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UNITED STATES DEPARTMENT OF THE INTERIOR

SURFACE WATER SUPPLY
of the **UNITED STATES**
1926

PART IV
ST. LAWRENCE RIVER BASIN

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 624

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

Water-Supply Paper 624

SURFACE WATER SUPPLY *of the* UNITED STATES 1926

PART IV ST. LAWRENCE RIVER BASIN

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WISCONSIN, ILLINOIS, OHIO, and NEW YORK



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UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1930

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SURFACE WATER SUPPLY OF ST. LAWRENCE RIVER BASIN, 1926

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1926.

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 in the West. 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, 1895-1926

1895.....	\$12, 500. 00	1911-1917.....	\$150, 000. 00
1896.....	20, 000. 00	1918.....	175, 000. 00
1897-1900.....	50, 000. 00	1919.....	148, 244. 10
1901-1902.....	100, 000. 00	1920.....	175, 000. 00
1903-1906.....	200, 000. 00	1921-1923.....	180, 000. 00
1907.....	150, 000. 00	1924-1925.....	170, 000. 00
1908-1910.....	100, 000. 00	1926.....	165, 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 10.

Measurements of stream flow have been made at about 5,250 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1926, 1,730 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements were made at other points. In connection with this work data were also

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

DEFINITION OF TERMS

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

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

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

“Run-off in inches” is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in depth 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. It should be noted that the control may not be the same section or sections at all stages.

The “point of zero flow” for a gaging station is that point on the gage—the gage height—at which water ceases to flow over the control.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1925, and ending September 30, 1926. At the beginning of January in most parts of the United States much of the precipita-

tion in the preceding three months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as ground 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 gage, chain gage, or from a water-stage

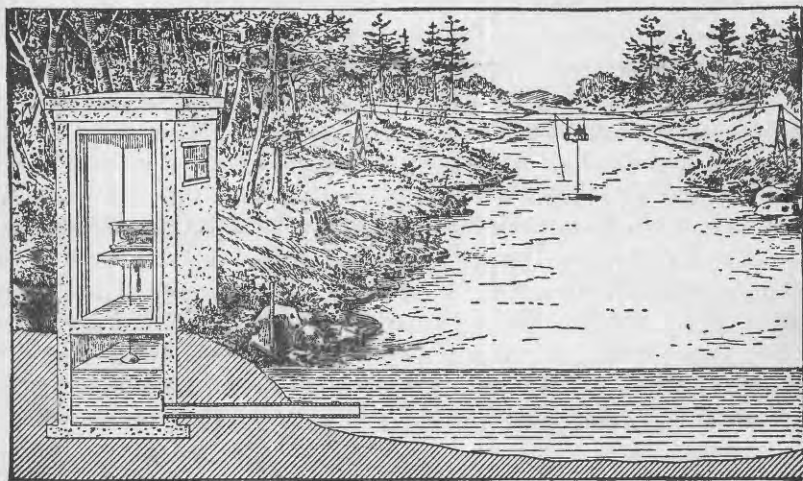


FIGURE 1.—Typical gaging station

recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter. The general methods are 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 giving results of discharge measurements, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off.

If the base data are insufficient to determine the daily discharge, tables giving the daily gage height and results of discharge measurements are published.

The description of the station gives, in addition to statements regarding location and equipment, information in regard to any condition that may affect the permanence of the stage-discharge relation, covering such subjects as the occurrence of ice, the use of the stream for log driving, shifting of control, and the cause and effect of back-water; it gives also information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded stages, and the accuracy of the records.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the mean of the gage heights read each day. 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 operating on the principle of the planimeter and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the mean flow for the day when the mean gage height was highest. As the gage height is the mean for the day it does not indicate correctly the stage when the water surface was at crest height and the corresponding discharge was consequently larger than given in the maximum column. Likewise, in the column headed "Minimum" the quantity given is the mean flow for the day when the mean gage height was lowest. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow computations recorded in the remaining columns, which are defined on page 2, are based.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

A paragraph in the description of the station gives information regarding the (1) permanence of the stage-discharge relation, (2) precision with which the discharge rating curve is defined, (3) refinement of gage readings, (4) frequency of gage readings, and (5) methods of applying daily gage heights to the rating table to obtain the daily discharge.

For the rating tables "well defined" indicates, in general, that the rating is probably accurate within 5 per cent; "fairly well defined," within 10 per cent; "poorly defined," within 15 to 25 per cent.

These notes are very general and are based on the plotting of the individual measurements with reference to the mean rating curve.

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. All figures representing "second-feet per square mile" and "run-off in inches" published by the Geological Survey in earlier reports should be used with caution because of possible inherent, but unknown, sources of error.

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. To give an idea of the amount of prior appropriations, a paragraph on diversions is presented in each station description. The figures given can not be considered exact but represent the best information available.

The table of monthly discharge gives only a general idea of the flow at the station and should not be used for other than preliminary estimates; the tables of daily discharge allow 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.

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

Part I. North Atlantic slope basins.

II. South Atlantic slope and eastern Gulf of Mexico basins.

III. Ohio River Basin.

IV. St. Lawrence River Basin.

V. Upper Mississippi River and Hudson Bay Basins.

VI. Missouri River Basin.

VII. Lower Mississippi River Basin.

VIII. Western Gulf of Mexico basins.

IX. Colorado River Basin.

X. Great Basin.

XI. Pacific slope basins in California.

XII. North Pacific slope basins in three volumes:

A, Pacific slope basins in Washington and upper Columbia River Basin.

B, Snake River Basin.

C, Pacific slope basins in Oregon and lower Columbia River Basin.

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

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

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

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

Augusta, Me., Statehouse.

Boston, Mass., 2500 Customhouse.

Albany, N. Y., 904 Home Savings Bank Building.

Hartford, Conn., 64 State Capitol.

Trenton, N. J., 423 Statehouse Annex.

Charlottesville, Va., care of University of Virginia.

Asheville, N. C., 608 City Hall.

Tuscaloosa, Ala., Post Office Building.

Chattanooga, Tenn., 630 Power Building.

South Charleston, W. Va. Naval Ordnance Plant.

Columbus, Ohio, Engineering Experiment Station, Ohio State University.

Thief River Falls, Minn., 618 Knight Avenue North.

Chicago, Ill., 1510 Consumers Building.

Madison, Wis., 337-N State Capitol.

Rolla, Mo., Rolla Building, School of Mines and Metallurgy.

Fort Smith, Ark., Post Office Building.

Topeka, Kans., 23 Federal Building.

Helena, Mont., 45-46 Federal Building.

Denver, Colo., 403 Post Office Building.

Salt Lake City, Utah, 313 Federal Building.

Idaho Falls, Idaho, 228 Federal Building.

Boise, Idaho, Federal Building.

Tacoma, Wash., 404 Federal Building.
 Portland, Oreg., 606 Post Office Building.
 San Francisco, Calif., 303 Customhouse.
 Los Angeles, Calif., 600 Federal Building.
 Tucson, Ariz., 104 Agricultural Building, University of Arizona.
 Austin, Tex., State Capitol.
 Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 5,250 points in the United States, and the data obtained have been published in the reports tabulated below.

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

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

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	1884 to Sept., 1890.
11th A, pt. 2	Monthly discharge and descriptive information	1884 to June 30, 1891.
12th A, pt. 2	do	1884 to Dec. 31, 1892.
13th A, pt. 3	Mean discharge in second-feet	1888 to Dec. 31, 1893.
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1893 and 1894.
B 131	Descriptions, measurements, gage heights, and ratings	1895.
16th A, pt. 2	Descriptive information only	1896.
B 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895 and 1896.
W 11	Gage heights (also gage heights for earlier years)	1897.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1897.
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).	1898.
W 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River, and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)	1898.
W 35 to 39	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge	1899.
W 47 to 52	Descriptions, measurements, gage heights, and ratings	1900.
22d A, pt. 4	Monthly discharge	1900.
W 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
W 75	Monthly discharge	1901.
W 82 to 85	Complete data	1902.
W 97 to 100	do	1903.
W 124 to 135	do	1904.
W 165 to 178	do	1905.
W 201 to 214	do	1906.
W 241 to 252	do	1907-8.
W 261 to 272	do	1909.
W 281 to 292	do	1910.
W 301 to 312	do	1911.
W 321 to 332	do	1912.
W 351 to 362	do	1913.
W 381 to 394	do	1914.
W 401 to 414	do	1915.
W 431 to 444	do	1916.
W 451 to 464	do	1917.
W 471 to 484	do	1918.
W 501 to 514	do	1919 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.

NOTE.—No stream-flow data are given in the Fifteenth and Seventeenth Annual Reports.

The records at most of the stations discussed in these reports extend over a series of years and miscellaneous measurements at many points other than regular gaging stations have been made each year. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1926. The data for any particular station will be found in the reports covering the years during which the station was maintained. For example, data from 1902 to 1922 for any station in the area covered by Part III are published in Water-Supply Papers 83, 98, 128, 169, 205, 243, 263, 283, 303, 323, 353, 383, 403, 433, 453, 473, 503, 523, and 543, which contain records for the Ohio River Basin for those years.

[For basins included see p. 6]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
												A	B	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 ^a	47, h 48	48, i 49	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	83	k 83, 85	84	k 83, 84	84	85	85	85	85	85	85
1903	97	b 97, 98	98	97	k 98, 99, m 100	99	k 98, 99	99	100	100	100	100	100	100
1904	n 124, p 125	p 126, 127	128	128	k 128, 130	130, o 131	k 128, 131	132	133	133, r 134	134	135	135	135
1905	n 165, o 166	p 167, 168	169	170	171	172	k 169, 173	174	175, s 177	176, t 177	177	178	178	t 177, 178
1906	n 201, o 202	p 203, 204	205	206	207	208	k 205, 209	210	211	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, s 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

^a Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in Twenty-first Annual Report, Part IV.

^b James River only.

^c Gallatin River.

^d Green and Gunnison Rivers and Grand River above junction with Gunnison.

^e Mohave River only.

^f Kings and Kern Rivers and south Pacific slope basins.

^g Rating tables and index to Water-Supply Papers 47-52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Tables of monthly discharge for 1900 in Twenty-second Annual Report, Part IV.

^h Wissahickon and Schuylkill Rivers to James River.

ⁱ Scioto River.

^j Loup and Platte 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 River proper.

^m Hudson Bay only.

ⁿ New England rivers only.

^o Hudson River to Delaware River, inclusive.

^p Susquehanna River to Yackin River, inclusive.

^q Platte and Kansas Rivers.

^r Great Basin in California, except Truckee and Carson River Basins.

^s Below junction with Gila.

^t Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

In Wisconsin the work was done in cooperation with the Railroad Commission of Wisconsin, C. M. Larson, chief engineer. The United States Engineer Corps cooperated in maintaining the station on Wolf River at New London.

The stations on Pigeon River above mouth of Arrow River, Minn., and on Pigeon River at International Bridge, Minn., were maintained in cooperation with the Pigeon River Lumber Co.

The station on Little Calumet River at Harvey, Ill., was maintained in cooperation with the Illinois Department of Purchases and Construction, division of waterways, Wm. F. Mulvihill, superintendent; gage reader paid by the Sanitary District of Chicago.

The work in Ohio was done in cooperation with the Ohio Cooperative Topographic Survey, C. E. Sherman, inspector.

The entire expense of maintaining the station on St. Joseph River at Mottville, Mich., was borne by Michigan Gas & Electric Co.

Work in New York was carried on in cooperation with the State and at certain stations in cooperation with the following organizations: Rochester Gas & Electric Corporation (Genesee River at Driving Park Avenue, Rochester, N. Y.); the city of Rochester (Conesus Creek near Lakeville, N. Y., and Canadice Lake outlet near Hemlock, N. Y.); Cornell University (Fall Creek near Ithaca, N. Y.); Utica Gas & Electric Co. (East Branch of Fish Creek at Fish Creek, near Constableville, N. Y., and East Branch of Fish Creek at Taberg, N. Y.); Black River Regulating District (Black River at Watertown, N. Y., Moose River at McKeever, N. Y., Middle Branch of Moose River near McKeever, N. Y., and Beaver River below Stillwater Dam, near Beaver River, N. Y.); Otter Creek Power Corporation (Otter Creek near Glenfield, N. Y.); Northern New York Utilities (Inc.), (East Branch of Oswegatchie River near Oswegatchie, N. Y., and North Branch of Grass River near South Colton, N. Y.); The Commission for the Improvement of the Oswegatchie River (East Branch of Oswegatchie River at Cranberry Lake, N. Y.); DeGrasse Paper Co. (Grass River at Pyrites, N. Y.); International Paper Co. (Raquette River at Piercefield, N. Y., and Lake George at Rogers Rock, N. Y.); Malone Light & Power Co. (Salmon River at Chasm Falls, N. Y.); New York & Pennsylvania Co. (Bouquet River at Willsboro, N. Y.); J. & J. Rogers Co. (Black Brook at Black Brook, N. Y., East Branch of Ausable River at Ausable Forks, N. Y., and Ausable River near Ausable Forks, N. Y.); Plattsburg Gas & Electric Co. (Saranac River near Plattsburg, N. Y.).

The station on Green River at Garfield, Vt., was maintained in cooperation with Charles T. Middlebrook.

DIVISION OF WORK

The data for stations in the Lake Superior and Lake Michigan drainage basins in Minnesota and Wisconsin were collected and prepared for publication under the direction of S. B. Soulé, district engineer, assisted by F. C. Christopherson, W. J. Parsons, jr., and G. W. Martin.

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

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

Data for the station on St. Joseph River at Mottville, Mich., and for stations in the Lake Erie drainage basin in Ohio were collected and prepared for publication under the direction of Lasley Lee, district engineer, assisted by E. E. R. Dornbach, W. S. Frame, W. A. Werner, R. G. Kasel, E. H. Markel, J. I. Perrey, and C. H. Wall.

Data for stations in New York were collected and prepared for publication under the direction of A. W. Harrington, district engineer, assisted by J. L. Lamson, B. L. Bigwood, H. C. Troxell, A. E. Johnson, W. B. Mifflin, K. K. Hoyt, F. H. Harrington, and Agnes D. Buchanan.

Data for stations in Vermont were collected and prepared for publication under the direction of H. B. Kinnison, district engineer, assisted by Lillian H. Finnerty and H. F. Hill, jr.

The manuscript was assembled and reviewed by J. W. Mangan.

GAGING-STATION RECORDS

STREAMS TRIBUTARY TO LAKE SUPERIOR

PIGEON RIVER ABOVE MOUTH OF ARROW RIVER, MINN.

LOCATION.—In lot 5, sec. 19, T. 64 N., R. 6 E., Cook County, 11.7 miles by river above mouth and 1,500 feet above mouth of Arrow River.

DRAINAGE AREA.—338 square miles.

RECORDS AVAILABLE.—September 4, 1924, to September 30, 1926.

GAGE.—Au water-stage recorder on right bank; inspected by Oscar Anderson.

CHANNEL AND CONTROL.—Bed composed of cobblestones and heavy gravel.

Banks of medium height and will be overflowed at flood stages.

DISCHARGE MEASUREMENTS.—Made from boat or by wading near gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.1 feet at 8 a. m. April 25 (discharge, about 970 second-feet); minimum stage, 1.10 feet at 7 a. m. September 1 (discharge, 31 second-feet).

1924-1926: Same as given above.

ICE.—Stage-discharge relation affected by ice. No winter records obtained.

REGULATION.—For a short period in the spring the discharge is regulated by dams at the headwaters in the interest of log driving.

ACCURACY.—Stage-discharge relation not permanent. Rating curve poorly defined. Operation of water-stage recorder satisfactory except during winter when no records were obtained. Daily discharge ascertained by applying mean daily gage height to rating table. Records poor.

The following discharge measurements were made:

April 15, 1925: Gage height, 1.40 feet; discharge, 56 second-feet.

October 6, 1925: Gage height, 1.67 feet; discharge, 85 second-feet.

September 2, 1926: Gage height, 1.12 feet; discharge, 45 second-feet.

Daily discharge, in second-feet, of Pigeon River above mouth of Arrow River, Minn., for the years ending September 30, 1924-1926

Day	Sept.	Day	Sept.	Day	Sept.
1924		1924		1924	
1.....		11.....	83	21.....	94
2.....		12.....	84	22.....	172
3.....		13.....	91	23.....	292
4.....	114	14.....	97	24.....	260
5.....	106	15.....	100	25.....	239
6.....	97	16.....	100	26.....	219
7.....	94	17.....	97	27.....	209
8.....	91	18.....	94	28.....	239
9.....	88	19.....	91	29.....	249
10.....	84	20.....	88	30.....	260

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1924-25								
1.....	260	172	-----	249	209	154	106	67
2.....	249	360	-----	260	409	146	104	68
3.....	292	229	-----	229	434	146	96	68
4.....	337	229	-----	190	409	137	91	69
5.....	337	219	-----	181	434	129	87	70
6.....	360	219	-----	181	409	129	85	70
7.....	360	209	-----	172	360	114	84	69
8.....	314	239	-----	163	337	85	83	68
9.....	314	229	-----	163	314	97	81	69
10.....	314	200	-----	200	314	137	78	70
11.....	337	209	-----	137	281	114	77	70
12.....	384	239	-----	146	270	97	74	69
13.....	384	260	-----	137	260	114	74	67
14.....	360	314	-----	137	260	106	74	64
15.....	337	314	121	146	239	103	72	62
16.....	314	270	121	163	229	100	72	58
17.....	314	281	114	154	229	97	70	56
18.....	292	314	106	172	229	92	70	54
19.....	292	337	121	181	219	90	72	59
20.....	281	337	103	200	209	88	69	129
21.....	270	337	106	137	200	88	69	154
22.....	260	513	121	121	190	87	67	146
23.....	249	513	249	137	181	84	67	129
24.....	239	513	568	163	172	80	69	129
25.....	229	513	513	163	172	78	64	121
26.....	239	513	434	146	172	83	64	114
27.....	229	513	384	88	181	100	63	106
28.....	219	513	409	172	172	106	59	103
29.....	219	-----	337	190	163	104	59	98
30.....	219	-----	281	172	154	104	60	94
31.....	209	-----	-----	181	-----	106	64	-----

Daily discharge, in second-feet, of Pigeon River above mouth of Arrow River, Minn., for the years ending September 30, 1924-1926—Continued

Day	Oct.	Nov.	Dec.	Apr.	May	June	July	Aug.	Sept.
1925-26									
1.....	103	64	98	-----	540	137	219	63	33
2.....	121	62	98	-----	540	146	209	59	34
3.....	121	98	97	-----	540	146	200	56	36
4.....	112	249	98	-----	540	137	181	54	43
5.....	106	314	-----	-----	513	129	172	52	53
6.....	102	337	-----	-----	513	129	163	52	62
7.....	98	314	-----	-----	486	163	154	48	64
8.....	97	281	-----	-----	460	172	137	49	74
9.....	94	260	-----	-----	460	172	129	49	94
10.....	92	239	-----	-----	460	137	121	48	91
11.....	90	219	-----	-----	384	129	121	45	94
12.....	88	200	-----	-----	314	121	121	44	91
13.....	85	181	-----	-----	249	112	112	42	85
14.....	84	163	-----	-----	249	112	112	41	81
15.....	81	146	-----	-----	249	103	106	43	77
16.....	80	129	-----	-----	249	96	98	43	73
17.....	77	112	-----	-----	249	98	103	44	68
18.....	76	121	-----	-----	239	102	102	46	70
19.....	73	98	-----	-----	239	102	100	48	74
20.....	72	91	-----	-----	239	98	98	49	78
21.....	69	91	-----	-----	239	249	98	50	154
22.....	69	64	-----	-----	249	337	96	51	360
23.....	68	94	-----	-----	219	314	91	51	314
24.....	64	112	-----	902	190	314	87	50	384
25.....	69	102	-----	838	163	292	84	50	360
26.....	91	91	-----	745	146	292	80	46	314
27.....	85	80	-----	685	137	270	77	45	270
28.....	85	77	-----	597	137	260	74	39	249
29.....	87	94	-----	540	129	249	73	37	219
30.....	84	112	-----	540	129	229	69	37	200
31.....	80	-----	-----	-----	129	-----	65	35	-----

NOTE.—Stage-discharge relation affected by ice and no records obtained Nov. 29, 1924, to Apr. 14, 1925, and Dec. 5, 1925, to Apr. 23, 1926; discharge not determined.

Monthly discharge of Pigeon River above mouth of Arrow River, Minn., for the years ending September 30, 1924-1926

[Drainage area, 388 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1924					
September 4-30-----	292	83	142	0.420	0.42
1924-25					
October-----	384	209	291	.861	.99
November-----	513	172	325	.962	1.00
April-----	568	103	256	.757	.45
May-----	260	88	169	.500	.58
June-----	434	154	260	.769	.86
July-----	154	78	106	.314	.36
August-----	106	59	75.0	.222	.26
September-----	154	54	85.6	.253	.28
1925-26					
October-----	121	64	87.2	.258	.30
November-----	337	62	153	.453	.51
December 1-4-----	98	97	97.8	.289	.04
April 24-30-----	902	540	692	2.05	.53
May-----	540	129	309	.914	1.05
June-----	337	96	178	.527	.59
July-----	219	65	118	.349	.40
August-----	63	35	47.3	.140	.16
September-----	384	33	140	.414	.46

PIGEON RIVER AT INTERNATIONAL BRIDGE, MINN.

LOCATION.—In lot 3, sec. 20, T. 64 N., R. 6 E., Cook County, 100 feet above bridge on trunk highway connecting Duluth, Minn., with Port Arthur and Fort Williams, Ontario, and 9.3 miles by river above mouth.

DRAINAGE AREA.—580 square miles.

RECORDS AVAILABLE.—April 17, 1924, to September 30, 1926.

GAGE.—Staff gage bolted to vertical rock ledge on right bank, 100 feet above bridge; read by E. W. Stewardson.

CHANNEL AND CONTROL.—Bed composed of solid rock and large boulders; permanent. Control is head of rapids a short distance below gage.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.2 feet April 22 (discharge, 3,180 second-feet); minimum discharge, 38 second-feet measured by current meter February 5.

1924-1926: Maximum stage recorded, 5.3 feet April 24, 1925 (discharge, 4,690 second-feet); minimum discharge, 38 second-feet measured by current meter February 5, 1926.

ICE.—Stage-discharge relation affected by ice.

REGULATION.—For a short period in the spring the discharge is regulated by dams at the headwaters in the interest of log driving.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined.

Gage read to half-tenths once daily; some artificial regulation during April.

Daily discharge ascertained by applying daily gage height to rating table.

Records fair.

Discharge measurements of Pigeon River at International Bridge, Minn., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 7.....	0.5 ^a	141	Feb. 5.....	2.35	38
Feb. 4.....	2.50	41	Sept. 1.....	.65	152

^a Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Pigeon River at International Bridge, Minn., for the year ending September 30, 1926

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1.....	170	-----	855	465	615	248	188
2.....	170	-----	855	465	540	230	158
3.....	145	-----	895	465	502	230	158
4.....	145	-----	895	432	465	248	158
5.....	170	-----	855	432	400	215	200
6.....	158	-----	855	540	345	215	215
7.....	145	-----	855	615	345	215	200
8.....	145	-----	855	695	372	200	245
9.....	145	-----	855	695	540	200	322
10.....	145	-----	855	615	978	185	323
11.....	145	-----	855	540	978	185	322
12.....	145	-----	815	502	775	170	300
13.....	145	-----	775	400	655	170	282
14.....	145	-----	775	400	578	170	265
15.....	145	-----	695	345	465	215	248
16.....	145	-----	615	322	465	215	230
17.....	145	-----	540	322	432	200	230
18.....	145	-----	540	345	465	200	230
19.....	145	-----	540	345	540	185	248
20.....	145	-----	540	322	465	185	248

Daily discharge, in second-feet, of Pigeon River at International Bridge, Minn., for the year ending September 30, 1926—Continued

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
21.....			615	1,520	465	185	1,110
22.....		3,180	695	1,870	465	185	2,290
23.....		2,910	655	1,870	432	185	1,970
24.....		2,530	615	1,780	372	185	1,690
25.....		1,610	540	1,690	345	185	1,780
26.....		935	540	1,440	322	170	1,440
27.....		815	540	1,280	300	170	1,190
28.....		775	540	978	282	170	1,110
29.....		815	502	855	282	158	935
30.....		855	502	695	265	145	775
31.....			502		265	145	

NOTE.—Stage-discharge relation affected by ice Oct. 21 to Apr. 21; discharge not determined.

Monthly discharge of Pigeon River at International Bridge, Minn., for the year ending September 30, 1926

[Drainage area, 580 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October 1-20.....	170	145	149	0.257	0.19
April 22-30.....	3,180	775	1,600	2.76	.92
May.....	895	502	696	1.20	1.38
June.....	1,870	322	775	1.34	1.50
July.....	978	265	475	.819	.94
August.....	248	145	192	.331	.38
September.....	2,290	158	634	1.09	1.22

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

LOCATION.—In sec. 12, T. 40 N., R. 31 W., at power plant of Peninsular Power Co. $3\frac{1}{2}$ miles north of Iron Mountain and 3 miles above mouth of Pine River.

DRAINAGE AREA.—1,790 square miles.

RECORDS AVAILABLE.—January 1, 1914, to September 30, 1926.

GAGES.—Staff and float gages used to determine effective head on water wheels.

DISCHARGE.—Daily discharge was computed from hourly determinations of flow through turbines computed from a record of the number of wheels in operation, kilowatt output, and effective head. To the average flow through turbines is added the water passing over spillway, through gates, down the log sluice, and leaking through the idle wheels.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge recorded during year, 7,280 second-feet April 23; minimum mean daily discharge, 546 second-feet November 1.

1914-1926: Maximum mean daily discharge recorded, 16,700 second-feet April 23 and 24, 1916. Minimum mean daily discharge, 154 second-feet August 9, 1925.

REGULATION.—Besides regulation at this power plant, flow is regulated by power plant on Brule River about 5 miles above station; plants owned by same company. Owing to variations in demand daily discharge will bear no relation to the natural flow, but monthly mean discharges probably correspond closely to natural flow.

ACCURACY.—Discharge records published in the following tables were obtained by adding 10 per cent to discharge as computed from power-plant records. This correction is based upon the results of five current-meter measurements made in 1919 and 1922 by the United States Geological Survey at a point about 1 mile downstream from power plant.

COOPERATION.—Daily-discharge records furnished by Mead & Seastone, consulting engineers, Madison, Wis.

Daily discharge, in second-feet, of Menominee River at Twin Falls, near Iron Mountain, Mich., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	914	546	771	739	685	640	884	4,790	1,680	1,600	1,020	1,480
2.....	1,380	609	778	798	680	658	870	5,290	2,180	1,540	1,150	1,970
3.....	1,710	678	824	966	680	660	759	5,890	2,170	1,390	1,440	1,870
4.....	1,350	993	1,010	702	688	647	652	5,700	2,190	842	1,490	2,220
5.....	1,260	1,170	990	803	638	649	774	5,670	2,040	823	1,530	1,920
6.....	1,020	1,010	884	706	579	678	902	5,590	2,050	1,250	1,110	2,080
7.....	980	1,030	777	693	674	601	1,190	5,270	2,100	1,020	1,740	3,380
8.....	1,100	864	725	62	561	698	1,280	5,250	2,190	976	878	2,970
9.....	1,010	1,140	670	620	644	802	983	5,180	2,310	1,160	1,270	2,510
10.....	887	1,140	694	649	672	801	876	4,060	2,730	1,170	1,130	2,630
11.....	773	1,240	784	553	671	810	679	4,200	2,660	723	1,100	2,310
12.....	943	1,290	891	581	661	768	674	4,190	2,180	1,920	1,050	2,150
13.....	1,130	1,320	755	674	659	671	1,530	4,040	1,960	2,120	1,180	2,200
14.....	1,080	1,270	790	714	609	636	1,720	3,480	2,120	1,660	1,230	2,240
15.....	1,130	940	804	719	641	672	2,060	3,010	2,130	1,750	788	2,240
16.....	1,120	1,060	805	685	681	774	2,080	2,240	1,960	1,840	1,030	2,200
17.....	962	1,050	874	761	664	678	2,090	2,160	2,140	1,450	986	2,230
18.....	832	986	906	684	656	658	1,940	2,100	2,040	810	948	2,180
19.....	914	928	978	728	659	689	2,060	2,150	1,850	1,050	887	2,110
20.....	982	1,310	698	792	681	681	2,200	2,080	1,200	1,280	1,200	4,110
21.....	981	1,100	843	756	551	692	3,650	2,080	1,280	1,280	2,070	4,390
22.....	970	656	844	736	554	822	6,010	2,090	2,010	1,490	3,060	4,130
23.....	892	868	968	706	667	1,390	7,280	1,520	2,170	1,480	4,800	4,730
24.....	991	927	865	668	659	1,590	7,170	1,360	2,170	1,230	3,290	4,310
25.....	722	773	595	645	668	1,510	7,100	1,640	2,150	1,010	2,180	4,740
26.....	843	635	766	671	669	1,540	6,700	1,610	1,970	1,180	2,180	3,380
27.....	999	786	799	673	641	1,270	5,630	1,730	1,410	1,300	2,230	2,680
28.....	948	1,010	821	662	668	780	4,600	1,630	2,000	1,240	1,650	2,470
29.....	927	837	847	664	-----	1,100	4,290	1,550	1,890	1,490	728	2,240
30.....	918	762	756	700	-----	1,120	5,150	1,040	1,620	1,600	1,380	2,240
31.....	887	-----	724	705	-----	1,080	-----	781	-----	1,570	1,230	-----

NOTE.—Discharge computed by the Peninsular Power Co. and corrected on basis of discharge measurements made by engineers of the U. S. Geological Survey.

Monthly discharge of Menominee River at Twin Falls, near Iron Mountain, Mich., for the year ending September 30, 1926

[Drainage area, 1,790 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,710	722	1,020	0.570	0.66
November.....	1,320	546	964	.539	.60
December.....	1,010	595	814	.455	.52
January.....	966	553	703	.393	.45
February.....	688	551	647	.361	.38
March.....	1,590	601	863	.482	.56
April.....	7,280	652	2,790	1.56	1.74
May.....	5,890	781	3,200	1.79	2.06
June.....	2,730	1,200	2,020	1.13	1.26
July.....	2,120	723	1,330	.743	.86
August.....	4,800	728	1,550	.866	1.00
September.....	4,740	1,480	2,670	1.49	1.66
The year.....	7,280	546	1,550	.866	11.75

MENOMINEE RIVER BELOW KOSS, MICH.

LOCATION.—In sec. 9, T. 34 N., R. 27 W. at power plant of Menominee & Marinette Light & Traction Co., 4 miles below Koss, Marinette County, and 3 miles west of Ingalls. Little Cedar River, draining an area entirely in Michigan, enters half a mile below station.

DRAINAGE AREA.—3,790 square miles.

RECORDS AVAILABLE.—July 1, 1913, to September 30, 1926.

DISCHARGE.—Daily discharge was computed from hourly determinations of the flow through turbines (from kilowatt output and effective head) plus discharge through gates and over spillway. No account was taken of water passing through the exciter turbine, nor waste over the "trash gates" at power house. This amount was, however, relatively small.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 10,900 second-feet April 27; minimum mean daily discharge, 706 second-feet January 13.

1913-1926: Maximum mean daily discharge recorded, 23,200 second-feet April 23 and 25, 1916. Minimum mean daily discharge, 706 second-feet January 13, 1926.

REGULATION.—Above the station are the following power plants: Sturgeon Falls, owned by Pennsylvania Iron Mining Co., 50 miles; Little Quinnesec, owned by Kimberly Clark, 57 miles; Upper Quinnesec, owned by Oliver Iron Mining Co., 62 miles; Ford plant, owned by Ford Hydro-Electric Co., 68 miles; Twin Falls, owned by Peninsular Power Co., 75 miles. With the exception of the Kimberly Clark Dam at Little Quinnesec and the Ford Dam, the dams furnish power for utility and mining uses so that the flow past the dams is comparatively uniform. Kimberly Clark Dam is used for paper mills and the Ford Dam for operating a sawmill, and they regulate the flow on Sundays and holidays. The effect of this regulation is generally felt at the station on Tuesdays. The monthly flow probably represents the natural flow.

ACCURACY.—A discharge measurement made on September 12, 1922, at the highway bridge about 4 miles below the station checks the discharge as computed from the power-plant records within 4 per cent. See Water-Supply Paper 524 for statement regarding earlier measurements. Records good.

COOPERATION.—Daily-discharge records furnished monthly by Edward Daniell, general manager of Menominee & Marinette Light & Traction Co.

Daily discharge, in second-feet, of Menominee River below Koss, Mich., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2,100	1,610	1,110	1,030	821	845	1,780	7,450	1,940	3,040	2,560	2,480
2.....	2,660	1,520	1,270	1,020	787	764	1,830	9,120	2,000	2,930	2,280	2,700
3.....	2,720	1,110	1,380	1,180	810	845	1,800	7,690	3,000	2,480	1,930	2,660
4.....	3,670	1,420	1,670	1,140	856	799	1,600	7,640	3,520	2,310	2,270	3,170
5.....	3,370	1,670	1,780	1,180	984	937	1,550	7,830	4,060	2,290	2,080	3,320
6.....	3,290	1,610	1,540	1,370	984	868	1,230	7,640	4,600	1,580	2,630	3,270
7.....	3,280	1,790	1,680	1,240	810	833	1,310	7,340	3,790	1,590	2,010	3,510
8.....	2,370	1,790	1,460	1,110	787	810	1,370	7,140	3,650	1,830	2,480	4,140
9.....	2,480	1,640	1,640	1,090	799	810	1,890	6,480	3,950	1,860	1,910	4,240
10.....	2,710	1,440	1,450	865	810	879	2,260	5,790	3,580	1,700	2,120	3,700
11.....	1,990	2,010	1,230	995	880	1,130	1,790	5,460	3,590	1,420	2,320	3,380
12.....	1,980	2,410	1,560	949	856	1,050	2,110	5,130	4,020	2,100	2,410	3,610
13.....	1,680	2,190	1,330	706	787	1,040	2,420	5,110	3,910	1,530	1,930	3,250
14.....	2,300	2,150	1,170	822	868	880	3,380	4,220	3,430	2,990	1,670	4,210
15.....	2,020	2,100	1,160	984	972	845	4,770	3,760	3,680	3,230	1,640	3,580

Daily discharge, in second-feet, of Menominee River below Koss, Mich., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	2,190	1,890	1,380	905	810	833	4,940	4,740	3,700	2,850	1,900	3,970
17.....	2,280	1,630	1,340	880	810	931	4,880	3,670	3,360	2,760	1,500	3,690
18.....	1,840	1,790	1,230	914	868	1,140	5,540	3,190	3,760	2,510	1,750	3,010
19.....	1,850	1,900	1,180	822	845	1,240	6,070	3,330	3,400	2,560	1,740	3,370
20.....	2,450	1,870	1,380	1,070	880	1,200	8,070	3,610	3,500	1,530	1,630	3,250
21.....	1,900	1,640	1,600	1,030	799	1,340	6,400	3,560	2,810	1,940	1,580	3,750
22.....	1,860	1,480	1,030	1,050	1,010	1,090	5,560	3,630	2,780	2,180	2,950	5,330
23.....	1,810	1,770	1,240	960	799	1,300	7,540	2,990	2,940	1,540	5,000	5,810
24.....	1,820	1,330	1,120	1,060	880	1,750	9,720	3,150	2,480	2,130	6,180	4,710
25.....	2,070	1,320	1,120	937	961	2,680	10,300	3,070	3,510	1,750	7,500	5,510
26.....	1,860	1,340	1,330	822	926	2,270	10,300	2,280	3,630	1,820	5,450	4,490
27.....	1,460	1,270	840	961	937	2,100	10,900	2,900	3,520	1,630	3,920	4,830
28.....	1,500	1,050	810	880	856	2,050	10,700	2,940	3,010	1,980	4,770	3,940
29.....	1,990	810	822	822	-----	1,820	9,240	2,640	2,640	1,880	3,700	3,770
30.....	1,720	1,060	1,020	926	-----	1,770	7,980	2,700	2,960	1,720	2,400	3,940
31.....	1,590	-----	1,190	926	-----	1,780	-----	2,640	-----	2,180	2,040	-----

NOTE.—Monthly and yearly discharge computed by U. S. Geol. Survey from daily-discharge records furnished by Menominee & Marinette Light & Traction Co.

Monthly discharge of Menominee River below Koss, Mich., for the year ending September 30, 1926

[Drainage area, 3,790 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	3,670	1,450	2,190	0.578	0.67
November.....	2,410	810	1,620	.427	.48
December.....	1,780	810	1,290	.340	.39
January.....	1,370	706	989	.261	.30
February.....	1,010	787	864	.228	.24
March.....	2,680	764	1,250	.330	.38
April.....	10,900	1,230	4,970	1.31	1.46
May.....	9,120	2,280	4,800	1.27	1.46
June.....	4,600	1,940	3,360	.887	.99
July.....	3,230	1,420	2,120	.559	.64
August.....	7,500	1,500	2,780	.734	.85
September.....	5,810	2,480	3,820	1.01	1.13
The year.....	10,900	706	2,510	.662	8.99

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

LOCATION.—In sec. 28, T. 39 N., R. 18 E., at power plant of Peninsular Power Co. 6½ miles south of Florence, Florence County, and 9 miles above mouth.

DRAINAGE AREA.—520 square miles (measured on map issued by Wisconsin Geological & Natural History Survey, edition of 1911).

RECORDS AVAILABLE.—October 1, 1923, to September 30, 1926. January 22, 1914, to September 30, 1923, records were obtained at a station 4 miles upstream (Pine River near Florence; drainage area, 488 square miles).

DISCHARGE.—The daily discharge is computed from hourly determinations of the flow through turbines based on kilowatt output to which is added the quantity wasted.

EXTREMES OF DISCHARGE.—Maximum mean discharge recorded during year, 1,840 second-feet May 3 and 4; minimum mean daily discharge, 0 second-foot February 28.

1924-1926: Maximum mean daily discharge recorded, 1,870 second-feet May 11, 1924; minimum mean daily discharge, 0 second-foot January 20, 1924, and February 28, 1926.

The extremes of discharge are the result of regulation.

REGULATION.—Discharge is subject to diurnal fluctuation by the operation of the plant at which the station is located, but the pondage at the plant is not large and the monthly discharge is very nearly the natural flow. There are no power plants above.

ACCURACY.—The rating of the wheels and development of curves was done by Mead & Seastone, hydraulic engineers. The records at the plant are carefully taken, and it is believed the results are reliable. The formula for the discharge through the waste gates is probably not as accurate as that for the discharge through the wheels. Medium and low water records, good; high-water records, fair.

COOPERATION.—Records of daily discharge are furnished by Peninsular Power Co.

Daily discharge, in second-feet, of Pine River at Pine River power plant, near Florence, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	915	310	161	202	155	157	227	1,420	723	295	295	405
2.....	970	255	173	150	157	147	223	1,470	795	291	295	405
3.....	953	256	173	139	147	147	251	1,840	600	320	295	491
4.....	952	307	268	239	147	147	127	1,840	600	265	369	491
5.....	645	297	283	100	147	147	181	1,740	600	208	332	590
6.....	603	441	89	150	147	147	244	1,480	638	262	433	910
7.....	578	471	306	169	33	61	258	1,410	840	239	433	830
8.....	553	286	208	175	152	147	188	1,340	840	267	332	830
9.....	548	381	204	205	147	147	252	1,260	833	260	393	830
10.....	549	385	200	75	208	154	260	1,150	790	390	356	591
11.....	428	399	197	175	159	147	217	957	563	463	307	594
12.....	415	389	206	175	147	142	455	888	590	526	271	595
13.....	402	342	229	175	147	108	466	768	496	430	208	554
14.....	392	335	236	143	77	44	585	600	524	412	244	590
15.....	331	267	150	137	147	148	635	599	447	372	181	552
16.....	307	327	157	186	135	155	832	587	428	278	221	551
17.....	306	196	200	55	147	149	903	590	427	282	206	547
18.....	214	187	200	203	147	190	873	590	469	282	147	590
19.....	364	388	255	200	147	147	834	491	404	255	214	830
20.....	366	200	212	184	147	177	952	393	397	217	368	835
21.....	306	297	150	112	110	62	1,070	515	551	254	1,210	835
22.....	308	281	150	112	147	197	1,380	540	557	291	1,600	835
23.....	307	214	150	165	147	331	1,340	590	598	268	1,730	835
24.....	357	158	170	75	147	258	1,450	577	597	248	1,550	798
25.....	204	204	248	182	147	235	1,540	548	595	255	1,300	788
26.....	323	282	171	136	147	290	1,540	545	521	318	1,250	650
27.....	297	240	149	147	159	301	1,540	491	442	240	1,070	503
28.....	295	197	150	147	0	209	1,520	491	432	292	907	556
29.....	186	163	150	147	-----	217	1,420	445	390	291	670	540
30.....	192	207	131	146	-----	290	1,420	418	301	330	593	497
31.....	187	-----	130	78	-----	253	-----	588	-----	301	594	-----

*Monthly discharge of Pine River at Pine River power plant, near Florence, Wis.,
for the year ending September 30, 1926*

[Drainage area, 520 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	970	186	444	0.854	0.98
November.....	471	158	289	.556	.62
December.....	306	89	189	.363	.42
January.....	239	55	151	.290	.33
February.....	208	0	137	.263	.27
March.....	331	44	176	.338	.39
April.....	1,540	127	773	1.487	1.66
May.....	1,840	393	876	1.685	1.94
June.....	840	301	567	1.090	1.22
July.....	526	217	305	.587	.68
August.....	1,730	147	593	1.140	1.31
September.....	910	405	648	1.246	1.39
The year.....	1,840	0	429	.825	11.21

PIKE RIVER AT AMBERG, WIS.

LOCATION.—In sec. 15, T. 35 N., R. 21 E., at Chicago, Milwaukee & St. Paul Railway bridge half a mile south of Amberg, Marinette County, 1 mile below junction of two branches of Pike River, and 11 miles above mouth.

DRAINAGE AREA.—240 square miles (measured on map issued by Wisconsin Geological and Natural History Survey, edition of 1911).

RECORDS AVAILABLE.—February 26, 1914, to September 30, 1926.

GAGE.—Chain gage fastened to guard rail on upstream side of bridge; read by Frank Bunce and Sanford Bunce.

DISCHARGE MEASUREMENTS.—Made from highway bridge a quarter of a mile downstream from gage or by wading.

CHANNEL AND CONTROL.—Solid rock and some loose granite boulders; channel permanent but very rough at gage. Banks of medium height; not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.62 feet at 2.15 p. m. April 19 (discharge, 746 second-feet); minimum mean daily discharge, estimated 26 second-feet December 27 (stage-discharge relation affected by ice).

1914–1926: Maximum stage recorded, 7.68 feet at 5 p. m. April 10, 1922 (discharge, 2,730 second-feet); minimum discharge estimated 26 second-feet December 27, 1925 (stage-discharge relation affected by ice).

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent except when affected by ice. Rating curve well defined above 120 second-feet. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating curve, except as indicated in footnote to table of daily discharge. Open-water records excellent; records for winter period, fair.

The following discharge measurements were made:

January 26, 1926: Gage height, 1.76 feet (stage-discharge relation affected by ice); discharge, 84 second-feet.

June 28, 1926: Gage height, 1.84 feet; discharge, 172 second-feet.

Daily discharge, in second-feet, of Pike River at Amberg, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	428	122	65	100		90	194	444	222	150	204	204
2	380	122	65	118		95	204	396	224	138	230	244
3	333	126	65	158	90	100	217	364	225	126	180	258
4	273	134	66	180		95	230	396	227	118	318	288
5	244	158	100	158		90	237	380	229	107	258	273
6		230	138	142	95	90	244	364	230	100	318	258
7		204	126	168	100	90	251	333	348	102	333	258
8		190	134	194	105	90	258	333	364	100	258	244
9		185	146	190	110	90	303	326	288	138	258	258
10		180	138	205	95	95	348	318	258	140	204	258
11		171	158	230	80	100	380	318	204	142	180	204
12		167	158	205	80	105	396	318	180	142	171	173
13		158	138	230	75	110	493	303	180	138	158	176
14		152	126	215	75	105	546	303	204	111	154	138
15		146	118	205	75	100	698	303	244	93	146	318
16		146	122	160	75	115	738	258	204	89	138	303
17		142	126	140	75	134	738	230	303	86	120	288
18		134	134	110	75	157	738	230	274	82	118	204
19		138	142	90	75	180	738	217	244	84	180	318
20		138	134	80	80	198	698	258	258	86	204	318
21		142	126	75	80	217	738	303	273	89	476	288
22		146	122	75	80	245	738	318	288	96	476	288
23		142	107	90	75	273	738	318	303	93	582	273
24		138	118	60	80	318	738	303	288	146	620	258
25		142	126	60	80	364	428	288	273	142	582	258
26		146	134	40	85	318	444	244	204	140	460	380
27		140	138	26	90	273	428	244	180	118	258	258
28		134	66	50	90	258	444	230	171	104	230	204
29		126	65	75		244	460	217	169	118	202	199
30		118	65	90		214	444	218	158	158	197	194
31		118	110			185		220		180	192	

NOTE.—Stage-discharge relation affected by ice Nov. 29 to Dec. 3, Dec. 9-31, Jan. 9, Mar. 16; discharge estimated on basis of gage heights corrected for effect of ice by means of one discharge measurement, observers' notes, and weather records. Discharge interpolated Oct. 14, 27, Dec. 7, Jan. 13 to Feb. 5, Mar. 18, 20, 22, 24, 26, 28, 30, Apr. 1, 3, 5, 7, 9, May 9, 11, May 30 to June 5, and June 15.

Monthly discharge of Pike River at Amberg, Wis., for the year ending September 30, 1926

[Drainage area, 240 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	428	118	182	0.758	0.87
November	158	65	126	.525	.59
December	230	26	119	.496	.57
January	180	65	101	.421	.49
February	110	75	85.0	.354	.37
March	364	90	166	.692	.80
April	738	194	473	1.97	2.20
May	444	217	300	1.25	1.44
June	364	158	241	1.00	1.12
July	180	82	118	.482	.57
August	620	118	271	1.13	1.30
September	380	138	253	1.05	1.17
The year	738	26	203	.846	11.49

PESHTIGO RIVER AT HIGH FALLS, NEAR CRIVITZ, WIS.

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

DRAINAGE AREA.—520 square miles (measured on map of Wisconsin Geological and Natural History Survey, edition of 1911).

RECORDS AVAILABLE.—August 3, 1912, to September 30, 1926.

DISCHARGE.—The daily discharge computed from the hourly flow through turbines based on load on generators, head on turbines, and over-all efficiency of the plant to which is added the water wasted through the gates or over the spillway.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge recorded during year, 1,980 second-feet April 27; minimum mean daily discharge, 50 second-feet October 18, November 8, December 6, 13, 26, February 28, July 4, and August 15.

1912-1926: Maximum stage from water-stage recorder, 7.80 feet at 4.30 p. m. April 11, 1922 (discharge, 3,860 second-feet). Minimum discharge, 0 second-foot several days during 1925. Owing to artificial regulation extremes given do not represent natural flow.

REGULATION.—Considerable diurnal fluctuation caused by operation of power plant and during log-driving season by the manipulation of the gates. Mean monthly flow does not represent natural flow because of storage in the service reservoir.

ACCURACY.—Daily discharge is computed from hourly records at the power plant and results are considered fair.

COOPERATION.—Records of daily discharge furnished by the Wisconsin Public Service Corporation; monthly and yearly discharge computed by engineers of the United States Geological Survey.

Daily discharge, in second-feet, of Peshtigo River at High Falls, near Crivitz, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	68	125	311	134	178	222	462	1,260	510	440	280	755
2.....	581	202	213	120	248	280	185	1,390	800	285	390	720
3.....	398	300	243	123	303	220	95	1,420	750	195	341	834
4.....	336	309	249	153	165	222	124	1,440	603	50	457	850
5.....	660	234	272	126	263	324	235	1,420	650	80	418	196
6.....	654	299	50	102	123	239	400	1,420	474	237	357	330
7.....	826	215	118	124	130	150	390	1,040	705	243	520	617
8.....	969	50	116	266	83	120	350	859	664	245	545	620
9.....	912	175	175	90	147	255	398	637	680	276	662	495
10.....	820	207	280	79	199	333	402	730	778	160	666	560
11.....	276	291	290	101	173	300	232	795	753	236	848	330
12.....	480	320	241	126	149	282	666	780	800	218	890	625
13.....	664	370	50	140	210	475	580	745	680	238	633	625
14.....	235	296	232	191	53	341	400	675	670	194	384	627
15.....	160	189	302	170	134	434	455	140	730	431	50	721
16.....	135	288	209	126	222	366	300	667	606	432	283	693
17.....	106	242	182	63	83	455	121	800	710	222	352	530
18.....	50	181	196	152	154	500	280	800	654	123	315	324
19.....	195	127	228	173	151	718	284	1,050	564	228	548	666
20.....	127	160	73	169	143	1,000	236	485	555	356	380	630
21.....	157	171	137	145	66	445	280	450	855	425	449	666
22.....	125	169	228	120	113	790	446	96	798	590	302	630
23.....	198	204	227	204	174	930	418	410	740	610	635	603
24.....	129	273	122	128	140	991	490	1,130	590	518	830	710
25.....	119	213	85	104	216	985	1,820	1,170	735	266	870	630
26.....	228	68	50	179	222	911	1,620	1,090	183	360	910	359
27.....	296	238	123	183	144	945	1,980	1,190	580	295	890	587
28.....	234	243	118	128	50	250	1,900	1,380	648	318	760	597
29.....	229	57	167	167	-----	755	1,670	1,370	715	260	550	736
30.....	218	277	143	106	-----	907	1,650	382	689	259	780	536
31.....	255	-----	64	95	-----	690	-----	416	-----	307	770	-----

Monthly discharge of Peshtigo River at High Falls, near Crivitz, Wis., for the year ending September 30, 1926

[Drainage area, 520 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	969	50	350	0.673	0.78
November.....	370	50	216	.415	.46
December.....	390	50	180	.346	.40
January.....	266	.63	138	.265	.31
February.....	303	50	153	.304	.32
March.....	1,000	120	511	.983	1.13
April.....	1,980	95	629	1.21	1.35
May.....	1,440	96	892	1.72	1.98
June.....	885	183	662	1.27	1.42
July.....	610	50	293	.563	.65
August.....	910	50	550	1.06	1.22
September.....	850	196	593	1.14	1.27
The year.....	1,980	50	432	.831	11.29

OCONTO RIVER NEAR GILLET, WIS.

LOCATION.—In sec. 34, T. 28 N., R. 18 E., at highway bridge 2½ miles southeast of Gillett, Oconto County.

DRAINAGE AREA.—678 square miles (measured on Wisconsin Geological and Natural History Survey map, edition of 1911).

RECORDS AVAILABLE.—June 7, 1906, to March 30, 1909; January 6, 1914, to September 30, 1926.

GAGE.—Chain gage attached to iron railing on upstream side of bridge; read by Harvey Gilbertson. Zero of gage was raised 4 feet January 6, 1914.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge.

CHANNEL AND CONTROL.—Gravel; permanent. Left bank of medium height and not subject to overflow. During extremely high stages water may overflow around right end of bridge.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.25 feet at 5 p. m. April 15 (discharge, 2,320 second-feet); minimum discharge, estimated 195 second-feet several days in January (stage-discharge relation affected by ice.)

1906–1926: Maximum stage recorded, 9.1 feet at 3 p. m. April 11, 1922, caused by the failure of a dam at Puleifer, 4 miles upstream (discharge, 6,470 second-feet); minimum stage, 0.1 foot June 3 and 6, 1907 (discharge, 95 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent, except as affected by ice. Rating curve well defined between 320 and 1,700 second-feet and fairly well defined above. Gage read to quarter-tenths once daily. Daily discharge obtained by applying daily gage height to rating table except for period when stage-discharge relation was affected by ice, for which it was obtained as indicated in footnote to table of daily discharge. Open-water records, good; records for winter, fair.

The following discharge measurements were made:

January 27, 1926: Gage height, 1.98 feet;¹ discharge, 211 second-feet.

February 13, 1926: Gage height, 2.22 feet;¹ discharge, 250 second-feet.

June 22, 1926: Gage height, 1.97 feet; discharge, 743 second-feet.

¹ Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Oconto River near Gillett, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	425	370	260	205	220	240	350	1,570	425	466	370	1,430
2	466	387	290	205	230	230	370	1,500	387	466	352	1,430
3	466	406	320	205	230	230	385	1,430	827	425	352	887
4	534	406	305	210	230	230	395	1,290	769	320	387	659
5	488	387	740	220	220	230	405	1,220	713	305	406	659
6	466	370	885	225	205	230	435	1,220	659	305	387	686
7	466	387	1,020	230	230	225	465	1,080	607	320	387	769
8	406	387	1,290	225	260	220	555	1,020	557	336	370	887
9	387	320	1,220	220	250	225	685	950	510	769	352	887
10	370	290	635	210	245	230	885	887	659	336	406	713
11	370	336	585	205	245	230	1,220	713	466	336	887	659
12	406	387	535	200	245	230	1,780	659	425	352	488	607
13	406	387	520	195	245	230	2,160	582	607	352	387	557
14	370	370	510	200	245	230	2,240	557	1,020	352	352	534
15	370	387	430	205	240	230	2,320	557	769	336	276	557
16	352	387	350	205	230	230	2,080	557	827	336	290	633
17	352	336	335	205	230	230	1,780	510	1,020	320	305	659
18	387	336	320	205	230	230	1,290	488	769	320	320	686
19	510	387	305	205	230	230	1,220	466	827	320	320	686
20	510	466	290	200	230	230	1,150	466	827	320	425	557
21	466	466	275	195	230	245	1,150	488	713	320	633	686
22	466	425	260	195	230	260	1,080	582	741	320	887	686
23	466	352	250	195	225	385	1,080	582	769	320	887	887
24	466	262	245	200	220	510	1,430	582	769	336	887	827
25	352	260	240	205	230	520	1,570	557	659	352	887	387
26	262	260	230	205	245	535	2,000	557	607	320	950	557
27	262	260	220	205	245	510	2,160	557	557	352	769	582
28	262	260	205	205	245	490	2,080	466	557	336	741	557
29	276	260	205	205	-----	440	1,850	425	466	336	713	510
30	290	260	205	205	-----	385	1,780	387	466	352	466	769
31	352	-----	205	205	-----	370	-----	466	-----	370	425	-----

NOTE.—Stage-discharge relation affected by ice Nov. 25 to Apr. 13; daily discharge estimated on basis of gage heights corrected for effect of ice by means of two discharge measurements, observer's notes, and weather records.

Monthly discharge of Oconto River near Gillett, Wis., for the year ending September 30, 1926

[Drainage area, 678 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	534	262	401	0.591	0.68
November	466	260	352	.519	.58
December	1,290	205	441	.650	.75
January	230	195	206	.304	.35
February	260	205	234	.345	.36
March	535	220	298	.440	.51
April	2,320	350	1,278	1.88	2.10
May	1,570	387	754	1.11	1.28
June	1,020	387	666	.982	1.10
July	769	305	358	.528	.61
August	950	276	518	.764	.88
September	1,430	510	720	1.06	1.18
The year	2,320	195	519	.765	10.38

FOX RIVER AT BERLIN, WIS.

LOCATION.—In sec. 16, T. 17 N., R. 13 E., at Government lock and dam $2\frac{1}{2}$ miles upstream from Berlin, Green Lake County.

DRAINAGE AREA.—1,430 square miles (measured on Wisconsin Geological and Natural History Survey map, edition of 1911).

RECORDS AVAILABLE.—January 1, 1898, to September 30, 1926.

GAGE.—Staff gage in pool immediately below dam; read by lock tender for United States Engineer Corps.

CHANNEL AND CONTROL.—Sand and gravel, one channel at all stages; banks low and subject to overflow.

DISCHARGE MEASUREMENTS.—Made from downstream side of Huron Street highway bridge in Berlin 2½ miles downstream from gage. Rating curves for gage corrected for any small inflow between gage and measuring section.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge recorded during year, 3,440 second-feet April 1, 2. Minimum mean daily discharge, 535 second-feet July 19–24, 26, and 27.

1898–1926: Maximum mean daily discharge, 6,400 second-feet March 28, 30, 1916; minimum mean daily discharge, 250 second-feet February 1–4, 1900.

ICE.—Stage-discharge relation affected by ice.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent except for effect of ice. Rating curve well defined between 800 and 6,000 second-feet. Gage read to hundredths three times daily; in general, however, noon reading alone is used in determination of daily discharge. Daily discharge ascertained by applying mean daily gage height to rating table, corrected for period when stage-discharge relation was affected by ice by means of curves based on discharge measurements and observer's notes. Open-water records, good; winter records, poor.

COOPERATION.—Records have been collected and computations of daily discharge made by United States Engineer Corps. Open-water records obtained from rating curves based on discharge measurements made by United States Geological Survey.

No discharge measurements made during year.

Daily discharge, in second-feet, of Fox River at Berlin, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	765	765	765	645	615	800	3,440	1,740	2,100	830	645	705
2	765	940	800	645	645	830	3,440	1,740	2,040	830	675	765
3	800	800	830	645	645	800	3,260	1,740	1,910	800	675	765
4	830	830	830	675	675	800	3,260	1,740	1,800	765	675	735
5	830	865	1,020	675	705	800	3,350	1,740	1,620	765	645	800
6	865	940	1,020	675	705	800	3,350	1,680	1,460	705	675	830
7	865	905	940	675	705	800	3,080	1,620	1,360	705	675	830
8	865	830	1,060	675	705	830	3,000	1,520	1,270	735	675	905
9	865	800	1,060	675	705	800	3,000	1,420	1,180	705	615	905
10	800	830	1,020	675	735	800	2,910	1,270	1,140	705	645	865
11	800	865	1,020	675	735	800	2,830	1,140	1,060	645	675	830
12	800	905	940	645	735	830	2,750	1,100	1,020	645	645	905
13	765	865	905	645	735	830	2,670	1,100	1,060	615	645	905
14	765	865	800	645	735	800	2,600	1,020	1,220	590	645	905
15	765	865	765	645	735	800	2,520	975	1,420	615	615	975
16	765	830	765	675	735	800	2,380	975	1,420	590	590	1,060
17	705	830	765	675	735	800	2,240	905	1,460	560	590	1,060
18	705	830	765	675	735	830	2,100	905	1,520	560	590	1,020
19	675	865	765	675	735	830	1,980	865	1,460	535	590	1,020
20	675	830	735	675	765	865	1,850	905	1,420	535	645	1,020
21	675	830	735	675	765	975	1,740	1,020	1,360	535	765	975
22	705	800	735	675	765	1,220	1,620	1,100	1,270	535	830	940
23	705	705	705	645	735	1,300	1,520	1,100	1,220	535	865	940
24	735	705	705	645	735	1,620	1,420	1,140	1,140	535	805	1,060
25	735	800	735	645	765	2,040	1,460	1,060	1,100	560	905	1,100
26	735	765	705	615	800	2,450	1,520	1,320	1,060	535	905	1,100
27	765	705	675	615	765	2,750	1,570	1,620	1,020	535	830	1,100
28	800	675	675	615	800	3,000	1,680	1,800	940	560	800	1,100
29	800	735	645	615	-----	3,170	1,680	1,850	905	560	765	1,100
30	765	765	645	615	-----	3,350	1,740	1,980	865	560	705	1,060
31	765	-----	645	615	-----	3,170	-----	1,980	-----	590	705	-----

Monthly discharge of Fox River at Berlin, Wis., for the year ending September 30, 1926

[Drainage area, 1,430 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	865	675	770	0.538	0.62
November.....	940	675	818	.572	.64
December.....	1,060	645	812	.568	.65
January.....	675	615	654	.457	.53
February.....	800	615	727	.508	.53
March.....	3,350	800	1,330	.930	1.07
April.....	3,440	1,420	2,400	1.680	1.87
May.....	1,980	865	1,360	.951	1.10
June.....	2,100	865	1,330	.930	1.04
July.....	830	535	628	.439	.51
August.....	905	590	704	.492	.57
September.....	1,100	705	943	.659	.74
The year.....	3,440	535	1,040	.727	9.87

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

LOCATION.—At Rapide Croche Dam, in sec. 4, T. 21 N., R. 19 E., 2 miles from Wrightstown, Brown County, and 19 miles downstream from Lake Winnebago.

RECORDS AVAILABLE.—March 3, 1896, to September 30, 1926.

DRAINAGE AREA.—6,150 square miles (measured on map issued by Wisconsin Geological and Natural History Survey, edition of 1911).

DETERMINATION OF DISCHARGE.—The dam owned by the United States Government and operated by the United States Engineer Corps to aid navigation, is made of timber and is equipped with four needle sluice gates which are used only in times of high water. A vertical staff gage at the lower end of the canal leading to the lock and a quarter of a mile below dam is read five times daily at 7 a. m., 9 a. m., noon, 3 p. m., and 6 p. m. The mean flow for the day is computed from a formula, using the five gage heights for the day, assuming gradual changes in gage height between the readings and weighting the different gage heights by elapsed time.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 9,060 second-feet June 17. Minimum mean daily discharge, 1,740 second-feet October 4.

1918–1926: Maximum mean daily discharge, 20,100 second-feet April 23, 1922. Minimum mean daily discharge, 742 second-feet August 15, 1921.

REGULATION.—Flow past station is controlled by regulation in Lake Winnebago, which has an area of 215 square miles, and to some extent by dams between the outlet of Lake Winnebago and the station. The dams are operated for power purposes and in the interests of navigation. The same storage conditions have existed throughout the period covered by the records.

ACCURACY.—Records good.

COOPERATION.—The records were collected and computations of daily discharge made by the United States Engineer Corps based on curves which were developed by current-meter measurements made by engineers of the United States Geological Survey.

No discharge measurements were made at this station during year.

Daily discharge, in second-feet, of Fox River at Rapide Croche Dam, near Wrightstown, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,280	2,710	4,090	4,090	3,770	3,670	3,800	7,760	5,930	5,780	2,700	3,300
2	2,030	3,050	4,310	3,580	4,110	3,640	3,880	6,950	6,260	5,680	3,050	3,500
3	1,980	3,780	3,480	3,160	4,190	3,840	4,560	7,140	6,340	5,090	3,480	3,500
4	1,740	3,860	3,880	3,800	4,000	3,880	4,390	8,420	6,200	4,430	3,490	3,580
5	1,820	3,960	4,300	4,040	3,850	3,780	5,360	8,370	6,210	4,230	2,690	3,310
6	2,130	3,780	2,970	4,150	3,900	3,340	4,760	8,060	5,960	4,630	2,850	3,030
7	2,220	3,640	3,650	4,240	3,240	2,690	4,820	7,560	6,240	5,030	2,610	3,010
8	2,960	2,700	4,030	4,230	3,600	3,130	5,000	6,200	6,090	5,120	2,420	4,400
9	2,970	3,220	3,830	3,970	4,050	3,320	4,970	7,060	6,320	4,910	3,040	3,650
10	2,950	3,650	3,690	2,980	3,870	3,420	5,330	6,850	6,620	4,660	2,800	3,660
11	2,540	3,790	4,060	3,420	4,040	3,430	6,200	7,180	6,240	4,360	2,750	4,160
12	2,680	3,540	4,040	3,840	4,050	3,250	6,040	6,580	5,930	4,550	2,770	3,020
13	3,090	3,800	2,850	4,220	3,790	3,160	5,050	6,950	5,750	4,700	2,910	3,820
14	3,350	3,360	2,960	4,260	3,200	3,150	3,830	6,570	8,140	4,870	2,780	4,080
15	2,900	2,290	4,060	4,130	3,600	3,190	4,270	5,960	8,790	4,880	2,040	4,320
16	2,840	2,810	4,120	4,050	3,520	2,840	4,100	6,150	8,430	4,670	2,990	4,360
17	2,680	3,480	4,100	3,100	4,110	3,680	4,230	6,030	9,060	4,550	2,920	3,980
18	2,240	3,670	3,960	3,770	3,870	3,010	4,860	5,960	8,450	3,670	2,830	3,780
19	2,690	4,060	4,130	4,160	3,920	2,930	4,970	5,950	8,370	4,070	2,870	3,290
20	3,200	4,370	2,970	4,180	3,840	3,140	5,040	6,220	7,970	4,170	2,920	4,200
21	3,270	3,920	3,560	4,000	3,170	3,470	4,460	6,360	8,520	4,500	2,760	4,800
22	3,190	2,740	4,000	3,490	3,660	3,910	4,510	5,730	8,170	4,310	2,770	4,600
23	3,100	3,160	4,100	3,820	3,740	4,860	4,870	5,980	8,120	3,600	3,080	4,310
24	3,030	3,900	3,920	2,680	3,780	4,550	4,570	5,660	7,970	3,530	2,890	4,650
25	2,620	3,750	3,170	3,400	3,860	3,420	4,320	6,000	7,180	2,560	3,000	3,660
26	2,990	3,050	3,290	3,940	3,370	3,380	4,790	6,380	5,150	3,880	2,990	3,980
27	3,420	3,900	3,030	3,800	3,500	2,970	6,330	6,550	5,400	3,840	2,910	4,700
28	3,850	3,510	3,850	3,500	3,060	3,080	7,770	6,310	5,680	3,600	3,080	4,470
29	3,720	2,700	4,040	3,780	-----	3,610	8,530	6,160	5,980	3,270	2,670	4,360
30	3,710	3,520	4,010	3,980	-----	3,830	8,380	6,090	5,770	3,440	3,420	4,600
31	3,720	-----	3,900	3,040	-----	3,990	-----	5,750	-----	3,180	3,140	-----

Monthly discharge of Fox River at Rapide Croche Dam, near Wrightstown, Wis., for the year ending September 30, 1926

[Drainage area, 6,150 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	3,850	1,740	2,830	0.460	0.53
November	4,370	2,290	3,460	.563	.63
December	4,310	2,850	3,750	.610	.70
January	4,260	2,680	3,770	.613	.71
February	4,190	3,060	3,740	.608	.63
March	4,860	2,690	3,470	.564	.65
April	8,530	3,800	5,130	.834	.93
May	8,420	5,660	6,610	1.07	1.23
June	9,060	5,150	6,910	1.12	1.25
July	5,780	2,560	4,310	.701	.81
August	3,490	2,040	2,890	.470	.54
September	4,800	3,010	3,940	.641	.72
The year	9,060	1,749	4,230	.688	9.33

WOLF RIVER AT KESHENA, WIS.

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

DRAINAGE AREA.—840 square miles.

RECORDS AVAILABLE.—May 9, 1907, to March 31, 1909; February 10, 1911, to September 30, 1926.

GAGE.—Chain gage fastened to downstream side of bridge December 9, 1914; read by G. Sloniker.

DISCHARGE MEASUREMENTS.—Made from bridge to which gage is attached.

CHANNEL AND CONTROL.—Gravel; smooth and practically permanent. Banks, of medium height; overflow improbable.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.03 feet at 7.30 p. m. April 25 (discharge, 2,710 second-feet); minimum discharge, estimated 320 second-feet December 18 to January 20 (stage-discharge relation affected by ice).

1907-1909; 1911-1926: Maximum stage recorded, 7.30 feet at 6.30 p. m. April 10, 1922 (discharge, 4,390 second-feet); minimum discharge during open-water periods, 275 second-feet September 26, 1908.

ICE.—Stage-discharge relation seriously affected by ice.

REGULATION.—The river and its main tributaries above Keshena are controlled to some extent by logging dams.

ACCURACY.—Stage-discharge relation changed slightly during summer. Standard rating curve well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, except for period indicated in footnote to table of daily discharge. Open-water records good when gage heights were available; winter records fair.

Discharge measurements of Wolf River at Keshena, Wis., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 28.....	1.35	332	June 21.....	2.52	1,120
Feb. 14.....	2.47	390	Sept. 17.....	2.70	1,120

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Wolf River at Keshena, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	720	414	390	320	360	390	440	1,400	870	720	640	765
2.....	720	392	390	320	360	410	440	1,460	980	640	720	815
3.....	680	365	360	320	360	410	440	1,460	1,100	640	720	925
4.....	680	378	360	320	360	410	470	1,460	980	640	680	980
5.....	720	341	360	320	360	410	440	1,400	925	640	720	1,040
6.....	720	405	360	320	360	440	410	1,400	1,040	640	765	1,100
7.....	640	385	360	320	360	410	440	1,340	925	640	765	1,100
8.....	640	530	260	320	360	410	410	1,340	1,040	640	765	1,040
9.....	640	530	360	320	390	410	440	1,280	980	600	720	1,040
10.....	640	530	340	320	390	390	470	1,160	925	640	680	980
11.....	405	565	340	320	390	390	530	1,160	870	565	680	980
12.....	469	565	340	320	360	390	640	1,100	870	565	640	870
13.....	440	565	340	320	390	390	640	1,040	1,040	565	640	870
14.....	433	565	340	320	390	390	600	1,040	1,160	565	640	980
15.....	455	530	340	320	390	390	500	980	1,220	565	600	1,040
16.....	469	530	340	320	390	390	680	925	1,040	565	565	1,100
17.....	447	530	340	320	390	360	765	815	1,220	530	565	1,100
18.....	447	500	320	320	360	360	925	500	1,160	530	565	1,040
19.....	447	500	320	320	360	390	1,340	440	1,040	530	600	980
20.....	372	470	320	320	360	410	1,400	440	1,040	530	765	925
21.....	398	440	320	340	360	410	1,460	470	1,100	530	1,650	925
22.....	400	410	320	340	360	410	1,520	470	1,100	565	2,140	1,040
23.....	378	390	320	320	360	470	1,580	815	1,160	600	2,000	1,040
24.....	392	390	320	320	360	470	1,930	720	1,040	640	1,520	1,040
25.....	378	390	320	320	360	500	2,290	870	980	600	1,400	980
26.....	365	410	320	320	360	440	1,650	870	925	565	1,340	925
27.....	378	410	320	320	360	470	1,340	870	815	565	1,280	870
28.....	420	390	320	320	390	440	1,340	925	815	565	1,160	870
29.....	451	390	320	340	-----	470	1,340	980	720	565	1,100	815
30.....	405	390	320	340	-----	470	1,400	925	720	530	980	720
31.....	392	-----	320	340	-----	470	-----	815	-----	600	925	-----

NOTE.—Stage-discharge relation affected by ice Nov. 28 to Apr. 15; discharge estimated on basis of gage heights corrected for effect of ice by means of two discharge measurements, observer's notes, and weather records. No gage readings available Oct. 11 to Nov. 7; discharge based on comparison with the flow of Embarrass River near Embarrass.

Monthly discharge of Wolf River at Keshena, Wis., for the year ending September 30, 1926

[Drainage area, 840 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	720	365	501	0.596	0.69
November.....	565	341	453	.539	.60
December.....	390	320	339	.404	.47
January.....	340	320	323	.385	.44
February.....	390	360	370	.440	.46
March.....	500	360	418	.498	.57
April.....	2,290	410	942	1.120	1.25
May.....	1,460	440	996	1.190	1.37
June.....	1,220	720	993	1.180	1.32
July.....	720	530	590	.702	.81
August.....	2,140	565	933	1.110	1.28
September.....	1,100	720	963	1.150	1.28
The year.....	2,290	320	652	.776	10.54

WOLF RIVER AT NEW LONDON, WIS.

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

DRAINAGE AREA.—2,240 square miles (measured on map issued by Wisconsin Geological and Natural History Survey, edition of 1911).

RECORDS AVAILABLE.—October 1, 1913, to September 30, 1926. Unpublished gage heights March 1, 1899, to September 30, 1913, are in files of office of United States Engineer Corps, Milwaukee, Wis.

GAGE.—Staff gage fastened to right-hand downstream pier of Pearl Street Bridge. Datum of the gage raised 0.641 foot March 1, 1911, according to the United States Engineer Corps; zero of gage is at an elevation of 748.874 feet above mean sea level, New York City datum.

DISCHARGE MEASUREMENTS.—Made from Shawano Street Bridge four blocks below gage.

CHANNEL AND CONTROL.—Sand, hardpan, and mud; not permanent. Control not well defined. Banks at gage fairly high. During flood stages water from Embarrass River flows across New London into channel of Wolf River below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.6 feet May 1-3 (discharge, 4,470 second-feet); minimum discharge recorded, 550 second-feet December 29 (stage-discharge relation affected by ice).

1914-1926: Maximum stage recorded, 11.4 feet at 8 a. m. April 13, 1922 (discharge, 15,500 second-feet); minimum discharge, 550 second-feet December 29, 1925.

The office of the United States Engineer Corps reports a stage of 11.6 feet on April 16, 1888.

ICE.—Stage-discharge relation affected by ice.

REGULATION.—Little, if any, diurnal fluctuation, owing to operation of power plants above station, has been observed at gage; monthly flow natural.

ACCURACY.—Stage-discharge relation not permanent. Rating curve fairly well defined. Gage read to tenths once daily. Daily discharge ascertained by applying daily gage height to rating curve except for period when stage-discharge relation was affected by ice, for which it was obtained as indicated in footnote to table of daily discharge. Open-water records, fair; winter records, poor.

Discharge measurements of Wolf River at New London, Wis., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 10.....	2.68	1,360	June 17.....	6.68	3,870
Jan. 31.....	• 1.89	620	Sept. 18.....	5.01	2,370
Feb. 18.....	• 2.12	637			

• Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Wolf River at New London, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,050	1,050	750	620	620	620	3,580	4,470	3,290	2,600	945	2,660
2.....	1,080	1,050	780	620	620	620	3,430	4,470	3,150	2,210	980	2,360
3.....	1,080	1,020	875	620	620	620	3,290	4,470	3,020	1,910	1,020	2,110
4.....	1,760	1,020	945	580	620	620	3,290	4,370	2,900	1,620	1,050	1,860
5.....	1,810	1,080	1,050	600	620	620	3,150	4,270	2,720	1,530	1,120	1,860
6.....	1,760	1,160	1,020	600	620	620	3,080	4,170	2,540	1,400	1,160	1,860
7.....	1,760	1,200	945	580	620	620	3,150	4,080	2,420	1,280	1,160	1,860
8.....	1,660	1,200	910	620	620	620	3,580	3,990	2,260	1,240	1,200	1,910
9.....	1,400	1,120	910	620	620	620	3,580	3,820	2,160	1,200	1,200	2,010
10.....	1,400	1,120	910	600	620	620	3,500	3,740	1,960	1,200	1,120	2,010
11.....	1,360	1,080	910	620	620	620	3,660	3,580	1,860	1,200	1,080	2,010
12.....	1,240	1,200	980	620	620	620	3,740	3,360	1,760	1,160	1,160	2,160
13.....	1,120	1,240	945	600	645	620	3,820	3,150	1,660	1,120	1,080	2,310
14.....	1,080	1,160	875	580	645	645	3,900	3,020	2,260	1,120	1,050	2,260
15.....	980	1,080	780	600	620	670	4,170	2,780	3,020	1,080	980	2,260
16.....	1,050	1,050	780	600	620	620	4,270	2,600	3,360	1,050	945	2,420
17.....	1,050	1,020	780	600	620	645	4,270	2,420	3,580	1,020	945	2,480
18.....	1,050	980	780	600	620	670	4,170	2,160	3,820	1,020	910	2,540
19.....	1,050	1,020	780	600	620	720	4,170	1,960	3,990	980	910	2,540
20.....	980	1,020	720	620	620	780	3,990	1,860	4,170	980	1,050	2,540
21.....	945	980	720	620	620	910	3,900	1,860	4,370	945	1,620	2,540
22.....	980	980	695	620	620	1,050	3,740	2,160	4,370	910	2,210	2,960
23.....	980	945	720	600	620	1,530	3,580	2,420	4,370	910	2,600	3,080
24.....	980	875	720	600	620	2,360	3,500	2,600	4,170	910	2,840	3,430
25.....	1,020	840	720	580	620	2,780	3,580	2,600	3,990	910	2,960	3,580
26.....	1,020	840	720	580	620	3,080	3,660	2,660	3,820	910	3,020	3,740
27.....	1,020	875	645	580	620	3,150	3,820	3,020	3,660	945	3,080	3,740
28.....	1,020	840	560	600	620	3,290	3,900	3,220	3,430	945	3,150	3,660
29.....	1,020	780	550	600	-----	3,580	4,080	3,290	3,220	945	3,220	3,500
30.....	1,080	695	580	580	-----	3,660	4,370	3,360	3,020	945	3,080	3,220
31.....	1,020	-----	620	580	-----	3,580	-----	3,430	-----	910	2,900	-----

NOTE.—Stage-discharge relation affected by ice Nov. 26 to Apr. 7; discharge estimated on basis of gage heights corrected for effect of ice by means of two discharge measurements, observer's notes, and weather records.

Monthly discharge of Wolf River at New London, Wis., for the year ending September 30, 1926

[Drainage area, 2,240 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,810	945	1,190	0.531	0.61
November.....	1,240	695	1,020	.455	.51
December.....	1,050	550	796	.355	.41
January.....	620	580	601	.268	.31
February.....	645	620	622	.278	.29
March.....	3,660	620	1,350	.603	.70
April.....	4,370	3,080	3,730	1.67	2.35
May.....	4,470	1,860	3,210	1.43	1.64
June.....	4,370	1,660	3,140	1.40	1.56
July.....	2,600	910	1,200	.536	.62
August.....	3,220	910	1,670	.746	.86
September.....	3,740	1,860	2,580	1.15	1.28
The year.....	4,470	550	1,760	.786	10.65

EMBARRASS RIVER NEAR EMBARRASS, WIS.

LOCATION.—At highway bridge on line between T. 26 N., R. 14 E., and T. 26 N., R. 15 E., in Shawano County, 1 mile downstream from mouth of Mill Creek which enters from left, 4 miles above Embarrass, Waupaca County.

DRAINAGE AREA.—395 square miles (measured on map issued by Wisconsin Geological and Natural History Survey, edition of 1911).

RECORDS AVAILABLE.—June 5, 1919, to September 30, 1926.

GAGE.—Chain gage fastened to downstream handrail; read by Alphonse Murawski.

CHANNEL AND CONTROL.—Bed of channel at gage and downstream heavy gravel. Riffle 100 feet downstream forms control. Right bank not subject to overflow; left bank of medium height and will be overflowed at a stage of about 9 feet.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.85 feet at 7.10 p. m. August 23 (discharge, 1,620 second-feet); minimum discharge recorded, estimated 30 second-feet February 2 and 3 (stage-discharge relation affected by ice).

1919-1926: Maximum stage recorded, 11.50 feet at 4 p. m. April 10, 1922 (discharge, 6,760 second-feet); minimum discharge, that of 1926 as given above.

ICE.—Stage-discharge relation seriously affected by ice.

REGULATION.—Several dams above station create head for the development of power, but they do not have enough storage to cause any but a slight daily fluctuation.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined above 150 second-feet. Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except during period when stage-discharge relation was affected by ice, for which it was obtained as indicated in footnote to table of daily discharge. Open-water records excellent; winter records, fair.

The following discharge measurements were made:

January 29, 1926: Gage height, 3.58 feet;² discharge, 56 second-feet.

February 15, 1926: Gage height, 3.60 feet;² discharge, 71 second-feet.

June 19, 1926: Gage height, 3.84 feet; discharge, 495 second-feet.

Daily discharge, in second-feet, of Embarrass River near Embarrass, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	385	188	144	60	60	90	250	520	569	194	147	194
2-----	520	178	141	70	30	90	233	473	520	216	120	188
3-----	428	166	155	80	30	70	233	520	473	194	136	166
4-----	473	172	178	80	50	70	250	620	428	181	128	172
5-----	406	155	250	80	70	70	268	725	364	175	133	250
6-----	406	184	223	105	45	80	250	725	344	175	128	286
7-----	385	175	175	80	60	115	250	646	344	158	128	305
8-----	344	250	166	70	45	80	305	569	305	155	138	305
9-----	233	233	178	70	60	70	450	473	268	149	133	344
10-----	213	233	150	90	70	45	620	406	250	141	161	344
11-----	184	233	140	90	60	50	945	344	250	147	136	268
12-----	213	233	140	80	70	80	1,290	364	250	144	138	268
13-----	200	268	130	90	90	70	1,230	250	250	147	108	286
14-----	197	233	130	105	70	90	1,290	250	646	144	123	268
15-----	207	207	130	105	70	70	1,060	268	1,350	138	125	268

² Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Embarrass River near Embarrass, Wis., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	213	200	115	90	50	70	1,000	268	1,110	133	141	263
17.....	203	213	105	90	80	90	890	305	1,000	131	147	263
18.....	203	203	105	70	70	80	780	233	780	133	155	305
19.....	203	191	90	80	70	130	725	216	780	133	175	305
20.....	169	178	90	80	70	170	544	216	672	128	305	286
21.....	181	172	45	80	70	250	496	250	344	125	835	385
22.....	184	172	60	60	70	305	569	344	473	123	1,530	520
23.....	172	172	35	70	80	475	620	344	473	123	1,590	646
24.....	178	160	60	60	70	835	1,110	385	473	123	1,410	620
25.....	172	155	70	60	80	1,000	1,350	385	473	108	1,110	520
26.....	166	150	50	80	90	890	1,350	428	428	110	945	428
27.....	172	145	60	70	90	835	1,230	672	406	103	672	385
28.....	191	140	50	70	90	672	945	780	344	103	569	385
29.....	197	135	70	60	-----	569	620	620	286	98	305	324
30.....	184	130	60	60	-----	428	594	496	233	103	194	268
31.....	178	-----	70	60	-----	344	-----	569	-----	128	305	-----

NOTE.—Stage-discharge relation affected by ice Nov. 24–30 and Dec. 10 to Mar. 24; daily discharge estimated on basis of gage heights corrected for ice effect by means of two discharge measurements, observer's notes, and weather records.

Monthly discharge of Embarrass River near Embarrass, Wis., for the year ending September 30, 1926

[Drainage area, 395 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	520	166	250	0.633	0.73
November.....	268	130	187	.473	.53
December.....	250	35	115	.291	.34
January.....	105	60	77.3	.196	.23
February.....	90	30	66.4	.168	.17
March.....	1,000	45	267	.676	.78
April.....	1,350	233	725	1.84	2.05
May.....	780	216	441	1.12	1.29
June.....	1,350	233	496	1.26	1.41
July.....	216	98	141	.357	.41
August.....	1,590	108	399	1.01	1.16
September.....	646	166	328	.830	.93
The year.....	1,590	30	291	.737	10.03

LITTLE WOLF RIVER AT ROYALTON, WIS.

LOCATION.—In sec. 1, T. 22 N., R. 13 E., just above highway bridge at Royalton, Waupaca County, 4 miles above mouth of river.

DRAINAGE AREA.—485 square miles (measured on Wisconsin Geological and Natural History Survey map, edition of 1911).

RECORDS AVAILABLE.—January 13, 1914, to September 30, 1926.

GAGE.—Sloping gage on left bank 150 feet upstream from highway bridge; read by J. C. Jensen.

DISCHARGE MEASUREMENTS.—Made from cable 1,500 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed at gage section consists of heavy gravel and rock; fairly permanent. At measuring section bed is fine, smooth gravel. Neither bank is overflowed to any extent at flood stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.58 feet at 5 p. m. April 11 (discharge, 1,670 second-feet); minimum discharge, 120 second-feet January 28 (stage-discharge relation affected by ice).

1914-1926: Maximum discharge recorded, 5,780 second-feet at 7 a. m. April 10 and 5 p. m. April 11, 1922 (gage height, 6.92 feet); minimum discharge, about 120 second-feet January 20, 1922, and January 28, 1926.

ICE.—Stage-discharge relation affected by ice.

REGULATION.—The few power plants above station have little storage, and very little diurnal fluctuation has been observed at gage.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Gage read to half-tenths twice daily. Daily discharge obtained by applying mean daily gage height to rating curve, except for period when stage-discharge relation was affected by ice, for which period it was obtained as indicated in footnote to table of daily discharge. Open-water records, good; winter records, fair.

The following discharge measurements were made:

January 30, 1926: Gage height, 1.95 feet; ³ discharge, 124 second-feet.

February 17, 1926: Gage height, 1.93 feet; ³ discharge, 153 second-feet.

June 18, 1926: Gage height, 2.94 feet; discharge, 1,110 second-feet.

Daily discharge, in second-feet, of Little Wolf River at Royalton, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	501	392	318	180	150	195	740	900	1,010	318	223	407
2.....	560	352	332	185	122	170	770	830	1,090	342	213	376
3.....	620	318	342	185	130	170	800	770	1,300	342	251	366
4.....	620	352	318	180	130	185	830	830	1,300	356	270	417
5.....	620	381	305	155	122	170	865	770	1,130	342	276	501
6.....	620	381	295	170	140	180	935	830	1,130	284	284	650
7.....	501	366	295	155	160	170	1,010	740	1,010	297	318	444
8.....	402	417	320	140	160	170	1,130	770	970	284	356	461
9.....	366	456	275	155	170	195	1,300	740	865	260	366	392
10.....	342	454	275	160	160	185	1,480	650	740	251	328	376
11.....	267	417	295	155	135	180	1,570	530	650	318	297	444
12.....	276	456	260	150	155	155	1,480	461	710	366	284	935
13.....	342	402	225	160	150	170	1,390	444	900	234	276	800
14.....	434	381	225	160	155	185	1,210	428	1,130	207	251	830
15.....	366	366	215	150	155	180	970	376	1,390	223	245	800
16.....	366	352	215	160	150	225	970	356	1,390	219	260	865
17.....	297	392	205	160	155	225	935	376	1,390	194	276	830
18.....	392	392	185	160	170	245	830	392	1,130	200	407	770
19.....	381	381	195	155	160	225	830	342	970	194	444	935
20.....	444	402	195	160	155	275	900	392	1,090	183	970	865
21.....	392	297	205	180	170	275	830	501	1,050	189	1,390	1,050
22.....	366	305	215	150	160	320	865	530	970	183	1,210	1,010
23.....	352	297	185	140	170	365	900	650	680	186	1,300	1,130
24.....	352	366	185	130	170	415	935	620	650	189	1,390	1,390
25.....	352	366	205	130	155	470	900	740	680	200	1,210	1,480
26.....	417	366	195	135	185	530	935	770	650	189	935	1,210
27.....	402	381	215	150	195	590	1,090	800	620	200	650	970
28.....	417	366	205	120	205	620	1,130	800	620	213	530	935
29.....	402	381	215	140	-----	650	970	900	461	207	620	770
30.....	366	342	215	140	-----	680	935	865	392	213	501	710
31.....	402	-----	180	155	-----	710	-----	900	-----	219	417	-----

NOTE.—Stage-discharge relation affected by ice Dec. 6 to Apr. 10; discharge estimated on basis of gage heights corrected for effect of ice by means of two discharge measurements, observer's notes, and weather records.

³ Stage-discharge relation affected by ice.

Monthly discharge of Little Wolf River at Royalton, Wis., for the year ending September 30, 1926

[Drainage area, 485 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	620	267	417	0.860	0.99
November.....	456	267	375	.773	.86
December.....	342	180	242	.499	.58
January.....	185	120	155	.320	.37
February.....	205	122	157	.324	.34
March.....	710	155	306	.631	.73
April.....	1,570	740	1,010	2.08	2.32
May.....	900	342	645	1.33	1.63
June.....	1,390	392	936	1.93	2.15
July.....	366	153	245	.505	.58
August.....	1,390	213	540	1.11	1.28
September.....	1,480	366	771	1.59	1.77
The year.....	1,570	120	483	.996	13.50

WAUPACA RIVER NEAR WAUPACA, WIS.

LOCATION.—Near north line of sec. 1. T. 21 N., R. 12 E. at Waupaca County highway bridge, 4 miles downstream from Waupaca, Waupaca County.

DRAINAGE AREA.—305 square miles (measured on Wisconsin Geological and Natural History Survey map, edition of 1911).

RECORDS AVAILABLE.—October 18, 1917, to September 30, 1926. June 28, 1916, to October 18, 1917, records were obtained at a station near Weyauwega, 1 mile downstream from present site.

GAGE.—Chain gage bolted to upstream handrail of bridge; read by Lillian Radtke.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed consists of fine gravel and clay; free from vegetation. Control not well defined and is not permanent. Right bank is high and is seldom overflowed; left bank of medium height and is overflowed at a stage of about 6 feet.

ICE.—Stage-discharge relation seriously affected by ice.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 1,060 second-feet March 24 (Gage height, 5.05 feet; stage-discharge relation affected by ice); minimum discharge, 50 second-feet January 22 and 28 (stage-discharge relation affected by ice).

1917-1926: Maximum stage recorded, 5.6 feet March 17, 1919 (discharge, 2,600 second-feet); minimum discharge, 50 second-feet January 22 and 28 1926 (stage-discharge relation affected by ice.)

REGULATION.—Power plants at Waupaca and above on the main stream and also several on Crystal River may cause slight fluctuation during low stages. The pondage at the various plants is small so that mean monthly discharge represents closely the natural flow.

ACCURACY.—Stage-discharge relation changed slightly. Rating curve fairly well defined between 150 and 750 second-feet. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage heights to rating table except for period when stage-discharge relation was affected by ice, for which it was determined as indicated in footnote to table of daily discharge. Open-water records, fair; winter records subject to considerable error.

Discharge measurements of Waupaca River near Waupaca, Wis., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 11.....	1. 69	196	June 19.....	1. 95	262
Feb. 1.....	• 2. 87	136	Sept. 18.....	2. 08	320
Feb. 16.....	• 3. 04	158			

• Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Waupaca River near Waupaca, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	316	198	200	170	170	255	285	285	285	172	212	212
2.....	332	198	185	200	170	185	285	270	270	147	240	212
3.....	270	212	185	160	170	225	285	255	270	185	198	240
4.....	316	226	185	200	135	240	285	300	240	198	198	226
5.....	316	240	185	185	135	285	364	300	226	145	212	255
6.....		240	200	185	185	200	381	285	240	185	270	262
7.....	270	226	200	170	210	225	316	270	240	167	240	270
8.....	226	225	200	145	185	145	348	270	212	172	212	255
9.....	240	225	225	160	170	270	382	212	212	192	198	270
10.....	240	210	225	145	200	255	415	240	226	212	240	226
11.....	152	212	225	160	145	240	398	226	198	185	226	240
12.....	226	226	225	100	185	210	381	212	198	170	172	270
13.....	226	212	225	145	185	210	364	212	226	118	185	332
14.....	226	212	240	110	200	270	348	226	596	167	192	316
15.....	212	198	240	135	170	225	348	240	450	147	198	255
16.....	212	198	255	145	145	255	316	240	332	185	185	364
17.....	212	226	210	170	185	255	348	240	316	112	172	332
18.....	226	198	200	160	225	225	300	240	300	118	128	300
19.....	172	198	270	160	225	210	300	212	270	167	157	285
20.....	198	198	270	145	225	210	285	198	240	226	198	270
21.....	185	212	285	145	135	225	270	212	255	154	521	285
22.....	198	198	240	50	125	795	255	285	255	185	558	348
23.....	198	200	270	135	170	880	270	270	226	185	485	348
24.....	198	210	270	110	185	1,060	300	255	198	118	348	485
25.....	226	212	255	135	180	715	432	240	226	145	285	398
26.....	226	212	100	110	170	560	381	332	212	172	300	332
27.....	226	212	125	145	255	450	332	364	212	185	240	316
28.....	225	200	185	50	270	415	316	348	198	142	212	300
29.....	255	200	185	100	-----	332	300	327	212	160	212	270
30.....	300	200	160	145	-----	348	255	306	198	170	226	255
31.....	255	-----	170	160	-----	285	-----	285	-----	198	212	-----

NOTE.—Stage-discharge relation affected by ice Nov. 8-10, 23, 24, 28-31, Dec. 1, 2, Dec. 4 to Mar. 26, Apr. 1, and 2; discharge estimated on basis of gage heights corrected for ice effect by means of two discharge measurements, observer's notes, and weather records. Gage not read Nov. 8, Apr. 9, 11, 12, May 2, 29, 30, July 9, 25, Aug. 14, and Sept. 6; discharge interpolated.

*Monthly discharge of Waupaca River near Waupaca, Wis., for the year ending
September 30, 1926*

[Drainage area, 305 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	332	152	238	0.780	0.90
November.....	240	198	211	.692	.77
December.....	285	100	213	1.98	.80
January.....	200	50	143	.469	.54
February.....	270	125	182	.597	.62
March.....	1,060	145	344	1.13	1.30
April.....	432	255	328	1.08	1.20
May.....	364	198	263	.862	.99
June.....	596	198	258	.846	.94
July.....	226	112	167	.548	.63
August.....	558	128	246	.807	.93
September.....	485	212	291	.954	1.06
The year.....	1,060	50	241	.790	10.68

MILWAUKEE RIVER NEAR MILWAUKEE, WIS.

LOCATION.—In NW. $\frac{1}{4}$ sec. 5, T. 7 N., R. 22 E., immediately above an old quarry near north limits of Milwaukee, Milwaukee, County, half a mile below concrete highway bridge, 1 mile above Mineral Spring Road, and $5\frac{1}{2}$ miles above confluence with Menominee River.

DRAINAGE AREA.—661 square miles (measured on Wisconsin Geological and Natural History Survey map, edition of 1911).

RECORDS AVAILABLE.—April 30, 1914, to September 30, 1926.

GAGE.—Slope gage on left bank; read by Mrs Richard Kuehl.

CHANNEL AND CONTROL.—Bed of heavy gravel at gage. About 200 feet below gage is a rock outcrop with a 4-foot fall which forms control; changed somewhat the later part of summer of 1924, by breaking down of a small portion of the rock ledge. Below control the river flows in an artificial channel, which at one time was a quarry. Left bank above and below control high and not subject to overflow; right bank above control of medium height; below control right bank is artificial and of such height as to be seldom overflowed.

DISCHARGE MEASUREMENTS.—Made by wading, from railroad bridge one-fourth mile below gage, or from Folsom Street Bridge 2 miles below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.96 feet at 3 p. m. March 25 (discharge, 4,540 second-feet); minimum stage, 0.34 foot July 19, August 29 and 30 (discharge, 60 second feet).

1914–1926: Maximum stage recorded, 9.00 feet March 20, 1918 (discharge, 15,100 second-feet); minimum discharge, about 26 second-feet August 2, 1916.

ICE.—Stage-discharge relation affected by ice.

REGULATION.—No diurnal fluctuation at gage resulting from operation of small plants above.

ACCURACY.—Stage-discharge relation probably permanent. Rating curve fairly well defined. Gage read to quarter-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, except during period when stage-discharge relation was affected by ice. Records fair.

Discharge measurements of Milwaukee River near Milwaukee, Wis., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Mar. 9.....	<i>Feet</i> 1.42	<i>Sec.-ft.</i> 152	Aug. 10.....	<i>Feet</i> 0.40	<i>Sec.-ft.</i> 69.9	Aug. 10.....	<i>Feet</i> 0.50	<i>Sec.-ft.</i> 94.9
May 27.....	2.32	1,460	Do.....	.46	84.2	Do.....	.50	91.1

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Milwaukee River near Milwaukee, Wis., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	120	188	157	230	365	1,290	145	383	383	145	113	78
2.....	130	188	157	250	250	1,040	209	329	339	113	98	78
3.....	130	170	136	250	340	820	228	405	255	209	98	118
4.....	136	157	157	292	340	720	580	665	243	151	98	108
5.....	164	246	394	450	365	675	469	580	209	139	108	118
6.....	112	250	297	515	365	394	620	540	174	108	103	98
7.....	154	223	258	480	340	292	810	329	243	118	98	124
8.....	190	223	480	394	315	195	2,250	355	255	98	98	171
9.....	145	174	450	365	315	145	2,610	286	264	98	67	124
10.....	120	188	340	340	270	212	2,790	264	228	113	67	142
11.....	130	206	223	292	292	230	2,430	247	192	118	98	139
12.....	145	223	223	292	315	365	1,820	192	181	118	86	145
13.....	125	238	394	250	250	195	1,290	192	216	93	93	216
14.....	109	279	550	250	250	178	1,040	228	247	78	86	174
15.....	125	258	223	250	250	104	710	209	665	98	78	145
16.....	112	238	266	292	212	145	665	264	1,580	86	67	161
17.....	120	188	340	270	230	230	580	247	1,160	73	78	174
18.....	120	188	340	250	270	292	505	264	1,100	67	67	192
19.....	120	188	258	212	340	630	383	247	865	60	67	192
20.....	104	174	188	212	315	2,250	264	286	383	67	67	209
21.....	95	157	157	212	292	2,000	247	286	371	78	67	174
22.....	112	188	223	212	340	1,740	286	383	329	78	93	181
23.....	120	188	188	230	212	2,430	383	405	286	86	86	168
24.....	107	181	174	230	230	2,610	383	383	247	98	98	278
25.....	130	174	157	93	1,820	4,540	355	329	232	98	98	310
26.....	184	188	160	270	1,500	3,160	383	1,820	228	87	86	255
27.....	202	223	178	250	1,040	2,790	580	1,910	209	93	78	247
28.....	238	157	195	250	1,660	1,360	505	1,360	151	98	67	247
29.....	223	107	212	212	-----	920	665	1,040	139	93	60	202
30.....	238	157	250	195	-----	580	383	665	216	98	60	181
31.....	216	-----	270	250	-----	505	-----	580	-----	108	89	-----

NOTE.—Stage-discharge relation affected by ice Dec. 26 to Feb. 24 and Mar. 6-19; discharge estimated on basis of gage heights corrected for effect of ice by means of one discharge measurement, observer's notes, and weather records.

Monthly discharge of Milwaukee River near Milwaukee, Wis., for the year ending September 30, 1926

[Drainage area, 661 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	238	95	142	0.215	0.25
November.....	258	107	197	.298	.33
December.....	550	136	258	.390	.45
January.....	515	93	275	.416	.48
February.....	1,820	212	476	.707	.74
March.....	4,540	104	1,070	1.62	1.87
April.....	2,790	145	819	1.24	1.38
May.....	1,910	192	506	.766	.88
June.....	1,580	139	386	.584	.65
July.....	209	60	102	.154	.18
August.....	113	60	84.4	.128	.15
September.....	310	78	172	.259	.29
The year.....	4,540	60	372	.563	7.65

LITTLE CALUMET RIVER AT HARVEY, ILL.

LOCATION.—In NW. $\frac{1}{4}$ sec. 9, T. 36 N., R. 14 E., at Illinois Central Railroad bridge 800 feet north of railroad station at One hundred and forty-seventh Street, Harvey, Cook County, 3.8 miles above point of diversion to the Calumet-Sag Channel of the Sanitary District of Chicago, and 11 miles above mouth of river.

DRAINAGE AREA.—570 square miles (measured on base map).

RECORDS AVAILABLE.—October 1, 1916, to September 30, 1926. Daily gage heights were collected by Sanitary District of Chicago, June 10, 1907, to September 30, 1916.

GAGE.—Vertical staff gage attached to bridge pier; read by Mrs. H. Wurtman.

DISCHARGE MEASUREMENTS.—Made from highway bridge 2,000 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of clay and gravel. Low-water control of gravel and boulders; practically permanent. Banks are not overflowed.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.15 feet April 10 (discharge, 2,330 second-feet); minimum stage, 2.82 feet October 2, 3, and 6 (discharge, 37 second-feet).

1907–1926: Maximum stage recorded, 13.4 feet March 6, 1908 (discharge not determined). Minimum discharge, 1916–1926, estimated at less than 25 second-feet, occurred in January, 1918.

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSION.—The flood discharge and part of the low-water flow from the upper 330 square miles of drainage area of Little Calumet River lying in Indiana has been diverted since the summer of 1925 through a drainage ditch carrying the flow directly to Lake Michigan.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table except for ice periods. Records good for open water, fair for period of ice effect.

The following discharge measurements were made:

March 19, 1926: Gage height, 4.05 feet; discharge, 317 second-feet.

July 12, 1926: Gage height, 3.26 feet; discharge, 99.4 second-feet.

August 31, 1926: Gage height, 2.93 feet; discharge, 48.6 second-feet.

Daily discharge, in second-feet, of Little Calumet River at Harvey, Ill., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	39	71	92			860	431	234	74	62	65	45
2.....	37	68	92			725	500	181	59	62	65	49
3.....	37	65	92			860	635	181	68	74	62	119
4.....	42	65	96			770	680	169	68	123	56	108
5.....	39	59	152			590	725	146	62	92	54	324
6.....	37	56	134			590	770	134	56	81	49	220
7.....	44	62	207			508	1,040	123	51	68	45	169
8.....	42	134	157			431	1,370	112	45	65	42	134
9.....	44	123	157			412	2,200	108	59	59	42	123
10.....	74	123	157	60	150	324	2,330	96	49	220	42	194
11.....	65	123	134			292	1,720	92	59	157	42	157
12.....	49	125	125			234	1,320	88	207	112	42	123
13.....	46	262	157			262	1,130	81	308	100	42	119
14.....	49	248	112			207	995	74	860	85	234	108
15.....	49	292	112			181	860	78	1,130	74	324	130
16.....	46	358	100			157	770	74	680	68	181	248
17.....	65	324	96			157	680	65	860	54	134	220
18.....	68	292	96		468	234	590	65	508	51	123	157
19.....	56	292	85		725	292	548	194	412	51	100	123
20.....	54	277	74		548	548	508	134	308	49	88	104
21.....	59	262	74		508	508	468	112	248	42	81	92
22.....	65	248	81		590	431	431	134	169	104	85	96
23.....	65	220	71		590	431	394	123	146	220	62	88
24.....	65	194			508	394	394	112	123	169	65	770
25.....	71	181		235	1,570	394	431	123	104	134	59	1,080
26.....	71	169			2,260	358	431	112	92	134	54	770
27.....	81	134	45		1,220	324	376	112	81	123	46	508
28.....	81	123			725	292	324	102	71	108	46	431
29.....	78	112				262	308	85	59	92	42	358
30.....	74	92				262	262	74	59	81	42	324
31.....	71					292		71		71	49	

NOTE.—Discharge estimated Dec. 24 to Feb. 17 on account of ice, from gage-height record, results of discharge measurement, observer's notes, and weather records. Braced figures give mean discharge for periods indicated.

Monthly discharge of Little Calumet River at Harvey, Ill., for the year ending September 30, 1926

[Drainage area, 570 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	81	37	56.9	0.100	0.12
November.....	358	56	172	.302	.34
December.....	207		97.2	.171	.20
January.....			133	.233	.27
February.....	2,260		438	.768	.80
March.....	860	157	406	.712	.82
April.....	2,330	262	790	1.39	1.55
May.....	234	65	116	.204	.24
June.....	1,130	45	236	.414	.46
July.....	220	42	96.3	.169	.19
August.....	324	42	79.5	.139	.16
September.....	1,080	45	250	.439	.49
The year.....	2,330	37	236	.414	5.64

ST. JOSEPH RIVER AT MOTTVILLE, MICH.

LOCATION.—In NE. $\frac{1}{4}$ sec. 6, T. 8 S., R. 12 W., at hydroelectric plant of Michigan Gas & Electric Co. at Mottville, St. Joseph County, and 5 miles below mouth of Fawn River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 13, 1923, to September 30, 1926.

GAGE.—Float gage in tailwater at power plant; read by plant attendants. Zero of gage 759.5 feet above mean sea level.

DISCHARGE MEASUREMENTS.—Made by wading 200 feet below gage or from concrete highway bridge 3,200 feet below gage.

CHANNEL AND CONTROL.—Channel straight for a quarter of a mile above and below dam and gage. Banks high. Control for low water is riffle composed of gravel and small boulders 300 feet below dam. At medium and high stages water flows in secondary channel around small island just below dam. Control for medium and high stages is long stretch of channel below gage. Zero flow would occur at gage height -2.3 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.4 feet at 11 a. m. April 20 (discharge, 8,250 second-feet); minimum discharge, 41 second-feet from 1 to 7 a. m. July 22 (gage height, -1.75 feet).

1924-1926: Maximum and minimum discharge same as given above.

ICE.—Stage-discharge relation not seriously affected by ice.

REGULATION.—Flow regulated for power purposes at gage and possibly at other points above station.

ACCURACY.—Stage-discharge relation changed during high water on April 12. Rating curves well defined. Gage read to hundredths every half hour day and night up to March 9; hourly thereafter. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

COOPERATION.—Gage-height record furnished by Michigan Gas & Electric Co.

Discharge measurements of St. Joseph River at Mottville, Mich., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 21.....	1.36	2,790	June 11.....	0.99	2,260
Apr. 7.....	2.59	4,620	July 23.....	.65	1,670

Daily discharge, in second-feet, of St. Joseph River at Mottville, Mich., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	915	960	1,930	1,570	1,570	4,640	3,430	1,120	1,810	1,300	420	1,420
2.....	960	1,570	1,810	1,150	1,690	4,320	3,720	955	2,070	1,360	810	1,180
3.....	1,050	1,460	1,570	960	1,570	3,570	4,320	1,180	1,940	1,180	1,010	1,120
4.....	660	1,460	1,690	1,350	1,570	3,570	4,480	1,300	1,940	855	725	765
5.....	1,250	1,350	1,810	1,460	1,570	4,020	4,320	905	1,480	810	685	695
6.....	1,300	1,350	1,460	1,300	1,350	3,430	4,020	1,620	1,360	1,420	650	1,010
7.....	1,350	1,300	1,810	1,350	1,250	2,870	4,320	1,240	1,680	1,360	725	1,120
8.....	1,460	870	1,150	1,350	1,690	2,320	4,800	1,810	1,620	1,120	450	1,180
9.....	1,460	1,930	1,690	1,250	1,570	2,190	5,130	1,360	1,620	955	650	1,420
10.....	1,300	1,810	1,570	960	1,460	1,980	5,470	1,550	1,620	810	765	1,550
11.....	960	1,570	1,570	1,350	1,300	2,320	5,470	1,810	1,420	615	855	1,240
12.....	1,690	1,810	1,350	1,200	1,460	2,460	5,470	1,420	1,420	955	725	1,060
13.....	1,570	1,810	1,460	1,350	1,300	1,690	5,040	1,360	1,620	1,360	545	1,180
14.....	1,250	1,690	1,460	960	915	1,570	4,870	1,300	1,810	905	580	1,420
15.....	1,200	2,190	1,690	1,050	1,250	2,060	4,020	1,180	2,350	650	420	1,360

Daily discharge, in second-feet, of St. Joseph River at Mottville, Mich., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	1,250	2,590	1,690	1,150	1,460	2,320	3,860	1,240	2,980	1,010	1,120	1,620
17.....	1,050	2,450	1,570	785	1,350	1,810	3,540	1,680	2,630	615	1,360	1,620
18.....	1,050	2,450	1,460	1,250	1,460	1,690	2,630	1,680	2,780	512	1,180	1,420
19.....	1,300	2,450	1,250	1,690	1,460	1,930	2,780	1,620	2,630	905	1,010	810
20.....	1,460	2,450	960	1,930	1,350	2,060	2,780	1,360	1,940	725	955	1,810
21.....	1,460	2,590	1,460	2,320	1,350	2,870	2,630	1,550	2,210	650	1,480	1,620
22.....	1,100	2,450	1,350	2,320	1,810	3,430	2,070	1,240	1,940	650	810	1,480
23.....	1,300	2,590	1,350	1,570	1,570	3,570	1,810	1,420	1,810	810	1,480	1,480
24.....	1,150	2,870	1,300	1,000	1,460	4,020	1,680	1,940	1,680	615	1,680	1,300
25.....	960	2,320	915	1,690	2,190	4,020	1,810	1,810	1,680	450	1,420	1,620
26.....	1,460	2,060	1,100	1,810	3,430	4,020	2,210	1,810	1,300	955	1,480	1,180
27.....	1,570	2,190	700	1,810	4,020	4,170	2,350	1,810	905	1,010	1,420	2,630
28.....	1,460	2,190	1,150	2,060	4,020	3,570	1,810	1,940	1,620	848	1,300	2,350
29.....	1,460	1,350	1,050	1,810	-----	3,720	1,940	1,810	1,360	685	685	1,940
30.....	1,570	1,690	1,050	1,460	-----	3,290	1,120	1,420	1,420	725	1,360	2,350
31.....	1,350	-----	1,100	870	-----	3,290	-----	1,680	-----	480	1,010	-----

NOTE.—Gage not read July 28; discharge interpolated.

Monthly discharge of St. Joseph River at Mottville, Mich., for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maxi- mum	Mini- mum	Mean		Maxi- mum	Mini- mum	Mean
October.....	1,690	660	1,270	May.....	1,940	950	1,490
November.....	2,870	870	1,930	June.....	2,930	905	1,820
December.....	1,930	700	1,400	July.....	1,420	450	881
January.....	2,320	785	1,420	August.....	1,680	420	960
February.....	4,020	915	1,730	September.....	2,630	685	1,430
March.....	4,640	1,570	2,990	The year.....	5,470	420	1,730
April.....	5,470	1,120	3,460				

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 22, 1903, to December 31, 1909; January 1, 1912, to September 30, 1926.

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

Daily discharge, in second-feet, of Tittabawassee River at Freeland, Mich., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	592	620	815	700	770	1,300	2,840	2,840	2,840	1,050	368	392
2	592	592	786	700	718	1,340	2,400	2,270	2,400	870	344	392
3	592	540	760	930	700	1,300	2,190	2,150	2,150	760	319	416
4	592	513	786	730	648	1,110	1,940	2,020	1,820	700	295	990
5	592	513	700	700	577	948	2,840	1,940	2,190	620	295	930
6	700	489	730	700	845	928	3,810	1,740	1,640	513	295	465
7	675	489	730	718	845	866	5,000	1,600	1,820	465	319	513
8	675	489	760	735	815	735	6,360	1,270	2,100	440	368	540
9	646	513	928	718	815	577	7,220	930	2,000	392	392	592
10	620	513	1,110	700	786	495	8,580	1,240	1,940	368	416	540
11	592	930	1,110	681	760	430	8,460	1,780	1,600	344	392	566
12	592	1,240	928	663	730	415	9,140	1,240	1,470	368	319	465
13	566	1,600	718	577	700	430	7,680	1,170	1,240	344	368	465
14	566	1,980	718	577	700	545	6,300	930	1,450	319	392	489
15	592	2,230	663	596	730	446	4,750	786	4,350	319	392	566
16	620	2,190	648	612	760	540	3,620	646	8,100	295	392	700
17	646	1,780	612	577	815	465	3,280	675	6,590	319	416	465
18	566	1,480	612	845	845	440	2,880	646	5,800	319	440	540
19	489	930	596	760	870	489	2,790	675	4,450	295	440	540
20	440	900	577	760	900	1,600	2,610	930	3,610	295	465	513
21	416	870	577	700	900	4,340	2,440	1,240	3,140	319	489	513
22	416	900	596	730	930	6,360	2,020	1,600	2,790	295	494	513
23	440	900	648	700	786	10,600	1,600	5,320	1,600	295	489	513
24	513	870	735	577	566	10,400	1,380	5,420	1,520	319	489	540
25	566	786	858	599	930	10,600	1,600	5,180	1,280	295	465	1,340
26	592	700	866	630	948	6,590	2,150	4,450	1,080	319	416	1,700
27	592	700	838	681	1,040	5,930	2,880	3,480	1,050	319	513	1,020
28	620	900	787	770	1,160	4,650	3,280	3,100	1,050	344	489	1,340
29	592	900	718	787	-----	3,760	3,760	1,600	930	344	489	990
30	620	870	718	821	-----	3,280	3,280	1,520	990	368	465	730
31	646	-----	718	787	-----	3,060	-----	1,200	-----	368	440	-----

Monthly discharge of Tittabawassee River at Freeland, Mich., for the year ending September 30, 1926

[Drainage area, 2,530 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	700	416	579	0.229	0.26
November	2,230	489	958	.379	.42
December	1,110	577	753	.300	.35
January	930	577	702	.277	.32
February	1,160	566	807	.319	.33
March	10,600	415	2,740	1.08	1.24
April	9,140	1,380	3,970	1.57	1.75
May	5,420	646	1,990	.787	.91
June	8,100	930	2,500	.988	1.10
July	1,050	295	419	.166	.19
August	513	295	409	.162	.19
September	1,700	392	676	.267	.30
The year	10,600	295	1,370	.541	7.36

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

STREAMS TRIBUTARY TO LAKE ERIE

HURON RIVER AT BARTON, MICH.

LOCATION.—At dam and power plant of Eastern Michigan Edison Co. at Barton, near Ann Arbor.

DRAINAGE AREA.—723 square miles.

RECORDS AVAILABLE.—January 1, 1914, to September 30, 1926.

DETERMINATION OF DISCHARGE.—Flow computed from records of operation of power plant, the flow through undersluice during floods, and the depth of flow over dam. Flow through power house is determined from a calibration of the turbines by means of a specially constructed weir, the crest of which was formed by a $\frac{1}{4}$ by 5 inch milled plate, the discharge over the weir being computed by Bazin's formula for free overflow. Greater part of flood water passes through undersluices in power-house foundations, and this flow is determined from a weir calibration of the sluices. Water flows over crest of dam only a few days during year.

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

Daily discharge, in second-feet, of Huron River at Barton, Mich., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	281	370	595	288	353	1,020	2,350	725	307	105	182	134
2.....	466	317	527	292	360	1,020	2,040	706	335	128	182	159
3.....	306	398	546	289	361	911	1,990	587	277	149	146	113
4.....	538	326	568	292	335	869	1,730	620	284	146	151	156
5.....	475	346	808	262	298	821	1,980	585	278	133	163	214
6.....	638	351	659	296	421	769	2,010	558	267	130	181	205
7.....	449	408	662	294	275	809	2,120	570	292	110	179	229
8.....	487	740	604	262	320	664	2,830	504	270	119	198	162
9.....	550	668	580	296	309	677	2,950	496	269	111	162	216
10.....	538	615	478	261	297	720	2,420	459	244	183	144	175
11.....	376	511	599	267	238	703	2,230	400	243	91	94	196
12.....	462	637	547	200	296	739	2,130	401	254	116	182	271
13.....	444	993	544	251	281	596	2,030	385	218	121	176	308
14.....	464	1,010	552	230	298	616	1,930	350	278	142	272	236
15.....	375	967	474	262	254	562	1,830	374	290	113	194	371
16.....	426	902	470	198	248	575	1,650	337	303	135	183	436
17.....	403	882	423	325	363	476	1,550	334	298	89	216	345
18.....	277	799	306	684	390	719	1,300	330	273	125	304	340
19.....	359	895	403	757	299	937	1,210	347	217	110	121	344
20.....	374	914	401	719	395	2,040	1,130	314	268	174	196	315
21.....	406	903	301	608	402	1,800	980	336	198	32	201	259
22.....	337	893	356	338	351	1,640	980	444	209	116	210	271
23.....	338	800	296	468	382	2,120	978	358	221	111	203	364
24.....	271	800	288	384	483	2,240	977	362	208	110	274	583
25.....	345	683	292	472	1,380	2,440	977	363	201	111	111	797
26.....	380	761	294	417	1,350	2,390	977	366	170	100	190	766
27.....	346	693	154	325	1,060	2,130	816	356	140	102	184	620
28.....	400	684	294	306	1,090	2,000	864	322	133	114	178	582
29.....	417	636	245	301	-----	1,880	783	330	141	111	140	476
30.....	395	555	243	417	-----	1,740	763	312	154	102	165	501
31.....	383	-----	247	304	-----	2,090	-----	276	-----	110	130	-----

Monthly discharge of Huron River at Barton, Mich., for the year ending September 30, 1926

[Drainage area, 723 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	638	271	410	0.567	0.65
November.....	1,010	317	682	.943	1.05
December.....	808	154	444	.614	.71
January.....	757	198	357	.494	.57
February.....	1,380	238	460	.636	.66
March.....	2,440	476	1,250	1.73	1.99
April.....	2,950	763	1,620	2.24	2.50
May.....	725	276	426	.589	.68
June.....	335	133	241	.333	.37
July.....	183	32	118	.163	.19
August.....	304	94	181	.250	.29
September.....	797	113	337	.466	.52
The year.....	2,950	32	542	.750	10.18

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

MAUMEE RIVER AT ANTWERP, OHIO

LOCATION.—1,000 feet below highway bridge 1 mile north of Antwerp, Paulding County, and 7 miles below State boundary.

DRAINAGE AREA.—2,050 square miles (revised; area in Ohio measured on topographic maps, area in Michigan and Indiana measured on post-route maps).

RECORDS AVAILABLE.—September 1, 1921, to September 30, 1926.

GAGE.—Au water-stage recorder on left bank 1,000 feet below bridge.

DISCHARGE MEASUREMENTS.—Made from bridge above gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 500 feet above gage and 1,000 feet below. One channel at all stages. Left bank high; right bank fairly high. Control for low water is rock and gravel riffle $1\frac{1}{2}$ miles below gage; control for high water is long stretch of river below gage. Zero flow would occur at zero gage height.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 17.5 feet at 6 p. m. April 10 (discharge, about 15,600 second-feet); minimum stage, 1.03 feet July 31 and Aug. 1 (discharge, 156 second-feet).

1921–1926: Maximum stage recorded on April 10, 1926; minimum stage, 0.78 foot June 27 and 28, 1925 (discharge, 82 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation for low water changed during high water November 14–16; affected by ice. Rating curves well defined between 150 and 10,000 second-feet. Operation of water-stage recorder satisfactory except as noted in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained from gage-height graph by inspection or for days when there was considerable range in stage, by averaging discharges for shorter intervals. Records good except for periods of ice effect and for period when recorder was not operating, for which they are fair.

The following discharge measurements were made:

July 25, 1926: Gage height, 1.11 feet; discharge, 171 second-feet.

August 30, 1926: Gage height, 2.02 feet; discharge, 463 second-feet.

Daily discharge, in second-feet, of Maumee River at Antwerp, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	525	445	950	1,000	1,000	6,000	5,700	1,050	765	230	326	450
2	485	410	900			5,600	5,800	1,000	669	230	4,080	685
3	428	375	850			4,910	5,700	900	615	230	3,240	1,746
4	375	375	800			4,370	5,300	804	530	230	1,908	2,100
5	410	358	1,000			3,300	5,700	765	430	230	1,150	3,060
6	745	358	2,030	400	1,210	2,100	6,300	669	392	216	750	4,640
7	745	308	2,170		1,000	1,820	6,760	669	358	230	805	4,730
8	610	1,250	1,820		1,100	1,960	12,900	615	340	243	660	4,100
9	610	3,860	1,570		1,000	1,510	14,500	570	322	273	430	4,100
10	428	3,500	1,450		950	1,050	15,500	530	305	590	322	4,010
11	375	2,670	1,210	5,800	850	900	15,100	490	305	900	273	3,650
12	340	2,370	1,050		705	705	13,700	470	358	660	273	3,140
13	308	5,410	900		530	570	10,900	450	375	782	832	2,660
14	293	7,050	850		855	490	7,050	430	640	1,660	2,340	2,240
15	278	7,050	800		1,510	430	4,010	410	1,680	1,000	2,590	1,890
16	263	7,050	705	160	1,210	392	2,660	392	1,960	615	1,750	2,310
17	278	6,300	615		1,050	322	2,030	392	1,570	410	1,510	2,660
18	263	5,700	250		1,610	342	1,570	392	1,150	358	1,450	2,170
19	263	5,100	200		2,820	1,660	1,330	450	800	322	1,330	1,630
20	278	4,730	250		2,520	3,380	1,150	570	615	273	1,330	1,510
21	278	4,190	615	5,000	2,030	4,190	1,050	530	490	243	3,500	1,890
22	278	3,560	570	3,920	1,890	3,740	950	470	410	204	1,400	1,630
23	278	2,980		2,660	2,030	4,910	1,100	470	358	192	900	5,040
24	263	2,380		2,100	2,030	5,400	1,270	470	322	181	700	12,400
25	263	1,890		1,890	7,040	5,800	1,270	450	289	170	700	13,200
26	248	1,510	500	1,630	9,660	5,400	1,150	450	273	170	500	13,000
27	263	1,270		1,150	9,660	5,800	1,100	490	289	170	400	11,800
28	248	1,100		1,150	7,710	5,400	1,150	750	273	170	400	10,000
29	293	699				5,400	1,210	850	243	160	400	8,820
30	375	743				5,300	1,100	850	243	160	450	7,270
31	445					5,200		705		160	530	

NOTE.—Stage-discharge relation affected by ice Dec. 18-20, Dec. 23 to Jan. 19, and Jan. 29 to Feb. 4. Recorder not operating Aug. 21-29. Discharge during these periods estimated from study of weather records and records of flow of Maumee River near Defiance.

Monthly discharge of Maumee River at Antwerp, Ohio, for the year ending September 30, 1926

[Drainage area, 2,050 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	745	248	372	0.181	0.21
November	7,050	308	2,830	1.38	1.54
December	2,170		742	.362	.42
January	5,800		1,110	.541	.62
February	9,660	530	2,380	1.16	1.21
March	6,000	322	3,170	1.55	1.79
April	15,500	950	5,170	2.52	2.81
May	1,050	392	594	.290	.33
June	1,960	243	577	.281	.31
July	1,660	160	376	.183	.21
August	4,080	273	1,200	.585	.67
September	13,200	450	4,620	2.25	2.51
The year	15,500	160	1,910	.932	12.63

MAUMEE RIVER NEAR DEFIANCE, OHIO

LOCATION.—In NW. $\frac{1}{4}$ sec. 22, T. 4 N., R. 5 E., at Independence, 5 miles east of Defiance, Defiance County, and mouth of Auglaize River.

DRAINAGE AREA.—5,530 square miles (area in Ohio measured on topographic maps, area in Michigan and Indiana measured on post-route maps).

RECORDS AVAILABLE.—November 1, 1924, to September 30, 1926.

GAGE.—Au water-stage recorder on left bank just above Independence Dam; inspected by Adam Rose. Zero of gage is 659.12 feet above mean sea level.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge at Florida, 5 miles below gage.

CHANNEL AND CONTROL.—Channel straight for 1 mile above and below gage. Banks high and not subject to overflow. Control for all stages is concrete-dam, rebuilt in 1924. Zero flow would occur at about gage height 1.1 feet.

EXTREMES OF DISCHARGE.—Maximum combined daily discharge of river and canal during year, about 64,600 second-feet April 9; minimum combined daily discharge, 247 second-feet July 31.

ICE.—Stage-discharge relation not seriously affected by ice.

DIVERSIONS.—Miami & Erie Canal diverts water past station. See record of flow of canal on pages 60 and 61.

REGULATION.—Flow at low water affected by regulation of Auglaize River at dam of Toledo Edison Co. near Defiance.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating-curve well defined below 21,000 second-feet. Operation of water-stage-recorder satisfactory except as noted in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage-height obtained from gage-height graph by inspection or, for days of considerable range in stage, by averaging discharge for shorter intervals. Records excellent.

Discharge measurements of Maumee River near Defiance, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	* Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 24.....	2.90	4,310	July 25.....	1.48	177
Mar. 26.....	5.12	16,900	Aug. 30.....	1.68	359

Daily discharge, in second-feet, of Maumee River near Defiance, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	660	532	1,820	298	2,070	16,600	13,800	1,130	912	190	310	622
2.....	496	478	2,400	325	2,570	12,500	15,200	1,150	824	190	3,500	1,020
3.....	496	415	1,850	310	2,570	9,450	18,100	1,170	763	190	3,880	2,740
4.....	722	532	1,760	400	2,920	7,270	22,300	1,190	681	190	2,230	4,080
5.....	1,050	622	2,570	514	3,290	5,360	19,700	1,200	660	180	1,550	5,810
6.....	1,360	586	3,290	514	2,920	5,140	17,400	890	496	152	1,100	13,300
7.....	1,170	1,420	4,280	604	2,740	4,700	27,500	868	400	340	890	16,600
8.....	1,000	4,080	4,280	763	2,920	3,880	54,000	763	355	912	784	13,800
9.....	868	5,580	3,680	702	3,290	3,290	64,500	586	286	1,470	5,640	11,200
10.....	912	7,790	2,920	532	3,100	3,290	55,000	702	274	935	370	9,450
11.....	742	6,040	2,740	660	2,740	3,100	37,200	722	262	1,150	460	8,330
12.....	445	5,580	2,400	640	2,230	2,400	24,200	681	286	1,170	550	6,040
13.....	385	9,450	1,670	604	2,070	2,070	17,000	568	325	2,060	2,800	5,360
14.....	370	15,200	1,640	550	2,070	1,550	10,700	586	890	2,740	5,360	4,280
15.....	340	16,600	1,790	478	4,490	1,790	6,280	460	3,480	2,570	5,140	2,920
16.....	310	16,600	1,440	430	5,580	1,360	4,700	370	4,280	1,790	3,680	3,100
17.....	340	16,600	935	514	4,920	1,230	3,290	514	3,480	1,300	2,400	4,700
18.....	370	13,200	622	2,570	5,140	1,470	2,570	702	2,400	586	1,820	5,810
19.....	298	10,600	415	6,700	6,770	5,680	2,230	722	1,700	478	2,660	4,280
20.....	310	8,330	550	16,200	9,450	9,450	1,730	784	868	550	7,450	3,680

Daily discharge, in second-feet, of Maumee River near Defiance, Ohio, for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21.....	298	7,270	1,020	15,900	8,880	10,600	1,580	1,200	868	262	8,080	3,680
22.....	298	5,810	890	14,400	7,270	13,800	1,610	1,410	763	190	3,680	3,290
23.....	298	4,920	742	9,610	6,280	20,000	1,910	586	622	202	2,230	9,160
24.....	340	4,280	532	7,470	6,280	22,200	1,880	660	568	190	1,470	24,400
25.....	325	3,680	385	4,920	17,400	17,400	1,910	604	532	142	1,470	38,900
26.....	286	2,920	298	4,080	34,500	15,900	1,760	660	340	202	1,330	41,100
27.....	274	2,400	250	3,290	31,200	11,900	1,880	868	262	214	980	33,400
28.....	226	2,230	415	2,400	25,200	8,880	1,070	935	370	162	550	24,200
29.....	274	1,880	298	1,330	6,770	1,090	1,050	385	95	445	17,400	
30.....	310	1,580	325	1,100	5,360	1,110	890	202	76	478	21,400	
31.....	400		325	1,300	7,710		824			69	478	

NOTE.—Recorder not operating Apr. 29 to May 4; discharge interpolated.

Monthly discharge of Maumee River and Miami & Erie Canal near Defiance, Ohio, for the year ending September 30, 1926

Month	Maximum (combined)	Minimum (combined)	Mean		
			River	Canal	Combined
October.....	1,560	415	515	192	707
November.....	16,800	620	5,910	207	6,120
December.....	4,490	462	1,570	217	1,790
January.....	16,400	517	3,230	234	3,460
February.....	34,700	2,320	7,530	249	7,780
March.....	22,400	1,480	7,810	237	8,050
April.....	64,600	1,290	14,400	194	14,600
May.....	1,630	583	821	214	1,040
June.....	4,490	406	951	202	1,150
July.....	2,950	247	676	196	872
August.....	8,270	500	2,220	183	2,400
September.....	41,200	799	11,500	168	11,700
The year.....	64,600	247	4,700	208	4,910

MAUMEE RIVER AT WATERVILLE, OHIO

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

DRAINAGE AREA.—6,310 square miles (area in Ohio measured on topographic maps, area in Michigan and Indiana measured on post-route maps).

RECORDS AVAILABLE.—November 19, 1898, to December 31, 1901; August 26, 1921, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by John Rhodes.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Bed is rock ledge. One channel at all stages. Channel straight for half a mile above and below gage. Island one-eighth mile above gage. Control permanent. Zero flow would occur at gage height 0.9 foot.

ICE.—Stage-discharge relation seriously affected by ice.

EXTREMES OF DISCHARGE.—Maximum combined daily discharge of river and canal during year, 56,200 second-feet April 9; minimum combined daily discharge during year, 332 second-feet October 18.

1921-1926: Maximum combined discharge of river and canal, that of April 9, 1926; minimum combined discharge, 195 second-feet October 27, 1924.

REGULATION.—Flow at extremely low water may be slightly affected by regulation of Auglaize River at dam of Toledo Edison Co. near Defiance.

DIVERSIONS.—Water is diverted into Miami & Erie Canal at Grand Rapids and carried past station. See record of Miami & Erie Canal at Waterville.

ACCURACY.—Stage-discharge relation permanent except when affected by ice. Rating curve well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good except for periods of ice effect, for which they are fair.

The following discharge measurements were made:

July 21, 1926: Gage height, 1.79 feet; discharge, 254 second-feet.

August 26, 1926: Gage height, 2.73 feet; discharge, 1,810 second-feet.

Daily discharge, in second-feet, of Maumee River at Waterville, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	78	70	1,640	312	1,360	24,000	14,200	1,950	972	86	70	400
2-----	110	70	2,530		1,740	17,600	17,000	1,950	546	102	102	664
3-----	356	190	2,180		2,780	13,200	19,400	1,270	312	86	78	1,640
4-----	400	158	1,840		2,910	13,200	25,400	1,360	734	86	4,210	3,600
5-----	820	334	2,530		3,900	11,200	25,400	1,360	706	102	2,410	4,530
6-----	1,220	424	3,180	574	4,530	7,560	20,700	1,130	678	90	1,740	9,320
7-----	1,180	334	3,900		3,310	5,600	20,000	910	520	62	1,170	18,200
8-----	1,200	4,530	4,870		3,310	3,750	45,600	850	290	86	820	17,600
9-----	1,130	4,530	4,210		3,310	4,530	55,900	650	334	50	650	13,200
10-----	1,200	7,560	3,180			4,530	55,100	572	110	50	650	11,200
11-----	650	7,560	2,780	548	2,790	3,310	46,400	678	190	1,360	2,060	9,780
12-----	448	5,600	2,660			3,310	34,100	650	210	805	378	7,560
13-----	210	9,320	2,060			3,180	25,400	624	142	1,270	424	5,980
14-----	174	14,200	1,270			3,040	17,600	400	270	3,310	546	5,230
15-----	190	17,600	2,060			2,060	1,950	12,200	598	2,910	4,870	3,600
16-----	190	21,300	2,530	5,920	4,530	2,410	8,420	424	5,230	2,410	6,360	3,040
17-----	142	18,800	1,170		7,560	2,060	4,870	290	4,870	1,540	5,230	3,040
18-----	142	14,200	520		6,750	1,270	3,900	230	3,750	1,070	3,460	5,980
19-----	706	13,200	484		9,320	1,740	2,780	972	2,290	520	2,180	5,600
20-----	210	10,200	448		22,600	3,750	2,290	546	1,640	334	1,740	3,900
21-----	94	8,420	546	9,320	13,700	12,200	1,950	678	1,840	290	5,600	3,900
22-----	50	7,560	1,450		17,600	12,200	12,700	1,450	1,130	1,040	220	11,200
23-----	86	5,600	520		6,750	10,200	18,800	1,740	1,450	546	110	10,200
24-----	70	4,530	546		8,860	24,700	1,950	820	520	70	4,530	26,800
25-----	110	3,750			11,700	25,400	1,950	678	424	70	2,530	38,700
26-----	110	3,310	240	3,220	29,600	20,000	1,740	678	334	70	1,740	44,800
27-----	86	2,530			38,700	15,300	1,840	940	230	102	1,200	41,700
28-----	94	2,780			31,800	11,700	2,290	1,070	86	110	940	38,700
29-----	102	2,290					9,320	2,180	86	70	424	31,100
30-----	90	1,740					6,750	2,180	1,040	158	70	389
31-----	78			1,450		6,750		925		70	484	

NOTE.—Stage-discharge relation affected by ice Dec. 25 to Jan. 20, Jan. 25-30, and Feb. 10-13; discharge estimated from study of observer's notes, weather records, and records of combined flow of Maumee River and Miami & Erie Canal near Defiance.

Monthly discharge of Maumee River and Miami & Erie Canal at Waterville, Ohio, for the year ending September 30, 1926

Month	Maximum Combined	Minimum Combined	Mean		
			River	Canal	Combined
October.....	1,540	332	378	335	713
November.....	21,700	442	6,420	407	6,830
December.....	5,280		1,640	394	2,030
January.....	17,900		3,400	368	3,770
February.....	39,100	1,710	8,930	394	9,320
March.....	25,600	1,750	9,510	304	9,810
April.....	56,200	1,870	15,900	395	16,300
May.....	2,390	666	906	428	1,330
June.....	5,680	509	1,070	434	1,500
July.....	3,770	434	571	422	993
August.....	11,600	430	2,530	446	2,980
September.....	45,200	850	13,000	456	13,500
The year.....	56,200	332	5,280	398	5,680

ST. MARYS RIVER NEAR WILLSHIRE, OHIO

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

DRAINAGE AREA.—355 square miles (measured on topographic maps).

RECORDS AVAILABLE.—September 23, 1925, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by Mrs. C. E. Harner.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 300 feet above and below gage.

Banks high and wooded. One channel at all stages. Control for low water is riffle 500 feet below gage. Control for high water is long stretch of channel.

Zero flow would occur at gage height —1.0 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of record, 14.0 feet at 6.20 p. m. April 9 (discharge, about 2,930 second-feet); minimum stage, 1.07 feet October 16 (discharge, 16 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Water flows from Lake St. Marys at the head of this stream into the Wabash River Basin. Some water is also diverted by Miami & Erie Canal from Lake St. Marys into Auglaize River Basin.

REGULATION.—Flow regulated to some extent at Lake St. Marys.

ACCURACY.—Stage-discharge relation permanent; affected by ice as stated in footnote to table of daily discharge. Rating curve well defined below 300 second-feet and fairly well defined between 300 and 1,300 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for period of ice effect, for which they are fair.

Discharge measurements of St. Marys River near Willshire, Ohio, for the period September 23, 1925, to September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
1925	Feet	Sec.-ft.	1926	Feet	Sec.-ft.
Sept. 23.....	1.19	22.4	July 26.....	1.18	18.6
Nov. 19.....	9.14	1,180	Aug. 31.....	1.49	36.0

SURFACE WATER SUPPLY, 1926, PART IV

Daily discharge, in second-feet, of St. Marys River near Willshire, Ohio, for the period September 23, 1925, to September 30, 1926

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		40	55	137	35	150	1,100	475	72	58	21	27	38
2		35	55	121			755	529	66	46	23	25	37
3		38	66	113			475	715	62	43	26	26	43
4		34	69	105		300	241	735	55	40	31	46	105
5		62	62	217			173	735	49	37	34	43	921
6		58	55	229	50		137	715	46	32	62	37	1,870
7		43	83	321		200	155	1,260	43	33	80	30	2,360
8		33	493	321			173	2,440	46	35	55	24	2,240
9		31	475	229			173	2,930	46	33	43	22	1,980
10		28	475	146			129	2,660	43	32	55	20	1,730
11		26	511	121	50	200	121	2,010	43	32	193	17	1,360
12		22	601	113			105	1,410	37	30	205	18	1,030
13		20	1,210	97			86	921	36	24	121	58	943
14		19	1,160	90			86	547	43	30	69	217	877
15		17	1,260	80			86	307	43	30	69	475	695
16		16	1,700	66	50		86	193	46	28	94	493	637
17		19	1,640	66			72	146	62	32	66	601	529
18		26	1,460	50			217	121	55	29	46	637	547
19		28	1,140	50			529	105	55	26	34	498	655
20		25	921	50		600	583	86	62	28	28	253	877
21		23	637		650		601	76	97	29	24	183	855
22		22	411				601	69	97	31	25	241	637
23	21	20	253				921	69	69	30	26	241	565
24	19	22	164			601	855	72	52	40	24	146	835
25	18	28	121			1,030	1,100	72	43	43	22	72	1,520
26	17	40	97		100	1,180	1,120	69	83	40	21	49	2,520
27	40	72	94			1,080	943	58	90	32	21	43	2,660
28	105	113	105			1,140	637	62	129	28	20	43	2,440
29	72	90	129	35			395	72	129	27	18	40	2,120
30	52	66	155				241	76	90	23	19	40	1,730
31		52					349		69		21	37	

NOTE.—Stage-discharge relation seriously affected by ice Dec. 18 to Feb. 23; discharge estimated from study of observer's notes, weather records, and records of flow at near-by stations.

Monthly discharge of St. Marys River near Willshire, Ohio, for the period September 23, 1925, to September 30, 1926

[Drainage area, 355 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1925					
September 23-30	105	17	43.0	0.121	0.04
1925-26					
October	113	16	37.5	.106	.12
November	1,700	55	522	1.47	1.64
December	321		103	.290	.33
January			212	.597	.69
February	1,180		478	1.35	1.41
March	1,120	72	427	1.20	1.38
April	2,930	58	658	1.85	2.06
May	129	36	63.2	.178	.21
June	58	23	33.4	.094	.10
July	205	18	51.5	.145	.17
August	637	17	152	.428	.49
September	2,660	33	1,180	3.32	3.70
The year	2,930	16	322	.907	12.30

TIFFIN RIVER NEAR STRYKER, OHIO

LOCATION.—In sec. 17, T. 6 N., R. 4 E., at highway bridge 2 miles southwest of Stryker, Williams County. Beaver Creek enters on right 2 miles below gage.

DRAINAGE AREA.—450 square miles (area in Ohio measured on topographic maps, area in Michigan measured on post-route map).

RECORDS AVAILABLE.—September 1, 1921, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by Vernetta Allison.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 400 feet above and below gage.

One channel at all stages. Banks high and brushy. Control for low water is ruins of old timber dam half a mile below gage; control for high water is long stretch of river below gage. Zero flow would occur at zero gage height.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.6 feet at 8.30 a. m. February 27 (discharge, 2,030 second-feet); minimum stage, 1.08 feet July 21 and 30 (discharge, 15 second-feet).

1921-1926: Maximum stage recorded, 13.0 feet at 5.30 p. m. April 1, 1922, and at 4 p. m. March 7, 1924 (discharge, 2,070 second-feet; revised determination for April 1, 1922); minimum stage, 0.92 foot August 29 and 30, 1925 (discharge, 10 second-feet).

ICE.—Stage-discharge relation affected by ice during severe winters.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Tiffin River near Stryker, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 22.....	5.82	587	July 21.....	1.15	19.0
Mar. 27.....	9.19	1,260	Aug. 26.....	1.30	29.9
June 9.....	1.62	55.1			

Daily discharge, in second-feet, of Tiffin River near Stryker, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	44	90	150	63	365	1,910	1,310	208	68	47	21	48
2.....	30	80	150	68	517	1,670	1,500	169	68	44	38	320
3.....	32	74	150	63	425	1,590	1,560	156	63	38	44	264
4.....	40	80	182	62	320	1,330	1,540	143	58	36	36	250
5.....	63	74	365	68	236	989	1,560	131	49	38	32	306
6.....	131	74	683	119	195	632	1,590	125	49	32	26	320
7.....	102	80	598	143	222	485	1,670	119	58	30	25	156
8.....	80	320	440	222	264	1,010	1,910	113	54	31	22	107
9.....	68	700	278	182	195	717	1,930	107	57	34	21	85
10.....	52	615	236	63	195	485	1,870	102	48	35	20	63
11.....	59	350	169	68	222	365	1,630	85	49	42	20	55
12.....	55	278	195	74	150	485	1,500	85	48	41	29	49
13.....	50	700	169	68	119	549	1,210	85	182	41	53	51
14.....	48	1,070	150	62	107	410	770	80	717	35	85	48
15.....	47	1,170	107	58	125	306	533	85	395	32	42	46
16.....	46	1,150	113	59	156	250	455	80	169	29	44	80
17.....	45	989	107	51	169	222	395	80	102	28	36	85
18.....	48	824	113	470	425	169	306	74	80	26	29	68
19.....	63	683	113	1,170	914	278	264	80	74	26	29	59
20.....	59	788	85	1,270	860	806	222	80	60	23	32	53

Daily discharge, in second-feet, of Tiffin River near Stryker, Ohio, for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21-----	55	806	107	1,400	632	1,090	195	74	52	18	150	46
22-----	53	632	96	1,460	395	1,230	195	74	42	18	74	42
23-----	47	485	96	1,420	335	1,380	195	74	46	25	51	292
24-----	53	380	113	951	278	1,460	222	80	42	25	39	1,050
25-----	55	306	85	598	1,480	1,480	236	74	37	19	32	1,250
26-----	53	264	119	440	1,800	1,440	264	90	33	18	29	1,420
27-----	68	236	107	350	2,000	1,150	236	150	33	20	28	1,360
28-----	131	208	85	365	1,980	842	222	107	36	19	28	1,190
29-----	102	195	74	264	-----	565	264	85	36	16	24	770
30-----	102	169	68	208	-----	470	250	68	29	16	63	470
31-----	90	-----	63	236	-----	717	-----	68	-----	18	96	-----

Monthly discharge of Tiffin River near Stryker, Ohio, for the year ending September 30, 1926

[Drainage area, 450 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October-----	131	30	63.6	0.141	0.16
November-----	1,170	74	462	1.03	1.15
December-----	683	63	180	.400	.46
January-----	1,460	51	390	.887	1.00
February-----	2,000	107	539	1.20	1.25
March-----	1,910	169	854	1.90	2.19
April-----	1,930	195	867	1.93	2.15
May-----	208	68	101	.224	.26
June-----	717	29	94.5	.210	.23
July-----	47	16	29.0	.064	.07
August-----	150	20	41.9	.093	.11
September-----	1,420	42	347	.771	.86
The year-----	2,000	16	328	.729	9.89

AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO

LOCATION.—In SE. $\frac{1}{4}$ sec. 15, R. 5 E., T. 1 S., at highway bridge $3\frac{1}{2}$ miles north-east of Fort Jennings, Putnam County, and 6 miles above mouth of Ottawa River.

DRAINAGE AREA.—333 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 31, 1921, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by G. S. Hedrick.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 300 feet above and 1,000 feet below gage. Right bank high; left bank fairly high, subject to overflow at extremely high water. One channel at all stages. Control for extremely low water is submerged quarry cofferdam 500 feet below gage. Control for medium stages is loose rock dam 800 feet below gage. Control for high stages is long stretch of channel below gage. Zero flow would occur at gage height 0.25 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 13.8 feet April 8 (discharge, 4,230 second-feet). Minimum discharge, 14 second-feet July 26 (gage height, 1.14 feet).

1921–1926: Maximum stage recorded, 15.6 feet April 19, 1922 (discharge, 5,130 second-feet); minimum stage, 1.10 feet November 26, 1923, and August 9 and 11, 1924 (discharge, 12 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Some water is diverted from Lake St. Marys by Miami & Erie Canal and discharged into Jennings Creek, a tributary of Auglaize River, above station.

REGULATION.—Regulation of diversion from Lake St. Marys may have some effect on flow at low water.

ACCURACY.—Stage-discharge relation for low water changed during high water March 24 and again August 15; seriously affected by ice as indicated in footnote to table of daily discharge. Rating curves well defined below 3,000 second-feet. Gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records good except for periods of ice effect for which they are fair.

The following discharge measurements were made:

March 24, 1926: Gage height, 9.48 feet; discharge, 2,240 second-feet.

July 26, 1926: Gage height, 1.14 feet; discharge, 14.2 second-feet.

August 31, 1926; Gage height, 1.34 feet; discharge, 29.1 second-feet.

Daily discharge, in second-feet, of Auglaize River near Fort Jennings, Ohio, for the year ending September 30, 1926

Day	Oct.*	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	41	74	154		167	390	850	124	58	37	51	27
2.....	56	64	136		261	272	550	112	76	42	34	26
3.....	46	60	160		390	188	820	90	62	37	57	28
4.....	36	78	142		610	212	1,480	-100	71	45	58	32
5.....	27	88	212		580	212	820	95	66	28	55	1,480
6.....	56	78	440		340	136	440	95	80	212	53	2,830
7.....	32	78	294		340	196	1,550	90	48	157	51	2,470
8.....	41	415	222		550	148	4,230	90	58	124	47	1,210
9.....	32	670	142		550	160	4,030	85	55	118	43	640
10.....	31	294	174	80	390	154	2,650	80	53	150	66	1,270
11.....	24	181	154		222	130	1,060	80	62	130	55	790
12.....	23	188	154		196	181	640	60	62	124	58	390
13.....	24	1,520	142		240	78	415	76	90	118	90	294
14.....	23	1,760	130		730	74	294	66	71	118	130	340
15.....	22	1,090	98		1,210	69	240	95	80	85	730	231
16.....	24	1,900	114		790	74	212	80	90	80	520	440
17.....	21	1,270	93		550	64	196	76	71	124	272	2,090
18.....	31	640	98		490	83	164	76	57	112	188	970
19.....	37	390	119	1,620	1,340	910	150	164	60	62	150	520
20.....	37	316	114	1,340	1,690	610	136	196	66	57	131	316
21.....	29	250	98	910	970	550	130	180	37	47	137	261
22.....	31	204	98	440	940	415	130	130	48	43	316	490
23.....	27	181	98		970	1,030	124	106	60	48	172	340
24.....	47	154	98		550	2,250	130	90	45	48	137	1,760
25.....	64	142	88		1,210	1,340	124	85	57	51	114	2,520
26.....	44	142			2,650	670	100	95	71	14	108	3,460
27.....	36	142		150	1,480	390	106	95	62	54	55	3,460
28.....	98	43			610	272	124	90	45	51	38	1,620
29.....	98	250	75			231	136	80	53	40	35	1,410
30.....	78	204				204	124	71	43	30	33	1,000
31.....	74					261		62		42	28	-----

NOTE.—Stage-discharge relation affected by ice Dec. 26 to Jan. 18 and Jan. 23-31; discharge estimated from study of observer's notes, weather records, and flow at near-by gaging stations.

Monthly discharge of Auglaize River near Fort Jennings, Ohio, for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October.....	98	21	41.6	May.....	196	60	97.2
November.....	1,900	43	429	June.....	90	37	61.9
December.....	440	-----	136	July.....	212	14	78.3
January.....	1,620	-----	229	August.....	730	28	129
February.....	2,650	167	751	September.....	3,460	26	1,090
March.....	2,250	64	386				
April.....	4,230	100	738	The year.....	4,230	14	341

AUGLAIZE RIVER NEAR DEFIANCE, OHIO

LOCATION.—In NE. $\frac{1}{4}$ 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 (measured on topographic maps).

RECORDS AVAILABLE.—April 13, 1915, to September 30, 1926.

GAGE.—Vertical staff gage on upstream side of power plant at right end of dam. Auxiliary staff gage in tailwater. Gages set to mean sea level datum. Crest of dam is 688.00 feet. Height of flashboards 1.75 feet prior to April 16, 1924; 2.00 feet thereafter. Gages read hourly by power-plant attendants.

DISCHARGE MEASUREMENTS.—Made from highway bridge $1\frac{1}{4}$ miles below dam or by wading near dam.

CHANNEL AND CONTROL.—Channel slightly curved above and below dam. Banks high. One channel at all stages. The dam and power plant form the control for gage.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during the year, 29,200 second-feet April 9; minimum mean daily discharge, 34 second-feet March 14.

1915–1926: Maximum mean daily discharge, 36,100 second-feet March 18, 1919; minimum mean daily discharge, 6 second-feet October 17, 1923.

ICE.—Determination of discharge over dam and through plant not seriously affected by ice.

DIVERSIONS.—Some water is diverted from Lake St. Marys by Miami & Erie Canal and discharged into Jennings Creek, a tributary of Auglaize River, above station.

REGULATION.—Flow regulated by the Toledo Edison Co., Defiance Division, at this point. Record of discharge not corrected for storage.

ACCURACY.—Discharge ascertained by power company from readings on head and tail gages. Ratings of crest of dam, Taintor gates, and turbines have been checked by current-meter measurements made below dam at various stages and found accurate. The leakage through dam and plant has been determined for various stages below crest level by current-meter measurements made by wading below dam when power plant was shut down. From October 1 to February 28 the leakage varied from 56 second-feet at headwater elevation 686.1 feet to 98 second-feet at headwater elevation 688.5 feet, and thereafter leakage varied from 34 second-feet at headwater elevation 686.3 feet to 53 second-feet at headwater elevation 689.2 feet. Repairs to turbines and Taintor gates decreased leakage. Daily discharge below 300 second-feet corrected for leakage. Records good.

COOPERATION.—Record of daily discharge, not corrected for leakage, furnished by Toledo Edison Co., Defiance Division.

The following discharge measurements were made:

November 24, 1925: Gage height, 89.70 feet; discharge, 1,040 second-feet.

July 24, 1926: Gage height, 88.50 feet; discharge, 42.6 second-feet.

August 29, 1926: Gage height, 89.3 feet; discharge, 54.7 second-feet.

Daily discharge, in second-feet, of Auglaize River near Defiance, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	78	77	1,370	73	619	4,260	3,930	499	330	40	136	259
2-----	80	134	1,260	163	857	2,490	4,700	41	279	41	143	613
3-----	273	82	881	73	662	1,890	5,300	553	223	85	195	1,110
4-----	148	340	985	270	903	1,820	8,940	526	232	41	41	1,020
5-----	969	374	1,080	269	1,350	1,030	6,810	435	327	41	429	1,930
6-----	739	373	1,060	161	1,350	1,010	5,260	314	184	42	479	8,680
7-----	437	560	1,520	212	1,230	1,580	7,290	332	197	42	424	10,300
8-----	293	1,300	1,800	253	1,320	757	21,400	204	204	442	104	8,270
9-----	325	1,780	1,300	292	1,720	604	29,200	42	53	698	314	6,390
10-----	387	2,330	1,100	94	1,810	811	27,000	332	39	1,020	312	5,170
11-----	56	2,030	1,090	353	1,590	782	16,200	341	87	214	84	3,750
12-----	94	1,910	884	314	1,290	634	6,850	338	41	321	372	2,480
13-----	116	3,140	513	314	1,190	623	4,040	299	132	1,330	642	2,310
14-----	136	6,090	906	268	930	34	2,570	299	426	1,380	2,140	1,360
15-----	126	7,580	1,180	268	2,040	478	1,960	171	1,220	704	2,070	905
16-----	95	6,340	430	224	3,330	417	1,720	42	1,400	709	2,440	1,110
17-----	169	7,480	304	312	3,090	297	1,390	332	1,360	642	1,840	2,140
18-----	57	5,890	154	1,320	2,530	314	701	432	915	126	776	3,040
19-----	149	3,920	186	2,190	3,080	677	1,110	437	648	188	539	2,160
20-----	109	2,500	112	5,960	5,060	2,040	643	438	167	361	665	2,960
21-----	109	1,930	385	6,520	4,660	2,890	582	619	407	42	2,080	2,060
22-----	109	1,150	369	4,350	3,740	3,480	597	1,180	404	42	2,030	1,460
23-----	111	1,170	312	2,510	3,180	5,600	586	310	310	119	869	2,770
24-----	166	1,090	345	1,860	2,960	10,500	515	369	308	184	325	6,670
25-----	62	1,080	72	1,540	5,510	9,060	433	340	306	42	329	11,700
26-----	116	676	149	1,180	10,600	7,080	606	300	186	211	329	14,400
27-----	118	962	150	1,060	13,100	4,670	610	322	41	234	328	17,600
28-----	120	823	273	650	9,000	2,900	656	323	241	132	53	15,600
29-----	121	538	121	360	-----	2,340	579	342	331	40	85	10,300
30-----	126	886	111	371	-----	1,960	583	330	40	40	259	7,310
31-----	209	-----	115	328	-----	2,270	-----	336	-----	55	256	-----

Monthly discharge of Auglaize River near Defiance, Ohio, for the year ending September 30, 1926

Month	Discharge in second-feet				Discharge in second-feet		
	Maxi- mum	Mini- mum	Mean		Maxi- mum	Mini- mum	Mean
October-----	969	56	200	May-----	1,180	41	361
November-----	7,580	77	2,150	June-----	1,400	39	368
December-----	1,800	72	662	July-----	1,380	40	310
January-----	6,520	73	1,100	August-----	2,440	41	680
February-----	13,100	619	3,170	September-----	17,600	259	5,150
March-----	10,500	34	2,420				
April-----	29,200	433	5,430	The year-----	29,200	34	1,810

OTTAWA RIVER AT ALLENTOWN, OHIO

LOCATION.—In NW. $\frac{1}{4}$ sec. 29, T. 3 S., R. 6 E., at highway bridge at Allentown, Allen County.

DRAINAGE AREA.—168 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 15, 1923, to September 30, 1926.

GAGE.—Au water-stage recorder at highway bridge; installed October 1, 1925.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel curved above but straight for 500 feet below gage. Banks fairly high and brushy. Control is a flat bar of boulders and coarse gravel 75 feet below gage. Zero flow would occur at zero gage height.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.6 feet at 12 m. September 5 (discharge, 2,360 second-feet); minimum stage, 0.75 foot from 9 to 11 p. m. August 9 (discharge, 8.4 second-feet).

1923-1926: Maximum stage recorded, 8.6 feet at 6.10 p. m. March 29, 1924 (discharge, 2,920 second-feet); minimum stage, 0.63 foot at 8.30 a. m. June 2, 1925 (discharge, 6.5 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Negligible.

REGULATION.—None.

ACCURACY.—Stage-discharge relation for low water changed gradually from April 23 to September 4; affected by ice as indicated in footnote to table of daily discharge. Rating curve used before and after period of shifting control well defined below 2,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table; shifting-control method used April 23 to September 4. Records good except for periods of ice effect and of shifting control, for which they are fair.

The following discharge measurements were made:

March 23, 1926: Gage height, 6.02 feet; discharge, 1,520 second-feet.

July 27, 1926: Gage height, 0.81 foot; discharge, 10.1 second-feet.

September 1, 1926: Gage height, 0.88 foot; discharge, 13.3 second-feet.

Daily discharge, in second-feet, of Ottawa River at Allentown, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	10	14	42		98	147	372	20	20	13	20	14
2.....	14	14	39		88	109	262	22	18	14	23	44
3.....	14	16	37		77	58	782	24	16	14	12	17
4.....	21	13	40		98	94	662	24	20	22	11	323
5.....	19	14	144		66	73	310	25	18	16	11	2,200
6.....	14	16	244		53	55	228	22	8	13	18	1,120
7.....	14	72	120		264	101	1,520	21	24	14	11	372
8.....	12	322	77		218	61	1,920	23	16	14	10	186
9.....	14	104	70	20	129	63	1,420	27	14	34	9.6	147
10.....	14	33	67		74	48	540	21	13	20	10	120
11.....	12	26	45		46	41	322	22	18	14	11	65
12.....	12	210	40		74	34	207	23	26	12	28	42
13.....	14	875	35		98	32	138	20	24	26	23	169
14.....	14	428	29		398	28	107	21	64	18	130	156
15.....	14	616	25		452	31	90	38	20	14	82	86
16.....	12	715	26		239	29	68	20	16	12	22	330
17.....	24	281	24		186	32	61	20	14	12	16	147
18.....	14	120	26	496	294	76	48	22	14	12	18	129
19.....	12	82	29	482	920	262	40	126	14	14	14	71
20.....	12	47	25	330	474	239	40	78	13	12	21	461
21.....	12	40	27	176	228	228	36	39	33	12	66	129
22.....	12	32	25	73	424	287	37	20	35	11	20	55
23.....	11	24	22	56	288	1,330	37	20	16	12	14	98
24.....	20	20	23	86	147	925	35	19	16	11	14	552
25.....	21	18	22		879	480	33	18	14	11	12	1,220
26.....	16	18			950	297	33	18	14	9.8	12	1,900
27.....	16	33			368	196	26	26	13	11	12	704
28.....	14	106		30	186	147	29	23	12	14	12	452
29.....	18	102	20			129	28	25	14	11	13	452
30.....	16	42				112	22	20	14	9.8	22	347
31.....	18					255		22		9.8	12	

NOTE.—Stage-discharge relation seriously affected by ice Dec. 26 to Jan. 17 and Jan. 25-31; discharge estimated from study of weather records and records of flow of near-by streams.

Monthly discharge of Ottawa River at Allentown, Ohio, for the year ending September 30, 1926

[Drainage area, 168 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	24	10	14.8	0.088	0.10
November.....	875	13	148	.881	.98
December.....	244		45.9	.273	.31
January.....	496		72.5	.432	.50
February.....	950	46	279	1.66	1.73
March.....	1,330	28	194	1.15	1.33
April.....	1,920	22	315	1.88	2.10
May.....	126	18	27.9	.166	.19
June.....	64	12	19.4	.116	.13
July.....	34	9.8	14.3	.085	.10
August.....	130	9.6	22.9	.136	.16
September.....	2,200	14	404	2.40	2.68
The year.....	2,200	9.6	128	.762	10.31

BLANCHARD RIVER NEAR FINDLAY, OHIO

LOCATION.—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 (measured on topographic maps).

RECORDS AVAILABLE.—November 14, 1923, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by Gertrude Parish.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel curved above but straight for 400 feet below gage. Banks high and brushy. Control for extremely low water is concrete protection wall for pipe line beneath bridge. Control for medium and high stages is long stretch of channel below gage. Zero flow would occur at gage height 0.4 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 11.1 feet at 6.10 p. m. September 5 (discharge, 4,380 second-feet); minimum stage, 0.80 foot, morning readings on July 27, 30, and 31 (discharge, 5.3 second-feet).

1924-1926: Maximum stage recorded on September 5, 1926; minimum stage, 0.68 foot at 6.30 p. m. September 6 and 8 and 8.45 a. m. September 11, 1925 (discharge, 3.6 second-feet).

ICE.—Stage-discharge relation affected by ice during severe winters.

ACCURACY.—Stage-discharge relation permanent; affected by ice and by scum and debris lodged on control as stated in footnote to table of daily discharge. Rating curves well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table; shifting-control method used July 1-26. Records fair.

Discharge measurements of Blanchard River near Findlay, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 26.....	1.54	89.2	July 27.....	0.81	5.8
Mar. 25.....	4.61	1,190	Aug. 31.....	.92	11.2
Apr. 5.....	3.15	685			

Daily discharge, in second-feet, of Blanchard River near Findlay, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	8	33	140	23	50	451	124	95	106	14	18	13
2.....	10	53	117	24	113	307	409	84	89	15	22	23
3.....	8	60	109	24	174	115	1,960	74	89	16	18	52
4.....	24	54	104	39	127	97	1,820	59	82	18	19	409
5.....	327	49	180	49	132	71	967	46	76	13	20	3,890
6.....	210	46	268	59	122	60	706	41	86	12	19	3,120
7.....	109	97	249	56	307	53	2,650	44	89	11	18	1,770
8.....	48	535	210	45	409	70	3,840	52	36	12	50	1,410
9.....	28	514	156	32	287	71	3,600	88	25	17	67	967
10.....	24	268	124	32	193	60	1,820	82	19	12	36	451
11.....	19	89	104	28	165	54	923	89	22	10	25	514
12.....	76	217	100	26	134	58	535	109	20	15	29	268
13.....	13	1,720	91	24	115	54	348	129	22	32	42	287
14.....	13	1,640	76	22	409	49	231	174	327	34	367	156
15.....	12	1,860	70	21	1,010	44	193	134	235	29	226	150
16.....	18	1,860	53	23	923	46	165	70	88	17	167	268
17.....	132	1,140	25	98	1,010	65	153	70	59	12	126	368
18.....	111	430	16	242	1,500	98	140	70	86	10	128	307
19.....	44	307	19	409	1,960	113	97	100	50	12	34	200
20.....	20	231	29	1,010	1,680	84	86	140	32	10	32	168
21.....	18	177	41	535	1,060	73	86	160	27	8	38	132
22.....	20	140	33	245	792	368	132	260	39	7	50	68
23.....	18	129	26	81	535	2,460	145	220	41	9	34	620
24.....	19	109	23	40	577	2,050	88	160	36	7	29	1,280
25.....	24	111			2,050	1,140	93	140	23	7	27	3,070
26.....	30	117			2,140	577	104	115	31	8	25	3,120
27.....	31	268			1,100	115	145	120	25	6	26	2,280
28.....	50	307			749	88	150	91	21	9	27	1,540
29.....	39	249				68	206	71	20	7	25	792
30.....	30	206				227	120	40	17	6	22	620
31.....	31					150		102		6	13	

NOTE.—Stage-discharge relation affected by ice Dec. 25-31 and Jan. 25-31; discharge estimated from study of observer's notes, weather records, and records of flow at near-by stations. Gage not read May 16-25; discharge estimated by comparison with record of flow of Blanchard River at Glandorf.

Monthly discharge of Blanchard River near Findlay, Ohio, for the year ending September 30, 1926

[Drainage area, 343 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	327	8	50.5	0.147	0.17
November.....	1,860	33	434	1.27	1.42
December.....	268		80.7	.235	.27
January.....	1,010		110	.321	.37
February.....	2,140	50	708	2.06	2.14
March.....	2,460	44	301	.878	1.01
April.....	3,840	86	735	2.14	2.39
May.....	260	40	104	.303	.35
June.....	327	17	63.9	.186	.21
July.....	34	6	12.9	.038	.04
August.....	367	13	57.4	.167	.19
September.....	3,890	13	944	2.75	3.07
The year.....	3,890	6	294	.857	11.63

BLANCHARD RIVER AT GLANDORF, OHIO

LOCATION.—In NE. $\frac{1}{4}$ sec. 17, T. 1 N., R. 7 E., at highway bridge three-fourths mile northeast of Glandorf, Putnam County, and $1\frac{1}{4}$ miles above mouth of Cranberry Creek.

DRAINAGE AREA.—643 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 30, 1921, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by Victor Unterbrink.

DISCHARGE MEASUREMENTS.—Made from the bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 500 feet above and below gage.

Banks fairly high and wooded. One channel at all stages. Control is stretch of channel below gage; practically permanent. Zero flow would occur at gage height 0.5 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 23.6 feet April 7 (discharge, about 6,530 second-feet); minimum stage, 1.54 feet July 30 (discharge, 9 second-feet).

1921-1926: Maximum stage recorded on April 7, 1926; minimum stage, 1.53 feet at 10 a. m. September 11, 1925 (discharge, 6.6 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation for low water changed during high water on April 7; affected by ice as noted in footnote to table of daily discharge. Rating curves well defined below 1,500 second-feet. Gage read to hundredths once daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for periods of ice effect, for which they are fair.

The following discharge measurements were made:

March 24, 1926: Gage height, 16.63 feet; discharge, 3,690 second-feet.

July 26, 1926: Gage height, 1.59 feet; discharge, 10.6 second-feet.

August 31, 1926: Gage height, 1.91 feet; discharge, 24.9 second-feet.

Daily discharge, in second-feet, of Blanchard River at Glandorf, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	38	213	72	288	2,970	1,850	92	120	15	15	22
2	21	44	243	68	273	2,550	1,470	92	120	15	17	38
3	18	51	213	76	243	1,910	1,060	92	114	14	19	87
4	31	90	228	76	363	1,180	1,420	92	114	13	24	173
5	121	121	243	95	333	815	2,410	87	114	11	25	1,010
6	110	90	333	100	288	589	5,540	82	114	10	25	5,090
7	110	72	258	86	243	491	6,530	82	82	13	25	5,510
8	100	121	243	81	199	363	6,100	77	72	13	24	4,790
9	95	273	228	81	258	333	4,910	72	58	14	23	4,300
10	72	427	213	81	379	303	4,910	72	50	23	38	2,540
11	64	589	213	76	395	243	4,300	68	34	38	72	2,120
12	53	995	199	76	303	213	3,610	63	37	77	68	1,940
13	48	1,110	185	72	228	145	2,850	63	42	63	254	1,290
14	47	1,180	171	72	258	127	2,060	58	114	50	910	1,110
15	37	1,150	164	68	427	121	1,400	63	240	29	1,480	1,010
16	29	915	139	64	623	121	1,010	63	284	25	1,270	910
17	28	761	133	100	1,420	116	284	58	226	23	300	860
18	34	691	110	318	1,740	164	254	58	186	18	240	651
19	35	427	110	1,040	2,180	243	226	92	143	18	173	609
20	35	303	105	1,940	1,820	363	173	125	98	16	264	588
21	33	213	100	1,100	1,970	395	137	143	92	15	269	695
22	32	171	90	500	3,180	443	114	212	63	14	226	718
23	32	158	90	250	3,820	1,320	114	186	50	13	212	787
24	30	121	90		3,820	3,420	108	137	34	13	173	1,210
25	28	116			3,780	3,260	103	120	29	12	125	2,150
26	28	110			3,740	2,580	103	108	13	10	114	4,910
27	34	133			3,740	1,740	98	186	13	10	92	5,360
28	38	158			3,420	1,500	98	149	14	10	63	4,510
29	44	185				1,240	98	125	18	10	44	3,550
30	40	199					92	125	16	9	34	2,420
31	31					2,030		125		14	25	

NOTE.—Stage-discharge relation affected by ice Dec. 25-31 and Jan. 21-31; discharge determined from study of observer's notes, weather records, and records of flow at near-by gaging stations.

*Monthly discharge of Blanchard River at Glandorf, Ohio, for the year ending
September 30, 1926*

[Drainage area, 643 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	121	18	47.8	0.074	0.09
November.....	1,180	38	367	.571	.64
December.....	333	-----	155	.241	.28
January.....	1,940	64	255	.397	.46
February.....	3,820	199	1,420	2.21	2.30
March.....	3,420	116	1,060	1.65	1.90
April.....	6,530	92	1,780	2.77	3.09
May.....	212	58	102	.159	.18
June.....	284	13	90.1	.140	.16
July.....	77	9	20.3	.032	.04
August.....	1,480	15	214	.333	.38
September.....	5,510	22	2,030	3.16	3.53
The year.....	6,530	9	617	.960	13.05

MIAMI & ERIE CANAL NEAR DEFIANCE, OHIO

LOCATION.—In NW. $\frac{1}{4}$ sec. 22, T. 4 N., R. 5 E., a quarter of a mile below head gate at Independence, 5 miles east of Defiance, Defiance County, and directly opposite gaging station on Maumee River.

RECORDS AVAILABLE.—November 1, 1924, to September 30, 1926.

GAGE.—Water-stage recorder on right bank; inspected by Adam Rose. Zero of gage is 658.81 feet above mean sea level.

DISCHARGE MEASUREMENTS.—Made from highway bridge at Florida, 5 miles below gage, or by wading near gage.

CHANNEL AND CONTROL.—Channel straight. Banks high and clean. Control is long stretch of channel below gage; shifting. Zero flow would occur at about gage height—3.0 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.25 feet at 4.30 a. m. February 25 (discharge, 367 second-feet); minimum discharge, 92 second-feet from 12.30 to 4 p. m. September 25 (gage height, 0.42 foot).

1924-1926: Maximum stage recorded, that of February 25, 1926. Minimum discharge, 52 second-feet from 9 p. m. April 20 to 3 p. m. April 21, 1925 (gage height, —0.4 foot).

ICE.—Stage-discharge relation not seriously affected by ice.

ACCURACY.—Stage-discharge relation not permanent; not seriously affected by ice. Rating curve used as standard for shifting-control method fairly well defined. Staff gage read to hundredths twice daily. Operation of water-stage recorder fairly satisfactory. Daily discharge ascertained by shifting-control method. Records fair.

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

Discharge measurements of Miami & Erie Canal near Defiance, Ohio, during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 24.....	1.54	191	July 24.....	1.64	187
Mar. 26.....	1.28	187	Aug. 30.....	1.62	166

Daily discharge, in second-feet, of Miami & Erie Canal near Defiance, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	200	204	232	219	253	208	220	228	201	194	196	177
2.....	196	203	240	218	257	246	248	221	204	203	212	182
3.....	194	205	226	220	253	219	230	222	208	195	198	193
4.....	196	211	216	222	258	220	212	222	212	194	180	188
5.....	203	211	212	228	271	287	222	218	212	194	169	182
6.....	205	211	202	230	260	263	240	211	210	194	185	193
7.....	204	179	211	234	258	261	238	209	204	191	177	191
8.....	198	197	211	241	266	272	217	207	200	200	177	197
9.....	199	220	204	242	273	266	125	204	193	222	191	198
10.....	197	211	196	235	275	260	196	212	194	212	187	197
11.....	187	199	188	239	269	259	145	223	204	200	180	188
12.....	189	196	180	240	261	258	126	226	205	212	188	179
13.....	190	203	178	238	252	251	155	221	208	219	197	182
14.....	188	206	219	235	251	251	131	221	220	214	194	173
15.....	186	204	231	233	270	250	149	218	222	211	202	160
16.....	186	205	222	231	286	252	153	213	212	205	196	165
17.....	192	204	222	234	277	249	147	214	206	204	179	163
18.....	187	196	225	248	269	241	191	219	193	195	169	161
19.....	186	215	216	247	247	245	193	224	181	192	160	159
20.....	187	231	230	237	255	248	184	213	168	192	185	158
21.....	185	218	243	206	242	236	199	210	191	181	193	167
22.....	185	209	235	179	248	235	206	216	210	185	185	170
23.....	185	208	236	197	276	212	192	220	210	191	177	165
24.....	189	193	224	255	276	219	204	204	205	190	175	167
25.....	187	190	218	262	269	123	207	199	204	190	177	115
26.....	187	191	218	265	153	177	212	203	199	190	189	136
27.....	188	222	212	258	122	211	222	208	191	192	183	117
28.....	189	222	225	251	124	229	220	205	195	188	183	132
29.....	191	218	221	248	-----	244	219	208	207	183	166	133
30.....	195	222	220	231	-----	255	221	209	204	179	168	162
31.....	204	-----	221	231	-----	230	-----	201	-----	178	167	-----

Monthly discharge of Miami & Erie Canal near Defiance, Ohio, for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maxi- mum	Mini- mum	Mean		Maxi- mum	Mini- mum	Mean
October.....	209	185	192	May.....	228	199	214
November.....	231	179	207	June.....	222	168	202
December.....	243	178	217	July.....	222	178	196
January.....	265	179	234	August.....	212	160	183
February.....	286	122	249	September.....	198	115	168
March.....	272	123	237	The year.....	286	115	208
April.....	248	125	194				

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.85 feet February 25 (discharge, 520 second-feet; stage-discharge relation affected by ice); minimum stage, 1.00 foot March 20 (discharge, 2 second-feet).

1921-1926: Maximum stage recorded, 7.07 feet March 2, 1922 (discharge, 610 second-feet). No flow in canal March 15, 1923, January 8-10, 12-16, and March 6-21, 1924.

ICE.—Stage-discharge relation affected by ice during severe winters.

REGULATION.—Flow in canal is regulated at the head gate at Grand Rapids 10 miles upstream.

ACCURACY.—Stage-discharge relation permanent affected by ice December 27 to March 20. Gage read to half-tenths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good except for January, February, and March, for which they are only fair.

The canal diverts from Maumee River at Grand Rapids, 10 miles above Waterville. The water is used for power at Maumee and Toledo.

Discharge measurements of Miami & Erie Canal at Waterville, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 25.....	5.68	415	July 21.....	5.90	419
June 9.....	6.03	480	Aug. 26.....	6.07	441

Daily discharge, in second-feet, of Miami & Erie Canal at Waterville, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	348	372	397	372	348	292	325	436	436	436	360	450
2.....	360	384	397	270	348	397	325	423	436	423	360	464
3.....	372	384	397	372	348	348	372	423	423	423	410	464
4.....	372	397	397	397	348	360	336	423	436	410	478	450
5.....	348	397	397	397	360	348	325	423	436	397	464	450
6.....	325	397	410	410	384	384	348	423	436	397	464	464
7.....	325	397	410	397	397	292	372	423	436	384	450	478
8.....	325	423	410	397	384	360	397	423	423	384	436	450
9.....	145	410	410	384	397	410	314	423	450	384	450	506
10.....	84	410	397	436	384	410	397	410	450	450	450	450
11.....	348	423	397	397	410	423	397	410	436	464	450	450
12.....	397	410	397	397	410	423	384	423	372	464	450	450
13.....	372	410	397	397	410	303	397	423	397	464	450	404
14.....	372	410	397	384	410	397	384	436	397	464	450	450
15.....	360	436	397	397	410	397	397	436	423	464	464	464
16.....	372	397	372	384	410	478	397	423	450	450	450	464
17.....	372	384	360	281	410	478	397	436	450	450	450	464
18.....	190	436	397	303	436	478	436	436	450	450	450	478
19.....	259	423	378	436	423	58	436	436	436	450	450	478
20.....	348	410	360	436	410	2	423	436	436	450	450	450
21.....	360	397	436	423	423	35	423	436	436	436	450	450
22.....	360	423	423	336	423	46	423	436	450	314	450	450
23.....	360	410	397	372	410	84	423	436	450	423	450	492
24.....	360	423	372	325	410	137	436	436	450	397	450	397
25.....	372	410	384	292	520	218	423	436	450	423	464	450
26.....	372	410	372	292	336	281	423	423	450	423	464	436
27.....	348	410	372	348	360	325	436	410	436	410	450	397
28.....	348	410	372	348	325	325	436	423	436	410	450	464
29.....	360	410	384	348	-----	314	436	436	423	397	450	450
30.....	372	410	397	336	-----	303	436	436	436	397	450	464
31.....	372	-----	423	336	-----	325	-----	436	-----	384	450	-----

Monthly discharge of Miami & Erie Canal at Waterville, Ohio, for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October.....	397	84	335	May.....	436	410	428
November.....	436	372	407	June.....	450	372	434
December.....	436	360	394	July.....	464	314	422
January.....	436	270	368	August.....	478	360	446
February.....	520	325	394	September.....	506	397	456
March.....	478	2	304				
April.....	436	314	395	The year.....	520	2	398

NORTH BRANCH OF PORTAGE RIVER NEAR BOWLING GREEN, OHIO

LOCATION.—In SE. $\frac{1}{4}$ 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, Wood County.

DRAINAGE AREA.—54.0 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 10, 1923, to September 30, 1926.

GAGE.—Chain gage on bridge; read by C. N. Swindler.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel curved above gage, straight for 150 feet below gage. Banks fairly high and clean. One channel at all stages. Control is rock ledge 100 feet below gage. Zero flow would occur at gage height 0.3 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.9 feet at 6 p. m. April 8 (discharge, 756 second-feet). Minimum discharge, 0.2 second-foot July 8 and 9 (gage height, 0.70 foot).

1923-1926: Same as given above.

ICE.—Stage-discharge relation seriously affected by ice.

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

REGULATION.—Negligible.

ACCURACY.—Stage-discharge relation changed during high water April 8 and again September 26; affected by ice as indicated in footnote to table of daily discharge. Rating curve used from April 9 to September 26, fairly well defined; curve used before and after that period, well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for period of ice effect, for which they are fair.

The following discharge measurements were made:

November 25, 1925: Gage height, 1.06 feet; discharge, 16.2 second-feet.

July 20, 1926: Gage height, 1.00 foot; discharge, 2.7 second-feet.

August 25, 1926: Gage height, 1.50 feet; discharge, 24.3 second-feet.

Daily discharge, in second-feet, of North Branch of Portage River near Bowling Green, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1.6	2.2	32	3.5	44	97	108	4.7	1.0	0.5	4.1	2.7
2.....	2.1	2.2	23	9.5	35	75	86	3.7	.8	.5	5.8	6.4
3.....	2.2	2.1	20	19	28	70	239	2.6	.5	.5	3.3	3.9
4.....	7.1	2.2	20	23	26	75	239	2.3	.5	.5	2.7	5.4
5.....	4.8	2.2	52	27	25	75	167	2.9	.5	.5	2.2	12
6.....	4.0	2.1	75	20	26	43	125	1.8	.5	.3	1.2	31
7.....	3.0	3.5	55		35	37	203	1.5	.5	.3	.6	33
8.....	2.8	36	32		45	63	584	1.2	.5	.2	.4	25
9.....	4.8	39	23		44	70	569	.9	.5	.2	.5	20
10.....	2.6	28	24	15	40	32	434	.8	.5	3.7	1.0	17
11.....	2.1	19	24		38	23	181	.8	.6	1.5	.8	14
12.....	2.1	22	25		37	21	106	.6	.7	1.0	.6	11
13.....	1.7	119	17		38	17	54	.6	.5	1.4	1.2	10
14.....	1.6	114	7.6	7	60	15	39	.8	4.1	40	2.2	7.2
15.....	1.6	114			70	13	23	.8	10	23	2.6	4.7
16.....	1.7	155			80	22	20	.8	14	17	1.9	9.6
17.....	3.0	102			92	14	14	.8	9.2	14	1.7	5.8
18.....	2.2	63		6	191	12	8.7	.8	7.2	8.7	1.5	2.2
19.....	1.6	48			203	12	6.1	1.7	6.1	6.4	1.4	1.3
20.....	1.6	39			167	38	5.0	.9	5.4	4.1	1.3	1.2
21.....	1.6	32			191	155	55	.8	2.7	3.7	124	1.0
22.....	2.2	26		4	179	108	56	.6	2.3	1.8	106	.5
23.....	2.4	22			167	34	208	.6	1.4	.9	78	15
24.....	3.3	24			155	32	251	.6	1.2	.6	47	168
25.....	4.8	15			64	405	179	.5	1.1	.5	23	275
26.....	2.2	14		4	45	431	119	.8	.9	.4	14	289
27.....	1.9	26			37	251	102	.8	.9	.5	9.2	227
28.....	2.2	64			33	125	75	.8	.9	1.2	6.8	191
29.....	2.6	54			32	-----	52	6.8	1.4	.7	.9	4.5
30.....	2.6	37			34	-----	39	6.4	1.2	.8	.5	3.7
31.....	2.6				37	-----	54	-----	1.1	-----	.4	2.9

NOTE.—Stage-discharge relation affected by ice Dec. 10-11, 15-31, and Jan. 6-15; discharge interpolated Dec. 10-11 and estimated from study of observer's notes, weather records, and records of flow at near-by stations for other periods.

Monthly discharge of North Branch of Portage River near Bowling Green, Ohio, for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October.....	7.1	1.6	2.66	May.....	4.7	0.5	1.27
November.....	155	2.1	41.0	June.....	14	.5	2.55
December.....	75	-----	17.0	July.....	40	.2	4.78
January.....	288	3.5	64.1	August.....	124	.4	14.7
February.....	431	25	102	September.....	289	.5	54.9
March.....	263	12	66.7				
April.....	584	3.7	109	The year.....	584	.2	39.4

SANDUSKY RIVER NEAR BUCYRUS, OHIO

LOCATION.—In NE. $\frac{1}{4}$ sec. 10, T. 3 S., R. 16 E., at highway bridge $1\frac{1}{2}$ miles west of Bucyrus, Crawford County.

DRAINAGE AREA.—89.8 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 20, 1925, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by J. L. Beard.

DISCHARGE MEASUREMENTS. Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 300 feet above and below gage. Right bank high and wooded; left bank fairly high. Control is riffle of boulders and coarse gravel at remains of old dam 100 feet below gage. Zero flow would occur at gage height 0.4 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year and period of record, 6.4 feet at 8.15 a. m. April 9 (discharge, 1,560 second-feet); minimum stage, 0.75 foot July 25 and September 1 (discharge, 1.4 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for periods of ice effect, for which they are fair.

Discharge measurements of Sandusky River near Bucyrus, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 26.....	1.40	28.6	July 6.....	0.90	4.4
Jan. 9.....	1.22	18.4	Aug. 22.....	1.43	30.7
Mar. 23.....	5.33	1,060			

Daily discharge, in second-feet, of Sandusky River near Bucyrus, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	11	76	58	12	160	89	160	40	11	5.8	7.0	21
2.....	11	64	53	12	142	64	96	34	11	5.0	2.4	11
3.....	9	51	53	13	82	46	690	31	9.8	5.0	12	13
4.....	347	41	64	17	70	82	310	27	9.8	11	7.0	23
5.....	286	35	170	40	53	53	151	22	8.6	4.4	4.1	400
6.....	103	28	190	58	76	41	103	18	13	4.7	7.8	200
7.....	45	76	82	32	82	70	885	17	10	4.7	5.0	70
8.....	35	845	58	37	89	64	1,180	16	9.0	4.4	3.8	32
9.....	29	200	58	20	70	53	1,050	15	8.6	3.8	3.6	400
10.....	27	96	45	18	50	45	298	14	6.6	6.6	3.0	550
11.....	27	70	34	18	52	53	160	13	9.0	3.8	2.7	110
12.....	23	96	37	17	58	40	96	12	9.8	3.3	7.0	58
13.....	20	805	38	15	44	41	70	11	6.6	12	2.7	82
14.....	19	275	32	15	110	37	58	13	96	26	7.4	70
15.....	19	142	22	14	118	24	46	16	76	16	3.6	37
16.....	16	322	26	14	89	21	41	14	33	11	4.4	585
17.....	58	126	20	13	89	20	35	18	26	5.0	5.4	200
18.....	118	82	22	126	264	22	29	26	31	5.4	5.0	70
19.....	58	76	20	322	845	44	26	151	28	6.6	3.8	40
20.....	38	70	20	180	298	126	24	89	15	4.1	2.6	29
21.....	29	58	22	126	170	126	23	42	13	3.3	64	23
22.....	24	49	21	70	655	118	23	27	64	2.7	52	20
23.....	21	38	16	76	275	1,050	23	19	42	2.4	15	26
24.....	31	31	16	47	160	490	25	17	19	2.0	11	89
25.....	231	29	16	32	1,180	231	26	15	15	1.5	7.4	70
26.....	134	27	14	24	925	126	23	22	13	2.1	5.0	160
27.....	70	373	12	20	210	89	20	23	11	22	4.4	70
28.....	49	620	12	20	118	70	43	18	9.0	13	3.6	51
29.....	40	134	12	18	-----	58	53	15	8.2	27	4.4	58
30.....	37	76	11	18	-----	51	42	15	6.6	13	2.1	50
31.....	53	-----	11	24	-----	82	-----	12	-----	9.4	2.1	-----

NOTE.—Stage-discharge relation affected by ice Dec. 29 to Jan. 4, Jan. 16-17, and 24-31; discharge determined from study of observer's notes, weather records, and records of flow at near-by stations.

Monthly discharge of Sandusky River near Bucyrus, Ohio, for the year ending September 30, 1926

[Drainage area, 89.8 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	347	9.0	65.1	0.725	0.84
November.....	845	27	167	1.86	2.08
December.....	190	11	40.0	.454	.52
January.....	322	12	47.4	.528	.61
February.....	1,180	44	233	2.59	2.70
March.....	1,050	20	114	1.27	1.46
April.....	1,180	20	194	2.16	2.41
May.....	151	11	26.5	.295	.34
June.....	96	6.6	21.0	.234	.26
July.....	27	1.5	7.97	.089	.10
August.....	64	2.1	8.78	.098	.11
September.....	585	2.1	120	1.34	1.50
The year.....	1,180	1.5	85.5	.952	12.93

SANDUSKY RIVER NEAR UPPER SANDUSKY, OHIO

LOCATION.—In sec. 21, T. 2 S., R. 14 E., at highway bridge 2 miles northeast of Upper Sandusky, Wyandot County. Rock Run enters on right three-fourths mile below gage.

DRAINAGE AREA.—299 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 20, 1921, to September 30, 1926.

GAGE.—Au water-stage recorder on left bank at highway bridge.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel is straight for 400 feet above gage but is divided by island; straight for 1,000 feet below gage. One channel at all stages. Banks are low and wooded. All water flows under bridge up to gage height 11.3 feet when road leading to bridge on right bank is overflowed. Control for low water is riffle 200 feet below gage, composed of rock ledge and gravel. At high stages control is long stretch of channel below gage. Zero flow would occur at gage height 0.55 foot, as determined September 9, 1925.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.8 feet at 2 p. m. April 9 (discharge, 3,890 second-feet); minimum stage, 1.06 feet July 25 and 26 (discharge, 6.3 second-feet).

1921-1926: Maximum stage recorded, 8.15 feet at 1.30 p. m. March 30, 1924 (discharge, 4,240 second-feet); minimum stage, 1.05 feet noon to midnight September 5, 1925 (discharge, 3.8 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation changed on April 9; affected by ice.

Rating curves well defined. Operation of water-stage recorder satisfactory except as noted in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting gage-height graph or, for days of considerable variation in stage, by averaging discharges for shorter intervals. Records excellent except for periods during which stage-discharge relation was affected by ice or recorder was not operating, for which they are fair.

Discharge measurements of Sandusky River near Upper Sandusky, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 13.....	1.60	74.0	July 19.....	1.18	15.5	Aug. 24.....	1.60	79.2
Dec. 4.....	2.03	167	Aug. 3.....	1.43	47.6	Sept. 14.....	2.37	301

Daily discharge, in second-feet, of Sandusky River near Upper Sandusky, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	26		350	82	510	348	500	110	41	21	34	28
2.....	25		300	86	845	258	600	100	38	19	42	136
3.....	27		200	93	795	645	800	95	34	19	44	154
4.....	218		186	107	555	745	1,400	82	31	19	36	178
5.....	845	180	305	129	425	578	600	71	29	19	29	2,090
6.....	452		690	208	367	311	425	64	28	12	307	1,940
7.....	224		367		386	258	1,200	56	31	18	172	775
8.....	148		224		465	311	2,940	54	32	17	62	368
9.....	109		196		386	293	3,800	53	27	14	36	710
10.....	95		183		348	258	2,310	50	24	14	26	1,360
11.....	95		145		311	148	795	48	22	21	21	752
12.....	84		143	100	311	160	510	46	25	21	134	330
13.....	75	800	124		258	124	348	42	26	25	109	356
14.....	66		111		293	129	275	44	582	38	98	311
15.....	60		84		465	116	224	48	406	32	224	241
16.....	56		90		600	84	180	50	224	37	104	475
17.....	106		73	129	425	69	157	50	129	25	52	898
18.....	406		109	275	488	86	132	52	86	19	40	406
19.....	275		104	1,100	1,650	90	109	116	69	15	32	241
20.....	171		90	1,000	2,090	168	95	311	64	13	34	171
21.....	121	200	75	510	1,270	348	86	174	42	11	64	126
22.....	95		73	367	950	330	82	102	126	9.3	316	104
23.....	75		107		1,420	1,400	82	73	149	7.9	154	129
24.....	73		104		1,200	2,120	86	53	88	7.4	84	293
25.....	154		75		1,600	958	82	47	50	6.3	50	732
26.....	386	107			2,300	578	82	50	42	6.3	33	1,000
27.....	275			250	1,400	367	75	109	34	29	26	532
28.....	174	470	80		800	293	90	99	29	180	21	330
29.....	120					241	110	66	25	111	21	311
30.....	100					300	120	52	24	71	126	293
31.....	80					500		42		44	50	

NOTE.—Water-stage recorder not operating satisfactorily Oct. 29 to Nov. 25, Nov. 27 to Dec. 3, Feb. 24-28, Mar. 30 to Apr. 4, and Apr. 28 to May 2. Stage-discharge relation affected by ice Dec. 26-31, Jan. 7-16, 19, and 23-31. Discharge for these periods estimated from study of weather records and records of flow at near-by gaging stations.

Monthly discharge of Sandusky River near Upper Sandusky, Ohio, for the year ending September 30, 1926

[Drainage area, 290 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	845	25	168	0.562	0.65
November.....			408	1.36	1.52
December.....	600		152	.508	.59
January.....			237	.793	.91
February.....		258	818	2.74	2.85
March.....	2,120	69	407	1.36	1.57
April.....	3,800	75	610	2.04	2.28
May.....	311	42	77.7	.260	.30
June.....	581	22	85.2	.285	.32
July.....	180	6.3	29.4	.098	.11
August.....	316	21	83.3	.279	.32
September.....	2,090	28	527	1.76	1.96
The year.....	3,800	6.3	295	.987	13.38

SANDUSKY RIVER NEAR MEXICO, OHIO

LOCATION.—In sec. 13, T. 1 N., R. 14 E., at highway bridge $4\frac{1}{4}$ miles north of Mexico, 5 miles south of Tiffin, Seneca County, and 3 miles above mouth of Honey Creek.

DRAINAGE AREA.—776 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 1, 1923, to September 30, 1926. November 17, 1898, to November 17, 1900, at highway bridge half a mile west of Mexico and 9 miles by river above present station.

GAGE.—Chain gage on bridge; read by L. E. Keller.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 800 feet above and below gage.

Right bank high and wooded; left bank fairly high and wooded; subject to overflow at extremely high water. One channel at all stages. Control for low water is riffle of boulders on rock ledge 100 feet below gage; fairly permanent. Control at high stages is long stretch of channel below gage. Zero flow would occur at gage height 1.15 feet as determined September 8, 1925.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.0 feet at 1 p. m. April 10 (discharge, 7,200 second-feet); minimum stage, 1.60 feet June 12 (discharge, 9 second-feet).

1923–1926: Maximum stage recorded, 15.0 feet at 5.45 p. m. March 31, 1924 (discharge, 8,200 second-feet); minimum stage, 1.52 feet September 12, 1925 (discharge, 6 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation permanent except as affected by ice.

Rating curve well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good except for periods when stage-discharge relation was affected by ice, for which they are fair.

The following discharge measurements were made:

July 20, 1926: Gage height, 1.94 feet; discharge, 40.4 second-feet.

August 25, 1926: Gage height, 3.00 feet; discharge, 228 second-feet.

September 15, 1926: Gage height, 4.35 feet; discharge, 643 second-feet.

Daily discharge, in second-feet, of Sandusky River near Mexico, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	24	240	630	85	665	1,230	1,230	182	89	35	122	60
2.....	22	252	490	90	1,140	845	1,180	172	74	31	83	52
3.....	15	278	278	95	1,280	490	1,630	141	60	28	71	74
4.....	60	265	306	99	925	363	3,090	122	55	31	57	278
5.....	1,230	216	393	122	735	490	2,460	114	40	35	47	4,840
6.....	770	161	885	141	595	334	1,880	105	52	33	122	5,240
7.....	456	252	845		630	252	1,930	83	52	22	393	5,680
8.....	278	1,480	560		925	204	5,410	74	60	14	665	4,200
9.....	240	2,160	363		845	334	7,000	68	55	20	393	2,040
10.....	182	1,040	306		805	363	7,200	63	52	33	292	2,160
11.....	141	630	278		735	278	3,510	66	33	24	105	1,330
12.....	60	424	252	180	595	252	1,730	60	9	19	66	1,040
13.....	66	2,950	182		630	216	845	57	45	33	334	1,000
14.....	71	3,160	89		735	227	525	60	102	28	252	665
15.....	74	2,820	102		845	216	490	63	630	33	86	456
16.....	83	3,160	114		1,230	193	393	66	278	45	595	560
17.....	161	1,330	141	193	1,380	182	343	63	240	60	665	1,140
18.....	334	925	151	252	1,930	161	306	66	204	45	363	1,380
19.....	665	735	161	2,040	4,280	141	265	141	132	35	227	965
20.....	560	560	141	2,100	3,580	204	252	306	122	34	132	560

Daily discharge, in second-feet, of Sandusky River near Mexico, Ohio, for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21-----	252	393	161	1,330	2,820	424	240	424	114	22	105	278
22-----	182	278	141	1,180	3,090	665	227	141	122	19	278	216
23-----	105	265	122		2,950	3,300	204	105	132	17	665	334
24-----	141	252	105		2,460	4,040	193	102	141	15	363	1,280
25-----	182	265	99		3,300	3,440	161	89	105	17	216	3,800
26-----	424	252			4,760	1,730	151	99	89	19	105	4,360
27-----	595	265		600	2,950	1,180	161	105	71	22	102	2,760
28-----	334	1,930			1,680	595	193	122	60	24	71	1,280
29-----	227	1,140	80			735	240	204	52	424	55	1,040
30-----	193	845				490	252	122	47	424	52	1,000
31-----	161					1,180		102		161	105	

NOTE.—Stage-discharge relation affected by ice Dec. 26-31, Jan. 1, 2, 7-16, and 23-31; discharge estimated from study of observer's notes, weather records, and records of flow at near-by gaging stations.

Monthly discharge of Sandusky River near Mexico, Ohio, for the year ending September 30, 1926

[Drainage area, 776 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October-----	1,230	15	267	0.344	0.40
November-----	3,160	161	964	1.24	1.38
December-----	885		251	.323	.37
January-----	2,100		482	.621	.72
February-----	4,760	595	1,730	2.23	2.32
March-----	4,040	141	799	1.03	1.19
April-----	7,200	151	1,460	1.88	2.10
May-----	424	57	119	.153	.16
June-----	630	9	111	.143	.18
July-----	424	14	58.1	.075	.09
August-----	665	47	232	.299	.34
September-----	5,680	52	1,670	2.15	2.40
The year-----	7,200	9	666	.858	11.65

SANDUSKY RIVER NEAR FREMONT, OHIO

LOCATION.—In sec. 17, T. 4 N., R. 15 E., at highway bridge $2\frac{1}{2}$ miles below mouth of Wolf Creek and $3\frac{1}{2}$ miles southwest of Fremont, Sandusky County.

DRAINAGE AREA.—1,250 square miles at present site; 1,260 square miles at original site (measured on topographic maps).

RECORDS AVAILABLE.—November 8, 1923, to September 30, 1926. November 18, 1898, to March 9, 1901, at Lake Shore & Michigan Southern Railroad bridge, 4 miles below present gage.

GAGE.—Chain gage on highway bridge; read by G. E. Smith.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel curved above but straight for 1,500 feet below gage. Banks high and wooded. Control for low water is rock ledge just below gage. Control for high stages is long stretch of channel below gage. Zero flow would occur at gage height 0.5 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.4 feet at 7.30 a. m. February 26 (discharge, 9,900 second-feet); minimum stage, 0.94 foot at 7.30 p. m. July 26 (discharge, 17 second-feet).

1923-1926: Maximum stage recorded, 7.6 feet at 5 p. m. January 11, 1924 (discharge, 10,300 second-feet); minimum stage, 0.90 foot at 7 a. m. September 1, 1925 (discharge, 10 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Negligible.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent; affected by ice as indicated in footnote to table of daily discharge. Rating curve well defined between 150 and 9,000 second-feet and fairly well defined above and below those limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for periods of ice effect, for which they are fair.

Discharge measurements of Sandusky River near Fremont, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Feb. 26.....	Feet 6.63	Sec.-ft. 8,420	Aug. 25.....	Feet 1.74	Sec.-ft. 404
July 20.....	1.18	100	Sept. 15.....	2.21	829

Daily discharge, in second-feet, of Sandusky River near Fremont, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	104	270	1,010	300	1,500	2,000	1,840	498	162	56	250	90
2.....	112	374	720			1,330	1,840	436	135	80	168	122
3.....	168	466	611			1,010	3,370	367	108	56	140	315
4.....	162	443	584			1,010	5,890	322	117	36	157	466
5.....	720	367	670			1,010	3,710	282	90	73	135	4,060
6.....	1,470	308	1,400	1,000	3,500	1,010	2,400	256	90	48	126	5,510
7.....	830	308	1,400			620	3,880	226	126	34	168	5,140
8.....	466	1,330	890			614	8,360	214	73	36	539	4,600
9.....	328	2,240	670			608	8,740	202	94	48	670	3,040
10.....	263	2,080	575			602	7,410	184	80	66	360	2,080
11.....	226	1,070	522	1,300	8,900	522	6,080	168	70	59	202	2,400
12.....	202	775	443			458	2,880	168	104	39	168	2,000
13.....	184	3,200	415			415	1,620	174	59	53	140	1,330
14.....	157	4,240	389			371	1,209	168	226	146	590	1,070
15.....	157	3,740	348			328	890	190	890	80	620	830
16.....	122	4,960	289	1,700	9,310	334	775	184	890	99	482	670
17.....	146	3,370	282			250	620	179	566	73	890	775
18.....	443	2,240	408			270	557	168	394	73	566	1,700
19.....	720	1,260	670			276	498	238	334	94	315	1,260
20.....	620	1,010	557			443	422	436	226	83	184	670
21.....	401	890	256	1,300	3,540	775	374	611	179	63	220	450
22.....	296	775	238			1,140	354	490	422	53	302	354
23.....	232	602				4,960	360	328	202	36	575	593
24.....	179	522				6,080	367	270	202	42	670	3,880
25.....	196	450				5,320	354	196	226	28	401	5,140
26.....	302	387	170	9,310	3,540	9,310	3,540	328	174	174	19	238
27.....	670	436				6,650	2,080	302	196	122	28	157
28.....	593	2,880				3,880	1,400	401	341	122	56	130
29.....	415	3,040				1,070	620	322	76	152	117	1,920
30.....	334	1,840				890	566	232	80	443	90	1,700
31.....	289					890		179		308	76	

NOTE.—Stage-discharge relation seriously affected by ice Dec. 23 to Feb. 24 and Mar. 4, 5, 8, 9, 13, and 14; discharge Dec. 23 to Feb. 24 estimated from study of observer's notes, weather records, and records of flow at near-by gaging stations; discharge interpolated Mar. 4, 5, 8, 9, 13, and 14.

Monthly discharge of Sandusky River near Fremont, Ohio, for the year ending September 30, 1926

[Drainage area, 1,250 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,470	104	371	0.297	0.34
November.....	4,969	270	1,530	1.22	1.36
December.....	1,400	-----	480	.384	.44
January.....	-----	-----	881	.705	.81
February.....	9,310	-----	3,150	2.52	2.62
March.....	6,080	250	1,340	1.07	1.23
April.....	8,740	302	2,230	1.78	1.99
May.....	611	168	271	.217	.25
June.....	890	59	221	.177	.20
July.....	443	19	82.6	.066	.08
August.....	830	76	314	.251	.29
September.....	6,840	90	2,190	1.75	1.95
The year.....	9,310	19	1,070	.856	11.56

EAST BRANCH OF HURON RIVER NEAR NORWALK, OHIO

LOCATION.—At highway bridge $1\frac{1}{4}$ miles northwest of Norwalk, Huron County, and $1\frac{1}{2}$ miles below mouth of Cole Creek.

DRAINAGE AREA.—84.9 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 7, 1923, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by C. L. Hartwig.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel curved above but straight for 500 feet below gage. Banks fairly high and brushy. Control is rock ledge 75 feet below gage. Zero flow would occur at gage height 0.4 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.1 feet at 6.30 a. m. September 25 (discharge, 2,210 second-feet); minimum stage recorded, 0.86 foot July 23–27 (discharge, 2.9 second-feet).

1923–1926: Maximum stage recorded, 6.1 feet at 4.45 p. m. February 23, 1925, and at 6.30 a. m. September 25, 1926 (discharge, 2,210 second-feet; minimum stage, 0.84 foot August 30 and 31, 1925 (discharge, 2.5 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Negligible.

REGULATION.—None.

ACCURACY.—Stage-discharge relation probably changed slightly for low water during high water April 8; affected by ice as indicated in footnote to table of daily discharge. Rating curve well defined below 1,600 second-feet. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for periods of ice effect, for which they are fair.

Discharge measurements of East Branch of Huron River near Norwalk, Ohio, during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 22.....	1.12	13.6	July 7.....	0.94	5.2
Mar. 23.....	4.50	1,290	Aug. 22.....	1.19	22.3
Mar. 24.....	2.47	339			

Daily discharge, in second-feet, of East Branch of Huron River near Norwalk, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	5.8	28	52	20	110	99	103	113	8.2	6.2	9.2	5.1
2.....	5.8	53	47			67	131	85	7.6	5.8	11	249
3.....	7	46	46			53	690	40	7.0	6.5	13	103
4.....	26	25	55			67	249	33	7.6	7.0	11	58
5.....	49	21	128			70	142	27	7.6	6.2	20	690
6.....	25	19	192	30	80	52	94	20	7.0	5.5	186	266
7.....	17	20	88			67	645	18	10	5.5	99	74
8.....	12	371	55			67	1,560	15	8.2	6.2	49	47
9.....	15	118	46			60	690	13	7.0	7.0	17	41
10.....	18	61	41			47	249	13	6.2	8.7	10	85
11.....	18	46	53	70	70	40	148	13	9.2	7.0	7.6	53
12.....	15	43	40			36	81	11	9.8	6.5	8.7	41
13.....	12	470	37			36	63	9.2	8.2	67	20	34
14.....	11	249	33			55	53	11	142	83	283	25
15.....	11	101	25			43	50	13	177	39	79	20
16.....	9.8	110	22	300	150	21	53	10	92	18	37	33
17.....	40	99	29			200	26	37	11	40	11	22
18.....	44	61	31			200	19	32	10	76	8.7	16
19.....	29	60	26			600	22	29	96	23	6.2	11
20.....	20	61	22			410	92	23	53	21	6.2	10
21.....	15	50	20	30	352	92	25	26	11	5.1	16	11
22.....	13	43	27			410	90	20	17	9.8	3.4	21
23.....	13	36	22			352	1,240	25	13	10.0	3.0	18
24.....	16	31	20			266	450	22	11	9.2	2.9	13
25.....	65	29				1,910	317	27	12	9.2	2.9	10
26.....	74	27		20	555	162	26	11	9.2	3.0	8.2	578
27.....	57	334				183	92	22	10	7.6	2.9	249
28.....	33	390				142	67	198	9.8	7.0	96	5.5
29.....	29	88				57	96	9.8	6.2	37	5.1	101
30.....	26	58				49	57	8.7	7.0	16	4.8	68
31.....	26					72		8.7		8.7	5.5	

NOTE.—Stage-discharge relation seriously affected by ice Dec. 25 to Jan. 17 and Jan. 23 to Feb. 18; discharge estimated from study of observer's notes, weather records, and records of flow at near-by stations.

Monthly discharge of East Branch of Huron River near Norwalk, Ohio, for the year ending September 30, 1926

[Drainage area, 84.9 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	74	5.8	24.4	0.287	0.33
November.....	470	19	105	1.24	1.88
December.....	192		40.7	.479	.55
January.....	390		53.8	.634	.73
February.....	1,910		251	2.96	3.08
March.....	1,240	19	120	1.41	1.68
April.....	1,560	20	188	2.21	2.47
May.....	113	8.7	24.2	.285	.33
June.....	177	6.2	25.4	.299	.33
July.....	96	2.9	16.1	.190	.22
August.....	282	4.8	33.3	.392	.45
September.....	2,030	5.1	206	2.39	2.67
The year.....	2,030	2.9	88.7	1.04	14.17

EAST BRANCH OF BLACK RIVER AT ELYRIA, OHIO

LOCATION.—At Fuller Street Bridge, $1\frac{1}{4}$ miles southeast of center of Elyria, Lorain County, and 3 miles above junction with West Branch.

DRAINAGE AREA.—211 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 8, 1922, to September 30, 1926.

GAGE.—Chain gage on bridge; read by Mrs. Joe Wojcik.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 1,000 feet above and 700 feet below gage. Banks high and clean; not subject to overflow. One channel at all stages. Bed of stream is solid rock ledge extending diagonally across channel 25 feet below gage. Control for high stages is long stretch of channel below gage. Zero flow would occur at gage height 0.5 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.7 feet at 8.30 a. m. February 26 (discharge, 4,770 second-foot); minimum stage, 0.60 foot at 9.30 a. m. August 31 (discharge, 0.3 second-foot).

1922–1926: Maximum stage recorded, 9.9 feet at 5.30 a. m. June 29, 1924 (backwater caused by tornado). Maximum discharge, 4,770 second-foot at 8.30 a. m. February 26, 1926 (gage height, 6.7 feet). Minimum stage recorded, 0.57 foot October 5 and 6, 1922 (discharge, 0.2 second-foot.)

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Negligible.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent except as affected by ice.

Rating curve well defined below 3,000 second-feet and fairly well defined above that limit. Gage read to hundredths twice a day. Daily discharge, ascertained by applying mean daily gage height to rating table. Records good except for extremely high water and for periods of ice effect, for which they are fair.

Discharge measurements of East Branch of Black River at Elyria, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 23.....	1.24	60.3	July 8.....	0.76	4.5
Feb. 2.....	2.60	650	Aug. 21.....	.80	6.0
Mar. 24.....	4.25	2,150			

Daily discharge, in second-feet, of East Branch of Black River at Elyria, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	11	172	128	50	150	266	190	117	11	8.4	3.6	0.7
2.....	12	128	100		670	242	215	71	15	5.5	6.0	2.8
3.....	12	117	86			198	510	38	13	5.5	6.0	415
4.....	18	82	117			131	900	39	12	5.6	4.9	232
5.....	232	98	445			100	825	35	14	5.8	3.9	685
6.....	168	68	1,190	108	150	100	545	31	12	6.0	3.4	510
7.....	68	103	325	150		374	650	21	7.6	4.9	4.4	385
8.....	39	1,020	242	219		232	3,450	16	2.8	4.4	2.8	415
9.....	39	825	198	175		194	3,450	12	1.8	4.9	1.8	1,550
10.....	73	270	134	88		175	1,100	10	.7	5.5	.7	2,120

Daily discharge, in second-feet, of East Branch of Black River at Elyria, Ohio, for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11-----	93	237	98	77		175	415	15	1.8	4.4	0.7	1,370
12-----	49	580	82			134	157	11	3.9	6.8	.5	1,280
13-----	39	1,280	108			114	106	8.4	1.2	198	.7	1,020
14-----	31	1,020	75			111	77	16	7.6	211	6.0	415
15-----	14	510	44	50	80	73	73	22	615	93	33	69
16-----	13	215	53			66	62	20	545	28	29	280
17-----	280	147	45			32	50	17	168	16	25	228
18-----	415	108	41	80		28	49	11	168	12	21	164
19-----	73	106	36	980		7.6	38	16	80	14	17	111
20-----	45	131	33	1,370		106	31	20	57	10	13	73
21-----	55	114	33	900	540	380	18	13	33	11	9.2	22
22-----	66	119	33			685	26	17	18	9.2	13	12
23-----	62	125	33			2,120	17	21	15	6.8	6.8	17
24-----	93	69	26			2,020	8.4	13	13	3.4	6.0	545
25-----	385	53	31		1,200	720	9.2	8.4	14	1.8	4.9	1,550
26-----	545	38	33	100	4,770	352	28	7.6	14	1.8	4.4	1,100
27-----	280	790	33		2,220	164	35	14	15	3.4	3.9	825
28-----	160	1,640			615	141	103	10	12	4.9	3.9	190
29-----	122	615				84	190	8.4	7.6	3.9	3.9	131
30-----	122	256	25			55	141	6.0	3.4	1.8	.5	119
31-----	150					68		6.8		1.2	.3	

NOTE.—Stage-discharge relation seriously affected by ice Dec. 28 to Jan. 5, Jan. 12-17, and Jan. 22 to Feb. 25; discharge estimated from study of observer's notes, weather records, and records of flow at near-by gaging stations. Gage not read Jan. 3, July 4, 5, Aug. 1, 16-20; discharge interpolated.

Monthly discharge of East Branch of Black River at Elyria, Ohio, for the year ending September 30, 1926

[Drainage area, 211 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October-----	545	11	121	0.573	0.66
November-----	1,640	38	368	1.74	1.94
December-----	1,190		126	.597	.69
January-----	1,370		184	.872	1.01
February-----	4,770		525	2.49	2.59
March-----	2,120	7.6	311	1.47	1.70
April-----	3,450	8.4	449	2.13	2.38
May-----	117	6.0	21.7	.103	.12
June-----	615	.7	62.7	.297	.33
July-----	211	1.2	22.5	.107	.12
August-----	33	.3	7.75	.037	.04
September-----	2,120	.7	528	2.50	2.79
The year-----	4,770	.3	223	1.06	14.37

ROCKY RIVER NEAR BEREHA, OHIO

LOCATION.—At highway bridge just below junction of East and West Branches, 3 miles northwest of Berea, Cuyahoga County.

DRAINAGE AREA.—269 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 2, 1923, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by O. R. Ruple.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 1,000 feet below gage. Branches join just above gage. Banks fairly high and clean. Control is rock ledge and large flat stones 150 feet below gage. Zero flow would occur at gage height 0.4 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.0 feet at 6.15 p. m. April 8 (discharge, about 8,160 second-feet); minimum discharge, 5 second-feet at 7.30 p. m. July 23, 24, and 25.

1923-1926: Maximum stage recorded, 18.6 feet at 6 a. m. June 29, 1924 (backwater caused by tornado). Maximum discharge, that of April 8, 1926; minimum stage, 0.43 foot at 6.15 p. m. September 2, 1925 (discharge, 3 second-feet).

The flood of March, 1913, reached a stage corresponding to gage height 20.9 feet.

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Negligible.

REGULATION.—None.

ACCURACY.—Stage-discharge relation for low water changed during high water on April 8 and again September 25; affected by ice as indicated in footnote to table of daily discharge. Rating curves fairly well defined below 5,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for periods of ice effect, for which they are fair.

Discharge measurements of Rocky River near Berea, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 23.....	1.34	68.2	July 8.....	1.17	17.3
Feb. 2.....	2.64	761	Aug. 21.....	1.33	35.2
Mar. 24.....	3.73	1,660			

Daily discharge, in second-feet, of Rocky River near Berea, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	19	58	191	70	1,180	429	410	164	76	15	22	11
2.....	23	54	140		750	562	301	131	29	11	35	310
3.....	19	48	172		422	226	1,650	121	16	10	40	590
4.....	18	48	216		208	183	750	153	18	9	28	237
5.....	301	43	675		200	156	358	96	14	8	20	1,550
6.....	108	41	289	675	169	169	236	55	15	8	17	445
7.....	50	870	226	490	149	1,090	1,860	62	14	8	14	189
8.....	46	830	175	325	133	712	6,680	49	17	17	11	105
9.....	115	260	159	208	169	277	4,640	45	17	19	8	1,550
10.....	236	191	138		106	208	825	35	15	20	9	2,200
11.....	212	149	125	100	86	410	445	33	14	11	9	362
12.....	140	638	140		79	325	287	30	17	10	11	153
13.....	82	2,680	138		90	200	212	37	15	124	10	99
14.....	67	1,270	115		93	143	202	29	38	389	68	73
15.....	58	638	99		90	146	156	32	287	105	955	128
16.....	525	358	67	1,860	113	81	153	29	115	35	382	628
17.....	955	277	58		122	1,270	128	26	55	20	38	356
18.....	910	265	58		115	1,270	99	22	128	18	29	118
19.....	750	149	67		790	1,140	168	58	93	33	35	76
20.....	231	191	55		638	955	750	102	105	47	17	35
21.....	127	140	52	351	600	562	73	55	27	15	37	38
22.....	63	140	48	162	455	525	160	80	27	8	375	29
23.....	63	117	48	143	830	4,040	88	29	20	8	131	665
24.....	58	97	30	100	490	1,550	149	19	14	6	83	3,070
25.....	295	93			5,120	830	146	19	15	6	33	3,200
26.....	490	90			4,040	436	105	22	15	6	32	1,240
27.....	277	4,190			790	236	227	27	17	8	32	421
28.....	172	2,680			448	162	515	17	17	17	38	296
29.....	143	1,550	30	100	100	143	323	14	17	18	24	341
30.....	162	245				125	198	17	20	23	35	240
31.....	231					149		26		18	16	

NOTE.—Stage-discharge relation seriously affected by ice Dec. 24 to Jan. 5, Jan. 10-18, and 24-31; discharge estimated from study of observer's notes, weather records, and records of flow at near-by gaging stations

Monthly discharge of Rocky River near Berea, Ohio, for the year ending September 30, 1926

[Drainage area, 269 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	955	18	224	0.833	0.96
November.....	4,190	41	613	2.28	2.54
December.....	675	-----	119	.422	.51
January.....	1,860	-----	223	.829	.96
February.....	5,120	79	671	2.49	2.59
March.....	4,040	81	597	2.22	2.56
April.....	6,680	73	722	2.68	2.99
May.....	164	14	52.8	.196	.23
June.....	287	14	41.0	.152	.17
July.....	389	6	32.9	.122	.14
August.....	955	8	84.3	.313	.36
September.....	3,200	11	626	2.33	2.60
The year.....	6,680	6	329	1.22	16.61

CUYAHOGA RIVER AT OLD PORTAGE, OHIO

LOCATION.—At highway bridge at Old Portage, also known as Cranmer, Summit County, 4 miles northwest of Akron. Little Cuyahoga River enters on left $1\frac{1}{4}$ miles above station.

DRAINAGE AREA.—405 square miles (measured on topographic maps).

RECORDS AVAILABLE.—September 27, 1921, to September 30, 1926.

GAGE.—Au water-stage recorder on right bank just below bridge.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 300 feet above and below gage.

Banks fairly high and wooded. At extremely high stages water flows through second channel on right bank. Bed of stream composed of sand and gravel. Control for low water is riffle 50 feet below gage; control for high water is long stretch of channel below gage. Zero flow would occur at zero gage height.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 8.3 feet at 7.30 p. m. September 6 (discharge, about 2,820 second-feet); minimum stage, 0.94 foot at 11.30 a. m. June 13 (discharge, 40 second-feet).

1921–1926: Maximum stage recorded, 10.8 feet at 9 p. m. June 28, 1924 (discharge, about 3,540 second-feet); minimum stage, that of June 13, 1926.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Municipal water supply for Akron is diverted from headwaters of this stream. Return water from Akron enters above this station. A small amount of water is diverted into this stream from Tuscarawas River by Ohio Canal.

REGULATION.—Flow regulated at reservoir above Akron.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 2,000 second-feet; extended for higher stages by logarithmic plotting. Operation of water-stage recorder satisfactory. Daily discharge ascertained by means of discharge integrator. Records good.

Discharge measurements of Cuyahoga River at Old Portage, Ohio, during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 24.....	2.08	271	July 16.....	2.41	346
Mar. 6.....	3.63	723	Aug. 14.....	2.82	462

Daily discharge, in second-feet, of Cuyahoga River at Old Portage, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	206	658	971	183	552	1,870	697	576	327	171	55	203
2.....	168	638	1,010	174	644	1,720	626	581	218	98	120	1,300
3.....	261	580	919	164	676	1,430	719	574	240	114	155	844
4.....	354	516	813	178	676	1,150	942	575	178	148	177	618
5.....	266	456	812	272	672	939	940	500	104	109	188	1,400
6.....	234	422	912	326	654	727	976	442	98	557	142	2,170
7.....	282	441	927	334	646	788	1,210	422	141	340	143	1,630
8.....	272	572	864	323	616	882	2,010	397	146	222	94	1,170
9.....	242	629	814	308	601	765	2,620	368	176	162	84	1,410
10.....	188	578	762	309	573	761	2,320	302	168	226	124	1,870
11.....	162	558	669	348	530	791	2,310	232	112	184	95	1,450
12.....	192	642	624	365	494	752	2,060	274	134	222	182	1,000
13.....	252	949	590	366	450	649	1,560	212	46	592	166	862
14.....	270	1,020	538	350	436	568	1,190	172	585	454	372	764
15.....	240	924	492	329	427	560	917	144	569	346	368	686
16.....	202	871	448	310	425	488	738	115	436	290	352	665
17.....	210	869	416	297	413	435	622	176	342	230	332	622
18.....	172	820	372	399	392	398	516	190	410	144	234	548
19.....	246	737	324	613	450	448	482	232	412	145	265	474
20.....	266	646	302	610	492	667	410	234	378	216	257	450
21.....	263	579	303	756	498	841	384	226	414	156	306	440
22.....	272	557	308	822	544	1,010	352	161	465	144	564	358
23.....	275	622	303	790	600	1,480	349	174	406	176	584	446
24.....	296	653	292	727	614	1,900	359	198	303	150	554	1,380
25.....	328	606	278	674	1,340	1,960	327	229	274	88	426	1,600
26.....	402	545	283	619	2,370	2,050	361	232	180	154	344	1,810
27.....	470	781	242	552	2,270	1,880	366	163	98	200	264	1,890
28.....	575	1,100	208	490	2,020	1,500	420	152	144	260	184	2,280
29.....	704	1,050	200	428	-----	1,170	464	104	176	164	125	2,260
30.....	754	939	202	371	-----	891	498	62	198	168	180	1,900
31.....	724	-----	206	381	-----	735	-----	272	-----	138	228	-----

NOTE.—No gage-height record Oct. 3; discharge interpolated.

Monthly discharge of Cuyahoga River at Old Portage, Ohio, for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maxi- mum	Mini- mum	Mean		Maxi- mum	Mini- mum	Mean
October.....	754	162	316	May.....	581	62	280
November.....	1,100	422	699	June.....	585	46	263
December.....	1,010	200	529	July.....	592	88	218
January.....	822	164	425	August.....	584	55	249
February.....	2,370	392	753	September.....	2,280	203	1,150
March.....	2,050	398	1,040	The year.....	2,620	46	567
April.....	2,620	327	925				

LITTLE CUYAHOGA RIVER AT AKRON, OHIO

LOCATION.—At foot of Seiberling Street, Akron, Summit County, and half a mile below mouth of Springfield Lake outlet.

DRAINAGE AREA.—42.0 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 10, 1920, to September 30, 1926.

GAGE.—Friez water-stage recorder on right bank at Seiberling Street; inspected by engineers of Goodyear Tire & Rubber Co.

DISCHARGE MEASUREMENTS.—Made by wading or from footbridge below gage.

CHANNEL AND CONTROL.—Channel straight above and below gage. Banks fairly high. One channel at all stages. Control is 32-foot sharp-edged steel weir just below gage. Zero flow would occur at zero gage height.

EXTREMES OF DISCHARGE.—Maximum stage during year not recorded; minimum stage, from water-stage recorder, 0.12 foot from 9 to 10 p. m. June 4 (discharge, 5.4 second-feet).

1920-1926: Maximum stage not recorded. No flow 8 to 9 p. m. June 24 and at 4 p. m. July 14, 1923 (on account of regulation above station).

ICE.—Stage-discharge relation not seriously affected by ice.

DIVERSIONS.—Negligible

REGULATION.—Flow regulated to some extent at reservoir above station.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve based on weir formula and checked by current-meter measurements made in 1927. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained from gage-height graph by inspection. Records excellent except for periods during which recorder was not operating, for which they are fair.

COOPERATION.—Recorder installed and gage-height record furnished by Goodyear Tire & Rubber Co.

No discharge measurements were made during period.

Daily discharge, in second-feet, of Little Cuyahoga River at Akron, Ohio, for the years ending September 30, 1920-1926

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1920				1920				1920			
1-----		30	43	11-----	21	53	49	21-----	22	42	13.8
2-----		35	34	12-----	26	34	34	22-----	28	49	13.0
3-----		21	29	13-----	18.6	40	30	23-----	34	44	12.2
4-----		22	28	14-----	43	46	28	24-----	26	40	11.4
5-----		20	34	15-----	56	42	26	25-----	21	39	12.2
6-----		21	38	16-----	28	40	28	26-----	28	35	11.4
7-----		23	31	17-----	24	38	27	27-----	28	104	14.6
8-----		20	28	18-----	21	42	17	28-----	20	160	15.4
9-----		37	28	19-----	30	37	12.2	29-----	19.5	113	13.8
10-----	25	88	46	20-----	24	52	13.0	30-----	23	80	13.8
								31-----	21	70	

Daily discharge, in second-feet, of Little Cuyahoga River at Akron, Ohio, for the years ending September 30, 1920-1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1920-21												
1.....	29	17	34	39	34	48	131	40	30	21	20	22
2.....	28	23	61	52	29	122	80	38		21		18.6
3.....	19.5	23	42	42	28	26	61	39		20		5.4
4.....	17.8	20	30	34	28	165	56	42		20		10.6
5.....	25	18.6	34	35	83	113	48	36		21		14.6
6.....	23	19.5	34	32	107	146	46	32	28	21	21	34
7.....	29	20	27	34	131	170	43	30	24	21	34	29
8.....	30	26	24	77	131	104	47	28	23	29	25	28
9.....	14.6	25	22	46	113	122	58	26	24	34	17.8	28
10.....	16.2	23	24	28	80	96	57	26	25	21	14.6	14.6
11.....	17	21	28	24	56	62	55	30	34	20	31	17.0
12.....	24	18.6	28	22	49	58	46	30	47	42	22	16.2
13.....	25	17.8	24	19.5	58	78	42	31	26	29	16.2	20
14.....	24	15.4	47	21	77	62	52	31	21	27	15.4	19.5
15.....	19.5	16.2	52	21	88	52	113	28	18.6	20	16.2	25
16.....	26	19.5	34	18.6	113	51	55	35	28	19.5	15.4	18.6
17.....	20	34	29	17.8	93	46	150	35	20	18.6	42	23
18.....	23	34	24	17	42	46	113	34	15.4	19.5	28	21
19.....	23	37	22	23	39	39	65	28	18.6	28	24	18.6
20.....	23	65	18.6	27	34	49	52	27	17.0	26	16.2	43
21.....	24	96	18.6	34	31	58	46	24	27	21	13.8	48
22.....	24	83	26	80	29	65	58	23	29	20	14.6	30
23.....	14.6	62	80	104	35	47	71	29	20	19.5	24	17.8
24.....	12.2	44	43	52	34	52	58	39	14.6	17.8	23	13.0
25.....	14.6	48	23	29	29	74	48	113	14.6	28	15.4	34
26.....	19.5	40	19.5	23	53	46	42	39	19.5	18.6	14.6	25
27.....	36	34	20	18.6	49	113	39	26	25	21	13.8	17.0
28.....	24	30	17.0	23	60	410	38	24	24	23	13.0	14.6
29.....	37	26	17.0	23	226	36	25	24	30	13.8	14.6	14.6
30.....	28	24	17.8	52	104	47		23	18.6	26	28	28
31.....	17	18.6	57	113	113	113	113	18.6	18.6	19.5	19.5	19.5
1921-22												
1.....	14.6	72	34	18.6	25	27	140	40	24	18.6	23	65
2.....	13.8	113	39	17.8	27	25	90	39	25	17.0	19.5	214
3.....	28	55	47	18.6	29	25	64	58	30	39	18.6	140
4.....	37	25	35	37	30	28	64	82	23	30	18.6	113
5.....	42	17.8	32	117	28	39	64	58	23	23	28	74
6.....	37	14.6	28	74	26	53	52	61	23	20	18.6	62
7.....	37	14.6	28	35	28	118	46	117	23	23	28	52
8.....	65	17.0	27	28	28	96	47	74	26	31	46	42
9.....	42	23	26	27	28	57	47	56	25	30	34	34
10.....	28	62	23	27	30	52	46	62	30	29	23	34
11.....	23	52	22	27	77	140	140	43	24	27	22	52
12.....	21	61	29	25	83	104	113	37	23	26	7.4	72
13.....	18.6	38	30	26	72	71	74	31	20	25	7.4	52
14.....	17.8	35	30	18.6	38	64	160	29	20	24	7.4	46
15.....	14.6	47	28	17.8	28	56	291	28	26	23	7.4	52
16.....	14.6	52	27	17.8	20	49	150	27	23	28	7.4	46
17.....	17.0	160	52	17.0	18.6	41	122	28	23	23	10.6	28
18.....	17.8	144	76	28	23	34	177	38	23	72	14.6	52
19.....	19.5	120	52	62	62	36	104	91	34	131	34	34
20.....	34	80	34	44	72	43	76	104	20	72	21	30
21.....	30	52	29	31	43	38	72	65	18.6	34	12.2	25
22.....	23	39	20	25	52	37	80	46	18.6	18.6	28	22
23.....	18.6	34	23	14.6	85	39	66	35	34	28	28	17.0
24.....	18.6	53	58	15.8	71	42	60	30	28	28	28	17.0
25.....	18.6	58	52	17.0	39	46	60	56	14.6	23	28	18.6
26.....	17.8	47	32	18.2	31	40	60	56	18.6	18.6	19.5	22
27.....	17.0	62	27	19.4	34	74	58	44	23	23	18.6	23
28.....	17.0	65	23	21	35	108	52	34	39	34	18.6	23
29.....	17.0	48	22	22	80	49	30	39	39	28	23	21
30.....	16.2	38	16.2	23	131	42	26	18.6	13.0	30	20	18.6
31.....	17.0	22	24	203	203	203	203	25	34	34	36	18.6
1922-23												
1.....	18.6	28	29	39	32	20	13.0	9.3	9.3	4.1	3.7	18.6
2.....	20	30	29	23	48	25	13.8	9.3	10.6	4.1	3.3	15.4
3.....	28	28	24	19.5	52	28	17.0	10.0	6.7	7.4	28	16.2
4.....	24	23	21	17.0	31	52	39	15.4	8.6	37	26	26
5.....	18.6	23	35	13.8	31	35	140	14.6	8.6	16.2	16.2	31

Daily discharge, in second-feet, of Little Cuyahoga River at Akron, Ohio, for the years ending September 30, 1920-1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1922-23												
6-----	21	46	34	10.6	31	24	96	7.4	7.4	13.0	12.2	27
7-----	14.6	28	25	11.4	26	18.6	34	9.3	25	10.6	13.0	30
8-----	14.6	31	39	16.2	16.2	16.2	29	13.8	16.2	5.4	13.0	20
9-----	13.0	31	15.4	17.0	17.0	14.6	14	23	8.6	4.8	13.8	14.6
10-----	9.3	35	9.3	15.4	11.4	80	20	18.6	6.0	7.4	14.6	15.4
11-----	19.5	23	7.4	20	10.6	88	18.6	22	6.0	25	14.6	14.6
12-----	8.6	23	9.3	18.6	12.2	88	16.2	237	6.0	13.0	17.8	21
13-----	6.0	28	7.4	13.0	47	65	16.2	210	6.0	6.0	19.5	21
14-----	8.6	30	7.4	77	34	34	17.0	80	6.0	2.5	17.8	20
15-----	10.6	52	18.6	127	14.6	24	24	55	8.0	2.5	16.2	21
16-----	10.6	36	23	65	18.6	80	27	61	7.4	6.0	16.2	13.0
17-----	10.6	28	22	34	52	52	19.5	56	5.4	4.8	18.6	16.2
18-----	12.2	25	28	44	30	30	16.2	42	6.0	6.7	22	20
19-----	12.2	26	28	66	24	14.6	28	7.4	7.4	17.8	23	23
20-----	12.2	37	11.4	40	10.0	18.6	13.8	17.0	8.6	7.4	21	53
21-----	14.0	32	12.2			15.4	12.2	30	6.0	4.8	23	61
22-----	15.9	31	14.6			14.6	14.6	21	7.4	3.3	25	37
23-----	17.8	28	15.4			58	11.4	14.6	6.0	4.1	22	21
24-----	19.6	32	10.6	15.0	15.0	37	10.6	12.2	2.9	7.4	21	21
25-----	21	32	12.2			28	10.6	10.6	7.4	6.7	20	20
26-----	23	32	23			21	10.6	8.6	10.6	5.4	15.4	19.5
27-----	25	31	25	18.6		18.6	10.0	8.0	8.6	5.4	19.5	23
28-----	27	31	96	58	14.6	9.3	8.0	9.3	9.3	7.4	37	26
29-----	27	30	58	46	12.2	12.2	10.0	10.0	8.0	4.8	24	22
30-----	28	30	18.6	30	13.0	9.3	8.6	8.6	6.0	6.7	18.6	13.0
31-----	23	18.6	26	13.0	13.0	8.6	8.6	6.0	6.0	18.6	18.6	18.6
1923-24												
1-----	17.8	19.5	77	72	52	51	74	68	39	74	12.2	22
2-----	20	17.0	40	49	42	58	71	44	44	52	20	51
3-----	20	16.2	29	96	42	62	70	48	44	39	18.6	31
4-----	20	19.5	32	72	55	101	60	93	60	43	23	23
5-----	19.5	31	88	64	101	142	53	55	42	48	30	23
6-----	15.4	24	106	56	80	96	53	43	37	52	22	21
7-----	13.0	24	82	47	51	65	56	37	34	57	21	17.0
8-----	18.6	37	62	39	42	48	71	35	72	52	20	24
9-----	21	31	70	30	34	44	90	49	103	35	20	90
10-----	22	23	86	42	36	46	72	46	99	30	20	96
11-----	22	19.5	57	286	35	47	56	47	232	30	20	61
12-----	22	17.0	56	199	36	49	49	94	113	37	20	32
13-----	22	14.6	55	99	35	49	46	96	76	49	23	85
14-----	17.8	19.5	54	55	36	46	43	137	58	35	26	61
15-----	23	21	52	46	34	37	39	232	47	28	22	40
16-----	22	19.5	40	118	30	31	37	131	47	23	18.6	29
17-----	21	21	38	177	32	30	36	82	46	20	10.0	24
18-----	21	18.6	38	93	32	31	72	90	77	18.6	17.8	22
19-----	21	20	34	52	34	30	101	111	83	20	23	21
20-----	20	17.8	31	47	48	31	58	76	52	13.8	21	37
21-----	13.0	16.2	43	42	42	35	52	58	43	17.0	20	58
22-----	18.6	16.2	113	42	39	53	83	51	43	22	23	46
23-----	18.6	23	133	34	31	93	64	44	44	21	31	29
24-----	24	31	88	28	25	104	49	58	43	17.0	27	23
25-----	24	24	70	28	26	77	42	58	49	16.2	26	20
26-----	18.6	38	56	22	25	99	35	52	49	15.4	27	20
27-----	15.4	55	53	22	29	126	34	46	42	15.4	27	18.6
28-----	13.0	35	96	23	32	106	36	46	46	13.8	25	30
29-----	15.4	26	56	39	31	78	39	48	350	13.8	23	150
30-----	23	99	47	96	56	56	48	58		13.8	22	156
31-----	21	77	86	86	71	71	46	46	13.0	10.6	10.6	10.6
1924-25												
1-----	113	17.8	17.0	25	15.4	50	31	31	19.5	14.6	17.8	15.4
2-----	72	14.6	19.5	25	27	51	30	24	15.4	13.0	14.6	16.2
3-----	46	18.6	22	20	26	52	27	22	12.2	15.4	17.0	23
4-----	34	18.6	24	16.2	27	54	25	53	11.4	16.9	46	11.4
5-----	26	18.6	30	22	29	55	22	68	12.2	18.5	21	10.6
6-----	22	18.6	42	22	36	56	24	52	12.2	20	17.8	9.3
7-----	21	18.6	30	23	90	58	26	36	13.8	22	17.8	16.2
8-----	21	17.8	34	23	152	60	26	29	13.8	20	17.0	18.6
9-----	20	16.2	55	23	188	60	20	26	12.2	17.8	16.2	17.0
10-----	21	18.6	25	21	160	60	19.5	29	10.6	62	14.6	17.0

Daily discharge, in second-feet, of Little Cuyahoga River at Akron, Ohio, for the years ending September 30, 1920-1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
11.....	20	19.5	20	17.8	162	113	24	53	13.8	28	14.6	15.4
12.....	19.5	19.5	19.5	23	86	80	22	34	14.6	13.8	14.6	25
13.....	22	21	44	24	65	52	22	26	17.0	13.8	17.0	77
14.....	20	23	34	23	46	104	28	23	17.8	13.0	16.2	60
15.....	19.5	20	20	22	43	86	65	26	19.5	14.6	14.6	36
16.....	19.5	16.2	19.5	26	43	68	39	16.2	17.8	17.0	12.2	25
17.....	21	18.6	77	24	44	49	30	18.6	14.6	17.8	17.0	16.2
18.....	22	18.6	115	17.0	32	52	27	18.6	14.6	16.2	17.8	13.8
19.....	20	17.8	133	21	30	162	25	20	14.6	13.8	17.8	14.6
20.....	23	18.6		22	28	101	23	21	13.8	12.2	17.0	19.5
21.....	23	22		21	34	58	22	20	10.6	17.8	18.6	23
22.....	23	29		22	66	46	25	20	12.2	30	18.6	21
23.....	22	23		20	223	39	30	20	13.0	15.4	17.0	20
24.....	23	21		21	185	36	26	28	14.6	13.8	17.0	19.5
25.....	22	19.5	35	19.5	96	34	24	32	20	15.4	16.2	19.5
26.....	17.8	17.0		28	85	32	26	23	16.2	20	17.0	16.2
27.....	21	17.0		28	46	39	24	20	17.0	19.5	17.0	18.1
28.....	20	17.4		26	47	39	23	20	12.2	17.8	16.2	20
29.....	19.5	17.8		25		34	24	18.6	19.5	16.2	14.6	22
30.....	19.5	13.8		25		34	34	18.9	16.2	16.2	13.8	21
31.....	18.6			22		32		19.2		18.6	15.4	18.6
1925-26												
1.....	19.5		29		88	80	49	27	42	18.6	18.6	113
2.....	20		28		76	74	35	27	26	16.2	11.4	96
3.....	19.5		29		52	58	72	40	18.6	13.8	11.4	
4.....	46		34	23	36	53	68	42	17.8	11.4	13.0	
5.....	39	33	56		31	44	47	35	13.8	13.0	13.8	
6.....	28		71		28	42	40	32	17.0	47	14.6	100
7.....			43		28	88	80	29	20	39	20	
8.....			28		28	64	203	26	17.0	23	27	
9.....			29	27	27	51	214	23	17.8	15.4	19.5	
10.....		26	27	25	23	49	113	23	17.8	13.8	18.6	
11.....		22	28	24	34	56	66	28	17.0	14.6		88
12.....		36	31	23	34	49	51	28	18.6	18.6		56
13.....		90	24	29	30	45	46	28	16.2	76		48
14.....		61	18.6	28	26	41	42	29	72	66	27	39
15.....		40	18.6	29	28	37	39	29	68	39		36
16.....		35	17.8	32	23	34	38	28	36	22		46
17.....		28	19.5	29	26	30	35	31	23	15.4	52	42
18.....		24	17.0	65	34	32	31	31	74	13.8	34	37
19.....		24	21	122	61	48	29	36		17.0	24	31
20.....		24	21	80		71	28	26		15.4	21	31
21.....		21	25	58		57	32	22		17.8	34	29
22.....		19.5	24			51	31	21		17.8	47	28
23.....		23	20		55	98	34	22	39	18.6	37	49
24.....		20	19.5			113	35	27		17.0	31	88
25.....		22	16.2			74	37	29		12.2	22	80
26.....		21		50		52	36	29		19.5	17.8	72
27.....		80			96	37	35	25		18.4	12.2	53
28.....		83	13.0		88	30	46	23	19.5	17.3	13.8	56
29.....		52				29	42	17.0		21	11.4	56
30.....		30				29	37	24		16.2	16.2	44
31.....						37		55		16.2	15.4	

NOTE.—No gage-height record Aug. 13, Nov. 28, 1920, Feb. 6, 1921, Jan. 24-29, Feb. 2, 3, 6-8, Mar. 14-17, July 9-14, Oct. 21-27, Nov. 25 to Dec. 1, 1922, Dec. 12-14, 1923, Jan. 5-8, July 4-6, Nov. 28, 1924, Jan. 28, Feb. 28 to Mar. 7, Mar. 15, 16, May 30, 31, July 4, 5, Sept. 27, 28, 1925, Mar. 13-16, and July 27 and 28, 1926, discharge interpolated after comparison with records of flow at near-by gaging stations. No gage-height record May 28 to June 3, July 31 to Aug. 5, 1921, Jan. 20-26, Feb. 17 to Mar. 2, 1923, June 28-30, Dec. 20-31, 1924, Jan. 1, 2, Oct. 7 to Nov. 9, Dec. 26-31, 1925, Jan. 1-8, 22-31, Feb. 20-26, June 19-27, Aug. 11-16, and Sept. 4-10, 1926; discharge estimated by comparison with records of flow at near-by gaging stations. Braced figures show mean discharge for periods indicated.

Monthly discharge of Little Cuyahoga River at Akron, Ohio, for the years ending September 30, 1920-1926

		Discharge in second-feet					Discharge in second-feet			
Month		Maxi- mum	Mini- mum	Mean	Month		Maxi- mum	Mini- mum	Mean	
1920					1923-24					
July 10-31.....	56	18.6	26.7	October.....	24	13.0	19.5			
August.....	160	20	48.9	November.....	99	14.6	26.5			
September.....	49	11.4	24.5	December.....	133	29	63.2			
					January.....	286	22	71.0		
1920-21					February.....	101	25	40.2		
October.....	37	12.2	22.8	March.....	142	30	64.3			
November.....	96	15.4	32.7	April.....	101	34	56.3			
December.....	80	17.0	30.3	May.....	232	35	70.3			
January.....	104	17.0	36.3	June.....		34	92.3			
February.....	131	28	61.9	July.....	74	13.0	30.2			
March.....	410	39	95.6	August.....	31	10.0	21.6			
April.....	150	36	61.8	September.....	156	17.0	45.4			
May.....	113		33.5							
June.....	88	14.6	26.9	The year.....		13.0	50.0			
July.....	42	17.8	23.1							
August.....	42	13.0	20.3	1924-25						
September.....	48	5.4	22.3	October.....	113	17.8	26.8			
The year.....					November.....	29	13.8	18.9		
					December.....	133	17.0	38.7		
1921-22					January.....	28	16.2	22.5		
October.....	65	13.8	24.3	February.....	223	15.4	75.4			
November.....	160	14.6	56.6	March.....	162	32	59.5			
December.....	76	16.2	33.0	April.....	65	19.5	27.1			
January.....	117	14.6	29.5	May.....	68	16.2	27.9			
February.....	85	18.6	41.6	June.....	20	10.6	14.8			
March.....	203	25	64.4	July.....	62	12.2	18.7			
April.....	291	42	88.9	August.....	46	12.2	17.4			
May.....	117	25	50.0	September.....	77	9.3	21.9			
June.....	39	14.6	24.7	The year.....					223	9.3
July.....	131	13.0	32.1						30.6	
August.....	46	7.4	21.2							
September.....	214	17.0	50.0	1925-26						
The year.....					October.....			29.7		
1922-23					November.....	90	19.5	36.0		
October.....	28	6.0	17.2	December.....	71		24.9			
November.....	52	23	30.7	January.....	122		40.5			
December.....	96	7.4	23.5	February.....			45.8			
January.....	127	10.6	35.7	March.....	113	29	53.3			
February.....	52		20.6	April.....	214	28	56.4			
March.....	88	12.2	35.3	May.....	55	17.0	28.8			
April.....	140	9.3	23.9	June.....	74	13.8	31.5			
May.....	237	7.4	34.8	July.....	76	11.4	22.5			
June.....	25	2.9	8.20	August.....	52	11.4	23.2			
July.....	37	2.5	8.17	September.....		18.6	64.6			
August.....	37	3.3	18.4	The year.....					11.4	37.9
September.....	61	13.0	23.4							
The year.....										

EXTREMES OF DISCHARGE.—Maximum stage recorded during year and period of record, 5.3 feet at 6.30 p. m. February 25, 1926 (discharge, 7,720 second-foot); minimum stage recorded during year and period of record, 0.26 foot at 8 a. m. July 26, 1926 (discharge, 21 second-foot).

ICE.—Stage-discharge relation affected by ice during severe winters.

DIVERSIONS.—Municipal water supply for Willoughby is diverted above gage.

ACCURACY.—Stage-discharge relation permanent; affected by ice for periods from December to March. Rating curve well defined. Gage read to hundredths twice a day. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except those for periods of ice effect, which are fair.

The following discharge measurements were made:

July 9, 1926: Gage height, 0.32 foot; discharge, 30.6 second-feet.

August 20, 1926: Gage height, 0.32 foot; discharge, 36.0 second-feet.

Daily discharge, in second-feet, of Chagrin River at Willoughby, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1.....	60	328	403	80	945	524	479	256	71	49	35	33
2.....	57	428	487		630	630	321	171	74	42	37	140
3.....	66	315	396	156	462	2,080	190	60	60	37	51	71
4.....	54	239	380		411		1,060	211	51	37	47	152
5.....	136	195	835	515	336	330	680	161	51	37	44	890
6.....	104	200	890	1,060	282	1,370	506	123	51	37	40	295
7.....	94	288	470	380	295		1,780	127	71	37	251	205
8.....	71	1,640	308	180	251	2,560	6,310	123	68	35	98	123
9.....	98	680	282	190	234		2,560	101	60	33	80	630
10.....	152	411	228	152	190	1,000	1,000	101	51	37	65	780
11.....	123	269	251	136	1,250	524	87	51	54	50	275	
12.....	98	239	308	123			366	74	57	42	35	176
13.....	87	1,710	262	160	370	411	288	80	57	80	33	140
14.....	77	1,000	166				251	80	136	205	71	119
15.....	74	479	144	160	370	411	205	94	245	104	98	98
16.....	68	453	136				190	90	112	77	51	1,180
17.....	780	343	104	571	730	1,780	166	80	87	49	44	373
18.....	358	321	98				136	74	780	35	37	195
19.....	200	1,710	84	1,860	2,400	1,780	152	148	195	30	37	115
20.....	251	890	112	1,060			127	136	112	33	35	112
21.....	420	479	115	479	3,250	1,180	945	140	94	28	49	101
22.....	524	328	115	180			780	136	84	136	28	140
23.....	630	302	80	200	222	222	3,610	144	90	104	28	90
24.....	580	251	94	200			1,780	152	98	84	25	60
25.....	1,500	228	80	200	3,070	630	1,180	80	74	25	68	5,000
26.....	1,120	228	80	222			234	74	71	23	49	1,440
27.....	890	2,560	80	234	630	275	1,000	396	185	71	80	25
28.....	630	1,930		228			1,300	68	74	68	30	630
29.....	445	835	308	336	234	234	580	63	71	71	70	453
30.....	420	366		308			373	64	49	49	28	308
31.....	343	-----	-----	222	-----	-----	234	-----	66	-----	37	51

NOTE.—Stage-discharge relation seriously affected by ice Dec. 27-31, Jan. 1-3, 13-17, Feb. 11-24, Mar. 3-6, and 8-17; flow estimated from study of observer's notes, weather records, and records of flow of near-by streams. Gage not read May 30, Aug. 4, 5, 10, and 11; discharge interpolated.

Monthly discharge of Chagrin River at Willoughby, Ohio, for the year ending September 30, 1926

[Drainage area, 251 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,500	54	339	1.35	1.56
November.....	2,560	195	655	2.61	2.91
December.....	890	-----	236	.940	1.08
January.....	1,860	-----	330	1.32	1.52
February.....	3,250	-----	613	2.44	2.54
March.....	-----	-----	974	3.88	4.47
April.....	6,310	127	755	3.01	3.36
May.....	256	63	108	.431	.50
June.....	780	49	109	.434	.48
July.....	205	23	48.3	.192	.22
August.....	251	28	61.3	.244	.28
September.....	5,000	33	641	2.55	2.84
The year.....	6,310	23	403	1.61	21.76

GRAND RIVER NEAR MADISON, OHIO

LOCATION.—At highway bridge 2 miles south of Madison, Lake County. Griswold Creek enters from left half a mile below station.

DRAINAGE AREA.—587 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 7, 1922, to September 30, 1926.

GAGE.—Chain gage on highway bridge; read by P. D. Jopko.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 500 feet above and below gage.

Left bank high and clean; right bank fairly high and brushy. One channel at all stages. Control for low water is riffle 150 feet below gage; control at high stages is long stretch of channel below gage; shifts during high water. Zero flow would occur at gage height 0.5 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 11.1 feet at 4 p. m. September 25 (discharge, about 14,300 second-feet); minimum stage, 1.20 feet July 12, 23, and 26 (discharge, 7 second-feet).

1922-1926: Maximum stage recorded, that of September 25, 1926; minimum stage, 1.10 feet at 5.30 p. m. August 27, 1923 (discharge, 1.5 second-feet).

ICE.—Stage discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation permanent except as affected by ice.

Rating curve well defined below 500 second-feet and fairly well defined between 500 and 5,000 second-feet. Gage read to hundredths twice daily.

Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for periods of ice effect, for which they are fair.

The following discharge measurements were made:

July 9, 1926: Gage height, 1.38 feet; discharge, 13.1 second-feet.

August 20, 1926: Gage height, 1.46 feet; discharge, 18.2 second-feet.

Daily discharge, in second-feet, of Grand River near Madison, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	66	950	1,700	300	800	3,680	550	510	11	32	11	18
2.....	66	820	1,420		1,500	2,760	572	185	11	25	16	16
3.....	79	672	1,090		3,360	2,000	2,480	238	11	17	47	23
4.....	92	550	950		2,240	1,510	4,220	171	13	13	83	83
5.....	160	412	880		2,000	1,020	2,480	171	39	17	59	150
6.....	530	342	2,120	2,620	2,000	620	1,800	120	25	13	53	342
7.....	342	450	1,600	1,420	1,600	530	1,900	57	16	11	190	325
8.....	255	5,380	950	1,420	1,420	1,170	6,680	68	13	12	196	450
9.....	272	3,040	820	1,420	1,250	2,760	7,600	85	12	10	102	1,250
10.....	595	1,800	595	1,250	1,090	1,420	4,580	88	17	14	59	1,700

Daily discharge, in second-feet, of Grand River near Madison, Ohio, for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11.....	595	1,170	510	1,090	2,000	1,420	3,200	64	17	9	48	1,330
12.....	530	1,020	430	572	2,120	1,430	1,900	43	27	8	49	1,330
13.....	378	4,220	620	700	1,600	1,090	950	30	57	15	25	1,090
14.....	255	4,580	645		2,000	825	510	30	92	14	32	950
15.....	185	2,760	510		1,700	530	342	36	132	11	30	510
16.....	130	2,120	395	1,000	1,600	395	255	24	190	14	40	490
17.....	760	2,000	190		1,600	272	171	18	214	25	42	595
18.....	1,420	1,600	308		2,000	450	158	32	510	33	43	572
19.....	950	2,620	760	3,860	2,480	1,250	105	54	325	25	45	490
20.....	672	3,860	760	3,520	3,040	4,580	153	68	199	9	17	360
21.....	1,020	2,480	595	2,900	3,000	4,220	109	51	255	9	18	255
22.....	1,700	2,120	550	2,120		3,680	88	57	378	9	15	185
23.....	3,200	950	370	1,090		6,460	79	64	255	8	32	1,420
24.....	3,520	595		1,420	4,000	8,520	92	39	163	11	49	8,800
25.....	1,600	530		1,090		5,800	120	24	120	14	49	13,700
26.....	5,180	510	300	820	7,840	3,680	158	13	79	9	32	7,360
27.....	4,220	1,800		510	5,180	2,240	185	16	109	19	16	4,780
28.....	3,200	5,180		400	4,400	1,090	760	19	79	25	23	3,360
29.....	2,000	2,760	650	650	650	672	1,420	25	74	13	18	2,620
30.....	1,330	1,900				450	880	30	45	12	18	2,120
31.....	1,020	-----				360	-----	16	-----	11	16	-----

NOTE.—Stage-discharge relation affected by ice Dec. 23 to Jan. 5, Jan. 13-18, Jan. 28 to Feb. 2, and Feb. 21-25; discharge estimated from study of observer's notes, weather records, and records of flow at near-by stations.

Monthly discharge of Grand River near Madison, Ohio, for the year ending September 30, 1926

[Drainage area, 587 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	5,180	66	1,170	1.99	2.29
November.....	5,380	342	1,970	3.36	3.75
December.....	2,120	190	687	1.17	1.35
January.....	3,860	-----	1,170	1.99	2.29
February.....	7,840	-----	2,530	4.31	4.40
March.....	8,360	272	2,150	3.66	4.22
April.....	7,600	79	1,480	2.52	2.51
May.....	510	13	78.9	.134	.15
June.....	510	11	116	.198	.22
July.....	33	8	15.1	.026	.03
August.....	196	11	47.5	.081	.09
September.....	13,700	16	1,890	3.22	3.59
The year.....	13,700	8	1,090	1.86	25.28

ASHTABULA RIVER NEAR ASHTABULA, OHIO

LOCATION.—At covered highway bridge $1\frac{1}{4}$ miles southeast of Ashtabula, Ashtabula County. Hubbard Run enters on left 1 mile below gage.

DRAINAGE AREA.—118 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 31, 1924, to September 30, 1926.

GAGE.—Au water-stage recorder on left bank at downstream side of bridge; installed August 27, 1924. Staff gage at same site and datum used July 31 to August 26, 1924.

DISCHARGE MEASUREMENTS.—Made from cable at upstream side of bridge or by wading.

CHANNEL AND CONTROL.—Channel straight for 200 feet above and below gage. Right bank high; left bank fairly high, subject to overflow at extremely high stages. Control is riffle composed of gravel and small boulders 100 feet below gage. One channel at all stages.

EXTREMES OF STAGE.—Maximum stage during year from water-stage recorder, 7.3 feet at 9 p. m. September 24; minimum stage, from recorder, 0.60 foot from 6 to 11 p. m. July 26.

1924-1926, maximum stage from recorder, 9.0 feet at 11.50 p. m. February 8, 1925 (stage-discharge relation affected by ice jam); minimum stage from recorder, 0.52 foot from 4 to 12 p. m. September 1, 1925.

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Operation of water-stage recorder satisfactory except as noted in footnote to tables of daily gage height. Rating curve not yet developed for high water and consequently gage heights only are published in this report.

Discharge measurements of Ashtabula River near Ashtabula, Ohio, during the years ending September 30, 1924-1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
1924	Feet	Sec.-ft.	1925	Feet	Sec.-ft.	1926	Feet	Sec.-ft.
Sept. 11.....	1.90	138	Apr. 13.....	1.02	17.4	Jan. 6.....	3.27	924
Oct. 24.....	.80	3.0	May 8.....	1.34	60.2	Jan. 7.....	2.26	302
Nov. 23.....	1.25	26.4	July 7.....	.62	.07	July 10.....	.75	.6
			Aug. 3.....	.96	13.7	Aug. 19.....	1.24	34.8
1925			Aug. 28.....	.56	.1			
Jan. 10.....	* 1.66	37.2	Dec. 9.....	1.54	103			
Mar. 20.....	2.45	348						

* Stage-discharge relation affected by ice.

Daily gage height, in feet, of Ashtabula River near Ashtabula, Ohio, for the years ending September 30, 1924-1926

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1924				1924				1924			
1.....		0.75	0.79	11.....		0.70	2.04	21.....		0.63	0.95
2.....		.72	.93	12.....		.69	1.57	22.....		.62	.99
3.....			.90	13.....		.69	1.41	23.....		.62	1.89
4.....		.68	.90	14.....		.69	1.97	24.....		1.86	1.59
5.....		.70	1.07	15.....		.67	1.56	25.....		1.37	1.30
6.....		.70	1.01	16.....		.65	1.30	26.....		1.12	1.14
7.....		.73	.95	17.....			1.16	27.....		.98	1.02
8.....		.71	.90	18.....		.67	1.06	28.....		.90	1.01
9.....		.69	1.13	19.....		.64	.98	29.....		.83	3.56
10.....			2.20	20.....		.64	.95	30.....		.78	4.30
								31.....	0.77	.74	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1.....	3.83	0.79	1.00	1.75	1.57	1.62	1.40	1.35	0.79		1.36	0.53
2.....	2.51	.80	1.00	1.09	1.56	1.43	1.29	1.70	.78		1.07	.53
3.....	1.90	.81	.96	1.59	1.56	1.67	1.29	1.48	.80		.97	.59
4.....	1.56	.81	.98	1.53	1.55	1.56	1.26	1.33	.76		.89	.69
5.....	1.37	.82	.99	1.52	1.51	1.42	1.18	1.36	.72		.83	.57
6.....	1.26	.83	1.11	1.57	1.50	1.53	1.13	1.47	.63		.80	.56
7.....	1.19	.83	1.40	1.62	1.66	1.82	1.09	1.40	.63	0.62	.81	.59
8.....	1.15	.90	1.50	1.66	3.78		1.05	1.35	.64	.61	.79	.59
9.....	1.10	.92	2.23	1.67	5.00		1.02	1.22	.65	.59	.89	.57
10.....	1.07	.94	1.99	1.67	3.94		1.02	1.14	.66	.82	.81	.56
11.....	1.02	.94	1.56	1.64	3.10		1.02	1.10		.77	.77	.56
12.....	.99	.93	1.41	1.60	2.77		1.06	1.19		.70	.73	.63
13.....	.96	.94	2.14	1.60	2.36		1.02	1.13		.67	.96	1.75
14.....	.93	.98	2.60	1.61	2.08		1.01	1.05		.66	1.32	2.22
15.....	.90	.98	1.92	1.61	1.87		1.02	1.00		.63	1.07	1.69

Daily gage height, in feet, of Ashtabula River near Ashtabula, Ohio, for the years ending September 30, 1924-1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
16.....	0.89	0.99	1.88	1.62	1.80	-----	1.01	0.98	-----	0.74	0.95	2.28
17.....	.88	1.00	2.68	1.61	2.18	-----	1.01	1.07	-----	.88	.87	1.81
18.....	.86	1.00	3.59	1.66	1.79	-----	.99	1.44	-----	.81	.82	1.36
19.....	.85	.99	4.40	1.76	1.65	-----	1.13	1.25	-----	.74	.79	1.15
20.....	.88	.96	3.08	1.85	1.43	-----	1.51	1.11	-----	.70	.76	1.07
21.....	.82	1.01	2.01	1.88	1.75	1.89	1.41	1.03	-----	.67	.80	2.00
22.....	.81	1.08	2.23	1.86	3.62	1.59	1.21	.99	-----	.73	.74	1.65
23.....	.80	1.24	2.84	1.78	4.2	1.40	1.96	.94	-----	.69	.70	1.25
24.....	.80	1.27	2.78	1.73	3.45	1.31	2.22	.91	-----	.64	.67	1.08
25.....	.80	1.27	2.37	1.67	2.41	1.29	1.58	.90	-----	.65	.63	.99
26.....	.79	1.31	2.23	1.67	2.84	1.27	1.30	.88	-----	.70	.61	.93
27.....	.80	1.16	2.21	1.78	1.92	1.30	1.17	.87	-----	.71	.53	.91
28.....	.81	1.22	2.06	1.93	1.67	1.53	1.09	.86	-----	.77	.56	.91
29.....	.81	1.06	1.94	1.93	-----	1.47	1.02	.86	-----	.78	.54	.95
30.....	.80	.98	1.84	1.78	-----	1.38	1.05	.83	-----	.73	.54	.96
31.....	.79	-----	1.79	1.62	-----	1.47	-----	.81	-----	.81	.53	-----
1925-26												
1.....	.91	2.05	1.62	1.33	1.88	2.48	1.62	1.62	.88	.94	.78	.75
2.....	.89	1.89	1.72	1.24	2.87	2.28	1.49	1.42	.85	.89	2.42	.79
3.....	.99	1.71	1.76	1.35	2.55	2.15	2.73	1.35	.85	.86	2.07	.78
4.....	1.23	1.52	1.67	1.37	2.26	2.69	3.60	1.54	.84	.82	1.72	.90
5.....	2.28	1.40	1.93	1.63	2.01	3.31	2.63	1.45	.84	.81	1.63	1.17
6.....	2.18	1.33	3.05	3.22	1.96	2.51	2.43	1.31	.84	.80	1.48	1.88
7.....	1.65	1.60	2.12	2.32	1.86	2.62	2.31	1.22	.87	.79	1.69	1.63
8.....	1.42	3.63	1.65	1.69	1.78	3.42	4.40	1.17	.83	.76	1.71	1.46
9.....	1.55	2.70	1.54	1.44	1.73	4.20	4.30	1.11	.81	.74	1.34	2.43
10.....	2.46	1.97	1.88	1.32	1.70	4.00	2.68	1.06	.80	.75	1.11	2.87
11.....	2.13	1.63	1.44	1.46	1.88	3.53	2.07	1.02	.80	.75	.98	2.04
12.....	1.72	1.55	1.33	1.41	1.96	3.46	1.72	1.00	.80	.72	1.55	2.58
13.....	1.42	3.74	1.56	1.71	1.59	3.63	1.53	.99	.81	.76	-----	1.38
14.....	1.28	3.31	1.68	1.63	1.47	3.07	1.43	.97	.88	.79	-----	1.26
15.....	1.22	2.23	1.37	1.52	1.44	2.68	1.38	.97	1.14	.76	-----	2.10
16.....	1.25	2.33	1.29	1.42	1.50	2.48	1.34	.96	1.27	.73	-----	2.97
17.....	2.40	2.31	1.26	1.40	1.67	2.18	1.32	.94	1.11	.71	-----	2.23
18.....	2.42	2.21	1.48	1.68	1.51	1.81	1.28	.93	2.76	.70	-----	1.72
19.....	1.75	3.39	1.45	3.65	1.60	2.23	1.22	1.01	1.96	.70	1.26	1.39
20.....	1.66	2.03	1.22	3.01	2.13	4.30	1.18	1.04	1.41	.69	1.09	1.22
21.....	2.12	2.20	1.13	2.75	2.45	3.83	1.13	1.00	1.17	.67	1.04	1.10
22.....	2.61	1.79	1.16	1.87	2.41	3.38	1.12	.98	1.06	.65	1.08	1.02
23.....	3.12	1.61	1.29	1.62	2.28	4.4	1.13	.99	1.01	.64	1.22	5.0
24.....	2.93	1.52	1.26	1.66	2.14	4.7	1.17	.99	1.14	.63	1.13	6.8
25.....	4.10	1.46	1.31	1.96	2.60	3.48	1.34	.97	1.01	.62	1.02	5.0
26.....	3.71	1.43	1.29	2.13	4.80	2.70	1.61	.94	1.02	.61	.93	3.07
27.....	3.73	3.10	1.27	2.19	3.36	2.08	1.49	.92	1.50	.62	.89	2.32
28.....	3.12	3.80	1.28	1.87	2.92	1.70	2.05	.90	1.41	.81	.83	2.25
29.....	2.45	2.21	1.33	1.79	-----	1.51	2.46	.89	1.15	.81	.83	2.13
30.....	2.05	1.71	1.38	1.76	-----	1.42	1.92	.88	1.02	.79	.80	1.90
31.....	1.94	-----	1.32	1.60	-----	1.42	-----	.88	-----	.74	.77	-----

NOTE.—Staff gage not read Aug. 3, 10, and 17, 1924. Water-stage recorder not operating satisfactorily Feb. 8, 9, Mar. 8-20, and June 11 to July 6, 1925, and Aug. 13-18, 1926.

CONNEAUT CREEK AT AMBOY, OHIO

LOCATION.—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 (measured on topographic maps).

RECORDS AVAILABLE.—July 1, 1922, to September 30, 1926.

GAGE.—Au water-stage recorder on right bank just below bridge.

DISCHARGE MEASUREMENTS.—Made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 300 feet above and 1,000 feet below gage. One channel at all stages. Left bank high and clean; right bank fairly high and brushy. The flood of March, 1913, flowed over right bank and across the road leading to bridge at a point some distance from bridge. Control for low water is rock ledge 75 feet below gage. Control for high water is long stretch of channel below gage. Zero flow would occur at gage height 0.7 foot.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 8.1 feet at 4 a. m. September 25 (discharge, about 6,030 second-feet); minimum stage from recorder, 1.10 feet from 6 to 12 p. m. July 26 (discharge, 2.8 second-feet).

1922-1926: Maximum stage recorded, that of September 25, 1926; minimum stage, 1.06 feet at 6 p. m. October 20, 1923 (discharge, 1.6 second-feet).

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined below 1,500 second-feet. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable variation in stage, by averaging discharge obtained for shorter intervals. Records excellent except for periods of ice effect, for periods when recorder was not operating satisfactorily, and for extremely high water, for which they are fair.

The following discharge measurements were made:

July 12, 1926: Gage height, 1.18 feet; discharge, 3.8 second-feet.

August 19, 1926: Gage height, 3.04 feet; discharge, 656 second-feet.

Daily discharge, in second-feet, of Conneaut Creek at Amboy, Ohio, for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	294	237	100	1,000	680	229	190	10	10	15	14
2	21	318	233			400	280	133			123	17
3	37	294	250				574	115			234	13
4	114	229	246			3,400	2,050	142			321	17
5	142	160	300				1,020	157			110	122
6	487	133	648	1,000	450		680	105	70	12	75	434
7	354	182	582	964			550	84			277	354
8	186	790	290	434			1,660	73			314	246
9	171	1,040	205			2,100	2,700	58			133	223
10	280	434	193	190			1,050	52			67	890
11	299	250	134	600	300		434	42	70	10	38	750
12	175	186	154				271	40			3.9	128
13	122	706	157				193	37			11	148
14	87	1,560	190				151	34			8.9	87
15	84	750	151			800	130	37			9.8	78
16	75	550	120	400	800		125	29	70	10	100	322
17		615	157				120	29			12	680
18		462	237				105	24			11	354
19		691	271	1,000		1,200	89				3.9	160
20	330	1,470	285	1,220		1,900	82				5.7	192
21		750	139	825	800	2,500	75		20	60	6.1	108
22		380	94	380		1,650	69				5.1	78
23		258		160		1,830	75				5.5	96
24		209				2,700	80				3.8	84
25		190				2,200	100				3.8	54
26	1,000	164	90	900	1,400	2,300	122		60	2.9	38	2,580
27		574				1,700	550	136			3.3	30
28		1,860				980	328	186			19	27
29		861		600			225	511			9.0	17
30	407	354					186	314			6.7	13
31	318					171					7.4	16

NOTE.—Water-stage recorder not operating satisfactorily Oct. 17-29, May 19 to July 10, and Aug. 14-19; stage-discharge relation seriously affected by ice Dec. 23 to Jan. 6, Jan. 9-19, Jan. 22 to Feb. 27, and Mar. 3-20; discharge during these periods estimated from study of weather records and records of flow of near-by streams.

Monthly discharge of Conneaut Creek at Amboy, Ohio, for the year ending September 30, 1926

[Drainage area, 178 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....		20	399	2.24	2.58
November.....	1,860	133	557	3.13	3.49
December.....	648		196	1.10	1.27
January.....			518	2.91	3.36
February.....			726	4.08	4.25
March.....		171	1,570	8.82	10.17
April.....	2,700	69	472	2.65	2.96
May.....	190		52.9	.297	.34
June.....			46.7	.262	.29
July.....	19	2.9	8.41	.047	.05
August.....	321	13	108	.607	.70
September.....	5,120	13	586	3.29	3.67
The year.....	5,120	2.9	435	2.44	33.14

STREAMS TRIBUTARY TO LAKE ONTARIO

LITTLE TONAWANDA CREEK AT LINDEN, N. Y.

LOCATION.—At stone-arch highway bridge in Linden, Genesee County, 8 miles above junction with Tonawanda Creek.

DRAINAGE AREA.—22.0 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 8, 1912, to September 30, 1926.

GAGE.—Vertical staff on upstream side of right abutment; read by C. L. Schenck.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Control is a timber weir 13 feet long with a crest 2 inches wide and a standard Francis notch 2.01 feet long and 8 inches deep.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.7 feet at 8 a. m. April 8 (discharge, 567 second-feet); minimum stage, 0.42 foot July 27 (discharge, 1.4 second-feet).

1912-1926: Maximum stage, determined by leveling from floodmarks, 14.6 feet during flood of April 22, 1916 (discharge, about 2,400 second-feet); minimum discharge, 0.4 second-foot several times in September and October, 1921.

ICE.—Stage-discharge relation occasionally slightly affected by ice.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined below 800 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table or, for days of considerable fluctuation in stage, by constructing a gage-height graph on basis of the gage readings and averaging discharge for intervals of the day. Records good.

Discharge measurements of Little Tonawanda Creek at Linden, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Feb. 22	<i>Feet</i> 1.02	<i>Sec.-ft.</i> 11.5	June 16	<i>Feet</i> 1.43	<i>Sec.-ft.</i> 38.6
Mar. 31	2.13	91.8	Aug. 13	1.00	11.5

Daily discharge, in second-feet, of Little Tonawanda Creek at Linden, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	31	26	9.2	27	49	85	35	6.1	3.8	1.8	2.6
2	6.9	30	28	9.2	23	73	65	36	6.7	3.3	7.2	2.4
3	27	31	30	9.2	20	46	102	27	5.2	3.0	5.9	2.4
4	14	26	57	11	18	39	116	23	4.8	2.8	3.8	2.5
5	16	23	81	36	17	32	102	20	4.5	2.7	2.7	28
6	14	24	69	61	16	28	93	18	4.1	2.7	2.4	13
7	25	22	39	27	16	28	261	18	4.1	2.5	2.1	10
8	15	40	32	24	15	29	498	16	4.1	2.4	1.8	6.4
9	28	27	32	20	15	24	259	13	3.6	2.5	1.7	5.4
10	39	22	25	18	13	22	192	12	3.2	4.1	1.7	5.9
11	24	21	23	18	13	20	155	12	2.9	4.1	3.3	4.8
12	22	20	42	15	12	13	98	11	3.1	2.9	20	4.5
13	18	116	37	14	13	16	102	9.2	3.8	2.9	11	4.5
14	15	252	24	14	12	16	145	8.4	5.4	3.1	6.7	4.1
15	23	85	18	14	12	16	116	8.4	156	2.7	5.2	4.1
16	18	57	17	10	9.6	14	77	8.0	48	2.4	4.1	5.6
17	121	53	15	12	12	12	61	7.2	22	2.2	3.5	7.2
18	58	42	12	46	12	17	42	6.7	14	2.1	5.4	6.1
19	49	94	12	116	14	40	39	8.4	9.2	2.0	7.2	5.0
20	49	65	11	77	12	237	32	15	7.2	2.1	7.5	4.5
21	57	49	16	61	12	156	53	9.2	6.4	1.7	23	4.1
22	69	36	16	49	12	226	116	7.8	5.9	1.7	21	3.6
23	49	33	12	38	10	345	73	7.2	5.2	1.7	11	4.5
24	46	28	11	36	10	168	49	6.7	5.0	1.7	7.2	20
25	205	27	12	32	17	302	135	6.1	5.6	1.6	5.9	41
26	116	26	10	24	37	173	65	5.6	7.2	1.5	5.2	29
27	89	89	10	21	49	107	42	5.6	6.7	1.4	4.5	17
28	61	69	9.2	11	53	77	49	5.2	6.4	3.4	3.9	14
29	42	42	9.2	15	-----	65	41	5.0	4.5	3.5	3.3	10
30	38	28	9.2	18	-----	65	42	4.8	4.1	2.5	2.9	8.0
31	32	-----	9.2	32	-----	102	-----	6.4	-----	2.1	2.7	-----

Monthly discharge of Little Tonawanda Creek at Linden, N. Y., for the year ending September 30, 1926

[Drainage area, 22.0 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	205	6.9	45.0	2.05	2.36
November	252	20	50.3	2.29	2.56
December	81	9.2	24.3	1.10	1.27
January	116	9.2	29.0	1.32	1.52
February	53	9.6	17.9	.814	.85
March	345	12	82.6	3.75	4.32
April	498	32	110	5.00	5.58
May	36	4.8	12.3	.559	.64
June	156	2.9	12.5	.568	.63
July	4.1	1.4	2.55	.116	.13
August	23	1.7	6.31	.287	.33
September	41	2.4	9.34	.425	.47
The year	498	1.4	33.5	1.52	20.66

GENESEE RIVER AT SCIO, N. Y.

LOCATION.—At steel highway bridge a quarter of a mile above Vandermark Creek, half a mile above Scio, Allegany County, and 1 mile above Knight Creek.

DRAINAGE AREA.—288 square miles (measured on map issued by United States Geological Survey).

RECORDS AVAILABLE.—June 12, 1916, to September 30, 1926.

GAGE.—Vertical staff attached to downstream face of left bridge abutment; read by Mrs Margaret Potter.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Coarse gravel; shifting occasionally.

EXTREMES OF DISCHARGE.—Maximum discharge, about 3,530 second-feet at 4.45 p. m. March 23 (gage height, 4.9 feet). Minimum stage, 0.12 foot August 12 (discharge, 23 second-feet).

1916-1926: Maximum stage recorded, 9.1 feet at noon May 22, 1919 (discharge, about 10,600 second-feet); minimum discharge, 15 second-feet at 8.45 a. m. September 3, 1925 (gage height, 0.12 foot).

ICE.—Stage-discharge relation affected by ice.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined below 2,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table or, for days of considerable fluctuation in stage, by constructing a gage-height graph on basis of the daily gage readings and averaging discharge for intervals of the day, except for periods of ice effect or of no record for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records good except those estimated which are fair; winter records fair.

Discharge measurements of Genesee River at Scio, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 13.....	0.78	130	Mar. 30.....	2.00	650	Aug. 11.....	0.16	26.6
Jan. 21.....	2.40	906	Apr. 14.....	2.24	814	Sept. 27.....	.96	180
Feb. 24.....	* 2.21	183	June 15.....	1.15	237			

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Genesee River at Scio, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	54	380	294	120	460	700	620	405	98	75	30	40
2.....	50	405	314	120	480	750	508	380	107	68	33	
3.....	86	358	335	120	360		480	358	82	65	32	
4.....	82	294	430	150	300		590	358	73	63	29	
5.....	209	275	500	240	260		620	314	68	68	27	
6.....	206	275	700	480	220		562	294	60	58	25	48
7.....	182	270	480	240	200		718	294	55	68	36	45
8.....	133	665	405	220	190		2,380	275	69	51	46	54
9.....	150	476	380	190	160		2,810	256	60	50	32	85
10.....	232	358	335	160	160		1,900	239	57	46	27	238
11.....	171	335	358	150	150		1,350	239	52	51	25	116
12.....	146	314	405	150	140	330	1,070	222	55	43	23	80
13.....	135	1,630	405	140	150		885	206	69	52	50	63
14.....	125	1,150	256	130	160		780	191	79	96	68	58
15.....	118	860	220	120	140		850	185	213	61	82	55
16.....	111	1,850	180	110	130		715	176	146	50	52	52
17.....	200	995	170	120	130		650	165	105	41	51	52
18.....	235	815	170	220	140		562	154	140	41	47	50
19.....	171	885	160	1,700	150		430	138	111	61	47	47
20.....	162	815	170	1,000	190		380	171	90	45	45	45
21.....	157	620	191	900	220		380	168	84	43	63	42
22.....	176	535	405	600	200	1,960	380	123	130	41		40
23.....	191	480	335	400	190	3,140	508	133	100	39		41
24.....	200	380	239	280	180	2,400	450	128		36		150
25.....	1,320	335	188	240	220	2,640	1,040	125		35		324
26.....	1,240	315	160	220	600	1,660	615	105	90	32	70	358
27.....	920	294	140	190	1,200	1,150	480	92		29		192
28.....	682	480	130	180	800	950	480	88		30		222
29.....	562	294	120	170		800	430	82	92	40		206
30.....	455	275	110	180		650	430	73	88	34		185
31.....	405		110	220		748		75		32		

NOTE.—Discharge Dec. 9, 15-20, and Dec. 26 to Mar. 2 determined from gage heights corrected for back-water from ice by means of discharge measurement, observer's notes, weather records, and comparison with flow at other stations on Genesee River. Gage not read Oct. 11, 25, Nov. 26, Dec. 5, 6, 31, Jan. 31 to Feb. 6, Mar. 3-21, 28, 29, Apr. 4, 9-13, May 31, June 24-28, Aug. 1, and Aug. 22 to Sept. 4; discharge based upon comparative discharge studies. Braced figures give mean discharge for periods indicated.

Monthly discharge of Genesee River at Scio, N. Y., for the year ending September 30, 1926

[Drainage area, 288 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,320	50	298	1.03	1.19
November.....	1,850	270	580	2.01	2.24
December.....	700	110	284	.986	1.14
January.....	1,700	110	305	1.06	1.22
February.....	1,200	130	281	.976	1.02
March.....	3,140		768	2.67	3.08
April.....	2,810	380	802	2.78	3.10
May.....	405	73	200	.694	.80
June.....	213	52	91.1	.316	.35
July.....	96	29	49.8	.173	.20
August.....	82	23	50.5	.175	.20
September.....	358	40	102	.354	.40
The year.....	3,140	23	317	1.10	14.94

GENESEE RIVER AT ST. HELENA, N. Y.

LOCATION.—At steel highway bridge in St. Helena, Wyoming County, $5\frac{1}{2}$ miles below Portageville and $9\frac{1}{2}$ miles above mouth of Canaseraga Creek.

DRAINAGE AREA.—992 square miles.

RECORDS AVAILABLE.—August 14, 1908, to September 30, 1926.

GAGE.—Stevens continuous water-stage recorder on left bank just below bridge; inspected by Glenn Streeter.

DISCHARGE MEASUREMENTS.—Made from upstream side of highway bridge or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; shifting occasionally.

EXTREMES OF DISCHARGE.—Maximum discharge during year, from water-stage recorder, 14,800 second-feet at 7 p. m. March 25 (gage height, 8.8 feet). Minimum stage from water-stage recorder, 2.13 feet at 5 a. m. July 28 (discharge, 86 second-feet).

1908–1926: Maximum stage from water-stage recorder, 12.81 feet at 8 a. m. May 17, 1916 (discharge, about 44,400 second-feet); minimum stage recorded, 1.70 feet at 5 p. m. October 5 and 8 a. m. October 17, 1913 (discharge, about 18 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation practically permanent during year except as affected by ice. Rating curve well defined above 40 second-feet. Operation of water-stage recorder fairly satisfactory. Chain gage read twice daily to hundredths for use in determining discharge for periods during which stilling-well intake was obstructed. Daily discharge ascertained by applying to rating table mean daily gage height as observed or as obtained from recorder graph by inspection or, for days of considerable fluctuation, by averaging discharge for intervals of the day, except for periods of ice effect or of no record for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records generally good, except those estimated which are fair; winter records fair.

Discharge measurements of Genesee River at St. Helena, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 12.....	3.11	590	Apr. 1.....	5.16	3,320	Aug. 15.....	3.08	561
Jan. 20.....	* 5.44	3,530	Apr. 13.....	5.13	3,080	Sept. 29.....	3.47	899
Feb. 23.....	* 6.48	371	June 17.....	3.02	489			

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Genesee River at St. Helena, N. Y., for the year ending September 30, 1926

Day *	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	240	1,240	1,100	320	1,700	2,400	3,080	1,330	365	312	104	196
2.....	220	1,260	1,050	340	1,600	2,000	1,980	1,120	403	280	126	179
3.....	231	1,180	1,280	400	1,300	1,600	2,200	1,000	463	254	204	171
4.....	270	1,000	1,530	500	950	1,300	2,810	990	429	231	167	164
5.....	301	844	2,160	800	750	1,000	3,200	882	377	208	126	187
6.....	360	817	3,390	2,400	600	800	2,680	844	347	208	113	204
7.....	620	826	2,140	1,200	500	750	3,960	817	280	221	170	261
8.....	490	1,170	1,630	800	440	550	11,600	772	318	212	280	226
9.....	400	1,630	1,370	650	380	500	10,300	690	318	192	230	236
10.....	600	1,150	1,210	550	380	460	6,410	580	318	142	200	785

Daily discharge, in second-feet, of Genesee River at St. Helena, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11.....	850	970	1,080	480	340	420	5,480	550	291	146	200	806
12.....	565	873	1,310	420	340	420	3,600	530	275	153	200	539
13.....	520	3,190	1,530	400	380	400	3,200	498	270	171	220	397
14.....	470	7,210	1,200	360	400	380	3,400	456	259	175	276	842
15.....	422	3,180	902	340	360	360	3,590	442	536	167	464	291
16.....	435	4,720	835	340	360	380	2,760	422	736	187	413	270
17.....	587	3,790	745	320	320	600	2,290	416	550	167	283	269
18.....	1,030	2,760	588	460	320	750	1,780	409	500	149	318	274
19.....	817	3,020	449	6,000	360	1,000	1,590	384	450	132	595	240
20.....	677	4,440	588	3,800	440	2,600	1,240	403	416	135	512	208
21.....	728	3,020	711	3,200	550	7,500	1,230	435	342	139	484	212
22.....	930	2,290	911	2,200	550	7,000	2,000	422	336	132	470	196
23.....	1,000	1,780	1,010	1,100	380	8,000	2,140	397	307	126	505	227
24.....	1,000	1,460	652	850	360	9,800	1,780	371	330	116	498	1,360
25.....	4,500	1,200	636	750	420	11,500	3,260	397	301	107	623	4,210
26.....	6,170	1,050	491	650	2,000	9,040	2,630	359	312	99	616	1,900
27.....	3,750	2,030	384	550	3,400	5,090	1,850	365	359	91	449	1,150
28.....	3,020	3,430	342	500	2,600	3,200	1,590	342	403	88	330	826
29.....	2,060	1,760	320	500	-----	2,290	1,470	324	403	113	280	826
30.....	1,590	1,220	320	550	-----	2,220	1,330	296	353	120	245	808
31.....	1,320	-----	320	850	-----	3,020	-----	312	-----	104	217	-----

NOTE.—Discharge Dec. 29 to Mar. 23 determined from gage heights corrected for backwater from ice by means of two discharge measurements, study of gage-height graph and weather records, and by comparison with flow at other stations on Genesee River. Chain gage readings used Oct. 3-5 and May 7 and 8. Gage-height record unreliable and discharge determined from comparative studies Oct. 1, 2 6-11, Feb. 16, 17, Mar. 19, 20, May 9-12, June 17-19, and Aug. 7-13.

Monthly discharge of Genesee River at St. Helena, N. Y., for the year ending September 30, 1926

[Drainage area, 992 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	6,170	220	1,170	1.18	1.36
November.....	7,210	817	2,150	2.17	2.42
December.....	3,390	320	1,030	1.04	1.20
January.....	6,000	320	1,050	1.06	1.22
February.....	3,400	320	803	.809	.84
March.....	11,500	360	2,820	2.84	3.27
April.....	11,600	1,230	3,210	3.24	3.62
May.....	1,330	296	566	.571	.66
June.....	736	259	378	.381	.43
July.....	312	88	164	.165	.19
August.....	623	104	320	.323	.37
September.....	4,210	164	599	.604	.67
The year.....	11,600	88	1,190	1.20	16.25

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

LOCATION.—At highway bridge known as Jones Bridge, $\frac{1}{2}$ miles below Mount Morris, Livingston County, $1\frac{1}{2}$ miles below mouth of Canaseraga Creek, $1\frac{1}{4}$ miles above mouth of Beards Creek, and 6 miles above Genesee.

DRAINAGE AREA.—1,400 square miles.

RECORDS AVAILABLE.—May 22, 1903, to April 30, 1906; August 12, 1908, to December 31, 1913; July 12, 1915, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on right bank; inspected by Arther E. McNair.

DISCHARGE MEASUREMENTS.—Made from footbridge on lower chord of upstream truss of highway bridge or by wading.

CHANNEL AND CONTROL.—Sandy clay; fairly permanent in recent years.

EXTREMES OF DISCHARGE.—Maximum discharge recorded, 14,500 second-feet at 7 a. m. April 9 (gage height, 21.7 feet). Minimum stage from water-stage recorder, 0.44 foot at 8 a. m. July 26 (discharge, 90 second-feet).

1903-1906; 1908-1913; 1915-1926: Maximum open-water stage recorded, 25.44 feet at noon May 17, 1916 (discharge, 55,100 second-feet); minimum discharge, about 18 second-feet at 6 p. m. August 29, 1909.

ICE.—Stage-discharge relation seriously affected by ice.

REGULATION.—During low water there is considerable diurnal fluctuation due to operation of mills at Mount Morris.

ACCURACY.—Stage-discharge relation practically permanent during year except as affected by ice. Rating curve well defined. Operation of water-stage recorder unsatisfactory at times. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day except for periods of ice effect or of no record for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records generally good; winter records fair.

Discharge measurements of Genesee River at Jones Bridge, near Mount Morris, N. Y., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 12.....	2.25	718	Apr. 2.....	5.80	3,020	Aug. 15.....	2.00	621
Jan. 18.....	5.12	752	Apr. 12.....	9.04	5,130	Sept. 26.....	4.98	2,310
Feb. 20.....	4.32	630	July 17.....	2.23	742	Sept. 30.....	2.65	959

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Genesee River at Jones Bridge, near Mount Morris, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	315	1,520	1,400	440	1,800	3,000	4,190	1,700	500	375	167	261
2.....	298	1,520	1,310	440	1,800	3,200	2,820	1,520	550	337	214	286
3.....	356	1,460	1,520	500	1,600	2,200	2,760	1,370	570	306	251	253
4.....	367	1,310	1,880	650	1,200	1,700	3,660	1,340	530	252	277	258
5.....	382	1,130	2,480	1,100	900	1,300	4,090	1,250	470	253	248	270
6.....	467	1,020	3,910	3,000	750	1,100	3,650	1,100	414	282	239	281
7.....	707	968	2,580	1,700	700	1,100	4,410	1,050	379	264	255	284
8.....	585	1,020	1,880	1,100	600	1,000	13,200	968	398	222	338	284
9.....	530	1,740	1,580	850	550	950	14,200	885	402	258	284	280
10.....	855	1,420	1,400	700	500	800	10,600	775	402	258	245	676
11.....	1,020	1,130	1,310	650	480	700	8,140	748	375	225	254	982
12.....	775	1,020	1,370	800	420	650	5,580	720	367	202	258	645
13.....	670	2,330	1,640	550	500	600	4,420	670	390	206	337	434
14.....	620	8,110	1,580	500	600	600	4,350	620	367	220	406	390
15.....	560	4,610	1,160	480	600	550	4,560	590	708	210	511	360
16.....	545	4,780	1,080	460	600	600	3,790	570	1,100	230	532	348
17.....	620	4,920	1,050	500	440	850	3,040	535	802	210	418	334
18.....	1,160	3,300	912	950	440	1,000	2,520	520	670	215	642	340
19.....	1,060	3,060	830	7,500	550	1,600	2,200	502	580	236	823	300
20.....	830	4,850	802	4,600	650	4,600	1,880	493	502	176	735	284
21.....	885	3,780	885	3,800	700	9,000	1,700	502	414	177	645	280
22.....	1,080	2,720	940	2,600	850	9,000	2,230	502	406	215	695	280
23.....	1,190	2,260	1,250	1,400	800	11,000	2,650	488	386	218	620	284
24.....	1,190	1,820	900	1,100	650	11,000	2,320	475	386	186	620	631
25.....	2,920	1,520	750	950	700	12,600	4,400	475	379	133	645	4,890
26.....	7,800	1,370	600	850	3,000	12,700	3,300	466	386	144	695	2,750
27.....	4,450	1,590	500	750	5,500	8,240	2,300	444	475	150	538	1,679
28.....	3,900	4,110	460	650	3,600	5,100	2,100	426	484	172	398	1,100
29.....	2,600	2,310	440	650	-----	3,440	1,900	413	470	167	334	1,050
30.....	2,060	1,710	420	800	-----	2,950	1,700	394	414	192	280	912
31.....	1,700	-----	420	1,200	-----	3,780	-----	406	-----	188	274	-----

NOTE.—Discharge Dec. 24 to Mar. 24 determined from gage heights corrected for backwater from ice by means of two discharge measurements, study of gage-height graph and weather records, and comparison with flow at other stations on Genesee River. Gage-height record unreliable Oct. 21-24, Dec. 3-12, 19, 25, 26, Jan. 5-9, 11-14, 17, 19-30, Feb. 27 to Mar. 6, Apr. 24 to May 1, June 1-5, and July 14-17; discharge determined from comparative studies of records of flow of near-by streams.

*Monthly discharge of Genesee River at Jones Bridge, near Mount Morris, N. Y.,
for the year ending September 30, 1926*

[Drainage area, 1,400 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	7,800	298	1,370	0.979	1.13
November.....	8,110	968	2,480	1.77	1.98
December.....	3,910	420	1,270	.907	1.05
January.....	7,500	440	1,360	.971	1.12
February.....	5,500	420	1,120	.800	.83
March.....	12,700	550	3,770	2.69	3.10
April.....	14,200	1,700	4,290	3.06	3.41
May.....	1,700	394	739	.528	.61
June.....	1,100	367	489	.349	.39
July.....	375	133	223	.159	.18
August.....	823	167	425	.304	.35
September.....	4,890	253	713	.509	.57
The year.....	14,200	133	1,520	1.09	14.72

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

LOCATION.—In station No. 5 of the Rochester Gas & Electric Corporation, 400 feet above Driving Park Avenue Bridge, 1½ miles northwest of center of Rochester, Monroe County, and 5 miles above mouth of river.

DRAINAGE AREA.—2,460 square miles.

RECORDS AVAILABLE.—December 17, 1919, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder in northwest corner of old power house; inspected by employee of Rochester Gas & Electric Corporation.

DISCHARGE MEASUREMENTS.—Made from cable 2,000 feet below gage.

CHANNEL AND CONTROL.—Coarse gravel and large broken rock; shifts.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder 11.9 feet at 6 a. m. April 10 (discharge, 22,800 second-feet); minimum stage, 0.48 foot (plant shut down) at 3 a. m. July 15 (discharge, 14 second-feet).

1919–1926: Maximum discharge recorded, about 26,000 second-feet at 2.30 p. m. March 17, 1920 (observed at Court Street Dam).

ICE.—Stage-discharge relation not affected by ice.

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

REGULATION.—Daily discharge affected by storage for power purposes at Rochester and points upstream.

ACCURACY.—Stage-discharge relation not permanent. Standard rating curve fairly well defined between 20 and 20,000 second-feet. Shifting-control method used throughout year, generally in the nature of a parallel shift. Operation of water-stage recorder satisfactory. Daily discharge ascertained by averaging discharge for intervals of the day, except as noted in footnote to table of daily discharge. Records fair.

Discharge measurements of Genesee River at Driving Park Avenue, Rochester, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 11.....	3.30	1,710	Apr. 2.....	5.50	6,110	Aug. 13.....	3.28	1,690
Jan. 17.....	2.38	972	Apr. 12.....	9.36	14,900	Sept. 23.....	2.82	1,200
Feb. 19.....	2.40	986	June 18.....	3.34	2,530			

Daily discharge, in second-feet, of Genesee River at Driving Park Avenue, Rochester, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	830	2,990	2,450	920	1,980	5,330	7,660	2,320	1,240	1,270	750	972
2.....	876	2,150	2,240	990	2,180	5,050	6,860	2,660	1,240	1,210	990	689
3.....	1,010	2,060	2,160	1,000	2,170	5,540	5,980	1,780	1,300	1,120	894	988
4.....	991	2,000	2,500	1,050	2,170	4,630	7,220	1,710	1,230	1,090	952	964
5.....	1,060	1,930	3,510	1,100	2,100	3,580	7,240	1,770	1,140	985	878	1,190
6.....	932	1,940	5,840	1,420	2,030	2,610	7,700	1,540	1,270	1,040	827	1,330
7.....	1,330	1,800	6,550	1,910	2,000	2,400	7,870	1,560	1,260	1,040	808	1,200
8.....	1,340	2,160	4,740	2,500	1,900	2,200	14,100	1,280	1,210	1,080	899	1,220
9.....	1,350	1,930	3,500	1,840	1,790	2,020	20,300	1,070	1,200	1,120	844	1,240
10.....	1,500	2,300	2,740	1,290	1,720	1,980	22,100	1,050	1,170	1,090	775	1,200
11.....	1,760	2,060	2,020	1,080	1,690	1,990	19,400	1,130	1,220	981	860	1,170
12.....	1,940	2,060	2,360	1,060	1,540	1,940	14,700	1,260	1,120	1,010	851	1,860
13.....	1,660	2,400	3,130	1,090	1,360	1,850	9,040	1,490	1,080	1,210	1,090	1,450
14.....	1,460	7,960	1,820	1,020	1,470	1,730	7,150	1,560	1,200	983	1,020	1,210
15.....	1,480	12,300	1,950	915	1,150	1,730	6,340	1,620	1,490	973	918	1,020
16.....	1,280	7,640	1,930	933	1,110	1,520	6,410	1,580	1,940	948	1,020	1,100
17.....	1,590	8,620	2,910	1,040	1,000	1,440	5,960	1,550	1,770	889	1,150	1,130
18.....	1,990	6,250	2,150	1,240	1,040	1,510	4,960	1,440	1,620	918	912	1,190
19.....	2,130	4,740	1,720	2,260	1,040	1,670	2,700	1,490	1,540	850	1,090	1,250
20.....	1,820	5,460	1,860	8,200	989	3,780	2,910	1,470	1,480	841	1,270	1,160
21.....	1,790	6,540	1,840	7,560	1,170	8,440	2,920	1,540	1,300	924	1,460	1,040
22.....	1,770	5,420	1,910	5,360	1,150	12,200	2,870	1,530	1,230	987	1,380	1,030
23.....	1,690	3,870	1,890	3,340	1,280	15,200	4,410	1,570	1,230	796	1,400	1,080
24.....	1,670	3,000	1,900	2,430	1,430	17,800	3,850	1,420	1,160	884	1,460	1,260
25.....	2,430	2,740	1,740	2,210	1,620	19,200	3,430	1,320	1,190	829	1,270	1,900
26.....	7,070	2,620	1,340	1,840	2,630	19,900	4,670	1,440	1,150	697	1,340	5,470
27.....	8,970	2,220	916	1,950	5,110	18,800	4,380	1,350	1,150	828	1,380	2,780
28.....	6,080	4,370	811	1,600	6,600	14,200	3,040	1,260	1,230	991	1,150	1,930
29.....	5,080	5,960	841	1,380	-----	7,940	2,450	1,210	1,230	896	1,170	1,800
30.....	3,620	3,180	805	1,970	-----	5,680	2,330	1,230	1,280	838	1,000	1,630
31.....	3,040	-----	840	1,950	-----	5,390	-----	1,170	-----	865	924	-----

NOTE.—Gage-height record faulty Dec. 31 to Jan. 5 and Mar. 7-8; discharge for the former period determined from plant No. 5 operating records; for the latter period from comparison with flow at other stations on Genesee River.

Monthly discharge of Genesee River at Driving Park Avenue, Rochester, N. Y., for the year ending September 30, 1926

[Drainage area, 2,460 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	8,970	830	2,310	0.939	1.08
November.....	12,300	1,800	4,020	1.63	1.82
December.....	6,550	805	2,350	.955	1.10
January.....	8,200	915	2,090	.850	.98
February.....	6,600	989	1,910	.776	.81
March.....	19,900	1,440	6,430	2.61	3.01
April.....	22,100	2,330	7,360	2.99	3.34
May.....	2,660	1,050	1,490	.606	.70
June.....	1,940	1,080	1,300	.528	.59
July.....	1,270	697	973	.396	.46
August.....	1,460	750	1,060	.431	.50
September.....	5,470	689	1,450	.589	.66
The year.....	22,100	689	2,730	1.11	15.05

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

CANASERAGA CREEK NEAR DANSVILLE, N. Y.

LOCATION.—At highway bridge 1 mile west of Dansville, Livingston County, half a mile below mouth of Mill Brook and 22 miles above mouth.

DRAINAGE AREA.—148 square miles (revised measurement on topographic maps).

RECORDS AVAILABLE.—July 21, 1910, to December 31, 1912; July 10, 1915, to June 30, 1917; March 10, 1919, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on left bridge abutment. During winter a vertical staff at the same location is read owing to unsatisfactory operation of water-stage recorder. Recorder inspected and staff gage read by Frank S. Fox.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Low-water control composed of sand and gravel; shifting frequently. At high stages the channel section below gage becomes the control; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum discharge, 2,100 second-feet at 8 p. m. April 8 (gage height, from water-stage recorder, 9.8 feet); minimum stage, from water-stage recorder, 6.32 feet for several hours July 25, 26, and 27 (discharge, 19 second-feet).

1910-1912; 1915-1917; 1919-1926: Maximum stage recorded, 13.0 feet at 9.30 p. m. May 16, 1916 (discharge, from logarithmic extension of rating curve, about 6,600 second-feet); minimum discharge, 14 second-feet at 4 p. m. September 10, 1921.

ICE.—Stage-discharge relation affected by ice.

ACCURACY.—Stage-discharge relation changed gradually during period March 26 to April 8; affected by ice during periods from December to March. Rating curve used October 1 to March 25, fairly well defined between 20 and 1,600 second-feet; curve used April 9 to September 30, well defined between 20 and 1,600 second-feet; transition curve based on one current-meter measurement used March 26 to April 8. Operation of water-stage recorder fairly satisfactory except during winter when staff gage readings were made daily. Daily discharge ascertained by applying to rating table mean daily gage height as observed or as obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of day, except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Records good for periods during which recorder operated satisfactorily; fair for remainder of year.

Discharge measurements of Canaseraga Creek near Dansville, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 13.....	6.33	64.6	Apr. 13.....	7.44	394	Aug. 10.....	6.37	22.3
Jan. 19.....	7.54	511	June 14.....	6.58	44.4	Aug. 16.....	6.48	33.1
Feb. 21.....	* 7.33	91.7	June 15.....	6.79	85.5	Sept. 26.....	7.00	139
Apr. 1.....	7.24	268						

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Canaseraga Creek near Dansville, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	38	107	103	55	120	300	270	161	71	28	23	27
2-----	38	105	103	55	95	550	222	148	71	27	33	26
3-----	56	99	107	60	90	200	255	148	58	25	28	26
4-----	44	86	155	85	85	140	313	144	53	23	25	25
5-----	45	79	233	162	85	110	338	124	50	23	24	25
6-----	50	77	269	278	80	140	302	115	47	26	23	25
7-----	46	75	170	162	85	170	528	107	47	26	38	26
8-----	44	95	141	107	80	220	1,700	102	50	23	27	26
9-----	59	84	132	85	75	200	1,140	93	49	23	25	27
10-----	111	73	120	75	75	140	795	90	44	22	23	33
11-----	72	68	110	60	70	120	631	90	43	22	28	34
12-----	73	70	122	60	70	110	412	86	47	22	52	32
13-----	62	261	117	55	75	110	370	80	44	22	53	32
14-----	58	558	96	50	85	140	400	78	47	23	45	32
15-----	53	280	105	50	95	169	430	73	88	23	44	32
16-----	52	446	94	50	85	112	328	71	71	23	34	30
17-----	80	279	81	60	85	138	274	67	55	23	65	30
18-----	88	212	81	278	90	124	218	65	52	23	241	29
19-----	68	244	72	475	95	204	194	65	44	23	120	28
20-----	66	256	73	278	95	1,000	165	67	40	23	68	27
21-----	72	196	81	278	95	687	179	64	37	23	78	26
22-----	86	169	92	147	90	787	223	62	37	22	102	26
23-----	82	147	75	120	85	1,100	218	60	35	22	74	25
24-----	82	122	79	95	85	826	232	60	32	21	71	312
25-----	430	110	70	85	380	1,230	454	57	34	19	69	462
26-----	344	99	62	75	900	736	305	52	39	19	55	172
27-----	284	149	60	75	420	522	223	52	46	19	47	103
28-----	204	184	55	70	260	251	202	52	36	32	40	90
29-----	156	127	50	70	-----	238	179	49	32	30	33	90
30-----	130	118	50	120	-----	255	168	47	30	25	30	78
31-----	112	-----	50	130	-----	247	-----	62	-----	24	28	-----

NOTE.—Discharge Dec. 27 to Jan. 4, Jan. 9-17, and Jan. 24 to Mar. 14, determined from gage heights corrected for backwater from ice by means of two discharge measurements, observer's notes, weather records, and by comparison with records of flows at adjacent stations. Gage-height record faulty or lacking Jan. 28, Mar. 21, 24, 26-31, July 28, and Aug. 11, 15, and 18-28; discharge based on partly estimated gage-height record or on comparative studies. Staff gage readings used Dec. 31 to Mar. 20.

Monthly discharge of Canaseraga Creek near Dansville, N. Y., for the year ending September 30, 1926

[Drainage area, 148 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October-----	430	38	103	0.696	0.80
November-----	558	68	166	1.12	1.25
December-----	269	50	103	.696	.80
January-----	475	50	123	.831	.96
February-----	900	70	144	.973	1.01
March-----	1,230	110	364	2.46	2.84
April-----	1,700	165	389	2.63	2.93
May-----	161	47	83.6	.565	.65
June-----	71	30	47.6	.322	.36
July-----	32	19	23.5	.159	.18
August-----	241	23	53.1	.359	.41
September-----	462	25	65.2	.441	.49
The year-----	1,700	19	138	.932	12.68

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

LOCATION.—200 feet downstream from private bridge on grounds of Craig Colony at Sonyea, Livingston County, and 2½ miles above mouth.

DRAINAGE AREA.—70 square miles (measured by the New York State Conservation Commission).

RECORDS AVAILABLE.—October 31, 1917, to September 30, 1926. July 22, 1910, to December 31, 1912, at a site 200 feet upstream; August 29, 1915, to October 31, 1917, at a site 1 mile downstream.

GAGE.—Vertical staff on retaining wall on left bank just above concrete dam for pumping plant of Craig Colony; read by A. J. Porter.

DISCHARGE MEASUREMENTS.—Made from downstream side of highway bridge above gage or by wading.

CONTROL.—Concrete dam with two crests of equal elevation separated by a trough 18 inches wide which serves as an intake for the Craig Colony pumping plant; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.30 feet at 6 p. m. April 8 (discharge, 2,160 second-feet); minimum stage recorded, 0.17 foot several times July 26 and 27 (discharge, 1.3 second-feet).

1917–1926: Maximum stage recorded, 5.9 feet at 10 a. m. May 22, 1919 (discharge beyond limits of present rating curve); minimum discharge, 0.7 second-foot at 8 a. m. August 20, 1918, and 5 p. m. August 24, 1923.

ICE.—Stage-discharge relation slightly affected by ice.

ACCURACY.—Stage-discharge relation permanent during year except as affected by ice or by sandbag on control. Rating curve fairly well defined below 1,500 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table or, for days of considerable fluctuation in stage, by constructing a gage-height graph on basis of the daily gage readings and averaging discharge for intervals of the day, except for periods of backwater from ice or from sandbag on control for which it was ascertained as indicated in footnote to table of daily discharge. Records fair.

Discharge measurements of Keshequa Creek at Craig Colony, Sonyea, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 13.....	^a 0.54	13.1	Apr. 1.....	1.16	108	Aug. 16.....	^a 0.46	8.00
Jan. 19.....	^b 1.55	222	June 17.....	.59	17.3	Sept 25.....	1.08	103
Feb. 20.....	.65	21.6	Aug. 14.....	^a .74	27.2			

^a Stage-discharge relation affected by backwater from sandbag on control.

^b Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Keshequa Creek at Craig Colony, Sonyea, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	4.4	23	31	11	41	115	121	39	12	4.6	3.0	6.0
2.....	4.9	25	34	14	34	199	65	34	14	4.1	3.6	6.0
3.....	8.1	23	41	17	31	90	131	32	8.1	5.2	5.4	5.0
4.....	8.6	18	51	18	27	53	153	30	7.2	4.6	4.4	3.9
5.....	7.2	17	115	46	26	22	166	27	7.2	3.2	4.4	8.1
6.....	8.6	16	122	143	23	35	90	27	6.2	3.4	3.2	7.2
7.....	7.2	15	60	43	23	43	241	25	7.2	5.4	8.6	7.2
8.....	7.2	20	42	36	22	58	1,340	20	10	4.6	5.9	6.2
9.....	12	21	50	20	20	36	443	20	8.1	4.4	4.1	6.7
10.....	35	17	30	23	27	31	211	18	6.2	5.2	3.9	10

Daily discharge, in second-feet, of Keshequa Creek at Craig Colony, Sonyea, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11.....	17	12	28	22	23	26	160	21	5.7	4.1	4.4	7.2
12.....	16	12	29	22	29	24	95	19	6.2	3.6	7.6	5.9
13.....	14	155	46	17	23	18	90	17	7.2	4.1	13	6.2
14.....	11	354	28	14	23	22	92	15	8.2	5.2	15	4.6
15.....	9.6	90	15	14	18	34	102	17	52	4.1	12	5.7
16.....	9.1	202	20	14	17	22	70	15	36	4.1	7.6	5.2
17.....	17	112	15	19	18	31	63	14	18	4.1	8.6	6.0
18.....	27	77	12	26	22	32	54	12	14	2.8	84	6.2
19.....	17	135	17	200	25	92	44	11	11	1.9	42	5.7
20.....	17	135	17	110	27	505	38	12	9.1	3.6	22	3.6
21.....	21	83	26	85	27	232	39	12	6.7	3.2	19	4.9
22.....	27	61	31	40	25	288	54	9.1	6.7	3.6	29	5.7
23.....	26	46	15	32	20	548	51	9.6	6.2	3.0	20	5.9
24.....	23	38	18	26	22	331	69	10	6.2	2.5	25	140
25.....	194	29	20	26	132	780	161	9.6	5.9	2.0	17	134
26.....	95	30	12	24	442	203	83	8.6	7.2	1.5	11	31
27.....	77	126	11	22	144	115	53	9.1	10	1.3	8.6	19
28.....	50	92	11	18	90	65	51	8.6	7.2	2.8	6.7	17
29.....	38	36	10	13	-----	56	44	7.2	5.7	5.9	6.2	15
30.....	30	41	10	36	-----	61	43	9.1	5.2	3.9	4.6	11
31.....	23	-----	10	43	-----	102	-----	10	-----	3.4	6.2	-----

NOTE.—Discharge Dec. 27 to Jan. 3 and Jan. 14-28, determined from gage heights corrected for backwater from ice by means of two discharge measurements and study of weather records. Discharge Oct. 1-17 and July 28 to Aug. 16 determined from gage heights corrected for backwater from sandbag on control by means of three discharge measurements. Gage not read Apr. 18, June 27, July 25, Aug. 15, Sept. 1-3 and 17; discharge based on comparative studies.

Monthly discharge of Keshequa Creek at Craig Colony, Sonyea, N. Y., for the year ending September 30, 1926

[Drainage area, 70 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	194	4.4	27.8	0.397	0.46
November.....	354	12	68.7	.981	1.09
December.....	122	10	31.5	.450	.52
January.....	200	11	38.7	.553	.64
February.....	442	17	50.0	.714	.74
March.....	780	18	138	1.97	2.27
April.....	1,340	38	147	2.10	2.34
May.....	39	7.2	17.0	.243	.28
June.....	52	5.2	10.7	.153	.17
July.....	5.9	1.3	3.72	.053	.06
August.....	84	3.0	13.4	.191	.22
September.....	140	3.6	16.9	.241	.27
The year.....	1,340	1.3	46.8	.669	9.06

CONESUS CREEK NEAR LAKEVILLE, N. Y.

LOCATION.—At highway bridge known locally as Millville Bridge, 1½ miles north of Lakeville, Livingston County, and outlet of Conesus Lake.

DRAINAGE AREA.—71 square miles (furnished by New York State Conservation Commission).

RECORDS AVAILABLE.—November 13, 1919, to September 30, 1926.

GAGE.—Vertical staff fastened to piling just above bridge; read by Wm. B. Milliman.

DISCHARGE MEASUREMENTS.—Made from highway bridge a quarter of a mile downstream or by wading near gage.

CHANNEL AND CONTROL.—Control consists of a parabolic concrete weir 25.33 feet long at upstream edge of concrete apron under highway bridge. Elevation of center of weir 0.37 foot gage datum. Elevations of right and left ends of weir, 1.11 feet and 1.19 feet gage datum, respectively.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.6 feet April 9 and 10 (discharge, 308 second-feet); minimum stage, 0.74 foot several times during period August 20 to September 4 (discharge, 6.9 second-feet).

1919-1926: Maximum stage recorded, that of April 10, 1926; minimum discharge, 0.45 second-foot at 5 p. m. November 22, 1923.

ICE.—Stage-discharge relation only slightly affected by ice.

DIVERSIONS.—Water supply for the villages of Avon and Geneseo is taken from Conesus Lake. The amount of these diversions is not known.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good, except those for period of ice effect, which are probably fair.

Discharge measurements of Conesus Creek near Lakeville, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 11.....	0.88	11.1	Apr. 2.....	1.90	149	June 18.....	1.18	38.4
Jan. 17.....	1.15	35.2	Apr. 11.....	2.52	279	Aug. 14.....	.79	9.56

Daily discharge, in second-feet, of Conesus Creek near Lakeville, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	12	21	31	36	50	65	157	128	49	29	8.7	7.3
2.....	13	23	31	36	48	65	149	124	49	29	11	7.3
3.....	14	20	29	36	48	65	161	117	48	27	9.7	6.9
4.....	13	21	31	38	48	60	147	112	45	27	8.2	7.3
5.....	13	20	33	44	48	60	153	108	45	26	9.2	10
6.....	13	21	41	42	50	60	147	107	44	26	8.7	9.7
7.....	14	21	48	40	50	65	167	103	43	22	8.2	12
8.....	14	22	50	40	50	65	258	102	42	22	7.7	12
9.....	17	20	49	40	48	65	308	95	40	22	7.7	12
10.....	16	20	43	40	48	60	308	93	38	22	7.7	12
11.....	15	22	49	40	48	60	295	90	36	20	8.2	12
12.....	15	21	49	40	46	60	282	87	36	19	10	12
13.....	15	26	50	40	46	60	257	81	35	18	9.7	11
14.....	15	22	49	38	46	60	245	81	36	17	8.7	11
15.....	15	22	50	38	50	60	233	78	53	15	9.2	13
16.....	15	26	48	38	48	60	233	78	42	14	8.7	12
17.....	15	30	41	38	42	60	210	77	41	14	8.2	12
18.....	15	26	31	65	42	65	188	72	40	13	8.7	12
19.....	14	21	22	50	42	70	178	72	36	12	8.2	12
20.....	13	21	45	50	44	80	167	72	36	12	7.3	12
21.....	16	30	42	50	44	85	165	67	35	12	9.7	12
22.....	14	30	40	42	44	98	157	64	33	12	8.7	12
23.....	15	30	40	50	44	117	149	62	31	11	7.7	12
24.....	14	21	40	50	42	147	149	59	31	9.7	7.7	13
25.....	26	25	38	50	60	161	147	58	31	9.7	7.7	14
26.....	15	29	38	48	65	163	143	56	31	10	7.7	14
27.....	18	32	38	48	65	165	136	53	31	9.2	7.7	14
28.....	21	31	36	46	65	163	136	51	30	10	7.7	13
29.....	21	31	36	50	-----	157	128	48	29	8.7	7.7	12
30.....	18	29	36	55	-----	151	128	48	29	8.7	7.7	11
31.....	20	-----	36	50	-----	163	-----	46	-----	9.2	6.9	-----

NOTE.—Discharge Dec. 21 to Mar. 21 determined from gage heights corrected for ice effect from discharge measurement, study of gage-height graph, weather records, and observer's notes.

Monthly discharge of Conesus Creek near Lakeville, N. Y., for the year ending September 30, 1926

[Drainage area, 71 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	26	12	15.6	0.220	0.25
November.....	32	20	24.5	.345	.38
December.....	50	22	40.0	.563	.65
January.....	65	36	44.1	.621	.72
February.....	65	42	49.0	.690	.72
March.....	165	60	91.5	1.29	1.49
April.....	308	128	189	2.66	2.97
May.....	128	46	80.3	1.13	1.30
June.....	53	29	38.2	.538	.60
July.....	29	8.7	16.7	.235	.27
August.....	11	6.9	8.41	.118	.14
September.....	14	6.9	11.4	.161	.18
The year.....	308	6.9	50.6	.713	9.67

CANADICE LAKE OUTLET NEAR HEMLOCK, N. Y.

LOCATION.—At foot of Canadice Lake, Livingston County. Outlet is tributary to Genesee River through Honeoye Creek.

DRAINAGE AREA.—12.6 square miles, of which 1.0 square mile is lake surface.

RECORDS AVAILABLE.—April, 1903, to September 30, 1926.

GAGE.—Hook, in channel above weir.

CHANNEL AND CONTROL.—Outflow is measured over a standard thin-edged weir with a 5-foot crest and two end contractions so arranged with needle timbers at the ends that the length may be increased to 14.96 feet. No end contractions during high water. The weir crest stands 3.14 feet above the stream channel, which is artificial with a plank bottom and vertical sides, and the crest is never submerged by backwater. Two additional rectangular gates, each 1 foot square with three complete contractions and a fourth incomplete contraction at the bottom.

ICE.—Stage-discharge relation not affected by ice as the pool above the weir is free from ice throughout winter.

DIVERSIONS.—No water is diverted from Canadice Lake above station.

REGULATION.—Outflow of lake is regulated by bulkhead and gates at dam above weir.

ACCURACY.—Stage-discharge relation permanent. Rating curve used is expressed by Francis formula. Corrections are made for velocity of approach for high stages. Gage read to hundredths once daily. Records good.

COOPERATION.—Data collected, computed, and furnished for publication by the city engineer of Rochester.

Monthly discharge of Canadice Lake outlet near Hemlock, N. Y., for the year ending September 30, 1926

[Drainage area, 12.6 square miles]

Month	Mean elevation of lake above low-water mark	Discharge in second-feet		Run-off in inches
		Mean	Per square mile	
October.....	-0.210	4.036	0.320	0.369
November.....	+ .633	8.235	.654	.729
December.....	+1.106	9.194	.730	.842
January.....	+ .858	15.483	1.229	1.417
February.....	+ .595	11.660	.925	.964
March.....	+1.112	17.178	1.363	1.571
April.....	+2.919	28.860	2.290	2.555
May.....	+2.512	9.753	.774	.892
June.....	+2.156	6.946	.551	.615
July.....	+1.449	9.357	.743	.856
August.....	+ .735	5.749	.456	.526
September.....	+ .349	3.445	.273	.305
The year.....	+1.184	10.825	.859	11.641

NOTE.—Terminal water surface for the year was 0.91 foot higher than that of the previous year, corresponding to a gain in storage of 25,552,479 cubic feet or a discharge of 0.810 second-foot for the year. This correction applied to the above gives 11.635 second-feet equivalent to 0.923 second-foot per square mile or a run-off of 12.514 inches from the drainage area.

FALL CREEK NEAR ITHACA, N. Y.

LOCATION.—At Forest Home, Tompkins County, half a mile above Cornell University Dam at the foot of Beebe Lake and 1½ miles northeast of the center of Ithaca.

DRAINAGE AREA.—126 square miles (measured on topographic maps).

RECORDS AVAILABLE.—February 15, 1925, to September 30, 1926. July 12, 1908, to June 30, 1909, at steel highway bridge 1¼ miles below present site.

GAGE.—Au 60-day water-stage recorder on left bank; inspected by Prof. Fred Asa Barnes.

DISCHARGE MEASUREMENTS.—Made from cable 50 feet above gage or by wading.

CHANNEL AND CONTROL.—Control formed by a broad-crested concrete weir 90 feet long with a 20-foot rectangular notch 1 foot deep. Bed of stream near gage largely solid rock.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 2,240 second-feet at 6.30 p. m. March 25 (gage height, 3.6 feet). Minimum stage from water-stage recorder, 0.19 foot at 5 p. m. July 26 and 5.30 p. m. July 27 (discharge, about 6 second-feet; caused by regulation).

1925-26: Maximum discharge recorded, that of March 25, 1926. Minimum stage from water-stage recorder, 0.17 foot at 3.30 p. m. June 27, 1925 (discharge, about 5 second-feet; caused by regulation).

ICE.—Stage-discharge relation slightly affected by ice.

REGULATION.—Some diurnal fluctuation during low stages due to small power operations above station.

ACCURACY.—Stage-discharge relation changed for all except low stages owing to spalling of concrete weir wall during ice break-up and spring run-off; affected by ice during periods from December to March. Rating curves well defined between 20 and 1,000 second-feet. Operation of water-stage recorder unsatisfactory at times. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for periods of ice effect or of no record, for which it was ascertained as indicated in footnote to table of daily discharge. Records good except those for periods of ice effect and those estimated, which are fair.

Discharge measurements of Fall Creek near Ithaca, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 9.....	0.95	67.3	Apr. 10.....	2.36	802	Aug. 8.....	1.00	85.8
Jan. 16.....	1.22	53.6	June 13.....	.87	58.6	Aug. 16.....	.72	43.9
Feb. 18.....	1.33	123	Aug. 6.....	.39	22.0	Sept. 11.....	1.57	297
Mar. 27.....	2.17	630	Aug. 7.....	.85	61.0	Do.....	1.41	224

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Fall Creek near Ithaca, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	40	134	172	65			505	313	118	42	29	39
2.....	39	146	155	65			308	240	183	41	40	52
3.....	58	140	179	70			308	265	99	33	60	41
4.....	92	125	492	80			398	388	78	30	48	
5.....	66	115	411	160			474	232	64	29	34	
6.....	74	203	824	260			421	194	60	34	30	260
7.....	63	169	382	150			609	182	51	99	46	
8.....	67	237	285	90			1,280	164	64	55	73	
9.....	53	284	263	80			1,230	146	62	40	46	212
10.....	90	179	165	75	110	130	896	134	56	41	30	600
11.....	92	158	208	70			780	137	48	41	39	263
12.....	75	149	211	65			496	128	46	41	44	186
13.....	70	638	196	60			433	107	54	36	146	178
14.....	65	764	155	55			433	102	54	48	279	146
15.....	53	615	120	55			510	99	114	43	127	112
16.....	54	489	95	55			404	94	113	30	70	107
17.....	57	341	90	60		70	371	91	71	28	56	112
18.....	109	285	80	120	120	70	276	82	46	26	70	104
19.....	85	272	75	600	170	80	242	82	46	26	76	78
20.....	65	255	95	439	200	110	211	164	42	29	57	-----
21.....	62	230	179	366	170	200	222	104	39	26	60	74
22.....	60	200	263	219	120	380	331	86	41	25	218	64
23.....	57	193	155	140	90	700	350	94	38	24	178	63
24.....	58	162	110	110	70	1,230	290	94	38	23		365
25.....	349	158	90	90	75	1,420	956	78	69	22		750
26.....	521	155	80	75	320	1,150	468	63	159	21	160	406
27.....	246	226		70	300	620	324	58	127	22		
28.....	196	413		60	190	433	288	56	72	25		280
29.....	169	216	70	48	-----	331	240	51	49	75		
30.....	162	149		70	-----	397	250	51	44	54	52	
31.....	134	-----		100	-----	568	-----	93	-----	34	41	-----

NOTE.—Discharge Dec. 15–20, Dec. 24 to Jan 19, and Jan. 23 to Mar. 23, determined from gage heights corrected for ice effect by means of two discharge measurements, observer's notes, and study of gage-height graph and weather records. Gage-height record faulty or lacking Oct. 1, Dec. 27 to Jan. 2, Feb. 1–18, Feb. 28 to Mar. 17, June 11, 18, 19, Aug. 24–29, and Sept. 4–8, 10, 11, and 27–30; discharge determined by comparison with flow of Chenango River near Chenango Forks. Braced figures show mean discharge for periods indicated.

Monthly discharge of Fall Creek near Ithaca, N. Y., for the year ending September 30, 1926

[Drainage area, 126 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	521	39	109	0.865	1.00
November.....	764	115	260	2.06	2.30
December.....	824	-----	190	1.51	1.74
January.....	600	48	130	1.03	1.19
February.....	320	70	132	1.05	1.09
March.....	1,420	70	317	2.52	2.90
April.....	1,280	211	477	3.79	4.23
May.....	388	51	135	1.07	1.23
June.....	183	38	71.5	.567	.63
July.....	99	21	36.9	.293	.34
August.....	279	29	93.8	.744	.86
September.....	750	39	215	1.71	1.91
The year.....	1,420	21	180	1.43	19.42

OWASCO LAKE OUTLET NEAR AUBURN, N. Y.

LOCATION.—On farm of Charles H. Pearce, 2 miles below center of Auburn, Cayuga County, and 3¾ miles below State dam at outlet of Owasco Lake.

DRAINAGE AREA.—206 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 17, 1912, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on left bank; inspected by Mrs. Charles H. Pearce.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Control is a low concrete dam 100 feet long 25 feet below gage. Elevation of crest of left half of dam is 1.28 feet, gage datum; crest of right half of dam is at elevation 2.13 feet.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.56 feet at 7.30 a. m. April 12 (discharge, 1,140 second-feet); minimum stage, from water-stage recorder, 1.43 feet at 8 p. m. August 7 (discharge, 7 second-feet).

1912-1926: Maximum stage determined by leveling from floodmarks, 6.4 feet during period March 25-30, 1913 (discharge, 2,750 second-feet). Minimum discharge, 3.8 second-feet at 7 p. m. August 21, 1920.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—An average of about 10 second-feet is pumped from Owasco Lake for municipal water supply of the city of Auburn. Proportion returning to stream as sewage above the gaging station is not known.

REGULATION.—Large diurnal fluctuation in flow during low-water caused by operation of mills in the city of Auburn; seasonal flow regulated at State dam.

ACCURACY.—Stage-discharge relation practically permanent; not affected by ice. Rating curve well defined below 1,500 second-feet. Operation of water-stage recorder unsatisfactory at times. Daily discharge ascertained by averaging discharge for bi-hourly intervals of day. Records good except those estimated which are fair.

Discharge measurements of Owasco Lake outlet near Auburn, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Jan. 15.....	Feet 2.47	Sec.-ft. 268	Mar. 26.....	Feet 3.27	Sec.-ft. 825	Aug. 6.....	Feet 2.12	Sec.-ft. 139
Feb. 18.....	2.47	262	June 10.....	2.40	237			

Daily discharge, in second-feet, of Owasco Lake outlet near Auburn, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	194	106	315	200	322		830	516	204	162	42	
2.....	214	161	408	196	315		805	504	213	157	120	
3.....	194	172	394	203	316		794	512	200	170	119	
4.....	118	176	422	207	292		770	466	201	154	118	
5.....	165	179	351	205	303		776	494	204	149	117	
6.....	161	176	293	190	307		780	408	196	166	110	
7.....	159	181	414	189	287		824	342	217	156	84	
8.....	165	162	483	235	274		916	331	205	167	40	
9.....	164	167	482	245	235		999	323	192	184	108	
10.....	158	175	541	240	239	240	1,050	332	200	170	99	
11.....	160	171	533	244	206		1,090	305	197	138	102	110
12.....	168	177	486	230	210		1,050	270	187	158	111	
13.....	168	199	435	232	220		1,010	273	168	159	120	
14.....	161	210	420	230	232		958	267	187	150	106	
15.....	159	202	439	230	231		921	263	186	157	54	
16.....	160	322	440	228	192		916	248	167	159	78	
17.....	160	372	420	224	199		858	260	170	158	85	
18.....	162	353	387	236	203		819	252	168	155	81	
19.....	168	349	386	294	231		788	267	172	168	100	
20.....	160	350	399	285	232	340	744	251	158	166	105	
21.....	156	376	380	345	222	355	703	246	178	154	105	
22.....	147	367	360	365	240	394	674	241	161	169	47	
23.....	131	369	350	347	245	518	646	228	150	175	94	148
24.....	112	373	352		269	663	660	247	155	161	122	140
25.....	64	347	302		327	751	707	231	163	162	113	158
26.....	163	300	274		298	832	701	215	154	169	95	169
27.....	166	272	265	260	243	901	623	218	148	118	101	191
28.....	172	219	242		250	921	556	214	166	112	79	190
29.....	168	226	237			884	545	213	157	122	40	194
30.....	175	228	215			849	523	194	148	116	73	195
31.....	159		199	314		835		199		90	88	

NOTE.—Water-stage recorder did not operate satisfactorily Oct. 16, 17, Jan. 14, 15, 24–30, Feb. 12, 13, 28, Mar. 1–20, Aug. 8, and Sept. 1–22; discharge based on comparative studies and record of elevations of Owasco Lake.

Monthly discharge of Owasco Lake outlet near Auburn, N. Y., for the year ending September 30, 1926

[Drainage area, 206 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	214	64	159	0.772	0.89
November.....	376	106	248	1.20	1.34
December.....	541	199	375	1.82	2.10
January.....	365	189	249	1.21	1.40
February.....	327	192	255	1.24	1.29
March.....	921		413	2.00	2.31
April.....	1,090	523	801	3.89	4.34
May.....	516	194	301	1.46	1.68
June.....	217	148	179	.869	.97
July.....	184	90	153	.743	.86
August.....	122	40	92.1	.447	.52
September.....	195		127	.617	.69
The year.....	1,090	40	279	1.35	18.39

NOTE.—Elevation of water surface of Owasco Lake increased from 706.75 feet on Oct. 1 to 707.97 feet on Sept. 30. This indicates a net storage of about 350,320,000 cubic feet, equivalent to an average flow for the year of 11.1 second-feet, 0.054 second-foot per square mile or 0.73 inch on drainage area.

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

LOCATION.—At highway bridge half a mile west of Fish Creek, Lewis County, half a mile below mouth of Alder Creek, and 8 miles west of Constableville.

DRAINAGE AREA.—75 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 18, 1923, to September 30, 1926.

GAGE.—Chain gage attached to downstream rail of right span near right abutment; read by Adolph F. Seelman.

DISCHARGE MEASUREMENTS.—Made from upstream side of highway bridge or by wading.

CHANNEL AND CONTROL.—At gage stream is in two channels which join a short distance below. Bed of stream and control composed of gravel, small boulders, and some solid ledge; shifts within narrow limits.

EXTREMES OF DISCHARGE.—Maximum discharge during year, about 4,280 second-feet at 8.50 a. m. November 14 and 6.45 a. m. April 25 (gage height, 5.1 feet); minimum stage recorded, 1.24 feet July 27 (discharge, 29 second-feet).

1923-1926: Maximum discharge, that of November 14, 1925, and April 25, 1926. Minimum discharge, 21 second-feet at 11.30 a. m. October 18, 1923 (gage height, 1.28 feet).

ICE.—Stage-discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation permanent except as affected by ice.

Rating curve fairly well defined below 2,500 second-feet and extended above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table or, for days of considerable fluctuation in stage, by constructing a gage-height graph on basis of the daily gage readings and averaging discharge for intervals of the day, except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records good; winter records fair.

Discharge measurements of East Branch of Fish Creek at Fish Creek, near Constableville, N. Y., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
Jan. 30-----	<i>Feet</i> 3.04	<i>Sec.-ft.</i> 55.7	May 16-----	<i>Feet</i> 2.75	<i>Sec.-ft.</i> 517	Aug. 8-----	<i>Feet</i> 2.20	<i>Sec.-ft.</i> 218
May 3-----	4.21	2,160	July 13-----	1.81	101	Sept. 9-----	2.35	301
May 7-----	3.51	1,260						

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of East Branch of Fish Creek at Fish Creek, near Constableville, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	96	182	160	100	95	80	170	1,300	197	54	37	41
2-----	80	143	180	100	95	80	160	1,710	326	50	66	38
3-----	346	162	180	100	80	75	150	2,560	216	50	158	35
4-----	288	152	320	110	70	70	140	1,500	155	44	122	35
5-----	216	152	870	120	60	65	150	1,430	120	43	57	57
6-----	204	547	1,430	170	55	60	140	1,240	105	49	44	137
7-----	253	421	658	150	50	65	130	1,300	105	48	451	149
8-----	197	1,020	400	140	50	70	340	1,640	182	46	219	77
9-----	155	658	240	120	50	85	600	1,300	307	44	115	235
10-----	162	421	200	110	48	85	800	965	175	219	69	408

Daily discharge, in second-feet, of East Branch of Fish Creek at Fish Creek, near Constableville, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11.....	143	307	200	100	46	80	1,000	739	120	421	58	155
12.....	175	261	180	90	48	75	950	697	96	200	52	86
13.....	248	2,310	160	80	50	70	950	826	96	110	51	67
14.....	193	4,140	150	75	50	70	1,000	739	92	77	45	57
15.....	204	1,840	150	65	55	70	1,300	583	963	62	42	49
16.....	197	1,180	140	65	60	65	1,000	514	788	53	38	63
17.....	394	697	140	55	55	65	850	451	356	47	39	88
18.....	421	547	140	65	55	65	600	366	270	44	40	74
19.....	298	366	130	240	55	65	460	326	231	40	35	51
20.....	307	514	140	320	55	70	400	514	152	38	33	50
21.....	270	451	150	280	60	100	650	356	118	37	31	46
22.....	244	394	160	220	60	130	1,300	284	115	33	50	43
23.....	219	351	150	190	55	170	2,400	346	110	38	149	42
24.....	193	279	140	170	60	220	3,220	266	90	33	870	568
25.....	919	270	130	140	60	240	4,000	212	80	32	394	476
26.....	1,620	236	120	100	70	260	2,370	162	125	30	197	253
27.....	697	275	120	95	85	240	1,570	146	125	29	115	143
28.....	421	481	110	70	90	220	870	125	92	33	84	102
29.....	346	316	110	60	-----	200	965	108	74	56	63	88
30.....	244	200	100	55	-----	190	1,020	108	59	46	50	77
31.....	182	-----	100	60	-----	190	-----	134	-----	42	45	-----

NOTE.—Discharge Nov. 30 to Dec. 4 and Dec. 8 to Apr. 23 determined from gage heights corrected for backwater from ice by means of one discharge measurement, observer's notes, weather records, and comparison with flow at station at Taberg.

Monthly discharge of East Branch of Fish Creek at Fish Creek, near Constableville, N. Y., for the year ending September 30, 1926

[Drainage area, 75 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,620	80	320	4.27	4.92
November.....	4,140	143	642	8.56	9.55
December.....	1,430	100	244	3.25	3.75
January.....	320	55	123	1.64	1.89
February.....	95	46	61.5	.820	.85
March.....	260	60	116	1.55	1.79
April.....	4,000	130	988	13.17	14.70
May.....	2,560	108	740	9.87	11.38
June.....	963	59	201	2.68	2.99
July.....	421	29	69.3	.924	1.07
August.....	870	31	123	1.64	1.89
September.....	568	35	126	1.68	1.87
The year.....	4,140	29	313	4.17	56.65

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

LOCATION.—At steel highway bridge in Taberg, Oneida County, just below mouth of Furnace Creek and 2¼ miles above confluence of East and West Branches near Blossvale.

DRAINAGE AREA.—188 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 1, 1923, to September 30, 1926.

GAGE.—Gurley 7-day water-stage recorder on downstream side of left bridge abutment; inspected by Alvin Thorn.

DISCHARGE MEASUREMENTS.—Made from downstream side of highway bridge or by wading.

CHANNEL AND CONTROL.—Large and small boulders; shifting.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.6 feet at 7 a. m. April 25 (discharge, about 12,400 second-feet); minimum stage from water-stage recorder, 0.36 foot at 8 p. m. September 22 (discharge, 39 second-feet).

1923-1926: Maximum stage, from water-stage recorder, 8.2 feet at 11 p. m. April 6, 1924 (discharge, about 12,600 second-feet); minimum stage, from water-stage recorder, 0.12 foot at 10 p. m. September 26, 1924 (discharge, 24 second-feet).

ICE.—Stage-discharge relation considerably affected by ice during extremely cold weather.

DIVERSIONS.—A small amount of water is diverted just above Glenmore for domestic supply for the city of Oneida.

REGULATION.—Operation of mills upstream causes some diurnal fluctuation of flow during extremely low water.

ACCURACY.—Stage-discharge relation changed during flood of November 14; affected by ice as indicated in footnote to daily-discharge table. Rating curve used October 1 to November 14, well defined between 50 and 2,000 second-feet; curve used November 15 to September 30, well defined between 175 and 3,500 second-feet; extended beyond these limits. Operation of water-stage recorder unsatisfactory at times. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for periods of ice effect or of no record as indicated in footnote to daily-discharge table. Records generally good except those for periods of ice effect or of no records, which are fair.

Discharge measurements of East Branch of Fish Creek at Taberg, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 14.....	1.35	251	May 17.....	2.25	695	June 21.....	1.41	280
Feb. 17.....	1.22	196	June 10.....	1.84	454	Aug. 4.....	1.64	387
May 8.....	4.11	2,800						

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of East Branch of Fish Creek at Taberg, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	240	461	565	280	280	220	478	2,240	420	150	80	106
2.....	200	435	595	280	280	220	405	3,180	716	131	110	98
3.....	870	425	625	280	260	220	377	4,130	435	124	528	89
4.....	711	386	1,340	280	240	200	354	3,210	320	108	336	83
5.....	520	418	1,880	316	240	200	359	2,200	270	100	159	332
6.....	480	1,020	3,020	425	220	220	337	2,200	239	119	108	602
7.....	550	902	1,500	350	220	220	386	2,350	223	122	1,110	604
8.....	425	1,710	915	340	220	220	875	2,550	435	104	686	269
9.....	373	1,510	658	320	200	220	1,520	2,060	756	190	320	601
10.....	400	942	535	320	200	260	1,820	1,700	430	677	200	1,180
11.....	342	718	517	300	190	220	2,600	1,320	293	1,000	182	504
12.....	400	806	541	280	190	220	2,500	1,190	236	456	155	306
13.....	580	5,950	461	260	190	220	2,400	1,240	229	274	155	229
14.....	460	9,220	405	260	200	220	2,480	1,110	223	217	136	188
15.....	500	3,820	415	260	200	220	3,040	932	2,050	174	122	133

Daily discharge, in second-feet, of East Branch of Fish Creek at Taberg, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	440	2,480	410	233	180	200	2,140	812	1,850	143	98	225
17.....	1,000	1,590	400	242	190	200	1,520	704	754	128	93	260
18.....	1,100	1,130	329	368	190	200	1,060	613	586	115	94	211
19.....	720	915	346	792	190	200	1,010	547	600	106	82	155
20.....	750	1,090	363	830	200	200	966	843	363	93	72	146
21.....	658	932	405	741	200	260	1,700	638	278	87	68	108
22.....	529	820	456	566	190	341	3,420	500	260	80	196	114
23.....	500	775	435	500	180	517	5,720	632	239	83	444	113
24.....	425	619	400	445	190	589	6,780	535	233	83	2,370	1,310
25.....	2,800	535	380	386	190	595	11,000	415	233	71	1,160	1,460
26.....	3,440	435	360	340	200	619	4,750	333	352	63	498	756
27.....	1,270	725	340	300	220	595	2,930	301	518	59	325	458
28.....	958	1,160	340	260	220	529	2,270	278	290	63	239	336
29.....	798	782	320	240	-----	461	2,140	264	210	116	189	260
30.....	632	601	300	280	-----	478	2,140	239	189	108	145	220
31.....	511	-----	300	280	-----	523	-----	270	-----	91	122	-----

NOTE.—Discharge Dec. 24 to Jan. 4, Jan. 8-15, and Jan. 26 to Mar. 21 determined from gage heights corrected for ice effect on basis of discharge measurement, study of gage-height graph and weather records, and comparison with records for other stations. Staff-gage readings used Apr. 14-30, when gage did not operate. Discharge for following periods, when gage did not operate satisfactorily, estimated on basis of fragmentary gage-height graph, occasional readings of staff gage, and comparative flow studies: Oct. 1-20, 25, Nov. 25-28, Dec. 5, 6, and Apr. 10-14.

Monthly discharge of East Branch of Fish Creek at Taberg, N. Y., for the year ending September 30, 1926

[Drainage area, 188 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	3,440	200	761	4.05	4.67
November.....	9,220	386	1,440	7.66	8.55
December.....	3,020	300	641	3.41	3.93
January.....	830	233	366	1.95	2.25
February.....	280	180	210	1.12	1.17
March.....	619	200	316	1.68	1.94
April.....	11,000	337	2,320	12.34	13.76
May.....	4,130	239	1,280	6.81	7.85
June.....	2,050	189	474	2.52	2.81
July.....	1,000	59	175	.931	1.07
August.....	2,370	68	335	1.78	2.05
September.....	1,460	83	383	2.04	2.28
The year.....	11,000	59	724	3.85	52.33

BLACK RIVER NEAR BOONVILLE, N. Y.

LOCATION.—At highway bridge 1 mile above mouth of Sugar River, 2 miles north-east of Boonville, Oneida County, and 2 miles, by river, downstream from Hawkinsville.

DRAINAGE AREA.—303 square miles (measured on topographic maps).

RECORDS AVAILABLE.—February 16, 1911, to September 30, 1926.

GAGE.—Chain near center of left span, downstream side of bridge; staff gage on right abutment used for high-water readings; read by W. D. Charbonneau.

DISCHARGE MEASUREMENTS.—Made from a cable half a mile above gage or by wading near gage.

CHANNEL AND CONTROL.—Rough and full of boulders; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.6 feet at 5 p. m. April 25 and 8 a. m. April 26 (discharge, 6,390 second-feet); minimum stage recorded, 3.05 feet at 5 p. m. July 29 (discharge, 30 second-feet).

1911-1926: Maximum stage (determined by leveling from floodmark) about 12.5 feet during night of March 28, 1913 (discharge, about 10,000 second-feet); minimum stage, 2.40 feet at 5 p. m. August 26, 1918 (discharge, about 5 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Water is diverted at Forestport during the navigation season, and to a lesser extent during the remainder of the year, through Forestport feeder, flowing west, to a basin in Boonville. Black River Canal flows north from this basin entering Black River at the foot of Lyons Falls. A spillway from the basin overflows into Mill Creek, a tributary of Black River. Water flowing through these two channels returns to the river below the gaging station, thus passing around it. Black River Canal also flows south from Boonville, passing out of the Black River Basin and entering the summit level of the Erie Canal (Barge Canal) at Rome.

A continuous record of the amount of diversion through the Forestport feeder from Black River at Forestport during navigation season is published as a separate station, "Forestport feeder near Boonville, N. Y." A continuous record of the amount of diversion out of the Black River drainage basin is published as a separate station, "Black River Canal (flowing south) near Boonville N. Y." The difference in discharge between these two records indicates doubtless very nearly the amount of water diverted around this station and returned to Black River.

REGULATION.—The State Pond at Forestport, 8 miles upstream, impounds 13,068,000 cubic feet; another State dam $1\frac{1}{2}$ miles upstream from Forestport provides a reservoir with a capacity of about 213,440,000 cubic feet and receives storage from headwater reservoirs with total capacity of about 1,800,000,000 cubic feet, from which 1,397,000,000 cubic feet may be drawn each year.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined below 4,500 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table or, for days of considerable fluctuation in stage, by constructing a gage height graph on basis of the daily gage readings and averaging discharge for intervals of the day, except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records good; winter records fair.

Discharge measurements of Black River near Boonville, N. Y., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 29.....	a 6.32	500	May 2.....	7.96	2,800
Mar. 3.....	a 5.85	365	July 13.....	5.04	428

* Stage-discharge relation affected by ice,

Daily discharge, in second-feet, of Black River near Boonville, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	275	630	600	380	440	380	460	2,270	430	370	66	184
2-----	205	630	600	380	420	380	460	2,740	535	352	70	174
3-----	450	580	600	380	420	360	440	4,330	580	335	97	145
4-----	512	535	630	400	420	360	440	4,280	450	290	97	127
5-----	352	490	1,060	420	400	340	420	3,110	390	250	136	145
6-----	470	470	2,380	420	360	320	420	2,160	370	250	305	111
7-----	580	450	2,380	400	340	300	420	1,940	335	227	335	119
8-----	490	630	1,740	380	320	300	680	1,940	320	205	512	145
9-----	450	680	1,460	380	280	300	1,060	1,940	335	205	390	216
10-----	430	795	1,210	360	280	280	1,210	1,940	352	205	238	370
11-----	512	855	920	360	280	260	1,940	2,270	390	559	205	410
12-----	490	795	795	340	280	260	1,740	1,940	370	630	205	352
13-----	450	1,370	680	320	300	240	1,940	1,740	335	630	184	305
14-----	450	2,380	630	320	300	240	2,380	1,740	370	390	164	305
15-----	430	2,980	580	300	280	220	1,940	1,640	978	305	145	275
16-----	490	2,380	550	320	300	220	1,740	1,540	1,540	250	127	238
17-----	630	1,940	550	340	300	220	1,370	1,370	990	227	119	205
18-----	920	1,290	550	360	320	220	990	1,210	680	250	111	184
19-----	855	920	500	750	320	220	920	1,210	630	194	97	184
20-----	795	855	500	850	320	260	990	1,060	580	154	97	154
21-----	735	795	500	1,000	300	260	1,370	920	430	136	84	145
22-----	680	735	580	800	280	300	1,540	855	535	145	115	154
23-----	680	680	558	800	280	380	1,940	580	490	127	250	184
24-----	680	680	535	700	260	700	3,700	535	470	111	660	338
25-----	874	630	512	600	280	750	6,030	490	450	111	1,440	841
26-----	2,340	580	490	500	360	650	5,960	410	512	78	1,060	1,370
27-----	2,160	680	480	460	400	600	3,880	410	680	55	680	855
28-----	1,210	735	460	420	400	550	2,860	370	680	46	490	580
29-----	990	680	440	460	-----	500	2,740	352	490	33	390	535
30-----	795	600	420	480	-----	480	2,380	335	410	49	250	390
31-----	680	-----	400	480	-----	480	-----	335	-----	72	205	-----

NOTE.—Discharge Nov. 30 to Dec. 3, Dec. 16-21, and Dec. 27 to Apr. 7, determined from gage heights corrected for backwater from ice by means of two discharge measurements, study of weather records, and comparison with flow at other stations in the same drainage basin.

Monthly discharge of Black River near Boonville, N. Y., for the year ending September 30, 1926

[Drainage area, 303 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October-----	2,340	205	712	2.35	2.71
November-----	2,980	450	948	3.13	3.49
December-----	2,380	400	784	2.59	2.99
January-----	1,000	300	479	1.58	1.82
February-----	440	260	330	1.09	1.14
March-----	750	220	365	1.20	1.38
April-----	6,030	420	1,810	5.97	6.66
May-----	4,330	335	1,550	5.12	5.90
June-----	1,540	320	534	1.76	1.96
July-----	630	33	234	.772	.89
August-----	1,440	66	301	.993	1.14
September-----	1,370	111	325	1.07	1.19
The year-----	6,030	33	698	2.30	31.27

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

BLACK RIVER AT WATERTOWN, N. Y.

LOCATION.—At Vanduzee Street Bridge in Watertown, Jefferson County, 8 miles above mouth near Dexter.

DRAINAGE AREA.—1,880 square miles (revised; measured on topographic maps).

RECORDS AVAILABLE.—July 18, 1920, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on downstream side of right bridge abutment; inspected by employees of Black River Regulating District.

DISCHARGE MEASUREMENTS.—Made from cable 150 feet below gage.

CHANNEL AND CONTROL.—Largely solid rock; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 10.3 feet at 9 p. m. April 26 (discharge, 31,900 second-feet); minimum stage from water-stage recorder, 0.92 foot at 3.30 a. m. August 1 (discharge, 542 second-feet).

1920–1926: Maximum stage recorded, that of April 26, 1926; minimum stage from water-stage recorder, 0.30 foot from 1 to 5 a. m. August 6, 1923 (discharge, 155 second-feet).

ICE.—Stage-discharge relation affected by anchor ice for short periods during extremely cold weather.

DIVERSIONS.—Water is diverted from Black River into the Forestport feeder at Forestport. A part of this water returns to the river through various spillways and through Black River Canal (flowing north); the rest passes out of the drainage basin through Black River Canal (flowing south). The record at the station on Black River Canal (flowing south) near Boonville indicates the amount of this diversion. See also "Regulation" and "Divisions" in description of station on Black River near Boonville.

REGULATION.—Seasonal distribution of flow is regulated by Stillwater Reservoir, Fulton Chain Lakes, Forestport Reservoir, and other storage reservoirs in the upper part of the drainage basin. During medium and low water there is considerable diurnal fluctuation in flow, caused by mills and power plants at Watertown and above.

ACCURACY.—Stage-discharge relation changed, presumably on July 31; affected by ice during short periods from December to March. Rating curve used October 1 to July 31 well defined between 200 and 25,000 second-feet; curve used August 1 to September 30 well defined above 700 second-feet; fairly well defined below 700 second-feet on basis of previous curve. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Open water records excellent; winter records fair.

Discharge measurements of Black River at Watertown, N. Y., during the year ending September 30, 1926

Date ^a	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 25.....	3.34	4,240	July 23.....	2.03	1,920
May 5.....	7.92	20,800	Aug. 18.....	1.90	1,610
June 19.....	4.08	6,360			

^a Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Black River at Watertown, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,350	5,270	3,690	2,300	2,670	2,570	5,230	15,200	2,650	2,480	873	1,840
2	2,090	4,490	3,690	2,350	2,800	3,160	4,730	14,400	3,260	2,480	1,210	1,700
3	2,200	4,250	4,020	2,200	2,800	3,370	4,610	14,800	3,690	2,300	1,280	1,700
4	2,800	3,690	4,610	2,260	2,400	3,000	2,910	16,800	3,690	1,310	1,220	1,550
5	3,820	3,690	6,840	2,920	2,600	2,800	4,250	20,800	3,580	1,450	1,490	1,370
6	4,320	3,690	8,330	3,260	2,400	2,600	3,910	20,000	2,670	1,870	1,390	963
7	4,140	4,140	9,280	3,440	2,000	2,300	4,020	16,400	2,590	1,700	1,830	1,630
8	4,040	4,020	9,940	3,200	2,400	2,480	5,100	14,400	3,370	1,940	2,160	2,000
9	3,510	4,980	10,300	3,000	2,600	2,480	7,420	12,800	3,160	1,890	2,860	2,000
10	3,100	5,490	8,640	2,600	2,600	2,660	9,280	12,800	3,800	1,730	2,570	2,150
11	2,930	5,620	7,130	2,400	2,400	2,480	11,300	12,400	4,250	1,660	1,830	2,760
12	3,280	4,980	6,300	2,400	2,400	2,400	12,800	12,000	3,480	3,810	1,670	2,300
13	3,930	5,680	5,150	2,600	2,400	2,200	14,000	11,300	2,860	3,910	1,750	2,150
14	3,540	9,630	3,850	2,400	2,210	2,140	13,600	10,600	3,100	2,960	1,750	2,150
15	3,370	11,300	3,080	2,200	2,160	1,970	14,000	9,610	3,180	2,960	1,430	2,070
16	3,480	13,600	2,760	2,200	2,400	2,390	14,400	8,020	6,420	2,300	1,290	1,840
17	3,370	14,000	2,570	2,160	2,480	2,660	13,200	7,280	7,130	2,390	1,610	2,150
18	4,190	13,200	2,480	2,280	2,220	2,300	11,600	6,560	7,570	1,590	1,560	2,150
19	4,860	11,300	2,570	3,220	2,420	2,480	10,300	5,490	6,840	1,330	1,590	1,630
20	5,100	9,940	3,320	4,290	2,670	2,390	8,960	5,360	5,750	1,830	1,440	1,370
21	5,230	8,640	3,690	4,860	1,940	1,820	8,020	5,490	4,490	1,810	1,560	1,770
22	5,230	7,280	3,800	5,100	2,000	2,190	9,280	4,980	4,020	1,490	1,220	1,760
23	5,100	6,420	3,910	4,890	2,000	2,950	12,400	4,020	3,260	1,570	1,150	1,620
24	4,730	5,750	3,690	4,230	2,200	3,910	16,000	4,250	2,960	1,490	1,980	1,840
25	5,110	5,100	3,370	4,000	2,340	4,490	24,900	4,250	2,960	1,210	3,880	3,430
26	8,960	4,490	3,260	3,800	2,470	5,230	29,900	4,020	2,660	1,350	4,890	4,080
27	8,640	4,140	3,000	3,400	2,760	5,360	28,500	3,910	2,570	1,140	4,770	4,650
28	8,960	4,490	2,800	3,000	2,390	4,860	24,000	3,690	2,860	1,180	3,970	4,300
29	8,640	4,730	2,800	3,000	-----	4,760	19,500	3,260	3,160	1,960	2,670	3,440
30	7,720	3,930	2,600	3,000	-----	4,610	16,800	2,760	2,660	1,370	2,150	2,950
31	6,560	-----	2,480	2,580	-----	4,730	-----	1,760	-----	1,340	2,230	-----

NOTE.—Discharge Dec. 27-30, Jan. 8-16, 25-30, Feb. 2-13, 22-24, and Mar. 4-6 and 12-13 determined from gage heights corrected for backwater from anchor ice by means of one discharge measurement, weather records, study of gage-height graph, and comparison with records of flow at adjacent stations. Gage-height record lacking Dec. 16-19; discharge estimated by comparative studies.

Monthly discharge of Black River at Watertown, N. Y., for the year ending September 30, 1926

[Drainage area, 1,880 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	8,960	2,090	4,690	2.49	2.87
November	14,000	3,690	6,590	3.51	3.92
December	10,300	2,480	4,640	2.47	2.85
January	5,100	2,160	3,080	1.64	1.89
February	2,800	1,940	2,400	1.28	1.33
March	5,360	1,820	3,090	1.64	1.89
April	29,900	3,810	12,200	6.49	7.24
May	20,800	1,760	9,340	4.97	5.73
June	7,570	2,570	3,820	2.03	2.26
July	3,910	1,140	1,930	1.03	1.19
August	4,890	873	2,040	1.09	1.26
September	4,650	963	2,240	1.19	1.33
The year	29,900	873	4,670	2.48	33.76

NOTE.—See "Divisions" and "Regulation" in station description.

FORESTPORT FEEDER NEAR BOONVILLE, N. Y.

LOCATION.—Slope station at lower end of feeder, above point where it enters the basin at Boonville, Oneida County.

RECORDS AVAILABLE.—Occasional discharge measurements 1900 and 1905-1915; continuous record, October 30, 1915, to September 30, 1926.

GAGES.—Two Gurley 7-day water-stage recorders, 2.53 miles apart. Gage No. 1 is at downstream end of left abutment of steel highway bridge in village of Hawkinsville; gage No. 2 is on left bank, just below a farm bridge 1 mile above basin at Boonville. These gages and the two on Black River Canal (flowing south) near Boonville are set to the same datum. Recorders inspected by Fred Kesauer.

DISCHARGE MEASUREMENTS.—Made from steel highway bridge at gage No. 1 in Hawkinsville.

DETERMINATION OF DISCHARGE.—Daily discharge determined by use of Chezy formula. The coefficient "C," computed from each current-meter measurement, is plotted against a time scale. A smooth curve drawn through the plotted points shows the variation of "C" throughout the season and indicates the coefficients for intervening days. The other factors in the Chezy formula are obtained from gage-height records and cross section of canal.

DIVERSIONS.—One spillway takes water from the Forestport feeder just below gage No. 2 and a second spillway takes water from the basin in Boonville. Both discharge into Mill Creek, which enters Black River below Boonville gaging station. No spillway between gage No. 1 and gage No. 2. Other spillways in the feeder above gage No. 1 discharge into Black River above the gaging station. Therefore, this station indicates the total amount of water diverted past the gaging station on Black River near Boonville, and the sum of this record and the record for Black River near Boonville indicates the total run-off of the Black River Basin above these gaging stations.

REGULATION.—Flow in the feeder is regulated at the outlet of Forestport Reservoir.

ICE.—There is usually at least 35 second-feet flowing in canal during winter, and occasional current-meter measurements of the discharge have been made.

ACCURACY.—Operation of water-stage recorders satisfactory except for a few short periods. Records good except those for periods of unsatisfactory gage-height record, which are fair.

Discharge measurements of Forestport feeder near Boonville, N. Y., during the year ending September 30, 1926

Date	Gage height at gage No. 1	Gage height at gage No. 2	Discharge	Date	Gage height at gage No. 1	Gage height at gage No. 2	Discharge
	<i>Feet</i>	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 5.....	7.20	6.52	142	July 12.....	7.98	6.30	250
May 9.....	7.54	5.75	215	Aug. 7.....	8.325	6.925	242
May 16.....	6.53	4.545	122	Sept. 8.....	7.85	6.15	228

Daily discharge, in second-feet, of Forestport feeder near Boonville, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	May	June	July	Aug.	Sept.
1.....	133	143	-----	138	181	216	217
2.....	132	141	-----	140	165	220	220
3.....	160	147	-----	143	164	242	219
4.....	168	141	-----	143	188	250	219
5.....	181	140	-----	140	186	237	223
6.....	170	155	-----	137	193	231	214
7.....	148	148	-----	136	199	234	239
8.....	148	180	-----	147	194	243	256
9.....	146	188	211	161	197	220	229
10.....	153	188	174	149	223	231	250
11.....	149	186	160	142	266	221	234
12.....	150	183	150	141	258	220	232
13.....	145	218	152	137	242	218	229
14.....	145	223	142	135	231	217	207
15.....	148	227	132	156	230	215	198
16.....	145	227	122	164	222	214	197
17.....	163	216	131	147	220	213	198
18.....	163	217	148	139	229	212	199
19.....	153	242	146	148	235	211	197
20.....	157	240	153	143	251	211	195
21.....	169	235	148	139	258	209	189
22.....	163	146	142	251	213	182	182
23.....	144	147	144	251	234	181	181
24.....	149	147	144	246	254	232	232
25.....	213	143	145	231	238	254	254
26.....	242	200	142	154	211	225	222
27.....	197	140	159	201	238	237	237
28.....	173	101	156	203	232	227	227
29.....	154	137	175	208	240	219	219
30.....	144	136	184	219	228	212	212
31.....	141	137	-----	220	220	-----	-----

NOTE.—Gage-height record unsatisfactory Oct. 1-4, 26-31, Nov. 1, 7, 8, 10-15, 22-30, May 11-16, June 25, 26, and Aug. 27; discharge based on comparative studies. Braced figure shows mean discharge for period indicated.

Monthly discharge of Forestport feeder near Boonville, N. Y., for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maxi- mum	Mini- mum	Mean		Maxi- mum	Mini- mum	Mean
October.....	242	132	160	July.....	266	164	218
November.....	242	140	193	August.....	254	209	226
May 9-31.....	211	101	145	September.....	256	181	218
June.....	184	135	148				

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

LOCATION.—Slope station in summit level of Black River Canal near Boonville, Oneida County.

RECORDS AVAILABLE.—Occasional discharge measurements, 1900 and 1905-1915; continuous record during canal season, September 16, 1915, to September 30, 1926.

GAGES.—Two Gurley 7-day water-stage recorders, 1.81 miles apart. Gage No. 1 is on right bank 300 feet above steel and concrete highway bridge in Boonville. Gage No. 2 is on right bank 1,000 feet above Lock 70 and 150 feet above spillway into Lansing Kill. These gages and the two gages on Forestport Feeder near Boonville are set to the same datum. Recorders inspected by Fred Kesauer.

DISCHARGE MEASUREMENTS.—Made from highway bridge in Boonville just below Gage No. 1.

DETERMINATION OF DISCHARGE.—Daily discharge determined by use of Chezy formula. The coefficient "C" is computed for each current-meter measurement and plotted against a time scale. A smooth curve, drawn as nearly as possible through the plotted points, shows the variations of "C" throughout the season and indicates the coefficients for intervening days. The other factors in the Chezy formula are obtained from gage-height records and cross-section of canal.

DIVERSIONS.—No diversion between Gage No. 1 and Gage No. 2. Records obtained at this station indicate the quantity of water diverted from the Black River Basin into the Mohawk River Basin.

REGULATION.—Flow in canal is regulated by operation of spillway and sluice gates at Lock 70 and also by discharge of Forestport feeder into the basin at Boonville.

ICE.—No flow in canal during winter.

ACCURACY.—Operation of water-stage recorders unsatisfactory at times during October, November, May, and June. Records good except for periods when either recorder was not operating or slope factor was too small to use satisfactorily in the computation of discharge; for such periods the discharge record is based upon comparative studies.

Discharge measurements of Black River Canal (flowing south) near Boonville, N. Y., during the year ending September 30, 1926

Date	Gage height at gage No. 1	Gage height at gage No. 2	Discharge	Date	Gage height at gage No. 1	Gage height at gage No. 2	Discharge
	<i>Feet</i>	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 6.....	6.52	6.54	21.1	July 12.....	5.82	5.59	167
May 9.....	5.155	4.64	181	Aug. 7.....	6.26	5.995	165
May 16.....	3.315	2.98	51.8	Sept. 9.....	6.425	6.275	146

Daily discharge, in second-feet, of Black River Canal (flowing south) near Boonville, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	May	June	July	Aug.	Sept.
1	30	20	-----	97	123	150	149
2	30		-----	98	114	149	151
3	31		-----	118	99	180	153
4	40		-----	116	114	164	154
5	47		-----	115	122	155	170
6	-----	21	-----	117	121	156	156
7	-----		-----	116	116	201	181
8	-----		-----	112	127	174	176
9	-----		-----	145	105	130	140
10	-----		-----	120	108	120	152
11	30	35	-----	155	110	179	163
12	-----		-----	139	108	189	159
13	-----		-----	127	105	192	164
14	-----		-----	118	104	170	154
15	-----		-----	69	138	186	157
16	-----	60	54	138	150	156	142
17	31	46	66	120	160	152	127
18	36	40	78	106	166	158	112
19	30	20	84	93	170	156	141
20	33	12	80	92	165	156	142
21	69	-----	82	94	178	160	130
22	40	-----	81	90	187	169	132
23	30	-----	79	89	188	162	132
24	30	-----	78	88	189	194	183
25	40	-----	74	95	164	182	154
26	70	-----	72	103	147	155	150
27	60	-----	71	106	141	161	141
28	41	-----	61	107	140	154	164
29	34	-----	81	116	149	160	161
30	30	-----	90	122	145	154	167
31	25	-----	92	-----	152	149	-----

NOTE.—Gage-height record faulty or slope factor too small to be used satisfactorily Oct. 1-4, 6-19, 22-31, Nov. 1-5, 7-14, May 10, 12-15, 25-31, June 1-11, 21, 22, and July 1 and 2; discharge based on comparative studies. Braced figures give mean discharge for periods indicated.

Monthly discharge of Black River Canal (flowing south) near Boonville, N. Y., for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maxi- mum	Mini- mum	Mean		Maxi- mum	Mini- mum	Mean
October	70	25	35.7	July	192	99	151
November 1-20	60	12	30.7	August	201	140	161
May 9-31	155	54	91.1	September	184	112	153
June	138	88	108				

MOOSE RIVER AT McKEEVER, N. Y.

LOCATION.—Half a mile below dam of Iroquois Pulp & Paper Co. at McKeever, Herkimer County, 2 miles below mouth of South Branch of Moose River and 16 miles above junction of Black and Moose Rivers at Lyons Falls.

DRAINAGE AREA.—366 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 28, 1922, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on left bank; inspected by R. D. Nash and R. E. Studor.

DISCHARGE MEASUREMENTS.—Made from cable 250 feet above gage or by wading.

CHANNEL AND CONTROL.—Primary control composed principally of coarse gravel and boulders; secondary control, operative at high stages, is of rock. Primary control practically permanent under normal river conditions. Section at gage and cable very smooth and uniform.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 12.1 feet at 3 p. m. April 25 (discharge, 9,620 second-feet); minimum stage from water-stage recorder, 1.41 feet at 8 a. m. August 6 (discharge, 70 second-feet).

1922-1926: Maximum stage recorded, 12.9 feet at about 10 p. m. June 22, 1922 (discharge, about 11,000 second-feet; revised); minimum stage from water-stage recorder, 1.37 feet at 3 a. m. September 2, 1925 (discharge, 64 second-feet).

ICE.—Stage-discharge relation considerably affected by ice.

REGULATION.—Flow regulated to a considerable extent for short periods at dam of Iroquois Pulp & Paper Co., half a mile upstream. Seasonal distribution of flow affected by operation of State dam at Old Forge. This regulation is indicated by record from station on Middle Branch of Moose River at Old Forge.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined between 100 and 7,500 second-feet. Operation of water-stage recorder satisfactory except for a few short periods. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for periods of ice effect or of no record for which it was ascertained as indicated in footnote to table of daily discharge. Records excellent except those for period of ice effect or those estimated which are fair.

Discharge measurements of Moose River at McKeever, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 13.....	2. 89	418	May 14.....	5. 96	2, 430	Aug. 6.....	2. 15	274
Mar. 4.....	3. 26	399	July 11.....	5. 52	2, 370	Sept. 6.....	2. 65	435
May 4.....	9. 99	6, 820						

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Moose River at McKeever, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	494	959	945	460	500	480	500	2, 810	718	531	295	470
2.....	402	912	890	440	500	480	500	3, 720	816	474	200	390
3.....	455	853	840	440	480	460	500	6, 440	972	600	449	316
4.....	1, 040	800	865	480	480	420	400	6, 830	740	242	398	314
5.....	918	790	1, 410	500	460	420	600	4, 670	695	342	329	262
6.....	792	815	3, 520	500	460	420	460	4, 130	504	549	245	436
7.....	790	972	3, 290	480	440	400	500	4, 030	623	300	516	462
8.....	740	1, 210	1, 880	460	420	400	650	4, 450	621	299	914	600
9.....	641	2, 640	1, 480	460	420	420	960	3, 930	1, 010	321	682	422
10.....	663	1, 640	1, 180	460	400	400	1, 200	3, 170	1, 140	457	490	551
11.....	679	1, 150	1, 000	440	400	400	1, 600	2, 900	865	1, 630	417	921
12.....	718	1, 000	1, 000	440	400	380	2, 010	2, 810	740	1, 280	482	498
13.....	672	1, 330	900	440	380	380	1, 830	2, 900	526	896	470	595
14.....	775	3, 660	850	420	380	380	1, 830	2, 450	695	672	442	409
15.....	765	3, 670	800	420	400	380	2, 170	2, 290	1, 000	536	273	321

Daily discharge, in second-feet, of Moose River at McKeever, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16-----	815	2,990	800	420	400	380	2,090	2,040	2,820	505	474	323
17-----	1,000	2,620	750	420	420	360	1,800	1,830	2,010	513	322	351
18-----	1,410	2,050	700	420	420	360	1,530	1,580	1,390	331	299	352
19-----	1,370	1,760	650	650	400	360	1,420	1,390	1,420	474	310	253
20-----	1,230	1,620	650	1,200	400	380	1,210	1,330	1,240	340	314	329
21-----	1,160	1,550	750	1,300	400	420	1,000	1,270	1,060	288	299	291
22-----	989	1,360	750	1,100	400	480	1,710	1,120	890	292	204	280
23-----	986	1,380	700	1,000	400	650	4,060	1,060	740	299	306	255
24-----	915	1,110	600	850	420	750	5,630	1,030	650	315	1,090	367
25-----	1,020	1,090	600	850	420	800	8,780	815	592	205	1,980	1,690
26-----	2,720	1,000	700	650	420	700	7,350	790	628	285	1,240	1,510
27-----	2,080	945	500	600	440	700	4,780	695	774	238	958	1,140
28-----	1,580	1,150	650	550	460	600	3,830	672	1,030	248	718	735
29-----	1,420	1,060	500	550	-----	550	3,440	628	718	265	570	628
30-----	1,240	1,040	480	500	-----	500	2,990	442	564	369	717	549
31-----	1,090	-----	460	480	-----	500	-----	718	-----	391	470	-----

NOTE.—Discharge Dec. 11 to Apr. 11 determined from gage heights corrected for backwater from ice by means of two discharge measurements, study of gage-height graph and weather records, and comparison with flow at adjacent stations. Recorder operation faulty Feb. 12, 13, 21–26, 28, Mar. 1, 3–5, 14, 15, 18, 19, and Mar. 30 to Apr. 3; discharge based on comparative studies.

Monthly discharge of Moose River at McKeever, N. Y., for the year ending September 30, 1926

[Drainage area, 366 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October-----	2,720	402	1,020	2.79	3.22
November-----	3,670	790	1,500	4.10	4.57
December-----	3,520	460	1,000	2.73	3.15
January-----	1,300	420	593	1.62	1.87
February-----	500	380	426	1.16	1.21
March-----	800	360	475	1.30	1.50
April-----	8,780	400	2,240	6.12	6.83
May-----	6,830	442	2,420	6.61	7.62
June-----	2,820	504	940	2.57	2.87
July-----	1,630	205	467	1.28	1.48
August-----	1,980	200	544	1.49	1.72
September-----	1,590	253	531	1.45	1.62
The year-----	8,780	200	1,020	2.79	37.66

NOTE.—See "Regulation" in station description.

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

LOCATION.—300 feet below highway bridge and 400 feet below State dam at Old Forge, Herkimer County.

DRAINAGE AREA.—51.5 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 9, 1911, to September 30, 1926.

GAGE.—Vertical staff on left bank; read by Joseph Otis.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading near gage.

CHANNEL AND CONTROL.—Bed near gage and low-water control composed of gravel. Main control is rock ledge 200 feet below gage; practically permanent when unobstructed.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.7 feet at 8 a. m. May 5 (discharge, 758 second-feet); minimum discharge, 42 second-feet May 20 (gage height, 1.32 feet).

1911-1926: Maximum discharge recorded, 862 second-feet morning and afternoon March 23, 1921; minimum discharge, 16 second-feet several times in October and November, 1919.

ICE.—Stage-discharge relation not affected by ice.

REGULATION.—Flow controlled by gates at dam above. Storage in Fulton Chain of Lakes is regulated by dams at the foot of First Lake at Old Forge and at foot of Sixth Lake near Inlet. The former dam controls the level in First, Second, Third, and Fourth Lakes.

ACCURACY.—Stage-discharge relation shifting throughout year. Standard rating curve well defined between 20 and 400 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by shifting-control method. Records fair.

Discharge measurements of Middle Branch of Moose River at Old Forge, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 3.....	2.61	225	Mar. 4.....	2.32	168	Aug. 6.....	1.59	67.5
Dec. 3.....	2.48	194	May 15.....	2.59	204	Sept. 5.....	1.90	90.6
Jan. 18.....	1.80	96.7	July 10.....	1.69	66.2			

Daily discharge, in second-feet, of Middle Branch of Moose River at Old Forge, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	43	240	201	100	94	165	183	314	48	62	64	74
2.....	43	230	192	100	94	165	183	314	48	57	64	74
3.....	43	220	201	100	94	165	183	362	48	57	64	74
4.....	43	220	192	100	94	165	183	635	50	57	64	84
5.....	44	220	192	100	94	165	183	726	50	57	64	96
6.....	44	201	201	100	94	165	174	665	50	57	64	96
7.....	44	192	201	100	94	165	174	548	48	57	69	96
8.....	44	192	201	100	94	165	174	520	51	53	69	96
9.....	46	113	201	100	94	165	174	492	131	62	74	96
10.....	46	78	192	100	94	165	174	466	103	67	74	96
11.....	73	78	192	100	94	165	174	439	90	67	74	96
12.....	78	78	174	94	94	165	174	388	89	67	79	96
13.....	78	78	157	94	94	165	183	290	93	72	84	96
14.....	78	89	157	94	94	157	183	206	104	72	74	96
15.....	78	113	157	94	113	157	183	206	177	72	69	90
16.....	78	127	157	94	142	157	183	197	275	68	69	84
17.....	83	142	149	94	142	157	183	117	316	68	69	74
18.....	83	142	149	94	142	157	183	55	293	64	69	74
19.....	89	201	149	94	142	157	183	44	270	64	69	74
20.....	89	261	149	94	134	157	183	43	249	70	69	74
21.....	100	261	149	94	134	157	192	61	172	70	64	74
22.....	157	251	149	94	134	157	192	50	90	66	64	74
23.....	149	240	127	94	157	157	192	45	82	66	64	96
24.....	149	230	100	94	174	157	210	46	67	67	74	114
25.....	157	230	100	100	174	157	350	48	53	67	84	90
26.....	183	220	100	94	165	157	614	48	53	68	74	74
27.....	220	220	100	94	165	157	665	48	62	63	74	74
28.....	220	210	100	100	165	157	520	49	67	64	79	74
29.....	220	210	100	100	-----	157	388	50	62	64	79	69
30.....	240	210	100	100	-----	165	338	50	62	64	74	74
31.....	251	-----	100	94	-----	174	-----	49	-----	64	74	-----

NOTE.—Discharge interpolated Sept. 8, owing to lack of gage readings.

Monthly discharge of Middle Branch of Moose River at Old Forge, N. Y., for the year ending September 30, 1926

[Drainage area, 51.5 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	251	43	106	2.06	2.38
November.....	261	78	183	3.55	3.96
December.....	201	100	154	2.99	3.45
January.....	100	94	96.9	1.88	2.17
February.....	174	94	121	2.35	2.45
March.....	174	157	161	3.13	3.61
April.....	665	174	242	4.70	5.24
May.....	726	43	244	4.74	5.46
June.....	316	48	112	2.17	2.42
July.....	72	53	64.3	1.25	1.44
August.....	84	64	70.9	1.38	1.59
September.....	114	69	85.0	1.65	1.84
The year.....	726	43	137	2.66	36.01

NOTE.—The above figures do not necessarily represent the natural flow from the basin because of artificial storage in Fulton Chain of Lakes. The elevation of water surface at Old Forge Dam was 5.7 feet at beginning of year and 5.45 feet at end of year, indicating practically no net loss or gain in storage.

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

LOCATION.—Half a mile above confluence of Middle and South Branches of Moose River, 1 mile below dam at Nelson Lake, and 2 miles northeast of McKeever, Herkimer County.

DRAINAGE AREA.—147 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 1, 1925, to September 30, 1926.

GAGE.—Au 7-day water-stage recorder on right bank; installed December 2, 1925. Gurley 7-day recorder at same location used November 4 to December 2, 1925. Prior to November 4, 1925, temporary staff gage at practically the same location was read. Recorder inspected by R. D. Nash prior to June 13, 1926; thereafter by R. E. Studor. Temporary staff gage read by engineer from Albany office of the Geological Survey.

DISCHARGE MEASUREMENTS.—Made from cable 75 feet below gage or by wading.

CHANNEL AND CONTROL.—Control composed of boulders; probably fairly permanent. Bed composed of boulders. Channel straight in vicinity of gage. Banks fairly high and wooded.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.6 feet at 7 a. m. April 27, 1926 (discharge, 2,100 second-feet); minimum stage from water-stage recorder, 2.60 feet at 5 a. m. July 8, 1926 (discharge, 133 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

REGULATION.—Seasonal distribution of flow slightly affected by storage operations in Fulton Chain Lakes. This regulation indicated by record from station on Middle Branch of Moose River at Old Forge.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined between 150 and 2,200 second-feet. Operation of water-stage recorders satisfactory after March 14; generally unsatisfactory from November 4 to March 14. Temporary staff gage read to hundredths two or more times daily prior to November 4. Daily discharge prior to November 4 ascertained by applying mean daily gage height to rating

table; thereafter determined by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for periods of ice effect or periods of no record for which it was ascertained as indicated in footnote to table of daily discharge. Records good, except those estimated and those for period of ice effect, which are fair.

Discharge measurements of Middle Branch of Moose River near McKeever, N. Y., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 24	3.83	481	Jan. 12	4.06	212	May 15	4.79	878
Nov. 1	4.21	643	May 4	6.03	1,690	July 11	3.52	365
Nov. 4	3.97	548	May 6	6.36	1,830	Aug. 6	2.77	166
Dec. 2	3.92	478	May 14	4.70	814	Sept. 5	3.08	212

• Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Middle Branch of Moose River near McKeever, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	181	636	448	220	220	320	280	1,320	301	278	166	284
2	172	572	496	200	220	300	280	1,350	307	270	184	251
3	196	552	477	200	240	280	260	1,460	304	389	187	227
4	203	515	477	220	240	260	240	1,660	307	187	174	227
5	210	531	512	240	220	240	300	1,980	307	215	168	236
6	219	531	636	260	200	240	260	1,940	292	212	171	259
7	222	572	679	240	190	240	340	1,740	292	158	243	273
8	222	593	701	240	190	240	400	1,600	312	137	267	251
9	227	593	650	220	190	240	448	1,490	413	158	273	254
10	236	531	600	220	190	220	552	1,460	416	240	319	301
11	251	355	550	220	180	220	636	1,380	333	368	352	281
12	262	267	480	200	180	220	636	1,290	324	340	326	275
13	267	273	440	200	180	220	657	1,170	312	330	304	262
14	275	371	420	190	180	220	724	950	315	324	312	244
15	284	492	400	190	180	220	820	870	484	312	295	229
16	284	614	380	200	220	220	820	870	593	310	256	229
17	355	636	360	200	220	220	747	771	771	292	224	227
18	407	614	340	220	240	220	701	614	845	270	224	217
19	427	614	320	340	240	220	701	552	820	242	219	208
20	470	614	340	400	220	220	601	491	795	192	210	208
21	455	593	360	380	220	260	572	407	679	206	199	203
22	477	572	360	360	220	280	771	496	552	210	199	185
23	500	572	320	340	220	300	1,000	448	424	206	203	162
24	470	572	260	320	240	320	1,200	413	381	196	338	314
25	508	600	260	300	260	340	1,740	377	324	192	371	368
26	593	462	240	280	260	360	1,940	365	318	179	394	384
27	578	427	240	260	280	340	2,100	320	321	174	346	374
28	724	427	240	260	300	320	1,900	296	312	174	324	355
29	701	444	229	240	-----	300	1,460	310	304	176	333	333
30	679	414	220	220	-----	280	1,490	301	292	172	330	292
31	637	-----	220	220	-----	280	-----	301	-----	168	310	-----

Notes.—Discharge Dec. 9 to Apr. 8 determined from gage heights corrected for backwater from ice by measurement, study of gage-height graph and weather records, and comparison with flow at adjacent stations. Recorder did not operate satisfactorily Nov. 7-28, Dec. 26 to Jan. 3, Jan. 8-12, 14-17, 23-30, 1926; 9-15, 17-21, 26-28, Mar. 11-14, and July 10; discharge estimated by comparative studies with flow at adjacent stations.

Monthly discharge of Middle Branch of Moose River near McKeever, N. Y., for the year ending September 30, 1926

[Drainage area, 147 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	724	172	381	2.59	2.99
November.....	636	267	513	3.49	3.89
December.....	701	220	408	2.78	3.20
January.....	400	190	252	1.71	1.97
February.....	300	180	220	1.50	1.56
March.....	360	220	263	1.79	2.06
April.....	2,100	240	826	5.62	6.27
May.....	1,980	301	936	6.37	7.34
June.....	845	292	425	2.89	3.22
July.....	389	137	235	1.60	1.84
August.....	394	166	265	1.80	2.08
September.....	384	162	264	1.80	2.01
The year.....	2,100	137	416	2.83	33.43

OTTER CREEK NEAR GLENFIELD, N. Y.

LOCATION.—A quarter of a mile above dam of Otter Creek Power Corporation, 2½ miles east of Glenfield, Lewis County, and 1¾ miles above mouth.

DRAINAGE AREA.—62 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 16, 1924, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on left bank; inspected by employee of Otter Creek Power Corporation.

DISCHARGE MEASUREMENTS.—Made from cable 250 feet above gage or by wading.

CHANNEL AND CONTROL.—The control is a timber weir with a 30-foot spillway, the crest of which is the edge of a 2-inch plank protruding about 1 inch above a 10-inch timber sill. Elevation of crest of weir, 1.00 foot gage datum.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.8 feet at 4 p. m. April 25 (discharge, about 1,830 second-feet); minimum stage, from water-stage recorder, 1.51 feet from 1 a. m. August 21 to 11 a. m. August 22 (discharge, 33 second-feet).

1924-1926: Maximum stage recorded, that of April 25, 1926; minimum, stage from water-stage recorder, 1.49 feet at 8 p. m. September 2, 1925 (discharge, 25 second-feet).

ICE.—Stage-discharge relation affected by ice.

ACCURACY.—Stage-discharge relation changed during flood of April 25-26, owing to leaks under weir and wing-walls; leaks were partly plugged on July 14, again changing stage-discharge relation; affected by ice during periods from December to March. Rating curve used October 1 to April 25, well defined between 20 and 400 second-feet; curve used April 26 to July 14, well defined between 60 and 700 second-feet; curve used July 15 to September 30, well defined between 40 and 400 second-feet; all curves merge for extremely high stages and are subject to considerable error owing to lack of discharge measurements and uncertainties regarding flow after weir walls are overtopped. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records good except those for extremely high stages which are subject to error; winter records fair.

Discharge measurements of Otter Creek near Glenfield, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 28.....	* 2.49	64.2	May 5.....	4.08	502	July 19.....	1.72	56.0
Feb. 28.....	* 1.99	83.7	May 7.....	3.28	324	Aug. 8.....	1.95	92.8
Mar. 3.....	* 1.91	59.4	May 15.....	2.44	173	Sept. 7.....	1.66	50.8
May 1.....	3.25	326	July 14.....	1.83	74.8	Sept. 8.....	1.64	45.2
May 4.....	5.08	639	July 15.....	1.87	74.6			

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Otter Creek near Glenfield, N. Y., for the year ending September 30, 1926

[Drainage area, 62 square miles]

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	63	137	108	60	60	75	93	330	110	76	41	56
2.....	60	124	110	60	65	70	90	399	143	67	43	54
3.....	73	114	104	60	70	60	87	612	139	60	44	51
4.....	84	107	112	60	70	55	87	721	118	57	44	46
5.....	87	101	130	65	70	55	82	540	106	52	43	47
6.....	90	101	198	70	65	60	78	385	98	53	42	50
7.....	90	110	253	75	60	60	84	320	98	66	66	51
8.....	86	130	225	70	60	50	135	290	108	60	78	48
9.....	84	136	176	70	60	50	200	258	124	57	76	56
10.....	89	142	148	65	55	48	286	242	123	90	66	81
11.....	86	134	134	65	55	48	344	239	111	134	60	76
12.....	87	128	137	65	55	48	340	231	99	114	55	65
13.....	90	157	119	65	55	48	336	209	93	91	54	60
14.....	91	252	110	60	55	48	354	186	88	78	52	55
15.....	91	387	104	60	55	48	401	171	197	71	50	52
16.....	86	387	100	60	55	48	370	161	377	71	46	52
17.....	112	365	95	60	55	50	312	147	270	68	45	53
18.....	154	292	90	60	55	50	251	135	202	66	43	53
19.....	154	232	90	107	55	50	214	126	173	59	40	53
20.....	144	212	90	120	55	54	186	129	134	54	35	52
21.....	144	196	97	134	55	66	196	128	117	52	33	51
22.....	144	176	108	118	50	77	301	122	105	47	40	47
23.....	137	165	100	100	50	89	562	126	96	46	45	47
24.....	128	151	107	95	50	98	845	122	88	44	117	80
25.....	156	140	93	85	50	104	1,600	114	84	42	155	109
26.....	312	128	78	75	55	104	1,240	106	89	40	108	108
27.....	283	130	72	70	65	103	654	100	100	38	88	94
28.....	229	132	70	65	75	98	457	98	96	38	90	86
29.....	202	118	65	65	-----	91	385	92	85	43	79	81
30.....	173	106	60	60	-----	89	341	91	75	41	70	73
31.....	151	-----	60	60	-----	90	-----	96	-----	41	65	-----

NOTE.—Discharge Dec. 16–20, Dec. 28 to Jan. 18, and Jan. 23 to Mar. 19 determined from gage heights corrected for backwater from ice by means of two discharge measurements, observer's notes, study of gage-height graph and weather records, and comparison with flow at stations on adjacent streams.

Monthly discharge of Otter Creek near Glenfield, N. Y., for the year ending September 30, 1926

[Drainage area, 62 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	312	60	128	2.06	2.38
November.....	387	101	173	2.79	3.11
December.....	253	60	114	1.84	2.12
January.....	134	60	74.3	1.20	1.38
February.....	75	50	53.4	.942	.98
March.....	104	48	67.2	1.08	1.24
April.....	1,600	78	364	5.87	6.55
May.....	721	91	227	3.66	4.22
June.....	377	75	128	2.06	2.30
July.....	134	38	62.1	1.00	1.15
August.....	155	33	61.7	.995	1.15
September.....	109	46	62.9	1.01	1.13
The year.....	1,600	33	127	2.05	27.71

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

LOCATION.—1,000 feet below Stillwater Dam (formerly State Dam) at outlet of Beaver River Flow, 7½ miles west of Beaver River post office, Herkimer County, and 7 miles above Beaver Lake at Number Four.

DRAINAGE AREA.—176 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 1, 1924, to September 30, 1926. Comparable records at station at State dam from May 11, 1908, to May 31, 1924.

GAGE.—Sloping staff on left bank; read by Carl Rowley.

DISCHARGE MEASUREMENTS.—Made from cable 100 feet below gage.

CHANNEL AND CONTROL.—Bed very rough. Control composed of large boulders; probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, about 7.1 feet during afternoon of May 3 (discharge, about 3,700 second-feet); minimum stage recorded, 0.88 foot at 9 a. m. October 25 (discharge, 2 second-feet; gates in Stillwater Dam closed).

Maximum stage of reservoir during year, 1,679.33 feet at 7.30 a. m. and 12.30 p. m. June 17; minimum stage, 1,669.42 feet at 7 a. m. October 3.

1924–1926: Maximum stage recorded, that of May 3, 1926; minimum discharge recorded, no flow, following frequent closing of gates February to May, 1925.

ICE.—Stage-discharge relation not affected by ice.

REGULATION.—Seasonal distribution of flow is under almost complete regulation by the operation of gates at Stillwater Dam.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined below 3,000 second-feet. Gage read to hundredths before each change in opening of gates in dam; on days of no change in gate openings gage was read to hundredths once daily. Daily discharge, for days of no change in gate openings, ascertained by applying mean daily gage height to rating table or, for days of considerable fluctuation in stage, by constructing a gage-height graph on basis of the daily gage readings and averaging discharge for intervals of the day. For days when gate openings were changed discharge was averaged for intervals of the day on basis of the gage readings made before each change in gate openings. For periods when water was discharging over spillway a gage-height graph was constructed on basis of the gage readings and record of gate openings in conjunction with gage ratings based on current-meter measurements and discharge was averaged for intervals of the day. Records good.

Discharge measurements of Beaver River below Stillwater Dam, near Beaver River, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Apr. 29.....	5.47	1,900	July 20.....	2.76	252
Apr. 29.....	6.22	2,680	July 20.....	2.62	205
July 20.....	3.37	462			

Daily discharge, in second-feet, of Beaver River below Stillwater Dam, near Beaver River, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	560	3	352	247	288	725	174	1,750	336	352	370	445
2.....	560	3	352	247	288	607	174	1,850	352	352	445	445
3.....	211	3	352	234	274	445	174	2,910	352	352	445	445
4.....	88	3	352	234	356	445	163	3,590	422	352	445	398
5.....	236	138	382	234	445	445	163	3,000	488	352	445	336
6.....	142	465	642	234	406	425	163	2,100	488	352	445	410
7.....	48	234	850	269	370	425	163	1,750	488	368	309	445
8.....	3	103	850	485	352	425	174	1,480	488	387	292	445
9.....	58	304	785	393	352	425	185	1,630	488	387	402	445
10.....	197	277	725	210	771	425	174	2,660	408	387	336	445
11.....	197	174	638	415	767	425	174	2,710	222	250	153	445
12.....	197	174	535	638	560	425	174	2,490	222	282	20	445
13.....	197	174	488	610	230	406	174	1,250	259	352	166	445
14.....	197	185	445	560	154	406	174	535	387	352	336	445
15.....	197	185	387	510	668	503	185	560	448	352	336	445
16.....	197	121	370	425	785	665	185	560	616	352	407	374
17.....	197	20	370	370	785	665	133	497	835	290	445	300
18.....	197	20	352	336	785	638	88	465	759	125	445	284
19.....	197	20	352	265	785	638	88	465	503	445	445	292
20.....	197	20	352	197	755	638	88	443	393	407	467	445
21.....	173	29	352	247	755	665	88	352	352	445	510	445
22.....	152	98	370	304	725	665	96	336	352	445	488	468
23.....	152	167	370	308	725	497	96	319	352	445	488	488
24.....	108	216	352	222	725	295	146	403	352	408	385	383
25.....	46	288	319	310	725	163	847	432	352	367	202	336
26.....	109	304	304	352	725	163	1,890	336	352	445	122	214
27.....	3	319	288	352	725	163	2,490	336	352	445	122	161
28.....	3	352	274	336	725	163	2,270	336	352	445	122	250
29.....	3	370	260	319	-----	163	2,100	336	352	445	122	352
30.....	3	352	260	304	-----	163	2,850	336	352	445	258	352
31.....	3	-----	260	288	-----	163	-----	336	-----	399	445	-----

NOTE.—Water over top of gage during flood of May 3-6; discharge based upon record of gate openings and amount of spillway discharge as determined from actual discharge measurements and from discharge records at station when water was spilling and all gates were closed.

Monthly discharge of Beaver River below Stillwater Dam, near Beaver River, N. Y., for the year ending September 30, 1926

[Drainage area, 176 square miles]

Month	Discharge in second-feet			Gain or loss in storage in Stillwater Reservoir (millions of cubic feet)	Discharge corrected for storage (second-feet)		Run-off in inches
	Maximum	Minimum	Mean		Mean	Per square mile	
October.....	560	3	156	+771.5	444	2.52	2.90
November.....	465	3	171	+1,143.0	612	3.48	3.88
December.....	850	260	430	-68.5	404	2.30	2.65
January.....	638	197	337	0	337	1.91	2.20
February.....	785	154	572	-849.5	221	1.26	1.31
March.....	725	163	434	-575.0	219	1.24	1.43
April.....	2,490	88	501	+1,718.0	1,160	6.59	7.35
May.....	3,590	319	1,180	-14.0	1,170	6.65	7.67
June.....	835	222	416	+129.0	466	2.65	2.96
July.....	445	125	374	-517.5	181	1.03	1.19
August.....	510	20	336	-316.5	218	1.24	1.43
September.....	488	161	386	-351.0	251	1.43	1.60
The year.....	3,590	3	441	+1,069.5	475	2.70	36.57

STREAMS TRIBUTARY TO ST. LAWRENCE RIVER

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

LOCATION.—At Cranberry Lake, St. Lawrence County, 500 feet below concrete dam at outlet of Cranberry Lake and 10½ miles above Newton Falls.

DRAINAGE AREA.—144 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 5, 1923, to September 30, 1926. October 6, 1912, to May 4, 1923, comparable records at station at Newton Falls 10½ miles below.

GAGE.—Slope gage on left bank; read by Herbert Dean.

DISCHARGE MEASUREMENTS.—Made from cable 200 feet below gage or by wading.

CHANNEL AND CONTROL.—Large boulders and gravel; practically permanent.

EXTREMES OF DISCHARGE.—Maximum mean daily discharge during year, 1,170 second-feet May 6-8; minimum mean daily discharge, 266 second-feet April 24.

1923-1926: Maximum stage recorded, 7.50 feet from 7 a. m. May 15 to 9 a. m. May 21, 1924 (discharge, 1,590 second-feet); minimum discharge occurs when gates in dam are closed and there is no discharge over spillway of dam.

ICE.—Stage-discharge relation not affected by ice.

REGULATION.—Discharge is regulated by operation of sluice gates at Cranberry Lake Dam.

ACCURACY.—Stage-discharge relation permanent except as affected by backwater from logs on control during later part of year. Rating curve well defined between 40 and 1,500 second-feet. Gage read to hundredths once daily. Owing to unreliability of gage-height record and effect of logs on control the daily discharge for the entire year, except October 1-10 and March 3-10, was ascertained from a record of gate openings and reservoir gage heights at Cranberry Lake Dam. October 1-10 and March 3-10 daily discharge was ascertained by applying daily gage height to rating table or, for days when changes in gate openings were made, by averaging discharge for intervals of the day. Records fair.

The following discharge measurements were made:

January 18, 1926: Gage height, 5.12 feet; discharge, 308 second-feet.

May 5, 1926: Gage height, 7.12 feet; discharge, 1,170 second-feet.

July 22, 1926: Gage height, 5.36 feet (stage-discharge relation affected by logs on control); discharge, 370 second-feet.

Daily discharge, in second-feet, of East Branch of Oswegatchie River at Cranberry Lake, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	309	296	319	322	310	400.	486	316	355.	316	357.	331.
2	309	296	319	321	310	426	480	318	330	409	356	331
3	309	296	319	321	309	448	477	385	329	401	362	330
4	309	296	319	320	309	448	477	709	345	375	363	329
5	309	295	319	320	308	448	474	1,060	329	374	369	328
6	302	295	321	319	308	448	470	1,170	329	374	365	326
7	282	295	324	319	307	448	467	1,170	337	373	359	325
8	282	295	326	318	307	448	467	1,170	352	433	353	325
9	282	295	326	318	307	479	467	1,080	328	401	359	323
10	282	296	326	318	306	501	467	996	365	371	362	323
11	284	297	326	318	320	504	467	996	350	372	360	322
12	284	298	326	317	360	514	470	996	363	401	360	322
13	284	298	326	317	359	510	454	989	326	401	358	321
14	284	299	326	316	357	505	368	989	326	395	356	321
15	285	305	326	316	357	503	372	989	363	382	356	319
16	286	309	326	314	356	514	377	788	327	377	353	319
17	286	312	326	314	356	545	382	613	343	370	349	319
18	286	314	326	316	355	540	384	509	359	369	348	319
19	286	317	326	316	355	537	387	466	359	369	345	316
20	287	318	326	316	354	531	390	406	328	368	347	316
21	287	318	326	316	354	526	390	475	359	381	340	314
22	288	318	325	314	353	523	392	475	367	387	340	312
23	288	319	325	314	353	520	348	406	367	380	340	311
24	289	319	325	313	352	517	266	423	403	365	340	311
25	289	319	324	312	365	514	279	406	331	364	339	311
26	290	319	324	311	403	512	292	424	328	371	339	311
27	291	319	324	311	402	508	301	424	290	362	337	311
28	291	319	324	311	401	505	306	406	327	367	336	311
29	292	319	324	311	-----	498	309	379	289	361	334	309
30	293	319	323	311	-----	496	312	330	288	360	334	309
31	295	-----	323	311	-----	493	-----	355	-----	382	333	-----

Monthly discharge of East Branch of Oswegatchie River at Cranberry Lake, N. Y., for the year ending September 30, 1926

[Drainage area, 144 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	309	282	291	2.02	2.33
November	319	295	307	2.13	2.38
December	326	319	324	2.25	2.59
January	322	311	316	2.19	2.52
February	403	306	343	2.38	2.48
March	545	400	494	3.43	3.95
April	486	266	399	2.77	3.09
May	1,170	316	665	4.62	5.35
June	403	288	340	2.36	2.63
July	433	316	378	2.62	3.02
August	369	333	350	2.43	2.80
September	331	309	319	2.22	2.48
The year	1,170	266	378	2.62	35.60

NOTE.—Elevation of water surface in Cranberry Lake Reservoir at end of year was 1.0 foot lower than at beginning of year, corresponding to a loss in storage of about 306,700,000 cubic feet. This is equivalent to a run-off of 9.7 second-feet, 0.07 second-foot per square mile, or 0.95 inch on drainage area.

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

LOCATION.—At Flat Rock power plant of Northern New York Utilities (inc.), just below mouth of Skate Creek, $\frac{3}{4}$ miles north of Oswegatchie, St. Lawrence County, and $\frac{4}{2}$ miles above Fine.

DRAINAGE AREA.—262 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 8, 1924, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on left bank 300 feet downstream from Flat Rock power plant; inspected by operators from the plant.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Bed composed of small boulders and gravel covered with silt. Control composed of large and small boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 7.3 feet at 8 a. m. April 26 (discharge determined by extension of rating curve, 3,730 second-feet); minimum discharge, approaching no flow, frequently occurs following complete shutdown of power plant.

1924-1926: Maximum and minimum stages recorded in 1926.

ICE.—Stage-discharge relation probably not affected by ice.

REGULATION.—Large diurnal fluctuation caused by operation of power plants at Flat Rock just above station, at Browns Falls and at Newton Falls upstream, and by operation of gates in dam at Cranberry Lake. Seasonal distribution of flow affected by storage and release of water at Cranberry Lake.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 200 and 2,500 second-feet and extended above and below. Operation of water-stage recorder fairly satisfactory. Daily discharge ascertained by averaging discharge for intervals of the day except as indicated in footnote to table of daily discharge. Records good.

Discharge measurements of East Branch of Oswegatchie River near Oswegatchie, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 18.....	2.84	319	May 6.....	5.54	1,990
Feb. 27.....	2.92	332	July 22.....	3.72	692

Daily discharge, in second-feet, of East Branch of Oswegatchie River near Oswegatchie, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	423	230	625	529	485	640	756	1,090	686	547	139	607
2.....	417	725	682	616	534	591	620	1,250	521	543	377	435
3.....	111	838	616	51	695	587	437	1,950	823	383	508	570
4.....	300	650	648	1,000	778	618	516	1,990	771	7	458	399
5.....	824	824	648	418	406	780	838	1,870	450	5	437	66
6.....	880	510	920	883	231	373	604	1,750	234	360	512	27
7.....	1,010	200	1,140	656	149	226	774	1,760	663	398	424	458
8.....	1,050	230	1,020	257	782	847	688	1,760	466	331	326	484
9.....	1,010	600	731	257	513	549	932	1,780	506	479	427	420
10.....	418	561	827	286	576	647	838	1,870	608	480	443	378
11.....	335	692	602	463	519	663	835	1,770	654	368	620	272
12.....	496	656	347	659	516	781	1,150	1,740	648	596	583	210
13.....	651	672	516	666	156	509	1,160	1,620	224	691	517	471
14.....	606	829	554	595	66	249	1,390	1,420	636	606	316	464
15.....	730	920	590	629	546	926	1,560	1,170	716	593	111	532

Daily discharge, in second-feet, of East Branch of Oswegatchie River near Oswegatchie, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	660	1,430	597	262	535	853	1,370	1,040	875	483	507	564
17	465	1,330	537	145	451	563	1,240	1,090	882	366	552	504
18	233	1,020	545	486	507	623	1,040	962	755	240	469	316
19	649	908	380	444	546	626	968	892	751	616	424	260
20	794	864	310	697	244	442	855	852	534	399	413	502
21	456	485	490	652	75	150	864	790	662	405	223	644
22	702	675	750	569	396	885	1,830	540	591	464	66	566
23	432	991	580	469	414	751	2,630	700	453	472	399	481
24	406	644	460	540	472	739	2,720	930	462	293	398	262
25	336	739	310	468	736	777	3,390	940	576	1	295	248
26	817	307	430	743	508	750	2,530	700	440	398	336	183
27	1,010	797	459	514	321	592	1,580	1,100	153	563	538	388
28	837	441	491	722	116	700	1,190	890	612	471	461	421
29	904	525	807	602	791	1,160	420	552	426	371	470	
30	930	561	430	263	896	1,160	289	556	496	443	558	
31	213		580	110		717		389		380	545	

NOTE.—Gage-height record lacking or unreliable Oct. 4, Nov. 8, 9, 29, Dec. 20-26, 30, 31, May 22-29, July 18, and Sept. 12 and 19; discharge determined from power plant operating records.

Monthly discharge of East Branch of Oswegatchie River near Oswegatchie, N. Y., for the year ending September 30, 1926

[Drainage area, 262 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	1,050	111	616	2.35	2.71
November	1,430	200	695	2.65	2.96
December	1,140	310	599	2.29	2.64
January	1,000	51	505	1.93	2.22
February	782	66	438	1.67	1.74
March	926	150	640	2.44	2.81
April	3,390	437	1,250	4.77	5.32
May	1,990	289	1,200	4.58	5.28
June	882	153	582	2.22	2.48
July	691	1	415	1.58	1.82
August	620	66	408	1.56	1.80
September	644	27	404	1.54	1.72
The year	3,390	1	647	2.47	33.50

NOTE.—Determinations for discharge and run-off shown by the table above do not necessarily represent the natural flow from the drainage basin owing to artificial storage in Cranberry Lake.

OSWEGATCHIE RIVER NEAR HEUVELTON, N. Y.

LOCATION.—2½ miles above Heuvelton, St. Lawrence County, 3 miles below Rensselaer Falls, and 7 miles above mouth of Indian River (outlet of Black Lake).

DRAINAGE AREA.—967 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 23, 1916, to September 30, 1926.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by George B. Todd.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet below gage or by wading.

CHANNEL AND CONTROL.—Solid rock; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 7.9 feet at 5 p. m. April 15 (discharge, 12,400 second-feet); minimum stage from water-stage recorder, 0.85 foot (caused by regulation) at 2 a. m. July 7 (discharge, about 262 second-feet).

1916-1926: Maximum stage from water-stage recorder, that of April 15, 1926; minimum stage from water-stage recorder, 0.67 foot from 9 to 11 p. m. September 2, 1925 (discharge about 211 second-feet).

ICE.—Stage-discharge relation slightly affected by ice during extremely cold weather.

REGULATION.—Operation of power plants at Browns Falls and Flat Rock on the East Branch of this stream has a marked effect on the flow at this station. Flow is probably also regulated in a lesser degree by operation of other plants on the East Branch and plants on the main stream above the station. Seasonal flow is regulated by storage in Cranberry Lake.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined between 500 and 12,000 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for period of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Records excellent, except those for extremely low stages and those for period of ice effect which are fair.

Discharge measurements of Oswegatchie River near Hewelton, N. Y., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 24.....	2.53	1,800	July 25.....	1.39	616
Feb. 26.....	1.86	984	Aug. 9.....	1.92	1,100
May 7.....	4.80	5,300			

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Oswegatchie River near Hewelton, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,090	2,580	1,530	952	1,000	1,200	4,040	7,450	895	850	644	859
2.....	1,030	1,910	1,700	962	1,100	4,200	6,000	1,060	805	612	762	
3.....	980	1,680	1,610	914	886	1,300	4,040	4,830	1,310	805	419	868
4.....	1,190	1,710	1,800	1,030	1,000	3,540	4,650	1,340	753	527	796	
5.....	1,380	1,780	2,550	952	1,100	1,500	3,620	5,210	1,680	607	702	719
6.....	1,930	1,710	3,880	1,310	1,200	4,400	3,700	5,400	1,600	345	728	661
7.....	2,510	1,650	4,650	1,740	950	1,400	3,620	5,400	1,210	312	736	475
8.....	2,580	1,660	4,650	1,660	800	1,300	3,300	5,020	980	433	940	406
9.....	2,510	1,730	4,470	1,400	700	1,000	4,070	4,650	1,220	499	1,110	468
10.....	2,510	1,840	3,980	1,070	800	1,400	5,800	4,200	1,120	745	1,110	534
11.....	2,440	2,040	2,970	886	1,100	1,300	7,450	4,040	1,080	933	1,180	694
12.....	1,980	1,980	2,720	841	1,000	1,200	8,790	3,880	1,030	990	1,020	653
13.....	1,840	2,390	2,700	1,010	950	1,200	9,480	3,700	1,080	1,100	980	512
14.....	1,840	3,600	2,630	1,000	960	1,300	10,700	3,460	1,030	1,410	952	406
15.....	2,040	4,120	2,820	1,050	750	1,100	12,000	3,220	1,120	1,350	859	520
16.....	2,040	4,560	1,980	1,050	600	900	11,400	2,790	1,930	1,280	702	832
17.....	1,980	5,400	1,600	1,110	650	1,200	10,200	2,440	2,510	1,030	482	841
18.....	2,040	5,800	1,560	1,020	900	1,500	8,790	2,370	2,790	962	482	832
19.....	1,840	5,400	1,820	1,300	900	1,100	7,240	2,170	2,650	694	661	924
20.....	1,640	4,650	1,310	1,980	900	1,200	6,000	2,040	2,240	534	702	924
21.....	1,910	3,950	1,210	2,040	900	1,200	5,020	1,910	1,720	814	728	771
22.....	2,040	3,300	1,350	1,910	800	1,100	5,020	1,910	1,420	753	669	753
23.....	1,980	2,650	1,900	1,910	600	1,000	5,800	1,840	1,400	636	557	832
24.....	2,040	2,440	1,680	1,780	600	1,900	7,240	1,650	1,160	669	399	971
25.....	1,910	2,440	1,460	1,540	850	2,930	8,330	1,770	962	653	440	980
26.....	2,510	2,040	1,580	1,550	1,000	3,620	9,720	1,840	877	542	557	904
27.....	3,080	1,910	1,300	1,430	1,300	3,540	11,000	1,700	886	361	589	886
28.....	3,380	1,620	1,020	1,520	1,500	3,460	11,400	1,590	753	393	771	1,110
29.....	3,540	1,780	1,050	1,360		3,150	10,700	1,730	596	548	952	1,130
30.....	3,300	1,480	952	1,290		3,150	9,250	1,550	814	628	877	1,090
31.....	2,930		942	1,210		3,540		1,140		669	796	

NOTE.—Discharge Feb. 4 to Mar. 24 determined from gage heights corrected for ice effect by means of discharge measurement and study of weather records and gage-height graph. Gage-height record lacking Jan. 14-16; discharge estimated by comparison with flow at other stations in Oswegatchie River Basin.

Monthly discharge of Oswegatchie River near Hewelton, N. Y., for the year ending September 30, 1926

[Drainage area, 967 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	3,540	980	2,130	2.20	2.54
November.....	5,800	1,480	2,730	2.82	3.15
December.....	4,650	942	2,150	2.22	2.56
January.....	2,040	841	1,320	1.37	1.58
February.....	1,500	600	910	.941	.98
March.....	3,620	900	1,740	1.80	2.08
April.....	12,000	3,300	7,180	7.43	8.29
May.....	7,450	1,140	3,280	3.39	3.91
June.....	2,790	596	1,350	1.40	1.56
July.....	1,410	312	745	.770	.89
August.....	1,180	399	738	.763	.88
September.....	1,130	406	770	.796	.89
The year.....	12,000	312	2,090	2.16	29.31

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

LOCATION.—At highway bridge near Geers Corners, 3 miles downstream from Harrisville, Lewis County, and 13 miles above confluence of East and West Branches near Taleville.

DRAINAGE AREA.—256 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 1, 1916, to September 30, 1926.

GAGE.—Vertical staff in three sections on right bank; section graduated from 0.0 to 3.3 feet 25 feet below bridge, and two sections graduated from 3.3 to 10.1 feet on downstream side of bridge abutment. Gage read by Frank Osborne.

DISCHARGE MEASUREMENTS.—Made from cable 200 feet above gage, from downstream side of highway bridge, or by wading.

CHANNEL AND CONTROL.—Rocky and rough; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.8 feet April 26 (discharge, about 5,760 second-feet); minimum stage recorded, 1.16 feet at 7 a. m. July 23 (discharge, 45 second-feet).

1916-1926: Maximum stage recorded, that of April 26, 1926; minimum stage recorded, 0.90 foot several times during August and October, 1923 (discharge, 27 second-feet).

ICE.—Stage-discharge relation slightly affected by ice during extremely cold periods.

REGULATION.—During low water there is some diurnal fluctuation in flow caused by operation of pulp mill at Harrisville.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined between 50 and 3,500 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records good except those for extremely low stages, which, owing to possibility of diurnal fluctuation, are subject to error; winter records fair.

The following discharge measurements were made:

January 27, 1926: Gage height, 2.92 feet (stage-discharge relation affected by ice); discharge, 371 second-feet.

May 6, 1926: Gage height, 5.83 feet; discharge, 2,420 second-feet.

July 21, 1926: Gage height, 1.50 feet; discharge, 89.8 second-feet.

Daily discharge, in second-feet, of West Branch of Oswegatchie River near Harrisville, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	227	685	480	227	300	406	640	1,680	406	166	87	201
2.....	201	595	480	241	300	425	640	1,530	507	166	83	101
3.....	351	507	486	227	280	369	685	2,000	685	145	126	94
4.....	640	465	507	227	260	317	595	2,840	685	155	166	94
5.....	835	445	785	241	240	280	550	2,940	640	117	177	109
6.....	890	406	1,120	255	240	280	507	2,270	465	117	145	101
7.....	890	486	1,120	351	240	260	486	1,760	387	135	227	101
8.....	890	640	1,600	369	220	260	507	1,530	425	109	334	94
9.....	835	785	1,390	301	220	260	1,000	1,390	406	166	369	117
10.....	735	785	1,100	285	220	240	1,530	1,250	351	227	317	135
11.....	685	785	850	260	200	240	1,920	1,250	351	406	270	155
12.....	595	685	735	260	200	240	2,090	1,250	369	550	214	166
13.....	685	685	685	260	200	220	2,000	1,120	351	445	177	145
14.....	785	1,120	595	240	220	220	2,180	1,060	387	351	135	145
15.....	785	1,530	550	240	220	240	2,740	1,000	640	317	117	155
16.....	735	2,180	445	240	220	270	2,740	890	1,000	227	117	166
17.....	685	2,360	387	220	214	270	2,180	890	1,250	201	109	301
18.....	640	2,000	369	285	214	270	1,760	785	1,120	201	101	387
19.....	640	1,600	334	507	214	270	1,390	685	735	177	94	334
20.....	640	1,250	351	640	201	255	1,250	685	595	177	94	285
21.....	595	1,000	334	685	200	285	1,120	785	465	117	94	255
22.....	685	945	445	785	190	334	1,390	735	317	117	94	214
23.....	685	785	445	700	190	445	3,140	735	255	77	87	166
24.....	685	685	445	600	190	595	4,040	685	201	94	135	214
25.....	785	685	425	500	190	595	4,760	640	201	84	285	465
26.....	1,390	640	400	420	190	685	5,760	550	201	101	369	595
27.....	1,680	550	360	360	334	735	4,520	486	189	80	317	595
28.....	1,600	595	320	300	369	735	3,140	425	201	80	334	465
29.....	1,320	500	280	300	-----	735	2,360	369	189	79	334	334
30.....	1,060	450	255	280	-----	685	1,840	334	177	79	285	301
31.....	835	-----	227	260	-----	640	-----	334	-----	80	214	-----

NOTE.—Discharge Nov. 29 to Dec. 2, Dec. 10, 11, 26–29, Jan. 11–17, Jan. 23 to Feb. 16, Feb. 21–26, and Mar. 5–15 determined from gage heights corrected for backwater from ice by means of discharge measurement, observer's notes, study of weather records, and comparison with flow at adjacent stations.

Monthly discharge of West Branch of Oswegatchie River near Harrisville, N. Y., for the year ending September 30, 1926

[Drainage area, 256 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,680	201	796	3.11	3.58
November.....	2,360	406	895	3.50	3.90
December.....	1,600	227	590	2.30	2.65
January.....	785	220	357	1.39	1.60
February.....	369	190	231	.902	.94
March.....	735	220	389	1.52	1.75
April.....	5,760	486	1,980	7.73	8.62
May.....	2,940	334	1,130	4.41	5.08
June.....	1,250	177	472	1.84	2.05
July.....	550	77	179	.699	.81
August.....	369	83	194	.758	.87
September.....	595	94	233	.910	1.02
The year.....	5,760	77	621	2.43	32.87

GRASS RIVER AT PYRITES, N. Y.

LOCATION.—1,000 feet below lower highway bridge in Pyrites, St. Lawrence County, three-quarters of a mile below dam of DeGrasse Paper Co. and half a mile above mouth of Harrison Creek.

DRAINAGE AREA.—334 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 4, 1924, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on left bank; inspected by employee of DeGrasse Paper Co.

DISCHARGE MEASUREMENTS.—Made from cable 175 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; shifts occasionally.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 11.5 feet at 1 a. m. April 26 (discharge, about 6,790 second-feet); minimum stage from water-stage recorder, 1.40 feet at 11.30 p. m. September 5 (discharge, 81 second-feet).

1924-1926: Maximum stage from water-stage recorder, that of April 26, 1926; minimum stage from water-stage recorder, 1.10 feet at 11 a. m. September 28, 1924 (discharge, 40 second-feet).

ICE.—Stage-discharge relation affected by ice during severe winters.

REGULATION.—Some diurnal fluctuation during low water caused by operation of power plant of DeGrasse Paper Co.

ACCURACY.—Stage-discharge relation changed during flood of November 16-17; affected by ice during periods from December to March. Rating curves well defined between 150 and 4,500 second-feet. Operation of water-stage recorder satisfactory except that well intake was partly plugged from about April 1 to July 24. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Records good except those for periods of ice effect and for period during which well intake was obstructed, which are fair.

Discharge measurements of Grass River at Pyrites, N. Y., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 23.....	3.15	630	July 24.....	1.92	178
Feb. 24.....	* 2.64	257	Aug. 9.....	3.37	758
May 8.....	5.06	1,780			

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Grass River at Pyrites, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.	333	630	634	362	362	340	585	2,400	561	282	180	153
2.	303	558	634	368	347	320	585	2,280	712	223	185	133
3.	444	522	634	351	340	300	561	2,840	995	178	202	133
4.	940	499	712	359	340	280	585	3,660	960	173	407	127
5.	1,090	463	1,230	405	320	280	585	3,360	712	171	207	127
6.	1,030	463	2,040	585	320	280	609	2,460	634	171	207	137
7.	970	522	2,040	524	320	280	609	2,040	585	187	207	160
8.	910	680	1,680	480	300	260	634	1,900	585	229	604	162
9.	790	760	1,280	454	300	240	1,230	1,620	609	837	740	160
10.	760	730	800	405	300	240	1,880	1,570	659	712	609	187
11.	705	630	769	409	300	240	2,220	1,570	634	1,440	409	234
12.	705	535	862	385	280	240	2,100	1,570	585	1,420	285	202
13.	730	794	769	355	280	240	2,110	1,470	543	1,440	243	183
14.	790	1,490	659	344	280	220	3,010	1,330	515	1,080	223	153
15.	769	1,990	552	340	280	220	3,540	1,140	1,389	634	202	153
16.	730	2,510	497	329	280	240	2,540	996	2,400	401	197	173
17.	760	2,280	460	312	280	260	2,040	895	2,220	289	183	396
18.	790	1,860	440	362	280	280	1,680	800	1,570	254	175	515
19.	820	1,520	420	800	280	290	1,620	740	1,030	240	173	393
20.	760	1,300	475	862	280	280	1,520	800	740	229	175	279
21.	705	1,240	561	830	280	260	1,620	895	609	215	178	215
22.	705	1,140	634	740	280	260	2,500	830	520	187	145	195
23.	630	995	531	634	260	280	4,290	800	450	162	171	171
24.	580	862	489	600	260	380	4,720	769	389	173	187	183
25.	654	769	440	500	260	585	6,030	712	326	178	315	370
26.	1,120	609	400	484	280	634	6,520	634	285	160	429	547
27.	1,390	609	380	437	340	634	5,010	609	279	147	322	538
28.	1,210	740	360	397	340	609	4,060	585	333	145	254	401
29.	1,000	634	360	374	-----	585	3,080	489	347	151	210	292
30.	820	585	344	355	-----	552	2,590	524	333	180	197	243
31.	680	-----	340	340	-----	538	-----	511	-----	190	160	-----

NOTE.—Discharge Dec. 17-19, 25-29, Jan. 24, 25, and Feb. 4 to Mar. 24, determined from gage heights corrected for ice effect by means of two discharge measurements and study of weather records and gage-height graph. Gage-height record lacking Nov. 29 to Dec. 4; discharge estimated by comparison with flow of St. Regis River at Brasher Center. Well intake partly obstructed from about April 1 to July 24.

Monthly discharge of Grass River at Pyrites, N. Y., for the year ending September 30, 1926

[Drainage area, 334 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	1,390	303	794	2.38	2.74
November	2,510	463	964	2.89	3.22
December	2,040	340	724	2.17	2.50
January	862	312	467	1.40	1.61
February	362	260	299	.895	.93
March	634	220	342	1.02	1.18
April	6,520	561	2,360	7.07	7.89
May	3,660	489	1,380	4.13	4.76
June	2,400	279	750	2.25	2.51
July	1,620	145	391	1.17	1.35
August	740	145	284	.850	.98
September	547	124	244	.731	.82
The year	6,520	124	750	2.25	30.49

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

LOCATION.—At Gleason's mill, $3\frac{1}{2}$ miles above mouth of Gulf Creek, $4\frac{1}{4}$ miles southwest of South Colton, St. Lawrence County, and 11 miles above junction with Grass River.

DRAINAGE AREA.—25.8 square miles (measured on topographic maps).

RECORDS AVAILABLE.—September 22, 1924, to September 30, 1926.

GAGE.—Staff gage on right bank 700 feet below sawmill dam; read by H. L. Gleason.

DISCHARGE MEASUREMENTS.—Made from highway bridge half a mile below gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; slightly shifting.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.3 feet at 6 a. m. April 25 (discharge, about 700 second-feet); minimum stage recorded, 0.89 foot at 6 a. m. September 4 (discharge, 6.5 second-feet).

1924-1926: Maximum stage recorded, that of April 25, 1926; minimum stage recorded, 0.77 foot several times August 27-29, 1925 (discharge, 2.5 second-feet).

ICE.—Stage-discharge relation affected by ice.

ACCURACY.—Stage-discharge relation changed slightly during flood of April 25; seriously affected by ice. Rating curves well defined below 400 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records, good; winter records fair.

The following discharge measurements were made:

February 24, 1926: Gage height, 1.38 feet (stage-discharge relation affected by ice); discharge, 12.4 second-feet.

May 7, 1926: Gage height, 2.35 feet; discharge, 200 second-feet.

July 25, 1926: Gage height, 0.98 foot; discharge, 10.1 second-feet.

Daily discharge, in second-feet, of North Branch of Grass River near South Colton, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	35	34	24	22	24	40	230	44	16	10	7.2
2	16	33	38	26	20	22	33	300	69	13	15	6.8
3	35	31	44	22	19	20	45	425	95	13	37	6.8
4	109	29	55	22	18	20	31	500	72	12	24	6.8
5	96	28	102	28	18	18	26	300	50	11	16	7.6
6	64	32	196	50	17	18	22	230	37	11	11	10
7	64	38	146	42	17	17	22	200	33	30	26	10
8	70	47	120	36	16	16	27	210	42	29	83	8.9
9	58	61	85	32	15	16	48	190	46	35	76	8.9
10	47	52	65	30	14	15	70	170	56	114	42	18
11	45	40	75	28	14	14	73	160	56	300	28	18
12	46	34	65	26	14	14	89	150	35	200	17	12
13	70	48	60	26	15	13	94	121	27	72	16	10
14	58	228	48	22	15	12	94	98	31	44	10	9.3
15	52	327	42	20	15	11	176	95	131	28	15	9.3
16	54	238	40	20	15	11	166	86	325	23	13	17
17	58	206	38	19	15	11	128	80	76	18	12	62
18	73	137	36	22	15	11	116	56	55	17	16	49
19	73	94	36	110	15	12	94	111	49	17	13	26
20	61	86	44	120	15	14	78	72	38	15	9.3	18
21	54	83	55	100	14	14	78	72	31	13	7.2	15
22	50	73	60	65	14	13	128	64	28	11	13	12
23	43	61	44	50	13	14	442	56	25	11	13	11
24	38	52	36	42	12	20	513	49	23	11	18	20
25	47	47	32	38	12	40	670	36	21	10	28	46
26	137	47	30	34	16	50	500	40	20	8.9	21	52
27	146	35	30	30	22	48	300	43	20	7.6	15	40
28	86	46	28	26	30	50	275	59	20	7.2	12	28
29	61	36	26	24	-----	40	250	37	20	10	12	21
30	47	34	24	24	-----	34	250	29	18	12	9.3	16
31	41	-----	22	26	-----	32	-----	31	-----	11	7.2	-----

NOTE.—Discharge Nov. 29 to Dec. 3 and Dec. 8 to Mar. 31 determined from gage heights corrected for ice effect by means of one discharge measurement, observer's notes, weather records, and comparison with flow of Grass River at Pyrites.

Monthly discharge of North Branch of Grass River near South Colton, N. Y., for the year ending September 30, 1926

[Drainage area, 25.8 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	146	16	61.8	2.40	2.77
November.....	327	28	77.9	3.02	3.37
December.....	196	22	56.6	2.19	2.52
January.....	120	19	38.2	1.48	1.71
February.....	30	12	16.3	.632	.66
March.....	50	11	21.4	.829	.96
April.....	670	22	163	6.32	7.05
May.....	500	29	139	5.39	6.21
June.....	325	18	53.1	2.06	2.30
July.....	300	7.2	36.5	1.41	1.63
August.....	83	7.2	21.0	.814	.94
September.....	62	6.8	19.4	.752	.84
The year.....	670	6.8	58.8	2.28	30.96

RAQUETTE RIVER AT PIERCEFIELD, N. Y.

LOCATION.—Half a mile below dam of International Paper Co. at Piercefield, St. Lawrence County, and three-quarters of a mile above head of Black Rapids.

DRAINAGE AREA.—723 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 20, 1908, to September 30, 1926.

GAGE.—Gurley 7-day water-stage recorder installed July 29, 1926, replacing Stevens continuous recorder which had been used since October 22, 1912. Recorder inspected by employee of International Paper Co.

DISCHARGE MEASUREMENTS.—Made from a cable three-quarters of a mile below gage.

CHANNEL AND CONTROL.—Channel opposite gage is a deep pond with no perceptible velocity. Control which is at head of Black Rapids is composed of rock ledge and large boulders; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 11.2 feet May 7 (discharge, 6,920 second-feet); minimum stage, from water-stage recorder, 2.33 feet from 10 a. m. to noon August 1 (discharge, 111 second-feet).

1908-1926: Maximum stage, from water-stage recorder, 11.82 feet from 6 to 8 p. m. April 17, 1922 (discharge, 7,580 second-feet); minimum stage, from water-stage recorder, 0.85 foot at 11 a. m. September 2, 1913 (discharge, about 10 second-feet).

ICE.—Stage-discharge relation affected by ice for short periods only during extremely cold weather.

REGULATION.—Large diurnal fluctuation in flow during low and medium stages caused by operation of paper mill. Numerous lakes in upper part of drainage basin afford considerable storage, most of which is so controlled that the effect on the seasonal distribution of flow is large.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined between 50 and 7,000 second-feet. Operation of water-stage recorder satisfactory except during December. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day. Records good except those estimated which are fair.

Discharge measurements of Raquette River at Piercefield, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
January 17.....	4.32	592	May 5.....	11.03	6,660
January 20.....	5.18	928	July 30.....	4.59	652

Daily discharge, in second-feet, of Raquette River at Piercefield, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,980	1,860		850	996	543	735	6,000	2,400	1,350	118	818
2.....	1,690	1,830		1,120	952	715	715	6,000	2,310	1,240	519	984
3.....	1,560	1,760		1,120	930	658	735	6,300	2,220	1,170	755	846
4.....	1,620	1,690		1,120	908	658	473	6,450	2,140	912	696	814
5.....	1,590	1,660		1,040	908	622	632	6,600	2,060	908	677	755
6.....	1,320	1,620		1,040	862	554	755	6,760	1,830	1,130	528	735
7.....	1,270	1,560		1,020	871	350	735	6,920	1,980	1,070	548	786
8.....	1,300	1,620		975	913	590	735	6,760	1,900	998	327	950
9.....	1,590	1,560		952	862	776	755	6,800	1,830	975	655	998
10.....	1,380	1,590		805	885	696	797	6,450	1,760	1,010	755	840
11.....	1,220	1,590		1,010	840	767	676	6,450	1,760	993	735	797
12.....	1,660	1,560		952	797	640	946	6,300	1,720	1,260	715	490
13.....	1,900	1,560		885	715	622	1,070	6,150	1,460	1,240	658	642
14.....	1,760	1,660		885	458	390	1,270	5,850	1,610	1,200	696	510
15.....	1,240	1,980		862	615	548	1,470	5,710	1,690	1,170	484	754
16.....	1,560	2,220	1,500	840	755	677	1,620	5,430	1,860	1,120	623	840
17.....	1,660	2,310		643	735	658	1,720	5,150	1,980	1,070	755	797
18.....	1,830	2,490		975	696	604	1,660	4,890	2,060	701	735	797
19.....	1,800	2,760		930	715	622	1,900	4,760	2,060	891	696	511
20.....	1,760	2,850		930	715	640	1,940	4,500	1,860	885	735	517
21.....	1,530	2,850		975	459	461	1,980	4,380	2,060	840	735	682
22.....	1,590	2,950		998	610	592	2,220	4,260	1,980	818	449	826
23.....	1,530	2,850		1,020	735	696	2,670	4,020	1,900	797	622	818
24.....	1,660	2,850		823	776	715	3,150	3,900	1,800	755	797	797
25.....	1,980	2,670		1,080	696	755	4,140	3,570	1,720	415	797	818
26.....	1,760	2,580		1,040	658	776	4,890	3,350	1,660	590	755	571
27.....	1,760	2,670		1,040	604	862	5,290	3,250	1,350	755	755	646
28.....	1,980	2,490		998	377	516	5,710	3,050	1,530	735	755	851
29.....	1,900	2,310		952		776	5,850	2,850	1,500	715	501	1,030
30.....	1,940	2,310		930		862	6,000	2,580	1,410	650	691	998
31.....	1,900			709		818		2,580		287	797	

NOTE.—Water-stage recorder did not operate satisfactorily Dec. 1 to Jan. 2, Jan. 18, and Aug. 9-14; discharge estimated by comparison with flow at adjacent stations. Braced figures shows mean discharge for period indicated.

Monthly discharge of Raquette River at Piercefield, N. Y., for the year ending September 30, 1926

[Drainage area, 723 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,980	1,220	1,650	2.28	2.63
November.....	2,950	1,560	2,140	2.96	3.30
December.....			1,500	2.07	2.39
January.....	1,120	643	952	1.32	1.52
February.....	996	377	744	1.03	1.07
March.....	862	350	647	.895	1.03
April.....	6,000	473	2,110	2.92	3.26
May.....	6,920	2,580	5,090	7.04	8.12
June.....	2,400	1,350	1,850	2.56	2.86
July.....	1,350	287	924	1.28	1.48
August.....	797	118	647	.896	1.03
September.....	1,030	490	774	1.07	1.19
The year.....	6,920	118	1,590	2.20	29.88

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

LOCATION.—600 feet above steel highway bridge in Brasher Center, St. Lawrence County, 6 miles below junction of East and West Branches of St. Regis River at Winthrop, 7 miles above Deer River, and 15 miles above mouth.

DRAINAGE AREA.—616 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 22, 1910, to November 10, 1917; January 1, 1919, to September 30, 1926.

GAGE.—Gurley 7-day water-stage recorder on left bank; inspected by Alfred Berry. Chain gage at independent datum used prior to June 23, 1916.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Rock ledge, small boulders, and coarse gravel; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 11.4 feet at 1 a. m. April 26 (discharge, 11,800 second-feet); minimum stage from water-stage recorder, 5.99 feet at 4 p. m. September 5 (discharge, 302 second-feet).

1910–1926: Maximum stage recorded, 9.1 feet (old datum) at 7 a. m. March 27, 1914 (discharge, about 16,200 second-feet); minimum stage recorded, 5.25 feet at 5 p. m. August 8, 1917 (discharge, about 34 second-feet).

ICE.—Stage-discharge relation affected by ice.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined between 200 and 10,000 second-feet. Operation of water-stage recorder satisfactory except during winter. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for period of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Records good except those for period of ice and those estimated, which are fair.

Discharge measurements of St. Regis River at Brasher Center, N. Y., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Feb. 23.....	7.29	490	May 8.....	8.31	3,430
Apr. 27.....	10.30	8,240	July 26.....	6.15	426

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of St. Regis River at Brasher Center, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	807	1,310	1,180	700		550	900	4,360	936	560	443	376.
2.....	734	1,180	1,190	700		550	900	4,360	1,290	468	687	354
3.....	810	1,050	1,200	700		500	800	5,820	1,570	418	1,290	332.
4.....	1,630.	1,020	1,230	700		480	850	6,820	1,480	384	1,200	316.
5.....	1,770	925	1,590	750		440	850	5,820	1,230	376	936	324
6.....	1,550	935	2,770	1,000		420	850	4,680	1,030	346	744	346.
7.....	1,500	928	2,770	1,200		400	800	3,960	914	362	860	346.
8.....	1,440	1,080	2,350	1,000		400	800	3,580	849	409	1,970	354
9.....	1,310	1,260	2,000	900		400	1,900	3,210	870	590	2,190	418.
10.....	1,330	1,200	1,700	800		400	2,600	3,120	936	2,230	1,740	754
11.....	1,240	1,080	1,600	750	600	380	3,030	2,940	892	4,260	1,260	734
12.....	1,270	1,000	1,700	700		380	2,940	2,940	881	3,760	947	620.
13.....	1,540	1,290	1,500	650		380	3,030	2,860	765	2,860	796	477
14.....	1,570	3,100	1,300	650		360	3,960	2,600	723	2,110	807	443.
15.....	1,570	3,480	1,100	650		360	4,470	2,190	4,060	1,620	818	401
16.....	1,580	3,670	1,000	600		380	3,120	2,030	5,250	1,290	776	434
17.....	1,580	3,120	900	600		420	2,770	1,820	3,860	1,030	681	712.
18.....	1,660	2,600	850	650		500	2,430	1,620	2,860	903	600	992.
19.....	1,650	2,270	800	1,400		500	2,350	1,510	2,050	838	590	860.
20.....	1,610	2,010	850	1,600		500	2,190	1,510	1,620	692	560	734
21.....	1,480	1,890	950	1,700		480	2,940	1,590	1,330	590	505	620.
22.....	1,470	1,770	1,100	1,500		460	5,350	1,570	1,130	542	451	542.
23.....	1,340	1,480	1,200	1,200	480	480	6,310	1,500	969	496	451	496.
24.....	1,210	1,380	950	1,100	460	650	6,820	1,450	860	560	460	542.
25.....	1,340	1,300	900	1,000	460	1,000	10,400	1,380	776	460	496	750.
26.....	2,270	1,200	850	900	550	1,100	10,700	1,290	712	451	610	1,000.
27.....	2,270	1,200	800	850	650	1,100	8,200	1,200	640	409	600	1,000.
28.....	2,050	1,300	750	750	600	1,000	6,060	1,130	660	401	551	850.
29.....	1,830	1,230	700	700		900	5,240	1,020	630	426	486	750.
30.....	1,610	1,160	700	650		800	4,790	969	610	409	443	600.
31.....	1,410		650	650		800		914		401	434	

NOTE.—Discharge Dec. 9 to Apr. 10 determined from gage heights corrected for ice effect by means of one discharge measurement and study of weather records and gage-height graph and by comparison with flow of Grass River at Pyrites. Discharge estimated for the following periods by comparison with flow at Pyrites station owing to lack of gage-height record: Nov. 28 to Dec. 4, Dec. 28 to Jan. 1, Jan. 4-8, 11-21, Jan. 23 to Feb. 22, Mar. 13-16, 18, 19, and Sept. 25-30.

Monthly discharge of St. Regis River at Brasher Center, N. Y., for the year ending September 30, 1926

[Drainage area, 616 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	2,270	734	1,500	2.44	2.81
November.....	3,670	925	1,610	2.61	2.91
December.....	2,770	650	1,260	2.05	2.36
January.....	1,700	600	894	1.45	1.67
February.....		460	586	.951	1.99
March.....	1,100	360	564	.916	1.06
April.....	10,700	800	3,610	5.86	6.54
May.....	6,820	914	2,640	4.29	4.95
June.....	5,250	610	1,410	2.29	2.56
July.....	4,260	346	989	1.61	1.86
August.....	2,190	434	819	1.33	1.53
September.....	1,000	316	583	.946	1.06
The year.....	10,700	316	1,370	2.22	30.30

SALMON RIVER AT CHASM FALLS, N. Y.

LOCATION.—At Chasm Falls, Franklin County, a quarter of a mile below Chasm.

Falls power plant of Malone Light & Power Co. and 8½ miles above Malone.

DRAINAGE AREA.—131 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 24, 1925, to September 30, 1926.

GAGE.—Gurley 7-day water-stage recorder on right bank; installed August 4, 1925; inspected by operator at power plant. Temporary staff gage read July 24 to August 4, 1925.

DISCHARGE MEASUREMENTS.—Made from cable 500 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of boulders of varying sizes. Control not well defined; shifts occasionally. Water swift and turbulent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.0 feet at 4 p. m. April 25 (discharge, about 2,890 second-feet); minimum stage, from water-stage recorder, 0.94 foot at 4.30 a. m. September 5 (discharge, about 50 second-feet).

1925-26: Maximum stage occurred April 25, 1926; minimum stage, from water-stage recorder, 0.91 foot at 9 a. m. August 30, 1925 (discharge, about 25 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—A small, fairly constant amount of water is diverted for domestic supply for the city of Malone from a small stream which enters the river just above gage.

REGULATION.—Slight diurnal fluctuation is caused by operation of power plant a quarter of a mile above station.

ACCURACY.—Stage-discharge relation changed during flood of June 15-16, 1926; not affected by ice. Rating curve used July 24, 1925, to June 15, 1926, well defined between 125 and 900 second-feet; curve used June 16 to September 30, 1926, well defined between 125 and 500 second-feet; both curves subject to error for extremely high and low stages. Operation of water-stage recorder satisfactory except for a few short periods; temporary staff gage read to hundredths twice daily. Daily discharge ascertained by applying to rating table mean daily gage height obtained by averaging the two daily gage readings, by inspection of recorder graph, or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day. Records good except those for extremely high or low stages which are subject to error.

Discharge measurements of Salmon River at Chasm Falls, N. Y., during the years ending September 30, 1925 and 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
1925	<i>Feet</i>	<i>Sec.-ft.</i>	1926	<i>Feet</i>	<i>Sec.-ft.</i>	1926	<i>Feet</i>	<i>Sec.-ft.</i>
Aug. 7.....	1.77	195	Jan. 21.....	1.94	265	July 26.....	1.46	159
Sept. 17.....	2.76	725	Feb. 21.....	1.65	155	July 26.....	1.44	150
Sept. 18.....	2.64	579	Apr. 21.....	4.55	2,340	Aug. 10.....	2.11	408
Sept. 30.....	1.87	239	May 9.....	2.64	631			

Daily discharge, in second-feet, of Salmon River at Chasm Falls, N. Y., for the years ending September 30, 1925 and 1926

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1925				1925				1925			
1.....		422	118	11.....		158	135	21.....		144	782
2.....		323	121	12.....		164	139	22.....		139	561
3.....		247	83	13.....		158	240	23.....		120	368
4.....		228	91	14.....		156	674	24.....	161	123	306
5.....		199	78	15.....		156	345	25.....	150	123	288
6.....		183	71	16.....		136	456	26.....	150	123	264
7.....		190	98	17.....		139	698	27.....	164	116	236
8.....		176	106	18.....		136	631	28.....	148	116	264
9.....		158	121	19.....		136	533	29.....	234	116	255
10.....		167	113	20.....		150	455	30.....	162	93	221
								31.....	218	121	

Daily discharge, in second-feet, of Salmon River at Chasm Falls, N. Y., for the year ending September 30, 1925 and 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1925-26												
1	203	267	173	211	183	173	164	838	167	160	148	109
2	199	251	173	199	176	164	161	866	248	157	275	108
3	295	243	167	210	170	158	161	1,320	224	163	336	104
4	436	239	234	199	173	153	164	1,700	199	160	238	108
5	354	228	442	210	173	153	170	1,350	180	157	188	102
6	280	247	739	239	173	153	161	991	170	163	165	117
7	302	280	808	213	173	153	161	784	167	211	406	117
8	284	280	627	193	173	158	180	684	173	174	672	102
9	280	280	401	206	170	147	272	631	173	257	568	112
10	491	227	293	193	170	147	329	558	206	606	372	186
11	474	190	306	203	167	147	324	485	180	836	296	141
12	490	173	320	186	170	144	293	551	164	627	258	118
13	587	222	272	180	167	150	293	491	150	407	240	130
14	515	447	264	170	161	153	390	436	153	326	265	124
15	575	491	264	173	173	170	580	388	962	266	243	105
16	599	491	276	173	170	153	533	354	1,370	233	213	191
17	498	474	280	173	167	150	485	324	949	213	207	357
18	388	326	268	186	164	147	394	280	608	209	189	329
19	388	284	251	268	161	144	339	234	438	201	174	296
20	358	268	232	284	156	150	306	232	333	180	163	261
21	329	268	236	251	145	139	332	247	296	166	149	352
22	311	243	232	206	158	177	708	236	218	162	139	391
23	293	255	193	213	147	167	1,420	239	168	188	146	288
24	280	228	193	236	147	173	1,900	251	163	170	184	251
25	309	221	210	276	144	176	2,670	224	160	163	781	240
26	491	206	210	255	161	173	2,360	206	163	164	149	226
27	420	196	213	224	167	173	1,550	196	168	156	139	192
28	329	259	259	199	158	167	1,160	186	200	156	132	168
29	306	180	243	186	170	170	950	176	188	165	120	160
30	284	176	228	193	161	915	167	167	168	166	121	146
31	237	192	183	183	164	164	170	170	159	111	111	111

NOTE.—Gage-height record incomplete or lacking July 24, Sept. 18, 19, Dec. 25 and 26, 1925, Jan. 15-20, Mar. 5, 6, and Apr. 25, 1926; discharge estimated by comparison with flow at adjacent stations.

Monthly discharge of Salmon River at Chasm Falls, N. Y., for the years ending September 30, 1925 and 1926

[Drainage area, 131 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1925					
July 24-31	234	148	173	1.32	0.39
August	422	93	165	1.26	1.45
September	782	71	295	2.25	2.51
1925-26					
October	599	199	374	2.85	3.29
November	491	173	271	2.07	2.31
December	808	167	297	2.27	2.62
January	284	170	209	1.60	1.84
February	183	144	165	1.26	1.31
March	177	139	158	1.21	1.40
April	2,670	161	661	5.05	5.63
May	1,700	167	510	3.89	4.48
June	1,370	150	304	2.32	2.59
July	836	156	243	1.85	2.13
August	672	111	232	1.77	2.04
September	391	102	188	1.44	1.61
The year	2,670	102	301	2.30	31.25

RICHELIEU RIVER ROUSES POINT, N. Y.

LOCATION.—At Rutland Railroad Bridge in Rouses Point, Clinton County, 1 mile south of Fort Montgomery, $1\frac{1}{2}$ miles above head of Richelieu River, the outlet of Lake Champlain, and $1\frac{1}{2}$ miles south of international boundary.

DRAINAGE AREA.—7,870 square miles, including 436 square miles of water surface (from annual report of State engineer and surveyor).

RECORDS AVAILABLE.—1875 to September 30, 1926.

GAGE.—Vertical staff in two sections attached to piles just below Rutland Railroad Bridge and about 25 feet from shore. This gage was set by water level to the same datum as the one inside the fort which was formerly used. Elevation of zero of gage, 92.50 feet above mean sea level. Gage read to hundredths once daily by Thomas Bourke.

EXTREMES OF STAGE.—Maximum elevation recorded during year, 99.83 feet at 10 a. m. May 5; minimum elevation, 93.75 feet at 10 a. m. September 23.

1869–1926: Maximum elevation recorded, 103.28 feet April, 1869; ⁴ minimum elevation, 91.9 feet November 13, 1908.

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

Daily gage height, in feet, of Richelieu River at Rouses Point, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2.45	3.70	4.15	3.25	2.90	2.37	2.75	7.00	5.05	3.50	2.68	1.83
2.....	2.53	3.60	3.93	3.18	2.95	2.38	2.80	7.10	5.00	3.45	2.65	1.70
3.....	2.45	3.52	3.80	3.10	2.90	2.38	2.87	7.07	4.78	3.40	2.57	1.68
4.....	2.45	3.50	3.82	3.13	2.87	2.37	2.90	7.10	4.70	3.15	2.52	1.65
5.....	2.55	3.95	3.95	3.08	2.85	2.35	3.00	7.33	4.68	3.20	2.55	1.80
6.....	2.65	3.38	3.98	3.07	2.90	2.32	3.10	7.32	4.55	3.30	2.65	2.05
7.....	2.60	3.50	4.25	3.05	2.85	2.30	3.15	7.30	4.50	3.02	2.65	1.55
8.....	2.70	3.40	4.32	2.98	2.80	2.28	3.22	7.20	4.57	3.08	2.48	1.50
9.....	2.60	3.35	4.07	2.92	2.80	2.25	3.45	7.15	4.35	2.95	2.48	1.68
10.....	2.56	3.38	4.15	2.95	2.77	2.25	3.80	7.12	4.10	3.18	2.45	1.50
11.....	2.65	3.65	4.20	2.95	2.73	2.27	4.17	7.05	4.08	3.30	2.48	1.55
12.....	2.75	3.53	4.20	2.88	2.70	2.30	4.37	6.97	4.07	3.75	2.35	1.58
13.....	2.80	3.37	4.12	2.85	2.68	2.30	4.52	6.98	4.00	3.65	2.40	1.35
14.....	2.80	3.45	4.05	2.80	2.65	2.28	4.68	6.87	3.88	3.58	2.30	1.40
15.....	2.92	3.64	4.03	2.77	2.62	2.27	4.83	6.90	3.85	3.55	2.35	1.65
16.....	3.15	4.03	4.00	2.70	2.60	2.25	5.15	6.70	4.30	3.47	2.53	1.35
17.....	3.30	3.95	3.97	2.72	2.60	2.25	5.18	6.65	4.52	3.60	2.22	1.33
18.....	3.42	4.28	3.88	2.70	2.57	2.23	5.20	6.48	4.68	3.45	2.22	1.40
19.....	3.85	4.35	3.82	2.85	2.53	2.20	5.18	6.42	4.28	3.35	2.10	1.47
20.....	3.45	4.35	3.90	2.98	2.50	2.20	5.15	6.22	4.30	3.30	2.07	1.35
21.....	3.53	4.40	3.87	3.10	2.48	2.18	5.12	6.20	4.42	3.15	2.12	1.30
22.....	3.48	4.40	3.70	3.15	2.48	2.18	5.23	6.15	4.12	3.10	2.40	1.75
23.....	3.45	4.18	3.68	3.18	2.47	2.17	5.38	5.93	4.05	3.02	2.25	1.25
24.....	3.47	4.20	3.68	3.15	2.47	2.20	5.75	5.80	3.95	3.00	2.00	1.73
25.....	3.55	4.20	3.63	3.10	2.48	2.27	6.18	5.70	3.90	2.90	1.95	1.33
26.....	3.50	4.15	3.52	3.07	2.48	2.35	6.55	5.58	3.85	2.87	1.98	1.35
27.....	3.65	4.28	3.45	3.10	2.45	2.45	6.83	5.50	3.75	2.82	1.95	1.42
28.....	4.05	4.00	3.42	3.07	2.40	2.50	6.90	5.45	3.70	2.70	2.00	1.40
29.....	3.53	4.00	3.35	3.03	2.40	2.57	6.87	5.35	3.75	2.85	1.88	1.42
30.....	3.70	4.03	3.30	3.00	2.40	2.63	6.97	5.35	3.52	2.70	1.82	1.33
31.....	3.66	-----	3.27	2.93	-----	2.68	-----	5.15	-----	2.64	1.72	-----

LAKE CHAMPLAIN AT BURLINGTON, VT.

LOCATION.—On south side of roadway leading to dock of Champlain Transportation Co., at foot of King Street, Burlington. Chittenden County.

RECORDS AVAILABLE.—May 1, 1907, to September 30, 1926.

⁴ Hoyt, J. C., U. S. Geol. Survey Water-Supply Paper 97, p. 340.

GAGE.—Staff. Comparisons of gage readings indicate that zero of gage at Burlington is at practically the same elevation as that of gage at Rouses Point, 92.5 feet above mean sea level. Gage read by employee of the Champlain Transportation Co.

EXTREMES OF STAGE.—Maximum stage recorded during year, 7.50 feet May 11 and 12; minimum stage recorded, 1.64 feet September 15.

1907–1926: Maximum stage recorded, 8.22 feet on April 19, 1922; minimum stage recorded, -0.25 foot on December 4, 1908.

ICE.—Wider parts of Lake Champlain not usually frozen over until the later part of January. Occasionally closure does not occur until February, and in some years it lasts only for a few days. The northern end of the lake above the outlet is usually covered with ice from the middle of December to the middle of April.

ACCURACY.—Gage read to hundredths at irregular intervals. Gage readings made when the lake is rough are subject to inaccuracies due to wave action.

COOPERATION.—Gage heights furnished by D. A. Loomis, general manager of the Champlain Transportation Co.

Daily gage height, in feet, of Lake Champlain at Burlington, Vt., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.73		4.24				3.05			3.78		2.10
2	2.66	3.92	4.21	3.52			3.10		5.20			2.06
3	2.69	3.90	4.18				3.14	7.35	5.12	3.65	2.90	2.02
4		3.86	4.16						5.14			2.00
5	2.88	3.80	4.12						4.95		2.86	
6	2.94						3.40				2.82	
7		3.68	4.46				3.45			3.38		1.82
8	3.00		4.54	3.30			3.60		4.64		2.78	1.84
9	3.00						3.80		4.60	3.30		
10			4.52				4.05		4.50	3.35		1.80
11			4.50					7.50	4.48			
12		3.67	4.46				4.66	7.50	4.36	3.80	2.69	
13	3.18	3.67					4.80	7.25		3.86	2.64	1.72
14	3.22						4.95	7.20	4.20	3.83		
15	3.25		4.36		2.92		5.15	7.15	4.40	3.80	2.62	1.64
16	3.42		4.32	3.08	2.92	2.56	5.40	7.00	4.54	3.80		
17	3.45	4.30	4.28				5.50	6.95			2.54	
18		4.56	4.22					6.85		3.76		
19	3.55			3.08		2.49	5.55	6.75	4.65			
20		4.60		3.32	2.85		5.50			3.58	2.52	1.66
21	3.77	4.66		3.40			5.40			3.48		
22	3.80		4.05		2.82		5.50	6.40	4.40			
23		4.61				2.46	5.70		4.32	3.38		
24	3.76		3.94				6.05	6.20		3.35	2.24	
25		4.57						6.10	4.15		2.28	
26	3.86						6.70	6.00		3.20		
27	3.99	4.41					7.10	5.90	4.06			
28		4.45	3.78			2.89	7.15	5.77	4.00		2.24	
29							7.25	5.68		3.02		
30	4.02		3.64				7.30	5.48	3.85	2.96		
31	4.00		3.60									

SARANAC RIVER NEAR PLATTSBURG, N. Y.

LOCATION.—At Indian Rapids power plant (formerly known as Lozier Dam) of Plattsburg Gas & Electric Co., 6 miles above mouth of river at Plattsburg, Clinton County.

DRAINAGE AREA.—607 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 27, 1903, to September 30, 1926.

GAGES.—Gurley 7-day graph water-stage recorder on retaining wall above power house on right side of river records elevation of water surface in fore bay of plant. Tailrace gage is a vertical staff spiked to cribwork in dike between tailrace and river about 50 feet below power house. Records of kilowatt output are obtained at half-hour intervals from watt meters on switchboard. Gages and watt meters read by power-house operators.

DISCHARGE MEASUREMENTS.—Made from a cable at head of Indian Rapids, a quarter of a mile below dam, or by wading under cable or in tailrace.

DETERMINATION OF DISCHARGE.—Records include the discharge over concrete spillway which has been rated by current-meter measurements; the discharge through two power units equipped with 300-kilowatt generators which have also been rated by current-meter measurements; and the discharge through two 5-foot waste gates when open, the rating for which is theoretical and poor.

EXTREMES OF DISCHARGE.—Maximum daily discharge during year, 7,200 second-feet April 25; minimum daily discharge, 255 second-feet August 6.

1903-1926: Maximum daily discharge, that of April 25, 1926; minimum daily discharge, 15 second-feet August 4, 1908.

ICE.—The crest of the spillway is usually kept free from ice so that the stage-discharge relation is not affected.

REGULATION.—The lakes and ponds on the main stream and tributaries above the station comprise a water surface area of about 25.5 square miles. The actual storage afforded by these reservoirs has been largely increased by the State dam at Lower Saranac Lake, the operation of which affects distribution of flow during the year.

ACCURACY.—Stage-discharge relation may have changed slightly during year owing to spalling of concrete on crest of spillway, but no change in rating curve has been made on this account. Rating curve for spillway fairly well defined between 100 and 5,000 second-feet, but subject to some error owing to change in crest of spillway noted above; turbine ratings fairly well defined throughout. Operation of water-stage recorder fairly satisfactory. Daily discharge over spillway ascertained by averaging discharge for intervals of the day or, for days during which recorder did not operate, by applying observer's gage readings to rating table. Daily discharge through turbines ascertained by applying to their ratings the mean kilowatt output and head for periods of run. Records fair.

COOPERATION.—Gage-height records and watt-meter readings furnished by Plattsburg Gas & Electric Co., Herbert A. Stutchbury, superintendent.

The following discharge measurement was made:

July 27, 1926: Gage height, 0.72 foot; discharge, 459 second-feet.

Daily discharge, in second-feet, of Saranac River near Plattsburg, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	660	980	810	720	680	610	730	2,950	930	670	580	590
2.....	770	950	800	620	710	650	730	3,000	1,080	740	660	530
3.....	990	950	770	570	750	700	670	3,900	1,120	790	750	520
4.....	1,520	920	890	690	760	690	630	3,850	1,080	610	760	445
5.....	1,480	870	1,560	680	710	650	590	3,400	1,020	540	490	325
6.....	1,400	880	2,460	650	650	640	560	2,950	830	710	255	415
7.....	1,420	880	2,160	710	650	640	470	2,700	690	680	365	590
8.....	1,360	910	1,640	620	660	660	720	2,550	960	700	840	590
9.....	1,280	990	1,380	570	650	660	1,340	2,340	790	800	840	510
10.....	1,400	860	1,080	425	660	710	1,540	2,340	870	2,700	860	580
11.....	1,380	880	1,120	600	630	770	1,580	2,460	990	2,140	950	570
12.....	1,360	860	1,140	620	610	820	1,320	2,480	960	1,400	890	390
13.....	1,640	910	960	590	640	620	1,160	2,300	680	1,440	940	495
14.....	1,480	1,640	1,000	600	500	500	1,460	2,100	760	1,220	880	460
15.....	1,500	1,760	840	600	630	530	2,320	2,020	3,250	1,100	640	490

Daily discharge, in second-feet, of Saranac River near Plattsburg, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16.....	1,460	1,840	910	630	650	590	1,960	1,880	3,900	920	680	475
17.....	1,400	1,800	960	550	640	650	1,400	1,660	2,120	890	620	680
18.....	1,540	1,620	850	710	610	670	1,020	1,700	1,800	740	660	690
19.....	1,400	1,480	800	1,000	610	630	860	1,580	1,560	770	660	550
20.....	1,460	1,420	790	1,020	590	660	1,000	1,540	1,320	770	670	570
21.....	1,360	1,360	800	820	550	550	1,360	1,520	1,140	770	690	500
22.....	1,300	1,060	840	760	720	660	3,450	1,400	1,180	720	560	500
23.....	1,340	1,160	700	740	600	640	4,850	1,340	1,060	690	640	500
24.....	1,160	1,140	740	760	640	730	4,650	1,340	950	720	690	560
25.....	1,220	1,060	770	810	730	800	7,200	950	870	630	720	630
26.....	2,100	950	620	750	730	760	6,300	700	860	700	680	560
27.....	1,840	910	445	770	690	760	4,700	720	850	690	620	610
28.....	1,480	1,060	640	760	610	690	3,750	780	800	670	610	570
29.....	1,420	780	700	710	-----	600	3,350	900	830	710	460	590
30.....	1,240	950	740	690	-----	700	3,200	780	790	690	590	590
31.....	1,160	-----	760	690	-----	740	-----	820	-----	690	510	-----

NOTE.—Water-stage recorder did not operate Oct. 30, 31, Nov. 27 to Dec. 5, Dec. 13-15, Jan. 9, 29, 30, Feb. 6-13, 21, 27, Mar. 7, 13, 21-23, May 28, 29, July 23, 24, and Aug. 6 and 15; discharge over spillway determined from observer's gage readings.

Monthly discharge of Saranac River near Plattsburg, N. Y., for the year ending September 30, 1926

[Drainage area, 607 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	2,100	660	1,370	2.26	2.61
November.....	1,840	780	1,130	1.86	2.08
December.....	2,460	445	990	1.63	1.88
January.....	1,020	425	691	1.14	1.31
February.....	760	500	652	1.07	1.11
March.....	820	500	667	1.10	1.27
April.....	7,200	470	2,160	3.56	3.97
May.....	3,900	700	1,970	3.25	3.75
June.....	3,900	680	1,200	1.98	2.21
July.....	2,700	540	904	1.49	1.72
August.....	950	255	671	1.11	1.28
September.....	690	325	536	.883	.99
The year.....	7,200	255	1,080	1.78	24.18

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

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

LOCATION.—On farm formerly owned by James Dudley 4 miles northeast of Newman, Essex County, and 4 miles below Lake Placid.

DRAINAGE AREA.—116 square miles (measured on topographic maps.)

RECORDS AVAILABLE.—June 7, 1916, to December 31, 1917; July 15, 1919, to September 30, 1926.

GAGE.—Staff gage on right bank; read by Mrs. Ethel Fuller.

DISCHARGE MEASUREMENTS.—Made from cable 300 feet above gage or by wading.

CHANNEL AND CONTROL.—Solid rock; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.6 feet at 11 a. m. April 25 (discharge, 3,430 second-feet); minimum stage recorded, 2.40 feet at 7 a. m. July 26 (discharge, 38 second-feet).

1916-17; 1919-1926: Maximum stage recorded, 10.0 feet at 4.30 p. m. March 10, 1921 (stage-discharge relation affected by ice); maximum open-water stage, 9.0 feet at 7 a. m. October 1, 1924 (discharge about 5,150 second-feet); minimum stage, caused by closing gates in logging dam above gage, 1.60 feet at 7.30 p. m. September 13, 1920 (practically no flow).

ICE.—Stage-discharge relation affected by ice.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined between 50 and 4,000 second-feet. Gage read to quarter-tenths once daily November 29 to April 24 and twice daily during remainder of year. Daily discharge ascertained by applying mean daily gage height to rating table or, for days of considerable fluctuation in stage, by constructing a gage-height graph on basis of the daily gage readings and averaging discharge for intervals of the day. Records good except those for periods of ice effect or of missing record which are fair.

Discharge measurements of West Branch of Ausable River near Newman, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 16.....	3.13	111	May 9.....	4.21	574
Feb. 19.....	3.05	80.4	July 29.....	2.79	85.4
Apr. 25.....	7.38	3,140			

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of West Branch of Ausable River near Newman, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	185	200	120	85	85	60	110	440	374	98	61	79
2.....	118	145	130	80	85	55	140	936	395	106	66	73
3.....	185	150	130	85	80	55	110	2,220	395	87	214	68
4.....	508	130	320	87	75	60	90	1,750	280	98	395	73
5.....	354	140	580	230	70	60	75	800	230	89	200	74
6.....	374	170	1,380	185	70	55	80	685	200	100	230	85
7.....	354	210	659	172	65	50	85	685	246	113	418	104
8.....	335	350	354	108	60	50	120	685	298	110	418	74
9.....	316	775	280	100	60	50	700	580	374	130	214	73
10.....	335	335	220	100	55	50	600	462	462	214	214	230
11.....	316	220	240	95	55	50	508	462	316	316	172	127
12.....	298	200	200	95	50	48	440	658	263	246	127	87
13.....	354	900	180	95	48	48	418	580	214	158	118	77
14.....	374	1,100	170	95	48	46	781	580	185	145	106	79
15.....	530	530	150	100	50	46	800	630	1,900	120	106	61
16.....	485	1,060	140	110	50	44	420	530	1,250	120	100	108
17.....	712	605	120	130	55	55	316	580	580	108	158	230
18.....	630	395	120	170	60	60	316	605	395	110	158	132
19.....	418	354	110	440	60	60	246	555	298	85	106	145
20.....	354	316	110	418	60	65	246	860	230	59	89	108
21.....	335	263	120	280	60	100	268	462	185	58	87	79
22.....	280	263	140	180	55	95	1,150	485	132	68	100	85
23.....	246	246	110	130	50	100	1,600	530	158	66	74	81
24.....	200	214	100	100	55	170	1,620	354	145	64	354	354
25.....	354	214	95	100	55	140	3,100	316	118	43	462	418
26.....	508	200	90	95	60	130	1,350	263	158	54	280	354
27.....	354	170	90	90	70	120	800	263	280	56	200	200
28.....	335	190	85	90	65	100	580	246	158	54	158	145
29.....	230	140	85	85	-----	80	508	214	145	71	132	145
30.....	185	120	85	85	-----	100	440	263	120	71	87	110
31.....	214	-----	85	80	-----	120	-----	395	-----	68	84	-----

NOTE.—Discharge Nov. 26 to Dec. 4, Dec. 10 to Jan. 3, Jan. 9-18, and Jan. 22 to Apr. 10 determined from gage heights corrected for backwater from ice by means of two discharge measurements, observer's notes, weather records, and comparison with flow at adjacent stations. Gage not read Nov. 3-9, 11-14, Dec. 18, 27, 29, 30, Jan. 9, 22, 23, 28, Feb. 1-6, 8, 16, 20, 25, Mar. 1, 2, 8, 13, 19, 30, and Apr. 4 and 16; discharge based upon comparative discharge studies.

Monthly discharge of West Branch of Ausable River near Newman, N. Y., for the year ending September 30, 1926

[Drainage area, 116 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	712	118	348	3.00	3.46
November.....	1,100	120	344	2.97	3.31
December.....	1,380	85	219	1.89	2.18
January.....	440	80	139	1.20	1.38
February.....	85	48	61.1	.527	.55
March.....	170	44	74.9	.646	.74
April.....	3,100	75	601	5.18	5.78
May.....	2,220	214	615	5.30	6.11
June.....	1,900	118	349	3.01	3.36
July.....	316	43	106	.914	1.05
August.....	462	61	183	1.58	1.82
September.....	418	61	135	1.16	1.29
The year.....	3,100	43	265	2.28	31.03

AUSABLE RIVER NEAR AUSABLE FORKS, N. Y.

LOCATION.— $1\frac{1}{2}$ miles below junction of East and West Branches of Ausable River at Ausable Forks, Clinton County, and 13 miles above mouth of river.

DRAINAGE AREA.—446 square miles (measured on topographic maps).

RECORDS AVAILABLE.—September 22, 1924, to September 30, 1926.

GAGE.—Au 60-day continuous water-stage recorder on left bank; inspected by employees of J. & J. Rogers Co.

DISCHARGE MEASUREMENTS.—Made from cable 200 feet above gage or by wading.

CHANNEL AND CONTROL.—Coarse gravel and boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 8.0 feet at 8 a. m. April 25 (discharge, 11,200 second-feet); minimum stage, from water-stage recorder, 1.16 feet at 5 p. m. September 4 (discharge, 112 second-feet).

1924-1926: Maximum stage, from water-stage recorder, 10.55 feet at 3 a. m. October 1, 1924 (discharge, about 19,100 second-feet); minimum stage, from water-stage recorder, 1.08 feet at 7.15 p. m. November 9, 1924 (discharge, 93 second-feet).

ICE.—Stage-discharge relation affected by ice.

REGULATION.—Considerable diurnal fluctuation due to power operations at Ausable Forks and above. Seasonal distribution of flow only slightly affected by small storage reservoirs above the station.

ACCURACY.—Stage-discharge relation changed slightly during flood of April 22-27; seriously affected by ice. Rating curves well defined below 10,000 second-feet. Operation of water-stage recorder unsatisfactory during winter. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of the day, except for periods of ice effect or periods of no record for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records good except those estimated which are fair; winter records fair.

Discharge measurements of Ausable River near Ausable Forks, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 16.....	2.79	289	July 28.....	1.38	174
Feb. 17.....	3.25	298	Aug. 10.....	1.94	416
May 10.....	3.29	1,500			

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Ausable River near Ausable Forks, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	472	518		300	340	280	380	1,690	1,020	289	184	207
2.....	402	495		300	340	240	400	2,800	1,370	284	208	197
3.....	613	460		320	300	240	380	6,480	1,230	255	390	197
4.....	1,440	438		360	280	240	340	4,920	888	228	792	175
5.....	1,110	433		800	280	240	400	2,580	703	212	493	170
6.....	867	483		700	260	220	372	2,060	612	236	316	210
7.....	960	574		550	260	220	367	2,000	612	302	328	226
8.....	924	1,020		460	240	220	734	2,340	731	293	779	236
9.....	795	1,890		420	240	200	1,690	1,870	804	549	625	225
10.....	1,060	1,060		380	220	220	1,690	1,520	949	1,020	470	414
11.....	875	772		380	220	220	1,470	1,410	828	1,260	344	403
12.....	795	654		340	200	220	983	1,750	689	838	284	276
13.....	992	2,440		320	190	200	992	1,690	577	546	276	255
14.....	916	4,020		300	200	200	1,520	1,750	522	428	286	224
15.....	1,110	2,230		300	220	200	2,120	1,810	4,150	353	266	202
16.....	1,310		770	300	260	190	1,400	1,580	5,180	315	199	277
17.....	1,630	2,270		300	280	200	1,070	1,690	2,270	284	256	486
18.....	2,010	1,470		420	280	220	772	2,000	1,340	255	369	433
19.....	1,310	1,130		1,500	260	240	686	1,940	976	247	298	325
20.....	1,160	1,010		1,300	240	260	672	2,100	759	228	250	289
21.....	941	932		1,000	240	300	823	1,460	619	202	231	251
22.....	810	842		750	220	380	2,980	1,190	534	181	217	226
23.....	704	803		550	220	440	5,880	1,520	490	209	218	206
24.....	648	712		500	220	550	5,180	1,170	440	175	472	412
25.....	744	661		420	220	650	9,130	949	360	153	1,200	1,100
26.....	1,640	594		380	260	600	4,750	828	374	169	888	672
27.....	1,140	568		360	260	500	2,600	788	521	175	561	450
28.....	891	661		320	240	400	1,870	738	504	162	414	338
29.....	764	433		300		320	1,810	710	384	199	317	297
30.....	620	460		300		360	1,690	766	329	239	270	293
31.....	549			280		400		930		220	233	

NOTE.—Discharge Jan. 6 to Apr. 5 determined from gage heights corrected for backwater from ice by means of two discharge measurements, study of gage-height graph and weather records, and comparison with flow at stations on East and West Branches of Ausable River. Water-stage recorder did not operate satisfactorily Nov. 30 to Jan. 6, Jan. 29 to Feb. 2, Feb. 4-6, 8-12, 24-28, Mar. 1, June 23-25, and July 26-27; discharge based upon comparative discharge studies. Braced figure shows mean discharge for period indicated.

*Monthly discharge of Ausable River near Ausable Forks, N. Y., for the year ending
September 30, 1926*

[Drainage area, 446 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	2,010	402	974	2.18	2.51
November.....	4,020	433	1,100	2.47	2.76
December.....			770	1.73	1.99
January.....	1,500	280	491	1.10	1.27
February.....	340	190	250	.561	.58
March.....	650	190	302	.677	.78
April.....	9,130	340	1,840	4.13	4.61
May.....	6,480	710	1,840	4.13	4.76
June.....	5,180	329	1,030	2.31	2.58
July.....	1,260	153	.339	.760	.88
August.....	1,200	184	401	.900	1.04
September.....	1,100	170	322	.722	.81
The year.....	9,130	153	806	1.81	24.57

BLACK BROOK AT BLACK BROOK, N. Y.

LOCATION.—100 feet below power plant of J. & J. Rogers Co., three-quarters of a mile below Black Brook, Clinton County, $1\frac{1}{4}$ miles above junction with West Branch of Ausable River, and $5\frac{1}{2}$ miles west of Ausable Forks.

DRAINAGE AREA.—47.2 square miles (measured on topographic maps).

RECORDS AVAILABLE.—September 7, 1924, to September 30, 1926.

GAGE.—Slope gage on right bank; read by employees of J. & J. Rogers Co.

DISCHARGE MEASUREMENTS.—Made from footbridge 10 feet below gage or by wading.

CHANNEL AND CONTROL.—Gravel and small boulders; fairly permanent under ordinary conditions.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.6 feet at 2 p. m. April 25 (discharge, 720 second-feet); minimum discharge, about 6 second-feet several times during year when power plant was shut down.

1924-1926: Maximum stage recorded on April 25, 1926: Minimum discharge, approaching 5 second-feet, occurs frequently when power plant is shut down.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—During low water there is some diversion from Little Black Brook through a flume half a mile above East Kilns.

REGULATION.—Seasonal distribution of flow largely regulated by storage in Fern Lake and Taylor Pond. Diurnal distribution of flow during low water completely controlled by operation of power plant.

ACCURACY.—Stage-discharge relation changed during flood of April 25; affected by logs May 5-13. Rating curve used prior to change well defined below 150 second-feet and fairly well defined between 150 and 500 second-feet; curve used subsequent to change fairly well defined. Gage read to hundredths after each change in gate opening at power plant. Daily discharge ascertained by averaging discharge for intervals of day. Records good.

*Discharge measurements of Black Brook at Black Brook, N. Y., during the year
ending September 30, 1926*

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Jan. 15.....	2.19	53.9	Jan. 15.....	2.03	41.6	Apr. 24.....	4.48	449
Jan. 15.....	2.17	50.7	Jan. 15.....	1.88	30.0	July 29.....	2.05	47.8
Jan. 15.....	2.12	46.5	Apr. 24.....	4.39	433	Aug. 10.....	1.84	25.8

Daily discharge, in second-feet, of Black Brook at Black Brook, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	32	53	44	44	75	86	42	145	26	29	15	37
2.....	25	70	46	49	45	43	42	138	83	31	37	40
3.....	33	46	53	57	45	43	42	193	45	16	59	43
4.....	64	55	62	65	45	43	16	189	33	7	80	29
5.....	79	50	87	65	45	43	52	135	21	7	40	54
6.....	62	51	123	65	44	44	77	94	30	14	24	61
7.....	67	53	186	65	35	31	74	101	45	22	30	46
8.....	55	42	190	65	55	45	42	100	37	28	25	51
9.....	40	72	190	48	45	45	50	100	23	36	42	56
10.....	73	55	190	35	45	45	84	120	38	90	30	49
11.....	57	64	190	92	45	45	59	108	21	141	12	44
12.....	62	58	163	56	36	45	90	101	35	126	21	17
13.....	70	73	67	43	35	43	94	114	33	46	29	66
14.....	73	118	51	43	25	24	119	83	27	43	14	41
15.....	73	140	43	49	45	42	185	77	146	30	7	43
16.....	73	154	43	55	45	42	191	64	395	28	9	42
17.....	58	153	43	35	43	42	183	71	173	35	23	57
18.....	39	134	60	56	43	42	79	67	109	11	65	36
19.....	62	108	62	47	43	47	81	89	73	18	50	13
20.....	65	101	65	73	40	52	86	64	51	28	54	29
21.....	59	108	46	73	27	40	108	40	28	26	54	34
22.....	41	81	62	73	44	82	222	12	47	22	20	22
23.....	49	67	73	70	44	82	540	11	36	22	58	17
24.....	55	74	58	64	44	72	528	41	40	17	55	30
25.....	32	68	23	72	44	65	544	53	27	6	69	46
26.....	112	67	78	93	44	65	343	55	21	28	54	11
27.....	166	82	58	61	38	56	201	52	15	32	44	8
28.....	123	82	44	47	33	20	157	37	36	30	34	7
29.....	69	55	44	45	-----	38	145	30	24	45	7	32
30.....	70	90	44	43	-----	44	144	16	17	52	27	26
31.....	46	-----	44	37	-----	42	-----	33	-----	35	32	-----

NOTE.—Gage-height record incomplete May 8-10; discharge estimated. Discharge May 5-13 subject to error owing to uncertain backwater effect from log jam.

Monthly discharge of Black Brook at Black Brook, N. Y., for the year ending September 30, 1926

[Drainage area, 47.2 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	166	25	64.0	1.36	1.57
November.....	154	42	80.8	1.71	1.91
December.....	190	23	81.7	1.73	1.99
January.....	92	35	57.6	1.22	1.41
February.....	75	25	42.8	.907	.94
March.....	86	20	48.3	1.02	1.18
April.....	544	16	154	3.26	3.64
May.....	193	11	81.7	1.73	1.99
June.....	395	15	56.2	1.19	1.33
July.....	141	6	35.5	.752	.87
August.....	80	7	36.1	.775	.88
September.....	66	7	36.2	.767	.86
The year.....	544	6	64.5	1.37	18.57

NOTE.—The monthly discharge in second-feet per square mile and run-off in inches shown by the table do not necessarily represent the natural flow from the basin because of artificial storage in Fern Lake and Taylor Pond and diversion from Little Black Brook.

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

LOCATION.—At lower steel highway bridge in Ausable Forks, Essex County, 100 feet above dam and 250 feet above power plant of J. & J. Rogers Co., and 400 feet above junction with West Branch of Ausable River.

DRAINAGE AREA.—199 square miles (from report of State engineer and surveyor).

RECORDS AVAILABLE.—September 5, 1924, to September 30, 1926.

GAGE.—Vertical staff on downstream side of left bridge abutment; read by employees of J. & J. Rogers Co.

DISCHARGE MEASUREMENTS.—Made from downstream side of highway bridge or by wading.

CHANNEL AND CONTROL.—The control is the crest of a timber dam 100 feet below gage; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 5.8 feet, during discharge measurement, at 7.45 a. m. April 25 (discharge, 6,730 second-feet); minimum stage recorded, 0.55 foot at 7 a. m. July 23 (discharge, 38 second-feet).

1924–1926: Maximum stage, determined by leveling from floodmarks, 11.4 feet during afternoon of March 28, 1925 (discharge not determined).

Minimum stage recorded, that of July 23, 1926.

ICE.—Stage-discharge relation affected by ice.

ACCURACY.—Stage-discharge relation permanent during year except as affected by ice. Rating curve well defined between 45 and 8,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table or, for days of considerable fluctuation in stage, by constructing a gage-height graph and averaging discharge for intervals of the day, except for periods of ice effect for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records good except those estimated which are fair; winter records fair.

Discharge measurements of East Branch of Ausable River at Ausable Forks, N. Y., during the year ending September 30, 1926

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Jan. 15.....	<i>Feet</i> 1.62	<i>Sec.-ft.</i> 105	Apr. 24.....	<i>Feet</i> 2.73	<i>Sec.-ft.</i> 1,650	May 9.....	<i>Feet</i> 1.84	<i>Sec.-ft.</i> 765
Feb. 18.....	1.57	84.0	Apr. 25.....	5.66	6,280	July 28.....	.58	47.5

• Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of East Branch of Ausable River at Ausable Forks, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	206	200	200	120	130	90	160	680	484	87	55	68
2.....	180	220	220	120	140	85	170	1,200	680	103	68	60
3.....	236	206	220	130	120	80	170	3,040	575	103	141	60
4.....	575	198	327	150	110	85	160	1,960	418	90	220	52
5.....	484	193	830	400	110	85	200	1,040	301	87	116	52
6.....	392	206	1,840	340	100	80	160	870	270	87	87	60
7.....	438	253	1,090	220	95	80	150	870	248	116	87	68
8.....	392	556	715	180	90	80	440	1,040	327	107	180	91
9.....	327	955	470	170	85	75	900	850	366	184	145	83
10.....	533	540	327	150	85	75	750	680	431	314	120	166
11.....	420	398	242	130	80	75	680	610	366	500	99	175
12.....	346	320	353	120	75	70	498	750	288	327	83	141
13.....	450	1,570	280	110	70	70	418	750	240	211	75	99
14.....	386	1,960	260	100	70	70	680	750	220	166	75	87
15.....	498	1,200	240	100	75	70	955	830	2,070	149	68	75

Daily discharge, in second-feet, of East Branch of Ausable River at Ausable Forks, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	575	1,500	220	100	75	70	575	730	2,170	120	60	91
17	505	1,000	190	110	80	75	444	750	955	103	64	154
18	950	680	170	140	85	85	310	910	575	95	83	158
19	610	540	170	800	85	75	275	870	431	87	75	128
20	540	470	180	600	80	85	258	955	340	83	68	112
21	431	418	200	460	80	110	301	680	288	68	60	95
22	360	380	260	320	75	140	1,410	540	216	44	49	83
23	320	379	220	260	75	170	2,470	700	198	41	46	75
24	275	327	190	220	70	240	1,960	519	171	46	79	91
25	320	284	170	190	75	260	3,550	424	145	46	457	498
26	750	264	150	160	110	240	1,840	372	149	46	470	301
27	512	220	130	140	100	220	1,000	379	190	46	231	198
28	398	334	120	130	90	180	750	334	162	46	162	149
29	366	240	120	120	-----	140	750	320	141	52	128	132
30	275	200	110	110	-----	160	680	370	124	68	99	112
31	220	-----	130	110	-----	220	-----	457	-----	68	75	-----

NOTE.—Discharge Nov. 29 to Dec. 3 and Dec. 13 to Apr. 10, determined from gage heights corrected for backwater from ice by means of two discharge measurements, observer's notes, weather records, and comparison with flow at adjacent stations. Gage not read and discharge based on comparative studies Oct. 4, 11, 18, 25, Nov. 1, 8, 15, 22, 29, Dec. 6, 13, 20, 25-27, Jan. 3, 10, 17, 24, 31, Feb. 7, 14, 21, 28, Mar. 7, 14, 21, 28, Apr. 4, 11, 18, 25, May, 2, 9, 16, 23, 30, July 4, 11, 18, 25, and Aug. 1 and 8.

Monthly discharge of East Branch of Ausable River at Ausable Forks, N. Y., for the year ending September 30, 1926

[Drainage area, 199 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	950	180	428	2.15	2.48
November	1,960	193	541	2.72	3.04
December	1,840	110	334	1.68	1.94
January	800	100	210	1.06	1.22
February	140	70	89.8	.451	.47
March	260	70	117	.588	.68
April	3,550	150	769	3.86	4.31
May	3,040	320	814	4.09	4.72
June	2,170	124	451	2.27	2.53
July	500	41	119	.598	.69
August	470	46	123	.618	.71
September	498	52	124	.623	.70
The year	3,550	41	344	1.73	23.49

BOUQUET RIVER AT WILLSBORO, N. Y.

LOCATION.—Half a mile south of Willsboro, Essex County, 2½ miles below mouth of North Branch of Bouquet River, and 3 miles above mouth of river.

DRAINAGE AREA.—271 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 23, 1923, to September 30, 1926.

GAGE.—Gurley 7-day graph water-stage recorder on right bank; inspected by employees of New York & Pennsylvania Co.

DISCHARGE MEASUREMENTS.—Made from upstream side of highway bridge in Willsboro or by wading.

CHANNEL AND CONTROL.—Coarse gravel and boulders; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.6 feet at 4 p. m. April 25 (discharge, 5,600 second-feet); minimum stage, from water-stage recorder, 2.33 feet at 9 a. m. July 27 (discharge, 52 second-feet).

1923-1926: Maximum stage, from water-stage recorder, 10.85 feet at 10 a. m. October 1, 1924 (discharge, about 11,800 second-feet). Minimum stage, from water-stage recorder, 2.17 feet at 9 a. m. October 23, 1923 (discharge, 30 second-feet).

ICE.—Stage-discharge relation seriously affected by ice.

ACCURACY.—Stage-discharge relation permanent during year except as affected by ice. Rating curve well defined below 5,000 second-feet. Operation of water-stage recorder unsatisfactory at times. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection or, for days of considerable fluctuation in stage, by averaging discharge for intervals of day, except for periods of ice effect or of no record for which it was ascertained as indicated in footnote to table of daily discharge. Open-water records good except those estimated which are fair; winter records fair.

Discharge measurements of Bouquet River at Willsboro, N. Y., during the year ending September 30, 1926

Date	Gage height	Discharge	Date	Gage height	Discharge
Jan. 13.....	Feet 3.22	Sec.-ft. 151	Apr. 23.....	Feet 6.37	Sec.-ft. 3,700
Feb. 17.....	3.15	142	July 27.....	2.40	68.0

* Stage-discharge relation affected by ice.

Daily discharge, in second-feet, of Bouquet River at Willsboro, N. Y., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	155	306	220	220	150	130	630	981	266	121	80	76
2.....	144	285	240		180	130		1,010	285	114	83	74
3.....	219	270	260		150	120		1,820	290	106	98	74
4.....	477	261	280		150	110		1,660	252	100	140	72
5.....	413	252	573		140	110		876	228	85	134	61
6.....	316	252	1,940	220	130	110	630	729	210	83	106	60
7.....	285	266	1,380		120	110		674	200	130	85	58
8.....	290	387	736		110	100		694	220	121	95	65
9.....	288	577	555		100	100		579	240	190	95	74
10.....	507	396	316		100	95		567	260	396	87	80
11.....	402	342	280	220	95	95	630	591	202	413	80	92
12.....	342	290	380		95	90		701	177	270	80	90
13.....	353	755	340		150	95		603	162	185	76	78
14.....	353	1,800	280		140	100		549	140	151	78	65
15.....	321	701	260		130	110		555	814	130	85	61
16.....	353	958	240	120	120	90	630	555	2,490	121	74	67
17.....	469	848	220	130	140	95		495	826	109	74	117
18.....	622	567	200	200	130	110		483	501	100	92	121
19.....	447	477	200	950	140	110		483	386	92	83	103
20.....	386	430	190	700	130	140		447	300	87	74	80
21.....	353	408	220	460	120	140	630	391	252	83	72	85
22.....	311	391	280	400	95	170		337	228	80	69	76
23.....	275	364	280	340	95	240		348	211	72	63	76
24.....	261	342	220	280	95	340		2,620	348	185	72	98
25.....	404	290	180	240	100	420		4,500	306	170	69	219
26.....	818	280	160	220	140	420	2,700	285	158	63	219	170
27.....	573	290	150	190	130	300	1,340	275	194	58	181	127
28.....	447	364	150	160	130	260	1,100	270	170	67	130	98
29.....	413	242	140	150	-----	220	1,130	266	147	69	109	90
30.....	364	219	140	140	-----	220	1,030	252	130	78	78	83
31.....	316	-----	140	140	-----	260	-----	242	-----	87	74	-----

NOTE.—Discharge Dec. 1-4 and Dec. 11 to Apr. 7 determined from gage heights corrected for backwater from ice by means of two discharge measurements, study of gage-height graph and weather records, and comparison with flow at adjacent stations. Discharge based on comparative studies owing to faulty or missing gage-height record Nov. 8-14, Dec. 28 to Jan. 13, Feb. 24 to Mar. 3, Mar. 14-20, Mar. 28 to Apr. 22, and June 5-10. Braced figures give mean discharge for periods indicated.

*Monthly discharge of Bouquet River at Willsboro, N. Y., for the year ending
September 30, 1926*

[Drainage area, 271 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	818	144	377	1.39	1.80
November.....	1,300	219	437	1.61	1.80
December.....	1,940	140	360	1.33	1.53
January.....	950	120	254	.937	1.08
February.....	180	95	121	.446	.46
March.....	420	90	165	.609	.70
April.....	4,500	-----	1,050	3.87	4.32
May.....	1,820	242	593	2.19	2.52
June.....	2,490	130	343	1.27	1.42
July.....	413	58	126	.465	.54
August.....	219	63	100	.369	.43
September.....	201	58	89.1	.329	.37
The year.....	4,500	58	335	1.24	16.77

LAKE GEORGE AT ROGERS ROCK, N. Y.

LOCATION.—At Hoopers dock on south side of Stones Bay, Rogers Rock, Essex County.

RECORDS AVAILABLE.—July 10, 1913, to September 30, 1926.

GAGE.—Vertical staff attached to dock structure; set by water level to same datum as former gage near steamboat landing. Datum, 3.15 feet below crest of dam at outlet of lake. Gage read to hundredths once daily by an employee of International Paper Co.

EXTREMES OF STAGE.—Maximum stage recorded during year, 4.50 feet May 2; minimum stage, 2.50 feet September 23.

1913–1926: Maximum stage recorded, 5.07 feet April 18, 1922. Minimum stage, 1.06 feet December 29, 1922.

REGULATION.—The elevation of lake surface is regulated by the operation of gates and wheels at the dam at the outlet of the lake at Ticonderoga.

COOPERATION.—Gage-height record furnished by Mr. C. S. Colson, hydraulic engineer, International Paper Co.

*Daily gage height, in feet, of Lake George at Rogers Rock, N. Y., for the year ending
September 30, 1926*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	3.25	3.20	3.67	3.65	3.40	3.10	2.82	4.47	3.60	3.77	3.52	2.80
2.....	3.22	3.25	3.65	3.60	3.42	3.12	2.85	4.50	3.62	3.75	3.55	2.75
3.....	3.20	3.22	3.62	3.55	3.45	3.10	2.90	4.47	3.60	3.70	3.52	2.72
4.....	3.20	3.20	3.60	3.60	3.45	3.07	2.95	4.45	3.57	3.65	3.47	2.70
5.....	3.22	3.20	3.60	3.62	3.42	3.05	2.97	4.42	3.60	3.65	3.45	2.72
6.....	3.25	3.17	3.80	3.60	3.40	3.02	3.00	4.40	3.60	3.67	3.42	2.72
7.....	3.22	3.15	3.92	3.57	3.37	3.02	3.15	4.35	3.62	3.70	3.40	2.75
8.....	3.20	3.22	4.00	3.55	3.35	3.00	3.10	4.30	3.60	3.72	3.40	2.77
9.....	3.22	3.20	3.97	3.50	3.30	3.00	3.20	4.30	3.57	3.75	3.37	2.75
10.....	3.17	3.22	3.90	3.55	3.27	2.97	3.30	4.27	3.55	3.82	3.37	2.77
11.....	3.20	3.25	3.87	3.52	3.27	2.95	3.27	4.25	3.52	3.90	3.35	2.75
12.....	3.22	3.27	3.82	3.50	3.25	2.95	3.22	4.15	3.50	3.95	3.35	2.77
13.....	3.20	3.27	3.80	3.47	3.22	2.92	3.30	4.10	3.50	3.95	3.32	2.72
14.....	3.17	3.50	3.85	3.45	3.20	2.90	3.35	4.05	3.47	3.92	3.30	2.70
15.....	3.17	3.47	3.87	3.45	3.22	2.87	3.40	4.02	3.50	3.90	3.25	2.67
16.....	3.15	3.57	3.85	3.42	3.20	2.85	3.45	4.00	3.70	3.87	3.22	2.62
17.....	3.12	3.70	3.82	3.40	3.17	2.82	3.50	3.97	3.72	3.85	3.20	2.60
18.....	3.10	3.60	3.80	3.42	3.20	2.80	3.60	3.95	3.65	3.82	3.17	2.62
19.....	3.12	3.60	3.80	3.50	3.17	2.77	3.70	3.90	3.70	3.80	3.10	2.65
20.....	3.15	3.65	3.77	3.55	3.15	2.77	3.80	3.87	3.75	3.77	3.07	2.60

Daily gage height, in feet, of Lake George at Rogers Rock, N. Y., for the year ending September 30, 1926—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21.....	3.17	3.67	3.80	3.60	3.15	2.80	3.85	3.85	3.80	3.75	3.05	2.55
22.....	3.10	3.70	3.82	3.57	3.12	2.82	3.90	3.82	3.82	3.70	3.05	2.55
23.....	3.15	3.72	3.80	3.55	3.10	2.85	4.10	3.80	3.85	3.67	3.02	2.50
24.....	3.17	3.70	3.80	3.50	3.10	2.87	4.20	3.77	3.80	3.65	3.00	2.55
25.....	3.35	3.67	3.82	3.57	3.12	2.90	4.35	3.72	3.82	3.60	2.97	2.57
26.....	3.20	3.65	3.85	3.55	3.15	2.90	4.35	3.70	3.80	3.62	2.95	2.57
27.....	3.17	3.62	3.82	3.52	3.12	2.85	4.37	3.67	3.85	3.60	2.92	2.55
28.....	3.20	3.65	3.80	3.40	3.10	2.87	4.40	3.65	3.80	3.60	2.90	2.55
29.....	3.22	3.65	3.75	3.45	-----	2.85	4.42	3.62	3.77	3.67	2.87	2.57
30.....	3.17	3.65	3.70	3.40	-----	2.82	4.45	3.60	3.75	3.55	2.90	2.55
31.....	3.15	-----	3.70	3.37	-----	2.80	-----	3.62	-----	3.55	2.87	-----

NOTE.—Levels of July 28, 1926, indicate that gage reads 0.015 foot high. Levels in 1925 showed gage to be reading 0.09 foot high. No corrections have been applied owing to uncertainty regarding their magnitude and duration.

GREEN RIVER AT GARFIELD, VT.

LOCATION.—At site of old dam above highway bridge at Garfield, town of Hyde Park, Lamoille County. Green River is tributary to Lamoille River 4 miles east of Morrisville.

DRAINAGE AREA.—18 square miles (from survey by C. T. Middleback, consulting engineer).

RECORDS AVAILABLE.—January 23, 1915, to March 16, 1921, and December 3, 1922, to September 30, 1926.

GAGE.—Inclined staff on left bank in pool back of weir; read by P. M. Trescott.

DISCHARGE MEASUREMENTS.—Made from footbridge half a mile downstream from weir or from old bridge half a mile above weir.

CHANNEL AND CONTROL.—Sharp-crested compound weir installed December, 1922; length of crest at gage height 0.00 foot is 9.0 feet; at gage height 0.83 foot, length of crest is increased 11.17 feet. A pool of considerable size is formed by the old mill dam on which the weir is built; at ordinary stages the velocity of approach to the weir is very small.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.68 feet at 5 p.m. April 25 (discharge, 480 second-feet); minimum stage recorded, 0.23 foot August 23 (discharge, 3.7 second-feet).

1915–1921; 1922–1926: Maximum discharge (determined from high-water marks and extension of rating curve) 710 second-feet April 12, 1919; minimum discharge recorded, 2.2 second-feet August 11 and 12, 1923, and September 6, 1925.

ICE.—Weir and weir crest kept clear of ice during winter; stage-discharge relation not affected by ice.

REGULATION.—An old timber dam about 2 miles upstream affects flow to some extent. The dam leaks by an amount somewhat greater than the low-water flow. During prolonged low stages the surface of water in pond (103 acres) falls below crest of dam; subsequent increased flow into pond is retained until water again flows over crest, when the increased flow is apparent at gaging station.

ACCURACY.—Stage-discharge relation assumed as permanent. Rating curve fairly well defined. Gage read to hundredths twice a day. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

The following discharge measurements were made September 13, 1926:

Gage height, 0.31 foot; discharge, 5.7 second-feet.

Gage height, 0.31 foot; discharge, 6.0 second-feet.

Daily discharge, in second-feet, of Green River at Garfield, Vt., for the year ending September 30, 1926

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	23	25	19	11	12	7.7	14	146	12	14	4.4	6.0
2-----	17	24	19	11	12	7.4	15	242	16	11	11	5.2
3-----	37	23	19	11	11	7.4	16	399	22	8.6	29	5.0
4-----	180	21	23	11	11	7.1	16	388	21	6.8	29	4.8
5-----	114	21	39	11	11	6.8	16	166	17	5.7	15	4.0
6-----	55	36	118	12	10	6.8	16	132	14	5.2	8.6	4.4
7-----	48	57	125	14	10	6.6	16	111	12	6.0	6.3	4.2
8-----	43	65	71	12	9.8	6.3	18	104	14	6.6	6.0	4.4
9-----	36	92	40	11	9.5	6.0	27	82	17	15	6.3	5.0
10-----	56	74	27	11	9.2	5.7	30	68	18	251	5.7	9.8
11-----	49	47	24	10	8.9	5.4	37	63	16	186	5.2	9.2
12-----	50	32	22	9.8	8.6	5.4	50	63	13	78	4.6	7.4
13-----	67	37	21	9.2	8.3	5.2	57	57	11	36	4.2	5.7
14-----	76	79	18	8.9	8.0	5.2	61	47	9.5	22	68	4.4
15-----	118	206	17	8.6	8.0	5.2	82	42	290	16	37	4.4
16-----	92	333	17	8.3	8.0	5.2	80	36	322	13	14	8.0
17-----	122	224	16	8.0	8.0	5.2	67	30	92	12	10	38
18-----	140	98	16	8.9	8.0	5.2	52	29	43	11	9.8	40
19-----	84	69	15	48	8.0	5.2	42	26	35	9.2	7.4	23
20-----	69	51	15	71	8.0	5.2	38	29	24	7.4	5.7	14
21-----	59	48	15	71	8.0	6.0	42	29	18	6.6	4.4	10
22-----	50	48	16	39	8.0	7.4	76	25	16	6.3	4.0	8.0
23-----	45	45	16	29	8.0	9.8	209	23	14	8.6	3.7	6.8
24-----	37	36	14	27	8.0	11	355	23	12	8.6	24	12
25-----	52	30	14	25	8.0	10	460	23	10	6.3	57	36
26-----	117	29	13	23	7.7	11	333	20	8.9	5.0	40	23
27-----	87	29	12	20	7.7	10	165	18	82	4.6	29	14
28-----	52	25	11	18	7.7	11	114	16	52	4.4	16	10
29-----	42	22	11	14	-----	12	114	14	25	4.8	15	8.9
30-----	32	19	11	13	-----	12	161	14	18	4.8	9.2	7.4
31-----	23	-----	11	12	-----	13	-----	13	-----	5.2	7.4	-----

Monthly discharge of Green River at Garfield, Vt., for the year ending September 30, 1926

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maxi-mum	Mini-mum	Mean		Maxi-mum	Mini-mum	Mean
October-----	180	17	66.8	May-----	399	13	79.9
November-----	333	19	64.8	June-----	322	8.9	42.5
December-----	125	11	26.6	July-----	251	4.4	25.3
January-----	71	8.0	19.2	August-----	68	3.7	16.0
February-----	12	7.7	8.94	September-----	40	4.0	11.4
March-----	13	5.2	7.53	The year-----	460	3.7	38.6
April-----	460	14	92.6				

MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of flow obtained at the gaging stations and reported in the preceding pages, measurements were made at other points as shown by the following table:

Miscellaneous discharge measurements in the St. Lawrence River drainage basin during the year ending September 30, 1926

Date	Stream	Tributary to—	Locality	Gage height	Dis-charge
Nov. 23	Tiffin River...	Maumee River	At bridge three-fourths mile northwest of Brunersburg, Ohio.	Feet 5.30	Sec.-ft. 691
Mar. 3	do-----	do-----	do-----	10.34	2,110
Mar. 25	do-----	do-----	do-----	11.19	2,400
Apr. 6	do-----	do-----	do-----	12.74	3,000
July 24	do-----	do-----	do-----	.89	25
Aug. 29	do-----	do-----	do-----	1.11	43

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