UNITED STATES DEPARTMENT OF THE INTERIOR

SURFACE WATER SUPPLY *of the* UNITED STATES 1929

PART III
OHIO RIVER BASIN

Prepared in cooperation with the States of NEW YORK, WEST VIRGINIA, OHIO, NORTH CAROLINA, VIRGINIA, and TENNESSEE

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 683

UNITED STATES DEPARTMENT OF THE INTERIOR
RAY LYMAN WILBUR, Secretary
GEOLOGICAL SURVEY
W. C. MENDENHALL, Director

Water-Supply Paper 683

SURFACE WATER SUPPLY *of the* UNITED STATES

1929

PART III

OHIO RIVER BASIN

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Prepared in cooperation with the States of
NEW YORK, WEST VIRGINIA, OHIO, NORTH CAROLINA,
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SURFACE WATER SUPPLY OF OHIO RIVER BASIN, 1929

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, 1929.

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

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

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

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

Annual appropriations for the fiscal years ending June 30, 1895–1930

1895	$12,500.00	1908–1910	$100,000.00	1926	$165,000.00
1896	24,500.00	1911–1917	150,000.00	1927	151,000.00
1897–1899	50,000.00	1918	175,000.00	1928	147,000.00
1900	70,000.00	1919	148,244.10	1929	270,500.00
1901–2	100,000.00	1920	175,000.00	1930	275,000.00
1903–1906	200,000.00	1921–1923	180,000.00		
1907	150,000.00	1924–25	170,000.00		

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

Measurements of stream flow have been made at about 5,830 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1929, 2,240 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements are 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 the 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.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1928, and ending September 30, 1929. At the beginning of January in most parts of the United States much of the precipitation in the preceding three months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as 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 the year.

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

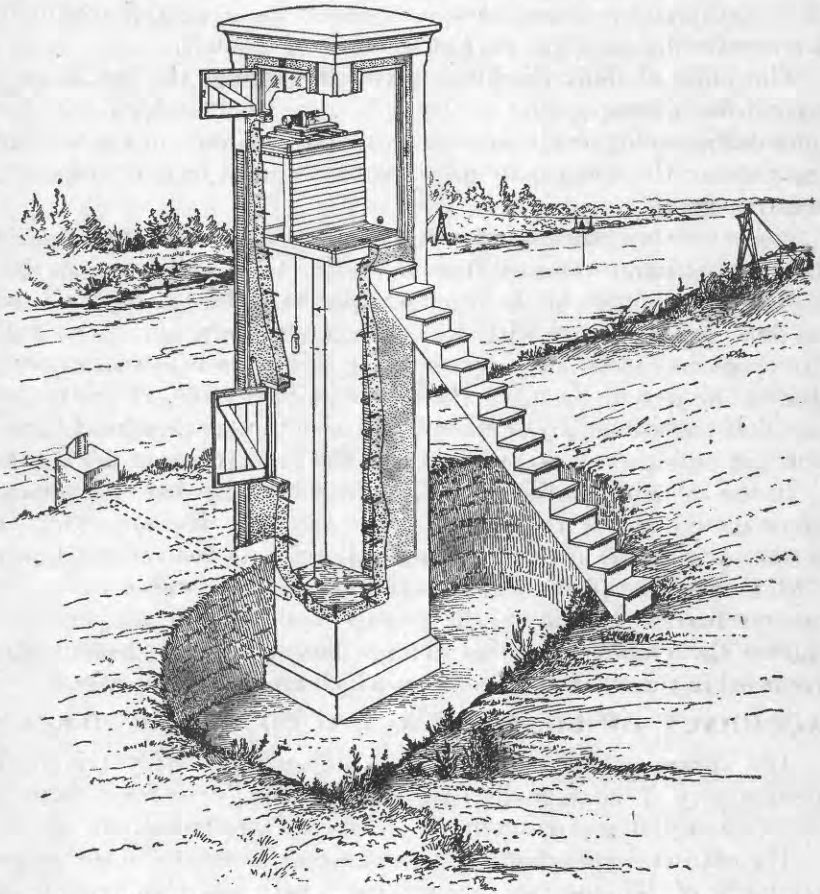

FIGURE 1. Typical river-measurement station showing concrete well and house for water-stage recorder and staff gages, cable and car

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 discharges are determined.

The data presented for each gaging station in the area covered by this report comprise a description of the station, a table showing the

daily discharge of the stream, the monthly and yearly discharge, and run-off.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded discharge, and the accuracy of the records. The maximum discharge given under "Extremes" does not represent the crest discharge unless a water-stage recorder was in operation or unless a nonrecording gage was read at the time of the crest.

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

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

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

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches"

are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches.

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

Many gaging stations on streams in the irrigated sections 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 first be satisfied.

PUBLICATIONS

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

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

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

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

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

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

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

Augusta, Me., Statehouse.
Boston, Mass., 2500 Customhouse.
Hartford, Conn., 318 State Office Building.
Albany, N. Y., 506 Broadway-Arcade Building.
Trenton, N. J., 710 Trenton Trust Building.
Harrisburg, Pa., 366 State Capitol.
Charlottesville, Va., Brooks Museum, University of Virginia.
South Charleston, W. Va., Naval Ordnance Plant.
Asheville, N. C., 220 Post Office Building.
Columbia, S. C., 801 National Loan & Exchange Bank Building.
Ocala, Fla., Post Office Building.
Tuscaloosa, Ala., Post Office Building.
Chattanooga, Tenn., 630 Power Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Indianapolis, Ind., 319 Federal Building.
Chicago, Ill., 1503 Consumers Building.
Madison, Wis., 337N State Capitol.
St. Paul, Minn., 202 Old State Capitol.
Topeka, Kans., 23 Federal Building.
Rolla, Mo., Rolla Building, Schools of Mines and Metallurgy.
Fort Smith, Ark., Post Office Building.
Austin, Tex., State Capitol.
Santa Fe, N. Mex., State Capitol.
Tucson, Ariz., 210 Post Office Building.
Denver, Colo., 403 Post Office Building.
Salt Lake City, Utah, 313 Federal Building.
Idaho Falls, Idaho, 228 Federal Building.
Boise, Idaho, Federal Building.
Helena, Mont., 416 Power Block.
Tacoma, Wash., 406 Federal Building.
Portland, Oreg., 606 Post Office Building.
San Francisco, Calif., 303 Customhouse.
Los Angeles, Calif., 751 South Figueroa Street, Room 510.
Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 5,830 points in the United States, and the data obtained have been published in the reports tabulated below:

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

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

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

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

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

Report	Character of data	Year
B 131	Descriptions, measurements, gage heights, and ratings	1893 and 1894.
16th A, pt. 2	Descriptive information only	
B 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11	Gage heights (also gage heights for earlier years)	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895 and 1896.
W 15	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas.	1897.
W 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)	1898.
W 35 to 39	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge	1899.
W 47 to 52	Descriptions, measurements, gage heights, and ratings	1900.
22d A, pt. 4	Monthly discharge	1900.
W 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
W 75	Monthly discharge	1901.
W 82 to 85	Complete data	1902.
W 97 to 100	do	1903.
W 124 to 135	do	1904.
W 165 to 178	do	1905.
W 201 to 214	do	1906.
W 241 to 252	do	1907–8
W 261 to 272	do	1909.
W 281 to 292	do	1910.
W 301 to 312	do	1911.
W 321 to 332	do	1912.
W 351 to 362	do	1913.
W 381 to 394	do	1914.
W 401 to 414	do	1915.
W 431 to 444	do	1916.
W 451 to 464	do	1917.
W 471 to 484	do	1918.
W 501 to 514	do	1919–20.
W 521 to 534	do	1921.
W 541 to 554	do	1922.
W 561 to 574	do	1923.
W 581 to 594	do	1924.
W 601 to 614	do	1925.
W 621 to 634	do	1926.
W 641 to 654	do	1927.
W 661 to 674	do	1928.
W 681 to 694	do	1929.

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

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1929. The data for any particular station will, as a rule, be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by Part III are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

Numbers of water-supply papers containing results of stream measurements, 1899–1929

[For basins included see p. 5]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII-A	XII-B	XII-C
1899 [a]	35	[b] 35, 36	36	36	36	[c] 36, 37	37	37	[d] 37, 38	38, [e] 39	38, [f] 39	38	38	38
1900 [g]	47, [h] 48	48	48, [i] 49	49	49	49, [j] 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	[k] 65, 66, 75	66, 75	[k] 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	[b] 82, 83	83	[l] 82, 83	[k] 83, 85	84	[k] 83, 84	84	85	85	85	85	85	85
1903	97	[b] 97, 98	98	97	[k] 98, 99, [m] 100	99	[k] 98, 99	99	100	100	100	100	100	100
1904	[n] 124, [o] 125, [p] 126	[p] 126, 127	128	129	[k] 128, 130	130, [q] 131	[k] 128, 131	132	133	133, [r] 134	134	135	135	135
1905	[n] 165, [o] 166, [p] 167	[p] 167, 168	169	170	171	172	[k] 169, 173	174	175, [s] 177	176, [r] 177	177	178	178	[t] 177, 178
1906	[n] 201, [o] 202, [p] 203	[p] 203, 204	205	206	207	208	[k] 205, 209	210	211, [s] 213	212, [r] 213	213	214	214	214
1907–8	241	242	243	244	245	246	247	248	249	250, [r] 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, [r] 271	271	272	272	272
1910	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912	321	322	323	324	325	326	327	328	329	330	331	332A	332B	332C
1913	351	352	353	354	355	356	357	358	359	360	361	362A	362B	362C
1914	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919–20	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929	681	682	683	684	685	686	687	688	689	690	691	692	693	694

[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.
Scioto River.
[i] Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.
[j] Tributaries of Mississippi from east.
[k] Lake Ontario and tributaries to St. Lawrence River.
[l] Hudson Bay only.
[m] New England rivers only.
[n] Hudson River to Delaware River, inclusive.
[o] Susquehanna River to Yadkin River, inclusive.
[p] Platte and Kansas Rivers.
[q] Great Basin in California, except Truckee and Carson River Basins.
[r] Below junction with Gila.
[s] Rogue, Umpqua, and Siletz Rivers only.
[t]

COOPERATION

The work was done in cooperation with the several States as follows: In New York with the State Department of Public Works, Frederick S. Green, superintendent; in West Virginia with the State Geological Survey and the Public Service Commission; in Ohio with the Ohio Cooperative Topographic Survey, C. E. Sherman, inspector; in North Carolina with the North Carolina Department of Conservation and Development, Wade H. Phillips and J. W. Harrelson, directors; in Virginia with the Conservation and Development Commission, W. E. Carson, chairman; in Illinois with the State Department of Purchases and Construction, Division of Waterways, William F. Mulvihill, supervisor; and in Tennessee with the Tennessee Geological Survey, Walter F. Pond, State Geologist.

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

Financial assistance was also rendered by the following municipalities, organizations, corporations, and individuals: In West Virginia by the Clarksburg Water Board, West Virginia Power Co., Gauley Power Co., and West Penn Power Co.; in Virginia by the city of Pulaski, Appalachian Electric Power Co., and H. A. Bowen; in Kentucky by the Kentucky Utilities Co.; in North Carolina by the cities of Asheville and Highlands, the Carolina Power & Light Co., Knoxville Power Co., Appalachian Electric Power Co., Sylva Paperboard Co., and Champion Fibre Co.; in Tennessee by the Tennessee Electric Power Co., Cumberland Hydroelectric Co., and Southern Cities Power Co.

DIVISION OF WORK

The data for the station in New York were collected and prepared for publication under the direction of Arthur W. Harrington, district engineer, assisted by B. L. Bigwood, A. E. Johnson, J. L. Lamson, H. F. Hill, jr., F. C. Christopherson, H. W. Palm, F. H. Harrington, R. W. Graves, and Miss A. D. Buchanan.

The data for stations in West Virginia and on Levisa Fork at Paintsville, Ky., were collected and prepared for publication under the direction respectively of J. J. Dirzulaitis and William Kessler, district engineers, assisted by M. T. Thomson, R. W. Sundstrom, W. S. Eisenlohr, A. E. Johnson, and A. R. Green.

The data for stations in Ohio, in the Whitewater River Basin in Indiana, and in the Licking and Kentucky River Basins in Kentucky were collected and prepared for publication under the direction of Lasley Lee, district engineer, assisted by J. I. Perrey, C. V. Youngquist, L. Engstrom, E. P. Coady, E. G. Barron, C. L. Muntz, H. E. Cox, J. P. Bonner, and H. P. Brooks.

The data for stations in Virginia were collected and prepared for publication under the direction of J. J. Dirzulaitis, district engineer, assisted by O. D. Mussey, R. W. Sundstrom, A. R. Green, T. F. Hanly, F. F. Schrader, H. C. Eagle, A. D. Ash, and Miss S. F. Norris.

The data for stations in the Green and Tradewater River Basins in Kentucky and the Wabash River Basin in Indiana and Illinois were collected under the direction of Lasley Lee and H. E. Grosbach, district engineers, assisted by J. I. Perrey, C. V. Youngquist, L. Engstrom, E. P. Coady, E. G. Barron, F. L. LeMert, and E. F. Rutkowski. They were prepared for publication under the direction of H. E. Grosbach, district engineer, assisted by F. L. LeMert, P. J. Houser, W. D. Mitchell, and W. P. Cross.

The data for stations in Illinois, except those in the Wabash River Basin, were collected and prepared for publication under the direction of H. E. Grosbach, district engineer, assisted by F. L. LeMert and E. F. Rutkowski.

The data for stations in North Carolina were collected and prepared for publication under the direction of E. D. Burchard, district engineer, assisted by A. E. Johnson, Karl Jetter, L. J. Hall, F. M. Bell, H. W. Palm, H. A. Taylor, R. W. Sundstrom, A. G. Hely, and Mrs. Effie T. Workman.

The data for stations in the Cumberland and Tennessee River Basins in Kentucky, Tennessee, Georgia, and Alabama were collected and prepared for publication under the direction of W. R. King, district engineer, assisted by Warren Withee, D. S. Wallace, P. P. Livingston, P. R. Speer, C. E. Knox, M. R. Williams, W. R. Eaton, Murray McGovern, Duncan Charlton, G. W. Hamilton, Mrs. Mary H. Sitton, and Miss Gladys Boulton.

The records were reviewed by Otto Lauterhahn, Warren Withee, and P. R. Speer and were assembled by P. R. Speer.

GAGING-STATION RECORDS

ALLEGHENY RIVER BASIN

ALLEGHENY RIVER AT RED HOUSE, N. Y.

LOCATION.—Water-stage recorder at highway bridge in Red House, Cattaraugus County.

DRAINAGE AREA.—1,640 square miles.

RECORDS AVAILABLE.—September, 1903, to September, 1929.

EXTREMES.—Maximum discharge during year, 26,500 second-feet Jan. 19 (gage height, 10.9 feet); minimum, 144 second-feet Sept. 7 (gage height, 2.91 feet).

1903–1929: Maximum discharge, 41,000 second-feet Mar. 2, 1910 (gage height, 13.6 feet); minimum, about 100 second-feet several times in December 1908 (gage height, 2.7 feet).

REMARKS.—Records good except those for periods of ice effect, Dec. 21–27, Jan. 4–16, Jan. 31 to Feb. 5, Feb. 11–25, and Mar. 8–11, and those for periods of estimate, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	222	993	12,400	1,240	1,200	6,780	5,320	5,740	2,570	863	432	172
2	202	876	11,600	1,530	1,200	6,330	5,740	5,050	2,180	653	355	166
3	189	979	7,930	1,300	1,200	4,920	5,050	6,330	1,950	599	338	161
4	189	1,630	6,180	1,200	1,200	6,330	4,790	6,780	1,750	548	330	155
5	189	1,530	5,320	[a] 1,100	1,100	8,380	7,810	8,070	1,630	558	323	149
6	189	1,210	4,920		1,190	8,210	21,800	9,440	1,580	579	323	149
7	184	1,030	4,030		1,140	6,630	19,700	8,720	1,500	719	308	149
8	184	967	3,440		1,190	4,400	13,000	7,880	1,340	889	285	178
9	195	1,170	[a] 2,880		1,150	3,600	9,440	6,480	1,240	1,890	270	315
10	184	1,180	[a] 2,470	[a] 2,400	1,060	3,200	7,880	5,460	1,150	3,440	270	527
11	172	1,110	2,270		950	3,000	8,380	4,530	1,070	2,990	262	489
12	161	1,070	2,030		900	3,860	10,200	3,910	1,020	2,180	262	406
13	178	1,780	1,900		850	7,230	9,820	3,910	967	1,950	262	338
14	228	1,900	1,880		800	14,400	8,040	4,130	954	2,550	249	315
15	208	1,540	1,970	1,300	800	19,000	6,630	10,500	863	1,870	242	315
16	235	1,360	2,010	1,400	800	20,000	7,400	11,800	[a] 754	1,380	235	285
17	255	1,430	2,030	2,060	800	20,000	8,550	10,600	[a] 697	1,120	235	436
18	638	1,460	3,820	10,700	800	16,500	7,720	8,210	[a] 642	967		850
19	1,730	2,010	4,280	25,400	800	12,200	6,630	7,880	[a] 610	850		742
20	1,350	7,030	3,320	22,500	750	9,440	7,820	8,040	[a] 558	778	[a] 220	485
21	915	6,120	2,600	14,000	700	7,880	11,400	6,630	538	708		380
22	708	4,400	2,200	9,840	700	8,650	16,000	6,330	589	620		346
23	620	[a] 3,670	1,900	7,060	700	11,400	22,500	5,740	631	568		308
24	653	3,210	1,900	5,050	700	10,600	23,000	5,050	719	527	235	292
25	1,010	2,990	1,900	4,030	900	9,820	16,500	4,660	708	527	215	277
26	2,040	2,670	1,800	3,020	1,530	13,800	11,400	3,910	664	568	202	270
27	1,640	2,370	1,800	2,470	[a] 7,930	14,200	7,400	3,210	631	579	208	262
28	1,310	2,270	1,730	2,060	[a] 8,720	10,600	6,040	3,670	838	517	189	249
29	1,310	2,180	1,640	1,710	-------	8,380	7,080	5,030	902	586	178	249
30	1,280	3,410	1,460	1,510	-------	6,480	6,780	4,030	1,010	697	172	242
31	1,140	-------	1,340	1,400	-------	[a] 5,320	-------	3,100	-------	527	172	-------

Month	Maximum	Minimum	Mean	Per square mile	*Run-off* in inches
October	2,040	161	636	0.388	0.45
November	7,030	876	2,180	1.33	1.48
December	12,400	1,340	3,450	2.10	2.42
January	25,400	1,100	4,630	2.82	3.25
February	8,720	700	1,490	.909	.95
March	20,000	3,000	9,400	5.73	6.61
April	23,000	4,790	10,300	6.28	7.01
May	11,800	3,100	6,280	3.83	4.42
June	2,570	538	1,080	.659	.74
July	3,440	517	1,090	.665	.77
August	432	172	254	.155	.18
September	850	149	322	.196	.22
The year	25,400	149	3,440	2.10	28.50

[a] Estimated; no gage-height record.

MONONGAHELA RIVER BASIN

TYGART RIVER NEAR DAILEY, W. VA.

LOCATION.—Chain gage at Burnt Bridge, 1,000 feet above Stalnaker Run and 1 mile northeast of Dailey, Randolph County.

DRAINAGE AREA.—194 square miles.

RECORDS AVAILABLE.—April, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 6,240 second-feet Dec. 1 (gage height, 11.84 feet); minimum, 7.0 second-feet Sept. 7 (gage height, 0.60 foot).

1915–1929: Maximum discharge, 9,150 second-feet Mar. 13, 1918 (gage height, 15.9 feet); minimum, 1.5 second-feet Sept. 3, 11, and 12, 1925 (gage height, 0.44 foot).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	56	4,720	500	180	1,400	245	430	448	53	15	16
2	91	52	1,150	730	180	1,200	230	350	305	49	13	13
3	68	50	570	395	350	730	188	1,700	230	79	12	11
4	58	70	365	380	350	535	202	1,400	178	53	22	9.7
5	50	190	305	320	350	2,060	380	1,200	136	39	39	8.8
6	46	144	245	305	350	2,740	350	690	113	33	28	7.9
7	43	103	202	335	910	1,700	275	570	92	53	21	9.4
8	38	120	176	570	395	910	245	535	80	51	16	64
9	35	111	148	650	500	535	215	380	412	34	13	164
10	31	155	148	1,820	482	335	245	260	190	32	11	230
11	28	148	151	1,700	335	290	230	245	134	38	10	122
12	27	128	157	775	245	245	215	202	96	51	46	79
13	25	146	155	500	166	215	190	202	76	101	57	51
14	24	142	168	275	138	350	178	190	65	84	35	41
15	24	142	2,000	430	130	465	185	180	67	275	35	37
16	25	148	865	290	128	380	430	190	74	171	33	28
17	24	134	820	260	122	365	1,050	215	58	105	25	25
18	25	120	1,350	465	113	335	865	190	53	67	16	91
19	35	650	820	1,000	103	320	1,050	350	52	55	15	56
20	45	1,520	535	775	136	320	1,520	1,580	41	39	14	41
21	33	775	380	570	136	275	910	3,300	46	30	11	28
22	27	465	320	430	144	275	1,100	1,200	38	24	9.4	24
23	31	365	230	412	122	650	1,000	650	36	20	11	18
24	81	320	215	465	94	570	610	430	35	18	178	18
25	91	305	305	820	144	448	395	448	36	20	180	16
26	60	275	365	690	2,300	380	380	448	43	18	87	14
27	52	245	365	535	2,600	380	395	290	37	77	52	12
28	87	215	412	395	1,640	320	395	1,200	38	55	38	12
29	77	230	335	290	-------	275	650	1,400	148	33	30	11
30	68	2,240	260	230	-------	245	610	1,640	79	25	22	12
31	61	-------	190	185	-------	230	-------	775	-------	18	19	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	134	24	49.7	0.256	0.30
November	2,240	50	325	1.68	1.87
December	4,720	148	594	3.06	3.53
January	1,820	185	564	2.91	3.36
February	2,600	94	458	2.36	2.46
March	2,740	215	628	3.24	3.74
April	1,520	178	498	2.57	2.87
May	3,300	180	737	3.80	4.38
June	448	35	115	.593	.66
July	275	18	58.3	.301	.35
August	180	9.4	35.9	.185	.21
September	230	7.9	42.3	.218	.24
The year	4,720	7.9	342	1.76	23.97

TYGART RIVER AT BELINGTON, W. VA.

LOCATION.—Chain gage on highway bridge at Belington, Barbour County, one-fourth mile above Mill Creek. Zero of gage is 1,679.89 feet above mean sea level.

DRAINAGE AREA.—390 square miles.

RECORDS AVAILABLE.—June, 1907, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,680 second-feet Dec. 1 (gage height, 12.68 feet); minimum, 11 second-feet Sept. 7 (gage height, 2.06 feet).

1907–1929: Maximum discharge, 20,100 second-feet Mar. 13, 1917 (gage height, 21.48 feet); minimum, 3 second-feet Oct. 2, 1914 (gage height, 1.70 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	145	8,310	765	340	3,610	575	1,170	1,820	192	52	29
2	186	116	4,840	765	428	1,900	500	875	990	138	42	24
3	128	114	1,470	1,290	475	1,410	450	3,060	682	102	40	22
4	104	125	990	1,410	550	1,750	405	2,970	500	123	68	18
5	90	214	738	655	450	3,240	1,230	2,540	382	100	102	15
6	82	320	600	600	500	6,640	1,290	1,820	304	72	94	14
7	72	266	475	792	600	5,500	875	1,750	245	198	76	12
8	72	238	428	792	1,230	2,700	655	1,610	228	162	56	18
9	71	259	360	710	1,110	1,470	550	1,230	224	128	42	42
10	63	320	217	1,050	1,170	930	600	875	475	86	34	382
11	53	340	280	3,710	1,050	710	1,230	655	273	76	29	292
12	51	340	296	2,060	682	600	930	525	198	320	25	171
13	51	360	300	1,230	450	525	682	475	162	2,220	22	104
14	47	405	360	628	475	575	525	450	132	550	86	84
15	45	360	5,500	550	405	765	450	405	120	1,470	66	71
16	42	320	3,150	600	382	820	655	382	104	792	40	66
17	40	300	1,980	628	300	990	3,060	382	118	382	32	109
18	45	276	1,540	990	280	875	2,790	382	102	231	41	224
19	58	1,820	1,900	2,380	259	765	2,540	1,290	94	159	30	140
20	79	3,810	1,230	2,620	288	710	2,790	3,420	94	123	24	114
21	76	2,220	875	1,470	312	655	2,060	5,830	74	90	19	77
22	65	1,290	575	1,050	360	550	3,610	3,810	62	60	17	59
23	69	1,050	500	930	312	628	2,700	1,820	192	56	24	47
24	120	820	405	990	288	990	1,540	1,170	165	55	59	41
25	168	710	360	1,050	405	990	1,110	875	109	44	320	33
26	174	655	360	1,750	4,510	875	1,110	1,110	192	47	217	29
27	142	475	320	1,290	6,400	820	1,110	930	162	228	118	25
28	138	500	320	990	3,330	710	930	1,470	224	195	77	24
29	189	450	320	710	------	600	1,410	4,620	575	145	58	20
30	201	1,820	600	525	------	550	1,540	6,990	340	102	45	29
31	174	------	600	360	------	600	------	2,620	------	71	38	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	201	40	97.2	0.248	0.29
November	3,810	114	681	1.75	1.95
December	8,310	217	1,300	3.33	3.84
January	3,710	360	1,140	2.92	3.37
February	6,400	259	976	2.50	2.60
March	6,640	525	1,430	3.67	4.23
April	3,610	405	1,330	3.41	3.80
May	6,990	382	1,860	4.77	5.50
June	1,820	62	311	.797	.89
July	2,220	44	281	.721	.83
August	320	17	64.3	.165	.19
September	382	12	77.8	.199	.22
The year	8,310	12	796	2.04	27.71

TYGART RIVER AT FETTERMAN, W. VA.

LOCATION.—Chain gage on highway bridge at Fetterman, Taylor County, three-fourths mile above Otter Creek. Zero of gage is 957.86 feet above mean sea level.

DRAINAGE AREA.—1,340 square miles.

RECORDS AVAILABLE.—June, 1907, to September, 1929.

EXTREMES.—Maximum discharge during year, 23,400 second-feet Dec. 1 (gage height, 15.54 feet); minimum, 50 second-feet Sept. 7 (gage height, 3.09 feet).

1907–1929: Maximum discharge, about 57,600 second-feet July 25, 1912 (gage height, 29.1 feet); minimum, 12 second-feet Oct. 27, 28, and Nov. 4–10, 1908 (gage height, 2.30 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	208	490	18,900	1,610	1,260	8,520	1,540	3,030	4,830	1,200	213	94
2	287	426	16,200	2,850	1,060	6,270	1,400	2,580	4,200	808	218	85
3	363	378	6,270	3,570	832	5,010	1,260	3,750	2,400	570	179	77
4	287	363	3,210	2,850	760	4,830	1,130	8,520	1,760	470	197	73
5	263	402	2,320	2,240	738	7,570	2,580	6,630	1,400	402	188	62
6	197	550	1,990	1,990	749	17,700	4,110	5,730	1,000	305	257	56
7	229	683	1,680	1,990	1,400	19,800	3,390	7,950	832	418	299	50
8	197	600	1,400	1,830	3,030	12,900	2,400	6,630	760	650	218	85
9	197	610	1,260	1,470	3,390	6,630	2,070	4,830	727	738	171	124
10	213	716	964	1,680	3,390	3,750	2,240	3,390	630	570	134	114
11	188	964	772	5,910	3,030	2,490	3,570	2,400	683	490	124	124
12	143	1,060	796	7,000	2,240	2,070	3,210	1,830	560	344	104	530
13	147	1,200	820	4,290	1,830	1,830	2,580	1,680	434	1,130	94	500
14	140	1,200	892	2,670	1,760	1,760	1,990	1,680	370	1,760	85	338
15	134	1,130	11,300	1,830	1,830	1,910	1,760	1,470	378	3,390	81	287
16	107	1,000	12,000	1,990	1,330	2,240	2,150	1,330	289	3,390	134	229
17	117	916	6,450	1,760	1,130	2,580	10,300	1,200	274	1,830	120	394
18	117	832	5,190	2,490	964	3,030	9,500	1,060	257	1,130	104	1,000
19	112	1,330	5,550	5,370	844	2,580	6,450	1,830	263	705	99	856
20	140	11,300	4,290	8,520	892	2,240	5,910	8,330	251	500	89	570
21	171	8,900	2,850	5,370	796	1,990	2,320	10,900	208	363	77	410
22	213	4,650	2,150	3,570	820	1,680	13,300	11,100	175	287	71	275
23	234	3,570	1,610	3,390	832	1,680	10,100	6,090	147	240	91	208
24	251	2,850	1,470	3,030	808	1,910	5,730	3,570	240	188	203	171
25	338	2,320	1,260	3,210	856	2,240	3,750	2,670	928	163	188	147
26	600	1,990	1,000	4,110	9,900	2,070	4,110	2,580	1,030	154	275	124
27	490	1,610	1,000	3,930	21,000	2,150	4,470	2,580	1,030	175	410	109
28	410	1,470	1,000	3,210	11,800	1,990	3,390	3,210	856	402	287	99
29	410	1,330	1,060	2,320	-------	1,830	3,390	7,000	1,330	580	197	91
30	500	1,610	1,470	1,680	-------	1,610	3,750	16,600	1,910	378	140	94
31	580	-------	1,680	1,470	-------	1,610	-------	8,710	-------	257	109	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	600	107	258	0.193	0.22
November	11,300	363	1,880	1.40	1.56
December	18,900	772	3,830	2.86	3.30
January	8,520	1,470	3,200	2.39	2.76
February	21,000	738	2,830	2.11	2.20
March	19,800	1,610	4,400	3.28	3.78
April	13,300	1,130	4,130	3.08	3.44
May	16,600	1,060	4,870	3.63	4.18
June	4,830	147	1,010	.754	.84
July	3,390	154	774	.578	.67
August	410	71	166	.124	.14
September	1,000	50	246	.184	.21
The year	21,000	50	2,300	1.72	23.30

MIDDLE FORK AT MIDVALE, W. VA.

LOCATION.—Staff gage one-third mile above Midvale station on Coal & Coke Railway, Randolph County, and 1¾ miles below Laurel Creek.
DRAINAGE AREA.—122 square miles.
RECORDS AVAILABLE.—May, 1915, to September, 1929.
EXTREMES.—Maximum discharge during year, 4,240 second-feet Nov. 30 (gage height, 9.98 feet); minimum, 1.0 second-foot Sept. 6 (gage height, 1.00 foot).
1915–1929: Maximum gage height, 16.1 feet Jan. 28, 1918 (discharge not determined); minimum discharge, that of Sept. 6, 1929.
Floods of 1888 and 1912 reached gage height of about 18 feet.
REMARKS.—Records good. Discharge interpolated Nov. 24, Mar. 31, and Sept. 7.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	61	2,350	210	155	695	167	332	480	52	15	4.0
2	41	58	865	420	122	775	151	244	319	51	15	2.2
3	35	59	510	332	129	405	136	865	233	49	20	2.2
4	32	69	332	306	140	545	143	820	178	33	84	1.9
5	30	106	293	244	134	1,360	332	775	140	28	49	1.7
6	33	97	256	280	129	1,780	280	615	115	27	32	1.0
7	38	89	210	199	306	1,840	256	735	95	72	25	1.0
8	29	95	199	149	268	820	210	580	89	53	16	1.5
9	27	147	149	293	332	510	199	420	145	32	12	4.0
10	25	133	140	655	346	280	268	306	82	29	8.0	52
11	24	151	159	910	256	268	306	244	69	32	3.8	45
12	20	136	143	580	210	233	293	199	53	65	18	26
13	15	155	125	420	222	222	244	188	49	93	16	15
14	20	145	210	178	188	233	199	163	55	151	7.0	13
15	20	143	1,420	306	145	233	188	140	38	405	4.0	21
16	22	134	820	268	136	233	293	125	38	155	3.0	19
17	22	127	480	244	131	346	480	115	28	125	2.2	79
18	24	122	695	375	95	306	615	103	32	75	2.4	55
19	49	1,050	510	1,100	105	306	955	480	32	53	1.9	37
20	39	1,100	390	820	122	268	865	1,200	27	45	1.5	26
21	29	615	293	510	105	233	775	1,480	18	40	1.3	19
22	27	450	222	405	138	210	1,250	865	15	28	1.4	16
23	38	346	222	346	125	256	820	580	28	24	11	12
24	85	310	188	306	147	268	510	375	68	18	35	10
25	63	268	163	375	136	256	405	390	54	15	22	9.0
26	65	233	136	450	1,960	256	420	580	66	18	18	8.0
27	48	199	143	360	1,300	256	360	480	54	125	9.0	7.0
28	52	167	125	319	1,000	233	332	1,720	44	66	6.0	6.0
29	89	199	140	233	-------	199	420	1,360	136	36	5.0	6.5
30	71	2,350	147	188	-------	199	375	1,050	68	35	6.0	15
31	68	-------	143	167	-------	183	-------	655	-------	27	5.0	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	89	15	39.9	0.327	0.38
November	2,350	58	310	2.54	2.83
December	2,350	125	393	3.22	3.71
January	1,100	149	385	3.16	3.64
February	1,960	95	306	2.51	2.61
March	1,840	183	458	3.75	4.32
April	1,250	136	408	3.34	3.73
May	1,720	103	587	4.81	5.54
June	480	15	94.9	.778	.87
July	405	15	66.4	.544	.63
August	84	1.3	14.7	.120	.14
September	79	1.0	17.2	.141	.16
The year	2,350	1.0	257	2.11	28.56

BUCKHANNON RIVER AT HALL, W. VA.

LOCATION.—Staff gage one-fourth mile above post office at Hall, Barbour County, and 1 mile above Pecks Run.

DRAINAGE AREA.—277 square miles.

RECORDS AVAILABLE.—June, 1907, to May, 1909; April, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 6,220 second-feet Dec. 1 (gage height, 8.55 feet); minimum, 12 second-feet Sept. 6, 7, and 8 (gage height, 1.77 feet).

1915–1929: Maximum discharge, about 12,000 second-feet Mar. 14, 1918 (gage height, 14.7 feet); minimum, 4 second-feet Oct. 23,1924 (gage height, 1.52 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	141	5,900	276	226	1,510	299	670	1,750	398	65	26
2	122	135	3,220	820	239	1,290	276	570	1,080	282	69	22
3	86	125	1,180	720	230	1,240	239	1,290	570	305	63	17
4	81	132	770	620	194	1,340	239	1,620	366	208	128	14
5	74	155	570	441	176	2,620	770	1,510	282	158	155	14
6	86	190	522	441	179	4,670	770	1,510	212	122	106	12
7	95	165	373	475	770	4,170	570	1,730	176	248	71	12
8	95	158	319	230	870	2,290	406	1,510	162	432	58	12
9	81	201	299	221	670	1,240	334	1,030	148	217	49	18
10	69	252	248	770	720	770	406	720	201	162	41	26
11	58	287	204	1,840	570	570	570	522	152	132	36	197
12	49	342	217	1,400	423	432	522	350	116	125	28	155
13	42	293	194	870	350	350	432	305	108	212	28	103
14	44	270	243	381	334	366	342	293	89	475	56	78
15	36	234	3,780	406	334	441	293	248	74	1,730	51	65
16	39	221	2,400	406	299	415	522	204	67	1,180	38	71
17	41	212	1,180	406	258	770	2,620	186	65	620	30	141
18	41	190	1,240	620	217	720	1,840	176	60	342	24	458
19	53	1,510	1,290	1,510	176	620	1,340	398	53	221	21	230
20	81	3,690	922	1,840	172	522	1,400	2,180	46	162	20	155
21	98	1,730	670	1,130	176	415	1,180	2,510	48	122	16	109
22	67	1,130	415	870	183	334	2,180	1,960	42	103	14	78
23	67	870	305	720	176	406	1,730	1,240	116	81	32	63
24	169	670	293	670	165	570	1,180	770	570	63	41	53
25	217	570	282	670	201	522	870	620	475	58	132	46
26	155	441	230	975	3,690	475	870	770	820	67	95	38
27	135	350	212	820	4,770	522	870	670	441	148	69	36
28	138	299	201	670	2,180	432	670	922	570	239	49	28
29	158	299	201	522	-------	350	922	1,400	1,180	135	38	26
30	176	1,240	282	319	-------	334	870	1,180	770	92	33	39
31	158	-------	239	230	-------	373	-------	1,080	-------	76	30	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	217	36	93.8	0.339	0.39
November	3,690	125	550	1.99	2.22
December	5,900	194	916	3.31	3.82
January	1,840	221	719	2.60	3.00
February	4,770	165	677	2.44	2.54
March	4,670	334	1,000	3.61	4.16
April	2,620	239	851	3.07	3.42
May	2,510	176	972	3.51	4.05
June	1,730	42	358	1.29	1.44
July	1,730	58	288	1.04	1.20
August	155	14	54.4	.196	.23
September	458	12	78.1	.282	.31
The year	5,900	12	547	1.97	26.78

WEST FORK RIVER AT BUTCHERVILLE, W. VA.

LOCATION.—Chain gage on trolley bridge between Weston and Clarksburg, one-fourth mile above Butcherville, Lewis County.

DRAINAGE AREA.—181 square miles.

RECORDS AVAILABLE.—April, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 5,070 second-feet Feb. 26 (gage height, 18.00 feet); minimum, 0.9 second-foot Aug. 21 and 22 (gage height, 3.47 feet).

1915–1929: Maximum discharge, 7,590 second-feet Mar. 13, 1918, and Jan. 2, 1919 (gage height, 24.0 feet); no flow in October, 1919, September, October, and December, 1922, caused by either diversion or impounding at small dams upstream.

Maximum stage known, about 27 feet in 1888. Dam, since washed out, may have increased height of this flood.

REMARKS.—Records good. Discharge estimated Oct. 23, Nov. 12, Jan. 6, Mar. 7, Apr. 17, and July 1 because of missing gage-height records.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	41	2,300	207	80	455	168	197	133	9.5	11	3.8
2	30	33	590	485	57	700	110	168	103	9.5	2.7	3.0
3	21	30	278	300	46	820	84	1,270	82	8.0	193	2.2
4	17	34	188	188	42	660	90	740	68	15	300	2.2
5	13	45	133	125	38	2,470	820	590	49	5.6	118	1.3
6	15	58	110	129	38	2,420	346	982	28	3.5	38	1.2
7	28	47	90	133	1,720	1,580	227	1,720	22	4.2	20	1.6
8	22	43	76	125	740	740	159	740	29	5.6	13	66
9	17	60	66	103	455	370	133	370	33	6.8	8.9	197
10	19	72	56	860	395	217	141	197	26	4.5	5.3	323
11	15	150	44	900	268	150	178	125	20	3.0	5.6	159
12	13	130	39	395	188	133	159	118	15	2.0	4.2	61
13	8.6	110	35	268	125	133	118	125	12	4.0	3.2	34
14	9.8	84	159	178	110	159	90	103	8.6	42	2.5	36
15	7.7	54	3,350	150	96	178	90	74	6.2	90	2.0	96
16	5.6	61	820	110	84	178	207	59	6.8	32	1.6	68
17	7.7	52	395	118	77	188	595	49	5.9	17	1.6	125
18	20	45	1,060	395	65	110	982	38	4.5	11	1.3	455
19	32	740	520	982	58	90	520	780	4.2	6.2	1.9	178
20	31	1,720	278	660	61	168	227	1,230	3.8	4.0	1.2	90
21	24	590	178	370	73	125	207	1,640	4.5	2.8	.9	37
22	19	395	125	247	77	118	1,760	1,230	3.5	1.9	.9	27
23	19	300	79	300	52	217	590	455	4.5	4.5	15	18
24	103	278	74	300	53	425	323	217	3.5	2.5	96	11
25	90	207	60	395	150	278	227	247	5.0	1.0	59	10
26	54	141	52	555	4,610	247	370	395	11	5.0	42	8.9
27	45	125	51	370	2,680	257	300	257	44	24	17	8.0
28	37	96	96	178	820	178	227	110	32	18	12	6.5
29	43	79	110	141	-------	125	590	150	38	11	7.7	5.6
30	51	1,680	150	96	-------	133	257	300	64	13	4.5	7.4
31	45	-------	141	79	-------	168	-------	168	-------	12	4.5	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	103	5.6	29.0	0.160	0.18
November	1,720	30	250	1.38	1.54
December	3,350	35	378	2.09	2.41
January	982	79	317	1.75	2.02
February	4,610	38	474	2.62	2.73
March	2,470	90	458	2.53	2.92
April	1,760	84	343	1.90	2.12
May	1,720	38	479	2.65	3.06
June	133	3.5	29.0	.160	.18
July	90	1.0	12.2	.0674	.08
August	300	.9	36.1	.199	.23
September	455	1.2	68.1	.376	.42
The year	4,610	.9	238	1.31	17.90

WEST FORK RIVER AT CLARKSBURG, W. VA.

LOCATION.—Water-stage recorder at dam of Clarksburg waterworks, three-fourths mile south of Clarksburg, Harrison County.

DRAINAGE AREA.—384 square miles.

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

EXTREMES.—Maximum discharge during year, 11,300 second-feet Feb. 26 (gage height, 6.10 feet); minimum mean daily discharge, 5.7 second-feet Aug. 19, Sept. 5 and 6, includes pumpage for city water supply.

1923–1929: Maximum discharge, 16,300 second-feet May 12, 1924 (gage height, 7.76 feet); minimum, 4.4 second-feet Aug. 31 and Sept. 1, 1925, all pumpage, no flow over dam.

REMARKS.—Records good. Water diverted for water supply of Clarksburg included in records. Discharge estimated Aug. 21–24.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	78	5,660	325	190	1,130	272	459	261	83	14	12
2	23	68	2,020	1,060	162	859	219	482	207	55	14	9.8
3	39	55	659	660	130	1,400	184	1,660	173	30	78	6.7
4	43	47	386	422	104	1,190	190	1,490	131	17	120	6.9
5	26	47	280	312	100	2,990	851	968	104	14	220	5.7
6	24	61	241	429	162	6,160	859	1,350	83	10	130	5.7
7	22	78	200	408	2,310	6,290	482	4,100	68	8.7	59	7.7
8	23	77	162	231	1,720	2,540	338	1,780	73	7.9	38	14
9	35	78	145	220	1,040	980	281	859	83	7.8	26	88
10	39	87	129	706	946	555	333	505	78	20	18	372
11	26	103	98	1,670	651	380	409	345	63	30	17	338
12	26	230	83	1,010	429	326	373	280	46	17	12	190
13	26	230	78	571	305	305	293	273	30	8.8	10	114
14	20	184	471	292	261	338	237	267	26	12	8.9	78
15	21	141	4,970	306	219	430	242	261	20	23	7.9	58
16	21	118	2,760	237	201	408	694	190	17	109	6.8	93
17	21	99	902	249	190	475	3,890	157	12	68	6.1	207
18	24	93	1,680	578	168	571	2,390	135	10	34	5.9	642
19	20	208	1,340	1,720	157	444	914	695	11	17	5.7	379
20	21	2,260	678	1,670	157	338	514	2,640	9.3	10	6.3	179
21	39	1,420	429	849	162	293	519	2,060	11	8.1	6.4	109
22	35	633	286	547	162	250	3,770	1,720	9.3	7.5	5.8	77
23	47	530	213	697	151	262	1,730	807	18	6.3	6.3	54
24	51	452	173	707	141	475	808	475	17	6.3	46	42
25	135	358	146	791	213	476	522	338	20	6.3	109	34
26	130	273	130	1,400	6,240	358	969	415	21	6.4	93	26
27	83	213	124	838	8,140	444	1,110	408	20	109	54	23
28	78	184	130	538	2,160	379	688	280	104	109	46	20
29	73	162	184	379	-------	305	765	408	162	58	34	20
30	83	1,690	261	274	-------	261	660	482	68	34	23	26
31	87	-------	280	219	-------	298	-------	386	-------	20	17	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	135	20	43.9	0.114	0.13
November	2,260	47	342	.891	.99
December	5,660	78	816	2.12	2.44
January	1,720	219	655	1.71	1.97
February	8,140	100	963	2.51	2.61
March	6,290	250	1,030	2.68	3.09
April	3,890	184	850	2.21	2.47
May	4,100	135	860	2.24	2.58
June	261	9.3	65.2	.170	.19
July	109	6.3	30.7	.0799	.09
August	220	5.7	40.1	.104	.12
September	642	5.7	108	.281	.31
The year	8,140	5.7	481	1.25	16.99

CHEAT RIVER NEAR PARSONS, W. VA.

LOCATION.—Chain gage at highway bridge 1¾ miles north of Parsons, Tucker County, and 2¾ miles below confluence of Dry and Shavers Forks. Zero of gage is 1,591.245 feet above mean sea level.

DRAINAGE AREA.—719 square miles.

RECORDS AVAILABLE.—January, 1913, to September, 1929.

EXTREMES.—Maximum discharge during year, 17,200 second-feet Dec. 1 (gage height, 10.47 feet); minimum, 30 second-feet Sept. 4 and 7 (gage height, 1.54 feet).

1913–1929: Maximum discharge, 50,000 second-feet Mar. 12, 1917 (gage height, 18.03 feet); minimum, 29 second-feet Sept. 6, 1917 (gage height, 1.52 feet).

Maximum gage height known, 20.0 feet July 10, 1888 (discharge, 80,000 second-feet).

REMARKS.—Records excellent except those for periods of ice effect, Dec. 9, 22–28, Jan. 5, 7, 13–16, 30, 31, Feb. 1–17 and 23–25, which are fair. Records collected by West Virginia Power & Transmission Co. under general supervision of Geological Survey in connection with a Federal Power Commission project.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	450	357	13,500	905	638	5,150	1,260	1,780	2,900	450	107	52
2	390	346	4,900	1,850	558	3,060	1,150	1,510	1,780	374	90	48
3	304	320	2,820	1,260	520	1,850	950	7,080	1,380	315	88	41
4	260	558	1,850	950	520	2,360	950	4,700	1,100	294	289	34
5	220	950	1,640	860	520	6,470	4,040	3,750	860	229	284	38
6	237	680	1,380	1,000	520	8,080	3,780	2,980	725	242	229	37
7	237	520	1,100	860	770	6,300	2,140	3,140	595	330	157	32
8	224	520	860	558	950	3,470	1,580	2,580	770	284	124	191
9	212	905	680	680	1,150	2,510	1,260	1,850	1,510	265	90	390
10	212	770	558	2,410	1,000	1,440	2,360	1,380	1,050	315	72	595
11	195	680	520	3,570	860	1,440	2,660	1,150	638	220	85	390
12	180	595	558	2,140	725	1,380	1,780	1,000	485	1,100	75	224
13	165	950	595	1,380	595	1,710	1,380	950	420	1,020	98	147
14	165	905	964	770	485	3,570	1,150	1,050	368	884	124	127
15	161	1,260	5,460	770	450	4,300	1,100	1,000	346	1,050	95	195
16	157	1,510	3,390	860	450	2,900	3,600	950	315	725	78	127
17	157	1,150	2,280	1,100	450	2,580	3,840	860	330	420	68	680
18	172	905	3,060	2,980	450	1,920	2,980	770	485	315	63	357
19	362	2,880	2,360	7,040	520	1,780	2,900	2,510	384	233	56	357
20	310	4,570	1,710	4,500	905	1,640	5,000	3,930	284	191	49	220
21	246	2,440	1,200	2,510	1,440	1,380	5,620	7,510	233	147	41	147
22	195	1,920	950	1,850	905	1,260	9,400	4,540	208	124	37	112
23	220	1,580	860	2,660	638	2,060	5,140	2,580	1,580	112	131	95
24	390	1,260	725	2,360	595	2,510	2,900	1,780	770	104	212	82
25	485	1,200	680	2,950	558	1,850	1,990	1,510	638	92	299	75
26	420	1,000	595	3,750	8,950	1,710	2,660	1,710	770	115	224	68
27	390	905	595	2,140	9,190	1,710	2,510	1,510	485	203	147	66
28	558	905	595	1,710	7,210	1,510	1,850	2,360	950	340	101	61
29	770	950	860	1,100	-------	1,150	3,140	5,850	1,260	242	80	61
30	558	9,410	1,050	860	-------	1,260	2,360	7,540	680	191	63	72
31	450	-------	725	680	-------	1,510	-------	3,930	-------	140	56	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	770	157	305	0.424	0.46
November	9,410	320	1,430	1.99	2.22
December	13,500	520	1,900	2.64	3.04
January	7,040	558	1,900	2.64	3.04
February	9,190	450	1,520	2.11	2.20
March	8,080	1,150	2,640	3.67	4.23
April	9,400	950	2,780	3.87	4.32
May	7,540	770	2,770	3.85	4.44
June	2,900	208	810	1.13	1.26
July	1,100	92	357	.497	.57
August	299	37	120	.167	.19
September	680	32	171	.238	.27
The year	13,500	32	1,390	1.93	26.27

BLACKWATER RIVER ABOVE BEAVER CREEK, NEAR DAVIS, W. VA.

LOCATION.—Staff gage 1 mile east of Davis, Tucker County, and three-fourths mile above Beaver Creek.

DRAINAGE AREA.—60.1 square miles.

RECORDS AVAILABLE.—May to September, 1929.

EXTREMES.—Maximum discharge during year, 657 second-feet May 30 (gage height, 3.60 feet); minimum, 4.7 second-feet Sept. 5–7 (gage height, 0.98 foot).

REMARKS.—Records excellent. Records collected by West Virginia Power & Transmission Co. under general supervision of Geological Survey in connection with a Federal Power Commission project.

Daily and monthly discharge, in second-feet, 1929

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	------	227	34	9.9	6.0	16	94	32	26	6.5	11
2	------	152	30	9.3	5.6	17	76	31	19	6.5	26
3	------	109	27	10.5	5.1	18	67	65	18	6.0	29
4	------	90	24	30	4.9	19	180	75	16	6.0	19
5	------	78	22	18	4.7	20	301	41	14	6.0	12
6	------	70	36	12	4.7	21	435	32	13	5.6	9.6
7	------	60	50	10.5	4.7	22	339	29	13	5.1	8.0
8	------	94	32	9.9	25	23	200	31	13	9.3	7.4
9	------	98	25	9.3	51	24	141	42	12	22	7.4
10	------	63	38	8.6	37	25	122	56	12	15	7.4
11	------	50	26	9.3	27	26	107	48	13	9.3	6.9
12	98	44	30	9.3	18	27	88	32	14	7.4	6.7
13	101	40	51	8.3	11	28	80	51	13	6.9	6.5
14	101	35	45	7.7	10.5	29	272	98	13	6.5	6.7
15	98	35	44	6.7	12	30	643	60	13	6.0	6.9
						31	399	------	11	6.0	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
May 12–31	643	67	197	3.28	2.44
June	227	29	65.6	1.09	1.22
July	51	11	24.1	.401	.46
August	30	5.1	9.66	.161	.19
September	51	4.7	13.3	.221	.25

BLACKWATER RIVER AT DAVIS, W. VA.

LOCATION.—Staff gage three-eighths mile southwest of Davis, Tucker County, and half a mile below Beaver Creek.

DRAINAGE AREA.—87.0 square miles.

RECORDS AVAILABLE.—April, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 1,530 second-feet Dec. 1 (gage height, 6.20 feet); minimum, 4.3 second-feet Sept. 5 (gage height, 1.02 feet). 1921–1929: Maximum discharge, 7,170 second-feet Mar. 29, 1924 (gage height, 13.20 feet); minimum, that of Sept. 5, 1929.

REMARKS.—Records excellent except those for periods of ice effect, Dec. 6–10, 12, 20–27; Jan. 7–10, 12–16, 22–31, Feb. 1–19 and 21–26, which are fair. Flow slightly regulated by storage in two small reservoirs. Records collected by West Virginia Power & Transmission Co. under general supervision of Geological Survey in connection with a Federal Power Commission project.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	47	1,410	210	107	822	232	199	332	54	11	6.4
2	37	44	627	305	97	840	210	167	178	39	9.9	6.1
3	31	42	405	255	95	840	210	232	156	39	8.6	5.1
4	28	66	279	210	95	878	210	519	130	33	54	5.4
5	28	115	210	124	102	916	400	1,050	118	58	30	4.3
6	34	71	138	115	107	954	318	1,070	102	54	17	4.8
7	31	55	118	107	116	935	232	749	88	71	13	4.8
8	27	84	102	100	120	916	210	322	116	42	12	111
9	24	146	87	100	124	878	232	221	105	36	11	146
10	25	111	74	130	122	840	515	178	97	45	11	72
11	25	98	68	146	116	766	574	146	71	37	11	42
12	22	90	76	130	113	500	267	138	60	115	12	25
13	22	167	84	116	109	346	199	167	54	93	11	16
14	23	167	120	113	107	467	167	167	48	156	10	15
15	24	279	557	115	104	620	255	199	43	126	8.6	23
16	23	255	360	128	102	483	562	167	38	82	6.4	19
17	23	221	279	167	100	420	1,050	120	104	58	7.7	85
18	25	138	424	210	102	390	916	104	97	40	6.4	66
19	45	346	210	579	126	318	840	398	92	36	6.8	34
20	37	483	178	279	232	279	803	516	57	31	6.4	19
21	26	292	146	255	244	318	916	692	50	28	6.4	14
22	22	221	126	232	199	375	1,260	516	39	24	6.4	12
23	28	199	107	232	156	405	960	292	74	14	9.5	10.8
24	47	167	92	221	120	318	515	210	72	19	34	9.9
25	51	156	85	232	116	279	308	178	71	15	24	9.9
26	50	156	80	244	405	255	497	156	76	17	14	9.0
27	50	156	77	210	897	232	568	130	58	18	9.5	9.0
28	100	146	77	188	878	188	332	146	164	17	7.7	9.0
29	130	178	116	167	-------	116	279	571	221	15	7.3	9.0
30	68	960	210	142	-------	188	244	1,260	79	17	6.4	9.0
31	55	-------	156	122	-------	178	-------	585	-------	13	6.4	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	130	22	39.0	0.448	0.52
November	960	42	189	2.17	2.42
December	1,410	68	228	2.62	3.02
January	579	100	190	2.18	2.51
February	897	95	190	2.18	2.27
March	954	116	525	6.03	6.95
April	1,260	167	476	5.47	6.10
May	1,260	104	373	4.29	4.95
June	332	38	99.7	1.15	1.28
July	156	13	46.5	.534	.62
August	54	6.4	12.8	.147	.17
September	146	4.3	27.0	.310	.35
The year	1,410	4.3	200	2.30	31.16

BIG SANDY CREEK AT ROCKVILLE, W. VA.

LOCATION.—Water-stage recorder at highway bridge at Rockville, Preston County.

DRAINAGE AREA.—200 square miles.

RECORDS AVAILABLE.—May, 1909, to March, 1918; April, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, about 4,590 second-feet Feb. 26 (gage height, 9.93 feet); minimum, 8 second-feet Aug. 3 (gage height, 3.40 feet).

1909–1918, 1921–1929: Maximum discharge, 21,300 second-feet July 24, 1912 (gage height, 18.0 feet); minimum, 0.4 second-foot Oct. 12, 1914 (gage height, 2.35 feet).

Maximum stages known were between 20 and 20.5 feet July 10, 1888, and July 17, 1907 (discharge, between 28,000 and 30,000 second-feet).

REMARKS.—Records excellent except those for periods of ice effect, Dec. 7–10, 22, 23, Jan. 3–5, 7–9, 12–14, 16–19, 29–31, Feb. 1–4, 11–13 and 20–26, which are fair. Flow regulated by Bruceton Mills at low stages. Records collected by West Virginia Power & Transmission Co. under general supervision of Geological Survey in connection with a Federal Power Commission project

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	35	1,720	217	196	2,070	249	520	249	102	10	19
2	22	34	814	401	171	1,530	236	458	196	86	9	17
3	25	28	544	187	171	1,140	196	537	160	66	59	17
4	27	40	398	160	171	747	171	1,520	135	53	165	13
5	23	47	343	179	196	778	453	904	119	50	104	11
6	21	41	286	283	160	1,130	1,330	705	99	66	74	11
7	22	40	191	155	184	1,580	828	869	94	92	37	10
8	20	44	135	116	171	1,970	588	1,490	302	75	22	99
9	15	59	102	160	160	1,090	458	923	244	62	18	244
10	15	64	133	291	184	774	539	659	149	77	12	159
11	14	71	171	309	196	532	1,390	496	113	86	12	139
12	13	95	149	222	171	480	1,050	398	99	69	102	116
13	12	198	131	160	171	588	749	326	84	54	85	111
14	12	196	338	115	160	747	542	326	82	43	50	79
15	12	149	1,300	111	171	945	438	326	77	41	38	54
16	12	129	747	115	160	910	575	278	52	37	37	47
17	13	116	588	149	149	808	1,610	236	58	30	35	82
18	15	94	841	422	139	778	2,360	205	54	20	25	40
19	19	241	637	1,430	149	612	1,650	948	49	15	24	33
20	17	637	499	930	133	499	1,080	1,040	36	13	21	28
21	16	478	366	601	118	438	841	1,070	3	12	21	27
22	16	438	174	629	115	361	879	1,010	40	11	19	26
23	26	361	229	2,170	111	326	1,820	706	29	9	156	24
24	47	309	222	1,220	116	361	1,120	542	118	9	256	27
25	43	278	196	1,310	137	326	747	418	77	10	186	26
26	40	236	171	1,300	1,730	294	612	326	94	14	101	24
27	37	196	171	757	3,610	278	1,230	264	63	13	56	20
28	37	184	184	566	2,910	278	879	236	203	12	52	17
29	48	184	171	362	------	249	664	518	28	59	52	15
30	50	1,200	149	264	------	222	690	448	122	38	45	15
31	47	------	127	222	------	236	------	218	------	16	32	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	50	12	24.5	0.122	0.14
November	1,200	28	207	1.04	1.16
December	1,720	102	394	1.97	2.27
January	2,170	111	500	2.50	2.88
February	3,610	111	436	2.18	2.27
March	2,070	222	744	3.72	4.29
April	2,360	171	866	4.33	4.83
May	1,520	205	610	3.05	3.52
June	302	29	117	.585	.65
July	102	9	43.2	.216	.25
August	256	9	61.8	.309	.36
September	244	10	51.7	.258	.29
The year	3,601	9	338	1.69	22.91

BEAVER RIVER BASIN

MAHONING RIVER NEAR DEERFIELD, OHIO

LOCATION.—Chain gage in T. 1 N., R. 6 W., at highway bridge 1 mile above Willow Creek and 2½ miles southwest of Deerfield.

DRAINAGE AREA.—175 square miles.

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

EXTREMES.—Maximum discharge during year, 5,180 second-feet Feb. 26 (gage height, 12.5 feet); minimum, 7.4 second-feet Aug. 20, 25, 26 and Sept. 4, 5, 10 (gage height, 1.60 feet).

1923–1929: Maximum discharge, about 10,300 second-feet June 29, 1924 (gage height, 17.4 feet); minimum, 5 second-feet Nov. 15, 1923, and Sept. 5, 1925.

Flood of March, 1913, reached stage equivalent to gage height 19.0 feet.

REMARKS.—Records good except those for extremely high water and for periods of ice effect, Jan. 13–16, which are fair. Discharge interpolated Mar. 17.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	26	325	34	39	400	1,280	129	62	35	25	9.7
2	12	28	215	54	35	255	950	225	46	24	18	9.0
3	13	61	166	39	35	195	275	3,070	41	19	16	7.7
4	13	54	88	32	32	235	300	1,230	65	17	16	7.4
5	12	39	51	32	30	455	910	750	29	148	16	7.4
6	12	24	37	645	27	645	645	545	26	400	14	10
7	13	22	34	275	97	610	325	375	24	186	14	14
8	14	19	29	129	91	300	166	275	26	545	14	9.5
9	17	19	30	59	88	225	186	176	34	680	13	9.0
10	18	21	24	41	77	120	575	120	28	545	13	7.4
11	27	26	26	56	61	88	645	100	23	575	13	9.5
12	26	21	23	43	54	61	910	112	22	300	13	11
13	22	20	22		41	176	485	195	21	120	14	26
14	24	20	26		30	300	400	300	21	91	16	39
15	23	21	37	20	30	610	425	1,230	20	62	14	34
16	23	23	29		35	575	375	910	22	43	13	25
17	21	24	32	71	103	475	350	375	22	29	11	18
18	22	26	645	990	97	375	275	205	20	27	10	39
19	24	41	375	2,090	82	255	138	545	20	44	10	30
20	26	225	225	910	82	255	195	910	28	38	7.4	18
21	30	97	138	235	65	255	325	870	24	27	7.7	14
22	27	106	85	148	51	186	1,380	1,110	19	22	8.4	14
23	32	129	47	120	35	350	610	375	16	21	11	14
24	49	100	29	113	39	300	215	195	16	18	8.4	14
25	41	74	26	1,480	225	255	166	186	22	16	7.4	30
26	22	51	24	1,480	5,180	830	485	129	75	16	7.4	39
27	23	45	24	610	3,210	425	275	88	40	23	7.7	34
28	26	39	36	275	1,030	255	166	74	33	23	7.9	25
29	21	64	29	148	------	176	325	195	105	166	7.9	21
30	22	235	26	113	------	166	186	186	78	129	9.5	21
31	17	------	27	77	------	186	------	94	------	49	11	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	49	12	22.1	0.126	0.15
November	235	19	56.7	.324	.36
December	645	22	94.5	.540	.62
January	2,090	------	335	1.91	2.20
February	5,180	27	393	2.25	2.34
March	830	61	322	1.84	2.12
April	1,380	138	465	2.66	2.97
May	3,070	74	493	2.82	3.25
June	105	16	34.3	.196	.22
July	680	16	143	.817	.94
August	25	7.4	12.1	.069	.08
September	39	7.4	18.9	.108	.12
The year	5,180	7.4	198	1.13	15.37

MAHONING RIVER AT PRICETOWN, OHIO

LOCATION.—Staff gage prior to Aug. 13 and water-stage recorder thereafter in T. 2 N., R. 5 W., one-half mile southwest of Pricetown and one-fourth mile south of line between Mahoning and Trumbull Counties. Zero of gage is 905.50 feet above mean sea level.

DRAINAGE AREA.—276 square miles.

RECORDS AVAILABLE.—July to September, 1929.

EXTREMES.—Maximum discharge during period, 153 second-feet Aug. 19 (gage height, 2.20 feet); minimum, 7.5 second-feet Sept. 13 (gage height, 1.23 feet).

REMARKS.—Records good. Flow regulated by storage in Milton Reservoir.

Daily and monthly discharge, in second-feet, 1929

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		102	142	11		100	98	21	103	153	41
2		102	142	12		100	100	22	104	153	41
3		101	142	13		100	59	23	104	153	41
4		100	142	14		102	43	24	104	142	40
5		100	142	15	129	102	41	25	104	142	40
6		100	116	16	108	100	41	26	104	142	40
7		100	100	17	104	102	41	27	104	142	40
8		100	100	18	108	134	43	28	104	142	40
9		100	100	19	102	153	43	29	104	142	41
10		100	104	20	102	153	43	30	104	142	43
								31	102	142	

Month	Maximum	Minimum	Mean
July 15–31	129	102	106
August	153	100	121
September	142	40	73.0

MAHONING RIVER AT WARREN, OHIO

LOCATION.—Water-stage recorder at dam 200 feet below crossing of Erie Railroad (Shenango branch) in Warren, Trumbull County.
DRAINAGE AREA.—599 square miles.
RECORDS AVAILABLE.—October, 1924, to September, 1929.
EXTREMES.—Maximum discharge during year, 10,500 second-feet Feb. 27 (gage height, 7.2 feet); minimum, 56 second-feet Sept. 16 and 20.
1924–1929: Maximum discharge, that of Feb. 27, 1929; minimum, 42 second-feet Sept. 12, 1928.
REMARKS.—Records good. Water diverted past gage by Ohio Public Service Co. is included in records. City of Warren diverted a mean of 5.2 second-feet for municipal supply, which is not included in the records. Slight regulation caused by operation of Milton Reservoir, above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	223	127	1,480	128	333	3,680	2,090	617	275	150	140	146
2	228	119	1,280	124	314	1,780	4,110	505	192	140	134	157
3	228	139	543	128	256	1,180	2,370	3,900	152	132	125	148
4	223	153	329	128	232	892	1,170	5,490	123	132	120	138
5	112	160	256	113	242	1,360	4,340	3,650	117	369	118	138
6	125	144	223	185	308	1,570	7,970	2,780	96	1,340	115	141
7	125	132	185	381	254	1,620	3,770	1,680	105	685	116	125
8	98	130	149	317	207	1,360	1,300	1,270	89	831	112	113
9	117	126	128	310	221	894	813	820	71	932	110	122
10	92	135	100	229	241	569	842	556	82	987	102	110
11	147	135	110	190	226	447	1,430	433	77	1,100	112	101
12	255	141	117	159	215	281	2,180	371	125	881	89	98
13	290	130	121	132	215	330	2,520	419	139	831	94	122
14	194	166	136	98	194	1,070	1,360	713	144	657	107	60
15	176	155	291	155	181	2,880	892	2,900	155	340	110	92
16	135	104	465	109	278	3,890	1,110	3,450	149	231	105	56
17	129	85	429	116	308	4,570	1,170	1,770	145	179	114	64
18	187	85	1,080	710	308	2,720	793	882	150	154	110	62
19	203	111	1,160	5,210	308	1,240	511	987	154	164	140	71
20	159	395	503	7,180	302	1,050	393	3,250	236	150	154	56
21	128	496	291	3,900	346	1,360	1,580	2,510	340	135	145	61
22	115	342	223	1,260	346	1,300	4,310	3,450	193	132	154	66
23	123	480	176	728	346	1,940	2,860	2,010	159	121	163	64
24	178	480	140	672	333	2,100	1,270	932	144	121	166	70
25	203	388	128	1,790	333	1,570	720	576	168	129	204	59
26	214	381	121	4,340	2,760	2,480	1,330	458	209	129	162	60
27	230	284	121	3,680	8,650	4,810	1,470	374	173	144	150	65
28	230	261	121	1,640	8,880	2,300	870	308	164	140	147	74
29	192	317	132	851	-------	999	820	336	179	154	147	85
30	168	646	122	513	-------	697	870	408	168	236	147	62
31	159	-------	113	378	-------	716	-------	381	-------	173	144	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	290	92	174	May	5,490	308	1,550
November	646	85	232	June	340	71	156
December	1,480	100	348	July	1,340	121	387
January	7,180	98	1,160	August	204	89	131
February	8,880	181	969	September	157	56	92.9
March	4,810	281	1,730				
April	7,970	393	1,910	The year	8,880	56	785

MAHONING RIVER AT YOUNGSTOWN, OHIO

LOCATION.—Water-stage recorder 400 feet above Bridge Street Bridge at Youngstown, Mahoning County. Zero of gage is 826.53 feet above mean sea level.
DRAINAGE AREA.—899 square miles.
RECORDS AVAILABLE.—October, 1921, to September, 1929. May, 1903, to July, 1906, at station 4½ miles downstream.
EXTREMES.—Maximum discharge during year, 13,800 second-feet Apr. 5 (gage height, 12.6 feet); minimum, 55 second-feet Sept. 28 (gage height, 1.98 feet).
1921–1929: Maximum discharge, 14,000 second-feet Dec. 14, 1927 (gage height, 12.7 feet); minimum, that of Sept. 28, 1929.
Maximum known stage, 26.5 feet Mar. 26, 1913.
REMARKS.—Records good. Discharge estimated Jan. 14 to Feb. 1. Water diverted for municipal water supply above station. Flow is slightly regulated at Milton Reservoir.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	214	170	2,040	214	500	7,380	3,340	1,160	416	188	180	151
2	218	166	2,150	226	297	3,180	5,340	1,530	308	176	151	151
3	218	205	1,220	201	265	2,040	3,550	7,390	272	159	155	163
4	222	205	860	214	226	1,600	2,040	7,450	179	159	155	151
5	185	209	718	152	209	2,040	10,800	6,040	155	535	132	151
6	130	201	512	309	209	2,370	12,200	4,160	155	1,440	125	155
7	119	174	359	504	250	2,660	7,380	2,720	155	1,080	136	144
8	116	185	265	394	235	2,150	2,510	2,040	147	2,170	132	136
9	114	174	222	309	245	1,600	1,600	1,380	140	1,380	129	132
10	111	181	185	297	260	960	1,380	860	129	1,220	121	129
11	114	188	166	265	250	718	1,930	625	121	1,380	129	118
12	159	196	166	235	226	520	2,480	625	132	1,110	121	114
13	260	205	188	205	201	538	3,180	670	184	910	118	184
14	218	205	192		185	1,600	2,150	1,500	184	812	129	140
15	166	250	401	170	177	3,940	1,600	4,810	192	388	132	111
16	152	214	812		222	5,760	1,820	5,200	192	278	118	108
17	130	205	812		327	6,600	1,710	3,180	167	228	114	104
18	185	196	1,710		327	4,560	1,270	1,820	163	210	111	104
19	188	290	2,040	6,500	339	2,480	860	2,500	163	206	125	95
20	181	718	1,220		327	1,820	670	4,290	184	176	163	88
21	146	960	765		339	2,040	2,460	4,810	361	163	155	77
22	127	765	563		333	2,260	5,480	5,070	274	151	180	75
23	140	910	463	2,500	327	2,260	4,420	3,420	192	144	219	68
24	155	1,060	291		333	3,660	2,480	1,930	176	144	196	68
25	226	910	226		457	3,060	1,490	1,220	206	159	214	70
26	245	860	196		6,110	4,930	2,040	812	237	169	196	68
27	235	625	188		11,400	6,510	2,260	580	228	247	176	72
28	250	529	188	2,800	12,400	3,940	1,600	596	219	163	176	70
29	226	625	192			2,040	1,490	910	208	214	172	77
30	192	1,060	188			1,380	1,600	718	274	257	167	82
31	181		188			1,270		563		232	163	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	260	111	178	May	7,450	563	2,600
November	1,060	166	428	June	416	121	198
December	2,150	166	635	July	1,440	144	495
January	6,500	152	1,710	August	219	111	151
February	12,400	177	1,320	September	184	68	112
March	7,380	520	2,830				
April	12,200	670	3,100	The year	12,400	68	1,150

WEST BRANCH OF MAHONING RIVER NEAR NEWTON FALLS, OHIO

LOCATION.—Staff gage prior to August 29 and water-stage recorder thereafter in T. 3 N., R. 6 W., 2½ miles southwest of Newton Falls and 6 miles above mouth.

DRAINAGE AREA.—97.8 square miles.

RECORDS AVAILABLE.—June, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 3,420 second-feet Feb. 27 and 27 (gage height, 10.9 feet); minimum, 6.6 second-feet Sept. 3–5 (gage height, 1.01 feet).

1926–1929: Maximum discharge, 3,540 second-feet Dec. 1, 1927; minimum, that of Sept. 3–5, 1929.

REMARKS.—Records fair. Gage-height record furnished by Mahoning Valley Sanitary District.

Daily discharge, in second-feet, 1926–1929

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1926					1926				
1	-------	11	9.9	18	16	92	30	78	77
2	-------	9.9	11	440	17	47	20	346	85
3	-------	9.1	11	305	18	225	13	72	56
4	-------	9.1	12	158	19	77	12	44	43
5	-------	9.1	12	1,490	20	36	11	29	35
6	-------	9.9	9.1	1,660	21	25	11	207	30
7	-------	55	12	710	22	24	9.9	2,290	26
8	20	17	14	136	23	22	9.1	346	30
9	17	12	12	368	24	17	8.3	121	1,490
10	14	11	8.3	1,090	25	15	7.4	96	1,160
11	13	31	7.4	174	26	14	7.4	56	465
12	15	17	9.1	96	27	14	7.4	41	158
13	20	128	9.1	69	28	13	18	31	325
14	174	136	19	56	29	12	17	26	225
15	255	54	174	44	30	11	12	25	128
					31	-------	9.9	19	-------

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1926–27												
1	87	491	114	37	150	107	60	38	34	15	22	9.9
2	440	216	78	35	107	78	82	28	26	14	15	9.1
3	216	150	61	36	128	63	94	26	23	20	12	9.1
4	136	114	60	37	174	64	81	34	97	29	11	9.9
5	599	90	58	49	207	54	81	38	150	26	11	8.3
6	1,830	76	46	48	1,310	121	121	31	69	17	9.1	7.4
7	325	69	53		465	235	77	25	42	38	9.1	7.4
8	158	60	48	30	182	710	56	21	31	93	19	7.4
9	107	100	107		150	225	49	21	24	32	35	9.1
10	83	182	90		128	128	43	23	22	20	20	9.1
11	114	107	83		85	107	37	31	22	15	14	16
12	121	72	72		65	107	34	25	19	13	12	14
13	85	60	235	25	59	100	34	22	18	12	11	12
14	80	61	800		136	415	38	24	18	11	12	17
15	64	63	150		491	216	32	61	21	11	21	15
16	53	995	69		190	121	31	136	18	11	13	12
17	49	518	81	20	346	93	41	143	15	11	11	9.1
18	198	158	78		216	128	40	90	15	11	11	11
19	265	121	43	150	107	368	35	962	38	11	9.9	37
20	121	99	30	2,150	50	1,530	31	415	35	9.9	9.1	18
21	97	81	30	1,200	64	2,340	26	121	23	9.1	11	13
22	81	65	31	1,920	94	680	24	73	20	18	9.9	11
23	150	63	31	1,420	100	182	24	63	40	114	9.1	11
24	143	68	38	368	680	143	22	114	41	85	12	9.9
25	2,200	72	44	216	346	114	25	235	28	43	12	9.1
26	896	121	50	143	680	97	37	174	143	25	11	9.1
27	174	265	56	128	190	107	114	128	64	17	9.1	9.1
28	136	121	44	60	128	93	128	76	34	13	9.1	9.9
29	285	107	47	78	-------	76	64	54	21	12	9.1	12
30	305	158	41	680	-------	66	46	41	18	14	9.1	12
31	1,420	-------	36	440	-------	65	-------	38	-------	11	19	-------

Daily discharge, in second-feet, of West Branch of Mahoning River near Newton Falls, Ohio, 1926–1929—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1927–28												
1	11	16	3,150	1,460	20	26	143	47	15	61	43	14
2	9.9	17	680	190	20	26	136	38	15	40	59	11
3	14	18	174	174	17	25	143	34	13	19	37	12
4	18	18	107	150	16	25	265	29	19	18	28	11
5	19	21	73	90	350	20	114	24	50	245	25	9.9
6	15	43	60	58	160	20	80	23	569	143	29	9.9
7	12	29	55	48	96	20	60	22	305	54	26	11
8	12	22	82	114	518	20	158	20	136	30	25	9.9
9	12	20	66	166	995	36	99	19	235	21	22	12
10	11	19	41	128	166	68	65	19	166	73	19	12
11	11	18	29	107	114	41	53	20	83	40	18	9.1
12	12	18	77	107	81	48	53	21	49	49	34	8.3
13	43	16	346	92	72	76	47	19	37	225	19	8.3
14	29	16	3,100	78	136	1,270	58	16	29	626	15	8.3
15	20	14	680	77	1,160	235	78	15	2[illegible]	225	16	8.3
16	17	15	830	63	740	121	52	15	19	100	15	8.3
17	15	150	518	56	285	80	44	18	13	52	13	8.3
18	15	368	182	54	158	72	38	78	22	31	14	8.3
19	16	121	128	58	97	65	34	99	83	107	14	8.3
20	16	63	81	305	83	68	28	245	47	1,960	13	8.3
21	15	48	73	82	69	150	63	107	63	770	17	12
22	14	49	80	77	46	216	1,380	52	265	136	107	11
23	14	44	66	31	99	158	265	34	69	83	34	9.9
24	13	107	59	28	491	128	136	25	43	59	21	8.3
25	12	207	53	285	136	114	100	23	30	47	17	9.1
26	11	100	47	143	107	174	70	21	26	36	14	9.1
27	11	92	64	100	68	207	56	19	2[illegible]	34	13	12
28	11	207	40	55	47	114	49	18	20	1,090	12	11
29	12	545	415	43	24	78	44	17	19	174	12	11
30	12	770	1,030	36	------	896	44	17	82	77	12	9.9
31	14	------	770	25	------	225	------	17	------	48	15	------
1928–29												
1	9.9	16	1,060	24	40	325	896	68	28	19	14	9.1
2	9.1	15	190	40		128	391	114	24	17	11	8.3
3	9.9	37	63	46	25	121	136	1,490	23	13	11	8.3
4	9.9	34	83	23		255	128	325	23	12	14	7.4
5	9.9	25	66	21		368	2,340	440	21	770	14	7.4
6	9.9	21	61	158	23	198	896	190	20	440	12	7.4
7	9.9	17	47	198	23	216	174	166	18	100	11	9.1
8	9.9	15	40	107	23	114	114	114	18	491	11	12
9	9.9	20	35	59	22	83	114	76	18	136	11	13
10	9.9	21	28	36	21	93	166	58	16	150	9.9	13
11	9.9	21	31			85	166	49	16	89	9.1	11
12	9.9	24	17			53	599	69	14	76	9.1	9.1
13	9.9	30	20		20	73	198	121	14	305	9.1	12
14	9.9	49	34	35		440	121	285	18	82	9.1	19
15	12	35	143			518	107	896	21	47	11	15
16	13	28	121		17	1,340	166	198	14	32	9.9	12
17	14	25	100	34	17	440	107	114	14	24	9.1	15
18	25	25	680	440	17	150	73	76	14	22	9.1	15
19	25	32	150	2,530	17	114	56	830	13	22	9.1	12
20	22	207	626	653		207	56	346	150	21	9.1	12
21	17	114	63	143		166	1,270	599	59	17	7.4	11
22	15	97	50	182	15	325	710	285	30	14	8.3	9.9
23	14	166	29	198		265	143	114	21	14	14	9.1
24	18	121	29	121		255	92	77	19	14	12	9.1
25	18	158	25	770		143	77	65	19	14	12	9.1
26	25	107	22	1,740	1,530	1,530	391	52	21	16	11	9.9
27	26	99	24	255	2,630	545	143	44	20	17	9.1	15
28	25	100	26	216	626	143	85	36	21	14	9.1	13
29	20	207	28	174	------	96	174	81	24	19	9.9	12
30	20	305	26	81	------	107	100	54	21	21	9.9	12
31	18	------	25	64	------	121	------	38	------	14	9.9	------

Monthly discharge, in second-feet, of West Branch of Mahoning River near Newton Falls, Ohio, 1926–1929

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1926					
June 8–30	255	11	51.0	0.521	0.45
July	136	7.4	23.3	.238	.27
August	2,290	7.4	134	1.37	1.58
September	1,660	18	372	3.80	4.24
1926–27					
October	2,200	49	355	3.63	4.18
November	995	60	164	1.68	1.87
December	800	30	90.4	.924	1.07
January	2,150		306	3.13	3.61
February	1,310	50	251	2.57	2.68
March	2,340	54	288	2.94	3.39
April	128	22	53.6	.548	.61
May	962	21	107	1.09	1.26
June	150	15	39.0	.399	.45
July	114	9.1	25.5	.261	.30
August	35	9.1	12.9	.132	.15
September	37	7.4	11.8	.121	.13
The year	2,340	7.4	142	1.45	19.70
1927–28					
October	43	9.9	15.1	.154	.18
November	770	14	106	1.08	1.20
December	3,150	29	424	4.34	5.00
January	1,460	25	145	1.48	1.71
February	1,160	16	220	2.25	2.43
March	1,270		156	1.60	1.84
April	1,380	28	132	1.35	1.51
May	245	15	37.8	.387	.45
June	599	13	87.0	.890	.99
July	1,960	18	215	2.20	2.54
August	107	12	24.5	.251	.29
September	14	8.3	9.99	.102	.11
The year	3,150	8.3	131	1.34	18.25
1928–29					
October	26	9.1	15.0	.153	.18
November	305	15	72.4	.740	.83
December	1,060	17	127	1.30	1.50
January	2,530	21	275	2.81	3.24
February	2,630		189	1.93	2.01
March	1,530	53	291	2.98	3.44
April	2,340	56	340	3.48	3.88
May	1,490	36	241	2.46	2.84
June	150	13	25.1	.257	.29
July	770	12	98.1	1.00	1.15
August	14	7.4	10.5	.107	.12
September	19	7.4	11.2	.115	.13
The year	2,630	7.4	141	1.44	19.61

EAGLE CREEK AT PHALANX STATION, OHIO

LOCATION.—Water-stage recorder at highway bridge 1 mile north of Phalanx Station, Trumbull County, and 2 miles below Tinker Creek since Sept. 14. Prior to that date a staff gage at same site was used. Zero of both gages is 887.42 feet above mean sea level.

DRAINAGE AREA.—97.0 square miles.

RECORDS AVAILABLE.—June, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 3,100 second-feet Jan. 19 (gage height, 12.0 feet); minimum, 3.2 second-feet Aug. 31 (gage height, 1.96 feet).

1926–1929: Maximum discharge, 3,240 second-feet Dec. 1, 1927 (gage height, 12.2 feet); minimum discharge, 2.5 second-feet Sept. 5, 1928; minimum gage height, 1.54 feet Aug. 14, 1926.

REMARKS.—Records good except those for extremely low water, which are fair. Discharge estimated because of ice Jan. 26. Gage-height record and part of discharge measurements furnished by Mahoning Valley Sanitary District.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	16	720	30	35	285	745	91	52	33	24	7.0
2	13	27	405	35	30	270	845	228	48	30	34	9.5
3	16	29	126	35	28	165	165	1,200	40	25	22	5.0
4	18	31	96	33	24	179	214	645	39	29	19	13
5	17	30	74	29	28	421	1,970	585	41	158	28	8.5
6	11	26	57	201	35	242	1,720	300	47	506	26	11
7	10	23	40	162	53	228	330	228	34	117	21	7.0
8	14	33	40	120	29	110	179	130	32	124	14	12
9	20	37	40	35	47	86	186	124	39	98	11	17
10	23	31	38	34	53	66	214	86	36	74	12	16
11	11	30	31	42	41	78	228	75	29	48	16	13
12	16	37	29	22	24	77	390	74	30	47	16	12
13	18	38	36	22	41	79	330	256	33	130	15	19
14	22	48	43	22	33	330	172	345	33	78	16	22
15	17	33	108	21	41	506	130	795	29	51	17	21
16	16	29	108	24	29	525	214	285	28	47	16	15
17	21	31	91	24	73	565	130	144	27	29	14	24
18	44	31	470	820	104	200	104	110	22	27	14	44
19	58	86	228	3,100	79	117	83	360	32	28	12	16
20	24	228	96	1,020	47	405	315	453	165	26	12	16
21	20	126	67	345	41	186	670	525	45	25	20	14
22	18	64	91	124	41	437	770	437	35	24	24	15
23	19	201	38	110	35	405	200	124	28	28	29	14
24	22	132	34	158	35	300	117	98	50	34	39	13
25	30	120	34	470	29	285	104	82	77	27	21	14
26	36	102	37	800	845	1,050	375	72	65	25	38	14
27	40	86	43	61	1,870	960	200	65	79	26	30	15
28	31	69	42	53	845	172	186	58	73	24	17	14
29	32	102	40	61	------	104	186	98	62	104	16	14
30	22	256	34	48	------	104	130	84	40	70	13	17
31	18	------	29	39	------	137	------	57	------	30	5.5	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	58	10	22.2	0.229	0.26
November	256	16	71.1	.733	.82
December	720	29	109	1.12	1.29
January	3,100	21	261	2.69	3.10
February	1,870	24	165	1.70	1.77
March	1,050	66	293	3.02	3.48
April	1,970	83	387	3.99	4.45
May	1,200	57	265	2.73	3.15
June	165	22	46.0	.474	.53
July	506	24	68.5	.706	.81
August	39	5.5	19.7	.203	.23
September	44	5.0	15.1	.156	.17
The year	3,100	5.0	143	1.47	20.06

MOSQUITO CREEK NEAR CORTLAND, OHIO

LOCATION.—Staff gage at highway bridge one-eighth mile above Erie Railroad crossing and 3 miles southwest of Cortland, Trumbull County. Zero of gage is 867.43 feet above mean sea level.

DRAINAGE AREA.—97.6 square miles.

RECORDS AVAILABLE.—May, 1926, to September, 1929 (discontinued).

EXTREMES.—Maximum discharge during year, 1,890 second-feet Jan. 19 (gage height, 11.5 feet); minimum, 0.6 second-foot Sept. 5–7 (gage height, 2.11 feet).

1926–1929: Maximum discharge, that of Jan. 19, 1929; minimum, 0.4 second-foot Sept. 17 and 18, 1927 (gage height, 2.04 feet).

REMARKS.—Records fair. Discharge estimated Jan. 1–11, 12–17, Feb. 26, and Apr. 22 and 23. Gage-height record and part of discharge measurements furnished by Mahoning Valley Sanitary District.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	8.1	370		27	630	655	221	15	11	10	1.0
2	1.0	7.7	350		18	430	510	186	12	8.9	6.3	.9
3	1.0	7.0	450	15	14	290	470	830	8.4	6.3	4.0	.8
4	1.0	6.3	290		11	247	350	890	6.8	4.5	2.5	.7
5	1.0	5.9	165		10	305	1,280	740	5.8	26	1.7	.6
6	1.0	7.2	78		10	350	1,340	470	5.2	82	1.5	.6
7	1.0	7.4	42		10	410	860	370	4.5	108	1.4	.6
8	1.0	7.4	32		10	305	410	234	4.2	155	1.2	.7
9	1.0	6.5	29	45	10	175	209	126	3.8	117	1.2	.7
10	1.0	5.9	21		10	126	165	66	3.3	155	1.1	.8
11	.9	5.9	14		10	94	175	42	2.6	155	1.0	.9
12	.9	7.4	9.2		10	90	305	31	2.3	94	.9	.9
13	.9	10	7.7		8.6	86	510	99	2.2	52	.9	1.0
14	.9	14	14		7.2	155	390	305	2.2	45	.9	1.5
15	.9	20	42	10	6.8	320	234	655	2.2	37	.9	1.4
16	1.0	31	78		6.3	860	155	830	2.3	26	.8	1.3
17	1.2	42	135		6.7	800	126	490	2.3	16	.7	1.4
18	2.9	25	275	261	5.8	510	99	410	2.5	8.9	.7	1.7
19	2.5	45	261	1,460	5.6	305	48	435	2.5	5.2	.7	1.5
20	3.9	126	305	1,460	5.6	305	117	460	2.3	3.3	.7	1.4
21	8.6	135	247	890	4.9	390	320	485	2.0	2.3	.7	1.4
22	7.2	234	135	580	4.5	530	325	510	2.0	1.9	.7	1.4
23	6.3	275	52	370	4.5	680	330	390	2.3	1.7	.7	1.3
24	4.9	247	24	197	4.2	770	335	221	3.3	1.5	.7	1.2
25	7.4	197	15	335	6.5	890	126	117	4.0	2.3	.7	1.1
26	7.2	155	11	510	500	950	221	56	5.0	3.3	.7	1.0
27	6.8	117	8.9	450	1,310	710	234	42	5.9	6.1	.9	1.0
28	7.7	99	10	370	1,070	530	320	30	7.2	14	1.2	1.1
29	11	74	13	261	-------	290	335	25	8.6	26	1.6	1.1
30	10	117	14	165	-------	165	299	23	10	26	1.6	1.1
31	9.2	-------	13	66	-------	350	-------	19	-------	18	1.2	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	11	0.9	3.62	0.037	0.04
November	275	5.9	68.2	.699	.78
December	450	7.7	113	1.16	1.34
January	1,460	-------	251	2.57	2.96
February	1,310	4.2	111	1.14	1.19
March	950	86	421	4.31	4.97
April	1,340	48	375	3.84	4.28
May	890	19	316	3.24	3.74
June	15	2.0	4.76	.049	.05
July	155	1.5	39.3	.403	.46
August	10	.7	1.61	.016	.02
September	1.7	.6	1.07	.011	.01
The year	1,460	-------	143	1.46	19.84

MOSQUITO CREEK AT NILES, OHIO

LOCATION.—Staff gage prior to July 4 and water-stage recorder thereafter at dam in Niles, Trumbull County.
DRAINAGE AREA.—139 square miles.
RECORDS AVAILABLE.—June to September, 1929.
EXTREMES.—Maximum discharge during period, 141 second-feet July 9 (gage height, 2.46 feet); minimum discharge, 0.2 second-foot Aug. 13, 14, 18–22, and Aug. 26 to Sept. 13; minimum gage height, 1.82 feet Sept. 12.
REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1929

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1		11	15	0.2	16	6.2	25	0.3	0.7
2		11	11	.2	17	6.2	25	.3	4.6
3		11	9.2	.2	18	6.2	17	.2	3
4		7.7	6.2	.2	19	6.2	12	.2	1.5
5		44	4.6	.2	20	6.2	7.7	.2	1.5
6		50	1.5	.2	21	4.6	6.2	.2	1.5
7		68	1.5	.2	22	4.6	4.6	.2	1.5
8		126	.7	.2	23	4.6	3	.3	1.5
9		122	.7	.2	24	4.6	1.5	.7	1.5
10		87	.3	.2	25	4.6	4.6	.3	1.5
11		105	.3	.2	26	4.6	6.2	.2	1
12	7.7	94	.3	.2	27	4.6	7.7	.2	1.5
13	7.7	50	.2	.2	28	4.6	1.5	.2	3
14	7.7	28	.2	.7	29	15	12	.2	3
15	7.7	17	.3	.7	30	11	9.2	.2	3
					31		12	.2	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
June 12–30	15	4.6	6.58	0.472	0.33
July	126	1.5	31.8	.229	.26
August	15	.2	1.8	.013	.01
September	4.6	.2	1.14	.0082	.01

MEANDER CREEK AT OHLSTOWN, OHIO

LOCATION.—Staff gage 1,500 feet above highway bridge at Ohlstown, Trumbull County. Zero of gage is 866.35 feet above mean sea level.

DRAINAGE AREA.—77.2 square miles.

RECORDS AVAILABLE.—May, 1926, to September, 1929 (discontinued).

EXTREMES.—Maximum discharge during year, 4,450 second-feet Feb. 23 (gage height, 8.7 feet); minimum, 0.9 second-foot Sept. 4–8 (gage height, 0.86 foot).

1926–1929: Maximum discharge, 5,250 second-feet Dec. 14, 1927; minimum, that of Sept. 4–8, 1929.

REMARKS.—Records good except those for extremely high water, which are fair. Gage-height record and part of discharge measurements furnished by Mahoning Valley Sanitary District.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	8.1	127	17	17	142	71	47	24	5.9	9.6	1.2
2	2.5	8.6	79	27	14	250	510	127	20	5.4	5.9	1.2
3	2.5	15	53	33	13	295	144	1,750	17	4.4	5.4	1.2
4	3.3	20	36	28	12	326	148	280	15	3.6	4.4	.9
5	3.3	14	25	26	12	280	2,660	326	12	140	1.2	.9
6	4.1	11	18	74	12	374	342	160	12	102	2.2	.9
7	4.1	9.2	16	74	16	475	119	195	11	43	4.4	.9
8	4.1	7.6	14	46	21	195	77	97	11	280	3.2	1.0
9	3.3	6.6	12	32	19	121	61	60	9.6	89	2.8	2.8
10	3.3	6.6	10	28	15	60	144	43	9.6	221	2.2	4.4
11	2.5	8.1	10	20	12	48	195	35	8.4	92	2.2	3.2
12	2.5	9.2	10	14	10	27	135	38	7.4	86	2.5	1.4
13	2.5	9.8	17	11	9.8	49	105	62	6.4	27	2.2	5.4
14	2.5	12	32	10	7.6	590	60	280	7.4	20	1.9	9.6
15	2.5	12	146	9.8	7.1	550	82	760	6.9	14	1.6	7.4
16	2.5	10	88	10	8.6	805	171	171	6.4	10	2.5	4.4
17	3.7	9.2	84	16	13	326	144	83	5.9	7.9	2.5	5.9
18	10	8.1	390	440	12	160	82	54	5.4	7.4	2.5	5.9
19	9.2	17	183	1,570	12	90	47	550	5.9	8.4	2.2	4.9
20	6.6	119	61	250	10	90	37	236	6.4	6.9	1.6	3.6
21	4.1	60	40	119	9.2	123	510	670	5.9	5.9	1.4	2.5
22	3.7	49	26	74	8.1	221	475	236	4.9	4.9	1.2	2.2
23	6.1	70	17	72	7.1	342	148	89	3.6	4.4	2.2	1.6
24	7.6	82	12	85	8.6	208	70	60	3.6	3.6	2.2	1.9
25	10	75	10	900	33	123	50	60	7.4	3.6	2.2	1.6
26	12	61	10	550	3,500	1,000	140	47	25	3.6	1.6	1.6
27	12	37	10	110	550	295	171	33	14	6.9	1.6	2.2
28	13	38	12	65	160	108	138	29	11	5.9	1.2	2.2
29	12	82	12	46	------	68	118	236	10	8.4	1.2	2.2
30	10	118	10	30	------	65	80	74	8.4	40.0	1.2	2.8
31	9.2	------	12	21	------	92	------	40	------	20.0	1.2	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	13	2.5	5.72	0.074	0.09
November	119	6.6	33.1	.429	.48
December	390	10	51.0	.661	.76
January	1,570	9.8	155	2.01	2.32
February	3,500	7.1	162	2.10	2.19
March	1,000	27	255	3.30	3.80
April	2,660	37	241	3.12	3.48
May	1,750	29	223	2.89	3.33
June	25	3.6	10.0	.130	.14
July	280	3.6	41.3	.535	.62
August	9.6	1.2	2.59	.034	.04
September	9.6	.9	2.93	.038	.04
The year	3,500	.9	98.4	1.27	17.29

MEANDER CREEK AT MINERAL RIDGE, OHIO

LOCATION.—Water-stage recorder in T. 3 N., R. 3 W., Trumbull County, three-eighths mile above highway bridge 1 mile northwest of Mineral Ridge. Zero of gage is 854.81 feet above mean sea level.

RECORDS AVAILABLE.—August to September, 1929.

EXTREMES.—Maximum discharge during period, 10 second-feet Sept. 14 (gage height, 1.81 feet); minimum, 2.5 second-feet Aug. 22 and Sept. 6 (gage height, 1.44 feet).

REMARKS.—Records good. Flow regulated by storage above Mineral Ridge Dam. Part of discharge measurements furnished by Mahoning Valley Sanitary District.

Daily and monthly discharge, in second-feet, 1929

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		2.7	11	3.4	4.6	21	2.7	4.3
2		2.8	12	3.1	3.6	22	2.5	3.7
3		2.7	13	3.1	5.4	23	3.0	3.6
4		2.7	14	3.1	9.2	24	3.9	3.4
5		2.7	15	3.0	8.6	25	4.3	3.2
6		2.6	16	3.0	6.1	26	3.4	3.2
7		2.6	17	3.0	6.3	27	3.0	3.2
8	4.1	2.6	18	3.0	5.9	28	2.8	3.6
9	4.1	3.1	19	3.0	5.4	29	2.7	4.1
10	3.7	5.0	20	2.8	4.8	30	2.7	4.3
						31	2.6	

Month	Maximum	Minimum	Mean
August 8-31	4.3	2.5	3.17
September	9.2	2.6	4.2

LITTLE BEAVER CREEK BASIN

LITTLE BEAVER CREEK NEAR EAST LIVERPOOL, OHIO

LOCATION.—Water-stage recorder at Grimms Bridge, 4 miles above mouth of creek and 4 miles northeast of East Liverpool, Columbiana County.

DRAINAGE AREA.—505 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 18,200 second-feet Feb. 26 (gage height, 14.4 feet); minimum, 26 second-feet Sept. 5 (gage height, 1.92 feet).

1915–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 12 second-feet Aug. 22 and 26, 1918 (gage height, 1.78 feet).

Highest flood known reached gage height of about 20 feet.

REMARKS.—Records excellent except those for periods of ice effect, Dec. 20 to Jan. 13 and Jan. 26 to Feb. 25, which are fair. Discharge estimated Dec. 15 and 16.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	81	1,070			1,340	1,150	695	478	146	104	34
2	45	78	670			1,100	1,480	2,170	385	128	78	30
3	47	98	454	330	170	820	898	10,400	335	107	72	31
4	44	150	354			998	815	4,430	293	84	74	30
5	45	167	338			1,900	1,560	3,430	275	316	70	29
6	55	128	301			1,620	1,590	1,700	258	530	66	32
7	56	104	228			2,850	954	1,940	235	296	61	92
8	49	97	215	420	170	1,450	745	1,380	270	879	53	48
9	44	95	188			1,010	1,200	1,010	250	720	53	217
10	39	97	238			598	2,400	820	208	1,320	50	118
11	37	98	208			575	2,750	670	185	1,230	66	75
12	35	104	205	260		575	2,020	598	171	603	74	55
13	34	122	192		175	670	1,700	770	162	378	57	76
14	35	142	202	160		1,590	1,420	1,390	192	298	66	122
15	34	138	260	190		2,350	1,520	2,350	195	220	61	120
16	37	122	320	212		2,850	2,350	1,740	160	168	54	92
17	45	116	378	245		2,200	1,940	1,170	142	142	51	126
18	231	111	1,380	1,410	375	1,380	1,340	845	132	133	47	146
19	343	171	926	3,190		1,010	954	2,110	118	162	40	108
20	165	782		1,980		954	820	2,250	140	135	37	81
21	104	552		983		898	1,360	3,800	136	106	34	66
22	78	409	310	598		1,040	2,160	3,310	111	94	34	60
23	84	439		1,200	190	1,340	1,450	1,860	97	84	50	53
24	122	381		1,040		1,240	926	1,240	92	74	78	54
25	130	310		3,290		926	820	983	114	79	56	47
26	120	261			10,700	1,140	1,100	745	210	82	48	46
27	120	232			7,380	1,420	870	620	169	90	42	52
28	120	230	250	1,030	2,400	983	720	522	251	90	37	57
29	114	245			------	745	1,380	1,280	354	125	35	84
30	105	360			------	745	898	1,200	195	286	36	112
31	90	------			------	795	------	720	------	166	36	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	343	34	85.5	0.169	0.19
November	782	78	214	.424	.47
December	1,380	------	371	.735	.85
January	3,290	------	813	1.61	1.86
February	10,700	------	924	1.83	1.91
March	2,850	575	1,260	2.50	2.88
April	2,750	720	1,380	2.73	3.05
May	10,400	522	1,880	3.72	4.29
June	478	92	210	.416	.46
July	1,320	74	299	.592	.68
August	104	34	55.5	.110	.13
September	217	29	76.4	.151	.17
The year	10,700	29	630	1.25	16.94

YELLOW CREEK BASIN

YELLOW CREEK AT HAMMONDSVILLE, OHIO

LOCATION.—Tape gage on highway bridge one-fifth mile southwest of Hammondsville, Jefferson County, and 1,000 feet above North Fork.

DRAINAGE AREA.—169 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 7,590 second-feet Feb. 26 (gage height, 13.2 feet); minimum, 3.4 second-feet Oct. 1 and 12 (gage height, 2.70 feet).

1915–1929: Maximum discharge, 7,710 second-feet June 17, 1920 (gage height, 13.2 feet); minimum, 0.6 second-foot Aug. 29, 1916, Aug. 27, 1925, and Aug. 10 and 11, 1926.

Highest known flood reached a stage of about 16 feet.

REMARKS.—Records good except those for period of ice effect, Jan. 30 to Feb. 25, and periods when tape was broken, Oct. 24–30 and Jan. 5–22, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	10	64	106	80	465	257	220	303	51	59	7.6
2	8.6	20	69	168	80	416	213	2,340	229	45	51	6.5
3	6.9	16	56	137	80	326	173	2,720	171	35	55	5.0
4	5.0	23	41	209	80	347	186	1,170	150	24	83	5.3
5	10	18	60	120	80	980	465	1,410	127	306	47	5.5
6	10	15	60			668	370	885	131	188	39	8.0
7	6.9	11	52			1,280	264	720	103	131	34	8.0
8	5.7	17	47	130	110	490	242	502	137	1,050	28	7.3
9	7.3	16	54			392	326	312	105	267	25	10
10	5.7	20	58			206	640	327	83	548	20	16
11	4.6	18	47			192	540	286	69	286	25	11
12	3.4	15	33			176	615	267	62	157	60	9.1
13	5.0	20	27	85	65	284	860	348	60	131	32	17
14	6.5	16	56			465	565	720	74	178	50	64
15	5.0	11	126			284	668	940	66	81	50	37
16	8.6	16	78			1,340	1,100	595	47	66	29	26
17	8.0	13	158			750	750	312	96	55	22	38
18	43	8.6	490	450	80	440	490	348	137	51	18	28
19	58	36	350			370	370	1,110	57	93	13	20
20	20	155	188			347	304	1,050	199	50	11	15
21	14	94	64	450		284	465	1,230	69	38	9.1	12
22	11	52	111	300		304	490	940	50	32	8.4	10
23	13	41	262	565	70	392	370	570	41	28	15	9.5
24		34	238	590		370	304	458	37	27	29	9.1
25		30	181	1,170		326	284	369	39	28	22	9.5
26	20	24	137	490	6,480	515	590	267	50	306	19	20
27		22	101	262	1,460	565	416	218	36	182	14	36
28		27	78	202	640	416	347	233	154	91	12	22
29		27	60	134	------	304	347	1,770	118	131	10	46
30		41	47	100	------	304	284	620	59	108	8.4	118
31	13	------	38	100	------	246	------	435	------	74	9.1	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	58	3.4	13.7	0.081	0.09
November	155	8.6	28.9	.171	.19
December	490	27	111	.657	.76
January	1,170	----------	272	1.61	1.86
February	6,480	----------	379	2.24	2.33
March	1,340	176	459	2.72	3.14
April	1,100	173	443	2.62	2.92
May	2,720	218	764	4.52	5.21
June	306	36	102	.604	.67
July	1,050	24	156	.923	1.06
August	83	8.4	29.3	.173	.20
September	118	5.0	21.2	.125	.14
The year	6,480	3.4	231	1.37	18.57

MIDDLE ISLAND CREEK BASIN

MIDDLE ISLAND CREEK AT LITTLE, W. VA.

LOCATION.—Staff gage prior to Apr. 25 and chain gage thereafter at highway bridge at Little, Tyler County.

DRAINAGE AREA.—458 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1922; October, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 9,200 second-feet Feb. 27 (gage height, 13.5 feet); minimum, 3.2 second-feet Oct. 1–5 and 11–17 (gage height, 1.9 feet).

1915–1922, 1928–29: Maximum discharge, 18,200 second-feet Jan. 22, 1917 (gage height, 22.22 feet); probably no flow part of 1922 (gage height, 1.20 feet).

Highest known stage, about 33.5 feet during August, 1875.

REMARKS.—Records good. Discharge estimated Dec. 30 to Jan. 8.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	52	5,280	250	215	1,250	215	370	179	120	67	29
2	3.2	39	1,030	1,000	156	1,100	200	1,030	130	67	42	22
3	3.2	28	470	800	156	1,100	156	5,180	96	46	37	16
4	3.2	28	250	700	118	925	130	1,700	76	30	45	13
5	3.2	19	290	500	52	2,080	1,850	1,030	64	23	42	10
6	6.8	19	250	800	67	4,800	1,400	1,100	54	19	37	9.4
7	19	12	185	700	3,850	4,990	610	4,700	47	18	27	9.9
8	12	12	156	600	1,400	1,620	370	1,620	72	15	23	2,720
9	6.8	12	106	540	1,100	750	855	820	300	15	19	310
10	6.8	19	85	340	1,180	435	2,880	533	151	13	17	140
11	3.2	28	67	855	680	290	1,400	358	100	13	15	85
12	3.2	28	67	645	435	232	995	274	69	24	12	72
13	3.2	52	52	540	400	215	925	1,250	54	24	9.9	61
14	3.2	52	85	435	340	250	575	1,480	47	16	8.9	71
15	3.2	67	3,850	232	270	855	820	750	55	22	8.4	62
16	3.2	67	1,180	340	156	645	1,700	526	72	64	7.8	67
17	3.2	39	610	170	156	855	5,560	352	55	43	6.8	582
18	28	39	1,700	715	118	645	2,000	246	37	25	6.8	960
19	290	67	1,030	4,520	106	435	855	1,400	32	22	6.1	346
20	130	1,180	540	2,190	67	315	540	5,460	24	16	6.1	179
21	106	820	250	820	76	250	400	4,420	18	12	5.4	111
22	85	540	215	680	67	215	2,880	2,000	13	9.4	5.4	74
23	85	340	250	2,970	67	315	1,550	890	11	9.4	22	55
24	85	250	106	1,400	76	470	785	554	12	7.3	96	43
25	19	185	85	1,320	76	315	568	364	15	9.4	31	34
26	19	156	67	1,700	6,700	250	554	282	19	31	146	28
27	39	130	67	750	7,300	232	820	229	24	96	80	24
28	28	106	85	540	1,850	270	526	185	48	148	51	20
29	28	67	106	315	-------	215	680	229	215	80	36	19
30	28	1,320	200	215	-------	200	540	638	229	48	29	30
31	52	-------	200	315	-------	215	-------	274	-------	120	43	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	290	3.2	35.9	0.078	0.09
November	1,320	12	192	.419	.47
December	5,280	52	610	1.33	1.53
January	4,520	170	900	1.97	2.27
February	7,300	52	973	2.12	2.21
March	4,990	200	863	1.88	2.17
April	5,560	130	1,110	2.42	2.70
May	5,460	185	1,300	2.84	3.27
June	300	11	77.3	.169	.19
July	148	7.3	38.9	.085	.10
August	960	5.4	75.3	.164	.19
September	2,720	9.4	207	.452	.50
The year	7,300	3.2	530	1.16	15.69

LITTLE MUSKINGUM RIVER BASIN

LITTLE MUSKINGUM RIVER AT FAY, OHIO

LOCATION.—Staff gage in SE. ¼ sec. 10, T. 3 N., R. 7 W., 300 feet above Buckeye Pipe Line Co.'s pumping station and 1 mile northwest of Fay. Zero of gage is 612.71 feet above mean sea level.

DRAINAGE AREA.—259 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1922; October, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 5,120 second-feet Feb. 26 (gage height, 13.8 feet); minimum, 2.0 second-feet July 23 and 24 (gage height, 0.70 foot).

1915–1922, 1925–1929: Maximum stage, 22.5 feet Nov. 27, 1919 (discharge not determined); minimum discharge, 2.0 second-feet Oct. 1 and 2, 1925, and Sept. 29 and 30, 1928.

Highest known flood reached a stage of about 23 feet.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.7	25	1,840	156	232	895	127	302	90	57	16	16
2	5.5	24	790	156	210	860	114	790	84	27	13	13
3	7.0	24	550	141	210	670	114	3,690	78	18	31	11
4	7.0	24	462	134	200	1,640	114	1,210	72	13	520	10
5	7.0	25	380	1,960	190	1,920	860	895	66	11	116	8.8
6	11	25	328	790	328	2,360	462	790	57	10	40	7.1
7	17	24	302	610	670	1,800	181	610	53	13	23	6.0
8	18	24	290	550	380	790	232	550	47	10	18	10
9	12	25	290	520	380	550	1,320	460	45	8.8	14	14
10	9.5	25	278	550	354	462	2,800	344	43	7.8	11	8.8
11	7.0	25	278	550	328	315	1,490	278	33	11	13	7.1
12	7.0	25	278	462	278	278	700	241	25	76	10	16
13	7.0	25	302	380	232	266	406	372	18	45	6.0	16
14	7.0	25	1,000	328	200	278	302	1,040	25	25	7.1	19
15	6.4	25	965	290	172	520	302	460	37	19	27	16
16	6.1	25	760	243	156	406	790	358	35	13	47	18
17	6.1	25	1,560	278	127	328	1,350	304	29	11	35	123
18	17	25	790	610	114	302	462	266	27	8.8	25	72
19	462	141	462	2,280	101	302	328	358	31	7.1	19	45
20	210	930	354	1,140	101	328	302	670	25	5	18	29
21	77	380	210	550	95	328	315	860	18	3.8	16	21
22	46	302	302	730	89	302	790	670	14	3.2	45	16
23	36	190	328	2,800	89	278	434	430	11	2.0	930	13
24	32	141	315	1,420	89	243	380	304	13	2.0	2,400	13
25	30	127	266	825	141	210	354	218	10	103	206	10
26	27	114	278	700	3,580	190	315	176	7.8	210	159	8.8
27	25	101	302	610	2,890	190	302	176	7.8	490	103	7.8
28	25	101	302	520	1,100	172	380	159	18	152	54	7.8
29	32	278	278	354	------	156	354	152	400	90	37	8.8
30	27	930	232	290	------	148	328	123	152	45	27	11
31	19	------	190	254	------	141	------	103	------	23	18	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	462	5.5	39.1	0.151	0.17
November	930	24	139	.537	.60
December	1,840	190	492	1.90	2.19
January	2,800	134	683	2.64	3.04
February	3,580	89	466	1.80	1.87
March	2,360	141	569	2.20	2.54
April	2,800	114	557	2.15	2.40
May	3,690	103	560	2.16	2.49
June	400	7.8	52.4	.202	.23
July	1,210	2.0	81.3	.314	.36
August	2,400	6.0	161	.622	.72
September	123	6.0	19.4	.075	.08
The year	3,690	2.0	318	1.23	16.69

MUSKINGUM RIVER BASIN

TUSCARAWAS RIVER AT CLINTON, OHIO

LOCATION.—Chain gage in NW. ¼ sec. 32, T. 14 N., R. 10 W., at highway bridge at Clinton, 1 mile above mouth of Chippewa Creek. Zero of gage lowered 4.0 feet Nov. 18.

DRAINAGE AREA.—165 square miles.

RECORDS AVAILABLE.—May, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,020 second-feet Feb. 27 (gage height, 12.4 feet); minimum, 10 second-feet Nov. 6.

1926–1929: Maximum and minimum discharge, same as given above.

REMARKS.—Records good except those for extremely low water, which are fair. Discharge estimated Nov. 7–18. Ohio Canal diverts small amount of water from Tuscarawas River at Portage Lakes, 3 miles south of Akron. Part of the diverted water flows into Cuyahoga River Basin and part flows past this gaging station. Flow slightly regulated at headwaters of this stream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	18	41	22	68	1,120	458	146	72	47	62	45
2	28	22	34	23	59	723	475	261	65	47	54	41
3	29	24	27	22	52	475	373	509	62	47	59	45
4	27	14	23	21	45	293	373	651	62	47	59	45
5	30	13	22	20	41	441	743	743	59	424	54	45
6	28	10	20	26	41	390	967	687	56	509	52	45
7	29	15	17	30	45	325	633	579	59	475	54	49
8	30	15	16	30	43	184	407	325	49	526	52	47
9	34	15	17	24	41	140	293	198	54	561	52	47
10	32	15	17	25	37	90	341	123	54	357	52	49
11	31	15	17	24	36	68	543	98	52	128	52	47
12	28	15	18	23	34	72	863	134	52	98	49	45
13	50	15	19	22	32	76	883	128	86	72	49	52
14	26	15	25	21	32	261	651	261	56	62	54	49
15	26	15	47	21	32	373	492	597	45	59	47	45
16	35	15	37	19	32	424	441	561	45	54	47	39
17	60	15	31	23	36	341	325	309	45	52	47	45
18	46	15	47	424	36	309	213	171	45	62	47	45
19	37	22	65	1,060	34	213	134	492	47	140	47	43
20	32	34	41	1,380	32	245	113	651	98	65	45	41
21	28	28	31	1,220	32	309	509	651	86	54	45	39
22	26	25	27	763	31	325	763	743	62	52	45	39
23	30	23	23	407	31	309	615	579	54	52	52	37
24	26	22	21	213	34	261	390	261	52	54	49	41
25	28	20	22	651	59	229	309	171	62	56	47	45
26	53	18	22	923	1,170	705	509	146	54	82	45	123
27	23	18	23	883	1,960	763	509	113	65	134	43	79
28	21	17	24	723	1,640	687	390	108	79	68	43	49
29	21	18	25	373	-------	441	261	213	54	152	45	47
30	22	24	23	123	-------	245	184	245	47	94	45	49
31	20	-------	21	82	-------	325	-------	90	-------	68	43	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	60	20	30.9	May	743	90	353
November	34	10	18.3	June	98	45	59.3
December	65	16	27.2	July	561	47	152
January	1,380	19	310	August	62	43	49.5
February	1,960	31	206	September	123	37	48.6
March	1,120	68	360				
April	967	113	472	The year	1,960	10	174

TUSCARAWAS RIVER AT CRYSTAL SPRING, OHIO

LOCATION.—Chain gage in NW. ¼ sec. 30, T. 11 N., R. 9 W., at highway bridge at Crystal Spring.

DRAINAGE AREA.—430 square miles.

RECORDS AVAILABLE.—October, 1921, to September, 1929 (discontinued).

EXTREMES.—Maximum discharge during year, 5,050 second-feet Feb. 27 (gage height, 14.4 feet); minimum, 59 second-feet Aug. 22 and 23.

1921–1929: Maximum discharge, that of Feb. 27, 1929; minimum, 48 second-feet July 16, 1927.

Maximum stage known, 24.4 feet Mar. 26, 1913.

REMARKS.—Records fair. Ohio Canal diverts a small amount of water from Tuscarawas River at Portage Lakes, 3 miles south of Akron. Part of diverted water flows into Cuyahoga River Basin. For diversion past this gaging station by Ohio Canal see list of miscellaneous measurements. Flow slightly regulated at headwaters of this stream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	103	142	72	192	3,400	825	390	252	150	135	103
2	92	103	122	77	142	1,930	1,220	414	166	142	109	98
3	92	103	115	72	128	1,020	1,080	980	135	135	98	98
4	92	98	122	72	115	623	1,190	1,300	135	135	150	103
5	92	87	109	72	115	980	1,460	1,260	122	980	122	103
6	103	77	103	115	109	855	1,930	980	115	1,340	115	98
7	98	77	92	166	109	735	1,700	735	109	1,190	109	103
8	98	72	77	115	115	439	825	567	122	1,190	103	115
9	92	72	68	109	109	319	825	489	109	1,120	92	122
10	87	68	68	98	98	231	945	390	98	915	103	122
11	87	63	63	98	87	192	1,020	296	92	514	122	115
12	92	63	59	115	87	174	1,880	274	98	319	115	109
13	87	63	63	98	82	211	2,060	595	109	221	92	109
14	87	63	77	82	87	296	1,700	980	109	183	87	115
15	82	68	122	82	92	514	1,340	1,540	109	157	87	115
16	82	72	157	77	103	1,160	1,120	1,080	98	135	87	109
17	98	77	135	103	109	980	855	885	157	122	77	103
18	122	77	439	855	122	765	540	825	142	142	77	103
19	142	92	489	2,060	115	540	414	1,190	103	795	77	115
20	135	166	366	3,500	109	735	464	1,380	221	595	72	103
21	128	135	192	3,150	103	885	1,080	1,460	221	296	63	87
22	115	103	122	2,110	98	980	1,700	1,460	166	183	59	82
23	98	103	92	980	87	855	1,500	1,300	122	128	63	77
24	77	98	82	595	77	795	945	795	135	82	82	82
25	68	103	72	1,260	92	623	651	439	157	221	77	82
26	87	98	72	2,020	2,920	1,260	825	342	150	514	77	252
27	98	92	77	2,160	4,800	1,700	1,020	342	128	319	72	296
28	98	77	72	1,840	4,800	1,580	623	623	192	211	82	142
29	98	72	68	1,080	------	915	464	795	183	192	98	109
30	98	77	68	414	------	489	414	567	157	192	98	103
31	109	------	72	242	------	514	------	390	------	183	98	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	142	68	97.6	May	1,540	274	808
November	166	63	87.4	June	252	92	140
December	489	59	128	July	1,340	82	419
January	3,500	72	771	August	150	59	93.5
February	4,800	77	543	September	296	77	116
March	3,400	174	861				
April	2,060	414	1,090	The year	4,800	59	429

TUSCARAWAS RIVER NEAR DOVER, OHIO

LOCATION.—Chain gage in T. 9 N., R. 2 W., on highway bridge 2½ miles northeast of Dover and 3 miles above mouth of Sugar Creek. Zero of gage is 861.51 feet above mean sea level.

DRAINAGE AREA.—1,400 square miles.

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

EXTREMES.—Maximum discharge during year, 20,700 second-feet Feb. 27 (gage height, 13.3 feet); minimum, 214 second-feet Dec. 13.

1923–1929: Maximum discharge, that of Feb. 27, 1929; minimum, 125 second-feet Nov. 15, 1923.

REMARKS.—Records fair. Discharge estimated because of ice effect Jan. 5, Jan. 31 to Feb. 5, Feb. 13 and 14. Small amount of water diverted into Cuyahoga River Basin by Ohio Canal. There is no appreciable flow in Ohio Canal at this gaging station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	266	266	336	310		9,140	4,250	1,780	1,400	605	880	320
2	266	248	620	500		5,580	4,130	2,180	1,220	535	760	273
3	248	310	580	620	800	3,290	3,290	6,770	1,040	500	720	234
4	248	336	426	426		2,390	2,280	9,520	920	500	720	234
5	266	362	362	600		2,940	4,250	7,090	840	2,080	640	234
6	310	266	336	795	975	4,010	4,010	5,870	840	4,250	605	234
7	288	248	500	1,710	1,310	4,630	3,530	3,770	800	2,610	535	254
8	288	288	230	975	1,410	3,290	2,720	3,290	840	4,010	500	296
9	266	266	230	1,310	580	2,500	2,180	2,830	880	3,890	468	320
10	266	266	230	1,110	580	1,680	3,290	2,180	720	4,130	468	320
11	248	266	230	840	500	1,490	4,760	1,580	760	3,410	570	320
12	248	248	230	620	426	1,490	5,020	1,490	760	2,390	535	375
13	266	248	214	336	400	1,400	5,720	1,880	720	1,980	500	500
14	266	248	248	288	400	2,610	5,300	2,720	760	1,580	468	640
15	288	266	248	266	426	4,250	4,250	5,300	760	1,130	500	435
16	288	288	500	310	500	5,020	4,630	5,300	640	920	468	405
17	310	288	540	336	580	4,630	3,770	3,530	535	800	405	500
18	463	288	930	2,370	705	3,410	2,830	2,500	535	720	375	500
19	500	580	2,150	4,010	660	2,720	2,280	3,650	570	1,880	348	435
20	336	540	1,060	6,020	580	2,280	2,080	5,440	1,680	1,080	320	375
21	310	750	750	5,300	463	2,390	3,170	5,300	1,040	840	320	320
22	288	540	660	4,760	463	2,390	5,870	5,440	680	720	375	296
23	288	463	620	3,530	394	3,050	4,500	4,630	500	570	468	296
24	288	426	620	3,290	394	2,830	3,050	3,290	570	535	468	273
25	288	394	426	4,890	426	2,390	2,390	2,720	570	1,220	468	296
26	288	394	336	7,090	9,520	3,290	3,050	1,880	570	3,770	405	405
27	310	394	336	5,870	20,400	4,130	3,050	1,680	640	3,050	320	880
28	310	362	336	4,010	15,500	3,530	2,390	1,400	840	1,780	320	760
29	288	362	310	2,810	-------	2,720	2,720	2,280	1,000	1,780	296	435
30	266	336	310	1,310	-------	2,180	2,280	2,610	760	1,880	320	375
31	266	-------	288	1,000	-------	1,980	-------	1,980	-------	1,310	320	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	500	248	294	0.210	0.24
November	750	248	351	.251	.28
December	2,150	214	490	.350	.40
January	7,090	266	2,180	1.56	1.80
February	20,400	394	2,200	1.57	1.64
March	9,140	1,400	3,210	2.29	2.64
April	5,870	2,080	3,570	2.55	2.84
May	9,520	1,400	3,610	2.58	2.97
June	1,680	500	813	.581	.65
July	4,250	500	1,820	1.30	1.50
August	880	296	480	.343	.40
September	880	234	385	.275	.31
The year	20,400	214	1,620	1.16	15.67

TUSCARAWAS RIVER AT NEWCOMERSTOWN, OHIO

LOCATION.—Water-stage recorder in T. 5 N., R. 3 W., at highway bridge three-fourths mile east of Newcomerstown. Zero of gage is 785.0[illegible] feet above mean sea level.

DRAINAGE AREA.—2,430 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 29,400 second-feet Feb. 28 (gage height, 13.5 feet); minimum, 310 second-feet Oct. 14 (gage height, 1.00 foot).

1921–1929: Maximum discharge, that of Feb. 28, 192[illegible]; minimum discharge, 227 second-feet June 23, 1925; minimum gage height, that of Oct. 14, 1928.

Flood of March, 1913, reached stage of about 21.5 feet (discharge, estimated, 130,000 second-feet).

REMARKS.—Records good. Discharge estimated because of ice effect Jan. 7–18, Feb. 11–15 and 20–24. Small amount of water is diverted into Cuyahoga River Basin by Ohio Canal at Portage Lakes.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	360	390	930	662	1,640	23,800	3,190	3,730	2,490	1,180	1,300	422
2	355	360	1,640	930	1,440	15,700	5,860	3,990	2,000	950	1,060	415
3	360	390	1,320	1,500	1,320	8,680	4,660	10,500	1,780	902	950	402
4	360	451	1,040	1,200	1,320	5,260	3,730	15,500	1,640	806	950	390
5	390	516	880	1,090	1,260	5,860	5,660	17,600	1,500	1,000	950	377
6	420	516	835	1,260	1,040	8,020	7,580	14,400	1,430	5,480	854	370
7	420	451	835	1,700	1,260	8,900	6,070	11,300	1,360	5,260	759	396
8	390	420	745		1,830	8,460	4,860	8,240	1,360	5,860	714	415
9	360	420	662		1,700	6,700	3,910	5,460	1,850	6,280	669	500
10	350	390	588		1,500	5,060	5,260	3,910	1,570	5,860	669	580
11	355	420	588	1,200	950	3,370	9,140	3,190	1,240	6,280	669	493
12	345	420	550			2,830	9,860	2,830	1,120	3,910	759	442
13	335	390	516			2,830	10,600	3,010	1,060	2,830	714	493
14	330	390	550			3,550	10,100	3,910	1,120	2,830	669	714
15	335	420	790			6,920	7,800	7,800	1,120	2,160	669	806
16	335	420	1,320	1,600	790	8,020	7,580	10,300	1,120	1,570	714	669
17	360	390	1,320		880	9,860	7,360	8,460	950	1,240	669	669
18	550	390	1,780		1,090	8,020	5,860	5,260	950	1,120	580	669
19	790	482	3,630	7,110	1,260	5,660	4,470	5,860	902	1,640	540	669
20	880	980	2,770	9,610	880	4,280	3,550	9,860	1,120	2,490	493	540
21	588	1,640	1,830	9,210	810	3,910	3,910	9,860	1,500	1,430	464	471
22	451	1,200	1,260	7,300		3,910	8,460	10,600	1,240	1,060	493	428
23	451	980	1,040	5,790		4,470	9,620	9,140	1,000	902	540	402
24	451	930	1,090	5,790		5,060	6,700	6,700	854	854	580	390
25	482	835	980	5,970	790	4,470	5,060	4,860	854	806	624	383
26	482	700	835	10,000	6,720	4,090	4,860	3,730	902	3,420	580	390
27	451	625	745	10,000	16,400	6,490	5,660	3,190	1,000	4,280	500	624
28	420	588	745	6,920	28,500	6,490	4,860	2,660	1,180	3,370	464	854
29	420	588	745	4,350	-------	5,060	5,260	2,830	1,850	2,000	442	669
30	420	625	700	2,940	-------	3,910	4,660	4,090	1,850	2,490	428	624
31	420	-------	662	2,120	-------	3,370	-------	3,370	-------	1,920	435	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	880	330	433	0.178	0.21
November	1,640	360	591	.243	.27
December	3,630	516	1,090	.449	.52
January	10,000	662	3,590	1.48	1.71
February	28,500	790	2,840	1.17	1.22
March	23,800	2,830	6,550	2.70	3.11
April	10,600	3,190	6,200	2.55	2.84
May	17,600	2,660	6,970	2.87	3.31
June	2,490	854	1,330	.547	.61
July	6,280	806	2,650	1.09	1.26
August	1,300	428	674	.277	.32
September	854	370	522	.215	.24
The year	28,500	330	2,790	1.15	15.62

MUSKINGUM RIVER AT DRESDEN, OHIO

LOCATION.—Water-stage recorder at highway bridge half a mile east of Dresden, Muskingum County, and half a mile below Wakatomika Creek. Zero of gage is 693.15 feet above mean sea level.

DRAINAGE AREA.—5,980 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 53,200 second-feet Feb. 28 (gage height, 25.3 feet); minimum, 780 second-feet Oct. 16 (gage height, 3.94 feet).

1921–1929: Maximum discharge, 55,500 second-feet Mar. 23, 1927 (gage height, 26.0 feet); minimum, 335 second-feet June 25, 1925 (gage height, 2.73 feet).

Maximum known stage, about 46 feet during March, 1913 (discharge, estimated, 160,000 second-feet).

REMARKS.—Records excellent. Discharge estimated Jan. 7–18, because of ice. Occasionally slight regulation at Dam 11, 7 miles below gage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	810	880	1,580	1,790	5,910	50,300	8,920	10,200	6,400	4,120	3,560	1,120
2	810	880	2,660	2,140	5,270	45,200	12,400	10,600	5,430	3,840	2,860	1,060
3	810	880	3,690	3,540	4,790	32,200	13,000	19,700	4,830	3,280	2,590	1,010
4	810	950	2,800	4,150	4,310	19,800	10,400	25,400	4,400	2,720	2,330	960
5	880	1,110	2,260	3,090	3,990	17,300	11,700	27,700	4,120	2,460	2,330	960
6	880	1,110	2,020	3,090	3,840	19,700	16,400	32,800	3,840	8,840	2,200	910
7	880	1,110	1,900		3,840	20,500	15,200	29,200	3,700	14,000	2,070	910
8	880	1,030	1,900	3,000	4,150	19,700	12,100	23,000	4,540	15,400	1,940	910
9	810	1,030	1,680		4,950	17,000	10,200	17,600	5,130	17,400	1,810	1,280
10	810	950	1,480		4,470	14,500	13,300	11,900	4,830	15,900	1,690	1,280
11	810	950	1,290		3,840	11,000	21,900	9,300	3,980	15,400	1,690	1,230
12	810	950	1,290		4,470	8,350	24,500	8,170	3,420	12,400	1,570	1,120
13	810	950	1,290	2,800	5,820	7,450	24,200	8,920	3,140	8,350	1,570	1,230
14	780	950	1,380		5,270	8,170	21,900	10,400	3,140	6,740	1,690	1,400
15	780	950	1,790		4,150	12,800	18,900	18,000	3,280	5,750	1,690	1,570
16	780	950	3,540		2,940	16,700	16,900	24,500	3,140	4,830	1,690	1,810
17	780	950	4,150	2,200	2,660	18,600	16,600	20,200	3,000	3,840	1,690	1,690
18	880	950	5,360		2,940	18,600	14,500	15,000	2,860	3,280	1,570	1,570
19	1,200	950	8,920	19,400	3,390	14,700	11,700	14,700	2,590	4,120	1,450	1,450
20	1,580	1,380	8,540	30,400	3,390	11,500	9,490	21,300	2,460	5,430	1,340	1,400
21	1,680	2,660	6,230	27,400	3,540	10,600	9,680	22,200	3,420	4,400	1,230	1,230
22	1,290	3,240	4,150	20,800	3,540	10,400	19,400	23,600	3,420	3,280	1,230	1,120
23	1,110	2,520	3,090	17,900	3,090	11,700	22,200	21,900	2,860	2,720	1,570	1,010
24	1,030	2,140	2,660	17,100	2,800	12,400	18,200	17,200	2,590	2,460	2,860	960
25	1,030	1,900	2,520	18,600	2,520	11,900	14,200	13,000	2,860	2,330	3,000	960
26	1,030	1,790	2,260	29,000	18,700	11,400	12,600	10,600	3,560	4,190	2,590	960
27	1,030	1,480	2,140	26,500	45,600	17,500	14,700	8,920	3,420	7,450	1,940	960
28	1,030	1,380	2,020	21,100	52,200	18,600	13,800	7,630	3,700	8,540	1,450	1,230
29	950	1,380	2,020	14,400	-------	14,700	13,500	6,910	4,260	5,750	1,280	1,570
30	950	1,290	1,900	9,870	-------	11,900	12,600	7,630	4,400	4,540	1,180	1,340
31	950	-------	1,900	7,090	-------	9,870	-------	7,810	-------	4,540	1,120	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,680	780	957	0.160	0.18
November	3,240	880	1,320	.22	.25
December	8,920	1,290	2,920	.488	.56
January	30,400	1,790	10,000	1.67	1.92
February	52,200	2,520	7,730	1.29	1.34
March	50,300	7,450	16,900	2.83	3.26
April	24,500	8,920	15,200	2.54	2.83
May	32,800	6,910	16,300	2.73	3.15
June	6,400	2,460	3,760	.628	.70
July	17,400	2,330	6,720	1.12	1.29
August	3,560	1,120	1,900	.318	.37
September	1,810	910	1,210	.202	.23
The year	52,200	780	7,090	1.19	16.08

MUSKINGUM RIVER AT McCONNELSVILLE, OHIO

LOCATION.—Water-stage recorder in SE. ¼ sec. 11, T. 10 N., R. 12 W., above Dam 7 at McConnelsville. Zero of gage is at elevation of crest of dam, 650.31 feet above mean sea level.

DRAINAGE AREA.—7,410 square miles.

RECORDS AVAILABLE.—October, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, about 74,600 second-feet Feb. 28 (gage height, 11.7 feet); minimum, 698 second-feet Oct. 12.

1921–1929: Maximum discharge, about 76,600 second-feet (revised) Apr. 16, 1922 (gage height, 11.9 feet); minimum mean daily discharge, 622 second-feet Sept. 5, 1925.

The flood of Mar. 27, 1913, reached a stage of 33.5 feet (discharge, estimated, 200,000 second-feet).

REMARKS.—Records good except those for extremely high and extremely low stages, which are fair. Discharge estimated July 6–11. Water diverted around dam by Elk Eye Milling Co. The milling company operated only 2 or 3 hours a day, causing a negligible diversion. Diversion by McConnelsville-Malta Electric Co. was discontinued Mar. 27, 1927.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	918	1,070	1,960	3,300	6,280	63,600	8,960	11,500	7,000	4,640	3,740	1,240
2	864	1,050	2,340	3,740	5,280	58,600	10,700	12,800	5,940	4,340	3,020	1,240
3	882	1,070	3,740	3,300	4,960	42,500	12,900	21,700	4,960	3,740	3,160	1,150
4	846	1,160	3,300	4,340	4,640	24,300	10,700	24,300	4,640	3,020	2,880	1,130
5	918	1,280	2,740	3,740	4,040	21,700	11,100	26,300	4,340	2,740	2,480	1,070
6	936	1,390	2,340	4,040	4,040	23,000	15,200	30,000	4,040		2,350	1,050
7	900	1,330	2,210	3,160	4,340	25,600	15,200	31,600	4,040		2,110	1,070
8	954	1,280	2,210	3,740	4,340	21,700	12,900	25,000	5,600	15,000	2,000	1,010
9	900	1,180	1,960	3,440	4,960	18,200	11,200	19,300	5,600		1,890	1,150
10	846	1,180	1,840	3,590	4,960	15,200	18,400	13,800	5,280		1,790	1,410
11	810	1,100	1,610	4,640	4,340	12,500	27,000	9,800	4,340	16,000	1,790	1,320
12	762	1,160	1,500	4,040	3,740	9,800	28,500	8,560	3,740	12,900	1,790	1,240
13	794	1,100	1,500	3,300	3,160	8,160	27,000	8,160	3,440	8,960	1,790	1,690
14	810	1,100	2,210	2,600	3,300	8,960	23,600	10,200	3,300	6,640	2,350	1,890
15	778	1,080	2,880	2,080	3,300	12,900	21,100	16,600	3,440	5,940	2,230	1,690
16	778	1,070	3,590	1,840	3,160	18,200	19,300	25,000	3,300	4,960	2,000	1,690
17	882	1,070	4,640	1,960	3,160	18,800	17,700	22,400	3,020	4,040	1,890	2,000
18	1,370	1,070	6,640	3,900	3,300	18,800	16,200	17,200	3,020	3,590	1,690	1,790
19	1,390	1,390	9,800	18,600	3,740	16,200	13,400	17,700	2,880	4,040	1,890	1,500
20	1,610	2,080	9,380	28,500	3,300	12,500	10,700	23,000	2,610	4,960	1,600	1,500
21	1,840	2,340	7,000	31,600	3,160	10,700	9,800	23,000	2,880	4,640	1,410	1,410
22	1,720	3,590	4,960	24,300	3,160	10,700	16,400	23,000	3,440	3,440	1,410	1,240
23	1,500	3,020	3,740	21,700	3,160	11,500	23,000	22,400	3,160	2,880	2,280	1,100
24	1,330	2,600	2,020	19,900	2,740	12,900	21,100	18,200	2,740	2,480	2,880	1,100
25	1,200	2,340	2,880	19,900	3,020	12,000	16,200	14,300	2,880	2,350	3,020	1,000
26	1,220	2,080	2,740	30,800	24,500	11,500	13,800	11,100	3,440	3,160	2,740	990
27	1,240	1,840	2,600	30,800	65,600	15,700	13,800	9,380	3,590	5,600	2,230	1,020
28	1,200	1,720	2,470	25,000	72,600	18,800	14,300	8,560	3,670	8,160	1,690	1,150
29	1,140	1,610	2,470	17,200	-------	15,200	13,400	8,560	5,280	6,640	1,500	1,410
30	1,080	1,720	2,340	12,000	-------	12,500	13,400	7,380	4,640	4,640	1,320	1,500
31	1,080	-------	2,340	8,560	-------	10,200	-------	7,760	-------	4,640	1,240	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,840	762	1,080	0.146	0.17
November	3,590	1,050	1,570	.212	.24
December	9,800	1,500	3,390	.457	.53
January	31,600	1,840	11,300	1.52	1.75
February	72,600	2,740	9,300	1.26	1.31
March	63,600	8,160	19,100	2.58	2.97
April	28,500	8,960	16,200	2.19	2.44
May	31,600	7,380	17,100	2.31	2.66
June	7,000	2,610	4,010	.541	.60
July	----------	2,350	6,910	.933	1.08
August	3,740	1,240	2,130	.287	.33
September	2,000	990	1,330	.179	.20
The year	72,600	762	7,790	1.05	14.28

SANDY CREEK AT SANDYVILLE, OHIO

LOCATION.—Chain gage in sec. 8, T. 10 N., R. 1 W., on highway bridge half a mile south of Sandyville.

DRAINAGE AREA.—481 square miles.

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

EXTREMES.—Maximum discharge during year, about 15,300 second-feet Feb. 26 (gage height, 13.0 feet); minimum, 74 second-feet Oct. 11 (gage height, 1.45 feet).

1923–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 48 second-feet June 24, 1925 (gage height, 1.15 feet).

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

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	107	430	209	342	1,280	1,660	640	550	242	308	98
2	112	123	378	274	291	1,000	1,280	730	470	225	258	123
3	107	162	308	181	274	880	830	5,730	430	190	274	123
4	112	162	258	193	242	730	830	4,210	395	184	308	112
5	130	133	242	156	225	1,210	1,580	2,920	360	1,930	242	105
6	148	139	242	550	225	1,000	1,070	1,840	360	1,000	225	117
7	115	117	181	360	550	1,660	830	1,420	342	470	209	145
8	102	123	187	258	395	940	685	1,000	378	1,840	181	96
9	123	120	156	325	360	780	780	830	342	1,070	187	187
10	86	123	150	225	274	490	1,840	685	291	2,110	187	156
11	80	107	148	274	242	510	1,840	595	274	1,280	225	145
12	107	120	133	165	209	510	2,600	550	258	830	193	117
13	110	133	145	200	225	560	1,580	780	258	685	181	291
14	84	107	184	200	209	1,140	1,140	1,140	274	558	242	308
15	112	123	342	200	162	1,840	1,280	2,600	274	430	225	209
16	98	120	325	200	187	2,500	1,660	1,580	258	342	187	162
17	100	112	308	200	225	2,020	1,210	1,070	258	291	156	258
18	225	112	830	1,280	378	1,070	940	780	258	308	154	225
19	225	308	780	3,480	291	880	730	2,810	242	640	153	190
20	156	550	450	1,580	209	830	685	1,840	450	360	150	156
21	133	395	291	1,060	225	780	2,600	2,300	360	291	142	139
22	117	325	291	550	187	1,000	2,500	2,110	242	258	258	123
23	139	325	225	830	168	1,070	1,210	1,280	225	242	174	133
24	139	291	193	780	205	1,070	880	940	209	209	193	133
25	139	258	182	2,700	242	780	830	880	225	730	162	120
26	123	225	171	2,600	10,400	1,210	1,280	738	274	1,840	156	490
27	128	193	181	1,280	10,800	1,140	830	595	225	880	142	360
28	117	193	181	730	2,920	780	780	550	258	595	123	193
29	117	187	193	510	------	640	1,070	1,420	342	685	117	165
30	117	274	168	450	------	640	730	1,070	258	595	102	181
31	110	------	162	378	------	640	------	730	------	412	102	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	225	80	124	0.258	0.30
November	550	107	192	.399	.45
December	830	133	271	.563	.65
January	3,480	156	722	1.50	1.73
February	10,800	162	1,100	2.29	2.38
March	2,500	490	1,020	2.12	2.44
April	2,600	685	1,260	2.62	2.92
May	5,730	550	1,500	3.12	3.60
June	550	209	311	.647	.72
July	2,110	184	701	1.46	1.68
August	308	102	191	.397	.46
September	490	96	179	.372	.42
The year	10,800	80	628	1.31	17.75

NIMISHILLEN CREEK AT NORTH INDUSTRY, OHIO

LOCATION.—Water-stage recorder in SW. ¼ sec. 35, T. 10 N., R. 8 W., just below railroad bridge and 1 mile southeast of North Industry. Zero of gage is 970.77 feet above mean sea level.

DRAINAGE AREA.—175 square miles.

RECORDS AVAILABLE.—October, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, about 4,000 second-feet Feb. 26 (gage height, 9.9 feet); minimum, 24 second-feet Nov. 9 (gage height, 0.82 foot).

1921–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 6.4 second-feet Sept. 2, 1925 (gage height, 0.58 foot).

REMARKS.—Records excellent except those for extremely high water, which are fair. Slight regulation by steel mills at Canton, about 4 miles above gage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	42	113	65	76	286	804	145	93	98	80	46
2	46	47	82	57	66	213	448	495	87	86	78	49
3	45	52	67	48	62	142	233	1,252	87	84	95	53
4	45	51	59	47	65	158	321	497	84	72	78	61
5	58	48	58	65	62	292	559	531	80	908	70	69
6	47	42	54	179	91	249	322	336	78	352	65	70
7	40	43	51	77	182	371	189	284	81	294	66	74
8	43	47	50	71	102	151	150	203	83	770	66	74
9	42	46	42	59	83	126	164	163	77	505	64	65
10	41	46	44	61	68	86	481	139	79	798	67	55
11	44	42	45	58	63	87	392	124	69	300	75	52
12	45	46	44	51	63	94	761	157	69	190	65	76
13	45	48	45	47	59	116	464	226	67	274	65	100
14	44	45	62	45	59	392	328	493	82	204	86	59
15	46	43	77	45	64	522	360	830	67	117	70	49
16	48	43	75	46	76	883	378	427	74	93	65	48
17	49	43	110	186	122	503	246	234	84	87	59	68
18	99	42	248	654	119	252	173	186	71	224	57	50
19	58	129	126	1,094	80	201	145	726	145	211	59	48
20	48	150	85	436	68	213	166	482	151	98	56	46
21	44	92	62	183	68	188	826	810	84	76	56	44
22	44	82	58	121	61	309	706	574	77	71	90	42
23	59	80	50	217	58	341	300	279	67	66	65	46
24	53	68	47	166	71	263	214	232	76	61	50	48
25	47	62	45	1,227	215	182	235	216	89	504	45	49
26	43	58	47	694	2,360	586	447	159	87	548	47	292
27	46	56	48	220	1,240	399	239	136	84	180	46	105
28	42	56	48	128	381	206	196	137	121	106	46	62
29	46	56	49	100	-------	153	249	243	89	280	50	53
30	45	81	42	90	-------	155	172	140	86	155	49	52
31	42	-------	43	82	-------	152	-------	113	-------	97	48	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	99	40	48.0	0.274	0.32
November	150	42	59.5	.340	.38
December	248	42	67.0	.383	.44
January	1,227	45	214	1.22	1.41
February	2,860	58	235	1.34	1.40
March	883	86	267	1.53	1.76
April	826	145	356	2.03	2.26
May	1,252	113	354	2.02	2.33
June	151	67	85.5	.489	.54
July	908	61	255	1.46	1.68
August	95	45	63.8	.365	.42
September	292	42	66.8	.382	.43
The year	2,860	40	172	.983	13.37

STILLWATER CREEK AT UHRICHSVILLE, OHIO

LOCATION.—Staff gage at waterworks pumping station 1 mile south of Uhrichsville and Dennison, in Tuscarawas County.

DRAINAGE AREA.—367 square miles.

RECORDS AVAILABLE.—July, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, 5,590 second-feet Feb. 28 (gage height, 9.5 feet); minimum, 5 second-feet Sept. 5 (gage height, 0.32 foot).

1922–1929: Maximum discharge, 7,430 second-feet Dec. 16, 1927 (gage height, 11.8 feet); minimum, 2 second-feet Oct. 1, 1925, July 30 and 31, 1926 (gage height, 0.25 foot).

REMARKS.—Records good. Municipal water supply for Dennison and Uhrichsville diverted at gage; not included in tables of discharge. Gage-height record and record of diversion in total gallons furnished by Dennison Water Supply Co.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	26	376	100	292	4,590	397	611	292	174	28	11
2	11	26	568	611	272	3,150	376	611	223	141	21	11
3	13	30	334	654	252	1,640	313	3,020	198	104	24	9
4	17	32	223	397	210	890	292	4,960	174	88	24	7
5	24	54	178	272	210	1,280	890	5,190	161	219	32	5
6	26	47	252	568	178	1,880	1,050	3,990	153	334	44	7
7	32	34	231	995	231	2,240	654	2,820	145	231	26	10
8	54	34	157	504	460	2,370	482	1,640	397	568	19	8
9	41	30	141	313	418	2,240	482	940	611	376	15	24
10	30	34	79	397	376	1,640	940	611	313	355	13	24
11	21	37	92	482	272	742	1,760	504	202	252	15	12
12	21	34	71	397	215	568	1,640	439	165	141	15	11
13	24	34	67	292	165	525	1,160	460	161	418	12	19
14	30	32	100	178	145	654	790	568	194	292	15	41
15	28	30	292	149	137	1,100	697	1,280	182	231	15	133
16	34	30	439	137	137	1,280	1,050	1,700	141	133	44	104
17	34	26	334	149	149	1,760	1,100	1,400	124	88	32	60
18	96	26	611	482	190	1,700	840	742	100	71	17	57
19	165	54	1,050	1,640	194	1,100	654	940	83	67	12	44
20	190	313	840	2,060	145	697	482	1,760	231	64	11	30
21	71	654	504	1,820	137	611	504	1,820	174	47	11	17
22	32	231	231	1,160	116	525	1,280	1,760	100	37	10	13
23	30	194	215	1,050	124	611	1,520	1,520	79	28	17	12
24	34	161	182	1,520	108	654	1,160	940	71	24	26	12
25	50	124	141	1,520	120	568	742	654	71	24	79	12
26	41	100	120	2,000	1,520	525	890	525	104	64	44	12
27	32	79	124	1,760	4,440	742	1,160	439	153	194	26	13
28	30	60	124	1,050	5,510	697	1,100	355	210	219	15	17
29	26	67	149	697	-------	568	1,050	376	654	145	13	21
30	28	75	124	482	-------	439	940	355	355	60	12	124
31	26	-------	96	355	-------	418	-------	292	-------	37	11	-------

Month	Observed				Corrected for diversion		Run-off in inches
	Maximum	Minimum	Mean	Mean diversion	Mean	Per square mile	
October	190	9	41.9	3.14	45.0	0.123	0.14
November	654	26	90.3	3.07	93.4	.254	.28
December	1,050	67	272	2.79	275	.749	.86
January	2,060	100	780	2.83	783	2.13	2.46
February	5,510	108	597	2.95	600	1.63	1.70
March	4,590	418	1,240	2.80	1,240	3.38	3.90
April	1,760	292	880	2.69	883	2.41	2.69
May	5,190	292	1,390	2.79	1,390	3.79	4.37
June	654	71	207	2.87	210	.572	.64
July	568	24	169	2.91	172	.469	.54
August	79	10	22.5	3.04	25.5	.069	.08
September	133	5	29.3	3.19	32.5	.088	.10
The year	5,510	5	478	2.92	481	1.31	17.76

MOHICAN RIVER AT GREER, OHIO

LOCATION.—Chain gage on highway bridge at Greer, Knox County Zero of gage is 872.91 feet above mean sea level.

DRAINAGE AREA.—942 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 14,500 second-feet Feb. 26 (gage height, 12.2 feet); minimum, 130 second-feet Oct. 1–5, 8–15 (gage height, 1.48 feet).

1921–1929: Maximum discharge, 15,400 second-feet Mar. 21, 1927 (gage height, 12.7 feet); minimum, 93 second-feet Sept. 12, 1925 (gage height, 1.29 feet).

REMARKS.—Records good except those estimated because of ice effect, Dec. 7, 10–13, 26, Jan. 3–5, 7–17, Feb. 4–8 and 10–15, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	130			244	660	5,110	2,350	1,190	578	1,240	495	168
2	130			228	575	3,450	2,130	1,290	495	578	374	161
3	130	150	230		527	2,180	1,800	2,530	495	402	360	155
4	130			250		1,910	2,080	2,300	448	348	455	148
5	130					2,460	3,790	4,690	448	5,040	334	148
6	149			660	500	1,960	2,650	4,200	432	7,330	310	155
7	136					1,590	2,020	2,640	418	7,180	288	155
8	130	150	170	500		1,090	1,490	1,800	495	8,090	266	148
9	130				543	895	1,590	1,490	418	6,580	266	175
10	130				500	800	3,320	1,040	388	5,260	255	191
11	130					665	3,000	942	374	3,060	255	161
12	130		170			620	3,980	800	388	2,130	228	155
13	130	130			300	620	2,950	755	402	1,290	210	175
14	130					990	2,350	1,660	418	1,140	288	168
15	130			400		1,750	1,910	4,970	402	800	334	168
16	155		590			2,080	2,020	3,080	374	665	276	155
17	204					2,130	1,490	1,800	402	578	246	206
18		170	2,350	3,080	350	1,910	1,240	1,390	388	495	228	191
19	220		1,260	9,960		1,190	990	3,100	388	942	223	155
20			1,020	8,240		1,290	990	3,320	942	578	219	155
21			495	3,710		1,490	4,610	3,580	578	448	206	148
22			420	3,320		2,300	5,700	3,710	418	388	206	141
23	150	230	392	2,240	350	2,130	2,960	2,580	388	348	1,240	141
24			364	2,020		1,960	2,130	2,130	495	322	380	141
25			338	7,140		1,800	2,020	1,690	1,590	2,140	304	141
26			291	5,980	12,600	5,100	3,320	1,290	895	2,040	242	175
27			244	3,060	13,500	7,110	2,130	1,040	535	2,910	206	198
28	140	170	244	2,020	9,480	2,940	1,690	848	495	2,160	198	168
29			244	1,610	-------	2,460	1,910	848	455	1,190	183	161
30			228	1,410	-------	2,020	1,390	800	448	942	175	148
31		-------	204	875	-------	1,540	-------	665	-------	848	168	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	----------	130	148	0.157	0.18
November	----------	----------	167	.177	.20
December	2,350	----------	405	.430	.50
January	9,960	----------	1,980	2.10	2.42
February	13,500	----------	1,640	1.74	1.81
March	7,110	620	2,110	2.24	2.58
April	5,700	990	2,400	2.55	2.85
May	4,970	665	2,070	2.20	2.54
June	1,590	374	513	.545	.61
July	8,090	322	2,180	2.31	2.66
August	1,240	168	304	.323	.37
September	206	141	162	.172	.19
The year	13,500	130	1,170	1.24	16.91

WALHONDING RIVER AT POMERENE, OHIO

LOCATION.—Water-stage recorder at highway bridge at Pomerene, Coshocton County, one-third mile above Honey Run. Zero of gage is 805.53 feet above mean sea level.

DRAINAGE AREA.—1,490 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1929. Records from December, 1910, to March, 1913, were published as Mohican River at Pomerene.

EXTREMES.—Maximum discharge during year, 27,400 second-feet Feb. 26 (gage height, 15.5 feet); minimum, 193 second-feet Nov. 15 (gage height, 1.48 feet).

1921–1929: Maximum discharge, that of Feb. 27, 1929; minimum, 101 second-feet Aug. 30, 1925 (gage height, 1.04 feet).

Flood of March, 1913, reached a stage of 21.6 feet (discharge, estimated, 80,000 second-feet).

REMARKS.—Records good except those estimated because of ice, Jan. 8–17 and Feb. 11–25, and because of missing record, Nov. 27 to Jan. 3 and July 17–21, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	208	212			1,300	7,450	3,020	2,020	960	1,240	740	278
2	208	228		420	1,070	4,940	4,140	2,410	850	1,070	596	274
3	212	274	450		1,020	3,230	2,670	4,720	795	740	552	269
4	216	288		498	850	3,230	2,540	3,980	740	552	596	264
5	228	294		454	820	4,780	5,450	6,140	690	3,980	552	259
6	236	259		740	795	3,680	3,760	6,180	690	7,450	475	259
7	232	245		740	690	3,230	2,670	3,830	640	8,020	447	264
8	224	232	310		690	2,280	2,280	2,950	740	9,780	426	288
9	216	232		1,000	640	1,900	2,020	2,280	690	7,260	399	316
10	212	232			640	1,420	5,470	1,900	596	6,150	386	288
11	208	224				1,240	5,620	1,540	552	4,230	374	278
12	204	220	300			1,180	6,510	1,640	544	2,810	368	269
13	204	216			450	1,180	4,620	2,810	552	2,020	349	283
14	204	212		700		1,980	3,980	3,180	640	1,480	412	283
15	204	204				3,380	3,230	9,710	640	1,180	498	283
16	220	200	1,100			3,230	3,380	5,320	596	905	419	264
17	250	204				3,380	2,670	3,230	640		374	269
18	343	212		4,200	500	2,410	2,280	2,540	529		343	294
19	412	332	3,000	17,500		2,020	1,900	4,920	490	760	332	274
20	288	440		13,200		2,020	1,660	5,110	926		321	264
21	240	454		6,380		2,540	4,760	5,190	850		310	259
22	224	405		4,300	500	2,810	9,220	6,510	596	552	310	250
23	240	399	720	4,700		3,380	4,630	3,830	596	521	880	245
24	245	386		3,680	600	2,950	3,380	3,090	960	506	1,070	245
25	245	355		11,200	600	2,810	2,950	2,540	1,420	1,700	483	245
26	236	349		10,200	20,500	5,620	5,620	2,020	1,540	2,020	399	264
27	228			5,450	20,000	9,310	3,530	1,660	905	3,270	355	294
28	224			3,230	12,500	4,540	2,810	1,480	850	2,900	326	294
29	224	290	420	2,540		3,230	3,230	1,360	795	1,540	310	269
30	212			2,150		2,670	2,410	1,240	740	1,300	299	254
31	212			1,660		2,150		1,070		1,020	288	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	412	204	234	0.157	0.18
November	454	200	282	.189	.21
December			755	.507	.58
January	17,500		3,290	2.21	2.55
February	20,500		2,460	1.65	1.72
March	9,310	1,180	3,230	2.17	2.50
April	9,220	1,660	3,750	2.52	2.81
May	9,710	1,070	3,430	2.30	2.65
June	1,540	490	758	.509	.57
July	9,780	506	2,520	1.69	1.95
August	1,070	288	451	.303	.35
September	316	245	271	.182	.20
The year	20,500	200	1,790	1.20	16.27

ROCKY FORK NEAR MANSFIELD, OHIO

LOCATION.—Chain gage in NE. ¼ sec. 26, T. 21 N., R. 18 W., at highway bridge on lower Lucas road, 2 miles southeast of Mansfield. Zero of gage is 1,120.88 feet above mean sea level.

DRAINAGE AREA.—38.3 square miles.

RECORDS AVAILABLE.—August, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,470 second-feet Feb. 26 (gage height, 12.9 feet); minimum, 8.9 second-feet Oct. 1, 21, 22, Nov. 11, 15 (gage height, 1.14 feet).

1925–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 6.3 second-feet Nov. 7, 1927 (gage height, 1.04 feet).

REMARKS.—Records good. Slight diurnal fluctuation at low water due to operation of Mansfield sewage treatment works.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.2	10	20	18	19	70	207	34	16	18	19	13
2	11	33	15	13	20	59	70	70	15	16	17	12
3	12	18	12	12	15	48	46	170	17	16	44	14
4	13	9.6	16	11	16	125	419	57	18	12	16	14
5	14	10	15	33	15	112	93	237	18	848	18	15
6	12	11	13	25	16	49	57	69	16	87	17	14
7	11	11	15	16	16	42	38	60	16	473	16	14
8	12	13	11	14	18	24	38	40	18	237	15	16
9	11	11	11	12	16	22	49	35	14	154	16	19
10	12	44	14	23	12	20	268	26	16	76	16	14
11	12	9.2	11	15	12	21	192	26	16	34	13	14
12	11	9.6	14	14	14	23	99	62	20	27	14	14
13	12	12	14	11	14	35	118	54	16	24	14	16
14	10	10	87	12	15	105	59	237	19	20	29	14
15	13	9.6	31	12	16	70	69	125	14	18	17	13
16	14	16	23	12	17	192	55	53	13	18	14	16
17	12	12	147	207	23	64	41	37	15	18	13	19
18	14	11	72	282	25	44	33	32	13	25	12	16
19	11	67	33	282	20	38	27	192	50	19	14	16
20	11	28	26	81	16	147	51	63	19	14	14	15
21	8.9	16	21	48	16	68	384	603	14	12	14	14
22	9.6	19	15	35	15	132	105	76	14	15	16	14
23	27	16	15	52	17	93	53	46	13	14	112	14
24	10	15	13	40	33	105	39	45	21	30	19	14
25	12	12	11	640	52	58	268	35	33	56	14	15
26	9.2	12	13	69	1,560	565	252	26	18	284	14	26
27	11	13	16	33	154	118	62	25	14	641	14	16
28	9.6	15	16	27	99	61	105	26	36	59	16	16
29	13	12	13	23	-------	45	60	23	15	35	16	16
30	15	31	10	21	-------	40	41	20	24	25	14	16
31	11	-------	12	20	-------	34	-------	19	-------	20	14	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	27	8.9	12.0	0.313	0.36
November	67	9.2	17.2	.449	.50
December	147	10	24.4	.637	.73
January	640	11	68.2	1.78	2.05
February	1,560	12	81.5	2.13	2.22
March	565	20	84.8	2.21	2.55
April	419	27	113	2.95	3.29
May	603	19	84.6	2.21	2.55
June	59	13	19.0	.496	.55
July	848	12	108	2.82	3.25
August	112	12	19.7	.514	.59
September	26	12	15.3	.399	.45
The year	1,560	8.9	53.9	1.41	19.09

JEROME FORK AT JEROMEVILLE, OHIO

LOCATION.—Chain gage in SW. ¼ sec. 5, T. 21 N., R. 15 W., at highway bridge at Jeromeville, 1 mile above mouth of Oldtown Run.
DRAINAGE AREA.—120 square miles.
RECORDS AVAILABLE.—August, 1925, to September, 1929.
EXTREMES.—Maximum discharge during year, 3,130 second-feet Feb. 26 (gage height, 11.3 feet); minimum discharge, 4 second-feet Oct. 1, 2, 4, 6–10, 15; minimum gage height, 0.90 foot Oct. 1 and 8.
1925–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 4 second-feet Sept. 24, 26–30, Oct. 1, 2, 4, 6–10, 15, 1928.
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4	6	.16	15	33	209	338	96	39	130	26	10
2	4	12	15	12	29	149	197	128	37	66	22	9
3	5	19	11	11	23	119	128	365	37	43	27	9
4	4	12	10	11	19	124	740	173	32	36	25	8
5	5	10	8	13	22	246	a 468	420	30	2,520	22	8
6	4	7	7	20	23	159	197	234	30	2,590	21	9
7	a 4	7	7	33	23	117	151	173	29	1,980	21	9
8	4	7	7	20	19	90	111	122	34	1,680	19	11
9	4	8	7	12	22	55	154	102	27	420	18	16
10	4	10	6	15	22	42	420	84	24	222	19	14
11	5	8	5	15	23	37	285	63	22	144	16	10
12	6	8	6	12	19	38	209	96	26	109	16	10
13	6	7	6	11	19	50	197	111	33	86	16	15
14	5	7	48	10	18	365	185	234	42	86	42	13
15	4	7	58	10	18	285	222	448	23	57	23	a 12
16	7	8	33	7	17	338	209	161	21	48	18	10
17	8	9	197	43	20	220	142	107	21	40	16	20
18	8	7	234	1,080	22	102	104	92	19	352	15	13
19	8	32	134	2,560	21	77	88	365	130	144	14	9
20	7	35	63	1,020	19	448	137	352	209	65	14	8
21	6	16	33	272	18	338	476	923	70	45	14	8
22	6	12	19	173	17	420	533	311	42	32	14	8
23	11	a 11	15	173	20	311	197	156	47	28	14	8
24	8	a 10	15	125	25	197	137	119	246	50	14	8
25	7	8	15	1,620	38	128	234	98	650	173	13	8
26	7	8	17	1,110	2,880	1,880	365	77	209	448	13	21
27	10	8	16	533	2,590	392	246	68	102	151	12	14
28	9	7	16	120	448	185	a 216	68	100	a 108	12	11
29	6	8	17	80	-------	126	185	107	63	65	12	10
30	6	12	16	55	-------	100	119	66	84	45	12	10
31	5	-------	16	54	-------	77	-------	50	-------	31	10	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	11	4	6.03	0.050	0.06
November	35	6	10.9	.091	.10
December	234	5	34.6	.288	.33
January	2,560	7	298	2.48	2.86
February	2,880	17	231	1.92	2.00
March	1,880	37	239	1.99	2.29
April	740	88	246	2.05	2.29
May	923	50	193	1.61	1.86
June	650	19	82.6	.688	.77
July	2,590	28	387	3.22	3.71
August	42	10	17.7	.148	.17
September	21	8	11.0	.092	.10
The year	2,880	4	146	1.22	16.54

a Interpolated.

KOKOSING RIVER NEAR MILLWOOD, OHIO

LOCATION.—Chain gage on east line of sec. 3, T. 6 N., R. 10 W., on highway bridge 3 miles southeast of Millwood.

DRAINAGE AREA.—472 square miles.

RECORDS AVAILABLE.—October, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, about 12,000 second-feet Jan. 19 (gage height, 10.1 feet); minimum, 62 second-feet Oct. 13 and 14 (gage height, 1.16 feet).

1921–1929: Maximum discharge, 16,500 second-feet Mar. 20, 1927 (gage height, 12.0 feet); minimum, 36 second-feet Sept. 4, 1925 (gage height, 1.23 feet).

Flood of March, 1913, reached a stage of 19.0 feet (discharge, estimated, 28,000 second-feet).

REMARKS.—Records good except those for high-water, which are poor. Discharge estimated Jan. 12–17, Feb. 4, 5, 11–15, 21–24, because of ice.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	69	287	124	365	1,980	1,160	591	269	231	117	78
2	64	71	234	186	276	1,440	792	1,500	248	231	101	80
3	69	119	186	251	260	968	618	2,500	231	156	101	80
4	66	124	148	158	233	1,100	798	1,780	20[illegible]	126	117	76
5	67	106	138	202	206	2,200	1,490	2,260	204	109	117	76
6	73	92	128	251	179	1,540	870	1,990	192	291	98	78
7	64	80	106	217	168	1,580	618	1,220	179	566	92	76
8	66	84	115	324	156	760	492	895	248	1,980	94	83
9	66	80	84	407	168	700	582	672	231	760	86	86
10	66	78	172	202	135	447	2,840	540	204	825	86	81
11	66	77	186	202		426	2,380	470	167	700	86	78
12	64	73	84			385	2,500	405	156	365	92	76
13	62	67	88		130	405	1,580	1,980	156	231	81	78
14	62	69	110			760	1,390	1,480	156	204	89	78
15	64	71	760	200		1,890	1,040	4,450	168	168	98	78
16	69	73	251		135	2,260	1,120	2,320	135	135	89	80
17	80	73	287		135	1,180	860	1,210	192	126	83	78
18	106	80	2,910	3,380	179	825	672	825	143	117	78	80
19	128	84	890	9,440	192	644	540	2,460	135	231	83	78
20	88	172	550	2,700	156	591	470	1,840	168	179	76	76
21	73	186	287	1,040		672	1,510	1,300	123	117	80	78
22	77	153	324	700		792	3,260	1,980	109	101	77	76
23	77	148	251	1,980	150	1,040	1,400	1,040	109	101	109	78
24	77	148	234	1,660		1,580	1,040	792	143	95	231	76
25	77	124	234	7,200	146	700	760	672	291	95	126	76
26	73	115	202	2,420	2,260	1,350	1,120	540	231	109	95	81
27	69	106	150	932	9,540	1,490	1,040	470	143	291	86	83
28	73	101	153	644	3,140	970	644	405	135	792	81	81
29	73	108	158	425	------	644	1,210	385	179	260	83	81
30	69	99	138	385	------	566	760	327	143	204	80	81
31	67	------	128	365	------	502	------	291	------	135	81	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	128	62	73.0	0.155	0.18
November	186	67	101	.214	.24
December	2,910	84	322	.682	.79
January	9,440	124	1,190	2.52	2.91
February	9,540	----------	689	1.46	1.52
March	2,260	385	1,040	2.20	2.54
April	3,260	470	1,190	2.52	2.81
May	4,450	291	1,280	2.71	3.12
June	291	109	180	.381	.43
July	1,980	95	324	.686	.79
August	231	76	96.5	.204	.24
September	86	76	78.8	.167	.19
The year	9,540	62	548	1.16	15.76

KILLBUCK CREEK AT LAYLAND, OHIO

LOCATION.—Chain gage in T. 7 N., R. 7 W., at highway bridge at Layland, three-tenths mile above Big Run.
DRAINAGE AREA.—507 square miles.
RECORDS AVAILABLE.—October, 1923, to September, 1929.
EXTREMES.—Maximum discharge during year, 3,520 second-feet Feb. 27 (gage height, 16.2 feet); minimum, 59 second-feet Oct. 10, 11, 12 and Nov. 12 (gage height, 2.30 feet).
1923–1929: Maximum discharge, that of Feb. 27, 1929; minimum, 14 second-feet Aug. 17, 1925 (gage height, 1.10 feet).
Maximum known stage, 22.6 feet March, 1913.
REMARKS.—Records good except those for low water, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	76	177	92	464	2,840	1,920	737	331	225	166	73
2	62	80	201	166	387	2,400	1,690	756	303	201	144	73
3	62	100	155	155	373	2,020	1,360	1,330	277	177	144	70
4	62	114	114	114	331	1,720	1,080	1,390	251	144	177	70
5	62	105	105	105	317	1,480	2,090	1,230	251	561	155	66
6	73	88	96	512	290	1,480	2,200	1,690	238	1,810	144	66
7	70	84	92	512	277	1,300	1,450	1,180	225	1,840	134	62
8	62	80	92	373	264	970	910	813	238	2,230	114	59
9	62	84	92	290	264	775	737	682	238	2,230	114	73
10	59	84	88	251	225	595	1,510	561	213	2,510	114	73
11	59	84	88	251	201	480	2,060	496	201	2,090	114	70
12	62	73	88	225	177	432	2,400	733	189	1,230	100	62
13	62	76	88	201	177	417	2,370	970	177	718	96	59
14	62	73	100	189	177	432	2,230	1,300	189	595	134	73
15	62	76	225	166	177	682	2,090	1,950	213	373	134	73
16	70	76	201	134	177	1,510	1,880	2,200	189	303	114	66
17	76	73	189	124	189	1,720	1,420	1,450	166	264	105	70
18	114	73	646	1,360	264	1,330	990	910	166	225	96	70
19	177	88	432	2,090	189	851	813	1,080	155	1,280	92	71
20	124	238	277	2,300	213	664	775	2,060	544	595	88	67
21	73	225	213	2,300	225	737	1,300	1,810	359	496	80	64
22	70	134	177	2,260	225	870	2,260	1,950	189	359	80	64
23	73	110	155	1,880	213	990	1,980	1,810	359	213	110	60
24	96	100	134	1,200	201	1,010	1,390	1,300	303	189	114	60
25	84	96	124	2,090	189	870	990	794	277	359	105	64
26	80	96	124	2,650	2,880	910	1,280	700	277	561	84	181
27	76	92	114	2,300	3,480	1,780	1,300	561	201	756	76	91
28	76	92	114	1,980	3,000	1,720	832	512	201	373	76	87
29	80	92	114	1,130	-------	1,260	1,360	480	238	290	76	75
30	76	100	105	700	-------	870	890	432	225	251	76	79
31	76	-------	96	578	-------	1,030	-------	387	-------	201	76	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	177	59	76.3	0.150	0.17
November	238	73	98.7	.195	.22
December	646	88	162	.320	.37
January	2,650	92	925	1.82	2.10
February	3,480	177	555	1.09	1.14
March	2,840	417	1,170	2.31	2.66
April	2,400	737	1,520	3.00	3.35
May	2,200	387	1,100	2.17	2.50
June	544	155	246	.485	.54
July	2,510	144	763	1.50	1.73
August	177	76	111	.219	.25
September	181	59	73.0	.144	.16
The year	3,480	59	568	1.12	15.19

WILLS CREEK AT BIRDS RUN, OHIO

LOCATION.—Water-stage recorder in SW. ¼ sec. 19, T. 4 N., R. 4 W., 200 feet below mouth of Birds Run at Birds Run, Guernsey County. Zero of gage is 740.98 feet above mean sea level.

DRAINAGE AREA.—730 square miles.

RECORDS AVAILABLE.—August, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 5,730 second-feet May 5 (gage height, 21.4 feet); minimum not recorded.

1928–29: Maximum discharge, that of May 5, 1929. Maximum stage known, 27.0 feet March, 1913 (discharge, estimated, 15,000 second-feet).

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

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	37	638	a 200	758	4,780	502	936	403	586	47	a 52
2	16	34	1,260	a 500	a 679	4,450	462	1,410	310	384	45	28
3	16	44	824	a 800	a 600	3,850	422	4,500	244	229	47	24
4	15	62	482	a 1,100	a 521	2,550	365	5,420	200	149	46	24
5	16	86	356	a 1,110	442	2,450	807	5,730	187	120	43	23
6	a 12	98	422	a 1,120	384	3,380	1,450	5,600	168	149	58	22
7	a 18	86	502	a 1,120	493	3,930	1,100	5,180	265	187	55	22
8	a 24	76	346	a 1,130	824	4,090	758	4,350	936	276	47	76
9	a 30	69	276	1,140	959	3,850	649	2,340	959	567	42	76
10	a 36	62	214	a 1,190	824	3,100	1,810	1,030	482	846	42	49
11	a 31	57	214	1,240	670	1,690	3,140	758	276	514	41	34
12	26	64	187	1,300	498	936	3,240	628	187	232	41	31
13	28	61	149	1,030	365	824	2,640	607	200	137	40	67
14	17	51	205	736	310	1,070	1,820	780	346	187	49	187
15	15	45	a 1,300	628	276	1,650	1,140	1,740	244	394	51	293
16	17	44	a 2,380	544	276	2,180	1,620	2,030	174	244	92	174
17	19	46	a 3,450	523	310	2,750	1,820	1,150	137	125	86	114
18	55	43	a 2,800	861	384	2,460	1,360	758	108	98	a 84	86
19	200	100	a 2,160	2,040	403	1,470	982	1,230	98	108	a 84	69
20	346	626	a 1,510	2,690	365	1,070	758	2,440	98	149	a 82	60
21	187	982	a 868	2,860	310	885	928	3,030	161	131	a 82	59
22	98	607	a 780	2,480	260	780	1,670	2,850	149	92	a 80	50
23	69	384	a 680	a 1,700	244	846	2,260	1,950	131	76	a 560	39
24	69	276	a 590	a 2,150	229	913	1,650	1,140	125	61	a 1,030	37
25	86	214	a 490	2,820	276	802	1,100	824	125	56	a 868	34
26	76	174	a 400	a 3,280	2,500	780	1,260	692	137	52	a 520	31
27	61	143	a 310	a 2,860	4,250	936	2,180	565	149	54	a 174	30
28	51	125	a 214	a 2,440	4,740	868	2,360	502	266	110	a 150	28
29	49	120	a 200	a 2,020	-------	670	1,700	628	607	108	a 125	31
30	48	162	a 200	a 1,600	-------	565	1,260	758	758	68	a 100	31
31	39	-------	a 200	a 1,180	-------	523	-------	544	-------	54	a 76	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	346	----------	57.6	0.079	0.09
November	982	34	166	.227	.25
December	3,450	149	794	1.09	1.26
January	3,280	200	1,500	2.05	2.36
February	4,740	229	827	1.13	1.18
March	4,780	523	1,970	2.70	3.11
April	3,240	365	1,440	1.97	2.20
May	5,730	502	2,000	2.74	3.16
June	959	98	288	.395	.44
July	846	52	211	.289	.33
August	1,030	40	158	.216	.25
September	293	22	62.7	.086	.10
The year	5,730	----------	792	1.08	14.73

a Estimated.

LICKING RIVER AT TOBOSO, OHIO

LOCATION.—Chain gage prior to Sept. 20 and water-stage recorder thereafter at covered highway bridge at Toboso, Licking County, 3 miles below mouth of Rock Fork. Zero of gage is 744.84 feet above mean sea level.

DRAINAGE AREA.—672 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 17,000 second-feet Feb. 26 (gage height, 17.9 feet); minimum, 58 second-feet Sept. 2.

1921–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 54 second-feet Sept. 5, 10–12, 25–27, 1925.

Flood of March, 1913, reached a stage of 20.0 feet (discharge, estimated, 20,000 second-feet).

REMARKS.—Records good. Discharge estimated because of ice effect Jan. 8–11, 15–18, Feb. 11–15, 21 and 22. Flow slightly regulated at Buckeye Lake, on South Fork of Licking River.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	95	138	204	435	2,880	770	575	286	455	134	78
2	95	93	191	262	414	4,360	805	910	255	455	118	58
3	95	107	166	185	414	1,800	672	1,050	242	310	152	62
4	95	107	144	218	350	1,640	608	980	224	246	246	65
5	100	112	138	160	350	3,460	770	980	210	210	163	68
6	93	112	122	270	278	1,640	738	1,190	206	186	148	65
7	95	107	120	185	266	2,790	575	910	194	219	127	65
8	98	102	117	150	255	1,480	515	705	1,050	515	114	75
9	95	102	115	150	255	1,330	545	575	545	738	101	118
10	93	102	110	150	185	980	7,220	485	330	455	101	96
11	93	102	102	150	140	910	3,860	428	246	980	98	75
12	93	102	100	185	140	738	3,560	400	219	455	104	70
13	98	100	102	185	140	738	2,040	400	210	320	98	93
14	98	98	191	155	140	1,190	1,400	640	310	400	375	114
15	95	98	502	140	140	2,200	1,560	6,860	273	291	325	100
16	98	100	371	140	149	1,800	1,560	2,520	237	219	202	85
17	100	98	302	140	185	1,400	1,260	1,480	202	186	148	96
18	172	105	2,520	1,670	371	1,050	840	980	246	166	121	96
19	122	117	960	6,420	392	875	705	4,770	194	194	141	101
20	112	149	525	2,120	185	840	608	2,790	170	148	101	96
21	112	160	310	1,020	140	805	840	1,960	159	134	96	93
22	107	155	330	710	140	980	2,790	1,400	152	127	91	96
23	117	144	218	3,260	160	1,640	1,480	875	170	124	170	91
24	107	138	185	1,460	160	1,400	1,050	705	255	121	214	88
25	102	128	172	5,540	240	1,050	770	608	608	190	159	88
26	102	122	155	2,520	15,700	1,120	875	515	300	182	118	98
27	98	117	160	1,460	14,800	1,560	770	455	202	186	101	96
28	98	117	172	910	4,460	1,120	608	515	1,480	640	93	91
29	98	115	178	660	-------	875	1,050	428	705	340	88	98
30	95	122	166	615	-------	770	705	375	400	206	83	93
31	93	-------	149	435	-------	705	-------	325	-------	152	78	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	172	93	102	May	6,860	325	1,220
November	160	93	114	June	1,480	152	343
December	2,520	100	298	July	980	121	308
January	6,420	-------	1,030	August	375	78	142
February	15,700	-------	1,460	September	118	58	86.9
March	4,360	705	1,490				
April	7,220	515	1,380	The year	15,700	-------	660

LITTLE KANAWHA RIVER BASIN

LITTLE KANAWHA RIVER AT GLENVILLE, W. VA.

LOCATION.—Chain gage on highway bridge at Glenville, Gilmer County, three-tenths mile below Sycamore Creek. Zero of gage is 697.79 feet above mean sea level.

DRAINAGE AREA.—385 square miles.

RECORDS AVAILABLE.—June, 1915, to September, 1922; December, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,830 second-feet Mar. 6 (gage height, 23.90 feet); minimum, 5.2 second-feet (gage height, 1.58 feet).

1915–1922; 1928–29: Maximum gage height, 31.7 feet Mar. 13, 1918 (discharge not determined); minimum, 1.35 feet July 2 and 3, 1918 (discharge not determined).

REMARKS.—Records fair except those for estimated period, July 19 to Sept. 30, which are poor.

Daily and monthly discharge, in second-feet, 1928–29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1		360	243	2,180	243	425	655	110
2		317	210	1,890	221	735	360	76
3		304	181	1,600	200	2,560	210	62
4		291	139	2,100	221	2,270	86	54
5		278	104	4,600	1,680	1,640	46	49
6		345	695	8,420	815	2,140	32	45
7		330	3,820	6,270	425	3,650	43	42
8		278	1,930	3,820	304	1,510	72	41
9		291	1,260	2,100	317	975	57	44
10	86	1,060	895	1,510	360	535	42	47
11	81	1,140	655	815	495	390	39	49
12	76	935	535	535	390	330	35	46
13	76	815	425	330	291	210	34	42
14	3,320	655	304	304	232	232	32	41
15	3,650	495	243	266	304	181	30	38
16	1,970	375	200	360	1,640	81	28	266
17	1,060	535	164	390	4,860	58	26	190
18	1,720	855	132	330	1,760	72	24	97
19	1,220	1,760	110	278	575	2,690	22	------
20	855	1,680	110	254	495	3,740	19	------
21	575	1,470	97	243	460	3,650	16	------
22	425	1,140	97	345	2,440	1,720	14	------
23	375	815	181	1,430	1,390	775	12	------
24	317	655	1,220	1,100	735	425	11	------
25	278	1,140	3,070	615	535	655	10	------
26	278	895	7,730	775	304	495	35	------
27	278	575	5,210	735	200	375	110	------
28	330	495	4,280	460	190	317	132	------
29	408	442	------	291	775	390	147	------
30	495	345	------	254	535	330	139	------
31	442	291	------	304	------	460	------	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
December 10–31	3,650	76	832	2.16	1.77
January	1,760	278	689	1.79	2.06
February	7,730	97	1,220	3.17	3.30
March	8,420	243	1,450	3.77	4.35
April	4,860	190	780	2.03	2.26
May	3,740	58	1,100	2.86	3.30
June	655	10	83.9	.218	.24
July	266	------	63	.164	.19
August	------	------	38	.0987	.11
September	------	------	120	.312	.35

LITTLE KANAWHA RIVER AT GRANTSVILLE, W. VA.

LOCATION.—Chain gage on highway bridge at Grantsville, Calhoun County.
DRAINAGE AREA.—913 square miles.
RECORDS AVAILABLE.—December, 1928, to September, 1929.
EXTREMES.—Maximum discharge during year, 17,100 second-feet Feb. 26 (gage height, 28.41 feet); minimum, 16 second-feet Aug. 22 and Sept. 7 (gage height, 6.40 feet).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		635	500	2,980	1,000	945	685	230	118	40
2		2,140	440	2,000	1,000	835	735	198	84	41
3		1,220	400	3,750	568	5,780	420	170	185	34
4		1,060	328	3,190	685	3,540	310	118	328	29
5		735	292	12,200	4,180	3,400	260	102	275	25
6		1,880	590	14,800	2,280	3,190	215	84	195	20
7		1,160	8,290	8,740	1,400	10,800	190	86	132	17
8		590	3,820	4,980	1,060	4,100	230	180	92	215
9		685	2,630	3,120	835	2,140	192	200	64	310
10		2,840	2,280	1,400	1,700	1,460	170	160	52	420
11		3,890	1,820	1,000	1,520	945	145	145	43	400
12		2,420	945	890	945	735	130	125	328	245
13		1,520	635	835	945	735	125	86	109	212
14		890	568	945	735	635	107	84	56	168
15		785	890	1,340	735	522	81	69	41	132
16	4,900	785	480	1,220	1,280	460	70	113	34	130
17	2,490	685	362	1,280	2,280	362	61	245	28	735
18	3,470	2,070	420	1,340	5,060	310	51	165	25	1,580
19	2,700	4,260	362	1,060	2,350	3,540	49	120	24	735
20	1,640	3,680	328	890	1,520	8,830	45	83	20	400
21	1,160	2,000	440	785	1,220	7,570	39	59	18	230
22	785	1,520	400	735	6,580	4,580	33	48	17	162
23	590	2,000	500	835	3,540	3,330	35	43	24	118
24	500	1,340	420	1,400	1,940	1,280	29	34	69	83
25	420	1,880	1,000	735	1,340	945	28	29	230	70
26	380	3,400	15,000	568	1,340	1,110	39	46	140	56
27	275	1,760	15,100	1,060	1,520	785	260	1,060	175	51
28	400	1,340	4,260	1,000	1,000	635	134	440	158	43
29	685	1,000	-------	890	1,520	735	142	192	138	35
30	685	735	-------	835	1,220	785	260	180	111	38
31	685	635	-------	1,000	-------	945	-------	168	64	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
December 16–31	-------	-------	1,360	1.49	0.89
January	4,260	590	1,660	1.82	2.10
February	15,100	292	2,270	2.49	2.59
March	14,800	568	2,510	2.75	3.17
April	6,580	568	1,780	1.95	2.18
May	10,800	310	2,450	2.68	3.09
June	735	28	176	.193	.22
July	1,060	29	163	.179	.21
August	328	17	109	.119	.14
September	1,580	17	226	.248	.28

HUGHES RIVER AT CISKO, W. VA.

LOCATION.—Staff gage at Cisko, Petroleum County, 1 mile below junction of North and South Forks.

DRAINAGE AREA.—453 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1922; February to September, 1929.

EXTREMES.—Maximum discharge during year, 12,100 second-feet Feb. 26 (gage height, 19.10 feet); minimum, 1.7 second-feet Aug. 22 (gage height, 2.35 feet). 1915–1922, 1929: Maximum gage height, 30.25 feet Jan. 22, 1917 (discharge not known); minimum, that of Aug. 22, 1929.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1929

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	1,100	291	260	275	108	77	23
2	------	860	230	515	134	75	40	14
3	------	1,100	189	3,930	96	48	35	12
4	------	900	189	1,140	69	42	73	9.2
5	------	3,250	2,190	980	59	32	69	7.4
6	139	4,650	860	1,650	45	36	58	4.8
7	4,570	5,100	515	4,740	43	40	39	36
8	1,220	1,140	392	1,260	42	28	29	480
9	1,020	660	445	700	64	21	21	340
10	1,140	410	445	410	69	31	16	139
11	550	307	940	324	45	29	12	89
12	515	275	740	245	40	62	9.6	48
13	480	260	700	275	32	52	11	55
14	375	428	480	340	28	29	9.2	50
15	291	940	480	307	26	22	7.0	42
16	189	860	1,400	245	26	22	5.6	41
17	163	780	3,850	189	28	26	4.1	202
18	151	550	1,300	151	24	23	2.9	860
19	139	428	700	4,410	20	20	2.4	230
20	139	392	445	3,690	17	16	2.2	139
21	163	275	700	4,170	14	13	1.9	83
22	134	245	3,610	1,350	11	12	1.7	50
23	139	324	1,140	700	9.6	12	3.8	39
24	115	660	620	480	8.8	11	91	29
25	163	445	445	340	11	10	230	27
26	8,400	480	620	291	75	9.6	110	23
27	6,200	620	700	230	69	9.6	62	20
28	1,500	445	445	189	71	12	35	17
29	------	340	445	940	550	18	25	16
30	------	307	340	620	127	40	18	31
31	------	324	------	940	------	139	19	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
February 6–28	8,400	115	1,210	2.67	2.28
March	5,100	245	931	2.06	2.38
April	3,850	189	862	1.90	2.12
May	4,740	151	1,160	2.56	2.95
June	550	8.8	70.9	.157	.18
July	139	9.6	33.8	.075	.09
August	230	1.7	36.1	.079	.09
September	860	4.8	105	.232	.26

HOCKING RIVER BASIN

HOCKING RIVER NEAR LANCASTER, OHIO

LOCATION.—Chain gage in SW. ¼ sec. 28, T. 14 N., R. 18 W., at highway bridge 5 miles southeast of Lancaster.

DRAINAGE AREA.—92.8 square miles.

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

EXTREMES.—Maximum discharge during year, 1,720 second-feet Feb. 28 (gage height, 9.1 feet); minimum, 14 second-feet July 23 and 24 (gage height, 1.24 feet).

1923–1929: Maximum discharge, that of Feb. 26, 1929. Maximum discharge Mar. 29, 1924 (gage height, 8.8 feet), previously published as 2,270 second-feet, revised to 1,640 second feet; minimum, 5 second-feet Aug. 11, 1925.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	22	24	37	50	176	58	46	60	28	19	20
2	18	26	20	42	41	144	55	51	45	25	17	18
3	21	23	25	41	44	120	53	55	37	26	144	20
4	20	21	31	26	42	184	68	53	34	25	104	19
5	23	22	20	28	37	353	75	92	41	29	65	20
6	20	22	20	45	41	391	69	76	53	27	40	28
7	22	19	20	41	41	227	67	62	44	34	27	17
8	20	18	24	37	53	136	65	55	37	40	24	55
9	20	22	20	26	51	112	96	50	34	37	21	61
10	20	24	19	72	45	97	530	45	32	34	19	55
11	20	20	18	38	45	85	262	42	29	40	152	50
12	20	19	20	36	42	71	160	38	32	40	78	50
13	20	19	22	32	40	81	104	85	29	36	57	53
14	26	20	24	25	34	136	86	334	67	32	62	53
15	23	20	31	25	34	152	94	227	58	27	55	31
16	23	20	31	24	74	210	97	96	45	22	50	31
17	25	22	34	176	160	128	79	78	36	17	45	34
18	22	20	32	120	160	104	62	71	27	17	40	32
19	17	84	23	227	78	88	55	510	25	19	34	31
20	23	50	22	94	49	84	53	298	22	18	29	32
21	17	28	23	104	44	85	112	152	20	17	25	32
22	16	26	26	168	40	81	120	104	19	16	31	29
23	21	24	26	280	44	88	97	90	21	14	160	28
24	20	24	22	679	49	79	78	84	18	14	112	28
25	20	24	26	470	97	75	72	78	57	17	74	27
26	17	22	26	227	1,370	72	65	72	46	24	54	32
27	16	20	24	104	391	71	58	136	28	46	36	32
28	17	22	24	76	244	62	104	227	34	37	29	31
29	18	20	28	69	------	60	76	104	37	32	25	31
30	20	23	25	55	------	61	53	76	36	27	23	28
31	21	------	23	53	------	58	------	68	------	23	20	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	26	16	20.1	0.217	0.25
November	84	18	24 9	.268	.30
December	34	18	24.3	.262	.30
January	679	24	112	1.21	1.40
February	1,370	34	123	1.33	1.38
March	391	58	125	1.35	1.56
April	530	53	101	1.09	1.22
May	510	38	115	1.24	1.43
June	67	18	36.8	.397	.44
July	46	14	27.1	.292	.34
August	160	17	53.9	.581	.67
September	61	17	33.3	.359	.40
The year	1,370	14	66.0	.711	9.69

HOCKING RIVER AT ATHENS, OHIO

LOCATION.—Chain gage on Mill Street Bridge, three-fourths mile east of business section of Athens, Athens County. Zero of gage is 615.59 feet above mean sea level.

DRAINAGE AREA.—944 square miles.

RECORDS AVAILABLE.—May, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,430 second-feet May 3 (gage height, 15.2 feet); minimum, 57 second-feet Oct. 11 (gage height, 2.62 feet).

1915–1929: Maximum discharge, 20,500 second-feet Apr. 16, 1922 (gage height, 21.8 feet); minimum, 14 second-feet Sept. 21, 1925 (gage height, 2.32 feet).

Maximum known stage, 26.7 feet in January, 1907.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	81	950	788	470	2,700	563	755	6[illegible]	356	157	178
2	76	79	440	2,180	383	2,380	625	1,860	1,210	330	150	164
3	74	88	305	820	330	1,730	500	8,320	1,020	235	192	134
4	72	101	240	690	412	1,600	500	5,700	5[illegible]3	182	1,660	107
5	81	101	330	383	383	4,330	1,140	2,180	3[illegible]3	153	563	107
6	83	104	266	1,280	356	6,340	950	2,250	3[illegible]3	147	258	104
7	96	96	231	1,020	500	6,940	755	1,800	3[illegible]0	150	208	330
8	86	107	204	412	596	4,330	625	1,340	470	150	174	174
9	74	93	174	500	820	1,730	885	1,080	5[illegible]3	192	153	244
10	68	110	157	722	755	1,340	5,820	950	3[illegible]0	178	127	383
11	61	107	134	950	440	1,080	7,410	788	3[illegible]5	167	144	212
12	72	104	137	625	356	1,020	4,330	755	2[illegible]0	157	383	160
13	74	96	134	530	305	950	2,120	820	244	204	280	820
14	68	88	383	383	216	1,340	1,470	3,550	271	178	192	950
15	72	96	1,210	596	280	2,120	1,600	5,630	3[illegible]3	160	1,080	820
16	72	88	755	330	196	2,180	2,120	3,030	2[illegible]0	140	330	412
17	81	101	625	722	280	3,030	1,470	1,540	276	107	216	383
18	134	98	1,660	755	244	1,730	1,210	1,210	248	93	200	383
19	235	167	1,140	4,590	330	1,340	950	3,680	21[illegible]	127	530	383
20	153	690	690	3,420	280	1,140	885	6,020	20[illegible]	160	690	280
21	101	412	470	1,280	305	1,020	885	3,420	204	101	356	235
22	86	231	305	1,140	330	885	1,540	1,860	178	81	231	204
23	86	204	271	3,740	280	950	1,340	1,340	204	76	1,080	167
24	124	178	235	3,160	271	1,020	1,020	1,080	19[illegible]	81	3,030	167
25	144	153	196	2,640	305	950	885	1,080	18[illegible]	79	1,020	153
26	104	144	182	3,680	4,780	820	1,340	950	18[illegible]	81	440	134
27	88	121	182	1,600	7,700	820	1,020	820	18[illegible]	104	280	144
28	88	124	216	1,020	6,410	788	820	755	3[illegible]3	1,860	266	137
29	93	121	248	690	-------	690	885	2,840	330	530	208	157
30	86	305	235	722	-------	625	820	1,470	2[illegible]0	276	200	157
31	83	-------	182	690	-------	625	-------	950	-------	192	185	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	235	61	93.3	0.099	0.11
November	690	79	153	.162	.18
December	1,660	134	416	.441	.51
January	4,590	330	1,360	1.44	1.66
February	7,700	196	1,010	1.07	1.11
March	6,940	625	1,890	2.00	2.31
April	7,410	500	1,550	1.64	1.83
May	8,320	755	2,250	2.38	2.74
June	1,210	178	366	.388	.43
July	1,860	76	227	.240	.28
August	3,030	127	483	.512	.59
September	950	104	279	.296	.33
The year	8,320	61	841	.891	12.08

KANAWHA RIVER BASIN

SOUTH FORK OF NEW RIVER NEAR JEFFERSON, N. C.

LOCATION.—Chain gage at highway bridge a quarter of a mile below Bear Creek and 4 miles southeast of Jefferson, Ashe County.

DRAINAGE AREA.—207 square miles.

RECORDS AVAILABLE.—October, 1924, to September, 1926; July, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 3,660 second-feet Mar. 14 (gage height, 4.95 feet); minimum, 173 second-feet Sept. 2 (gage height, 1.17 feet). 1924–1926, 1928–29: Maximum discharge (estimated), 6,660 second-feet Aug. 16, 1928 (gage height, 7.55 feet); minimum, 65 second-feet Sept. 9, 1925 (gage height, 0.80 foot).

REMARKS.—Records good below 2,500 second-feet and fair above. Small regulation caused by operation of old gristmills upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	660	553	452	349	390	1,420	624	485	735	421	588	177
2	624	553	421	361	229	975	588	660	588	553	452	185
3	660	553	390	338	518	810	588	1,060	518	485	332	185
4	624	588	378	338	373	735	553	735	518	452	310	220
5	624	553	378	518	327	1,330	553	588	452	390	294	300
6	698	518	367	1,330	361	1,420	553	518	421	421	258	278
7	735	485	367	624	553	1,060	518	660	390	588	254	485
8	588	518	355	518	518	810	518	698	390	390	367	452
9	553	518	344	518	421	735	485	624	1,060	355	300	305
10	518	485	338	553	624	660	485	588	735	344	268	421
11	518	485	355	553	553	624	485	518	485	390	268	289
12	518	518	373	553	452	660	588	485	452	452	254	229
13	485	452	367	349	421	1,060	485	452	421	485	258	220
14	485	421	378	338	390	2,780	485	452	452	452	263	234
15	485	421	390	390	390	2,670	698	518	624	390	258	229
16	553	421	378	361	390	1,720	660	698	624	390	263	207
17	810	421	378	373	367	1,330	518	588	485	452	220	485
18	772	421	421	373	355	1,060	485	518	421	588	225	452
19	624	518	390	421	373	975	452	518	518	355	355	278
20	518	890	355	421	378	890	452	1,060	390	332	300	239
21	553	553	355	378	518	810	452	1,820	361	310	229	216
22	553	485	316	390	452	810	518	890	338	485	229	211
23	2,160	452	327	485	390	1,020	485	735	361	452	244	216
24	1,870	452	316	485	390	1,240	421	624	452	367	254	278
25	1,020	421	332	485	361	890	452	588	890	332	278	321
26	810	421	355	452	735	810	452	553	1,330	327	263	518
27	735	485	373	390	1,330	850	452	518	810	310	239	1,330
28	698	452	849	390	2,040	772	518	518	698	300	249	772
29	660	421	344	378	-------	698	735	588	588	310	229	485
30	624	421	338	316	-------	698	553	588	452	300	198	421
31	588	-------	321	332	-------	660	-------	735	-------	390	198	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,160	485	720	3.48	4.01
November	890	421	495	2.39	2.67
December	452	316	365	1.76	2.02
January	1,330	316	454	2.19	2.52
February	2,040	229	521	2.52	2.62
March	2,780	624	1,060	5.12	5.90
April	735	421	527	2.55	2.84
May	1,820	452	664	3.21	3.70
June	1,330	338	565	2.73	3.05
July	588	300	405	1.96	2.26
August	588	198	281	1.36	1.57
September	1,330	177	355	1.71	1.91
The year	2,780	177	535	2.58	35.07

NEW RIVER AT EGGLESTON, VA.

LOCATION.—Water-stage recorder at highway bridge at Eggleston, Giles County.
DRAINAGE AREA.—2,940 square miles (revised).
RECORDS AVAILABLE.—October, 1914, to September, 1929.
EXTREMES.—Maximum discharge during year, 29,700 second-feet Feb. 28 (gage height, 12.20 feet); minimum, 1,260 second-feet Sept. 23 (gage height, 3.09 feet).

1914–1929: Maximum discharge, about 152,000 second-feet July 16, 1916 (gage height, 39.5 feet); minimum, 580 second-feet July 21, 1926 (gage height, 2.2 feet).

The flood of 1878 reached a stage of about 40 feet.

REMARKS.—Records good. Discharge estimated Dec. 22–31, Jan. 8–11, 14, 15, and Jan. 30 to Feb. 10, because of ice. Flow regulated at all but high stages by operation of power plants at Byllesby, 73 miles upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,670	4,040	3,810	2,560	3,100	24,700	4,610	5,370	6,260	5,350	3,370	2,080
2	5,800	3,760	2,960	3,030	2,500	14,700	5,360	5,420	5,260	5,620	3,280	1,630
3	5,260	3,510	2,060	2,840	3,000	11,500	4,980	11,400	4,970	5,780	3,920	1,860
4	4,780	4,010	3,160	2,320	3,200	9,320	4,260	8,690	6,100	6,010	3,750	1,640
5	4,190	2,660	3,150	2,720	2,900	10,700	4,990	6,670	4,740	4,360	2,830	1,580
6	4,460	4,160	2,980	2,880	2,900	21,200	4,350	4,950	4,250	4,780	1,800	2,240
7	4,490	3,240	2,340	4,500	3,000	15,900	4,600	5,160	3,430	5,470	1,770	2,230
8	4,500	3,870	3,000	4,900	5,300	11,000	3,970	4,840	3,590	4,460	2,680	2,430
9	4,520	3,590	3,170	3,700	4,900	8,560	3,970	5,120	9,620	4,240	2,630	2,700
10	4,290	3,290	1,860	3,800	5,900	7,390	4,160	4,920	19,000	3,530	3,120	1,770
11	4,090	3,520	2,130	3,400	6,800	6,020	3,870	4,690	9,800	4,630	2,790	2,400
12	3,660	2,550	2,350	3,580	6,350	5,430	3,790	4,210	7,100	5,590	2,840	2,000
13	3,680	3,320	2,810	3,510	4,970	5,340	3,890	3,680	5,220	5,080	2,850	1,930
14	3,440	2,770	2,420	2,300	3,880	8,280	4,000	4,720	4,870	4,820	2,500	2,000
15	2,920	2,700	3,010	3,200	3,920	16,700	3,620	4,470	5,100	4,290	1,780	1,790
16	3,360	3,340	3,860	3,100	3,640	15,700	4,510	4,240	5,960	4,090	2,370	1,580
17	3,890	3,180	2,610	2,680	3,560	11,000	6,820	4,150	5,510	3,540	2,330	2,010
18	3,580	2,890	2,580	2,790	3,420	8,900	5,340	3,920	4,500	3,310	2,070	2,840
19	3,390	2,950	3,230	3,080	3,590	7,430	4,610	4,000	4,280	3,680	2,330	2,550
20	4,770	3,640	2,700	3,420	4,090	6,450	3,840	4,030	6,160	3,720	2,070	2,500
21	4,490	3,730	2,970	3,110	3,870	6,410	3,890	6,650	3,810	2,990	2,010	2,210
22	3,020	3,690	2,600	3,360	4,450	5,690	3,530	8,240	3,810	2,750	1,800	2,020
23	4,410	3,710	2,400	3,400	4,660	6,020	4,580	6,830	3,970	3,560	2,110	1,520
24	8,160	2,840	2,600	3,540	4,500	11,900	3,800	5,490	3,690	3,350	1,930	2,280
25	9,550	3,500	2,100	4,220	3,720	10,400	3,340	4,680	4,420	3,130	2,200	2,050
26	6,700	1,840	1,800	4,880	6,340	8,430	4,040	4,490	12,400	3,390	2,790	1,930
27	5,190	2,700	2,400	5,050	12,000	7,180	4,060	3,800	15,800	3,620	2,810	2,100
28	4,980	3,200	3,000	3,950	20,200	6,580	3,880	3,870	11,300	3,290	2,480	2,260
29	3,870	2,980	2,700	4,180	-------	6,220	6,550	4,540	10,600	2,560	1,820	2,840
30	4,500	2,250	2,300	3,300	-------	5,680	6,690	4,720	7,360	2,980	2,120	2,830
31	3,890	-------	2,400	3,400	-------	6,440	-------	3,900	-------	3,280	2,040	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	9,550	2,920	4,690	1.60	1.84
November	4,160	1,840	3,250	1.11	1.24
December	3,860	1,800	2,690	.915	1.06
January	5,050	2,300	3,440	1.17	1.35
February	20,200	2,500	5,020	1.71	1.78
March	24,700	5,340	9,910	3.37	3.88
April	6,820	3,340	4,460	1.52	1.70
May	11,400	3,680	5,220	1.78	2.05
June	19,000	3,430	6,760	2.30	2.57
July	6,010	2,560	4,100	1.39	1.60
August	3,920	1,770	2,490	.847	.98
September	2,840	1,520	2,130	.724	.81
The year	24,700	1,520	4,510	1.53	20.86

NEW RIVER AT GLENLYN, VA.

LOCATION.—Water-stage recorder at steam power plant of Appalachian Electric Power Co., one-fourth mile southeast of Glenlyn, Giles County, and one-third mile above East River.

DRAINAGE AREA.—3,770 square miles.

RECORDS AVAILABLE.—August, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 36,100 second-feet Mar. 1 (gage height, 10.40 feet); minimum, 1,420 second-feet Sept. 24 (gage height, 2.72 feet).

1927–1929: Maximum discharge, 59,400 second-feet Aug. 17, 1928 (gage height, 13.47 feet); minimum, 1,130 second-feet Oct. 1, 1927 (gage height, 2.34 feet).

REMARKS.—Records good. Flow regulated at all but high stages by operation of power plants at Byllesby, 98 miles upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,010	4,480	3,250	2,850	3,850	31,200	6,490	7,800	7,580	6,610	3,460	2,390
2	7,280	4,170	3,730	3,340	3,120	19,900	6,670	7,400	7,050	6,470	3,330	1,830
3	6,300	3,870	2,370	3,300	3,640	15,700	6,320	14,200	8,540	6,250	4,120	1,800
4	5,480	4,120	3,040	2,920	3,800	13,200	5,390	12,300	10,400	7,430	3,880	2,000
5	4,940	3,380	3,350	3,080	3,450	14,100	6,260	9,270	7,370	5,260	3,250	1,660
6	4,620	4,230	3,080	3,340	3,620	26,000	6,050	7,140	5,610	4,980	2,180	1,970
7	5,020	3,440	2,630	4,770	3,670	21,100	5,590	7,010	4,530	6,460	1,900	2,250
8	4,890	4,190	2,840	6,130	6,600	14,600	5,290	6,470	4,550	5,220	2,530	2,340
9	5,500	4,060	3,400	4,520	6,250	11,500	5,160	6,720	12,100	5,000	2,860	2,880
10	4,430	3,520	2,560	4,610	7,400	9,900	4,940	6,570	25,700	4,170	3,070	1,960
11	4,360	3,790	1,920	4,360	8,530	8,720	5,050	5,830	13,800	4,910	2,940	2,250
12	4,010	3,040	2,500	4,310	8,010	6,860	4,740	5,230	9,670	5,740	3,010	2,070
13	3,770	3,640	2,880	4,180	6,560	7,030	4,480	4,580	6,970	6,180	2,740	2,010
14	3,400	3,210	2,610	2,770	5,490	8,790	5,000	5,490	6,580	5,800	2,650	1,920
15	3,380	3,140	3,070	3,690	4,710	17,100	4,170	5,520	6,130	4,970	2,260	1,840
16	3,360	3,630	3,720	3,680	4,750	18,300	5,380	4,990	7,190	4,600	2,240	1,790
17	3,940	3,680	3,590	3,110	4,340	13,600	8,530	4,970	6,430	4,020	2,520	1,760
18	3,900	3,080	2,600	3,260	4,090	11,000	7,110	4,530	5,410	3,710	2,210	2,450
19	3,650	4,240	3,530	4,060	4,760	9,490	6,330	4,720	4,940	3,790	2,360	2,690
20	4,710	3,590	3,120	4,680	4,850	8,250	5,300	4,780	6,750	4,310	1,980	2,450
21	4,790	4,380	3,250	4,500	5,370	7,840	4,750	7,050	4,700	3,480	2,080	2,320
22	4,080	4,120	3,050	4,400	5,430	7,280	4,820	8,800	4,230	2,930	2,030	2,180
23	4,340	4,100	2,750	4,700	5,900	7,130	5,670	8,380	4,530	3,520	2,050	1,890
24	9,500	3,190	3,140	4,610	5,360	12,900	5,140	6,670	5,030	3,570	2,140	1,790
25	11,000	3,940	2,440	6,530	5,340	12,600	4,420	5,590	4,510	3,390	2,300	2,210
26	8,310	2,370	2,100	7,040	10,800	10,500	5,090	5,190	9,430	3,440	2,900	1,920
27	6,730	2,500	2,880	7,380	19,900	9,500	5,210	4,810	18,100	4,080	2,790	2,020
28	5,370	3,230	3,660	5,720	25,100	8,300	4,950	4,260	11,900	3,630	2,690	2,200
29	4,680	3,080	3,220	5,850	-------	7,810	10,400	5,170	12,300	3,030	2,140	2,400
30	5,160	2,910	2,670	3,960	-------	7,260	10,000	5,990	8,500	2,810	2,210	3,160
31	4,160	-------	2,870	4,220	-------	7,520	-------	4,570	-------	3,430	2,070	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	11,000	3,360	5,290	1.40	1.61
November	4,480	2,370	3,610	.958	1.07
December	3,730	1,920	2,960	.785	.90
January	7,380	2,770	4,380	1.16	1.34
February	25,100	3,120	6,600	1.75	1.82
March	31,200	6,860	12,400	3.29	3.79
April	10,400	4,170	5,820	1.54	1.72
May	14,200	4,260	6,520	1.73	1.99
June	25,700	4,230	8,350	2.21	2.47
July	7,430	2,810	4,620	1.23	1.42
August	4,120	1,900	2,610	.692	.80
September	3,160	1,660	2,150	.570	.64
The year	31,200	1,660	5,440	1.44	19.57

NEW RIVER NEAR HINTON, W. VA.

LOCATION.—Staff gage at site of Packs Ferry, 3½ miles south of Hinton, Summers County, and 2 miles above Greenbrier River. Zero of gage is 1,368.045 feet above mean sea level.

DRAINAGE AREA.—4,560 square miles.

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

EXTREMES.—Maximum discharge during year, 44,300 second-feet Mar. 1 (gage height, 12.15 feet); minimum, 1,600 second-feet Sept. 24 (gage height, 2.60 feet).

1923–1929: Maximum discharge, 49,700 second-feet Jan. 17, 1924 (gage height, 13.03 feet); minimum, 680 second-feet Aug. 27, 1925 (gage height, 1.80 feet).

Floods of April 21 and May 23, 1901, reached a stage of about 24.2 feet. Flood of 1878 probably reached a higher stage.

REMARKS.—Records good. Some regulation at low stages by power plants above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,260	4,990	3,490	3,030	6,100	40,400	8,580	9,620	9,260	8,260	3,490	2,430
2	7,940	4,450	5,530	3,490	5,530	26,400	6,700	9,620	8,580	8,580	4,210	2,250
3	6,400	4,210	3,970	3,970	3,730	21,600	6,700	18,500	18,100	8,580	4,450	1,910
4	6,100	4,450	3,030	3,970	3,730	17,600	6,400	16,600	16,600	7,940	4,450	2,160
5	5,530	4,720	3,970	3,250	3,730	19,500	6,100	12,300	10,700	7,620	4,450	1,910
6	4,990	4,450	2,810	4,210	4,210	34,000	6,100	9,260	6,400	5,530	3,250	1,910
7	5,800	4,450	3,730	4,720	4,450	28,600	6,100	11,100	5,800	7,620	2,430	2,610
8	5,530	4,210	3,030	4,450	5,530	18,500	6,400	9,980	5,530	6,400	2,430	2,610
9	5,260	4,450	4,210	4,450	8,580	14,300	5,800	8,580	10,700	5,260	3,490	3,030
10	4,720	3,730	4,210	4,990	7,940	11,500	5,530	7,940	30,900	5,530	3,250	3,030
11	4,720	3,970	2,430	4,450	9,620	10,700	5,530	6,700	18,500	5,260	3,490	2,430
12	4,450	4,720	3,030	5,260	9,260	7,620	5,260	6,100	11,900	6,700	3,030	2,610
13	4,450	3,490	3,030	4,720	7,620	7,620	4,450	6,100	8,580	7,000	3,030	2,610
14	4,210	4,210	3,730	3,730	6,400	8,580	5,530	5,800	7,620	7,000	3,030	2,250
15	4,450	3,730	3,490	3,250	5,530	18,500	4,990	6,100	7,300	6,100	3,030	2,250
16	3,490	3,490	4,210	4,210	5,530	21,600	4,990	5,530	7,940	5,530	2,250	2,160
17	4,210	4,210	3,970	4,210	4,990	16,200	8,580	5,530	7,940	4,990	3,030	1,910
18	4,450	3,970	3,490	4,210	5,530	12,300	7,000	5,530	7,620	4,720	2,610	2,430
19	4,450	3,970	3,970	5,800	4,990	10,700	7,000	5,530	6,100	4,450	2,430	2,610
20	4,990	3,030	4,450	6,700	4,990	8,580	5,530	6,100	5,530	4,990	2,430	2,250
21	4,990	3,490	3,970	6,100	6,700	8,580	5,260	7,940	7,300	4,450	2,250	2,610
22	5,260	4,450	3,970	5,530	6,100	7,940	6,700	10,700	5,530	3,490	2,250	2,250
23	3,490	4,990	3,730	6,100	6,400	13,900	5,530	9,980	4,990	3,490	2,250	2,080
24	8,580	4,720	3,250	6,400	6,100	18,100	6,100	7,940	5,800	3,730	2,610	1,750
25	12,300	3,970	3,030	9,980	7,300	15,700	5,530	6,700	4,990	3,970	3,030	2,430
26	9,980	3,730	2,610	9,620	16,200	13,100	5,530	5,530	7,000	3,970	3,490	2,430
27	7,940	2,610	3,030	8,900	30,900	10,700	4,990	6,100	20,500	4,720	3,490	2,250
28	8,580	3,490	3,490	7,620	36,400	9,980	6,400	5,800	13,500	3,970	3,490	2,430
29	7,940	3,970	4,450	7,300	-------	9,260	6,100	6,700	13,900	3,730	2,810	2,250
30	6,100	4,450	3,030	5,530	-------	7,940	6,100	6,100	10,700	3,030	2,430	2,810
31	4,990	-------	3,490	4,990	-------	8,580	-------	5,800	-------	3,970	2,430	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	12,300	3,490	5,990	1.31	1.51
November	4,990	2,610	4,090	.897	1.00
December	5,530	2,430	3,610	.792	.91
January	9,980	3,030	5,330	1.17	1.35
February	36,400	3,730	8,360	1.83	1.91
March	40,400	7,620	15,400	3.38	3.90
April	8,580	4,450	6,050	1.33	1.48
May	18,500	5,530	8,120	1.78	2.05
June	30,900	4,990	10,200	2.24	2.50
July	8,580	3,030	5,500	1.21	1.40
August	4,450	2,250	3,060	.671	.77
September	3,030	1,750	2,360	.518	.58
The year	40,400	1,750	6,500	1.43	19.36

NEW RIVER AT CAPERTON, W. VA.

LOCATION.—Water-stage recorder at suspension footbridge at Caperton, Fayette County. Zero of gage is 938.00 feet above sea level.

DRAINAGE AREA.—6,830 square miles. Drainage area for former gaging station on New River at Fayette, W. Va., published in previous reports as 6,800 square miles has been revised to 6,850 square miles.

RECORDS AVAILABLE.—November, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 81,400 second-feet Mar. 1 (gage height, 17.6 feet); minimum, 1,590 second-feet Sept. 25 (gage height, 2.37 feet).

REMARKS.—Records good except those above 30,000 second-feet, which are fair. Power plants on New River in Virginia cause slight diurnal fluctuation at low stages.

Daily and monthly discharge, in second-feet, 1928–29

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	12,000	4,540	7,350	74,900	12,000	17,400	16,900	9,800	4,180	2,420
2	-------	24,300	4,900	5,520	48,900	10,200	15,400	16,900	9,800	4,300	2,510
3	-------	13,200	6,020	3,940	37,200	10,200	25,500	20,200	10,500	4,180	2,170
4	-------	8,550	6,150	4,900	28,800	9,450	34,000	23,700	10,500	5,400	1,950
5	-------	7,950	5,400	5,400	36,600	10,200	23,100	15,900	9,150	4,780	2,170
6	-------	6,940	6,020	5,400	60,000	12,400	17,900	11,200	7,070	4,060	1,820
7	-------	6,020	6,940	5,900	51,500	11,200	15,900	8,850	7,210	3,020	2,020
8	-------	5,140	8,850	6,280	34,000	10,200	16,400	7,350	7,650	2,510	2,600
9	-------	5,140	8,550	10,200	23,700	8,850	13,200	7,950	6,410	2,910	2,700
10	-------	5,140	8,250	10,500	17,900	8,250	11,600	28,100	6,410	3,580	3,350
11	-------	4,180	8,550	12,000	14,500	7,950	10,200	24,300	5,520	3,580	2,700
12	-------	3,240	9,450	11,600	12,000	7,350	9,150	14,500	6,540	3,460	2,510
13	-------	3,940	8,550	10,500	10,800	7,070	8,250	11,200	8,550	3,580	2,510
14	-------	4,540	6,940	8,850	11,200	6,670	9,150	9,450	7,950	3,240	2,330
15	-------	5,140	5,140	7,350	22,600	6,800	10,800	9,450	7,210	3,020	2,250
16	-------	6,670	6,150	6,940	33,300	6,410	11,600	9,150	6,410	2,800	2,170
17	-------	8,550	6,020	6,540	25,500	8,850	9,800	9,450	5,900	2,510	2,100
18	-------	8,550	6,020	6,150	18,500	15,000	8,850	8,550	5,270	2,800	1,950
19	-------	8,550	7,350	6,020	15,400	12,000	9,800	7,950	4,780	2,600	2,600
20	6,540	9,450	10,800	7,070	12,800	10,500	12,400	7,070	4,900	2,600	3,240
21	8,550	7,950	12,000	8,550	11,600	9,150	15,400	8,550	5,020	2,330	2,700
22	9,150	7,070	10,500	8,550	10,800	10,200	28,800	6,670	4,180	2,330	2,700
23	7,650	6,150	10,500	8,250	20,200	11,200	19,600	6,020	3,580	2,420	2,330
24	6,940	5,270	11,600	8,250	32,600	12,000	14,000	6,150	4,180	2,330	2,100
25	5,770	5,400	13,600	8,550	30,000	9,800	11,200	6,540	4,180	2,800	1,750
26	6,150	4,420	17,900	19,600	21,300	9,150	9,150	7,070	4,300	3,700	2,330
27	4,660	3,940	19,600	55,400	16,900	9,450	8,250	16,900	5,140	4,180	2,170
28	4,540	4,660	15,400	68,400	14,500	9,450	7,650	17,400	5,020	3,700	2,100
29	5,270	5,520	11,200	-------	12,800	16,400	8,550	14,500	4,420	3,350	2,170
30	6,670	4,780	9,800	-------	11,600	23,100	15,000	12,400	3,940	2,700	2,330
31	-------	4,300	7,650	-------	11,200	-------	15,000	-------	3,350	2,420	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
November 20–30	9,150	4,540	6,540	0.958	0.39
December	24,300	3,240	6,990	1.02	1.18
January	19,600	4,540	9,040	1.32	1.52
February	68,400	3,940	11,900	1.74	1.81
March	74,900	10,800	25,300	3.70	4.27
April	23,100	6,410	10,400	1.52	1.70
May	34,000	7,650	14,300	2.09	2.41
June	28,100	6,020	12,300	1.80	2.01
July	10,500	3,350	6,290	.921	1.06
August	5,400	2,330	3,270	.479	.55
September	3,350	1,750	2,360	.346	.39

KANAWHA RIVER AT KANAWHA FALLS, W. VA.

LOCATION.—Water-stage recorder half a mile below Kanawha Falls, Fayette County, and 2 miles below Gauley River. Zero of gage is 618.73 feet above mean sea level.

DRAINAGE AREA.—8,300 square miles.

RECORDS AVAILABLE.—March, 1877, to September, 1916; October, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 102,000 second-feet Mar. 1 (gage height, 16.04 feet); minimum, 1,350 second-feet Sept. 8 (gage height, −0.24 foot).

1877–1916, 1928–29: Maximum discharge, about 270,000 second-feet Sept. 14, 1878 (gage height, 37.8 feet); minimum, 1,100 second-feet Sept. 14, 1881.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		5,800	42,600	5,500	8,580	95,700	14,700	23,300	25,700	10,900	4,300	2,890
2		5,950	38,400	6,250	6,850	61,400	13,700	19,700	23,300	15,700	4,300	2,710
3		5,500	22,700	8,220	5,950	44,000	12,700	34,200	22,700	17,300	4,430	2,710
4		5,360	14,700	8,580	4,950	34,900	11,900	42,600	26,900	13,200	5,950	2,200
5		5,500	11,500	7,880	6,100	49,300	12,700	32,300	19,700	11,500	7,880	2,360
6		5,950	10,100	8,220	6,100	84,000	16,200	25,100	13,200	8,400	5,950	2,200
7		5,650	8,750	11,900	8,050	70,200	15,700	22,100	10,300	8,050	4,300	2,360
8		5,800	7,350	12,300	9,100	44,000	13,200	23,300	8,400	8,920	3,380	2,440
9		6,250	6,250	11,500	12,300	30,500	11,500	19,700	8,050	7,180	3,380	3,280
10		6,850	6,400	11,900	13,200	23,900	10,500	15,700	25,000	7,880	3,940	5,220
11		6,250	5,800	15,200	14,700	19,700	9,700	13,200	26,900	6,550	3,820	5,500
12		6,250	4,560	15,200	14,200	17,300	9,100	11,500	16,700	7,000	4,300	3,940
13		5,950	4,560	13,200	12,300	13,700	8,400	10,100	12,300	11,500	5,220	3,820
14		5,220	4,950	9,900	10,500	14,200	7,700	11,500	10,100	10,300	4,300	3,080
15		5,500	8,580	8,050	8,920	28,100	8,050	15,200	10,100	9,300	3,940	2,890
16		5,080	12,700	7,520	7,880	38,400	7,350	16,700	9,900	8,400	3,600	2,800
17		5,080	13,200	7,880	7,700	30,500	11,500	14,200	10,700	7,180	2,800	2,620
18		5,500	14,200	7,700	7,000	23,300	20,300	12,700	9,500	5,950	3,180	2,530
19		9,100	15,700	10,700	6,700	20,300	17,900	12,700	8,400	5,220	3,080	2,980
20		16,200	15,200	18,500	7,700	17,900	16,200	26,900	7,350	4,950	2,800	3,940
21		15,700	12,300	18,500	8,920	15,700	14,700	35,600	8,580	5,220	2,800	3,280
22		14,700	10,300	15,700	9,700	14,200	16,700	39,800	7,180	4,430	2,620	3,180
23		11,500	8,580	16,700	9,100	20,900	20,300	28,100	6,100	3,820	2,620	2,710
24		9,900	7,350	19,100	8,920	40,500	18,500	20,900	6,100	3,940	2,940	2,530
25		8,580	6,700	20,900	9,300	37,000	14,700	16,200	6,550	4,060	4,950	2,200
26		7,880	6,100	25,100	24,200	28,100	12,700	13,200	7,350	4,060	4,690	2,440
27	10,300	7,000	5,080	26,900	69,400	23,900	12,700	11,900	16,300	5,080	4,690	2,530
28	8,750	6,800	5,500	21,500	85,800	20,900	12,300	11,100	19,700	6,250	4,180	2,280
29	7,000	6,400	5,950	15,700		17,900	19,500	13,100	15,200	5,220	3,940	2,440
30	6,850	16,400	6,250	12,700		16,200	28,100	20,900	14,700	4,560	3,380	2,620
31	6,400		5,220	9,300		14,700		25,700		3,710	2,710	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October 27–31	10,300	6,400	7,860	0.947	0.18
November	16,400	5,080	7,750	.934	1.04
December	42,600	4,560	11,200	1.35	1.56
January	26,900	5,500	13,200	1.59	1.83
February	85,800	4,950	14,400	1.73	1.80
March	95,700	13,700	32,600	3.93	4.53
April	28,100	7,350	14,000	1.69	1.89
May	42,600	10,100	20,600	2.48	2.86
June	26,900	6,100	13,800	1.66	1.85
July	17,300	3,710	7,600	.916	1.06
August	7,880	2,620	4,010	.483	.56
September	5,500	2,200	2,960	.357	.40

NORTH FORK OF NEW RIVER AT CRUMPLER, N. C.

LOCATION.—Chain gage on highway bridge at Crumpler, Ashe County, and 6 miles above confluence with South Fork.

DRAINAGE AREA.—276 square miles.

RECORDS AVAILABLE.—July, 1928, to September, 1929. From August, 1908, to September, 1916, at site half a mile above mouth of South Fork.

EXTREMES.—Maximum discharge during year, 5,310 second-feet Feb. 28 (gage height, 6.30 feet); minimum, 189 second-feet September 2, 3, and 23 (gage height, 1.3 feet).

1908–1916; 1928–29: Maximum discharge, about 24,000 second-feet July 15, 1916; minimum, 108 second-feet July 2, 1914 (gage height, 1.10 feet at old site).

REMARKS.—Records good below 3,000 second-feet and fair above. Slight regulation caused by operation of old gristmills.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	677	405	405	346	384	2,200	818	553	613	890	665	204
2	553	426	384	328	365	1,860	745	1,020	524	2,320	420	189
3	524	449	365	346	384	1,430	613	895	582	1,240	370	189
4	498	472	346	346	405	1,150	553	644	524	772	347	220
5	498	472	328	498	384	4,070	498	582	472	665	305	269
6	582	449	328	1,280	384	3,030	472	582	426	600	269	286
7	524	449	328	745	472	1,980	449	818	553	600	286	269
8	498	498	294	405	426	1,560	426	855	1,100	1,280	420	252
9	449	524	278	365	644	1,100	472	818	1,560	475	347	286
10	384	498	278	818	975	855	426	745	1,100	632	269	305
11	384	449	310	613	644	780	498	677	677	810	252	269
12	365	449	328	553	498	644	524	613	613	735	236	236
13	346	426	405	472	405	1,180	498	613	553	600	269	220
14	365	384	405	365	365	2,790	524	613	745	568	252	204
15	384	365	346	426	426	2,550	524	895	1,280	535	236	204
16	405	346	365	449	384	2,090	582	935	935	448	236	236
17	498	346	384	498	405	1,660	524	780	644	700	220	286
18	553	405	384	472	449	1,100	498	710	498	665	236	269
19	553	472	384	524	472	895	449	710	449	448	269	252
20	498	677	365	582	745	855	449	1,760	582	395	269	236
21	472	524	365	498	895	780	426	1,760	582	347	236	220
22	472	426	346	818	1,020	745	524	1,280	498	448	220	204
23	2,200	405	328	975	745	1,370	472	1,020	524	448	236	189
24	1,660	384	346	1,280	553	1,460	405	818	472	370	286	236
25	1,020	365	346	1,180	690	1,100	524	745	780	347	347	236
26	818	346	346	1,100	1,560	1,020	472	677	3,150	475	269	269
27	582	328	365	1,020	2,790	1,020	426	780	2,080	370	252	286
28	524	328	365	855	4,660	975	644	710	1,430	324	220	252
29	498	328	384	553	-------	895	780	644	1,860	347	204	236
30	472	365	405	498	-------	895	710	855	1,020	324	220	220
31	426	-------	384	426	-------	895	-------	780	-------	665	220	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,200	346	603	2.18	2.51
November	677	328	425	1.54	1.72
December	405	278	355	1.29	1.49
January	1,280	328	633	2.29	2.64
February	4,660	365	805	2.92	3.04
March	4,070	644	1,450	5.25	6.05
April	818	405	531	1.92	2.14
May	1,760	553	835	3.03	3.49
June	3,150	426	894	3.24	3.62
July	2,320	324	640	2.32	2.68
August	665	204	287	1.04	1.20
September	305	189	241	.873	.97
The year	4,660	189	641	2.32	31.55

REED CREEK AT GRAHAMS FORGE, VA.

LOCATION.—Chain gage on highway bridge at Grahams Forge, Wythe County, 2½ miles below Glade Creek.

DRAINAGE AREA.—247 square miles.

RECORDS AVAILABLE.—July, 1908, to September, 1916; February, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 6,850 second-feet June 9 (gage height, 6.40 feet); minimum, 73 second-feet Jan. 8, 14, and Sept. 28 (gage height, 1.38 feet).

1908–1916, 1927–1929: Maximum gage height, 12.1 feet July 16, 1916 (discharge not determined); minimum discharge, about 5 second-feet Dec. 22, 1909 (gage height, 1.17 feet). This extremely low discharge was probably caused by freezing weather, or by regulation of flow by power plants above the station, or by both.

REMARKS.—Records good. Low-water flow may be affected slightly by operation of power plants upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	325	182	134	131	210	1,660	314	381	459	370	147	95
2	240	175	131	144	182	1,100	299	428	299	459	138	95
3	214	175	128	154	190	1,050	274	459	750	428	122	100
4	197	175	128	167	175	840	259	364	750	325	131	93
5	190	167	125	167	164	1,940	288	299	428	278	122	93
6	190	157	117	164	147	1,940	264	274	309	254	120	98
7	254	150	114	150	214	1,100	250	197	254	236	120	84
8	240	178	114	98	190	795	236	245	245	214	128	88
9	210	167	108	193	236	632	223	240	4,650	210	131	91
10	186	160	100	178	387	525	227	231	2,090	186	111	106
11	175	150	117	201	459	459	231	210	890	259	114	108
12	167	157	120	190	375	428	218	197	595	245	117	106
13	157	154	117	210	309	398	197	197	459	236	114	91
14	157	144	141	120	299	525	197	206	398	201	120	93
15	147	141	134	182	269	710	206	197	428	186	114	95
16	147	147	125	175	236	632	320	193	341	178	106	91
17	154	147	114	167	231	492	304	175	330	164	93	103
18	157	138	125	167	236	428	259	164	269	197	98	134
19	206	147	167	193	320	387	240	175	254	175	98	117
20	190	147	150	309	525	364	218	227	259	157	111	95
21	164	144	141	259	560	336	218	387	214	150	95	91
22	157	138	125	245	428	320	214	304	206	164	95	93
23	428	131	128	299	387	428	206	245	186	160	103	91
24	940	128	141	352	387	795	193	214	227	150	150	93
25	492	131	134	525	459	560	197	193	264	147	193	98
26	347	131	117	492	1,280	459	214	171	1,100	147	175	95
27	283	120	125	398	2,390	428	197	175	710	134	125	100
28	250	134	122	330	3,380	370	364	167	595	134	111	82
29	231	125	128	274	-------	336	1,100	375	632	125	106	91
30	201	134	122	245	-------	341	525	218	459	117	103	93
31	197	-------	125	245	-------	341	-------	259	-------	122	91	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	940	147	245	0.992	1.14
November	182	120	149	.603	.67
December	167	100	126	.510	.59
January	525	98	230	.931	1.07
February	3,380	147	522	2.11	2.20
March	1,940	320	681	2.76	3.18
April	1,100	193	282	1.14	1.27
May	459	164	251	1.02	1.18
June	4,650	186	635	2.57	2.87
July	459	117	210	.850	.98
August	193	91	119	.482	.56
September	134	82	96.8	.392	.44
The year	4,650	82	294	1.19	16.15

PEAK CREEK AT PULASKI, VA.

LOCATION.—Chain gage on Washington Avenue Bridge in Pulaski, Pulaski County, three-eighths mile below Track Fork.

DRAINAGE AREA.—68 square miles.

RECORDS AVAILABLE.—February, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 3,680 second-feet June 9 (gage height, 10.46 feet); minimum, 5 second-feet Aug. 28 (gage height, 1.68 feet). 1927–1929: Maximum discharge, that of June 9, 1929; minimum, 5 second-feet September 28, 29 and 30, Oct. 1, 10, 11, 1927, and Aug. 28, 1929 (gage height, 1.68 feet).

REMARKS.—Records good. Gage not read Oct. 9, Oct. 28 to Nov. 5, Nov. 18–20 and Nov. 29 to Feb. 6.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	81			290	76	103	117	46	16	5
2	55			290	62	359	70	57	10	5
3	42			254	81	290	774	36	10	5
4	34			182	51	156	191	28	11	5
5	27			990	124	103	110	25	8	5
6	29	19		374	103	84	73	18	7	5
7	46	20	79	110	88	73	52	17	8	6
8	53	28	72	132	85	55	71	15	20	5
9		21	124	103	84	52	2,730	16	12	6
10	39	21	220	79	82	44	316	14	10	6
11	24	20	174	72	71	37	132	20	8	6
12	20	20	117	63	61	35	84	18	7	5
13	20	20	103	80	44	34	64	19	7	5
14	20	21	82	266	41	47	50	17	7	5
15	23	20	64	290	49	40	71	16	7	6
16	17	18	63	165	191	33	42	14	7	5
17	18	18	57	110	165	31	32	13	6	7
18	21		64	89	110	30	30	17	6	9
19	24		96	77	82	31	24	12	6	6
20	19		165	68	66	63	63	11	6	6
21	20	15	132	57	59	182	30	10	6	5
22	20	14	103	52	64	103	24	11	6	5
23	19	14	89	165	46	72	23	12	6	5
24	17	14	89	231	40	53	242	11	7	5
25	16	14	140	140	56	41	117	10	13	6
26	15	14	734	110	59	33	654	40	9	6
27	15	14	404	86	56	29	182	12	6	6
28		14	1,260	73	540	40	110	11	6	6
29				62	266	504	89	9	5	6
30				79	132	117	59	9	5	6
31				72		89		32	5	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
February 7-28	1,260	57	201	2.96	2.42
March	990	52	168	2.47	2.85
April	540	40	101	1.49	1.66
May	504	29	95.6	1.41	1.63
June	2,730	23	221	3.25	3.63
July	57	9	19.2	.282	.33
August	20	5	8.16	.120	.14
September	9	5	5.63	.083	.09

WEST FORK OF COVE CREEK NEAR BLUEFIELD, VA.

LOCATION.—Staff gage on old tramway railroad bridge, 10 miles south-west of Bluefield, Tazewell County.
DRAINAGE AREA.—5.5 square miles.
RECORDS AVAILABLE.—June to September, 1929.
EXTREMES.—Maximum discharge during period, 18 second-feet June 11 (gage height, 1.10 feet); minimum, 2.6 second-feet July 30, Sept. 2, 5, and 6 (gage height, 0.22 foot).
REMARKS.—Records fair. No record Sept. 15–21.

Daily and monthly discharge, in second-feet, 1929

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1		10.0	3.8	2.8	16	7.1	3.2	2.9	
2		13.6	3.0	2.7	17	6.1	3.2	2.8	
3		11.3	4.2	2.8	18	6.1	3.2	2.8	
4		9.4	3.5	2.8	19	5.5	3.0	2.8	
5		7.9	2.8	2.6	20	7.4	2.8	2.8	
6		6.6	2.8	2.6	21	6.0	2.8	2.8	
7		5.5	2.8	2.8	22	6.4	3.3	2.8	2.8
8		4.7	3.2	2.8	23	5.8	3.2	3.1	2.8
9		4.4	3.0	2.8	24	5.8	3.2	6.9	2.8
10		4.2	2.8	2.9	25	7.4	3.2	7.7	2.8
11	18.0	4.3	2.9	2.9	26	14.7	3.2	4.7	2.8
12	14.5	6.0	2.9	2.8	27	11.5	3.4	3.4	2.8
13	11.9	4.2	2.8	2.8	28	11.7	3.3	3.0	2.8
14	9.4	3.9	2.9	3.0	29	10.9	2.8	2.8	2.8
15	9.2	3.7	3.2		30	8.9	2.7	2.8	2.8
					31		3.5	2.8	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
June 11–30	18	5.5	9.22	1.68	1.25
July	13.6	2.7	4.83	.878	1.01
August	7.7	2.8	3.34	.607	.70

GREENBRIER RIVER AT ALDERSON, W. VA.

LOCATION.—Chain gage on highway bridge at Alderson, Monroe County, half a mile above mouth of Muddy Creek.
DRAINAGE AREA.—1,340 square miles.
RECORDS AVAILABLE.—July, 1895, to September, 1929.
EXTREMES.—Maximum discharge during year, 32,700 second-feet Feb. 28 (gage height, 13.15 feet); minimum, 80 second-feet Sept. 29 (gage height, 1.84 feet).
1895–1929: Maximum discharge, about 60,000 second-feet during night of Mar. 13–14, 1918 (gage height, 22.0 feet); minimum, 46 second-feet Sept. 30 to Oct. 6, Oct. 17, 24, 27–31, Nov. 7, 10, 11, 1904 (gage height, 1.40 feet).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	648	475	21,400	905	1,660	20,700	2,380	3,970	5,410	500	157	105
2	648	438	9,800	1,910	1,660	11,000	2,180	3,970	3,420	648	141	99
3	662	425	4,830	1,910	1,200	7,730	2,000	11,900	2,690	2,380	134	94
4	525	500	3,160	1,580	1,280	5,700	1,740	8,600	1,820	1,430	138	90
5	425	525	2,280	1,580	1,060	10,100	3,010	6,280	1,200	905	218	87
6	395	620	1,820	2,000	980	20,400	3,160	4,540	1,430	704	287	84
7	376	690	1,580	2,920	905	10,400	2,480	3,420	1,200	578	200	84
8	356	620	1,360	2,920	1,130	7,150	2,180	2,580	1,130	525	206	85
9	336	648	1,200	1,740	1,430	4,830	1,820	2,180	1,130	385	162	90
10	310	662	980	1,820	1,660	3,290	1,660	1,820	1,200	326	144	110
11	273	634	830	3,420	1,580	2,580	1,580	1,660	1,200	279	138	101
12	248	606	816	3,420	1,430	2,280	1,430	2,430	905	248	131	115
13	236	578	905	2,480	1,280	2,090	1,280	1,360	905	538	125	101
14	224	578	1,060	2,090	1,200	3,690	1,130	1,430	1,060	462	131	99
15	212	550	2,000	1,500	1,130	11,900	1,060	3,690	1,130	475	125	99
16	200	578	3,420	1,430	1,130	7,150	1,430	2,800	1,200	405	122	99
17	218	550	2,800	1,500	1,060	4,830	5,120	2,280	980	336	128	94
18	242	550	2,690	1,430	980	3,420	4,250	1,820	816	279	118	97
19	303	525	3,970	2,280	1,060	2,690	3,420	1,740	662	236	112	94
20	376	4,830	3,040	4,830	1,500	2,480	2,920	1,820	830	212	105	101
21	395	4,250	2,280	3,970	1,820	2,090	3,040	17,300	980	179	97	94
22	376	2,690	1,910	2,920	1,430	2,000	3,420	9,200	816	162	92	94
23	500	2,090	1,660	2,480	1,360	4,250	3,970	5,410	500	148	112	94
24	1,660	1,660	1,800	3,690	1,200	8,020	3,160	3,160	512	134	395	99
25	1,430	1,500	1,910	3,970	1,360	5,410	2,580	2,580	1,130	128	704	94
26	1,130	1,580	1,360	9,500	6,860	3,690	2,480	2,000	718	134	376	92
27	980	1,360	1,130	8,020	24,500	3,040	2,580	1,910	1,060	138	256	87
28	732	1,280	1,130	4,250	29,100	2,480	3,040	1,740	830	144	188	84
29	634	1,280	1,060	3,040	-------	2,090	6,280	5,990	718	170	157	80
30	538	1,360	1,060	2,180	-------	2,000	5,700	8,310	690	170	134	82
31	500	-------	980	1,910	-------	2,280	-------	6,860	-------	144	115	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,660	200	519	0.387	0.45
November	4,830	425	1,150	.858	.96
December	21,400	816	2,780	2.07	2.39
January	9,500	905	2,890	2.16	2.49
February	29,100	905	3,320	2.48	2.58
March	20,700	2,000	5,860	4.37	5.04
April	6,280	1,060	2,750	2.05	2.29
May	17,300	1,360	4,310	3.22	3.71
June	5,410	500	1,280	.955	1.07
July	2,380	128	436	.325	.37
August	704	92	182	.136	.16
September	115	80	94.3	.0704	.08
The year	29,100	80	2,130	1.59	21.59

GAULEY RIVER NEAR SUMMERSVILLE, W. VA.

LOCATION.—Chain gage at Bracks Bridge, 2½ miles east of Summersville, Nicholas County, and 500 feet below Muddlety Creek.

DRAINAGE AREA.—686 square miles.

RECORDS AVAILABLE.—July, 1908, to September, 1916; November, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 22,800 second-feet Nov. 30 (gage height, 14.20 feet); minimum, 88 second-feet Sept. 7 (gage height, 1.99 feet). 1908–1916, 1928–29: Maximum discharge, about 25,000 second-feet Jan. 30, 1912 (gage height, 18.3 feet); minimum, 4 second-feet June 10, 1912 (gage height, 2.12 feet).

REMARKS.—Records good. Discharge estimated Feb. 1–7 because of ice and July 14, Aug. 27, and Sept. 21 because of missing record.

Daily and monthly discharge, in second-feet, 1928–29

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		19,800	730	900	6,480	1,480	2,320	4,060	375	565	150
2		5,780	1,920	800	4,200	1,240	2,220	2,320	5,780	615	144
3		3,430	1,400	700	2,850	1,090	6,300	1,560	2,960	615	128
4		2,320	1,400	650	3,190	950	5,120	1,240	1,480	2,520	118
5		1,830	1,160	600	9,310	2,020	4,640	880	950	1,650	102
6		1,560	2,630	700	10,400	2,120	2,960	670	950	880	92
7		1,090	2,740	2,120	6,850	1,650	2,960	565	950	615	88
8		1,020	1,480	1,740	4,200	1,240	2,740	456	730	450	325
9		820	1,400	1,650	2,960	1,160	2,120	565	730	340	1,560
10		565	2,850	1,560	1,740	1,020	1,480	518	950	295	2,020
11		615	4,340	1,160	1,480	880	1,160	375	670	325	1,480
12		615	2,960	1,090	1,320	760	670	325	2,120	2,320	790
13		590	2,120	820	2,320	615	950	265	3,070	1,020	495
14		730	1,240	880	5,950	565	1,740	265	2,100	590	375
15		4,800	1,480	565	4,490	518	2,120	222	2,120	430	325
16		3,550	1,160	640	2,960	700	2,320	392	1,400	375	280
17		2,630	1,090	495	2,420	2,320	2,120	310	880	280	310
18		4,340	1,240	450	1,830	2,520	1,650	265	565	222	565
19		3,670	4,800	472	1,830	2,960	3,430	172	450	184	518
20		2,630	4,200	540	1,740	3,800	9,060	146	340	146	375
21		1,830	2,960	615	1,560	3,670	11,200	134	265	134	300
22		1,240	2,960	590	1,480	6,120	5,120	168	209	106	222
23	1,920	1,090	3,070	430	3,430	4,200	3,070	110	168	128	184
24	1,560	950	3,190	495	4,800	2,850	1,920	134	161	2,220	165
25	1,400	820	2,850	518	3,310	2,120	1,560	106	112	1,160	148
26	1,240	640	3,930	5,120	2,630	2,020	1,560	375	144	790	136
27	880	760	2,740	9,830	3,190	2,120	1,240	410	1,090	550	126
28	1,160	640	2,120	11,500	2,420	1,740	1,560	280	1,090	375	110
29	950	640	1,480		1,920	3,430	5,950	615	590	310	102
30	10,100	730	1,240		1,740	2,420	3,190	640	495	236	90
31		615	950		1,740		5,780		375	196	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
November 23–30	10,100	880	2,400	3.50	1.04
December	19,800	565	2,330	3.40	3.92
January	4,800	730	2,250	3.28	3.78
February	11,500	430	1,700	2.48	2.58
March	10,400	1,320	3,440	5.02	5.79
April	6,120	518	2,010	2.93	3.27
May	11,200	670	3,230	4.71	5.43
June	4,060	106	618	.901	1.01
July	5,780	112	1,110	1.62	1.87
August	2,520	106	666	.971	1.12
September	2,020	88	396	.577	.64

GAULEY RIVER NEAR LEANDER, W. VA.

LOCATION.—Staff gage at abandoned Woods Ferry, 100 feet below mouth of Ramsey Branch and 2⅓ miles by road from Leander, Fayette County.

DRAINAGE AREA.—1,230 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 29,600 second-feet Dec. 1 (gage height, 17.45 feet); minimum, 174 second-feet Sept. 6 (gage height, 3.00 feet).

1925–1929: Maximum discharge, about 41,400 second-feet Nov. 16, 1926 (gage height, 20.35 feet); minimum, 26 second-feet Sept. 15, 1925 (gage height, 1.69 feet).

Flood of Mar. 13, 1918, reached a crest stage of about 34 feet (discharge, about 112,000 second-feet).

REMARKS.—Records fair. Discharge estimated July 4–6, 11–13, 15, 29–31, Aug. 4, 12, 24; affected by ice Dec. 29–31.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	455	515	25,900	1,020	1,270	15,100	2,430	4,770	6,880	1,660	535	264
2	415	625	11,700	1,360	895	9,150	2,040	6,690	4,930	6,500	380	252
3	350	602	6,500	2,170	785	6,500	1,910	11,000	3,700	5,260	415	240
4	702	650	4,300	2,430	730	5,950	1,660	9,370	2,850	3,000	2,500	216
5	730	1,100	3,270	2,170	675	16,400	2,710	8,290	2,300	1,800	2,040	205
6	625	1,270	2,710	4,450	785	19,800	4,450	5,600	1,660	1,400	1,270	174
7	535	1,100	2,170	5,430	895	14,300	3,270	4,930	1,270	1,780	895	216
8	495	950	1,550	3,850	2,430	9,150	2,710	4,150	950	1,270	730	277
9	415	1,020	1,180	3,270	2,850	5,770	2,170	3,850	950	1,020	535	2,170
10	455	1,100	950	3,700	3,130	3,850	1,910	3,410	840	2,170	455	2,710
11	415	1,270	840	5,950	2,170	2,990	1,550	2,570	730	1,200	625	1,780
12	350	1,450	840	5,260	1,910	2,430	1,270	2,170	675	1,200	1,500	1,100
13	290	1,450	950	4,450	1,450	2,300	1,180	4,770	785	3,400	1,270	840
14	290	1,450	1,270	3,700	1,180	3,850	1,100	5,090	1,020	2,430	895	675
15	350	1,270	4,930	2,850	1,020	8,500	950	4,610	1,360	2,200	675	535
16	320	1,180	6,310	2,300	950	5,260	950	4,150	1,270	2,040	455	415
17	305	1,100	4,610	1,910	950	4,610	895	3,850	895	1,180	398	435
18	320	950	6,690	3,700	895	3,850	4,150	3,410	730	840	350	495
19	730	2,850	6,130	4,770	1,020	3,270	3,550	3,550	625	675	320	580
20	535	10,500	4,930	7,270	1,180	2,850	6,690	12,500	580	580	305	558
21	455	6,130	3,550	4,610	1,180	2,990	7,670	19,500	495	455	264	415
22	415	4,610	2,850	4,770	1,020	3,270	9,830	9,370	415	415	216	365
23	380	3,700	2,040	5,430	950	5,600	7,270	6,130	350	415	380	290
24	380	2,710	1,660	6,310	1,270	9,370	4,450	4,000	305	435	1,500	252
25	350	2,430	1,270	8,080	1,270	8,080	3,130	3,130	277	398	1,910	252
26	320	2,040	1,100	7,470	1,780	5,600	3,850	3,270	380	380	1,100	228
27	415	1,780	950	5,260	17,500	5,770	4,770	2,850	495	415	785	216
28	580	1,660	1,100	4,150	15,100	5,430	4,930	2,570	730	1,660	535	194
29	675	1,450	1,080	3,410	-------	3,850	6,500	7,270	895	900	380	194
30	558	23,900	1,060	2,850	-------	2,990	5,770	6,130	1,270	600	350	277
31	495	-------	1,040	1,910	-------	2,990	-------	11,000	-------	500	290	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	730	290	455	0.370	0.43
November	23,900	515	2,760	2.24	2.50
December	25,900	840	3,720	3.02	3.48
January	8,080	1,020	4,070	3.31	3.82
February	17,500	675	2,400	1.95	2.03
March	19,800	2,300	6,510	5.29	6.10
April	9,830	895	3,520	2.86	3.19
May	19,500	2,170	5,930	4.82	5.56
June	6,880	277	1,350	1.10	1.23
July	6,500	380	1,550	1.26	1.45
August	2,500	216	783	.718	.83
September	2,710	174	561	.456	.51
The year	25,900	174	2,810	2.23	31.13

GAULEY RIVER ABOVE BELVA, W. VA.

LOCATION.—Water-stage recorder half a mile above Belva, Nicholas County, and 1 mile above Twentymile Creek. Zero of gage is 669.0 feet above mean sea level.

DRAINAGE AREA.—1,340 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1929. August, 1908, to September, 1916, at site one-fourth mile below mouth of Twentymile Creek.

EXTREMES.—Maximum discharge during year, 50,800 second-feet Dec. 1 (gage height, 16.25 feet); minimum, 131 second-feet Sept. 8 (gage height, 1.27 feet). 1908–1916, 1928–29: Maximum discharge, that of Dec. 1, 1929; minimum, 30 second-feet Sept. 30, 1908.

REMARKS.—Records good. Discharge estimated because of ice effect Jan. 30 to Feb. 7.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	663	34,300	1,070	1,430	15,700	2,630	4,230	8,560	1,030	530	291
2	-------	628	12,100	1,940	1,160	9,580	2,330	4,130	5,180	5,520	416	250
3	-------	600	6,880	2,560	965	6,650	1,980	9,760	3,470	5,730	374	224
4	-------	600	4,540	2,330	920	6,190	1,840	8,810	2,710	3,040	1,460	195
5	-------	830	3,290	2,190	875	15,600	2,860	7,840	1,980	1,920	2,950	172
6	-------	1,380	2,630	2,850	920	23,800	4,230	5,960	1,600	1,490	1,570	146
7	-------	1,210	2,120	5,070	1,860	15,000	3,290	5,400	1,250	1,510	992	139
8	-------	1,110	1,750	3,470	2,790	9,060	2,710	5,400	1,040	1,330	734	136
9	-------	1,350	1,500	2,870	2,790	6,190	2,190	4,330	956	983	572	1,060
10	-------	1,720	1,220	4,180	3,040	4,130	1,920	3,290	1,080	1,870	470	2,190
11	-------	1,610	992	6,650	2,710	3,040	1,720	2,560	1,010	1,300	422	2,400
12	-------	1,500	1,050	5,290	2,260	2,480	1,470	2,050	782	1,250	1,190	1,500
13	-------	1,380	1,030	3,840	1,890	2,190	1,250	1,870	649	3,560	1,660	938
14	-------	1,300	1,110	2,480	1,720	4,060	1,100	2,740	607	2,190	992	670
15	-------	1,170	4,640	2,190	1,420	8,080	1,000	4,540	635	2,260	686	551
16	-------	1,110	6,420	2,120	1,300	5,400	1,090	4,130	822	2,190	524	476
17	-------	1,100	4,740	1,890	1,170	4,430	3,380	4,230	1,060	1,470	446	440
18	-------	1,050	5,510	1,880	1,010	3,470	4,430	3,560	790	1,010	350	488
19	-------	3,070	6,650	4,410	938	3,040	4,540	4,280	663	758	296	702
20	476	9,320	4,740	7,120	1,040	2,950	5,290	14,000	551	586	255	593
21	500	6,880	3,560	5,400	1,240	2,710	5,290	20,300	470	482	224	458
22	434	4,640	2,560	4,640	1,250	2,480	7,030	10,400	398	398	199	374
23	458	3,470	1,980	5,290	1,160	3,780	7,600	6,650	350	330	202	310
24	607	2,710	1,730	6,420	1,010	9,580	5,510	4,430	305	278	1,200	268
25	911	2,330	1,490	5,960	1,250	7,360	3,840	3,200	345	242	2,050	237
26	839	2,050	1,290	6,650	7,920	5,730	3,380	2,870	782	219	1,280	206
27	686	1,710	1,210	5,730	17,100	5,730	3,380	2,790	1,150	300	814	187
28	614	1,610	1,230	4,330	17,500	4,640	3,040	2,870	857	1,910	600	169
29	621	1,530	1,160	3,290	-------	3,560	4,540	5,590	758	1,010	494	156
30	750	17,900	1,160	2,190	-------	2,950	5,290	5,960	1,230	656	416	146
31	734	-------	1,160	1,730	-------	2,870	-------	9,690	-------	614	335	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October 20–31	911	434	636	0.475	0.21
November	17,900	600	2,580	1.93	2.15
December	34,300	992	4,060	3.03	3.49
January	7,120	1,070	3,810	2.84	3.27
February	17,500	875	2,880	2.15	2.24
March	23,800	2,190	6,530	4.87	5.62
April	7,600	1,000	3,340	2.49	2.78
May	20,300	1,870	5,740	4.28	4.93
June	8,560	305	1,400	1.04	1.16
July	5,730	219	1,530	1.14	1.31
August	2,950	199	797	.595	.69
September	2,400	136	536	.400	.45

MEADOW RIVER AT NALLEN, W. VA.[1]

LOCATION.—Chain gage on highway bridge at Nallen, Fayette County.
DRAINAGE AREA.—297 square miles.
RECORDS AVAILABLE.—July, 1908, to September, 1916; November, 1928, to September, 1929.
EXTREMES.—Maximum discharge during year, 5,140 second-feet Feb. 28 (gage height, 12.03 feet); minimum, 8 second-feet Sept. 7 (gage height, 2.95 feet). 1908–1916, 1928–29: Maximum discharge, about 7,300 second-feet Feb. 3, 1915 (gage height, 13.25 feet); minimum, 6.7 second-feet Aug. 7 and 8, 1914 (gage height, 2.57 feet).
REMARKS.—Records good. Discharge estimated because of ice Jan. 30 to Feb. 2 and because of missing record Sept. 8.

Daily and monthly discharge, in second-feet, 1928–29

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		3,880	264	650	4,690	490	1,060	2,620	250	43	18
2		2,780	340	600	3,180	430	1,010	1,300	785	36	14
3		1,520	830	570	1,770	392	1,580	875	875	32	12
4		1,060	1,150	570	1,520	340	1,840	695	570	124	12
5		785	875	510	3,340	830	1,520	610	392	179	11
6		570	1,010	570	4,600	875	1,200	430	264	104	9.6
7		450	1,200	740	3,520	740	1,010	308	200	73	8.4
8		340	1,580	695	2,220	650	920	237	159	54	8.9
9		250	1,770	650	1,520	490	785	237	105	39	430
10		224	1,350	650	920	410	650	278	100	29	340
11		200	785	570	695	340	510	224	90	27	324
12		190	650	450	570	308	410	169	124	31	169
13		179	530	375	510	250	358	150	212	31	108
14		190	740	293	965	224	1,250	169	179	29	75
15		740	830	212	1,580	200	1,400	237	159	26	62
16		1,100	610	179	1,350	250	1,200	490	132	20	45
17		1,150	392	179	1,010	610	1,150	392	108	17	37
18		1,150	324	179	875	875	965	278	87	15	35
19		1,200	830	224	740	920	1,520	212	72	14	33
20		965	470	340	650	920	2,220	159	57	12	32
21		830	875	430	570	875	3,020	132	46	10	29
22		695	1,010	490	490	1,060	2,140	102	36	9.2	24
23		610	1,200	430	1,100	1,100	1,350	83	31	41	21
24	570	470	1,300	430	2,540	920	965	124	26	410	18
25	490	375	1,300	392	2,060	785	875	450	24	237	16
26	410	293	1,640	1,250	1,400	785	740	830	29	116	14
27	490	264	1,520	3,180	1,100	740	650	430	60	70	12
28	358	224	1,150	4,780	830	785	450	278	76	47	12
29	324	212	875	-------	650	1,300	875	324	87	37	11
30	1,640	237	800	-------	530	1,250	1,250	308	69	28	11
31	-------	190	700	-------	510	-------	2,540	-------	48	24	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
November 24–30	1,640	324	612	2.06	0.54
December	3,880	179	752	2.53	2.92
January	1,770	264	932	3.14	3.62
February	4,780	179	735	2.47	2.57
March	4,690	490	1,550	5.22	6.02
April	1,300	200	671	2.26	2.52
May	3,020	358	1,210	4.07	4.69
June	2,620	83	438	1.47	1.64
July	875	24	176	.593	.68
August	410	9.2	63.4	.213	.25
September	430	8.4	65.0	.219	.24

[1] Formerly published as "near Russelville."

ELK RIVER AT QUEEN SHOALS, W. VA.

LOCATION.—Chain gage on highway bridge at Queen Shoals, Kanawha County, 200 feet above mouth of Queen Shoals Creek.

DRAINAGE AREA.—1,140 square miles including Queen Shoals Creek.

RECORDS AVAILABLE.—November, 1928, to September, 1929. June, 1908, to September, 1916, at Clendennin, 5 miles downstream.

EXTREMES.—Maximum discharge during year, about 39,500 second-feet Dec. 1 (gage height, 17.66 feet); minimum, 102 second-feet June 21 (gage height, 3.42 feet).

REMARKS.—Records fair November to March, good April to September. Flow of Queen Shoals Creek included in discharge tables.

Daily and monthly discharge, in second-feet, 1928–29

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		39,500	1,100	1,300	9,900	1,740	1,990	3,110	1,100	400	270
2		a10,000	1,350	880	6,490	1,740	1,990	2,250	1,620	380	240
3		a 5,000	2,120	a 770	a 5,390	1,740	5,650	1,740	1,620	542	187
4		2,960	2,120	660	4,280	1,510	5,860	1,300	1,740	690	150
5		2,250	1,740	725	9,930	2,120	a 5,860	920	1,060	965	117
6		1,860	1,510	840	20,100	2,390	5,860	800	725	965	113
7		a 1,600	1,250	4,280	15,000	2,390	6,280	512	a 595	690	150
8		a 1,200	1,510	3,760	8,750	1,990	5,240	512	465	465	288
9		a 1,000	1,860	2,960	4,840	1,740	3,930	465	420	360	840
10		840	2,670	a 2,600	a 3,420	1,620	3,590	442	400	305	1,560
11		800	5,240	2,250	1,990	1,620	2,530	515	305	270	2,250
12		760	5,240	1,860	1,620	1,620	1,740	490	442	6,700	1,350
13		725	a 3,680	1,460	1,560	1,400	1,620	360	1,860	2,530	880
14		690	2,120	1,100	1,460	1,490	1,620	322	1,860	1,400	542
15		7,800	1,740	1,100	1,740	1,200	1,620	270	1,460	965	465
16		a 6,220	1,560	1,100	2,670	1,250	1,740	255	2,250	630	400
17		a 4,650	1,250	a 930	a 2,460	6,700	1,400	442	1,460	442	490
18		4,280	1,510	760	2,250	6,920	1,390	187	920	360	630
19	8,250	a 6,000	2,390	660	1,860	5,440	6,280	174	725	340	1,200
20	10,800	3,930	a 4,600	630	1,860	4,100	7,800	162	490	255	1,060
21	6,070	2,670	3,760	630	1,740	3,930	12,600	104	380	200	660
22	3,930	a 2,400	3,110	920	a 1,700	5,860	11,700	128	322	213	465
23	2,670	a 2,100	3,110	1,010	3,110	6,280	6,490	117	255	187	380
24	2,250	a 1,800	2,810	a 1,100	a 5,000	4,460	3,760	117	240	187	340
25	1,880	a 1,500	a 3,040	a 1,200	3,930	3,430	2,530	255	213	400	255
26	1,510	1,350	3,270	a 6,000	3,270	2,530	1,740	465	213	760	240
27	1,200	965	a 2,500	12,900	2,670	2,120	2,120	490	226	920	226
28	1,200	630	1,740	9,000	2,530	1,990	1,620	600	360	690	213
29	1,050	a 600	1,990	------	2,120	1,860	3,270	965	965	660	187
30	3,270	a 600	1,860	------	1,860	1,860	3,110	965	42	442	150
31	------	a 600	1,740	------	1,860	------	3,270	------	465	340	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
November 19-30	10,800	1,050	3,670	3.22	1.44
December	39,500	600	3,780	3.32	3.83
January	5,240	1,100	2,440	2.14	2.47
February	12,900	630	2,260	1.98	2.06
March	20,100	1,460	4,430	3.89	4.48
April	6,920	1,200	2,830	2.48	2.77
May	12,600	1,300	4,070	3.57	4.12
June	3,110	104	650	.570	.64
July	2,250	213	829	.727	.84
August	6,700	187	795	.697	.80
September	2,250	113	543	.476	.53

a Estimated.

RACCOON CREEK BASIN

RACCOON CREEK AT ADAMSVILLE, OHIO

LOCATION.—Staff gage on line between secs. 25 and 26, T. 6 N., R. 16 W., just above highway bridge at Adamsville.

DRAINAGE AREA.—537 square miles.

RECORDS AVAILABLE.—June, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 4,750 second-feet May 3 (gage height, 15.0 feet); minimum, 14 second-feet Oct. 8, 9, 15, and 16 (gage height, 1.70 feet).

1915–1929: Maximum discharge, 7,920 second-feet Apr. 21, 1920 (gage height, 21.10 feet); minimum, 4 second-feet Aug. 5–8, 1922 (gage height, 1.50 feet).

High-water marks indicate maximum stage of about 24.5 feet prior to installation of gage.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	100	1,070	252	562	3,380	356	480	396	297	92	43
2	24	59	1,010	408	562	2,980	356	2,110	260	278	89	37
3	22	42	725	980	540	2,070	316	4,700	208	242	225	41
4	22	38	474	775	496	1,910	336	4,450	182	208	225	48
5	20	37	540	452	452	2,930	930	4,350	157	182	191	36
6	21	38	562	562	366	3,700	840	4,100	149	149	191	34
7	18	40	452	890	366	4,600	750	3,900	133	133	174	57
8	15	40	366	950	282	4,450	567	2,310	225	118	157	567
9	15	42	303	890	654	3,950	480	1,430	200	110	149	336
10	21	45	222	1,010	860	2,700	678	930	174	182	141	149
11	22	43	212	1,010	775	1,240	1,130	701	157	225	141	149
12	20	42	99	950	677	810	1,710	589	133	149	133	545
13	17	37	72	890	585	725	1,550	611	118	118	125	356
14	17	36	145	775	474	810	810	870	102	95	182	174
15	14	34	452	677	408	1,100	701	1,510	95	86	174	208
16	15	38	631	608	345	1,200	611	2,190	94	78	118	191
17	17	42	725	540	303	1,060	1,470	1,910	88	71	88	182
18	28	51	890	608	282	990	960	1,160	82	58	74	208
19	84	174	1,160	1,760	282	870	678	1,670	61	48	66	208
20	99	303	1,070	2,310	562	701	545	2,800	65	42	55	141
21	94	345	700	2,310	452	611	480	3,380	74	43	50	89
22	82	408	496	1,760	366	567	725	2,620	72	41	51	70
23	70	324	324	1,620	324	611	930	1,350	141	38	200	57
24	70	282	262	2,110	252	611	725	810	242	38	191	50
25	116	242	242	2,840	262	567	567	633	149	36	182	52
26	154	212	232	2,390	3,560	633	611	545	141	36	191	58
27	192	127	222	1,830	3,650	611	567	480	133	1,510	200	48
28	232	107	202	1,240	3,800	523	567	396	166	750	110	42
29	232	102	222	830	------	438	567	396	278	396	48	47
30	222	585	222	585	------	417	480	396	182	208	42	47
31	212	------	222	585	------	396	------	611	------	125	37	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	232	14	71.4	0.133	0.15
November	585	34	134	.250	.28
December	1,160	72	469	.873	1.01
January	2,840	252	1,140	2.12	2.44
February	3,800	252	804	1.50	1.56
March	4,600	396	1,550	2.89	3.33
April	1,710	316	733	1.36	1.52
May	4,700	396	1,750	3.26	3.76
June	396	61	155	.289	.32
July	1,510	36	196	.365	.42
August	225	37	132	.246	.28
September	567	34	142	.264	.29
The year	4,700	14	609	1.13	15.36

GUYANDOT RIVER BASIN

GUYANDOT RIVER AT MAN, W. VA.

LOCATION.—Chain gage on highway bridge at Man, Logan County, 500 feet above Buffalo Creek.
DRAINAGE AREA.—752 square miles.
RECORDS AVAILABLE.—December, 1928, to September, 1929.
EXTREMES.—Maximum discharge during year, 13,100 second-feet Mar. 5 (gage height, 12.36 feet); minimum, 32 second-feet Sept. 29 (gage height, 2.61 feet).
REMARKS.—Records include flow of Buffalo Creek. Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		505	700	6,480	880	2,320	2,680	2,320	104	100
2		820	790	4,010	760	2,800	1,980	6,860	91	82
3		1,230	700	3,730	675	6,860	2,560	3,060	159	50
4		1,010	700	3,590	650	3,730	3,450	2,200	250	43
5		1,570	600	7,650	700	2,680	1,570	1,010	200	40
6		940	650	12,600	1,080	2,090	940	820	205	40
7		940	1,980	4,920	1,010	5,930	625	1,570	148	42
8		650	2,200	2,930	850	4,600	575	820	120	37
9		1,230	1,770	2,560	790	2,800	575	482	102	188
10		1,670	1,770	1,390	730	1,670	600	550	164	295
11		1,980	1,570	1,080	575	1,230	528	440	150	235
12		1,480	1,230	880	550	1,010	550	550	166	200
13		1,000	1,010	820	482	1,150	420	1,480	127	169
14		600	850	850	420	2,090	550	940	118	134
15		760	760	1,150	440	2,560	700	880	96	98
16		760	650	1,080	625	1,150	420	600	69	93
17		700	600	1,150	505	940	1,010	460	71	205
18		675	528	1,080	482	1,150	528	328	68	114
19		1,570	482	940	440	2,800	440	310	60	104
20	1,770	3,190	482	880	362	7,650	505	222	57	98
21	1,310	2,220	528	820	550	5,750	328	186	36	100
22	1,010	1,770	482	730	850	3,190	265	148	50	89
23	600	1,770	460	5,240	1,670	1,980	295	152	82	82
24	2,320	2,320	420	8,700	1,390	1,310	345	125	127	68
25	1,080	3,320	1,150	3,870	1,080	675	380	116	169	60
26	505	3,870	7,050	2,320	1,010	790	420	116	132	48
27	482	3,190	8,070	1,770	850	675	575	112	143	42
28	528	1,870	7,650	1,390	1,080	505	482	280	120	37
29	505	1,310		1,080	3,730	460	730	200	116	32
30	482	1,080		1,080	3,060	380	730	197	104	34
31	460	880		940		345		161	112	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
December 20–31	2,320	460	921	1.22	0.54
January	3,870	505	1,510	2.01	2.32
February	8,070	420	1,640	2.18	2.27
March	12,600	730	2,830	3.76	4.34
April	3,730	362	943	1.25	1.40
May	7,650	345	2,360	3.14	3.62
June	3,450	265	859	1.14	1.27
July	6,860	112	893	1.19	1.37
August	250	36	120	.160	.18
September	295	32	98.6	.131	.15

GUYANDOT RIVER AT BRANCHLAND, W. VA.

LOCATION.—Chain gage at highway bridge at Branchland, Lincoln County, 20 feet below Fourmile Creek. Zero of gage is 547.91 feet above mean sea level.

DRAINAGE AREA.—1,230 square miles.

RECORDS AVAILABLE.—July, 1915, to September, 1922; December, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, about 29,300 second-feet Feb. 26 (gage height, 29.97 feet); minimum, 62 second-feet Sept. 6, 27–29 (gage height, 3.21 feet).

1915–1922, 1928–29: Maximum gage height, 39.24 feet Jan. 29, 1918 (discharge not determined); minimum discharge, about 53 second-feet Aug. 21, 1917 (gage height, 2.76 feet).

Maximum known stage, about 44 feet prior to establishment of station.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		740	1,380	11,600	1,940	3,860	665	2,500	223	88
2		1,060	1,020	7,380	1,780	4,100	2,500	7,780	114	82
3		1,620	860	5,780	1,540	9,250	1,940	7,780	176	80
4		1,620	702	5,460	1,540	8,800	3,940	4,420	219	76
5		1,460	780	9,880	1,780	5,380	3,700	1,780	374	64
6		1,460	1,020	19,600	1,780	4,100	1,620	1,460	255	62
7		1,300	1,940	14,100	2,020	4,900	1,220	1,380	245	64
8		1,300	3,140	6,980	1,780	9,520	980	1,620	168	82
9		1,460	3,060	4,660	1,620	6,260	900	1,020	117	96
10		2,980	2,500	3,140	1,460	3,780	860	900	156	98
11		4,020	2,340	2,260	1,300	2,420	820	780	143	128
12		2,980	2,020	1,780	1,220	1,700	740	665	147	275
13		2,100	1,620	1,620	1,060	1,460	628	900	173	285
14		1,620	1,380	1,460	900	980	628	1,780	185	193
15		1,460	1,220	1,620	820	2,580	702	2,180	135	150
16		1,140	1,100	1,780	820	2,100	820	1,220	102	144
17		1,140	980	1,940	860	1,460	1,060	980	90	169
18		1,220	900	1,780	860	1,700	900	740	90	138
19	2,660	2,180	780	1,540	820	5,140	590	520	90	115
20	2,980	3,380	740	1,380	740	8,980	488	390	84	92
21	2,100	3,700	780	1,380	665	13,200	390	335	84	92
22	1,700	2,900	820	1,300	980	7,540	320	300	84	92
23	1,140	2,580	860	7,140	1,700	4,660	330	140	110	82
24	980	2,900	1,020	26,100	2,500	2,900	390	74	94	81
25	780	4,500	2,500	13,200	2,340	2,020	455	97	120	74
26	740	5,620	17,100	5,620	1,940	1,620	520	120	193	66
27	740	5,140	19,700	4,500	702	1,300	488	191	193	62
28	665	3,620	11,900	3,460	1,380	1,020	702	191	193	62
29	628	2,500	-------	2,660	1,780	820	820	207	193	62
30	740	1,780	-------	2,340	5,060	740	940	295	125	63
31	665	1,300	-------	2,020	-------	740	-------	265	92	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
December 19–31	2,980	628	1,270	1.03	0.50
January	5,620	740	2,350	1.91	2.20
February	19,700	702	3,010	2.45	2.55
March	26,100	1,300	5,660	4.60	5.30
April	5,060	665	1,520	1.24	1.38
May	13,200	740	4,030	3.28	3.78
June	3,940	320	1,040	.846	.94
July	7,780	74	1,390	1.13	1.30
August	374	84	154	.125	.14
September	285	62	107	.087	.10

TWELVEPOLE CREEK BASIN

TWELVEPOLE CREEK AT WAYNE, W. VA.

LOCATION.—Chain gage at highway bridge at Wayne, Wayne County, three-fourths mile below confluence of East and West Forks.

DRAINAGE AREA.—291 square miles.

RECORDS AVAILABLE.—July, 1915, to September, 1922; October, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 7,680 second-feet Feb. 27 (gage height, 20.0 feet); minimum, 2 second-feet Sept. 6 (gage height, 0.57 foot).

1915–1922, 1928–29: Maximum stage, 21.45 feet Jan. 9, 1920 (discharge not determined); minimum discharge, that of Sept. 6, 1929.

Maximum known stage, about 33 feet June 30, 1928.

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	51	3,630	146	234	1,000	368	368	132	768	22	3.1
2	46	46	1,240	309	200	796	452	1,660	101	1,270	34	2.7
3	44	48	544	226	176	716	368	3,330	90	496	32	2.6
4	38	48	388	234	176	690	520	1,240	101	200	46	2.4
5	37	48	309	226	160	3,000	1,660	768	79	153	56	2.1
6	33	44	252	290	388	2,920	940	1,580	64	132	31	2.0
7	30	42	192	271	910	2,060	664	2,260	60	107	22	2.4
8	30	42	176	168	640	1,090	520	1,270	56	84	16	5.4
9	29	44	153	217	592	716	664	796	101	64	14	39
10	26	39	126	1,580	474	496	568	544	90	60	11	35
11	26	43	113	1,150	368	408	430	408	60	56	10	35
12	24	44	113	690	290	348	368	328	52	430	8.5	26
13	22	43	113	496	271	328	309	408	64	217	7.2	39
14	21	41	120	309	243	368	271	592	64	234	12	47
15	20	42	153	348	208	408	271	368	60	271	15	33
16	19	40	146	290	200	348	271	271	44	168	12	26
17	19	41	126	252	168	309	252	226	37	113	9.5	30
18	368	40	368	290	153	271	226	208	30	79	6.2	45
19	309	1,660	309	1,270	146	243	192	2,060	27	64	5.4	37
20	160	1,480	271	768	252	234	168	3,230	60	60	3.8	26
21	107	568	226	520	290	234	160	1,620	31	46	3.5	18
22	79	348	160	474	243	217	742	970	24	37	4.4	12
23	84	252	153	520	290	5,130	496	616	21	32	9.0	10
24	139	192	126	474	388	4,030	368	452	18	27	16	7.6
25	113	153	120	1,550	664	1,300	328	348	27	24	19	5.4
26	90	126	107	1,520	5,710	824	328	309	101	21	15	4.4
27	74	107	126	742	5,770	796	252	234	79	56	15	3.8
28	69	96	132	568	1,580	664	309	192	132	64	12	3.3
29	69	96	132	388	-------	520	496	153	146	51	7.6	3.8
30	60	3,000	139	309	-------	592	388	126	120	36	4.4	74
31	60	-------	126	271	-------	496	-------	139	-------	27	3.6	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	368	19	73.9	0.254	0.29
November	3,000	39	295	1.01	1.13
December	3,630	107	335	1.15	1.33
January	1,580	146	544	1.87	2.16
February	5,770	146	757	2.60	2.71
March	5,130	217	1,020	3.51	4.05
April	1,660	160	445	1.53	1.71
May	3,330	126	873	3.00	3.46
June	146	18	69.0	.237	.26
July	1,270	21	176	.605	.70
August	56	3.5	15.6	.054	.06
September	74	2.0	19.4	.067	.07
The year	5,770	2.0	384	1.32	17.93

BIG SANDY RIVER BASIN

LEVISA FORK AT PAINTSVILLE, KY.

LOCATION.—Chain gage on highway bridge at Paintsville, Johnson County, 700 feet below mouth of Paint Creek.

DRAINAGE AREA.—2,150 square miles.

RECORDS AVAILABLE.—December, 1928, to September, 1929. June, 1915, to November, 1920, at Thelma, 2 miles downstream.

EXTREMES.—Maximum discharge during year, 50,700 second-feet Mar. 24 (gage height, 41.70 feet); minimum, 50 second-feet Aug. 21 (gage height, 1.57 feet).

1915–1920, 1928–29: Maximum discharge, about 69,000 second-feet Jan. 29, 1918; minimum, that of Mar. 24, 1929.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1,010	1,840	16,000	4,700	7,010	2,370	1,250	1,370	136
2		1,560	1,430	10,700	3,950	9,210	2,290	1,630	1,560	153
3		1,980	1,190	7,560	3,320	15,900	1,980	4,130	1,910	160
4		1,910	960	7,340	2,610	14,300	1,630	3,410	1,630	153
5		1,700	1,250	10,900	2,370	8,440	1,430	2,130	1,190	143
6		1,700	1,310	23,400	2,130	5,500	1,700	1,630	860	134
7		1,980	2,690	20,500	2,050	7,670	1,630	1,130	530	143
8		2,210	4,310	10,800	1,910	13,100	1,190	2,370	350	610
9		1,910	4,310	6,700	1,840	10,100	1,250	1,980	260	810
10		5,100	3,590	4,600	1,840	6,600	3,680	1,630	181	1,070
11		6,100	2,780	3,500	1,630	3,950	3,590	1,490	139	1,250
12		4,700	2,290	2,530	1,490	2,690	2,530	1,630	143	1,430
13		3,050	1,910	2,290	1,370	2,450	1,840	2,050	163	1,310
14		2,210	1,770	2,130	1,250	2,210	1,700	4,400	143	910
15		1,770	1,630	2,530	1,190	1,910	1,370	3,680	125	660
16		1,700	1,490	2,450	1,190	1,770	1,310	3,500	105	590
17		1,700	1,370	2,290	1,250	1,700	1,070	2,450	93	635
18		1,700	1,250	2,210	1,190	1,560	810	1,700	79	570
19		5,500	1,190	1,910	1,130	3,320	1,130	1,910	68	550
20		10,200	1,370	1,840	1,010	7,670	1,190	2,210	57	610
21		8,330	1,250	1,700	960	18,400	570	1,370	50	660
22	1,370	4,900	1,430	1,630	1,010	14,200	430	810	119	590
23	1,190	3,770	1,560	21,600	1,490	7,230	330	610	173	510
24	1,010	3,500	1,770	48,500	1,980	4,500	430	490	230	410
25	910	7,450	4,500	34,800	2,050	3,410	1,070	390	312	295
26	910	12,500	19,500	11,600	1,840	2,370	1,370	278	450	233
27	860	8,110	31,200	8,110	1,770	1,910	1,910	410	430	242
28	860	5,500	22,300	6,600	1,910	1,840	2,050	510	350	260
29	910	3,860		5,300	6,200	1,370	1,770	660	278	242
30	960	2,690		5,000	8,660	1,250	1,560	810	218	218
31	960	2,130		5,300		1,310		1,010	163	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
December 22–31			994	0.462	0.17
January	12,500	1,010	3,950	1.84	2.12
February	31,200	960	4,410	2.05	2.14
March	48,500	1,630	9,430	4.39	5.06
April	8,660	960	2,240	1.04	1.16
May	18,400	1,250	5,960	2.77	3.19
June	3,680	330	1,570	.730	.81
July	4,400	278	1,730	.805	.93
August	1,910	50	443	.206	.24
September	1,430	134	523	.243	.27

RUSSELL FORK AT HAYSI, VA.

LOCATION.—Chain gage on highway bridge at Haysi, Dickenson County, 500 feet below mouth of McClure River.
DRAINAGE AREA.—286 square miles.
RECORDS AVAILABLE.—July, 1926, to September, 1929.
EXTREMES.—Maximum discharge during year, 21,600 second-feet Mar. 23 (gage height, 17.96 feet); minimum, 5 second-feet Sept. 7 (gage height, 1.58 feet). 1926–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 1 second-foot Oct. 5, 1927 (gage height, 1.36 feet).
REMARKS.—Records good. Discharge estimated Feb. 2–5 because of ice.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	132	80	148	117	205	1,690	424	629	725	174	568	8
2	99	76	130	132	190	1,190	334	3,420	339	1,690	281	11
3	94	80	114	112	180	1,190	304	2,820	1,280	538	148	8
4	82	92	112	119	170	1,100	277	1,100	830	215	140	6
5	78	88	114	103	160	4,970	272	725	452	300	107	6
6	99	80	96	480	218	2,460	244	830	290	328	78	6
7	76	76	86	344	660	1,380	215	2,940	208	795	68	5
8	72	94	82	248	598	902	201	1,580	165	370	86	49
9	74	117	103	304	509	629	189	940	1,190	538	68	397
10	140	124	96	424	397	424	183	629	760	323	61	215
11	112	132	90	424	318	349	177	480	397	264	86	124
12	101	137	92	397	240	334	183	370	286	480	76	90
13	103	132	96	300	240	277	171	360	236	1,020	63	61
14	72	117	96	195	222	339	148	452	165	660	46	41
15	67	107	92	252	212	452	157	349	281	1140	61	40
16	61	103	82	295	222	452	165	304	272	568	58	37
17	70	96	76	397	198	370	151	232	168	313	35	146
18	105	107	154	509	165	300	137	201	135	268	23	212
19	198	692	183	3,420	148	260	119	980	109	198	23	122
20	140	1,280	168	1,280	165	252	110	3,800	84	160	16	94
21	110	598	140	725	151	229	107	2,700	70	103	16	63
22	82	397	107	509	160	295	189	1,190	67	117	22	51
23	397	277	110	452	143	20,600	183	692	63	127	148	37
24	424	205	112	980	205	2,820	174	452	119	92	117	34
25	256	180	105	1,800	692	1,140	192	328	212	70	61	40
26	174	146	112	1,060	4,710	865	186	252	760	68	56	35
27	130	122	132	725	2,460	795	154	201	349	222	40	28
28	198	137	132	538	3,800	692	1,690	168	229	222	44	28
29	146	122	122	334	-------	538	1,800	177	229	127	41	16
30	103	130	119	234	-------	538	795	452	132	980	31	16
31	86	-------	99	222	-------	424	-------	902	-------	452	20	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	424	61	132	0.462	0.53
November	1,280	76	204	.713	.80
December	183	76	113	.395	.46
January	3,420	103	562	1.97	2.27
February	4,710	143	634	2.22	2.31
March	20,600	229	1,560	5.45	6.28
April	1,800	107	321	1.12	1.25
May	3,800	168	989	3.46	3.99
June	1,280	63	353	1.23	1.37
July	1,690	68	417	1.46	1.68
August	568	16	86.7	.303	.35
September	397	5	67.5	.236	.26
The year	20,600	5	454	1.59	21.55

POUND RIVER NEAR HAYSI, VA.

LOCATION.—Chain gage at suspension footbridge 4 miles west of Haysi, Dickenson County.

DRAINAGE AREA.—217 square miles.

RECORDS AVAILABLE.—July, 1926, to September, 1929.

EXTREMES.—Maximum stage during year, 16.50 feet Mar. 23 (discharge not determined); minimum discharge, 8 second-feet Sept. 7 (gage height, 0.76 foot).

1926–1929: Maximum stage, that of Mar. 23, 1929; minimum discharge, 1.2 second-feet Sept. 26, 1926 (gage height, 0.72 foot).

REMARKS.—Records good. Discharge estimated Feb. 2, Mar. 23–2[3], Apr.28, and May 20. Discharge of Twin Branch, which enters 50 feet below gage, included in records.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	56	175	132	226	1,420	430	540	97	100	102	12
2	58	53	200	268	200	918	362	1,420	77	666	90	12
3	60	54	175	254	175	810	298	1,490	98	346	68	11
4	50	60	175	240	163	712	268	760	175	163	53	10
5	43	59	152	200	163	3,930	254	622	92	60	42	10
6	62	54	134	622	213	2,120	226	864	86	24	34	9
7	60	47	110	540	666	1,150	200	1,880	55	1,150	34	9
8	60	64	110	413	540	712	175	1,030	63	330	50	12
9	48	70	119	330	466	540	175	712	200	187	38	152
10	98	78	78	448	413	396	163	502	175	123	32	240
11	93	92	82	466	314	314	152	362	117	864	28	115
12	68	95	90	396	268	268	175	298	86	466	21	59
13	56	90	86	330	226	254	140	268	72	810	36	40
14	48	83	77	175	213	283	138	226	64	430	29	35
15	45	77	85	268	226	314	163	213	52	810	25	30
16	44	74	85	283	187	283	163	213	48	540	23	27
17	47	71	76	413	163	254	140	213	45	283	20	52
18	98	78	121	466	140	200	110	152	37	213	16	187
19	226	3,230	200	2,300	121	187	111	810	34	152	14	83
20	140	1,640	187	1,280	119	175	106	3,100	31	140	10	60
21	102	712	163	622	132	163	119	2,120	28	90	12	38
22	80	466	115	540	138	152	213	864	25	88	11	33
23	130	330	93	448	102	15,600	283	580	31	187	42	30
24	254	240	110	810	136	2,150	254	430	34	130	53	70
25	163	213	98	1,880	540	900	240	240	108	78	35	22
26	117	175	80	1,280	4,430	800	226	240	175	64	29	21
27	98	140	110	810	2,570	712	187	200	200	54	25	20
28	92	132	108	666	2,300	622	2,400	152	106	136	22	20
29	83	123	100	396	------	466	2,570	130	34	86	20	22
30	71	132	130	314	------	540	810	115	48	40	18	20
31	56	------	123	268	------	502	------	123	------	163	15	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	254	43	87.5	0.403	0.46
November	3,230	47	293	1.35	1.51
December	200	76	121	.558	.64
January	2,300	132	576	2.65	3.06
February	4,430	102	555	2.56	2.67
March	15,600	152	1,220	5.62	6.48
April	2,570	106	375	1.73	1.93
May	3,100	115	673	3.10	3.57
June	200	25	83.1	.383	.43
July	1,150	24	289	1.33	1.53
August	102	10	33.8	.156	.18
September	240	9	48.7	.224	.25
The year	15,600	9	363	1.67	22.71

TUG FORK AT KERMIT, W. VA.

LOCATION.—Chain gage at Kermit, Mingo County, 2 miles above mouth of Marrowbone Creek. Zero of present chain gage (574.57 feet above mean sea level) is set to a datum 0.2 foot lower than that of the staff gage used 1915 to 1920.

DRAINAGE AREA.—1,240 square miles.

RECORDS AVAILABLE.—June, 1915, to December, 1920; December, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 34,700 second-feet Mar. 24 (gage height, 34.00 feet); minimum, 97 second-feet Sept. 30 (gage height, 3.23 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		660	935	9,650	2,550	3,240	1,950	1,160	380	220
2		990	760	5,760	2,310	4,280	2,430	1,430	1,430	190
3		1,100	685	5,400	2,010	8,350	1,890	1,160	785	152
4		1,040	710	5,080	1,770	7,020	6,120	1,830	735	138
5		935	785	16,300	2,370	3,590	3,450	1,210	610	122
6		1,040	835	9,250	2,430	3,240	2,250	935	635	110
7		990	1,540	7,020	2,190	5,850	1,600	935	445	128
8		835	2,430	5,320	1,890	8,350	1,320	1,320	320	130
9		785	2,670	4,280	1,710	5,490	1,480	990	220	380
10		2,850	2,310	3,170	1,600	3,880	2,970	785	220	1,480
11		2,850	1,770	2,430	1,540	2,790	2,730	610	220	1,100
12		1,950	1,480	2,010	1,320	2,190	1,890	885	285	535
13		1,650	1,260	1,830	1,210	1,890	1,890	3,800	220	340
14		990	1,100	1,830	1,100	1,830	1,890	2,490	250	302
15		990	990	1,830	990	1,650	1,480	2,430	235	268
16		885	935	1,950	990	1,480	1,260	1,890	190	235
17		445	835	1,830	1,040	1,320	1,100	1,320	155	285
18		885	760	1,650	990	1,210	835	935	148	220
19		1,890	685	1,480	885	2,550	685	785	142	250
20		3,240	760	1,430	835	6,750	585	635	128	360
21	1,430	3,380	635	1,320	660	9,550	512	490	115	285
22	1,040	2,610	735	1,320	990	5,400	468	380	110	220
23	835	2,250	685	14,100	1,710	3,590	400	320	118	175
24	685	2,070	835	28,800	2,490	2,610	1,260	320	302	152
25	610	2,910	2,130	8,350	2,130	2,070	635	285	885	132
26	535	4,520	12,400	5,000	1,830	1,650	885	250	635	125
27	635	3,520	17,800	4,200	1,540	1,430	1,040	250	490	115
28	635	2,850	8,450	3,730	1,430	1,320	835	490	468	108
29	635	2,370	-------	3,660	3,030	1,210	1,210	340	445	102
30	635	1,540	-------	2,910	4,920	990	835	400	400	96
31	610	1,160	-------	2,670	-------	1,260	-------	560	302	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
December 21–31	-------	-------	753	0.607	0.25
January	4,520	445	1,810	1.46	1.68
February	17,800	635	2,430	1.96	2.04
March	28,800	1,320	5,340	4.31	4.97
April	4,920	660	1,750	1.41	1.57
May	9,550	990	3,480	2.81	3.24
June	6,120	400	1,600	1.29	1.44
July	3,800	250	1,020	.823	.95
August	1,430	110	388	.313	.36
September	1,480	96	282	.227	.25

SCIOTO RIVER BASIN

SCIOTO RIVER AT LARUE, OHIO

LOCATION.—Gage on highway bridge just below Cleveland, Cincinnati, Chicago & St. Louis Railway bridge at Larue, Marion County, used until July 4, 1929; water-stage recorder used thereafter. Zero of gage is 910.19 feet above mean sea level.

DRAINAGE AREA.—255 square miles.

RECORDS AVAILABLE.—August, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 7,180 second-feet Jan. 19 and Feb. 27 (gage height, 14.0 feet); minimum, 6 second-feet Oct. 1–6 and 9–13 (gage height, 2.10 feet).

1926–1929: Maximum discharge, 10,700 second-feet Mar. 20, 1927 (gage height, 15.0 feet); minimum, 6 second-feet Sept. 10–30 and Oct. 1–6, and 9–13, 1928.

REMARKS.—Records good except those for periods of ice effect, Dec. 8–12, 21–29, Jan. 2–18, 30, 31, Feb. 1–14, 21–25, which are fair. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	9	18	40		1,240	834	111	50	1,030	119	12
2	6	11	20			974	1,000	230	37	628	87	12
3	6	16	20	30	100	628	409	1,120	34	256	132	12
4	6	50	16			582	167	974	34	147	409	10
5	6	16	16			834	365	918	31	684	244	11
6	6	16	16			582	282	518	26	438	137	12
7	9	16	16			394	177	295	26	271	95	14
8	9	16		45	60	365	147	187	26	780	71	14
9	6	12				207	147	147	26	397	60	12
10	6	12	12			137	652	111	24	1,210	42	13
11	6	12				119	2,020	87	24	660	36	12
12	6	9			40	111	974	87	23	213	30	11
13	6	9	20	35		111	582	167	32	272	28	10
14	11	9	20			218	365	256	46	585	182	10
15	9	9	262		57	652	309	3,380	68	216	234	10
16	11	9	217		57	460	230	1,120	60	128	107	10
17	16	9	217	160	16	409	187	425	46	79	64	12
18	16	12	1,000		18	295	128	269	57	60	46	12
19	16	12	728	7,180	73	218	111	728	37	60	36	10
20	12	20	286	3,220	73	425	95	1,030	42	50	30	8
21	11	20		1,280		478	309	442	68	37	25	8
22	9	31		676		582	974	218	46	30	23	8
23	9	31	100	1,210	30	728	652	167	32	26	24	8
24	16	43		974		425	538	128	26	24	22	8
25	18	43		3,060		365	230	103	24	22	24	8
26	18	25		5,300	2,380	604	478	87	24	27	18	12
27	12	31		2,020	7,180	806	425	71	20	975	16	14
28	12	31	60	1,060	3,220	498	218	57	22	1,870	14	20
29	9	20		582	-------	394	197	111	24	961	14	12
30	9	20	47	250	-------	207	137	95	57	349	14	11
31	9	-------	37	150	-------	256	-------	87	-------	187	13	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	18	6	9.90	0.039	0.04
November	50	9	19.3	.076	.08
December	1,000	-------	121	.475	.55
January	7,180	-------	903	3.54	4.08
February	7,180	16	507	1.99	2.07
March	1,240	111	461	1.81	2.09
April	2,020	95	445	1.75	1.95
May	3,380	57	443	1.74	2.01
June	68	20	36.4	.143	.16
July	1,870	22	409	1.60	1.84
August	409	13	77.3	.303	.35
September	20	8	11.2	.044	.05
The year	7,180	6	287	1.13	15.27

SCIOTO RIVER AT PROSPECT, OHIO

LOCATION.—Chain gage on highway bridge at Prospect, Marion County, five-eighths mile above Marion-Delaware County line. Zero of gage is 891.72 feet above mean sea level.

DRAINAGE AREA.—554 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,800 second-feet Feb. 28 (gage height, 14.0 feet); minimum, 6.8 second-feet Sept. 23 and 24 (gage height, 1.28 feet).

1925–1929: Maximum discharge, 10,100 second-feet Mar. 22, 1927 (gage height, 15.0 feet); minimum, 5.8 second-feet Sept. 5, 1925 (gage height, 1.12 feet).

Maximum stage known, 21.1 feet Mar. 25, 1913 (discharge, estimated by engineers of Franklin County Conservancy District, 27,000 second-feet).

REMARKS.—Records good. Discharge estimated because of ice Jan. 9–10 and because of missing record Jan. 15–17.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	40	39	95	303	6,530	1,200	313	164	810	267	8.0
2	20	50	34	77	238	3,990	1,580	675	121	1,200	184	8.0
3	20	81	42	71	207	2,120	1,250	1,760	101	810	156	8.0
4	22	67	40	57	192	1,400	810	1,880	88	378	222	10
5	34	77	39	57	146	1,400	810	2,650	83	362	480	12
6	40	86	32	88	136	1,350	720	2,180	73	900	329	28
7	32	77	27	121	128	1,000	515	1,300	73	855	192	20
8	29	61	25	99	123	635	394	720	83	1,300	142	20
9	37	50	21	100	123	480	411	480	68	1,350	108	20
10	34	36	26	100	113	362	1,200	378	61	1,150	85	20
11	30	22	25	95	95	313	2,240	298	57	1,400	63	16
12	33	22	24	77	77	267	2,580	282	54	1,100	59	13
13	29	20	24	77	77	267	1,700	411	50	445	48	18
14	29	16	43	57	77	378	1,100	810	68	394	237	15
15	29	16	254		69	900	765	2,370	101	555	362	13
16	36	16	388	50	73	1,100	595	2,790	119	313	298	10
17	48	18	555		77	950	445	2,060	98	207	172	20
18	59	22	1,200	950	92	720	378	950	80	150	108	14
19	57	22	1,400	4,070	118	555	298	1,050	75	111	78	13
20	47	22	900	6,710	163	635	267	1,350	57	93	61	13
21	47	24	388	6,350	75	950	900	1,300	66	101	52	10
22	47	57	207	3,670	67	1,000	2,000	765	103	95	48	8.0
23	50	57	192	2,120	57	1,250	1,880	515	78	57	43	6.8
24	47	57	171	1,760	61	1,050	1,150	378	61	48	41	6.8
25	40	61	149	4,230	92	810	635	313	111	46	35	8.0
26	42	54	149	3,670	5,630	2,240	720	252	103	61	37	13
27	47	50	128	3,990	8,000	2,580	810	222	101	480	31	14
28	48	47	118	2,650	8,700	2,000	555	207	93	1,150	20	15
29	40	40	104	1,250	------	1,150	480	192	61	1,520	18	20
30	40	40	99	555	------	675	394	192	164	1,250	15	30
31	40	------	99	320	------	555	------	170	------	515	14	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	59	20	37.8	0.068	0.08
November	86	16	43.6	.079	.09
December	1,400	21	224	.404	.47
January	6,710	----------	1,410	2.55	2.94
February	8,700	57	904	1.63	1.70
March	6,530	267	1,280	2.31	2.66
April	2,580	267	959	1.73	1.93
May	2,790	170	942	1.70	1.96
June	164	50	87.2	.157	.18
July	1,520	46	620	1.12	1.29
August	480	14	129	.233	.27
September	30	6.8	14.4	.026	.03
The year	8,700	6.8	554	1.00	13.60

SCIOTO RIVER NEAR DUBLIN, OHIO

LOCATION.—Water-stage recorder one-fourth mile north of Delaware County line, three-fourths mile below O'Shaughnessy Dam, and 3 miles north of Dublin, Franklin County. Zero of gage is 775.00 feet above mean sea level.

DRAINAGE AREA.—988 square miles.

RECORDS AVAILABLE.—April, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 27,800 second-feet Feb. 26 (gage height, 14.4 feet); minimum, 1.5 second-feet Nov. 9–12 (gage height, 2.41 feet).

1921–1929: Maximum discharge, 28,200 second-feet Mar. 21, 1927 (gage height, 14.5 feet); minimum, 0.4 second-foot Nov. 8, 1924 (gage height, 2.21 feet).

The flood of March, 1913, reached a stage of 24.6 feet Mar. 25.

REMARKS.—Records excellent except those for extremely high water and those estimated, Jan. 8–20, which are fair. Water is stored at O'Shaughnessy Dam for water supply of city of Columbus. Table of monthly discharge has been corrected for storage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	52	131	159	349	8,630	1,280	525	274	1,220	492	110
2	59	53	103	162	280	5,130	2,090	970	224	1,630	310	110
3	59	53	103	111	280	2,910	1,740	3,790	200	1,220	1,260	151
4	59	53	103	137	240	2,340	1,220	2,910	142	768	1,520	181
5	62	38	100	125	220	2,610	1,040	5,450	155	525	842	155
6	64	3.0	100	159	220	1,970	1,040	4,290	138	695	660	57
7	66	1.9	100	114	206	1,630	805	2,340	155	1,420	430	29
8	66	1.5	90		196	1,000	660	1,320	219	3,230	286	83
9	59	1.5	50	140	185	805	590	920	159	2,610	210	81
10	53	1.5	50		152	625	4,740	695	138	1,970	163	68
11	53	1.5	50		131	492	5,340	558	130	1,740	138	45
12	53	1.5	49		140	460	3,550	664	130	1,630	113	45
13	55	29	49	125	128	430	2,470	2,680	127	960	126	44
14	55	38	49		131	730	1,740	3,060	134	730	1,420	44
15	55	38	26		117	1,740	1,220	7,760	159	960	1,740	44
16	53	38	2.6	90	122	1,850	960	4,290	219	660	920	44
17	55	39	288	90	134	1,520	768	2,760	210	430	525	64
18	55	39	3,090	2,000	172	1,140	625	1,630	176	304	328	106
19	53	39	2,160	12,000	162	880	525	2,770	142	224	219	106
20	53	38	1,400	12,000	114	805	460	2,610	147	142	134	106
21	53	39	676	7,740	155	1,140	1,260	1,970	134	138	110	83
22	53	38	400	5,180	131	1,420	3,390	1,320	110	127	99	55
23	53	38	302	4,570	103	1,850	2,610	880	138	102	102	54
24	53	39	280	2,920	106	1,630	1,740	695	134	89	94	54
25	53	38	240	12,700	223	1,220	1,140	558	159	81	83	69
26	53	38	202	7,480	23,100	3,630	1,000	460	263	99	83	89
27	53	50	185	4,970	21,500	5,340	1,040	400	269	991	86	73
28	53	72	182	3,620	12,700	3,070	960	364	252	1,320	60	94
29	53	84	175	1,760	------	1,850	805	340	195	1,520	120	21
30	53	143	165	950	------	1,140	625	328	286	1,520	110	26
31	53	------	152	492	------	920	------	292	------	960	110	------

Month	Observed			Corrected for storage		
	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches
October	66	53	55.8	19.3	0.02	0.02
November	143	1.5	37.9	82.9	.084	.09
December	3,090	2.6	357	437	.442	.51
January	------	------	2,600	2,600	2.63	3.03
February	23,100	103	2,200	2,240	2.27	2.36
March	8,630	430	1,960	1,930	1.95	2.25
April	5,340	460	1,580	1,580	1.60	1.78
May	7,760	292	1,920	1,920	1.94	2.24
June	286	110	177	176	.178	.20
July	3,230	81	968	974	.986	1.14
August	1,740	60	416	399	.404	.47
September	181	21	76.4	52.6	.053	.06
The year	23,100	1.5	1,030	1,030	1.04	14.15

SCIOTO RIVER AT COLUMBUS, OHIO

LOCATION.—Water-stage recorder at sewage treatment works of city of Columbus, Franklin County, four-tenths mile below highway bridge on Frank Road. Zero of gage is 680.40 feet above mean sea level.

DRAINAGE AREA.—1,620 square miles.

RECORDS AVAILABLE.—April, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 26,900 second-feet Feb. 26 (gage height, 23.8 feet); minimum, 47 second-feet Oct. 15 (gage height, 5.68 feet).

1921–1929: Maximum discharge, 28,600 second-feet Mar. 21, 1927 (gage height, 24.7 feet); minimum, 46 second-feet Nov. 2, 1924 (gage height, 5.51 feet).

Maximum known stage, 25.9 feet on Mar. 25, 1913.

REMARKS.—Records excellent. Water is diverted above station for municipal water supply of Columbus. Other diversions negligible. Flow regulated by storage at Griggs and O'Shaughnessy Reservoirs. Table of monthly discharge has been corrected for storage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	87	141	525	900	12,700	1,790	1,340	460	1,520	760	155
2	83	87	148	475	700	8,250	3,670	1,760	390	2,370	434	155
3	83	184	195	475	640	4,920	3,100	6,920	350	1,700	978	136
4	101	148	218	340	640	3,910	2,270	6,140	311	1,250	1,970	149
5	109	132	195	340	552	5,440	1,880	8,700	274	850	1,170	163
6	95	132	162	475	580	4,270	2,470	8,760	274	923	810	210
7	80	132	138	340	552	4,270	1,790	4,530	256	2,670	570	123
8	80	132	135	340	500	2,120	1,250	2,770	613	5,420	390	151
9	83	115	148	380	475	1,610	1,170	1,970	435	5,860	311	162
10	78	135	132	580	402	1,250	7,170	1,610	311	3,910	274	114
11	80	98	122	475	340	1,010	9,210	1,250	292	3,210	238	117
12	80	109	112	380	320	890	5,720	1,090	292	2,570	210	109
13	78	95	115	380	340	850	4,150	3,490	292	1,970	189	142
14	74	90	320	340	340	1,350	2,990	4,080	292	1,340	1,020	112
15	72	90	785	300	320	2,670	2,470	14,500	292	1,250	1,970	148
16	85	95	1,040	260	340	3,320	1,970	9,320	311	1,170	1,430	120
17	118	90	1,050	280	381	2,990	1,610	4,920	330	735	735	117
18	211	87	5,410	2,960	640	2,370	1,340	3,100	311	510	435	90
19	145	203	4,920	18,100	500	1,790	1,090	5,180	274	410	330	87
20	125	138	2,770	16,700	380	1,520	930	5,180	292	330	274	87
21	98	138	1,700	11,400	380	1,970	1,450	3,670	256	256	217	87
22	104	184	900	7,170	402	2,470	6,570	3,320	238	238	196	76
23	159	184	760	6,870	340	3,320	5,050	2,370	313	220	268	78
24	135	184	700	4,920	340	2,990	3,210	1,610	256	193	186	76
25	115	184	525	13,900	466	2,370	2,270	1,250	274	169	172	85
26	95	184	525	14,500	21,500	4,690	2,070	1,010	370	176	202	109
27	87	184	475	7,930	24,800	10,400	2,570	890	570	748	274	92
28	85	184	425	5,180	17,600	5,860	2,370	770	1,170	1,430	203	78
29	80	118	380	2,990	-------	3,430	1,880	630	510	1,700	193	108
30	85	162	380	1,880	-------	2,270	1,610	570	292	1,790	169	83
31	85	-------	340	1,270	-------	1,790	-------	510	-------	1,430	157	-------

Month	Observed			Corrected for storage (mean)
	Maximum	Minimum	Mean	
October	211	65	98.5	66.0
November	203	87	136	168
December	5,410	112	818	917
January	18,100	260	3,950	3,960
February	24,800	320	2,700	2,760
March	12,700	850	3,520	3,470
April	9,210	930	2,900	2,900
May	14,500	510	3,650	3,650
June	1,170	238	363	362
July	5,860	169	1,560	1,570
August	1,970	157	540	512
September	210	76	117	98.2
The year	24,800	65	1,700	1,700

SCIOTO RIVER AT CHILLICOTHE, OHIO

LOCATION.—Chain gage on Bridge Street Bridge at north end of Chillicothe, Ross County. Zero of gage is 594.02 feet above mean sea level.

DRAINAGE AREA.—3,850 square miles.

RECORDS AVAILABLE.—December, 1913, to September, 1914; April, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, about 75,000 second-feet Feb. 28 (gage height, 26.0 feet); minimum, 275 second-feet Oct. 1–4, 10–17.

1921–1929: Maximum discharge, that of Feb. 28, 1929; minimum, 190 second-feet Sept. 11, 1925 (gage height, 1.08 feet).

Maximum known stage, 39.8 feet Mar. 26, 1913 (discharge, estimated by Franklin County Conservancy District, 260,000 second-feet).

REMARKS.—Records good. Flow slightly regulated at Griggs and O'Shaughnessy Reservoirs. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	275	335	605	1,020	3,010	50,200	3,860	3,310	1,910	4,160	2,230	600
2	275	335	530	1,320	2,650	33,500	3,440	2,810	1,710	5,360	1,520	600
3	275	335	680	1,320	2,170	21,900	6,450	3,060	1,520	4,460	1,240	530
4	275	460	680	1,220	1,950	11,800	5,210	12,300	1,420	3,440	3,440	470
5	335	680	680	1,220	1,840	11,400	4,010	12,800	1,330	2,560	4,760	470
6	335	680	680	1,020	1,730	19,200	3,440	14,600	1,160	2,120	2,810	470
7	335	605	680	1,020	1,730	14,800	4,310	16,000	1,160	2,010	1,910	750
8	335	605	605	2,060	1,620	11,200	3,310	9,310	1,160	4,460	1,420	600
9	335	605	460	2,410	1,730	5,810	2,680	5,810	1,810	11,400	1,160	990
10	275	530	460	2,060	1,520	4,910	11,600	4,310	1,810	13,300	990	1,520
11	275	460	460	1,520	1,520	4,160	22,900	3,310	1,420	7,290	830	910
12	275	395	460	1,320	1,320	3,060	29,300	2,680	1,240	7,630	990	830
13	275	395	460	1,420	1,220	3,060	17,900	2,450	1,160	5,510	910	1,520
14	275	395	530	1,620	1,120	2,810	9,910	9,110	1,160	3,860	910	910
15	275	335	1,840	1,950	1,120	4,160	7,290	12,800	1,240	3,180	2,450	1,330
16	275	335	3,850	1,730	1,120	7,970	5,970	23,600	1,160	3,180	4,610	910
17	275	395	2,770	1,730	1,320	7,460	4,760	30,500	1,240	2,450	2,810	990
18	335	395	2,530	1,840	2,060	6,780	4,160	11,800	1,160	1,910	1,710	830
19	395	460	13,000	9,060	2,650	5,360	3,440	10,500	1,070	1,520	1,240	750
20	530	460	8,860	22,900	1,840	3,560	2,940	19,500	1,420	1,240	1,160	600
21	605	605	5,700	35,900	1,520	3,860	2,680	19,200	1,710	910	910	600
22	530	760	2,890	32,800	1,420	4,160	3,440	9,310	1,330	830	750	470
23	460	760	2,060	17,900	1,420	4,760	14,100	8,510	1,070	830	670	470
24	460	845	1,840	19,200	1,220	7,120	9,910	5,660	1,710	830	670	470
25	395	680	1,620	14,700	1,220	5,810	5,360	4,310	1,610	750	2,120	470
26	395	680	1,420	23,200	10,800	4,910	4,610	3,440	1,070	750	1,240	470
27	395	605	1,220	33,900	37,500	5,810	4,610	2,940	1,070	1,070	990	470
28	395	605	1,120	30,100	75,000	14,600	5,210	2,560	1,520	2,810	910	470
29	395	530	1,120	10,100	-------	10,100	4,460	3,440	1,710	4,160	750	470
30	335	530	1,020	6,020	-------	5,970	4,160	2,680	1,810	2,940	670	470
31	335	-------	1,020	4,230	-------	4,310	-------	2,120	-------	2,810	670	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	605	275	353	0.092	0.11
November	845	335	526	.137	.15
December	13,000	460	2,000	.519	.60
January	35,900	1,020	9,280	2.41	2.78
February	75,000	1,120	5,900	1.53	1.59
March	50,200	2,810	9,820	2.55	2.94
April	29,300	2,680	7,180	1.86	2.08
May	30,500	2,120	8,860	2.30	2.65
June	1,910	1,070	1,400	.364	.41
July	13,300	750	3,540	.919	1.06
August	4,760	670	1,600	.416	.48
September	1,520	470	714	.185	.21
The year	75,000	275	4,270	1.11	15.06

LITTLE SCIOTO RIVER NEAR MARION, OHIO

LOCATION.—Staff gage in SW. ¼ sec. 19, T. 5 S., R. 15 E., at outfall of sewage treatment works 300 feet below Erie Railroad crossing and 2 miles west of Marion.

DRAINAGE AREA.—73.3 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929. September, 1923, to July, 1925, at site 3 miles downstream.

EXTREMES.—Maximum discharge during year, 1,300 second-feet Feb. 27 (gage height, 14.4 feet); minimum, 0.5 second-foot Oct. 8, 12.

1923–1929: Maximum discharge, 1,420 second-feet Mar. 22, 1927; minimum, 0.5 second-foot Sept. 26, 30, and Oct. 8, 12, 1928.

REMARKS.—Records fair. Water diverted above station; amount not known.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	0.9	3.9	15	36	1,040	390	62	18	125	12	2.3
2	.8	6.6	8.8	8.8	32	682	285	97	15	73	9.0	2.1
3	.8	2.3	8.8	9.3	30	285	157	390	14	38	24	2.2
4	.9	2.1	5.7	8.1	24	226	133	265	12	23	12	2.2
5	4.2	2.7	5.7	9.8	24	285	275	500	10	141	11	2.2
6	1.0	1.9	3.6	19	24	190	141	335	11	245	8.6	2.9
7	.9	1.7	3.9	22	22	149	91	190	10	379	7.2	2.9
8	1.0	1.9	3.9	22	20	79	67	111	10	634	6.6	2.1
9	.9	1.1	2.3	12	18	73	62	79	10	379	5.3	1.9
10	.9	1.2	2.2	15	13	42	305	60	9.0	245	5.3	2.0
11	.9	1.2	2.2	14	13	48	295	50	14	141	4.4	1.9
12	.8	1.1	2.2	11	12	44	295	54	11	85	4.2	1.8
13	1.0	1.2	2.3	7.0	11	46	190	67	7.6	52	4.1	3.0
14	.9	1.2	13	6.3	12	73	157	181	8.8	42	11	2.0
15	1.1	1.4	97	5.5	11	141	104	555	8.1	32	14	1.7
16	1.4	2.7	46	5.5	17	149	85	346	7.2	24	8.3	1.7
17	1.7	1.8	79	14	15	157	67	181	7.0	21	5.1	2.4
18	2.1	1.7	401	265	17	97	54	91	6.1	16	4.1	2.0
19	1.3	2.2	165	1,080	13	73	42	149	5.3	13	3.1	1.9
20	.8	3.7	85	1,020	14	199	40	157	5.9	11	2.7	1.9
21	.8	9.8	42	876	12	165	346	133	6.8	8.6	2.9	1.6
22	1.0	8.8	40	522	11	245	489	125	5.7	7.2	3.1	1.5
23	3.0	7.8	30	423	9.5	226	235	79	5.1	7.4	2.9	1.8
24	1.4	8.8	24	217	15	149	133	60	4.8	7.0	32	1.9
25	1.2	6.6	22	967	30	141	97	48	20	6.8	9.5	1.9
26	.9	4.2	16	902	1,160	610	190	40	40	12	4.6	2.9
27	.9	3.4	20	555	1,280	511	157	36	22	104	3.3	2.1
28	.8	3.1	17	295	1,190	265	97	32	21	79	2.4	2.0
29	.9	2.9	16	97	------	133	97	28	21	48	2.1	2.1
30	1.0	3.9	13	73	------	104	73	24	22	32	2.0	2.3
31	.9	------	9.0	50	------	85	------	21	------	17	2.4	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	4.2	0.7	1.19	May	555	21	147
November	9.8	.9	3.33	June	40	4.8	12.3
December	401	2.2	38.4	July	634	6.8	98.3
January	1,080	5.5	243	August	32	2	7.39
February	1,280	9.5	146	September	3	1.5	2.11
March	1,040	42	217				
April	489	40	172	The year	1,280	.7	90.6

OLENTANGY RIVER NEAR DELAWARE, OHIO

LOCATION.—Water-stage recorder in NW. ¼ sec. 1, T. 5 N., R. 19 W., at highway bridge one-fourth mile north of Pennsylvania Railroad crossing and 4 miles north of Delaware. Zero of gage is 876.92 feet above mean sea level.

DRAINAGE AREA.—387 square miles.

RECORDS AVAILABLE.—December, 1923, to September, 1929. October, 1921, to December, 1923, at Delaware.

EXTREMES.—Maximum discharge during year, 13,200 second-feet Feb. 26 (gage height, 16.3 feet); minimum, 2.0 second-feet Oct. 1 (gage height, 0.87 foot).

1921–1929: Maximum discharge, 15,000 second-feet May 20, 1922 (gage height, 11.3 feet at Delaware); minimum, 0.2 second-foot Sept. 12, 1925 (gage height, 0.45 foot).

REMARKS.—Records excellent except those for extremely low water, for periods of ice effect, Dec. 21 to Jan. 9, Jan. 29 to Feb. 4, Feb. 10–12, and for period of missing record, June 22 to July 2, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	12	79			1,500	897	367	84	200	41	12.0
2	3.3	15	127			1,080	1,400	1,220	74	400	31	10.3
3	4.0	35	116	50	180	760	670	3,010	66	241	33	9.9
4	4.5	53	88			978	670	1,880	60	142	39	9.0
5	5.8	54	72		142	1,500	1,110	3,510	54	219	38	9.0
6	5.6	54	57		131	985	928	2,120	53	1,340	31	8.5
7	5.8	40	49		123	630	440	995	50	1,250	26	9.4
8	6.3	32	50	110	110	360	300	590	63	2,360	22.3	19.5
9	6.8	25	38		99	330	270	405	68	1,780	20.2	20.2
10	7.4	22	35	110		188	2,020	285	58	1,450	17.4	18.1
11	7.1	22	33	108	75	175	1,760	214	48	895	18.0	17.4
12	6.8	20	29	70		152	1,080	480	44	475	14.9	15.4
13	7.9	19	28	57	68	152	805	590	43	345	14.9	14.9
14	9.0	18	160	47	65	376	760	1,580	50	255	72	13.7
15	9.0	18	850	46	66	940	510	4,300	54	175	63	13.2
16	6.3	17	590	42	68	590	440	1,740	54	127	39	13.7
17	8.1	18	873	95	69	985	360	715	50	92	35	14.9
18	26	19	1,780	1,930	77	590	270	440	42	73	30	12.0
19	38	28	1,390	6,640	89	375	200	747	39	58	21.6	11.4
20	38	83	590	3,860	81	493	175	1,080	41	49	18.7	13.2
21	38	152		1,680	77	850	1,440	1,080	34	42	14.3	13.7
22	32	125		670	70	1,020	2,780	1,240		35	13.7	12.6
23	27	108	140	1,140	61	1,140	1,280	590	45	32	13.7	12.0
24	22	116		940	57	850	590	345		30	29	10.3
25	20	99		5,180	160	715	440	255		97	244	9.9
26	20	73		2,950	10,200	4,010	955	200		200	102	10.3
27	20	51		1,570	8,370	3,320	1,240	164		142	44	10.9
28	20	46	70	590	3,300	1,580	590	142	50	360	27	11.4
29	20	45				670	475	125		200	20.2	15.4
30	15	47		310		475	440	107		99	18.0	16.7
31	14					405		94		58	13.7	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	38	2.3	14.7	0.038	0.04
November	152	12	48.9	.126	.14
December	1,780	28	263	.680	.78
January	6,640	42	947	2.45	2.82
February	10,200		872	2.25	2.34
March	4,010	152	909	2.35	2.71
April	2,780	175	843	2.18	2.43
May	4,300	94	987	2.55	2.94
June			52.0	.134	.15
July	2,360	30	426	1.10	1.27
August	244	13.7	37.4	.097	.11
September	20.2	8.5	13.0	.034	.04
The year	10,200	2.3	450	1.16	15.77

BIG WALNUT CREEK AT REES, OHIO

LOCATION.—Water-stage recorder in T. 4 N., R. 22 W., at highway bridge about 3½ miles below Alum Creek and just below Scioto Valley Railway & Power Co.'s bridge at Rees. Zero of gage is 698.20 feet above mean sea level.

DRAINAGE AREA.—544 square miles.

RECORDS AVAILABLE.—August, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 18,600 second-feet Feb. 27 (gage height, 18.0 feet); minimum, 19 second-feet Oct. 11–14.

1921–1929: Maximum discharge, that of Feb. 27, 1929; minimum, 5 second-feet Sept. 4, 5, 10–12, 1925.

Maximum stage known, 20.5 feet Mar. 25, 1913.

REMARKS.—Records good. Discharge estimated July 1 and 2.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	32	184	138	212	2,600	350	360	150	350	72	37
2	20	43	325	216	184	1,700	795	455	135	350	63	36
3	21	122	227	168	161	1,100	460	2,380	122	258	197	34
4	22	94	182	212	138	1,330	360	1,960	115	183	184	34
5	31	190	155	167	133	3,960	408	2,760	112	142	160	36
6	32	155	133	175	130	2,110	480	2,500	110	108	112	50
7	22	127	124	141	133	1,320	325	875	110	220	88	37
8	22	101	104	217	130	592	258	570	273	2,610	73	41
9	21	79	91	176	135	460	338	420	325	1,970	66	75
10	20	68	81	170	111	325	5,620	325	212	922	60	103
11	19	63	72	158	106	274	3,900	274	164	1,300	57	87
12	19	54	63	130	98	258	1,950	242	144	504	50	64
13	19	45	58	104	86	274	1,100	1,080	133	359	41	66
14	19	40	186	65	84	704	720	1,480	140	354	160	58
15	20	34	1,900	63	86	1,740	570	6,680	133	382	611	48
16	21	35	725	56	110	1,030	570	2,720	115	219	292	44
17	24	35	857	74	182	835	502	875	112	151	148	52
18	74	35	4,460	1,210	325	570	400	548	103	115	101	43
19	102	83	1,340	8,340	242	420	308	3,510	94	92	75	38
20	135	154	571	6,420	193	380	290	2,880	306	76	63	35
21	130	300	309	1,100	173	440	599	1,100	144	70	56	33
22	92	227	227	665	150	534	3,880	1,620	94	65	56	32
23	99	182	212	2,920	114	1,030	1,170	672	92	61	69	32
24	68	170	176	1,540	111	775	592	460	90	57	83	31
25	45	158	150	5,570	184	525	440	342	87	57	125	30
26	41	141	135	5,190	11,300	640	668	290	83	116	86	37
27	44	114	133	1,000	16,600	1,520	837	258	175	190	66	34
28	42	98	133	548	9,700	672	460	242	370	214	51	32
29	35	91	130	313	-------	420	794	212	412	137	46	32
30	34	104	130	325	-------	342	538	182	258	110	44	42
31	34	-------	114	242	-------	325	-------	167	-------	87	41	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	135	19	43.5	0.080	0.09
November	300	32	106	.195	.22
December	4,460	58	442	.812	.94
January	8,340	56	1,220	2.24	2.58
February	16,600	84	1,480	2.72	2.83
March	3,960	258	942	1.73	1.99
April	5,620	258	989	1.82	2.03
May	6,680	167	1,240	2.28	2.63
June	412	83	164	.301	.34
July	2,610	57	382	.702	.81
August	611	41	110	.202	.23
September	103	30	451	.083	.09
The year	16,600	19	592	1.09	14.78

ALUM CREEK AT COLUMBUS, OHIO

LOCATION.—Water-stage recorder one-fourth mile below Livingston Avenue Bridge at Columbus, Franklin County. Zero of gage is 733.62 feet above mean sea level.

DRAINAGE AREA.—190 square miles.

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

EXTREMES.—Maximum discharge during year, 8,800 second-feet Feb. 27 (gage height, 13.6 feet); minimum, 4.4 second-feet Oct. 1 (gage height, 0.88 foot).

1923–1929: Maximum discharge, 6,810 second-feet Dec. 1, 1927; maximum gage height, that of Feb. 27, 1929; minimum discharge, 1.8 second-feet Sept. 7, 1925 (gage height, 0.79 foot).

REMARKS.—Records excellent except those estimated, May 11–14 and June 18 to July 2, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	11	58	54	67	670	180	115	43	120	17	13
2	5.8	40	88	79	66	520	383	323	39	120	16	13
3	6.6	24	66	74	47	326	176	1,260	35	70	85	13
4	12	42	52	58	45	700	131	806	33	55	49	12
5	12	47	46	52	38	1,320	176	1,280	31	43	39	20
6	5.4	31	41	67	39	580	176	941	28	39	28	11
7	7.4	25	36	114	38	386	115	356	27	265	28	12
8	7.8	21	28	129	39	176	89	239	132	1,180	23	26
9	6.6	18	27	72	39	153	126	153	127	533	19	24
10	6.2	18	26	52	41	98	1,810	113	67	398	17	26
11	5.8	16	23	50	42	84	1,200	270	49	312	16	17
12	5.8	16	20	64	34	81	590		47	142	12	17
13	5.8	15	25	66	27	88	326		42	112	25	20
14	7.0	15	251	56	27	319	226		52	129	129	13
15	7.4	15	690	34	32	555	188	2,760	44	106	122	10
16	9.0	15	281	29	37	356	188	832	48	66	58	16
17	18	15	568	51	50	311	153	281	49	49	38	14
18	46	15	1,590	669	107	200	113	219	60	42	29	9.1
19	34	45	454	4,370	76	153	89	1,430		34	24	8.2
20	36	68	214	1,650	64	138	91	868		29	19	8.2
21	27	97	113	341	47	176	398	390	35	25	17	8.2
22	20	58	107	269	40	200	1,400	533		22	17	8.7
23	33	44	84	953	41	326	398	212		20	35	9.1
24	16	44	60	420	43	266	212	142		20	33	8.7
25	15	42	51	2,560	150	188	176	109		19	32	9.1
26	16	36	45	1,520	5,830	336	355	93	90	22	27	10
27	15	29	45	311	4,900	584	311	84		31	29	8.7
28	12	25	46	164	1,000	239	176	70		33	15	9.6
29	13	27	46	95	-------	153	277	64		29	13	15
30	12	39	44	97	-------	122	164	56		26	13	9.6
31	12	-------	39	72	-------	120	-------	51	-------	22	13	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	46	5.4	14.2	0.075	0.09
November	97	11	31.8	.167	.19
December	1,590	20	169.8	.894	1.03
January	4,370	29	470.7	2.48	2.86
February	5,830	27	464.5	2.44	2.54
March	1,320	81	320.1	1.68	1.94
April	1,810	89	346.4	1.82	2.03
May	2,760	51	479.4	2.52	2.90
June	132	27	56.6	.298	.33
July	1,180	19	132.7	.698	.80
August	129	12	33.5	.176	.20
September	26	8.2	13.3	.070	.08
The year	5,830	5.4	210	1.11	14.99

DARBY CREEK AT DARBYVILLE, OHIO

LOCATION.—Staff gage at highway bridge three-eighths mile northeast of Darbyville, Pickaway County. Zero of gage is 713.64 feet above mean sea level.
DRAINAGE AREA.—533 square miles.
RECORDS AVAILABLE.—October, 1921, to September, 1929.
EXTREMES.—Maximum discharge during year, about 18,800 second-feet Feb. 27 (gage height, 15.9 feet); minimum, 19 second-feet Oct. 2 (gage height, 2.09 feet).

1921–29: Maximum discharge, that of Feb. 26, 1929; minimum, 7.5 second-feet Sept. 10–12, 1925 (gage height, 1.54 feet).

REMARKS.—Records good except those for periods of ice effect, Jan 7–17, Feb. 4, 5, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	32	77	185	498	2,930	460	356	238	1,340	156	48
2	19	37	82	254	370	2,490	405	334	192	970	139	48
3	20	65	88	199	280	1,940	405	2,050	176	520	231	40
4	25	348	82	188	270	1,640	274	1,640	161	405	1,100	42
5	30	199	77	178	270	2,930	313	2,050	150	231	1,100	44
6	30	145	72	229	263	2,160	294	2,710	139	274	356	56
7	30	110	67		237	1,640	294	1,840	161	552	294	53
8	28	88	67	300	229	970	313	1,060	238	2,710	192	76
9	28	72	63		207	845	552	730	313	3,760	129	124
10	25	77	58		199	585	3,520	520	238	1,150	114	105
11	25	72	53		185	460	6,420	356	192	2,490	105	150
12	20	67	65		178	432	1,540	334	176	1,150	88	101
13	20	63	60	100	164	405	1,740	313	156	730	62	84
14	23	63	72		158	490	1,150	1,940	156	620	692	66
15	25	58	164		145	1,740	885	6,270	150	730	1,340	59
16	23	55	585	100	127	970	768	4,150	274	460	405	92
17	28	55	420	130	164	1,150	460	1,940	185	274	274	80
18	47	58	2,600	700	770	885	356	1,340	176	231	185	62
19	72	67	1,270	2,380	395	585	334	3,280	185	198	129	59
20	93	77	470	8,780	263	520	238	3,160	274	204	84	56
21	82	185	420	1,110	237	620	380	1,740	231	173	80	56
22	67	133	445	970	229	552	1,240	1,150	185	129	73	51
23	53	127	498	1,970	207	1,100	1,020	845	380	114	69	46
24	49	116	470	2,600	164	970	692	655	185	98	313	45
25	45	104	254	2,820	199	620	585	552	161	82	139	42
26	43	93	229	8,130	11,500	552	730	460	405	88	114	53
27	39	88	192	2,070	17,900	2,270	460	356	231	465	80	41
28	39	77	192	1,040	5,550	1,060	380	405	198	2,710	62	42
29	37	82	185	970	-------	692	356	313	192	970	59	105
30	37	77	178	675	-------	520	380	274	1,150	274	53	80
31	33	-------	145	525	-------	490	-------	256	-------	231	51	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	93	19	37.3	0.070	0.08
November	348	32	96.3	.181	.20
December	2,600	53	313	.587	.68
January	8,780	-------	1,220	2.29	2.64
February	17,900	127	1,480	2.78	2.90
March	2,930	405	1,140	2.14	2.47
April	6,420	238	898	1.68	1.87
May	6,270	256	1,400	2.63	3.03
June	1,150	139	242	.454	.51
July	3,760	82	783	1.47	1.70
August	1,340	51	267	.501	.58
September	150	40	66.9	.126	.14
The year	17,900	19	658	1.23	16.80

PAINT CREEK NEAR GREENFIELD, OHIO

LOCATION.—Chain gage at highway bridge in Fayette County, one-fourth mile north of county line and 2 miles north of Greenfield, Highland County.
DRAINAGE AREA.—251 square miles.
RECORDS AVAILABLE.—August, 1926, to September, 1929.
EXTREMES.—Maximum discharge during year, about 4,020 second-feet Feb. 27 (gage height, 8.0 feet); minimum, 1.5 second-feet Sept. 5 (gage height, 0.32 foot).

1926–1929: Maximum discharge, about 6,340 second-feet Aug. 17, 1926 (gage height, 10.5 feet); minimum, that of Sept. 5, 1929.

REMARKS.—Records good except those for very high water, which are poor.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.2	7.8	10	42	156	1,080	161	141	218	180	15	2.2
2	5.5	9.2	9.2	67	206	820	133	193	168	247	14	2.4
3	4.5	20	7.8	68	168	628	133	674	159	180	39	1.8
4	6.4	105	7.8	66	137	628	125	582	125	118	39	1.7
5	7.3	63	8.7	50	118	674	122	498	111	180	32	1.5
6	7.3	45	7.8	44	110	1,030	122	674	105	292	24	2.4
7	6.4	29	6.9	37	101	674	111	437	92	247	22	3
8	5.8	18	6.4	45	105	380	108	326	129	193	20	3.5
9	5.5	12	5.8	54	108	276	232	262	102	232	15	11
10	3.3	14	5.2	91	98	247	1,640	232	83	292	10	34
11	5.8	11	4.8	60	81	232	1,700	206	77	180	309	24
12	6.9	10	5.5	33	74	193	1,080	180	76	232	150	16
13	7.3	8.2	5.8	26	68	206	674	418	67	309	19	34
14	6.9	6.9	22	20	74	292	437	1,570	80	180	30	27
15	7.3	6.4	33	39	81	342	380	2,050	67	159	48	23
16	6.9	6.1	81	31	77	399	309	1,260	66	118	32	14
17	8.2	6.1	230	33	262	342	247	628	98	89	22	34
18	25	6.1	380	540	309	292	218	477	63	77	18	77
19	18	22	232	1,640	223	262	180	1,910	58	95	14	46
20	33	15	156	1,200	137	247	168	1,440	54	84	11	28
21	26	20	91	628	125	218	309	770	47	62	9.6	22
22	22	25	89	674	122	218	326	498	40	53	8.2	16
23	22	20	77	1,030	145	232	292	361	38	39	7	14
24	20	18	53	1,260	342	276	247	326	46	37	6.2	9
25	18	15	35	2,050	582	247	232	342	50	35	7	10
26	12	10	31	1,200	2,720	247	206	262	43	32	5.8	9
27	11	9.2	33	870	4,020	232	168	232	106	32	4	9
28	11	9.2	29	582	2,120	206	161	193	51	28	3.8	9.6
29	9.2	9.6	26	326	-------	180	193	1,030	43	23	3.2	8.2
30	8.2	12	20	292	-------	168	163	418	55	21	2.5	6.6
31	7.8	-------	17	180	-------	163	-------	309	-------	19	2.2	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	33	3.3	11.3	0.045	0.05
November	105	6.1	19.0	.076	.08
December	380	4.8	55.7	.222	.26
January	2,050	20	428	1.71	1.97
February	4,020	68	460	1.83	1.91
March	1,080	163	375	1.49	1.72
April	1,700	108	353	1.41	1.57
May	2,050	141	610	2.43	2.80
June	218	38	83.9	.334	.37
July	309	19	131	.522	.60
August	309	2.2	30.4	.121	.14
September	77	1.5	16.7	.066	.07
The year	4,020	1.5	213	.849	11.54

PAINT CREEK NEAR BOURNEVILLE, OHIO

LOCATION.—Water-stage recorder at highway bridge 1¼ miles southwest of Bourneville, Ross County, and 1¼ miles above Twin Creek.

DRAINAGE AREA.—808 square miles.

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

EXTREMES.—Maximum discharge during year, 12,700 second-feet Feb. 27 (gage height, 12.4 feet); minimum, 31 second-feet Sept. 7.

1923–1929: Maximum discharge, 27,700 second-feet Aug. 20, 1926 (gage height, 17.9 feet); minimum, 14 second-feet Sept. 12 and 13, 1925 (gage height, 1.69 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	63	192	492	890	2,950	452	512	1,060	1,210	98	40
2	51	66	161	605		2,230	430	1,380	910	1,050	87	38
3	55	67	137	230		1,690	385	1,610	730	735	408	37
4	60	90	127			1,530	372	1,460	540	475	370	35
5	63	241	132		338	3,040	408	1,530	362	385	160	37
6	59	211	149	230	353	3,400	362	1,610	319	644	127	37
7	56	173	130		368	2,750	340	1,250	288	735	109	54
8	53	144	115		368	1,390	319	985	362	570	102	38
9	50	127	104		260	1,120	789	790	362	1,870	85	46
10	51	115	88		260	855	6,060	552	288	985	83	634
11	53	105	93	230	260	758	3,940	570	252	790	87	186
12	50	99	95			680	2,720	1,750	288	1,080	132	125
13	51	93	91			552	1,780	8,830	249	1,310	114	152
14	51	85	107			1,190	1,320	5,960	420	680	181	152
15	53	82	244			1,320	1,180	3,020	288	552	152	127
16	49	79	265	230	260	1,390	985	1,870	224	625	200	100
17	51	77	323	237	458	1,250	855	3,160	288	408	150	150
18	56	79	1,130	1,280	760	1,050	708	4,490	256	319	114	204
19	97	99	1,100	3,390	655	855	598	2,950	213	319	91	178
20	77	213	760	2,950	398	758	545	1,970	190	261	79	125
21	66	149	520	1,800	383	708	531	1,460	178	220	67	96
22	64	130	260	1,460	445	680	1,290	1,230	152	181	69	75
23	74	139		3,890	353	708	1,020	1,190	140	157	71	65
24	77	130		2,300	368	758	790	1,150	134	140	65	64
25	74	149		6,060	503	680	708	1,120	160	134	64	56
26	70	111	260	890	8,570	552	758	1,080	175	175	54	54
27	66	105	260		11,000	680	598	1,040	169	976	56	53
28	64	97	237		6,190	625	545	1,000	249	277	53	51
29	64	103	224		-------	520	545	1,400	340	154	48	48
30	63	123	211		-------	520	545	1,460	213	125	45	46
31	60	-------	198		-------	475	-------	1,280	-------	109	41	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	97	49	60.7	0.075	0.09
November	241	63	118	.146	.16
December	1,130	88	274	.339	.39
January	6,060	----------	1,070	1.32	1.52
February	11,000	----------	1,330	1.65	1.72
March	3,400	475	1,210	1.50	1.73
April	6,060	319	1,060	1.31	1.46
May	8,830	512	1,920	2.38	2.74
June	----------	134	328	.406	.45
July	1,870	109	569	.704	.81
August	408	41	115	.142	.16
September	634	35	103	.127	.14
The year	11,000	35	678	.839	11.37

LITTLE SALT CREEK NEAR JACKSON, OHIO

LOCATION.—Chain gage in SE. ¼ sec. 12, T. 7 N., R. 19 W., at highway bridge 3½ miles northwest of Jackson and half mile below mouth of Rock Run.

DRAINAGE AREA.—76.5 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 983 second-feet May 3 (gage height, 10.9 feet); minimum, 0.9 second-foot Sept. 6 (gage height, 0.45 foot).

1925–1929: Maximum discharge, 1,470 second-feet Aug. 18, 1926 (gage height, 13.2 feet); minimum, 0.4 second-foot Sept. 9, 1925 (gage height, 0.52 foot).

REMARKS.—Records good. Discharge estimated Jan. 14 and Feb. 3 because of ice.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	2.6	118	46	29	243	44	33	23	44	4.1	1.1
2	3.2	3.2	46	118	23	252	40	355	16.7	33	3.1	1.1
3	2.8	5.6	28	98	21	161	29	885	15.4	14.1	23	1
4	2.6	8.1	21	46	16.7	201	33	405	13.3	7.7	28	1.2
5	3.2	5.8	74	33	17.5	605	80	234	11.3	48	10.5	1.1
6	4	5.1	56	98	20	677	51	261	9.7	40	4.9	1
7	4	4.3	40	58	48	899	40	297	10.9	11.3	3.8	58
8	4	5.6	24	40	51	405	30	161	92	7.7	3.3	42
9	4.3	4.5	15.9	23	98	193	35	104	37	27	2.8	12.9
10	5.3	5.1	13.9	118	98	111	104	74	14.1	40	2.8	19.6
11	4	5.1	12.3	104	104	92	92	46	10.5	16.7	4.4	10.1
12	2.8	4.5	11.1	71	56	86	74	24	8.1	11.3	10.1	5.1
13	2.1	4	11.9	51	42	86	51	60	10.1	7.7	4.4	23
14	2.1	3.5	40	42	30	153	44	288	15.8	7	20	15
15	2.1	4	71	33	30	177	66	415	15.4	5.4	10.9	11.7
16	5.1	5.1	48	27	29	139	68	201	11.3	4.9	4.9	7
17	30	4	56	27	27	111	51	111	8.1	4.4	2.5	146
18	21	4.3	193	118	25	92	40	80	6.2	3.3	1.9	21.0
19	6.1	37	98	605	27	74	33	677	5.4	2.5	1.6	13.3
20	4.8	58	63	270	24	68	27	629	8.5	2.2	1.4	9.3
21	3.8	17.1	37	139	21	58	29	306	6.6	1.9	1.3	7.7
22	4.8	10.3	29	169	21	53	193	146	2.8	1.6	2	6.2
23	12.3	10.3	21	345	17.5	74	68	98	6.6	1.3	5.4	4.4
24	8.8	9.5	18.4	177	23	68	56	71	11.7	1.3	3.8	4.4
25	6.4	12.7	15.9	415	37	60	51	56	19.6	1.8	2.5	3.8
26	4.5	10.3	13.9	234	766	58	58	46	17.9	4.6	1.6	4.9
27	4.5	7.5	17.9	146	792	74	48	33	7.7	185	5.4	4.4
28	4.5	6.8	21	86	492	58	40	29	48	27	4.4	3.8
29	3.5	6.8	23	56	-------	46	60	132	23	11.3	2.5	5.4
30	3.5	56	17.5	44	-------	48	37	51	14.6	8.5	1.6	4.1
31	3.2	-------	15.1	37	-------	40	-------	33	-------	5.8	1.3	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	30	2.1	5.70	0.075	0.09
November	58	2.6	10.9	.142	.16
December	193	11.1	41.0	.536	.62
January	605	23	125	1.63	1.88
February	792	16.7	107	1.40	1.46
March	899	40	176	2.30	2.65
April	193	27	55.7	.728	.81
May	885	24	205	2.68	3.09
June	92	2.8	16.7	.218	.24
July	185	1.3	19.0	.248	.29
August	28	1.3	5.81	076	.09
September	146	1.0	15.0	.196	.22
The year	899	1.0	65.3	.854	11.60

OHIO BRUSH CREEK BASIN

OHIO BRUSH CREEK NEAR WEST UNION, OHIO

LOCATION.—Chain gage at highway bridge 2 miles southwest of Cedar Mills and 7 miles east of West Union, Adams County.

DRAINAGE AREA.—388 square miles.

RECORDS AVAILABLE.—August, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, about 10,400 second-feet Feb. 26 (gage height, 12.7 feet); minimum, 1.6 second-feet Sept. 4, 6 (gage height, 1.08 feet).

1926–1929: Maximum discharge, 12,600 second-feet Jan. 19, 1927 (gage height, 14.4 feet); minimum, 1.4 second-feet Sept. 16, 17, 1928 (gage height, 1.06 feet).

REMARKS.—Records good except those for period of ice effect Feb. 1–8, and of high water, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	7.3	477	2,310		805	235	132	103	6,180	13	3.1
2	2.5	6.9	160	805		805	208	6,660	87	805	9.4	2.5
3	2.7	9.4	101	231	60	502	148	1,300	113	289	452	2.0
4	3.6	11	67	201		452	163	805	81	160	235	1.8
5	5.9	12	1,010	156		2,690	647	1,150	69	427	75	1.8
6	4.9	13	235	557		2,590	239	805	60	530	38	1.7
7	4.6	13	111	156	120	1,700	174	677	54	258	24	4.9
8	5.7	14	92	153		587	150	402	75	111	17	289
9	5.7	13	69	105	740	452	1,700	289	105	289	13	309
10	4.6	16	56	677	402	269	5,000	211	69	452	12	1,010
11	5.4	16	48	477	309	261	1,620	174	52	180	11	224
12	5.2	16	45	195	211	228	557	168	42	96	8.7	113
13	4.6	13	41	224	153	214	477	1,540	208	354	33	1,220
14	5.7	14	201	99	132	1,380	354	5,110	2,220	146	18	254
15	6.6	14	427	99	115	940	354	5,000	258	80	12	177
16	8.4	13	198	83	156	1,380	309	1,150	119	57	8.0	113
17	9.8	13	1,150	92	189	805	231	587	166	45	5.9	677
18	12	25	1,620	940	261	452	177	378	107	37	5.4	228
19	15	195	452	5,000	309	354	146	4,230	69	64	4.9	94
20	16	309	231	940	92	289	125	1,380	53	60	4.9	64
21	21	92	158	557	90	254	214	740	45	32	3.9	48
22	16	56	117	1,700	150	228	530	452	39	27	3.9	39
23	61	42	92	2,490	113	332	269	309	78	18	4.9	27
24	97	28	81	870	111	309	171	239	119	16	8.0	28
25	54	27	67	4,890	239	218	146	195	57	14	14	26
26	30	24	60	940	8,100	332	530	740	78	16	12	27
27	19	18	70	502	2,220	378	180	211	60	46	7.6	23
28	16	14	85	354	1,220	231	153	160	49	94	5.9	24
29	12	18	88	195	-------	171	332	740	254	46	5.9	26
30	9.1	1,300	85	195	-------	224	174	214	87	24	3.9	60
31	7.3	-------	70	168	-------	211	-------	134	-------	16	3.9	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	97	2.5	15.3	0.039	0.04
November	1,300	6.9	78.8	.203	.23
December	1,620	41	250	.644	.74
January	5,000	83	850	2.19	2.52
February	8,100	----------	570	1.47	1.53
March	2,690	171	647	1.67	1.93
April	5,000	125	524	1.35	1.51
May	6,660	132	1,170	3.02	3.48
June	2,220	39	166	.428	.48
July	6,180	14	354	.912	1.05
August	452	3.9	34.6	.089	.10
September	1,220	1.7	171	.441	.49
The year	8,100	1.7	403	1.04	14.10

WHITEOAK CREEK BASIN

WHITEOAK CREEK NEAR GEORGETOWN, OHIO

LOCATION.—Chain gage on highway bridge 600 feet below mouth of Opossum Run and 1¾ miles southwest of Georgetown, Brown County.

DRAINAGE AREA.—221 square miles.

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

EXTREMES.—Maximum discharge during year, 4,860 second-feet July 1 (gage height, 9.0 feet); minimum, 0.8 second-foot Oct. 1, 2 and Sept. 7 (gage height, 0.50 foot).

1923–1929: Maximum discharge, 6,800 second-feet Dec. 31, 1923 (gage height, 11.0 feet); minimum discharge, 0.5 second-foot Sept. 28, 1928; minimum gage height, 0.35 foot Sept. 1, 1925.

REMARKS.—Records good except those estimated because of ice, Jan. 8, 14–17 and Feb. 23, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	2.8	342	2,330	40	490	105	40	65	4,860	5.1	1.3
2	.8	2.7	101	596	37	293	115	3,800	65	885	4.0	1.2
3	.9	6.2	56	133	33	184	68	885	108	196	131	1.0
4	1.2	29	40	101	36	161	81	293	70	98	263	1.0
5	1.2	31	412	70	40	2,180	309	940	43	995	82	.9
6	1.2	20	161	222	41	1,480	119	342	31	885	37	.9
7	2.7	13	65	81	56	785	68	263	29	263	18	.9
8	3.6	9.4	45	90	86	172	49	161	32	112	12	1.3
9	2.8	7.6	33	87	150	106	510	89	28	1,110	8.8	4.0
10	2.5	7.6	25	184	98	87	3,800	68	27	490	6.6	1,110
11	1.8	6.2	23	222	45	68	552	56	23	161	6.2	235
12	1.3	6.2	22	89	43	65	278	59	23	510	4.7	71
13	1.3	6.2	20	65	45	68	150	431	43	687	4.0	39
14	1.3	8.2	235		38	641	98	3,460	293	359	3.2	33
15	1.2	6.6	490		36	412	94	2,640	115	112	2.8	65
16	1.8	7.0	150	40	59	293	112	470	50	62	2.7	44
17	14	5.9	641		119	376	82	196	135	43	2.5	71
18	9.4	9.4	1,680	885	172	161	64	127	91	31	4.7	172
19	33	44	249	3,540	150	105	50	2,330	103	101	3.6	56
20	40	278	125	552	78	91	40	641	62	91	2.7	28
21	22	84	59	263	68	84	48	249	27	36	2.1	16
22	15	43	62	735	71	82	359	150	19	19	2.1	11
23	25	27	59	2,640	50	161	150	105	15	14	53	7.6
24	13	19	45	359	84	150	76	82	12	12	71	5.9
25	13	13	36	3,710	263	92	59	68	11	14	25	5.1
26	14	7.0	34	531	3,960	108	150	150	12	84	12	4.7
27	11	7.0	33	172	1,680	196	89	139	11	62	6.2	4.0
28	7.0	7.6	34	123	885	98	53	490	37	23	4.0	3.0
29	5.1	8.2	39	74	-------	68	78	1,110	209	13	2.8	3.0
30	4.0	293	40	101	-------	84	60	184	87	8.8	2.1	3.2
31	3.2	-------	38	65	-------	94	-------	94	-------	6.6	1.6	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	40	0.8	8.23	0.037	0.04
November	293	2.7	33.9	.153	.17
December	1,680	20	174	.787	.91
January	3,710	----------	586	2.65	3.06
February	3,960	33	302	1.37	1.43
March	2,180	65	304	1.38	1.59
April	3,800	40	262	1.19	1.33
May	3,800	40	649	2.94	3.39
June	293	11	62.5	.283	.32
July	4,860	6.6	398	1.80	2.08
August	263	1.6	25.4	.115	.13
September	1,110	.9	66.7	.302	.34
The year	4,860	.8	240	1.09	14.79

LITTLE MIAMI RIVER BASIN

LITTLE MIAMI RIVER AT SPRING VALLEY, OHIO

LOCATION.—Chain gage in R. 5, T. 4, at highway bridge three-eighths mile southwest of Spring Valley, Greene County, and 2½ miles below mouth of Sugar Creek.

DRAINAGE AREA.—361 square miles.

RECORDS AVAILABLE.—September, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 14,800 second-feet Feb. 26 (gage height, 16.8 feet); minimum, 45 second-feet Oct. 11 (gage height, 1.52 feet).

1925–1929: Maximum discharge, that of Feb. 26, 192[illegible]; minimum, 43 second-feet Sept. 19, 29, 1928 (gage height, 1.50 feet).

REMARKS.—Records good except those for periods of ice effect, Dec. 9–12, Jan. 1–9, 13–15, and Feb. 11–13, and of no gage-height record, Feb. 14–25, 27, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	67	104		205	1,160	402	251	278	1,160	120	88
2	50	284	104		194	905	402	645	251	516	120	87
3	53	850	104	130	183	716	374	753	251	318	200	85
4	53	420	97		183	945	374	546	238	264	176	84
5	58	270	104		172	1,360	430	1,510	225	716	130	82
6	60	205	97	120	162	1,160	374	828	212	430	130	92
7	62	162	90	120	162	716	346	578	212	1,630	120	85
8	53	153	90	150	162	516	332	458	225	866	116	84
9	51	135		150	162	486	430	402	212	790	113	120
10	48	135	85	217	126	430	3,750	346	200	1,070	113	120
11	46	126		183		402	1,630	318	188	430	115	100
12	49	118		153		402	945	304	200	346	176	87
13	49	111	84		120	402	680	516	200	374	118	107
14	48	104	135	150		790	546	2,300	645	945	1,030	130
15	51	104	242			866	486	2,970	291	458	580	104
16	55	104	217	150		866	458	1,360	1,360	346	130	92
17	84	104	217	1,740		716	430	753	1,260	291	120	95
18	530	104	1,220	2,950	180	578	374	578	516	374	111	90
19	183	126	610	6,260		516	346	2,970	374	374	109	85
20	118	172	402	1,280		516	318	1,410	1,030	278	104	84
21	97	172	300	690		486	430	828	458	225	99	82
22	84	153	270	490		578	458	578	291	200	97	79
23	97	135	205	1,740	170	611	402	486	238	200	95	78
24	97	126	172	1,020		546	346	458	225	188	238	76
25	84	111	162	4,670		486	346	430	212	176	238	79
26	72	118	144	1,170	14,800	458	332	402	188	164	152	82
27	72	111	153	730	2,000	430	291	374	176	164	130	88
28	72	104	153	472	1,690	402	291	430	238	152	111	82
29	67	104	144	333		374	278	430	200	140	100	80
30	67	104	144	284		402	264	346	176	130	95	82
31	67		135	242		374		304		130	92	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	530	46	84.8	0.235	0.27
November	850	67	170	.471	.53
December	1,220		201	.557	.64
January	6,260		852	2.36	2.72
February	14,800		805	2.23	2.32
March	1,360	374	632	1.75	2.02
April	3,750	264	562	1.56	1.74
May	2,970	251	802	2.22	2.56
June	1,360	176	359	.994	1.11
July	1,630	130	447	1.24	1.43
August	1,030	92	173	.479	.55
September	130	76	90.3	.250	.28
The year	14,800	46	430	1.19	16.17

LITTLE MIAMI RIVER AT MILFORD, OHIO

LOCATION.—Water-stage recorder 500 feet below highway bridge in Milford, Clermont County, and 1¼ miles above mouth of East Fork, since Oct. 1. Prior to that date a chain gage at highway bridge and at 0.72-foot higher datum was used.

DRAINAGE AREA.—1,190 square miles.

RECORDS AVAILABLE.—March, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 45,700 second-feet July 1 (gage height, 14.3 feet); minimum, 63 second-feet Oct. 16 (gage height, 1.42 feet).

1925–1929: Maximum discharge, 46,300 second-feet Dec. 14, 1927; minimum, 38 second-feet Sept. 9, 1925 (gage height, 0.60 foot).

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

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	123	440		785	7,000	1,300	1,640	1,000	25,100	285	146
2	80	956	355		730	3,160	1,300	6,630	950	3,820	265	140
3	78	3,140	302	800	681	2,410	1,000	4,210	840	1,970	1,300	152
4	85	1,500	285		589	2,850	950	2,410	730	1,300	950	135
5	92	950	342		632	4,560	950	4,320	632	1,690	440	138
6	88	589	355		589	3,460	895	3,160	589	2,410	348	135
7	88	475	291		589	2,560	730	2,410	589	4,210	308	135
8	85	380	260	600	589	1,690	681	1,690	840	3,050	270	329
9	85	325	241		632	1,430	2,700	1,300	681	5,580	256	1,120
10	78	319	216	840	632	1,180	14,300	1,120	546	3,850	232	2,380
11	76	296	220	1,000	475	1,000	6,910	950	500	3,480	228	500
12	76	280	211	589	475	950	3,310	950	475	7,560	1,100	270
13	72	260	211	475	475	950	2,260	3,300	500	2,970	895	386
14	72	256	320	405	475	2,690	1,830	12,700	1,190	4,190	1,330	1,610
15	75	228	840	440	475	3,010	1,560	11,300	1,300	2,260	1,540	632
16	73	228	785	405	475	2,860	1,430	4,710	5,820	1,430	681	405
17	144	211	1,400	859	895	2,710	1,240	2,710	4,350	1,060	440	589
18	2,520	220	6,760	8,820	2,110	1,830	1,060	2,860	1,970	2,390	336	440
19	966	448	3,010	14,700	1,430	1,500	950	13,400	7,420	3,260	280	280
20	440	895	1,830	6,480	730	1,430	840	5,560	4,540	1,240	246	275
21	265	632	1,300	2,560		1,360	1,260	3,160	1,830	840	220	203
22	207	500	950	3,690	600	1,430	2,780	2,260	1,060	681	211	184
23	224	405		8,070		1,970	1,620	1,830	840	589	207	170
24	232	361	700	3,680		1,690	1,240	1,500	730	500	192	167
25	199	331		13,800	2,500	1,430	1,120	2,560	785	730	260	170
26	160	296		5,260	30,000	1,560	1,830	1,970	589	785	355	170
27	152	280		2,560	25,000	1,830	1,060	1,560	475	475	265	164
28	143	256	520	1,760	10,000	1,300	895	2,510	1,210	386	207	167
29	132	246		1,300	-------	1,060	1,120	3,460	1,180	348	188	157
30	127	296		1,060	-------	1,000	840	1,690	4,360	325	178	149
31	125	-------		895	-------	1,060	-------	1,300	-------	302	154	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,520	72	236	0.198	0.23
November	3,140	123	523	.439	.49
December	6,760	211	843	.708	.82
January	14,700	405	2,780	2.34	2.70
February	-------	475	3,010	2.53	2.63
March	-------	950	2,090	1.76	2.03
April	14,300	681	2,000	1.68	1.87
May	13,400	950	3,580	3.01	3.47
June	7,420	475	1,620	1.36	1.52
July	25,100	302	2,860	2.40	2.77
August	1,540	154	457	.384	.44
September	2,380	135	397	.334	.37
The year	-------	72	1,700	1.43	19.34

EAST FORK OF LITTLE MIAMI RIVER AT PERINTOWN, OHIO

LOCATION.—Chain gage on highway bridge at Perintown, Clermont County, 5 miles above junction with Little Miami River.

DRAINAGE AREA.—477 square miles.

RECORDS AVAILABLE.—May, 1915, to May, 1920; January, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 20,000 second-feet July 1 (gage height, 17.7 feet); minimum, 3.2 second-feet Oct. 10 (gage height, 0.42 foot).

1915–1920: Maximum stage, 19.77 feet Apr. 20, 1920; minimum, —0.18 foot Oct. 3–6, 1917. Discharge not determined.

1925–1929: Maximum discharge, 20,700 second-feet Feb. 14, 1926 (gage height, 18.0 feet); minimum, 2.5 second-feet Sept. 28, 1928 (gage height, 0.38 foot).

REMARKS.—Records good except those for extremely high water and period of ice effect, Feb. 1–24, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	11.9	515	3,200		1,300	401	146	197	17,900	30	7.4
2	5.2	21	208	1,420		875	333	10,000	165	3,590	30	6.8
3	5.5	420	146	366		555	220	8,390	317	705	61	4.9
4	5.2	301	106	197		775	175	1,420	175	339	495	4.2
5	6.9	155	1,080	186		3,290	595	2,600	127	1,970	149	6
6	8.7	99	301	245	100	2,120	232	1,300	103	1,080	79	8
7	6.5	67	175	220		925	165	1,030	99	1,230	66	7.4
8	4.9	54	136	208		420	155	555	186	930	42	35
9	4.1	40	85	155		258	1,300	301	155	1,690	35	97
10	3.6	41	78	317		197	10,400	232	127	1,570	29	2,680
11	3.6	57	69	272		197	2,440	197	99	475	27	455
12	4.6	53	69	245		165	730	186	80	4,560	25	182
13	10.4	46	58	127		165	384	366	69	2,120	16	660
14	13.5	36	155	93		730	272	9,280	495	1,760	19	795
15	13.5	31	595	91		975	258	10,400	175	575	15	377
16	10.8	36	350	91		875	232	1,540	420	288	14	196
17	13	27	2,040	155		685	220	555	875	182	12	535
18	555	34	3,900	925	80	640	186	384	350	136	13	575
19	136	232	1,540	6,510		272	146	6,120	186	225	9.2	240
20	79	475	456	1,610		245	136	1,960	495	138	9.6	119
21	52	245	220	640		220	197	730	286	93	8.8	68
22	45	155	155	1,890		232	975	401	140	71	10	49
23	73	99	136	6,120		333	555	286	155	57	7.7	36
24	58	79	127	1,420		350	258	220	85	50	13	33
25	47	67	106	9,430	272	232	208	186	90	48	18	30
26	32	52	91	2,280	9,280	272	495	232	76	705	24	28
27	26	44	85	475	3,790	350	317	438	65	168	16	24
28	22	34	101	301	1,890	272	220	1,750	475	93	11	22
29	18.3	36	82	208	-------	186	220	2,200	438	68	10	19
30	11.9	475	106	175	-------	245	175	595	1,250	49	9.2	19
31	12.4	-------	91	165	-------	245	-------	301	-------	34	8	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	555	3.6	41.7	0.087	0.10
November	475	11.9	117	.245	.27
December	3,900	58	431	.904	1.04
January	9,430	91	1,280	2.68	3.09
February	9,280	----------	620	1.30	1.35
March	3,290	165	600	1.26	1.45
April	10,400	136	753	1.58	1.76
May	10,400	146	2,070	4.34	5.00
June	1,250	65	265	.556	.62
July	17,900	34	1,380	2.89	3.33
August	495	7.7	42.3	.089	.10
September	2,680	4.2	244	.512	.57
The year	17,900	3.6	658	1.38	18.68

LICKING RIVER BASIN

LICKING RIVER AT FARMERS, KY.

LOCATION.—Chain gage at highway bridge on line between Rowan and Bath Counties, 200 feet above Chesapeake & Ohio Railway bridge and three-fourths mile west of Farmers. Zero of gage is 635.70 feet above mean sea level.

DRAINAGE AREA.—768 square miles.

RECORDS AVAILABLE.—May, 1928, to September, 1929. July, 1915, to June, 1920, at site 300 feet downstream.

EXTREMES.—Maximum discharge during year, 10,100 second-feet Feb. 27 (gage height, 22.3 feet); minimum, 14 second-feet Oct. 17 (gage height, 1.33 feet). 1928–29: Maximum discharge, 11,400 second-feet June 30, 1928 (gage height, 25.6 feet); minimum, that of Oct. 17, 1928.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	116	8,680	558	940	9,280	3,760	1,290	320	1,720	430	33
2	48	85	7,680	536	790	8,560	2,560	5,530	287	7,140	320	32
3	55	77	6,280	649	696	5,680	1,790	9,560	256	1,930	227	32
4	67	73	3,520	603	558	2,840	1,530	8,760	199	513	173	28
5	61	63	1,720	536	430	5,330	1,290	7,360	186	513	139	26
6	58	55	1,350	840	390	9,480	1,050	4,830	173	558	128	36
7	42	48	1,110	1,230	840	9,960	890	9,440	173	513	106	55
8	36	88	840	1,110	1,590	9,000	743	8,960	139	390	87	73
9	38	74	536	990	1,590	6,580	696	7,320	186	272	74	150
10	49	74	372	2,980	2,140	3,330	840	4,000	173	199	66	186
11	38	66	256	4,880	1,590	1,590	940	2,070	162	242	52	227
12	32	60	227	2,490	1,170	1,290	990	1,530	150	1,110	46	213
13	26	60	213	1,930	940	1,110	790	1,350	199	3,640	40	287
14	28	67	256	1,230	743	1,590	649	2,560	320	1,410	40	430
15	22	90	354	790	649	2,210	603	2,630	320	470	45	242
16	18	118	430	696	536	2,560	558	1,470	256	304	44	213
17	16	87	603	649	492	1,650	603	890	227	213	40	186
18	80	80	990	5,980	430	1,350	558	649	199	199	36	173
19	90	199	1,230	6,860	410	1,050	470	4,780	162	186	30	162
20	558	2,840	1,290	6,730	603	890	390	5,880	162	173	26	150
21	430	4,120	890	5,280	790	790	337	3,880	139	173	24	128
22	272	3,190	1,290	3,460	1,050	790	603	2,560	114	150	23	116
23	162	1,930	513	3,050	890	5,780	603	1,860	82	139	41	108
24	173	1,230	558	2,000	890	8,080	603	1,110	128	112	87	84
25	162	743	354	5,530	1,530	9,480	558	940	150	199	272	76
26	199	649	304	7,810	9,040	8,960	558	743	1,110	227	242	101
27	150	603	287	6,330	10,100	7,580	470	649	558	3,700	139	128
28	173	430	320	3,640	9,920	3,190	513	558	372	649	112	68
29	186	337	354	2,000	------	3,050	1,290	513	513	513	71	71
30	199	2,000	430	1,350	------	3,820	1,930	390	337	470	50	120
31	173	------	354	1,110	------	4,180	------	354	------	390	40	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	558	16	118	0.154	0.18
November	4,120	48	655	.853	.95
December	8,680	213	1,410	1.84	2.12
January	7,810	536	2,700	3.52	4.06
February	10,100	390	1,850	2.41	2.51
March	9,960	790	4,550	5.92	6.82
April	3,760	337	972	1.27	1.42
May	9,560	354	3,370	4.39	5.06
June	1,110	82	258	.333	.37
July	7,140	112	917	1.19	1.37
August	430	23	105	.137	.16
September	430	26	131	.171	.19
The year	10,100	16	1,430	1.86	25.21

LICKING RIVER AT CATAWBA, KY.

LOCATION.—Water-stage recorder three-fourths mile east of Catawba, Pendleton County, and three-fourths mile above mouth of Kinkaid Creek. Zero of gage is 498.37 feet above mean sea level.

DRAINAGE AREA.—3,300 square miles.

RECORDS AVAILABLE.—July, 1928, to September, 1929. July, 1916, to September, 1920, at site half a mile downstream.

EXTREMES.—Maximum discharge during year, 43,200 second-feet Feb. 27 (gage height, 29.9 feet); minimum, 81 second-feet Aug. 22 and 23 (gage height, 4.69 feet).

1928–29: Maximum and minimum discharges, those of 1929.

Flood of April 21, 1920, reached stage of 36.9 feet, old datum.

REMARKS.—Records excellent.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	294	15,300	5,160	2,530	27,300	7,640	2,010	1,200	5,67	1,120	260
2	105	274	16,100	2,460	2,260	23,100	7,000	10,800	1,000	22,300	840	222
3	105	274	12,700	1,720	2,010	19,300	5,220		920	21,100	762	183
4	105	284	10,500	1,630	1,720	15,500	3,890		840	12,300	1,000	156
5	100	284	10,900	1,540	1,540	15,000	3,220		762	5,350	650	134
6	94	260	7,440	1,980	1,450	19,600	2,750	22,000	688	5,120	472	118
7	89	245	5,180	1,860	1,920	25,700	2,310		575	3,100	410	114
8	86	226	3,110	2,990	2,930	25,700	2,110		575	2,110	364	581
9	114	213	2,260	4,120	4,000	21,000	2,610		575	1,630	305	1,480
10	128	231	1,720	5,260	5,380	17,300	7,000	13,900	575	1,360	255	2,280
11	111	284	1,450	6,390	6,040	11,800	4,940	9,960	505	1,200	217	2,110
12	103	310	1,280	7,520	4,540	5,730	3,610	4,990	512	1,540	196	1,450
13	97	352	1,200	7,560	3,040	3,480	2,860	4,930	1,750	7,480	179	3,650
14	91	351	2,400		2,530	5,470	2,420	27,300	3,220	12,400	164	4,320
15	94	305	2,140		2,110	6,360	2,010	25,300	2,210	6,760	144	3,220
16	91	310	1,540	6,000	2,010	6,200	1,810	12,700	1,630	2,860	131	2,530
17	111	289	6,400		1,810	5,880	1,630	6,520	1,690	1,630	121	4,440
18	274	315	12,100	5,410	1,630	4,770	1,540	4,030	1,120	1,200	108	2,110
19	231	1,530	8,040	18,000	1,540	3,610	1,450	13,900	1,040	1,540	103	1,200
20	192	6,720	6,360	19,100	1,450	3,000	1,280	17,500	920	2,080	94	880
21	183	7,160	3,560	15,400	1,700	2,530	1,280	16,000	725	1,040	89	725
22	164	6,200	2,700	12,100	2,320	2,210	2,760	12,500	575	725	83	650
23	4,870	4,470	2,110	12,500	2,310	2,110	1,910	8,600	472	612	81	505
24	1,430	2,860	1,720	8,980	2,260	3,890	2,010	4,770	380	505	91	380
25	880	1,630	1,450	16,300	3,780	6,840	1,720	3,100	950	440	406	330
26	725	1,200	1,280	19,000	24,100	8,280	1,630	2,530	1,280	380	1,040	289
27	725	1,000	1,120	17,900	41,500	9,280	1,450	2,210	1,120	380	575	284
28	575	840	1,120	13,600	38,000	10,600	1,280	2,420	2,510	1,230	725	264
29	472	762	1,040	9,790	-------	10,800	1,360	2,310	4,380	2,640	505	269
30	380	7,260	1,040	5,870	-------	7,640	1,280	1,720	2,860	1,280	342	920
31	330	-------	1,120	3,420	-------	6,200	-------	1,450	-------	1,200	264	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,870	86	424	0.128	0.15
November	7,260	213	1,560	.473	.53
December	16,100	1,040	4,720	1.43	1.65
January	19,100	1,540	8,110	2.46	2.84
February	41,500	1,450	6,010	1.82	1.90
March	27,300	2,110	10,800	3.27	3.77
April	7,640	1,280	2,800	.848	.95
May	27,300	1,450	11,800	3.58	4.13
June	4,380	380	1,250	.379	.42
July	22,300	380	4,170	1.26	1.45
August	1,120	81	382	.116	.13
September	4,440	114	1,200	.364	.41
The year	41,500	81	4,460	1.35	18.33

SOUTH FORK OF LICKING RIVER AT HAYES, KY.

LOCATION.—Chain gage at county highway bridge half a mile northeast of Hayes, Pendleton County, and 2½ miles south of Falmouth. Zero of gage is 538.10 feet above mean sea level.

DRAINAGE AREA.—922 square miles.

RECORDS AVAILABLE.—July, 1916, to July, 1920; May, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 21,400 second-feet May 14 (gage height, 15.4 feet); minimum, 13 second-feet Oct. 12, 13 (gage height, 1.88 feet).

1916–1920, 1928–29: Maximum discharge, about 30,000 second-feet Apr. 21, 1920 (gage height, 19.05 feet, present datum); minimum, that of Oct. 12, 13, 1928.

REMARKS.—Records good. Discharge interpolated Jan. 16, 17, and Feb. 21–23, because of ice.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	53	6,310	2,600	600	4,290	955	140	235	2,050	50	95
2	23	54	5,100	725	458	3,350	955	2,750	220	11,700	49	67
3	22	54	1,670	435	415	2,180	755	1,460	184	4,770	50	56
4	23	56	1,020	395	505	1,670	600	1,670	162	1,360	49	48
5	22	62	2,900	338	435	3,200	530	1,560	143	755	44	47
6	20	57	2,460	820	355	6,850	480	820	120	1,670	41	44
7	20	54	1,560	458	480	9,130	415	1,670	112	955	36	44
8	19	52	1,020	320	755	6,850	355	3,810	108	665	33	375
9	17	49	755	505	820	2,750	695	1,560	114	480	32	480
10	17	47	555	1,180	955	1,560	4,930	955	114	375	31	1,670
11	15	50	458	1,790	1,560	1,100	1,560	695	99	320	32	1,270
12	13	52	375	1,670	820	885	955	555	160	458	30	635
13	13	50	302	1,020	665	755	665	3,350	355	2,180	28	788
14	16	46	1,180	600	580	2,460	530	18,600	1,920	2,900	26	2,900
15	19	44	695	580	530	2,050	435	9,740	885	2,050	25	1,790
16	19	44	530	940	458	1,790	375	3,970	788	955	23	1,270
17	25	45	3,810	1,310	458	1,180	355	1,920	1,100	530	22	2,180
18	125	73	4,930	1,670	415	885	285	1,180	355	355	22	820
19	82	395	3,810	7,770	395	725	250	7,960	302	505	20	580
20	51	1,560	1,920	8,340	415	635	235	6,310	235	725	20	415
21	42	3,050	1,180	3,650	500	555	250	4,130	168	355	18	285
22	39	955	820	2,900	585	480	435	1,920	112	235	18	220
23	2,460	530	635	3,650	670	458	285	1,180	101	168	18	168
24	375	375	505	2,320	755	580	250	885	87	131	23	138
25	148	268	435	8,530	1,020	2,180	220	695	480	105	235	120
26	170	220	375	9,330	13,400	1,100	220	600	435	85	755	106
27	165	184	338	4,610	20,400	1,100	184	695	250	82	355	95
28	106	152	320	2,050	10,800	820	160	885	1,270	66	184	94
29	79	131	302	1,270	-------	635	182	600	885	60	114	106
30	64	3,350	285	955	-------	955	162	415	435	58	82	205
31	56	-------	268	725	-------	820	-------	338	-------	52	66	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,460	13	138	0.150	0.17
November	3,350	44	404	.438	.49
December	6,310	268	1,510	1.64	1.89
January	9,330	320	2,370	2.57	2.96
February	20,400	355	2,150	2.33	2.43
March	9,130	458	2,060	2.23	2.57
April	4,930	160	622	.675	.75
May	18,600	140	2,680	2.91	3.36
June	1,920	87	398	.432	.48
July	11,700	52	1,200	1.30	1.50
August	755	18	81.6	.089	.10
September	2,900	44	570	.618	.69
The year	20,400	13	1,190	1.29	17.39

MIAMI RIVER BASIN

MIAMI RIVER AT SIDNEY, OHIO

LOCATION.—Water-stage recorder at North Street Bridge, Sidney, Shelby County Zero of gage is 924.74 feet above mean sea level.

DRAINAGE AREA.—543 square miles.

RECORDS AVAILABLE.—February, 1914, to September, 1929.

EXTREMES.—Maximum discharge during year, about 18,000 second-feet Feb. 26 (gage height, 13.6 feet); minimum, 44 second-feet Oct. 1–3 (gage height, 1.00 feet).

1914–1929: Maximum discharge, about 20,700 second-feet Mar. 20, 1927 (gage height, 14.4 feet); minimum, 9 second-feet Sept. 18, 19, 1917 (gage height, — 1.5 feet).

Maximum stage known, 19.6 feet, present datum, Mar. 25 1913 (discharge, estimated by Miami Conservancy District, 44,000 second-feet).

REMARKS.—Records good except those for extremely high water and for periods of ice effect, Dec. 8–11, 21–26, Jan. 2, 3, and 8–11, which are fair. Water to feed Miami & Erie Canal is no longer diverted from river at Port Jefferson.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	50	92	117	378	3,160	985	513	363	488	286	72
2	45	62	78	100	363	2,280	1,090	454	346	556	286	70
3	44	182	76	100	348	1,680	735	1,120	330	346	440	67
4	47	275	74	117	333	1,550	556	1,040	315	256	1,360	67
5	57	248	72	102	333	1,620	493	1,680	315	214	1,200	72
6	71	199	72	149	318	1,310	435	1,200	214	214	885	80
7	58	98	69	275	304	1,140	363	735	187	286	556	88
8	51	74			304	835	330	493	286	1,510	416	88
9	51	69			304	534	363	398	228	1,200	346	90
10	51	69	60	180	304	380	3,100	315	175	735	315	83
11	48	65			348	330	2,710	286	158	690	300	75
12	106	62	58	153	348	398	2,040	650	158	493	286	66
13	209	65	60	153	348	493	1,480	1,360	175	454	228	67
14	147	60	125	153	289	768	1,140	2,700	228	690	1,550	66
15	62	58	378	172	318	1,140	985	3,070	242	690	1,200	60
16	57	60	318	153	304	1,040	885	2,120	256	534	690	51
17	65	65	565	353	318	985	785	1,480	286	416	454	62
18	71	74	1,420	3,380	304	835	690	1,090	214	300	363	62
19	62	90	1,090	11,200	289	735	645	1,800	175	200	300	52
20	58	109	690	5,510	304	885	645	1,680	214	156	271	50
21	55	115		2,620	363	985	1,060	1,310	242	131	256	50
22	52	106		1,680	289	1,360	1,820	935	200	119	163	50
23	65	106		2,240	318	1,360	1,420	600	151	108	111	48
24	129	100	230	1,670	318	1,090	1,040	493	133	97	104	50
25	183	94		5,240	520	935	885	473	538	93	92	54
26	172	135		2,840	14,600	2,450	835	454	315	93	86	64
27	134	199	140	2,000	11,200	1,960	785	435	200	104	80	66
28	72	172	140	1,310	4,960	1,310	690	493	217	398	77	62
29	58	172	138	885	-------	985	645	556	271	556	77	61
30	57	140	125	600	-------	690	556	435	187	454	73	64
31	52	-------	119	462	-------	600	-------	380	-------	330	73	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	209	44	78.5	May	3,070	286	992
November	275	50	112	June	538	133	244
December	1,420	-------	243	July	1,510	93	416
January	11,200	-------	1,430	August	1,550	73	417
February	14,600	289	1,390	September	90	48	65.2
March	3,160	330	1,160				
April	3,100	330	1,010	The year	14,600	44	627

MIAMI RIVER AT TAYLORSVILLE, OHIO

LOCATION.—Water-stage recorder at outlet works of Taylorsville Dam, three-fourths mile north of Taylorsville, Montgomery County. Zero of gage is 700.00 feet above mean sea level.

DRAINAGE AREA.—1,160 square miles.

RECORDS AVAILABLE.—January, 1922, to September, 1929. January, 1914, to September, 1917, at Tadmor, 1½ miles upstream.

EXTREMES.—Maximum discharge during year, 23,700 second-feet Feb. 26 (gage height, 73.0 feet); minimum, 75 second-feet Oct. 12 (gage height, 61.53 feet).

1922–1929: Maximum discharge, 26,700 second-feet June 9, 1924 (gage height, 72.6 feet); minimum, 48 second-feet Sept. 7–9, 1925 (gage height, 61.6 feet).

Flood of March, 1913, reached stage of 25.4 feet at Tadmor (discharge, estimated by Miami Conservancy District, 127,000 second-feet).

REMARKS.—Records good except those for periods when recorder was not operating satisfactorily, Oct. 1–3, Jan. 14–18, and Aug. 27 to Sept. 30, which are fair. Flow at high stages automatically regulated at retarding basins on Miami River and on Loramie Creek at Lockington. Gage-height record and part of discharge measurements furnished by Miami Conservancy District.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		82	180	162	607	6,710	1,060	840	680	2,850	490	
2	90	115	132	155	475	4,450	1,580	990	622	1,880	464	
3		202	117	172	450	3,350	1,310	1,490	595	1,140	516	190
4	84	247	117	148	450	2,850	1,220	1,880	568	770	1,290	
5	91	289	120	148	450	2,970	1,020	3,380	542	680	1,540	
6	101	263	114	161	400	2,390	840	2,850	516	680	1,220	
7	94	214	109	197	352	1,780	710	1,780	438	1,520	875	
8	94	142	104	152	330	1,400	595	1,220	595	5,240	595	240
9	91	117	96	166	352	1,020	722	1,020	568	4,780	516	
10	86	114	91	199	271	770	5,440	875	438	2,610	464	
11	89	107	101	169	272	650	5,960	770	389	1,780	414	
12	82	109	96	142	276	595	4,160	835	364	1,400	389	
13	89	120	101	148	281	710	3,090	2,730	389	1,140	389	200
14	214	117	145		281	1,080	2,180	4,410	650	1,140	1,200	
15	166	107	292	100	272	1,880	1,680	7,300	910	1,310	1,980	
16	117	104	500		267	1,680	1,400	4,900	856	1,140	1,220	
17	117	104	540	800	281	1,580	1,220	3,220	1,400	945	805	
18	114	117	2,240	2,500	400	1,400	1,140	2,280	1,060	1,080	595	200
19	104	112	1,780	14,400	400	1,140	945	4,020	680	1,520	516	
20	99	139	1,090	13,500	307	1,220	875	4,020	622	680	464	
21	94	148	607	6,250	330	1,490	1,020	2,730	805	542	438	
22	82	152	425	3,710	330	2,080	2,510	2,180	622	464	414	
23	96	148	376	5,780	330	2,610	2,500	1,580	516	414	322	190
24	104	148	303	4,050	307	2,180	1,980	1,140	464	389	414	
25	120	142	238	10,400	590	1,490	1,580	980	743	389	272	
26	195	126	202	8,940	13,800	3,150	1,490	945	805	340	238	
27	183	152	202	4,450	21,100	3,740	1,310	875	622	340		
28	155	214	187	3,040	13,800	2,280	1,060	875	722	335		200
29	109	199	187	2,080		1,680	980	910	840	690	240	
30	94	191	180	1,480		1,310	980	980	824	740		
31	86		162	865		1,140		770		622		

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	214	82	110	0.095	0.11
November	289	82	151	.130	.15
December	2,240	91	359	.309	.36
January	14,400		2,730	2.35	2.71
February	21,100	267	2,060	1.78	1.85
March	6,710	595	2,020	1.74	2.01
April	5,960	595	1,750	1.51	1.68
May	7,300	770	2,090	1.80	2.08
June	1,400	364	662	.571	.64
July	5,240	335	1,280	1.10	1.27
August	1,980		621	.535	.62
September			203	.175	.20
The year	21,100	82	1,170	1.01	13.68

MIAMI RIVER AT DAYTON, OHIO

LOCATION.—Staff gage at Main Street Bridge at Dayton, Montgomery County. Zero of gage is 721.00 feet above mean sea level.

DRAINAGE AREA.—2,510 square miles.

RECORDS AVAILABLE.—March, 1905, to December, 1909; April, 1913, to September, 1929.

EXTREMES.—Maximum discharge during year, 53,000 second-feet Feb. 27 (gage height, 14.4 feet); minimum, 284 second-feet Oct. 4, 7, 10–13 (gage height, 0.4 foot).

1913–1929: Maximum discharge at Millers Ford, 3½ miles below gage, estimated by engineers of Miami Conservancy District at 59,800 second-feet Apr. 21, 1920 (gage height, 16.0 feet, old datum); minimum, 122 second-feet Sept. 5, 8, 1925.

Maximum stage known, 29.0 feet Mar. 26, 1913 (discharge, estimated by Miami Conservancy District, 250,000 second-feet).

REMARKS.—Records good. Miami & Erie Canal formerly diverted water around gage but this section of canal was abandoned Feb. 26, 1929. Flood flow automatically regulated at four retarding basins above station. Gage-height record furnished by United States Weather Bureau and Miami Conservancy District. Part of discharge measurements made by Miami Conservancy District.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	317	337	465	530	1,850	17,900	2,650	1,610	1,850	8,570	1,110	684
2	317	382	465	603	1,730	12,600	2,940	2,370	1,610	9,370	1,000	603
3	317	1,380	436	465	1,600	9,640	2,650	3,870	1,610	7,070	1,000	603
4	300	860	436	498	1,490	5,710	2,370	4,030	1,380	5,290	1,610	566
5	357	860	436	465	1,380	5,930	2,240	7,070	1,380	3,090	2,110	530
6	382	815	406	465	1,380	5,090	1,850	6,830	1,380	3,090	1,850	603
7	284	684	406	465	1,380	4,190	1,610	4,360	1,270	3,240	1,610	603
8	357	603	406	480	1,270	3,090	1,380	3,240	1,610	10,800	1,270	603
9	337	465	406	530	1,270	2,510	1,490	2,650	1,850	15,300	1,110	955
10	300	530	357	603	1,060	1,980	11,800	2,240	1,380	10,200	1,160	860
11	300	465	357	603	1,000	1,730	14,900	1,850	1,160	7,800	955	722
12	300	406	357	603	1,060	1,610	9,920	1,850	1,160	4,530	1,000	644
13	300	436	337	465	1,060	1,610	6,600	5,090	1,110	3,550	908	644
14	317	406	465		1,060	1,850	4,530	8,570	1,610	4,530	1,610	644
15	465	406	955	600	815	4,360	3,550	19,700	2,370	3,550	3,870	684
16	406	382	1,060		860	4,190	3,090	13,300	2,110	2,790	2,650	603
17	436	382	1,060	770	955	3,710	2,650	7,070	6,830	2,240	1,730	644
18	465	357	4,530	6,600	1,610	3,240	2,370	4,710	5,710	1,850	1,490	644
19	465	406	3,390	27,100	1,270	2,650	1,980	8,310	2,940	5,710	1,110	603
20	465	603	2,370	32,900	1,000	2,370	1,850	10,200	5,090	2,240	1,000	603
21	406	530	1,850	14,900	955	2,790	2,110	6,600	2,940	1,610	1,000	603
22	357	530	1,060	9,370	1,060	3,550	3,870	4,900	2,110	1,490	908	603
23	382	530	1,060	12,900	860	4,710	4,360	3,870	1,850	1,160	1,000	566
24	382	530	1,000	8,830	955	4,530	3,550	2,940	1,610	1,160	1,060	530
25	382	465	955	20,200	1,380	3,090	2,940	2,510	1,730	1,060	1,380	530
26	382	406	908	23,800	34,700	2,790	2,790	2,370	2,240	1,060	908	603
27	436	406	770	11,500	52,300	8,050	2,650	2,240	1,980	1,060	860	566
28	465	498	684	6,370	32,300	4,900	2,650	2,370	1,850	1,060	815	603
29	406	530	644	3,710	-------	3,390	2,110	2,370	3,550	1,160	770	603
30	382	530	530	3,090	-------	2,940	1,850	2,650	2,240	1,380	770	603
31	357	-------	530	2,510	-------	2,650	-------	2,110	-------	1,270	644	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	465	284	372	May	19,700	1,610	4,960
November	1,380	337	537	June	6,830	1,110	2,250
December	4,530	337	938	July	15,300	1,060	4,140
January	32,900	465	6,230	August	3,870	644	1,300
February	52,300	815	5,340	September	955	530	628
March	17,900	1,610	4,500				
April	14,900	1,380	3,710	The year	52,300	284	2,900

MIAMI RIVER NEAR MIAMISBURG, OHIO

LOCATION.—Water-stage recorder in sec. 35, Miami Township, at Cleveland, Cincinnati, Chicago & St. Louis Railway bridge 1½ miles south of Miamisburg and 2½ miles below mouth of Bear Creek. Zero of gage is 677.06 feet above mean sea level.

DRAINAGE AREA.—2,720 square miles.

RECORDS AVAILABLE.—August, 1924, to September, 1929.

EXTREMES.—Maximum discharge during year, 52,600 second-feet Feb. 27 (gage height, 16.5 feet); minimum, 222 second-feet Oct. 14 (gage height, 0.48 foot).

1924–1929: Maximum discharge, that of Feb. 27, 1929; minimum, 116 second-feet Sept. 7, 1925 (gage height, 0.39 foot).

REMARKS.—Records excellent except those for short periods when float was frozen, Jan. 13–16 and Jan. 18 to Feb. 4, and when recorder was not operating, May 27 to June 14, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	475	510	635	730	2,000	19,100	2,480	2,120	2,300	9,860	1,320	657
2	440	875	590	730	1,900	13,100	2,850	3,820	2,100	9,440	1,170	618
3	440	1,630	550	635	1,800	9,920	2,720	4,880	2,100	7,650	1,220	657
4	475	1,190	570	635	1,700	7,020	2,480	4,180	1,800	5,810	1,880	657
5	550	1,080	590	680	1,630	6,600	2,360	7,980	1,800	3,860	2,240	657
6	510	980	550	680	1,630	5,430	2,000	7,860	1,800	3,550	2,000	657
7	437	880	510	550	1,520	4,020	1,880	4,880	1,700	6,440	1,880	657
8	510	730	510	510	1,520	3,170	1,760	3,550	2,100	11,700	1,540	740
9	475	635	475	680	1,520	2,850	2,540	2,850	2,300	14,500	1,320	1,020
10	440	635	510	839	1,410	2,360	12,100	2,480	1,800	11,100	1,220	1,020
11	440	590	475	830	1,190	2,120	15,000	2,240	1,600	8,070	1,120	824
12	440	590	475	750	1,140	2,000	11,000	2,120	1,600	5,240	1,070	740
13	440	590	510	670	1,190	1,880	7,440	4,900	1,500	4,100	1,020	782
14	416	590	680	750	1,240	2,480	5,060	10,300	2,000	5,060	1,780	782
15	590	550	1,080	750	1,190	4,180	3,860	21,200	2,360	3,700	3,890	740
16	590	550	1,240	800	1,190	4,350	3,400	15,100	2,700	2,980	2,720	740
17	680	550	2,200	1,320	1,370	3,860	2,980	8,070	6,270	2,610	2,000	740
18	680	550	4,350	8,700	2,110	3,260	2,720	5,660	5,430	2,360	1,540	740
19	635	635	3,700	23,600	1,630	2,850	2,480	11,400	3,260	4,640	1,320	678
20	550	680	2,590	31,700	1,240	2,600	2,240	11,400	4,440	2,600	1,170	657
21	475	730	1,870	16,600	1,300	2,850	2,600	7,650	3,260	2,000	1,070	618
22	510	730	1,360	10,900	1,300	3,550	4,180	5,240	2,480	1,880	1,020	580
23	550	680	1,240	13,300	1,140	5,060	4,700	4,180	2,240	1,760	1,020	618
24	550	635	1,140	10,200	1,240	4,520	3,700	3,260	2,000	1,650	1,490	580
25	510	635	980	18,600	2,590	3,400	3,260	2,980	2,000	1,430	1,810	618
26	550	590	880	24,000	35,900	3,880	2,980	2,850	2,600	1,320	1,070	657
27	635	590	880	12,000	50,800	7,860	2,850	2,700	2,360	1,270	919	657
28	590	635	830	6,900	39,600	5,240	2,600	2,900	2,240	1,270	824	618
29	590	635	830	4,000	------	3,550	2,360	2,900	3,400	1,270	782	580
30	510	680	730	3,300	------	2,980	2,240	3,100	3,130	1,430	740	618
31	510	------	730	2,700	------	2,720	------	2,600	------	1,430	698	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	680	416	522	0.192	0.22
November	1,630	510	719	.264	.29
December	4,350	475	1,110	.408	.47
January	31,700	510	6,420	2.36	2.72
February	50,800	1,140	5,860	2.15	2.24
March	19,100	1,880	4,800	1.76	2.03
April	15,000	1,760	4,030	1.48	1.65
May	21,200	2,120	5,720	2.10	2.42
June	6,270	----------	2,560	.941	1.05
July	14,500	1,270	4,580	1.68	1.94
August	3,890	698	1,450	.533	.61
September	1,020	580	697	.256	.29
The year	50,800	416	3,200	1.18	15.93

MIAMI RIVER AT HAMILTON, OHIO

LOCATION.—Water-stage recorder in NE. ¼ sec. 6, T. 1 N., R. 3 E., 1,000 feet below Columbia Bridge at Hamilton. Zero of gage is 500.00 feet above mean sea level.

DRAINAGE AREA.—3,640 square miles.

RECORDS AVAILABLE.—April, 1927, to September, 1929. February, 1910, to September, 1917, at site 0.7 mile upstream.

EXTREMES.—Maximum discharge during year, 70,300 second-feet Feb. 26 (gage height, 76.5 feet); minimum, 193 second-feet Oct. 28 (gage height, 57.61 feet).

1927–1929: Maximum and minimum discharges occurred during 1929. Maximum stage known, 599.2 feet (mean sea level datum) at former gage Mar. 26, 1913.

REMARKS.—Records good except those for interpolated period, Jan. 8–11, which are fair, and for periods of ice effect, Jan. 14–16 and Feb. 3, which are estimated. Miami & Erie Canal diverts water above station; diversion not included in tables of discharge. Flow at low stages is regulated for power at Hamilton. Flow at high stages is automatically regulated by five retarding basins above station. Gage-height record and part of discharge measurements furnished by Miami Conservancy District.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	390	466	544	1,110	2,860	25,900	3,720	2,750	2,970	21,700	1,630	862
2	423	1,180	572	1,030	2,410	14,800	3,580	4,410	2,680	13,500	1,480	712
3	464	2,520	592	836	2,100	11,400	3,720	7,180	2,540	9,080	2,180	810
4	402	1,310	544	814	1,990	10,700	3,450	5,540	2,340	7,360	1,890	806
5	404	1,070	546	856	1,950	8,680	3,320	10,600	2,210	6,340	2,450	754
6	427	959	530	888	1,840	7,360	2,970	9,640	2,100	6,840	2,380	770
7	387	811	495	770	1,860	5,860	2,550	6,670	1,990	8,280	2,170	734
8	434	796	376	688	1,820	4,750	2,480	5,060	2,280	11,500	1,870	800
9	402	665	478	732	1,840	4,000	4,290	4,150	2,270	16,500	1,620	997
10	416	490	526	775	1,550	3,320	19,000	3,720	2,040	11,600	1,400	1,190
11	470	570	542	818	1,450	2,990	18,600	3,450	1,830	9,710	1,370	1,040
12	344	600	458	862	1,300	2,790	12,700	3,190	1,780	7,980	1,400	918
13	380	576	524	583	1,310	2,690	9,400	5,300	1,900	6,670	1,380	978
14	302	531	710	691	1,350	5,640	7,010	16,000	2,780	6,840	1,690	971
15	442	523	922	571	1,370	6,020	5,860	25,400	2,870	5,380	3,720	892
16	479	532	1,080	596	1,370	6,340	5,060	17,900	4,940	4,300	3,320	898
17	560	445	4,760	1,580	1,830	5,380	4,450	10,100	9,500	3,580	2,440	818
18	621	518	5,260	13,500	3,420	4,750	4,080	7,580	7,010	3,760	1,850	846
19	540	664	3,990	26,700	2,260	4,150	3,720	19,400	5,220	5,270	1,650	846
20	434	590	3,000	29,200	1,590	3,720	3,320	13,600	5,700	4,000	1,500	815
21	392	680	2,110	19,400	1,540	4,000	3,580	9,350	5,060	2,730	1,320	744
22	525	636	1,550	12,100	1,460	5,060	5,380	6,840	3,450	2,380	1,290	746
23	394	634	1,380	15,800	1,370	6,670	5,860	5,540	2,820	2,140	1,230	660
24	440	554	1,260	11,800	1,360	6,180	5,060	4,750	2,780	1,970	1,130	680
25	452	582	1,130	23,800	4,580	5,060	4,450	4,900	2,490	1,840	2,020	685
26	478	700	1,050	23,800	58,100	4,600	4,150	3,860	2,830	1,770	1,510	704
27	422	575	1,030	14,500	51,000	7,900	3,860	4,000	2,970	1,600	1,190	722
28	410	542	998	8,740	53,000	6,670	3,450	5,380	3,060	1,540	1,070	616
29	500	449	873	5,580	-------	5,060	3,190	4,750	3,860	1,550	910	724
30	480	722	888	4,300	-------	4,150	2,960	4,000	4,130	1,700	924	700
31	450	-------	877	3,560	-------	3,720	-------	3,450	-------	1,760	868	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	621	302	441	May	25,400	2,750	7,690
November	2,520	445	730	June	9,500	1,780	3,350
December	5,260	376	1,280	July	21,700	1,540	6,170
January	29,200	571	7,320	August	3,720	868	1,700
February	58,100	1,300	7,500	September	1,190	616	815
March	25,900	2,690	6,460				
April	19,000	2,480	5,510	The year	58,100	302	4,070

LORAMIE CREEK AT LOCKINGTON, OHIO

LOCATION.—Water-stage recorder in NE. ¼ sec. 30, T. 7 N., R. 6 E., just below Lockington Dam, a half mile northwest of Lockington. Zero of gage is 800.00 feet above mean sea level.

DRAINAGE AREA.—261 square miles.

RECORDS AVAILABLE.—October, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 5,420 second-feet Feb. 26 (gage height, 83.6 feet); minimum, 8 second-feet Oct. 9, 10.

1915–1929: Maximum discharge, 9,900 second-feet May 7, 1916 (gage height, 10.4 feet, original datum); minimum, 5 second-feet Nov. 18, 1915, Sept. 1, 9–12, 16–20, 26, 27, and Oct. 2–19, 1924.

Maximum known stage, 15.6 feet, original datum, Mar. 25, 1913 (discharge, estimated by Miami Conservancy District, 25,600 second-feet).

REMARKS.—Records good except those for periods of ice effect, Jan. 14–22 and Jan. 28 to Feb. 14, and lost record, Feb. 19–28, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	9	11	18	160	1,230	148	61	66	189	15	11
2	9	10	11	18	100	920	158	91	54	178	14	12
3	9	20	12	16	90	777	345	254	44	93	28	11
4	9	19	11	15	80	688	345	222	39	49	48	11
5	10	13	11	14	70	597	172	598	37	40	35	11
6	9	11	11	20	60	220	124	272	32	40	21	13
7	10	11	11	29	50	137	85	188	35	272	17	13
8	9	10	11	20	50	93	59	148	80	890	15	15
9	8	10	11	16	50	76	205	140	49	462	14	14
10	8	10	12	18	40	60	1,930	124	33	246	13	13
11	9	11	11	25	70	54	1,100	124	26	168	14	12
12	9	11	11	20	80	54	822	640	24	158	13	11
13	9	10	11	20	60	59	602	769	73	140	15	11
14	9	10	20	20	40	272	348	1,850	528	140	371	11
15	9	10	59	20	35	300	178	1,590	136	132	210	11
16	10	11	38	20	35	234	140	920	141	116	124	11
17	10	11	317	250	39	246	140	562	464	116	100	11
18	10	11	300	1,300	60	168	86	274	294	76	83	11
19	10	14	116	3,000	78	158	60	1,020	132	52	73	11
20	10	14	65	2,200	70	222	56	599	292	37	80	11
21	10	17	48	1,100	70	246	173	522	236	26	82	10
22	10	15	31	1,000	67	513	562	502	140	23	76	10
23	10	14	26	1,300	67	688	483	225	108	20	68	10
24	11	12	25	1,100	55	293	428	148	124	18	58	10
25	10	11	23	3,440	309	124	361	124	148	18	44	10
26	10	11	20	1,400	4,880	578	259	116	210	18	18	11
27	9	11	20	1,100	4,300	318	168	116	124	17	14	11
28	10	11	20	600	2,440	178	108	73	166	17	13	11
29	9	11	20	400	------	148	86	172	148	18	12	11
30	10	11	20	300	------	148	72	148	116	17	12	11
31	10	------	18	250	------	124	------	86	------	15	12	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	11	8	9.48	May	1,850	61	409
November	20	9	12.0	June	528	24	137
December	317	11	42.9	July	890	15	123
January	3,440	------	614	August	371	12	55.2
February	4,880	------	482	September	15	10	11.3
March	1,230	54	320				
April	1,930	56	327	The year	4,880	8	211

STILLWATER RIVER AT ENGLEWOOD, OHIO

LOCATION.—Water-stage recorder in NW. ¼ sec. 23, T. 5 N., R. 5 E., 1,000 feet below Englewood Dam and half a mile southeast of Englewood. Zero of gage is 700.00 feet above mean sea level.

DRAINAGE AREA.—646 square miles.

RECORDS AVAILABLE.—November, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,400 second-feet Feb. 27 (gage height, 79.3 feet); minimum, 15 second-feet Oct. 14 (gage height, 70.28 feet).

1925–1929: Maximum discharge, 8,580 second-feet Mar. 22, 1927 (gage height, 79.4 feet); minimum, that of Oct. 14, 1928.

Peak discharge during flood of March, 1913 (estimated by Miami Conservancy District), 85,400 second-feet.

REMARKS.—Records excellent. Flow automatically retarded at high stages at Englewood retarding basin. Gage-height record and part of discharge measurements furnished by Miami Conservancy District.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	30	45	70	286	6,970	478	230	331	4,110	90	64
2	47	48	51	70	233	5,780	433	241	286	5,780	93	46
3	48	80	47	72	205	3,750	360	331	246	5,270	105	49
4	48	94	49	56	212	1,210	305	404	221	3,420	92	43
5	51	113	44	65	168	1,080	282	1,280	212	1,450	92	42
6	46	77	45	74	155	946	252	1,500	170	1,190	100	44
7	46	73	38	59	150	668	221	894	170	1,280	90	56
8	32	67	44	76	158	450	201	571	202	3,000	78	89
9	38	45	50	60	142	333	288	414	172	4,940	76	87
10	32	56	41	81	151	264	3,130	329	162	4,780	80	80
11	33	59	40	76	144	240	4,470	282	156	2,980	80	72
12	27	46	46	106	154	206	3,490	258	147	1,600	69	63
13	21	51	35	68	140	196	1,690	1,270	150	1,090	71	59
14	25	51	61	84	103	402	964	2,540	189	872	398	67
15	21	50	74	86	115	1,310	716	4,320	558	726	836	60
16	32	47	88	100	102	1,110	567	3,490	507	540	435	48
17	43	40	126	136	107	968	462	1,610	2,660	404	230	57
18	41	52	332	1,640	188	653	370	954	2,450	353	151	46
19	39	52	485	6,040	211	465	312	2,400	1,080	358	118	54
20	48	52	314	6,970	244	411	274	3,240	1,170	320	95	51
21	43	66	184	5,950	148	572	355	1,860	1,010	258	80	46
22	23	60	132	4,030	141	874	606	1,020	554	209	96	49
23	50	57	127	3,120	134	1,270	664	709	381	186	65	42
24	41	58	109	2,450	110	941	450	529	308	172	197	46
25	40	67	103	4,470	483	642	376	436	676	153	152	48
26	47	48	96	5,440	5,950	1,340	440	406	970	139	94	41
27	47	50	84	3,890	8,220	2,070	476	458	667	139	77	42
28	49	42	95	1,480	8,040	1,200	360	458	635	122	71	48
29	37	54	76	667	------	711	303	657	1,420	122	56	48
30	45	50	87	464	-------	552	259	608	944	110	64	56
31	41	-------	77	384	-------	490	-------	416	-------	100	52	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	51	21	39.3	0.061	0.07
November	113	30	57.8	.089	.10
December	485	35	104	.161	.19
January	6,970	56	1,560	2.41	2.78
February	8,220	102	950	1.47	1.53
March	6,970	196	1,230	1.90	2.19
April	4,470	201	785	1.22	1.36
May	4,320	230	1,100	1.70	1.96
June	2,660	147	627	.971	1.08
July	5,780	100	1,490	2.31	2.66
August	836	52	141	.218	.25
September	89	41	54.8	.085	.09
The year	8,220	21	679	1.05	14.26

GREENVILLE CREEK NEAR GREENVILLE, OHIO

LOCATION.—Chain gage on highway bridge on west line of sec. 31, T. 10 N., R. 3 E., 1½ miles east of Greenville.

DRAINAGE AREA.—141 square miles.

RECORDS AVAILABLE.—October, 1923, to September, 1929. Prior to April, 1925, at site half a mile downstream.

EXTREMES.—Maximum discharge during year, 2,680 second-feet Jan. 19 and Feb. 26 (gage height, 8.4 feet); minimum, 14 second-feet Sept. 15, 22.

1923–1929: Maximum discharge, 4,200 second-feet June 9, 1924; minimum, 10 second-feet Sept. 9, 1925.

REMARKS.—Records good except those for periods of ice effect, Dec. 22–25, Jan. 7, 8, 13–17, Feb. 1–5, 11, 12, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	22	20	24		555	172	71	119	2,130	40	23
2	21	26	21	23		347	133	82	93	1,520	40	24
3	20	101	24	26	50	258	112	105	82	810	43	36
4	19	53	22	27		208	105	105	71	555	36	19
5	27	38	21	29		218	99	300	66	300	43	20
6	28	32	15	42	49	164	88	238	61	208	37	19
7	21	29	21	50	47	140	82	156	71	180	38	31
8	20	27	17	30	49	82	82	119	71	930	34	26
9	18	28	15	28	46	93	133	112	61	1,460	47	31
10	16	23	21	39	29	61	1,250	93	52	770	40	29
11	15	28	20	36	30	71	1,010	82	50	430	33	23
12	16	31	21	21	30	66	590	88	66	372	36	22
13	18	26	17		38	76	322	322	59	238	37	21
14	16	23	32		36	133	218	850	300	322	172	22
15	19	22	61	20	34	372	164	850	126	190	52	14
16	38	24	49		38	322	133	590	528	140	37	26
17	35	22	57		41	278	140	300	930	119	40	32
18	20	29	289	545	168	164	99	199	430	99	30	23
19	22	35	133	2,680	76	133	88	625	347	82	26	22
20	21	42	89	1,420	51	208	88	490	372	82	33	31
21	20	39	32	665	47	180	112	278	190	71	31	19
22	23	35		335	41	372	172	190	112	66	30	14
23	57	24	30	700	32	322	133	164	93	66	40	20
24	42	29		382	36	228	105	133	430	56	37	23
25	18	21		1,120	312	140	105	133	520	57	27	24
26	21	20	35	1,220	2,680	625	172	300	258	46	41	20
27	23	19	34	735	2,440	400	119	172	148	47	19	20
28	24	26	35	312	1,050	278	99	199	625	44	20	17
29	23	20	32	186	-------	180	88	278	322	46	26	15
30	21	28	31	98	-------	164	76	218	199	56	33	33
31	20	-------	32	89	-------	164	-------	148	-------	44	23	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	57	15	23.3	0.165	0.19
November	101	19	30.7	.218	.24
December	289	15	42.5	.301	.35
January	2,680	----------	354	2.51	2.89
February	2,680	29	273	1.94	2.02
March	625	61	226	1.60	1.84
April	1,250	76	210	1.49	1.66
May	350	71	258	1.83	2.11
June	930	50	228	1.62	1.81
July	2,130	44	372	2.64	3.04
August	172	19	39.4	.279	.32
September	36	14	23.3	.165	.18
The year	2,680	14	173	1.23	16.65

MAD RIVER NEAR URBANA, OHIO

LOCATION.—Chain gage on west line of sec. 35, T. 5 E., R. 11 N., at highway bridge half a mile above Pennsylvania Railroad crossing and 2½ miles west of Urbana.

DRAINAGE AREA.—157 square miles.

RECORDS AVAILABLE.—September, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 7,740 second-feet Feb. 26 (gage height, 10.4 feet); minimum, 63 second-feet Oct. 2, 7 (gage height, 1.18 feet). 1925–1929: Maximum discharge, that of Feb. 26, 1927; minimum, 50 second-feet Oct. 21, 1925 (gage height, 0.90 foot).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	75	81	81	163	354	149	149	108	192	335	84
2	63	190	88	78	158	192	108	250	99	165	192	108
3	66	190	98	72	135	335	89	220	108	139	176	99
4	72	163	95	66	117	354	94	192	99	144	139	84
5	69	139	88	88	126	282	108	187	84	165	149	75
6	66	88	84	84	113	220	91	181	89	354	134	79
7	63	81	95	81	109	192	94	176	149	615	129	94
8	66	78	88	78	113	187	113	181	160	282	134	139
9	69	81	98	78	113	176	129	187	165	250	139	144
10	72	84	95	95	106	155	165	176	149	250	134	123
11	78	98	91	81	102	134	316	165	149	235	123	108
12	72	113	88	78	98	144	299	299	139	165	118	94
13	74	121	88	72	113	149	266	1,100	139	615	123	89
14	69	126	95	78	102	316	250	1,220	165	282	118	89
15	72	113	102	69	113	155	181	525	160	187	250	99
16	158	113	84	66	106	149	170	335	181	176	160	89
17	190	98	88	620	98	144	165	192	139	160	123	84
18	149	98	95	300	95	139	144	266	134	170	108	79
19	135	95	98	1,760	88	149	139	570	165	149	113	70
20	126	81	106	1,550	81	155	144	354	155	139	134	75
21	104	88	95	250	78	165	316	299	134	139	113	79
22	81	98	91	316	95	181	192	250	123	134	108	89
23	88	113	81	190	113	176	187	220	129	129	99	123
24	84	117	84	190	117	178	176	220	134	123	89	118
25	81	81	88	3,500	126	165	155	393	139	134	134	108
26	78	95	78	250	7,740	393	155	192	134	123	108	134
27	95	98	81	250	1,100	393	149	187	129	118	113	192
28	95	95	84	190	985	354	139	111	187	113	123	206
29	98	88	88	163	------	187	134	108	139	123	113	176
30	95	78	84	163	------	181	129	99	123	134	108	160
31	88	------	81	158	------	155	------	99	------	139	99	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	190	63	89.8	0.572	0.66
November	190	75	106	.675	.75
December	106	78	89.7	.571	.66
January	3,500	66	358	2.28	2.63
February	7,740	78	450	2.87	2.99
March	393	134	213	1.36	1.57
April	316	89	165	1.05	1.17
May	1,220	99	294	1.87	2.16
June	187	84	137	.873	.97
July	615	113	201	1.28	1.48
August	335	89	137	.873	1.01
September	206	70	110	.701	.78
The year	7,740	63	194	1.24	16.83

MAD RIVER NEAR SPRINGFIELD, OHIO

LOCATION.—Water-stage recorder in NW. ¼ sec. 16, R. 9, T. 4, 150 feet below Rock Run and 3 miles west of Springfield. Zero of gage is 811.47 feet (revised) above mean sea level.

DRAINAGE AREA.—485 square miles.

RECORDS AVAILABLE.—March, 1924, to September, 1929. January, 1904, to March, 1906, and February, 1914, to February, 1924, at site 1¾ miles upstream.

EXTREMES.—Maximum discharge during year, 18,000 second-feet Feb. 26 (gage height, 14.9 feet); minimum, 137 second-feet Dec. 10.

1914–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 110 second-feet July 20 and 25, 1925 (gage height, 1.44 feet).

Maximum stage known, 16.9 feet, present gage datum, Mar. 25, 1913 (discharge at railway bridge, between gage sites, estimated by Miami Conservancy District, 55,400 second-feet).

REMARKS.—Records excellent except those for low water, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	189	216	173	314	472	1,400	595	442	472	1,230	343	264
2	194	445	168	308	442	1,150	533	849	472	720	337	258
3	194	657	168	275	406	958	472	1,230	472	533	745	258
4	205	383	179	280	400	1,140	472	818	442	472	595	253
5	226	320	184	292	412	1,150	472	2,230	442	533	412	264
6	200	280	163	348	406	850	412	1,070	442	626	395	280
7	189	270	158	253	400	720	400	818	472	2,650	383	297
8	194	258	163	237	383	595	395	657	564	2,900	354	326
9	189	253	153	264	383	564	601	595	472	1,480	343	383
10	184	258	163	326	354	502	3,480	564	442	2,070	343	337
11	189	248	163	297	348	502	1,310	533	412	1,040	343	292
12	184	231	168	242	343	472	920	581	442	752	331	280
13	189	237	179	237	348	502	752	995	442	1,060	308	303
14	189	237	421	194	348	758	657	2,320	874	1,520	1,090	354
15	200	237	472	242	343	818	595	5,160	502	752	502	297
16	264	237	366	231	366	720	595	1,230	2,940	595	400	280
17	320	231	1,060	655	429	657	533	920	1,130	533	360	331
18	308	231	1,200	3,970	533	564	502	859	626	1,270	337	297
19	237	297	595	7,720	400	533	472	2,700	2,170	1,590	331	286
20	226	343	472	1,680	366	564	472	1,230	1,470	626	308	280
21	221	248	348	850	354	564	761	920	595	533	303	270
22	237	242	343	1,030	343	752	850	785	502	472	297	264
23	253	237	314	2,880	326	720	626	688	533	442	308	258
24	226	216	286	998	366	626	533	657	472	412	855	253
25	216	200	275	6,330	1,010	533	533	657	564	406	383	258
26	221	184	275	2,090	14,500	1,050	533	595	442	442	314	308
27	226	179	286	958	7,520	890	472	595	400	472	303	303
28	221	179	286	720	1,860	657	472	595	908	412	292	308
29	216	173	286	626	------	564	472	595	595	395	286	303
30	216	179	264	564	------	564	442	533	532	371	280	320
31	221	------	264	502	------	533	------	502	------	354	275	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	320	184	218	0.449	0.52
November	657	173	264	.544	.61
December	1,200	153	322	.664	.77
January	7,720	194	1,160	2.39	2.76
February	14,500	326	1,220	2.52	2.62
March	1,400	472	728	1.50	1.73
April	3,480	395	678	1.40	1.56
May	5,160	442	1,060	2.19	2.52
June	2,940	400	708	1.46	1.63
July	2,900	354	892	1.84	2.12
August	1,090	275	402	.829	.96
September	383	253	292	.602	.67
The year	14,500	153	659	1.36	18.47

MAD RIVER NEAR DAYTON, OHIO

LOCATION.—Water-stage recorder in SW. ¼ sec. 7, R. 8, T. 2, just below Huffman Dam, 6 miles northeast of Dayton. Zero of gage is 700.00 feet above mean sea level.

DRAINAGE AREA.—632 square miles.

RECORDS AVAILABLE.—October, 1924, to September, 1929. November, 1914, to September, 1921, at site 1 mile upstream.

EXTREMES.—Maximum discharge during year, about 15,900 second-feet Feb. 26 (gage height, 87.9 feet); minimum, 181 second-feet Nov. 29 (gage height, 79.54 feet).

1924–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 123 second-feet Sept. 6–12, 1925 (gage height, 79.4 feet).

Maximum stage known, 14.0 feet (former gage datum) Mar. 25, 1913 (discharge, estimated by Miami Conservancy District, 75,700 second-feet).

REMARKS.—Records good except those for extremely high water and those for low water, which are fair. Flow at high stages automatically regulated at Huffman retarding basin. Gage-height record and part of discharge measurements furnished by Miami Conservancy District.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	194	230	197	317	616	1,910	663	477	609	2,180	402	344
2	194	478	190	323	570	1,460	639	1,240	579	1,200	391	333
3	197	912	187	312	512	1,180	573	1,600	555	805	448	328
4	200	499	197	306	492	1,310	555	1,120	531	651	778	328
5	219	388	208	306	460	1,650	549	2,760	525	669	495	328
6	230	340	208	364	406	1,210	501	1,460	495	798	435	328
7	223	312	208	317	406	950	477	1,020	518	3,150	413	333
8	219	294	211	358	412	779	453	847	615	3,750	386	370
9	215	278	211	317	406	720	980	766	542	2,850	380	471
10	215	278	219	346	388	627	4,280	708	495	2,440	359	441
11	215	274	227	358	388	603	2,030	663	471	1,710	359	380
12	215	270	227	406	400	573	1,290	682	477	1,140	359	354
13	215	265	227	412	400	573	988	1,250	471	1,070	338	375
14	215	265	416	370	400	850	840	2,700	876	2,010	986	418
15	219	256	640	352	394	1,060	779	7,840	585	1,100	708	386
16	219	265	460	340	394	890	727	2,340	2,150	805	501	349
17	238	252	1,080	1,230	540	786	675	1,290	2,060	708	441	375
18	278	260	2,040	4,790	720	675	615	1,230	868	1,120	424	359
19	306	289	904	9,880	492	627	567	3,480	1,140	2,420	408	338
20	278	370	632	4,130	400	651	555	1,820	2,420	912	386	328
21	238	300	448	1,330	394	657	843	1,250	854	714	380	323
22	238	274	412	1,700	370	854	1,100	988	657	639	375	318
23	260	247	370	3,760	364	890	746	847	821	591	370	309
24	274	234	334	1,850	370	760	615	779	694	555	1,290	299
25	242	219	312	7,200	947	669	585	746	694	525	652	294
26	234	204	306	4,110	12,700	1,120	585	708	609	507	447	309
27	234	194	306	1,460	14,900	1,100	507	688	542	543	424	328
28	234	190	312	1,040	7,550	792	501	740	1,040	531	396	328
29	234	187	306	848	-------	669	495	701	861	477	386	323
30	234	190	300	760	-------	657	453	645	677	441	375	338
31	230	------	289	648	-------	633	------	615	------	424	364	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	306	194	231	0.366	0.42
November	912	187	300	.475	.53
December	2,040	187	406	.642	.74
January	9,880	306	1,620	2.56	2.95
February	14,900	364	1,670	2.64	2.75
March	1,910	573	900	1.42	1.64
April	4,280	453	839	1.33	1.48
May	7,840	477	1,420	2.25	2.59
June	2,420	471	814	1.29	1.44
July	3,750	424	1,210	1.91	2.20
August	1,290	338	479	.758	.87
September	471	294	348	.551	.61
The year	14,900	187	849	1.34	18.22

BUCK CREEK AT SPRINGFIELD, OHIO

LOCATION.—Water-stage recorder at Plum Street Bridge, Springfield, Clark County. Gage moved to present site Oct. 1, 1928; datum 1 foot lower than at previous site.

DRAINAGE AREA.—137 square miles.

RECORDS AVAILABLE.—July, 1914, to September, 1921, and October, 1928, to September, 1929, at present site; May, 1924, to September, 1928, near Fountain Avenue Bridge, half a mile above present site.

EXTREMES.—Maximum discharge during year, 13,000 second-feet Feb. 26 (gage height, 14.3 feet); minimum, 38 second-feet Oct. 6 (gage height, 1.68 feet).
1914–1921, 1924–1929: Maximum discharge, that of Feb. 26, 1929; minimum, 13 second-feet July 10, 1925 (gage height, 2.30 feet).

REMARKS.—Records good. Discharge estimated Feb. 2, 3, 11–16.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	63	72	103	96	305	144	110	121	324	104	90
2	57	177	72	96	96	242	130	185	117	175	103	89
3	58	274	72	83	96	203	120	317	116	135	245	89
4	62	126	72	77	96	398	120	193	112	122	152	87
5	65	96	72	89	89	340	115	574	109	170	120	88
6	57	83	66	96	89	228	112	242	108	197	117	86
7	56	77	66	77	89	180	108	180	130	957	114	92
8	59	77	66	77	89	149	110	148	128	619	111	104
9	56	77	65	77	89	140	198	135	111	273	109	130
10	57	77	65	89	83	130	1,160	125	110	840	109	109
11	57	72	65	89		112	319	120	106	410	110	97
12	56	72	64	66		112	218	131	109	204	102	94
13	57	72	72	72	80	130	168	184	131	536	93	108
14	58	66	164	59		213	149	906	330	703	268	116
15	59	65	164	66		191	147	1,920	135	223	118	98
16	72	66	117	66	110	191	139	386	1,560	167	107	97
17	97	74	456	308	197	149	128	251	361	149	103	101
18	127	72	400	1,530	175	130	120	245	178	687	101	92
19	77	112	164	2,400	103	121	116	1,040	873	646	100	90
20	72	117	126	346	96	130	122	368	578	203	96	87
21	66	89	103	209	89	130	221	251	189	164	95	85
22	66	89	96	257	83	159	207	206	151	147	99	84
23	77	77	89	890	83	159	142	181	152	139	103	82
24	72	77	89	274	96	140	126	176	128	133	325	81
25	65	77	83	1,710	447	130	133	173	235	129	117	87
26	64	72	83	333	7,670	191	132	157	133	137	102	99
27	65	66	89	197	855	169	118	158	119	131	101	92
28	65	66	89	154	418	140	126	159	358	126	100	100
29	65	66	83	126	------	121	124	143	156	124	99	108
30	63	72	77	117	------	130	112	129	157	118	96	109
31	62	------	77	110	------	121	------	124	------	107	93	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	127	56	66.0	0.482	0.56
November	274	63	88.9	.649	.72
December	456	64	111	.810	.93
January	2,400	59	330	2.41	2.78
February	7,670	----------	419	3.06	3.19
March	398	112	174	1.27	1.46
April	1,160	108	179	1.31	1.46
May	1,920	110	310	2.26	2.61
June	1,560	106	243	1.77	1.97
July	957	107	297	2.17	2.50
August	325	93	123	.898	1.04
September	130	81	95.7	.699	.78
The year	7,670	56	202	1.47	20.00

TWIN CREEK NEAR GERMANTOWN, OHIO

LOCATION.—Water-stage recorder in NW. ¼ sec. 11, T. 3 N., R. 4 E., one-fourth mile below Germantown Dam and 1½ miles northwest of Germantown. Zero of gage is 700.00 feet above mean sea level.

DRAINAGE AREA.—275 square miles.

RECORDS AVAILABLE.—December, 1926, to September, 1929. April, 1914, to December, 1923, at site 1 mile downstream.

EXTREMES.—Maximum discharge during year, 7,640 second-feet Feb. 27 (gage height, 27.9 feet); minimum, 11 second-feet Oct. 15 (gage height, 18.37 feet).

1914–1923, 1926–1929: Maximum discharge, 8,480 second-feet Apr. 21, 1920; minimum, 7 second-feet Sept. 26, 1928 (gage height, 18.28 feet).

Maximum stage known, 18.3 feet (original gage datum) Mar. 25, 1913 (discharge, estimated by Miami Conservancy District, 66,000 second-feet).

REMARKS.—Records good. Flow at high stages automatically regulated at Germantown retarding basin. Gage-height record and part of discharge measurements furnished by Miami Conservancy District. Discharge estimated Oct. 7–11 because of missing record, and Dec. 22–25, Jan. 2–8, 12–16, and Feb. 2–5 because of ice.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	16	26	51	290	1,010	200	108	187	4,000	39	15
2	12	40	25	40	110	472	174	340	162	2,810	36	14
3	12	231	24			363	140	532	140	1,310	53	14
4	12	150	24			534	130	326	130	910	52	14
5	16	94	25			740	150	1,460	112	1,250	39	14
6	17	54	23	40	86	472	130	845	103	1,710	37	14
7	17	36	24		74	325	112	495	103	1,710	38	15
8	16	30	22		72	200	99	344	247	1,950	36	16
9	15	28	24	54	67	174	422	256	150	1,870	35	27
10	14	29	20	160	71	130	4,290	213	112	1,270	32	35
11	13	30	20	130	112	121	2,170	174	98	910	41	30
12	12	27	18	70	105	121	1,270	174	108	1,280	42	26
13	12	26	21		91	121	970	363	130	1,150	33	23
14	12	25	56		64	757	740	2,360	290	1,210	151	23
15	11	23	68		57	740	640	3,450	273	795	106	23
16	14	23	59	70	54	518	542	1,090	681	590	58	20
17	35	24	396	438	121	363	449	640	1,900	472	42	19
18	32	32	690	2,470	363	256	384	595	795	404	36	19
19	25	34	344	5,540	166	213	325	3,400	478	363	32	19
20	21	42	187	2,790	108	213	290	1,350	1,530	290	29	18
21	18	39	103	1,270	110	256	355	795	690	256	26	18
22	16	36	70	1,090	91	618	615	542	363	213	23	17
23	17	34		2,180	141	690	495	426	308	140	22	17
24	18	31		1,310	118	426	384	363	325	91	21	16
25	23	28		4,680	448	290	325	308	308	70	20	16
26	21	26	54	2,370	6,250	324	325	273	273	63	19	16
27	19	26	56	1,090	7,210	472	290	310	162	59	18	16
28	18	25	54	740	5,570	308	256	533	308	56	16	16
29	17	26	53	518	------	213	241	461	449	50	16	16
30	17	26	49	426	------	200	360	308	358	45	15	16
31	16	------	43	344	------	200	------	241	------	43	15	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	35	11	17.1	0.062	0.07
November	231	16	43.0	.156	.17
December	690	18	89.9	.327	.38
January	5,540	------	912	3.32	3.83
February	7,210	54	796	2.89	3.01
March	1,010	121	382	1.39	1.60
April	4,290	99	576	2.09	2.33
May	3,450	108	744	2.71	3.12
June	1,900	98	376	1.37	1.53
July	4,000	43	882	3.21	3.70
August	151	15	38.0	.138	.16
September	35	14	18.7	.068	.08
The year	7,210	11	405	1.47	19.98

WEST FORK OF WHITEWATER RIVER NEAR ALPINE, IND.

LOCATION.—Water-stage recorder in sec. 23, T. 13 N., R. 12 E., 1¼ miles north of Alpine, Fayette County. Zero of gage is 750.25 feet above mean sea level.
DRAINAGE AREA.—528 square miles.
RECORDS AVAILABLE.—October, 1928, to September, 1929.
EXTREMES.—Maximum discharge during year, 20,900 second-feet Feb. 26 (gage height, 14.80 feet); minimum, 62 second-feet Sept. 29 (gage height, 1.85 feet).
REMARKS.—Records good except those for high stages, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110	115	132	188	400	1,300	830	475	545	14,600	261	148
2	110	440	129	168		1,100	785	510	510	6,800	261	138
3	102	420	127	168	360	980	700	620	510	2,020	554	138
4	110	341	127	168		930	700	620	440	1,300	305	138
5	189	262	138	168	325	980	740	1,740	422	1,780	275	123
6	140	245	129	226		880	660	1,040	388	1,300	261	148
7	116	178	129	171		785	580	785	388	1,230	247	179
8	92	174	124	206	320	700	580	660	510	3,670	234	234
9	95	170	121	186	300	660	1,370	620	440	3,100	220	220
10	90	166	117	228		620	7,030	580	388	1,460	234	158
11	86	170	127	210		580	2,350	545	388	1,100	247	148
12	80	175	121	149		580	1,460	510	545	1,300	216	138
13	90	159	129	143	250	620	1,100	934	580	930	191	153
14	100	155	184	146		1,310	930	3,160	980	1,620	255	148
15	110	149	216	143		1,300	830	2,910	740	980	247	139
16	162	155	220	143		1,160	785	1,460	1,970	740	234	135
17	217	155	430	434	486	980	740	1,040	1,040	660	198	179
18	196	162	875	1,880	785	830	660	1,120	700	580	191	148
19	126	184	560	8,470	420	740	620	3,710	580	545	216	139
20	143	192	420	1,920		785	620	1,820	580	475	191	131
21	189	187	340	1,070	300	830	830	1,160	510	440	179	133
22	234	181	300	1,220		1,380	830	930	422	440	179	129
23	280	171	280	2,040		1,160	700	785	733	405	179	129
24	172	159	262	1,960	465	930	660	700	2,510	388	179	135
25	149	143	242	9,630	2,920	785	660	700	2,850	354	168	132
26	137	138	245	1,810	18,800	1,820	700	740	1,100	370	158	132
27	134	129	216	1,020	3,990	1,380	620	700	700	354	158	130
28	130	133	212	830	1,720	930	580	880	2,010	321	158	123
29	126	135	209		-------	785	545	980	1,040	305	148	124
30	123	132	202	500	-------	785	510	740	1,590	290	158	126
31	110	-------	181		-------	785	-------	620	-------	275	148	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	280	80	137	0.259	0.30
November	440	115	189	.358	.40
December	875	117	234	.443	.51
January	9,630	143	1,180	2.23	2.57
February	18,800	-------	1,270	2.41	2.51
March	1,820	580	948	1.80	2.08
April	7,030	510	1,020	1.93	2.15
May	3,160	475	1,090	2.06	2.38
June	2,850	388	870	1.65	1.84
July	14,600	275	1,620	3.07	3.54
August	554	148	221	.419	.48
September	234	123	146	.277	.31
The year	18,800	80	742	1.41	19.07

WHITEWATER RIVER AT BROOKVILLE, IND.

LOCATION.—Water-stage recorder in sec. 32, T. 9 N., R. 2 W., three fourths mile south of Brookville and three-eighths mile below junction of East and West Forks. Zero of gage is 595.22 feet above mean sea level.

DRAINAGE AREA.—1,180 square miles.

RECORDS AVAILABLE.—June, 1915, to May, 1920; October, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 69,200 second-feet Feb. 26, 1929 (gage height, 25.56 feet); minimum, 184 second-feet Sept. 30 (gage height, 1.56 feet).

1915–1920, 1928–29: Maximum discharge, that of Feb. 26, 1929; minimum gage height, 0.77 foot Sept. 18, 1919 (discharge not determined).

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

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	172	196	305	490	965	3,160	1,820	1,070		24,300	455	253
2	175	1,680	282	490	922	2,680	1,820	2,240		19,400	430	253
3	185	1,820	282	405	840	2,240	1,520	2,240	1,300	3,960	2,420	253
4	190	800	282	379	762	2,900	1,520	2,020		2,920	950	253
5		552	282	405	762	2,920	1,820	6,040		5,130	625	253
6		432	260	655	725	2,240	1,520	3,040		3,400	505	253
7		353	260	432	690	1,820	1,330	2,240		3,680	480	253
8	200	329	240	353	690	1,420	1,150	1,820	970	4,910	455	302
9		305	240	432	655	1,330	2,440	1,520		6,280	405	405
10		305	220	659	585	1,150	18,100	1,330		3,400	405	360
11		329	220	585	520	1,070	6,910	1,240	760	2,540	405	302
12		305	240	379	520	1,030	3,680	1,560	1,150	3,860	382	269
13	210	182	220	329	520	1,070	2,800	2,940	1,420	2,460	360	253
14		260	405	220	520	2,580	2,240	11,400	3,220	2,800	405	269
15		260	552	240	490	3,160	2,130	7,150	2,020	2,240	430	253
16	220	260	460	379	520	3,040	1,920	3,400	7,020	1,620	382	253
17	405	260	2,460	2,060	1,090	2,570	1,620	2,570	3,740	1,420	360	253
18	305	329	2,750	13,100	2,020	2,020	1,420	4,880	2,130	1,200	320	269
19	260	379	1,620	28,200	1,050	1,620	1,330	11,200	1,820	1,150	360	253
20	220	432	1,140	5,940	690	1,820	1,240	4,400	1,920	950	340	253
21	182	432	800	2,800	762	1,900	2,380	2,920	1,330	870	302	238
22	220	379	690	4,100	655	3,540	2,800	2,350	1,070	795	302	238
23	329	353	655	7,110	552	3,400	1,920	1,920	1,820	760	285	223
24	353	329	585	4,600	945	2,570	1,520	1,820	4,380	690	302	223
25	260	329	520	25,000	4,140	2,020	1,520	1,720	4,630	658	285	223
26	240	305	490	5,320	51,600	2,730	1,820	1,620	2,460	625	269	210
27	220	282	490	2,800	15,200	3,540	1,420	1,990	1,620	625	269	223
28	215	282	490	2,130	4,240	2,350	1,240	2,570	4,410	565	269	223
29	220	282	460	1,620	-------	1,820	1,150		2,680	535	253	210
30	202	305	432	1,420	-------	1,920	1,030	2,500	2,680	505	253	223
31	199	-------	405	1,230	-------	1,920	-------		-------	480	253	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	405	172	226	0.192	0.22
November	1,820	196	438	.371	.41
December	2,750	220	604	.512	.59
January	28,200	220	3,690	3.13	3.61
February	51,600	490	3,340	2.83	2.95
March	3,540	1,030	2,240	1.90	2.19
April	18,100	1,030	2,500	2.12	2.36
May	11,400	1,070	3,180	2.69	3.10
June	7,020	760	2,120	1.80	2.01
July	24,300	480	3,380	2.86	3.30
August	2,420	253	449	.381	.44
September	405	210	257	.218	.24
The year	51,600	172	1,860	1.58	21.42

KENTUCKY RIVER BASIN

NORTH FORK OF KENTUCKY RIVER AT JACKSON, KY.

LOCATION.—Chain gage at highway bridge at Jackson, 3 miles below mouth of Quicksand Creek.
DRAINAGE AREA.—1,100 square miles.
RECORDS AVAILABLE.—June, 1928, to September, 1929.
EXTREMES.—Maximum discharge during year, 55,900 second-feet Mar. 24, 1929 (gage height, 38.9 feet); minimum, 10 second-feet Sept. 8, 1929 (gage height, 1.08 feet).
1928–29: Maximum and minimum discharges, those of 1929.
REMARKS.—Records good except those for extremely high water, which are poor.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	106	209	3,140	836	965	6,000	3,140	1,720	430	878	530	40
2	96	186	2,280	1,400	878	3,780	2,820	4,770	369	3,000	463	35
3	94	174	1,660	1,660	796	3,280	2,100	17,800	340	2,700	326	36
4	232	174	1,100	1,200	717	2,940	1,780	5,900	340	1,500	220	24
5	209	174	965	1,200	678	8,100	1,450	3,070	326	796	174	18
6	198	152	921	1,200	1,610	14,700	1,300	2,460	326	756	152	13
7	174	152	836	1,060	1,940	7,980	1,060	8,960	271	836	119	12
8	174	163	602	1,060	2,280	4,340	965	8,100	271	878	100	10
9	198	152	530	1,100	1,880	3,000	965	4,340	398	602	88	369
10	174	152	463	4,420	1,560	2,050	921	2,760	1,100	463	79	566
11	141	152	430	4,020	1,200	1,560	836	1,940	678	496	271	463
12	130	141	398	2,340	878	1,350	430	1,560	463	639	198	369
13	113	163	398	1,780	796	1,150	717	1,250	530	2,050	198	245
14	113	174	430	1,560	796	1,780	678	1,150	639	1,780	152	209
15	98	186	463	1,200	756	2,280	717	1,150	602	1,940	104	232
16	83	174	463	1,010	717	1,940	756	1,060	398	2,400	81	258
17	75	163	463	921	678	1,660	756	1,060	326	1,010	71	312
18	796	271	756	1,100	602	1,250	678	1,100	258	678	48	284
19	1,010	6,200	1,100	5,310	602	1,100	639	2,280	220	1,100	38	232
20	836	20,300	921	4,770	602	1,010	602	2,760	245	1,830	30	198
21	530	3,860	796	3,210	602	921	566	7,980	369	796	25	198
22	430	2,280	717	2,220	639	1,010	639	4,500	232	496	21	141
23	530	1,300	602	2,000	639	37,500	756	2,700	186	369	57	98
24	639	921	530	2,160	1,150	48,800	796	1,940	152	326	69	81
25	496	796	496	6,730	3,210	10,400	796	1,500	398	271	152	90
26	398	756	363	9,740	21,200	3,630	756	1,200	1,830	232	163	174
27	340	566	463	3,700	34,200	4,020	717	921	1,010	326	186	232
28	312	496	530	2,820	10,400	3,210	1,010	836	678	271	130	220
29	284	530	530	2,160	-------	2,820	7,860	678	496	271	113	198
30	258	1,720	566	1,610	-------	4,100	3,560	602	530	312	104	186
31	232	-------	566	1,250	-------	4,340	-------	530	-------	271	90	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,010	75	306	0.278	0.32
November	20,300	141	1,430	1.30	1.45
December	3,140	398	793	.721	.83
January	9,740	836	2,480	2.25	2.59
February	34,200	602	3,320	3.02	3.14
March	48,800	921	6,190	5.63	6.49
April	7,860	430	1,360	1.24	1.38
May	17,800	530	3,180	2.89	3.33
June	1,830	152	480	.436	.49
July	3,000	232	977	.888	1.02
August	530	21	147	.134	.15
September	566	10	181	.165	.18
The year	48,800	10	1,730	1.57	21.37

NORTH FORK OF KENTUCKY RIVER NEAR AIRDALE, KY.

LOCATION.—Staff gage 1¼ miles above Airdale, Lee County, and 200 feet above Log Shoal Creek. Zero of gage is 634.83 feet above mean sea level.
DRAINAGE AREA.—1,290 square miles.
RECORDS AVAILABLE.—July to September, 1929.
EXTREMES.—Maximum discharge during period, 605 second-feet July 19 (gage height, 4.07 feet); minimum, 33 second-feet Aug. 23 and Sept. 4, 6 (gage height, 2.55 feet).
REMARKS.—Records fair. Stage affected at times by regulation at Lock 14 on Kentucky River.

Daily and monthly discharge, in second-feet, 1929

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		302	75	11		250	360	21	582	41	180
2		302	69	12		250	570	22	605	39	154
3		340	46	13		232	400	23	420	33	128
4		278	33	14		212	250	24	340		103
5		215	37	15		170	240	25	285		146
6		190	33	16		128	250	26	250		190
7		170	41	17		96	400	27	285	125	215
8		145	47	18		79	320	28	285		285
9		148	53	19	605	62	250	29	285		268
10		250	145	20	560	46	215	30	285		250
								31	285		

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
July 19–31	605	250	390	0.302	0.015
August		33	161	.125	.14
September	570	33	192	.149	.17

KENTUCKY RIVER AT LOCK 14, AT HEIDELBERG, KY.

LOCATION.—Staff gage at Lock 14 at Heidelberg, Lee County, one-fourth mile above mouth of Sturgeon Creek.

DRAINAGE AREA.—2,610 square miles.

RECORDS AVAILABLE.—October, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 67,300 second-feet Mar. 24 (gage height, 33.6 feet); minimum, 75 second-feet Aug. 22 (gage height, 8.6 feet). 1925–1929: Maximum discharge, that of Mar. 24, 1929; minimum, about 14 second-feet Oct. 1, 1925 (gage height, 7.7 feet).

REMARKS.—Records good except those for ordinary low water and extremely high water, which are fair, and those for extremely low water, which are poor. Slight regulation due to operation of lock negligible.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	175	445	10,900	1,240	2,540	19,400	11,600	7,940	1,100	1,310	590	125
2	150	400	9,590	3,020	1,640	13,600	9,260	17,900	745	6,980	490	95
3	175	400	6,040	5,120	1,310	9,590	6,980	32,200	690	11,200	445	95
4	175	400	3,680	4,240	1,310	8,930	5,420	23,300	590	5,120	445	95
5	315	400	2,660	3,280	1,640	22,300	4,530	11,600	590	2,540	315	95
6	315	315	2,010	3,410	1,640	33,500	3,680	9,260	590	1,920	278	95
7	400	315	1,560	4,240	3,960	25,200	3,020	22,600	590	1,640	208	95
8	400	315	1,310	5,120	6,350	16,500	2,430	25,200	490	1,390	175	110
9	490	315	1,160	2,900	5,730	6,980	2,430	14,700	490	1,390	175	95
10	490	315	1,030	10,600	5,120	6,980	2,430	8,930	855	1,030	175	150
11	400	315	910	16,100	3,680	4,820	2,430	6,040	1,390	1,160	175	490
12	315	315	800	6,980	2,780	3,410	2,320	4,240	910	1,560	400	490
13	315	315	800	6,980	2,210	3,020	2,210	3,150	1,030	3,020	358	490
14	315	315	800	3,960	2,110	5,120	1,920	3,410	970	3,280	315	400
15	240	315	800	2,780	2,010	11,200	1,730	3,020	1,030	2,430	208	358
16	240	315	910	2,780	1,560	8,600	1,730	3,410	1,100	3,960	175	358
17	175	400	910	2,540	1,560	6,040	2,210	3,410	745	2,780	125	745
18	490	400	1,470	2,430	1,390	4,530	2,110	3,280	540	1,310	125	540
19	5,730	9,260	3,280	15,800	1,310	3,410	1,820	5,120	445	1,100	125	400
20	2,660	33,500	3,280	20,500	1,820	3,020	1,640	7,940	745	1,920	95	315
21	1,730	21,500	2,540	12,300	2,010	2,660	1,470	10,200	490	1,820	95	278
22	970	7,620	2,010	7,620	1,820	2,540	1,470	14,000	590	1,030	75	240
23	1,160	3,960	1,470	6,040	2,010	43,600	1,730	8,270	490	745	95	175
24	3,410	2,540	1,240	6,350	2,660	66,900	1,820	5,120	315	590	110	125
25	2,010	1,730	1,100	17,900	7,620	42,600	1,640	3,150	400	490	125	208
26	1,240	1,390	1,030	27,000	31,900	15,800	1,640	2,320	3,410	400	150	315
27	910	1,160	1,030	17,200	50,200	11,600	1,640	1,920	3,410	490	175	315
28	800	970	1,030	9,590	34,700	10,200	2,320	1,560	1,820	490	175	445
29	690	855	1,030	6,350	------	8,270	17,200	1,390	1,160	445	175	445
30	590	6,040	1,030	4,240	------	13,600	15,100	1,160	855	590	125	400
31	540	------	1,030	3,150	------	16,500	------	1,240	------	590	125	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,730	150	904	0.346	0.40
November	33,500	315	3,230	1.24	1.38
December	10,900	800	2,210	.847	.98
January	27,000	1,240	7,800	2.99	3.45
February	50,200	1,310	6,590	2.52	2.62
March	66,900	2,540	14,500	5.56	6.41
April	17,200	1,470	3,930	1.51	1.68
May	32,200	1,160	8,610	3.30	3.80
June	3,410	315	952	.365	.41
July	11,200	400	2,090	.801	.92
August	590	75	220	.084	.10
September	745	95	286	.110	.12
The year	66,900	75	4,280	1.64	22.27

KENTUCKY RIVER AT LOCK 10, NEAR WINCHESTER, KY.

LOCATION.—Staff gage at Lock 10 in Madison County, 8 miles southwest of Winchester, Clark County. Zero of gage is 558.6 feet and crest of dam 567.6 feet above mean sea level.

DRAINAGE AREA.—3,990 square miles.

RECORDS AVAILABLE.—October, 1909, to September, 1929.

EXTREMES.—Maximum discharge during year, 64,200 second-feet Mar. 26 (gage height, 31.6 feet); minimum, 65 second-feet Aug. 20, 21 (gage height, 9.30 feet).

1909–1929: Maximum discharge, about 68,500 second-feet Mar. 29, 1913 (gage height, 35.1 feet); minimum mean daily discharge, 10 second-feet Sept. 28, 1913 (subject to error on account of repair work on lock on that date).

REMARKS.—Records good except those for extremely low and extremely high water, which are fair. Slight regulation due to operation of locks negligible.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	328	580	20,300	1,670	3,910	52,400	17,400	12,300	1,990	3,270	785	87
2	294	530	16,900	2,320	3,060	31,100	13,100	16,400	1,600	4,810	630	166
3	294	530	10,100	4,350	2,670	13,900	9,420	39,000	1,230	10,800	630	185
4	215	530	6,280	5,040	2,320	11,200	7,440	43,000	960	8,740	630	152
5	277	530	4,810	4,350	2,490	19,300	6,020	24,800	840	4,810	580	140
6	408	520	3,910	4,350	2,670	43,800	5,280	23,600	1,370	3,480	444	98
7	520	454	3,060	4,810	4,580	48,200	4,350	32,500	680	2,670	399	530
8	363	277	2,320	4,810	6,280	41,100	3,910	36,800	630	2,150	345	345
9	408	320	2,150	4,350	8,400	19,800	3,480	29,200	785	1,990	328	840
10	550	511	1,910	9,420	7,760	10,800	3,910	14,300	785	1,990	328	511
11	435	570	1,600	18,800	6,020	7,440	3,910	9,080	1,300	1,600	252	245
12	345	473	1,440	16,000	4,810	5,770	3,910	6,280	1,520	2,320	492	630
13	363	530	1,300	10,100	3,910	4,810	3,480	5,040	1,520	3,480	610	1,300
14	260	492	1,300	6,280	3,480	7,760	3,060	4,580	1,600	4,350	590	1,230
15	260	520	1,300	4,810	3,270	12,300	2,860	4,580	1,300	3,910	435	1,020
16	345	492	1,300	4,130	2,860	13,100	2,670	4,350	1,370	2,860	345	680
17	277	520	1,440	3,910	2,670	9,420	2,860	4,350	1,160	3,910	268	730
18	363	610	2,860	4,350	2,490	6,840	3,060	5,280	2,490	2,490	208	1,090
19	2,150	3,690	3,690	19,300	2,320	5,520	2,860	15,600	680	1,990	146	785
20	4,350	26,000	4,350	26,000	4,130	4,810	2,490	13,500	785	1,600	87	610
21	2,670	38,300	3,910	20,800	3,910	4,130	2,150	10,800	900	2,320	65	530
22	3,480	19,300	3,060	12,000	3,690	3,910	2,670	13,900	730	1,830	98	372
23	1,600	7,140	2,670	8,740	3,480	32,500	2,860	12,000	840	1,230	152	185
24	2,490	4,810	2,320	9,420	3,910	51,400	2,670	7,440	840	960	172	245
25	3,060	3,060	1,990	23,000	9,420	62,200	2,670	5,280	900	680	260	328
26	1,990	2,670	1,670	31,100	39,800	63,000	2,670	3,910	1,520	492	260	381
27	1,520	1,990	1,520	31,800	48,200	50,600	2,670	3,060	3,690	473	222	492
28	1,160	1,750	1,600	16,400	53,700	16,400	2,860	2,670	3,060	511	260	540
29	960	1,520	1,670	9,760	-------	11,200	8,080	2,320	2,150	630	215	680
30	730	14,700	1,670	6,840	-------	16,400	18,300	1,990	1,520	730	260	630
31	730	-------	1,670	5,040	-------	20,300	-------	1,750	-------	730	178	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,350	215	1,070	0.268	0.31
November	38,300	277	4,460	1.12	1.25
December	20,300	1,300	3,740	.937	1.08
January	31,800	1,670	10,800	2.71	3.12
February	53,700	2,320	8,790	2.20	2.29
March	63,000	3,910	22,600	5.66	6.53
April	18,300	2,150	5,100	1.28	1.43
May	43,000	1,750	13,200	3.31	3.82
June	3,690	630	1,360	.341	.38
July	10,800	473	2,700	.677	.78
August	785	65	344	.086	.10
September	1,300	87	525	.132	.15
The year	63,000	65	6,240	1.56	21.24

KENTUCKY RIVER AT LOCK 6, AT WARWICK, KY.

LOCATION.—Staff gage at Lock 6, 1 mile northwest of Warwick, Woodford County
DRAINAGE AREA.—5,140 square miles.
RECORDS AVAILABLE.—October, 1925, to September, 1929.
EXTREMES.—Maximum discharge during year, 68,500 second-feet Mar. 26 (gage height, 29.8 feet); minimum discharge, 30 second-feet Aug. 21–25, Sept. 1; minimum gage height, 8.6 feet Aug. 20.
1925–1929: Maximum discharge, 75,400 second-feet Dec. 26, 1926 (gage height, 33.7 feet); minimum, 30 second-feet on several dates.
REMARKS.—Records good except those for extremely high and low stages which are fair. Flow regulated slightly by operation of hydroelectric plants on Dix River and at Lock 7 on Kentucky River. Gage-height record furnished by Corps of Engineers, United States Army.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	766	1,450	23,700	2,140	5,970	58,400	21,500	17,100	2,900	4,020	820	30
2	592	960	19,800	2,520	4,950	53,600	18,200	13,800	2,770	5,620	1,900	190
3	1,020	960	17,100	2,640	5,280	24,200	12,800	30,800	2,640	8,280	1,340	55
4	820	1,230	13,800	4,950	3,170	15,400	9,550	36,900	5,280	11,800	730	295
5	960	1,170	11,800	5,970	3,170	18,200	7,870	36,000	2,260	7,080	1,020	196
6	880	1,020	5,620	4,950	3,450	26,000	6,700	28,100	1,450	6,700	1,230	350
7	480	1,020	3,880	5,280	5,280	49,400	5,970	37,800	1,230	4,020	140	350
8	1,170	1,170	4,020	5,620	6,700	49,200	4,950	36,900	1,450	3,040	920	820
9	880	1,020	3,450	5,620	9,120	33,300	4,630	36,000	1,900	3,730	350	350
10	960	820	2,900	6,700	10,400	15,400	4,630	23,700	1,670	3,040	140	1,230
11	2,520	820	2,900	14,900	8,280	10,400	5,620	12,800	1,560	3,040	140	1,020
12	1,780	880	2,260	20,400	6,330	8,280	5,280	8,280	2,640	2,520	640	1,020
13	1,170	1,450	1,780	13,300	5,280	7,080	4,950	7,470	3,040	4,630	295	1,560
14	1,170	1,450	1,670	9,550	4,320	6,700	4,630	6,700	3,880	4,630	350	2,520
15	1,230	880	1,900	5,970	4,020	11,800	4,020	6,330	2,900	4,630	560	2,390
16	640	1,560	2,140	5,280	4,020	14,900	4,020	8,970	2,520	4,020	350	1,670
17	694	1,300	1,900	4,630	3,730	12,300	3,880	5,280	1,780	3,730	350	1,450
18	1,230	766	4,020	4,020	3,450	9,120	3,730	5,970	1,900	3,730	190	1,450
19	1,560	2,260	4,950	23,200	2,900	6,700	3,730	16,000	3,450	3,170	295	1,450
20	3,590	16,600	4,950	25,400	4,950	6,700	3,450	21,500	1,560	2,640	162	1,340
21	3,730	32,800	5,620	27,000	5,280	5,620	3,170	16,000	1,560	2,390	30	1,020
22	3,450	32,800	4,630	18,800	4,950	5,280	3,170	13,800	1,450	2,390	30	730
23	3,450	12,800	3,880	11,800	4,630	18,200	3,880	16,000	1,450	2,520	30	730
24	3,040	6,700	8,040	10,900	4,630	47,000	3,730	11,800	1,450	2,140	30	480
25	3,590	4,020	2,900	26,400	7,470	58,700	3,730	7,470	2,390	1,450	30	640
26	3,590	3,450	2,520	31,300	41,800	67,300	3,730	5,620	2,390	820	480	350
27	3,170	3,040	2,390	33,300	46,400	67,100	3,730	4,630	3,310	560	640	820
28	2,140	2,520	2,390	26,400	52,500	46,700	3,730	4,020	4,630	350	190	640
29	1,670	2,390	2,390	14,900	-------	18,200	4,630	3,730	3,450	480	295	480
30	2,020	12,800	2,390	8,280	-------	17,100	14,400	3,450	2,640	920	820	1,450
31	1,450	-------	2,260	7,470	-------	21,500	-------	3,040	-------	1,020	98	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	3,730	480	1,790	May	37,800	3,040	15,600
November	32,800	766	5,070	June	5,280	1,230	2,450
December	23,700	1,670	5,450	July	11,800	350	3,520
January	33,300	2,140	12,600	August	1,900	30	471
February	52,500	2,900	9,730	September	2,520	30	902
March	67,300	5,280	26,400				
April	21,500	3,170	6,270	The year	67,300	30	7,540

KENTUCKY RIVER AT LOCK 4, AT FRANKFORT, KY.

LOCATION.—Staff gage at Lock 4, at Frankfort, Franklin County, one-fourth mile below Benson Creek.

DRAINAGE AREA.—5,480 square miles.

RECORDS AVAILABLE.—March, 1905, to July, 1906; October, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 68,200 second-feet Mar. 27 (gage height, 30.4 feet); minimum, 75 second-feet Aug. 22, 23, and Sept. 1 (gage height, 6.0 feet).

1905–6, 1925–1929: Maximum discharge, 72,700 second-feet Dec. 26, 1926; minimum discharge, that of Aug. 22, 23 and Sept. 1, 1929; minimum stage, 4.6 feet Jan. 29, 1927.

REMARKS.—Records good except those for extreme low and extreme high water, which are fair. Flow slightly regulated by operation of hydroelectric plants on Dix River and at Lock 7 on Kentucky River. Effect of operation of lock and hemp mill at Frankfort is usually negligible. Gage-height record furnished by Corps of Engineers, United States Army.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	550	1,070	23,500	3,220	6,500	63,200	22,400	17,900	3,050	5,340	1,000	75
2	740	1,460	21,300	2,880	5,720	63,400	18,500	16,100	2,880	6,500	1,200	122
3	840	1,320	16,700	2,880	4,440	44,700	13,800	25,500	2,710	6,920	1,500	235
4	740	1,200	10,600	4,980	3,740	15,500	11,100	39,800	2,380	10,600	1,000	380
5	1,070	955	8,220	5,720	3,220	17,900	8,680	44,000	2,060	9,140	750	300
6	840	1,200	6,920	5,720	3,220	34,900	7,340	27,000	1,900	9,620	750	460
7	740	840	5,720	5,340	4,980	56,000	6,500	43,400	2,060	4,980	500	550
8	740	1,200	4,440	5,720	6,500	59,700	5,720	42,600	1,750	3,740	300	840
9	460	740	3,740	5,720	9,140	50,900	5,340	41,600	1,900	4,440	750	2,060
10	955	1,200	3,220	7,340	10,600	17,900	6,100	28,500	1,600	3,740	300	1,320
11	1,200	1,320	3,050	13,200	9,140	12,100	5,720	14,300	1,600	3,220	170	1,320
12	1,320	1,200	2,710	19,100	7,340	9,620	6,100	9,620	2,540	3,220	300	840
13	840	1,320	2,210	15,500	6,500	7,780	5,720	13,200	2,880	4,980	640	1,320
14	840	1,320	3,220	10,100	5,720	7,780	4,980	12,600	3,560	5,340	380	2,540
15	840	1,320	2,540	7,340	4,980	11,100	4,260	8,680	3,560	5,340	640	2,210
16	740	1,320	2,540	5,720	4,440	14,300	4,080	7,340	2,540	4,620	500	1,600
17	2,060	1,320	5,720	5,340	4,440	13,800	4,260	5,720	1,900	3,910	380	2,060
18	2,060	1,320	5,720	5,720	3,740	10,100	4,260	5,720	1,900	4,440	350	1,600
19	1,200	2,380	5,720	21,800	3,560	8,220	4,260	15,500	2,210	3,560	250	1,600
20	2,880	12,100	5,720	23,500	4,980	7,340	4,080	23,500	1,900	2,710	550	1,460
21	4,980	29,500	5,720	26,500	5,720	6,500	3,740	17,300	1,750	2,060	122	1,200
22	3,390	36,500	5,720	20,200	5,720	5,720	3,220	13,800	1,900	2,210	75	840
23	4,980	16,700	4,620	13,200	4,980	12,100	3,910	16,100	1,460	2,210	75	640
24	3,220	7,340	3,390	12,100	4,980	47,400	4,260	12,600	2,210	2,060	235	640
25	3,390	4,980	3,050	26,000	10,100	60,700	3,740	9,140	2,210	1,200	170	640
26	3,910	3,560	2,880	35,700	44,000	66,100	3,910	6,920	2,540	1,200	170	640
27	3,050	3,050	2,380	30,400	58,400	68,200	3,910	6,100	3,050	740	300	740
28	2,060	2,710	2,540	16,700	60,200	63,400	3,910	5,340	4,440	550	235	955
29	1,750	2,710	2,210	11,100	-------	21,300	4,260	4,440	4,260	122	550	740
30	2,060	13,200	2,210	10,100	-------	16,700	11,600	4,080	3,050	740	300	1,320
31	1,070	-------	2,060	8,220	-------	20,200	-------	3,390	-------	1,200	380	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	4,980	460	1,790	May	44,000	3,390	17,500
November	36,500	740	5,210	June	4,440	1,460	2,460
December	23,500	2,060	5,820	July	10,600	122	3,890
January	35,700	2,880	12,200	August	1,500	75	478
February	60,200	3,220	11,000	September	2,540	75	1,040
March	68,200	5,720	29,500				
April	22,400	3,220	6,660	The year	68,200	75	8,140

KENTUCKY RIVER AT LOCK 2, AT LOCKPORT, KY.

LOCATION.—Staff gage at Lock 2, at Lockport, Henry County, just below mouth of Sixmile Creek.

DRAINAGE AREA.—6,310 square miles.

RECORDS AVAILABLE.—October, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 73,000 second-feet Mar. 28 (gage height, 34.3 feet); minimum, 110 second-feet Aug. 23 and Sept. 2 (gage height, 7.2 feet).

1925–1929: Maximum discharge, 84,400 second-feet Jan. 23, 1927 (gage height, 41.7 feet); minimum, that of Aug. 23 and Sept. 2, 1929.

REMARKS.—Records good except those for very high and very low stages, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	800	1,560	25,800	7,000	8,150	67,500	23,500	18,200	3,640	7,760	980	284
2	926	1,560	23,000	3,640	6,270	71,200	20,100	21,100	3,370	9,340	1,460	110
3	1,170	1,560	18,700	3,370	5,210	66,300	15,400	23,900	2,620	8,150	1,260	200
4	1,170	1,560	14,000	4,870	4,230	47,800	12,300	42,200	2,170	11,800	854	200
5	1,170	1,360	11,400	6,270	4,230	45,500	9,750	50,800	1,960	15,900	854	320
6	980	1,360	8,940	7,000	4,230	53,300	8,540	44,100	1,560	17,300	800	320
7	980	1,170	7,000	5,560	5,210	62,600	7,000	49,300	1,170	7,760	800	470
8	800	1,560	5,560	6,270	7,000	67,800	5,910	53,000	1,360	4,870	470	926
9	630	1,560	4,870	6,630	8,940	66,800	9,340	52,400	1,170	4,230	800	2,280
10	681	1,560	3,640	8,150	11,400	53,000	8,940	47,300	1,170	5,210	582	1,960
11	1,170	1,560	3,640	13,600	10,600	36,800	7,760	26,300	1,360	4,540	470	1,460
12	1,360	1,360	3,110	19,600	8,540	25,400	7,000	11,800	2,390	4,540	470	1,080
13	980	1,560	2,860	17,300	7,000	11,000	6,630	25,400	3,930	4,870	926	1,170
14	980	1,560	4,870	11,800	5,910	9,750	5,910	34,200	3,640	7,000	518	2,500
15	980	1,560	3,640	8,540	5,210	11,800	4,870	25,800	4,230	6,270	800	2,500
16	926	1,560	3,110	6,630	5,210	15,900	4,870	12,300	3,110	5,210	800	2,060
17	1,960	1,560	13,100	6,630	4,540	15,900	4,870	8,940	2,390	4,230	470	2,740
18	3,370	1,760	10,200	9,750	4,230	12,300	4,540	8,940	2,170	4,870	425	1,860
19	1,760	2,860	8,940	23,000	4,230	9,750	4,540	19,200	2,390	4,230	320	1,760
20	1,560	10,200	7,760	30,600	5,210	8,150	4,540	30,600	2,390	3,240	582	1,760
21	4,870	26,300	7,760	29,400	6,630	7,380	4,230	22,000	2,170	2,620	470	1,460
22	3,370	38,400	6,630	24,900	6,270	6,630	3,930	16,300	2,170	2,500	173	1,080
23	7,380	20,600	5,560	17,300	5,560	8,150	4,230	17,300	1,960	2,390	137	854
24	3,930	8,940	4,230	20,600	5,210	39,300	4,540	15,900	1,960	2,390	320	926
25	3,370	5,910	3,930	39,900	10,600	58,100	4,230	10,600	2,170	1,760	320	800
26	4,230	4,230	3,110	49,300	42,500	66,500	4,230	8,940	2,620	1,660	320	800
27	3,640	3,370	2,860	48,000	61,900	71,500	3,930	7,000	2,620	980	320	926
28	2,620	3,110	3,110	44,700	64,100	71,700	3,930	6,630	4,540	749	470	980
29	2,170	2,860	2,860	25,800	-------	50,500	3,930	5,210	4,230	630	749	1,080
30	2,170	14,500	2,860	13,600	-------	16,300	9,340	4,540	3,370	854	470	980
31	2,170	-------	2,620	10,200	-------	20,600	-------	3,930	-------	1,360	630	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	7,380	630	2,070	May	53,000	3,930	23,400
November	38,400	1,170	5,620	June	4,540	1,170	2,530
December	25,800	2,620	7,410	July	17,300	630	5,140
January	49,300	3,370	17,100	August	1,460	137	614
February	64,100	4,230	11,700	September	2,740	110	1,190
March	71,700	6,630	37,900				
April	23,500	3,930	7,430	The year	71,700	110	10,200

TROUBLESOME CREEK NEAR CLAYHOLE, KY.

LOCATION.—Staff gage 1½ miles southeast of Clayhole, Breathitt County, and 50 feet above Millers Branch.
DRAINAGE AREA.—191 square miles.
RECORDS AVAILABLE.—August and September, 1929.
EXTREMES.—Maximum discharge during period, 62 second-feet Sept. 19 (gage height, 2.18 feet); minimum, 2.2 second-feet Sept. 7 (gage height, 1.36 feet).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1929

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		4.6	11		24	21	2.6	13
2		2.8	12		17	22	3.0	11
3		2.6	13		13	23	15	8.5
4		2.6	14		12	24	12	7.0
5		2.6	15		26	25	19	9.5
6		2.4	16		33	26	17	39
7		2.2	17		37	27	13	32
8		35	18		62	28	17	24
9		42	19		33	29	17	17
10		33	20	2.8	19	30	12	13
						31	7.5	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
August 20–31	19	2.6	11.5	0.060	0.03
September	62	2.2	19.3	.101	.11

QUICKSAND CREEK NEAR JACKSON, KY.

LOCATION.—Staff gage 5 miles northeast of Jackson, Breathitt County, and 6½ miles above mouth of creek.
DRAINAGE AREA.—152 square miles.
RECORDS AVAILABLE.—August and September, 1929.
EXTREMES.—Maximum discharge during period, 91 second-feet Sept. 17 (gage height, 2.47 feet); minimum, 1.3 second-feet Sept. 7 (gage height, 1.20 feet).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1929

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		6.4	11		23	21		15
2		4.9	12		15	22	2.1	9.8
3		3.7	13		19	23	4.0	8.2
4		2.9	14		18	24	55	7.0
5		2.4	15		25	25	38	9.8
6		1.8	16		23	26	21	19
7		1.3	17		68	27	14	25
8		12	18		37	28	14	19
9		28	19		25	29	20	14
10		34	20		17	30	14	11
						31	8.6	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
August 22–31	55	2.1	19.1	0.126	0.05
September	68	1.3	16.8	.111	.12

SOUTH FORK OF KENTUCKY RIVER AT BOONEVILLE, KY.

LOCATION.—Tape gage on highway bridge at Booneville, Owsley County, 600 feet above Meadow Creek. Zero of gage is 645.47 feet above mean sea level.

DRAINAGE AREA.—697 square miles.

RECORDS AVAILABLE.—March, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 57,200 second-feet Mar. 23 (gage height, 36.8 feet); minimum, 6 second-feet Sept. 6, 7.

1925–1928: Maximum discharge, that of Mar. 23, 1929; minimum, 3.6 second-feet Sept. 26, 27, 1925 (gage height, 0.86 foot).

REMARKS.—Records good, except those for extremely high and low water, which are fair. Discharge estimated June 28 to July 4, July 18–21; interpolated July 12, Aug. 17, 18. Flow in Meadow Creek included in records.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	119	4,040	330	515	3,440	2,680	1,420	237	1,000	97	10
2	24	111	1,980	1,350	394	2,260	1,980	5,730	187	2,500	64	9
3	26	104	1,160	1,160	310	1,910	1,420	13,400	175	1,000	58	9
4	40	96	804	897	350	1,700	1,160	3,360	159	600	101	8
5	77	96	594	712	330	7,220	960	1,770	164	490	90	8
6	69	93	490	1,220	466	13,100	897	1,770	148	567	116	6
7	59	90	350	1,420	1,560	5,560	712	12,100	116	540	73	6
8	144	86	310	960	1,560	2,760	594	5,640	126	418	57	12
9	111	82	272	773	1,280	1,840	652	2,540	159	291	44	12
10	89	85	254	5,400	1,020	1,350	594	1,630	372	330	35	12
11	70	90	205	4,200	773	897	652	1,160	237	254	30	10
12	54	92	190	2,120	594	742	712	835	167	414	41	25
13	47	90	181	1,350	490	652	623	712	372	897	59	59
14	46	93	181	773	490	1,770	540	804	237	804	94	64
15	41	92	187	682	441	4,440	515	960	178	466	47	92
16	36	90	193	594	394	2,470	515	1,220	167	418	49	133
17	31	90	181	567	372	1,490	441	1,160	123	310	35	237
18	406	111	394	712	310	1,020	490	897	99			108
19	2,300	6,590	897	7,890	291	835	418	1,700	170		21	73
20	510	13,800	897	5,000	466	742	372	1,840	138	170	18	57
21	254	2,260	652	2,190	594	623	330	2,120	148		15	40
22	193	1,160	490	1,490	652	742	394	1,700	119	103	13	30
23	625	682	394	1,280	712	36,700	441	1,090	103	105	13	23
24	1,480	490	330	1,770	897	37,900	394	804	80	80	16	21
25	510	350	291	8,650	2,400	6,500	350	594	394	69	19	44
26	327	291	237	8,650	20,400	2,400	394	490	1,700	54	21	114
27	228	237	221	3,580	23,500	2,760	394	418	682	101	18	99
28	193	237	221	1,770	6,590	2,120	2,050	350	466	96	14	146
29	162	254	272	1,160		1,560	7,130	310	300	112	13	112
30	144	1,840	254	835		5,730	2,400	237	600	181	12	88
31	127		237	623		4,520		221		138	9	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,300	23	272	0.390	0.45
November	13,800	82	997	1.43	1.60
December	4,040	181	560	.803	.93
January	8,650	330	2,260	3.24	3.74
February	23,500	291	2,430	3.49	3.63
March	37,900	623	5,090	7.30	8.42
April	7,130	330	1,040	1.49	1.66
May	13,400	221	2,230	3.20	.37
June	1,700	80	277	.397	.44
July	2,500	54	420	.603	.70
August	116	9	42.8	.614	.71
September	237	6	55.6	.798	.89
The year	37,900	6	1,300	1.87	23.54

EAGLE CREEK AT GLENCOE, KY.

LOCATION.—Chain gage at highway bridge half a mile south of Glencoe, Gallatin County.

DRAINAGE AREA.—445 square miles.

RECORDS AVAILABLE.—April, 1915, to September, 1920; May, 19^8, to September, 1929.

EXTREMES.—Maximum discharge during year, 17,400 second-feet May 15 (gage height, 17.3 feet); minimum, 0.8 second-foot Aug. 17, 18 (gage height, 0.14 foot).

1915–1920, 1928–29: Maximum gage height, 20.5 feet Apr. 20, 1920 (discharge not determined); minimum discharge, that of Aug. 17, 18, 1929. Flood of 1913 reached a stage of approximately 23 feet.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	24	3,780	2,270	172	545	410	129	120	206	5.1	1.4
2	1.2	23	660	1,030	129	440	440	2,000	140	2,550	4.3	1.2
3	1.2	120	218	320	150	335	320	2,360	110	580	5.3	1.6
4	1.5	73	161	206	110	410	218	2,750	102	280	4.5	1.6
5	3.0	102	2,950	161	120	1,270	184	1,540	79	510	3.0	1.5
6	2.9	66	660	1,030	120	2,550	161	1,150	67	700	2.8	1.6
7	2.6	50	280	395	129	1,400	150	1,270	59	335	2.6	1.8
8	2.3	48	172	280	150	620	129	580	73	280	2.3	2.8
9	2.0	47	129	230	184	320	1,030	380	73	1,330	2.3	3.2
10	2.2	43	110	440	195	218	8,360	267	73	1,680	1.8	3.0
11	2.2	43	93	620	195	195	1,540	230	67	475	1.5	2.8
12	1.9	46	86	365	218	184	660	660	580	1,150	1.3	8.0
13	1.8	73	79	293	129	172	395	4,960	335	740	1.3	79
14	1.8	53	930	218	150	206	306	12,000	830	1,470	1.2	79
15	1.5	46	1,030	172	140	700	267	12,600	580	380	1.1	79
16	1.7	41	335	172	140	620	293	1,540	254	206	1.0	73
17	5.1	34	2,450	395	206	293	230	410	280	172	.8	365
18	2,450	93	5,980	1,030	230	218	184	306	700	161	.8	545
19	280	580	880	6,760	242	195	172	6,760	230	161	1.1	306
20	150	1,030	335	1,210	195	184	150	2,000	120	150	1.1	102
21	93	380	242	410	172	172	230	545	67	102	1.1	67
22	63	184	172	1,760	172	172	2,000	380	59	29	.9	46
23	1,270	93	140	2,650	161	161	280	293	58	26	1.1	35
24	785	86	129	2,360	140	150	206	242	36	24	2.2	25
25	230	73	110	8,500	1,210	140	206	218	39	21	1.9	24
26	120	73	93	1,760	8,500	230	242	195	29	21	1.6	18
27	86	51	102	395	2,950	230	150	184	26	22	3.5	15
28	54	43	102	306	740	184	150	740	320	15	2.6	12
29	46	36	93	195	-------	410	184	830	440	7.8	1.9	10
30	33	3,350	93	195	-------	2,180	172	293	206	6.5	1.6	9.5
31	28	-------	93	184	-------	660	-------	172	-------	5.5	1.5	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,450	1.1	185	0.416	0.48
November	3,350	23	233	.524	.58
December	5,980	79	732	1.64	1.89
January	8,500	161	1,170	2.63	3.03
February	8,500	110	620	1.39	1.45
March	2,550	140	509	1.14	1.31
April	8,360	129	647	1.45	1.62
May	12,600	129	1,870	4.20	4.84
June	830	26	205	.461	.51
July	2,550	5.5	445	1.00	1.15
August	5.3	.8	2.10	.005	.01
September	545	1.2	64.0	.144	.16
The year	12,600	.8	559	1.26	17.03

GREEN RIVER BASIN

GREEN RIVER AT MUNFORDVILLE, KY.

LOCATION.—Chain gage at highway bridge in Munfordville, Hart County.
DRAINAGE AREA.—1,790 square miles.
RECORDS AVAILABLE.—February, 1915, to December, 1922; October, 1927, to September, 1929.
EXTREMES.—Maximum discharge during year, 26,800 second-feet Mar. 1 (gage height, 31.5 feet); minimum, 67 second-feet Aug. 10 (gage height, 1.9 feet). 1915–1922, 1927–1929: Maximum discharge, 42,400 second-feet Dec. 18, 1915 (gage height, 44.5 feet); minimum, 39 second-feet Sept. 2, 1921 (gage height, 2.2 feet).
REMARKS.—Records fair except those for lowest stages, which are poor. Discharge estimated Oct. 1–6 and Aug. 19–23. Gage heights furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110	1,210	10,300	260	1,910	26,800	12,100	5,880	1,210	750	1,700	128
2	110	1,140	13,300	260	1,490	15,600	7,640	4,960	1,070	750	1,770	128
3	110	1,140	9,630	220	1,350	5,330	5,330	11,900	1,070	1,210	1,490	128
4	120	875	4,430	220	1,210	4,130	1,910	15,600	875	940	405	128
5	155	630	2,930	185	1,210	4,800	1,770	11,300	690	570	305	105
6	220	460	1,910	1,350	1,490	5,320	1,560	5,100	630	460	220	105
7	260	355	1,490	2,260	1,700	5,840	1,490	15,700	570	355	185	105
8	355	305	1,210	1,910	1,560	6,360	1,420	20,700	460	305	155	355
9	260	260	1,000	1,490	1,490	5,720	1,560	19,400	405	260	105	515
10	305	260	875	1,490	2,780	5,180	3,600	10,900	260	220	67	305
11	355	185	875	3,080	3,530	4,730	5,100	6,120	260	185	260	185
12	355	155	1,140	5,330	2,930	3,680	5,960	3,680	220	260	515	155
13	185	128	1,490	4,430	2,330	5,180	4,660	2,480	1,000	220	305	220
14	128	128	1,210	2,630	1,630	5,330	4,060	1,840	2,190	460	355	750
15	105	105	875	1,770	1,490	4,500	2,700	2,560	1,000	355	460	1,070
16	85	105	875	1,490	1,350	4,130	2,050	3,530	875	305	355	1,280
17	1,350	85	1,420	1,350	1,140	3,230	1,630	4,880	690	260	260	1,140
18	2,400	185	3,160	1,490	1,000	2,630	1,280	5,100	515	220	128	515
19	3,160	260	3,900	5,960	940	2,190	1,140	8,060	460	305	175	305
20	1,840	3,000	3,380	10,400	1,070	1,280	1,000	12,800	355	260	225	185
21	1,560	4,880	2,050	13,000	3,460	1,700	940	16,300	355	220	215	155
22	1,350	4,280	1,420	13,900	3,600	1,490	750	10,900	305	185	205	155
23	2,120	2,190	1,210	6,610	3,830	2,400	690	5,100	515	185	195	128
24	2,780	1,490	1,070	3,680	3,380	10,800	1,490	2,050	630	155	185	128
25	2,050	1,140	940	6,200	2,260	22,700	1,770	1,630	750	105	260	128
26	1,490	940	875	12,400	13,400	24,800	1,910	2,120	1,980	85	185	185
27	1,350	875	690	13,500	24,100	16,300	1,350	1,840	2,400	305	185	185
28	1,910	875	515	10,300	26,200	5,880	2,480	3,160	1,630	690	155	155
29	1,630	1,070	355	5,800	-------	4,280	4,580	2,050	1,000	405	155	155
30	1,490	3,830	305	3,830	-------	5,880	9,340	1,490	940	260	155	220
31	1,350	-------	185	2,260	-------	8,660	-------	1,280	-------	220	155	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,160	85	1,000	0.559	0.64
November	4,880	85	1,080	.603	.67
December	13,300	185	2,420	1.35	1.56
January	13,900	185	4,490	2.51	2.89
February	26,200	940	4,070	2.28	2.37
March	26,800	1,280	7,320	4.09	4.72
April	12,100	690	3,110	1.74	1.94
May	20,700	1,280	7,110	3.97	4.58
June	2,400	220	844	.471	.53
July	1,210	85	370	.207	.24
August	1,770	67	371	.207	.24
September	1,280	105	313	.175	.20
The year	26,800	67	2,710	1.51	20.58

GREEN RIVER AT LOCK 6, AT BROWNSVILLE, KY.

LOCATION.—Staff gage above Lock 6, 1 mile northeast of Brownsville, Edmonson County. Zero of gage is 413.16 feet above mean sea level.
DRAINAGE AREA.—2,740 square miles.
RECORDS AVAILABLE.—October, 1924, to September, 1929.
EXTREMES.—Maximum discharge during year, 36,300 second-feet Feb. 28 (gage height, 23.1 feet); minimum, 220 second-feet Sept. 4–7 (gage height, 8.5 feet). 1924–1929: Maximum discharge, 62,800 second-feet Jan. 24, 1927 (gage height, 34.3 feet); minimum, 205 second-feet on several dates.
REMARKS.—Records good for medium and low stages, fair for high stages. Gage-height record furnished by Corps of Engineers, U. S. Army.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	370	965	8,690	2,430	4,790	35,300	13,200	9,230	2,790	1,160	725	290
2	370	900	12,000	2,430	3,940	30,600	11,400	10,900	2,430	1,840	560	290
3	370	900	11,400	2,430	3,540	13,900	7,910	14,200	2,180	1,760	560	290
4	370	900	7,140	2,090	3,160	7,910	6,160	16,200	2,090	1,520	560	220
5	370	780	4,570	2,000	2,790	8,430	4,790	16,500	1,840	1,230	670	220
6	510	780	3,940	2,790	2,790	13,500	4,360	15,500	1,760	1,030	670	220
7	670	780	3,160	3,740	3,160	16,800	3,940	20,000	1,680	900	560	220
8	560	725	2,790	3,940	3,940	15,800	3,350	25,700	1,450	900	560	290
9	510	670	2,430	3,740	4,570	12,600	3,350	25,200	1,450	780	460	290
10	460	670	2,180	4,790	5,230	8,690	5,230	18,600	1,450	900	460	370
11	460	670	1,920	6,160	5,690	6,640	8,170	9,500	1,450	900	900	615
12	415	670	1,760	6,890	5,230	5,230	8,690	6,160	1,450	840	1,030	460
13	370	615	1,760	6,160	4,360	4,790	7,650	4,790	2,180	780	725	460
14	370	560	1,760	4,570	3,940	6,160	6,160	5,460	6,160	900	670	460
15	370	560	1,920	3,740	3,350	7,650	4,790	7,140	3,940	1,100	615	900
16	370	560	2,180	3,160	3,160	7,650	4,360	7,650	2,430	1,520	725	1,520
17	965	560	3,540	2,970	2,790	6,640	3,540	7,650	1,760	965	615	1,760
18	2,790	560	7,140	2,790	2,610	5,230	3,160	6,400	1,450	900	560	1,600
19	5,010	670	8,690	8,170	2,610	4,360	2,790	6,640	1,380	840	460	1,160
20	2,790	1,030	6,890	13,900	3,740	3,940	2,430	12,600	1,300	670	415	725
21	1,840	3,740	5,690	14,500	4,790	3,540	2,430	15,800	1,300	670	370	560
22	1,450	5,230	4,360	12,300	5,460	3,540	2,260	14,200	1,300	560	370	510
23	2,790	3,350	3,540	7,650	4,790	4,790	2,260	8,690	1,160	560	370	460
24	5,230	1,920	2,790	6,400	4,360	14,200	2,610	5,690	1,300	560	290	370
25	3,540	1,600	2,430	12,000	5,690	21,700	2,610	4,360	1,230	560	290	370
26	2,260	1,380	2,430	17,900	22,600	24,900	2,430	5,920	2,180	560	290	370
27	1,680	1,100	2,090	19,300	31,900	23,200	2,260	6,160	2,260	560	290	370
28	1,380	1,030	1,920	17,600	36,100	10,900	4,360	6,400	1,680	725	290	370
29	1,230	1,030	1,840	11,400	------	6,640	8,170	4,790	1,380	900	290	290
30	1,100	4,790	1,760	7,140	------	7,140	10,900	3,740	1,300	965	290	290
31	1,030	------	1,600	5,690	------	10,900	------	3,160	------	780	290	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,230	370	1,350	0.493	0.57
November	5,230	560	1,320	.482	.54
December	12,000	1,600	4,070	1.49	1.72
January	19,300	2,000	7,120	2.60	3.00
February	36,100	2,610	6,820	2.49	2.59
March	35,300	3,540	11,400	4.16	4.80
April	13,200	2,260	5,190	1.89	2.11
May	25,700	3,160	10,500	3.83	4.42
June	6,160	1,160	1,920	.701	.78
July	1,840	560	930	.339	.39
August	1,030	290	514	.188	.22
September	1,760	220	544	.199	.22
The year	36,100	220	4,310	1.57	21.36

GREEN RIVER AT LOCK 1, AT SPOTTSVILLE, KY.

LOCATION.—Staff gage above dam at Lock 1, at Spottsville, Henderson County. Zero of gage is 342.58 feet above mean sea level.

DRAINAGE AREA.—9,000 square miles.

RECORDS AVAILABLE.—January, 1928, to September, 1929.

EXTREMES.—Maximum stage during year, 31.1 feet Mar. 10, 11 (discharge not determined); minimum discharge, 400 second-feet on several dates (gage height, 6.9 feet).

1928–29: Maximum and minimum discharges, those of 1929.

REMARKS.—Records fair except those for low water, which are poor. Backwater from Ohio River occurred during periods when daily discharge is not given.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	June	July	Aug.	Sept.
1	475	2,470	12,600	4,800	-------	-------	2,770	1,500	550
2	720	2,470	16,700	7,900	-------	-------	2,770	1,900	400
3	720	2,470	20,900	9,200	-------	-------	3,240	2,770	400
4	720	2,320	23,900	9,200	-------	6,300	3,750	2,770	400
5	720	2,180	-------	8,300	-------	5,150	3,240	2,320	400
6	720	2,180	-------	9,200	-------	4,450	2,920	1,760	400
7	720	2,180	-------	9,200	7,900	3,920	2,770	1,630	635
8	815	2,180	-------	9,200	9,200	3,750	2,180	1,370	2,320
9	1,020	1,900	-------	9,650	10,100	3,750	1,900	1,370	4,100
10	1,130	1,900	-------	12,100	11,100	3,750	1,900	1,500	3,580
11	1,130	1,760	-------	15,500	12,100	3,750	1,900	1,900	2,180
12	815	1,630	4,100	16,700	12,100	3,400	1,900	2,320	2,320
13	720	1,630	3,920	17,400	11,100	5,150	2,040	2,620	2,770
14	720	1,630	3,080	15,500	10,100	12,100	2,620	2,770	2,770
15	720	1,630	3,080	12,100	8,750	18,100	2,770	2,920	2,770
16	1,130	1,630	4,100	8,300	7,100	16,700	2,770	2,320	1,900
17	1,630	1,500	9,200	8,300	7,100	11,100	2,770	1,900	2,620
18	3,240	1,370	22,300	13,100	7,500	8,300	2,770	1,500	2,470
19	8,300	1,370	27,900	23,900	7,500	5,900	2,770	1,370	2,620
20	11,100	1,630	-------	-------	8,750	4,800	2,320	1,250	2,320
21	11,100	2,040	-------	-------	10,100	4,620	1,900	1,130	2,040
22	7,500	4,100	-------	-------	12,100	4,280	1,630	1,130	1,630
23	5,150	6,700	-------	-------	13,100	3,580	1,630	1,130	1,630
24	5,900	5,900	-------	-------	14,300	2,920	1,370	1,130	1,370
25	8,750	5,150	10,600	-------	17,400	3,240	1,370	910	1,250
26	9,200	3,580	8,750	-------	43,800	3,920	1,370	910	910
27	8,300	2,920	6,300	-------	-------	3,920	1,130	910	910
28	7,500	2,180	4,450	-------	-------	4,450	1,130	815	910
29	3,580	1,900	4,450	-------	-------	4,450	1,130	720	910
30	2,920	7,500	4,100	-------	-------	3,080	1,130	720	815
31	2,770	-------	4,100	-------	-------	-------	1,370	635	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	11,100	475	3,550	0.394	0.45
November	7,500	1,370	2,670	.297	.33
January 1–19	-------	-------	11,600	1.28	.91
February 7–26	-------	-------	12,100	1.34	1.00
June 4–30	-------	2,920	5,880	.653	.66
July	3,750	1,130	2,170	.241	.28
August	2,920	635	1,610	.179	.21
September	4,100	400	1,680	.187	.21

BARREN RIVER AT LOCK 1, AT GREENCASTLE, KY.

LOCATION.—Staff gage above dam at Lock 1, half a mile southwest of Greencastle, Warren County. Zero of gage is 404.79 feet above mean sea level.

DRAINAGE AREA.—1,950 square miles.

RECORDS AVAILABLE.—October, 1924, to September, 1929.

EXTREMES.—Maximum discharge during year, 24,800 second-feet Feb. 28 and Mar. 1 (gage height, 18.0 feet); minimum, 183 second-feet on several dates (gage height, 7.4 feet).

1924–1929: Maximum discharge, 37,500 second-feet Dec. 24, 1926 (gage height, 27.0 feet); minimum, 69 second-feet Sept. 12–14, 1925 (gage height, 7.23 feet).

REMARKS.—Records good except those for highest and lowest stages, which are fair. Gage-height record furnisned by Corps of Engineers, U. S. Army.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	830	3,820	1,160	3,180	24,400	13,500	15,800	1,680	830	1,090	183
2	273	768	6,030	1,230	2,580	18,500	9,170	7,200	1,520	957	2,110	183
3	273	705	4,040	1,230	2,300	7,830	6,030	7,200	1,370	1,160	1,230	183
4	273	705	2,780	1,090	2,020	5,760	4,740	9,870	1,300	1,760	830	183
5	370	705	2,300	1,090	1,940	6,030	4,040	6,030	1,230	1,230	645	183
6	370	705	1,940	1,160	2,020	17,200	3,600	4,500	1,160	957	530	183
7	530	586	1,680	1,940	2,390	16,900	3,180	16,500	1,090	768	474	183
8	586	586	1,440	2,200	3,180	13,900	2,780	20,600	1,090	645	370	183
9	530	586	1,300	1,940	3,180	9,170	2,780	19,000	1,090	586	370	183
10	474	586	1,230	2,300	3,600	6,600	4,500	9,170	1,090	645	370	273
11	370	474	1,090	4,500	4,040	4,980	8,490	4,980	1,020	830	474	273
12	370	474	957	4,980	3,600	4,040	10,600	4,270	957	1,160	768	273
13	370	474	957	3,820	3,180	3,600	9,170	3,600	1,230	894	1,160	422
14	370	474	957	2,980	2,780	3,600	5,490	3,180	2,020	1,090	957	474
15	273	474	1,020	2,390	2,390	7,830	4,500	3,180	1,680	894	645	474
16	273	474	1,230	2,110	2,200	8,490	3,600	4,500	1,300	830	474	586
17	530	474	1,520	1,940	2,020	6,030	3,180	7,830	1,020	768	422	474
18	4,040	474	2,780	2,020	1,850	4,270	2,780	6,310	957	1,020	370	370
19	4,500	474	4,500	5,490	1,850	3,600	2,300	6,030	1,090	1,020	322	273
20	3,600	1,160	4,040	12,800	2,110	3,180	1,940	15,800	1,160	1,020	273	273
21	1,680	2,580	3,180	11,700	3,600	2,780	1,760	14,700	1,090	957	273	273
22	1,160	2,200	2,390	6,600	4,040	2,580	1,940	8,490	894	645	273	273
23	1,940	1,600	2,110	4,980	3,180	3,180	3,600	5,230	830	530	273	228
24	5,760	1,370	1,760	4,040	2,780	16,900	3,600	4,040	830	474	273	183
25	2,780	1,090	1,600	5,760	3,180	20,600	2,390	3,180	894	474	273	183
26	1,760	957	1,440	14,300	15,000	20,800	2,200	3,390	1,850	474	183	183
27	1,300	894	1,370	15,800	22,100	12,400	2,110	3,180	1,600	370	183	183
28	1,090	830	1,230	11,300	24,500	9,170	3,180	2,780	1,160	370	183	183
29	1,090	830	1,230	6,310	-------	7,200	17,200	2,300	894	474	183	183
30	1,020	1,520	1,090	4,500	-------	7,830	19,300	2,110	768	474	183	183
31	894	-------	1,090	3,600	-------	14,300	-------	1,760	-------	744	183	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,760	273	1,260	0.646	0.74
November	2,580	474	869	.446	.50
December	6,030	957	2,070	1.06	1.22
January	15,800	1,090	4,750	2.44	2.81
February	24,500	1,850	4,670	2.39	2.49
March	24,400	2,580	9,470	4.86	5.60
April	19,300	1,760	5,460	2.80	3.12
May	20,600	1,760	7,310	3.75	4.32
June	2,020	768	1,200	.615	.69
July	1,760	370	799	.410	.47
August	2,110	183	527	.270	.31
September	586	183	262	.134	.15
The year	24,500	183	3,220	1.65	22.42

POND RIVER NEAR WHITE PLAINS, KY.

LOCATION.—Chain gage at Illinois Central Railroad bridge 3 miles northeast of White Plains, Hopkins County.
DRAINAGE AREA.—315 square miles.
RECORDS AVAILABLE.—June, 1928, to September, 1929.
EXTREMES.—Maximum discharge during year, 6,250 second-feet Feb. 27 (gage height, 15.54 feet); minimum, 0.7 second-foot Oct. 4 (gage height, 0.74 foot). 1928–29: Maximum discharge, that of Feb. 27, 1929; minimum, 0.1 second-foot Sept. 20, 1928.
REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	13.0	1,090	210	900	3,690	860	880	840	18.0	9.6	8.4
2	1.1	11.0	1,270	740	560	2,840	920	1,160	465	32	9.2	7.6
3	.9	10.0	920	800	369	2,070	755	1,120	260	20	12.0	7.4
4	.7	9.8	417	453	240	1,480	504	785	168	19.0	195	7.0
5	1.3	38	210	250	172	1,480	334	770	110	18.0	110	7.4
6	1.4	38	250	545	163	1,870	250	1,300	75	22	24	7.6
7	2.8	20	230	840	240	2,150	195	1,930	52	17.0	16.0	24
8	12.0	13.0	145	650	381	2,610	159	3,090	50	15.0	14.0	195
9	10.0	11.0	94	334	530	2,410	545	3,380	159	14.0	12.0	213
10	8.6	10.0	63	635	545	1,810	1,300	2,960	78	14.0	11.0	44
11	7.6	9.5	46	1,190	441	1,190	1,560	2,230	47	15.0	15.0	17.0
12	6.6	9.2	38	1,190	250	740	1,810	1,560	50	81	222	15.0
13	6.2	8.6	31	755	190	545	2,070	940	635	177	504	15.0
14	6.0	8.9	29	393	154	1,390	2,230	680	1,270	560	186	14.0
15	5.6	8.9	29	230	145	1,810	1,930	695	1,480	312	84	13.0
16	5.8	8.0	27	190	145	2,410	1,560	740	1,560	63	47	12.0
17	7.4	8.0	210	334	136	2,720	1,060	504	1,090	23	19.0	11.0
18	38	8.0	1,300	530	145	2,150	695	345	530	18.0	16.0	10.0
19	453	8.0	1,520	1,300	210	1,480	453	820	240	16.0	13.0	9.8
20	240	8.6	1,700	1,560	635	960	280	1,300	1,140	15.0	12.0	9.4
21	46	11.0	1,700	1,700	940	650	213	1,270	491	14.0	10.0	9.0
22	12	13.0	1,300	1,560	740	491	334	840	118	12.0	9.4	9.0
23	51	15.0	740	1,220	504	393	478	465	95	12.0	8.6	11.0
24	441	15.0	381	920	429	441	356	250	81	11.0	12.0	11.0
25	312	14.0	172	1,650	1,020	453	213	560	150	10.0	18.0	11.0
26	76	13.0	102	1,930	2,510	334	159	2,230	142	10.0	22	11.0
27	21	12.0	80	2,410	5,850	231	126	2,510	134	9.6	16.0	10.0
28	13.0	11.0	63	2,840	5,280	195	134	3,380	66	9.2	15.0	9.8
29	14.0	12.0	54	2,610	------	168	785	3,090	26	8.8	12.0	9.4
30	43	478	43	2,000	------	369	1,190	2,320	20	8.6	11.0	12.0
31	24	------	33	1,450	------	820	------	1,480	------	8.8	9.0	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	453	0.7	60.3	0.19	0.22
November	478	8.0	28.4	.090	.10
December	1,700	27	461	1.46	1.68
January	2,840	190	1,080	3.43	3.95
February	5,850	136	851	2.70	2.81
March	3,690	168	1,370	4.35	5.02
April	2,230	126	782	2.48	2.77
May	3,380	250	1,470	4.67	5.38
June	1,560	20	387	1.23	1.37
July	560	8.6	51.1	.162	.19
August	504	8.6	54.0	.17	.20
September	213	7.0	25.0	.079	.09
The year	5,850	.7	551	1.75	23.78

WABASH RIVER BASIN

WABASH RIVER AT LOGANSPORT, IND.

LOCATION.—Chain gage in sec. 35, T. 27 N., R. 1 E., at Cicott Street Bridge, Logansport, 1,000 feet below Eel River. Zero of gage is 573.80 feet above mean sea level.

DRAINAGE AREA.—3,830 square miles.

RECORDS AVAILABLE.—April, 1903, to July, 1906; May, 1923, to September, 1929.

EXTREMES.—Maximum discharge during year, 29,300 second-feet Jan. 20 (gage height, 11.6 feet); minimum, 375 second-feet on several days in October and September (gage height, 2.9 feet).

1923–1929: Maximum discharge, 57,400 second-feet Mar. 15, 1925 (gage height, 15.9 feet); minimum, 111 second-feet Oct. 22, 1924 (gage height, 2.04 feet).

Maximum known stage, 25.5 feet Mar. 26, 1913.

REMARKS.—Records good. Gage-height record furnished by Department of Conservation, State of Indiana.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	435	435	600	705	1,770	13,000	23,000	2,950	4,950	2,140	600	600
2	435	435	600	1,590	1,770	8,200	27,500	2,530	3,350	5,950	600	600
3	435	510	600	955	2,140	5,950	15,800	11,000	2,930	10,300	705	600
4	435	435	600	955	2,140	4,950	9,950	16,200	2,140	8,550	3,780	600
5	435	435	600	1,420	1,950	5,450	8,200	9,950	1,950	8,550	5,950	600
6	435	435	600	1,420	1,590	4,950	5,700	6,250	1,590	16,200	3,140	600
7	435	435	600	1,420	1,250	4,230	4,460	4,460	1,420	13,000	1,950	600
8	435	510	600	705	1,100	3,140	4,950	3,560	1,420	7,150	1,420	705
9	435	435	600	510	1,250	2,330	8,550	2,730	1,420	4,230	1,250	825
10	435	435	600	1,590	1,590	1,950	8,900	2,330	1,250	5,700	955	825
11	435	435	600	1,420	1,770	1,590	11,800	2,140	1,250	5,450	705	600
12	435	435	600	1,950	1,770	1,590	15,800	2,730	2,530	4,000	705	600
13	435	435	600	1,950	1,770	1,420	9,950	7,150	7,500	3,140	705	510
14	375	435	705	1,770	1,590	2,730	7,150	12,600	5,450	6,550	1,770	510
15	375	435	825	1,770	1,420	9,600	5,200	28,000	3,560	7,150	5,450	510
16	375	435	825	1,590	1,250	13,000	4,000	22,600	2,730	5,450	7,500	510
17	435	600	955	1,420	1,420	11,800	3,350	14,200	3,560	3,140	5,950	510
18	1,590	600	1,770	3,350	3,140	8,550	2,930	8,550	6,850	1,950	3,140	435
19	1,590	600	4,700	28,000	4,950	5,700	2,330	13,400	4,460	600	2,140	375
20	1,590	600	3,780	29,300	3,140	4,700	2,140	15,000	3,350	1,420	1,590	375
21	435	705	2,140	21,600	2,930	4,000	3,350	11,400	2,530	1,250	1,250	375
22	435	705	1,250	13,800	2,530	4,000	8,550	7,150	2,140	1,250	1,250	435
23	435	705	1,100	24,800	2,730	3,560	8,550	4,460	1,590	1,100	955	435
24	435	705	1,100	18,500	1,590	3,560	5,950	3,560	1,250	1,100	825	435
25	435	705	1,100	13,000	3,140	3,780	4,700	2,930	1,250	955	705	435
26	435	705	1,100	17,200	16,200	3,350	8,550	2,530	2,140	955	705	435
27	435	600	955	11,400	24,800	4,950	9,950	2,140	1,950	955	600	435
28	435	600	825	6,550	19,800	6,550	6,550	2,140	1,590	825	600	435
29	435	600	705	4,700	-------	4,460	4,700	17,600	1,420	825	600	435
30	435	600	705	2,980	-------	3,140	3,560	12,600	1,250	825	600	435
31	435	-------	705	2,140	-------	2,530	-------	7,500	-------	825	600	435

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,590	375	541	0.141	0.16
November	705	435	538	.140	.16
December	4,700	600	1,060	.277	.32
January	29,300	510	7,110	1.86	2.14
February	24,800	1,100	4,020	1.05	1.09
March	13,000	1,420	5,120	1.34	1.54
April	27,500	2,140	8,200	2.14	2.39
May	28,000	2,140	8,460	2.21	2.55
June	7,500	1,250	2,690	.702	.78
July	16,200	600	4,240	1.11	1.28
August	7,500	600	1,890	.493	.57
September	825	375	526	.137	.15
The year	29,300	375	3,710	.969	13.13

WABASH RIVER AT LAFAYETTE, IND.

LOCATION.—Tape gage in sec. 20, T. 23 N., R. 4 W., at Brown Street Bridge, Lafayette. Zero of gage is 501.25 feet above mean sea level.

DRAINAGE AREA.—7,200 square miles.

RECORDS AVAILABLE.—May, 1901, to May, 1903; October, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 39,600 second-feet May 16 (gage height, 16.73 feet); minimum, 860 second-feet Oct. 1, 6, 8, 30 and Nov. 5 (gage height, 1.0 foot).

1928–29: Maximum discharge, 66,000 second-feet Dec. 2, 1927 (gage height, 21.9 feet); minimum, that of October and November, 1928.

Maximum stage known, 32.9 feet Mar. 26, 1913; minimum, 0.3 foot on several dates.

REMARKS.—Records good. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	860	1,140	2,340	1,250	4,050	23,800	13,200	7,210	12,800	4,410	1,610	1,740
2	1,040	1,040	1,740	1,610	2,660	15,800	37,400	6,450	9,000	6,260	1,480	1,140
3	1,040	1,250	950	1,740	2,660	12,600	38,300	13,200	6,260	11,300	1,880	2,180
4	950	1,250	1,740	1,740	2,660	9,000	25,300	26,500	5,310	12,100	1,480	1,360
5	1,140	860	1,040	1,880	2,830	10,400	17,300	23,300	4,590	9,820	8,800	1,250
6	860	1,740	1,140	2,030	3,170	9,610	14,700	17,300	3,870	15,400	5,310	1,140
7	950	1,250	1,250	1,740	3,340	8,800	12,100	13,000	3,870	24,700	5,310	1,880
8	860	1,610	1,250	2,660	3,000	7,020	14,700	10,000	3,870	16,200	4,590	1,250
9	1,250	1,740	1,040	2,660	3,000	5,880	19,400	8,600	3,510	10,400	3,870	1,360
10	1,040	1,740	860	2,830	2,030	5,130	18,700	7,400	3,340	7,800	3,510	1,610
11	1,040	1,610	1,140	3,000	1,360	2,830	20,600	7,020	3,000	9,200	3,340	1,610
12	1,140	1,040	1,480	2,830	1,610	3,340	26,200	6,070	17,300	7,400	1,880	1,480
13	1,140	1,610	1,480	2,830	2,030	3,690	24,400	12,300	25,300	8,000	2,340	1,360
14	1,140	1,610	2,180	2,660	2,180	4,590	17,300	21,000	20,300	7,020	2,340	1,140
15	950	1,610	2,660	2,500	2,030	11,900	13,800	32,800	15,100	10,700	4,050	1,140
16	1,740	1,740	2,500	2,180	2,340	17,600	11,300	39,600	10,700	9,820	2,600	950
17	1,740	1,250	2,340	2,500	2,660	24,100	9,610	32,800	8,000	7,020	7,800	1,250
18	1,740	1,480	4,050	4,230	2,660	17,800	7,600	21,300	8,800	4,770	4,770	1,040
19	1,360	1,360	5,310	27,400	6,070	14,300	6,830	26,200	10,000	4,050	3,340	1,040
20	1,360	2,340	8,200	39,200	6,830	11,500	6,260	29,200	7,600	3,340	3,000	950
21	1,140	2,340	4,950	37,800	3,000	10,200	5,880	25,300	6,640	3,000	2,340	1,140
22	950	2,500	3,170	26,500	3,510	9,610	10,700	18,700	5,310	2,500	2,180	1,140
23	1,250	2,180	3,000	33,600	3,170	9,400	15,400	13,800	3,510	2,500	1,880	1,040
24	1,040	2,030	3,170	37,400	2,660	8,200	12,800	9,610	3,170	2,340	2,030	1,040
25	1,040	1,880	3,340	27,800	3,690	6,640	10,000	8,200	3,170	2,180	2,030	1,040
26	1,040	1,740	2,340	23,300	12,800	8,600	12,300	7,210	2,660	2,340	1,360	950
27	1,140	2,500	2,500	21,000	28,800	8,800	18,000	5,310	3,690	2,180	1,480	1,040
28	1,140	2,500	2,830	15,800	29,800	11,300	14,700	7,020	3,170	2,180	1,140	950
29	950	1,250	2,660	10,900	-------	9,200	11,500	16,900	3,510	1,880	1,140	950
30	860	1,040	2,180	8,800	-------	7,800	9,200	24,700	2,830	1,740	1,250	950
31	1,140	-------	1,250	6,070	-------	5,130	-------	17,600	-------	1,610	1,250	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,740	860	1,130	0.157	0.18
November	2,500	860	1,640	.228	.25
December	8,200	950	2,450	.340	.39
January	39,200	1,250	11,600	1.61	1.86
February	29,800	1,360	5,240	.728	.76
March	24,100	2,830	10,100	1.40	1.61
April	38,300	5,880	15,800	2.19	2.44
May	39,600	5,310	16,600	2.31	2.66
June	25,300	2,660	7,340	1.02	1.14
July	24,700	1,610	6,910	.960	1.11
August	8,800	1,140	3,140	.436	.50
September	2,180	950	1,240	.172	.19
The year	39,600	860	6,960	.967	13.09

WABASH RIVER AT MONTEZUMA, IND.

LOCATION.—Chain gage in sec. 35, T. 16 N., R. 9 W., at highway bridge at Montezuma.

DRAINAGE AREA.—11,100 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 58,700 second-feet May 19 (gage height, 22.35 feet); minimum, 1,410 second-feet Dec. 8 (gage height, 2.24 feet).

1928–29: Maximum discharge, 74,800 second-feet Dec. 4, 1927 (gage height, 24.85 feet); minimum, that of Dec. 8, 1928.

REMARKS.—Records good. Gage-height record furnished by Department of Conservation, State of Indiana.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,630	1,630	2,100	2,360	9,180	28,900	15,500	12,400	24,800	9,180	2,910	2,230
2	1,740	1,740	2,100	1,980	11,500	26,200	30,100	10,600	17,100	16,400	2,910	2,100
3	1,520	1,860	2,100	1,980	12,800	22,000	33,800	16,900	15,000	13,700	3,510	2,100
4	1,520	1,980	1,980	1,860	13,700	17,400	35,800	22,500	12,800	12,800	6,180	1,980
5	1,740	1,980	1,860	2,910	13,900	16,400	38,600	28,300	10,900	16,400	5,220	1,980
6	1,980	1,860	1,740	5,790	14,400	15,700	34,800	29,200	9,600	25,900	8,180	2,100
7	1,980	1,740	1,630	5,790	14,400	13,700	23,500	25,900	8,580	35,800	7,380	1,980
8	1,980	1,980	1,410	6,580	14,100	12,100	23,000	19,500	9,810	38,600	6,580	2,100
9	1,860	1,980	1,520	7,580	13,500	10,200	31,600	14,800	8,980	37,600	5,600	2,100
10	1,860	1,980	1,630	8,980	10,600	9,600	35,800	12,800	7,580	31,300	5,220	1,980
11	1,740	1,980	1,740	9,390	9,180	7,780	37,200	10,900	7,180	21,500	4,680	1,980
12	1,740	1,860	1,740	7,980	8,180	5,600	36,200	31,000	6,780	16,900	4,330	2,100
13	1,740	1,860	1,860	6,780	7,980	5,790	36,200	36,900	27,400	14,600	3,830	2,230
14	1,630	1,860	2,100	5,220	8,580	7,780	35,500	43,000	30,400	12,100	3,670	1,980
15	1,630	1,860	2,770	5,040	8,780	10,000	32,200	49,200	29,800	11,700	3,510	1,980
16	1,860	1,860	3,210	4,680	8,580	20,000	24,200	46,200	24,800	13,200	3,830	1,980
17	1,740	2,100	3,360	5,040	9,180	26,200	18,300	44,600	18,000	12,600	7,780	1,860
18	2,100	2,360	6,980	5,980	10,600	27,100	15,000	45,800	13,700	10,200	7,180	1,740
19	2,100	2,490	8,580	24,000	11,100	24,200	12,400	57,500	13,000	8,780	6,180	1,740
20	1,980	2,630	8,780	34,800	10,600	21,000	11,300	55,000	12,600	7,180	4,680	1,740
21	1,860	2,360	8,780	34,100	10,200	18,800	10,600	48,400	10,400	5,600	4,160	1,740
22	1,860	2,630	7,180	35,500	9,180	14,400	10,200	43,800	8,980	5,220	3,670	1,630
23	1,740	2,630	6,780	41,000	8,780	13,200	13,000	39,000	7,580	4,860	3,210	1,630
24	1,860	2,630	6,380	44,200	8,980	11,700	16,900	29,800	6,780	4,680	5,040	1,630
25	1,860	2,490	5,790	46,600	9,600	11,100	15,700	18,500	5,980	4,330	3,830	1,740
26	1,740	2,360	3,830	45,400	16,400	11,300	15,300	15,000	5,600	3,990	3,210	1,860
27	1,740	2,100	3,670	36,600	23,800	16,900	18,000	12,800	5,040	3,990	2,630	1,740
28	1,740	1,980	3,510	33,100	27,400	14,800	20,500	13,200	5,600	3,670	2,490	1,630
29	1,630	1,980	3,510	23,800	-------	14,800	18,500	16,200	5,410	3,510	2,360	1,630
30	1,740	1,860	3,360	14,600	-------	13,500	15,300	23,000	5,040	3,360	2,230	1,630
31	1,740	-------	3,060	11,300	-------	13,200	-------	28,300	-------	3,060	2,230	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,100	1,520	1,790	0.161	0.19
November	2,630	1,630	2,090	.188	.21
December	8,780	1,410	3,710	.334	.38
January	46,600	1,860	16,800	1.51	1.74
February	27,400	7,980	12,000	1.08	1.12
March	28,900	5,600	15,500	1.40	1.61
April	38,600	10,200	23,800	2.15	2.40
May	57,500	10,600	29,100	2.62	3.02
June	30,400	5,040	12,500	1.13	1.26
July	38,600	3,060	13,300	1.20	1.38
August	8,180	2,230	4,470	.403	.46
September	2,230	1,630	1,890	.170	.19
The year	57,500	1,410	11,400	1.03	13.96

WABASH RIVER AT TERRE HAUTE, IND.

LOCATION.—Water-stage recorder in sec. 21, T. 12 N. R. 9 W., at Wabash Avenue Bridge at Terre Haute since Oct. 28. Staff gage used prior to that date. Zero of gage is 442.90 feet above mean sea level.

DRAINAGE AREA.—12,200 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1929; at Vandalia Railway bridge, 2,600 feet upstream, from February, 1905, to July, 1906.

EXTREMES.—Maximum discharge during year, 58,800 second-feet May 20 (gage height, 21.63 feet); minimum, 1,660 second-feet Sept. 24; minimum gage height, 3.03 feet Nov. 1.

Maximum stage of record, about 33 feet Mar. 27, 1913.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,990	1,770	2,630	3,670	11,500	26,300	15,800	14,400	26,000	10,200	3,590	2,350
2	1,990	1,990	2,360	2,920	6,930	26,600	25,700	14,000	22,000	17,000	3,590	2,500
3	1,880	2,110	2,490	2,230	5,910	23,900	29,800	18,200	19,800	15,900	4,230	2,500
4	1,880	2,110	2,490	2,770	5,750	20,000	31,400	21,600	16,100	15,100	7,230	2,200
5	2,230	2,230	2,230	3,220	5,590	18,900	33,600	26,000	13,400	17,200	6,370	2,050
6	2,360	2,230	2,230	4,150	5,910	17,400	34,600	28,000	11,800	21,600	7,050	2,050
7	2,420	2,230	2,360	3,070	6,080	15,700	29,400	27,200	11,500	27,600	8,490	2,050
8	2,490	2,230	2,110	3,990	6,420	13,600	26,000	22,900	12,800	32,300	7,230	2,200
9	2,360	2,230	1,880	4,470	6,590	12,000	31,000	17,800	11,600	35,000	4,870	2,650
10	2,230	2,230	2,110	5,590	6,420	10,500	36,000	14,400	9,910	35,000	6,030	2,500
11	2,360	2,360	2,230	6,080	5,590	9,030	38,000	12,600	9,030	29,800	5,520	2,350
12	2,110	2,360	2,230	5,910	4,790	7,610	37,500	19,100	9,310	22,900	5,190	2,350
13	1,990	2,230	2,360	4,950	4,310	7,270	36,000	30,600	20,700	19,300	4,710	2,500
14	1,990	1,990	2,770	4,310	4,310	8,850	35,500	38,000	26,900	16,100	4,390	2,350
15	1,990	2,110	3,520	3,670	4,470	11,300	34,100	46,700	28,000	13,400	4,230	2,050
16	2,360	2,360	4,310	3,670	4,630	17,600	29,400	48,700	26,900	13,600	4,230	2,050
17	2,360	2,630	5,310	3,520	4,790	22,900	22,700	45,500	21,600	13,600	6,900	2,050
18	2,490	3,070	7,950	5,110	5,590	24,400	18,200	45,500	17,000	11,800	8,670	1,900
19	2,630	3,070	9,390	21,000	6,930	25,100	15,300	56,400	14,400	10,300	7,590	1,900
20	2,490	3,220	9,570	31,400	7,100	22,700	13,400	58,000	14,600	8,670	5,860	1,900
21	2,420	3,070	9,570	32,800	6,250	19,100	12,800	52,900	13,400	7,410	4,870	1,900
22	2,360	3,370	7,950	33,600	6,420	16,300	12,800	47,300	11,800	6,540	4,390	1,760
23	2,230	3,370	6,590	37,500	6,080	14,600	14,000	42,500	10,500	6,030	3,910	1,760
24	2,110	3,220	4,900	40,100	5,910	13,600	17,000	36,000	9,390	5,690	5,580	1,760
25	2,110	3,070	4,140	42,500	6,760	12,400	17,600	26,900	8,490	5,350	4,550	1,760
26	2,110	2,920	4,310	44,900	12,200	14,600	17,600	19,800	7,950	5,030	3,750	1,900
27	2,110	2,630	5,270	44,900	19,600	18,500	18,500	16,300	7,410	4,710	3,270	1,900
28	2,110	2,490	5,270	43,700	23,900	16,800	20,400	16,300	7,410	4,710	2,800	1,760
29	1,990	2,630	4,470	32,300	-------	15,700	19,800	18,000	7,590	4,390	2,650	1,760
30	1,990	2,770	4,150	20,500	-------	14,900	17,200	21,800	7,410	4,070	2,500	1,760
31	1,880	-------	3,830	14,900	-------	13,000	-------	26,000	-------	3,750	2,350	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,630	1,880	2,190	0.180	0.21
November	3,370	1,770	2,540	.208	.23
December	9,570	1,880	4,290	.352	.41
January	44,900	2,230	16,600	1.36	1.57
February	23,900	4,310	7,380	.605	.63
March	26,600	7,270	16,500	1.35	1.56
April	38,000	12,800	24,700	2.03	2.26
May	58,000	12,600	30,000	2.46	2.84
June	28,000	7,410	14,500	1.19	1.33
July	35,000	3,750	14,300	1.17	1.35
August	8,670	2,350	5,050	.414	.48
September	2,650	1,760	2,080	.171	.19
The year	58,000	1,760	11,700	.960	13.06

WABASH RIVER AT MOUNT CARMEL, ILL.

LOCATION.—Water-stage recorder since Dec. 21 at Southern Railway bridge at Mount Carmel. Zero of gage is 372.45 feet above mean sea level. Staff gage used prior to Dec. 21.

DRAINAGE AREA.—28,600 square miles.

RECORDS AVAILABLE.—January, 1908, to September, 1913; October, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 155,000 second-feet May 24 (gage height, 23.68 feet); minimum, 3,920 second-feet Oct. 1 (gage height, 1.02 feet). 1908–1913; 1927–1929: Maximum gage height, 31.0 feet Mar. 30, 1913 (discharge not determined); minimum, 0.3 foot Sept. 12, 1908 (discharge not determined).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,920	5,830	10,100	11,700	128,000	68,200	44,900	36,000	61,100	17,600	12,200	6,000
2	4,620	6,080	10,300	11,400	109,000	73,500	43,400	34,000	58,200	18,000	11,900	5,600
3	4,620	9,080	10,300	10,900	96,000	79,500	46,200	34,500	58,300	24,000	11,000	5,200
4	4,860	13,700	10,300	10,300	79,500	83,700	48,100	41,700	51,100	30,000	10,800	5,200
5	4,860	17,200	10,100	9,830	59,400	79,500	50,600	55,200	45,400	33,200	10,400	5,200
6	5,100	17,200	9,830	10,900	36,800	93,700	50,500	66,000	40,900	39,500	13,000	5,500
7	6,330	15,700	9,330	14,300	26,400	90,400	49,100	74,000	36,800	48,000	13,600	6,200
8	7,330	13,700	8,580	14,600	23,200	84,600	48,200	80,600	34,700	55,200	14,400	5,700
9	7,330	12,000	8,330	14,600	22,400	75,600	49,100	83,200	35,500	60,300	15,000	5,700
10	6,330	10,300	8,080	14,000	19,600	62,800	63,000	83,400	34,800	63,000	14,000	7,000
11	5,830	9,080	7,330	14,000	18,400	47,600	70,400	76,600	33,200	63,800	13,700	8,700
12	5,580	8,330	7,080	14,000	16,800	37,200	79,000	63,700	31,200	66,000	13,000	7,700
13	5,340	7,830	7,080	12,200	14,300	30,500	88,700	56,500	33,800	66,000	11,200	7,600
14	5,100	7,580	7,830	11,400	13,100	29,200	94,000	65,800	46,600	64,000	10,900	7,100
15	5,100	7,580	12,000	10,100	12,800	32,300	106,000	74,100	49,300	57,100	10,000	6,900
16	5,580	7,330	16,400	9,330	12,200	36,400	111,000	84,200	54,300	51,500	9,600	6,700
17	11,400	8,080	20,800	8,830	12,000	42,200	112,000	95,000	59,200	44,500	9,300	6,500
18	15,700	10,600	29,600	17,800	12,000	47,200	107,000	104,000	63,500	40,300	8,700	6,500
19	15,700	12,800	38,600	46,200	12,000	50,900	91,000	120,000	58,000	35,300	10,900	6,100
20	12,800	13,100	41,800	61,000	13,400	52,900	72,600	132,000	45,000	30,800	11,600	5,800
21	10,300	12,500	43,600	68,800	14,300	50,400	52,000	141,000	38,000	27,000	11,500	5,200
22	9,080	11,700	43,100	75,600	14,300	46,700	44,400	151,000	34,900	23,700	9,900	5,200
23	8,080	11,400	39,000	83,700	14,300	43,100	42,500	155,000	31,000	20,500	8,700	4,900
24	7,330	10,900	31,000	94,800	14,000	40,000	44,300	154,000	27,500	18,400	8,400	4,600
25	6,830	10,300	24,800	112,000	14,300	37,700	43,500	151,000	25,000	16,700	8,600	4,600
26	6,330	9,830	20,400	126,000	25,200	36,800	43,700	144,000	24,300	16,200	9,200	4,500
27	6,330	9,330	17,200	136,000	50,400	39,500	42,900	135,000	22,000	14,700	8,200	4,400
28	6,330	8,830	15,400	140,000	59,400	44,000	41,200	112,000	19,500	13,800	7,400	4,200
29	6,330	8,330	14,300	146,000	-------	45,800	39,600	80,500	19,500	14,200	7,000	4,200
30	6,330	8,830	13,400	148,000	-------	46,700	38,400	65,200	19,100	14,000	6,600	4,200
31	5,830	-------	12,500	140,000	-------	47,200	-------	60,100	-------	12,800	6,400	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	15,700	3,920	7,180	0.251	0.29
November	17,200	5,830	10,500	.367	.41
December	43,600	7,080	18,000	.630	.73
January	148,0000	8,830	51,600	1.80	2.08
February	128,000	12,000	33,700	1.18	1.23
March	93,700	29,200	54,100	1.89	2.18
April	112,000	38,400	61,900	2.16	2.41
May	155,000	34,000	90,600	3.17	3.66
June	63,500	19,100	39,700	1.39	1.55
July	66,000	12,800	35,500	1.24	1.43
August	15,000	6,400	10,600	.371	.43
September	8,700	4,200	5,760	.201	.22
The year	155,000	3,920	35,000	1.22	16.62

TIPPECANOE RIVER AT PULASKI, IND.

LOCATION.—Chain gage in sec. 9, T. 29 N., R. 2 W., at highway bridge at Pulaski.
DRAINAGE AREA.—1,100 square miles.
RECORDS AVAILABLE.—October, 1927, to September, 1929.
EXTREMES.—Maximum discharge during year, 5,440 second-feet Jan. 26 (gage height, 6.90 feet); minimum, 265 second-feet Sept. 21–29 (gage height, 1.4 feet).

1928–29: Maximum discharge, 7,410 second-feet Dec. 3, 1927 (gage height, 8.23 feet); minimum, that of Sept. 21–29, 1929.

REMARKS.—Records good. Gage-height records furnished by Department of Conservation, State of Indiana.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	365	312	420	440	1,670	2,150	2,050	1,330	1,070	640	295	330
2	365	312	420	440	1,490	1,850	2,350	1,580	930	615	280	330
3	348	312	420	440	1,490	1,580	2,460	2,790	810	565	312	330
4	348	330	440	420	1,580	1,250	2,350	3,260	750	490	365	312
5	420	330	440	420	1,850	1,250	2,150	3,740	750	590	1,150	312
6	400	330	460	400	1,850	1,170	1,950	3,380	695	722	1,750	330
7	420	330	460	420	1,760	1,100	1,760	2,790	695	810	1,950	348
8	440	330	460	440	1,580	960	2,150	2,350	695	810	1,950	365
9	400	330	460	502	1,580	840	2,350	1,950	695	695	1,950	365
10	382	330	460	670	1,490	780	2,570	1,670	640	615	1,570	365
11	365	330	460	1,250	1,490	780	2,680	1,490	640	565	1,230	348
12	365	312	480	1,410	1,410	780	2,680	1,580	930	565	1,000	330
13	348	312	480	1,580	1,410	780	2,570	1,760	1,310	540	930	330
14	348	295	460	1,580	1,250	1,100	2,350	1,760	1,570	540	870	312
15	348	295	460	1,670	1,250	1,580	2,150	1,950	1,390	540	870	312
16	348	312	502	1,760	1,250	2,460	1,850	2,150	1,150	468	750	295
17	348	382	645	2,150	1,250	2,680	1,580	2,050	1,000	425	640	295
18	348	525	780	2,790	1,490	2,790	1,410	1,950	1,070	405	565	295
19	348	570	900	3,740	1,580	2,460	1,250	2,250	1,000	385	540	280
20	348	570	840	3,740	1,490	2,150	1,250	2,350	870	365	490	280
21	348	570	698	3,740	1,410	1,950	1,490	2,250	810	348	445	265
22	330	570	595	4,380	1,410	1,760	1,760	1,850	722	348	405	265
23	330	548	1,670	4,770	1,490	1,580	1,670	1,570	668	330	405	265
24	330	525	1,760	4,900	1,490	1,490	1,490	1,390	615	330	385	265
25	330	502	1,850	5,160	1,760	1,580	1,490	1,310	565	330	365	265
26	330	460	1,410	5,440	2,790	1,580	1,670	1,150	515	330	348	265
27	330	440	645	4,900	2,790	1,410	1,850	1,070	490	330	405	265
28	330	420	525	3,620	3,020	1,330	1,760	1,070	468	312	348	265
29	330	420	480	3,260	-------	1,250	1,580	1,070	468	312	348	265
30	330	440	460	2,570	-------	1,170	1,410	1,000	515	290	330	280
31	312	-------	460	1,950	-------	1,100	-------	1,000	-------	290	330	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	440	312	356	0.324	0.37
November	570	295	401	.364	.41
December	1,850	420	677	.615	.71
January	5,440	400	2,290	2.08	2.40
February	3,020	1,250	1,660	1.51	1.57
March	2,790	780	1,510	1.37	1.58
April	2,680	1,250	1,940	1.76	1.96
May	3,740	1,000	1,900	1.73	1.99
June	1,570	468	817	.743	.83
July	810	290	481	.437	.50
August	1,950	280	760	.692	.80
September	365	265	304	.276	.31
The year	5,440	265	1,090	.991	13.43

VERMILION RIVER NEAR DANVILLE, ILL.

LOCATION.—Chain gage in sec. 22, T. 19 N., R. 11 W., at Chicago & Eastern Illinois Railroad bridge 2 miles southeast of Danville. Zero of gage is 503.99 feet above mean sea level.

DRAINAGE AREA.—1,280 square miles.

RECORDS AVAILABLE.—November, 1914, to August, 1921; June, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 7,900 second-feet July 7 (gage height, 13.66 feet); minimum, 52 second-feet Sept. 20, 21 (gage height, 2.28 feet).

1915–1921, 1928–29: Maximum discharge, 12,800 second-feet Apr. 21, 1920 (gage height, 19.7 feet); minimum, 2.0 second-feet Oct. 14, 1920 (gage height, 1.58 feet).

REMARKS.—Records good. Discharge affected at times by operation of storage reservoir on North Fork of Vermilion River, 4 miles above gage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	91	139	450	360	1,810	4,980	955	1,630	1,630	201	125
2	66	99	93	500	360	1,180	6,100	955	1,510	1,750	198	122
3	87	97	109	525	405	1,400	4,340	4,340	1,570	1,570	1,060	87
4	91	120	127	550	450	2,150	2,990	4,260	1,400	1,010	1,180	85
5	122	118	93	575	428	1,870	2,430	3,550	955	2,150	955	72
6	136	131	68	575	405	1,400	1,810	2,850	1,060	2,850	650	72
7	260	131	78	575	382	1,010	1,750	2,150	850	4,340	525	78
8	210	116	84	575	339	850	5,300	1,690	850	7,180	405	87
9	177	118	109	575	278	700	6,910	1,450	700	6,280	339	85
10	143	125	99	600	260	650	6,910	1,230	700	4,100	298	75
11	134	122	101	550	278	475	6,370	1,120	625	2,990	278	73
12	120	116	109	298	243	575	6,010	2,500	1,180	2,080	243	73
13	127	107	122	146	243	650	5,220	2,710	3,860	1,690	226	66
14	105	97	210	141	226	750	3,400	6,550	3,060	1,400	210	67
15	109	109	475	139	210	1,510	2,780	5,920	2,010	1,120	195	70
16	101	120	625	156	192	4,420	2,220	4,740	1,450	1,010	183	77
17	103	156	800	172	192	4,420	1,810	3,340	1,230	955	172	61
18	103	146	1,510	226	201	3,550	1,570	2,780	1,010	700	158	73
19	99	428	1,510	278	1,120	2,640	1,510	3,550	850	650	146	56
20	318	405	1,280	298	1,060	2,080	1,280	7,450	750	550	134	54
21	298	318	750	339	700	1,810	1,180	4,980	650	525	127	54
22	226	243	600	475	550	1,570	1,280	3,550	575	450	127	72
23	89	318	525	850	405	1,400	1,280	2,710	475	405	339	70
24	177	204	500	1,120	450	1,180	1,180	2,150	450	405	243	66
25	146	161	475	1,280	750	1,060	1,180	1,810	450	298	260	70
26	136	75	450	1,450	3,270	1,340	1,750	1,690	428	318	164	72
27	143	151	450	1,400	3,620	1,340	1,750	1,340	382	318	136	61
28	120	143	428	1,280	2,850	1,180	1,570	1,280	360	260	114	67
29	111	195	405	700	-------	1,010	1,230	1,400	243	243	105	70
30	95	146	405	700	-------	955	1,060	1,940	220	226	103	66
31	105	-------	382	475	-------	900	-------	1,810	-------	210	97	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	318	66	140	0.109	0.13
November	428	75	164	.128	.14
December	1,510	68	423	.330	.38
January	1,450	139	580	.453	.52
February	3,620	192	722	.564	.59
March	4,420	475	1,540	1.20	1.38
April	6,910	1,060	2,970	2.32	2.59
May	7,450	955	2,860	2.23	2.57
June	3,860	226	1,050	.820	.91
July	7,180	210	1,600	1.25	1.44
August	1,180	97	309	.241	.28
September	125	54	74.2	.058	.06
The year	7,450	54	1,040	.812	10.99

EMBARRASS RIVER AT STE. MARIE, ILL.

LOCATION.—Chain gage in sec. 30, T. 6 N., R. 14 W., at highway bridge at Ste. Marie. Zero of gage is 447.14 feet above mean sea level.

DRAINAGE AREA.—1,540 square miles.

RECORDS AVAILABLE.—October, 1909, to December, 1912; August, 1914, to September, 1929.

EXTREMES.—Maximum discharge during year, 16,400 second-feet May 20 (gage height, 21.98 feet); minimum, 57 second-feet Sept. 27 (gage height, 0.82 foot). 1909–1912, 1914–1929: Maximum discharge, 39,000 second-feet May 30, 1927 (gage height, 24.3 feet); minimum, 1.0 second-foot Sept. 5–9 and Oct. 19, 1914.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	165	260	650	800	1,740	3,050	1,170	1,700	365	242	83
2	104	440	242	590	620	1,460	5,230	2,600	1,700	340	225	83
3	104	300	242	515	620	1,100	4,050	5,450	3,750	300	225	78
4	104	260	225	490	680	2,380	2,780	6,480	2,870	300	209	78
5	300	225	280	490	710	4,050	2,300	7,160	2,180	415	194	83
6	440	202	260	2,740	650	2,100	1,940	7,480	2,060	1,420	225	93
7	260	194	225	2,780	620	1,900	1,580	6,740	2,420	1,820	242	83
8	260	179	202	1,660	565	1,580	4,650	3,750	5,560	2,920	225	78
9	242	179	165	1,380	515	1,170	7,240	2,260	3,750	3,650	202	73
10	242	179	152	1,500	340	860	9,550	1,860	1,860	3,800	202	73
11	225	179	186	1,340	415	770	9,370	1,580	1,500	3,320	179	68
12	209	172	194	1,280	390	680	8,500	1,580	2,060	4,000	165	68
13	179	165	209	1,170	415	770	7,320	6,120	5,670	4,800	158	68
14	158	165	3,280	1,100	415	4,400	5,720	7,320	6,740	3,360	152	68
15	158	165	3,950	1,030	390	3,140	5,400	8,750	5,120	2,420	139	64
16	2,020	179	1,620	960	465	4,100	5,180	9,740	3,100	1,860	139	64
17	1,740	890	2,420	1,060	390	2,960	3,410	8,180	2,100	1,380	133	64
18	960	1,540	5,720	2,180	415	2,510	2,600	7,810	1,380	1,240	127	62
19	390	1,030	5,620	6,180	440	2,260	2,140	13,000	1,060	960	121	62
20	320	710	2,920	7,320	260	2,380	1,780	15,300	925	830	115	62
21	300	590	2,420	7,560	280	2,180	2,380	9,200	830	710	110	60
22	260	490	2,180	6,300	390	1,740	2,100	7,640	770	590	110	60
23	242	415	1,820	6,180	390	1,460	1,780	6,000	710	540	104	59
24	225	340	1,380	6,600	390	1,240	2,300	3,950	650	490	104	59
25	194	320	1,540	6,540	365	1,100	2,340	2,690	590	440	98	59
26	186	300	960	4,960	3,000	5,010	2,870	2,060	540	415	93	59
27	225	280	890	3,280	3,140	6,670	2,420	1,980	515	365	93	57
28	186	260	830	2,420	1,780	6,880	1,860	2,020	465	340	93	59
29	179	260	800	1,860	-------	3,600	1,620	2,260	440	320	88	59
30	172	260	770	1,380	-------	2,780	1,420	1,900	390	300	83	62
31	165	-------	680	1,170	-------	2,260	-------	1,740	-------	260	83	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,020	104	350	0.227	0.26
November	1,540	165	368	.239	.27
December	5,720	152	1,370	.890	1.03
January	7,560	490	2,730	1.77	2.04
February	3,140	260	709	.460	.48
March	6,880	680	2,490	1.62	1.87
April	9,550	1,420	3,830	2.49	2.78
May	15,300	1,170	5,350	3.47	4.00
June	6,740	390	2,110	1.37	1.53
July	4,800	260	1,430	.929	1.07
August	242	83	151	.098	.11
September	83	57	68.3	.044	.05
The year	15,300	57	1,760	1.14	15.49

WEST FORK OF WHITE RIVER NEAR NOBLESVILLE, IND.

LOCATION.—Chain gage in sec. 4, T. 19 N., R. 5 E., at highway bridge 7 miles northeast of Noblesville.

DRAINAGE AREA.—800 square miles.

RECORDS AVAILABLE.—July to September, 1922; October, 1927, to September, 1929. From May, 1915, to June, 1922, at station 2 miles downstream.

EXTREMES.—Maximum discharge during year, 9,150 second-feet Jan. 20 (gage height, 12.57 feet); minimum, 122 second-feet Oct. 2 (gage height, 4.59 feet). 1915–1922, 1927–1929: Maximum discharge, 20,800 second-feet Mar. 21, 1928 (gage height, 16.05 feet); minimum, 85 second-feet Aug. 15, 1918.

REMARKS.—Records good. Gage-height record furnished by Department of Conservation, State of Indiana.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	165	165	420	2,720	3,000	1,730	-------	1,220	4,800	280	130
2	122	162	162	398	2,360	1,820	1,640	-------	980	7,700	240	170
3	135	156	159	420	2,090	1,380	1,640	-------	840	8,900	240	152
4	142	156	162	470	1,910	1,220	1,300	-------	705	2,540	320	130
5	165	148	162	525	2,000	1,020	840	-------	640	1,730	280	149
6	174	153	159	555	1,910	875	492	-------	580	1,730	240	184
7	171	150	190	470	1,730	770	805	-------	465	1,380	140	280
8	171	142	215	445	1,380	805	1,820	-------	520	2,180	240	205
9	174	140	232	498	1,460	770	2,900	-------	580	4,220	205	205
10	165	130	250	525	1,460	738	4,440	-------	465	4,110	170	170
11	156	140	270	498	1,460	770	5,580	-------	415	2,000	219	164
12	168	145	290	445	1,220	805	5,440	-------	580	1,730	205	140
13	165	148	270	420	980	910	4,440	-------	1,300	1,820	205	140
14	156	148	250	585	840	1,060	-------	7,700	1,380	2,630	492	140
15	148	150	250	710	705	1,140	-------	8,900	980	3,800	640	140
16	128	162	250	1,080	875	1,140	-------	5,300	770	2,630	415	158
17	140	162	250	1,710	840	1,140	-------	3,100	2,450	1,220	320	152
18	150	168	250	2,720	705	1,300	-------	2,090	1,550	980	580	152
19	165	171	270	6,210	580	1,460	-------	3,500	1,140	910	738	140
20	148	174	270	9,150	550	1,550	-------	4,680	770	640	152	140
21	153	177	290	8,400	440	1,640	-------	2,720	840	520	205	140
22	153	180	270	7,700	365	1,730	-------	1,730	640	465	205	152
23	153	198	250	6,910	300	1,910	-------	1,300	465	465	202	146
24	142	201	232	5,890	1,640	2,000	-------	1,140	520	415	184	140
25	145	190	232	5,310	4,110	1,910	-------	980	520	365	280	140
26	171	180	250	4,680	7,700	1,820	-------	1,020	640	365	240	140
27	180	180	250	4,220	8,650	1,730	-------	1,140	520	365	205	140
28	190	174	270	4,220	4,560	1,730	-------	2,720	980	320	230	140
29	177	159	310	4,110	-------	1,820	-------	4,220	2,810	140	152	146
30	165	165	352	3,600	-------	2,000	-------	2,900	1,550	320	219	140
31	165	-------	375	3,200	-------	1,910	-------	1,730	-------	280	170	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	190	122	157	0.196	0.23
November	201	130	162	.202	.23
December	375	159	244	.305	.35
January	9,150	398	2,790	3.49	4.02
February	8,650	300	1,980	2.48	2.58
March	3,000	738	1,420	1.78	2.05
April 1–13	-------	-------	2,540	3.18	1.54
May 14–31	-------	-------	3,160	3.95	2.72
June	2,810	415	927	1.16	1.29
July	8,900	140	1,990	2.49	2.87
August	738	140	278	.348	.40
September	280	130	156	.195	.22

WEST FORK OF WHITE RIVER AT SPENCER, IND.

LOCATION.—Chain gage in sec. 29, T. 10 N., R. 3 W., at highway bridge at Spencer.
DRAINAGE AREA.—2,910 square miles.
RECORDS AVAILABLE.—October, 1927, to September, 1929.
EXTREMES.—Maximum discharge during year, 23,200 second-feet May 20 (gage height, 17.80 feet); minimum, 315 second-feet Sept. 24.
1928–29: Maximum discharge, that of May 20, 1929; minimum, that of Sept. 24, 1929.
REMARKS.—Records good. Gage-height record furnished by Department of Conservation, State of Indiana.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	500	380	935	1,160	3,000	16,800	4,400	2,800	8,120	7,600	1,300	615
2	470	980	890	1,070	2,900	12,000	4,620	2,400	7,730	10,700	1,300	615
3	440	4,730	850	980	2,700	6,400	4,510	3,200	8,770	14,200	1,300	578
4	440	3,100	810	850	2,500	6,160	4,400	5,200	8,380	17,200	2,750	540
5	1,800	2,200	850	770	2,300	5,920	4,620	12,000	6,880	18,000	2,750	652
6	1,610	2,000	810	980	2,300	5,680	4,510	10,200	5,200	18,400	2,530	652
7	770	2,000	770	2,200	2,200	4,960	4,290	7,480	3,410	13,400	2,530	850
8	610	1,900	730	2,200	2,200	4,290	4,070	5,200	3,850	9,290	1,500	540
9	535	1,610	730	2,000	2,200	3,850	6,160	4,180	4,290	14,900	1,210	540
10	535	1,430	690	2,100	2,100	3,100	12,000	3,630	3,960	12,200	1,030	540
11	500	980	650	2,500	2,000	3,000	18,000	3,000	3,630	12,000	940	850
12	470	890	650	2,600	1,900	2,800	17,200	2,800	2,750	11,100	940	770
13	440	810	570	2,700	1,800	3,410	15,600	3,200	9,690	10,200	940	615
14	410	770	1,340	2,600	1,610	5,200	11,400	12,000	7,600	7,860	1,030	505
15	380	770	3,520	2,400	1,430	6,280	9,160	17,200	7,860	7,990	895	405
16	1,250	810	3,200	2,600	1,430	6,880	6,880	19,800	5,320	7,360	895	405
17	1,800	980	4,290	2,700	1,520	7,120	6,280	20,000	5,080	6,160	850	405
18	1,160	2,000	7,990	6,280	2,000	6,400	4,510	18,200	4,960	6,040	850	375
19	980	2,000	7,600	15,500	2,100	5,920	4,070	16,600	4,400	3,850	810	345
20	980	1,900	5,680	20,500	2,200	5,800	3,410	23,200	2,970	3,190	770	375
21	1,160	1,800	4,400	22,200	2,000	5,680	3,000	23,000	2,750	2,750	730	345
22	980	1,700	3,740	21,500	2,000	5,800	4,070	17,200	2,530	2,530	690	345
23	570	1,610	2,500	18,900	2,500	5,200	4,400	10,100	2,420	2,310	652	345
24	535	1,610	2,300	17,800	3,000	4,730	3,520	7,120	2,310	2,100	652	315
25	500	1,430	1,900	17,400	4,070	4,510	3,410	5,800	2,200	2,100	652	375
26	470	1,250	1,800	21,000	10,700	4,510	2,400	5,080	2,100	2,000	615	345
27	440	1,250	1,610	19,600	18,000	4,960	3,410	4,510	2,420	2,000	615	345
28	440	1,160	1,430	12,000	19,800	5,440	3,200	7,000	2,970	1,700	615	345
29	410	1,070	1,340	6,400	-------	5,440	3,100	9,420	3,080	1,500	578	345
30	410	980	1,250	5,440	-------	5,200	3,000	10,100	3,520	1,500	615	345
31	380	-------	1,250	4,400	-------	4,400	-------	9,970	-------	1,400	615	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,800	380	722	0.248	0.29
November	4,730	380	1,540	.529	.59
December	7,990	570	2,160	.742	.86
January	22,200	770	7,780	2.67	3.08
February	19,800	1,430	3,730	1.28	1.33
March	16,800	2,800	5,740	1.97	2.27
April	18,000	2,400	6,120	2.10	2.34
May	23,200	2,400	9,730	3.34	3.85
June	9,690	2,100	4,700	1.62	1.81
July	18,400	1,400	7,530	2.59	2.99
August	2,750	578	1,100	.378	.44
September	850	315	487	.167	.19
The year	23,200	315	4,300	1.48	20.04

WEST FORK OF WHITE RIVER AT NEWBERRY, IND.

LOCATION.—Water-stage recorder in sec. 25, T. 6 N., R. 6 W., at highway bridge at Newberry since Oct. 20. Staff gage used prior to that date.

DRAINAGE AREA.—4,670 square miles.

RECORDS AVAILABLE.—September, 1928, to September, 1929.

EXTREMES.—Maximum discharge for period, 38,800 second-feet May 22, 1929 (gage height, 19.72 feet); minimum discharge, 650 second-feet Sept. 30, 1929; minimum gage height, 1.43 feet Sept. 26–28, 1928.

Flood of January, 1913, reached a stage of 26.2 feet.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		790	1,000	1,910	2,300	5,820	23,800	7,020	4,020	15,800	3,770	1,760	920
2		860	2,400	1,730	2,300	4,980	21,800	7,540	4,020	11,100	6,390	1,670	882
3		825	7,810	1,640	2,100	4,500	14,400	7,410	5,340	9,200	9,800	1,670	845
4		895	8,190	1,640	2,000	4,020	9,290	6,660	7,800	11,400	17,100	2,250	845
5		895	5,340	1,640	2,000	3,790	10,400	5,940	14,200	8,200	18,100	2,550	1,070
6		5,100	3,460	1,640	3,350	3,570	10,000	5,820	18,600	6,580	19,400	2,150	1,190
7		3,280	2,800	1,550	4,140	3,460	8,060	5,100	17,800	5,210	21,100	1,850	920
8		1,470	2,400	1,470	3,520	3,350	6,660	4,740	12,200	5,350	18,600	1,670	1,000
9		1,150	2,100	1,390	2,600	3,350	5,700	7,080	7,540	7,800	16,100	1,580	920
10		1,000	1,910	1,310	2,910	3,130	4,980	17,400	6,060	6,200	18,800	1,490	1,400
11		1,000	1,820	1,310	3,350	2,910	4,380	22,600	5,100	4,580	17,800	1,490	1,400
12	930	930	1,820	1,230	3,680	2,700	3,900	26,200	4,860	4,610	14,800	1,400	1,160
13	895	860	1,640	1,310	3,020	2,600	4,020	27,200	6,630	6,640	12,800	1,400	960
14	1,310	860	1,550	3,800	3,100	2,600	6,180	24,100	14,000	10,700	11,900	1,320	845
15	1,150	860	1,470	6,660	4,980	2,500	9,010	12,500	21,400	12,600	9,500	1,320	808
16	1,000	1,310	1,550	6,780	4,860	2,400	10,800	11,500	24,100	10,100	8,060	1,320	770
17	1,000	5,940	2,330	7,460	5,760	2,400	10,600	9,290	26,200	6,460	7,370	1,320	808
18	930	6,180	4,140	12,600	8,120	2,700	9,430	7,540	25,900	5,210	5,940	1,320	770
19	895	3,020	4,740	13,700	22,400	3,130	7,670	6,540	26,200	4,970	5,330	1,320	770
20	860	2,100	4,380	11,600	25,900	3,350	6,780	5,700	27,600	4,970	4,610	1,240	732
21	825	1,640	3,790	7,360	27,600	3,350	6,660	5,700	31,500	4,250	3,650	1,160	695
22	825	1,470	3,350	5,340	31,100	3,130	8,870	7,410	37,800	3,650	3,200	1,160	695
23	808	1,390	3,020	4,140	33,300	2,800	9,290	7,280	35,300	3,310	2,870	1,160	695
24	790	1,310	2,700	3,680	31,900	2,700	7,800	6,060	22,900	3,200	2,650	1,240	658
25	755	1,230	2,400	3,240	32,800	3,510	6,540	5,340	12,000	3,200	2,450	1,160	695
26	755	1,150	2,100	3,020	31,500	14,200	7,430	5,460	9,050	2,650	2,250	1,080	695
27	755	1,150	1,910	2,800	32,300	22,900	10,600	5,460	7,920	2,450	3,090	1,000	658
28	755	1,150	1,820	2,700	30,300	23,800	11,900	5,340	10,900	2,250	3,090	1,000	658
29	790	1,150	1,820	2,600	24,100		10,000	4,980	17,100	2,650	2,250	1,000	658
30	790	1,070	1,910	2,500	11,800		8,320	4,500	19,400	2,870	2,050	1,000	658
31		1,000		2,400	7,080		7,150		19,100		1,850	920	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,180	790	1,710	0.366	0.42
November	8,190	1,000	2,920	.625	.70
December	13,700	1,230	3,940	.844	.97
January	33,300	2,060	13,100	2.81	3.24
February	23,800	2,400	5,130	1.10	1.14
March	23,800	3,900	9,110	1.95	2.25
April	27,200	4,500	9,510	2.04	2.28
May	37,800	4,020	16,200	3.47	4.00
June	15,800	2,250	6,260	1.34	1.50
July	21,100	1,850	8,930	1.91	2.20
August	2,550	920	1,420	.304	.35
September	1,400	658	859	.184	.21
The year	37,800	658	6,620	1.42	19.26

WHITE RIVER AT HAZLETON, IND.

LOCATION.—Chain gage in sec. 24, T. 1 N., R. 11 E., at highway bridge at Hazleton, Gibson County. Zero of gage is 383.63 feet above mean sea level.
DRAINAGE AREA.—12,200 square miles.
RECORDS AVAILABLE.—October, 1928, to September, 1929.
EXTREMES.—Maximum discharge during year, 73,100 second-feet Jan. 29 (gage height, 25.08 feet); minimum, 1,380 second-feet Oct. 1 (gage height, 2.52 feet).
REMARKS.—Records good. Gage-height record furnished by Department of Conservation, State of Indiana.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	2,350	4,890	5,570	65,100	42,800	19,100	11,000	30,400	7,510	3,520	2,390
2	1,490	2,480	5,910	5,400	63,700	47,200	17,300	11,400	25,600	10,000	3,670	2,270
3	1,600	4,890	6,790	5,230	57,200	51,000	16,800	12,400	22,100	11,800	3,980	2,270
4	1,600	9,140	7,330	5,230	43,600	54,200	16,800	18,200	19,100	14,700	4,300	2,270
5	1,720	11,400	6,080	5,230	21,600	56,000	14,700	25,900	18,600	18,000	4,300	2,270
6	1,600	13,600	4,890	9,900	15,500	54,800	13,800	31,900	16,800	22,900	4,630	2,390
7	1,600	11,400	4,400	8,590	11,000	53,600	13,400	34,000	14,700	25,000	4,800	2,390
8	3,470	10,100	4,240	7,330	10,000	50,500	17,100	39,200	13,000	28,600	4,800	2,390
9	2,890	8,050	3,770	6,970	9,410	44,000	18,600	41,000	11,800	32,200	4,970	2,520
10	2,350	6,610	3,620	7,330	8,840	32,200	21,100	39,200	12,200	34,700	4,800	2,520
11	1,840	5,910	3,320	7,690	8,270	22,600	26,200	32,200	12,400	33,100	4,630	3,080
12	1,490	4,890	2,220	8,050	7,890	16,600	29,500	28,900	12,800	31,900	4,140	3,220
13	1,490	3,920	3,030	3,770	6,940	14,700	37,800	28,000	13,400	31,300	3,820	3,370
14	1,490	3,920	3,920	3,920	6,750	12,600	41,700	31,000	13,800	30,400	3,520	3,220
15	1,490	3,620	5,230	4,240	6,570	10,200	45,200	37,800	18,400	28,000	3,520	3,080
16	2,090	3,620	9,140	3,770	6,390	14,200	46,800	40,600	21,100	22,600	3,370	2,940
17	4,560	3,920	13,000	3,620	6,030	20,800	48,500	44,400	25,000	18,400	3,370	2,940
18	8,230	4,720	19,100	11,200	6,390	21,600	45,600	47,600	23,200	15,300	3,220	2,940
19	8,410	5,400	22,600	29,200	6,570	23,500	37,800	50,500	19,400	13,600	3,080	2,800
20	6,790	5,910	25,300	33,700	6,940	21,400	27,400	54,200	17,700	12,600	2,940	2,660
21	5,060	6,610	26,500	38,200	7,320	18,600	19,100	56,000	15,100	10,800	2,940	2,390
22	5,060	8,230	22,600	43,200	7,700	19,100	14,500	58,400	13,200	9,600	2,800	2,150
23	4,560	6,250	20,400	47,600	7,510	18,900	17,500	59,600	10,800	8,460	2,940	2,030
24	3,320	6,790	14,700	53,000	7,890	18,600	18,900	60,900	9,600	7,510	2,940	1,910
25	2,350	7,330	13,800	60,900	9,800	18,200	19,100	60,900	9,800	6,940	3,080	2,030
26	2,090	6,250	12,000	68,200	21,400	18,200	17,700	60,200	9,600	6,390	2,940	1,790
27	1,960	4,890	8,410	71,400	29,500	19,400	15,300	53,600	9,220	6,030	2,940	1,670
28	2,350	4,080	7,330	72,200	37,800	20,600	14,200	41,000	9,030	5,490	2,800	1,790
29	2,220	3,920	6,970	73,100	------	21,800	12,600	29,800	8,460	4,630	2,660	1,910
30	2,090	4,240	6,430	72,200	------	23,200	11,800	22,100	7,890	3,980	2,520	1,790
31	2,220	------	5,910	69,800	------	21,100	------	24,400	------	3,520	2,390	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	8,410	1,380	2,930	0.262	0.30
November	13,600	2,350	6,150	.549	.61
December	26,500	2,220	9,800	.875	1.01
January	73,100	3,620	27,300	2.44	2.81
February	65,100	6,030	18,000	1.61	1.68
March	56,000	10,200	28,500	2.54	2.93
April	48,500	11,800	23,900	2.13	2.38
May	60,900	11,000	38,300	3.42	3.94
June	30,400	7,890	15,500	1.38	1.54
July	34,700	3,520	16,600	1.48	1.71
August	4,970	2,390	3,560	.318	.37
September	3,370	1,670	2,450	.219	.24
The year	73,100	1,380	16,100	1.44	19.52

EAST FORK OF WHITE RIVER AT SEYMOUR, IND.

LOCATION.—Chain gage in sec. 6, T. 6 N., R. 6 E., at highway bridge 1 mile north of Seymour.

DRAINAGE AREA.—2,380 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 22,600 second-feet Jan. 20, 26, Feb. 27, 28 (gage height, 10.1 feet); minimum, 274 second-feet Oct. 12 (gage height, 2.12 feet).

1927–1929: Maximum discharge, that of Jan. 20, 26, Feb. 27, 28, 1929; minimum, 260 second-feet Sept. 17, 1928.

REMARKS.—Records good. Stages at low water affected by operation of turbines at dam 500 feet downstream. Gage-heights furnished by Department of Conservation, State of Indiana.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	384	420	900	1,120	3,210	15,600	3,720	1,590	2,480	2,480	900	500
2	384	460	900	1,050	2,250	12,400	3,080	1,400	2,250	2,480	900	480
3	402	5,890	872	1,020	2,140	6,450	2,840	1,400	2,480	10,300	930	460
4	402	3,210	844	960	2,140	5,890	2,720	1,220	3,210	8,400	1,220	440
5	420	2,250	816	960	2,020	5,330	2,600	1,800	2,480	8,200	3,720	420
6	440	500	788	930	2,020	4,780	2,480	7,320	2,250	10,900	2,020	420
7	500	480	760	900	2,020	6,170	2,250	7,320	1,800	11,800	1,590	460
8	500	460	734	1,050	2,020	5,890	2,020	5,050	2,020	10,300	1,220	608
9	420	420	656	2,140	2,020	5,610	2,480	3,980	2,140	7,030	1,220	816
10	330	520	630	2,360	1,910	5,330	8,800	3,210	2,250	8,500	990	788
11	316	1,020	682	2,480	1,910	4,780	15,000	2,720	2,020	8,800	1,050	760
12	274	990	630	2,600	1,800	4,780	15,900	2,250	2,250	5,890	1,050	682
13	288	960	656	2,360	1,800	4,780	11,200	4,780	5,050	5,050	900	630
14	288	930	630	1,590	1,800	4,510	9,400	7,030	8,200	5,890	844	682
15	316	960	682	1,050	1,800	4,240	6,740	16,900	6,170	5,330	760	630
16	330	1,020	682	1,020	1,700	4,240	4,510	15,000	4,240	4,240	760	586
17	520	1,050	1,220	1,220	1,700	4,240	4,240	11,500	3,210	3,210	734	564
18	760	1,120	5,330	7,900	1,590	3,720	3,980	9,700	5,330	2,840	708	542
19	734	1,150	5,330	14,600	1,590	3,720	3,720	12,100	3,460	2,480	682	520
20	656	1,220	4,510	22,600	1,800	4,240	3,210	16,900	2,720	2,020	656	480
21	630	1,150	4,240	21,600	1,700	4,510	3,720	16,300	2,360	1,800	630	480
22	608	1,120	3,720	16,900	1,590	4,780	3,980	14,000	4,780	1,590	608	480
23	630	1,120	3,210	15,600	1,590	5,330	4,780	10,300	4,780	1,590	520	500
24	656	1,120	2,480	14,300	1,590	5,330	4,510	5,610	2,020	1,400	630	500
25	708	1,080	2,140	18,200	1,800	5,330	4,240	3,720	3,460	1,220	608	460
26	656	1,050	1,910	22,600	6,450	5,330	4,240	3,210	3,210	1,220	564	480
27	608	1,020	1,590	18,200	22,600	5,330	3,980	2,960	2,720	1,220	520	460
28	564	990	1,310	12,400	22,600	4,780	3,210	2,720	2,480	1,050	520	440
29	500	960	1,220	10,000	-------	4,510	2,720	3,080	2,250	1,020	520	440
30	460	930	1,150	9,100	-------	4,240	2,020	2,960	2,250	1,050	542	460
31	440	-------	1,150	5,610	-------	3,720	-------	2,720	-------	1,120	500	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	760	274	488	0.205	0.24
November	5,890	420	1,190	.500	.56
December	5,330	630	1,690	.710	.82
January	22,600	900	7,560	3.18	3.67
February	22,600	1,590	3,540	1.49	1.55
March	15,600	3,720	5,480	2.30	2.65
April	15,000	2,020	4,940	2.08	2.32
May	16,900	1,220	6,480	2.72	3.14
June	8,200	1,800	3,210	1.35	1.51
July	11,800	1,020	4,560	1.91	2.20
August	3,720	500	936	.393	.45
September	816	420	539	.227	.25
The year	22,600	274	3,390	1.42	19.36

EAST FORK OF WHITE RIVER AT SHOALS, IND.

LOCATION.—Water-stage recorder in sec. 30, T. 3 N., R. 3 W., at highway bridge at Shoals. Zero of gage is 442.97 feet above mean sea level.

DRAINAGE AREA.—4,900 square miles.

RECORDS AVAILABLE.—June, 1903, to July, 1906; October, 1908, to September, 1916; October, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 41,800 second-feet Jan. 26 (gage height, 26.45 feet); minimum, 360 second-feet Sept. 29 (gage height, 2.18 feet).

1903–1906, 1908–1916, 1926–1929: Maximum stage, 42.2 feet Mar. 28, 1913 (discharge not determined); minimum discharge, 128 second-feet on several dates.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	440	760	1,870	2,450	33,400	29,300	6,900	4,300	5,700	3,700	1,510	595
2	510	970	2,630	2,280	23,700	35,400	6,900	4,100	4,900	4,300	1,440	630
3	440	4,030	2,820	2,450	10,100	40,100	6,900	6,500	4,100	4,900	1,370	670
4	630	4,660	2,450	3,010	5,500	41,000	6,900	11,100	3,700	6,500	1,180	670
5	475	6,300	2,030	2,820	4,700	38,200	6,100	17,300	3,700	8,500	1,120	670
6	550	6,500	2,030	3,010	3,900	33,300	5,300	20,300	3,900	14,900	1,440	528
7	550	5,700	2,280	3,210	3,700	24,000	5,100	20,500	3,700	15,900	2,900	595
8	550	4,240	2,280	3,210	3,500	16,200	5,100	20,800	3,700	15,200	2,150	670
9	510	3,010	1,720	2,630	3,500	12,400	5,100	20,600	3,500	14,500	1,580	956
10	590	2,280	1,640	3,410	3,300	10,500	10,500	17,900	3,300	14,200	1,660	1,430
11	590	1,720	1,560	3,410	3,100	7,500	16,100	13,300	3,500	12,200	1,510	1,900
12	510	1,790	1,220	3,410	2,700	5,300	17,400	9,700	3,700	11,300	1,240	1,510
13	550	1,790	1,350	3,210	2,500	4,500	20,200	12,600	4,900	11,400	1,240	1,510
14	590	1,560	2,280	2,030	2,320	4,700	23,200	21,600	6,900	10,700	1,300	1,440
15	510	1,490	3,820	1,870	2,150	6,700	24,000	26,400	10,500	9,500	1,240	1,480
16	630	1,490	4,030	2,030	2,150	10,100	21,800	26,600	12,000	8,700	1,120	1,820
17	2,110	1,490	5,500	1,950	2,150	11,300	17,300	26,400	12,000	7,300	1,000	1,660
18	1,790	1,490	11,000	7,750	2,500	10,900	12,800	28,500	10,900	5,900	1,000	1,040
19	1,640	1,790	12,400	24,600	2,500	10,100	9,300	31,400	9,100	4,900	895	855
20	1,950	2,110	12,800	26,400	3,300	8,100	7,300	32,800	7,900	4,100	948	908
21	1,640	2,280	11,900	24,200	3,500	6,900	6,100	31,800	6,100	3,500	848	755
22	1,350	2,630	10,200	25,900	3,300	6,300	6,100	30,700	4,900	3,100	848	595
23	1,220	2,630	8,700	32,000	2,700	6,700	7,700	30,100	4,300	2,500	895	670
24	860	2,450	6,700	35,700	2,700	7,500	9,500	28,600	3,900	2,150	1,000	670
25	915	2,030	4,870	39,600	2,700	8,300	8,900	24,500	3,700	1,980	1,120	630
26	970	1,870	3,820	41,800	12,600	8,300	7,100	17,300	3,900	1,900	1,280	630
27	970	1,720	3,210	41,200	25,800	8,300	5,900	9,900	5,100	1,820	1,350	630
28	915	1,490	2,820	40,500	26,400	9,700	5,300	6,700	4,900	1,740	895	560
29	860	1,490	2,820	40,300	-------	10,700	4,900	6,100	4,100	1,660	848	477
30	860	1,560	2,450	40,100	-------	9,500	4,500	6,100	3,500	1,660	710	595
31	810	-------	2,450	38,100	-------	7,900	-------	6,100	-------	1,510	670	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,110	440	887	0.181	0.21
November	6,500	760	2,510	.512	.57
December	12,800	1,220	4,440	.906	1.04
January	41,800	1,870	16,300	3.33	3.84
February	33,400	2,150	7,160	1.46	1.52
March	41,000	4,500	14,500	2.96	3.41
April	24,000	4,500	10,000	2.04	2.28
May	32,800	4,100	18,400	3.76	4.34
June	12,000	3,300	5,530	1.13	1.26
July	15,900	1,510	6,840	1.40	1.61
August	2,900	670	1,240	.253	.29
September	1,900	477	925	.189	.21
The year	41,800	440	7,430	1.52	20.58

LITTLE WABASH RIVER AT WILCOX, ILL.

LOCATION.—Chain gage in SW. ¼ sec. 3, T. 2 N., R. 8 E., at highway bridge at Wilcox, one-fourth mile below mouth of Big Muddy Creek.

DRAINAGE AREA.—1,130 square miles.

RECORDS AVAILABLE.—August, 1914, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,200 second-feet May 20 (gage height, 22.9 feet); minimum, 9.7 second-feet Sept. 19 (gage height, 1.99 feet).

1914–1929: Maximum discharge (estimated), 14,000 second-feet Aug. 22, 1915 (gage inaccessible); minimum, 2 second-feet Sept. 1, 1926 (gage height, 1.65 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	583	160	228	666	2,740	2,320	366	327	108	59	17
2	19	962	123	264	433	1,540	2,170	615	301	90	56	18
3	20	551	171	276	353	1,900	2,100	2,820	353	86	56	16
4	21	461	193	288	353	2,380	2,290	3,070	632	86	52	20
5	21	240	327	366	340	3,580	2,120	4,540	829	74	48	17
6	24	104	353	684	327	3,460	1,100	6,640	520	70	45	26
7	118	a 73	216	924	327	3,170	1,080	6,510	340	327	48	193
8	182	42	204	1,540	301	1,220	615	5,200	1,340	276	39	90
9	90	39	301	2,170	314	649	1,420	4,690	1,840	264	45	48
10	86	62	182	3,070	314	366	4,690	4,330	1,900	340	52	28
11	35	48	82	2,320	171	204	6,030	3,170	1,160	666	228	19
12	28	14	353	981	171	204	5,110	1,940	1,540	505	171	20
13	24	19	1,040	447	171	632	4,540	2,440	2,820	276	160	17
14	23	26	2,590	353	160	1,220	4,540	4,470	2,820	905	379	17
15	104	34	2,470	301	118	3,910	4,770	5,300	3,980	a1,040	1,220	16
16	379	182	2,100	314	118	4,120	3,340	6,270	4,690	1,180	1,520	20
17	1,580	981	4,690	301	149	3,840	3,070	5,110	4,330	1,670	848	20
18	2,590	1,540	4,770	1,180	a 160	3,520	2,820	5,700	3,120	1,870	138	13
19	1,580	2,140	4,850	3,020	a 171	2,070	1,420	6,270	1,180	2,290	118	9.7
20	943	1,360	4,400	5,020	a 182	1,280	829	8,200	632	1,060	99	11
21	171	962	4,190	5,020	a 193	1,060	1,060	6,390	314	314	99	10
22	160	583	3,070	4,930	204	1,360	2,000	5,110	288	204	94	10
23	160	366	2,290	5,020	193	1,180	2,410	4,470	204	149	90	12
24	94	182	867	5,020	301	1,420	2,530	3,980	252	123	82	12
25	45	182	392	5,020	1,040	1,040	2,120	2,120	649	113	82	13
26	39	82	327	5,020	2,070	905	1,520	583	475	108	70	11
27	59	82	288	4,120	3,910	1,180	1,140	475	252	86	42	11
28	108	78	264	4,330	4,330	1,440	867	1,080	123	86	26	11
29	94	99	276	3,020	------	1,920	567	1,200	123	78	38	13
30	90	123	276	1,770	------	2,070	475	1,060	123	66	16	16
31	94	------	252	1,140	------	2,500	------	666	------	62	18	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,590	18	290	0.257	0.30
November	2,140	14	407	.360	.40
December	4,850	82	1,350	1.19	1.37
January	5,020	228	2,210	1.95	2.25
February	4,330	118	627	.555	.58
March	4,120	204	1,870	1.66	1.91
April	6,030	475	2,370	2.10	2.34
May	8,200	366	3,700	3.27	3.77
June	4,690	123	1,250	1.11	1.24
July	2,290	62	470	.416	.48
August	1,520	16	195	.173	.20
September	193	9.7	25.1	.022	.02
The year	8,200	9.7	1,240	1.10	14.86

a Estimated

SKILLET FORK AT WAYNE CITY, ILL.

LOCATION.—Chain gage in SW. ¼ sec. 7, T. 2 S., R. 6 E., at highway bridge 1 mile north of Wayne City. Zero of gage is 408.73 feet above mean sea level.

DRAINAGE AREA.—475 square miles.

RECORDS AVAILABLE.—June, 1928, to September, 1929. August, 1908, to December, 1912, and June, 1914, to September, 1921, at Southern Railway bridge 2 miles downstream.

EXTREMES.—Maximum discharge during year, 8,600 second-feet May 15 (gage height, 22.81 feet); minimum, 1.2 second-feet Sept. 3–5, 24, 28–30 (gage height, 3.42 feet).

1908–1912, 1914–1921, 1928–29: Maximum discharge, 15,800 second-feet Aug. 22, 1915; minimum, zero flow for 54 days in September to December, 1908.

REMARKS.—Records good. Discharge corrected for ice effect Jan. 3, 15–18.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	34	279	77	125	1,700	455	85	52	20	4.0	1.7
2	3.0	444	191	69	98	870	774	111	39	15	3.8	1.4
3	4.5	1,000	125	69	62	594	570	961	31	12	3.2	1.2
4	160	570	98	55	55	1,340	268	1,550	28	10	2.8	1.2
5	37	312	345	62	48	2,610	160	2,760	28	9.0	2.6	1.2
6	19	170	367	534	48	2,140	120	4,010	25	7.8	3.0	24
7	11	106	202	870	48	1,130	93	6,000	24	8.2	4.5	35
8	6.7	77	125	786	52	444	81	5,750	120	8.6	5.3	14
9	5.3	62	85	444	55	224	654	4,010	202	7.4	4.5	8.2
10	4.5	52	73	356	55	150	3,880	1,420	116	8.6	4.2	14
11	4.8	45	55	400	48	116	3,530	411	73	9.4	4.8	22
12	5.0	48	52	312	40	98	4,460	582	455	45	7.4	11
13	4.8	45	534	246	34	290	3,220	3,220	3,640	41	4.5	7.0
14	3.4	39	2,760	180	32	1,850	1,080	6,000	6,000	17	3.4	4.5
15	23	33	3,220	102	31	1,650	909	8,300	6,250	93	2.8	3.4
16	389	106	2,810	77	32	1,420	1,200	7,700	4,830	400	58	2.8
17	1,220	834	2,920	48	58	1,420	1,060	5,750	2,300	582	89	3.0
18	786	1,230	4,640	750	150	1,000	534	3,130	822	334	40	2.4
19	389	1,200	4,010	5,250	170	433	235	2,920	202	116	23	2.4
20	130	961	3,050	6,500	120	268	150	4,300	98	55	16	2.2
21	69	378	1,420	5,030	77	279	125	7,100	69	35	13	1.8
22	45	150	433	4,300	62	334	411	4,830	48	25	9.0	1.6
23	35	102	150	3,220	66	400	822	1,620	38	18	7.0	1.4
24	28	73	111	2,420	69	345	786	433	34	14	30	1.2
25	23	58	93	5,500	111	235	290	116	150	11	41	1.5
26	18	45	81	6,800	2,610	191	323	85	389	9.0	13	1.6
27	16	37	89	5,030	4,150	301	499	77	150	7.4	7.0	1.6
28	24	32	120	3,130	3,220	510	367	73	160	6.4	5.0	1.2
29	160	32	120	1,030	-------	279	191	170	39	5.6	3.4	1.2
30	93	120	106	290	-------	213	120	150	26	4.8	2.8	1.2
31	52	-------	89	150	-------	202	-------	81	-------	4.5	2.1	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,220	3.0	122	0.257	0.30
November	1,230	32	280	.589	.66
December	4,640	52	928	1.95	2.25
January	6,800	48	1,740	3.66	4.22
February	4,150	31	419	.882	.92
March	2,610	98	743	1.56	1.80
April	4,460	81	912	1.92	2.14
May	8,300	73	2,700	5.68	6.55
June	6,250	24	881	1.85	2.06
July	582	4.5	62.6	.132	.15
August	89	2.1	13.5	.028	.03
September	35	1.2	5.90	.012	.01
The year	8,300	1.2	739	1.56	21.09

SALINE RIVER BASIN

MIDDLE FORK OF SALINE RIVER NEAR HARRISBURG, ILL.

LOCATION.—Chain gage in SW. ¼ sec. 13, T. 9 S., R. 6 E., at highway bridge 2 miles east of Harrisburg. Zero of gage is 338.51 feet above mean sea level.

DRAINAGE AREA.—198 square miles.

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, 3,900 second-feet Feb. 27 (gage height, 21.25 feet); minimum, 0.6 second-foot Aug. 20 (gage height, 1.08 feet).

1922–1929: Maximum discharge, 4,050 second-feet June 21, 1928 (gage height, 21.51 feet); minimum, 0.3 second-foot Sept. 20, 21, 26, 1927.

REMARKS.—Records fair except those for days when stage was changing rapidly, which are poor. Backwater from Ohio River Jan. 25 to Feb. 5, Mar. 2–21, Mar. 30 to Apr. 4, Apr. 14–19, and May 7–31; discharge not determined.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	5.4	2,680	38	------	1,030	------	41	23	2.3	5.4	1.0
2	.9	590	1,180	34	------	------	------	1,550	36	2.2	4.4	.8
3	9.7	282	242	17	------	------	------	2,320	30	1.7	2.3	1.4
4	68	155	890	32	------	------	------	1,520	24	1.6	1.7	1.0
5	508	68	810	60	------	------	41	1,210	10	1.5	1.2	.9
6	143	18	386	235	30	------	29	1,610	9.7	3.0	9.7	105
7	11	32	95	64	32	------	22	------	13	4.9	11	23
8	5.4	23	64	48	38	------	38	------	497	2.7	8.6	115
9	3.0	17	46	56	48	------	890	------	110	8.3	5.4	56
10	3.4	15	32	542	42	------	2,320	------	29	4.0	4.9	48
11	2.2	13	23	161	29	------	2,200	------	16	282	2.2	50
12	1.9	12	56	100	22	------	1,840	------	64	20	1.7	56
13	1.9	10	615	41	23	------	930	------	1,140	13	8.3	72
14	1.9	7.4	950	38	26	------	------	------	2,280	10	1.9	85
15	13	11	855	56	32	------	------	------	2,200	95	1.7	80
16	855	705	207	68	56	------	------	------	1,260	105	1.2	72
17	1,610	2,960	1,280	235	155	------	------	------	377	23	.9	60
18	1,880	855	3,280	1,400	173	------	------	------	34	4.7	.8	14
19	1,090	368	2,090	3,720	68	------	------	------	20	3.7	.7	9.8
20	235	125	2,360	3,450	76	------	42	------	15	2.3	.6	9.5
21	30	100	2,920	2,600	105	------	41	------	16	2.0	.8	5.0
22	19	52	465	1,740	72	80	38	------	8.3	1.6	.9	4.1
23	17	38	44	1,180	80	64	24	------	7.1	1.3	1.7	3.6
24	14	34	42	1,670	120	42	23	------	6.8	1.1	266	4.8
25	9.3	20	35	------	840	34	26	------	5.4	1.0	19	4.1
26	6.5	19	41	------	3,450	34	18	------	4.9	1.3	9.8	3.5
27	3.0	16	52	------	3,900	36	16	------	4.2	1.4	9.5	3.1
28	22	9.7	38	------	2,560	29	13	------	4.0	1.1	1.0	2.2
29	16	258	32	------	------	44	11	------	3.2	1.0	1.0	2.2
30	7.4	1,240	20	------	------	------	13	------	2.5	.8	1.0	290
31	6.8	------	20	------	------	------	------	------	------	9.7	1.2	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,880	0.9	213	1.08	1.24
November	2,960	5.4	269	1.36	1.52
December	3,280	20	705	3.56	4.10
January 1-24	3,720	17	733	3.70	3.30
February 6-28	3,900	22	521	2.63	2.25
May 1-6	2,320	41	1,380	6.97	1.56
June	2,280	2.5	275	1.39	1.55
July	282	.8	19.8	.100	.12
August	266	.6	12.5	.063	.07
September	290	.8	39.4	.199	.22

TRADEWATER RIVER BASIN

TRADEWATER RIVER NEAR DALTON, KY.

LOCATION.—Chain gage at Wilson Highway bridge 3 miles southwest of Dalton, Hopkins County.

DRAINAGE AREA.—280 square miles.

RECORDS AVAILABLE.—June, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,680 second-feet Feb. 27 (gage height, 18.09 feet); minimum, 0.2 second-foot Oct. 14 (gage height, 0.78 foot).

1928–29: Maximum discharge, 3,440 second-feet June 30, 1928 (gage height, 20.0 feet); minimum, that of Oct. 14, 1928.

Flood of January, 1913, reached a stage of about 22.1 feet.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	9.6	805	58	593	2,510	490	179	91	21	36	9.0
2	.5	12.0	696	96	248	2,340	593	865	76	21	81	6.
3	.6	11.0	299	216	122	2,120	523	1,210	116	19.0	38	5.8
4	.6	10.0	116	134	101	1,920	317	1,330	134	21	128	4.7
5	1.2	9.8	193	111	96	1,710	208	1,230	91	25	96	3.8
6	.8	9.4	216	146	96	1,650	158	1,190	63	18.0	42	3.8
7	.8	8.6	146	281	111	1,680	134	1,400	58	13.0	23	17.0
8	.6	7.2	96	240	146	1,590	111	1,560	86	12.0	15.0	355
9	.6	7.0	72	172	193	1,400	317	1,680	52	15.0	12.0	479
10	.5	7.6	58	326	200	805	895	1,710	42	20.0	9.0	290
11	.4	7.0	50	696	186	425	1,330	1,680	38	11.0	8.2	86
12	.2	5.8	44	644	134	224	1,590	1,400	26	8.4	224	52
13	.2	5.0	40	345	116	165	1,800	850	670	6.8	405	76
14	.2	5.0	42	172	101	501	1,830	777	1,230	6.6	152	165
15	.2	5.0	50	122	111	990	1,770	735	1,400	20.0	68	224
16	1.0	5.0	50	106	122	1,110	1,620	405	1,400	36	54	128
17	8.0	5.4	395	152	140	1,170	1,260	248	1,090	28	32	63
18	2.0	6.2	1,230	425	116	925	696	179	479	18.0	18.0	36
19	1.1	6.6	1,500	1,260	146	457	355	281	134	10.0	13.0	25
20	.9	7.4	1,620	1,460	281	240	193	468	165	9.8	9.8	18.0
21	.9	7.4	1,560	1,530	501	200	200	405	264	9.2	8.2	16.0
22	1.9	7.0	1,170	1,460	385	200	446	224	122	8.4	6.8	12.0
23	3.3	6.6	631	1,130	290	179	581	140	68	8.0	7.8	11.0
24	3.1	6.4	216	722	290	172	415	101	50	6.8	12.0	11.0
25	2.8	6.2	106	1,400	791	179	216	179	40	6.0	40	8.8
26	4.7	6.4	86	1,710	2,120	158	158	763	34	5.0	81	8.8
27	12.0	6.6	72	1,890	2,680	128	122	970	63	4.5	38	8.0
28	13.0	6.6	68	1,920	2,650	106	111	940	58	3.8	23	7.2
29	11.0	11.0	63	1,860	-------	101	146	593	44	3.8	14.0	6.4
30	9.8	200	54	1,680	-------	200	224	264	26	3.8	9.6	7.4
31	9.6	-------	48	1,190	-------	405	-------	122	-------	4.1	10.0	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	13.0	0.2	3.0	0.011	0.01
November	200	5.0	13.8	.049	.05
December	1,620	40	381	1.36	1.57
January	1,920	58	763	2.72	3.14
February	2,680	96	468	1.67	1.74
March	2,510	101	837	2.99	3.45
April	1,830	111	627	2.24	2.50
May	1,710	101	777	2.78	3.20
June	1,400	26	274	.979	1.09
July	36	3.8	13.0	.046	.05
August	405	6.8	55.3	.197	.23
September	479	3.8	71.5	.255	.28
The year	2,680	.2	357	1.28	17.31

CUMBERLAND RIVER BASIN

CUMBERLAND RIVER AT BARBOURVILLE, KY.

LOCATION.—Staff gage at highway bridge at Barbourville, Knox County, one-fourth mile above mouth of Richland Creek. Elevation of zero of gage is 942.26 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—982 square miles.

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, about 36,500 second-feet Mar. 24 (gage height, 39.2 feet); minimum, 45 second-feet Sept. 6 (gage height, 0.44 foot).

1922–1929: Maximum discharge, about 40,100 second-feet Dec. 22, 1926 (gage height, 45.9 feet); minimum, 4.4 second-feet Sept. 12, 1925 (gage height, −0.04 foot).

REMARKS.—Records below 4,000 second-feet good; others fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	785	371	3,500	1,120	1,360	10,200	3,130	4,120	582	550	680	68
2	550	305	3,910	1,720	1,120	5,550	2,420	4,180	485	4,060	582	58
3	550	300	2,420	4,060	965	4,330	1,920	9,490	550	4,700	353	52
4	550	294	1,720	2,420	928	5,070	1,720	5,240	518	2,720	278	62
5	485	272	1,440	1,820	965	15,500	1,540	3,260	485	1,280	220	50
6	485	220	1,200	4,380	1,120	17,800	1,360	2,720	455	1,280	190	49
7	485	250	1,040	5,030	1,440	12,100	1,200	17,100	413	1,200	146	86
8	582	261	890	3,610	2,420	5,700	1,120	16,900	353	890	118	190
9	485	305	820	2,720	2,150	4,120	1,120	6,670	550	680	122	425
10	455	323	750	3,380	1,820	2,420	1,040	3,500	785	648	107	425
11	365	353	680	4,500	1,540	1,820	1,040	2,720	582	518	107	455
12	323	425	648	3,610	1,280	1,720	1,040	1,720	485	455	118	329
13	365	419	582	2,570	1,200	1,360	965	1,540	413	485	114	230
14	230	455	550	1,820	1,120	3,990	890	1,280	785	582	122	294
15	215	455	615	1,540	1,040	6,160	855	1,280	550	1,120	126	272
16	205	419	550	1,720	965	4,230	1,200	3,910	413	1,360	126	215
17	230	389	550	2,150	890	4,060	1,120	4,920	317	820	107	200
18	1,540	425	1,040	2,860	820	2,030	1,280	3,610	266	582	92	190
19	1,920	18,100	1,620	8,880	715	1,620	1,280	3,380	235	550	83	205
20	1,120	31,200	1,540	12,700	928	1,440	1,120	7,740	210	615	70	205
21	715	29,600	1,280	5,420	1,200	1,280	1,040	19,300	205	582	68	170
22	550	12,400	1,120	3,500	2,030	1,280	1,620	10,600	185	413	65	155
23	1,120	4,280	928	3,130	1,920	23,600	1,440	4,540	225	341	55	146
24	1,440	1,540	855	3,990	2,030	35,900	1,360	2,420	225	294	47	126
25	1,200	1,280	750	11,400	4,060	26,000	1,360	1,720	485	294	78	134
26	855	1,040	680	20,300	16,000	17,100	1,360	1,360	1,540	245	53	230
27	680	890	648	10,200	23,100	6,850	1,200	1,120	1,440	240	134	329
28	550	820	820	4,660	15,900	4,120	6,670	965	1,360	294	190	278
29	518	750	785	2,420	-------	3,000	20,000	785	648	283	134	250
30	485	965	820	1,820	-------	4,660	10,200	680	485	220	114	210
31	425	-------	855	1,540	-------	4,180	-------	648	-------	190	104	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,920	205	660	0.672	0.77
November	31,200	220	3,640	3.71	4.14
December	3,910	550	1,150	1.17	1.35
January	20,300	1,120	4,550	4.63	5.34
February	23,100	715	3,250	3.31	3.45
March	35,900	1,280	7,720	7.86	9.06
April	20,000	855	2,450	2.50	2.79
May	19,300	648	4,820	4.91	5.66
June	1,540	185	541	.551	.61
July	4,700	190	919	.936	1.08
August	680	47	158	.161	.19
September	455	49	203	.207	.23
The year	35,900	47	2,510	2.55	34.67

CUMBERLAND RIVER AT CUMBERLAND FALLS, KY.

LOCATION.—Staff gage 400 feet above falls at Cumberland Falls post office, Whitley County, and 13 miles east of Cumberland Falls railroad station. Elevation of zero of gage is 823.48 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—2,010 square miles.

RECORDS AVAILABLE.—August, 1907, to December, 1911; April, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, about 56,100 second-feet Mar. 23 (gage height, 12.0 feet); minimum, 63 second-feet Sept. 6 (gage height, 1.18 feet).

1907–1911, 1915–1929: Maximum discharge, about 59,600 second-feet Jan. 28, 1918 (gage height, 12.5 feet); minimum, 12 second-feet Sept. 10–12, 1925 (gage height, 1.02 feet).

REMARKS.—Records good below 20,000 second-feet; fair above. Low-water flow may be slightly regulated by operation of power plant at Williamsburg, 25 miles upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	330	742	5,080	1,560	2,920	24,200	7,260	15,600	1,090	1,000	578	93
2	920	672	6,100	2,220	2,440	16,800	5,750	7,260	954	1,040	1,060	88
3	890	617	5,410	5,410	2,110	9,460	4,450	9,930	920	4,150	890	78
4	742	591	3,850	4,450	2,000	7,260	3,850	11,900	890	4,450	815	73
5	714	578	3,050	3,570	1,890	19,200	3,300	8,550	830	2,440	686	68
6	658	552	2,560	4,760	2,220	25,600	3,050	5,080	770	2,110	604	63
7	591	552	2,110	6,860	4,150	24,200	2,680	23,000	672	2,000	390	88
8	591	552	1,780	6,860	5,080	18,000	2,330	25,600	742	1,560	330	282
9	728	565	1,670	4,760	4,760	9,460	2,220	19,200	1,040	1,360	290	456
10	658	658	1,460	5,080	3,850	5,410	2,220	12,400	1,090	1,130	290	360
11	565	700	1,360	6,100	3,440	4,150	2,110	5,080	1,040	1,130	360	591
12	513	830	1,220	6,470	2,920	3,440	2,000	4,150	937	1,220	370	591
13	467	830	1,140	5,080	2,440	2,920	2,000	3,050	875	1,200	370	604
14	401	845	1,130	3,850	2,330	8,550	1,890	2,680	770	1,160	370	526
15	360	800	1,110	3,180	2,220	14,500	1,670	3,850	1,000	1,460	320	539
16	320	800	1,090	3,050	2,110	9,930	1,670	10,900	785	2,220	290	526
17	290	770	1,090	3,850	2,000	6,470	2,000	12,400	728	2,000	273	467
18	2,000	830	1,890	4,450	1,890	4,450	2,110	8,110	552	1,460	239	390
19	4,760	17,400	2,680	11,900	1,670	3,570	1,890	6,100	456	1,070	195	370
20	3,570	33,000	3,050	18,600	2,110	3,180	1,890	7,260	401	905	157	290
21	2,000	30,900	2,800	15,600	2,800	2,800	1,780	16,800	370	920	129	256
22	1,360	28,800	2,440	8,550	3,570	3,050	1,780	20,400	340	875	116	248
23	3,300	21,700	2,000	5,410	4,150	46,300	2,110	15,600	565	742	104	239
24	3,850	6,470	1,780	5,750	4,150	52,600	2,330	6,470	489	617	93	222
25	3,440	2,560	1,670	23,000	6,860	51,200	2,110	3,570	1,460	445	83	264
26	2,330	2,330	1,460	26,200	30,200	41,400	2,000	2,800	2,680	434	73	360
27	1,670	2,000	1,360	23,000	26,800	26,200	2,110	2,330	2,800	658	73	770
28	1,270	1,670	1,270	15,600	26,800	12,900	9,930	2,000	2,440	434	78	700
29	1,090	1,560	1,460	6,860	-------	6,100	25,600	1,780	1,780	412	129	578
30	920	1,670	1,460	4,150	-------	10,400	21,700	1,460	1,460	401	179	456
31	845	-------	1,460	3,440	-------	9,000	-------	1,230	-------	412	179	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,760	290	1,360	0.676	0.78
November	33,000	552	5,420	2.70	3.01
December	6,100	1,090	2,190	1.09	1.26
January	26,200	1,560	8,050	4.00	4.61
February	30,200	1,670	5,710	2.84	2.96
March	52,600	2,800	15,600	7.76	8.95
April	25,600	1,670	4,260	2.12	2.36
May	25,600	1,230	8,920	4.44	5.12
June	2,800	340	1,030	.512	.57
July	4,450	401	1,340	.667	.77
August	1,060	73	326	.162	.19
September	770	63	355	.177	.20
The year	52,600	63	4,550	2.26	30.78

CUMBERLAND RIVER AT BURNSIDE, KY.

LOCATION.—Staff gage on South Fork of Cumberland River 700 feet above mouth at Burnside, Pulaski County, in pool formed by Dam 21, 28 miles downstream. Elevation of zero of gage is 583.5 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—4,890 square miles, including area of South Fork of Cumberland River.

RECORDS AVAILABLE.—October, 1914, to September, 1929.

EXTREMES.—Maximum discharge during year, about 163,000 second-feet Mar. 24 (gage height, 69.3 feet); minimum, 150 second-feet Sept. 2–6 (gage height, 1.9 feet).

1914–1929: Maximum discharge, about 164,000 second-feet (revised) Jan. 29, 1918 (gage height, 69.5 feet); minimum, 65 second-feet Sept. 6–20, 1925 (gage height, 1.85 feet). Lower stages have been recorded but were due to lowering of pool at Dam 21.

Flood of Jan. 29, 1918, reached the highest stage since 1884.

REMARKS.—Records fair below 75,000 second-feet; doubtful for higher stages Tables of discharge include flow in main river and South Fork. Stage at low water affected by manipulation of level of Pool 21 at the lock.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	450	1,460	11,500	2,950	7,900	52,300	23,700	28,700	3,080	3,210	820	200
2	450	1,460	20,900	3,340	6,550	36,300	19,000	25,400	2,690	4,160	1,130	150
3	450	1,240	14,500	5,140	5,140	23,700	15,000	38,800	2,300	4,300	1,350	150
4	450	1,020	10,700	8,650	4,720	16,500	11,500	32,900	2,060	8,650	1,580	150
5	450	820	8,200	7,300	4,300	18,400	9,560	21,300	1,940	6,850	1,240	150
6	450	820	6,550	7,000	4,720	43,200	8,500	14,100	1,820	4,440	920	150
7	450	820	5,420	12,200	7,450	56,600	7,300	37,200	1,700	4,300	720	200
8	450	820	4,720	13,200	13,400	42,300	6,260	61,200	1,580	3,340	720	920
9	450	820	3,740	11,000	12,500	26,800	5,700	40,600	2,300	2,950	630	1,240
10	450	920	3,470	11,800	11,000	16,700	5,560	28,300	2,300	2,560	540	1,350
11	450	1,020	3,080	17,200	9,880	11,700	5,840	17,200	1,940	2,300	720	1,350
12	450	1,130	2,820	18,600	8,200	9,250	6,120	10,800	1,940	2,180	720	200
13	450	1,240	2,560	14,100	6,850	7,750	5,980	8,350	1,820	4,440	720	820
14	450	1,240	2,300	10,800	6,120	8,500	5,420	7,600	1,700	4,720	1,020	1,130
15	450	1,240	2,300	8,050	2,300	46,500	5,000	8,950	1,700	3,600	820	1,460
16	450	1,240	2,300	7,000	5,140	33,600	4,720	21,700	1,700	3,210	820	1,580
17	450	1,240	2,180	7,300	5,000	20,300	4,580	31,600	1,700	3,340	720	3,080
18	920	1,820	3,340	8,500	4,720	14,100	4,300	22,300	1,580	3,080	630	2,820
19	2,430	21,100	5,560	19,300	4,440	10,400	4,160	16,500	1,350	3,210	540	2,060
20	8,200	81,900	7,900	44,100	5,140	8,500	3,740	16,500	1,130	2,300	360	1,820
21	5,000	55,100	7,450	31,600	7,000	7,450	3,600	22,100	920	2,180	275	1,580
22	3,210	38,400	6,260	22,700	7,600	11,000	3,880	28,500	820	1,820	275	1,350
23	2,300	29,200	5,140	15,800	9,400	85,300	4,440	24,500	820	1,580	275	820
24	8,050	17,800	4,440	12,700	10,400	158,000	5,140	17,600	1,130	1,240	200	540
25	10,000	7,600	3,880	27,200	11,000	106,000	4,720	10,000	3,880	1,020	200	540
26	6,260	5,280	3,470	75,200	48,900	73,000	4,580	7,000	9,100	920	200	540
27	4,020	4,580	3,080	50,800	99,500	52,300	4,440	5,560	19,500	820	200	720
28	3,080	3,600	3,080	32,700	74,000	33,100	6,260	5,000	10,400	720	200	2,060
29	2,300	3,210	3,080	21,300	-------	20,500	51,300	4,720	6,400	720	200	1,940
30	1,820	3,210	3,080	12,700	-------	27,000	41,800	4,440	4,130	720	200	1,580
31	1,700	-------	2,950	9,400	-------	30,100	-------	4,020	-------	720	200	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	10,000	450	2,160	0.442	0.50
November	81,900	820	9,710	1.98	2.21
December	20,900	2,180	5,480	1.12	1.29
January	75,200	2,950	17,700	3.62	4.17
February	99,500	2,300	14,400	2.94	3.06
March	158,000	7,450	35,700	7.30	8.42
April	51,300	3,600	9,740	1.99	2.22
May	61,200	4,020	20,100	4.11	4.74
June	19,500	820	3,180	.650	.73
July	8,650	720	2,890	.591	.68
August	1,580	200	618	.126	.15
September	2,060	150	1,090	.223	.25
The year	158,000	150	10,200	2.09	28.42

CUMBERLAND RIVER AT CELINA, TENN.

LOCATION.—Staff gage at boat landing at Celina, Clay County, 900 feet below mouth of Obey River. Elevation of zero of gage is 487.7 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—7,320 square miles.

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, about 148,000 second-feet Mar. 27 (gage height, 52.7 feet); minimum, 420 second-feet Sept. 3, 4 (gage height, 0.9 foot).

1922–1929: Maximum discharge, about 176,000 second-feet Dec. 29, 1926 (gage height, 57.2 feet); minimum, 92 second-feet Sept. 2, 11–14, 26, 1925 (gage height, 0.2 foot).

REMARKS.—Records good below 45,000 second-feet; fair to poor above. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	925	2,350	10,900	4,020	14,200	94,200	63,000	54,800	6,110	7,230	3,190	490
2	925	2,130	14,300	4,020	11,200	96,000	43,200	49,700	5,270	6,810	1,900	490
3	925	1,910	23,700	4,140	9,360	87,600	29,600	52,500	4,290	10,200	2,280	420
4	925	1,910	19,700	4,650	8,030	64,500	22,700	50,000	3,730	7,230	2,800	420
5	925	1,690	14,800	7,890	7,190	37,600	18,800	46,400	3,450	8,250	2,280	490
6	925	1,580	11,500	10,900	7,050	40,600	15,000	34,500	3,060	9,900	2,280	570
7	925	1,580	9,060	10,600	8,460	58,600	12,900	50,800	2,930	7,650	2,150	570
8	1,360	1,580	7,610	11,700	10,700	71,100	11,400	58,600	2,800	5,970	1,660	740
9	1,140	1,580	6,210	15,000	14,800	69,600	10,200	64,500	2,540	4,850	1,540	1,060
10	1,030	1,580	5,430	18,600	17,500	53,100	9,450	65,700	2,930	4,570	1,300	1,540
11	1,030	1,470	4,650	19,500	15,900	31,700	9,600	52,000	3,320	4,290	1,660	1,780
12	1,030	1,470	4,140	23,700	13,600	18,800	10,600	31,500	3,190	3,870	3,730	1,900
13	1,030	1,470	4,140	23,700	11,500	14,000	9,600	18,600	3,190	4,710	3,730	2,800
14	1,030	1,690	3,780	19,400	9,960	12,500	9,300	13,400	3,590	4,850	2,150	3,870
15	1,030	1,800	3,780	15,000	8,760	19,700	8,700	14,000	3,190	5,970	1,660	2,540
16	1,030	1,800	3,540	12,200	7,750	38,200	7,800	21,200	2,800	5,410	1,540	2,540
17	1,030	1,800	3,300	10,400	7,330	45,100	7,230	29,800	2,800	4,290	1,540	3,450
18	3,420	2,350	5,560	10,700	7,050	34,000	6,810	37,400	2,930	4,570	1,420	3,590
19	3,180	5,040	8,310	24,100	6,490	22,300	6,530	36,900	2,670	4,990	1,300	4,430
20	1,910	20,500	7,470	36,900	8,760	15,500	6,110	32,200	3,060	9,900	1,180	3,590
21	3,420	52,800	9,660	44,600	10,400	12,500	5,830	25,300	2,150	5,410	1,060	2,670
22	7,330	68,100	9,660	44,600	11,200	10,600	7,510	26,400	1,900	3,730	950	2,020
23	5,170	67,500	7,890	35,500	11,500	45,400	7,370	31,700	1,780	3,060	840	1,540
24	3,900	52,800	6,490	25,300	13,000	94,900	7,090	29,800	1,900	2,670	740	1,300
25	3,900	32,600	6,080	35,500	15,900	112,000	6,950	24,300	2,020	2,280	650	1,180
26	11,200	17,100	5,430	55,400	44,800	126,000	7,370	17,300	8,700	2,020	650	1,180
27	8,760	8,910	4,780	69,300	75,000	145,000	6,810	12,400	12,300	1,780	570	1,180
28	5,950	6,210	4,260	74,100	88,200	141,000	17,800	9,450	19,600	2,020	490	1,300
29	4,260	5,170	4,020	66,600	-------	124,000	35,500	8,400	17,000	1,660	490	1,300
30	3,300	4,780	3,900	43,000	-------	106,000	48,300	7,230	10,600	1,540	490	1,900
31	2,700	-------	3,900	22,700	-------	79,500	-------	6,670	-------	2,800	490	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	11,200	925	2,760	0.377	0.44
November	68,100	1,470	12,400	1.69	1.89
December	23,700	3,300	7,680	1.05	1.21
January	74,100	4,020	25,900	3.54	4.08
February	88,200	6,490	17,000	2.32	2.42
March	145,000	10,600	62,000	8.47	9.76
April	63,000	5,830	15,600	2.13	2.38
May	65,700	6,670	32,700	4.47	5.15
June	19,600	1,780	4,860	.664	.74
July	10,200	1,540	4,980	.680	.78
August	3,730	490	1,570	.214	.25
September	4,430	420	1,760	.240	.27
The year	145,000	420	15,800	2.16	29.37

CUMBERLAND RIVER AT CARTHAGE, TENN.

LOCATION.—Staff gage at highway bridge at Carthage, Smith County, one-fourth mile below mouth of Caney Fork and 8 miles above Lock and Dam 7. Elevation of zero of gage is 435.9 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—10,740 square miles.

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, about 182,000 second-feet Mar. 25 (gage height, 56.2 feet); minimum, 384 second-feet Sept. 4 (gage height, 7.68 feet).

1922–1929: Maximum discharge, about 209,000 second-feet Dec. 30, 1926 (gage height, 59.8 feet); minimum, 200 second-feet Sept. 10, 11, 1925 (regulated flow).

REMARKS.—Records good between 3,000 and 130,000 second-feet; fair beyond these limits. Low-water flow largely regulated by large hydroelectric plant on Caney Fork.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,800	6,000	20,400	8,570	28,200	114,000	121,000	67,700	9,930	12,700	18,200	790
2	1,380	5,700	26,700	9,250	22,200	116,000	92,000	66,200	9,250	11,700	19,600	695
3	1,590	5,400	30,400	8,570	17,000	113,000	57,800	72,200	7,910	15,900	10,600	510
4	2,020	5,400	31,200	8,570	15,600	103,000	38,800	69,600	7,260	13,400	8,240	402
5	2,360	4,260	25,200	10,300	13,400	86,300	32,300	60,500	7,260	10,600	6,000	885
6	2,130	3,720	20,400	15,600	14,100	75,300	24,400	57,400	6,620	12,400	5,700	1,060
7	2,830	5,110	16,300	15,600	15,600	76,800	21,500	73,000	6,620	12,400	5,700	1,080
8	2,470	4,540	13,400	15,200	18,200	82,100	20,400	85,500	6,940	8,910	5,700	1,380
9	2,020	3,200	12,000	19,300	20,700	84,800	16,300	85,900	6,000	7,260	4,260	1,800
10	2,590	3,460	9,930	30,100	26,700	78,300	15,600	84,400	5,110	8,570	3,720	1,590
11	2,470	3,080	8,910	30,400	25,200	57,800	15,900	77,200	4,820	7,910	4,820	1,280
12	2,470	2,710	8,910	30,400	21,800	33,900	17,000	57,400	5,400	6,940	4,820	2,710
13	2,470	2,130	8,570	32,000	20,000	24,800	16,300	34,200	5,400	6,000	5,400	7,580
14	2,130	3,200	8,910	28,200	17,400	29,300	15,600	24,400	5,400	7,910	5,700	9,590
15	1,910	3,080	8,570	23,700	15,600	42,600	14,500	25,900	5,400	9,250	3,720	6,620
16	1,590	3,080	8,240	21,100	14,100	57,000	14,100	35,800	5,110	7,910	2,950	4,820
17	2,590	2,950	7,260	18,500	12,700	61,600	12,400	42,600	4,260	7,910	2,830	4,540
18	8,240	5,400	9,930	18,500	11,300	53,200	12,000	46,400	4,260	7,910	2,590	6,000
19	10,600	19,300	13,100	38,000	10,600	38,800	11,700	50,200	5,400	8,240	2,590	6,620
20	6,940	42,200	12,400	51,000	13,100	28,200	10,600	49,400	5,400	12,700	1,800	6,620
21	5,700	75,300	13,400	57,000	20,000	22,200	9,930	44,900	4,260	12,000	2,130	5,110
22	9,590	82,500	14,900	57,800	28,200	25,900	9,930	39,600	3,460	7,260	2,020	4,540
23	9,250	79,100	13,400	52,900	33,100	90,900	11,700	40,700	3,720	5,700	1,700	3,720
24	8,910	71,500	11,300	43,700	28,200	154,000	11,700	39,600	3,990	5,400	1,590	2,240
25	7,260	52,500	9,250	63,900	35,800	182,000	11,700	35,800	11,700	3,990	1,590	2,590
26	10,600	32,700	8,240	88,600	68,100	171,000	12,000	28,900	14,900	3,720	1,080	3,720
27	14,100	18,500	7,910	105,000	93,900	159,000	10,600	21,500	25,200	3,330	942	3,720
28	11,700	12,700	6,000	103,000	110,000	155,000	26,700	17,000	25,600	2,950	885	3,720
29	7,910	11,000	8,910	93,900	-------	151,000	50,200	13,800	26,700	2,710	1,140	3,720
30	6,000	13,800	8,570	79,800	-------	149,000	67,700	12,400	21,500	3,990	1,280	3,080
31	6,620	-------	7,580	47,200	-------	138,000	-------	10,600	-------	6,620	1,140	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	14,100	1,380	5,170	0.483	0.56
November	82,500	2,130	19,500	1.82	2.03
December	31,200	6,000	13,200	1.23	1.42
January	105,000	8,570	39,500	3.69	4.25
February	110,000	10,600	27,500	2.57	2.68
March	182,000	22,200	88,900	8.30	9.57
April	121,000	9,930	26,700	2.50	2.79
May	85,900	10,600	47,400	4.43	5.11
June	26,700	3,460	8,830	.825	.92
July	15,900	2,710	8,200	.766	.88
August	19,600	885	4,530	.423	.49
September	9,590	402	3,420	.320	.36
The year	182,000	402	24,500	2.29	31.06

CUMBERLAND RIVER AT NASHVILLE, TENN.

LOCATION.—Staff gage at municipal wharf at Broad and First Streets, Nashville, Davidson County, 2½ miles above Lock and Dam 1. Elevation of zero of gage is 366.17 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—12,860 square miles.

RECORDS AVAILABLE.—January, 1902, to December, 1904; October, 1918, to September, 1929.

EXTREMES.—Maximum discharge during year, 160,000 second-feet Mar. 30 (gage height, 51.0 feet); minimum, 1,030 second-feet Sept. 6 and 7 (gage height, 6.7 feet).

1902–1904, 1918–1929: Maximum discharge, 203,000 second-feet Jan. 1, 1927 (gage height, 56.2 feet); minimum, 735 second-feet Oct. 27 to Nov. 3, 1904.

REMARKS.—Records fair. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,600	7,220	20,900	8,560	73,400	100,000	154,000	62,800	11,900	22,100	6,580	1,320
2	2,360	6,900	23,800	8,560	41,000	105,000	148,000	68,400	10,400	18,700	16,500	1,320
3	1,890	6,580	26,600	9,620	26,600	108,000	138,000	73,100	9,980	16,100	19,400	1,320
4	2,120	6,270	29,800	9,260	21,400	109,000	122,000	73,100	9,980	16,500	16,100	1,320
5	2,360	6,270	32,000	8,910	18,200	111,000	92,500	72,700	8,910	14,400	12,300	1,030
6	2,850	5,650	27,900	11,100	17,600	113,000	57,000	68,400	7,550	11,900	6,900	1,030
7	3,110	4,190	21,800	17,200	19,100	105,000	31,700	81,400	7,220	11,500	5,650	1,320
8	2,850	5,050	17,900	17,200	19,800	94,700	24,000	83,200	6,900	12,700	5,960	1,490
9	2,850	5,050	14,400	16,100	20,400	90,400	21,600	86,000	7,220	10,400	5,960	1,890
10	2,850	4,760	12,700	21,600	24,000	88,200	21,600	89,600	6,580	8,560	5,050	2,120
11	2,600	4,190	10,700	37,500	27,600	84,200	22,300	88,600	5,960	8,910	4,470	2,360
12	2,600	4,190	9,620	34,600	27,600	75,600	21,100	85,300	5,050	9,620	5,050	1,890
13	2,600	3,910	9,260	32,300	24,300	52,000	19,800	74,500	5,650	8,560	5,050	2,850
14	2,600	3,640	9,260	33,400	24,300	37,800	18,900	49,500	6,270	7,880	5,050	6,900
15	2,600	3,370	9,260	30,300	19,600	55,300	17,900	39,200	6,270	7,550	5,960	9,980
16	2,600	3,370	8,910	25,300	17,600	52,400	16,100	36,300	5,960	11,900	4,760	11,500
17	6,900	3,370	8,910	23,800	16,100	58,700	15,700	43,700	5,350	8,910	4,470	6,900
18	7,220	4,190	11,500	21,800	14,800	63,400	13,500	47,000	5,050	8,560	3,110	4,470
19	10,700	6,580	14,800	39,800	13,100	61,400	12,700	55,600	4,470	8,560	2,850	5,650
20	11,100	23,600	15,700	50,800	13,100	48,500	12,300	65,200	5,960	8,560	2,850	6,270
21	10,700	39,800	14,400	54,600	16,900	33,100	11,900	59,700	5,960	9,980	2,600	6,900
22	7,550	61,700	14,400	60,400	26,600	25,600	11,100	55,600	5,350	11,900	2,600	6,900
23	15,200	73,800	16,100	62,100	31,400	70,200	10,700	45,200	4,760	8,560	2,600	5,960
24	11,100	76,700	16,500	64,100	36,900	110,000	11,100	42,800	4,760	5,960	2,120	4,470
25	10,400	74,500	16,900	63,800	37,200	123,000	11,900	42,200	6,900	5,350	2,120	3,370
26	6,900	64,800	10,400	80,600	77,000	128,000	11,900	44,000	22,600	5,050	2,120	1,890
27	5,960	42,200	9,620	85,000	91,400	140,000	11,100	37,500	18,900	4,190	1,890	3,910
28	14,800	22,600	8,220	91,400	93,600	150,000	13,900	31,700	22,800	4,190	1,490	4,190
29	12,700	17,900	9,620	97,000	-------	154,000	35,400	22,100	25,800	3,910	1,320	4,470
30	9,620	12,700	9,260	96,600	-------	158,000	49,500	15,700	26,300	3,910	1,320	4,190
31	7,550	-------	9,260	91,100	-------	159,000	-------	13,500	-------	3,640	1,320	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	15,200	1,890	6,120	0.476	0.55
November	76,700	3,370	20,200	1.57	1.75
December	32,000	8,220	15,200	1.18	1.36
January	97,000	8,560	42,100	3.27	3.77
February	93,600	13,100	31,800	2.47	2.57
March	159,000	25,600	92,400	7.18	8.28
April	154,000	10,700	38,600	3.00	3.35
May	89,600	13,500	56,600	4.42	5.01
June	26,300	4,760	9,560	.743	.83
July	22,100	3,640	9,630	.749	.86
August	19,400	1,320	5,340	.416	.48
September	11,500	1,030	3,970	.309	.34
The year	159,000	1,030	27,700	2.15	29.15

CUMBERLAND RIVER AT CLARKSVILLE, TENN.

LOCATION.—Staff gage at steamboat landing at Clarksville, Montgomery County, 1 mile above mouth of Red River. Red River discharge included in records. Elevation of zero of gage is 329.3 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—16,000 square miles, including Red River (revised).

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, about 175,000 second-feet Apr. 1 (gage height, 54.4 feet); minimum, 1,560 second-feet Sept. 5–7 (gage height, 12.1 feet).

1922–1929: Maximum discharge, about 216,000 second-feet Jan. 2, 1927 (gage height, 60.0 feet); minimum, 780 second-feet Sept. 2, 1925.

REMARKS.—Records fair. Records include flow of Red River. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,940	8,760	20,700	11,300	101,000	120,000	175,000	62,900	17,000	27,800	10,600	1,780
2	2,700	8,760	30,000	10,900	80,300	119,000	173,000	71,400	15,200	21,500	11,600	1,780
3	2,700	8,060	30,000	11,300	46,300	120,000	169,000	77,300	14,500	16,000	20,400	1,780
4	2,460	7,710	32,200	11,300	28,500	121,000	161,000	79,600	14,500	15,600	18,100	1,780
5	2,700	7,370	35,900	11,600	23,700	124,000	150,000	79,600	12,700	17,800	12,700	1,560
6	3,190	7,030	34,400	12,000	23,000	132,000	126,000	78,100	10,900	15,200	9,480	1,560
7	3,700	6,050	28,500	15,600	23,300	136,000	93,600	94,400	10,200	12,700	7,370	1,560
8	3,700	5,420	23,000	20,000	25,500	131,000	66,200	102,000	9,840	13,800	6,700	1,780
9	3,440	6,370	18,500	18,900	25,200	122,000	43,700	102,000	9,840	13,400	6,700	2,230
10	3,440	5,730	16,300	21,500	29,200	116,000	40,000	104,000	9,840	11,600	6,700	2,230
11	3,190	5,110	14,500	38,500	32,200	110,000	37,000	104,000	9,120	10,900	6,700	2,460
12	3,190	4,810	12,400	42,200	34,000	105,000	40,000	102,000	7,710	11,300	6,050	2,700
13	3,190	4,810	11,300	38,100	32,200	87,700	33,300	97,700	7,370	10,600	6,370	3,190
14	3,190	4,240	11,300	37,800	28,500	72,500	29,200	84,000	10,900	9,840	5,730	5,420
15	3,190	3,700	10,900	37,000	25,900	74,000	27,000	65,500	10,600	9,120	6,050	9,480
16	3,190	3,970	10,900	32,200	23,000	70,300	24,800	55,100	8,760	13,400	6,370	10,200
17	5,730	4,240	11,300	29,200	21,100	68,100	22,600	56,200	7,370	12,400	5,420	8,060
18	16,300	4,240	15,200	28,100	19,600	71,400	20,700	56,600	7,370	10,900	4,240	6,050
19	13,800	5,420	19,200	42,200	17,800	72,200	18,500	65,100	7,370	12,000	3,700	2,700
20	13,800	11,300	19,600	62,900	17,800	65,500	17,400	81,000	7,030	11,300	3,440	6,050
21	12,400	32,600	19,200	59,200	20,700	47,700	16,700	79,600	11,600	10,600	3,190	7,030
22	9,480	51,800	17,800	63,600	26,600	35,200	16,000	70,700	11,300	13,400	2,940	7,030
23	12,000	66,600	17,800	66,200	35,500	50,300	15,600	59,600	6,700	12,400	2,700	6,050
24	18,500	92,500	18,100	66,600	41,400	99,900	14,500	50,700	6,050	9,120	2,700	5,420
25	14,200	94,700	17,000	75,500	44,400	118,000	15,600	48,800	8,410	7,030	2,700	4,520
26	12,700	91,800	14,500	91,000	93,600	128,000	15,600	51,100	17,000	6,370	2,460	3,700
27	10,200	58,100	12,400	95,500	120,000	135,000	15,200	51,100	24,400	5,730	2,460	3,700
28	14,900	34,000	11,300	99,200	123,000	142,000	25,500	38,500	21,100	5,110	1,780	4,520
29	16,300	21,100	10,600	103,000	-------	151,000	44,800	30,000	27,800	4,810	1,780	4,810
30	14,200	16,700	11,300	105,000	-------	161,000	56,200	23,300	28,900	5,110	1,780	4,810
31	10,600	-------	11,300	106,000	-------	171,000	-------	19,600	-------	5,110	1,780	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	18,500	2,460	7,910	0.494	0.57
November	94,700	3,700	22,800	1.42	1.58
December	35,900	10,600	18,300	1.14	1.31
January	106,000	10,900	47,200	2.95	3.40
February	123,000	17,800	41,500	2.59	2.70
March	171,000	35,200	106,000	6.62	7.63
April	175,000	14,500	56,800	3.55	3.96
May	104,000	19,600	69,100	4.32	4.98
June	28,900	6,050	12,400	.775	.86
July	27,800	4,810	11,700	.731	.84
August	20,400	1,780	6,150	.385	.44
September	10,200	1,560	4,200	.263	.29
The year	175,000	1,560	33,700	2.11	28.56

ROCKCASTLE RIVER AT ROCKCASTLE SPRINGS, KY.

LOCATION.—Staff gage at Rockcastle Springs, Laurel County, 2 miles below Cane Creek and 5 miles above mouth of river. Elevation of zero of gage is 687.2 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—746 square miles.

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, about 36,400 second-feet Mar. 24 (gage height, 31.5 feet); minimum, 18 second-feet Sept. 5 (gage height, 0.26 foot).

1922–1929: Maximum discharge, that of Mar. 24, 1929; minimum, 9 second-feet Oct. 5, 1922, and Sept. 12, 1925 (gage height, 0.10 foot).

REMARKS.—Records below 5,000 second-feet good; for higher stages fair. Discharge estimated Mar. 25, 30, 31.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	98	8,720	350	800	3,900	3,250	1,600	430	290	73	24
2	42	89	2,890	450	625	2,640	2,640	6,460	490	650	70	22
3	50	85	1,120	510	550	2,000	1,860	16,300	350	1,060	65	20
4	61	85	1,000	530	510	1,660	1,540	4,300	290	530	55	19
5	57	84	850	550	490	6,240	1,300	2,320	245	370	46	18
6	52	85	750	700	600	15,000	1,120	2,480	200	335	79	22
7	50	82	600	900	1,360	7,780	900	12,000	175	410	89	32
8	46	87	510	750	1,480	4,400	750	7,340	200	370	62	61
9	42	82	450	700	1,360	2,560	700	3,250	290	275	56	188
10	36	82	390	2,800	1,480	1,790	800	2,160	260	275	49	200
11	33	85	350	4,500	1,300	1,360	850	1,480	245	152	50	155
12	30	85	335	2,400	1,000	1,120	850	1,120	215	335	140	128
13	27	99	305	1,600	900	950	800	950	200	850	114	110
14	26	103	305	1,120	850	2,800	700	1,120	335	470	140	96
15	25	96	290	900	750	6,900	650	1,860	290	350	85	134
16	26	87	335	900	700	3,340	650	1,660	215	275	70	215
17	31	82	700	800	625	2,160	600	1,360	162	200	61	900
18	61	112	900	850	550	1,540	510	1,060	130	144	48	575
19	106	3,520	1,120	4,810	530	1,240	450	1,000	108	142	37	320
20	200	10,300	900	5,580	650	1,000	410	4,600	99	320	32	215
21	116	2,560	800	2,480	1,000	900	390	2,160	90	230	29	146
22	124	1,360	650	1,860	900	900	530	1,600	85	162	26	99
23	450	900	530	1,600	900	27,700	750	1,120	122	118	24	85
24	600	625	470	1,660	950	34,300	600	900	130	92	22	73
25	350	510	410	9,080	1,480	9,800	530	700	650	84	22	76
26	230	410	350	10,200	17,200	2,800	530	550	3,800	84	20	92
27	172	335	350	3,610	22,700	2,560	510	510	1,300	78	19	103
28	138	305	350	2,240	7,230	2,000	2,640	510	650	70	55	94
29	122	290	390	1,540	-------	1,600	4,920	600	470	55	32	101
30	110	430	350	1,180	-------	6,000	2,160	950	320	47	32	92
31	105	-------	320	1,000	-------	4,000	-------	530	-------	48	27	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	600	25	115	0.154	0.18
November	10,300	82	772	1.03	1.15
December	8,720	290	896	1.20	1.38
January	10,200	350	2,200	2.95	3.40
February	22,700	490	2,480	3.32	3.46
March	34,300	900	5,260	7.05	8.13
April	4,920	390	1,160	1.56	1.74
May	16,300	510	2,730	3.66	4.22
June	3,800	85	418	.560	.62
July	1,060	47	286	.383	.44
August	140	19	55.8	.075	.09
September	900	18	147	.197	.22
The year	34,300	18	1,380	1.85	25.03

NEW RIVER NEAR NEW RIVER, TENN.

LOCATION.—Staff gage installed May 29, 1929, at highway bridge 1¼ miles east of New River, Scott County, and 2 miles (in previous reports published erroneously as 1 mile) above mouth of Brimstone Creek. Prior to Mar. 23, 1929, a chain gage at same site was used. Elevation of zero of each gage is 1,095.25 feet (United States Engineer Department datum of 1889). Temporary gages used Mar. 23 to May 28, 1929.

DRAINAGE AREA.—312 square miles.

RECORDS AVAILABLE.—November, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, determined by slope-area method, about 70,000 second-feet Mar. 23 (gage height, 44.8 feet); minimum, 3.6 second-feet Sept. 4 (gage height, 0.39 foot).

1922–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 0.2 second-foot Aug. 6, 7, 1925 (gage height, 0.22 foot).

Flood of Mar. 23, 1929, is highest known.

REMARKS.—Records good below 8,000 second-feet except those for Mar. 23 to Apr. 10, which are poor; records fair above 8,000 second-feet. Bridge washed out and gage destroyed Mar. 23.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	145	2,560	270	450	2,300	1,260	980	125	220	64	4.6
2	53	121	1,260	1,160	375	1,580	1,070	735	111	590	56	4.0
3	48	117	855	895	315	1,160	855	2,760	135	935	50	4.0
4	41	123	625	625	285	1,750	855	1,690	121	485	41	3.6
5	44	125	485	520	345	6,660	815	895	105	390	38	4.0
6	47	125	375	3,310	520	3,870	775	1,640	81	285	35	4.0
7	71	125	315	1,870	1,870	2,500	735	5,690	67	270	32	4.0
8	77	135	285	855	1,210	1,930	555	2,300	62	195	29	8.8
9	59	182	245	775	980	980	420	1,470	64	135	26	10
10	48	182	220	1,420	815	895	390	895	69	158	28	11
11	40	182	208	1,580	625	660	555	660	62	245	35	14
12	41	195	195	1,120	485	520	625	520	60	145	52	15
13	40	170	182	735	450	420	520	420	77	158	67	67
14	38	158	182	555	420	7,110	450	345	220	895	54	158
15	35	145	220	485	375	3,240	420	4,570	135	695	38	117
16	32	145	182	485	360	1,580	390	5,210	111	232	32	59
17	34	135	195	555	315	935	345	1,870	89	158	26	56
18	2,110	450	1,360	695	270	695	285	1,160	67	170	22	47
19	895	24,900	1,120	9,540	285	590	245	2,170	83	330	18	44
20	390	4,010	815	2,360	375	485	220	6,030	65	170	16	41
21	245	1,580	590	1,360	1,070	420	208	5,530	69	103	14	36
22	158	980	450	1,260	2,560	485	520	1,580	59	89	12	26
23	2,170	625	375	1,310	1,420	42,600	485	855	59	64	12	23
24	1,810	420	330	1,990	1,120	7,470	420	590	69	53	10	26
25	695	300	300	14,500	1,690	3,870	450	625	345	53	8.8	59
26	420	270	270	6,930	6,840	3,100	555	360	8,190	48	7.6	117
27	300	270	245	1,930	4,810	4,090	485	300	1,580	41	7.6	208
28	232	270	285	1,160	5,130	3,240	4,810	232	695	73	5.2	135
29	182	300	270	775	-------	2,430	3,660	195	450	69	5.2	85
30	158	285	245	625	-------	1,750	1,360	170	300	52	5.2	77
31	145	-------	232	520	-------	1,310	-------	145	-------	65	5.2	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,170	32	345	1.11	1.28
November	24,900	117	1,240	3.98	4.44
December	2,560	182	499	1.60	1.84
January	14,500	270	2,010	6.44	7.42
February	6,840	270	1,280	4.10	4.27
March	42,600	420	3,750	12.00	13.83
April	4,810	208	825	2.65	2.96
May	5,690	145	1,690	5.42	6.25
June	8,190	59	458	1.47	1.64
July	935	41	244	.782	.90
August	67	5.2	27.5	.088	.10
September	208	3.6	48.9	.157	.18
The year	42,600	3.6	1,020	3.27	45.11

SOUTH FORK OF CUMBERLAND RIVER AT NEVELSVILLE, KY.

LOCATION.—Staff gage one-fourth mile below Turkey Creek Ferry on Greenwood-Monticello Pike, 1 mile west of Nevelsville, McCreary County, and 1¾ miles below mouth of Little South Fork. Elevation of zero of gage is 635.57 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—1,260 square miles.

RECORDS AVAILABLE.—March, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, about 110,000 second-feet Mar. 23 (gage height, 69.0 feet); minimum, 40 second-feet Sept. 3 (gage height, 1.56 feet).

1915–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 13 second-feet Sept. 3, 1925 (gage height, 1.39 feet).

REMARKS.—Records good below 25,000 second-feet; fair above. Operation of small power plant short distance above gage may affect flow at extremely low water.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	137	468	8,970	910	2,080	9,100	5,520	4,190	740	850	535	50
2	156	468	4,670	2,150	1,590	5,740	4,470	3,830	635	970	490	48
3	151	445	3,130	2,010	1,390	4,370	3,740	8,190	535	2,570	400	40
4	168	445	1,590	1,730	1,270	4,470	2,810	4,470	740	2,220	340	48
5	170	445	1,870	970	1,390	21,800	2,570	3,210	660	1,150	270	60
6	183	445	1,520	4,570	1,940	18,900	2,220	4,100	512	970	196	60
7	170	445	1,270	4,970	4,970	8,580	1,870	24,200	445	740	183	113
8	151	400	1,150	3,130	4,370	5,980	1,590	10,300	422	660	170	153
9	146	468	1,030	2,570	3,470	4,370	1,520	6,700	380	535	196	320
10	196	535	910	5,980	2,890	3,210	1,730	4,190	445	560	170	270
11	158	560	850	6,340	2,500	2,430	1,800	3,380	400	740	196	224
12	146	585	795	4,100	1,940	2,080	1,870	2,570	380	685	254	210
13	126	585	795	3,130	1,730	1,870	1,800	2,220	360	1,210	490	254
14	124	535	740	2,290	1,590	16,200	1,590	2,360	303	1,030	400	445
15	120	490	740	1,940	1,450	13,700	1,450	8,710	610	1,150	320	685
16	115	468	685	2,150	1,390	6,700	1,390	21,200	422	970	254	585
17	135	422	740	2,570	1,330	4,370	1,330	10,700	340	685	210	490
18	380	1,660	1,940	2,970	1,270	3,210	1,150	7,420	303	610	170	380
19	3,380	32,200	3,380	19,400	1,390	2,500	1,030	4,470	270	535	146	286
20	1,210	32,000	3,210	10,300	1,870	2,150	910	7,670	254	685	135	239
21	740	7,300	1,940	5,410	1,660	1,660	795	9,880	270	535	120	196
22	535	4,100	1,590	4,190	4,570	2,430	970	5,080	254	400	104	165
23	2,730	2,570	1,330	3,290	3,830	43,100	1,520	3,740	360	320	100	151
24	5,300	2,080	1,210	4,370	3,650	80,000	1,210	2,080	490	303	92	120
25	2,290	1,520	1,030	15,500	5,980	17,300	1,150	1,940	685	239	86	131
26	1,330	1,330	970	31,400	42,200	8,190	1,270	1,730	17,400	224	84	286
27	1,590	1,090	970	11,300	17,700	7,930	1,270	1,450	2,430	196	80	1,330
28	740	1,090	1,030	5,980	11,400	6,940	18,000	1,150	2,290	183	75	740
29	635	970	970	3,560	-------	3,560	20,600	1,030	1,520	196	66	560
30	560	1,520	910	2,730	-------	10,800	6,460	1,030	970	224	64	445
31	512	-------	850	2,430	-------	5,520	-------	910	-------	585	55	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,300	115	790	0.627	0.72
November	32,200	400	3,250	2.58	2.88
December	8,970	685	1,700	1.35	1.56
January	31,400	910	5,630	4.47	5.15
February	42,200	1,270	4,750	3.77	3.93
March	80,000	1,660	10,600	8.41	9.70
April	20,600	795	3,190	2.53	2.82
May	24,200	910	5,620	4.46	5.14
June	17,400	254	1,190	.944	1.05
July	2,570	183	740	.588	.68
August	535	55	208	.165	.19
September	1,330	40	303	.240	.27
The year	80,000	40	3,160	2.51	34.09

OBEY RIVER NEAR BYRDSTOWN,[2] TENN.

LOCATION.—Chain gage at bridge on State Highway 24, 1½ miles above mouth of Eagle Creek and 3½ miles southwest of Byrdstown, Pickett County. Elevation of zero of gage is 575.23 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—452 square miles.

RECORDS AVAILABLE.—March, 1919, to September, 1929.

EXTREMES.—Maximum discharge during year, about 35,000 second-feet Mar. 23 (gage height, 35.9 feet); minimum, 19 second-feet Aug. 29 (gage height, 1.34 feet).

1919–1929: Maximum discharge, about 35,000 second-feet June 29, 1928, and Mar. 23, 1929 (gage height, 35.9 feet); minimum, 7 second-feet Nov. 3, 1920 (gage height, 0.90 foot).

REMARKS.—Records between 100 and 4,000 second-feet good; others fair. Discharge interpolated Feb. 21, 22, 24, and Aug. 5–7.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	90	3,470	280	750	2,840	2,490	1,590	280	178	465	31
2	46	85	1,710	320	650	1,890	2,010	1,290	240	905	280	25
3	40	80	1,120	280	580	1,590	1,530	1,770	240	800	211	28
4	42	85	800	260	530	1,350	1,240	1,240	380	530	148	37
5	40	90	650	260	555	2,910	1,070	905	320	360	134	110
6	38	82	530	800	600	5,040	905	750	280	260	119	68
7	37	80	440	850	1,180	4,240	800	10,400	211	204	105	40
8	31	95	400	700	1,210	2,490	750	4,240	184	160	90	66
9	30	92	380	600	960	1,770	650	2,490	218	142	76	72
10	31	90	360	1,470	850	1,240	650	1,710	225	280	68	85
11	31	100	300	1,770	750	1,020	700	1,290	184	360	380	68
12	44	95	280	1,290	650	850	700	1,020	166	360	960	64
13	40	90	260	960	580	750	650	800	420	240	380	440
14	37	85	240	750	555	3,840	600	750	380	211	260	600
15	34	80	240	600	510	4,400	555	1,290	340	172	184	440
16	31	82	225	700	510	2,280	555	6,470	225	148	136	240
17	28	80	225	905	465	1,530	510	4,000	166	136	105	181
18	260	160	1,070	905	440	1,120	465	2,140	142	139	80	139
19	154	9,200	1,070	7,280	420	950	420	1,900	380	184	76	112
20	160	9,900	800	3,540	600	800	380	1,650	178	320	72	108
21	102	2,070	650	1,950	810	700	340	1,710	148	190	68	98
22	80	1,470	530	1,830	1,020	650	510	1,350	142	142	60	92
23	218	800	465	1,650	1,240	27,400	510	1,020	340	105	54	78
24	750	600	400	2,010	1,830	18,800	465	850	184	105	40	70
25	380	510	360	12,600	2,420	4,400	440	650	136	95	37	78
26	225	380	320	8,400	15,100	2,490	420	580	420	90	31	187
27	160	360	300	2,980	9,200	2,490	465	510	510	76	25	340
28	142	320	300	2,010	3,680	1,710	4,160	465	380	76	23	260
29	110	300	300	1,410	-------	1,470	8,600	400	300	68	19	208
30	105	420	280	1,120	-------	5,570	2,490	380	190	56	25	169
31	95	-------	260	960	-------	3,400	-------	340	-------	555	37	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	750	28	115	0.254	0.29
November	9,900	80	932	2.06	2.30
December	3,470	225	604	1.34	1.54
January	12,600	260	1,980	4.38	5.05
February	15,100	420	1,730	3.83	3.99
March	27,400	650	3,610	7.98	9.20
April	8,600	340	1,200	2.65	2.96
May	10,400	340	1,800	3.98	4.59
June	510	136	264	.584	.65
July	905	56	247	.546	.63
August	960	19	153	.338	.39
September	600	25	151	.334	.37
The year	27,400	19	1,070	2.37	31.96

[2] Previously published as "near Boom."

CANEY FORK NEAR ROCK ISLAND, TENN.

LOCATION.—Water-stage recorder 200 feet below power house of Tennessee Electric Power Co., half a mile below storage dam on Collins River, and 1 mile northwest of Rock Island, Warren County. Elevation of zero of gage is 649.46 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—1,640 square miles.

RECORDS AVAILABLE.—November, 1911, to March, 1924; April, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 210,000 second-feet Mar. 23 (gage height, 38.6 feet); minimum, 120 second-feet Nov. 11 (represents leakage below dam when power plant was shut down).

1911–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 45 second-feet (represents leakage prior to raising of dam in 1925).

REMARKS.—Records good, Oct. 1 to Mar. 22; poor, Mar. 23–31; fair, Apr. 1 to Sept. 30. Gage destroyed during flood of Mar. 23. Discharge estimated Mar. 23–31; determined from staff-gage readings, spillway discharge, and discharge through turbines at power house Apr. 1 to Sept. 30. Flow for most of year is almost completely regulated by power house above gage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	555	2,690	6,980	3,290	4,140	14,800	5,200	10,300	1,910	2,710	12,700	150
2	820	2,690	5,560	2,940	3,420	10,400	5,020	15,600	1,480	2,670	6,200	150
3	855	2,710	4,080	2,940	3,170	8,240	4,810	12,500	2,150	3,010	3,260	770
4	660	742	3,500	2,780	2,840	13,600	4,180	7,420	2,170	1,080	2,820	500
5	735	2,500	3,090	1,020	2,880	17,200	3,740	5,640	2,520	2,410	2,670	820
6	510	2,800	2,850	460	3,340	15,900	3,580	10,200	3,110	2,330	3,100	210
7	270	1,770	2,760	1,920	4,990	11,700	3,240	22,800	3,130	725	2,610	220
8	832	1,170	2,680	2,200	3,600	8,580	2,840	13,600	2,140	2,430	2,130	150
9	919	1,880	1,660	2,380	4,480	7,360	2,300	12,600	450	2,020	2,080	180
10	920	854	2,430	2,480	3,700	5,340	2,540	8,810	1,710	1,820	1,190	350
11	997	120	2,760	2,250	3,190	4,570	2,380	6,160	1,000	1,180	250	150
12	894	1,400	2,990	2,580	2,980	4,140	2,680	4,780	740	1,670	2,460	270
13	490	1,210	3,260	520	2,720	3,580	2,640	4,020	700	1,350	1,460	2,270
14	433	1,090	3,250	2,120	2,620	19,900	2,200	3,940	1,040	330	1,380	2,040
15	789	1,160	3,210	2,680	2,440	19,400	1,940	5,220	940	2,030	750	760
16	977	1,110	1,360	2,680	2,520	12,000	3,210	6,920	150	2,550	530	2,410
17	1,700	626	2,600	2,680	2,340	8,070	3,230	5,700	1,020	2,630	870	2,540
18	2,430	261	2,720	2,630	2,220	6,220	2,640	4,860	1,020	2,780	190	2,430
19	2,380	25,100	2,530	16,000	2,280	5,140	2,330	5,460	620	3,000	1,020	1,820
20	2,510	31,200	2,560	8,020	2,930	4,410	1,980	10,200	700	3,010	830	1,730
21	310	12,700	2,500	6,740	13,000	3,980	2,000	7,610	650	1,100	680	1,820
22	2,220	7,400	2,280	7,120	14,800	11,100	2,100	5,830	330	1,770	580	220
23	2,300	5,020	487	6,930	9,160	154,000	2,250	4,080	170	1,770	820	1,190
24	1,940	3,800	1,350	8,020	6,830	124,000	2,230	3,440	1,830	1,190	370	1,080
25	2,030	3,230	553	35,200	12,000	33,000	2,090	2,840	5,380	980	150	1,640
26	2,610	2,860	2,350	27,100	27,900	18,000	2,560	2,480	12,900	1,230	430	2,440
27	2,620	2,820	3,350	14,400	22,100	12,000	2,210	2,500	5,370	420	460	2,430
28	585	2,740	3,420	9,280	21,200	9,000	10,900	2,670	4,160	150	720	2,150
29	2,320	1,720	3,420	6,930	-------	7,000	22,200	2,510	3,370	560	330	490
30	2,790	2,470	2,360	5,900	-------	5,000	8,790	1,970	2,810	1,340	310	1,210
31	2,780	-------	3,130	4,840	-------	3,100	-------	2,230	-------	12,600	350	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,790	270	1,390	0.848	0.98
November	31,200	120	4,260	2.60	2.90
December	6,980	487	2,840	1.73	1.99
January	35,200	460	6,360	3.88	4.47
February	27,900	2,220	6,780	4.14	4.31
March	154,000	3,100	18,700	11.40	13.14
April	22,200	1,940	4,000	2.44	2.72
May	22,800	1,970	6,930	4.23	4.88
June	12,900	150	2,180	1.33	1.48
July	12,600	150	2,090	1.27	1.46
August	12,700	150	1,730	1.06	1.22
September	2,540	150	1,150	.701	.78
The year	154,000	120	4,880	2.97	40.33

CANEY FORK NEAR SILVER POINT, TENN.

LOCATION.—Water-stage recorder at Johnson's ferry on Silver Point-Smithville road, 4 miles south of Silver Point, Putnam County, and 4 miles below Falling Water River. Elevation of zero of gage is 497.60 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—2,100 square miles.

RECORDS AVAILABLE.—November, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, about 220,000 second-feet Mar. 23 (gage height, 60.2 feet); minimum, 288 second-feet Sept. 3 (gage height, 1.37 feet).

1922–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 25 second-feet on several days in November, 1924, and August, September, and October, 1925 (gage height, 0.00 foot).

Flood of Mar. 23, 1929, reached the highest stage known.

REMARKS.—Records good except those for Mar. 23–31, which were estimated; and those for Oct. 5, Apr. 1–6, and May 28 to June 23, which were based on staff-gage readings. Flow regulated to large extent by hydroelectric plants near Rock Island and on Falling Water River.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	367	2,800	7,470	3,420	5,700	21,100	5,700	8,900	2,460	3,100	18,200	430
2	524	2,800	7,470	3,160	3,680	13,700	2,860	16,300	2,300	3,290	9,540	328
3	834	2,980	5,840	3,040	3,680	10,400	6,870	18,000	2,180	3,220	5,140	300
4	945	2,520	4,590	3,040	3,550	9,220	7,170	10,700	3,100	2,240	2,920	704
5	1,360	1,120	3,940	2,570	3,680	15,900	4,070	7,780	3,040	2,080	2,350	736
6	910	3,220	3,220	1,500	3,420	20,600	2,980	8,420	3,290	2,680	3,220	579
7	698	2,570	4,070	1,050	3,940	15,900	5,700	27,600	3,420	1,580	3,290	445
8	320	1,720	3,420	3,100	5,420	11,600	3,550	22,900	3,420	1,400	2,020	1,050
9	980	1,400	2,520	2,740	4,590	8,900	3,160	15,500	3,290	2,860	2,300	518
10	980	1,820	2,020	3,680	4,460	7,470	3,290	13,900	674	2,300	1,970	412
11	1,050	1,090	2,980	3,420	3,680	5,280	3,550	9,060	2,400	1,770	1,630	508
12	1,050	408	3,100	3,420	3,550	5,140	3,810	7,170	1,720	1,360	730	426
13	1,050	1,450	3,420	2,620	3,420	4,200	3,680	4,720	1,320	1,820	2,400	2,570
14	638	1,360	3,420	1,320	3,220	11,400	3,940	4,330	1,320	1,280	1,500	3,290
15	421	1,160	3,420	3,100	3,220	29,400	3,550	5,560	1,320	1,120	1,280	2,350
16	847	1,160	2,570	3,160	3,220	17,200	3,220	8,260	1,280	2,570	1,020	1,050
17	1,540	1,200	1,720	3,100	2,570	11,400	3,680	8,740	480	2,680	820	2,460
18	5,420	1,540	3,420	3,290	1,630	8,100	4,070	6,420	1,540	2,740	1,020	2,680
19	2,980	11,600	2,980	9,540	3,100	6,120	3,550	6,870	1,870	3,290	491	2,460
20	3,160	54,100	2,920	17,600	3,420	5,700	3,290	9,220	1,450	3,160	1,020	1,970
21	2,180	27,600	2,800	10,000	5,840	4,330	2,460	11,400	1,280	1,970	1,020	1,920
22	662	10,700	2,740	8,100	18,600	8,100	1,720	8,740	1,160	1,720	882	1,870
23	3,290	6,270	2,180	7,940	14,200	113,000	3,290	6,120	910	1,630	827	502
24	2,570	5,280	834	9,060	8,900	201,000	3,550	4,200	1,820	1,540	980	1,240
25	2,400	3,550	1,540	30,800	8,900	99,000	3,550	3,810	3,290	1,200	502	1,580
26	2,740	3,220	903	57,000	25,200	27,000	2,680	3,160	8,740	1,050	367	2,240
27	2,980	3,420	3,290	27,100	37,800	16,000	3,040	4,720	7,020	1,320	546	2,680
28	2,520	3,040	3,420	13,300	25,400	12,000	4,330	3,220	4,720	762	710	2,680
29	945	2,860	3,420	9,220	-------	9,000	23,800	3,420	4,330	435	945	2,080
30	2,860	2,980	3,040	8,100	-------	6,500	16,700	3,160	3,040	2,240	579	668
31	2,920	-------	2,680	5,560	-------	5,000	-------	2,570	-------	5,280	535	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,420	367	1,680	0.80	0.92
November	54,100	408	5,570	2.65	2.96
December	7,470	834	3,270	1.56	1.80
January	57,000	1,050	8,520	4.06	4.68
February	37,800	1,630	7,790	3.71	3.86
March	201,000	4,200	23,800	11.30	13.03
April	23,800	1,720	4,890	2.33	2.60
May	27,600	2,570	8,860	4.22	4.87
June	8,740	480	2,610	1.24	1.38
July	5,280	435	2,120	1.01	1.16
August	18,200	367	2,280	1.09	1.26
September	3,290	300	1,420	.676	.75
The year	201,000	300	6,090	2.90	39.27

COLLINS RIVER NEAR McMINNVILLE, TENN.

LOCATION.—Water-stage recorder and chain gage at highway bridge half a mile below mouth of Barren Fork and 2½ miles northeast of McMinnville, Warren County. Elevation of zero of each gage is 823.77 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—624 square miles.

RECORDS AVAILABLE.—April, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 76,000 second-feet Mar. 23 (gage height, 39.1 feet); minimum, 86 second-feet Oct. 3 (gage height, 1.10 feet).

1925–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 37 second-feet Sept. 4 and 29, 1925 (gage height, 0.8 foot).

Maximum stage known, 39.1 feet Mar. 23, 1929.

REMARKS.—Records between 300 and 25,000 second-feet good; others fair. Recorder destroyed during flood of Mar. 23; chain gage record used Mar. 16 to Sept. 30. Considerable regulation caused by operation of power plant on Barren Fork at McMinnville prior to Mar. 23; plant destroyed during flood of Mar. 23.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	356	2,690	427	1,460	5,530	2,420	3,650	538	900	5,890	138
2	130	332	1,960	439	1,220	3,950	2,000	6,370	495	845	2,510	136
3	132	322	1,530	435	1,100	3,050	1,680	4,720	479	1,720	1,250	140
4	515	322	1,250	427	1,010	3,650	1,530	2,960	463	845	820	144
5	1,220	342	1,070	423	1,070	5,890	1,500	2,160	435	650	605	150
6	1,760	304	955	695	1,160	5,530	1,320	2,780	395	524	507	152
7	928	301	820	1,070	1,460	4,060	1,190	8,310	360	455	431	188
8	605	301	745	900	1,320	2,960	1,070	4,500	339	407	367	218
9	463	336	695	770	1,250	2,420	1,010	5,770	346	374	332	150
10	381	356	650	1,760	1,220	2,080	1,070	3,850	325	399	301	144
11	286	356	600	2,420	1,070	1,680	1,130	2,690	313	479	328	140
12	265	325	556	1,840	955	1,460	1,100	2,000	301	435	286	403
13	232	307	515	1,390	900	1,390	955	1,600	295	411	350	2,420
14	208	292	499	1,100	845	7,920	872	1,360	322	471	307	982
15	208	280	471	955	820	8,180	955	1,420	283	695	277	628
16	200	265	443	955	820	5,410	2,000	1,800	262	471	247	419
17	596	262	475	982	820	3,450	1,800	1,920	244	427	225	313
18	4,940	1,460	1,190	2,160	745	2,600	1,500	1,600	244	542	212	262
19	1,320	14,900	1,190	5,890	695	2,080	1,160	2,160	471	795	202	238
20	900	15,600	1,010	4,060	982	1,720	1,010	5,410	295	672	192	222
21	672	5,170	872	2,780	4,500	1,500	955	4,170	265	564	185	202
22	596	2,870	745	2,420	5,050	2,240	982	2,690	378	451	172	190
23	2,240	2,000	672	2,600	3,350	44,200	1,130	1,880	1,160	364	172	175
24	1,560	1,560	628	2,960	2,420	33,900	1,010	1,390	1,390	316	175	178
25	1,220	1,250	587	14,300	3,550	10,500	1,190	1,100	1,760	289	175	455
26	872	1,070	533	13,800	10,200	4,940	1,320	1,100	4,940	280	156	820
27	695	900	511	5,410	8,310	3,350	1,070	1,040	2,160	265	154	928
28	587	795	499	3,650	8,050	2,960	5,530	820	1,530	262	152	650
29	515	745	483	2,690	.....	2,330	11,500	720	1,420	253	150	475
30	455	1,160	451	2,160	.....	2,600	4,280	628	1,220	259	146	395
31	403	.....	431	1,800	.....	2,240	.....	587	.....	1,800	144	.....

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,940	130	814	1.30	1.50
November	15,600	262	1,830	2.93	3.27
December	2,690	431	830	1.33	1.53
January	14,300	423	2,700	4.33	4.99
February	10,200	695	2,370	3.80	3.96
March	44,200	1,390	5,990	9.60	11.07
April	11,500	872	1,870	3.00	3.35
May	8,310	587	2,680	4.29	4.95
June	4,940	244	781	1.25	1.40
July	1,800	253	568	.910	1.05
August	5,890	144	562	.901	1.04
September	2,420	136	402	.644	.72
The year	44,200	130	1,780	2.85	38.83

STONE RIVER NEAR SMYRNA, TENN.

LOCATION.—Water-stage recorder at highway bridge at Jefferson Springs, 1 mile below confluence of East and West Forks and 4 miles east of Smyrna, Rutherford County. Elevation of zero of gage is 457.78 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—552 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 37,600 second-feet Mar. 23 (gage height, 36.5 feet); minimum, 9 second-feet Sept. 8, 23 (gage height, 0.84 foot).

1925–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 0.8 second-foot Aug. 17, 22, 1925 (gage height, 0.50 foot).

REMARKS.—Records good between 60 and 10,000 second-feet; fair above and below those limits. Discharge based on auxiliary staff-gage readings July 29 to Aug. 5 and Aug. 17–21. Low-water flow is regulated by operation of small power developments on both forks.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	70	2,620	157	885	2,420	2,940	1,030	416	513	704	17
2	35	42	1,190	178	745	1,920	2,070	2,020	421	471	288	13
3	38	62	815	230	671	1,560	1,650	1,350	671	2,170	154	35
4	29	52	609	157	633	1,830	1,560	928	525	671	106	29
5	27	45	465	178	801	3,820	1,780	717	400	448	94	14
6	58	50	416	829	1,150	4,040	1,310	3,270	324	375	85	14
7	40	38	342	678	1,560	2,420	1,110	7,560	279	261	91	15
8	31	50	261	477	1,150	1,740	958	2,720	256	197	94	10
9	27	50	284	443	1,110	1,390	899	4,150	217	221	85	40
10	25	60	197	3,710	1,110	1,150	928	2,170	189	230	146	35
11	23	48	201	1,740	899	988	1,190	1,560	193	1,110	80	14
12	40	52	178	1,150	780	864	965	1,190	182	513	115	23
13	29	52	174	864	690	857	773	965	157	395	80	724
14	29	38	174	697	621	13,000	671	857	178	333	129	395
15	35	50	171	585	555	4,480	621	1,470	174	920	82	174
16	45	65	185	780	549	2,470	808	3,270	164	477	78	122
17	106	40	205	906	555	1,740	633	2,070	91	365	40	122
18	1,880	432	1,560	1,150	519	1,390	543	1,350	126	426	19	115
19	684	5,030	988	5,580	483	1,150	471	5,800	567	315	25	75
20	351	2,620	671	2,320	920	988	448	3,050	410	225	27	31
21	225	1,110	531	1,600	4,810	913	346	1,830	270	157	25	45
22	100	731	443	1,350	4,150	7,230	426	1,310	243	136	42	31
23	193	525	370	1,520	2,520	31,400	333	1,030	489	129	33	19
24	234	416	324	2,830	2,220	19,100	320	850	1,780	100	14	45
25	115	351	243	12,100	6,020	4,590	328	920	7,560	115	17	50
26	126	288	284	4,480	9,100	3,160	333	1,600	3,270	112	15	252
27	112	197	182	2,520	4,040	2,620	328	1,070	2,320	85	45	284
28	75	205	174	2,070	3,380	2,320	2,120	829	1,110	72	33	197
29	91	201	171	1,560	-------	3,050	2,020	645	808	62	29	68
30	85	1,560	157	1,270	-------	7,450	1,030	513	603	225	19	82
31	72	-------	150	1,070	-------	3,270	-------	483	-------	1,190	14	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,880	23	161	0.292	0.34
November	5,030	38	484	.877	.98
December	2,620	150	475	.861	.99
January	12,100	157	1,780	3.22	3.71
February	9,100	483	1,880	3.41	3.55
March	31,400	857	4,370	7.92	9.13
April	2,940	320	997	1.81	2.02
May	7,560	483	1,890	3.42	3.94
June	7,560	91	813	1.47	1.64
July	2,170	62	420	.761	.88
August	704	14	90.6	.164	.19
September	724	10	103	.187	.21
The year	31,400	10	1,120	2.03	27.58

HARPETH RIVER AT BELLEVIEW, TENN.

LOCATION.—Staff gage at highway bridge on Harding Pike half a mile south of Belleview, Davidson County.

DRAINAGE AREA.—410 square miles.

RECORDS AVAILABLE.—April, 1920, to October, 1929 (discontinued).

EXTREMES.—Maximum discharge during year, about 17,300 second-feet Mar. 23 (gage height, about 22.3 feet); minimum (estimated), 2.8 second-feet Sept. 5 (gage height, estimated, −0.95 foot).

1920–1929: Maximum discharge, about 22,100 second-feet Mar. 13, 1927; no flow on several days in October, 1922.

Maximum stage known, 22.3 feet Mar. 23, 1929.

REMARKS.—Records fair. Discharge estimated Oct. 22, Nov. 17, Dec. 3, Jan. 1, 5, Mar. 16, Apr. 5, 10, May 2, 18, Sept. 3–7, 28.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
1	18	108	860	113	700	1,740	2,280	505	265	103	194	5.2	16
2	18	96	540	120	540	1,440	2,040	622	250	99	110	4.0	16
3	18	92	415	110	505	1,140	1,090	740	620	90	73	3.5	20
4	29	92	290	106	470	1,500	880	470	310	65	51	3.0	18
5	108	83	245	198	620	3,060	832	400	310	65	45	2.8	18
6	195	74	220	290	700	2,460	785	370	221	58	39	4.0	28
7	120	70	195	245	830	1,800	740	5,910	194	51	34	7.0	18
8	52	74	182	220	700	1,320	620	1,380	143	45	34	28	18
9	38	74	165	220	785	1,140	1,040	2,790	168	58	28	23	18
10	31	66	140	1,780	830	930	980	1,440	143	54	30	18	20
11	38	63	130	860	700	785	660	880	120	194	30	18	18
12	33	57	130	580	620	740	620	740	110	156	28	14	13
13	29	55	125	470	580	620	580	580	99	148	28	73	16
14	26	52	115	365	505	5,910	580	1,680	620	99	23	65	14
15	24	49	106	350	505	2,220	540	3,200	221	90	20	51	10
16	23	48	96	580	470	1,660	540	1,920	125	78	18	51	8.8
17	4,630	56	275	620	470	1,090	418	1,620	150	78	16	28	10
18	1,300	63	365	580	400	880	400	1,380	92	86	15	18	8.8
19	665	305	335	3,410	370	740	370	1,140	1,740	540	15	18	8.8
20	320	290	275	1,840	435	660	355	1,200	194	400	13	16	10
21	208	245	232	1,300	620	580	310	785	110	90	10	15	10
22	614	220	195	965	1,680	2,220	340	1,140	99	221	10	13	310
23	1,020	160	182	1,020	1,200	13,800	280	452	194	143	10	18	168
24	505	135	165	860	1,500	14,400	250	400	280	73	10	18	99
25	290	130	155	5,110	7,460	4,280	295	400	325	73	10	20	73
26	220	106	160	2,400	9,500	1,920	280	2,600	740	45	10	34	58
27	208	96	145	1,620	2,990	1,740	221	1,560	250	73	10	112	39
28	182	92	125	1,200	2,340	880	1,740	470	221	65	7.6	62	35
29	150	106	110	980	-------	1,200	1,440	435	194	57	7.0	13	28
30	125	470	106	830	-------	7,960	620	400	143	76	7.0	18	95
31	115	-------	106	785	-------	2,340	-------	400	-------	120	5.2	-------	99

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,630	18	366	0.892	1.03
November	470	48	121	.295	.33
December	860	96	222	.542	.62
January	5,110	106	972	2.37	2.73
February	9,500	370	1,390	3.39	3.53
March	14,400	580	2,680	6.54	7.54
April	2,280	221	737	1.80	2.01
May	5,910	370	1,220	2.98	3.44
June	1,740	92	288	.702	.78
July	540	45	116	.283	.33
August	194	5.2	30.6	.075	.09
September	112	2.8	25.8	.063	.07
The year	14,400	2.8	680	1.66	22.50
October	310	8.8	42.6	.104	.12

HARPETH RIVER NEAR KINGSTON SPRINGS, TENN.

LOCATION.—Staff gage just above highway bridge on State Highway 1, 2 miles northeast of Kingston Springs, Cheatham County, and 3 miles below mouth of Turnbull Creek. Elevation of zero of gage is 445.81 feet (United States Engineer Department datum of 1889).

DRAINAGE AREA.—687 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 20,000 second-feet Mar. 23 (gage height, 19.8 feet); minimum, 34 second-feet Sept. 3 (gage height, 0.44 foot).

1925–1929: Maximum discharge, about 32,500 second-feet Mar. 13, 1927 (gage height, about 28.0 feet); minimum, 18 second-feet Sept. 9, 10, 1925.

REMARKS.—Records good except those above 5,000 second-feet and below 100 second-feet, which are fair. Slight regulation during low water caused by operation of milldam at Newsom, 15 miles upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	201	1,270	300	930	2,830	3,010	832	510	262	435	38
2	58	195	995	300	832	2,290	2,470	770	460	214	280	36
3	55	201	930	245	740	1,880	1,880	1,800	1,200	192	198	34
4	81	195	865	234	710	1,480	1,800	832	650	178	138	36
5	228	183	800	242	800	5,920	1,480	680	485	160	102	36
6	320	170	710	410	930	5,800	1,270	1,880	410	128	92	39
7	262	168	592	435	1,130	3,680	1,130	6,640	365	120	100	37
8	217	186	460	435	1,060	2,290	930	3,010	342	108	102	38
9	189	178	342	365	1,130	1,960	1,480	5,200	342	108	88	110
10	162	172	300	1,340	1,270	1,560	2,560	2,200	300	207	88	120
11	142	168	262	1,640	995	1,270	3,200	1,880	280	460	114	106
12	122	160	280	1,060	930	1,060	2,120	1,270	242	280	108	87
13	90	148	280	832	865	995	1,480	1,130	220	198	87	201
14	78	135	262	680	770	3,900	1,200	1,720	365	198	76	245
15	70	122	234	620	740	4,000	1,060	2,920	592	201	70	207
16	930	112	220	800	740	2,290	930	4,000	300	162	63	122
17	2,040	96	238	930	680	1,800	832	3,100	231	388	53	116
18	1,800	88	832	1,060	620	1,340	710	1,800	210	262	53	98
19	710	98	710	9,280	565	1,130	650	4,210	680	410	51	86
20	510	262	620	2,470	710	1,060	592	2,830	565	300	52	74
21	388	680	538	2,120	740	930	538	1,800	320	180	52	72
22	365	460	460	1,720	1,800	865	538	1,270	231	142	52	63
23	2,290	410	388	1,560	1,800	18,400	538	1,060	207	195	49	53
24	1,880	342	388	1,480	1,800	19,200	510	865	280	195	48	64
25	1,130	262	342	4,650	6,040	10,000	510	710	995	128	48	69
26	510	198	300	3,800	16,800	2,920	460	2,650	1,200	114	46	100
27	342	170	280	2,200	6,520	2,380	435	2,120	620	102	46	228
28	320	592	262	1,960	3,800	2,120	1,200	995	388	86	45	168
29	300	1,640	245	1,640	-------	2,290	2,290	770	342	94	44	120
30	280	2,200	234	1,270	-------	9,160	1,200	620	300	120	41	104
31	245	-------	234	1,130	-------	3,800	-------	565	-------	228	39	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,290	55	522	0.760	0.88
November	2,200	88	340	.495	.55
December	1,270	220	480	.699	.81
January	9,280	234	1,520	2.21	2.55
February	16,800	565	2,020	2.94	3.06
March	19,200	865	3,870	5.63	6.49
April	3,200	435	1,300	1.89	2.11
May	6,640	565	2,000	2.91	3.36
June	1,200	210	454	.661	.74
July	460	86	197	.287	.33
August	435	39	92.3	.134	.15
September	245	34	96.9	.141	.16
The year	19,200	34	1,070	1.56	21.19

RED RIVER NEAR ADAMS, TENN.

LOCATION.—Water-stage recorder half a mile below mouth of Elk Creek and 1½ miles northwest of Adams, Robertson County. Elevation of zero of gage is 396.32 feet (United States Engineer Department datum of 1869).

DRAINAGE AREA.—678 square miles.

RECORDS AVAILABLE.—June, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 16,300 second-feet Feb. 26 (gage height, 24.90 feet); minimum, 80 second-feet Sept. 26 (gage height, 1.65 feet).

1920–1929: Maximum discharge, about 20,800 second-feet Dec. 22, 1926 (gage height, 31.0 feet); minimum, 23 second-feet Sept. 10, 1925 (gage height, 1.28 feet).

REMARKS.—Records good except those above 15,000 second-feet and those for estimated periods, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	350	1,240	395	1,310	4,410	2,540	2,680	932	322	716	95
2	130	326	862	617	1,100	3,620	2,180	2,320	862	350	431	105
3	170	314	650	455	995	3,040	1,740	2,100	800	650	354	110
4	194	310	546	395	960	2,750	1,560	1,560	740	395	318	112
5	173	a 302	500	372	932	4,410	1,460	1,350	698	338	270	112
6	194	a 280	485	422	932	6,640	1,310	a 3,690	692	310	246	118
7	197	a 260	440	584	1,030	4,620	1,200	a 6,570	a 680	298	235	149
8	176	a 240	400	475	a 1,030	3,540	1,100	a 4,050	a 595	274	218	170
9	149	a 220	354	450	1,030	2,970	1,420	a 3,180	551	263	204	143
10	146	204	326	960	1,310	2,460	3,110	a 2,680	540	895	204	143
11	140	207	290	1,350	1,100	2,180	3,980	2,250	515	584	408	155
12	122	204	270	a 1,030	960	1,960	4,120	1,960	525	426	740	146
13	128	197	266	a 895	895	1,890	2,680	1,780	1,200	556	364	418
14	125	191	260	a 825	862	2,680	2,250	2,540	2,100	a 515	298	480
15	140	191	256	a 750	800	3,040	2,030	3,400	1,200	a 440	252	228
16	176	185	252	a 675	770	2,250	1,780	3,690	830	a 365	224	185
17	1,030	185	342	a 600	728	1,820	1,530	3,110	674	290	200	197
18	2,100	197	1,780	734	680	1,640	1,350	2,540	600	1,280	173	179
19	830	214	1,350	3,620	668	1,490	1,170	4,340	595	1,200	170	158
20	520	266	960	2,900	1,030	1,380	1,100	4,050	515	573	164	155
21	418	290	800	2,030	1,200	1,280	1,030	2,680	470	422	170	125
22	359	282	662	1,710	995	1,240	1,530	2,180	440	350	140	118
23	1,380	270	578	1,530	a 895	2,540	1,280	1,820	413	322	140	115
24	1,060	260	515	1,490	a 862	3,260	995	1,560	390	350	135	108
25	595	232	465	5,130	1,960	2,180	895	1,460	520	290	120	122
26	470	218	426	4,770	14,200	2,100	895	1,740	674	260	108	100
27	431	207	404	2,900	13,500	2,680	800	2,180	465	235	115	108
28	556	207	386	2,460	6,420	2,030	5,420	1,640	408	228	115	102
29	546	228	359	2,030	------	1,890	7,430	1,380	359	252	115	115
30	450	368	338	1,670	------	3,620	3,400	1,200	334	368	112	95
31	390	------	322	1,490	------	2,970	------	1,030	------	515	102	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,100	122	440	0.649	0.75
November	368	185	247	.364	.41
December	1,780	252	551	.813	.94
January	5,130	372	1,480	2.18	2.51
February	14,200	668	2,110	3.11	3.24
March	6,640	1,240	2,730	4.03	4.65
April	7,430	800	2,110	3.11	3.47
May	4,340	1,030	2,540	3.75	4.32
June	2,100	334	678	1.00	1.12
July	1,280	228	449	.662	.76
August	740	102	244	.360	.42
September	480	95	155	.229	.26
The year	14,200	95	1,140	1.68	22.85

a Estimated or partly estimated.

TENNESSEE RIVER BASIN

FRENCH BROAD RIVER AT CALVERT, N. C.

LOCATION.—Staff gage at township bridge 1 mile downstream from mouth of East Fork and 1 mile southeast of railroad station at Calvert, Transylvania County.

DRAINAGE AREA.—104 square miles.

RECORDS AVAILABLE.—October, 1924, to September, 1929.

EXTREMES.—Maximum discharge during year, about 5,840 second-feet Sept. 26 (gage height, 8.40 feet); minimum, 141 second-feet Sept. 3 (gage height, 0.78 foot).

1924–1929: Maximum discharge (estimated), 16,100 second-feet Aug. 15, 1928 (gage height, 13.0 feet); minimum, 54 second-feet Sept. 17–23, 1925 (gage height, 0.28 foot).

Maximum stage known, 18.3 feet in July, 1916.

REMARKS.—Records good below 3,000 second-feet and fair above.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	296	318	274	348	310	920	634	501	450	398	258	146
2	296	314	258	234	296	745	607	860	450	348	238	146
3	287	305	254	217	296	662	580	634	424	314	228	144
4	282	296	246	217	287	980	580	527	398	300	214	197
5	278	287	238	689	310	1,730	554	527	373	323	210	191
6	278	278	234	689	860	980	554	802	373	305	206	168
7	270	278	231	450	1,040	860	554	689	348	292	203	238
8	262	292	224	373	554	745	501	527	475	323	214	231
9	258	278	224	323	580	662	501	554	424	310	203	318
10	254	270	217	717	554	607	475	501	373	373	234	220
11	246	262	217	450	475	580	607	475	348	296	220	214
12	238	254	217	398	424	554	501	475	348	292	210	191
13	238	254	217	373	398	2,300	475	450	348	292	203	228
14	234	250	398	348	373	4,060	450	424	348	398	197	217
15	231	246	250	323	373	2,330	580	689	373	424	191	191
16	475	238	254	348	398	1,380	475	554	305	348	185	1,040
17	1,240	242	258	373	373	1,040	450	475	314	300	185	717
18	1,110	266	278	373	348	1,040	424	527	348	296	185	424
19	607	802	266	424	348	980	424	450	373	398	179	318
20	475	527	250	373	348	920	424	802	314	373	173	282
21	398	348	231	348	501	802	398	607	292	282	173	254
22	373	310	224	323	634	860	554	501	278	270	170	250
23	1,520	292	217	318	475	1,590	398	475	398	258	200	266
24	662	274	214	348	398	1,040	398	450	348	242	182	270
25	501	262	210	527	398	920	634	424	398	238	173	554
26	450	262	210	348	920	860	450	398	554	607	168	3,560
27	424	262	217	450	802	802	424	554	802	282	160	1,450
28	398	262	210	398	1,660	745	717	501	554	270	157	860	
29	373	254	210	373	------	689	527	527	424	262	157	662
30	348	250	203	348	------	717	475	501	373	250	154	554
31	323	------	203	348	------	662	------	450	------	314	151	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,520	231	440	4.23	4.88
November	802	238	301	2.89	3.22
December	398	203	237	2.28	2.63
January	717	217	393	3.78	4.36
February	1,660	287	526	5.06	5.27
March	4,060	554	1,080	10.48	12.10
April	717	398	511	4.91	5.48
May	860	398	543	5.22	6.02
June	802	278	398	3.82	4.26
July	607	238	322	3.10	3.57
August	258	151	193	1.86	2.14
September	3,560	144	483	4.64	5.18
The year	4,060	144	453	4.36	59.11

FRENCH BROAD RIVER AT BLANTYRE, N. C.

LOCATION.—Chain gage at highway bridge 700 feet east of Blantyre railroad station, Transylvania County, and 3 miles downstream from mouth of Little River.

DRAINAGE AREA.—296 square miles.

RECORDS AVAILABLE.—December, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, about 8,900 second-feet Mar. 14 (gage height, 19.2 feet); minimum, 364 second-feet Sept. 3 (gage height, 3.27 feet).

1920–1929: Maximum discharge (estimated), 26,500 second-feet Aug. 16, 1928 (gage height, 22.90 feet); minimum, 143 second-feet Sept. 21, 1925 (gage height, 1.83 feet).

REMARKS.—Records good below 6,000 second-feet and fair above. Discharge estimated May 8. Slight diurnal fluctuation during low-water periods caused by operation of small mills on tributaries.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	805	805	700	650	805	3,920	1,560	1,210	1,030	914	805	383
2	805	805	626	700	752	2,320	1,480	1,840	1,000	886	626	364
3	805	778	626	578	752	1,800	1,390	1,940	1,060	832	578	384
4	778	778	602	555	726	1,870	1,360	1,450	971	778	532	423
5	778	752	602	650	752	4,050	1,330	1,330	914	832	509	675
6	778	726	578	2,320	1,210	3,280	1,270	1,330	859	805	509	602
7	752	726	578	1,270	1,660	2,440	1,210	1,840	832	805	509	509
8	1,300	752	555	1,000	1,270	1,940	1,180	1,480	832	832	532	1,150
9	700	700	555	859	1,390	1,730	1,150	1,420	1,450	778	509	1,360
10	700	675	555	1,520	1,590	1,560	1,150	1,270	1,000	886	578	805
11	675	675	532	1,300	1,330	1,450	1,300	1,180	886	886	578	971
12	650	650	532	1,060	1,150	1,390	1,330	1,120	859	752	532	700
13	650	650	555	942	1,030	2,330	1,120	1,090	1,060	726	532	650
14	626	626	700	859	971	7,680	1,060	1,030	886	752	509	675
15	626	626	626	805	942	7,490	1,300	1,090	886	805	487	555
16	726	626	650	805	1,180	5,630	1,240	1,450	859	832	465	1,730
17	2,410	626	626	914	971	4,100	1,120	1,120	778	752	465	3,360
18	2,240	626	752	886	914	2,880	1,060	1,090	859	726	487	1,730
19	2,010	942	626	1,000	886	2,480	1,000	1,090	805	859	465	1,120
20	1,240	1,360	650	914	859	2,200	1,000	1,590	752	778	423	886
21	1,030	859	602	859	1,590	2,040	1,000	1,480	700	675	423	778
22	942	778	578	832	1,390	2,120	1,060	1,240	675	675	423	726
23	2,120	726	555	778	1,150	3,000	971	1,150	942	650	423	752
24	1,940	700	555	832	1,090	3,600	942	1,060	1,090	602	487	778
25	1,300	675	532	1,060	1,030	2,560	1,180	1,000	914	602	465	971
26	1,120	650	532	1,090	1,730	2,160	1,180	971	1,210	675	403	3,810
27	1,030	650	532	971	2,840	1,980	1,000	1,240	2,520	942	403	5,000
28	971	650	555	1,090	4,280	1,840	1,330	1,270	1,800	650	383	4,770
29	914	626	532	971	-------	1,700	1,560	1,210	1,240	602	403	2,120
30	859	626	532	886	-------	1,760	1,210	1,240	1,030	602	403	1,560
31	832	-------	509	832	-------	1,620	-------	1,120	-------	700	383	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,410	626	1,070	3.61	4.16
November	1,360	626	728	2.46	2.74
December	752	509	588	1.99	2.29
January	2,320	555	961	3.25	3.75
February	4,280	726	1,290	4.36	4.54
March	7,680	1,390	2,800	9.46	10.91
April	1,560	942	1,200	4.05	4.52
May	1,940	971	1,290	4.36	5.03
June	2,520	675	1,020	3.45	3.85
July	942	602	761	2.57	2.96
August	805	383	491	1.66	1.91
September	5,000	364	1,340	4.53	5.05
The year	7,680	364	1,130	3.82	51.71

FRENCH BROAD RIVER AT ASHEVILLE, N. C.

LOCATION.—Chain gage at Bingham School Bridge, 2¼ miles downstream from Southern Railway station at Asheville, Buncombe County.

DRAINAGE AREA.—949 square miles.

RECORDS AVAILABLE.—September, 1895, to December, 1901; October, 1922, to September, 1929. From January, 1905, to September, 1922, at Smith Bridge, 1½ miles upstream.

EXTREMES.—Maximum discharge during year, 15,100 second-feet Mar. 14 (gage height, 7.12 feet); minimum, 750 second-feet Sept. 2, 3, (gage height, 0.8 foot).

1895–1901, 1905–1929: Maximum discharge (estimated), 110,000 second-feet July 16, 1916 (gage height, from floodmarks, 23.1 feet); minimum, 239 second-feet several times in August and September, 1925 (gage height, 0.16 foot).

REMARKS.—Records good. Slight diurnal fluctuation caused by operation of mills on tributaries. Slight diversion for water supply from tributaries.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,900	1,750	1,410	1,220	1,680	8,720	3,210	2,680	2,680	2,040	2,040	918
2	1,750	1,750	1,410	1,280	1,680	6,550	3,210	3,390	2,350	2,040	1,480	750
3	1,900	1,750	1,340	1,340	1,680	4,170	3,030	4,370	2,510	2,040	1,340	805
4	1,750	1,680	1,410	1,280	1,610	3,770	2,850	3,390	2,350	1,900	1,280	1,100
5	1,680	1,610	1,340	1,410	1,680	8,540	2,850	2,850	2,190	1,900	1,160	1,480
6	1,680	1,610	1,340	4,240	2,040	7,970	2,680	3,030	2,040	1,900	1,100	1,480
7	1,750	1,610	1,340	3,210	4,170	6,550	2,680	3,970	1,900	1,900	1,100	1,540
8	1,680	1,680	1,340	2,350	3,210	4,570	2,510	3,390	2,040	1,750	1,160	1,610
9	1,610	1,610	1,280	1,900	3,030	3,770	2,510	3,030	3,030	1,680	1,220	2,040
10	1,610	1,540	1,280	2,040	3,580	3,390	2,510	2,850	2,680	1,610	1,480	1,900
11	1,480	1,540	1,280	2,350	3,030	3,210	2,350	2,680	2,040	2,040	1,220	1,680
12	1,480	1,480	1,480	2,190	2,680	3,030	3,030	2,510	2,040	1,750	1,410	1,610
13	1,480	1,480	1,680	2,040	2,190	3,210	2,510	2,350	2,680	2,040	1,280	1,340
14	1,410	1,480	1,540	1,900	1,750	12,200	2,510	4,170	2,190	1,900	1,220	1,410
15	1,410	1,410	1,480	1,750	2,040	14,000	2,510	3,970	2,040	1,750	1,220	1,280
16	1,610	1,410	1,410	1,680	2,190	13,000	2,850	3,030	1,900	1,680	1,040	2,810
17	5,050	1,410	1,410	1,900	2,040	9,240	2,680	2,680	1,750	1,750	975	6,090
18	5,200	1,410	1,540	1,900	2,040	7,010	2,350	2,350	2,040	1,680	1,100	4,780
19	5,640	1,480	1,480	2,040	1,900	5,200	2,190	2,350	1,750	1,900	975	2,680
20	2,920	1,750	1,410	2,040	1,900	4,570	2,190	3,210	1,750	1,680	860	2,040
21	2,350	1,900	1,340	1,750	2,040	4,170	2,190	3,390	1,610	1,480	805	1,680
22	2,190	1,750	1,280	1,750	2,040	4,170	2,190	2,850	1,540	1,410	975	1,540
23	3,970	1,480	1,220	1,750	2,510	6,320	2,190	2,510	1,610	1,540	918	1,610
24	4,170	1,480	1,220	1,680	2,040	7,250	2,040	2,350	2,350	1,410	975	1,750
25	3,030	1,410	1,220	2,040	2,190	6,780	2,350	2,190	2,850	1,340	1,100	1,750
26	2,510	1,410	1,220	2,190	4,380	4,780	2,680	2,040	2,350	1,480	975	7,000
27	2,190	1,410	1,220	2,040	6,620	4,170	2,350	2,350	4,560	1,900	918	10,900
28	2,040	1,410	1,220	2,040	9,770	3,970	2,850	2,680	4,370	1,540	860	9,500
29	2,040	1,410	1,220	1,900	-------	3,770	3,390	2,510	2,850	1,340	860	7,010
30	1,900	1,410	1,220	1,750	-------	3,580	2,680	2,850	2,350	1,410	860	4,990
31	1,900	-------	1,220	1,750	-------	3,580	-------	3,390	-------	1,540	860	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,640	1,410	2,360	2.49	2.87
November	1,900	1,410	1,550	1.63	1.82
December	1,680	1,220	1,350	1.42	1.64
January	4,240	1,220	1,960	2.07	2.39
February	9,770	1,610	2,780	2.93	3.05
March	14,000	3,030	5,970	6.29	7.25
April	3,390	2,040	2,600	2.74	3.06
May	4,370	2,040	2,950	3.11	3.58
June	4,560	1,540	2,350	2.48	2.77
July	2,040	1,340	1,720	1.81	2.09
August	2,040	805	1,120	1.18	1.36
September	10,900	750	2,900	3.06	3.41
The year	14,000	750	2,470	2.60	35.29

FRENCH BROAD RIVER NEAR NEWPORT, TENN.

LOCATION.—Water-stage recorder at highway bridge at Oldtown, on Newport-Morristown road, 2½ miles northeast of Newport, Cocke County, and 4 miles above mouth of Pigeon River. Zero of gage is 1,012.89 feet above mean sea level.

DRAINAGE AREA.—1,860 square miles.

RECORDS AVAILABLE.—September, 1900, to November, 1901; November, 1902, to December, 1905; August to December, 1907; November, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 23,600 second-feet Mar. 5 (gage height, 8.3 feet); minimum, 740 second-feet Sept. 3 (gage height, 1.70 feet).

1900–1905, 1907, 1920–1929: Maximum discharge, about 62,200 second-feet Apr. 8, 1903 (gage height, 12.0 feet); minimum, 210 second-feet Sept. 9, 1925.

REMARKS.—Records good. Discharge based on auxiliary chain-gage readings Oct. 1–13. Diurnal fluctuation during low-water periods caused by operation of three or four medium-sized water-power plants.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,700	2,460	2,010	1,650	2,460	14,200	5,160	4,360	6,480	3,020	2.390	938
2	2,660	2,390	1,990	1,770	2,250	11,800	4,840	5,480	4,360	3,440	2.310	860
3	2,830	2,340	1,990	1,910	2,130	8,170	4,360	7,160	3,860	4,520	1.710	824
4	2,580	2,340	1,890	1,810	2,060	6,330	4,200	5,980	3,900	3,440	1.590	860
5	2,480	2,250	1,890	1,750	2,060	16,700	4,050	4,680	3,500	4,360	1.500	1,190
6	2,410	2,160	1,810	2,830	2,220	16,300	4,020	4,360	3,140	3,560	1.410	1,570
7	2,340	2,110	1,790	5,100	4,500	11,400	3,740	11,000	2,850	3,770	1.310	1,360
8	2,290	2,250	1,730	3,530	5,560	7,680	3,440	8,390	2,820	2,770	1.360	1,460
9	2,180	2,270	1,690	2,800	4,500	5,980	3,560	6,480	5,160	2,410	1.320	1,690
10	2,290	2,200	1,630	2,780	5,100	5,160	3,380	5,650	4,680	2,570	1.310	2,120
11	2,130	2,180	1,600	3,360	4,950	4,520	3,320	4,680	3,770	2,710	1.390	1,790
12	2,010	2,110	1,690	3,440	4,060	4,200	4,020	4,200	3,050	2,630	2.570	1,870
13	1,930	2,030	1,630	2,910	3,560	4,050	3,770	4,050	3,620	4,360	3 960	1,540
14	1,890	1,990	1,630	2,580	3,200	15,100	3,260	4,200	4,840	2,850	1.890	1,390
15	1,870	1,990	1,910	2,440	2,910	20,700	3,140	5,320	3,590	2,850	1.570	1,360
16	1,960	1,960	2,110	2,320	2,860	19,100	3,620	8,210	3,230	2,410	1.440	1,260
17	3,640	1,960	1,870	2,250	2,930	14,200	3,740	6,650	2,880	2,190	1.230	5,320
18	6,330	1,960	1,990	2,440	2,730	10,200	3,260	5,160	2,880	2,210	1.190	6,140
19	6,650	2,010	1,990	2,910	2,580	7,500	3,080	5,820	2,880	2,650	1.190	3,800
20	4,800	2,660	1,990	3,090	2,680	6,310	2,910	10,200	2,570	2,680	1.160	2,360
21	3,500	3,220	1,850	2,960	3,330	5,480	2,850	10,200	2,340	2,290	1.090	1,870
22	2,960	2,660	1,690	3,220	4,500	5,480	3,050	6,990	2,190	1,960	1.030	1,630
23	5,100	2,390	1,630	3,640	4,210	10,600	3,320	5,320	2,090	1,890	1.000	1,500
24	6,810	2,250	1,580	3,920	3,610	13,000	3,020	4,360	2,570	1,940	1.050	1,570
25	5,100	2,130	1,610	3,360	3,360	10,200	2,970	3,990	3,530	1,750	1.210	1,810
26	3,780	2,010	1,540	3,390	3,920	8,030	3,350	3,680	3,740	1,670	1.260	3,000
27	3,310	1,960	1,610	3,360	9,680	7,330	3,440	3,440	3,860	1,920	1.050	11,800
28	2,960	1,990	1,650	3,090	17,100	6,990	3,740	3,650	5,650	2,050	977	11,400
29	2,830	1,960	1,690	3,010	------	6,480	6,650	3,500	4,520	1,890	925	8,940
30	2,600	1,960	1,750	2,780	------	5,980	5,160	7,500	3,560	2,210	1.000	5,650
31	2,530	------	1,710	2,580	------	5,480	------	6,650	------	2,710	990	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,810	1,870	3,210	1.73	1.99
November	3,220	1,960	2,200	1.18	1.32
December	2,110	1,540	1,780	.957	1.10
January	5,100	1,650	2,870	1.54	1.78
February	17,100	2,060	4,110	2.21	2.30
March	20,700	4,050	9,500	5.11	5.89
April	6,650	2,850	3,750	2.02	2.25
May	11,000	3,440	5,850	3.15	3.63
June	6,480	2,090	3,600	1.94	2.16
July	4,520	1,670	2,700	1.45	1.67
August	3,960	925	1,460	.785	.90
September	11,800	824	2,960	1.59	1.77
The year	20,700	824	3,670	1.97	26.76

FRENCH BROAD RIVER AT DANDRIDGE, TENN.

LOCATION.—Staff gage at highway bridge at Dandridge, Jefferson County. Zero of gage is 902.83 feet above mean sea level.

DRAINAGE AREA.—4,450 square miles.

RECORDS AVAILABLE.—October, 1918, to September, 1929.

EXTREMES.—Maximum discharge during year, about 47,400 second-feet Mar. 24 (gage height, 12.3 feet); minimum, 2,190 second-feet Sept. 3 (gage height, 0.5 foot).

1918–1929: Maximum gage height, 18.7 feet Apr. 2, 1920 (discharge not determined); minimum discharge, 360 second-feet Sept. 10, 1925 (gage height, −0.6 foot).

Maximum stage known, 28.0 feet May 21, 1901.

REMARKS.—Records good below 30,000 second-feet and fair above. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,270	5,570	4,980	3,860	6,480	36,100	11,000	10,000	16,600	5,870	7,410	2,620
2	5,570	5,570	4,980	4,690	5,870	27,700	11,000	11,000	13,400	6,790	6,480	2,400
3	6,170	5,270	4,130	4,980	5,570	22,800	10,300	16,600	10,000	11,000	5,570	2,190
4	5,870	5,270	4,690	4,410	4,690	17,000	9,340	14,100	10,000	9,670	4,690	2,400
5	5,870	4,980	4,410	3,860	5,570	19,700	9,010	10,700	9,010	7,410	4,130	2,620
6	5,270	5,270	4,410	4,130	6,170	44,200	8,690	9,010	8,050	7,100	4,130	3,340
7	5,570	4,980	4,130	8,050	9,670	30,300	8,050	21,200	7,410	7,730	3,600	3,090
8	5,870	4,980	4,130	8,690	11,700	21,600	7,730	27,300	7,100	7,100	4,130	2,850
9	6,790	5,270	3,600	6,790	10,000	16,300	7,730	20,400	7,730	6,480	3,860	2,850
10	5,570	4,980	3,090	6,170	9,010	13,400	8,050	15,200	10,300	5,570	3,340	3,860
11	4,980	4,980	3,340	7,730	10,000	11,700	7,410	12,000	9,340	5,570	3,340	4,410
12	4,980	4,410	3,600	7,730	9,340	10,700	7,730	10,300	7,730	5,870	3,340	3,340
13	4,410	4,980	3,600	6,480	8,050	9,670	8,370	9,340	7,410	8,690	7,410	3,600
14	4,130	4,690	3,340	5,570	7,410	11,700	7,410	10,300	8,050	7,730	5,870	3,340
15	3,600	4,410	3,600	5,570	6,790	39,200	6,790	10,000	8,370	6,480	4,410	3,090
16	4,130	4,130	3,860	5,570	6,790	35,200	7,410	17,800	7,410	6,480	3,600	2,850
17	4,690	4,130	3,340	5,270	6,480	27,700	8,050	17,400	6,170	5,870	3,340	2,620
18	9,670	4,130	5,570	5,270	6,170	21,200	7,730	14,100	6,480	5,870	3,340	9,010
19	15,600	3,600	5,870	8,050	6,170	17,000	7,410	11,700	6,790	5,870	2,850	7,410
20	12,000	6,170	4,980	8,370	6,480	14,100	6,790	23,200	6,170	7,410	2,850	5,270
21	8,050	6,170	4,410	8,050	10,000	12,700	6,480	26,500	5,870	5,870	2,850	4,130
22	6,480	6,170	4,130	7,730	12,000	11,700	6,170	22,800	5,270	4,690	2,620	3,600
23	6,790	5,570	3,600	8,690	11,700	17,400	7,730	16,600	5,270	4,690	2,620	3,090
24	15,600	4,980	3,090	10,700	9,010	42,000	7,100	12,400	4,980	4,980	2,620	2,850
25	14,500	4,690	3,090	10,300	7,730	30,700	6,790	10,700	5,870	5,270	2,850	3,340
26	9,670	4,130	3,090	11,000	9,010	20,800	7,410	9,340	7,730	4,690	3,090	4,410
27	7,730	4,690	3,600	9,340	14,800	18,100	7,410	8,370	8,690	4,690	2,620	13,400
28	6,790	4,690	3,860	8,050	29,000	16,600	7,100	8,370	10,000	5,570	2,620	21,600
29	6,170	4,410	3,600	7,730	-------	15,200	12,400	8,690	9,340	5,270	2,620	15,600
30	6,170	3,600	3,860	7,410	-------	13,400	14,500	9,010	7,410	4,690	2,620	11,700
31	5,870	-------	3,340	6,790	-------	12,000	-------	16,300	-------	6,170	2,620	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	15,600	3,600	7,090	1.59	1.83
November	6,170	3,600	4,900	1.10	1.23
December	5,870	3,090	3,980	.894	1.03
January	11,000	3,860	7,000	1.57	1.81
February	29,000	4,690	8,990	2.02	2.10
March	44,200	9,670	21,200	4.76	5.49
April	14,500	6,170	8,300	1.87	2.09
May	27,300	8,370	14,200	3.19	3.68
June	16,600	4,980	8,130	1.83	2.04
July	11,000	4,690	6,360	1.43	1.65
August	7,410	2,620	3,790	.852	.98
September	21,600	2,190	5,230	1.18	1.32
The year	44,200	2,190	8,280	1.86	25.25

TENNESSEE RIVER AT KNOXVILLE, TENN.

LOCATION.—Water-stage recorder at old pumping plant of city of Knoxville, half a mile above Gay Street Bridge in Knoxville, Knox County. Prior to Oct. 23, 1928, gage was on Knoxville Water Co.'s intake, 50 feet up stream. Zero of both gages is 797.59 feet above mean sea level, revised.

DRAINAGE AREA.—8,990 square miles.

RECORDS AVAILABLE.—January, 1899, to December, 1912; October, 1918, to September, 1929, revised.

EXTREMES.—Maximum discharge during year, 93,600 second-feet Mar. 24 (gage height, 17.2 feet); minimum, 4,060 second-feet Sept. 3 (gage height, 0.33 foot).

1899–1929: Maximum discharge, about 195,000 second-feet Mar. 1, 1902 (gage height, 36.4 feet); minimum, 1,390 second-feet Sept. 11, 1925 (gage height, −1.7 feet).

Maximum stage known, 44.4 feet Mar. 10, 1867.

REMARKS.—Records fair prior to Oct. 23 and good thereafter.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,380	9,380	8,840	7,240	13,200	78,800	22,900	23,500	41,700	14,900	13,500	5,000
2	9,580	9,010	9,380	8,330	12,100	72,500	21,200	27,400	31,400	15,500	10,600	4,780
3	10,200	8,840	9,010	9,010	11,300	57,100	19,500	30,900	23,500	28,000	9,580	4,250
4	10,200	8,500	8,500	8,660	10,600	43,400	17,200	29,200	20,000	31,400	8,660	4,250
5	9,770	8,330	8,330	8,660	11,100	50,200	16,000	24,000	18,900	20,600	8,010	4,250
6	9,580	8,500	8,170	9,980	13,200	78,800	16,000	21,200	17,800	16,000	7,700	4,560
7	11,300	8,330	7,860	12,600	17,800	78,800	14,900	46,800	14,900	16,600	7,390	5,470
8	11,300	8,330	7,700	14,900	23,500	57,100	14,300	56,500	13,800	14,900	7,540	5,600
9	11,300	8,330	7,390	11,800	21,800	40,600	13,800	46,800	14,100	12,900	7,390	5,850
10	11,800	8,500	6,940	11,100	17,200	30,900	13,200	33,200	16,600	10,400	7,090	5,720
11	9,200	8,500	6,520	12,100	17,200	25,700	12,900	25,200	16,600	11,300	6,940	6,800
12	8,660	8,330	6,940	12,600	17,200	22,300	13,200	20,600	14,900	10,600	7,090	6,660
13	8,330	8,330	6,940	11,800	15,500	20,000	13,500	17,800	16,600	11,800	8,660	7,090
14	8,010	8,330	6,940	10,400	13,500	26,300	12,600	18,300	13,800	14,900	9,980	6,940
15	7,860	8,010	6,940	9,770	12,100	54,800	11,600	20,600	13,800	12,600	8,500	6,120
16	7,860	7,860	7,240	9,380	11,300	61,600	12,100	34,300	12,900	12,100	7,540	5,600
17	8,170	7,700	7,390	9,010	11,300	51,400	12,900	37,700	12,900	12,100	7,090	5,350
18	10,600	7,700	8,840	9,580	11,100	40,000	12,600	33,200	12,100	11,800	6,660	10,400
19	18,900	11,100	10,600	15,500	10,700	32,600	11,800	38,800	11,100	11,600	6,250	10,200
20	17,800	12,400	9,770	18,900	11,600	26,900	11,100	61,100	10,600	13,500	5,720	8,500
21	14,100	11,300	9,010	18,300	22,900	23,500	10,700	61,600	10,400	12,900	6,120	7,240
22	11,100	11,100	8,500	17,200	25,700	24,000	10,700	57,100	9,580	9,980	5,600	6,660
23	12,100	9,770	8,010	17,200	22,900	52,500	11,800	41,100	9,580	9,010	5,350	5,980
24	16,600	9,010	7,540	21,200	19,500	89,000	12,100	29,700	9,770	9,010	5,600	5,000
25	28,000	8,660	7,090	29,700	17,800	76,500	11,600	23,500	10,200	9,010	5,850	5,720
26	21,800	8,170	7,090	32,000	22,300	50,800	11,300	20,600	12,100	8,660	6,800	8,500
27	16,000	8,010	6,800	26,300	34,300	40,600	11,600	18,300	23,500	8,660	5,980	13,200
28	12,900	7,860	7,390	21,200	61,600	38,800	15,500	17,200	32,000	9,580	5,470	24,000
29	11,300	7,860	7,390	17,800	-------	34,300	20,600	16,600	23,500	9,770	5,350	20,600
30	10,600	8,010	7,390	16,000	-------	29,700	25,200	16,600	18,300	9,200	5,230	14,900
31	9,980	-------	7,390	14,300	-------	25,200	-------	28,000	-------	12,100	5,120	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	28,000	7,860	12,100	1.35	1.56
November	12,400	7,700	8,800	.979	1.09
December	10,600	6,520	7,860	.874	1.01
January	32,000	7,240	14,600	1.62	1.87
February	61,600	10,600	18,200	2.02	2.10
March	89,000	20,000	46,300	5.15	5.94
April	25,200	10,700	14,500	1.61	1.80
May	61,600	16,600	31,500	3.50	4.04
June	41,700	9,580	16,900	1.88	2.10
July	31,400	8,660	13,300	1.48	1.71
August	13,500	5,120	7,240	.806	.93
September	24,000	4,250	7,840	.872	.97
The year	89,000	4,250	16,600	1.85	25.12

TENNESSEE RIVER AT LOUDON, TENN.

LOCATION.—Staff gage at Huffs Ferry, half a mile northwest of Loudon, Loudon County. Zero of gage is 726.0 feet above mean sea level.

DRAINAGE AREA.—12,300 square miles.

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, about 126,000 second-feet Mar. 24 (gage height, 21.5 feet); minimum, 7,030 second-feet Sept. 4 (gage height, 2.35 feet).

1922–1929: Maximum discharge, that of Mar. 24, 1929; minimum, 2,190 second-feet Sept. 12, 1925 (gage height, 0.82 foot).

REMARKS.—Records good below 70,000 second-feet and fair above. Low-water flow slightly affected by regulation on Little Tennessee and Cheoah Rivers.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,800	13,900	13,400	11,200	21,600	102,000	37,700	38,300	45,800	23,300	22,200	7,610
2	13,400	13,400	13,900	12,300	19,400	92,600	32,800	38,900	43,300	21,000	20,000	7,220
3	13,400	12,800	13,900	13,900	17,200	79,000	32,200	57,500	36,400	25,600	15,600	7,220
4	14,500	12,800	12,800	13,900	16,600	62,000	28,600	47,800	31,600	39,600	13,900	7,220
5	13,900	12,800	12,800	13,400	16,100	66,000	27,400	42,700	27,400	30,400	12,800	7,610
6	15,000	12,300	12,800	15,000	18,800	98,400	25,600	37,000	26,200	23,900	12,300	7,220
7	15,000	12,300	12,300	19,400	26,200	97,800	23,900	62,700	23,900	21,600	11,200	7,610
8	16,100	12,300	11,800	20,500	30,400	82,200	23,900	79,600	22,200	22,800	12,800	8,420
9	16,100	12,800	12,300	20,500	33,400	61,400	21,600	69,800	22,200	20,000	11,800	8,840
10	16,600	12,300	10,200	18,800	28,600	47,800	21,000	55,600	23,300	15,000	11,200	9,280
11	15,000	12,800	10,200	20,500	26,200	41,400	21,600	43,300	23,900	17,800	10,700	9,280
12	12,800	12,300	9,740	22,200	26,800	35,200	23,300	37,000	21,600	17,800	11,800	9,740
13	12,800	11,800	10,200	20,000	23,300	32,200	23,300	34,000	24,500	16,600	12,300	9,740
14	11,800	11,800	10,700	18,300	22,800	38,900	22,200	28,000	22,200	21,000	14,500	12,300
15	10,700	11,800	10,700	16,100	20,500	77,000	20,000	28,600	20,500	20,500	13,900	9,740
16	10,700	11,800	11,200	15,600	20,000	86,800	22,200	35,800	20,000	17,800	11,800	8,420
17	10,700	11,200	11,200	14,500	19,400	76,400	28,000	45,800	18,800	17,200	9,740	10,200
18	13,400	11,200	12,300	14,500	18,300	58,800	25,000	45,200	18,800	18,300	9,740	12,800
19	25,000	16,600	16,100	24,500	17,800	48,400	21,600	47,800	17,800	17,800	9,740	17,800
20	26,200	24,500	15,600	33,400	17,800	41,400	20,500	76,400	16,600	18,800	8,840	13,900
21	21,600	20,500	14,500	29,800	29,200	36,400	18,800	86,100	16,100	19,400	8,840	10,700
22	18,300	17,200	13,400	28,000	42,000	36,400	19,400	79,000	15,600	16,100	8,840	9,740
23	19,400	16,600	13,400	27,400	35,800	68,600	20,500	63,400	15,000	13,900	8,420	9,280
24	21,600	15,000	12,300	28,600	31,000	122,000	21,000	48,400	15,600	12,800	8,840	8,840
25	28,600	13,900	11,800	36,400	28,000	108,000	19,400	38,300	16,100	13,400	9,280	9,280
26	31,000	12,800	11,200	45,800	33,400	80,200	20,500	33,400	18,300	13,400	9,280	21,600
27	22,800	12,300	11,200	42,000	47,100	58,800	20,500	30,400	22,800	15,000	10,200	40,800
28	18,800	12,300	10,700	35,800	72,400	52,300	22,200	29,200	40,200	14,500	8,420	34,600
29	16,600	11,800	11,200	29,800	-------	47,800	44,600	26,800	35,800	14,500	8,010	32,800
30	16,100	11,800	10,700	26,200	-------	43,900	38,900	25,600	28,000	13,900	8,010	26,200
31	15,600	-------	10,700	23,300	-------	37,000	-------	28,600	-------	16,100	8,010	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	31,000	10,700	17,000	1.38	1.59
November	24,500	11,200	13,600	1.11	1.24
December	16,100	9,740	12,100	.984	1.13
January	45,800	11,200	22,900	1.86	2.14
February	72,400	16,100	27,100	2.20	2.29
March	122,000	32,200	65,100	5.29	6.10
April	44,600	18,800	24,900	2.02	2.25
May	86,100	25,600	46,500	3.78	4.36
June	45,800	15,000	24,400	1.98	2.21
July	39,600	12,800	19,000	1.54	1.78
August	22,200	8,010	11,400	.927	1.07
September	40,800	7,220	13,200	1.07	1.19
The year	122,000	7,220	24,800	2.02	27.35

TENNESSEE RIVER AT CHATTANOOGA, TENN.

LOCATION.—Two water-stage recorders, one at Walnut Street Bridge in Chattanooga, Hamilton County, the other at Hales Bar Lock and Dam, 33 miles down stream. Zero of Chattanooga gage is 620.85 feet and of Hales Bar gage 626.06 feet above mean sea level.

DRAINAGE AREA.—21,400 square miles.

RECORDS AVAILABLE.—April, 1874, to October, 1913; March, 1915, to September, 1929.

EXTREMES.—Maximum discharge during year, 248,000 second-feet Mar. 26 (gage height, 38.5 feet); minimum, 9,680 second-feet Sept. 7.

1874–1929: Maximum discharge, about 361,000 second-feet Mar. 1, 1875 (gage height, 54.0 feet); minimum (estimated), 3,300 second-feet Sept. 13, 1925.

REMARKS.—Records good. Flow during low stages largely regulated by operation of power plant at Hales Bar Dam.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19,400	24,500	23,400	18,600	48,600	163,000	72,100	81,100	46,300	50,000	24,200	10,000
2	18,800	22,800	29,200	21,500	42,600	180,000	68,600	95,000	59,500	35,400	29,100	10,500
3	17,800	21,600	32,800	22,700	38,000	177,000	62,200	107,000	66,100	35,500	29,600	9,900
4	20,700	21,000	31,300	25,500	34,600	158,000	58,000	111,000	61,400	38,000	26,500	10,000
5	24,000	20,400	28,300	25,800	32,400	142,000	53,000	98,800	53,200	51,000	22,700	10,000
6	23,100	20,700	26,500	29,700	33,900	153,000	49,000	95,200	46,700	54,000	20,200	10,700
7	21,400	20,600	25,400	33,300	40,400	171,000	46,500	107,000	42,200	43,000	19,100	9,680
8	22,000	21,800	24,100	39,200	51,000	172,000	42,300	135,000	41,200	37,300	18,900	10,800
9	22,200	21,100	22,600	39,600	56,200	159,000	41,200	119,000	38,100	35,100	17,600	11,500
10	22,400	20,900	22,600	42,600	58,200	130,000	38,800	149,000	36,100	33,000	17,300	12,400
11	22,200	19,600	21,500	45,300	54,000	96,700	38,400	132,000	35,900	29,700	16,100	13,100
12	22,600	20,700	21,300	46,700	49,400	77,500	41,200	95,700	36,100	28,200	15,800	12,800
13	20,200	19,100	18,600	45,300	46,300	65,600	41,900	74,200	35,000	27,600	16,900	14,900
14	16,000	19,100	19,300	41,800	44,000	89,200	40,300	61,000	36,900	26,900	18,300	19,600
15	18,600	19,100	19,100	38,200	38,900	139,000	39,200	53,000	36,800	30,600	18,600	19,000
16	17,900	19,300	18,000	34,700	37,200	163,000	47,400	62,800	32,400	32,000	19,300	16,900
17	17,500	18,600	19,500	31,800	34,700	161,000	55,100	78,400	30,200	29,800	16,800	16,800
18	20,700	18,600	21,400	31,100	33,400	139,000	52,800	85,600	29,300	28,900	14,800	20,100
19	23,100	32,400	23,900	38,100	32,800	110,000	45,400	93,400	27,800	28,800	12,900	20,300
20	29,300	87,300	27,000	62,800	31,700	87,200	39,400	119,000	27,600	28,500	13,100	21,200
21	35,200	105,000	28,100	75,600	37,000	74,100	36,200	149,000	25,900	29,000	12,500	20,200
22	31,600	86,000	28,000	74,900	57,400	67,000	35,700	166,000	24,900	28,800	11,900	16,100
23	36,400	65,200	26,000	72,800	73,600	110,000	36,400	165,000	25,700	27,600	12,000	13,400
24	43,600	49,600	24,400	64,600	67,800	205,000	36,300	143,000	25,000	24,500	12,400	13,100
25	44,000	36,000	23,100	75,400	58,000	242,000	37,400	109,000	25,800	21,400	10,600	13,400
26	42,800	29,800	21,900	112,000	73,000	246,000	38,600	79,100	31,400	22,400	11,900	18,300
27	44,700	28,000	22,200	120,000	106,000	226,000	38,400	65,800	51,600	19,100	12,500	39,900
28	37,800	25,300	20,800	106,000	138,000	178,000	40,200	58,800	61,600	19,600	13,000	55,100
29	29,900	23,500	18,800	89,000	-------	122,000	56,800	53,500	69,200	20,900	12,800	46,800
30	27,200	22,700	18,100	71,100	-------	93,900	81,200	49,500	66,500	21,400	11,800	41,500
31	25,600	-------	18,100	58,800	-------	82,400	-------	46,300	-------	22,400	10,700	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	44,700	16,000	26,400	1.23	1.42
November	105,000	18,600	32,000	1.50	1.67
December	32,800	18,000	23,400	1.09	1.26
January	120,000	18,600	52,700	2.46	2.84
February	138,000	31,700	51,800	2.42	2.52
March	246,000	65,600	141,000	6.59	7.60
April	81,200	35,700	47,000	2.20	2.46
May	166,000	46,300	98,000	4.58	5.28
June	69,200	24,900	40,900	1.91	2.13
July	54,000	19,100	30,900	1.44	1.66
August	29,600	10,600	16,800	.785	.90
September	55,100	9,680	18,600	.869	.97
The year	246,000	9,680	48,500	2.26	30.71

TENNESSEE RIVER AT DECATUR, ALA.

LOCATION.—Water-stage recorder at highway bridge at Decatur, Morgan County, 2,500 feet upstream from Louisville & Nashville Railroad bridge. Zero of gage is 534.06 feet above mean sea level.

DRAINAGE AREA.—26,300 square miles.

RECORDS AVAILABLE.—October, 1924, to September, 1929.

EXTREMES.—Maximum discharge during year, 231,000 second-feet Mar. 30 (gage height, 21.3 feet); minimum, 11,000 second-feet Sept. 7 (gage height, 1.72 feet).

1924–1929: Maximum discharge, 283,000 second-feet Jan. 1, 1927 (gage height, 23.2 feet); minimum, 3,520 second-feet Aug. 19–24, Sept. 7-13, 19, 1925 (gage height, −0.4 foot).

REMARKS.—Records good. Some diurnal fluctuation caused by operation of power plant at Hales Bar Dam, 100 miles upstream. Some gage readings furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25,400	31,400	30,700	21,800	88,000	146,000	177,000	86,000	58,400	[b] 75,000	25,400	14,000
2	23,600	29,400	[b] 30,000	21,800	70,000	163,000	130,000	98,800	55,000	[b] 69,100	27,400	12,590
3	22,400	28,700	[b] 30,000	21,800	59,300	175,000	98,800	105,000	59,300	[b] 58,400	30,000	12,000
4	20,000	28,000	[b] 31,400	23,600	52,500	182,000	84,000	113,000	68,200	[b] 48,500	[b] 34,200	12,200
5	19,400	26,800	[b] 37,000	25,400	48,500	190,000	77,000	118,000	68,200	[b] 41,500	[b] 34,200	11,800
6	23,600	24,200	[a] 36,300	27,400	44,500	193,000	69,100	117,000	63,700	[b] 43,000	[b] 30,000	11,200
7	27,400	23,000	34,200	30,000	43,800	190,000	61,900	117,000	56,800	[b] 55,000	[b] 28,700	11,800
8	26,100	21,800	32,100	34,200	46,100	188,000	57,600	129,000	50,900	[b] 55,000	[b] 27,400	11,800
9	23,600	22,400	[b] 30,000	39,200	52,500	186,000	53,400	143,000	47,700	[b] 46,100	[b] 23,600	11,800
10	23,600	23,000	[b] 28,700	44,500	61,000	186,000	50,900	162,000	45,300	[b] 41,500	[b] 22,400	11,500
11	23,600	23,000	[b] 26,100	51,700	65,500	181,000	50,900	170,000	43,000	[b] 41,500	20,000	12,000
12	23,600	22,400	[b] 26,100	57,600	64,600	163,000	53,400	168,000	40,800	[b] 40,000	18,400	13,000
13	23,600	20,600	[b] 26,100	57,600	60,200	130,000	52,500	152,000	40,000	[b] 37,000	17,800	19,400
14	24,200	20,600	[b] 23,600	55,900	55,900	124,000	50,900	120,000	40,000	[a] 33,500	18,900	40,000
15	22,400	20,000	[b] 20,000	51,700	53,400	154,000	50,900	89,000	[b] 37,000	[a] 32,800	[b] 17,800	55,000
16	19,400	20,000	20,000	47,700	51,700	[a] 172,000	55,000	72,000	[b] 38,500	[a] 32,800	[b] 17,800	46,100
17	21,800	[a] 20,000	[b] 20,000	44,500	50,100	[a] 181,000	61,000	72,000	[b] 38,500	[a] 34,900	[b] 21,200	40,000
18	32,800	[b] 18,900	[b] 20,000	41,500	47,700	184,000	66,400	[a] 81,000	[b] 37,000	37,800	21,800	35,600
19	41,500	[b] 23,600	[a] 23,600	43,800	45,300	182,000	64,600	[a] 95,500	[b] 35,600	35,600	20,600	30,000
20	42,200	[b] 41,500	27,400	50,100	43,000	172,000	59,300	[a] 112,000	[a] 32,800	34,200	17,800	27,400
21	35,600	[b] 83,000	28,000	64,600	[b] 44,500	146,000	52,500	128,000	32,100	34,200	16,200	26,100
22	34,900	[b] 116,000	28,700	82,000	[b] 55,000	120,000	47,700	140,000	31,400	33,500	15,600	26,100
23	37,800	[b] 118,000	31,400	87,000	[b] 67,300	133,000	46,900	150,000	31,400	33,500	15,600	25,400
24	40,000	[b] 102,000	31,400	90,000	[b] 85,000	181,000	46,900	158,000	31,400	32,800	15,000	22,400
25	46,100	73,000	30,000	99,900	[b] 85,000	197,000	46,900	162,000	[b] 31,400	31,400	14,500	21,800
26	49,300	55,000	28,700	125,000	80,000	206,000	51,700	155,000	[b] 37,000	28,700	14,500	26,800
27	[a] 48,500	43,800	26,800	146,000	87,000	214,000	51,700	130,000	[b] 37,000	26,100	13,500	30,700
28	[a] 47,700	37,000	26,100	154,000	119,000	222,000	50,900	104,000	[b] 41,500	23,000	13,500	37,000
29	46,100	34,200	24,800	152,000	-------	228,000	58,400	84,000	[b] 63,700	21,800	13,500	55,900
30	41,500	31,400	24,800	137,000	-------	228,000	69,100	72,000	[b] 73,000	23,000	14,000	59,300
31	35,600	-------	23,000	113,000	-------	212,000	-------	63,700	-------	24,200	14,500	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	49,300	19,400	31,400	1.19	1.37
November	118,000	18,900	39,400	1.50	1.67
December	37,000	20,000	27,600	1.05	1.21
January	154,000	21,800	65,900	2.51	2.89
February	119,000	43,000	61,700	2.35	2.45
March	228,000	120,000	178,000	6.77	7.80
April	177,000	46,900	64,900	2.47	2.76
May	170,000	63,700	118,000	4.49	5.18
June	73,000	31,400	45,600	1.73	1.93
July	75,000	21,800	38,900	1.48	1.71
August	34,200	13,500	20,500	.779	.90
September	59,300	11,200	25,700	.977	1.09
The year	228,000	11,200	60,000	2.28	30.96

[a] Partly estimated.
[b] Based on staff-gage readings at railroad bridge, 2,500 feet downstream.

TENNESSEE RIVER AT FLORENCE, ALA.

LOCATION.—Water-stage recorder 700 feet above Southern Railway bridge at lower end of Pattons Island, 1 mile south of Florence, Lauderdale County, and 2½ miles below Wilson Dam. Zero of gage is 400.85 feet above mean sea level.

DRAINAGE AREA.—30,800 square miles.

RECORDS AVAILABLE.—November, 1871, to September, 1929.

EXTREMES.—Maximum discharge during year, 293,000 second-feet Mar. 25 (gage height, 22.9 feet); minimum, 11,100 second-feet, regulated flow, Sept. 9 (gage height, −0.15 foot).

1871–1929: Maximum discharge, about 444,000 second-feet Mar. 19, 1897 (gage height, 32.5 feet); minimum, 2,400 second-feet, caused by storing water at Wilson Dam, Oct. 8, 1925 (gage height, −3.0 feet).

REMARKS.—Records good. Discharge estimated June 13–15, July, 9, 10. Flow regulated to great extent by operation of gates at Wilson Dam and during low-water periods by operation of power plant at Hales Bar Dam.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29,800	32,800	34,400	23,600	106,000	178,000	226,000	94,200	63,800	78,700	25,600	13,800
2	28,400	29,800	34,400	22,200	81,200	188,000	177,000	114,000	61,600	72,700	27,000	15,500
3	24,900	29,100	33,600	22,900	66,000	196,000	131,000	121,000	69,300	58,500	29,100	16,700
4	22,200	27,700	34,400	24,200	57,500	204,000	110,000	126,000	77,500	47,900	31,400	15,500
5	21,600	27,000	37,600	26,300	52,500	212,000	96,800	133,000	77,500	41,800	32,100	15,000
6	23,600	25,600	37,600	27,000	47,900	216,000	85,100	139,000	70,400	40,000	29,100	15,500
7	29,100	23,600	36,000	29,100	47,000	218,000	72,700	154,000	61,600	50,600	27,700	13,800
8	25,600	23,600	34,400	33,600	47,900	214,000	66,000	166,000	54,500	54,500	25,600	12,800
9	24,200	22,900	33,600	38,400	53,500	215,000	60,500	202,000	52,500	49,700	25,600	13,300
10	25,600	23,600	30,600	45,200	63,800	212,000	58,500	208,000	55,500	43,400	24,200	15,000
11	25,600	22,200	26,300	55,500	69,300	208,000	57,500	212,000	53,500	42,600	23,600	12,800
12	24,900	22,900	24,900	61,600	69,300	196,000	60,500	197,000	50,600	41,800	25,900	12,800
13	25,600	22,900	32,100	62,700	64,900	170,000	53,500	182,000	47,000	37,600	25,200	17,300
14	24,900	21,000	28,400	60,500	60,500	192,000	55,500	154,000	46,100	36,800	20,300	36,800
15	24,200	21,600	25,600	55,500	57,500	222,000	59,500	114,000	40,900	36,800	16,700	67,100
16	22,200	21,000	24,200	50,600	54,500	223,000	73,900	87,700	42,600	36,000	18,500	56,500
17	20,300	21,600	22,900	47,000	53,500	230,000	76,300	81,200	41,800	39,200	19,700	45,200
18	33,600	24,200	22,900	44,300	50,600	214,000	77,500	89,000	40,000	40,900	21,000	38,400
19	57,500	31,400	26,300	47,000	47,900	208,000	76,300	107,000	37,600	37,600	20,300	32,800
20	49,700	56,500	29,100	57,500	46,100	200,000	68,200	129,000	35,200	35,200	18,500	29,100
21	40,000	105,000	31,400	70,400	56,500	180,000	62,700	147,000	32,800	32,800	17,300	27,700
22	36,800	139,000	29,800	90,300	76,300	174,000	55,500	160,000	33,600	32,100	17,300	23,400
23	39,200	138,000	32,100	101,000	85,100	263,000	53,500	167,000	33,600	33,600	17,300	29,800
24	43,400	115,000	33,600	107,000	95,500	284,000	52,500	174,000	33,600	34,400	16,700	27,700
25	47,900	83,800	31,400	145,000	105,000	290,000	58,500	180,000	40,900	32,100	13,800	25,600
26	54,500	61,600	30,600	174,000	119,000	277,000	61,600	177,000	47,000	30,600	16,700	28,400
27	47,000	47,000	27,700	192,000	126,000	268,000	60,500	161,000	42,600	27,700	16,700	36,000
28	48,800	39,200	27,700	194,000	160,000	262,000	57,500	133,000	47,000	27,700	16,700	37,600
29	47,900	36,000	27,000	188,000	-------	258,000	72,700	105,000	67,100	24,900	17,300	50,600
30	43,400	35,200	25,600	166,000	-------	263,000	81,200	85,100	76,300	25,600	16,700	62,700
31	37,600	-------	24,900	138,000	-------	256,000	-------	72,700	-------	27,000	16,700	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	57,500	20,300	34,000	1.10	1.27
November	139,000	21,000	44,400	1.44	1.61
December	37,600	22,900	30,000	.974	1.12
January	194,000	22,200	77,400	2.51	2.89
February	160,000	46,100	72,200	2.34	2.44
March	290,000	170,000	222,000	7.21	8.31
April	226,000	52,500	78,800	2.56	2.86
May	212,000	72,700	141,000	4.58	5.28
June	77,500	32,800	51,100	1.66	1.85
July	78,700	24,900	40,300	1.31	1.51
August	32,100	13,800	21,400	.695	.80
September	67,100	12,800	28,300	.919	1.02
The year	290,000	12,800	70,300	2.28	30.96

TENNESSEE RIVER AT RIVERTON, ALA.

LOCATION.—Water-stage recorder at Government lock at foot of Colbert Shoals canal, three-fourths mile northeast of Riverton, Colbert County, and 1¾ miles above mouth of Bear Creek. Zero of gage is 355.5 feet above mean sea level.

DRAINAGE AREA.—31,300 square miles.

RECORDS AVAILABLE.—October, 1926, to September, 1929.

EXTREMES.—Maximum stage during year, 44.8 feet Mar. 25; minimum, 8.3 feet Sept. 9.

1926–1929: Maximum stage, 50.1 feet Dec. 30, 1926; minimum, 7.5 feet Nov. 6, 7, 1927.

The United States Weather Bureau reports a maximum stage of 58.4 feet Mar. 20, 1897, and a minimum stage of 4.3 feet Oct. 12, 1925.

REMARKS.—Rating curve not developed because of lack of facilities for making discharge measurements. Gage-height record is daily morning reading of staff gage Oct. 6–27, Nov. 24 to Dec. 1, and Jan. 9–11. Considerable regulation during low-water periods caused by operations at Wilson Dam.

Daily gage height, in feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12.2	12.8	13.0	10.9	24.8	30.9	41.1	20.9	18.0	19.6	11.5	8.9
2	11.9	12.2	13.1	10.6	21.3	32.0	38.5	23.3	17.5	19.2	11.5	8.8
3	11.4	12.0	12.9	10.8	18.8	33.3	34.3	24.5	17.9	17.6	11.9	9.4
4	10.8	11.7	12.8	10.8	17.3	34.2	30.4	25.1	19.0	15.8	12.4	9.2
5	10.3	11.6	13.4	11.3	16.4	35.3	26.5	24.9	19.3	14.6	12.5	9.0
6	10.6	11.4	13.6	11.4	15.7	36.1	23.3	26.4	18.8	14.1	12.2	9.1
7	11.6	11.2	13.6	11.8	15.1	36.6	20.7	28.7	17.6	15.2	12.1	8.9
8	11.8	10.9	13.1	12.2	15.2	36.6	18.7	29.6	16.7	16.3	11.5	8.5
9	11.0	10.8	12.8	13.1	15.7	36.6	18.0	33.3	15.5	15.7	11.5	8.4
10	11.0	10.8	12.6	14.3	17.0	36.6	17.7	35.4	15.0	14.9	11.3	8.9
11	11.1	10.7	12.2	15.7	18.1	36.3	17.5	35.9	14.4	14.6	10.8	8.6
12	11.1	10.6	10.8	17.2	18.4	35.6	17.5	35.4	14.0	14.4	10.8	8.4
13	11.1	10.7	11.6	17.4	18.0	34.0	17.4	34.3	13.8	13.8	10.8	9.6
14	11.2	10.3	12.5	17.1	17.3	34.6	16.9	32.1	14.2	13.4	10.3	11.6
15	11.1	10.1	11.3	16.6	16.8	37.4	17.5	27.9	14.0	13.4	9.6	17.2
16	10.8	10.1	11.1	15.8	16.4	38.9	19.0	23.3	14.1	13.4	9.6	17.4
17	10.2	10.2	10.6	15.2	16.3	39.3	20.0	20.5	14.2	13.6	10.0	15.8
18	10.0	10.6	10.8	14.7	16.0	38.6	19.7	20.5	14.0	14.2	10.2	14.4
19	15.3	11.2	11.1	14.7	15.7	37.6	19.7	22.2	13.8	13.8	10.2	13.1
20	16.0	14.5	11.9	16.5	15.1	36.7	18.8	24.4	13.2	13.2	10.0	12.2
21	15.0	18.6	12.4	17.8	16.2	35.4	18.0	26.6	12.8	12.8	9.6	11.8
22	13.0	24.1	12.2	20.2	18.8	33.5	16.8	28.3	12.6	12.5	9.4	11.8
23	13.8	26.4	12.5	21.9	20.4	39.0	16.2	29.6	12.6	12.5	9.4	12.0
24	14.1	25.5	12.9	22.7	21.3	43.2	16.2	30.4	12.8	12.9	9.3	11.9
25	15.6	20.8	12.6	26.8	22.6	44.6	16.9	31.2	13.8	12.7	9.0	11.4
26	16.2	18.8	12.4	30.2	25.0	44.3	17.6	31.7	15.8	12.4	8.8	11.5
27	15.6	16.3	12.2	32.6	25.5	43.4	17.5	30.9	15.0	11.9	9.4	12.8
28	15.3	14.5	12.1	33.8	28.1	42.8	17.0	29.0	14.6	11.7	9.4	13.3
29	15.2	13.3	11.6	33.8	------	42.2	18.2	24.8	17.0	11.8	9.4	14.7
30	14.8	13.1	11.4	32.0	------	42.2	19.8	21.6	18.8	11.3	9.4	17.1
31	13.8	------	11.2	28.9	------	42.1	------	19.4	------	11.4	9.4	------

TENNESSEE RIVER AT JOHNSONVILLE, TENN.

LOCATION.—Water-stage recorder at Nashville, Chattanooga & St. Louis Railway bridge at Johnsonville, Humphreys County. Zero of gage is 320.98 feet above mean sea level.

DRAINAGE AREA.—38,500 square miles.

RECORDS AVAILABLE.—October, 1875, to September, 1929.

EXTREMES.—Maximum discharge during year, 302,000 second-feet Mar. 29 (gage height, 36.44 feet); minimum, 15,100 second-feet Sept. 11 (gage height, 1.52 feet).

1889–1929: Maximum discharge, about 410,000 second-feet Mar. 24, 1897 (gage height, 48.0 feet); minimum, 3,500 second-feet Sept. 11, 1925 (gage height, −2.0 feet).

REMARKS.—Records good. Discharge estimated Nov. 26–28. Low-water flow regulated to some extent by operations at Hales Bar Dam and Wilson Dam.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32,400	45,000	49,100	29,200	188,000	185,000	295,000	108,000	113,000	70,700	30,500	17,000
2	31,800	40,300	46,400	27,900	167,000	188,000	292,000	116,000	96,400	78,300	31,100	17,000
3	30,500	36,400	45,000	26,700	138,000	191,000	286,000	125,000	86,100	78,300	30,500	15,600
4	30,500	33,700	43,000	25,500	110,000	196,000	279,000	132,000	81,400	70,700	29,800	15,600
5	29,200	31,800	41,000	25,500	89,300	206,000	265,000	137,000	83,000	59,700	31,800	16,500
6	26,100	30,500	41,600	27,300	74,500	219,000	241,000	145,000	83,800	51,200	32,100	16,500
7	24,300	29,200	42,300	29,200	64,000	227,000	206,000	161,000	80,600	46,400	30,400	17,000
8	26,100	27,900	42,300	30,500	58,300	232,000	167,000	176,000	75,300	47,700	30,000	17,000
9	28,600	26,700	40,300	33,100	56,100	234,000	136,000	196,000	69,200	54,000	30,400	16,000
10	26,700	25,500	38,300	41,000	59,000	235,000	128,000	212,000	61,100	54,700	35,100	15,600
11	26,100	24,900	36,400	48,400	64,800	235,000	122,000	222,000	54,700	51,900	32,400	15,100
12	26,100	24,900	34,400	57,500	70,700	235,000	110,000	226,000	50,500	48,400	28,800	15,600
13	26,700	24,300	29,200	64,800	74,500	234,000	98,000	226,000	47,700	47,100	27,900	16,000
14	26,100	24,300	29,800	68,500	73,700	238,000	90,800	224,000	49,800	45,000	26,700	18,600
15	26,700	23,700	33,100	67,700	70,000	242,000	86,900	220,000	49,800	43,000	25,500	24,300
16	26,700	22,500	30,500	65,500	66,300	247,000	91,600	210,000	48,400	41,000	23,100	49,100
17	31,800	22,500	29,200	61,900	63,300	252,000	99,600	187,000	46,400	41,000	20,200	61,900
18	33,100	21,900	31,100	59,700	61,900	255,000	105,000	159,000	46,400	42,300	20,200	59,000
19	31,100	23,100	31,100	66,300	59,700	254,000	104,000	149,000	46,400	44,300	20,800	50,500
20	46,400	26,100	29,800	67,700	56,800	251,000	99,600	150,000	45,000	44,300	21,400	49,100
21	58,300	42,300	32,400	72,200	56,100	247,000	92,400	155,000	43,000	41,600	21,400	35,700
22	53,300	78,300	34,400	79,100	63,300	241,000	85,300	162,000	39,700	39,000	20,200	31,800
23	49,100	113,000	35,700	90,800	81,400	239,000	76,800	169,000	37,000	37,700	18,600	29,800
24	47,100	126,000	35,000	102,000	95,600	248,000	69,200	175,000	36,400	36,400	18,100	30,500
25	47,100	122,000	36,400	121,000	109,000	262,000	67,000	181,000	38,300	37,000	18,100	31,100
26	49,800	106,000	36,400	145,000	156,000	279,000	71,500	187,000	43,000	37,000	17,600	29,800
27	54,700	80,600	34,400	168,000	175,000	289,000	74,500	192,000	52,600	35,000	16,000	28,600
28	56,100	64,800	33,100	188,000	179,000	297,000	79,900	195,000	53,300	33,100	16,000	31,800
29	53,300	54,000	30,500	199,000	-------	302,000	86,100	188,000	51,200	31,100	17,000	36,400
30	52,600	49,800	29,800	201,000	-------	298,000	94,000	169,000	58,300	29,800	17,000	43,000
31	49,800	-------	29,200	199,000	-------	296,000	-------	140,000	-------	29,800	17,000	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	58,300	24,300	37,400	0.971	1.12
November	126,000	21,900	46,700	1.21	1.35
December	49,100	29,200	35,800	.93	1.07
January	201,000	25,500	80,300	2.08	2.40
February	188,000	56,100	92,200	2.39	2.49
March	302,000	185,000	244,000	6.34	7.31
April	295,000	67,000	137,000	3.56	3.97
May	226,000	108,000	174,000	4.52	5.21
June	113,000	36,400	58,900	1.53	1.71
July	78,300	29,800	46,700	1.21	1.40
August	39,000	16,000	25,100	.652	.75
September	61,900	15,100	28,400	.738	.82
The year	302,000	15,100	84,000	2.18	29.60

DAVIDSON RIVER NEAR BREVARD, N. C.

LOCATION.—Chain gage prior to Apr. 4 and staff gage thereafter at steel highway bridge 1½ miles upstream from confluence with French Broad River, 2 miles downstream from mouth of Avery Creek, and 5½ miles northeast of Brevard, Transylvania County.

DRAINAGE AREA.—41 square miles.

RECORDS AVAILABLE.—December, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,380 second-feet Sept. 26 (gage height, 6.15 feet); minimum, 54 second-feet Aug. 28 (gage height, 0.73 foot).

1920–1929: Maximum discharge (estimated), 8,400 second-feet Aug. 15, 1928 (gage height, 11.8 feet); minimum, 15 second-feet Sept. 19–21, 1925 (gage height, 0.34 foot).

REMARKS.—Records good below 1,500 second-feet and fair above.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	132	132	96	122	152	442	246	184	141	132	220	61
2	132	122	90	132	141	348	232	259	141	122	141	61
3	132	113	85	113	141	303	232	274	141	113	93	59
4	122	113	82	88	141	318	246	207	132	113	56	84
5	122	104	85	792	152	655	246	232	122	113	66	72
6	113	104	81	470	259	442	207	274	122	122	74	64
7	113	104	78	207	246	379	184	232	113	113	80	78
8	104	102	77	141	207	333	173	196	113	101	94	87
9	113	99	77	152	246	288	173	196	196	122	84	74
10	104	98	75	232	246	246	162	184	132	113	90	132
11	102	98	74	162	232	220	207	173	113	104	81	84
12	98	94	74	152	220	288	162	162	122	99	78	80
13	96	93	96	132	207	1,090	162	162	141	96	74	104
14	94	90	132	113	207	1,720	173	152	122	96	69	90
15	113	88	99	113	207	902	207	152	122	104	67	81
16	141	88	91	122	207	655	184	152	113	101	66	520
17	274	87	113	132	173	509	162	152	104	99	63	303
18	348	99	104	132	152	442	152	141	102	104	67	162
19	196	173	85	152	141	410	141	141	98	101	64	132
20	162	132	82	141	246	348	141	232	98	99	63	104
21	141	113	80	141	274	333	141	207	91	94	63	98
22	132	113	77	162	207	379	152	173	98	88	61	96
23	603	104	74	152	173	580	152	162	113	82	60	98
24	246	102	73	196	162	509	141	152	101	81	62	113
25	196	96	72	259	196	442	196	141	122	78	60	122
26	173	88	69	220	475	379	173	141	632	122	56	1,450
27	152	88	74	232	442	348	162	184	509	104	56	544
28	152	90	74	196	655	318	274	173	220	102	61	333
29	152	87	72	184	------	288	220	196	162	87	63	274
30	141	88	72	173	------	259	184	184	141	91	63	246
31	132	------	73	162	------	259	------	162	------	196	61	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	603	94	162	3.95	4.55
November	173	87	103	2.51	2.80
December	132	69	83.4	2.03	2.34
January	792	88	190	4.63	5.34
February	655	141	232	5.66	5.89
March	1,720	220	466	11.37	13.11
April	274	141	186	4.54	5.06
May	274	141	185	4.51	5.20
June	632	91	156	3.80	4.24
July	196	78	106	2.59	2.99
August	220	56	76.0	1.85	2.13
September	1,450	59	194	4.73	5.28
The year	1,720	56	178	4.34	58.93

SOUTH FORK OF MILLS RIVER AT THE PINK BEDS, N. C.

LOCATION.—Water-stage recorder at The Pink Beds, in Pisgah National Forest, 400 feet downstream from mouth of Thompson Creek and 9 miles north of Brevard, Transylvania County.

DRAINAGE AREA.—9.87 square miles.

RECORDS AVAILABLE.—February, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 700 second-feet Mar. 13 (gage height, 5.49 feet); minimum, 4:2 second-feet Sept. 2.

1926–1929: Maximum discharge (estimated), 2,220 second-feet Aug. 15, 1928 (gage height, 8.0 feet); minimum, 2.5 second-feet July 22, 1926.

REMARKS.—Records excellent below 150 second-feet except those for estimated period, Oct. 19–24; other records fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	20.0	17.1	23	25	108	47	35	52	19.0	15.3	5.2
2	23	19.0	15.8	17.1	24	82	43	126	49	22	11.8	5.0
3	22	18.5	14.8	16.2	24	66	41	85	50	19.0	11.5	4.8
4	20.0	18.0	14.4	15.8	23	108	41	57	43	17.1	10.4	8.3
5	19.0	17.6	14.4	87	23	196	38	48	39	16.6	9.8	8.3
6	18.0	17.1	13.6	80	36	117	36	67	36	19.0	11.2	7.8
7	16.6	16.6	13.6	50	30	90	34	67	33	16.6	11.2	13.2
8	14.8	16.2	12.9	158	30	75	34	55	39	14.0	11.8	11.7
9	13.6	16.2	12.2	147	41	65	31	52	46	14.0	10.8	8.9
10	13.6	15.3	10.1	65	42	59	30	45	36	20.0	11.5	9.6
11	14.4	14.8	11.8	42	38	54	36	41	31	16.2	9.8	8.9
12	14.8	14.8	12.2	36	34	54	31	43	29	14.0	9.8	8.0
13	14.8	14.4	12.6	32	28	340	29	41	28	14.4	9.2	13.0
14	14.4	14.0	25	29	27	480	27	36	26	14.8	8.3	8.9
15	14.8	14.4	16.6	28	28	258	36	36	28	14.8	8.0	7.0
16	51	14.4	15.3	27	29	178	29	34	24	15.3	7.8	50
17	52	14.4	17.1	34	26	138	28	31	23	13.6	7.8	37
18	61	14.4	18.5	31	26	108	26	34	22	14.4	8.9	17.6
19	35	45	15.8	34	26	88	25	36	21	15.8	8.0	11.8
20	30	29	15.3	30	31	77	24	64	20	12.6	7.2	10.1
21	26	22	14.4	28	60	73	24	49	19	11.5	7.5	9.2
22	22	20.0	12.6	26	41	74	26	40	18	12.9	7.2	9.5
23	132	19.0	14.0	26	34	147	23	36	20	12.9	7.0	15.8
24	50	18.0	15.8	29	31	108	22	34	39	10.8	6.5	20.0
25	34	17.6	15.3	50	64	85	38	31	28	11.5	6.8	50
26	32	16.6	15.3	38	150	72	26	80	44	12.9	6.2	244
27	30	16.6	15.3	36	136	65	23	136	53	12.2	6.0	144
28	28	16.2	14.8	34	188	60	71	91	31	12.2	5.8	66
29	26	15.8	12.9	30	-------	54	47	71	24	12.2	6.0	43
30	24	17.6	12.2	29	-------	57	34	71	21	12.6	5.4	71
31	22	-------	11.8	26	-------	50	-------	60	-------	19.8	5.4	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	132	13.6	29.4	2.98	3.44
November	45	14.0	18.1	1.83	2.04
December	25	10.1	14.6	1.48	1.71
January	158	15.8	43.0	4.36	5.03
February	188	28	46.2	4.68	4.87
March	480	50	116	11.75	13.55
April	71	22	33.3	3.37	3.76
May	136	31	55.9	5.66	6.52
June	53	18	32.4	3.28	3.66
July	22	10.8	15.0	1.52	1.75
August	15.3	5.4	8.71	.882	1.02
September	244	4.8	30.9	3.13	3.49
The year	480	4.8	37.0	3.75	50.84

SWANNANOA RIVER AT SWANNANOA, N. C.

LOCATION.—Staff gage at Swannanoa, Buncombe County, 1½ miles downstream from mouth of North Fork and 2⅛ miles upstream from mouth of Beetree Creek.

DRAINAGE AREA.—60 square miles.

RECORDS AVAILABLE.—May, 1907, to June, 1909; January, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,260 second-feet Sept. 26 (gage height, 4.74 feet); minimum, 24 second-feet Sept. 2.

1907–1909, 1926–1929: Maximum discharge (estimated), 10,400 second-feet Aug. 16, 1928 (gage height, 10.93 feet); minimum, 7.6 second-feet July 20–22, 1926.

REMARKS.—Records good below 2,000 second-feet and fair above. Discharge estimated Mar. 31. The city of Asheville diverts for water supply from North Fork of Swannanoa River. Slight regulation caused by operation of a sand and gravel plant 2 miles upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	99	64	73	87	361	181	158	127	79	85	26
2	85	95	64	73	85	343	158	193	121	101	64	25
3	108	90	64	82	79	343	158	158	121	114	56	28
4	87	95	64	92	82	379	147	127	174	127	50	108
5	82	92	63	110	112	361	147	121	191	121	47	60
6	90	88	66	158	127	361	137	193	94	95	45	163
7	87	88	64	206	147	326	137	233	87	114	48	84
8	84	84	66	181	158	293	127	193	158	106	46	80
9	77	84	64	147	326	247	121	169	169	87	45	70
10	70	79	63	103	262	206	116	158	99	73	47	64
11	68	77	63	97	206	181	125	158	88	88	45	58
12	66	94	61	137	147	457	123	137	92	158	46	48
13	63	99	80	110	137	569	119	127	92	147	48	49
14	60	87	84	92	127	1,310	116	116	169	106	47	55
15	58	80	80	87	123	1,070	147	112	158	94	45	44
16	67	82	77	99	118	887	127	137	70	84	45	119
17	516	79	74	90	112	832	114	137	70	76	47	169
18	689	79	73	82	114	477	110	123	118	97	47	88
19	382	85	71	79	158	398	101	127	123	88	42	73
20	158	85	74	79	147	361	103	247	85	67	36	63
21	137	82	70	80	137	309	99	219	85	63	37	56
22	137	74	64	76	127	1,290	137	169	87	74	35	53
23	523	66	63	76	118	1,450	125	158	92	67	34	82
24	293	66	60	108	118	887	125	158	104	59	33	123
25	158	68	59	119	158	682	206	121	101	56	38	112
26	147	66	56	104	776	379	158	123	101	54	36	1,600
27	137	74	55	125	638	262	147	127	127	71	34	1,160
28	127	85	53	112	326	233	343	119	127	54	32	379
29	118	82	55	103	------	233	277	147	103	66	29	219
30	108	73	56	97	------	219	169	181	85	68	28	169
31	103	------	73	90	------	193	------	137	------	76	27	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	689	58	160	May	247	112	154
November	99	66	82.6	June	169	70	109
December	84	53	65.9	July	158	54	88.1
January	206	73	105	August	85	27	43.4
February	776	79	188	September	1,600	25	181
March	1,450	181	513				
April	343	99	147	The year	1,600	25	153

NORTH FORK OF SWANNANOA RIVER NEAR BLACK MOUNTAIN, N. C.

LOCATION.—Water-stage recorder one-fourth mile downstream from emergency pumping plant of Asheville Water Department, 3 miles downstream from forks of river, and 3 miles northwest of Black Mountain, Buncombe County.

DRAINAGE AREA.—23 square miles.

RECORDS AVAILABLE.—January, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, about 1,510 second-feet Sept. 26 (gage height, 4.30 feet); minimum, 5.0 second-feet Sept. 3 (gage height, 1.25 feet).

1926–1929: Maximum discharge (estimated), 5,050 second-feet Aug. 15, 1928 (gage height, 7.04 feet); minimum, 0.73 second-foot July 20, 21, 1926 (gage height, 0.88 foot).)

REMARKS.—Records good below 1,200 second-feet except those for estimated period, Apr. 28 to June 7; other records fair. The city of Asheville diverted an average of 3.48 million gallons daily for water supply 3 miles above station. Emergency pumping plant not in operation during year.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	47	26	42	40	224	99			53	51	6.0
2	32	45	24	47	38	169	91		100	73	37	5.6
3	37	44	23	37	36	133	82			73	31	5.4
4	30	44	22	35	35	138	78	90	85	73	25	24
5	29	39	21	80	36	430	73		80	82	20	23
6	27	37	21	133	60	220	70		70	68	18.0	18.0
7	25	38	21	78	55	182	66		65	73	17.0	16.5
8	22	42	21	63	54	144	63		57	55	18.0	13.0
9	21	38	19.5	55	78	124	60		73	47	15.5	18.5
10	21	36	18.5	71	104	109	57	110	64	45	17.0	19.5
11	19.0	35	18.0	63	86	97	63		54	46	14.6	14.6
12	18.0	33	17.5	54	75	88	61		51	63	23	11.8
13	16.5	32	17.5	47	68	221	54		48	97	27	11.8
14	16.0	30	32	44	61	750	54		44	64	18.0	14.6
15	16.0	29	32	40	58	395	58		45	55	17.0	12.2
16	138	28	26	39	58	242	58	80	39	50	13.8	50
17	322	27	26	39	54	182	58		40	45	12.6	88
18	263	26	47	45	50	147	54		42	44	11.4	51
19	150	50	38	73	48	130	53		46	46	10.4	35
20	99	57	34	58	60	112	51		39	39	9.5	26
21	78	44	30	53	70	104	50		36	33	9.2	20
22	66	42	27	63	70	116	58		32	37	8.9	17
23	287	37	26	60	64	346	54		34	42	8.6	22
24	138	35	24	57	61	213	50	80	38	32	8.3	47
25	102	33	24	71	166	159	91		64	28	11.8	40
26	82	30	23	64	466	141	91		75	26	9.8	634
27	71	28	23	58	313	133	75		119	27	8.0	559
28	64	27	24	60	518	141	90		86	25	7.4	153
29	58	26	26	54	------	119	100	100	71	37	6.8	95
30	54	26	26	50	------	112	90		58	39	6.4	137
31	51	------	24	44	------	99	------		------	50	6.4	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	322	16	76.9	May	------	------	91.3
November	57	26	36.2	June	------	32	61.8
December	47	17.5	25.2	July	97	25	50.5
January	133	35	57.3	August	51	6.4	16.1
February	518	35	101	September	634	5.4	73.0
March	750	88	191				
April	------	50	68.4	The year	750	5.4	70.6

BEETREE CREEK NEAR SWANNANOA, N. C.

LOCATION.—Water-stage recorder 200 feet upstream from intake to Asheville water supply, 1,000 feet upstream from Beetree Reservoir, and 4 miles north of Swannanoa, Buncombe County.

DRAINAGE AREA.—5.7 square miles.

RECORDS AVAILABLE.—February, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 516 second-feet Sept. 26 (gage height, 4.50 feet); minimum, 1.75 second-feet Sept. 2 and 3 (gage height, 0.65 foot).

1926–1929: Maximum discharge, 1,060 second-feet Aug. 15, 1928 (gage height, 5.40 feet); minimum, 0.67 second-foot July 22, 1926 (gage height, 0.34 foot).

REMARKS.—Records good except those for estimated periods May 2–5 and July 1–6, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.7	9.4	6.2	7.4	8.3	43	23	19.8	23	14.6	8.2	2.10
2	6.4	8.9	5.9	6.5	8.0	33	21	22	22	13.5	6.2	1.90
3	6.5	10.0	5.7	5.9	7.8	26	18.9	19.2	21	12.4	5.5	1.90
4	5.7	9.7	5.4	5.7	7.5	30	18.1	17.2	18 6	11.3	5.1	8.30
5	5.6	8.6	5.4	11.4	7.7	75	17.2	16.7	13.4	10.1	4.40	4.25
6	5.3	8.0	4.95	18.9	14.1	50	16.0	19.4	14.7	9.1	4.20	11.4
7	4.80	8.6	4.95	14.1	13.3	40	14.9	32	13.2	8.3	4.40	7.7
8	4.35	9.6	4.70	12.2	12.8	32	14.1	27	15.6	7.6	4.50	9.3
9	4.20	8.6	4.50	10.8	19.2	26	13.3	26	17.9	6.8	4.00	14.7
10	4.20	8.4	4.50	14.1	23	23	12.8	23	15.4	9.3	3.85	8.9
11	3.85	8.2	4.40	11.8	19.2	21	14.5	21	13.3	17.3	3.95	6.8
12	3.80	7.7	4.40	10.4	16.9	19.8	13.9	18.9	12.8	30	8.2	5.7
13	3.55	7.2	4.65	9.7	14.9	29	12.2	17.4	13.2	35	5.70	6.1
14	3.45	7.0	5.9	8.8	13.7	96	11.7	16.2	11.7	23	4.70	6.0
15	3.45	6.8	5.1	8.6	13.2	80	13.3	15.9	12.6	19.2	4.35	4.9
16	11.4	6.7	4.8	8.5	13.3	54	13.2	15.8	10.3	16.9	3.65	14.6
17	20.3	6.5	5.4	8.8	11.7	40	13.0	13.9	9.6	14.9	3.45	23.0
18	28.4	6.4	6.8	9.4	10.9	31	12.0	14.5	9.7	15.8	3.25	17.9
19	20.0	9.9	5.3	13.9	10.4	26	11.3	15.2	11.6	16.4	3.05	13.5
20	14.5	9.6	5.2	11.7	11.7	23	10.9	24	17.0	12.8	2.85	10.8
21	11.8	8.4	4.6	11.7	13.9	22	10.6	21	8.6	10.8	3.00	9.1
22	10.4	8.0	4.7	11.8	13.0	24	12.6	19.2	7.8	11.7	2.90	8.3
23	36.1	7.8	4.7	11.5	12.0	58	11.3	17.4	9.2	10.3	2.70	8.4
24	26	7.8	4.6	11.1	11.5	49	10.4	16.0	8.9	8.9	3.02	8.4
25	20.0	7.1	4.5	12.2	14.9	36	16.1	14.9	17.3	8.3	4.46	9.0
26	16.4	6.4	4.35	11.3	55.0	31	16.9	13.5	13.2	8.3	2.85	85
27	14.5	6.5	4.7	11.5	56	28	15.8	13.3	23	7.6	2.60	95
28	13.2	6.6	4.9	11.5	72	29	21	14.7	18 1	6.8	2.35	40
29	11.7	6.4	5.6	10.1	------	25	24	17.4	14.9	6.5	2.30	25
30	10.8	6.4	5.3	9.6	------	24	21	22	12.2	7.6	2.20	38
31	10.1	------	5.2	9.1	------	22	------	27	------	9.5	2.15	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	36.1	3.45	11.2	1.96	2.26
November	10.0	6.4	7.91	1.39	1.55
December	6.8	4.35	5.08	.892	1.03
January	18.9	5.7	10.6	1.86	2.14
February	72	7.5	18.1	3.18	3.31
March	96	19.8	37.0	6.49	7.48
April	24	10.4	15.2	2.67	2.98
May	32	13.3	19.1	3.35	3.86
June	28	7.8	14.1	2.47	2.76
July	35	6.5	12.9	2.26	2.61
August	8.2	2.15	4.00	.702	.81
September	95	1.90	16.9	2.96	3.30
The year	96	1.90	14.3	2.51	34.09

PIGEON RIVER AT CANTON, N. C.

LOCATION.—Staff gage prior to Jan. 3 and water-stage recorder thereafter, one-third mile above State highway bridge at Canton, Haywood County.

DRAINAGE AREA.—134 square miles.

RECORDS AVAILABLE.—May, 1907, to June, 1909; December, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 6,860 second-feet Sept. 26 (gage height, 8.90 feet); minimum, 76 second-feet Sept. 2 (gage height, 0.78 foot).

REMARKS.—Records good prior to Jan. 3 and excellent thereafter. Discharge estimated Dec. 8, 9, 14, 16, 23–25, 30, 31. Slight regulation caused by operation of gristmill at Woodrow.

Daily and monthly discharge, in second-feet, 1928–29

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		319	298	1,060	520	450	445	229	254	83
2		206	294	862	470	810	437	250	187	79
3		145	294	710	440	688	510	225	169	79
4		169	290	936	432	545	422	202	161	92
5		1,000	290	2,200	418	520	391	206	150	108
6	337	1,090	442	1,200	382	828	373	212	140	105
7	161	470	432	960	364	995	360	273	142	101
8	135	368	391	800	355	694	373	202	150	97
9	118	332	485	710	346	655	422	199	140	95
10	137	646	550	622	332	567	346	236	147	97
11	137	445	436	572	386	515	306	243	157	90
12	147	378	368	545	368	516	290	262	150	93
13	153	342	342	1,980	319	562	285	254	166	95
14	161	310	324	4,520	306	460	285	219	132	132
15	175	298	314	2,410	350	455	319	196	128	88
16	158	290	328	1,520	332	432	294	206	123	261
17	153	337	310	1,200	306	409	302	184	120	398
18	262	420	285	992	294	427	294	237	120	169
19	169	491	277	862	281	495	243	285	114	123
20	164	373	355	770	277	770	222	206	110	108
21	142	350	615	710	285	633	209	187	101	99
22	145	364	414	800	355	520	202	187	97	97
23	140	337	346	1,450	310	480	243	178	93	135
24	135	386	332	1,020	294	445	243	169	103	216
25	130	583	445	830	397	422	247	166	105	323
26	125	480	1,310	740	382	404	378	240	93	3,090
27	142	436	1,050	694	346	530	540	262	92	1,260
28	135	455	2,110	655	677	490	360	206	92	611
29	142	382	-------	584	535	465	281	181	101	480
30	135	355	-------	584	422	520	247	175	88	655
31	130	342	-------	525	-------	502	-------	350	83	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
December 6–31	337	118	156	1.16	1.12
January	1,090	145	416	3.10	3.57
February	2,110	277	490	3.66	3.81
March	4,520	525	1,100	8.21	9.46
April	677	277	376	2.81	3.14
May	995	409	555	4.14	4.77
June	540	202	329	2.46	2.74
July	350	166	220	1.64	1.89
August	254	83	129	.963	1.11
September	3,090	79	315	2.35	2.62

PIGEON RIVER NEAR CRABTREE, N. C.

LOCATION.—Chain gage at steel highway bridge 1½ miles upstream from mouth of Crabtree Creek and 2 miles south of Crabtree, Haywood County.

DRAINAGE AREA.—244 square miles.

RECORDS AVAILABLE.—December, 1920, to December, 1929 (discontinued).

EXTREMES.—Maximum discharge during period, 5,670 second-feet Mar. 14 (gage height, 6.90 feet); minimum, 91 second-feet Sept. 2, 1929 (gage height, 1.40 feet).

1920–1929: Maximum discharge (estimated), 23,000 second-feet Aug. 16, 1928 (gage height, 18.0 feet); minimum, 46 second-feet Sept. 10, 1925 (gage height, 1.00 foot).

REMARKS.—Records good. Considerable diurnal regulation from dams on Pigeon River and tributaries during low stages.

Daily discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1928–29												
1	330	397	306	289	510	1,600	775	695	735	423	353	159
2	318	378	301	378	468	1,600	735	735	735	404	306	104
3	330	410	335	279	468	1,120	735	940	855	341	295	155
4	306	423	324	273	475	1,400	695	815	815	295	247	167
5	301	341	324	306	898	4,220	695	735	620	312	223	187
6	295	341	324	1,210	735	1,900	620	1,120	620	295	237	228
7	295	335	318	658	855	1,400	582	1,400	582	410	223	171
8	268	341	268	510	658	1,210	510	1,030	510	306	232	295
9	253	335	214	510	775	1,030	510	1,030	658	273	214	312
10	200	312	247	985	898	985	510	815	545	301	183	318
11	253	330	214	582	695	940	735	735	475	306	205	253
12	253	330	253	510	620	855	735	695	475	475	237	196
13	258	279	279	456	582	1,400	545	695	430	442	253	301
14	247	279	289	423	545	5,540	475	695	456	312	200	253
15	232	284	301	366	545	3,250	510	658	442	295	187	144
16	284	253	295	378	582	2,110	545	695	391	273	196	247
17	985	284	318	510	510	1,700	430	582	360	335	306	545
18	1,600	284	695	735	468	1,500	430	658	404	475	163	335
19	658	330	1,030	815	510	1,300	456	735	378	475	163	279
20	475	545	815	658	545	1,210	436	1,210	397	347	155	187
21	397	397	279	620	985	1,210	430	1,030	341	279	155	155
22	366	341	279	620	620	1,300	468	898	318	279	163	167
23	1,400	341	253	582	545	2,900	430	735	397	258	179	183
24	855	335	263	695	582	1,500	430	658	404	268	163	258
25	695	341	273	1,080	658	1,210	620	620	475	330	159	167
26	620	330	253	815	1,500	1,120	545	695	695	475	183	2,520
27	545	306	263	695	1,400	1,030	468	815	940	436	279	1,300
28	449	284	253	775	3,730	940	1,030	695	582	330	228	775
29	442	301	253	695	------	940	898	658	423	335	138	582
30	410	306	242	582	------	898	658	735	360	263	179	475
31	366	------	232	510	------	815	------	735	------	318	273	------

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1929				1929				1929			
1	1,870	658	475	11	366	545	410	21	510	658	378
2	3,440	620	775	12	353	735	423	22	1,210	620	410
3	1,300	1,800	582	13	341	855	416	23	775	582	442
4	1,030	1,400	475	14	289	898	423	24	582	582	410
5	775	1,400	475	15	209	1,030	410	25	475	582	442
6	620	735	475	16	183	940	397	26	442	775	378
7	510	695	510	17	183	898	385	27	397	658	410
8	545	695	545	18	263	898	366	28	410	582	475
9	442	620	475	19	279	775	620	29	442	510	582
10	410	620	378	20	273	695	449	30	410	449	430
								31	510	------	410

Monthly discharge, in second-feet, of Pigeon River near Crabtree, N. C., 1928-29

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1928-29					
October	1,600	200	474	1.94	2.24
November	545	253	336	1.38	1.54
December	1,030	214	332	1.36	1.57
January	1,210	273	597	2.45	2.82
February	3,730	468	799	3.27	3.40
March	5,540	815	1,620	6.64	7.66
April	1,030	430	588	2.41	2.69
May	1,400	582	805	3.30	3.80
June	940	318	528	2.16	2.41
July	475	258	344	1.41	1.63
August	353	138	215	.881	1.02
September	2,520	104	381	1.56	1.74
The year	5,540	104	584	2.39	32.52
1929					
October	3,440	183	640	2.62	3.02
November	1,800	449	784	3.21	3.58
December	775	366	459	1.88	2.17

PIGEON RIVER NEAR HEPCO, N. C.

LOCATION.—Water-stage recorder three-fourths mile downstream from Jonathan Creek and 2½ miles upstream from Hepco, Haywood County, and mouth of Fines Creek.

DRAINAGE AREA.—342 square miles.

RECORDS AVAILABLE.—July, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,980 second-feet Mar. 14 (gage height, 8.50 feet); minimum, 220 second-feet Sept. 3 (gage height, 1.35 feet).
1927–1929: Maximum discharge (estimated), 30,300 second-feet Aug. 16, 1928 (gage height, 12.63 feet); minimum, 169 second-feet Sept. 26, 1927 (gage height, 1.12 feet).

REMARKS.—Records good below 5,000 second-feet and fair above. Discharge partly estimated Dec. 8–11, Jan. 11 to Feb. 4, Apr. 22 to May 10, June 4–9, 21–24, and July 12 to Aug. 5. Diurnal fluctuation during low stages caused by storage at Lake Junaluska and operation of mill at Canton.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	528	528	579	605	658	2,770	1,280	945	1,410	605	658	246
2	528	502	477	605	632	2,280	1,210	1,700	1,170	658	452	233
3	528	502	452	405	632	1,780	1,140	1,510	1,510	658	405	249
4	528	528	428	405	605	2,040	1,080	1,140	1,140	605	384	260
5	502	477	428	793	632	5,460	1,080	1,140	945	605	343	275
6	502	477	405	2,050	942	3,250	1,010	1,800	824	632	343	260
7	477	452	405	883	1,010	2,500	945	2,390	767	685	343	275
8	452	477	384	712	883	2,080	883	1,690	824	579	384	330
9	428	477	384	685	1,020	1,780	883	1,600	1,080	528	343	275
10	405	452	343	1,270	1,210	1,600	824	1,280	883	553	384	275
11	384	428	343	945	945	1,430	945	1,280	767	605	384	246
12	384	428	343	767	824	1,280	1,010	1,200	712	692	405	246
13	362	405	343	685	767	2,130	824	1,530	712	883	452	260
14	362	405	428	632	712	6,490	767	1,140	685	658	343	298
15	362	405	405	632	712	4,310	824	1,080	767	528	307	246
16	482	384	362	605	767	3,200	883	1,080	658	502	290	379
17	2,050	384	384	658	712	2,610	824	1,010	632	502	290	856
18	1,860	384	528	945	658	2,180	767	1,010	685	962	324	428
19	1,010	661	405	1,210	632	1,980	712	1,280	658	1,010	290	290
20	685	992	384	883	767	1,690	712	2,020	605	632	275	260
21	579	579	362	767	1,310	1,600	712	1,980	528	502	275	260
22	528	502	343	824	1,010	1,780	824	1,510	528	477	275	260
23	2,220	477	343	767	883	2,810	685	1,280	658	452	275	275
24	1,210	452	343	883	767	2,620	605	1,140	658	428	322	343
25	883	452	343	1,210	883	1,980	1,010	1,080	685	452	307	362
26	767	405	343	1,280	2,040	1,780	883	1,010	883	502	275	3,930
27	712	405	343	1,010	2,370	1,690	712	1,160	1,140	658	260	1,810
28	658	428	343	883	4,840	1,600	1,430	1,140	1,010	579	260	1,010
29	605	428	362	824	------	1,430	1,350	1,080	767	553	275	767
30	579	452	343	767	------	1,430	945	1,660	658	553	260	636
31	553	------	362	712	------	1,280	------	1,360	------	730	246	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,220	362	713	2.08	2.40
November	992	384	478	1.40	1.56
December	579	343	389	1.14	1.31
January	2,050	405	849	2.48	2.86
February	4,840	605	1,070	3.13	3.26
March	6,490	1,280	2,350	6.87	7.92
April	1,430	605	925	2.70	3.01
May	2,390	945	1,360	3.98	4.59
June	1,510	528	832	2.43	2.71
July	1,010	428	612	1.79	2.06
August	658	246	336	.982	1.13
September	3,930	233	528	1.54	1.72
The year	6,490	233	870	2.54	34.53

PIGEON RIVER NEAR MOUNT STERLING, N. C.

LOCATION.—Water-stage recorder just upstream from Hurricane Creek and 5 miles southeast of Mount Sterling, Haywood County.

DRAINAGE AREA.—453 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1929.

EXTREMES.—Maximum discharge during year, about 12,800 second-feet Mar. 5 (gage height, 8.14 feet); minimum, 258 second-feet Sept. 2 (gage height, 1.48 feet).

1924–1929: Maximum discharge (estimated), 39,800 second-feet Aug. 16, 1928; minimum, 41 second-feet Sept. 8, 1925 (gage height, 0.62 foot).

REMARKS.—Records good below 5,000 second-feet and fair above. Slight diurnal fluctuation caused by operation of Hepco power plant and mills. Water is sometimes released from Lake Junaluska during low-water periods.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	640	640	701	611	867	3,470	1,480	1,310	1,700	842	832	296
2	611	611	554	765	798	2,640	1,300	1,900	1,380	1,070	554	258
3	640	611	527	527	798	2,010	1,300	2,000	1,800	1,050	527	296
4	611	640	501	501	765	2,330	1,220	1,480	1,300	798	527	337
5	611	582	501	527	798	9,170	1,220	1,390	1,220	980	475	358
6	582	554	501	2,490	1,120	4,470	1,130	2,040	1,130	1,100	450	358
7	582	554	475	975	1,350	3,070	1,050	3,720	1,050	1,220	450	361
8	554	582	475	798	1,130	2,380	1,050	2,250	1,130	832	501	426
9	527	554	450	733	1,220	2,010	975	2,010	1,390	765	450	380
10	527	527	426	1,080	1,390	1,780	975	1,680	1,330	902	426	358
11	501	527	450	1,130	1,130	1,580	1,130	1,480	975	975	501	337
12	501	527	450	975	975	1,480	1,130	1,390	1,000	980	554	316
13	475	501	450	832	975	2,220	975	1,730	975	1,220	640	337
14	475	475	501	765	902	7,940	975	1,300	867	832	475	380
15	475	475	554	733	867	5,230	975	1,220	902	733	426	337
16	501	475	475	701	902	3,780	1,050	1,220	832	670	403	379
17	2,120	475	475	733	867	2,780	975	1,220	765	640	403	1,150
18	1,880	475	670	1,110	798	2,380	902	1,220	832	1,080	475	611
19	1,300	736	554	1,650	765	2,010	867	1,680	765	1,430	403	426
20	832	1,150	475	1,220	902	1,900	832	2,510	733	798	380	380
21	733	640	475	1,050	1,580	1,680	832	2,640	701	670	380	358
22	670	582	450	1,050	1,330	2,010	1,050	2,010	670	640	380	358
23	2,400	554	426	975	1,050	3,630	902	1,680	823	611	358	380
24	1,480	527	426	1,050	975	2,990	832	1,480	902	554	410	475
25	1,050	527	426	1,580	1,050	2,250	1,200	1,390	867	554	426	501
26	867	501	426	1,560	2,050	2,010	1,130	1,300	1,050	611	358	4,780
27	798	501	426	1,300	2,580	1,900	975	1,390	1,300	798	337	2,300
28	765	501	426	1,220	7,060	1,780	1,660	1,390	1,220	640	337	1,390
29	701	501	450	1,050	-------	1,580	1,890	1,300	902	640	358	975
30	701	527	450	975	-------	1,580	1,300	1,870	765	640	337	832
31	670	-------	426	902	-------	1,480	-------	1,490	-------	828	316	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,400	475	832	1.84	2.12
November	1,150	475	568	1.25	1.40
December	701	426	483	1.07	1.23
January	2,490	501	1,020	2.25	2.59
February	7,060	765	1,320	2.91	3.03
March	9,170	1,480	2,820	6.23	7.18
April	1,890	832	1,110	2.45	2.73
May	3,720	1,220	1,700	3.75	4.32
June	1,800	670	1,040	2.30	2.57
July	1,430	554	842	1.86	2.14
August	832	316	447	.987	1.14
September	4,780	258	681	1.50	1.67
The year	9,170	258	1,070	2.36	32.12

PIGEON RIVER AT HARTFORD, TENN.

LOCATION.—Water-stage recorder 600 feet below highway bridge at Hartford, Cocke County. Zero of gage is 1,245.84 feet above mean sea level.

DRAINAGE AREA.—538 square miles.

RECORDS AVAILABLE.—August, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 11,000 second-feet Mar. 5 (gage height, 8.03 feet); minimum, 307 second-feet Sept. 3 (gage height, 1.86 feet).

1925–1929: Maximum discharge, about 17,200 second-feet Aug. 16, 1928 (gage height, 10.2 feet); minimum, 96 second-feet Aug. 30, 1925 (gage height, 1.32 feet).

REMARKS.—Records good. Discharge estimated Jan. 18, 27, 31, Feb. 3, 5, 7, 15, and June 2–7; based on auxiliary staff-gage readings Jan. 23–26, 28–30, Feb. 1, 2, 4, 6, 8–14, 15–20. Slight regulation during low-water periods caused by operation of power and mill dams upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	691	715	755	630	940	4,560	1,730	1,580	1,850	827	1,100	361
2	652	691	660	892	921	3,530	1,600	2,320	1,300	940	755	330
3	652	683	600	630	883	2,820	1,460	2,900	1,800	1,040	668	325
4	645	699	580	600	845	2,900	1,380	2,080	1,300	845	683	405
5	638	675	568	615	922	9,160	1,380	1,790	1,200	902	600	405
6	630	638	561	2,650	1,000	5,660	1,280	2,240	1,000	1,110	561	415
7	622	630	548	1,250	1,600	4,090	1,180	5,260	1,000	1,220	554	470
8	594	630	535	982	1,360	3,170	1,140	3,530	1,100	883	615	511
9	574	630	523	892	1,280	2,740	1,080	2,900	1,420	782	561	499
10	574	594	493	1,700	1,700	2,320	1,040	2,320	1,200	912	529	431
11	561	594	493	1,470	1,310	2,080	1,160	2,000	1,030	1,040	561	420
12	548	574	499	1,160	1,070	1,850	1,280	1,800	1,020	940	707	385
13	529	574	493	1,010	1,040	2,400	1,060	2,160	1,040	1,430	961	400
14	529	561	535	892	1,000	7,370	1,010	1,660	961	992	675	453
15	523	561	630	845	1,010	5,870	1,030	1,630	992	854	580	448
16	535	554	554	836	1,020	4,560	1,180	1,630	921	755	535	385
17	2,320	548	535	809	961	3,620	1,160	1,780	809	731	517	1,260
18	2,320	548	755	1,500	883	2,990	1,040	1,610	883	800	561	845
19	1,480	892	660	2,320	845	2,650	982	2,560	845	2,160	535	561
20	921	1,360	587	1,660	1,140	2,320	940	3,710	809	1,100	487	475
21	782	791	554	1,390	1,970	2,080	930	3,620	755	883	464	431
22	707	683	523	1,420	1,900	2,320	1,150	2,650	739	773	464	415
23	2,400	652	517	1,420	1,420	4,280	1,150	2,160	731	731	464	415
24	1,660	630	517	1,420	1,320	4,180	1,000	1,850	854	675	475	481
25	1,140	615	517	2,400	1,310	2,990	1,300	1,630	836	668	505	529
26	972	561	517	1,940	2,560	2,560	1,400	1,460	992	683	448	3,080
27	902	548	517	1,780	3,440	2,400	1,160	1,510	1,210	864	420	2,560
28	864	561	529	1,610	7,370	2,320	1,700	1,580	1,280	747	405	1,720
29	800	561	523	1,260	-------	2,080	2,560	1,420	982	715	420	1,130
30	764	574	542	1,140	-------	1,940	1,740	2,000	845	940	415	912
31	739	-------	511	1,040	-------	1,790	-------	1,630	-------	1,140	370	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,400	523	912	1.70	1.96
November	1,360	548	651	1.21	1.35
December	755	493	559	1.04	1.20
January	2,650	600	1,300	2.42	2.79
February	7,370	845	1,540	2.86	2.98
March	9,160	1,790	3,410	6.34	7.31
April	2,560	930	1,270	2.36	2.63
May	5,260	1,420	2,220	4.13	4.76
June	1,850	731	1,060	1.97	2.20
July	2,160	668	938	1.74	2.01
August	1,100	370	568	1.06	1.22
September	3,080	325	715	1.33	1.48
The year	9,160	325	1,260	2.34	31.89

PIGEON RIVER AT NEWPORT, TENN.

LOCATION.—Chain gage at highway bridge 300 feet above Southern Railway bridge and 1 mile above Newport, Cocke County. Zero of gage is 1,040.03 feet above mean sea level.

DRAINAGE AREA.—655 square miles.

RECORDS AVAILABLE.—September, 1900, to October, 1901; Jan, 1903 to December, 1905; December, 1906, to December, 1909; November, 1918, to September, 1929.

EXTREMES.—Maximum discharge during year, about 13,200 second-feet Mar. 5 (gage height, 9.8 feet); minimum, 340 second-feet Sept. 22 (gage height, 1.03 feet).

1903–1905, 1906–1909, 1918–1929: Maximum gage height, 17.0 feet Apr. 2, 1920 (discharge not determined); minimum discharge, 102 second-feet Oct. 3, 1919 (gage height, 0.4 foot).

REMARKS.—Records good. Slight regulation caused by operation of power plants upstream. Gage-height record prior to Apr.1 furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	840	760	615	1,020	1,020	3,980	1,770	1,770	2,300	882	1,310	420
2	760	685	615	1,210	1,020	4,300	1,770	2,730	1,530	1,160	882	392
3	840	685	615	1,530	1,020	3,340	1,650	3,500	2,160	1,310	800	365
4	760	615	615	1,900	925	2,880	1,530	2,300	1,530	970	760	450
5	760	760	685	2,160	1,110	9,740	1,530	1,900	1,420	1,110	685	450
6	760	685	760	4,780	1,310	7,100	1,420	2,030	1,260	1,260	615	450
7	685	685	615	2,160	1,900	4,950	1,310	8,080	1,210	1,310	650	650
8	685	685	615	1,530	1,650	3,180	1,310	4,300	1,420	1,020	722	650
9	615	685	615	1,650	1,420	2,880	1,210	3,340	1,650	840	650	580
10	615	685	615	1,900	1,310	2,580	1,210	2,580	1,420	1,020	615	480
11	615	615	545	2,440	1,210	2,300	1,310	2,160	1,210	1,210	685	450
12	615	615	545	1,900	1,110	2,030	1,420	2,030	1,060	1,060	970	420
13	615	615	545	1,650	1,020	1,650	1,160	2,730	1,310	1,530	1,160	420
14	615	615	545	1,420	925	7,760	1,110	2,030	1,110	1,110	800	480
15	615	615	615	1,020	925	6,270	1,160	2,160	1,110	970	685	512
16	615	615	545	925	1,210	5,280	1,360	2,300	1,060	840	615	420
17	a 2,600	615	545	1,020	1,110	4,460	1,260	2,440	970	800	580	1,650
18	a 2,500	615	1,420	1,210	1,020	3,340	1,160	2,030	1,020	882	615	882
19	a 1,500	a 1,000	840	2,730	1,020	2,580	1,060	3,180	925	2,580	615	615
20	a 1,000	a 1,500	760	1,900	1,210	2,300	1,020	4,780	925	1,210	545	512
21	a 840	840	615	1,770	1,900	2,160	1,020	4,620	840	970	512	420
22	760	760	615	1,900	2,580	2,160	1,260	3,180	840	840	512	340
23	a 2,100	615	545	1,650	2,160	6,270	1,310	2,440	925	800	512	450
24	2,160	615	545	1,650	1,900	5,940	1,160	2,160	970	760	480	512
25	1,420	615	545	1,770	1,900	3,660	1,210	1,900	970	722	580	615
26	1,020	615	545	2,440	1,770	2,880	1,530	1,650	1,110	800	545	4,460
27	840	615	545	2,030	4,620	2,880	1,260	1,650	1,260	882	480	2,440
28	840	615	685	1,770	9,740	2,880	1,900	1,770	1,420	925	450	1,650
29	840	615	760	1,530	-------	2,440	3,030	1,530	1,020	722	450	1,060
30	840	615	840	1,110	-------	2,160	1,900	2,440	925	1,310	450	1,110
31	760	-------	840	1,020	-------	2,160	-------	1,770	-------	1,360	420	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,600	615	1,000	1.53	1.76
November	1,500	615	696	1.06	1.18
December	1,420	545	656	1.00	1.15
January	4,780	925	1,760	2.69	3.10
February	9,740	925	1,790	2.73	2.84
March	9,740	1,650	3,820	5.83	6.72
April	3,030	1,020	1,410	2.15	2.40
May	8,080	1,530	2,690	4.11	4.74
June	2,300	840	1,230	1.88	2.10
July	2,580	722	1,070	1.63	1.88
August	1,310	420	656	1.00	1.15
September	4,460	340	810	1.24	1.38
The year	9,740	340	1,470	2.24	30.40

a Estimated.

NOLICHUCKY RIVER AT POPLAR, N. C.

LOCATION.—Staff gage at Poplar, Mitchell County, 4 miles below Cane River and 5 miles above State line.
DRAINAGE AREA.—609 square miles.
RECORDS AVAILABLE.—July, 1925, to September, 1929.
EXTREMES.—Maximum discharge during year, 16,900 second-feet Sept. 26 (gage height, 8.80 feet); minimum, 402 second-feet Sept. 3 (gage height, 1.45 feet).
1925–1929: Maximum discharge, about 34,600 second-feet Aug. 16, 1928 (gage height, 14.7 feet); minimum, 89 second-feet Sept. 7, 1925.
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,000	1,110	890	790	1,290	4,320	1,680	1,610	2,910	890	1,170	488
2	1,000	1,060	790	840	1,350	3,290	1,610	1,750	2,050	1,170	840	440
3	1,290	1,000	742	790	1,750	2,550	1,480	2,210	1,820	1,170	790	410
4	1,110	1,000	742	695	1,820	2,380	1,420	1,680	1,750	1,060	742	425
5	1,060	1,000	742	790	790	9,310	1,420	1,480	1,480	1,420	650	840
6	1,060	945	742	2,050	1,000	5,010	1,350	1,420	1,350	1,420	571	571
7	1,000	890	742	1,420	1,350	3,290	1,290	2,550	1,290	1,230	554	554
8	890	1,000	695	1,230	1,170	2,550	1,230	2,550	1,230	945	554	650
9	840	1,000	650	1,170	1,420	2,210	1,170	2,210	2,210	890	650	650
10	890	945	580	1,230	1,900	1,820	1,230	1,900	1,750	945	605	695
11	890	1,000	605	1,170	1,610	1,680	1,230	1,680	1,350	1,000	605	650
12	840	945	650	1,000	1,290	1,540	1,480	1,480	1,230	1,060	695	488
13	790	840	695	945	1,110	1,900	1,110	1,480	1,170	1,170	790	520
14	742	840	742	890	1,060	9,450	1,060	1,420	1,230	1,110	605	520
15	695	840	742	890	1,000	6,530	1,290	1,750	1,170	1,000	554	456
16	1,480	790	790	840	1,110	4,760	1,540	2,050	1,060	890	488	605
17	4,760	840	890	840	1,750	3,490	1,420	1,750	1,110	890	554	1,000
18	2,550	890	945	890	1,000	2,910	1,230	1,610	1,230	1,060	571	945
19	2,050	945	840	945	945	2,380	1,110	2,050	1,110	1,170	580	695
20	1,610	945	695	945	1,060	2,210	1,110	3,100	1,000	890	504	504
21	1,350	890	650	1,060	1,230	1,900	1,110	3,900	945	790	456	448
22	1,900	890	580	1,350	1,170	2,380	1,350	3,100	1,060	890	488	448
23	4,760	890	790	1,480	1,060	5,670	1,290	2,050	1,060	1,350	537	504
24	3,290	890	890	1,480	1,000	3,900	1,170	1,680	1,060	1,000	605	695
25	2,730	890	945	1,290	1,170	2,910	1,290	1,540	1,480	890	1,060	945
26	2,730	890	790	1,350	2,210	2,380	1,290	1,420	1,420	840	742	7,330
27	1,900	890	695	1,110	5,670	2,550	1,230	1,350	1,350	790	588	6,680
28	1,350	840	650	1,110	8,190	2,380	1,350	1,350	1,170	790	504	2,210
29	1,290	890	742	1,060	------	2,050	2,910	1,820	1,000	742	472	1,610
30	1,230	890	790	945	------	1,900	2,050	5,210	890	840	425	1,350
31	1,110	------	742	1,000	------	1,820	------	3,690	------	1,000	464	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,760	695	1,620	2.66	3.07
November	1,110	790	922	1.51	1.68
December	945	580	748	1.23	1.42
January	2,050	695	1,080	1.77	2.04
February	8,190	790	1,700	2.79	2.90
March	9,450	1,540	3,340	5.48	6.32
April	2,910	1,060	1,380	2.27	2.53
May	5,210	1,350	2,090	3.43	3.95
June	2,910	890	1,360	2.23	2.49
July	1,420	742	1,010	1.66	1.91
August	1,170	425	626	1.03	1.19
September	7,330	410	1,140	1.87	2.09
The year	9,450	410	1,420	2.33	31.59

NOLICHUCKY RIVER AT EMBREEVILLE, TENN.

LOCATION.—Chain gage at county highway bridge at Embreeville, Washington County, 3½ miles northwest of Erwin. Zero of gage is 1,513.04 feet above mean sea level.

DRAINAGE AREA.—795 square miles.

RECORDS AVAILABLE.—July, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 13,800 second-feet Mar. 5 (gage height, 8.34 feet); minimum, 410 second-feet Sept. 14 (gage height, 2.30 feet).

1920–1929: Maximum discharge, 35,300 second-feet Aug. 16, 1928 (gage height, 13.8 feet); minimum, 85 second-feet Sept. 8 and 9, 1925 (gage height, 1.60 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,190	1,240	1,030	880	1,030	5,740	2,200	2,060	3,910	1,140	1,660	582
2	1,080	1,190	980	1,030	1,190	4,110	2,060	2,200	2,670	2,200	1,140	660
3	1,790	1,190	880	980	1,030	3,000	1,920	2,510	2,350	2,060	930	742
4	1,360	1,240	880	880	980	2,830	1,660	2,200	2,200	1,360	880	545
5	1,190	1,140	880	785	1,030	12,600	1,660	1,920	2,060	1,300	742	700
6	1,300	1,080	880	3,720	1,190	7,080	1,540	3,000	1,660	1,480	700	700
7	1,190	1,030	880	1,790	1,920	4,540	1,540	5,240	1,540	1,420	700	660
8	1,080	1,190	880	1,300	1,660	3,170	1,420	3,910	1,420	1,420	785	660
9	1,030	1,140	785	1,240	1,660	2,830	1,300	3,000	1,480	1,300	880	660
10	1,030	1,030	742	1,420	2,200	2,350	1,540	2,670	1,660	1,240	832	700
11	980	1,140	785	1,420	1,920	1,920	1,480	2,200	1,660	1,300	700	742
12	930	1,080	832	1,190	1,540	1,920	1,420	1,920	1,660	1,420	832	582
13	930	1,030	832	1,140	1,420	1,790	1,300	1,790	1,660	1,300	980	475
14	880	980	832	980	1,300	8,560	1,240	1,660	1,480	1,360	832	410
15	832	980	930	980	1,240	8,250	1,300	2,200	1,660	1,240	832	582
16	930	980	832	1,030	1,240	6,260	1,790	3,720	1,540	1,240	742	510
17	5,240	880	880	980	1,190	3,910	1,660	3,350	1,420	1,240	785	880
18	2,510	832	1,080	1,030	1,080	3,530	1,540	2,510	1,540	1,030	832	980
19	2,830	980	980	1,360	1,080	2,830	1,420	2,670	1,420	1,240	742	700
20	1,920	1,540	880	1,360	1,240	2,670	1,360	5,740	1,480	980	700	582
21	1,540	1,420	832	1,360	1,660	2,350	1,300	5,240	1,420	832	582	510
22	1,360	1,140	785	2,060	1,660	2,670	1,540	3,350	1,080	880	660	442
23	4,110	1,080	785	2,830	1,420	6,800	1,540	2,670	1,030	930	930	510
24	4,770	1,030	785	2,510	1,360	6,260	1,480	2,200	1,300	930	1,030	475
25	2,670	1,030	785	2,060	1,300	5,000	1,360	1,920	1,660	1,030	1,190	1,080
26	2,060	930	785	1,920	2,510	3,170	1,360	1,790	1,920	1,140	1,030	4,770
27	1,790	930	832	1,660	5,740	3,170	1,920	1,540	1,660	1,140	980	7,360
28	1,660	980	832	1,480	10,200	3,000	3,350	1,540	1,540	930	880	5,490
29	1,480	980	832	1,360	-------	2,510	3,910	2,350	1,300	930	660	3,910
30	1,360	930	1,080	1,240	-------	2,350	2,510	5,740	1,080	1,190	582	3,000
31	1,300	-------	980	1,140	-------	2,200	-------	5,740	-------	1,540	660	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,240	832	1,750	2.20	2.54
November	1,540	832	1,080	1.36	1.52
December	1,080	742	871	1.10	1.27
January	3,720	785	1,460	1.84	2.12
February	10,200	980	1,890	2.38	2.48
March	12,600	1,790	4,170	5.25	6.05
April	3,910	1,240	1,720	2.16	2.41
May	5,740	1,540	2,920	3.67	4.23
June	3,910	1,030	1,680	2.11	2.35
July	2,200	832	1,250	1.57	1.81
August	1,660	582	852	1.07	1.23
September	7,360	410	1,350	1.70	1.90
The year	12,600	410	1,750	2.20	29.91

NOLICHUCKY RIVER NEAR MORRISTOWN, TENN.

LOCATION.—Water-stage recorder at Jones Bridge, on Morristown-Newport road, 3 miles below Bent Creek and 9 miles southeast of Morristown, Hamblen County. Zero of gage is 1,004.40 feet above mean sea level.

DRAINAGE AREA.—1,690 square miles.

RECORDS AVAILABLE.—November, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 19,000 second-feet Mar. 23 (gage height, 14.6 feet); minimum, 278 second-feet Sept. 16 (gage height, 1.75 feet).

1920–1929: Maximum discharge, about 27,700 second-feet Feb. 24, 1927, and Aug. 16, 1928; maximum gage height, 18.9 feet Aug. 16, 1928; minimum discharge, 22 second-feet Sept. 7 and 28, 1925 (gage height, 1.00 foot).

REMARKS.—Records good except those for Oct. 6–10, Oct. 21 to Nov. 2, Feb. 28, Mar. 1, May 19–25, June 15–22, 24–26, which were estimated. Considerable regulation at low water caused by operation of power plant 22 miles upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,030	1,820	1,820	1,620	1,820	9,750	3,940	3,440	7,350	2,100	2,250	960
2	1,980	1,720	1,310	1,820	1,620	9,750	3,560	4,200	5,010	3,080	2,050	643
3	2,360	1,720	1,720	1,480	1,270	7,350	3,320	4,730	4,070	4,870	1,660	960
4	2,470	1,580	1,530	1,400	1,720	5,850	3,080	3,810	3,560	3,320	1,480	960
5	1,980	1,870	1,480	1,350	1,770	10,600	2,850	2,960	3,200	2,580	1,560	960
6	1,820	1,720	1,350	1,230	3,430	14,500	2,850	3,440	2,740	2,410	1,560	840
7	3,190	1,580	1,350	2,710	3,940	9,580	2,680	9,750	2,520	2,460	1,560	960
8	2,710	1,670	1,150	2,200	3,940	6,450	2,740	10,800	2,360	2,460	1,480	880
9	2,250	1,770	922	1,720	2,830	5,150	2,580	7,650	2,960	2,100	1,340	960
10	1,870	1,670	1,110	2,030	2,590	4,330	2,410	4,870	3,680	1,800	1,250	1,340
11	1,720	1,440	1,400	2,080	3,310	3,940	2,410	3,810	3,080	1,800	960	1,340
12	1,620	1,720	1,350	1,820	2,830	3,430	2,410	3,320	2,520	2,150	1,000	1,340
13	1,480	1,620	1,310	1,480	2,420	3,310	2,520	3,200	2,410	2,850	1,700	1,300
14	1,110	1,580	1,310	1,670	2,140	6,300	2,150	3,320	2,580	2,850	1,610	1,080
15	1,270	1,530	1,070	1,530	2,030	12,500	2,300	5,150	2,740	3,320	1,480	700
16	1,580	1,480	857	1,480	1,870	9,580	2,250	6,150	2,410	2,410	1,380	480
17	1,620	1,350	998	1,480	1,720	6,750	2,460	6,600	2,100	1,950	1,340	1,080
18	4,730	1,150	2,420	1,920	2,030	5,570	2,410	5,570	1,900	2,050	960	1,000
19	4,460	1,720	1,870	3,190	1,770	4,590	2,200	5,290	1,800	2,300	784	1,340
20	3,310	1,920	1,480	2,770	2,590	4,070	2,150	7,970	1,700	2,250	1,200	1,340
21	2,360	2,080	1,440	2,770	5,010	3,680	1,950	10,900	1,660	1,660	1,080	1,250
22	1,980	1,820	1,270	2,770	4,460	3,810	2,300	7,970	1,610	1,660	1,040	960
23	4,070	1,580	998	3,940	3,940	12,700	2,300	5,570	1,560	1,610	1,040	636
24	7,050	1,580	871	5,150	2,590	17,100	2,250	4,330	1,750	1,950	1,120	896
25	4,200	1,400	998	5,010	2,890	10,800	2,050	3,940	2,050	1,850	1,200	1,000
26	3,070	1,620	1,040	4,200	3,940	7,050	2,100	3,080	3,680	1,750	752	1,380
27	2,590	1,620	1,350	3,190	6,750	6,450	2,200	3,080	3,200	2,100	1,000	6,300
28	2,250	1,530	1,270	2,830	12,400	5,850	2,460	2,800	2,520	1,660	1,080	6,000
29	2,030	1,230	1,310	2,360	------	4,870	4,870	2,900	2,300	1,700	1,120	3,080
30	1,920	1,400	1,040	2,080	------	4,330	4,730	3,680	1,900	1,900	1,080	2,520
31	1,820	------	1,070	1,980	------	4,070	------	9,090	------	3,440	1,080	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,730	1,110	2,540	1.50	1.73
November	2,080	1,150	1,620	.959	1.07
December	2,420	857	1,300	.769	.89
January	5,150	1,230	2,360	1.40	1.61
February	12,400	1,270	3,200	1.89	1.97
March	17,100	3,310	7,230	4.28	4.93
April	4,870	1,950	2,680	1.59	1.77
May	10,900	2,800	5,270	3.12	3.60
June	7,350	1,560	2,760	1.63	1.82
July	4,870	1,610	2,330	1.38	1.59
August	2,250	752	1,300	.769	.89
September	6,300	480	1,480	.876	.98
The year	17,100	480	2,850	1.69	22.85

LITTLE PIGEON RIVER AT SEVIERVILLE, TENN.

LOCATION.—Water-stage recorder at Eckel's farmhouse, half a mile below Sevierville, Sevier County, and confluence of East and West Forks. Zero of gage is 882.26 feet above mean sea level.

DRAINAGE AREA.—346 square miles.

RECORDS AVAILABLE.—November, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, about 27,000 second-feet Mar. 23 (gage height, 13.55 feet); minimum, 58 second-feet Sept. 4 (gage height, 0.77 foot).

1920–1929: Maximum discharge, about 28,300 second-feet June 29, 1928 (gage height, 15.4 feet); minimum, 5 second-feet Oct. 12 and Nov. 3, 1923.

REMARKS.—Records good. Low-water flow is regulated by power plants on both forks of river.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	270	221	300	213	375	2,320	815	775	644	336	554	111
2	248	213	261	375	326	2,160	700	4,100	495	554	375	99
3	252	205	225	266	326	1,630	690	2,430	745	738	295	93
4	256	221	209	238	310	1,430	588	1,200	651	483	270	105
5	234	221	225	230	387	5,460	560	895	528	477	225	111
6	213	182	225	1,430	823	2,850	514	1,780	459	502	193	111
7	213	201	189	679	847	1,780	477	8,880	423	815	225	234
8	201	234	205	508	602	1,240	453	2,970	540	489	320	295
9	261	213	185	423	528	1,020	435	1,880	1,020	370	217	280
10	574	205	178	679	528	807	411	1,330	644	429	209	230
11	252	217	171	581	459	679	453	1,070	489	370	209	230
12	217	213	164	465	405	609	489	887	435	353	447	185
13	201	193	164	387	381	602	423	799	863	560	672	171
14	171	193	157	326	364	2,490	411	911	540	405	358	275
15	168	193	217	300	348	1,990	411	1,280	658	381	275	221
16	197	178	193	285	405	1,480	1,060	1,730	514	315	234	201
17	514	168	230	261	399	1,090	863	1,580	483	405	201	775
18	879	193	609	364	348	863	616	1,150	508	375	230	616
19	581	1,050	429	1,430	310	738	489	3,960	435	348	205	348
20	358	895	326	879	903	679	453	5,140	547	305	182	261
21	275	483	252	637	2,970	637	435	3,130	435	248	171	205
22	238	364	225	969	1,680	879	651	1,880	423	225	157	182
23	560	305	225	952	978	9,590	665	1,280	435	209	154	171
24	630	270	217	1,100	752	4,240	540	994	775	201	147	171
25	417	248	197	1,580	839	1,830	560	831	602	205	171	399
26	326	217	193	1,240	1,830	1,330	560	700	554	320	157	2,380
27	290	205	193	911	2,550	1,200	465	658	588	489	138	1,040
28	266	185	225	738	6,350	1,280	2,480	581	560	375	108	616
29	243	178	178	581	-------	1,100	1,940	581	477	270	111	453
30	225	197	193	502	-------	978	986	567	375	775	117	353
31	230	-------	168	441	-------	855	-------	609	-------	935	111	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	879	168	321	0.928	1.07
November	1,050	168	275	.795	.89
December	609	157	230	.664	.77
January	1,580	213	644	1.86	2.14
February	6,350	310	976	2.82	2.94
March	9,590	602	1,800	5.20	6.00
April	2,430	411	682	1.97	2.20
May	8,880	567	1,820	5.26	6.06
June	1,020	375	561	1.62	1.81
July	935	201	428	1.24	1.43
August	672	108	240	.694	.80
September	2,380	93	364	1.05	1.17
The year	9,590	93	695	2.01	27.28

SOUTH FORK OF HOLSTON RIVER AT RIVERSIDE, NEAR CHILHOWIE, VA.

LOCATION.—Chain gage at Riverside Bridge, half a mile downstream from Bebord's flourmill and 5 miles southeast of Chilhowie, Smyth County.

DRAINAGE AREA.—94.5 square miles.

RECORDS AVAILABLE.—November, 1920, to September, 1929. June, 1907, to December, 1909, at site below mouth of Grose Creek, 4½ miles downstream.

EXTREMES.—Maximum discharge during year, 1,380 second-feet Mar. 5 (gage height, 4.35 feet); minimum, 23 second-feet Sept. 27 (gage height, 0.76 foot).

1920–1929: Maximum discharge, 4,450 second-feet June 12, 1923 (gage height, 7.7 feet); minimum, caused by closing gates of dam above, 3.4 second-feet Sept. 8, 1923 (gage height, 0.28 foot).

REMARKS.—Records good. Discharge estimated Jan. 30 to Feb. 2 because of ice. Several small mills above gage cause considerable diurnal fluctuation during low-water periods.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	76	58	57	90	576	126	162	122	162	59	33
2	80	67	50	52	80	420	122	151	104	236	58	30
3	92	64	48	45	91	338	111	184	132	186	48	43
4	78	72	48	57	92	322	118	124	122	151	52	37
5	68	67	50	59	84	920	104	106	111	130	61	27
6	76	64	64	58	92	920	109	111	97	162	46	37
7	72	58	46	62	89	456	109	174	89	140	54	40
8	72	64	43	97	100	386	100	186	88	113	67	35
9	68	61	45	76	106	338	94	174	860	99	52	38
10	67	59	43	92	162	236	86	140	494	84	47	47
11	71	62	39	82	162	210	88	124	278	115	48	40
12	82	64	52	77	162	198	78	113	198	102	71	39
13	68	62	53	64	104	210	82	107	151	88	58	42
14	64	64	57	74	88	278	76	115	132	84	54	50
15	53	42	52	67	100	386	76	140	162	88	54	35
16	57	51	44	70	109	278	82	151	118	80	47	48
17	59	64	52	62	94	210	77	151	106	72	42	46
18	70	57	59	70	70	186	74	134	96	72	42	42
19	70	63	54	91	64	174	74	138	89	68	39	40
20	74	62	50	111	88	140	74	151	91	64	39	38
21	67	67	53	126	84	151	70	198	88	62	33	29
22	54	61	50	111	86	130	76	174	76	67	37	29
23	278	56	50	151	124	292	70	151	72	53	48	29
24	292	59	52	186	120	386	67	151	70	56	39	32
25	292	52	50	223	140	386	72	116	92	54	45	37
26	250	57	51	223	403	250	72	102	264	74	45	36
27	115	42	59	186	534	210	70	94	250	56	36	25
28	99	53	57	162	1,100	174	132	96	250	54	40	28
29	91	47	58	151	------	151	278	96	278	52	33	31
30	83	52	52	110	------	151	198	91	210	53	50	42
31	74	------	50	100	------	130	------	138	------	52	44	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	292	53	101	1.07	1.23
November	76	42	59.6	.631	.70
December	64	39	51.3	.543	.63
January	223	45	102	1.08	1.24
February	1,100	64	165	1.75	1.82
March	920	130	309	3.27	3.77
April	278	67	98.8	1.05	1.17
May	198	91	135	1.43	1.65
June	860	70	176	1.86	2.08
July	236	52	94.5	1.00	1.15
August	71	33	48.0	.508	.59
September	50	25	36.8	.389	.43
The year	1,100	25	115	1.22	16.46

SOUTH FORK OF HOLSTON RIVER AT BLUFF CITY, TENN.

LOCATION.—Water-stage recorder at highway bridge at Bluff City, Sullivan County, 200 feet below Virginia & Southwestern Railroad bridge and 1 mile below mouth of Indian Creek. Zero of gage is 1,368.09 feet above mean sea level.

DRAINAGE AREA.—828 square miles.

RECORDS AVAILABLE.—July, 1900, to September, 1929.

EXTREMES.—Maximum discharge during year, about 10,400 second-feet Mar. 6 (gage height, 8.39 feet); minimum, 121 second-feet Sept. 28 (gage height, 0.89 foot).

1900–1929: Maximum stage, 15.0 feet May 22, 1901 (discharge not determined); minimum discharge, 115 second-feet Sept. 9, 1925 (gage height, −0.18 foot).

REMARKS.—Records good. Operation of small mills upstream causes some diurnal fluctuation.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,070	799	687	535	900	6,540	1,560	1,460	2,540	1,850	928	279
2	840	759	671	759	783	4,980	1,440	1,510	1,750	6,540	840	288
3	775	751	618	735	759	4,190	1,290	1,600	1,510	4,190	643	340
4	711	775	602	687	735	3,400	1,200	1,160	2,160	2,720	587	354
5	671	783	610	655	711	6,360	1,160	1,030	1,510	2,010	554	372
6	1,071	735	602	663	1,360	8,890	1,160	1,030	1,250	1,750	534	332
7	1,010	695	542	655	2,040	5,310	1,080	2,660	1,120	1,600	496	294
8	840	824	542	550	1,460	3,750	1,020	2,380	992	1,330	528	316
9	775	917	520	528	1,310	2,900	1,000	1,900	1,290	1,160	615	294
10	840	858	468	687	1,510	2,320	952	1,510	2,060	1,040	534	424
11	711	908	490	719	1,660	1,960	928	1,290	1,510	1,120	482	502
12	640	849	482	648	1,410	1,750	920	1,160	1,160	1,200	482	440
13	588	791	468	588	1,210	1,600	864	1,040	1,040	1,080	548	367
14	535	727	468	460	1,080	2,320	832	1,040	1,000	1,080	489	358
15	512	711	416	550	985	3,470	808	2,160	1,080	1,290	463	380
16	490	687	423	558	917	2,840	840	2,840	1,080	1,020	450	354
17	610	679	381	580	874	2,320	840	2,660	880	904	434	344
18	985	655	625	610	791	1,900	808	1,900	792	936	440	440
19	1,260	719	743	1,310	727	1,650	755	1,850	740	1,160	429	446
20	985	951	655	1,610	1,200	1,460	725	3,610	725	856	452	402
21	883	858	602	1,360	1,800	1,380	710	3,340	710	740	407	354
22	703	783	550	1,310	1,750	1,290	864	2,600	650	785	349	354
23	2,880	735	490	1,990	1,750	4,040	864	2,010	629	778	376	328
24	4,340	679	452	2,700	1,510	5,820	785	1,600	732	702	502	308
25	2,700	648	452	2,950	1,560	3,470	770	1,380	1,250	650	476	267
26	1,820	625	416	2,580	3,340	3,020	792	1,250	6,720	755	412	294
27	1,460	595	423	2,040	6,000	3,210	748	1,080	4,980	1,040	402	320
28	1,210	588	438	1,660	8,480	2,490	1,040	1,020	3,470	1,010	385	273
29	1,080	572	445	1,360	------	2,060	2,720	1,080	3,080	725	367	276
30	960	588	505	1,110	------	1,850	2,010	4,190	2,270	665	380	294
31	874	------	482	976	------	1,700	------	2,720	------	710	312	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,340	490	1,120	1.35	1.56
November	951	572	742	.896	1.00
December	743	381	525	.634	.73
January	2,950	460	1,100	1.33	1.53
February	8,480	711	1,740	2.10	2.19
March	8,890	1,290	3,230	3.90	4.50
April	2,720	710	1,050	1.27	1.42
May	4,190	1,020	1,870	2.26	2.61
June	6,720	629	1,690	2.04	2.28
July	6,540	650	1,400	1.69	1.95
August	928	312	493	.595	.69
September	502	267	346	.418	.47
The year	8,890	267	1,280	1.55	20.93

SOUTH FORK OF HOLSTON RIVER AT KINGSPORT, TENN.

LOCATION.—Water-stage recorder half a mile downstream from Carolina, Clinchfield & Ohio Railroad bridge and 1 mile upstream from Eastman Kodak plant at Kingsport, Claiborne County. Zero of gage is 1,188.79 feet above mean sea level.

DRAINAGE AREA.—1,960 square miles.

RECORDS AVAILABLE.—September, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 23,100 second-feet Mar. 6 (gage height, about 9 feet); minimum, 620 second-feet Sept. 2 (gage height, 0.50 foot).

1925–1929: Maximum discharge, about 43,200 second-feet Feb. 24, 1927 (gage height, 13.9 feet); minimum, 350 second-feet Oct. 7 and 12, 1925 (gage height, 0.15 foot).

REMARKS.—Records good except those for Feb. 9–13, Feb. 27 to Mar. 10, and Mar. 21–27, which were estimated. Slight regulation during low-water periods caused by operation of power plants upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,490	2,210	1,730	1,450	2,230	17,400	4,110	3,500	7,000	4,110	2,340	818
2	2,130	2,060	1,670	1,700	1,990	11,400	3,800	3,300	4,950	11,400	2,630	716
3	2,060	2,030	1,520	1,750	2,060	9,500	3,400	4,420	4,320	9,500	1,940	831
4	2,030	2,030	1,540	1,570	1,980	7,720	3,100	3,400	4,630	6,060	1,780	870
5	1,790	2,060	1,500	1,630	1,920	11,400	3,000	2,720	3,700	4,630	1,680	870
6	2,580	1,890	1,500	2,230	2,670	20,900	2,910	2,720	3,200	3,900	1,530	996
7	2,860	1,840	1,460	2,490	4,640	14,700	2,720	7,240	2,910	4,530	1,430	912
8	2,320	1,980	1,420	1,870	3,630	9,800	2,630	8,220	2,720	3,500	1,410	1,010
9	2,060	2,080	1,420	1,650	3,140	7,000	2,440	5,610	3,900	2,910	1,540	1,010
10	2,320	2,030	1,270	1,940	3,430	5,830	2,380	4,420	4,420	2,720	1,480	1,200
11	2,030	2,110	1,320	2,060	3,630	4,960	2,320	3,700	3,700	3,000	1,300	1,220
12	1,810	2,060	1,320	1,860	3,330	4,440	2,380	3,200	3,000	3,800	1,270	1,150
13	1,730	1,980	1,330	1,700	3,040	4,030	2,230	2,910	2,630	3,700	1,490	954
14	1,630	1,840	1,340	1,510	2,760	6,060	2,120	3,000	2,820	2,910	1,360	898
15	1,500	1,750	1,380	1,500	2,580	11,700	2,020	4,950	3,500	3,600	1,210	857
16	1,570	1,700	1,400	1,630	2,400	8,980	2,290	7,720	3,400	2,910	1,090	805
17	2,030	1,670	1,300	1,570	2,400	7,000	2,360	7,720	2,630	2,820	1,040	884
18	2,860	1,600	1,670	1,620	2,230	5,500	2,180	5,610	2,340	2,320	1,240	1,150
19	3,730	1,670	1,840	2,230	2,090	4,640	2,020	5,280	2,120	3,900	1,200	1,090
20	3,040	2,400	1,710	3,140	2,230	4,230	1,890	9,500	2,020	2,630	1,270	1,010
21	2,490	2,320	1,570	2,760	3,530	3,930	1,840	11,100	1,980	2,000	1,150	954
22	2,200	2,010	1,460	2,950	3,930	3,530	2,110	7,970	1,820	2,160	1,050	954
23	4,330	1,910	1,440	4,230	3,630	10,000	2,160	6,060	1,840	2,210	1,020	898
24	10,600	1,810	1,300	5,610	3,330	15,700	1,930	4,740	2,210	1,980	1,210	818
25	6,520	1,710	1,340	5,830	3,240	13,200	1,850	4,000	2,910	1,750	1,330	779
26	4,540	1,670	1,300	5,060	4,960	11,100	1,980	3,500	13,200	2,030	1,150	884
27	3,630	1,600	1,320	4,230	10,000	8,720	1,890	3,100	10,000	2,720	1,120	1,890
28	3,040	1,500	1,360	3,630	15,000	6,520	1,980	2,910	7,240	2,630	1,010	1,750
29	2,760	1,540	1,360	3,040	------	5,610	4,320	3,500	6,060	2,030	870	1,200
30	2,580	1,560	1,420	2,580	------	4,950	4,740	10,000	4,630	2,530	940	1,020
31	2,400	------	1,460	2,400	------	4,530	------	8,470	------	2,720	898	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	10,600	1,500	2,890	1.47	1.70
November	2,400	1,500	1,890	.964	1.08
December	1,840	1,270	1,450	.740	.85
January	5,830	1,450	2,560	1.31	1.51
February	15,000	1,920	3,640	1.86	1.94
March	20,900	3,530	8,550	4.36	5.03
April	4,740	1,840	2,570	1.31	1.46
May	11,100	2,720	5,310	2.71	3.12
June	13,200	1,820	4,060	2.07	2.31
July	11,400	1,750	3,540	1.81	2.09
August	2,630	870	1,350	.689	.79
September	1,890	716	1,010	.515	.57
The year	20,900	716	3,240	1.65	22.45

HOLSTON RIVER NEAR ROGERSVILLE, TENN.

LOCATION.—Water-stage recorder at highway bridge 1,600 feet downstream from Austin mill and dam and 3 miles south of Rogersville, Hawkins County. Zero of gage is 1,057.04 feet above mean sea level.

DRAINAGE AREA.—3,060 square miles.

RECORDS AVAILABLE.—March, 1902, to September, 1929.

EXTREMES.—Maximum discharge during year, 36,200 second-feet Mar. 6 (gage height, 10.92 feet); minimum, 886 second-feet Sept. 25 (gage height, 0.26 foot). 1902–1929: Maximum discharge, about 70,900 second-feet Jan. 29, 1918 (gage height, 20.0 feet, old gage); minimum, 438 second-feet Sept. 9, 1925. Maximum stage known, 38.4 feet Mar. 10, 1867.

REMARKS.—Records good. Some diurnal fluctuation during low-water periods caused by operation of power plants upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,290	2,890	2,890	2,270	3,710	30,000	6,360	6,620	12,000	6,700	3,700	1,160
2	3,710	2,700	2,800	2,520	3,400	20,200	5,840	6,230	9,060	14,100	3,500	1,100
3	3,090	2,610	2,440	2,890	2,990	16,700	5,340	10,000	6,700	19,100	3,210	1,010
4	3,090	2,520	2,350	2,700	2,990	13,000	4,850	9,140	7,550	11,000	2,670	1,080
5	2,700	2,610	2,270	2,610	2,990	17,500	4,610	6,100	7,260	7,550	2,670	1,080
6	4,500	2,610	2,190	3,090	4,380	33,600	4,380	5,720	5,520	6,030	2,670	1,140
7	4,150	2,440	2,120	4,260	8,270	23,900	4,150	13,400	4,560	5,640	2,850	1,220
8	3,820	2,520	1,960	3,400	7,430	15,200	3,820	16,000	4,010	5,260	2,160	1,150
9	3,190	2,800	1,960	2,700	5,720	11,700	3,820	10,700	4,220	4,220	1,840	1,310
10	3,400	2,800	1,850	3,090	5,460	9,440	3,600	8,270	5,520	3,700	2,000	1,340
11	3,400	2,800	1,780	3,600	5,840	7,710	3,500	6,490	5,260	3,700	1,870	1,640
12	2,700	2,890	1,760	3,400	5,340	6,890	3,500	5,460	4,440	4,780	1,690	1,540
13	2,520	2,800	1,780	2,990	4,730	6,230	3,400	4,850	3,900	4,900	1,970	1,440
14	2,350	2,520	1,780	2,610	4,260	7,710	3,090	4,610	3,600	4,220	2,000	1,280
15	2,190	2,440	1,810	2,190	3,820	14,900	2,890	8,270	3,800	4,220	1,810	1,260
16	2,190	2,270	1,760	2,350	3,600	13,000	2,990	12,700	4,670	4,330	1,690	1,320
17	2,190	2,190	1,960	2,440	3,500	10,400	3,290	12,000	3,900	3,900	1,490	1,310
18	3,600	2,190	2,990	2,700	3,290	8,270	3,190	8,850	3,210	3,800	1,440	1,370
19	4,380	2,440	3,190	5,590	2,990	7,160	2,990	13,400	2,940	4,900	1,580	1,600
20	4,380	2,890	2,890	7,430	3,290	6,230	2,800	19,400	2,850	5,520	1,480	1,410
21	3,500	3,500	2,610	6,360	6,100	5,720	2,700	21,400	2,670	3,400	1,450	1,310
22	2,990	3,090	2,350	5,460	7,160	5,590	2,990	14,900	2,670	2,850	1,380	1,240
23	3,290	2,800	2,120	6,620	6,490	16,000	3,290	10,700	2,420	3,030	1,380	1,140
24	10,700	2,610	1,960	9,440	5,970	29,100	3,090	8,270	2,760	2,940	1,740	1,090
25	10,400	2,440	1,890	11,700	6,100	17,100	2,890	6,890	3,210	2,670	1,760	1,030
26	6,890	2,270	1,850	10,700	10,400	12,000	2,890	5,970	11,700	2,420	1,680	1,090
27	5,340	2,190	1,810	8,270	17,900	12,300	2,890	5,220	20,600	3,500	1,530	1,340
28	4,380	2,120	1,860	6,760	27,800	10,700	3,710	4,610	11,700	3,600	1,410	2,240
29	3,820	2,040	1,890	5,840	-------	8,850	7,710	4,380	9,690	3,210	1,330	1,690
30	3,500	2,350	1,890	4,730	-------	7,710	9,740	7,990	7,550	3,300	1,180	1,360
31	3,190	-------	2,040	4,040	-------	7,160	-------	19,100	-------	4,120	1,220	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	10,700	2,190	3,960	1.29	1.49
November	3,500	2,040	2,580	.843	.94
December	3,190	1,760	2,150	.703	.81
January	11,700	2,190	4,670	1.53	1.76
February	27,800	2,990	6,280	2.05	2.14
March	33,600	5,590	13,300	4.35	5.02
April	9,740	2,700	4,010	1.31	1.46
May	21,400	4,380	9,600	3.14	3.62
June	20,600	2,420	6,000	1.96	2.19
July	19,100	2,420	5,250	1.72	1.98
August	3,700	1,180	1,950	.637	.73
September	2,240	1,010	1,310	.428	.48
The year	33,600	1,010	5,090	1.66	22.62

MIDDLE FORK OF HOLSTON RIVER AT CHILHOWIE, VA.

LOCATION.—Chain gage on highway bridge at Chilhowie, Smyth County.
DRAINAGE AREA.—144 square miles.
RECORDS AVAILABLE.—June, 1907, to December, 1909; November, 1920, to September, 1929.
EXTREMES.—Maximum discharge during year, 3,750 second-feet June 26 (gage height, 7.03 feet); minimum, 36 second-feet Sept. 2 (gage height, 0.89 foot).
1907–1909, 1920–1929: Maximum discharge, 7,710 second-feet June 12, 1923 (gage height, 11.4 feet); minimum, 13 second-feet July 28, 1926 (gage height, 0.70 foot).
REMARKS.—Records good. Discharge estimated Jan. 7–9, 14, and Jan. 31 to Feb. 2, because stage-discharge relation was affected by ice. Operation of small mills upstream causes some diurnal fluctuation.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	225	130	114	119	120	1,020	232	236	355	290	255	55
2	169	127	103	165	115	905	196	200	189	515	108	44
3	149	125	93	133	122	795	182	182	690	332	103	59
4	130	133	96	133	125	690	169	165	490	259	122	51
5	125	125	101	130	114	1,930	196	152	270	210	111	51
6	240	116	93	140	108	1,480	176	156	196	189	81	51
7	218	114	93	120	143	850	165	332	169	169	79	53
8	182	140	86	130	130	565	152	262	156	143	101	49
9	156	130	89	110	225	422	146	228	445	130	86	70
10	136	130	84	122	270	332	156	182	378	122	86	96
11	125	136	79	119	247	290	146	162	247	125	72	59
12	114	130	89	111	193	270	143	149	186	119	86	57
13	114	125	89	103	140	259	127	136	159	136	84	55
14	106	116	93	100	149	400	125	149	136	127	77	51
15	103	108	84	93	133	490	127	189	225	130	81	68
16	91	108	89	108	143	400	136	182	130	108	68	49
17	108	108	89	101	125	310	119	162	125	106	57	103
18	130	108	165	130	125	262	119	149	108	108	61	108
19	162	125	152	400	111	225	114	196	108	98	61	84
20	130	133	140	355	228	225	103	540	108	93	64	61
21	119	119	106	255	262	203	114	515	106	89	61	59
22	114	119	103	259	232	196	130	332	98	98	59	61
23	850	111	101	422	221	615	119	232	176	93	75	53
24	640	108	98	422	255	690	114	186	152	89	68	49
25	355	108	98	490	355	445	130	156	378	89	72	51
26	255	103	91	400	1,180	355	127	140	2,910	86	64	53
27	207	96	98	290	1,360	310	122	125	795	91	57	51
28	196	101	101	243	2,590	270	540	130	1,070	70	55	51
29	169	98	98	196	-------	247	690	114	640	101	64	48
30	149	103	103	156	-------	259	332	119	400	86	59	44
31	140	-------	93	130	-------	232	-------	355	-------	81	59	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	850	91	197	1.37	1.58
November	140	96	118	.819	.91
December	165	79	100	.694	.80
January	490	93	200	1.39	1.60
February	2,590	108	340	2.36	2.46
March	1,930	196	514	3.57	4.12
April	690	103	182	1.26	1.41
May	540	114	210	1.46	1.68
June	2,910	98	386	2.68	2.99
July	515	70	145	1.01	1.16
August	255	55	81.8	.568	.65
September	108	44	59.8	.415	.46
The year	2,910	44	210	1.46	19.82

WATAUGA RIVER AT STUMP KNOB, TENN.

LOCATION.—Staff gage 400 feet below Lineback's store (site of old Stump Knob post office), Johnson County, 2¼ miles above mouth of Elk Creek and 4½ miles above Butler. Zero of gage is 1,868.94 feet above mean sea level.

DRAINAGE AREA.—177 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, about 4,950 second-feet Mar. 14 (gage height, 5.5 feet); minimum, 70 second-feet Sept. 4 (gage height, 0.98 foot).

1927–1929: Maximum discharge, about 10,700 second-feet Nov. 17, 1927 (gage height, 9.2 feet); minimum, that of Sept. 4, 1929.

REMARKS.—Records good below 2,500 second-feet and fair above. Discharge interpolated because of ice Jan. 3, 4, 12–14.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	255	260	200	183	172	1,280	323	318	800	367	265	85
2	265	240	179	195	132	882	306	505	540	740	228	80
3	290	236	176	250	200	685	290	610	505	515	205	75
4	208	250	168	300	200	685	280	405	393	480	201	78
5	208	236	172	357	164	2,540	275	369	345	403	189	144
6	369	213	172	1,020	260	1,790	265	351	323	367	162	98
7	290	200	168	405	399	840	260	1,020	296	415	165	109
8	260	250	153	345	345	685	240	722	575	316	189	140
9	245	213	135	312	470	540	236	610	1,380	265	173	109
10	226	204	100	334	505	505	226	470	470	316	154	154
11	204	191	119	340	405	438	226	399	381	740	148	137
12	195	183	138	300	260	375	218	351	323	625	144	95
13	179	183	141	275	280	648	218	340	399	448	169	82
14	176	183	168	250	255	4,060	218	505	925	448	165	95
15	176	183	183	200	250	2,410	285	648	882	361	134	90
16	179	176	156	208	245	1,280	340	800	610	350	112	82
17	438	176	160	204	236	925	312	686	470	300	106	218
18	405	176	218	213	204	648	290	540	387	311	109	165
19	405	218	160	306	204	575	240	648	345	290	144	121
20	301	363	153	265	226	505	226	1,330	334	218	124	103
21	260	301	144	334	250	470	226	1,440	381	218	109	88
22	245	240	112	387	250	438	240	972	250	193	100	82
23	925	222	107	405	240	685	226	610	840	236	140	90
24	1,170	204	121	470	226	840	226	470	405	295	127	109
25	760	200	129	438	236	648	226	405	722	255	137	115
26	540	187	121	369	438	610	226	381	1,220	241	115	448
27	393	124	124	318	840	575	236	328	882	306	100	588
28	345	191	147	296	2,150	505	393	345	760	290	95	322
29	323	191	160	245	------	470	405	540	575	255	92	214
30	296	187	129	213	------	393	345	610	438	285	85	181
31	280	------	156	200	------	363	------	685	------	306	85	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,170	176	349	1.97	2.27
November	363	124	213	1.20	1.34
December	218	100	151	.854	.98
January	1,020	183	321	1.81	2.09
February	2,150	132	359	2.03	2.11
March	4,060	363	913	5.16	5.95
April	405	218	267	1.51	1.68
May	1,440	318	594	3.35	3.86
June	1,380	250	572	3.23	3.60
July	740	193	360	2.03	2.34
August	265	85	144	.814	.94
September	588	75	150	.848	.95
The year	4,060	75	367	2.07	28.11

WATAUGA RIVER AT BUTLER, TENN.

LOCATION.—Staff gage at county highway bridge at Butler, Johnson County, just below mouth of Roane Creek. Zero of gage is 1,812.10 feet above mean sea level.

DRAINAGE AREA.—427 square miles.

RECORDS AVAILABLE.—August, 1900, to December, 1901; November, 1920, to September ,1929.

EXTREMES.—Maximum discharge during year, about 7,350 second-feet Mar. 5 (gage height, 6.0 feet); minimum, 164 second-feet Sept. 22, 23 (gage height, 1.26 feet).

1900–1901, 1920–1929: Maximum stage, 16.27 feet, old gage datum, May 21, 1901 (discharge not determined); minimum discharge, 85 second-feet Sept. 7, 1925.

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	505	535	432	411	425	2,990	878	785	1,650	1,130	655	234
2	490	512	384	390	397	2,280	740	878	1,130	1,880	575	225
3	620	520	366	372	475	1,720	698	878	1,080	1,380	575	230
4	453	520	366	348	432	1,510	655	785	830	1,190	538	348
5	404	468	360	372	411	6,950	575	740	740	1,020	405	405
6	665	446	354	1,800	498	4,150	538	698	655	925	375	326
7	535	490	348	1,060	758	2,450	575	2,810	615	1,080	358	342
8	475	498	342	535	665	1,720	538	1,800	615	785	435	353
9	453	453	330	512	758	1,320	538	1,380	1,380	698	375	375
10	528	425	325	758	1,010	1,080	500	1,080	878	975	358	405
11	482	439	320	665	905	925	575	878	785	1,320	336	348
12	390	411	315	528	578	878	615	830	655	1,190	353	285
13	390	384	310	528	578	1,250	500	785	698	1,130	375	315
14	372	360	305	446	578	5,750	468	878	1,020	1,020	336	310
15	348	336	300	411	528	3,560	538	1,250	1,380	1,020	315	290
16	342	330	342	425	498	2,450	655	1,800	1,080	785	295	256
17	1,060	330	336	482	528	1,880	655	1,580	878	655	280	740
18	905	372	468	528	498	1,320	575	1,250	698	615	295	353
19	905	446	439	578	468	1,130	538	1,130	655	698	320	295
20	665	855	418	528	535	1,020	500	3,370	575	655	326	266
21	578	475	418	498	620	925	500	2,630	538	615	275	252
22	528	384	404	758	578	975	655	1,880	500	698	285	164
23	2,990	360	330	1,060	535	1,650	538	1,320	468	615	348	164
24	2,450	336	330	1,180	578	2,110	500	1,130	655	538	358	172
25	1,440	330	320	1,120	528	1,190	538	1,020	1,020	500	364	270
26	1,060	336	320	958	855	1,720	575	878	2,990	500	300	740
27	855	360	354	1,010	2,630	1,510	575	740	1,650	500	270	1,020
28	758	390	342	1,010	5,350	1,250	785	698	1,510	538	270	655
29	665	390	397	620	-------	1,080	1,190	1,320	1,190	435	256	468
30	620	418	535	535	-------	1,020	925	1,320	878	615	248	370
31	578	-------	439	490	-------	975	-------	1,380	-------	615	234	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,990	342	758	1.78	2.05
November	855	330	430	1.01	1.13
December	535	300	366	.857	.99
January	1,800	348	675	1.58	1.82
February	5,350	397	828	1.94	2.02
March	6,950	878	1,960	4.59	5.29
April	1,190	468	621	1.45	1.62
May	3,370	698	1,290	3.02	3.48
June	2,990	468	980	2.29	2.56
July	1,880	435	849	1.99	2.29
August	655	234	358	.838	.97
September	1,020	164	366	.857	.96
The year	6,950	164	792	1.85	25.18

WATAUGA RIVER AT ELIZABETHTON, TENN.

LOCATION.—Water-stage recorder at Virginia & Southwestern Railway bridge at Elizabethton, Carter County, half a mile below mouth of Doe River. Zero of gage is 1,486.03 feet above mean sea level.

DRAINAGE AREA.—703 square miles.

RECORDS AVAILABLE.—February, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, 10,600 second-feet Mar. 5 (gage height, 9.68 feet); minimum, 138 second-feet Sept. 15 (gage height, 1.91 feet).

1926–1929: Maximum discharge, about 13,400 second-feet Feb. 23, 1927 (gage height, 11.1 feet); minimum, 95 second-feet July 25, 1926 (gage height, 1.7 feet).

Maximum stage known, 22.0 feet Feb. 27 or 28, 1902.

REMARKS.—Records fair. Considerable diurnal fluctuation caused by operation of Watauga Power Co.'s plant, 7 miles upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,010	1,010	787	702	877	4,840	1,580	1,400	2,580	1,400	1,400	340
2	849	954	690	814	768	3,390	1,400	1,490	1,850	2,960	1,080	435
3	989	940	761	709	891	2,640	1,280	1,800	1,760	3,030	940	395
4	940	940	676	683	835	2,580	1,240	1,400	1,530	2,040	807	395
5	863	947	683	754	794	7,690	1,200	1,200	1,320	1,710	863	479
6	1,400	863	652	1,800	975	6,890	1,120	1,240	1,240	1,660	722	457
7	1,240	863	652	1,280	1,530	4,500	1,050	4,170	1,120	1,940	676	452
8	1,050	898	640	1,010	1,280	3,030	1,080	3,240	1,160	1,450	722	610
9	940	884	538	968	1,280	2,240	989	2,350	2,090	1,240	742	520
10	1,010	905	610	1,120	1,530	1,940	975	1,900	1,530	1,160	670	532
11	870	814	574	1,050	1,490	1,710	954	1,580	1,320	1,940	556	586
12	884	926	610	912	1,240	1,530	1,010	1,400	1,160	2,090	761	468
13	800	849	598	842	1,120	1,530	940	1,360	1,080	1,850	800	415
14	683	800	622	735	1,050	4,500	800	1,490	1,320	1,580	664	340
15	807	748	696	748	1,010	5,190	961	2,040	2,140	1,760	604	400
16	742	754	550	787	989	3,850	1,200	3,100	1,580	1,360	502	462
17	1,450	742	652	761	947	2,900	1,120	2,900	1,280	1,200	508	622
18	1,580	728	780	761	905	2,240	1,010	2,240	1,160	1,120	556	722
19	1,800	898	735	989	849	1,940	926	2,040	1,050	1,620	628	526
20	1,400	1,280	702	1,080	1,050	1,710	891	4,500	968	1,160	580	452
21	1,200	1,080	628	1,000	1,200	1,530	884	4,500	933	940	452	400
22	1,080	1,000	574	1,400	1,160	1,580	1,080	3,100	768	1,160	490	376
23	2,640	940	514	2,090	1,080	3,240	1,010	2,350	1,120	1,120	634	385
24	4,330	870	610	2,300	1,050	4,670	933	1,940	1,160	940	696	385
25	2,460	814	538	1,990	1,080	2,900	940	1,620	1,620	856	598	435
26	1,850	842	604	1,710	1,760	2,640	954	1,450	5,370	968	640	780
27	1,530	754	598	1,450	3,540	3,030	940	1,320	2,960	940	508	1,660
28	1,360	768	622	1,320	6,110	2,400	1,120	1,240	2,520	940	362	954
29	1,280	735	652	1,160	-------	2,040	2,090	1,660	1,990	940	468	690
30	1,200	828	735	1,000	-------	1,900	1,660	2,640	1,580	1,800	446	610
31	1,050	-------	709	968	-------	1,660	-------	2,580	-------	1,320	457	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,330	683	1,330	1.89	2.18
November	1,280	728	879	1.25	1.40
December	787	514	645	.917	1.06
January	2,300	683	1,130	1.61	1.86
February	6,110	768	1,370	1.95	2.03
March	7,690	1,530	3,050	4.34	5.00
April	2,090	800	1,110	1.58	1.76
May	4,500	1,200	2,170	3.09	3.56
June	5,370	768	1,640	2.33	2.60
July	3,030	856	1,490	2.12	2.44
August	1,400	362	662	.942	1.09
September	1,660	340	543	.772	.86
The year	7,690	340	1,340	1.91	25.84

DOE RIVER AT VALLEY FORGE, TENN.

LOCATION.—Chain gage at highway bridge 50 feet downstream from East Tennessee & Western North Carolina Railroad bridge and one-fourth mile north of Valley Forge, Carter County.

DRAINAGE AREA.—132 square miles.

RECORDS AVAILABLE.—December, 1911, to October, 1916; November, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 2,480 second-feet Mar. 5 (gage height, 4.55 feet); minimum, 71 second-feet Sept. 24 (gage height, 1.18 feet).

1911–1916, 1920–1929: Maximum discharge, about 5,040 second-feet June 13, 1924 (gage height, 6.7 feet); minimum, 17 second-feet Aug. 31 and Sept. 7, 1925 (gage height, 0.60 foot).

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	182	208	173	173	144	705	307	288	428	220	370	89
2	195	205	147	170	147	575	268	400	328	510	280	82
3	268	195	147	128	167	485	250	328	375	322	236	73
4	182	195	138	158	150	545	250	268	307	236	210	89
5	170	186	152	152	155	2,180	232	250	268	232	182	115
6	375	173	133	288	250	1,180	225	268	250	370	182	97
7	268	170	133	198	250	802	208	1,690	228	345	166	102
8	215	222	120	176	215	575	205	738	328	224	182	166
9	192	201	128	182	225	485	195	575	328	179	163	112
10	250	182	115	250	222	375	192	428	268	182	145	122
11	198	189	125	205	198	328	201	350	232	450	128	112
12	179	186	122	167	173	307	205	307	212	540	156	85
13	170	179	141	152	164	268	182	288	212	395	236	77
14	161	176	122	144	158	970	176	307	212	280	147	85
15	155	173	135	161	170	900	222	515	288	280	133	87
16	150	167	122	147	167	640	250	802	212	202	122	80
17	608	164	125	141	182	485	250	672	182	182	117	260
18	400	158	208	144	150	455	212	515	176	188	175	122
19	350	225	144	225	147	350	195	515	161	425	139	99
20	288	232	133	179	212	307	186	1,040	186	216	115	87
21	268	208	117	182	218	288	182	835	158	182	112	82
22	225	205	107	350	212	328	250	575	152	280	156	82
23	738	198	117	485	205	970	195	455	144	232	244	73
24	672	192	125	288	205	802	182	350	141	159	213	71
25	485	192	135	375	208	545	195	307	328	153	236	77
26	375	161	110	307	400	545	198	288	575	213	147	244
27	288	179	130	268	575	485	189	268	328	224	122	322
28	268	167	128	250	1,110	455	350	250	307	202	109	188
29	250	161	135	173	-------	375	428	328	268	199	109	150
30	225	164	167	170	-------	350	328	770	225	1,420	97	122
31	218	-------	138	173	-------	328	-------	575	-------	635	97	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	738	150	289	2.19	2.52
November	232	158	187	1.42	1.58
December	208	107	135	1.02	1.18
January	485	128	212	1.61	1.86
February	1,110	144	242	1.83	1.91
March	2,180	268	593	4.49	5.18
April	428	176	230	1.74	1.94
May	1,690	250	502	3.80	4.38
June	575	141	260	1.97	2.20
July	1,420	153	318	2.41	2.78
August	370	97	168	1.27	1.46
September	322	71	118	.894	1.00
The year	2,180	71	272	2.06	27.99

NORTH FORK OF HOLSTON RIVER NEAR SALTVILLE, VA.

LOCATION.—Chain gage on Cedar Branch Bridge, 1½ miles northeast of Saltville, Smyth County, and 3 miles upstream from Sturgeon Creek.

DRAINAGE AREA.—228 square miles.

RECORDS AVAILABLE.—November, 1920, to September, 1929. June, 1907, to November, 1908, at station 1½ miles downstream.

EXTREMES.—Maximum discharge during year, 3,280 second-feet Feb. 28 (gage height, 7.78 feet); minimum, 35 second-feet Sept. 7 (gage height, 1.51 feet). 1907–8, 1920–1929: Maximum discharge, 8,220 second-feet Feb. 3, 1923 (gage height, 13.97 feet); minimum, 21 second-feet Sept. 13, 1925 (gage height, 1.24 feet).

REMARKS.—Records good. Discharge estimated Jan. 7–9, 14, when gage readings were in error. Possibly some regulation from mills above station during periods of extremely low water.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	357	154	154	174	208	1,750	306	526	260	466	185	59
2	233	145	145	246	154	1,300	260	890	246	838	154	48
3	196	145	154	233	185	1,120	233	1,420	945	694	120	44
4	174	164	154	246	164	945	220	694	650	410	120	55
5	174	164	145	220	136	1,820	260	526	392	340	120	41
6	196	154	145	185	196	2,100	233	446	260	290	90	42
7	290	154	154	170	306	1,240	208	788	220	246	86	36
8	220	196	145	150	274	838	196	694	208	196	73	46
9	185	174	120	190	466	650	196	566	208	164	88	55
10	154	196	104	260	486	446	208	410	410	145	78	120
11	145	208	95	274	410	392	185	340	306	164	73	86
12	136	196	112	246	357	357	164	290	246	246	81	73
13	128	164	104	220	306	340	154	260	196	357	74	58
14	120	145	112	180	290	566	145	233	196	260	78	52
15	112	145	120	164	274	890	145	274	196	220	76	58
16	128	145	120	233	246	694	164	246	174	185	74	73
17	128	145	120	220	208	566	174	260	136	164	52	85
18	145	164	246	274	185	446	164	220	128	164	78	104
19	164	145	323	1,060	185	357	154	246	154	185	112	92
20	145	174	246	945	246	323	174	410	290	154	86	75
21	120	164	208	566	357	290	196	608	164	128	71	56
22	128	154	174	526	323	274	208	466	128	120	46	50
23	392	145	145	650	306	526	233	357	136	112	51	45
24	838	174	128	788	290	1,420	220	306	374	104	68	44
25	486	154	120	838	428	740	246	260	428	100	81	40
26	340	145	128	694	1,820	566	290	220	2,170	112	100	40
27	260	154	136	566	2,960	486	306	196	1,000	92	89	41
28	233	145	145	466	3,040	428	890	174	890	101	74	40
29	208	145	145	374	-------	374	1,610	208	740	82	67	39
30	185	136	154	323	-------	374	788	374	608	88	58	36
31	164	-------	145	274	-------	340	-------	290	-------	104	67	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	838	112	222	0.974	1.12
November	208	136	160	.702	.78
December	323	95	150	.658	.76
January	1,060	150	386	1.69	1.95
February	3,040	136	529	2.32	2.42
March	2,100	274	741	3.25	3.75
April	1,610	145	298	1.31	1.46
May	1,420	174	426	1.87	2.16
June	2,170	128	415	1.82	2.03
July	838	82	227	.996	1.15
August	185	46	86.1	.378	.44
September	120	36	57.8	.254	.28
The year	3,040	36	307	1.35	18.30

NORTH FORK OF HOLSTON RIVER AT MENDOTA, VA.

LOCATION.—Chain gage on highway bridge one-fourth mile east of Mendota, Washington County.

DRAINAGE AREA.—500 square miles.

RECORDS AVAILABLE.—October, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 8,120 second-feet Feb. 28 (gage height, 9.23 feet); minimum, 98 second-feet Sept. 22 (gage height, 1.90 feet).

1920–1929: Maximum discharge, 19,600 second-feet Feb. 3, 1923 (gage height, 14.4 feet); minimum, 38 second-feet Oct. 5, 1927 (gage height, 1.68 feet).

REMARKS.—Records good. Discharge estimated Jan. 6–10, when affected by ice, Jan. 22, when gage reading was in error, and June 30 to July 2, when gage was not read.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	689	289	470	357	530	4,770	656	1,000	1,140	1,100	238	133
2	470	280	412	592	441	3,070	592	1,300	790	1,900	307	133
3	412	271	357	561	412	2,530	500	4,070	1,460	1,620	250	130
4	357	357	332	500	384	2,050	470	1,780	2,050	1,140	230	130
5	307	357	332	470	332	3,430	470	1,220	1,140	860	242	124
6	357	298	280	400	561	6,000	441	1,000	790	722	218	136
7	412	280	254	340	1,300	3,070	384	3,180	592	592	211	133
8	412	412	254	300	1,000	1,960	384	1,960	500	470	211	130
9	357	441	242	400	825	1,460	357	1,380	470	384	193	226
10	412	441	226	600	1,070	1,140	332	1,000	624	384	179	190
11	332	441	215	624	1,000	930	332	825	561	332	179	208
12	280	412	208	561	825	790	332	656	412	357	183	179
13	258	357	211	470	689	756	302	561	384	500	186	163
14	234	332	238	332	592	1,140	289	500	384	561	186	160
15	222	307	230	307	530	1,870	284	656	412	470	186	160
16	208	294	215	412	500	1,540	294	689	384	357	156	153
17	254	280	208	530	470	1,140	332	592	298	357	136	166
18	280	271	530	592	412	930	307	470	243	307	141	242
19	332	307	624	1,960	357	790	302	1,300	234	592	141	218
20	307	530	530	2,140	357	689	276	3,310	289	357	166	200
21	262	470	470	1,380	722	624	276	2,630	381	298	173	150
22	218	412	384	1,870	722	592	412	1,620	243	298	163	114
23	441	384	332	1,780	790	2,740	384	1,140	211	307	156	138
24	1,540	332	307	1,620	860	3,710	384	860	203	271	186	130
25	1,000	307	280	2,140	1,070	1,870	384	656	860	246	197	124
26	689	238	262	1,870	3,550	1,460	412	530	4,630	254	238	130
27	500	262	258	1,460	6,670	1,300	441	470	2,230	357	200	153
28	441	254	280	1,140	8,120	1,070	1,070	384	1,460	289	179	121
29	412	266	284	895	-------	895	3,550	384	1,380	254	170	124
30	357	280	307	689	-------	825	1,620	1,300	1,250	246	150	114
31	307	-------	298	592	-------	756	-------	1,780	-------	271	141	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,540	208	421	0.842	0.97
November	530	238	339	.678	.76
December	624	208	317	.634	.73
January	2,140	300	899	1.80	2.08
February	8,120	332	1,250	2.50	2.60
March	6,000	592	1,800	3.60	4.15
April	3,550	276	552	1.10	1.23
May	4,070	384	1,260	2.52	2.90
June	4,630	208	867	1.73	1.93
July	1,900	246	531	1.06	1.22
August	307	136	190	.380	.44
September	242	114	154	.308	.34
The year	8,120	114	714	1.43	19.35

LITTLE RIVER AT WALLAND, TENN.

LOCATION.—Staff gage half a mile above Walland, Blount County, and three-fourths mile above dam of England, Walton & Co.'s tannery. Zero of gage is 912.00 feet above mean sea level.

DRAINAGE AREA.—235 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 10,600 second-feet Mar. 23 (gage height, 11.0 feet); minimum, 80 second-feet Sept. 5 (gage height, 0.95 foot).

1925–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 15 second-feet Aug. 31, 1925 (gage height, 0.55 foot).

REMARKS.—Records fair. Discharge estimated Mar. 14–18 and May 7–9.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	260	220	174	390	390	1,550	565	1,380	390	345	565	86
2	240	210	182	390	322	1,140	540	2,620	565	368	390	93
3	210	202	185	322	300	1,000	515	2,620	645	368	345	90
4	196	182	182	280	280	815	465	2,010	590	345	300	86
5	182	168	196	280	260	3,790	465	1,550	540	322	260	82
6	216	147	206	322	345	3,070	415	1,140	490	300	220	88
7	216	141	188	322	465	2,730	368	4,000	465	515	220	206
8	213	141	182	322	490	2,310	345	2,000	465	490	216	192
9	202	141	196	322	465	1,730	368	1,200	440	465	199	164
10	188	154	213	345	440	1,380	345	1,000	465	440	185	141
11	174	168	202	368	465	940	322	815	440	390	672	132
12	164	178	196	345	440	618	300	618	415	345	700	135
13	178	182	188	322	390	440	260	565	390	322	540	178
14	196	174	182	300	368	2,400	260	490	368	440	490	164
15	210	160	182	300	345	1,600	240	415	368	390	440	150
16	210	144	182	322	368	1,000	440	415	345	368	415	220
17	216	141	182	415	345	700	540	645	345	322	390	515
18	216	260	182	1,000	322	500	515	618	440	300	345	465
19	210	515	188	1,000	300	415	490	3,310	390	280	300	390
20	210	465	206	940	390	415	440	2,310	368	260	280	345
21	202	465	210	672	815	415	415	1,550	345	415	206	300
22	199	368	202	672	940	415	390	1,140	300	390	144	260
23	206	280	199	755	645	4,750	390	875	280	345	123	260
24	220	213	188	940	490	2,310	368	672	490	590	108	565
25	260	202	188	1,550	515	1,220	390	618	590	565	108	1,730
26	280	188	171	1,380	700	1,000	390	540	490	465	108	1,380
27	300	178	160	1,140	940	815	440	465	440	440	102	875
28	280	174	154	1,000	3,430	700	3,070	590	415	390	96	700
29	280	188	171	815	------	645	2,840	540	390	322	96	465
30	260	188	216	672	------	755	1,640	490	345	300	96	345
31	260	------	213	490	------	590	------	415	------	700	90	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	300	164	221	0.940	1.08
November	515	141	218	.928	1.04
December	216	154	189	.805	.93
January	1,550	280	603	2.57	2.96
February	3,430	260	570	2.42	2.52
March	4,750	415	1,360	5.79	6.68
April	3,070	240	618	2.63	2.93
May	4,000	415	1,210	5.15	5.94
June	645	280	434	1.85	2.06
July	700	260	397	1.69	1.95
August	700	90	282	1.20	1.38
September	1,730	82	360	1.53	1.70
The year	4,750	82	540	2.30	31.17

LITTLE TENNESSEE RIVER AT IOTLA, N. C.

LOCATION.—Water-stage recorder 500 feet above Iotla Creek and 1,000 feet above State highway crossing at Iotla, Macon County.
DRAINAGE AREA.—326 square miles.
RECORDS AVAILABLE.—June to September, 1929.
EXTREMES.—Maximum discharge during period, about 10,100 second-feet Sept. 26 (gage height, 8.52 feet); minimum, 148 second-feet Sept. 8 (gage height, 1.24 feet).
REMARKS.—Records good below and fair above 3,000 second-feet. Considerable diurnal regulation caused by operation of Franklin municipal power plant.

Daily and monthly discharge, in second-feet, 1929

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1		911	631	331	16		814	408	885
2		942	553	294	17		644	406	1,240
3		820	493	317	18		719	423	690
4		734	504	434	19		1,030	457	405
5		777	457	404	20		970	385	450
6		894	452	366	21		519	362	413
7		850	462	366	22		628	375	362
8		690	498	438	23		594	380	438
9		736	483	408	24		588	409	457
10		715	493	428	25		600	357	2,190
11		807	498	390	26		582	390	9,010
12		834	588	394	27		607	366	5,140
13		888	582	385	28	1,880	582	312	2,310
14		824	478	413	29	1,180	631	338	1,580
15		664	433	380	30	1,050	697	339	1,260
					31		640	330	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
July	1,030	519	740	2.27	2.62
August	631	312	440	1.35	1.56
September	9,010	294	1,090	3.34	3.73

LITTLE TENNESSEE RIVER AT ETNA, N. C.

LOCATION.—Staff gage at county footbridge adjacent to State Highway 286 at Etna, Macon County, just downstream from mouth of Lakey Creek, 3¾ miles downstream from mouth of Cowee Creek, and 7½ miles northwest of Franklin.

DRAINAGE AREA.—378 square miles.

RECORDS AVAILABLE.—January, 1926, to December, 1929 (discontinued).

EXTREMES.—Maximum discharge during period, about 11,800 second-feet Sept. 26 (gage height, estimated, 11.3 feet); minimum, 319 second-feet Sept. 19 (gage height, 1.38 feet).

1926–1929: Maximum discharge, that of Sept. 26, 1929; minimum, 191 second-feet Oct. 2, 1927.

REMARKS.—Records fair. Considerable fluctuation caused by operation of Franklin hydroelectric plant.

Daily discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	650	650	765	573	825	3,580	1,840	2,020	1,560	1,160	624	354
2	678	624	573	650	825	2,660	1,740	3,220	1,320	1,020	624	354
3	624	650	573	524	825	2,880	1,650	3,340	1,480	1,020	598	373
4	624	624	573	500	735	2,550	1,560	2,220	1,480	1,020	624	354
5	624	624	524	650	825	5,160	1,400	1,930	1,240	890	573	373
6	598	624	478	2,220	1,480	4,070	1,400	2,220	1,240	890	524	413
7	624	650	524	1,160	1,930	2,880	1,320	3,820	1,240	955	524	413
8	624	650	524	955	1,480	2,220	1,320	2,660	1,240	765	548	434
9	650	598	548	825	1,480	2,020	1,240	2,330	1,480	825	548	455
10	624	573	524	1,840	1,650	1,840	1,320	2,020	1,160	1,020	573	434
11	598	573	500	1,240	1,400	1,560	1,650	1,840	1,100	955	624	413
12	624	573	478	1,100	1,240	1,560	1,480	1,650	1,020	825	650	434
13	624	548	524	890	1,160	3,240	1,160	1,650	1,100	890	650	434
14	524	524	678	765	1,020	9,500	1,160	1,480	1,020	955	548	478
15	478	548	598	735	1,020	7,560	1,400	1,740	1,020	765	524	354
16	730	548	500	765	1,160	5,100	1,740	1,650	955	705	478	735
17	1,630	548	500	825	1,100	3,940	1,320	1,740	890	825	455	1,480
18	2,240	548	500	1,020	1,020	2,550	1,160	1,840	1,020	955	373	735
19	1,370	765	548	1,100	890	2,550	1,020	2,330	955	1,020	455	319
20	1,020	1,020	573	955	1,020	2,220	1,160	3,700	890	825	413	434
21	765	598	500	955	1,320	2,220	890	3,340	825	765	413	455
22	678	678	500	955	1,560	2,550	1,400	2,330	890	735	434	393
23	1,820	650	500	890	1,160	4,320	1,160	1,930	1,020	735	413	413
24	1,570	548	500	955	1,020	4,710	1,100	1,840	1,020	650	434	455
25	1,020	598	478	1,240	1,100	3,100	1,560	1,650	1,100	650	393	1,170
26	955	573	478	1,240	1,560	2,550	1,320	1,650	1,160	624	413	8,860
27	825	573	478	1,100	2,660	2,330	1,160	1,840	2,120	650	455	4,580
28	955	573	478	1,240	4,410	2,120	2,660	1,840	2,440	678	434	1,650
29	765	548	478	1,020	-------	1,930	3,100	1,480	1,400	624	413	1,480
30	678	548	455	1,020	-------	2,020	2,020	1,560	1,160	890	413	1,240
31	705	-------	455	890	-------	1,740	-------	1,650	-------	678	373	-------

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1	2,020	735	1,020	11	765	1,020	1,100	21	705	1,480	955
2	2,020	1,320	1,100	12	735	1,480	955	22	955	1,400	955
3	1,840	3,820	1,240	13	735	2,220	890	23	573	1,480	1,020
4	1,240	3,580	1,160	14	678	2,660	955	24	624	1,320	1,020
5	1,100	2,660	1,100	15	678	3,100	890	25	573	1,480	955
6	1,020	1,480	1,020	16	705	3,100	890	26	598	1,650	890
7	955	1,240	1,020	17	624	1,650	890	27	650	1,480	890
8	890	1,320	1,240	18	650	2,220	955	28	624	1,240	1,160
9	825	1,240	1,020	19	598	2,020	890	29	624	1,240	1,160
10	765	1,160	1,100	20	598	1,650	1,020	30	598	1,020	1,160
								31	650	-------	1,100

Monthly discharge, in second-feet, of Little Tennessee River at Etna, N. C., 1928-29

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1928–29					
October	2,240	478	868	2.30	2.65
November	1,020	524	612	1.62	1.81
December	765	455	526	1.39	1.60
January	2,220	500	993	2.63	3.03
February	4,410	735	1,350	3.57	3.72
March	9,500	1,560	3,200	8.47	9.76
April	3,100	890	1,480	3.92	4.37
May	3,820	1,480	2,150	5.69	6.56
June	2,440	825	1,220	3.23	3.60
July	1,160	624	838	2.22	2.56
August	650	373	501	1.33	1.53
September	8,860	319	1,020	2.70	3.01
The year	9,500	319	1,230	3.25	44.20
1929					
October	2,020	573	859	2.27	2.62
November	3,820	735	1,780	4.71	5.26
December	1,240	890	1,020	2.70	3.11

LITTLE TENNESSEE RIVER AT JUDSON, N. C.

LOCATION—Staff gage one-fourth mile below highway bridge at railroad station at Judson, Swain County, and half a mile below Yalaka Creek.

DRAINAGE AREA.—668 square miles.

RECORDS AVAILABLE.—April, 1912, to September, 1929; June, 1896, to September, 1913, at Southern Railway bridge 1 mile downstream.

EXTREMES.—Maximum discharge during year, about 14,100 second-feet Sept. 26 (gage height, 25.30 feet); minimum, 335 second-feet Sept. 7 (gage height, 17.00 feet).

1896–1929: Maximum discharge, about 40,800 second-feet Feb. 28, 1902 (gage height, 16.19 feet, old gage datum); minimum, 165 second-feet Oct. 10, 1925 (gage height, 16.70 feet).

REMARKS.—Records good. Slight diurnal fluctuations during low-water periods caused by operation of municipal plants at Franklin and Bryson.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,230	1,230	1,430	1,230	1,860	5,680	3,080	4,190	3,080	1,970	1,330	670
2	1,140	1,140	1,230	1,530	1,750	4,340	2,820	4,800	2,560	1,970	1,140	670
3	1,140	1,140	1,100	1,100	1,640	3,620	2,690	4,190	3,210	1,860	1,050	670
4	1,180	1,230	1,050	1,050	1,640	4,090	2,820	3,900	2,690	1,530	1,050	778
5	1,180	970	1,050	1,330	1,640	10,600	2,560	3,900	2,440	1,750	374	890
6	1,050	1,050	970	4,150	3,080	8,070	2,560	4,960	2,320	1,640	635	740
7	1,050	1,050	970	2,440	3,080	5,120	2,440	7,310	2,320	1,750	670	705
8	1,050	1,140	970	1,750	2,820	4,190	2,320	4,960	2,440	1,530	815	930
9	1,050	1,050	1,010	1,640	2,820	3,760	2,560	4,640	2,560	1,430	970	705
10	1,050	1,010	970	2,950	3,080	3,340	1,970	3,900	2,320	1,530	890	815
11	1,050	1,050	890	2,690	2,560	3,080	2,820	3,620	1,970	1,640	970	740
12	852	1,010	890	2,200	2,320	3,080	2,820	3,340	1,970	1,430	1,230	815
13	890	930	890	1,860	2,080	3,500	2,320	3,080	1,970	1,860	1,140	778
14	890	970	1,010	1,640	2,080	11,600	2,200	3,080	1,750	1,750	970	815
15	1,010	1,050	1,180	1,640	1,970	11,800	2,440	3,340	1,860	1,430	890	740
16	1,050	890	1,010	1,530	2,080	8,100	3,210	3,210	1,750	1,430	852	778
17	2,710	930	1,010	1,640	1,970	5,630	2,560	3,080	1,750	1,530	815	2,200
18	2,800	890	1,430	2,560	1,860	5,120	2,320	3,340	1,750	1,330	815	1,230
19	2,570	1,930	1,140	3,340	1,750	4,490	2,080	4,800	1,640	1,970	852	1,640
20	1,640	2,390	1,050	2,820	1,860	4,190	2,080	6,550	1,640	1,530	852	705
21	1,430	1,330	970	2,440	2,950	3,760	2,080	5,990	1,640	1,230	778	740
22	1,330	1,230	970	2,320	2,440	4,490	2,440	4,190	1,530	1,330	778	740
23	3,080	1,180	1,010	2,080	2,200	6,450	1,750	3,760	1,970	1,230	778	778
24	2,560	1,050	970	2,320	2,080	6,930	1,970	3,480	1,860	1,180	740	852
25	1,860	1,050	890	2,820	2,080	4,960	2,820	3,210	1,970	1,230	815	1,640
26	1,430	1,050	930	2,950	2,820	4,490	3,080	2,950	2,560	1,180	740	12,700
27	1,430	970	930	2,820	3,380	3,620	2,440	3,210	3,620	1,230	740	9,000
28	1,230	1,050	930	2,690	8,270	3,620	4,640	3,080	3,900	1,230	705	4,040
29	1,330	1,010	890	2,320	------	3,620	5,290	2,820	2,560	1,180	670	2,690
30	1,230	1,050	930	2,080	------	3,480	3,080	2,950	2,320	1,530	670	2,080
31	1,230	------	890	1,970	------	2,820	------	2,820	------	1,330	670	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,080	852	1,440	2.16	2.49
November	2,390	890	1,130	1.69	1.89
December	1,430	890	1,020	1.53	1.76
January	4,150	1,050	2,190	3.28	3.78
February	8,270	1,640	2,510	3.76	3.92
March	11,800	2,820	5,210	7.80	8.99
April	5,290	1,750	2,680	4.01	4.47
May	7,310	2,820	3,960	5.93	6.84
June	3,900	1,640	2,260	3.38	3.77
July	1,970	1,180	1,510	2.26	2.61
August	1,330	374	851	1.27	1.46
September	12,700	670	1,780	2.66	2.97
The year	12,700	374	2,210	3.31	44.95

LITTLE TENNESSEE RIVER AT CALDERWOOD, TENN.

LOCATION.—Water-stage recorder at pump house of Knoxville Power Co. at Calderwood, Blount County, 1½ miles downstream from Calderwood Dam. Zero of gage is 861.78 feet above mean sea level.

DRAINAGE AREA.—1,870 square miles.

RECORDS AVAILABLE.—January, 1912, to December, 1918; January, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 33,600 second-feet Mar. 5 (gage height, 7.0 feet); minimum, 780 second-feet Aug. 29 (gage height, 0.55 foot). 1912–1918, 1921–1929: Maximum mean daily discharge, about 70,000 second-feet Mar. 4, 1917; minimum discharge, 360 second-feet Oct. 2, 1925 (regulated flow).

REMARKS.—Records good. Discharge based on auxiliary staff gage readings Oct. 8–15 and May 22–31; interpolated July 15 and 16. Flow is very largely regulated by two large power developments upstream.

Daily and monthly discharge, in second-feet, 1928–29

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

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,650	2,390	3,560	1.90	2.19
November	5,670	2,340	3,210	1.72	1.92
December	4,170	2,260	3,190	1.70	1.96
January	9,970	2,820	5,770	3.09	3.56
February	21,500	4,270	6,370	3.41	3.55
March	28,600	7,480	13,700	7.33	8.45
April	14,100	4,930	6,780	3.63	4.05
May	19,400	5,110	10,200	5.45	6.28
June	9,030	4,240	5,770	3.09	3.45
July	5,480	3,300	4,400	2.35	2.71
August	4,750	2,020	3,060	1.64	1.89
September	22,200	2,040	4,160	2.22	2.48
The year	28,600	2,020	5,860	3.13	42.49

LITTLE TENNESSEE RIVER AT McGHEE, TENN.

LOCATION.—Water-stage recorder at junction of Little Tennessee and Tellico Rivers, 100 feet above highway bridge and half a mile south of McGhee, Monroe County, since Sept. 5, 1929. Prior to that date a staff gage 100 feet downstream was used. Zero of both gages is 760.07 feet above mean sea level.

DRAINAGE AREA.—2,470 square miles, including Tellico River.

RECORDS AVAILABLE.—January, 1905, to December, 1913; October, 1918, to September, 1929.

EXTREMES.—Maximum discharge during year, 49,100 second-feet Mar. 23 (gage height, 18.5 feet); minimum, 1,060 second-feet Aug. 29 (gage height, 3.15 feet).

1905–1913, 1918–1929: Maximum stage, 30.5 feet Apr. 2, 1920 (discharge not determined); minimum discharge, 480 second-feet Oct. 2, 1925.

Maximum stage known, 39.0 feet March, 1867.

REMARKS.—Records good. Flow regulated somewhat by large power developments upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,080	3,300	4,920	3,300	6,610	23,700	8,900	13,000	7,900	5,420	5,660	2,220
2	2,860	3,300	3,990	4,220	6,120	16,800	9,660	20,300	7,900	5,420	4,940	2,130
3	2,860	3,300	3,990	4,450	5,640	14,600	8,400	23,100	8,900	5,420	4,020	2,130
4	3,080	3,300	3,760	4,220	5,400	10,200	8,150	15,400	8,400	4,940	3,590	2,980
5	3,760	3,530	3,990	3,530	5,880	33,400	8,150	13,000	7,400	4,700	4,020	3,380
6	5,640	3,300	4,450	5,880	7,110	30,200	7,650	11,000	6,400	4,700	3,380	2,220
7	4,450	3,300	3,080	6,610	8,610	18,900	7,400	28,200	6,400	5,420	3,800	2,780
8	4,220	3,300	3,760	6,120	8,610	16,000	7,400	19,700	6,400	4,700	3,800	2,400
9	3,300	3,760	4,450	5,160	8,110	11,200	5,660	17,600	6,900	4,240	4,020	2,590
10	3,530	3,530	2,640	6,860	7,860	13,800	5,660	14,100	5,900	4,240	2,980	3,180
11	3,300	3,530	2,750	7,860	7,860	9,150	7,150	13,000	5,180	5,660	2,780	2,980
12	3,300	3,300	2,750	6,120	7,360	8,900	9,400	11,700	4,700	5,180	4,020	2,220
13	3,300	2,220	3,300	6,120	5,640	7,900	8,400	7,900	6,150	4,700	4,020	3,180
14	3,080	3,080	3,300	6,120	5,880	20,800	7,650	8,400	5,420	5,420	3,180	3,380
15	2,540	3,080	3,990	4,920	5,640	40,400	6,650	8,400	5,180	4,700	3,180	2,400
16	2,640	3,300	3,300	4,680	6,360	27,800	12,500	8,900	4,940	4,240	2,780	2,400
17	2,640	3,530	3,760	3,990	6,120	20,800	11,700	9,150	4,700	4,240	2,310	5,180
18	4,450	3,300	5,640	5,640	5,400	11,200	7,900	9,150	4,700	4,240	2,500	5,420
19	8,110	5,400	4,920	12,800	4,920	14,600	8,150	15,700	4,470	5,180	2,780	4,240
20	4,680	8,860	4,220	11,700	5,640	9,920	6,400	24,900	4,470	4,940	2,400	2,400
21	4,680	5,880	3,990	8,860	10,900	12,500	6,400	22,500	4,470	4,470	2,310	2,310
22	4,680	4,220	4,220	8,610	11,200	11,200	7,650	16,500	4,470	4,240	2,500	2,590
23	6,120	4,220	4,220	8,360	7,860	26,800	7,650	13,300	4,700	4,020	2,400	2,590
24	6,610	4,220	4,220	8,610	7,610	37,200	6,650	9,660	5,420	3,380	2,980	2,780
25	5,160	3,990	4,220	9,870	6,860	20,300	6,150	9,660	5,420	3,590	3,180	4,470
26	3,760	3,760	4,220	13,000	9,110	13,000	9,150	8,650	6,900	3,590	2,980	22,800
27	3,530	3,530	2,750	10,900	16,500	14,600	7,650	8,400	7,900	5,180	2,980	22,200
28	3,530	3,530	2,320	9,610	25,800	10,200	8,900	9,400	11,000	4,700	2,040	10,200
29	3,300	3,530	2,540	8,610	-------	12,000	20,600	7,900	7,650	4,240	1,360	6,400
30	3,990	3,530	2,640	7,360	-------	11,000	13,000	8,900	6,150	3,800	2,980	5,180
31	3,300	-------	3,080	6,610	-------	12,000	-------	7,900	-------	6,150	2,220	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	8,110	2,540	3,980	1.61	1.86
November	8,860	2,220	3,800	1.54	1.72
December	5,640	2,320	3,720	1.51	1.74
January	13,000	3,300	7,120	2.88	3.32
February	25,800	4,920	8,090	3.28	3.42
March	40,400	7,900	17,500	7.08	8.16
April	20,600	5,660	8,560	3.47	3.87
May	28,200	7,900	13,400	5.43	6.26
June	11,000	4,470	6,220	2.52	2.81
July	6,150	3,380	4,680	1.89	2.18
August	5,660	1,390	3,170	1.28	1.48
September	22,800	2,130	4,710	1.91	2.13
The year	40,400	1,390	7,080	2.87	38.95

CULLASAJA CREEK AT HIGHLANDS, N. C.

LOCATION.—Water-stage recorder at municipal dam one-fourth mile downstream from mouth of Big Creek and 2 miles northwest of Highlands, Macon County. Zero of gage is 3,603.85 feet above mean sea level.

DRAINAGE AREA.—13.3 square miles.

RECORDS AVAILABLE.—December, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, about 1,120 second-feet Sept. 25 (gage height, 4.15 feet); minimum, 13 second-feet Sept. 3 (gage height, 2.36 feet).

1927–1929: Maximum discharge (estimated), 2,420 second-feet Aug. 15, 1928 (gage height, 5.13 feet); minimum, that of Sept. 3, 1929.

REMARKS.—Records fair. Discharge estimated Oct. 1–5, May 12, July 21, and Sept. 8. Slight regulation caused by operation of power plant above gage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	37	32	46	35	103	69	66	58	40	28	15
2	30	35	33	30	35	86	61	152	58	40	25	15
3	30	35	32	28	35	80	53	89	58	35	26	18
4	28	35	30	28	35	124	49	75	51	32	26	28
5	28	33	28	86	35	257	49	80	46	53	25	18
6	28	33	28	110	78	128	40	148	40	53	23	17
7	26	33	28	66	51	103	37	136	35	49	23	18
8	26	32	26	66	42	86	37	96	46	42	25	25
9	26	32	28	66	61	78	33	89	42	40	30	37
10	26	32	28	86	61	72	33	75	44	37	28	28
11	25	35	28	53	51	66	56	69	44	33	28	21
12	25	33	28	53	46	64	37	64	40	35	28	18
13	23	32	26	56	44	517	33	61	40	37	26	30
14	23	32	49	56	44	638	35	58	40	33	23	21
15	26	30	32	51	42	325	49	75	44	33	21	20
16	178	30	30	44	40	221	44	64	35	44	21	117
17	136	28	32	44	37	169	37	58	40	35	20	117
18	268	26	40	58	35	140	35	61	35	64	21	51
19	83	113	32	80	33	120	33	78	35	56	20	37
20	64	58	32	53	40	103	33	128	32	40	20	33
21	51	40	30	49	78	103	33	93	32	37	18	30
22	44	35	28	46	46	120	44	75	32	35	17	30
23	169	32	28	42	42	221	33	66	49	32	17	32
24	75	32	26	46	42	132	30	61	42	30	17	30
25	58	32	28	44	44	113	72	58	58	32	18	291
26	51	32	26	53	124	100	44	58	120	28	17	556
27	46	30	26	51	117	89	37	83	217	28	17	242
28	46	30	26	53	211	83	124	86	120	28	16	148
29	44	28	26	46	------	75	80	78	58	28	16	106
30	40	33	25	42	------	80	58	78	51	32	15	89
31	40	------	25	40	------	72	------	64	------	32	15	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	268	23	57.8	4.35	5.02
November	113	26	35.9	2.70	3.01
December	49	25	29.5	2.22	2.56
January	110	28	53.9	4.05	4.67
February	211	33	56.6	4.26	4.44
March	638	64	151	11.35	13.08
April	124	30	46.9	3.53	3.94
May	152	58	81.4	6.12	7.06
June	247	32	55.7	4.19	4.68
July	64	28	37.8	2.84	3.27
August	30	15	21.6	1.62	1.87
September	556	15	74.6	5.61	6.47
The year	638	15	58.6	4.41	60.07

CULLASAJA CREEK AT CULLASAJA, N. C.

LOCATION.—Staff gage at Cullasaja, Macon County, 1 mile downstream from mouth of Ellijay Creek and 3½ miles upstream from mouth of creek.

DRAINAGE AREA.—87 square miles.

RECORDS AVAILABLE.—June, 1907, to December, 1909; February, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, about 5,640 second-feet Mar. 14 (gage height, 12.75 feet); minimum, 78 second-feet Sept. 1–3 (gage height, 1.05 feet).

1907–1909, 1921–1929: Maximum discharge (estimated), 9,080 second-feet Aug. 15, 1928 (gage height, 17.04 feet); minimum, 19 second-feet Sept. 18–22, 1925 (gage height, 0.32 foot).

Maximum stage known, 17.2 feet in July, 1916.

REMARKS.—Records good below 1,200 second-feet and fair above. Slight diurnal regulation from milldams upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	152	209	170	170	230	731	444	534	363	248	162	78
2	152	199	161	152	230	602	416	1,020	416	228	138	78
3	144	189	152	144	209	514	389	662	416	218	138	78
4	144	189	152	136	209	602	363	534	338	218	138	138
5	136	179	144	653	230	1,520	338	662	314	228	130	96
6	136	170	144	665	572	835	338	798	314	228	123	90
7	127	170	136	380	459	665	314	869	291	218	123	84
8	127	170	136	283	380	602	291	662	363	198	130	116
9	127	161	127	272	459	543	280	629	416	198	123	109
10	127	152	127	543	380	459	280	565	280	189	116	123
11	127	152	127	380	355	432	389	503	258	180	154	102
12	119	152	127	306	306	406	338	473	291	180	162	96
13	119	144	127	261	306	1,980	291	416	269	291	146	109
14	119	144	250	240	283	3,640	363	389	258	228	138	109
15	119	144	161	240	272	2,180	565	473	280	189	123	96
16	348	136	144	230	306	1,340	534	444	248	228	116	248
17	614	136	152	406	283	1,020	314	389	218	189	109	389
18	732	127	189	306	261	869	291	389	208	198	102	180
19	406	446	152	432	240	729	291	662	208	116	102	138
20	240	283	152	306	355	695	280	1,060	208	96	102	123
21	209	219	144	272	459	629	314	729	208	96	96	96
22	179	219	136	261	306	662	338	597	198	189	96	102
23	1,120	199	136	250	283	942	269	503	258	171	96	96
24	432	170	136	261	272	1,020	258	473	218	162	102	109
25	330	170	127	330	283	763	389	416	248	171	96	411
26	283	161	127	283	602	662	338	389	363	180	96	2,440
27	272	152	161	380	765	597	314	503	662	180	90	798
28	250	152	152	306	1,220	565	869	473	416	162	90	565
29	230	152	136	283	------	503	534	416	314	146	84	389
30	219	152	127	272	------	473	314	389	269	238	84	363
31	209	------	119	250	------	444	------	363	------	171	84	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,120	119	260	2.99	3.45
November	446	127	180	2.07	2.31
December	250	119	146	1.68	1.94
January	665	136	311	3.57	4.12
February	1,220	209	376	4.32	4.50
March	3,640	406	891	10.24	11.80
April	869	258	368	4.23	4.72
May	1,060	363	561	6.45	7.44
June	662	198	304	3.49	3.89
July	291	96	191	2.20	2.54
August	162	84	116	1.33	1.53
September	2,440	78	265	3.05	3.40
The year	3,640	78	331	3.80	51.64

NANTAHALA RIVER AT ALMOND, N. C.

LOCATION.—Staff gage 500 feet downstream from railroad station and highway bridge at Almond, Swain County, and one-fourth mile upstream from confluence with Little Tennessee River.

DRAINAGE AREA.—177 square miles.

RECORDS AVAILABLE.—April, 1912, to November, 1917; January, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 7,930 second-feet Sept. 26 (gage height, 5.52 feet); minimum, 170 second-feet Sept. 3 and 22 (gage height, 0.97 foot).

1912–1917, 1921–1929: Maximum discharge, 15,400 second-feet Jan. 21, 1922 (gage height, 7.75 feet); a higher stage and discharge probably occurred on March 4, 1917; minimum discharge, 79 second-feet Sept. 20–22, 1925 (gage height, 0.54 foot).

REMARKS.—Records good below 5,000 second-feet and fair above.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	358	342	495	565	678	1,790	975	1,480	928	715	430	176
2	348	336	403	462	640	1,480	837	1,540	837	640	364	173
3	353	342	375	375	640	1,180	795	1,480	1,020	603	353	170
4	353	364	364	375	603	1,540	795	1,300	880	565	375	216
5	342	320	364	375	603	4,360	755	1,360	795	565	320	207
6	342	310	342	975	1,130	2,380	715	1,870	755	565	310	234
7	320	310	331	678	975	1,790	715	2,220	715	640	310	184
8	315	364	320	565	837	1,480	678	1,660	755	530	310	207
9	305	310	305	495	880	1,360	640	1,660	755	495	300	220
10	375	305	310	1,340	880	1,180	640	1,360	678	530	290	202
11	305	300	310	880	795	1,020	928	1,180	640	565	375	176
12	295	295	300	755	715	975	795	1,130	640	530	375	216
13	290	290	300	640	678	1,300	715	1,020	640	565	331	225
14	280	280	375	565	678	3,330	678	928	603	530	280	225
15	280	280	320	530	640	3,070	755	1,020	640	462	270	173
16	403	280	305	530	715	2,220	837	1,130	565	430	252	266
17	530	280	315	565	678	1,790	755	975	565	495	252	430
18	1,140	300	530	1,360	603	1,540	678	1,130	565	462	252	256
19	565	795	375	1,660	603	1,360	640	1,800	530	603	248	207
20	430	640	364	1,080	678	1,240	603	2,540	565	462	234	189
21	375	462	342	928	975	1,130	640	2,070	495	430	234	180
22	353	403	320	880	795	1,300	755	1,600	495	403	334	170
23	975	375	310	880	715	2,220	640	1,360	565	375	225	184
24	603	358	320	975	678	1,790	603	1,180	530	375	216	212
25	495	353	300	1,240	715	1,480	1,080	1,080	715	403	225	750
26	430	326	300	1,180	928	1,300	837	1,020	1,020	375	220	5,770
27	403	326	320	1,020	1,180	1,180	755	1,080	1,660	403	207	1,530
28	403	326	310	975	3,200	1,130	2,150	975	1,240	430	198	910
29	375	320	310	880	-------	1,020	1,840	928	975	375	207	690
30	364	364	310	795	-------	1,020	1,300	975	795	495	198	570
31	358	-----	290	755	-------	928	-------	880	-------	375	189	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,140	280	421	2.38	2.74
November	795	280	355	2.01	2.24
December	530	290	340	1.92	2.21
January	1,660	375	815	4.60	5.30
February	3,200	603	851	4.81	5.01
March	4,360	928	1,640	9.27	10.69
April	2,150	603	851	4.81	5.37
May	2,540	880	1,350	7.63	8.80
June	1,660	495	752	4.25	4.74
July	715	375	496	2.80	3.23
August	430	189	277	1.56	1.80
September	5,770	170	511	2.89	3.22
The year	5,770	170	722	4.08	55.35

TUCKASEGEE RIVER AT DILLSBORO, N. C.

LOCATION.—Staff gage at Dillsboro, Jackson County, 150 feet downstream from mouth of Scott Creek and 1,500 feet downstream from highway bridge.

DRAINAGE AREA.—348 square miles.

RECORDS AVAILABLE.—June, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 10,200 second-feet Mar. 14 (gage height, estimated, 8.6 feet); minimum, 270 second-feet Aug. 31 and Sept. 1 (gage height, 0.92 foot).

1928–29: Maximum discharge, about 14,000 second-feet Aug. 15, 1928 (gage height, estimated, 11.2 feet); minimum, that of Aug. 31 and Sept. 1, 1929.

REMARKS.—Records fair except those for estimated periods, Oct. 28 to Dec. 12 and Dec. 16–24, which are poor. Slight diurnal fluctuation caused by operation of small power plant 1,300 feet upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	600	550	440	880	2,340	1,660	1,550	1,230	730	620	270
2	970	550	550	535	800	1,830	1,440	2,270	1,330	690	585	338
3	800	550	550	440	645	1,830	1,440	2,420	1,660	730	585	515
4	682	550	500	440	608	2,340	1,330	1,780	1,330	770	690	420
5	608	550	500	440	570	5,700	1,330	1,550	1,030	770	515	365
6	535	550	500	2,470	682	3,580	1,230	2,660	1,080	730	450	392
7	500	550	480	1,950	1,210	2,470	1,180	4,030	1,030	690	450	420
8	500	550	480	1,590	1,020	1,950	1,130	2,020	1,230	730	450	420
9	500	600	480	1,210	1,020	1,830	1,130	2,150	1,230	770	515	392
10	470	550	460	1,260	1,160	1,590	1,080	1,900	985	850	585	365
11	470	500	460	880	1,160	1,590	1,440	1,550	985	770	655	365
12	470	500	460	760	1,020	1,480	1,230	1,440	940	940	620	392
13	440	500	440	645	925	2,580	1,130	1,330	895	1,230	620	420
14	470	480	440	570	840	7,530	1,080	1,330	850	985	585	480
15	440	480	470	645	880	5,730	1,230	1,330	940	895	550	515
16	564	480	480	608	970	4,340	1,130	1,330	940	940	480	688
17	2,290	460	500	645	925	3,640	1,030	1,230	895	1,030	450	1,560
18	2,690	1,500	750	1,110	800	2,800	985	1,440	940	1,230	450	550
19	1,480	1,000	600	1,060	800	2,410	940	2,150	895	1,180	420	480
20	1,110	750	550	925	925	2,150	1,330	2,670	850	810	420	420
21	925	650	500	720	1,020	2,150	1,330	2,410	810	770	420	365
22	800	650	480	570	1,060	2,670	1,230	1,900	810	730	420	365
23	2,780	600	460	720	1,020	4,400	1,130	1,660	895	690	392	365
24	1,480	600	460	925	970	2,920	1,030	1,550	1,080	655	392	392
25	1,160	600	440	970	1,160	2,150	1,330	1,440	1,230	655	365	923
26	1,060	550	440	880	2,100	2,020	1,180	1,330	1,440	850	338	4,580
27	970	550	440	970	3,940	1,900	985	1,330	1,900	770	338	3,500
28	800	550	412	1,110	4,530	1,780	2,070	1,330	1,330	770	338	1,460
29	645	550	385	1,210	-------	1,660	1,660	1,230	1,080	730	305	810
30	600	600	385	1,110	-------	1,660	1,330	1,440	895	690	280	1,030
31	600	-------	385	925	-------	1,660	-------	1,330	-------	690	275	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,780	440	931	2.68	3.09
November	1,500	460	605	1.74	1.94
December	750	385	483	1.39	1.60
January	2,470	440	927	2.66	3.07
February	4,530	570	1,200	3.45	3.59
March	7,530	1,480	2,730	7.84	9.04
April	2,070	940	1,260	3.62	4.04
May	4,030	1,230	1,780	5.11	5.89
June	1,900	810	1,090	3.13	3.49
July	1,230	655	822	2.36	2.72
August	690	275	470	1.35	1.56
September	4,580	270	785	2.26	2.52
The year	7,530	270	1,090	3.13	42.55

TUCKASEGEE RIVER AT BRYSON, N. C.

LOCATION.—Water-stage recorder 400 feet below Main Street Bridge in Bryson, Swain County, half a mile downstream from mouth of Deep Creek.

DRAINAGE AREA.—673 square miles.

RECORDS AVAILABLE.—November, 1897, to September, 1929.

EXTREMES.—Maximum discharge during year, 12,100 second-feet Mar. 14 (gage height, 6.90 feet); minimum, 535 second-feet Sept. 2 (gage height, 1.08 feet). 1897–1929: Maximum discharge, 38,600 second-feet Mar. 19, 1899 (gage height, 11.0 feet, old gage datum); minimum, 27 second-feet Sept. 10, 1925 (gage height, 0.48 foot).

REMARKS.—Records good. Diurnal fluctuation caused by operation of power plant on Oconaluftee River.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,030	1,030	895	1,380	1,610	5,240	2,820	2,820	2,310	1,760	1,600	690
2	962	1,030	962	1,540	1,540	4,250	2,650	3,510	2,150	1,910	1,380	664
3	1,030	1,030	962	1,170	1,460	3,510	2,480	3,870	2,650	1,760	1,310	651
4	1,030	1,100	962	1,170	1,380	3,930	2,480	3,160	2,150	1,600	1,310	794
5	1,030	962	895	1,240	1,540	9,290	2,480	2,990	2,150	1,680	1,170	890
6	1,030	895	856	3,860	2,260	6,260	2,310	3,880	1,910	1,760	1,170	794
7	962	895	843	2,010	2,600	4,840	2,150	6,260	1,910	1,910	1,100	848
8	895	1,030	791	1,610	2,090	3,870	2,070	4,060	2,070	1,530	1,170	834
9	882	895	804	1,460	2,180	3,330	1,990	3,690	2,150	1,600	1,100	862
10	882	895	791	2,760	2,430	3,160	1,990	3,160	1,990	1,960	1,170	932
11	869	895	791	2,180	2,180	2,990	2,480	2,990	1,760	1,680	1,170	781
12	882	882	791	1,770	1,930	2,820	2,480	2,820	1,680	1,740	1,310	832
13	830	778	830	1,610	1,770	3,830	2,070	2,650	1,760	2,150	1,460	831
14	898	778	962	1,460	1,690	9,050	2,070	2,480	1,680	1,760	1,100	904
15	778	817	1,030	1,380	1,610	7,580	2,070	2,480	1,760	1,600	1,030	755
16	1,030	817	895	1,380	1,770	5,840	2,150	2,480	1,680	1,680	960	1,060
17	2,390	869	895	1,460	1,770	4,840	1,990	2,480	1,530	1,530	932	2,650
18	2,950	895	1,380	2,560	1,610	4,250	1,910	2,650	1,530	1,750	946	1,540
19	2,120	1,770	1,030	3,460	1,540	3,690	1,830	3,510	1,530	2,250	918	1,030
20	1,380	1,930	1,030	2,600	1,770	3,510	1,830	5,440	1,600	1,600	876	904
21	1,170	1,310	962	2,260	2,990	3,330	1,830	5,040	1,460	1,380	848	834
22	1,170	1,030	869	2,260	2,430	3,510	2,070	3,870	1,460	1,380	848	768
23	2,800	1,100	869	2,090	2,180	6,040	1,760	3,160	1,830	1,310	834	768
24	1,930	1,100	895	2,260	1,930	5,040	1,680	2,820	1,830	1,240	890	794
25	1,460	1,030	882	3,380	2,180	4,060	2,310	2,650	2,480	1,310	918	1,270
26	1,310	962	843	2,770	3,620	3,690	2,310	2,650	2,820	2,150	794	6,120
27	1,240	895	882	2,430	4,640	3,510	2,150	2,650	3,510	1,530	768	3,380
28	1,240	895	869	2,430	8,040	3,330	3,700	2,650	2,990	1,460	742	2,260
29	1,100	895	843	2,090	-------	2,990	3,510	2,480	2,310	1,380	716	1,690
30	1,030	962	843	1,930	-------	2,990	2,820	2,480	1,990	2,610	703	1,460
31	1,030	-------	830	1,770	-------	2,820	-------	2,480	-------	2,070	664	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,950	778	1,270	1.89	2.18
November	1,930	778	1,010	1.50	1.67
December	1,380	791	903	1.34	1.54
January	3,860	1,170	2,060	3.06	3.53
February	8,040	1,380	2,310	3.43	3.57
March	9,290	2,820	4,430	6.58	7.59
April	3,700	1,680	2,280	3.39	3.78
May	6,260	2,480	3,240	4.81	5.54
June	3,510	1,460	2,020	3.00	3.35
July	2,610	1,240	1,710	2.54	2.93
August	1,600	664	1,030	1.53	1.76
September	6,120	651	1,290	1.92	2.14
The year	9,290	651	1,960	2.91	39.58

SCOTT CREEK AT SYLVA, N. C.

LOCATION.—Water-stage recorder just below Gunter Creek at Sylvia, Jackson County.

DRAINAGE AREA.—56 square miles.

RECORDS AVAILABLE.—February, 1921, to March, 1922; May, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, about 5,650 second-feet July 10 (gage height, 6.00 feet); minimum, 48 second-feet Sept. 11 (gage height, 0.54 foot).

1928–29: Maximum discharge, that of July 10, 1929; minimum, that of Sept. 11, 1929.

REMARKS.—Records fair below 1,500 second-feet and poor above. Discharge estimated Nov. 18–30 and June 3–12. Sylvia Paperboard Co. diverts 2,000,000 gallons daily around station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	103	99	107	153	384	257	257	188	182	112	55
2	94	99	88	117	142	384	221	345	242	204	109	53
3	92	99	84	92	136	338	221	276	211	167	99	54
4	92	107	84	86	136	424	221	239	198	161	107	71
5	90	105	88	126	136	974	211	239	191	164	101	59
6	88	103	86	144	238	461	198	405	188	200	86	55
7	86	99	81	103	185	361	191	366	185	167	90	56
8	84	103	78	92	167	338	185	296	221	150	86	61
9	83	92	74	90	198	338	179	276	272	158	86	66
10	83	90	78	226	201	338	179	239	179	554	83	61
11	79	88	76	131	173	338	248	221	173	161	86	54
12	78	90	74	114	158	338	185	211	167	213	92	55
13	76	84	72	105	150	362	179	198	150	229	79	72
14	76	83	79	99	142	870	179	185	144	223	72	58
15	78	83	78	96	144	757	191	182	158	176	69	54
16	185	83	74	96	161	546	182	185	136	164	66	145
17	148	81	76	109	147	434	170	173	153	358	66	114
18	239	90	103	216	134	384	161	211	134	195	72	66
19	117	110	74	265	131	361	158	334	126	158	66	58
20	101	150	72	185	158	338	153	409	172	139	63	55
21	92	110	69	173	256	338	158	338	119	136	62	54
22	83	95	68	173	191	338	188	276	121	131	62	54
23	320	100	66	158	167	597	153	239	150	114	65	53
24	136	100	65	188	158	384	147	214	150	101	78	53
25	114	100	68	257	198	338	221	204	294	99	74	102
26	109	100	66	221	296	317	182	191	343	170	62	331
27	107	95	71	211	402	317	170	239	474	121	59	101
28	107	95	72	208	948	296	515	204	296	119	58	76
29	109	95	76	188	-------	276	257	214	239	112	56	68
30	105	100	76	173	-------	276	214	255	201	121	54	76
31	107	-------	74	161	-------	257	-------	191	-------	121	54	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	320	76	111	1.98	2.28
November	150	81	97.7	1.74	1.94
December	103	65	77.1	1.38	1.59
January	265	86	152	2.72	3.14
February	948	131	207	3.70	3.85
March	974	257	413	7.38	8.51
April	515	147	202	3.61	4.03
May	409	173	252	4.50	5.19
June	474	119	199	3.55	3.96
July	554	99	176	3.14	3.62
August	112	54	76.6	1.37	1.58
September	331	53	76.3	1.36	1.52
The year	974	53	170	3.04	41.21

OCONALUFTY RIVER AT CHEROKEE, N. C.

LOCATION.—Staff gage at cable footbridge one-fourth mile upstream from Cherokee Indian Reservation, three-fourths mile usptream from Cherokee, Swain County, and 2 miles upstream from mouth of Soco Creek.

DRAINAGE AREA.—133 square miles.

RECORDS AVAILABLE.—January, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 4,820 second-feet Mar. 5 (gage height, 7.90 feet) minimum, 137 second-feet several times in September (gage height, 3.84 feet).

1921–1929: Maximum discharge (estimated), 8,990 second-feet Jan. 21, 1922 (gage height, 9.50 feet); minimum, 56 second-feet Sept. 9, 1925 (gage height, 3.49 feet).

REMARKS.—Records good. Slight diurnal fluctuation during low stages caused by operation of small power plant one-fourth mile upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	229	238	305	247	436	1,500	558	798	488	453	633	153
2	220	234	238	247	404	1,160	523	1,390	404	488	488	142
3	211	238	229	247	381	865	488	930	558	488	418	137
4	211	229	224	257	370	1,160	488	756	453	418	488	186
5	206	206	220	347	376	3,920	488	713	419	488	364	209
6	202	202	220	572	467	1,980	453	1,170	404	488	331	215
7	202	211	211	387	393	1,500	418	1,620	418	488	324	215
8	194	220	202	347	381	1,120	411	1,020	404	418	350	158
9	194	202	194	326	436	975	391	975	377	404	305	148
10	202	202	194	1,110	436	798	418	798	357	488	286	158
11	194	202	185	572	404	713	558	713	331	418	357	192
12	198	198	185	467	358	633	453	633	418	418	305	158
13	185	189	189	404	347	885	377	596	350	453	337	169
14	177	194	247	381	347	1,740	350	558	324	377	324	164
15	177	181	202	347	342	1,740	398	558	324	350	286	164
16	211	185	194	337	347	1,280	633	713	292	324	268	226
17	337	181	194	337	321	975	488	523	280	324	250	930
18	609	194	387	865	311	842	404	798	286	391	262	404
19	436	1,220	276	1,560	381	756	391	1,170	312	558	238	286
20	295	535	247	1,380	467	673	364	930	312	404	226	226
21	266	358	220	732	732	633	357	1,220	288	350	215	215
22	238	316	220	732	609	673	558	975	350	324	203	192
23	649	285	211	689	501	1,390	453	798	286	305	192	192
24	376	261	198	775	467	1,120	370	713	364	286	250	186
25	316	247	185	1,740	649	885	713	633	673	299	203	350
26	290	234	181	1,160	1,620	842	558	596	756	364	180	1,170
27	266	224	220	912	1,060	798	488	558	975	418	169	558
28	257	220	198	732	2,910	756	558	558	713	350	169	453
29	247	211	211	609	-------	673	885	523	558	344	164	404
30	242	252	202	535	-------	713	756	488	488	756	158	364
31	238	-------	198	501	-------	596	-------	453	-------	1,120	180	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	649	177	267	2.01	2.32
November	1,220	181	269	2.02	2.25
December	387	181	219	1.65	1.90
January	1,740	247	640	4.81	5.54
February	2,910	311	580	4.36	4.54
March	3,920	596	1,110	8.35	9.53
April	885	350	492	3.70	4.13
May	1,620	453	802	6.03	6.95
June	975	280	432	3.25	3.63
July	1,120	286	437	3.29	3.79
August	633	158	288	2.17	2.50
September	1,170	137	291	2.19	2.44
The year	3,920	137	486	3.65	49.52

TELLICO RIVER NEAR TELLICO PLAINS, TENN.

LOCATION.—Staff gage 500 feet above mouth of Laurel Creek, half a mile above highway bridge, and 1½ miles southeast of Tellico Plains, Monroe County. Zero of gage is 855.13 feet above mean sea level.

DRAINAGE AREA.—113 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1929. July, 1925, to October, 1927, at station half a mile downstream.

EXTREMES.—Maximum discharge during year, about 9,560 second-feet Mar. 23 (gage height, 10.9 feet); minimum, 61 second-feet Sept. 4 (gage height, 1.02 feet).

1925–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 13 second-feet Sept. 7, 1925 (gage height, 0.25 foot, lower gage).

REMARKS.—Records between 200 and 5,000 second-feet good; others fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	100	235	171	330	890	455	955	330	735	618	76
2	146	118	191	160	270	705	455	2,500	306	705	330	69
3	130	108	178	168	252	645	430	1,290	535	675	261	64
4	148	138	165	154	235	705	405	825	455	645	243	69
5	138	128	157	122	261	2,140	380	735	430	618	228	91
6	128	118	151	508	455	1,150	355	1,809	405	590	205	104
7	118	125	146	455	430	890	355	1,570	330	330	191	108
8	108	132	138	795	355	675	330	1,290	283	191	175	100
9	100	122	130	765	355	590	306	1,080	270	135	160	91
10	143	113	130	590	330	508	283	795	252	430	148	84
11	132	111	125	306	306	535	1,570	645	235	355	138	78
12	122	104	135	279	283	508	1,020	590	220	330	228	82
13	113	95	143	257	270	480	618	535	205	306	205	130
14	104	93	135	235	252	2,410	430	480	194	279	191	118
15	91	93	130	220	330	1,500	1,150	455	184	261	178	91
16	84	91	125	209	306	1,020	2,230	480	175	243	165	130
17	178	93	118	1,810	283	795	1,220	535	165	228	151	178
18	162	93	205	1,500	270	618	955	590	157	212	138	165
19	143	1,650	191	1,290	252	535	890	2,320	151	216	128	154
20	132	890	178	1,150	235	508	825	2,320	143	191	118	143
21	122	283	165	1,080	1,020	455	562	1,810	132	205	108	132
22	113	205	157	1,020	825	675	508	955	380	191	100	122
23	257	181	148	890	705	5,640	455	705	705	178	93	138
24	143	160	140	795	675	1,570	430	590	675	224	87	1,150
25	132	151	132	645	645	1,150	535	535	735	765	118	2,140
26	122	143	125	508	618	825	508	480	890	705	115	1,500
27	113	135	165	455	825	705	480	455	890	675	108	1,430
28	104	128	154	430	1,730	675	2,900	430	890	181	100	1,360
29	95	118	143	405	------	618	2,230	380	825	212	84	1,220
30	104	220	132	380	------	590	890	355	795	535	89	1,080
31	108	------	122	355	------	562	------	355	------	1,080	84	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	257	84	128	1.13	1.30
November	1,650	91	208	1.84	2.05
December	235	118	151	1.34	1.54
January	1,810	122	584	5.17	5.96
February	1,730	235	468	4.14	4.31
March	5,640	455	1,010	8.94	10.31
April	2,900	283	805	7.12	7.94
May	2,500	355	933	8.26	9.52
June	890	132	411	3.64	4.06
July	1,080	135	407	3.60	4.15
August	618	84	170	1.50	1.73
September	2,140	64	413	3.65	4.07
The year	5,640	64	474	4.19	56.94

CLINCH RIVER AT CLEVELAND, VA.

LOCATION.—Chain gage on steel highway bridge in Cleveland, Russell County.
DRAINAGE AREA.—536 square miles.
RECORDS AVAILABLE.—October, 1920, to September, 1929.
EXTREMES.—Maximum discharge during year, 8,110 second-feet Mar. 23 (gage height, 10.91 feet); minimum, 82 second-feet Sept. 4 (gage height, 1.99 feet). 1920–1929: Maximum stage, 21.1 feet Dec. 22, 1926 (discharge not determined); minimum discharge, 50 second-feet Sept. 28, 1927 (gage height, 1.80 feet).
REMARKS.—Records good. Discharge estimated Sept. 19–22.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	658	202	239	235	520	4,670	781	1,030	523	636	287	141
2	470	198	275	304	470	3,570	694	2,390	781	1,710	308	118
3	395	184	251	304	445	3,070	665	5,580	1,500	1,360	287	120
4	348	239	251	283	395	2,570	636	2,210	2,670	900	238	86
5	304	259	259	348	395	5,460	550	1,570	1,500	636	373	120
6	325	180	220	520	470	7,020	523	1,030	1,030	636	350	105
7	304	184	184	712	2,120	4,230	444	4,010	900	550	287	168
8	271	283	170	495	1,190	2,390	420	3,070	781	470	287	150
9	259	348	154	495	1,060	1,710	396	2,030	1,360	171	215	138
10	267	325	151	548	1,060	1,290	350	1,570	2,120	230	150	226
11	224	348	202	575	860	1,100	329	781	1,430	308	187	171
12	202	275	167	495	712	965	329	578	965	242	201	122
13	191	224	174	420	630	900	308	781	781	1,950	208	120
14	198	191	154	370	575	1,160	308	840	578	1,100	204	128
15	198	243	161	395	495	1,290	373	1,030	723	900	184	115
16	174	235	167	495	470	1,100	396	900	578	665	164	177
17	188	232	161	630	495	965	396	723	496	496	158	141
18	213	235	348	770	420	900	420	550	329	396	204	254
19	251	275	445	3,310	395	781	373	1,570	444	420	164	187
20	239	770	348	2,400	445	723	350	3,370	308	329	147	177
21	205	658	279	1,400	630	665	329	3,470	287	287	147	157
22	174	520	213	1,120	575	665	396	1,950	287	262	128	138
23	271	445	180	1,060	470	7,620	396	1,430	308	308	184	118
24	495	395	232	1,060	395	5,460	470	1,030	329	287	250	120
25	470	348	228	2,120	1,400	2,210	444	840	523	222	373	108
26	348	304	198	1,860	5,340	1,640	420	781	1,030	258	222	90
27	283	275	202	1,470	5,700	1,430	373	636	965	266	128	128
28	259	267	213	1,190	7,620	1,220	840	578	694	238	177	118
29	259	255	216	800	------	1,100	2,570	665	636	242	215	115
30	228	224	205	658	------	1,030	1,360	1,030	694	523	174	90
31	220	------	209	575	------	900	------	1,100	------	262	147	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	658	174	287	0.535	0.62
November	770	180	304	.567	.63
December	445	151	221	.412	.48
January	3,310	235	884	1.65	1.90
February	7,620	395	1,280	2.39	2.49
March	7,620	665	2,250	4.20	4.84
April	2,570	308	555	1.04	1.16
May	5,580	550	1,580	2.95	3.40
June	2,670	287	852	1.59	1.77
July	1,950	171	557	1.04	1.20
August	373	128	218	.407	.47
September	254	86	138	.257	.29
The year	7,620	86	760	1.42	19.25

CLINCH RIVER AT SPEER FERRY, VA.

LOCATION.—Chain gage on highway bridge three-fourths mile from Speer Ferry, Scott County, 1½ miles downstream from Clinchport, and half a mile below Copper Creek.

DRAINAGE AREA.—1,140 square miles.

RECORDS AVAILABLE.—October, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 20,900 second-feet Mar. 24 (gage height, 19.57 feet); minimum, 217 second-feet Sept. 6 (gage height, 1.69 feet).

1920–1929: Maximum discharge, 37,200 second-feet Feb. 3, 1923 (gage height, 24.35 feet); minimum, 81 second-feet Sept. 10, 1925 (gage height, −0.32 foot).

REMARKS.—Records good. Low-water flow is slightly regulated by Speer Ferry roller mill, just above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,110	535	1,280	645	1,280	12,500	1,780	3,490	3,490	1,190	1,030	310
2	1,030	535	1,190	1,280	1,190	7,330	1,670	6,610	1,780	6,970	675	250
3	875	510	1,030	1,110	1,110	6,610	1,470	12,100	2,000	5,410	645	235
4	772	510	875	1,030	1,030	5,410	1,370	6,970	4,090	2,880	615	235
5	675	535	840	922	922	8,240	1,190	4,090	3,250	2,000	510	220
6	740	535	805	2,120	1,370	14,500	1,190	3,490	1,890	1,470	465	220
7	805	510	675	2,490	3,250	9,340	1,190	12,200	1,470	1,370	465	220
8	708	560	645	2,240	2,750	5,890	1,190	8,790	1,370	1,190	442	235
9	645	615	615	1,570	2,620	4,210	1,030	5,530	1,470	950	442	465
10	740	675	588	1,890	2,240	3,010	950	3,850	2,240	950	420	535
11	708	675	560	2,490	2,000	2,490	922	2,880	2,490	840	442	560
12	588	740	510	2,000	1,670	2,120	1,030	2,240	1,570	708	615	560
13	535	675	510	1,670	1,470	1,890	1,190	1,890	1,280	1,570	510	560
14	488	615	535	1,280	1,280	1,890	1,030	1,570	1,110	2,750	488	488
15	488	588	535	1,110	1,190	2,490	950	2,490	990	1,780	420	398
16	465	560	535	1,110	1,190	2,490	875	3,250	1,110	1,370	420	310
17	488	510	510	1,370	1,030	2,000	840	2,240	950	2,000	375	352
18	840	560	1,470	2,490	990	1,780	840	1,890	840	1,780	330	398
19	1,030	1,370	1,670	7,800	950	1,370	805	6,850	805	2,120	310	465
20	805	4,210	1,370	7,910	990	1,190	740	12,700	1,470	1,670	290	442
21	675	2,490	1,190	4,450	1,190	1,110	740	11,400	772	1,110	270	420
22	588	1,670	950	3,010	1,190	950	990	6,130	840	922	270	375
23	1,030	1,370	805	2,620	1,370	11,900	990	4,930	708	840	250	330
24	1,570	1,030	708	2,750	1,470	17,900	922	3,130	772	840	310	270
25	1,370	950	645	4,930	1,890	7,690	922	2,360	1,370	740	442	270
26	1,110	840	615	6,610	5,890	4,690	1,110	2,000	5,170	708	442	270
27	875	740	588	4,210	13,500	3,850	1,030	1,570	3,730	645	442	270
28	740	675	615	3,010	13,600	3,250	3,850	1,370	2,120	645	442	270
29	675	645	645	2,240	-------	2,620	6,970	1,110	1,570	615	420	235
30	645	740	675	1,780	-------	2,240	5,290	1,670	1,280	510	398	235
31	560	-------	588	1,470	-------	2,000	-------	2,360	-------	1,190	330	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,570	465	786	0.689	0.79
November	4,210	510	906	.795	.89
December	1,670	510	799	.701	.81
January	7,910	922	2,630	2.31	2.66
February	13,600	922	2,520	2.21	2.30
March	17,900	950	5,000	4.39	5.06
April	6,970	740	1,500	1.32	1.47
May	12,700	1,110	4,620	4.05	4.67
June	5,170	708	1,800	1.58	1.76
July	6,970	510	1,600	1.40	1.61
August	1,030	250	449	.394	.45
September	560	220	347	.304	.34
The year	17,900	220	1,920	1.68	22.81

CLINCH RIVER NEAR TAZEWELL, TENN.

LOCATION.—Water-stage recorder at Evans Ferry, 600 feet below Tazewell-Morristown highway bridge, 2½ miles above mouth of Indian Creek, and 7½ miles southeast of Tazewell, Claiborne County. Zero of gage is 1,012.55 feet above mean sea level.

DRAINAGE AREA.—1,500 square miles.

RECORDS AVAILABLE.—August, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, about 28,000 second-feet Mar. 24 (gage height, 13.0 feet); minimum, 319 second-feet Sept. 3 (gage height, 1.44 feet).

1927–1929: Maximum discharge, that of Mar. 24, 1929; minimum, 220 second-feet Oct. 31 to Nov. 3, 1927 (gage height, 1.26 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,240	806	2,320	1,060	2,100	16,800	2,670	4,520	3,900	1,630	1,440	407
2	1,450	749	2,240	1,750	1,840	12,100	2,400	5,150	3,120	4,200	1,000	388
3	1,320	730	1,880	1,880	1,610	8,770	2,150	12,400	2,240	8,030	885	368
4	1,120	730	1,610	1,690	1,470	7,550	1,980	12,400	2,850	4,720	958	349
5	1,000	722	1,420	1,550	1,420	8,770	1,840	6,840	4,300	3,220	768	331
6	1,320	722	1,290	2,580	1,990	15,600	1,780	5,260	3,120	2,320	670	325
7	1,240	713	1,160	3,600	3,900	14,500	1,760	12,100	2,240	2,580	679	343
8	1,140	825	1,050	3,120	4,620	8,520	1,630	14,300	1,860	1,880	679	420
9	1,020	865	1,000	2,400	4,000	7,310	1,540	8,770	1,820	1,550	629	420
10	1,060	875	947	2,760	3,220	4,520	1,450	5,700	1,930	1,320	589	498
11	1,010	875	885	3,600	2,850	3,600	1,420	4,300	2,940	1,300	558	654
12	915	875	835	3,500	2,490	3,030	1,400	3,410	2,400	1,130	558	550
13	787	865	787	2,850	2,150	2,670	1,590	2,670	1,920	1,120	688	550
14	713	835	787	2,320	1,920	2,670	1,580	2,320	1,590	1,920	605	520
15	670	796	806	1,880	1,750	3,220	1,440	3,030	1,410	2,940	573	490
16	654	749	796	1,590	1,660	3,500	1,360	5,150	1,320	2,090	565	448
17	662	730	806	1,620	1,580	3,120	1,280	4,830	1,360	1,620	512	462
18	1,190	740	1,840	1,980	1,450	2,670	1,220	3,410	1,190	2,760	483	581
19	1,740	3,900	2,580	4,940	1,340	2,320	1,160	7,790	1,090	2,320	462	528
20	1,440	5,920	2,400	10,800	1,410	2,070	1,080	18,200	1,040	2,850	441	558
21	1,160	4,940	1,990	8,030	1,920	1,870	1,040	16,500	1,380	1,870	434	637
22	969	3,120	1,630	5,040	2,400	1,860	1,150	11,800	1,040	1,340	407	528
23	1,490	2,320	1,380	4,100	2,400	12,900	1,340	4,830	915	1,150	394	448
24	2,070	1,780	1,200	4,000	2,490	25,700	1,300	4,830	885	1,080	427	400
25	2,070	1,520	1,070	6,610	2,940	17,000	1,280	3,700	1,380	947	621	400
26	1,760	1,340	991	9,270	7,310	7,790	1,300	3,030	4,520	845	581	542
27	1,440	1,190	925	7,310	14,300	5,700	1,380	2,490	4,000	845	589	520
28	1,200	1,080	925	5,040	16,200	4,720	2,150	2,010	3,800	1,080	573	427
29	1,050	1,010	905	3,800	-------	3,900	8,520	1,780	2,490	845	498	394
30	947	1,180	895	2,940	-------	3,410	7,310	1,840	1,880	885	441	362
31	865	-------	895	2,400	-------	3,030	-------	2,490	-------	1,160	427	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,070	654	1,180	0.787	0.91
November	5,920	713	1,450	.967	1.08
December	2,580	787	1,300	.867	1.00
January	10,800	1,060	3,740	2.49	2.87
February	16,200	1,340	3,380	2.25	2.34
March	25,700	1,860	7,140	4.76	5.49
April	8,520	1,040	1,980	1.32	1.47
May	18,200	1,780	6,380	4.25	4.90
June	4,520	885	2,200	1.47	1.64
July	8,030	845	2,050	1.37	1.58
August	1,440	394	617	.411	.47
September	654	325	461	.307	.34
The year	25,700	325	2,660	1.77	24.09

CLINCH RIVER NEAR COAL CREEK, TENN.

LOCATION.—Water-stage recorder 300 feet upstream from highway bridge at Massengill's store, three-fourths mile above mouth of Coal Creek, and 3½ miles east of town of Coal Creek, Anderson County. Zero of gage is 808.95 feet above mean sea level.

DRAINAGE AREA.—2,960 square miles.

RECORDS AVAILABLE.—May, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, about 63,400 second-feet Mar. 23 (gage height, 30.7 feet); minimum, 770 second-feet Sept. 7 (gage height, 1.00 foot).

1927–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 500 second-feet Nov. 1, 1927 (gage height, 0.70 foot).

REMARKS.—Records excellent. Discharge based on auxiliary staff-gage readings Aug. 6, 10, 17, 31, and Sept. 1–5; estimated Aug. 7–9, 11–16.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,860	1,910	5,430	2,510	5,430	32,700	7,910	13,300	5,170	3,710	2,260	887
2	2,160	1,760	5,690	3,600	4,780	29,800	6,680	9,410	6,110	4,060	2,780	851
3	2,460	1,660	5,430	4,780	4,300	22,100	5,830	14,400	5,300	8,390	2,210	833
4	2,310	1,610	4,780	5,300	3,820	16,700	5,300	22,800	4,420	11,200	1,910	824
5	2,060	1,560	4,060	4,660	3,600	21,000	4,910	20,000	4,910	7,280	1,810	806
6	1,910	1,510	3,600	6,250	4,420	26,700	4,540	11,800	5,830	5,300	1,610	797
7	2,060	1,510	3,270	6,980	6,680	33,700	4,300	17,100	4,540	4,910	1,510	779
8	2,060	1,610	3,050	7,750	8,070	26,700	4,180	27,400	3,940	4,420	1,410	788
9	1,960	1,760	2,780	6,680	8,230	15,800	3,940	26,400	3,710	3,820	1,310	887
10	2,060	1,760	2,610	6,530	7,130	11,000	3,710	15,800	3,380	3,270	1,310	1,080
11	2,060	2,660	2,460	7,280	6,110	8,560	3,490	10,800	3,490	2,940	1,260	1,110
12	1,960	1,810	2,310	7,910	5,430	6,980	3,490	8,560	4,420	2,830	1,310	1,120
13	1,810	1,810	2,210	7,280	4,780	6,110	3,270	6,980	4,180	2,830	1,510	1,610
14	1,660	1,760	2,160	5,970	4,300	10,800	3,380	6,110	3,600	3,050	1,410	1,560
15	1,510	1,710	2,110	4,910	4,060	10,300	3,490	6,980	3,160	5,040	1,360	1,410
16	1,460	1,660	2,060	4,300	3,820	8,560	3,270	10,500	2,830	5,040	1,360	1,180
17	1,560	1,610	2,010	4,060	3,600	7,750	3,160	12,200	2,610	3,940	1,260	1,220
18	1,760	2,110	2,660	5,040	3,380	6,680	2,940	10,500	2,560	3,380	1,130	1,220
19	2,360	27,900	3,820	13,300	3,160	5,830	2,830	10,700	2,560	4,420	1,060	1,260
20	2,780	30,700	5,040	20,300	3,050	5,170	2,660	27,100	2,460	4,060	1,020	1,220
21	2,610	26,400	4,660	22,800	4,180	4,780	2,660	45,400	2,410	4,300	977	1,100
22	2,260	14,800	3,940	14,400	6,110	4,910	2,780	37,200	2,360	3,490	941	1,130
23	3,490	8,230	3,380	9,940	5,970	50,700	2,780	23,300	2,360	2,660	923	1,090
24	4,300	6,110	3,050	9,760	5,560	56,200	2,940	13,700	2,310	2,310	896	968
25	4,420	4,780	2,720	21,200	6,390	55,000	2,940	10,300	4,420	2,110	896	995
26	4,300	4,060	2,510	25,900	14,800	31,000	2,940	8,390	11,400	2,260	1,030	1,410
27	3,490	3,490	2,360	23,800	26,200	19,300	2,830	6,980	10,800	2,060	1,080	1,460
28	2,940	3,160	2,310	15,800	36,000	12,900	5,170	5,970	10,500	1,860	1,080	1,360
29	2,510	2,940	2,260	10,500	-------	10,700	9,760	5,300	6,680	2,010	1,100	1,220
30	2,260	3,380	2,260	7,910	-------	9,580	16,700	4,780	4,660	1,810	1,030	1,080
31	2,060	-------	2,260	6,390	-------	8,730	-------	4,540	-------	1,860	941	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,420	1,460	2,400	0.811	0.94
November	30,700	1,510	5,590	1.89	2.11
December	5,690	2,010	3,200	1.08	1.24
January	25,900	2,510	9,800	3.31	3.82
February	36,000	3,050	7,260	2.45	2.55
March	56,200	4,780	18,600	6.28	7.24
April	16,700	2,660	4,490	1.52	1.70
May	45,400	4,540	14,700	4.97	5.73
June	11,400	2,310	4,570	1.54	1.72
July	11,200	1,810	3,890	1.31	1.51
August	2,780	896	1,340	.453	.52
September	1,610	779	1,110	.375	.42
The year	56,200	779	6,430	2.17	29.50

POWELL RIVER NEAR PENNINGTON GAP, VA.

LOCATION.—Chain gage on highway bridge 1,000 feet below North Fork and 3 miles southeast of Pennington Gap, Lee County.

DRAINAGE AREA.—304 square miles.

RECORDS AVAILABLE.—October, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 28,900 second-feet Mar. 23 (gage height, 27.66 feet); minimum, 26 second-feet Sept. 4 (gage height, 1.61 feet). 1920–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 14 second-feet Oct. 15, 17, 1923, Sept. 5, 6, 1925 (gage height, 1.51 feet).

REMARKS.—Records good. Two small gristmills above gage cause considerable diurnal fluctuation, and a large steam plant on North Fork uses practically the entire low-water flow of that stream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	244	170	537	764	470	2,350	658	880	294	260	229	32
2	200	160	764	1,410	350	1,700	560	3,180	229	2,710	186	36
3	229	155	584	820	331	1,270	492	3,780	244	1,130	138	38
4	200	158	492	658	294	1,130	470	1,270	229	514	123	26
5	179	160	449	633	312	8,820	428	1,060	186	408	104	32
6	168	143	388	1,860	369	4,180	388	940	170	584	92	32
7	312	138	312	1,270	820	2,180	350	7,040	153	514	86	37
8	244	186	294	880	710	1,340	312	2,530	276	350	86	38
9	229	200	260	710	608	940	312	1,410	350	244	84	90
10	214	186	244	1,700	560	710	294	880	214	214	75	96
11	200	200	229	1,270	492	584	294	658	200	276	64	75
12	168	200	214	940	408	514	369	560	168	229	96	61
13	143	200	214	764	388	449	350	492	155	276	155	61
14	132	186	214	514	388	560	294	428	134	388	112	57
15	132	183	229	514	331	608	294	1,780	138	514	86	55
16	121	181	214	608	312	560	312	1,620	125	350	66	50
17	125	168	229	658	276	492	312	1,000	100	276	62	68
18	276	229	1,000	1,270	260	449	294	880	96	260	52	92
19	331	12,400	710	6,600	229	369	276	11,100	108	880	54	81
20	312	4,230	584	2,260	229	369	260	8,220	141	408	50	61
21	244	1,550	470	1,270	312	331	260	4,980	127	260	43	52
22	186	1,000	388	1,000	294	331	294	2,020	116	214	47	42
23	764	658	312	880	312	20,900	294	1,200	102	186	43	38
24	710	514	294	1,200	388	6,530	294	820	100	153	50	36
25	492	449	276	5,720	710	1,860	312	633	244	129	114	36
26	350	408	229	2,710	6,160	1,270	294	492	1,130	143	79	75
27	276	350	244	1,780	4,580	1,000	276	408	560	125	55	79
28	244	294	260	1,000	4,080	880	2,980	331	366	114	48	59
29	229	276	276	820	-------	710	2,980	331	260	98	47	37
30	200	294	331	537	-------	764	1,270	276	214	584	36	36
31	183	-------	331	514	-------	658	-------	294	-------	408	37	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	764	121	259	0.852	0.98
November	12,400	138	854	2.81	3.14
December	1,000	214	373	1.23	1.42
January	6,600	514	1,400	4.61	5.32
February	6,160	229	892	2.93	3.05
March	20,900	331	2,090	6.88	7.93
April	2,980	260	552	1.82	2.03
May	11,100	276	1,980	6.51	7.50
June	1,130	96	231	.760	.85
July	2,710	98	426	1.40	1.61
August	229	36	83.8	.276	.32
September	96	26	53.6	.176	.20
The year	20,900	26	770	2.53	34.35

POWELL RIVER NEAR ARTHUR, TENN.

LOCATION.—Water-stage recorder at highway bridge at McHenry's ford, 3½ miles east of Arthur, Claiborne County, and 3½ miles below mouth of Indian Creek. Zero of gage is 1,045.84 feet above mean sea level.

DRAINAGE AREA.—685 square miles.

RECORDS AVAILABLE.—October, 1919, to September, 1929.

EXTREMES.—Maximum discharge during year, about 27,800 second-feet Mar. 24 (gage height, 23.8 feet); minimum, 150 second-feet Sept. 7 (gage height, 0.35 foot).

1919–1929: Maximum discharge, that of Mar. 24, 1929; minimum, 82 second-feet Sept. 10 and 11, 1925 (gage height, 0.00 foot).

Maximum stage known, 27.2 feet Jan. 29, 1918.

REMARKS.—Records good below and fair above 16,000 second-feet. Discharge interpolated Aug. 3–10.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	590	445	1,560	1,090	1,360	7,520	1,740	2,590	940	700	1,000	172
2	678	425	1,880	1,950	1,180	5,530	1,560	3,560	910	820	672	165
3	524	405	1,670	2,590	1,030	4,130	1,420	6,520	820	2,590	535	165
4	470	400	1,360	1,810	970	3,470	1,280	6,740	730	1,880	500	162
5	465	395	1,150	1,530	940	6,410	1,880	3,380	700	1,180	470	165
6	440	390	1,030	1,990	1,180	11,900	1,120	2,840	662	1,150	440	162
7	400	380	910	2,750	1,780	8,600	1,030	7,400	606	1,030	410	165
8	480	415	820	2,430	1,880	4,530	970	9,560	590	1,120	380	303
9	496	435	760	1,810	1,670	3,110	910	5,230	618	880	350	475
10	513	445	700	2,110	1,460	2,350	850	3,110	760	760	320	335
11	430	435	662	2,750	1,320	1,840	850	2,190	684	650	285	276
12	415	410	623	2,590	1,180	1,560	850	1,780	596	667	280	285
13	380	415	601	2,030	1,060	1,390	850	1,490	568	684	316	298
14	355	410	590	1,640	970	1,780	820	1,320	535	910	330	350
15	330	400	579	1,320	910	1,840	790	1,460	502	1,220	375	316
16	316	385	568	1,280	880	1,700	760	2,670	480	1,090	321	262
17	308	365	574	1,460	820	1,490	760	3,020	460	880	267	312
18	390	584	1,060	2,110	760	1,320	730	2,190	445	820	240	400
19	579	10,800	1,640	5,640	700	1,180	700	3,830	430	1,060	220	321
20	700	16,500	1,530	8,840	700	1,090	678	15,200	430	1,060	216	272
21	590	9,080	1,250	5,230	970	1,000	650	17,100	400	1,060	204	262
22	486	3,650	1,060	3,110	1,390	1,120	684	9,680	475	760	196	236
23	970	2,350	910	2,510	1,280	15,100	790	4,830	435	606	190	204
24	1,420	1,780	790	2,510	1,250	25,100	700	3,110	380	535	200	193
25	1,460	1,390	730	6,740	1,700	13,200	730	2,270	562	502	244	220
26	1,030	1,180	667	9,560	5,330	5,130	700	1,810	2,190	496	236	312
27	820	1,030	645	6,520	10,800	3,560	700	1,530	2,670	470	236	375
28	672	910	650	3,650	10,100	2,750	1,880	1,280	1,640	455	240	360
29	590	820	672	2,590	-------	2,270	5,030	1,120	1,090	405	208	285
30	535	1,030	672	1,920	-------	2,030	5,130	1,030	820	385	182	240
31	480	-------	656	1,560	-------	1,920	-------	970	-------	590	186	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,460	308	591	0.862	0.99
November	16,500	365	1,940	2.83	3.16
December	1,880	568	934	1.36	1.57
January	9,560	1,280	3,080	4.50	5.19
February	10,800	700	1,980	2.89	3.01
March	25,100	1,000	4,710	6.88	7.93
April	5,130	650	1,250	1.82	2.03
May	17,100	970	4,220	6.16	7.10
June	2,670	380	771	1.13	1.26
July	2,590	385	884	1.29	1.49
August	1,000	182	331	.483	.56
September	475	162	268	.391	.44
The year	25,100	162	1,750	2.55	34.73

EMERY RIVER AT HARRIMAN, TENN.

LOCATION.—Staff gage at Tennessee Central Railroad bridge in Harriman, Roane County, 1,000 feet upstream from highway bridge. Zero of gage is 717.38 feet above mean sea level.

DRAINAGE AREA.—793 square miles.

RECORDS AVAILABLE.—June, 1927, to September, 1929 (discontinued).

EXTREMES.—Maximum discharge during year, about 151,000 second-feet Mar. 23 (gage height, 61.1 feet); minimum, 10 second-feet Sept. 4, 5 (gage height, 0.50 foot).

1927–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 6.0 second-feet Oct. 10, 1927 (gage height, 0.40 foot).

Flood of Mar. 23, 1929, reached an unprecedented stage.

REMARKS.—Records good below and fair above 16,000 second-feet except those for Feb. 15, 27, Mar. 3–9, Mar. 17 to Apr. 3, Apr. 14–28, Apr. 30 to May 6, May 8–10, 12–24, 25–31, which were estimated. Small diversion for Harriman water supply 1,000 feet above gage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	405	5,040	742	1,610	8,520	2,150	3,000	455	755	1,030	13
2	52	375	3,430	1,230	1,300	6,040	2,000	2,400	385	830	870	12
3	54	357	2,410	1,160	1,230	4,700	1,900	2,200	1,720	1,470	665	11
4	56	375	1,930	1,080	1,160	3,500	1,810	2,100	1,230	990	366	10
5	66	375	1,530	1,080	1,080	12,500	1,550	2,000	792	1,030	247	10
6	74	363	1,300	3,880	2,010	8,000	1,390	1,900	568	680	176	11
7	74	327	1,080	3,250	4,240	5,200	1,150	14,200	434	830	156	14
8	66	435	1,000	2,330	3,340	3,500	1,030	10,000	333	605	220	14
9	86	468	855	1,850	2,650	2,800	1,070	6,000	333	420	188	127
10	88	532	742	3,610	2,170	2,090	1,150	4,200	292	320	166	70
11	72	500	670	3,700	1,770	1,690	1,550	2,710	247	247	265	66
12	62	500	635	2,810	1,530	1,380	1,550	1,900	204	238	642	66
13	58	468	600	2,170	1,380	1,300	1,630	1,500	220	455	492	276
14	52	405	600	1,770	1,230	17,800	1,500	1,350	605	718	399	1,070
15	41	375	600	1,380	1,000	10,200	1,100	1,500	378	1,030	256	680
16	46	345	565	1,380	780	5,340	1,080	2,700	260	830	200	372
17	133	333	500	1,380	1,000	3,610	1,100	2,400	204	1,150	152	309
18	930	357	1,610	1,610	968	2,620	840	2,200	166	870	118	298
19	1,150	39,500	2,090	11,800	855	1,990	700	2,700	176	1,150	90	188
20	705	17,800	1,690	6,650	892	1,720	620	5,000	320	1,470	82	159
21	435	6,760	1,460	5,940	3,520	1,390	600	3,600	282	755	74	121
22	339	3,430	1,230	4,240	6,240	1,310	640	2,800	229	530	58	100
23	2,170	2,330	1,080	4,440	4,440	92,000	720	2,200	156	359	47	82
24	2,890	1,770	968	4,840	3,160	22,000	900	1,800	180	270	40	70
25	1,690	1,080	818	28,500	3,880	9,500	1,100	1,470	455	216	33	247
26	405	1,160	742	11,800	24,700	5,600	960	1,200	9,080	176	30	1,630
27	363	1,000	705	6,040	19,200	4,150	920	1,000	4,000	152	25	1,390
28	635	892	780	4,440	13,700	3,500	900	880	2,170	176	22	830
29	565	818	742	2,810	-------	3,100	5,700	720	1,390	145	17	680
30	468	1,080	670	2,330	-------	2,700	4,000	620	1,070	208	15	427
31	435	-------	600	1,930	-------	2,400	-------	520	-------	455	14	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,890	41	462	0.582	0.67
November	39,500	327	2,830	3.57	3.98
December	5,040	500	1,250	1.58	1.82
January	28,500	742	4,260	5.37	6.19
February	24,700	780	3,970	5.01	5.22
March	92,000	1,300	8,130	10.3	11.87
April	5,700	600	1,440	1.82	2.03
May	14,200	520	2,860	3.61	4.16
June	9,080	156	944	1.19	1.33
July	1,470	145	630	.794	.92
August	1,030	14	229	.289	.33
September	1,630	10	312	.393	.43
The year	92,000	10	2,270	2.87	38.95

DADDY CREEK NEAR GRASSY COVE, TENN.

LOCATION.—Staff gage at highway bridge on Crossville-Grassy Cove Road, 3 miles northwest of Grassy Cove, Cumberland County, and 5 miles above mouth of Bird Creek.

DRAINAGE AREA.—46.4 square miles.

RECORDS AVAILABLE.—August, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 14,600 second-feet Mar. 23 (gage height, 26.3 feet); minimum discharge, 1.0 second-foot Sept. 1; minimum gage height, 1.45 feet Oct. 2.

1925–1929: Maximum discharge, that of Mar. 23, 1929; no flow Sept. 6, 15–28, 1925.

REMARKS.—Records fair below and poor above 1,000 second-feet.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	34	468	72	95	573	158	172	36	67	290	1.2
2	2.0	30	261	74	72	337	131	260	32	98	131	1.6
3	2.6	30	189	68	68	261	112	230	144	86	98	1.7
4	7.0	32	134	62	65	306	98	200	144	131	65	3.2
5	20	28	108	134	65	938	86	179	53	98	43	98
6	21	25	95	401	134	537	74	340	27	67	30	62
7	13	24	78	246	261	353	67	1,160	22	53	25	42
8	10	30	65	203	217	276	60	495	16	41	22	16
9	9.3	48	50	140	168	175	56	420	16	30	23	5.5
10	8.6	44	45	261	147	121	92	290	14	22	24	4.0
11	6.2	40	41	231	114	95	105	186	13	18	21	3.6
12	5.9	37	38	175	95	82	112	131	14	17	32	3.2
13	4.4	34	36	114	75	82	105	105	79	33	37	39
14	3.5	32	44	102	72	1,870	86	77	45	25	27	71
15	3.3	27	45	95	65	774	78	215	30	79	21	37
16	6.5	25	41	88	82	401	79	230	20	79	16	25
17	13	22	48	82	76	276	67	200	16	144	15	21
18	161	77	306	140	69	189	59	172	55	73	14	14
19	128	3,310	246	797	66	140	51	320	57	320	10	13
20	60	2,260	154	485	88	95	44	370	41	144	7.4	10
21	42	385	108	306	468	75	47	275	24	79	6.4	8.6
22	32	231	88	261	502	353	67	186	17	55	5.5	7.4
23	369	154	72	276	369	8,320	60	144	14	36	4.6	6.4
24	261	121	66	337	231	1,930	60	98	16	30	3.8	6.4
25	175	95	63	1,750	502	510	86	86	570	23	5.5	24
26	128	72	48	938	1,540	320	75	98	1,080	18	6.4	105
27	69	63	47	369	820	245	68	86	340	18	5.5	72
28	46	56	48	291	914	230	275	67	230	77	4.6	48
29	40	46	49	217	-------	179	370	55	138	52	3.4	43
30	36	95	47	161	-------	165	215	55	79	60	2.0	47
31	33	-------	40	128	-------	165	-------	47	-------	158	1.2	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	369	2.0	55.4	1.19	1.37
November	3,310	22	250	5.39	6.01
December	468	36	102	2.20	2.54
January	1,750	62	290	6.25	7.21
February	1,540	65	266	5.73	5.97
March	8,320	75	657	14.15	16.32
April	370	44	101	2.18	2.43
May	1,160	47	224	4.83	5.57
June	1,080	13	113	2.44	2.72
July	320	17	72.0	1.55	1.79
August	290	1.2	32.3	.696	.80
September	105	1.2	28.0	.604	.67
The year	8,320	1.2	183	3.94	53.40

PINEY RIVER AT SPRING CITY, TENN.

LOCATION.—Staff gage at highway bridge on Dayton-Harriman pike, 175 feet below Southern Railway bridge and 1 mile north of Spring City, Rhea County. Zero of gage is 755.76 feet above mean sea level.

DRAINAGE AREA.—96.7 square miles.

RECORDS AVAILABLE.—June, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, about 16,500 second-feet Mar. 23 (gage height, 8.25 feet); minimum, 1.4 second-feet Sept. 4, 5.

1927–1929: Maximum discharge, that of Mar. 23, 1929; no flow on several days in October and November, 1927.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.0	76	256	125	224	1,060	269	800	68	53	133	1.6
2	8.0	66	220	148	189	835	234	1,240	78	52	66	1.5
3	8.0	60	202	136	164	590	201	835	105	45	44	1.4
4	25	58	181	132	148	730	175	540	72	34	32	1.4
5	74	52	164	228	144	1,860	160	402	55	26	25	3.2
6	90	48	140	780	310	1,000	133	660	44	22	18	3.8
7	64	45	125	514	539	680	112	1,320	36	20	15	2.9
8	44	62	110	372	424	475	97	750	32	17	15	3.2
9	31	66	96	300	378	365	89	750	37	14	14	3.5
10	25	60	88	590	332	285	269	540	29	13	35	62
11	22	56	79	590	280	242	293	409	24	14	44	30
12	19	54	74	424	238	206	190	299	20	24	62	15
13	16	50	71	354	206	251	140	218	25	26	58	416
14	15	48	82	256	185	5,060	116	170	34	41	37	275
15	14	45	76	228	160	1,640	119	170	25	66	25	122
16	15	44	68	206	189	1,000	140	269	20	35	17	74
17	50	42	79	185	164	680	133	201	16	26	14	150
18	582	52	321	228	148	475	119	190	14	28	12	112
19	300	4,600	290	1,300	140	378	100	1,240	15	36	10	66
20	172	2,260	251	680	185	310	92	1,100	14	30	8.6	48
21	110	780	206	505	1,060	260	83	705	12	26	7.4	37
22	85	505	181	445	890	310	112	470	10	17	6.6	28
23	1,180	343	148	452	556	8,300	100	338	9.5	13	5.4	25
24	590	275	132	680	475	1,470	89	234	12	12	5.0	21
25	343	224	118	3,540	1,000	800	126	170	150	12	4.4	74
26	242	181	100	1,180	2,020	580	126	155	402	11	3.5	422
27	181	156	110	730	1,440	470	112	130	201	11	3.2	293
28	140	136	110	556	2,100	416	470	126	245	66	2.6	170
29	110	118	96	417	-------	338	660	145	136	38	2.0	112
30	88	148	85	332	-------	318	435	116	76	28	1.9	81
31	79	-------	79	275	-------	257	-------	78	-------	35	1.7	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,180	8.0	153	1.58	1.82
November	4,600	42	357	3.69	4.12
December	321	68	140	1.45	1.67
January	3,540	125	545	5.64	6.50
February	2,100	140	511	5.28	5.50
March	8,300	206	1,020	10.55	12.16
April	660	83	183	1.89	2.11
May	1,320	78	477	4.93	5.68
June	402	9.5	67.2	.695	.78
July	66	11	28.7	.297	.34
August	133	1.7	23.5	.243	.28
September	422	1.4	88.5	.916	1.02
The year	8,300	1.4	299	3.09	41.98

RICHLAND CREEK AT DAYTON, TENN.

LOCATION.—Staff gage at highway bridge on Dayton-Chattanooga pike in Dayton, Rhea County, 1,000 feet below Southern Railway bridge. Zero of gage is 684.73 feet above mean sea level.

DRAINAGE AREA.—71.7 square miles.

RECORDS AVAILABLE.—June, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, about 7,940 second-feet Mar. 23 (gage height, 8.0 feet); no flow July 28 and Aug. 19 to Sept. 12.

1927–1929: Maximum and minimum discharge, those of 1929.

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

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	84	260	35	58	740	160	2,780	128	68	39	0
2	1.6	76	215	29	51	560	118	1,350	202	58	35	0
3	1.0	66	202	25	58	342	106	722	137	52	36	0
4	114	53	177	32	70	365	96	435	121	37	24	0
5	70	46	157	39	74	700	78	355	109	21	14	0
6	39	56	132	51	144	415	72	465	90	16	6.4	0
7	32	47	112	58	146	279	68	1,190	66	13	5.2	0
8	28	82	88	72	136	205	64	640	50	9.2	4.4	0
9	24	74	72	82	122	180	56	530	45	5.6	4.4	0
10	20	66	58	415	110	169	64	380	37	4.0	11	0
11	15	58	46	365	106	136	65	290	24	4.0	32	0
12	13	49	36	260	110	124	60	218	18	3.0	16	0
13	11	38	29	149	95	124	59	176	18	1.1	8.6	30
14	9.0	28	26	126	82	3,540	64	133	23	9.2	3.6	37
15	7.2	24	26	124	74	865	65	123	20	33	.9	64
16	6.0	18	25	115	64	560	233	157	13	16	.2	66
17	28	12	23	119	58	342	199	133	9.2	9.8	.1	66
18	225	20	35	124	51	225	151	185	17	9.2	.1	53
19	169	2,140	72	470	46	183	118	1,190	19	16	0	46
20	155	1,980	115	300	76	146	104	765	10	10	0	35
21	144	1,820	97	242	189	122	88	498	5.6	5.2	0	18
22	134	1,160	78	222	342	112	90	310	3.3	3.2	0	11
23	590	740	70	235	225	4,340	88	218	3.0	.2	0	10
24	470	625	62	124	189	1,050	78	168	9.2	.3	0	9.8
25	218	590	58	1,160	390	508	92	137	100	.2	0	60
26	163	530	51	780	960	342	98	290	270	.1	0	157
27	122	500	44	88	625	276	82	405	202	.1	0	116
28	112	442	38	55	1,060	240	735	252	193	0	0	73
29	103	365	32	47	-------	178	445	182	130	4.8	0	55
30	95	320	29	41	-------	145	300	182	96	40	0	53
31	88	-------	35	39	-------	140	-------	165	-------	24	0	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	590	1.0	104	1.45	1.67
November	2,140	12	404	5.63	6.28
December	260	23	80.6	1.12	1.29
January	1,160	25	194	2.71	3.12
February	1,060	46	204	2.85	2.97
March	4,340	112	569	7.94	9.15
April	735	56	136	1.90	2.12
May	2,780	123	485	6.77	7.79
June	270	3.0	72.3	1.01	1.13
July	68	0	15.3	.213	.25
August	39	0	7.77	.108	.12
September	157	0	32.0	.446	.50
The year	4,340	0	192	2.68	36.39

HIWASSEE RIVER AT MURPHY, N. C.

LOCATION.—Water-stage recorder 500 feet downstream from concrete bridge in Murphy, Cherokee County, and half a mile upstream from mouth of Valley River.

DRAINAGE AREA.—410 square miles.

RECORDS AVAILABLE.—June, 1896, to June, 1917; October, 1918, to September, 1929.

EXTREMES.—Maximum discharge during year, 14,300 second-feet Sept. 26 (gage height, 10.3 feet); minimum, 249 second-feet Sept. 2 (gage height, 1.91 feet). 1896–1917, 1918–1929: Maximum discharge, 23,100 second-feet Mar. 19, 1899 (gage height, 18.4 feet, old gage); minimum gage height, 2.10 feet Dec. 6, 1924 (caused by regulation; discharge not determined).

REMARKS.—Records good except those for estimated periods, Oct. 14–17 and Sept. 15–24, which are fair. Considerable diurnal fluctuation caused by operation of Andrews municipal dam.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	612	584	710	603	993	3,220	1,820	2,960	3,330	1,690	1,560	294
2	556	546	603	641	949	2,520	1,820	2,740	1,690	1,520	1,000	401
3	593	603	518	556	886	1,960	1,760	3,180	2,440	1,330	844	289
4	641	546	527	546	833	2,440	1,760	2,740	1,690	1,250	730	457
5	584	518	537	574	939	5,960	1,820	2,880	1,510	1,310	661	423
6	632	518	537	1,730	1,930	3,910	1,760	3,740	1,400	1,110	612	416
7	565	641	518	949	1,960	2,880	1,690	4,940	1,310	1,140	641	474
8	574	501	501	781	1,520	2,300	1,620	3,030	1,350	949	741	448
9	556	509	509	792	1,530	2,160	1,440	3,260	1,480	917	720	501
10	565	584	509	1,410	1,530	1,960	1,140	2,440	1,250	982	681	385
11	537	483	501	1,230	1,320	1,620	1,590	2,100	1,160	939	710	355
12	565	474	492	1,050	1,180	1,690	1,290	1,890	1,080	939	864	466
13	537	457	474	864	1,100	2,160	1,160	1,820	1,020	1,090	720	408
14	483	492	518	751	1,050	5,860	1,100	1,690	1,020	1,020	612	565
15	448	385	518	730	1,000	6,960	1,430	1,890	1,050	896	546	458
16	457	440	474	710	1,170	4,700	1,760	1,890	971	833	537	556
17	518	457	518	761	1,090	3,400	1,430	2,160	1,000	802	527	631
18	1,420	466	641	1,550	1,020	2,810	1,230	2,240	971	886	518	570
19	982	978	546	2,020	971	2,440	1,190	4,890	1,000	1,350	546	448
20	720	906	537	1,560	1,010	2,160	1,120	5,680	1,080	939	537	416
21	641	651	546	1,320	1,360	2,020	1,140	4,130	939	812	518	392
22	593	603	492	1,310	1,310	2,380	1,430	2,960	928	792	518	415
23	1,540	584	501	1,240	1,190	3,830	1,120	2,380	939	751	501	466
24	1,000	537	501	1,430	1,100	4,310	1,090	2,020	1,000	720	492	590
25	761	574	474	1,760	1,060	2,960	1,830	1,890	1,370	792	527	3,930
26	681	466	466	1,760	1,430	2,520	1,690	1,760	2,160	802	593	12,300
27	622	492	518	1,620	2,160	2,240	1,430	1,820	3,480	875	518	3,490
28	651	492	537	1,550	6,180	2,240	2,860	1,620	3,480	771	431	2,020
29	565	518	431	1,370	-------	2,100	3,610	1,610	2,520	833	324	1,480
30	584	641	501	1,240	-------	1,890	2,520	2,040	1,960	906	408	1,230
31	518	-------	448	1,120	-------	1,890	-------	1,790	-------	1,020	474	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,540	448	671	1.64	1.89
November	978	385	555	1.35	1.51
December	710	431	519	1.27	1.46
January	2,020	546	1,150	2.80	3.23
February	6,180	833	1,420	3.46	3.60
March	6,960	1,620	2,950	7.20	8.30
April	3,610	1,090	1,620	3.95	4.41
May	5,680	1,610	2,650	6.46	7.45
June	3,480	928	1,550	3.78	4.22
July	1,690	720	999	2.44	2.81
August	1,560	324	633	1.54	1.78
September	12,300	289	1,180	2.88	3.21
The year	12,300	289	1,320	3.22	43.87

HIWASSEE RIVER NEAR RELIANCE, TENN.

LOCATION.—Water-stage recorder just above notch between rock bluffs half a mile below mouth of Spring Creek and 3 miles below highway bridge at Reliance, Polk County. Zero of gage is 718.66 feet above mean sea level.

DRAINAGE AREA.—1,220 square miles.

RECORDS AVAILABLE.—October, 1926, to September, 1929. Records at Reliance, 3 miles upstream, from August, 1900, to December, 1913, and February, 1919, to September, 1926.

EXTREMES.—Maximum discharge during year, 24,600 second-feet Sept. 26 (gage height, 15.6 feet); minimum, 856 second-feet Sept. 4 (gage height, 3.34 feet).

1926–1929: Maximum discharge, 25,600 second-feet Sept. 3, 1928 (gage height, 16.0 feet); minimum, 590 second-feet Oct. 10, 1926 (gage height, 2.88 feet).

REMARKS.—Records good. Possibly slight diurnal fluctuation caused by operation of power plants near headwaters.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,690	1,420	2,140	1,460	2,950	10,200	4,630	7,550	5,100	3,470	4,480	1,100
2	1,600	1,460	1,980	1,880	2,710	7,360	4,630	12,000	4,180	3,210	2,590	895
3	1,550	1,460	1,740	1,780	2,650	5,920	4,030	9,580	6,260	3,210	2,140	1,060
4	1,640	1,600	1,600	1,550	2,530	5,420	4,030	6,980	4,480	2,830	1,930	928
5	1,740	1,460	1,600	1,600	2,650	14,300	3,890	6,620	4,030	3,340	1,780	1,100
6	1,640	1,380	1,550	2,650	3,210	11,500	3,750	8,140	3,750	2,830	1,690	1,130
7	1,640	1,420	1,550	3,210	5,260	7,740	3,610	17,300	3,470	2,770	1,640	1,100
8	1,550	1,550	1,510	2,360	4,030	6,090	3,470	10,000	3,470	2,470	1,600	1,270
9	1,510	1,420	1,460	1,980	3,750	5,420	3,470	9,370	3,750	2,360	1,780	1,310
10	1,600	1,380	1,460	2,590	3,890	4,940	3,470	7,550	3,340	2,420	1,550	1,510
11	1,550	1,460	1,420	4,180	3,610	4,330	4,180	6,260	3,080	2,530	1,550	1,200
12	1,460	1,350	1,420	3,210	3,340	4,030	4,940	5,580	3,020	2,360	2,030	1,100
13	1,420	1,310	1,420	2,650	3,080	4,180	3,890	5,260	3,020	3,210	1,930	1,420
14	1,380	1,310	1,380	2,300	2,950	12,200	3,470	4,940	2,830	2,650	1,640	1,510
15	1,380	1,310	1,460	2,080	2,890	17,300	4,480	5,260	2,890	2,470	1,550	1,350
16	1,380	1,240	1,420	2,030	3,020	12,000	8,950	4,940	2,770	2,250	1,420	1,240
17	2,470	1,270	1,420	2,080	3,210	8,140	5,920	5,580	2,590	2,250	1,350	3,610
18	2,300	1,310	1,740	2,710	3,020	6,620	4,630	5,100	2,710	2,080	1,310	2,830
19	3,210	2,300	1,830	6,260	2,950	5,750	4,030	10,700	2,770	2,530	1,310	1,550
20	2,080	3,470	1,600	5,580	3,080	5,260	3,750	17,600	2,710	2,710	1,310	1,350
21	1,740	2,420	1,550	4,030	4,330	4,780	3,610	12,000	2,530	2,030	1,240	1,240
22	1,640	1,930	1,510	3,750	4,780	6,440	4,030	8,540	2,530	1,930	1,240	1,240
23	1,980	1,740	1,420	3,470	4,030	12,000	4,030	6,800	2,710	1,880	1,200	1,240
24	3,340	1,690	1,420	3,610	3,750	14,300	3,610	5,920	3,080	1,830	1,240	1,350
25	2,200	1,600	1,380	4,780	3,610	8,140	3,890	5,260	3,210	1,880	1,270	4,030
26	1,880	1,550	1,350	5,750	4,330	6,440	5,420	4,940	4,180	1,980	1,270	21,700
27	1,740	1,460	1,380	4,630	6,800	5,750	4,180	4,780	6,620	2,360	1,270	10,200
28	1,640	1,510	1,510	4,330	13,900	5,580	6,620	4,780	8,140	2,140	1,130	4,940
29	1,640	1,510	1,510	3,750	-------	4,940	12,000	4,630	5,420	2,030	1,100	3,610
30	1,550	1,600	1,350	3,470	-------	4,940	6,800	4,780	4,030	2,030	1,020	2,950
31	1,550	-------	1,350	3,210	-------	4,630	-------	4,330	-------	2,530	1,060	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,340	1,380	1,800	1.48	1.71
November	3,470	1,240	1,600	1.31	1.46
December	2,140	1,350	1,530	1.25	1.44
January	6,260	1,460	3,190	2.61	3.01
February	13,900	2,530	3,940	3.23	3.36
March	17,300	4,030	7,630	6.25	7.21
April	12,000	3,470	4,710	3.86	4.31
May	17,600	4,330	7,520	6.16	7.10
June	8,140	2,530	3,760	3.08	3.44
July	3,470	1,830	2,470	2.02	2.33
August	4,480	1,020	1,600	1.31	1.51
September	21,700	895	2,700	2.21	2.47
The year	21,700	895	3,540	2.90	39.35

HIWASSEE RIVER AT CHARLESTON, TENN.

LOCATION.—Water-stage recorder at Epperson packing plant, 250 feet above Southern Railway bridge at Charleston, Bradley County. Zero of gage is 665.53 feet above mean sea level.

DRAINAGE AREA.—2,300 square miles.

RECORDS AVAILABLE.—January, 1899, to December, 1902; October, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, about 37,800 second-feet Mar. 24 (gage height, 22.6 feet); minimum, 1,130 second-feet Sept. 2 (gage height, 1.73 feet).

1920–1929: Maximum discharge, about 49,500 second-feet Jan. 22, 1922 (gage height, 28.2 feet); minimum, 260 second-feet Sept. 14, 1925 (gage height, 0.22 foot).

Maximum stage known, 34.0 feet Mar. 31, 1886.

REMARKS.—Records good below and fair above 20,000 second-feet. High-water flow affected by backwater from Tennessee River. Considerable regulation during low and medium stages caused by operation of power plant on Ocoee River.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,610	3,540	3,300	3,300	5,720	22,800	7,820	11,900	8,660	6,700	6,840	1,400
2	3,420	3,670	3,180	3,420	5,020	17,400	9,080	22,100	8,100	6,140	5,580	1,280
3	3,300	3,800	2,500	3,800	3,670	13,900	7,540	23,200	8,240	6,280	4,460	1,960
4	3,300	2,830	2,940	3,420	4,190	11,600	7,400	15,800	9,920	5,300	2,830	2,150
5	3,060	2,940	3,180	2,610	5,160	19,900	7,120	12,200	8,520	4,460	3,060	2,100
6	2,720	3,930	3,540	2,610	6,000	25,500	6,980	13,300	6,840	6,980	3,930	2,100
7	2,200	4,320	3,300	4,880	8,380	17,000	5,440	26,500	6,700	5,860	3,930	2,000
8	2,150	3,930	3,420	4,060	7,680	13,600	5,440	26,200	6,560	5,020	2,940	1,600
9	2,300	3,180	2,500	3,540	6,560	11,900	6,280	19,900	6,280	5,300	3,180	1,860
10	2,400	2,720	2,300	4,060	5,440	9,920	6,140	17,000	5,440	5,160	2,830	2,610
11	2,720	1,910	2,830	6,000	5,580	8,240	7,540	13,600	6,420	4,880	2,000	2,200
12	2,400	2,100	3,060	5,720	6,000	7,540	9,220	11,000	5,580	5,020	3,060	2,000
13	2,150	2,610	2,830	4,060	5,720	7,260	6,840	8,380	5,720	5,020	3,930	2,610
14	2,720	2,400	2,400	3,540	5,440	16,300	5,720	8,520	5,300	4,460	3,670	2,830
15	3,540	2,300	2,150	4,060	5,440	29,800	7,120	9,220	5,300	4,740	3,800	2,100
16	3,670	2,400	2,000	3,800	5,160	27,200	18,200	10,100	4,880	3,930	2,940	2,200
17	5,020	2,200	2,100	3,800	4,060	18,400	14,200	12,000	4,600	3,800	2,610	6,420
18	4,880	1,730	3,300	4,600	4,460	14,200	9,360	10,900	4,740	3,540	2,300	6,980
19	5,020	3,300	3,670	8,800	5,020	11,900	7,820	13,300	4,880	4,190	2,500	4,060
20	4,060	7,260	3,540	8,240	5,300	9,360	6,840	27,000	4,600	4,880	2,830	3,670
21	2,500	6,280	3,180	6,840	7,260	8,660	6,560	27,500	5,160	3,300	2,500	3,180
22	2,610	5,160	2,830	6,840	8,520	9,640	7,820	19,900	4,880	3,060	2,610	1,730
23	4,060	4,460	1,960	6,560	7,260	24,500	7,680	14,800	4,600	4,460	2,610	2,150
24	6,140	3,800	1,780	6,700	5,440	36,600	6,420	11,600	4,600	3,180	2,300	3,060
25	5,160	2,200	1,730	8,520	5,440	28,200	6,560	10,500	6,140	3,300	1,680	3,540
26	3,800	2,500	2,200	10,200	8,520	21,300	8,940	9,360	6,000	3,670	2,000	15,400
27	3,420	2,940	2,720	7,960	12,700	16,300	8,240	9,080	8,520	3,420	2,300	20,000
28	2,610	2,940	2,150	7,540	19,000	12,200	9,640	9,220	13,300	2,830	2,500	10,500
29	2,830	2,400	2,200	7,400	-------	10,600	19,900	8,660	11,300	3,180	2,200	7,680
30	3,670	2,100	1,820	6,560	-------	10,100	13,300	8,660	9,080	3,930	2,000	6,000
31	3,670	-------	2,200	6,140	-------	8,240	-------	8,240	-------	4,600	1,960	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,140	2,150	3,360	1.46	1.68
November	7,260	1,730	3,260	1.42	1.58
December	3,670	1,730	2,670	1.16	1.34
January	10,200	2,610	5,470	2.38	2.74
February	19,000	3,670	6,580	2.86	2.98
March	36,600	7,260	16,100	7.00	8.07
April	19,900	5,440	8,570	3.73	4.16
May	27,500	8,240	14,500	6.30	7.26
June	13,300	4,600	6,700	2.91	3.25
July	6,980	2,830	4,540	1.97	2.27
August	6,840	1,680	3,030	1.32	1.52
September	20,000	1,280	4,250	1.85	2.06
The year	36,600	1,280	6,600	2.87	38.91

VALLEY RIVER AT TOMOTLA, N. C.

LOCATION.—Chain gage on highway bridge at Tomotla, Cherokee County, half a mile upstream from Rodgers Creek.

DRAINAGE AREA.—106 square miles.

RECORDS AVAILABLE.—June, 1904, to December, 1909; January, 1914, to April, 1917; October, 1918, to September, 1929.

EXTREMES.—Maximum discharge during year, 3,650 second-feet Apr. 28 (gage height, 10.0 feet); minimum, 66 second-feet six times from Sept. 3 to 16 (gage height, 0.96 foot).

1904–1909, 1914–1917, 1918–1929: Maximum discharge (estimated), 7,780 second-feet Nov. 19, 1906 (gage height, 17. 3 feet); minimum, 12 second-feet several times in August and September, 1925 (gage height, 0.52 foot).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	230	125	254	280	350	984	394	948	336	280	164	70
2	207	123	218	230	308	768	379	1,060	336	242	144	68
3	185	134	207	196	294	590	350	804	488	230	134	66
4	164	134	196	185	280	757	336	660	350	218	125	78
5	154	125	174	242	294	1,900	322	732	308	207	114	84
6	144	121	154	394	660	1,170	308	1,140	280	185	111	76
7	144	125	144	322	624	840	294	1,490	267	174	107	73
8	134	134	144	267	488	696	280	948	267	154	107	91
9	134	125	134	230	488	590	280	876	254	174	105	164
10	125	123	134	753	456	556	280	732	230	164	116	104
11	125	116	134	556	336	488	456	590	218	174	218	87
12	125	114	134	424	364	424	424	522	218	308	134	73
13	121	114	134	322	322	488	322	456	207	196	121	91
14	118	114	144	280	322	1,430	308	456	207	185	111	91
15	118	112	134	267	308	1,450	488	590	196	164	104	70
16	144	111	134	242	364	984	804	556	185	154	100	174
17	185	112	134	254	336	804	590	556	185	154	96	218
18	196	112	207	1,170	294	660	488	456	185	164	92	134
19	174	646	174	1,130	294	522	424	1,700	207	164	92	107
20	154	456	164	804	322	488	379	1,720	185	144	89	96
21	144	230	154	590	456	456	336	1,210	174	144	89	86
22	134	196	144	522	394	522	364	912	185	134	87	81
23	316	174	144	522	336	1,090	322	732	267	125	86	87
24	207	154	154	660	322	876	308	590	242	121	91	96
25	164	144	144	840	394	624	488	522	350	118	86	1,070
26	144	134	144	804	537	556	424	456	394	164	78	2,000
27	134	134	164	660	732	522	294	456	974	185	76	590
28	134	134	164	556	1,840	456	2,010	456	660	164	74	336
29	125	134	144	456	-------	424	1,370	394	488	154	73	254
30	125	242	134	394	-------	456	984	350	336	154	73	230
31	134	-------	144	379	-------	394	-------	336	-------	174	70	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	316	118	156	1.47	1.70
November	646	111	165	1.56	1.74
December	254	134	158	1.49	1.72
January	1,170	185	482	4.55	5.25
February	1,840	280	447	4.22	4.39
March	1,900	394	741	6.99	8.06
April	2,010	280	494	4.66	5.20
May	1,720	336	755	7.12	8.21
June	974	174	306	2.89	3.22
July	308	118	177	1.67	1.92
August	218	70	105	.991	1.14
September	2,000	66	228	2.15	2.40
The year	2,010	66	351	3.31	44.95

NOTTELY RIVER NEAR RANGER, N. C.

LOCATION.—Staff gage 200 feet above highway bridge, half a mile downstream from Ranger, Cherokee County, and 7½ miles southwest of Murphy, since Mar. 15. Chain gage at highway bridge used prior to that date.

DRAINAGE AREA.—272 square miles.

RECORDS AVAILABLE.—February, 1901, to December, 1905; January, 1914, to April, 1917; October, 1918, to September, 1929.

EXTREMES.—Maximum discharge during year, 6,160 second-feet Sept. 26 (gage height, about 14.1 feet); minimum, 192 second-feet Aug. 28 (gage height, 1.80 feet).

1901–1905, 1914–1917, 1918–1929: Maximum gage height, 21.0 feet Feb. 28, 1902 (discharge not determined); minimum discharge, 41 second-feet Sept. 6, 7, 23, 24, 1925 (gage height, 1.80 feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	412	380	412	332	572	1,740	900	2,280	940	862	1,700	268
2	412	540	364	316	508	1,180	900	2,010	712	786	1,580	268
3	396	444	348	316	412	786	824	1,740	1,300	676	1,100	222
4	364	412	348	300	508	1,180	640	1,340	1,020	676	640	268
5	380	380	348	316	508	3,040	862	1,580	824	786	572	316
6	396	348	348	676	980	1,920	824	2,860	786	676	476	284
7	364	412	332	572	940	1,380	748	4,050	640	676	364	237
8	364	396	332	476	824	1,220	712	1,680	748	748	380	268
9	348	364	332	444	712	940	572	1,920	640	508	396	300
10	476	348	316	940	676	862	640	676	712	508	640	222
11	380	348	316	786	640	862	940	1,420	712	572	940	364
12	364	332	316	606	606	786	862	1,260	640	748	676	412
13	348	332	316	508	572	2,300	786	1,060	572	572	712	444
14	332	332	332	444	540	3,960	1,180	786	606	572	444	364
15	316	332	316	444	712	2,460	1,180	1,100	572	572	332	412
16	412	332	300	412	640	1,780	1,020	1,100	640	572	268	508
17	640	316	316	444	606	1,380	900	1,060	572	476	222	606
18	572	316	444	712	676	1,260	900	1,540	712	444	268	572
19	1,060	508	396	1,020	540	1,100	748	4,340	712	572	332	348
20	606	572	348	1,020	572	1,020	712	2,320	640	940	300	284
21	476	476	332	862	572	900	640	1,880	572	476	332	237
22	476	412	332	712	540	1,260	1,180	1,460	508	444	300	300
23	1,360	396	316	640	540	2,010	786	1,260	940	476	252	412
24	940	380	316	862	508	2,630	640	1,100	862	540	222	640
25	540	364	316	786	572	1,700	1,480	1,060	1,020	476	284	2,970
26	476	348	300	606	786	1,380	1,100	1,260	1,260	508	332	5,150
27	444	348	332	824	824	1,100	940	1,100	1,740	476	268	1,420
28	412	332	332	940	3,010	1,300	2,010	1,060	940	444	207	862
29	396	332	316	748	------	1,260	1,580	1,060	862	444	268	712
30	396	348	316	676	------	1,180	1,180	1,020	862	676	300	572
31	380	------	300	640	------	980	------	786	------	1,380	284	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,360	316	492	1.81	2.09
November	572	316	383	1.41	1.57
December	444	300	335	1.23	1.42
January	1,020	300	625	2.30	2.65
February	3,010	412	718	2.64	2.75
March	3,960	786	1,510	5.55	6.40
April	2,010	572	946	3.48	3.88
May	4,340	676	1,580	5.81	6.70
June	1,740	508	809	2.97	3.31
July	1,380	444	622	2.29	2.64
August	1,700	207	496	1.82	2.10
September	5,150	222	675	2.48	2.77
The year	5,150	207	768	2.82	38.28

TOCCOA RIVER NEAR DIAL, GA.

LOCATION.—Water-stage recorder half a mile above Shallow Ford, 1 mile above Stanley Creek, and 4 miles northwest of Dial, Fannin County. Zero of gage is 1,781.13 feet above mean sea level.

DRAINAGE AREA.—175 square miles.

RECORDS AVAILABLE.—January, 1913, to September, 1929. May, 1907, to June, 1908, at Butts Bridge, 2 miles above Dial.

EXTREMES.—Maximum discharge during year, 5,660 second-feet Sept. 25 (gage height, 7.10 feet); minimum, 274 second-feet Sept. 2 (gage height, 1.25 feet).

1913–1929: Maximum discharge, about 9,200 second-feet July 9, 1916 (gage height, 10.0 feet); minimum, 60 second-feet Sept. 6, 1925 (gage height, 0.40 foot).

REMARKS.—Records good. Discharge based on auxiliary staff gage readings Oct. 1–16. Slight diurnal fluctuation caused by operation of small mills upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	410	362	408	441	496	1,200	1,060	1,860	823	823	542	279
2	398	362	379	362	480	988	988	1,730	853	766	456	276
3	390	355	366	332	476	823	918	1,400	886	710	430	279
4	390	372	355	332	468	1,520	918	1,200	793	766	415	300
5	390	362	352	441	476	2,220	886	1,130	738	673	397	300
6	390	355	342	658	648	1,440	853	2,170	716	673	393	313
7	390	349	339	452	727	1,170	823	2,470	700	624	433	326
8	383	349	332	408	586	1,020	793	1,770	694	595	433	376
9	376	346	326	386	633	1,020	793	1,600	683	577	390	386
10	372	343	322	823	568	918	793	1,360	658	595	411	329
11	362	340	319	605	534	853	886	1,240	638	564	542	372
12	355	325	319	508	513	853	766	1,170	624	551	464	319
13	349	315	319	468	504	2,170	722	1,090	614	542	408	418
14	340	315	362	437	492	3,540	727	1,090	605	525	386	372
15	362	313	336	426	517	2,840	953	1,060	619	521	372	342
16	710	311	326	437	551	1,980	953	1,090	586	513	362	673
17	710	332	342	500	508	1,640	793	988	610	508	352	793
18	1,060	345	359	610	488	1,440	738	1,090	624	573	352	452
19	625	648	342	643	480	1,320	694	1,900	595	560	345	362
20	430	525	332	546	525	1,240	694	1,810	614	480	336	332
21	372	411	329	534	823	1,280	705	1,480	573	460	326	326
22	390	393	319	529	653	1,320	705	1,280	560	452	326	397
23	962	372	313	534	573	3,300	653	1,170	586	445	316	376
24	680	362	310	600	542	2,080	638	1,090	668	445	322	386
25	452	359	310	793	529	1,600	1,360	1,020	1,060	476	352	3,060
26	430	349	304	683	766	1,400	918	1,020	1,600	492	319	1,560
27	410	342	329	710	1,200	1,320	793	1,060	2,320	484	310	1,170
28	390	336	313	663	2,220	1,240	1,980	953	1,400	488	304	793
29	383	332	307	591	-------	1,130	1,360	918	1,360	445	307	638
30	369	464	300	586	-------	1,200	1,170	886	953	484	291	600
31	362	-------	300	534	-------	1,060	-------	953	-------	853	285	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,060	340	464	2.65	3.06
November	648	311	368	2.10	2.34
December	408	300	333	1.90	2.19
January	823	332	535	3.06	3.53
February	2,220	468	642	3.67	3.82
March	3,540	823	1,520	8.69	10.02
April	1,980	638	901	5.15	5.75
May	2,470	886	1,320	7.54	8.69
June	2,320	560	825	4.71	5.26
July	853	445	570	3.26	3.76
August	542	285	377	2.15	2.48
September	3,060	276	564	3.22	3.59
The year	3,540	276	703	4.02	54.49

TOCCOA RIVER NEAR MORGANTON, GA.

LOCATION.—Water-stage recorder 1⅛ miles below highway bridge on Blue Ridge-Morganton road, 1¾ miles below mouth of Star Creek, and 2 miles west of Morganton, Fannin County. Zero of gage is 1,539.34 feet above mean sea level.

DRAINAGE AREA.—232 square miles.

RECORDS AVAILABLE.—November, 1898, to March, 1903; April, 1913, to September, 1929.

EXTREMES.—Maximum discharge during year, about 5,770 second-feet May 7 (gage height, 9.6 feet); minimum, 334 second-feet Sept. 2 (gage height, 2.16 feet).

1913–1929: Maximum discharge, about 13,900 second-feet July 9, 1916 (gage height, 13.0 feet); minimum, 73 second-feet Sept. 10, 24, 25, 1925.

REMARKS.—Records good. Slight diurnal fluctuation caused by operation of small mills upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	515	455	570	515	666	1,660	1,400	2,330	1,120	1,100	892	337
2	506	447	451	502	619	1,340	1,220	2,260	1,060	980	596	337
3	523	451	425	425	619	1,100	1,160	1,920	1,180	925	531	340
4	515	474	407	418	596	1,490	1,160	1,590	1,040	952	510	359
5	506	440	407	470	619	2,920	1,100	1,520	980	892	490	376
6	506	425	390	870	892	1,980	1,060	2,620	925	817	486	362
7	527	429	386	574	892	1,590	1,040	4,030	892	791	478	376
8	486	447	382	502	740	1,340	980	2,400	925	715	574	432
9	470	421	376	478	765	1,280	952	2,330	892	715	486	455
10	478	414	369	1,180	765	1,120	952	1,920	843	740	482	425
11	486	407	379	817	690	1,040	1,060	1,720	817	740	619	414
12	455	404	386	642	666	1,010	980	1,590	791	690	619	418
13	447	400	390	552	642	1,980	892	1,460	765	690	527	440
14	444	393	429	502	596	4,210	892	1,360	765	642	482	451
15	440	393	410	486	596	3,490	1,240	1,400	765	642	470	376
16	690	390	393	474	690	2,540	1,400	1,400	715	619	432	490
17	765	386	410	515	642	2,050	1,100	1,300	765	619	425	1,240
18	870	400	510	690	596	1,780	980	1,360	791	666	425	666
19	715	892	436	817	574	1,590	925	2,330	740	791	418	455
20	531	740	421	690	619	1,490	870	2,400	740	619	404	407
21	490	523	418	642	980	1,460	892	1,980	690	574	396	382
22	474	482	407	666	843	1,720	952	1,620	666	574	393	400
23	1,120	451	393	619	740	3,310	843	1,430	715	561	386	490
24	715	432	386	791	690	2,690	817	1,300	843	552	382	425
25	574	425	386	1,010	666	2,050	1,620	1,240	1,160	596	396	1,720
26	531	414	382	980	817	1,780	1,280	1,180	1,660	596	414	3,400
27	498	410	418	892	1,180	1,720	1,040	1,430	2,690	642	376	1,520
28	486	407	410	925	3,070	1,590	2,050	1,280	2,050	574	362	1,100
29	478	400	390	817	-------	1,490	1,920	1,180	1,720	619	369	843
30	478	455	382	740	-------	1,560	1,400	1,180	1,300	574	346	740
31	463	-------	382	715	-------	1,400	-------	1,180	-------	1,120	346	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,120	440	554	2.39	2.76
November	892	386	454	1.96	2.19
December	570	369	409	1.76	2.03
January	1,180	418	675	2.91	3.36
February	3,070	574	802	3.46	3.60
March	4,210	1,010	1,860	8.02	9.25
April	2,050	817	1,140	4.91	5.48
May	4,030	1,180	1,750	7.54	8.69
June	2,690	666	1,030	4.44	4.95
July	1,120	552	720	3.10	3.57
August	892	346	468	2.02	2.33
September	3,400	337	673	2.90	3.24
The year	4,210	337	880	3.79	51.45

OCOEE RIVER AT McHARGE, TENN.

LOCATION.—Staff gage at highway bridge half a mile downstream from McHarge railroad siding, Polk County, half a mile below mouth of Potato Creek, and 2½ miles downstream from Copperhill. Zero of gage is 1,430.46 feet above mean sea level.

DRAINAGE AREA.—451 square miles.

RECORDS AVAILABLE.—May, 1917, to September, 1929.

EXTREMES.—Maximum discharge during year, about 10,200 second-feet May 6 (gage height, 9.2 feet); minimum, 580 second-feet Dec. 30, 31.

1917–1929: Maximum discharge, about 13,100 second-feet Jan. 21, 1922 (gage height, 11.4 feet); minimum, 118 second-feet Sept. 22, 23, 1925 (gage height, 0.07 foot).

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	950	795	1,030	795	1,190	2,690	2,080	5,410	1,980	1,800	1 700	585
2	910	758	832	832	1,190	2,270	1,880	3,980	2,080	1,620	1 190	585
3	950	795	758	650	1,110	1,880	1,800	3,140	2,270	1,520	1 110	585
4	990	795	720	650	1,110	2,470	1,880	2,690	1,880	1,440	992	585
5	910	758	720	758	1,110	5,280	1,800	2,690	1,800	1,620	955	655
6	950	720	720	1,190	1,700	3,140	1,700	5,800	1,700	1,440	918	620
7	950	720	685	910	1,620	2,470	1,700	7,360	1,700	1,440	880	620
8	870	795	685	795	1,360	2,170	1,620	3,740	1,700	1,270	992	655
9	832	720	685	758	1,440	2,170	1,620	3,740	1,700	1,270	880	1,270
10	832	720	650	2,470	1,360	1,880	1,620	3,020	1,620	1,270	842	880
11	870	720	650	1,520	1,270	1,800	2,470	2,800	1,520	1,270	992	655
12	795	685	650	1,270	1,190	1,700	1,800	2,690	1,440	1,270	1,110	768
13	795	685	650	1,110	1,110	2,470	1,620	2,470	1,440	1,270	918	1,270
14	795	685	685	1,030	1,110	5,150	1,520	2,370	1,440	1,190	918	880
15	758	685	685	992	1,110	5,020	2,800	2,470	1,440	1,190	918	692
16	910	685	650	955	1,270	4,240	3,020	2,370	1,360	1,110	805	3,260
17	1,280	685	795	1,030	1,190	3,020	2,080	2,370	1,360	1,110	768	2,170
18	1,030	720	870	1,620	1,110	2,470	1,880	2,470	1,440	1,030	768	1,270
19	1,110	1,460	758	1,880	1,110	2,370	1,700	5,540	1,440	1,360	768	918
20	910	1,370	720	1,440	1,190	2,270	1,620	4,500	1,360	1,030	730	805
21	870	990	650	1,360	1,800	2,170	1,620	3,620	1,360	1,030	730	730
22	832	910	650	1,360	1,520	2,580	1,980	2,800	1,360	955	692	730
23	1,740	832	615	1,270	1,360	5,020	1,620	2,580	1,360	955	692	955
24	1,190	832	615	1,800	1,270	3,740	1,520	2,370	1,620	955	692	805
25	950	758	615	1,980	1,190	2,910	2,910	2,270	1,880	992	692	3,020
26	910	720	615	1,980	1,440	2,580	2,270	2,170	2,270	1,030	692	4,500
27	870	720	685	1,800	1,800	2,470	1,880	2,270	3,740	992	655	2,170
28	870	720	650	1,700	4,760	2,270	3,260	2,170	2,800	1,030	620	1,700
29	795	685	615	1,520	-------	2,170	3,020	2,080	2,690	1,110	620	1,360
30	832	758	580	1,360	-------	2,370	2,370	1,980	2,080	1,110	585	1,190
31	795	-------	615	1,270	-------	2,080	-------	1,980	-------	2,470	585	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,740	758	937	2.08	2.40
November	1,460	685	796	1.76	1.96
December	1,030	580	694	1.54	1.78
January	2,470	650	1,290	2.86	3.30
February	4,760	1,110	1,420	3.15	3.28
March	5,280	1,700	2,820	6.25	7.21
April	3,260	1,520	2,020	4.48	5.00
May	7,360	1,980	3,160	7.01	8.08
June	3,740	1,360	1,790	3.97	4.43
July	2,470	955	1,260	2.79	3.22
August	1,700	585	852	1.89	2.18
September	4,500	585	1,230	2.73	3.05
The year	7,360	580	1,520	3.37	45.89

OCOEE RIVER AT EMF, TENN.

LOCATION.—Water-stage recorder 700 feet below Tennessee Electric Power Co.'s Caney Creek power plant, half a mile upstream from Emf, Polk County, and 1½ miles downstream from mouth of Goforth Creek. Zero of gage is 830.00 feet above mean sea level.

DRAINAGE AREA.—530 square miles.

RECORDS AVAILABLE.—January, 1913, to September, 1929.

EXTREMES.—Maximum discharge during year, about 10,300 second-feet May 6 (gage height, 9.75 feet); minimum, 604 second-feet Sept. 3 (gage height, 3.67 feet).

1913–1929: Maximum discharge, about 21,400 second-feet July 10, 1916 (gage height, 13.7 feet); minimum, 50 second-feet, regulated flow, Sept. 17, 21, 1927 (gage height, 2.52 feet).

REMARKS.—Records fair. Diurnal fluctuation caused by operation of power plant.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	890	1,200	930	1,320	3,320	2,210	4,610	2,090	1,850	2,150	641
2	1,040	871	980	1,020	1,250	2,540	2,150	4,950	2,030	1,730	1,290	625
3	1,060	890	890	804	1,220	2,090	2,030	4,270	2,280	1,620	1,140	611
4	1,110	910	862	795	1,220	2,400	1,970	2,810	2,030	1,560	1,060	665
5	1,110	862	852	920	1,260	5,120	1,910	2,740	1,910	1,730	970	697
6	1,070	842	824	1,510	1,620	3,550	1,850	5,290	1,850	1,620	940	705
7	1,050	871	814	1,200	1,910	2,740	1,790	7,120	1,790	1,510	940	705
8	1,010	910	795	1,000	1,560	2,340	1,730	4,270	1,730	1,400	940	665
9	960	862	786	930	1,510	2,280	1,730	4,030	1,790	1,360	940	940
10	950	852	777	1,910	1,730	2,030	1,680	3,240	1,680	1,400	910	1,110
11	970	814	768	1,790	1,460	1,910	2,340	2,950	1,620	1,400	980	714
12	930	795	768	1,380	1,340	1,910	2,030	2,810	1,560	1,360	990	759
13	900	777	768	1,220	1,310	2,470	1,730	2,600	1,560	1,370	768	990
14	900	777	795	1,070	1,270	5,470	1,680	2,470	1,560	1,340	842	940
15	890	759	824	1,020	1,260	5,120	3,170	2,540	1,510	1,250	750	741
16	1,050	759	852	990	1,400	3,790	3,790	2,600	1,460	1,170	618	1,680
17	1,510	750	880	1,040	1,310	3,020	2,470	2,600	1,400	1,600	732	2,150
18	1,260	795	1,040	1,680	1,250	2,600	2,090	2,470	1,560	1,170	824	1,460
19	1,320	1,680	910	2,210	1,240	2,470	1,910	5,470	1,560	1,290	804	990
20	1,050	1,790	824	1,680	1,340	2,340	1,790	5,120	1,460	1,220	777	814
21	950	1,160	795	1,560	1,970	2,280	1,850	3,790	1,460	1,090	777	750
22	940	990	768	1,560	1,850	3,550	2,030	3,100	1,460	1,060	732	723
23	1,560	910	833	1,460	1,560	4,950	1,790	2,740	1,460	1,060	732	852
24	1,400	842	786	1,790	1,460	4,440	1,680	2,540	1,620	1,060	750	862
25	1,130	862	795	2,280	1,400	3,170	2,670	2,400	1,850	1,090	750	2,280
26	990	852	768	2,210	1,560	2,810	2,340	2,340	2,150	1,110	750	4,440
27	970	824	804	1,910	2,280	2,600	1,970	2,400	3,710	1,210	705	2,470
28	950	824	804	1,850	4,780	2,470	3,020	2,340	3,020	1,290	697	1,790
29	920	804	768	1,620	-------	2,280	3,470	2,210	3,020	1,190	681	1,460
30	920	910	795	1,510	-------	2,400	2,400	2,150	2,210	1,240	665	1,270
31	910	-------	795	1,400	-------	2,280	-------	2,090	-------	2,090	641	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,560	890	1,060	2.00	2.31
November	1,790	750	915	1.73	1.93
December	1,200	768	836	1.58	1.82
January	2,280	795	1,430	2.70	3.11
February	4,780	1,220	1,590	3.00	3.12
March	5,470	1,910	2,990	5.64	6.50
April	3,790	1,730	2,180	4.11	4.59
May	7,120	2,090	3,320	6.26	7.22
June	3,710	1,400	1,880	3.55	3.96
July	2,090	1,060	1,350	2.55	2.94
August	2,150	618	880	1.66	1.91
September	4,440	611	1,180	2.23	2.49
The year	7,120	611	1,640	3.10	41.90

OCOEE RIVER AT PARKSVILLE, TENN.

LOCATION.—Water-stage recorder 1,500 feet downstream from dam and power plant No. 1 of Tennessee Electric Power Co. at Parksville, Polk County. Zero of gage is 717.58 feet above mean sea level.

DRAINAGE AREA.—600 square miles.

RECORDS AVAILABLE.—January, 1911, to September, 1916; March, 1921, to September, 1929.

EXTREMES.—Maximum discharge during year, 12,100 second-feet May 7 (gage height, 12.95 feet); minimum, 20 second-feet Jan. 25 (gage height, 2.60 feet).

1911–1916, 1921–1929: Maximum discharge, 17,000 second-feet July 10, 1916 (gage height, 15.75 feet); minimum mean daily discharge, 6 second-feet Oct. 28, 1925 (gage height, 2.40 feet).

REMARKS.—Records good except those for July 17–26, which were estimated on basis of electric output of power plant. Great diurnal fluctuation caused by operation of power plant.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,260	1,710	1,040	1,330	1,610	2,560	2,140	5,170	2,570	2,130	1,630	40
2	1,350	1,710	52	1,200	890	3,140	2,530	7,510	1,140	2,210	1,860	245
3	1,310	1,660	791	1,580	74	1,940	2,020	6,570	2,460	1,770	1,300	994
4	1,040	62	1,160	782	1,760	3,410	2,060	3,380	3,040	200	46	828
5	747	1,990	1,550	267	1,930	7,420	2,200	3,610	2,720	2,320	1,930	732
6	341	2,160	1,530	30	1,910	5,260	1,460	4,710	2,090	2,020	1,820	732
7	76	2,220	1,430	1,250	1,920	2,330	165	10,700	2,130	1,240	1,300	495
8	465	1,760	1,260	826	1,850	2,510	1,840	6,920	2,160	2,050	962	64
9	591	1,100	338	1,150	1,130	2,970	3,470	5,960	260	1,930	1,140	600
10	696	608	902	938	80	2,120	2,040	5,080	2,070	1,950	568	898
11	630	62	1,240	1,290	1,920	2,050	3,280	4,420	1,500	1,770	240	457
12	580	864	1,380	1,150	1,880	2,060	2,250	1,610	1,790	1,730	1,160	825
13	582	840	720	40	1,890	2,120	1,800	2,000	1,410	1,300	1,350	870
14	1,520	942	532	1,210	1,970	7,100	710	2,130	1,580	890	1,310	586
15	1,640	711	241	1,370	1,840	8,260	4,300	2,800	1,480	1,600	1,060	72
16	1,690	786	50	1,160	948	6,570	6,810	3,740	895	1,060	1,070	2,120
17	1,660	286	1,100	1,260	85	4,370	3,530	3,180	1,340	1,250	892	2,850
18	833	40	1,010	1,360	1,620	4,450	2,170	3,080	1,400	1,460	272	2,380
19	1,180	1,770	1,340	1,270	1,840	3,480	2,100	5,180	1,280	1,370	1,160	1,840
20	542	2,030	1,360	566	1,750	2,210	1,690	8,180	1,320	1,310	994	2,010
21	81	2,130	1,140	1,850	861	1,980	1,670	6,870	1,630	50	948	620
22	1,200	2,000	410	1,980	1,530	2,770	2,910	4,330	1,430	1,120	1,120	536
23	1,090	1,970	43	1,820	1,060	6,570	2,010	2,880	640	1,400	1,120	1,150
24	1,570	585	48	1,890	56	5,960	1,820	2,560	1,610	1,230	469	1,680
25	1,310	48	45	1,920	1,780	5,100	2,250	2,490	1,890	1,550	87	2,080
26	976	1,170	1,300	1,180	1,850	3,700	2,820	2,920	1,700	1,330	782	3,250
27	902	948	530	652	1,830	3,260	2,230	2,980	3,370	590	772	3,400
28	66	1,060	477	1,860	2,390	3,260	3,960	2,460	3,600	96	1,060	3,390
29	1,500	48	241	1,920	-------	4,240	5,140	3,240	2,630	1,220	806	2,440
30	1,800	752	70	1,830	-------	2,320	3,000	2,430	1,800	1,400	720	1,680
31	1,760	-------	1,440	1,650	-------	851	-------	2,440	-------	1,800	420	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,800	66	1,000	1.67	1.92
November	2,220	40	1,130	1.88	2.10
December	1,550	43	799	1.33	1.53
January	1,980	30	1,240	2.07	2.39
February	2,390	56	1,440	2.40	2.50
March	8,260	851	3,750	6.25	7.21
April	6,810	165	2,540	4.23	4.72
May	10,700	1,610	4,240	7.07	8.15
June	3,600	640	1,830	3.05	3.40
July	2,320	50	1,400	2.33	2.69
August	1,930	46	979	1.63	1.88
September	3,400	40	1,330	2.22	2.48
The year	10,700	30	1,810	3.02	40.97

CHICKAMAUGA CREEK NEAR CHICKAMAUGA, TENN.

LOCATION.—Staff gage one-fourth mile above highway bridge on Chattanooga-Cleveland highway, 1½ miles south of Chicamauga, Hamilton County, and 12 miles above mouth.

DRAINAGE AREA.—426 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1929.

EXTREMES.—Maximum discharge during year, 15,400 second-feet Mar. 15 (gage height, 15.95 feet); minimum, 144 second-feet Aug. 28 and Sept. 2 (gage height, 0.78 foot).

REMARKS.—Records good. Possibly slight regulation caused by operation of small gristmill upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	204	222	372	285	718	4,920	866	903	644	355	755	168
2	204	215	355	285	644	3,530	792	2,530	718	338	390	144
3	204	215	355	285	607	2,110	718	3,860	1,050	320	372	150
4	302	246	338	268	570	1,910	681	2,070	644	302	243	162
5	372	222	320	268	570	4,810	644	1,480	498	285	222	174
6	285	215	302	534	940	5,720	607	1,550	498	302	236	180
7	268	208	285	498	1,280	3,720	607	6,210	444	285	215	180
8	226	208	240	408	829	1,870	570	4,200	426	268	208	180
9	208	222	226	390	940	1,630	534	4,430	426	285	204	180
10	201	222	226	1,280	1,210	1,210	570	3,910	408	268	222	180
11	201	204	222	1,360	866	940	718	2,320	390	285	302	180
12	194	194	212	718	755	829	755	1,130	355	268	390	215
13	194	190	201	718	718	866	570	940	355	355	268	534
14	187	190	190	534	644	6,760	534	829	355	462	240	644
15	187	184	184	755	607	14,500	1,320	1,020	355	355	229	268
16	229	184	204	792	755	9,570	2,880	1,750	338	285	215	250
17	302	184	268	903	718	3,720	1,670	1,280	320	285	215	498
18	302	190	498	1,320	644	2,030	978	2,450	320	320	198	607
19	426	1,870	426	1,870	607	1,320	792	3,570	338	498	168	285
20	268	1,550	338	1,870	607	1,170	718	4,920	355	355	174	222
21	208	1,020	320	1,870	2,530	1,020	644	3,620	320	285	150	201
22	201	462	285	1,750	1,870	2,400	718	2,400	428	250	150	180
23	1,090	372	268	792	1,090	7,150	570	1,280	570	268	180	194
24	718	338	250	1,130	903	12,100	644	978	534	285	198	226
25	355	338	240	2,280	829	8,200	1,480	829	462	268	215	320
26	302	320	240	2,360	2,280	4,810	1,710	829	408	268	153	570
27	268	285	250	1,710	2,030	3,380	978	1,020	428	355	156	408
28	243	268	240	1,480	6,950	1,750	1,090	755	534	355	147	338
29	240	285	240	1,090	------	1,280	1,090	644	490	320	171	285
30	232	426	229	903	------	1,090	866	607	644	338	180	250
31	229	------	218	792	------	1,020	------	570	------	607	180	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,090	187	292	0.685	0.79
November	1,870	184	375	.880	.98
December	498	184	276	.648	.75
January	2,360	268	1,020	2.39	2.76
February	6,950	570	1,200	2.82	2.94
March	14,500	829	3,780	8.87	10.23
April	2,880	534	910	2.14	2.39
May	6,210	570	2,090	4.91	5.66
June	1,050	320	469	1.10	1.23
July	607	250	325	.763	.88
August	755	147	237	.556	.64
September	644	144	279	.655	.73
The year	14,500	144	941	2.21	29.98

SEQUATCHIE RIVER NEAR WHITWELL, TENN.

LOCATION.—Staff gage at highway bridge 2 miles east of Whitwell, Marion County. Zero of gage is 632.30 feet above mean sea level.

DRAINAGE AREA.—389 square miles.

RECORDS AVAILABLE.—December, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 13,000 second-feet Mar. 24 (gage height, 16.0 feet); minimum, 89 second-feet Sept. 4–7 (gage height, 1.36 feet).

1920–1929: Maximum discharge, that of Mar. 24, 1929; minimum, 19 second-feet Sept. 6–21, 27, 28, 1925 (gage height, 0.73 foot).

REMARKS.—Records fair. Slight regulation caused by operation of two small mills above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	390	820	338	1,180	6,330	1,820	1,620	635	600	2,900	99
2	143	355	940	338	980	4,050	1,460	4,050	600	495	1,220	95
3	143	338	820	355	860	2,780	1,300	3,380	565	495	705	92
4	2,300	320	705	338	780	2,060	1,020	2,340	600	460	530	89
5	2,220	305	635	320	740	3,380	940	1,860	565	390	425	89
6	860	290	600	1,060	780	4,050	860	2,540	495	355	355	89
7	740	260	565	1,300	1,100	3,420	820	3,800	460	338	290	89
8	600	260	495	1,060	1,220	2,460	780	3,920	425	320	260	92
9	460	290	495	820	1,140	1,900	705	3,540	425	290	245	92
10	372	290	460	1,740	1,020	1,500	705	2,860	390	260	230	92
11	320	290	425	2,220	860	1,260	705	2,060	355	305	260	92
12	290	275	408	1,740	780	1,060	705	1,580	338	355	290	92
13	260	260	372	1,300	705	980	635	1,220	320	290	290	3,380
14	245	230	355	1,020	670	4,700	565	1,060	320	260	218	1,140
15	230	230	338	860	635	6,750	565	980	320	338	205	565
16	218	218	338	780	635	4,940	940	1,020	320	565	192	355
17	218	205	320	705	600	3,300	980	1,140	305	670	180	355
18	390	230	460	780	565	2,300	780	1,140	290	495	180	355
19	980	4,510	705	2,380	530	1,900	705	1,860	355	460	170	290
20	860	9,290	705	2,940	530	1,740	635	4,600	320	780	160	260
21	635	6,330	635	2,380	1,500	1,260	635	3,920	290	495	155	218
22	460	3,800	565	1,900	3,100	1,060	740	2,580	275	390	135	192
23	1,260	2,060	530	1,660	2,460	6,540	705	1,700	260	320	131	170
24	1,980	1,500	460	1,700	1,740	11,200	635	1,340	260	275	127	155
25	1,620	1,100	442	4,340	1,420	10,500	670	1,100	635	260	123	205
26	980	900	408	8,810	3,740	5,080	705	980	3,060	230	119	740
27	740	740	390	5,390	5,390	2,820	635	1,060	1,780	275	115	355
28	635	670	372	3,460	6,330	2,340	670	860	1,140	260	115	460
29	530	600	355	2,340	-------	1,980	4,810	860	900	290	111	355
30	460	565	320	1,740	-------	1,780	2,380	820	780	320	107	290
31	408	-------	305	1,420	-------	1,620	-------	670	-------	1,500	103	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,300	143	700	1.80	2.08
November	9,290	205	1,230	3.16	3.53
December	940	305	508	1.31	1.51
January	8,810	320	1,860	4.78	5.51
February	6,330	530	1,500	3.86	4.02
March	11,200	980	3,450	8.87	10.23
April	4,810	565	1,010	2.60	2.90
May	4,600	670	2,010	5.17	5.95
June	3,060	260	593	1.52	1.70
July	1,500	230	424	1.09	1.26
August	2,900	103	343	.882	1.02
September	3,380	89	365	.938	1.05
The year	11,200	89	1,170	3.01	40.76

HUNTSVILLE SPRING AT HUNTSVILLE, ALA.

LOCATION.—Water-stage recorder just above weir at city pumping plant in Huntsville, Madison County.

RECORDS AVAILABLE.—November, 1928, to September, 1929.

EXTREMES.—Maximum mean daily discharge during period, 45 second-feet Mar. 23, 24 (gage height, 2.62 feet); minimum, 12 second-feet several days in August and September (gage height, 2.25 feet).

REMARKS.—Records good. Diversion for water supply for city of Huntsville is included in discharge tables.

Daily and monthly discharge, in second-feet, 1928–29

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		18	16	26	36	39	32	31	23	14	13
2		18	16	26	35	38	32	31	22	14	13
3		18	16	26	35	36	31	31	21	14	13
4		18	16	26	35	36	31	31	21	14	14
5		18	16	26	36	36	31	30	21	15	13
6		18	16	25	36	36	31	28	21	15	13
7		18	16	25	35	36	31	28	21	15	12
8		17	17	25	35	36	30	30	20	15	12
9		18	17	25	35	36	31	28	20	15	12
10		18	18	25	35	35	32	27	20	15	12
11		18	18	24	35	35	33	27	20	15	12
12		18	18	24	35	34	33	26	20	14	12
13		18	18	24	35	34	33	26	19	14	14
14		17	18	24	39	34	33	26	18	14	14
15		17	18	24	40	34	32	26	18	14	15
16		17	18	24	40	34	32	26	18	14	15
17		17	18	24	39	34	32	26	17	14	16
18		16	18	24	39	34	31	25	17	14	16
19		16	18	24	39	34	31	24	16	14	16
20		17	18	24	39	34	31	25	16	13	16
21	19	17	18	26	39	34	30	26	16	13	16
22	18	17	18	28	40	33	30	25	16	13	17
23	18	17	18	28	45	33	30	24	16	13	17
24	19	17	20	28	45	33	28	24	16	13	17
25	18	17	24	30	44	33	30	24	16	12	18
26	18	16	25	31	43	33	30	24	16	12	18
27	19	16	26	34	41	32	30	24	16	12	18
28	18	16	26	36	40	32	32	24	16	13	18
29	19	17	26		40	32	32	24	15	12	18
30	19	17	26		40	32	32	24	14	12	18
31		16	26		39		32		14	12	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
November 21–30	19	18	18.5	May	33	28	31.3
December	18	16	17.2	June	31	24	26.5
January	26	16	19.3	July	23	14	18.1
February	36	24	26.3	August	15	12	13.6
March	45	35	38.4	September	18	12	14.9
April	39	32	34.4				

ELK RIVER AT ESTILL SPRINGS, TENN.

LOCATION.—Water-stage recorder at highway bridge 400 feet downstream from Nashville, Chattanooga & St. Louis Railway bridge, 800 feet below Estill Springs hydroelectric plant, and three-fourths mile southeast of Estill Springs, Franklin County. Zero of gage is 850.25 feet above mean sea level.

DRAINAGE AREA.—263 square miles.

RECORDS AVAILABLE.—December, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, about 19,800 second-feet Mar. 23 (gage height, 20.2 feet); minimum, 37 second-feet Oct. 29, 30 (gage height, 0.92 foot).

1920–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 10 second-feet Oct. 9, 10, 1925.

REMARKS.—Records good except those for estimated periods, which are fair. Large diurnal fluctuation during low-water periods caused by operation of Estill Springs hydroelectric plant.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84	140	e 870	138	645	e 2,590	1,090	1,090	350	494	186	50
2	92	125	695	128	566	e 1,720	972	1,090	274	310	266	74
3	96	e 110	562	138	530	1,270	808	1,210	302	386	193	72
4	490	e 100	485	86	490	1,520	725	972	221	266	135	72
5	645	e 90	454	168	e 490	2,520	725	752	252	235	122	60
6	620	80	400	238	e 490	2,360	650	1,120	232	238	122	76
7	360	e 100	320	328	e 520	1,720	580	2,280	221	176	122	66
8	201	e 120	328	242	e 520	1,210	525	1,840	270	147	106	51
9	180	e 150	262	195	e 500	1,180	507	2,900	162	186	110	74
10	140	e 145	248	436	472	1,010	550	1,900	204	246	125	66
11	150	138	242	695	449	845	590	1,210	207	350	92	68
12	132	115	231	562	412	745	575	918	196	224	110	92
13	135	115	217	476	384	695	540	752	193	252	110	725
14	90	108	204	428	388	3,320	480	650	172	282	110	675
15	125	100	210	320	352	3,760	575	615	232	286	110	290
16	125	105	150	336	376	2,290	1,400	862	132	196	106	120
17	214	120	174	344	e 370	1,400	1,030	835	162	182	80	115
18	820	284	300	372	e 350	1,040	808	700	172	165	70	106
19	498	3,580	472	1,120	e 340	870	e 675	918	444	168	92	99
20	284	4,690	420	1,210	e 500	770	e 585	2,050	210	159	88	88
21	245	2,830	284	870	e 1,500	695	498	1,840	172	150	90	84
22	214	1,210	328	795	e 1,860	1,180	725	1,120	179	147	92	60
23	340	820	156	845	e 1,200	e 15,300	700	780	600	147	92	86
24	494	670	207	1,010	845	13,900	600	625	350	132	80	120
25	392	557	220	e 6,200	1,150	e 6,270	700	525	435	125	51	382
26	276	498	150	e 5,800	3,070	e 3,580	700	835	625	141	68	835
27	259	e 460	180	2,990	e 2,830	e 2,120	590	585	625	150	86	580
28	210	e 440	162	1,460	e 3,410	e 1,360	1,180	615	780	110	78	400
29	292	e 420	148	1,040	-------	e 1,030	2,660	480	675	135	78	300
30	130	e 650	140	845	-------	972	1,560	394	625	110	66	225
31	138	-------	165	745	-------	890	-------	318	-------	115	66	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	820	84	273	1.04	1.20
November	4,690	80	636	2.42	2.70
December	870	140	303	1.15	1.33
January	6,200	86	986	3.75	4.32
February	3,410	340	891	3.39	3.53
March	15,300	695	2,580	9.81	11.31
April	2,660	480	810	3.08	3.44
May	2,900	318	1,060	4.03	4.65
June	780	132	322	1.22	1.36
July	494	110	207	.787	.91
August	266	51	107	.407	.47
September	835	50	204	.776	.87
The year	15,300	50	699	2.66	36.09

e Estimated or partly estimated.

ELK RIVER NEAR FAYETTEVILLE, TENN.

LOCATION.—Water-stage recorder at dam and power house of Tennessee Electric Power Co. 2 miles southwest of Fayetteville, Lincoln County. Zero of gage is 637.67 feet above mean sea level.

DRAINAGE AREA.—857 square miles.

RECORDS AVAILABLE.—October, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 45,600 second-feet Mar. 23 (gage height, 28.2 feet); minimum, 77 second-feet Sept. 12, caused by regulation (gage height, 1.18 feet).

1925–1929: Maximum and minimum discharges, those of 1929.

REMARKS.—Records fair. Discharge partly estimated Jan. 27, 28, Mar. 23–29, Sept. 14, 15. Considerable diurnal fluctuation caused by operation of power plant just above gage.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	238	530	1,900	615	2,140	7,870	3,210	2,930	1,320	1,320	550	207
2	205	515	2,080	615	1,900	5,710	3,000	2,530	1,290	1,120	500	195
3	265	520	1,780	580	1,720	4,150	2,460	2,270	1,380	950	545	178
4	359	500	1,510	565	1,600	5,070	2,340	2,200	1,170	922	555	224
5	1,110	475	1,300	765	1,600	6,510	2,200	1,950	1,090	840	375	224
6	1,360	442	1,200	975	1,600	6,830	2,010	4,000	1,000	812	435	217
7	1,085	456	1,110	865	1,660	5,550	1,830	7,690	950	719	375	256
8	790	495	1,000	920	1,660	4,000	1,710	8,770	978	664	365	220
9	585	515	948	1,030	1,600	4,450	1,650	13,100	922	620	356	207
10	475	490	865	2,340	1,480	3,780	1,650	8,590	895	978	352	195
11	434	475	840	1,960	1,390	3,140	1,710	4,680	868	978	320	214
12	380	480	765	1,960	1,300	2,660	1,650	3,210	812	950	308	207
13	380	447	740	1,600	1,250	2,720	1,530	2,460	785	868	262	6,750
14	355	398	740	1,300	1,200	17,800	1,470	2,080	868	895	324	8,500
15	347	398	715	1,200	1,170	14,800	3,630	2,600	785	812	308	2,010
16	347	371	690	1,080	1,200	10,100	4,380	3,350	785	812	266	1,170
17	3,850	398	892	1,060	1,200	5,630	3,780	2,720	724	868	270	895
18	15,100	4,080	1,280	2,340	1,170	3,700	2,660	2,140	675	840	280	692
19	3,920	14,100	1,200	3,560	1,140	3,000	2,140	2,270	812	714	248	592
20	1,780	13,300	1,200	3,490	1,300	2,530	1,830	3,920	895	620	201	540
21	1,280	9,490	1,060	3,000	5,550	2,270	1,650	4,220	785	570	231	485
22	1,200	5,230	920	2,530	5,550	5,550	1,710	3,490	692	540	242	445
23	1,540	2,720	865	2,400	4,450	39,800	1,830	2,460	1,140	714	234	390
24	1,110	2,080	815	2,860	3,140	31,700	1,710	2,010	1,650	604	252	490
25	1,170	1,780	740	19,100	5,070	17,400	2,460	2,600	1,650	540	238	1,170
26	1,030	1,510	715	20,900	9,130	7,150	2,010	3,420	1,410	515	228	2,010
27	840	1,330	690	16,800	9,490	4,750	1,770	2,460	1,260	510	195	1,830
28	740	1,220	690	8,050	9,040	3,700	3,070	2,790	1,710	570	217	1,320
29	650	1,140	665	3,850	-------	3,070	3,700	2,010	1,710	550	198	1,000
30	615	1,840	625	2,930	-------	2,790	4,300	1,650	1,500	495	228	785
31	600	-------	620	2,460	-------	2,530	-------	1,470	-------	576	207	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	15,100	205	1,42[illegible]	1.66	1.91
November	14,100	371	2,26[illegible]	2.64	2.94
December	2,080	620	1,01[illegible]	1.18	1.36
January	20,900	565	3,670	4.28	4.93
February	9,490	1,140	2,85[illegible]	3.36	3.50
March	39,800	2,270	7,76[illegible]	9.05	10.43
April	4,380	1,470	2,370	2.77	3.09
May	13,100	1,470	3,61[illegible]	4.21	4.85
June	1,650	675	1,08[illegible]	1.26	1.41
July	1,320	495	75[illegible]	.884	1.02
August	555	195	31[illegible]	.364	.42
September	8,500	178	1,12[illegible]	1.31	1.46
The year	39,800	178	2,36[illegible]	2.75	37.32

ELK RIVER NEAR ELKMONT, ALA.

LOCATION.—Chain gage at highway bridge 3 miles below Louisville & Nashville Railroad bridge and 5 miles northwest of Elkmont, Limestone County. Zero of gage is 549.45 feet above mean sea level.

DRAINAGE AREA.—1,700 square miles.

RECORDS AVAILABLE.—July, 1904, to February, 1908; January, 1919, to September, 1929.

EXTREMES.—Maximum discharge during year, about 51,800 second-feet Mar. 24 (gage height, 30.5 feet); minimum, 270 second-feet Sept. 5 (gage height, 1.44 feet).

1904–1908, 1919–1929: Maximum discharge, that of Mar. 24, 1920; minimum, 85 second-feet Sept. 18–20, 1925 (gage height, 1.05 feet).

REMARKS.—Records good except those for extremely high stages, which are fair, and those for Nov. 15, Jan. 2–7, Mar. 15, 16, 26, 27, which are estimated.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	385	725	3,600	940	3,880	13,900	5,250	6,750	1,890	2,010	765	322
2	350	725	2,920	895	3,190	13,900	6,890	6,340	2,010	1,550	850	311
3	306	648	2,650	850	2,780	8,400	4,970	5,660	7,990	1,500	765	290
4	540	648	2,260	850	2,520	6,480	5,520	4,150	3,330	1,330	725	280
5	575	648	1,890	940	2,520	7,300	5,660	3,880	2,520	1,130	685	270
6	1,550	610	1,770	1,230	2,520	11,100	4,700	3,740	1,890	1,130	610	445
7	1,380	610	1,550	1,330	2,780	10,700	4,010	14,700	1,770	1,040	540	415
8	1,280	648	1,500	1,330	2,650	8,260	3,460	16,500	1,550	940	648	403
9	940	648	1,380	1,330	2,650	10,700	3,190	24,300	1,440	850	610	391
10	725	648	1,330	3,050	2,520	7,440	3,330	26,400	1,440	895	575	379
11	575	648	1,180	4,150	2,390	6,340	3,600	21,000	1,380	1,130	575	445
12	540	610	1,130	3,330	2,260	5,250	3,460	8,120	1,180	1,330	575	379
13	508	610	1,130	2,780	2,130	4,700	2,650	6,070	1,180	1,230	540	3,880
14	445	575	1,080	2,260	2,130	22,000	2,780	5,250	1,130	1,080	415	9,080
15	508	575	1,040	2,010	1,890	30,900	3,050	4,700	1,130	1,440	508	7,990
16	540	575	988	1,890	2,010	30,100	10,200	5,520	1,130	1,280	445	1,770
17	2,650	540	1,080	1,660	2,010	19,800	8,530	4,700	1,130	1,890	445	1,770
18	12,600	3,050	2,520	1,660	1,890	9,360	6,620	4,150	1,280	1,770	445	1,130
19	13,700	13,600	2,010	6,480	1,890	6,620	4,700	4,970	1,230	1,380	379	850
20	2,920	15,700	1,770	5,790	1,890	5,250	3,740	5,250	1,040	1,130	403	765
21	1,770	13,900	1,660	5,250	5,930	4,420	3,050	6,620	1,040	850	355	685
22	1,500	9,360	1,550	4,560	10,700	4,420	2,920	6,070	1,040	850	322	610
23	2,780	4,700	1,440	4,150	9,360	39,000	2,780	4,970	2,520	850	322	648
24	1,770	3,050	1,330	3,880	7,030	49,400	2,650	3,600	1,660	988	344	648
25	1,500	2,390	1,130	19,600	5,520	47,100	5,660	3,050	2,260	940	322	988
26	1,380	2,010	1,130	23,900	16,900	23,100	4,840	6,340	6,340	725	322	1,890
27	1,180	2,010	1,080	23,600	19,400	14,700	3,330	4,700	2,780	808	322	2,390
28	988	1,660	1,040	22,200	16,200	11,100	2,780	3,600	2,780	765	311	1,550
29	895	1,550	988	14,000	-------	9,770	10,600	3,740	2,780	1,280	300	1,440
30	808	2,260	940	5,790	-------	6,200	6,750	2,780	2,260	940	290	1,080
31	765	-------	940	4,560	-------	6,070	-------	2,260	-------	725	280	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	13,700	306	1,880	1.11	1.28
November	15,700	540	2,860	1.68	1.87
December	3,600	940	1,550	.912	1.05
January	23,900	850	5,690	3.35	3.86
February	19,400	1,890	4,980	2.93	3.05
March	49,400	4,420	14,600	8.59	9.90
April	10,600	2,650	4,720	2.78	3.10
May	26,400	2,260	7,420	4.36	5.03
June	7,990	1,040	2,100	1.24	1.38
July	2,010	725	1,150	.676	.78
August	850	280	484	.285	.33
September	9,080	270	1,450	.853	.95
The year	49,400	270	4,080	2.40	32.58

ELK RIVER NEAR ROGERSVILLE, ALA.

LOCATION.—Staff gage at bridge on Huntsville-Florence highway 4 miles east of Rogersville, Lauderdale County. Zero of gage is 518.02 feet above mean sea level.

DRAINAGE AREA.—2,100 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, about 61,600 second-feet Mar. 25 (gage height, 22.4 feet); minimum, 260 second-feet Sept. 1–3 (gage height, 0.9 foot).

1927–1929: Maximum discharge, that of Mar. 25, 1929; minimum, 200 second-feet Oct. 8, 27–31, 1927 (gage height, 0.8 foot).

REMARKS.—Records good except those for periods of extremely high water on Tennessee River, which are affected by an indeterminate amount of backwater.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	330	860	4,230	1,070	4,420	15,200	7,080	7,270	2,590	2,590	1,120	260
2	330	760	3,310	1,070	3,670	13,200	7,080	7,460	3,130	1,960	1,070	260
3	365	760	2,950	1,070	3,310	11,300	6,320	6,510	5,560	1,640	910	260
4	440	760	2,770	1,070	2,950	11,700	7,080	5,560	5,370	1,430	810	330
5	810	710	2,410	1,180	2,950	13,600	6,890	5,370	2,950	1,300	760	330
6	1,500	660	1,960	1,500	2,950	15,200	5,940	9,700	2,590	1,240	615	400
7	1,640	660	1,880	1,960	3,310	14,400	5,180	17,900	2,230	1,180	615	615
8	1,240	810	1,720	1,880	2,950	11,000	4,800	19,000	2,230	1,120	660	480
9	1,120	760	1,640	1,570	2,950	11,300	4,420	28,600	2,050	1,070	710	400
10	960	860	1,430	2,950	2,950	10,800	4,420	29,600	1,980	1,570	760	480
11	710	760	1,430	4,420	2,770	9,920	4,230	22,000	1,890	1,430	660	480
12	570	760	1,300	3,490	2,590	7,850	4,040	11,300	1,570	1,640	570	570
13	480	660	1,300	3,310	2,590	7,460	3,490	8,650	1,570	1,360	570	7,080
14	480	760	1,300	2,950	2,410	28,600	3,310	6,700	1,720	1,300	525	9,070
15	480	660	1,180	2,410	2,230	34,300	5,370	5,560	1,640	1,640	400	7,850
16	480	660	1,070	2,230	2,320	33,900	12,200	6,510	1,430	1,880	525	2,950
17	810	660	1,180	2,050	2,590	24,600	9,070	5,560	1,430	3,310	480	2,590
18	9,700	1,360	2,140	2,140	2,410	13,200	7,080	4,800	1,430	2,590	480	1,570
19	12,900	8,650	2,950	6,130	2,230	10,800	5,560	5,940	1,360	1,640	480	1,240
20	5,940	14,200	2,050	6,510	2,320	9,070	4,420	7,270	1,720	1,360	480	1,020
21	2,320	14,400	1,960	5,940	7,850	7,460	3,670	7,080	1,890	1,240	440	910
22	1,880	10,800	1,720	5,180	11,300	11,300	3,490	7,460	1,890	1,070	400	860
23	3,490	7,460	1,570	4,800	9,490	47,200	3,310	7,080	2,590	960	400	810
24	2,410	4,800	1,430	4,800	7,850	54,800	2,950	6,510	2,230	1,240	400	860
25	1,720	2,950	1,360	22,300	7,850	56,600	6,130	6,320	3,310	1,120	400	1,180
26	1,570	2,590	1,300	26,200	18,400	44,000	5,750	7,080	5,940	960	400	2,050
27	1,360	1,960	1,180	25,500	20,800	31,000	3,850	6,890	3,670	860	400	2,770
28	1,300	1,880	1,180	23,600	17,300	14,700	4,040	5,180	3,310	960	330	2,410
29	1,120	1,720	1,180	15,200	------	8,250	9,920	4,610	3,130	910	330	1,880
30	1,020	1,960	1,180	7,850	------	9,070	7,460	3,490	2,770	1,180	330	1,570
31	910	------	1,070	5,940	------	8,650	------	2,950	------	1,020	400	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	12,900	330	1,950	0.929	1.07
November	14,400	660	2,910	1.39	1.55
December	4,230	1,070	1,780	.848	.98
January	26,200	1,070	6,400	3.05	3.52
February	20,800	2,230	5,630	2.68	2.79
March	56,600	7,460	19,400	9.24	10.65
April	12,200	2,950	5,620	2.68	2.99
May	29,600	2,950	9,228	4.39	5.06
June	5,940	1,360	2,570	1.22	1.36
July	3,310	860	1,440	.686	.79
August	1,120	330	562	.268	.31
September	9,070	260	1,780	.848	.95
The year	56,600	260	4,950	2.36	32.02

SHOAL CREEK AT IRON CITY, TENN.

LOCATION.—Staff gage at Louisville & Nashville Railroad bridge one-fourth mile east of Iron City, Lawrence County, and half a mile below mouth of Holly Creek. Zero of gage is 532.74 feet above mean sea level.

DRAINAGE AREA.—355 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 15,400 second-feet Mar. 23 (gage height, 17.3 feet); minimum, 107 second-feet Dec. 10, 11, 14 (gage height, 1.15 feet).

1925–1929: Maximum discharge, about 21,800 second-feet Mar. 13, 1927 (gage height, 23.1 feet); minimum, 39 second-feet Sept. 22, 1925 (gage height, 0.60 foot).

REMARKS.—Records fair except those for extremely high stages, which are poor. Some regulation caused by operation of power plant at Lawrenceburg.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	154	264	172	492	1,490	1,640	1,220	568	252	310	129
2	122	162	340	162	380	1,090	1,490	1,490	1,150	235	235	110
3	129	154	204	137	425	860	1,220	1,280	1,960	235	235	129
4	145	154	172	145	320	970	1,640	955	955	235	207	125
5	181	145	172	172	360	1,960	1,490	890	568	200	145	135
6	172	145	145	162	380	3,880	1,350	1,720	465	235	158	235
7	145	154	162	154	340	1,560	955	4,100	440	207	200	252
8	137	154	145	192	340	1,420	830	3,180	465	150	252	129
9	129	154	162	181	340	1,420	1,080	11,200	418	568	310	200
10	122	137	114	560	320	1,350	3,680	3,380	350	418	252	235
11	162	145	114	448	300	1,210	1,350	2,140	310	330	252	218
12	122	145	162	300	340	910	1,080	1,350	310	235	218	235
13	129	154	129	232	282	910	830	1,020	310	235	252	1,720
14	129	162	122	218	282	8,280	1,080	3,380	310	252	235	1,490
15	145	154	122	172	320	4,760	1,490	955	310	350	218	330
16	218	154	137	232	340	3,080	3,480	955	310	290	200	252
17	218	162	218	264	320	1,640	1,960	770	235	650	228	235
18	192	181	380	282	248	1,210	1,350	680	235	310	218	235
19	172	232	172	470	300	970	955	3,580	650	310	200	235
20	137	320	204	470	380	860	830	1,490	395	270	218	252
21	145	320	218	380	760	760	650	1,020	270	235	218	252
22	162	300	145	470	1,150	1,030	770	770	235	158	207	235
23	172	264	129	380	1,030	13,800	568	595	770	310	228	218
24	154	248	145	402	860	7,180	465	490	330	200	200	252
25	154	232	145	4,980	1,720	2,590	595	440	465	200	145	252
26	145	204	137	3,280	7,400	1,640	955	740	830	218	150	235
27	145	162	145	2,140	6,080	1,280	740	955	440	194	141	235
28	145	145	145	1,030	3,780	1,080	1,020	2,680	440	207	165	218
29	154	162	137	760	-------	1,220	1,280	1,350	330	252	194	218
30	154	192	154	470	-------	2,780	955	1,020	270	290	235	218
31	145	-------	137	610	-------	2,500	-------	1,080	-------	310	129	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	218	114	151	0.425	0.49
November	320	137	185	.521	.58
December	380	114	170	.479	.55
January	4,980	137	646	1.82	2.10
February	7,400	248	1,050	2.96	3.08
March	13,800	760	2,440	6.87	7.92
April	3,680	465	1,260	3.55	3.96
May	11,200	440	1,830	5.15	5.94
June	1,960	235	503	1.42	1.58
July	650	150	276	.777	.90
August	310	129	211	.594	.68
September	1,720	110	307	.865	.97
The year	13,800	110	753	2.12	28.75

TUSCUMBIA SPRING AT TUSCUMBIA, ALA.

LOCATION.—Water-stage recorder and weir at outlet of small lake formed by Tuscumbia Spring, near city park in Tuscumbia, Colbert County.

RECORDS AVAILABLE.—November, 1928, to September, 1929.

EXTREMES.—Maximum mean daily discharge during period, 160 second-feet Mar. 9; maximum gage height, 15.05 feet Mar. 23 (caused by backwater from creek); minimum mean daily discharge, 19 second-feet Dec. 23 (gage height, 0.88 foot).

REMARKS.—Records fair prior to June 11 and good thereafter. Discharge interpolated because of probable backwater from creek just below gage Dec. 1, Jan. 10–12, 19, 24–26, Feb. 21, 22, 25–28, Mar. 14–16, 22–26, Apr. 3, 15, 16, and June 10. Discharge determined from weir formula June 16 to Sept. 30.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	------	50	21	98	94	140	156	112	113	84	50
2	------	------	72	21	94	90	124	108	12[illegible]	114	83	50
3	------	------	41	22	98	94	128	108	116	112	81	50
4	------	------	37	21	91	98	132	128	116	113	80	48
5	------	30	32	21	89	105	144	132	112	113	79	47
6	------	------	30	22	83	116	140	132	112	111	72	46
7	------	------	27	33	81	91	136	105	112	104	76	45
8	------	------	28	22	43	94	124	124	112	103	77	45
9	------	------	28	20	75	160	124	136	116	102	78	46
10	------	------	30	21	57	140	120	136	110	103	77	45
11	------	------	26	21	84	120	140	140	10[illegible]	104	76	43
12	------	30	25	22	72	116	124	136	10[illegible]	104	76	43
13	------	29	24	23	75	128	112	124	10[illegible]	104	75	52
14	------	30	23	30	70	128	108	127	10[illegible]	104	73	52
15	------	30	24	26	83	128	116	124	10[illegible]	104	70	51
16	------	29	24	22	98	128	124	124	10[illegible]	104	69	66
17	42	27	29	22	98	128	132	120	10[illegible]	105	68	75
18	------	30	32	23	88	108	120	116	10[illegible]	104	69	84
19	------	58	43	52	88	120	120	102	10[illegible]	104	67	98
20	------	85	31	81	98	112	128	116	10[illegible]	105	64	97
21	------	53	24	51	91	98	105	120	10[illegible]	104	64	94
22	------	41	20	63	84	103	105	116	10[illegible]	104	62	93
23	------	36	19	26	76	108	124	120	10[illegible]	104	60	91
24	------	31	20	46	76	118	120	120	10[illegible]	103	57	88
25	------	30	21	66	80	128	152	128	10[illegible]	102	57	85
26	------	32	23	86	84	138	124	98	112	102	55	83
27	------	30	23	105	88	147	128	120	113	97	54	81
28	------	27	22	120	92	156	120	136	113	95	54	79
29	------	25	21	108	------	144	124	120	113	91	52	77
30	------	28	21	108	------	152	108	120	114	88	53	74
31	------	------	22	98	------	140	------	116	------	86	52	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
November 12–30	85	25	35.8	May	156	98	123
December	72	19	28.8	June	128	103	110
January	120	20	45.9	July	114	86	103
February	98	43	83.4	August	84	52	68.2
March	160	90	120	September	98	43	65.9
April	152	105	125				

BEAR CREEK AT BISHOP, ALA.

LOCATION.—Staff gage at highway bridge half a mile below Little Bear Creek and three-fourths mile southwest of Bishop, Colbert County. Zero of gage is 414.85 feet above mean sea level.

DRAINAGE AREA.—621 square miles.

RECORDS AVAILABLE.—August, 1926, to September, 1929.

EXTREMES.—Maximum discharge during year, about 19,800 second-feet Mar. 24 (gage height, 26.0 feet); minimum, 40 second-feet Sept. 3 and 4 (gage height, 5.70 feet).

1926–1929: Maximum discharge, about 21,400 second-feet Dec. 26, 1926 (gage height, 27.0 feet); minimum, 28 second-feet Sept. 21, 1927 (gage height, 5.2 feet).

REMARKS.—Records good below 7,500 second-feet; others fair to poor. No record Oct. 1 to Feb. 9.

Daily and monthly discharge, in second-feet, 1929

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	------	2,520	1,590	3,020	430	430	490	45
2	------	2,280	1,690	3,300	845	325	325	43
3	------	1,740	2,350	2,770	620	275	245	40
4	------	1,780	4,560	1,840	400	970	185	40
5	------	2,580	3,300	1,490	325	1,240	225	43
6	------	2,520	2,350	1,590	325	1,100	148	45
7	------	2,080	1,890	2,950	300	430	185	48
8	------	1,330	1,440	3,090	375	400	375	65
9	------	1,740	1,340	5,360	375	288	350	110
10	580	1,560	1,340	3,650	300	245	275	88
11	550	1,280	1,740	3,370	265	265	195	185
12	520	1,080	1,590	2,230	255	725	235	148
13	490	1,330	1,590	1,590	225	350	1,890	1,340
14	460	10,700	1,150	1,200	215	255	325	1,790
15	430	11,900	1,540	970	215	215	215	1,150
16	615	11,900	3,230	925	175	235	195	430
17	720	6,980	2,350	805	175	275	148	4,400
18	685	5,050	1,540	690	165	225	125	1,790
19	615	2,880	1,340	690	225	400	110	690
20	840	2,230	1,150	1,290	288	255	102	375
21	3,490	1,780	970	1,290	490	195	88	275
22	4,780	2,760	845	1,100	430	155	80	235
23	4,420	15,800	765	725	255	140	78	185
24	2,760	18,200	765	585	325	132	70	175
25	2,880	10,500	1,290	520	970	125	70	195
26	3,420	5,760	1,690	550	925	95	65	165
27	3,140	3,790	1,440	845	765	185	63	165
28	3,140	2,770	970	1,060	1,490	275	60	165
29	------	2,290	2,710	725	885	235	55	148
30	------	1,940	2,530	765	585	215	53	132
31	------	1,690	------	550	------	490	48	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
February 10–28	4,780	430	1,820	2.93	2.07
March	18,200	1,080	4,620	7.44	8.58
April	4,560	765	1,770	2.85	3.18
May	5,360	520	1,660	2.67	3.08
June	1,490	165	454	.731	.82
July	1,240	95	359	.578	.67
August	1,890	48	228	.367	.42
September	4,400	40	490	.789	.88

HORSE CREEK NEAR SAVANNAH, TENN.

LOCATION.—Staff gage 700 feet above highway bridge 1½ miles east of Savannah, Hardin County, and 4½ miles above confluence with Tennessee River.
DRAINAGE AREA.—146 square miles.
RECORDS AVAILABLE.—August to September, 1929.
EXTREMES.—Maximum discharge during period, 560 second-feet Aug. 7 (gage height, 3.62 feet); minimum, 43 second-feet Sept. 5 (gage height, 0.90 foot).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1929

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		53	11	103	67	21	71	58
2		53	12	96	58	22	71	58
3		55	13	90	260	23	73	56
4		48	14	83	139	24	71	58
5	90	48	15	73	83	25	76	62
6	75	56	16	73	132	26	73	69
7	560	64	17	83	73	27	53	69
8	204	64	18	73	64	28	53	58
9	204	67	19	76	110	29	55	56
10	232	73	20	76	64	30	55	56
						31	53	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
August 5–31	560	53	107	0.733	0.74
September	260	48	74.4	.510	.57

DUCK RIVER AT NORMANDY, TENN.

LOCATION.—Staff gage at county highway bridge half a mile north of Normandy, Bedford County, and 2 miles above Nashville, Chattanooga & St. Louis Railway bridge. Zero of gage is 785.47 feet above mean sea level.

DRAINAGE AREA.—214 square miles.

RECORDS AVAILABLE.—December, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, about 20,400 second-feet Mar. 23 (gage height, 18.1 feet); minimum, 62 second-feet Oct. 1 (gage height, 0.88 foot).

1920–1929: Maximum discharge, that of Mar. 23, 1929; minimum, 45 second-feet July 30 to Oct. 3 and Oct. 5–7, 1925 (gage height, 0.6 foot).

REMARKS.—Records good below and fair above 5,000 second-feet.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	138	990	155	405	1,180	665	1,120	185	258	113	65
2	65	125	750	160	345	910	595	1,120	a 215	270	111	65
3	65	135	610	155	360	870	530	1,070	245	308	109	65
4	85	140	405	150	375	1,180	530	595	235	235	a 108	65
5	115	130	360	145	405	1,650	745	a 690	205	185	107	65
6	345	125	315	a 245	470	1,520	530	785	185	155	105	65
7	175	125	255	345	435	1,080	a 488	1,530	185	145	101	65
8	125	121	240	240	405	790	445	1,120	165	145	101	73
9	105	117	225	212	405	680	395	2,010	a 160	145	93	65
10	85	138	212	575	a 382	a 592	445	1,120	155	135	85	75
11	81	140	200	910	360	505	470	705	165	270	a 85	69
12	77	125	188	950	315	470	470	a 562	165	225	85	65
13	73	115	175	a 640	300	405	395	420	165	165	85	530
14	73	109	175	330	285	4,130	395	370	175	165	85	175
15	73	105	175	285	345	3,230	705	370	175	165	89	125
16	73	105	170	300	300	1,460	1,590	500	a 160	155	85	115
17	345	93	150	360	a 292	a 1,090	920	470	145	155	85	95
18	4,500	405	405	505	285	715	595	395	145	155	a 84	85
19	1,280	5,500	360	2,070	270	610	470	a 590	145	155	83	85
20	680	4,400	315	1,340	315	575	420	705	135	145	81	81
21	315	1,180	255	830	1,280	505	a 460	1,120	135	a 145	77	75
22	240	750	225	680	1,080	820	500	530	135	145	75	a 75
23	505	540	200	750	910	16,000	445	420	a 150	135	75	55
24	360	405	200	750	a 995	4,650	370	370	165	125	75	125
25	330	345	188	7,000	1,080	1,290	445	320	155	121	a 74	225
26	240	315	175	3,590	3,770	920	665	a 358	235	125	73	245
27	188	285	170	1,280	2,390	745	705	395	370	121	73	165
28	175	255	165	990	1,790	705	3,800	295	420	a 120	73	145
29	162	225	160	830	-------	665	5,400	270	420	119	71	a 125
30	155	300	155	680	-------	630	1,070	225	a 339	115	69	105
31	150	-------	150	470	-------	665	-------	205	-------	115	67	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,500	62	365	1.71	1.97
November	5,500	93	566	2.64	2.94
December	990	150	281	1.31	1.51
January	7,000	145	901	4.21	4.85
February	3,770	270	727	3.40	3.54
March	16,000	405	1,650	7.71	8.89
April	5,400	370	855	4.00	4.46
May	2,010	205	670	3.13	3.61
June	420	135	201	.939	1.05
July	308	115	165	.771	.89
August	113	67	86.5	.404	.47
September	530	65	115	.537	.60
The year	16,000	62	548	2.56	34.78

a Interpolated.

DUCK RIVER AT COLUMBIA, TENN.

LOCATION.—Water-stage recorder at highway bridge two blocks north of public square at Columbia, Maury County. Zero of gage is 577.78 feet above mean sea level.

DRAINAGE AREA.—1,210 square miles.

RECORDS AVAILABLE.—October, 1904, to December, 1908; April, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, about 43,800 second-feet probably on Mar. 25 (gage height, 40.7 feet); minimum, 12 second-feet Sept. 1, 2 (gage height, −0.77 foot).

1904–1908, 1920–1929: Maximum discharge, that of Mar. 25, 1929; no flow Oct. 22, 1922 (caused by regulation).

Maximum stage known, 45.6 feet Mar. 30, 1902.

REMARKS.—Records fair. Low-water flow is completely regulated at Tennessee Electric Power Co.'s dam three-fourths mile above gage. There are three other small power dams above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	a 177	a 3,040	a 300	a 1,520	a 6,100	5,080	a 6,820	a 945	1,480	414	13
2	19	410	a 2,240	a 600	a 1,520	4,910	4,910	a 6,820	a 880	1,220	311	99
3	19	722	a 1,640	a 360	a 1,520	3,800	3,800	a 6,280	a 1,010	1,120	278	77
4	37	598	a 1,370	a 480	a 1,520	3,210	3,800	a 3,800	1,220	914	285	54
5	47	148	a 1,220	a 400	a 1,520	5,590	4,910	2,720	1,010	784	228	48
6	26	313	a 1,040	410	a 1,520	7,450	3,890	5,500	575	538	187	53
7	147	329	a 978	945	a 1,520	6,640	2,880	13,400	564	555	181	56
8	22	213	a 912	1,120	a 1,520	4,570	2,320	11,300	689	245	164	53
9	156	211	530	1,010	a 1,720	3,300	2,040	12,500	659	283	167	141
10	109	157	479	1,840	a 1,600	a 2,640	2,040	10,200	a 659	609	a 172	84
11	95	47	579	4,230	a 1,410	2,160	1,880	5,840	a 659	622	a 164	103
12	73	175	413	2,880	a 1,300	1,840	1,960	3,890	a 659	781	a 152	98
13	18	94	510	2,080	a 1,220	1,760	a 1,720	2,880	a 460	673	a 142	626
14	86	221	280	1,600	a 1,150	11,100	a 1,560	2,480	421	723	149	528
15	55	187	150	1,330	a 1,120	21,700	a 1,600	3,040	a 147	1,300	135	1,370
16	20	168	a 91	1,260	a 1,080	14,000	4,320	7,450	425	940	123	596
17	198	117	a 320	1,260	a 1,080	5,760	6,460	a 5,930	296	876	83	326
18	a 2,640	226	a 640	a 2,080	a 1,040	3,380	3,550	a 3,210	437	910	16	272
19	a 5,760	1,940	a 980	5,000	a 1,040	2,240	2,320	a 2,800	672	739	168	154
20	a 3,640	9,430	a 1,400	a 7,540	a 1,010	1,640	1,800	a 6,730	525	489	128	144
21	a 2,640	10,100	a 1,280	a 4,740	a 3,720	1,260	1,560	a 7,450	497	290	125	105
22	a 1,960	4,140	a 1,120	a 3,460	a 8,350	5,930	1,370	a 4,660	360	368	105	149
23	a 1,440	2,000	880	a 2,880	6,370	a 20,100	1,370	a 3,040	670	386	95	123
24	a 1,150	1,440	658	a 3,210	a 4,400	a 37,100	1,260	a 2,320	822	535	63	158
25	a 1,010	1,120	636	a 10,800	a 5,590	a 39,800	1,370	a 2,400	791	340	19	671
26	883	978	472	a 17,600	a 18,900	a 38,100	2,000	3,720	2,960	305	104	1,180
27	436	815	528	15,200	a 14,600	a 16,500	a 1,640	2,800	2,720	270	114	1,520
28	195	509	272	6,730	a 9,700	a 5,160	a 5,160	2,160	2,480	184	99	1,040
29	194	564	a 480	4,060	-------	a 6,910	a 12,900	1,680	3,210	341	99	421
30	362	a 701	a 360	2,960	-------	a 9,970	a 11,400	1,410	1,960	280	72	431
31	168	-------	a 280	2,400	-------	6,370	-------	a 1,260	-------	306	50	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,760	18	759	0.627	0.72
November	10,100	47	1,280	1.06	1.18
December	3,040	91	332	.688	.79
January	17,600	300	3,570	2.95	3.40
February	18,900	1,010	3,520	2.91	3.08
March	39,800	1,260	9,710	8.02	9.25
April	12,900	1,260	3,430	2.83	3.16
May	13,400	1,260	5,050	4.17	4.81
June	3,210	147	979	.809	.90
July	1,480	184	626	.517	.60
August	414	16	148	.122	.14
September	1,520	13	356	.294	.33
The year	39,800	13	2,520	2.08	28.31

a Estimated.

DUCK RIVER AT CENTERVILLE, TENN.

LOCATION.—Staff gage at highway bridge half a mile from courthouse at Centerville, Hickman County, and 1 mile above Nashville, Chattanooga & St. Louis Railway bridge. Zero of gage is 451.33 feet above mean sea level.

DRAINAGE AREA.—2,070 square miles.

RECORDS AVAILABLE.—March, 1919, to September, 1929.

EXTREMES.—Maximum discharge during year, about 45,400 second-feet Mar. 27 (gage height, 27.3 feet); minimum, 126 second-feet Oct. 1 (gage height, 0.89 foot).

1919–1929: Maximum discharge, that of Mar. 27, 1929; maximum gage height (estimated), 28.0 feet Apr. 2, 1920; minimum discharge, 60 second-feet Aug. 20, 1925 (gage height, 0.39 foot).

REMARKS.—Records good. Some regulation at low water caused by operation of power plant at Columbia. Effect of regulation greatly damped by many long pools above station.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	445	2,390	400	3,350	13,200	9,440	11,500	1,890	1,890	1,020	315
2	276	438	4,450	915	2,730	8,750	7,560	6,270	1,990	1,700	730	280
3	225	615	3,220	545	2,500	6,590	6,590	8,070	3,800	1,510	698	215
4	192	393	2,620	688	2,070	5,490	7,560	5,790	2,100	1,420	800	192
5	368	445	1,970	580	2,070	8,410	6,430	4,250	1,890	1,340	698	250
6	478	412	1,580	650	1,970	14,200	7,730	3,650	1,700	940	540	275
7	393	412	1,380	725	2,180	12,500	4,550	16,000	1,340	905	510	265
8	298	432	1,300	1,380	2,730	8,750	4,400	16,000	1,340	835	570	305
9	380	426	1,200	1,300	2,730	6,430	4,250	18,700	1,020	570	540	275
10	235	432	1,080	2,070	2,730	4,890	5,790	17,700	940	570	600	275
11	362	380	545	4,310	2,850	4,310	4,400	11,200	1,020	1,020	452	398
12	356	426	955	4,740	2,280	3,610	4,250	7,070	870	1,020	480	320
13	350	393	650	3,350	2,180	3,220	3,800	5,150	905	1,340	480	398
14	344	406	800	2,620	2,070	9,440	3,060	4,250	1,170	1,340	540	765
15	255	406	545	2,180	1,870	20,600	3,060	5,630	1,090	1,170	452	600
16	368	406	580	2,070	1,870	25,200	3,200	8,750	940	1,420	452	1,420
17	2,620	406	800	2,070	1,770	13,000	8,070	10,800	765	1,510	425	870
18	2,280	580	1,120	2,390	1,670	7,560	7,070	5,950	835	1,340	370	665
19	1,770	650	1,380	8,410	1,580	5,340	4,100	5,790	835	1,890	359	452
20	7,390	3,610	2,280	8,410	1,670	4,170	3,060	8,410	1,340	1,250	315	480
21	2,850	11,800	1,770	8,070	2,500	3,480	2,540	7,730	1,020	1,020	305	425
22	1,580	8,750	1,580	5,640	7,730	4,170	2,420	6,430	870	665	425	354
23	2,390	3,350	1,380	4,450	10,500	30,700	2,200	4,850	870	665	425	359
24	1,580	2,180	1,300	4,170	7,730	42,900	1,990	3,650	1,020	905	326	370
25	1,120	1,580	1,120	8,580	7,070	42,400	2,420	2,790	1,340	870	359	452
26	1,300	1,380	955	17,500	23,100	44,000	1,990	6,750	2,310	540	290	1,340
27	1,200	1,200	800	23,300	25,900	44,000	2,660	4,850	3,350	698	255	1,420
28	800	1,120	875	16,100	20,700	23,000	3,650	4,100	2,660	510	215	1,600
29	688	1,080	800	7,070	-------	8,750	12,900	3,060	2,790	570	265	870
30	545	1,300	725	5,040	-------	16,600	18,000	2,310	2,660	800	270	800
31	650	-------	545	4,030	-------	13,000	-------	2,100	-------	905	270	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7,390	138	1,090	0.527	0.61
November	11,800	380	1,530	.739	.82
December	4,450	545	1,380	.667	.77
January	23,300	400	4,960	2.40	2.77
February	25,900	1,580	5,360	2.59	2.70
March	44,000	3,220	14,800	7.15	8.24
April	18,000	1,990	5,300	2.56	2.86
May	18,700	2,100	7,400	3.57	4.12
June	3,800	765	1,560	.754	.84
July	1,890	510	1,070	.517	.60
August	1,020	215	465	.225	.26
September	1,600	192	567	.274	.31
The year	44,000	138	3,790	1.83	24.90

DUCK RIVER NEAR HURRICANE MILLS, TENN.

LOCATION.—Staff gage at highway bridge on road between Waverly and Buffalo, 4 miles south of Hurricane Mills, Humphreys County, and 5 miles above mouth of Buffalo River. Zero of gage is 362.30 feet above mean sea level.

DRAINAGE AREA.—2,610 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, 45,200 second-feet Mar. 25 (gage height, 22.1 feet); minimum, 281 second-feet Oct. 1 (gage height, 0.71 foot).

1925–1929: Maximum discharge, about 50,500 second-feet Mar. 14, 1927 (gage height, 24.95 feet); minimum, 185 second-feet Sept. 11, 12, 1925 (gage height, 0.44 foot).

REMARKS.—Records good except those for Dec. 22-25, which were estimated. Possibly slight regulation during low-water periods caused by operation of small power plants upstream.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	281	860	2,940	1,820	4,780	15,900	12,600	14,600	2,940	3,280	2,200	389
2	311	860	4,260	1,910	5,320	12,100	9,740	8,440	2,610	2,300	1,390	377
3	428	825	4,650	1,310	3,520	9,080	8,920	8,600	4,260	2,200	1,310	347
4	440	1,070	3,760	1,070	3,050	7,500	9,080	7,050	3,280	1,730	1,230	341
5	655	825	2,940	1,230	2,940	9,570	8,120	5,460	3,160	1,470	1,070	335
6	688	895	2,500	1,230	2,830	15,000	9,240	5,460	2,830	1,640	1,000	395
7	655	790	2,100	1,310	2,940	14,200	7,350	14,100	2,100	1,310	1,000	428
8	622	755	1,820	1,310	3,160	12,300	5,880	17,500	2,000	1,230	930	440
9	492	755	1,640	1,390	3,640	9,240	6,750	19,700	1,640	1,470	895	428
10	558	790	1,640	1,910	3,400	7,350	9,910	19,500	1,640	1,150	720	421
11	428	720	1,550	4,130	3,640	6,160	9,740	15,900	1,550	1,470	755	402
12	590	688	1,390	6,020	3,400	5,180	7,500	9,240	1,470	1,390	1,550	492
13	525	790	1,470	4,650	3,050	4,910	6,160	7,200	1,390	1,470	1,000	590
14	525	755	1,470	4,260	2,830	11,600	5,460	6,020	1,730	1,640	825	655
15	590	720	1,390	3,050	2,720	17,700	4,780	7,200	1,640	1,550	790	1,150
16	492	655	1,310	2,830	2,610	22,100	4,520	9,740	1,550	1,470	720	860
17	1,640	655	1,070	2,940	2,500	22,600	6,450	12,800	1,390	3,050	688	1,470
18	4,000	720	1,640	3,050	2,200	10,800	7,960	9,080	1,390	1,820	655	1,000
19	2,200	1,000	1,910	8,440	2,200	7,650	5,600	10,800	1,310	1,640	622	755
20	7,800	1,150	3,050	9,570	2,200	4,650	4,520	9,910	1,640	1,820	590	622
21	5,180	9,240	2,720	10,400	2,200	5,040	3,760	10,400	1,640	1,390	590	590
22	2,720	11,100	2,300	8,120	5,880	4,650	3,760	8,120	1,470	1,230	590	590
23	2,400	5,600	2,100	6,020	11,100	20,400	3,160	6,600	1,310	1,820	558	525
24	2,400	4,780	1,950	5,320	9,570	37,000	2,940	5,460	1,230	1,910	525	525
25	1,820	2,400	1,760	8,440	8,760	44,400	2,830	4,520	1,730	1,230	492	525
26	1,730	2,000	1,550	15,900	24,900	44,000	2,940	5,740	2,200	1,230	460	655
27	1,730	1,470	1,470	18,100	30,800	44,800	3,280	6,450	3,640	1,070	460	1,550
28	1,640	1,640	1,310	18,500	25,400	42,500	3,640	5,740	3,520	1,070	402	1,730
29	1,470	1,470	1,310	10,600	-------	12,500	12,000	4,260	2,720	1,150	395	1,640
30	1,230	2,000	1,310	7,200	-------	16,400	16,400	3,520	3,760	930	383	1,470
31	1,000	-------	1,310	5,600	-------	17,700	-------	3,280	-------	1,910	371	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7,800	281	1,520	0.582	0.67
November	11,100	655	1,930	.740	.83
December	4,650	1,070	2,050	.786	.91
January	18,500	1,070	5,730	2.20	2.65
February	30,800	2,200	6,480	2.48	2.58
March	44,800	4,650	16,600	6.36	7.33
April	16,400	2,830	6,830	2.62	2.92
May	19,700	3,280	9,110	3.49	4.02
June	4,260	1,230	2,160	.828	.92
July	3,280	930	1,610	.617	.71
August	2,200	371	812	.311	.36
September	1,730	335	723	.277	.31
The year	44,800	281	4,640	1.78	24.21

PINEY RIVER AT VERNON, TENN.

LOCATION.—Chain gage at highway bridge 600 feet above mouth of Pretty Creek, half a mile west of Vernon, Hickman County, and 2 miles below mouth of Mill Creek. Zero of gage is 470.67 feet above mean sea level.

DRAINAGE AREA.—209 square miles.

RECORDS AVAILABLE.—July, 1925, to September, 1929.

EXTREMES.—Maximum discharge during year, about 6,780 second-feet Feb. 26 (gage height, 9.85 feet); minimum, 42 second-feet Oct. 13, 14.

1925–1929: Maximum discharge, about 14,200 second-feet Dec. 21, 1926 (gage height, 16.5 feet); minimum, that of Oct. 13, 14, 1928.

REMARKS.—Records fair. Possibly slight regulation caused by operation of small milldam at Pinewood.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	109	495	136	315	890	720	305	265	133	127	82
2	50	115	350	122	280	680	530	300	278	136	118	82
3	45	115	280	115	256	565	565	261	260	133	115	80
4	50	109	238	112	243	565	565	234	234	127	110	82
5	117	106	213	129	243	1,410	530	213	216	127	105	84
6	62	103	193	150	243	1,580	495	1,920	208	124	108	86
7	53	106	157	140	238	1,060	462	1,320	196	121	115	82
8	50	109	150	136	234	805	412	1,150	208	121	112	86
9	48	103	143	132	266	680	1,150	1,580	196	121	110	86
10	45	103	129	248	248	530	1,500	1,020	188	142	105	84
11	45	97	122	261	234	462	1,920	780	180	121	130	82
12	45	97	126	248	234	412	1,240	600	173	166	148	82
13	42	94	118	234	230	424	935	635	166	127	115	121
14	42	91	115	205	225	2,270	720	820	310	145	110	88
15	53	91	109	209	217	1,240	640	900	188	124	108	82
16	59	88	103	209	213	848	530	1,020	170	127	105	80
17	980	91	171	201	197	680	462	820	159	385	105	82
18	266	115	290	238	185	565	400	670	162	184	102	80
19	174	112	256	1,020	178	495	355	1,840	173	152	100	78
20	140	109	225	640	193	430	335	1,240	166	136	98	78
21	126	109	205	495	209	382	310	900	212	124	98	76
22	126	103	185	430	197	495	285	670	156	900	95	76
23	157	103	171	430	185	4,000	252	565	152	229	95	78
24	126	97	164	406	217	1,580	230	470	139	152	90	78
25	115	97	154	2,360	1,240	1,060	234	500	780	136	90	86
26	109	94	143	1,020	6,250	848	213	530	180	130	90	86
27	115	91	143	805	1,750	680	197	440	159	127	88	80
28	132	97	132	602	1,150	565	495	385	152	256	86	78
29	112	143	129	495	------	935	350	345	145	148	86	76
30	115	495	122	406	------	680	320	320	136	145	82	76
31	109	------	122	350	------	640	------	292	------	142	82	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	980	42	121	0.578	0.67
November	495	88	116	.555	.62
December	495	103	182	.871	1.00
January	2,360	112	409	1.96	2.26
February	6,250	178	567	2.71	2.82
March	4,000	382	918	4.39	5.06
April	1,920	197	578	2.77	3.09
May	1,920	213	743	3.56	4.10
June	780	136	210	1.00	1.12
July	900	121	176	.842	.97
August	148	82	104	.498	.57
September	121	76	83	.397	.44
The year	6,250	42	350	1.67	22.72

BUFFALO RIVER NEAR FLATWOODS, TENN.

LOCATION.—Staff gage one-fourth mile upstream from highway bridge on Flatwoods-Linden road, half a mile below mouth of Little Opossum Creek, and 1½ miles northwest of Flatwoods, Wayne County. Zero of gage is 513.17 feet above mean sea level.

DRAINAGE AREA.—439 square miles.

RECORDS AVAILABLE.—May, 1920, to September, 1929.

EXTREMES.—Maximum discharge during year, 21,200 second-feet Mar. 23 (gage height, 20.18 feet); minimum, 130 second-feet Oct. 2, 3 (gage height, 1.20 feet).

1920–1929: Maximum discharge, about 34,800 second-feet Mar. 13, 1927 (gage height, 29.3 feet); minimum, 65 second-feet Sept. 9, 1925.

REMARKS.—Records good. Discharge interpolated June 30.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	132	186	510	240	620	2,060	2,260	1,800	760	358	270	158
2	130	183	450	255	530	1,480	1,730	1,540	810	322	255	155
3	130	183	375	240	490	1,180	1,420	1,420	1,660	305	255	158
4	135	195	322	225	450	1,020	1,540	1,130	1,540	288	255	155
5	175	186	305	240	450	1,730	1,600	1,020	965	270	240	158
6	207	186	270	270	450	3,600	1,360	1,020	760	270	225	225
7	170	180	255	288	430	2,700	1,180	3,870	665	255	710	255
8	155	195	240	255	410	1,800	1,020	3,870	620	240	552	225
9	140	210	240	255	410	1,540	1,180	14,200	620	225	392	225
10	135	201	240	450	430	1,540	2,700	5,900	552	240	410	270
11	132	192	225	665	470	1,300	2,120	2,400	470	270	340	255
12	132	186	210	575	450	1,130	1,600	1,660	430	288	288	225
13	132	180	210	552	450	1,020	1,240	1,300	410	288	270	358
14	132	178	210	490	430	5,240	1,130	1,080	470	288	270	575
15	145	175	210	450	430	5,680	1,130	1,080	470	322	255	410
16	150	175	207	450	410	2,480	2,260	1,180	410	375	225	288
17	470	178	255	450	392	1,860	1,920	1,080	358	305	225	240
18	510	198	410	410	392	1,480	1,480	910	340	410	225	240
19	392	270	410	1,080	410	1,180	1,180	910	552	450	210	225
20	255	340	340	1,360	358	965	1,020	1,020	470	410	204	210
21	210	305	305	1,130	620	910	910	860	410	305	192	201
22	204	270	288	860	965	1,540	860	710	340	270	186	189
23	255	240	270	760	1,130	20,000	810	665	322	255	180	198
24	305	225	255	710	1,080	14,600	665	575	375	240	183	198
25	240	210	240	1,080	1,180	4,050	710	552	470	225	180	210
26	210	204	240	2,120	7,080	2,200	810	1,360	965	225	180	240
27	204	198	225	1,730	6,010	1,660	710	1,130	710	225	180	240
28	210	192	225	1,360	2,860	1,660	1,730	2,480	530	210	175	225
29	210	225	225	1,020	-------	1,730	5,460	1,540	470	210	170	225
30	207	322	210	860	-------	3,960	2,480	1,080	410	255	165	225
31	195	-------	210	710	-------	3,350	-------	910	-------	288	162	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	510	130	207	0.472	0.54
November	340	175	212	.483	.54
December	510	207	277	.631	.73
January	2,120	225	695	1.58	1.82
February	7,080	258	1,060	2.41	2.51
March	20,000	910	3,120	7.11	8.20
April	5,460	665	1,540	3.51	3.92
May	14,200	552	1,940	4.42	5.10
June	1,660	322	611	1.39	1.55
July	450	210	287	.654	.75
August	710	162	259	.590	.68
September	575	155	239	.544	.61
The year	20,000	130	871	1.98	26.95

BUFFALO RIVER NEAR LOBELVILLE, TENN.

LOCATION.—Staff gage at Standing Rock Bridge, 4 miles north of Lobelville, Perry County. Zero of gage is 403.54 feet above mean sea level.

DRAINAGE AREA.—723 square miles.

RECORDS AVAILABLE.—November, 1927, to September, 1929.

EXTREMES.—Maximum discharge during year, about 15,200 second-feet Mar. 24 (gage height, 16.25 feet); minimum, 168 second-feet Oct. 2 (gage height, 0.65 foot).

1927–1929: Maximum discharge, that of Mar. 24, 1929; minimum, 158 second-feet Sept. 29, 30, 1928 (gage height, 0.61 foot).

REMARKS.—Records good below and fair above 7,000 second-feet. Slight regulation caused by operation of mill and power plant at Lobelville.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	170	375	390	460	1,540	6,040	4,780	2,260	1,480	565	495	210
2	168	360	345	442	1,320	4,140	5,020	2,140	1,900	530	565	207
3	186	360	460	425	1,170	2,260	4,620	1,900	1,660	495	530	204
4	240	360	495	408	1,120	2,140	3,290	1,840	2,590	425	495	198
5	240	345	495	408	845	2,260	2,660	1,660	2,800	425	390	192
6	255	345	495	390	800	3,010	2,260	3,500	2,730	408	375	204
7	285	360	495	390	800	4,140	2,020	3,980	2,520	390	442	240
8	255	360	495	390	760	3,900	1,900	5,020	2,450	375	680	285
9	240	360	442	390	760	3,430	1,720	6,310	2,260	360	980	330
10	225	360	442	390	760	2,660	1,840	10,400	2,140	360	890	315
11	210	345	425	390	760	2,140	4,220	6,130	1,780	360	760	315
12	210	345	425	442	760	1,660	4,380	3,010	1,600	375	600	300
13	201	345	408	495	760	2,260	3,980	2,380	1,270	408	530	300
14	198	330	408	442	720	6,040	3,580	2,730	760	442	460	345
15	192	330	390	442	720	6,880	3,500	2,870	720	460	425	375
16	285	315	375	425	760	5,180	3,360	2,590	680	495	425	408
17	845	300	390	495	720	4,220	3,080	1,840	680	495	375	425
18	935	345	680	600	720	3,360	3,010	1,660	640	530	345	390
19	800	375	1,020	800	720	2,660	2,730	1,540	640	565	330	375
20	640	390	935	1,320	720	1,780	2,660	1,420	640	565	315	345
21	565	460	890	2,080	720	1,540	1,540	1,320	600	565	315	315
22	565	495	845	2,200	760	1,600	1,370	1,270	600	460	300	300
23	565	442	845	2,320	890	5,680	1,270	1,120	600	425	300	270
24	530	425	760	2,520	1,960	15,200	1,170	1,070	600	390	285	270
25	495	408	720	2,940	5,180	12,800	1,070	1,020	565	375	270	300
26	495	375	600	3,080	6,780	4,140	980	1,320	640	360	270	315
27	460	375	530	2,940	6,880	3,080	980	2,140	1,020	360	255	330
28	425	360	460	2,520	6,980	2,590	1,720	2,450	980	345	240	300
29	425	360	425	2,140	-------	3,360	2,940	2,200	800	345	225	300
30	408	360	408	1,960	-------	3,900	2,660	1,840	600	330	225	285
31	408	-------	408	1,720	-------	5,020	-------	1,600	-------	330	210	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	935	168	391	0.541	0.62
November	495	300	369	.510	.57
December	1,020	345	545	.754	.87
January	3,080	390	1,170	1.62	1.87
February	6,980	720	1,690	2.34	2.44
March	15,200	1,540	4,160	5.75	6.63
April	5,020	980	2,680	3.70	4.13
May	10,400	1,020	2,660	3.68	4.24
June	2,800	565	1,300	1.80	2.01
July	565	330	430	.595	.69
August	980	210	430	.595	.69
September	425	192	298	.412	.46
The year	15,200	168	1,340	1.85	25.22

BIG SANDY RIVER AT BRUCETON, TENN.

LOCATION.—Chain gage at highway bridge two-thirds mile above mouth of Cherry Creek and three-fourths mile northeast of Bruceton, Carroll County.
DRAINAGE AREA.—171 square miles.
RECORDS AVAILABLE.—July to September, 1929.
EXTREMES.—Maximum discharge during period, 1,470 second-feet Aug. 1 (gage height, 8.90 feet); minimum, 62 second-feet Aug. 30 to Sept. 3 (gage height, 2.45 feet).
REMARKS.—Records good.

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

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	------	1,470	62	11	------	641	88	21	77	77	77
2	------	106	62	12	------	452	77	22	77	72	72
3	------	88	62	13	------	156	273	23	290	72	72
4	------	106	77	14	------	134	156	24	508	72	88
5	------	77	67	15	------	94	100	25	508	77	94
6	------	100	565	16	------	88	82	26	82	67	106
7	------	700	141	17	------	82	88	27	82	67	94
8	------	470	100	18	------	77	100	28	77	67	88
9	------	1,360	112	19	------	77	72	29	88	67	82
10	------	1,300	156	20	88	77	77	30	106	62	82
								31	1,070	62	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
July 20–31	1,070	77	254	1.49	0.66
August	1,470	62	272	1.59	1.83
September	565	62	112	.655	.73

CACHE RIVER BASIN

CACHE RIVER AT FORMAN, ILL.

LOCATION.—Chain gage in NE. ¼ sec. 31, T. 13 S., R. 3 E., at Chicago, Burlington & Quincy Railroad bridge at Forman, 1 mile below Dutchman Creek.

DRAINAGE AREA.—240 square miles.

RECORDS AVAILABLE.—October, 1922, to September, 1929.

EXTREMES.—Maximum discharge during year, 5,720 second-feet Jan. 26 (gage height, 16.5 feet); minimum, 0.1 second-foot Oct. 10–15 (gage height, 0.10 foot).

1922–1929: Maximum discharge occurred Jan. 26, 1929; no flow July 31 and Aug. 1, 1923.

REMARKS.—Records good except those for extremely low and high stages, which are fair.

Daily and monthly discharge, in second-feet, 1928–29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	50	775	63	1,000	3,430	435	90	133	55	345	4.4
2	.1	179	1,220	58	1,000	1,490	435	143	304	55	465	3.9
3	.2	291	920	54	1,000	1,490	602	229	375	40	102	3.6
4	.3	291	775	54	800	1,490	241	253	375	28	49	3.4
5	.3	179	775	58	532	1,940	153	304	375	10	16	3.0
6	.4	179	535	291	450	1,700	153	690	241	10	14	9.2
7	.2	179	535	291	375	1,430	133	920	184	28	12	68
8	.1	50	360	231	375	1,040	532	920	133	28	11	46
9	.1	50	360	231	375	800	940	725	450	28	23	43
10	.1	50	291	179	390	638	1,280	690	345	55	153	38
11	.1	50	291	179	390	568	1,060	375	153	184	194	26
12	.1	50	231	179	278	602	1,100	480	110	55	124	90
13	.1	50	435	179	278	690	1,100	620	153	40	115	106
14	.1	32	775	231	304	725	940	1,000	940	28	115	304
15	.1	32	920	231	304	840	940	1,220	940	12	103	253
16	179	535	1,070	291	304	840	742	1,220	900	184	153	75
17	435	535	1,070	650	265	708	708	1,000	742	241	143	58
18	535	435	1,220	1,070	265	708	690	1,000	568	184	124	43
19	291	435	1,220	1,400	143	568	602	1,000	450	90	115	29
20	179	179	1,070	4,220	143	550	375	800	375	49	110	14
21	50	179	920	4,220	143	390	375	708	568	20	103	13
22	50	179	920	3,770	82	265	375	620	672	18	8.0	12
23	73	73	920	3,770	82	241	375	420	532	15	3.4	13
24	73	50	775	2,280	82	241	253	420	304	12	1.0	20
25	50	50	535	3,770	2,730	241	229	375	241	9.2	55	24
26	50	50	535	5,720	2,730	241	229	375	184	8.0	49	16
27	50	50	360	4,720	3,680	133	133	532	133	8.0	38	15
28	50	101	291	4,720	3,430	133	133	498	90	7.6	16	13
29	50	360	231	2,380	-------	133	133	375	55	7.2	10	20
30	50	775	179	1,700	-------	133	124	184	90	7.2	6.0	18
31	50	-------	179	1,700	-------	435	-------	184	-------	241	4.6	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	535	0.1	71.5	0.298	0.34
November	775	32	190	.792	.88
December	1,220	179	668	2.78	3.20
January	5,720	54	1,580	6.58	7.59
February	3,680	82	783	3.26	3.40
March	3,430	133	801	3.34	3.85
April	1,280	124	517	2.15	2.40
May	1,220	90	593	2.47	2.85
June	940	55	370	1.54	1.72
July	241	7.2	56.7	.236	.27
August	465	1.0	91.4	.381	.44
September	304	3.0	46.2	.192	.21
The year	5,720	.1	480	2.00	27.15

MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of stream flow obtained at gaging stations and reported in the preceding pages, measurements of flow are made at other points, as shown by the following table:

Miscellaneous discharge measurements in Ohio River drainage basin during the year ending September 30, 1929

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Nov. 22	New River	Kanawha River	Dam site A, near Radford, Va.	2.20	2,120
Mar. 1	do	do	Highway bridge at Radford, Va.	6.18	19,800
2	do	do	do	4.52	13,000
4	do	do	do	3.64	8,850
Nov. 11	Ohio Canal	Tuscarawas River	Crystal Spring, Ohio		10.2
May 9	do	do	do		12.6
June 19	do	do	do		10.3
July 31	do	do	do		5.6
Aug. 23	do	do	do		9.07
Oct. 10	do	do	do		9.69
Apr. 5	Whetstone Creek	Olentangy River	Mount Gilead, Ohio		86.4
Aug. 16	Miami & Erie Canal.	Miami River	Lindenwald, 2 miles south of Hamilton, Ohio.		20.0
Sept. 20	do	do	do		8.03
Mar. 26	Cumberland River	Ohio River	Highway bridge near Gainesboro, Tenn.		125,000
Apr. 9	do	do	do		11,800
15	do	do	do		9,540
May 1	do	do	do		54,200
Apr. 12	Clear Fork	South Fork of Cumberland River.	Peterson Ford Bridge, near Burrville, Tenn.		228
12	do	do	Brewster Ford Bridge, near Rugby, Tenn.		264
Sept. 8	Caney Fork	Cumberland River	1,000 feet below dam near Rock Island, Tenn.		*46.8
8	do	do	Below Big Falls, near Rock Island, Tenn.		♭87.6
June 7	Tumbling Creek	North Fork of Holston River.	Above mouth of Laurel Bed Creek, near Saltville, Va.		7.6
7	do	do	200 yards above Red Creek near Saltville, Va.		25
7	do	do	Below mouth of Red Creek near Saltville, Va.		29
7	Laurel Bed Creek	Tumbling Creek	Near Saltville, Va		11
Feb. 8	Lewis Creek	Clinch River	Putnam, Va		39
Mar. 25	Daddy Creek	Obed River	Highway bridge below Birds Creek near Crab Orchard, Tenn.		534
Sept. 4	Miles Spring	Soddy Creek	Soddy, Tenn		2.57
4	Wallace Spring	do	do		.41
Aug. 12	Cave Spring	North Chickamauga Creek.	Hixon, Tenn		3.33
26	do	do	do		1.86
28	Clifford Fryar Spring.		Tyner, Tenn		.62
Mar. 14	Chattanooga Creek	Tennessee River	Chattanooga, Tenn		3,010
Sept. 3	do	do	do		6.30
Mar. 23	Little Sequatchie River.	Sequatchie River	Highway bridge near Whitwell, Tenn.		6,130
Dec. 15	Indian Creek	Tennessee River	Highway bridge near Savannah, Tenn.	−.22	54.3
Mar. 24	Duck River	do	Shelbyville, Tenn		17,100
Apr. 5	do	do	do		1,480

* Measurement made between dam and tailrace of power house; represents leakage through dam.
♭ Measurement made between dam and tailrace of power house, below Big Falls; represents leakage through dam and Big Falls.

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