	18
3	a 31	20	a 16	74	40	72	162	157	a 75	57	20	26
4	a 82	17	a 16	61	39	73	169	111	a 61	49	20	20
5	a 55	20	a 17	39	39	68	196	89	a 54	43	19	13
6	a 30	20	a 17	55	40	73	306	79	48	49	18	12
7	a 22	17	a 17	145	40	73	1,060	75	44	45	18	13
8	a 27	16	a 18	571	40	150	653	75	40	41	15	12
9	a 17	16	a 18	480	39	162	317	61	146	38	22	11
10	a 14	15	18	a 429	39	126	261	55	258	38	24	9.8
11	a 9	15	15	a 135	36	126	253	48	191	38	22	9.3
12	a 7	14	13	a 99	a 33	219	311	45	128	43	18	9.3
13	a 7	15	15	a 109	37	157	339	42	95	38	16	9.3
14	a 9	19	20	a 124	37	117	306	39	77	84	16	9.3
15	a 9	44	20	a 133	37	97	227	58	61	58	16	9.3
16	a 9	42	17	a 131	37	93	164	60	70	38	23	19
17	a 14	29	17	a 117	27	82	142	48	188	32	27	118
18	a 22	42	32	a 99	37	80	157	43	227	30	35	28
19	a 21	72	61	a 75	37	77	162	42	497	28	32	18
20	a 21	52	55	a 61	41	77	142	142	311	26	26	16
21	a 20	36	36	a 54	135	66	124	103	368	24	30	13
22	a 23	28	30	a 53	219	70	144	75	263	28	21	12
23	a 54	20	26	53	253	66	142	63	181	38	17	11
24	a 32	24	30	48	446	75	122	53	144	27	18	10
25	a 24	24	28	48	300	160	117	a 157	120	21	18	10
26	a 22	22	28	44	204	638	113	a 284	99	18	15	10
27	19	25	28	45	128	268	107	a 368	86	48	15	11
28	17	22	30	45	155	167	99	a 271	75	31	13	11
29	15	14	29	41	-------	133	93	a 194	66	42	13	10
30	15	a 15	28	40	-------	124	89	a 157	55	31	13	9.8
31	14	-------	28	40	-------	122	-------	a 135	-------	25	12	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	82	4	21.6	0.415	0.48
November	72	14	25.1	.483	.54
December	61	13	24.4	.469	.54
January	571	25	113	2.17	2.50
February	446	33	93.0	1.79	1.86
March	638	66	129	2.48	2.86
April	1,060	89	228	4.38	4.89
May	368	39	107	2.06	2.38
June	497	40	141	2.71	3.02
July	77	18	40.5	.779	.90
August	35	12	19.8	.381	.44
September	118	9.3	16.8	.323	.36
The year	1,060	4	79.6	1.53	20.77

a Estimated.

MAD RIVER NEAR MORETOWN, VT.

LOCATION.—Water-stage recorder installed Sept. 27, 1930, at highway bridge 2.4 miles north of Moretown, Washington County. Prior to that date chain gage was used.

DRAINAGE AREA.—131 square miles.

RECORDS AVAILABLE.—November, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,800 second-feet June 19 (gage height, 6.66 feet); minimum, 4.5 second-feet Sept. 30 (gage height, 1.76 feet): 1928–1930: Maximum discharge, 6,200 second-feet Mar. 15, 1929 (gage height, 8.08 feet); minimum, 2.4 second-feet Aug. 20, 23, 1929 (gage height, 1.76 feet).

Maximum known stage, about 20.5 feet Nov. 3, 4, 1927 (discharge not determined).

REMARKS.—Records fair. Corrections for ice effect, Nov. 22 to Jan. 8, Jan. 18 to Feb. 19, Feb. 28 to Mar. 6. Diurnal regulation.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	61	68	326	103	271	260	298	460	126	77	51
2	48	66	71	580	100	289	788	362	340	165	56	58
3	289	119	74	780	97	289	260	460	260	182	61	47
4	253	147	74	522	111	249	278	512	234	182	83	46
5	217	163	68	345	119	210	410	362	168	129	69	40
6	166	111	61	383	128	224	435	318	138	126	54	41
7	176	57	57	468	119	241	2,170	318	129	136	51	38
8	163	74	56	930	119	362	1,220	340	112	154	47	30
9	125	63	52	2,460	128	340	512	340	340	210	63	12
10	95	66	48	675	119	227	540	318	1,220	106	67	14
11	83	57	42	289	111	260	567	318	1,130	97	75	12
12	68	79	38	66	128	1,400	753	318	894	101	79	17
13	68	100	37	153	116	318	894	278	241	126	95	22
14	65	239	42	289	131	241	1,050	278	188	206	110	22
15	63	383	43	326	138	151	894	278	154	230	119	27
16	63	326	46	345	138	83	318	260	141	136	138	38
17	97	228	63	221	131	143	340	260	160	117	134	93
18	131	271	119	166	141	176	410	260	410	119	108	97
19	116	422	253	134	111	148	486	298	2,300	93	93	59
20	186	289	289	106	642	138	435	788	2,700	65	79	36
21	217	182	138	108	345	126	435	435	1,930	77	56	28
22	147	141	97	111	326	131	386	298	822	65	56	42
23	383	125	92	125	852	141	410	238	656	63	54	26
24	271	119	81	114	1,710	146	386	203	410	69	61	32
25	206	122	81	103	1,220	241	362	894	298	56	59	35
26	163	122	81	106	710	1,310	340	1,400	185	52	51	36
27	125	125	81	108	364	596	278	932	165	63	44	38
28	128	128	83	114	246	460	241	894	173	61	38	19
29	119	92	85	111	-------	410	241	753	138	126	30	23
30	92	66	88	108	-------	318	260	460	126	97	36	19
31	68	-------	95	103	-------	238	-------	625	-------	77	36	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	383	26	142	1.08	1.24
November	422	57	151	1.15	1.28
December	289	37	84	.641	.74
January	2,460	66	348	2.66	3.07
February	1,710	97	311	2.37	2.47
March	1,400	83	319	2.44	2.81
April	2,170	241	545	4.16	4.64
May	1,400	203	455	3.47	4.00
June	2,700	112	564	4.31	4.81
July	230	52	117	.893	1.03
August	138	30	70.3	.537	.62
September	97	12	36.6	.279	.31
The year	2,700	12	261	1.99	27.02

LAMOILLE RIVER AT JOHNSON, VT.

LOCATION.—Water-stage recorder at falls 0.9 mile above bridge in Johnson, Lamoille County, 1⅛ miles above mouth of Gihon River.

DRAINAGE AREA.—289 square miles.

RECORDS AVAILABLE.—April, 1912, to December, 1913; September, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 6,220 second-feet Apr. 8 (gage height, 11.23 feet); minimum, 18 second-feet Sept. 15.

1912–13, 1928–1930: Maximum discharge, about 8,500 second-feet Mar. 27, 1913 (gage height, 13.0 feet); minimum, that of Sept. 15, 1930.

REMARKS.—Records good. Corrections for ice effect, Nov. 28 to Jan. 8, Jan. 12, 13, Jan. 16 to Feb. 23.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	170	80	230	250	612	533	777	592	205	204	56
2	168	520	100	250	230	572	1,060	1,060	495	188	180	130
3	252	451	140	400	220	552	883	1,550	388	184	116	164
4	353	343	160	560	220	459	819	1,290	320	128	142	135
5	302	290	160	430	220	459	1,090	861	296	191	169	180
6	245	322	150	420	210	418	1,700	735	250	80	133	132
7	218	272	160	540	210	401	4,730	632	210	182	176	72
8	256	256	150	2,500	210	572	4,930	572	128	210	181	125
9	221	254	140	1,340	220	1,240	2,200	647	302	188	150	168
10	210	104	130	1,560	210	950	1,340	541	1,480	172	348	174
11	194	171	120	889	210	840	1,240	375	749	166	351	194
12	202	192	110	720	210	1,040	2,210	286	450	117	263	170
13	102	184	100	570	210	995	2,910	300	342	116	196	170
14	144	430	120	506	210	905	3,140	274	266	262	186	81
15	148	1,150	150	479	200	761	2,090	126	216	402	180	132
16	178	1,080	220	350	200	564	1,290	156	242	278	152	347
17	248	556	320	280	270	536	950	330	265	210	76	540
18	234	560	380	250	220	418	972	299	346	170	139	368
19	180	912	340	210	280	427	1,240	293	861	150	166	250
20	156	608	340	220	290	419	1,160	861	475	94	190	226
21	300	409	350	220	400	379	905	950	840	169	198	118
22	242	329	300	180	900	452	950	533	928	188	182	142
23	222	224	330	190	1,080	356	972	381	572	196	134	174
24	166	148	330	190	2,350	361	735	299	425	134	68	154
25	211	256	320	190	2,420	354	694	618	355	148	108	148
26	226	250	280	170	1,550	1,600	798	1,730	284	170	160	162
27	165	218	300	170	905	2,150	714	2,280	241	240	171	158
28	196	160	300	170	735	1,140	714	2,030	258	412	152	74
29	201	160	150	180	-------	777	674	1,020	238	489	204	122
30	204	165	230	220	-------	612	694	840	211	478	200	160
31	202	-------	250	220	-------	572	-------	777	-------	296	66	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	353	102	209	0.723	0.83
November	1,150	104	371	1.28	1.43
December	380	80	216	.747	.86
January	4,340	170	574	1.99	2.29
February	2,420	200	530	1.83	1.91
March	2,150	354	706	2.44	2.81
April	4,930	533	1,480	5.12	5.71
May	2,280	126	756	2.62	3.02
June	1,480	128	434	1.50	1.67
July	489	80	213	.737	.85
August	351	66	172	.595	.69
September	540	56	174	.602	.67
The year	4,930	56	485	1.68	22.74

LAMOILLE RIVER NEAR MILTON, VT.

LOCATION.—Water-stage recorder 2½ miles north of Milton, Chittenden County.
DRAINAGE AREA.—692 square miles.
RECORDS AVAILABLE.—August, 1929, to September, 1930.
EXTREMES.—Maximum discharge during period, 10,400 second-feet May 27 (gage height, 8.04 feet); minimum, 149 second-feet Sept. 2, 1929 (gage height, 1.23 feet).
REMARKS.—Records good except those for periods of ice effect, Nov. 27 to Dec. 15, Jan. 21 to Feb. 19, and those estimated, Dec. 16 to Jan. 20, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1929			1929			1929		
1	------	292	11	------	332	21	------	395
2	------	200	12	------	390	22	------	316
3	------	272	13	------	336	23	------	300
4	------	276	14	------	300	24	------	292
5	------	280	15	------	320	25	------	320
6	------	292	16	------	332	26	375	300
7	------	253	17	------	345	27	350	288
8	------	232	18	------	512	28	385	272
9	------	214	19	------	650	29	304	268
10	------	253	20	------	500	30	288	253
						31	288	------

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1929–30												
1	268	550	350	517	440	1,340	1,480	1,970	2,230	622	506	292
2	328	1,420	380	685	425	1,280	1,970	2,700	1,660	657	390	264
3	446	2,040	400	1,220	410	880	2,160	4,540	1,320	596	380	451
4	1,060	1,260	440	1,420	410	1,030	1,970	3,840	1,050	506	355	602
5	1,250	1,030	484	1,170	410	950	2,040	2,630	880	430	350	380
6	823	980	446	1,070	415	980	2,780	2,040	760	484	400	336
7	671	841	400	2,780	425	930	5,900	1,840	730	446	328	288
8	745	730	370	5,500	410	1,840	9,680	1,600	752	506	324	284
9	671	664	350	8,000	400	3,460	5,900	1,480	685	534	328	300
10	539	615	345	4,720	390	2,560	3,230	1,370	3,460	490	400	276
11	490	517	332	3,230	380	2,420	3,160	1,110	2,860	462	787	292
12	451	500	336	2,100	380	3,080	3,920	805	1,600	517	608	292
13	440	556	350	1,720	405	3,000	5,300	722	1,070	589	430	284
14	390	1,080	360	1,480	440	2,230	6,110	738	832	629	385	256
15	415	2,700	365	1,350	420	1,420	4,900	678	671	1,350	375	308
16	395	3,380	370	1,340	390	1,370	3,230	685	596	841	534	636
17	539	2,100	370	1,180	365	1,170	2,360	738	615	582	484	1,340
18	970	1,420	400	1,070	365	1,150	2,230	832	678	478	370	980
19	700	2,100	460	970	360	1,070	2,860	715	1,420	410	340	657
20	692	1,900	460	900	805	850	3,080	1,420	1,720	385	312	500
21	1,030	1,350	570	841	2,360	930	2,360	2,700	2,860	365	375	390
22	910	1,020	530	769	3,600	556	2,300	3,080	4,540	350	380	300
23	730	708	470	715	4,360	760	2,360	1,170	2,490	462	332	292
24	832	636	440	671	5,900	657	1,970	900	1,720	446	308	292
25	700	622	430	622	5,900	745	1,780	1,150	1,270	336	268	304
26	960	596	430	582	5,500	2,780	2,230	4,720	1,010	324	256	300
27	850	608	430	550	2,230	4,720	2,040	8,240	796	512	280	292
28	678	602	430	517	1,600	3,000	1,840	8,480	768	940	284	292
29	608	440	430	500	------	1,970	1,780	3,840	841	1,030	300	336
30	570	324	480	478	------	1,600	1,720	2,560	678	1,140	264	292
31	539	------	495	462	------	1,600	------	2,700	------	722	292	------

Daily and monthly discharge, in second-feet, of Lamoille River near Milton, Vt., 1929-30

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1929					
September	650	200	320	0.462	.052
1929-30					
October	1,250	268	667	.964	1.11
November	3,380	324	1,110	1.60	1.78
December	570	332	416	.601	.69
January	8,000	462	1,580	2.28	2.63
February	5,900	360	1,420	2.05	2.14
March	4,720	556	1,690	2.44	2.81
April	9,680	1,480	3,160	4.57	5.10
May	8,480	678	2,320	3.35	3.86
June	4,540	596	1,420	2.05	2.29
July	1,350	324	585	.845	.97
August	787	256	378	.548	.63
September	1,340	256	404	.584	.65
The year	9,680	256	1,260	1.82	24.66

GREEN RIVER AT GARFIELD, VT.

LOCATION.—Staff gage in pool at dam at Garfield, Lamoille County. Zero of gage is 1,100.60 feet above mean sea level.

DRAINAGE AREA.—18 square miles.

RECORDS AVAILABLE.—January, 1915, to March, 1921; December, 1922, to September, 1930.

EXTREMES.—Maximum discharge during year, 334 second-feet Apr. 14 (gage height, 2.85 feet); minimum, 2.9 second-feet Sept. 15 (gage height, —0.04 foot).

1915–1921, 1922–1930: Maximum stage, 7.6 feet Nov. 3, 1927 (discharge not known); minimum discharge, 2.2 second-feet Aug. 11, 12, 1923, Sept. 6, 1925.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	15	10	a 11	9.8	30	32	78	32	13	14	5.8
2	9.1	68	9.3	a 14	9.8	26	43	79	27	12	6.4	7.0
3	24	62	9.3	a 20	9.6	23	46	131	23	11	5.8	11
4	34	34	9.1	a 13	9.3	22	49	147	18	10	5.6	19
5	26	27	8.8	9.6	9.3	19	57	82	16	9.5	5.6	13
6	23	25	8.6	9.3	9.1	17	67	45	14	9.5	5.6	8.9
7	18	19	8.6	24	8.8	18	220	43	13	8.9	5.6	6.4
8	21	16	8.4	95	9.1	20	246	37	12	8.6	5.8	5.3
9	15	13	8.4	280	8.4	32	179	31	20	8.3	7.0	4.4
10	12	13	8.4	139	8.4	32	109	27	147	8.3	10	4.0
11	10	13	8.2	26	8.4	36	116	23	95	8.3	17	3.5
12	9.1	14	8.2	24	8.4	39	179	21	38	8.9	10	3.4
13	9.1	13	8.0	26	8.4	32	298	19	18	8.9	7.7	3.2
14	9.8	38	8.8	31	8.4	28	334	19	14	15	6.1	3.1
15	9.8	102	8.4	36	8.4	26	212	21	11	24	5.8	2.9
16	9.6	163	8.2	32	8.2	23	124	20	11	16	5.8	246
17	13	70	8.2	24	8.2	20	75	28	14	11	5.8	116
18	19	33	8.6	18	8.2	20	88	20	37	8.6	5.8	102
19	17	70	9.1	15	8.2	20	116	17	102	7.7	5.8	28
20	17	55	9.6	13	9.8	19	109	44	95	7.0	5.6	14
21	16	37	9.6	12	20	19	87	83	95	5.8	5.3	9.5
22	16	21	9.3	12	26	18	88	51	116	5.8	5.3	6.4
23	17	16	9.1	12	57	17	78	23	88	5.8	5.3	5.3
24	17	14	8.8	12	109	16	40	17	41	5.8	5.1	4.9
25	16	12	8.8	12	147	17	36	32	30	5.8	4.9	4.0
26	18	12	9.1	11	95	38	42	147	22	5.6	4.9	3.5
27	16	15	10	11	60	45	79	171	13	28	4.6	3.4
28	16	14	11	11	37	60	80	171	23	26	4.6	3.4
29	16	13	12	11	------	48	75	72	22	30	4.4	3.5
30	13	11	11	10	------	40	75	46	17	30	4.4	5.8
31	11	------	11	10	------	34	------	42	------	22	4.4	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	34	7.8	15.7	0.872	1.01
November	163	11	34.3	1.91	2.13
December	12	8.0	9.16	.509	.59
January	280	9.3	31.7	1.76	2.03
February	147	8.2	26.0	1.44	1.50
March	60	16	27.5	1.53	1.76
April	334	32	113	6.28	7.01
May	171	17	57.6	3.20	3.69
June	147	11	40.8	2.27	2.53
July	30	5.6	12.4	.689	.79
August	17	4.4	6.45	.358	.41
September	246	2.9	21.9	1.22	1.36
The year	334	2.9	32.9	1.83	24.81

a Estimated.

MISSISQUOI RIVER NEAR RICHFORD, VT.

LOCATION.—Water-stage recorder installed Aug. 14, 1929, 2 miles above mouth of Trout River, 3 miles below mouth of North Branch, and 3 miles south of Richford, Franklin County. Records from recorder used beginning Oct. 1, 1929.

DRAINAGE AREA.—445 square miles.

RECORDS AVAILABLE.—June, 1911, to September, 1923; October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 14,300 second-feet June 21 (gage height, 13.88 feet); minimum, 37 second-feet Sept. 10 (gage height, 2.26 feet).

1911–1923, 1928–1930: Maximum discharge, 16,000 second-feet Apr. 7, 1923 (gage height, 14.38 feet); minimum, about 8 second-feet July 14, 1911. Maximum discharge known, 45,000 second-feet, flood of November, 1927.

REMARKS.—Records good except those estimated, Oct. 11–20, Nov. 24, Nov. 29 to Dec. 15, Dec. 21 to Apr. 7, which are fair.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107	441	502	603	455	1,260	1,420	1,420	1,420	1,070	270	105
2	116	1,080	478	630	441	1,080	1,900	2,220	1,220	2,080	243	83
3	348	1,260	455	1,580	432	860	1,420	3,520	920	1,260	226	156
4	1,050	860	432	1,120	432	630	1,540	3,760	731	800	207	144
5	1,080	800	411	920	432	576	1,900	2,550	587	619	204	150
6	742	680	390	860	419	551	2,350	1,660	478	920	183	111
7	771	619	369	1,740	411	630	4,770	1,380	478	1,340	165	85
8	860	526	348	7,090	390	2,450	5,590	1,050	561	800	153	118
9	669	473	340	7,090	369	2,850	4,250	860	614	641	153	98
10	502	424	340	4,250	348	2,260	2,450	2,220	2,350	630	198	48
11	420	407	308	2,450	340	2,080	2,350	603	1,700	478	253	87
12	390	424	308	1,900	340	2,550	2,960	521	890	460	220	96
13	450	424	300	1,660	328	2,080	4,000	483	636	415	186	92
14	540	1,050	308	1,500	328	2,650	4,770	488	502	1,050	162	65
15	500	2,260	411	1,340	308	1,420	4,000	521	411	1,500	153	100
16	480	2,260	516	1,260	308	1,260	2,550	652	432	860	159	174
17	560	1,420	497	1,120	308	1,120	1,740	669	641	587	180	270
18	760	1,120	551	980	308	980	1,700	598	890	464	171	260
19	680	1,500	625	860	390	920	2,550	516	1,890	382	150	192
20	1,120	1,260	1,080	800	526	860	2,550	1,420	3,800	336	144	147
21	1,190	890	980	714	920	800	1,860	1,990	6,980	310	134	116
22	890	675	860	630	1,580	771	1,820	1,300	8,120	304	134	123
23	658	536	742	603	1,660	771	1,740	950	5,450	300	134	89
24	551	502	686	603	2,750	742	1,300	725	3,070	281	111	92
25	675	483	686	576	2,750	2,850	1,220	1,420	1,780	260	123	94
26	731	516	714	576	2,850	5,310	1,460	2,960	1,160	233	118	92
27	675	497	686	551	2,080	4,000	1,260	8,150	860	352	111	109
28	598	608	658	526	1,580	2,080	1,190	6,770	1,220	551	109	100
29	521	576	603	502	-------	1,420	1,120	3,400	1,190	725	114	107
30	432	551	658	478	-------	1,160	1,160	2,080	830	512	107	118
31	390	-------	603	478	-------	1,120	-------	1,780	-------	320	94	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,190	107	628	1.41	1.63
November	2,260	407	837	1.88	2.10
December	1,080	300	543	1.22	1.41
January	7,090	478	1,480	3.33	3.84
February	2,850	308	849	1.91	1.99
March	5,310	551	1,620	3.64	4.20
April	5,590	1,120	2,360	5.30	5.91
May	8,150	483	1,890	4.25	4.90
June	8,120	411	1,730	3.89	4.34
July	2,080	233	672	1.51	1.74
August	270	94	164	.369	.43
September	270	48	121	.272	.30
The year	8,150	48	1,070	2.40	32.79

CLYDE RIVER NEAR NEWPORT, VT.

LOCATION.—Water-stage recorder just below plant of Newport Electric Light Co., Newport, Orleans County, and 1¾ miles above mouth.

DRAINAGE AREA.—150 square miles.

RECORDS AVAILABLE.—May, 1909, to September, 1924; November, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 964 second-feet Apr. 16 (gage height, 3.70 feet); practically no flow Aug. 17 (gage height, 1.37 feet).

1909–1924, 1928–1930: Maximum discharge, 4,500 second-feet Mar. 25–30, 1913 (gage height, 5.8 feet); practically no flow at various times when water was held back by dams.

REMARKS.—Records poor.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	146	90	a 137	134	445	351	a 583	a 530	280	166	86
2	a 105	138	131	a 144	138	397	384	a 577	a 485	263	138	96
3	a 117	120	104	a 200	142	338	a 426	599	a 450	235	131	100
4	a 130	150	102	a 218	134	331	a 415	726	a 416	224	126	98
5	a 146	162	112	a 220	146	252	384	809	a 387	184	117	106
6	a 150	170	112	a 180	142	219	466	792	a 367	146	114	112
7	a 150	179	112	a 158	138	184	614	718	a 352	158	106	92
8	a 148	170	94	a 283	134	a 160	800	630	344	158	114	106
9	a 140	166	a 105	a 471	123	a 338	911	552	293	158	112	106
10	a 130	142	a 112	a 607	114	a 415	920	a 514	306	158	a 118	100
11	a 121	142	a 116	a 593	120	a 525	a 881	a 482	312	a 156	123	100
12	a 115	166	a 118	a 558	146	a 593	a 854	452	293	a 155	128	102
13	94	162	a 120	a 471	128	a 593	842	246	a 289	154	131	a 102
14	117	162	123	a 370	a 116	a 570	884	184	a 284	154	109	a 104
15	a 112	204	a 90	a 368	a 107	a 436	937	179	280	174	96	106
16	a 100	252	a 92	a 360	a 104	224	955	194	235	189	102	114
17	a 93	318	a 94	a 304	a 110	199	902	a 191	219	209	63	109
18	90	230	a 110	a 250	102	184	834	a 186	209	a 196	92	112
19	123	286	a 130	235	106	174	776	a 188	184	a 180	106	134
20	102	293	a 156	241	117	166	743	189	184	166	102	162
21	150	258	114	258	154	166	743	194	280	150	92	179
22	158	230	96	252	214	170	751	204	318	128	96	189
23	154	199	123	235	280	134	735	219	312	128	109	114
24	162	184	142	209	445	126	678	252	331	117	106	106
25	162	146	131	189	545	142	646	241	344	106	100	96
26	162	142	138	166	583	199	a 618	299	344	114	98	92
27	150	138	a 136	138	568	318	a 593	417	331	126	90	128
28	142	128	a 132	166	523	351	a 589	480	331	134	94	114
29	146	128	a 130	166	-------	390	a 589	523	293	174	98	120
30	146	131	a 132	142	-------	403	a 583	575	269	184	98	128
31	146	-------	a 136	134	-------	370	-------	575	-------	166	a 90	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	162	90	131	0.873	1.01
November	318	120	181	1.21	1.35
December	156	90	117	.780	.90
January	607	134	272	1.81	2.09
February	583	102	208	1.39	1.45
March	593	126	307	2.05	2.36
April	955	351	693	4.62	5.16
May	809	179	418	2.79	3.22
June	530	184	319	2.13	2.38
July	280	106	169	1.13	1.30
August	166	63	109	.727	.84
September	189	86	114	.760	.85
The year	955	63	253	1.69	22.91

a Estimated.

MISCELLANEOUS DISCHARGE MEASUREMENTS

Discharge measurements of streams in the St. Lawrence Basin at points other than regular gaging stations, made during the year ending September 30, 1930, are listed in the following table:

Miscellaneous discharge measurements in St. Lawrence River Basin during the year ending Sept. 30, 1930

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
July 26	Black River	Lake Ontario	At Glenfield, N. Y.	3.96	596
Sept. 14	do	do	do	3.85	546
20	do	do	do	4.89	1,080

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