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UNITED STATES DEPARTMENT OF THE INTERIOR

Ray Lyman Wilbur, Secretary

GEOLOGICAL SURVEY

George Otis Smith, Director

WATER-SUPPLY PAPER 602

SURFACE WATER SUPPLY OF THE
UNITED STATES

1925

PART II. SOUTH ATLANTIC SLOPE AND EASTERN
GULF OF MEXICO BASINS

NATHAN C. GROVER, Chief Hydraulic Engineer

A. H. HORTON, E. D. BURCHARD, and W. R. KING

District Engineers

Prepared in cooperation with the
STATES OF VIRGINIA AND NORTH CAROLINA



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Water Resources Branch,
Geological Survey,
Box 3106, Capitol Station
Oklahoma City, Okla.

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ILLUSTRATION

FIGURE 1. Typical gaging station.....

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SURFACE WATER SUPPLY OF SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO DRAINAGE BASINS, 1925

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting records of measurements of flow made on streams in the United States during the year ending September 30, 1925.

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, 1895-1926

1895-----	\$12, 500. 00	1903-1906_	\$200, 000. 00	1919-----	\$148, 244. 10
1896-----	24, 500. 00	1907-----	150, 000. 00	1920-----	175, 000. 00
1897-1899 _	50, 000. 00	1908-1910_	100, 000. 00	1921-1923 _	180, 000. 00
1900-----	70, 000. 00	1911-1917_	150, 000. 00	1924-25 ---	170, 000. 00
1901-2 ----	100, 000. 00	1918-----	175, 000. 00	1926-----	165, 000. 00

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

Measurements of stream flow have been made at about 5,120 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1925, 1,710 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 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, and 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 a 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 section or sections of the stream below the gage which determine the stage-discharge relation at the gage. It should be noted that the control may not be the same section or sections at all stages.

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

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1924, and ending September 30, 1925. At the beginning of January in most parts of the United States much of the precipitation in the preceding three months is stored as ground water, in the form of snow or ice, or in ponds, lakes, and swamps, and this stored water passes off in the streams during the spring break-up. At the end of September, on the other hand, the only stored water available for

run-off is possibly a small quantity in the ground; therefore the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

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

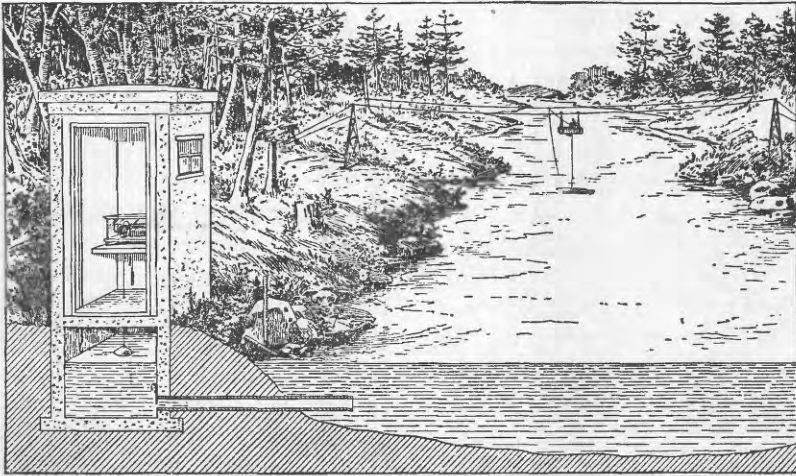


FIGURE 1.—Typical gaging station

Measurements of discharge are made with a current meter. The general methods are outlined in standard textbooks on the measurement of river discharge. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

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

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

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

The description of the station gives, in addition to statements regarding location and equipment, information in regard to any condition that may affect the permanence of the stage-discharge relation,

covering such subjects as the occurrence of ice, the use of the stream for log driving, shifting of control, and the cause and effect of back-water; it gives also information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded stages, and the accuracy of the records.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the mean of the gage heights read each day. At stations on streams subject to sudden or rapid diurnal fluctuations the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using the discharge integrator, an instrument operating on the principle of the planimeter and containing as an essential element the rating curve of the station.

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

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

For the rating tables "well defined" indicates, in general, that the rating is probably accurate within 5 per cent; "fairly well defined," within 10 per cent; "poorly defined," within 15 to 25 per cent. These notes are very general and are based on the plotting of the individual measurements with reference to the mean rating curve.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures

showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "Run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches. All figures representing "second-feet per square mile" and "run-off in inches" published in the earlier reports by the Geological Survey should be used with caution because of possible inherent but unknown sources of error.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and the discharge recorded does not show the water supply available for further development, as prior appropriations below the stations must first be satisfied. To give an idea of the amount of prior appropriations, a paragraph on diversions is presented in each station description. The figures given can not be considered exact but represent the best information available.

The tables of monthly discharge give only a general idea of the flow at the station and should not be used for other than preliminary estimates; the tables of daily discharge allow more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

PUBLICATIONS

Investigation of water resources by the United States Geological Survey has consisted in large part of measurements of the volume of flow of streams and studies of the conditions affecting that flow, but it has comprised also investigation of such closely allied subjects as irrigation, water storage, water powers, ground 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 monographs, bulletins, professional papers, 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. Upper Mississippi River and Hudson Bay Basins.

Part VI. Missouri River Basin.

VII. Lower Mississippi River Basin.

VIII. Western Gulf of Mexico Basins.

IX. Colorado River Basin.

X. Great Basin.

XI. Pacific slope basins in California.

XII. North Pacific slope basins, in three 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 cities of the United States.

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

Augusta, Me., Statehouse.

Boston, Mass., 2500 Customhouse.

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

Trenton, N. J., 423 Statehouse Annex.

Charlottesville, Va., care of University of Virginia.

Asheville, N. C., 608 City Hall.

Chattanooga, Tenn., 630 Power Building.

Tuscaloosa, Ala., Post Office Building.

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

Chicago, Ill., 1510 Consumers Building.

Madison, Wis., care of Railroad Commission of Wisconsin.

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

Topeka, Kans., 23 Federal Building.

Helena, Mont., 45-46 Federal Building.

Denver, Colo., 403 Post Office Building.

Salt Lake City, Utah, 313 Federal Building.

Idaho Falls, Idaho, 228 Federal Building.

Boise, Idaho, Federal Building.

Tacoma, Wash., 406 Federal Building.

Portland, Oreg., 606 Post Office Building.

San Francisco, Calif., 303 Customhouse.

Los Angeles, Calif., 600 Federal Building.

Tucson, Ariz., 104 Agricultural Building, University of Arizona.

Austin, Tex., State Capitol.

Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 5,120 points in the United States, and the data obtained have been published in the reports tabulated below:

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

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

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	
11th A, pt. 2	Monthly discharge and descriptive information	1884 to Sept., 1890.
12th A, pt. 2	do.	1884 to June 30, 1891.
13th A, pt. 3	Mean discharge in second-feet	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B 131	Descriptions, measurements, gage heights, and ratings	1893 and 1894.
16th A, pt. 2	Descriptive information only	
B 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years)	1895.
W 11	Gage heights (also gage heights for earlier years)	1896.
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.

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

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1925. The data for any particular station will be found in the reports covering the years during which the station was maintained. For example, data for Machias River at Whitneyville, Me., 1903 to 1921, are published in Water-Supply Papers 97, 124, 165, 201, 241, 261, 281, 301, 321, 351, 381, 401, 431, 451, 471, 501, and 521, which contain records for the New England streams from 1903 to 1921. Results of miscellaneous measurements are published by drainage basins.

Numbers of water-supply papers containing results of stream measurements, 1899-1925
 [For basins included see pp. 5 and 6]

Year	XII													
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	A	B	C
1899 ^a	35	^b 35, 36	36	36	^c 36, 37	37	37	^d 37, 38	38, *39	38	38	38	38	38
1900 ^a	47, 448	48, 49	49	49	49, 50	50	50	50	51	51	51	51	51	51
1901	65, 75	^b 65, 66, 75	65, 75	65, 75	66, 75	^b 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	^b 82, 83	82	82	84	^b 83, 84	84	84	85	85	85	85	85	85
1903	97	^b 97, 98	98	97	99	^b 98, 99, 100	99	99	100	100	100	100	100	100
1904	^a 124, ^a 125, ^a 126	^b 126, 127	128	129	130, ^a 131	^b 128, 131	132	133	133	133, *134	134	135	135	135
1905	^a 165, ^a 166, ^a 167, ^a 168	^b 167, 168	169	170	171	172	^b 169, 173	174	175, *177	176, *177	177	178	178	*177, 178
1906	^a 201, *202, *203	^b 203, 204	205	206	207	208	^b 205, 209	210	211	212, *213	213	214	214	214
1907-8	241	242	243	244	245	246	247	248	249	250, *251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, *271	271	272	272	272
1910	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925	601	602	603	604	605	606	607	608	609	610	611	612	613	614

^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 King and Kern Rivers and south Pacific slope basins.

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

^h Wissahickon and Schuylkill Rivers to James River.

ⁱ Scioto River.

^j Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.

^k Tributaries of Mississippi from east.

^l Lake Ontario and tributaries to St. Lawrence River proper.

^m Hudson Bay only.

ⁿ New England rivers only.

^o Hudson River to Delaware River, inclusive.

^p Susquehanna River to Yackin River, inclusive.

^q Platte and Kansas Rivers.

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

^s Below junction with Gila.

^t Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

Work in Virginia was carried on in cooperation with the Virginia Geological Survey, Wilbur A. Nelson, director. Financial assistance was also rendered by the Roanoke Railway & Electric Co., Halifax Power Co., and Municipal Water Department of South Boston.

Work in North Carolina was done in cooperation with the North Carolina Department of Conservation and Development. Financial assistance was also rendered by the Tallassee Power Co., Virginia Railway & Power Co., Henry River Manufacturing Co., Cliffside Mills, and the cities of Durham, Charlotte, and Gastonia.

In South Carolina, Georgia, Alabama, and Florida financial assistance was rendered by the following organizations and individuals: Broad River Power Co., Columbia Railway & Navigation Co., Georgia Railway & Power Co., Central Georgia Power Co., city of Dothan, Ala., Houston Power Co., Columbus Electric & Power Co., Alabama Power Co., and B. H. Hardaway.

DIVISION OF WORK

Data for stations in Virginia were collected and prepared for publication by A. H. Horton, district engineer, assisted by J. J. Dirzulaitis, Karl Jetter, O. D. Mussey, W. C. Wiggins, F. C. Christopherson, J. H. Hofmann, Miss Ruth Bradley, and Miss Nellie Minor.

Data for stations in North Carolina, South Carolina, and part of Georgia were collected and prepared for publication under the direction of E. D. Burchard, district engineer, assisted by J. H. Morgan, L. J. Hall, and Mrs. Effie T. Workman.

Data for Chattahoochee River at West Point, Ga., Chipola River near Altha, Fla., and all stations in Alabama were collected and prepared for publication under the direction of Warren R. King, district engineer, assisted by Warren Withee, Duncan Charlton, J. P. Clawson, D. S. Wallace, D. B. Ventres, and Miss Mary Heird.

The manuscript was assembled and records reviewed by W. S. Frame and J. H. Morgan.

GAGING-STATION RECORDS

JAMES RIVER BASIN

JACKSON RIVER AT BARBER, VA.

LOCATION.—At Smiths highway bridge, one-half mile from Barber, Alleghany County. Falling Spring Creek enters one-half mile above.

DRAINAGE AREA.—409 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 2 to September 30, 1925.

GAGE.—Chain gage on upstream guard rail of bridge; read by Miss Katherine Smith.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed of stream composed of ledge rock and clean gravel. Banks subject to overflow at stage of about 15 feet. Control 250 yards below gage; composed of gravel; likely to shift during high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 6.04 feet at 6 p. m. May 12 (discharge, 1,390 second-foot); minimum stage, 2.80 feet at 7 a. m. August 28 (discharge, 72 second-foot).

The flood of March, 1913, reached a stage of about 25.6 feet on the present gage, discharge not determined.

ICE.—Stage-discharge relation affected by ice during winter.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 80 and 3,200 second-foot; extended below. Daily discharge ascertained by applying mean daily gage height to rating table. Gage read to hundredths twice daily. Records good.

The following discharge measurements were made:

April 2, 1925: Gage height, 4.41 feet; discharge, 487 second-feet.

April 24, 1925: Gage height, 3.48 feet; discharge, 194 second-feet.

August 28, 1925: Gage height, 2.91 feet; discharge, 84 second-feet.

Daily discharge, in second-feet, of Jackson River at Barber, Va., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		930	188	128	118	76	16	213	706	154	188	111	95
2	480	760	176	128	124	88	17	213	610	144	134	108	95
3	444	610	176	134	118	85	18	213	520	134	132	106	92
4	408	542	165	154	109	82	19	213	462	134	120	104	90
5	374	500	165	144	104	80	20	213	391	154	122	98	90
6	340	444	165	134	108	80	21	188	357	144	124	92	84
7	325	408	176	134	108	78	22	176	325	144	126	87	84
8	295	374	188	134	111	78	23	200	280	134	144	87	88
9	295	374	213	144	101	78	24	188	280	144	124	82	88
10	266	408	213	176	96	78	25	188	310	165	122	82	87
11	266	520	176	165	101	78	26	200	266	165	112	77	82
12	239	1,110	154	165	104	79	27	310	239	154	111	74	82
13	239	990	144	154	120	95	28	374	226	200	109	74	80
14	226	760	144	134	118	95	29	656	213	188	106	82	80
15	213	990	154	165	108	95	30	930	200	154	104	82	80
							31		188		111	82	

Monthly discharge of Jackson River at Barber, Va., for the year ending September 30, 1925

[Drainage area, 409 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
April 2-30	930	176	306	0.748	0.81
May	1,110	188	493	1.21	1.40
June	213	134	164	.401	.45
July	188	104	135	.330	.38
August	124	74	99.2	.243	.28
September	95	76	84.7	.207	.23

JAMES RIVER AT LICK RUN, VA.

LOCATION.—At highway bridge at Lick Run, Botetourt County, 5 miles below Clifton Forge and three-fourths mile below junction of Cowpasture and Jackson Rivers.

DRAINAGE AREA.—1,370 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 3 to September 30, 1925.

GAGE.—Chain gage on upstream side of highway bridge; read by R. G. Lemon

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of bedrock and gravel; permanent.

Control is rock ledge 25 feet below gage; probably permanent. Point of zero flow, August 28, 1925, at gage height -0.3 foot ± 0.2 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of record, 6.30 feet at 6.50 p. m. April 30 (discharge, 5,370 second-feet); minimum stage, 1.64 feet at 6.15 a. m. August 31 (discharge, 192 second-feet).

Flood of September, 1877, reached a stage of 29.1 feet and that of March, 1913, reached a stage of 27.2 feet, determined by leveling to floodmarks.

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

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 200 and 11,000 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

April 4, 1925: Gage height, 3.24 feet; discharge, 987 second-feet.

April 23, 1925: Gage height, 2.77 feet; discharge, 723 second-feet.

August 28, 1925: Gage height, 1.69 feet; discharge, 203 second-feet.

Daily discharge, in second-feet, of James River at Lick Run, Va., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		3,360	460	325	245	265	16	588	2,160	348	588	231	305
2		2,580	460	305	245	238	17	560	1,780	370	415	220	245
3	1,110	2,030	438	348	265	231	18	588	1,550	460	325	220	238
4	1,030	1,060	415	415	242	228	19	588	1,290	438	285	207	228
5	955	1,550	392	348	245	217	20	560	1,110	392	265	210	245
6		1,340	560	325	245	217	21	510	990	370	265	220	234
7	818	1,150	485	348	245	204	22	535	885	305	285	214	224
8	785	1,070	460	325	242	210	23	642	818	285	348	228	238
9	755	1,030	510	325	228	204	24	670	755	305	285	217	224
10	755	1,070	535	460	220	204	25	615	785	415	285	220	238
11	755	1,290	485	588	214	204	26	642	755	560	245	201	231
12	725	2,160	370	415	285	207	27	755	642	485	238	201	217
13	698	3,360	348	370	285	265	28	1,110	588	460	242	204	210
14	642	2,440	348	438	265	234	29	2,160	560	438	231	204	217
15	615	2,300	325	370	265	238	30	4,180	535	370	224	204	214
							31		510		234	198	

Monthly discharge of James River at Lick Run, Va., for the year ending September 30, 1925

[Drainage area, 1,370 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
April 3-30	4,180	510	901	0.658	0.69
May	3,360	510	1,420	1.04	1.20
June	560	285	420	.307	.34
July	588	224	338	.247	.28
August	285	198	230	.168	.19
September	305	204	229	.167	.19

JAMES RIVER AT BUCHANAN, VA.

LOCATION.—At highway bridge near Chesapeake & Ohio Railway station, Buchanan, Botetourt County.

DRAINAGE AREA.—2,080 square miles; revised (measured on topographic maps).

RECORDS AVAILABLE.—August 18, 1895, to September 30, 1925.

GAGE.—Chain gage attached to highway bridge installed November 21, 1903.

DISCHARGE MEASUREMENTS.—Made from downstream side of two-span highway bridge or by wading.

CHANNEL AND CONTROL.—Bed under bridge is composed of rock overlain with thick deposit of mud. Banks high; not overflowed except in extreme floods. Control of boulders and gravel several hundred feet below the station. Point of zero flow October 19, 1924, — 0.5 foot \pm 0.5 foot.

EXTREMES OF DISCHARGE.—1917–1925: Maximum stage recorded, 19.1 feet on May 13, 1924 (discharge, 47,500 second-feet); minimum stage, 1.7 feet on August 28 to September 14 and September 20–30, 1925 (discharge, 310 second-feet).

1898–1925: Maximum stage recorded, 31 feet during the night of March 27, 1913, determined October 2, 1914, by levels from floodmarks (discharge not determined); minimum stage, 1.7 feet on August 20–22 and September 12–14, 1900 (discharge, 275 second-feet). A discharge of 260 second-feet was reported on April 17 and May 2, 1896, but this is subject to error owing to unreliability of record prior to 1898.

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

ACCURACY.—Stage-discharge relation changed during high water of March 4, 1917; affected by ice during cold winters. Estimated discharge shown by braced figures in tables of daily discharge. Rating curve well defined between 350 and 32,000 second-feet; extended beyond these limits. Gage read to tenths once daily. The gage heights indicate river apparently has a very steady flow at low stages; this apparent condition may be due to careless or inaccurate gage readings. Daily discharge ascertained by applying daily gage height to rating table. Records fair. Records of discharge in the following tables supersede those published in previous water-supply papers.

The following discharge measurements were made:

October 19, 1924: Gage height, 2.55 feet; discharge, 867 second-feet.

September 27, 1925: Gage height, 1.80 feet; discharge, 351 second-feet.

Daily discharge, in second-feet, of James River at Buchanan, Va., for the years ending September 30, 1917–1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1916-17												
1.....	810	520	460	3,150	2,980	6,520	3,330	2,520	3,330	680	750	400
2.....	730	520	460	2,810	10,100	14,600	2,830	3,530	2,220	680	680	400
3.....	730	520	460	2,480	6,520	17,400	2,520	3,330	1,800	615	915	400
4.....	655	460	460	2,480	3,330	18,400	2,370	3,160	1,670	615	750	400
5.....	655	460	460	3,150	2,480	42,600	2,830	3,160	1,540	615	680	400
6.....	585	460	460	3,900	2,320	16,200	10,600	2,990	1,420	615	615	400
7.....	585	460	460	3,510	2,320	9,790	10,600	2,990	1,300	555	555	400
8.....	520	460	460	3,150	2,160	8,480	7,000	2,830	1,190	555	555	555
9.....	520	460	460	2,980	1,860	7,480	6,060	2,830	1,190	555	555	615
10.....	460	460	460	2,810	1,590	7,000	5,150	2,670	1,540	555	555	555
11.....	460	460	460	2,480	1,460	6,520	4,720	2,520	1,540	500	555	555
12.....	460	460	460	2,160	1,340	6,060	4,300	2,370	1,420	500	555	500
13.....	460	460	460	1,860	1,220	8,480	3,900	2,220	1,420	500	555	500
14.....	460	460	460	1,860	1,110	11,400	3,510	2,080	1,300	500	500	500
15.....	460	460	460	2,480	1,000	8,520	3,330	1,940	1,190	500	500	500
16.....	460	460	460	2,320	1,000	7,980	3,160	1,800	1,090	500	500	450
17.....	460	460	460	2,160	900	8,480	2,990	1,670	1,000	615	500	450
18.....	460	460	460	2,010	730	11,400	2,830	1,670	915	750	500	450
19.....	810	400	520	2,010	655	9,000	2,670	1,540	830	830	500	450
20.....	2,980	460	730	1,860	585	7,000	2,520	1,540	830	830	500	450

Daily discharge, in second-feet, of James River at Buchanan, Va., for the years ending September 30, 1917-1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	pt.
1916-17												
21	2,480	460	810	1,860	2,160	5,600	2,370	1,540	750	750	500	450
22	1,860	460	900	3,510	3,510	5,160	2,220	1,420	750	750	450	450
23	1,220	460	1,000	7,240	4,720	4,720	2,080	1,420	750	830	450	450
24	900	460	900	4,930	6,520	6,520	1,940	1,420	750	915	450	400
25	730	460	900	3,150	13,400	11,400	1,800	1,420	750	1,000	450	400
26	655	460	810	2,480	9,000	8,480	1,670	1,420	750	1,000	450	400
27	655	460	730	2,160	6,290	6,520	1,670	1,940	680	915	450	400
28	585	460	655	2,010	4,510	5,370	1,540	2,520	680	915	450	400
29	585	460	2,160	2,010	-----	4,510	1,540	6,290	680	830	450	400
30	520	460	3,510	2,480	-----	3,900	1,420	5,370	680	830	450	400
31	520	-----	3,150	3,150	-----	3,510	-----	4,300	-----	750	400	-----
1917-18												
1	400	1,000	450	-----	2,000	3,700	2,520	4,300	2,520	4,720	1,080	1,000
2	400	1,000	450	-----	2,000	3,330	2,220	3,510	2,370	5,150	1,000	915
3	400	915	450	-----	1,400	3,160	1,940	2,990	2,220	2,830	915	830
4	400	830	450	-----	1,200	2,990	1,800	2,830	2,220	2,520	830	750
5	400	750	450	-----	1,200	2,830	1,670	2,670	2,080	1,940	750	1,000
6	400	680	450	-----	1,000	5,830	1,670	2,370	2,080	1,540	680	2,370
7	400	615	450	-----	1,000	6,520	1,540	2,220	1,940	1,420	680	2,220
8	400	555	450	410	1,000	9,000	1,540	2,080	1,800	1,000	1,000	2,370
9	400	555	450	-----	2,900	6,520	2,990	1,940	1,420	1,190	830	1,940
10	400	555	450	-----	6,000	4,720	13,100	1,940	1,420	1,190	830	2,080
11	400	555	-----	-----	14,300	3,900	13,400	1,800	1,300	1,190	750	1,670
12	400	555	-----	-----	14,600	3,330	11,100	2,080	1,300	1,000	830	1,420
13	400	555	-----	-----	14,300	2,830	9,260	1,940	1,090	915	830	1,190
14	400	500	-----	-----	16,500	40,600	7,000	2,080	1,090	915	750	1,000
15	400	500	-----	-----	16,200	17,100	5,600	1,800	1,000	830	750	915
16	400	500	410	-----	15,900	8,230	4,930	1,800	1,000	750	680	915
17	400	500	-----	-----	11,700	5,600	4,510	1,670	1,670	750	680	830
18	400	500	-----	-----	5,830	4,300	4,300	1,670	2,370	1,000	680	1,190
19	400	500	-----	-----	3,510	3,900	3,900	1,670	3,700	1,540	1,090	2,080
20	450	500	-----	-----	4,300	3,510	6,060	1,540	2,520	1,800	1,000	1,940
21	450	500	-----	-----	5,600	6,060	13,100	1,540	2,080	1,420	915	1,800
22	450	450	-----	-----	6,520	12,000	22,500	1,420	1,670	1,190	830	1,670
23	400	450	-----	1,210	6,060	9,000	11,700	1,420	1,670	1,090	830	1,540
24	400	450	-----	-----	5,150	6,520	8,480	3,160	1,540	1,000	750	1,420
25	400	450	-----	-----	4,720	5,370	6,290	4,300	1,540	915	750	1,190
26	400	450	550	-----	6,520	4,300	5,600	3,900	5,150	830	680	1,090
27	450	450	-----	-----	9,520	3,900	6,060	3,700	12,500	750	680	1,000
28	450	450	-----	-----	4,720	3,510	7,980	3,510	9,260	680	915	915
29	450	450	-----	-----	-----	2,990	6,060	3,330	7,000	680	1,090	830
30	1,090	450	-----	-----	-----	2,830	4,720	4,300	5,150	615	915	750
31	1,000	-----	-----	-----	-----	2,670	-----	2,520	-----	1,190	830	-----
1918-19												
1	750	8,230	2,080	3,510	1,540	5,370	3,330	1,670	2,520	3,510	1,670	750
2	750	6,060	1,940	29,700	1,540	8,230	2,990	4,720	2,830	2,520	1,940	750
3	750	4,300	1,800	43,900	1,540	5,830	2,670	5,830	2,520	2,220	1,940	750
4	750	3,160	1,670	24,100	1,540	4,100	2,370	4,720	1,940	1,940	1,800	750
5	680	2,370	1,540	12,000	1,670	3,700	2,220	3,330	1,670	1,670	1,800	750
6	680	2,080	1,420	9,000	1,540	3,900	2,080	2,520	1,800	1,670	1,670	750
7	680	1,800	1,420	6,520	1,540	3,700	1,940	2,220	1,800	1,670	1,420	750
8	680	1,540	1,300	4,720	1,540	3,510	1,800	4,100	1,670	1,670	1,300	750
9	680	1,300	1,300	3,900	1,540	8,480	1,670	5,370	1,670	1,670	1,190	750
10	615	1,090	1,300	3,510	1,420	10,900	1,540	8,480	1,540	1,540	1,090	750
11	615	1,000	1,300	3,330	1,420	7,980	1,800	11,100	1,800	1,540	1,090	750
12	615	915	1,190	3,160	1,420	5,830	7,980	7,730	2,080	1,540	1,090	750
13	615	830	1,160	2,990	1,420	4,300	11,700	6,060	1,940	1,540	1,000	680
14	615	750	1,800	2,830	1,670	3,510	5,600	5,150	1,940	1,540	1,000	680
15	615	750	15,200	2,670	1,800	3,330	3,330	4,720	1,670	1,540	1,000	680
16	615	750	22,200	2,670	1,670	3,330	3,900	4,100	1,420	2,220	1,000	680
17	555	750	13,400	2,520	1,670	3,160	6,520	3,900	1,420	2,520	1,090	680
18	555	915	8,480	2,520	1,540	3,160	4,300	3,900	1,540	4,300	1,000	680
19	555	4,100	6,290	2,370	1,510	2,990	3,900	3,700	1,420	7,000	1,000	680
20	555	3,160	4,300	2,370	1,540	2,830	3,510	3,700	1,420	21,600	1,000	680
21	555	2,520	3,510	2,220	1,800	2,670	3,160	5,600	1,300	13,700	1,000	680
22	555	2,080	6,760	2,220	1,800	2,370	2,830	6,060	1,300	12,300	915	680
23	555	1,800	33,000	2,080	1,670	2,220	2,670	4,300	1,300	6,520	915	680
24	555	1,540	14,900	2,990	1,670	2,080	2,520	4,100	1,300	5,370	915	615
25	555	1,420	7,000	2,520	1,670	1,940	2,370	3,900	3,900	4,300	915	615

Daily discharge, in second-feet, of James River at Buchanan, Va., for the years ending September 30, 1917-1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1918-19												
26	5,830	1,300	4,300	2,220	6,520	1,800	2,220	3,900	5,830	3,700	830	615
27	14,000	1,190	3,900	1,940	6,760	1,670	2,080	3,700	26,700	2,990	830	615
28	4,510	1,420	3,700	1,800	4,930	4,300	1,940	3,330	19,600	2,520	830	615
29	2,990	2,220	3,510	1,670	-----	6,060	1,800	2,990	8,480	2,080	830	615
30	3,330	2,080	3,330	1,670	-----	4,100	1,670	2,830	5,150	1,800	830	615
31	14,000	-----	3,160	1,540	-----	3,700	-----	2,520	-----	1,670	750	-----
1919-20												
1	615	680	1,540	1,190	2,830	2,520	2,220	2,520	1,090	830	555	1,000
2	615	680	1,420	980	2,670	2,520	3,330	2,370	1,000	830	555	915
3	615	680	1,420	980	2,520	2,080	13,400	2,220	1,000	915	555	830
4	615	680	1,420	980	7,240	2,990	9,000	2,080	1,000	1,190	555	750
5	615	680	1,420	980	12,500	5,600	6,520	1,940	1,090	1,420	555	750
6	615	680	1,420	980	8,230	12,800	6,760	1,800	2,370	1,190	555	680
7	615	680	1,540	980	6,060	6,520	6,290	1,800	6,520	1,000	555	680
8	615	615	9,790	980	4,300	4,300	5,830	1,800	3,700	1,000	555	615
9	615	615	7,000	980	3,330	3,700	4,930	1,800	2,520	1,000	555	615
10	615	615	11,400	980	2,990	3,330	4,300	1,670	1,940	1,000	830	615
11	615	615	8,480	1,000	2,830	2,990	3,700	1,670	1,540	1,420	1,190	555
12	615	680	5,330	1,000	2,670	2,830	3,330	1,670	1,420	1,800	1,800	555
13	750	680	3,330	1,000	2,990	3,160	2,990	1,540	1,300	2,370	2,220	555
14	830	680	3,330	1,000	3,510	6,290	2,830	1,800	1,300	2,080	2,520	555
15	830	680	3,330	1,000	3,330	5,830	2,670	1,940	1,300	1,940	3,510	555
16	750	680	2,370	1,000	3,330	4,300	2,670	2,080	1,190	1,940	2,520	555
17	750	680	2,220	1,000	3,160	4,300	2,520	1,940	1,190	1,800	2,220	555
18	750	680	2,080	1,000	2,990	5,830	2,520	1,940	1,090	1,670	2,080	500
19	750	615	1,940	1,000	2,830	9,520	2,370	1,940	1,090	1,540	4,300	500
20	680	615	1,800	1,000	2,520	26,700	2,670	1,800	1,190	1,420	9,000	500
21	680	615	1,670	1,000	2,370	12,000	2,520	1,800	1,800	1,090	9,260	500
22	680	615	1,540	1,800	2,220	8,480	2,520	1,670	2,990	915	6,520	500
23	680	615	1,420	11,400	2,220	6,060	2,370	1,540	3,330	750	3,330	500
24	830	615	1,420	13,400	2,990	4,930	2,370	1,420	1,800	680	2,520	500
25	915	615	1,300	14,900	4,300	4,100	2,220	1,420	1,190	615	1,940	500
26	830	615	1,300	9,000	3,330	3,510	2,220	1,420	1,090	615	1,540	500
27	750	1,420	1,300	6,520	2,990	3,330	2,220	1,300	1,000	555	1,420	500
28	750	1,540	1,300	5,150	2,670	2,990	3,160	1,300	915	555	1,420	615
29	680	1,540	1,300	3,900	2,520	2,670	2,830	1,190	830	555	1,300	680
20	680	1,540	1,300	3,330	-----	2,520	2,520	1,190	830	555	1,190	830
31	680	-----	1,300	2,990	-----	2,370	-----	1,090	-----	555	1,190	-----
1920-21												
1	830	500	10,600	2,080	2,830	2,990	1,190	1,190	1,000	615	830	400
2	680	500	8,740	1,940	2,520	2,990	1,190	1,190	1,000	750	750	400
3	680	500	4,930	1,940	2,220	2,990	1,190	1,190	1,000	615	680	400
4	615	500	4,100	1,800	2,080	2,990	1,190	1,540	915	555	680	400
5	615	500	3,510	1,670	1,940	2,830	1,190	1,540	915	555	555	400
6	555	500	3,160	1,540	1,940	2,830	1,090	1,540	1,540	555	555	400
7	555	500	2,830	1,420	1,800	2,830	1,090	1,420	1,420	555	555	400
8	555	500	2,520	1,300	1,800	2,830	1,090	1,420	1,420	555	500	400
9	555	500	2,220	1,300	2,520	2,830	1,090	1,300	1,300	555	500	830
10	555	500	1,940	1,300	6,760	2,830	1,090	1,300	1,090	555	500	500
11	555	500	1,670	2,520	12,300	2,670	1,090	1,300	1,000	555	500	615
12	500	500	1,540	6,760	6,760	2,670	1,090	1,940	915	555	500	555
13	500	500	1,420	5,370	5,370	2,670	1,000	2,520	830	1,090	450	555
14	500	500	4,930	6,060	4,300	2,670	1,000	2,830	750	1,190	555	555
15	500	500	9,520	8,230	3,510	3,160	1,000	2,830	680	1,420	500	500
16	500	555	7,000	6,290	3,160	4,720	1,000	2,220	615	1,190	500	500
17	500	2,830	4,300	4,720	2,830	4,100	1,090	2,080	615	915	500	500
18	500	3,900	3,510	4,300	2,670	3,330	1,420	1,800	615	750	500	500
19	500	2,520	2,830	3,510	2,520	2,990	1,420	1,540	555	680	500	450
20	500	1,800	2,520	2,990	2,370	2,830	1,300	1,540	615	615	500	450
21	500	1,420	2,220	2,670	2,370	2,520	1,300	1,420	680	555	500	450
22	500	1,090	1,940	5,600	3,330	2,370	1,190	1,420	680	555	450	450
23	500	1,000	1,800	20,900	6,520	2,220	1,190	1,300	615	555	450	450
24	500	1,000	2,080	15,200	4,300	2,080	1,190	1,300	615	555	450	450
25	500	915	1,940	4,510	3,510	1,940	1,190	1,190	615	555	450	450
26	500	915	1,670	3,900	3,330	1,800	1,090	1,190	615	555	450	450
27	500	830	1,540	3,330	3,160	1,670	1,090	1,090	615	555	450	450
28	500	830	2,670	3,330	2,990	1,540	1,420	1,090	680	555	400	450
29	500	7,000	2,670	3,330	-----	1,420	1,420	1,090	615	1,000	400	450
30	500	8,740	2,520	3,160	-----	1,300	1,300	1,000	615	830	400	450
31	500	-----	2,220	3,160	-----	1,190	-----	1,000	-----	680	400	-----

Daily discharge, in second-feet, of James River at Buchanan, Va., for the years ending September 30, 1911-1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1921-22												
1	450	22,500	6,060	2,670	1,630	3,900	3,900	2,220	1,800	1,940	1,000	500
2	450	12,000	5,600	2,520	4,300	4,930	3,510	2,080	1,800	1,940	750	555
3	450	6,520	6,520	2,080	3,330	15,200	3,160	2,080	4,100	1,940	750	500
4	450	2,670	6,060	1,800	3,160	16,200	2,990	4,100	5,370	2,370	680	1,300
5	450	1,540	4,300	1,420	2,670	6,520	2,830	8,480	5,150	10,600	750	1,090
6	400	1,190	3,330	1,300	2,370	4,930	2,670	9,000	4,300	11,100	615	1,090
7	400	1,090	2,670	1,190	2,370	3,900	2,520	8,740	3,330	7,730	680	915
8	400	1,090	2,370	1,190	2,990	9,790	2,520	4,300	2,990	5,830	615	915
9	400	1,000	2,080	1,190	5,150	10,300	2,370	3,900	2,520	4,100	615	750
10	400	1,000	1,800	1,190	4,720	10,300	2,220	3,510	3,900	3,510	555	830
11	400	915	1,670	1,190	4,100	24,100	2,080	3,700	3,330	2,370	615	680
12	400	915	1,540	1,090	5,370	12,300	2,080	2,990	2,830	1,940	555	750
13	400	830	1,420	1,090	9,000	8,230	1,940	2,520	2,370	1,540	615	615
14	400	830	1,300	1,090	7,000	6,520	1,940	2,830	2,080	1,420	555	528
15	355	830	1,300	1,000	5,830	7,730	1,940	3,160	1,800	1,190	615	475
16	355	830	1,300	1,000	13,100	6,290	2,520	3,160	1,540	1,190	555	475
17	355	750	1,190	1,190	11,700	5,150	2,990	3,510	1,420	1,090	615	475
18	355	1,090	1,670	1,190	10,600	4,300	2,830	4,930	1,300	2,370	555	475
19	355	2,220	1,540	1,090	6,060	3,900	2,830	6,520	1,300	1,670	615	475
20	355	2,080	1,540	1,090	9,790	3,510	2,990	17,700	1,300	1,420	555	425
21	355	1,800	1,540	9,520	21,900	3,330	2,520	6,760	1,300	1,300	555	425
22	355	1,670	1,540	17,700	11,700	3,160	2,520	3,900	1,300	1,300	500	425
23	355	1,670	2,370	11,700	9,000	3,160	2,370	3,510	1,190	1,190	555	425
24	355	1,670	11,700	2,830	7,000	2,830	2,220	3,330	1,190	1,300	500	425
25	355	1,540	13,100	2,220	5,370	2,670	2,080	2,830	1,190	1,190	555	425
26	355	1,540	10,300	1,630	4,300	2,520	1,940	2,670	1,190	1,190	500	378
27	355	1,540	7,730	1,630	3,900	2,520	1,800	2,370	9,000	1,090	555	378
28	355	2,520	6,060	1,630	3,900	2,520	1,800	2,220	2,670	1,190	500	378
29	355	8,230	4,300	1,630	-----	2,830	2,520	2,080	2,080	1,090	555	378
30	355	6,520	3,330	1,630	-----	3,900	2,220	1,940	1,940	1,190	500	378
31	915	-----	2,990	1,630	-----	4,100	-----	1,940	-----	1,090	555	-----
1922-23												
1	378	425	425	2,080	3,900	2,670	2,080	2,670	1,090	615	2,830	500
2	378	425	425	8,740	3,330	2,370	2,080	2,370	1,090	555	4,100	500
3	378	378	425	3,510	7,240	2,220	1,940	2,080	1,090	555	2,520	500
4	378	378	425	3,160	6,520	2,080	1,940	2,080	1,090	555	3,510	500
5	378	378	425	2,520	5,830	1,940	1,800	1,940	1,090	555	4,300	555
6	378	378	425	2,520	4,510	3,160	2,370	1,940	1,090	555	3,330	1,420
7	528	378	425	1,800	3,700	14,600	2,670	1,800	1,090	555	2,830	915
8	830	378	425	1,670	3,330	12,800	2,520	1,800	1,090	500	2,520	615
9	615	378	425	1,540	3,160	6,290	2,370	1,670	1,090	500	2,370	500
10	830	378	425	1,540	2,990	3,700	2,220	1,670	1,090	500	2,370	500
11	1,540	378	425	1,420	2,830	3,510	2,220	1,540	1,300	500	12,500	555
12	1,190	378	425	1,540	2,670	3,510	2,220	1,420	2,220	500	6,290	500
13	750	378	425	1,300	2,520	3,900	2,670	1,300	3,160	500	4,510	500
14	680	378	425	1,420	2,370	3,700	8,740	1,190	4,510	500	2,830	500
15	500	378	1,190	1,300	2,220	3,510	10,900	1,190	4,100	500	1,800	500
16	475	475	2,670	1,300	2,080	4,100	7,240	1,540	3,160	500	1,540	500
17	475	425	6,060	1,190	1,940	12,000	5,150	2,370	2,670	500	1,190	500
18	475	425	8,230	1,300	1,800	10,900	4,100	2,220	2,220	500	1,000	500
19	475	425	4,300	1,190	1,670	10,100	3,160	2,080	1,940	500	915	500
20	475	425	2,830	1,300	1,540	11,400	2,670	1,940	1,670	500	830	500
21	475	425	2,220	1,190	1,420	7,240	2,370	1,800	1,420	500	750	500
22	475	425	1,540	1,190	1,300	3,900	2,080	1,670	1,190	500	750	2,520
23	425	425	1,300	1,090	1,300	3,700	2,080	1,540	1,000	500	680	1,670
24	425	425	1,090	1,190	1,190	3,330	1,940	1,420	915	500	680	2,220
25	425	425	1,190	1,420	1,190	3,160	1,940	1,300	830	500	615	1,090
26	425	425	1,090	1,940	1,190	2,830	1,800	1,300	750	500	615	830
27	425	425	1,090	2,520	1,420	2,670	1,670	1,190	680	500	555	750
28	425	425	1,000	7,730	2,080	2,520	1,540	1,190	680	500	555	680
29	425	425	1,420	12,000	-----	2,370	2,220	1,190	615	500	500	680
30	425	425	1,090	7,480	-----	2,220	3,160	1,090	615	555	500	680
31	425	-----	1,190	4,100	-----	2,220	-----	1,090	-----	680	500	-----

*Daily discharge, in second-feet, of James River at Buchanan, Va., for the years ending
September 30, 1917-1925—Continued*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1923-24												
1	615	400	750	680	2,220	2,080	9,260	1,670	4,300	1,090	680	1,540
2	450	400	680	680	2,080	2,080	8,480	1,540	3,700	1,090	680	1,190
3	555	400	680	680	1,940	1,940	6,520	1,540	3,510	1,090	680	1,000
4	555	400	615	615	1,800	1,940	4,720	1,540	3,510	1,090	680	1,000
5	500	400	1,090	615	1,800	2,670	4,100	1,420	3,510	1,090	680	915
6	500	400	2,990	615	1,670	2,990	3,700	1,420	3,330	1,090	615	830
7	450	400	5,370	615	1,670	2,370	3,510	1,420	3,330	2,370	615	760
8	450	400	4,300	555	1,670	2,370	4,510	1,670	3,330	8,480	615	680
9	400	400	3,510	555	1,540	2,220	4,510	1,940	3,160	20,900	615	680
10	400	400	2,830	555	1,540	2,220	4,510	2,370	3,160	9,000	615	680
11	400	400	2,220	4,720	1,540	2,370	4,930	3,330	3,900	4,300	615	680
12	400	400	1,540	3,900	1,420	3,700	4,100	39,000	3,700	2,520	1,090	615
13	400	400	1,300	2,830	1,420	3,510	3,330	47,500	4,300	2,080	1,420	615
14	400	400	1,190	2,520	1,420	3,510	2,830	14,600	4,300	1,800	6,060	615
15	400	400	1,090	2,220	1,300	3,330	2,520	10,600	3,900	1,670	2,520	615
16	400	400	1,000	2,080	1,300	3,330	2,370	6,290	3,510	1,540	1,670	615
17	400	400	915	31,000	1,300	3,160	2,220	5,370	4,510	1,420	1,420	555
18	400	400	830	15,200	1,300	3,160	2,220	4,720	3,160	1,300	1,300	555
19	400	400	830	8,740	1,300	2,990	5,600	4,300	2,670	1,190	1,300	555
20	400	400	830	5,370	1,940	2,990	6,060	4,100	2,370	1,090	1,300	555
21	400	400	750	3,900	2,670	2,990	3,330	3,900	2,080	1,000	1,190	555
22	400	400	750	2,830	2,670	3,330	2,850	3,700	1,940	1,000	1,190	830
23	400	400	750	2,830	2,520	2,670	2,520	3,510	1,800	915	1,190	1,000
24	400	450	680	2,670	2,520	2,370	2,370	3,330	1,670	915	2,830	830
25	400	450	680	2,670	2,370	2,220	2,220	3,160	1,540	915	3,510	750
26	400	400	615	2,520	2,220	2,080	2,080	2,990	1,420	830	4,720	680
27	400	450	615	2,520	2,080	1,940	1,940	2,830	1,300	830	4,300	680
28	400	500	555	2,520	2,080	1,800	1,800	2,670	1,190	830	3,330	615
29	400	500	555	2,370	2,080		10,100	1,670	2,670	1,090	750	2,830
30	400	830	555	2,220			18,000	1,670	9,000	1,090	750	2,520
31	400		555	2,080			14,900		6,290	750	2,220	34,300
1924-25												
1	24,100	750	1,940	2,220	2,220	2,080	1,670	4,300	750	1,000	450	310
2	11,700	750	1,800	2,220	2,220	2,080	1,670	3,700	750	680	450	310
3	4,510	750	1,800	2,080	2,220	1,940	1,540	3,330	750	615	450	310
4	3,160	750	1,800	1,940	2,220	1,940	1,540	2,830	680	555	450	310
5	2,370	680	2,220	1,800	2,080	1,940	1,420	2,520	680	555	450	310
6	1,940	680	2,670	1,670	2,080	1,800	1,420	2,370	680	555	450	310
7	1,800	680	3,330	1,540	2,080	1,800	1,300	2,370	680	555	450	310
8	1,670	680	4,300	1,420	1,940	1,670	1,190	2,370	680	555	450	310
9	1,540	680	6,520	1,300	1,940	1,670	1,090	2,220	680	555	400	310
10	1,420	615	9,520	2,370	1,940	1,670	1,090	2,220	680	555	400	310
11	1,190	615	4,300	3,900	2,220	1,540	1,090	2,220	680	555	400	310
12	1,090	615	3,160	9,520	2,220	1,540	1,000	2,520	615	555	400	310
13	1,000	615	2,670	10,300	2,670	1,540	1,000	2,220	615	500	555	310
14	1,000	615	2,370	7,730	4,930	1,420	915	1,940	615	500	555	310
15	1,000	615	2,080	5,830	4,300	1,420	915	1,540	615	500	500	355
16	915	615	2,080	4,300	4,300	1,300	830	1,420	615	500	500	355
17	915	615	1,800	4,300	3,510	1,300	830	1,300	615	500	450	355
18	915	680	1,670	6,060	3,160	1,190	750	1,190	615	500	450	355
19	915	680	1,420	7,480	2,990	1,670	750	1,190	615	500	450	355
20	830	680	1,420	7,000	2,830	3,330	750	1,190	615	500	450	310
21	830	680	1,420	6,290	2,830	2,990	680	1,090	555	500	400	310
22	830	2,990	1,300	5,830	2,670	2,370	680	1,060	555	450	400	310
23	830	2,520	1,300	5,150	2,670	1,940	680	1,000	555	450	400	310
24	750	2,520	1,300	4,300	2,520	1,800	680	1,000	500	450	355	310
25	750	2,370	1,190	3,510	2,370	1,800	680	915	500	450	355	310
26	750	2,370	1,090	2,990	2,370	1,670	615	915	680	450	355	310
27	750	2,220	1,000	2,670	2,220	1,670	615	830	680	450	355	310
28	680	2,220	1,000	2,520	2,220	1,800	615	830	750	450	310	310
29	830	2,220	1,000	2,370		1,800	1,540	830	1,190	450	310	310
30	830	2,060	1,190	2,370		1,670	4,510	750	1,800	450	310	310
31	830		1,300	2,370		1,670		750		450	310	

Monthly discharge of James River at Buchanan, Va., for the years ending September 30, 1917-1925

[Drainage area, 2,080 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1916-17					
October.....	2,980	460	788	0.379	0.44
November.....	520	460	466	.224	.25
December.....	3,510	460	808	.388	.45
January.....	7,240	1,860	2,790	1.34	1.54
February.....	13,400	585	3,420	1.64	1.71
March.....	42,600	3,510	9,680	4.65	5.36
April.....	10,600	1,420	3,520	1.69	1.89
May.....	6,290	1,420	2,520	1.21	1.40
June.....	3,330	680	1,200	.577	.64
July.....	1,000	500	695	.334	.39
August.....	915	400	540	.260	.30
September.....	615	400	449	.216	.24
The year.....	42,600	400	2,240	1.08	14.61
1917-18					
October.....	1,090	400	451	.217	.25
November.....	1,000	450	572	.275	.31
December.....	.....	.....	473	.227	.26
January.....	.....	.....	823	.396	.46
February.....	16,500	1,000	6,630	3.19	3.32
March.....	40,600	2,670	6,490	3.12	3.60
April.....	22,500	1,540	6,450	3.10	3.46
May.....	4,300	1,420	2,520	1.21	1.40
June.....	12,500	1,000	2,820	1.36	1.52
July.....	5,150	615	1,450	.697	.80
August.....	1,090	680	833	.400	.46
September.....	2,370	750	1,360	.654	.73
The year.....	40,600	.....	2,540	1.22	16.57
1918-19					
October.....	14,000	555	1,950	.938	1.08
November.....	8,230	750	2,110	1.01	1.13
December.....	33,000	1,190	5,750	2.76	3.18
January.....	43,900	1,540	6,170	2.97	3.42
February.....	6,760	1,420	2,070	.995	1.04
March.....	10,900	1,670	4,330	2.08	2.40
April.....	11,700	1,540	3,280	1.58	1.76
May.....	11,100	1,670	4,520	2.17	2.50
June.....	26,700	1,300	3,710	1.78	1.99
July.....	21,600	1,540	3,950	1.90	2.19
August.....	1,940	750	1,150	.553	.64
September.....	750	615	693	.333	.37
The year.....	43,900	555	3,320	1.60	21.70
1919-20					
October.....	915	615	698	.336	.39
November.....	1,540	615	765	.368	.41
December.....	11,400	1,300	2,850	1.37	1.58
January.....	14,900	.....	3,010	1.45	1.67
February.....	12,500	2,220	3,740	1.80	1.94
March.....	26,700	2,080	5,520	2.65	3.06
April.....	13,400	2,220	3,860	1.86	2.08
May.....	2,520	1,090	1,730	.832	.96
June.....	6,520	830	1,690	.812	.91
July.....	2,370	555	1,150	.553	.64
August.....	9,260	555	2,220	1.07	1.23
September.....	1,000	500	615	.296	.33
The year.....	26,700	500	2,320	1.12	15.20

Monthly discharge of James River at Buchanan, Va., for the years ending September 30, 1917-1925—Continued

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1920-21					
October.....	830	500	540	0.260	0.30
November.....	8,740	500	1,430	.688	.77
December.....	10,600	1,420	3,450	1.66	1.91
January.....	20,900	1,300	4,390	2.11	2.43
February.....	12,300	1,800	3,630	1.75	1.82
March.....	4,720	1,190	2,610	1.25	1.44
April.....	1,420	1,000	1,170	.562	.63
May.....	2,830	1,000	1,530	.736	.85
June.....	1,540	555	838	.403	.45
July.....	1,420	555	702	.338	.39
August.....	830	400	513	.247	.28
September.....	830	400	474	.228	.25
The year.....	20,900	400	1,770	.851	11.52
1921-22					
October.....	915	355	401	.193	.22
November.....	22,500	750	3,020	1.45	1.62
December.....	13,100	1,190	3,880	1.87	2.16
January.....	17,700	1,000	2,620	1.26	1.45
February.....	21,900	1,630	6,510	3.13	3.26
March.....	24,100	2,520	6,500	3.12	3.60
April.....	3,900	1,800	2,490	1.20	1.34
May.....	17,700	1,940	4,290	2.06	2.38
June.....	9,000	1,190	2,590	1.25	1.40
July.....	11,100	1,090	2,590	1.25	1.44
August.....	1,000	500	603	.290	.33
September.....	1,300	378	594	.286	.32
The year.....	24,100	355	2,990	1.44	19.52
1922-23					
October.....	1,540	378	545	.262	.30
November.....	475	378	406	.195	.22
December.....	8,230	425	1,470	.707	.82
January.....	12,000	1,090	2,720	1.31	1.51
February.....	7,240	1,190	2,760	1.33	1.38
March.....	14,600	1,940	4,990	2.40	2.77
April.....	10,900	1,540	3,060	1.47	1.64
May.....	2,670	1,090	1,660	.798	.92
June.....	4,510	615	1,550	.745	.83
July.....	680	500	522	.251	.29
August.....	12,500	500	2,280	1.10	1.27
September.....	2,520	500	773	.372	.42
The year.....	14,600	378	1,890	.909	12.37
1923-24					
October.....	615	400	434	.209	.24
November.....	830	400	426	.205	.23
December.....	5,370	555	1,340	.644	.74
January.....	31,000	555	3,670	1.76	2.03
February.....	2,670	1,300	1,840	.885	.95
March.....	18,000	1,800	3,780	1.82	2.10
April.....	9,260	1,670	3,750	1.80	2.01
May.....	47,500	1,420	6,460	3.11	3.58
June.....	4,510	1,090	2,880	1.38	1.54
July.....	20,900	750	2,440	1.17	1.35
August.....	6,060	615	1,779	.851	.98
September.....	34,300	555	2,080	1.00	1.12
The year.....	47,500	400	2,580	1.24	16.87
1924-25					
October.....	24,100	680	2,340	1.12	1.29
November.....	2,990	615	1,180	.567	.68
December.....	9,520	1,000	2,340	1.12	1.29
January.....	10,300	1,300	4,040	1.94	2.24
February.....	4,930	1,940	2,640	1.27	1.32
March.....	3,330	1,190	1,810	.870	1.00
April.....	4,510	615	1,140	.548	.61
May.....	4,300	750	1,770	.851	.98
June.....	1,800	500	700	.337	.38
July.....	1,000	450	525	.252	.29
August.....	555	310	418	.201	.23
September.....	355	310	318	.153	.17
The year.....	24,100	310	1,600	.769	10.43

JAMES RIVER AT BENT CREEK, NEAR GLADSTONE, VA.

LOCATION.—At highway bridge at Bent Creek, Appomattox County, 1 mile below Gladstone, Nelson County. Bent Creek enters from right 50 feet upstream.

DRAINAGE AREA.—3,670 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 21 to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by J. R. Marks.

DISCHARGE MEASUREMENTS.—Made from bridge.

CHANNEL AND CONTROL.—Bed composed of ledge rock, boulders, and sand; somewhat rough. Banks low, cultivated, and subject to overflow at high stages. Control is riffle 150 feet below gage; probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 6.05 feet at 6.15 p. m. May 1 (discharge, 7,060 second-feet); minimum stage, 2.35 feet at 6.30 p. m. August 31 (discharge, 350 second-feet).

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

REGULATION.—Considerable fluctuation has been noted at low stages, caused by operation of power plants in the vicinity of Lynchburg.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 600 and 6,000 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good for high stages; only fair for low stages because of fluctuation from operation of power plants above.

The following discharge measurements were made:

March 21, 1925: Gage height, 5.44 feet; discharge, 5,770 second-feet.

April 17, 1925: Gage height, 3.66 feet; discharge, 2,120 second-feet.

Daily discharge, in second-feet, of James River at Bent Creek, near Gladstone, Va., for the year ending September 30, 1925

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		2,370	7,060	1,030	1,320	1,100	900
2		2,760	6,610	1,650	1,400	736	780
3		2,370	5,510	1,240	1,100	769	900
4		2,280	5,070	1,400	1,030	900	840
5		3,160	4,410	1,170	1,170	1,030	670
6		2,760	3,990	1,170	1,170	840	620
7		2,180	3,570	965	1,240	900	620
8		2,000	2,960	965	965	730	751
9		1,820	3,360	1,320	1,170	840	668
10		1,820	3,160	1,480	1,240	670	680
11		1,910	3,360	1,100	1,100	780	758
12		1,820	2,760	1,320	1,030	780	780
13		1,740	4,850	1,240	1,100	900	630
14		2,090	5,730	1,170	1,820	1,030	382
15		2,000	5,290	780	1,170	1,030	747
16		1,480	4,850	1,320	1,240	900	965
17		1,820	4,410	1,030	1,100	747	840
18		1,480	4,200	1,100	1,240	965	900
19		1,650	4,200	1,240	1,030	840	965
20		1,480	3,160	1,170	840	840	900
21	5,730	1,740	2,960	1,030	1,170	840	462
22	4,200	1,560	2,370	1,030	965	736	900
23	3,990	1,480	2,180	1,030	900	630	1,240
24	3,360	1,650	2,180	1,170	1,030	516	769
25	2,960	1,650	2,000	1,030	900	736	840
26	2,560	2,000	1,820	965	780	703	610
27	2,280	2,280	1,560	1,240	620	769	543
28	2,760	2,280	1,560	3,160	900	780	374
29	2,370	2,370	1,480	1,910	965	725	630
30	3,360	5,290	1,480	1,650	900	600	780
31	2,960		1,480		1,240	366	

Monthly discharge of James River at Bent Creek, near Gladstone, Va., for the year ending September 30, 1925

[Drainage area, 3,670 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
March 21-31.....	5,730	2,280	3,320	0.905	0.37
April.....	5,290	1,480	2,110	.575	.64
May.....	7,060	1,480	3,530	.962	1.11
June.....	3,160	780	1,270	.346	.39
July.....	1,820	620	1,090	.297	.34
August.....	1,100	366	799	.218	.25
September.....	1,240	374	748	.204	.23

JAMES RIVER AT SCOTTSVILLE, VA.

LOCATION.—At highway bridge at Scottsville, Albemarle County. Hardware

River enters 7 miles below and Rockfish River 12 miles above.

DRAINAGE AREA.—4,570 square miles (measured on topographic maps).

RECORDS AVAILABLE.—February 25 to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by L. S. Moore.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed of stream composed principally of sand but rocky in places. Banks high and not subject to overflow except at extreme high stages. Control practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 6.68 feet at 7 a. m. May 2 (discharge, 8,080 second-feet); minimum stage, 1.62 feet at 7 a. m. September 30 (discharge, 400 second-feet).

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

REGULATION.—Fluctuation at low stages has been noted and is caused by the operation of power plants at Lynchburg.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 600 and 38,000 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for low stages when the mean of two daily gage readings probably does not accurately represent the mean daily gage height. Records for low stages fair.

Discharge measurements of James River at Scottsville, Va., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Feb. 24.....	<i>Feet</i> 5.67	<i>Sec.-ft.</i> 5,720	June 8.....	<i>Feet</i> 2.68	<i>Sec.-ft.</i> 1,340	Aug. 11.....	<i>Feet</i> 2.12	<i>Sec.-ft.</i> 768
Apr. 14.....	3.61	2,560	July 30.....	2.17	803			

Daily discharge, in second-feet, of James River at Scottsville, Va., for the year ending September 30, 1925

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		5,010	3,820	7,840	1,730	1,730	1,860	495
2		4,670	4,160	7,840	1,490	1,860	1,150	1,150
3		4,840	3,480	6,810	2,120	1,730	760	1,200
4		4,500	3,160	5,900	1,610	1,040	895	1,040
5		4,500	3,160	5,180	1,610	1,260	990	805
6		4,500	2,700	4,670	1,490	1,200	1,100	720
7		4,330	3,160	4,330	1,610	1,370	1,100	600
8		4,160	2,850	3,820	1,370	1,610	1,040	640
9		3,650	2,850	3,480	1,430	1,150	850	720
10		4,160	2,850	3,320	2,120	1,370	895	805
11			3,820	2,850	3,000	1,730	1,490	805
12			3,820	2,700	3,000	1,310	1,200	850
13			3,480	2,400	3,820	1,370	1,150	990
14			3,320	2,550	6,260	1,430	1,610	1,100
15			3,000	2,850	6,440	1,490	1,860	1,200
16		2,850	2,260	5,360	1,200	1,200	1,150	1,040
17		3,320	2,550	5,360	1,430	1,310	1,100	1,200
18		3,650	2,550	4,840	1,260	990	940	940
19		3,320	2,400	4,330	1,430	1,430	1,040	990
20		3,480	2,260	3,990	1,610	1,150	940	990
21			3,320	2,550	3,480	1,430	1,040	895
22			5,900	2,550	3,320	1,310	720	850
23			4,840	2,400	3,820	1,260	1,100	805
24			4,500	2,120	2,850	1,490	990	640
25		5,720	4,160	2,260	2,550	1,370	1,100	495
26		5,720	3,820	2,260	2,850	1,430	990	680
27		5,360	3,320	2,700	2,550	1,260	805	680
28		5,180	3,480	2,850	2,700	2,850	760	640
29			3,320	3,990	2,260	4,500	940	680
30			3,160	4,160	2,120	2,700	940	600
31			3,990		2,120		1,260	600

NOTE.—Gage reading in error June 13; discharge interpolated.

Monthly discharge of James River at Scottsville, Va., for the year ending September 30, 1925

[Drainage area, 4,570 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
February 25-28	5,720	5,180	5,500	1.20	0.18
March	5,900	2,850	3,940	.862	.99
April	4,160	2,120	2,850	.624	.70
May	7,840	2,120	4,200	.919	1.06
June	4,500	1,200	1,680	.368	.41
July	1,860	720	1,240	.271	.31
August	1,860	495	914	.200	.23
September	1,200	460	805	.176	.20

JAMES RIVER AT CARTERSVILLE, VA.

LOCATION.—At highway bridge between Pemberton and Cartersville, Cumberland County, 1 mile below Willis River and 7 miles below Rivanna River.

DRAINAGE AREA.—6,240 square miles, revised (measured on topographic maps).

RECORDS AVAILABLE.—January 1, 1899, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by A. F. Moon, jr. Wire gage used previous to July 24, 1903.

DISCHARGE MEASUREMENTS.—Made from bridge.

CHANNEL AND CONTROL.—Bed composed of rocks and sand; shifts somewhat during floods. Banks high; left bank is overflowed at a stage of about 20 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 24.38 feet between noon and 3 p. m. October 1, determined by levels from floodmarks (discharge, 91,800 second-feet); minimum stage, 0.44 foot at 6 p. m. September 29 (discharge, 536 second-feet).

1899–1925: Maximum stage recorded, 26.7 feet at 6 p. m. December 30, 1901 (discharge, about 106,000 second-feet); minimum stage, 0.33 foot at 10 a. m. October 27, 1921, discharge not determined.

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

REGULATION.—Fluctuation has been noted at low water due to regulation at different points on James River and its tributaries.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 900 and 50,000 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good for medium and high stages and fair for low stages.

The following discharge measurements were made:

October 23, 1924: Gage height, 1.83 feet; discharge, 2,900 second-feet.

July 30, 1925: Gage height, 0.74 foot; discharge, 955 second-feet.

Daily discharge, in second-feet, of James River at Cartersville, Va., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	89,500	3,980	4,170	6,940	10,500	6,320	4,740	10,800	2,380	2,550	1,540	835
2-----	62,500	3,430	3,980	9,710	10,800	5,920	4,170	10,800	2,040	1,870	2,040	775
3-----	24,200	3,250	3,980	12,000	14,700	6,120	4,360	9,710	2,550	2,210	1,220	1,380
4-----	14,700	2,890	3,610	10,800	15,000	5,920	4,170	8,020	2,210	1,870	880	1,380
5-----	11,100	3,070	3,430	9,960	15,000	5,720	3,980	6,730	1,960	1,700	865	1,380
6-----	9,210	2,890	5,320	9,460	14,100	5,920	3,790	6,120	1,870	1,700	1,300	910
7-----	7,580	2,720	5,720	12,900	12,900	5,520	3,790	5,320	2,040	1,620	1,300	880
8-----	6,520	2,720	6,120	8,720	11,400	5,320	4,170	4,930	2,040	1,700	1,300	704
9-----	5,720	2,720	13,200	8,250	10,500	4,930	3,980	4,550	1,780	1,620	1,140	835
10-----	4,930	2,720	20,400	8,250	11,700	4,930	3,790	4,170	2,380	1,700	985	880
11-----	4,550	2,890	19,400	14,400	13,200	4,930	3,790	3,790	2,210	1,620	985	805
12-----	4,170	3,250	14,400	26,700	29,500	4,740	3,980	4,360	1,960	1,780	910	775
13-----	3,790	3,070	11,100	23,900	25,600	4,550	3,790	5,520	2,040	1,620	1,140	775
14-----	3,790	2,890	8,960	20,800	23,600	4,550	3,430	6,730	1,780	1,380	1,220	746
15-----	3,790	2,720	7,580	15,000	16,600	4,360	3,070	8,720	1,870	1,540	1,300	910
16-----	3,610	3,070	6,730	12,300	13,800	4,170	3,430	7,580	1,780	1,460	1,380	985
17-----	3,430	3,070	5,720	12,000	12,000	4,360	3,070	6,520	1,960	1,300	1,220	1,540
18-----	3,250	2,720	5,120	14,400	11,100	4,930	3,430	5,920	1,700	1,220	985	1,300
19-----	3,250	2,890	5,120	18,000	10,200	5,120	3,070	5,520	1,540	1,380	820	1,140
20-----	2,890	2,890	4,740	25,300	9,460	4,930	3,070	4,550	1,700	1,220	880	985
21-----	2,890	2,720	4,170	25,600	8,480	5,720	2,720	4,170	1,870	1,220	910	1,060
22-----	3,070	4,930	4,170	20,400	8,020	7,360	3,250	3,980	1,700	1,140	910	910
23-----	2,720	9,710	4,170	16,900	7,580	6,320	2,890	3,610	1,380	1,140	985	592
24-----	2,550	14,100	3,980	14,100	8,020	5,720	2,890	3,610	1,380	1,060	880	564
25-----	2,720	12,900	4,360	12,900	8,250	5,140	2,890	3,790	1,700	985	718	985
26-----	2,550	8,720	4,170	10,800	7,800	4,550	3,070	3,250	1,540	910	648	1,060
27-----	2,720	6,120	3,980	9,960	7,360	4,930	2,890	3,070	1,380	835	718	895
28-----	10,800	5,520	3,790	9,710	6,730	5,320	3,430	3,070	1,300	746	676	704
29-----	9,210	5,120	3,610	10,200	-----	5,120	4,930	2,890	3,980	718	704	578
30-----	5,520	4,360	3,610	12,300	-----	4,930	9,460	2,890	3,790	746	746	564
31-----	4,360	-----	4,170	11,700	-----	4,930	-----	2,380	-----	835	704	-----

NOTE.—Discharge interpolated Dec. 7 and Mar. 25; gage not read.

Monthly discharge of James River at Cartersville, Va., for the year ending September 30, 1925

[Drainage area, 6,240 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	89,500	2,550	10,400	1.67	1.92
November.....	14,100	2,720	4,470	.716	.80
December.....	20,400	3,430	6,550	1.05	1.21
January.....	26,700	6,940	13,900	2.23	2.57
February.....	29,500	6,730	12,600	2.02	2.10
March.....	7,360	4,170	5,270	.845	.97
April.....	9,460	2,720	3,780	.606	.68
May.....	10,800	2,380	5,390	.864	1.00
June.....	3,980	1,300	1,990	.319	.36
July.....	2,550	718	1,400	.224	.26
August.....	2,040	648	1,030	.165	.19
September.....	1,540	564	928	.149	.17
The year.....	89,500	564	5,620	.901	12.23

COWPASTURE RIVER NEAR CLIFTON FORGE, VA.

LOCATION.—At iron highway bridge, 1½ miles above junction with Jackson River and 4 miles southeast of Clifton Forge, Alleghany County.

DRAINAGE AREA.—456 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 13, 1907, to August 8, 1908, and March 26 to September 30, 1925.

GAGE.—Chain gage on upstream side of bridge; read by Miss Flora Persinger. From May 13, 1907, to August 8, 1908, a vertical staff on first pier from left bank was used. Gages at different datums.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed of stream composed of rock; permanent. Left bank high and not subject to overflow; right bank low and subject to overflow. Point of zero flow found to be at 0.37 foot ± 0.1 foot on March 26, 1925.

EXTREMES OF DISCHARGE.—Maximum stage recorded during the period March 26 to September 30, 1925, 4.00 feet at 6 p. m. May 13 (discharge, 990 second-feet); minimum stage, 1.97 feet from 7.30 p. m. August 11 to 7.30 a. m. August 12, 7 a. m. August 21, and from 5.30 p. m. August 22 to 7.30 a. m. August 23 (discharge, 67 second-feet).

1907-1908; 1925: Maximum stage recorded, 10.0 feet, on previous gage, June 14, 1907 (discharge not computed); minimum discharge that of August, 1925.

Flood of March, 1913, reached a stage of 20.8 feet (present datum) determined by leveling to high-water mark; discharge not determined.

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

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 70 and 3,600 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

March 26, 1925: Gage height, 3.00 feet; discharge, 3.77 second-feet.

April 23, 1925: Gage height, 2.45 feet; discharge, 173 second-feet.

August 28, 1925: Gage height, 2.02 feet; discharge, 69.4 second-feet.

Daily discharge, in second-feet, of Cowpasture River near Clifton Forge, Va., for the year ending September 30, 1925

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		408	487	183	109	87	76
2		384	690	162	121	87	82
3		361	720	156	146	93	81
4		338	570	151	162	85	87
5		296	540	140	101	87	84
6		296	384	143	159	87	85
7		234	361	200	143	81	77
8		156	338	180	128	79	74
9		171	317	171	112	76	73
10		148	317	180	245	71	71
11		143	512	162	487	68	73
12		245	720	140	180	82	74
13		203	990	140	168	84	79
14		200	850	183	168	99	77
15		180	850	220	155	93	81
16		193	818	118	148	82	103
17		193	660	125	146	76	85
18		200	752	151	125	73	84
19		186	487	156	118	71	77
20		186	408	143	105	70	76
21		186	630	93	103	74	74
22		174	317	93	107	70	73
23		180	276	105	133	71	79
24		162	296	107	114	74	82
25		156	296	156	101	73	79
26	384	156	276	193	97	70	79
27	408	203	238	171	95	71	74
28	432	338	213	116	91	70	71
29	458	384	174	123	121	71	73
30	458	432	151	121	103	74	73
31	432		200		87	71	

Monthly discharge of Cowpasture River near Clifton Forge, Va., for the year ending September 30, 1925

(Drainage area, 456 square miles)

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
March 26-31	458	384	429	0.941	0.21
April	432	143	236	.518	.58
May	990	151	479	1.05	1.21
June	220	93	149	.327	.36
July	487	87	141	.309	.36
August	99	68	78.1	.171	.20
September	103	71	78.5	.172	.19

CRAIG CREEK AT PARR, VA.

LOCATION.—At Chesapeake & Ohio Railway bridge 600 feet from Parr, Botetourt County, and 12 miles above mouth. Patterson Creek enters 11 miles below.

DRAINAGE AREA.—331 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 5 to September 30, 1925.

GAGE.—Chain gage on bridge; read by Howard Rice.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders, not likely to shift. Banks wooded and not subject to overflow except at extreme high stages. Control, composed of large boulders and gravel, may shift a little at high stages. Point of zero flow 2.02 feet \pm 0.1 foot April 5, 1925.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 6.15 feet at 6 p. m. August 29 (discharge, 1,330 second-feet); minimum stage, 3.45 feet at 7 a. m. September 11 (discharge, 36 second-feet).

ICE.—Stage-discharge relation affected by ice during winter.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 33 and 300 second-feet and fairly well defined above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

April 5, 1925: Gage height, 4.11 feet; discharge, 129 second-feet.

April 25, 1925: Gage height, 4.46 feet; discharge, 265 second-feet.

August 29, 1925: Gage height, 3.48 feet; discharge, 38.2 second-feet.

Daily discharge, in second-feet, of Craig Creek at Parr, Va., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		900	75	78	40	42	16	90	368	60	51	42	53
2		708	68	68	42	47	17	85	301	67	56	41	50
3		557	64	59	43	45	18	101	269	75	62	39	54
4		472	62	58	42	43	19	107	239	74	56	43	55
5	132	419	64	59	43	39	20	98	214	68	51	47	57
6	129	344	67	59	46	39	21	90	188	59	77	47	49
7	103	282	75	71	49	40	22	111	171	56	49	46	49
8	99	260	72	57	48	38	23	226	154	55	55	46	49
9	96	234	77	72	46	38	24	305	140	60	49	42	49
10	92	247	78	72	43	38	25	247	129	80	49	39	47
11	107	252	67	59	42	36	26	214	120	80	52	38	48
12	125	472	58	55	45	38	27	247	107	92	47	38	46
13	116	557	57	51	51	60	28	247	101	88	46	39	38
14	109	500	57	46	47	78	29	1,180	94	146	43	38	45
15	101	419	56	51	49	62	30	1,040	86	109	42	38	44
							31	78	78		42	39	

Monthly discharge of Craig Creek at Parr, Va., for the year ending September 30, 1925

[Drainage area, 331 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
April 5-30	1,180	85	215	0.650	0.63
May	900	78	303	.915	1.05
June	146	55	72.2	.218	.20
July	78	42	56.2	.170	.24
August	51	38	45.2	.131	.15
September	78	36	47.3	.143	.16

NORTH RIVER AT GOSHEN, VA.

LOCATION.—At highway bridge just outside of Goshen, Rockbridge County, on road between Goshen and Churchville. Mill Creek and Calf Pasture River join 500 feet above; Brattons Creek enters one-half mile below and Little Calf Pasture River enters 3 miles below.

DRAINAGE AREA.—190 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 28 to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by John Allen, jr.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of ledge rock, boulders, and large gravel; somewhat rough and probably permanent. Banks low, cultivated, and subject to overflow. Control for low water is ledge rock about 10 feet below gage; probably drowned out at high stage, when a control about 100 feet below becomes effective. Point of zero flow, August 30, 1925, at gage height 1.19 feet \pm 0.1 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 4.26 feet at 5 p. m. April 30 (discharge, 1,070 second-feet); minimum stage, 1.76 feet at 9 a. m. September 30 (discharge, 10 second-feet).

ICE.—Stage-discharge relation affected by ice during winter.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 40 and 350 second-feet; fairly well defined below and extended above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records of discharge above 40 second-feet good; fair below.

The following discharge measurements were made:

March 29, 1925: Gage height, 2.60 feet; discharge, 151 second-feet.

April 26, 1925: Gage height, 2.19 feet; discharge, 59.9 second-feet.

August 30, 1925: Gage height, 1.84 feet; discharge, 15.2 second-feet.

Daily discharge, in second-feet, of North River at Goshen, Va., for the year ending September 30, 1925

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		148	870	52	26	27	35
2		142	566	50	24	28	23
3		134	406	47	45	24	20
4		121	295	52	29	22	22
5		114	255	52	30	26	18
6		107	194	48	32	32	17
7		98	168	54	47	28	16
8		92	148	52	39	22	15
9		89	153	54	28	22	14
10		94	156	45	68	18	16
11		89	153	42	44	18	15
12		85	382	35	35	23	17
13		77	566	37	37	28	17
14		75	456	45	35	27	20
15		73	482	38	44	22	19
16		70	430	34	35	20	18
17		66	337	39	31	18	17
18		70	255	47	28	18	18
19		70	211	38	24	18	17
20		64	165	37	22	17	16
21		57	142	29	23	21	15
22		59	116	28	31	19	17
23		59	102	29	37	18	18
24		57	96	32	31	16	17
25		54	98	45	28	16	17
26		59	83	41	26	16	17
27		107	73	32	23	16	16
28	165	184	73	31	18	16	16
29	153	910	62	30	21	17	15
30	156	990	55	31	20	15	12
31	153		54		19	17	

Monthly discharge of North River at Goshen, Va., for the year ending September 30, 1925

[Drainage area, 190 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
March.....			157	0.826	0.12
April.....	990	54	147	.774	.86
May.....	870	54	245	1.29	1.49
June.....	54	28	40.9	.215	.24
July.....	68	18	31.6	.166	.19
August.....	32	15	20.8	.109	.13
September.....	35	12	17.7	.093	.10

HARDWARE RIVER NEAR SCOTTSVILLE, VA.

LOCATION.—At highway bridge on road between Woodridge and Scottsville, 3 miles north of Scottsville, Albemarle County, and 9 miles above mouth.

DRAINAGE AREA.—104 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 28 to August 20, 1925.

GAGE.—Chain gage on upstream side of bridge; read by C. B. Johnson.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of rock and sand; clean. Banks wooded and subject to overflow, but flow will be confined between abutments of bridge except for extremely high stages, when water will flow over bridge. Control is rock ledge 30 feet below gage; clean and probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 2.84 feet at 6.05 p. m. June 9 (discharge, 144 second-feet); minimum stage, 1.17 feet at 6.10 p. m. July 29 (discharge, 9 second-feet).

ICE.—Stage-discharge relation affected by ice during winter.

REGULATION.—Flow regulated to some extent by dam at gristmill about 100 yards above.

DIVERSIONS.—Tailrace takes water through gristmill and returns it to river 150 feet above gage.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 16 and 280 second-feet and extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

May 28, 1925: Gage height, 2.05 feet; discharge, 54.0 second-feet.

August 11, 1925: Gage height, 1.60 feet; discharge, 22.3 second-feet.

Daily discharge, in second-feet, of Hardware River near Scottsville, Va., for the year ending September 30, 1925

Day	May	June	July	Aug.	Day	May	June	July	Aug.
1.....		48	41	18	16.....		37	11	26
2.....		38	23	20	17.....		35	10	28
3.....		42	23	22	18.....		35	11	27
4.....		38	24	21	19.....		33	12	21
5.....		49	26	29	20.....		24	13	19
6.....		39	27	33	21.....		23	12	.....
7.....		37	13	25	22.....		22	17	.....
8.....		37	13	27	23.....		22	14	.....
9.....		84	12	31	24.....		24	13	.....
10.....		55	12	35	25.....		46	14	.....
11.....		42	12	27	26.....		36	12	.....
12.....		38	14	35	27.....		31	11	.....
13.....		35	17	37	28.....	56	38	10	.....
14.....		37	14	28	29.....	47	38	10	.....
15.....		39	10	24	30.....	51	52	23	.....
					31.....	50	.....	18	.....

NOTE.—Gage not read June 14, 21, July 4, 5, 12, 19, 26, Aug. 2, 9, and 16; discharge estimated by interpolation on basis of a study of weather records and records of flow of near-by streams. No gage readings Aug. 21 to Sept. 30.

Monthly discharge of Hardware River near Scottsville, Va., for the year ending September 30, 1925

[Drainage area, 104 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
May 28-31.....	56	47	51	0.490	0.07
June.....	84	22	38.5	.370	.41
July.....	41	10	15.9	.153	.18
August 1-20.....	37	18	26.6	.256	.19

RIVANNA RIVER NEAR CHARLOTTESVILLE, VA.

LOCATION.—At highway bridge 1 mile from Charlottesville, Albemarle County, on main road between Charlottesville and Richmond. Moore Creek enters one-half mile below and North Fork $4\frac{1}{2}$ miles above.

DRAINAGE AREA.—473 square miles (measured on topographic maps).

RECORDS AVAILABLE.—February 20 to August 7, 1925, when station was discontinued.

GAGE.—Chain gage on downstream side of bridge; read by L. A. Ward.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand, shifting. Left bank high and not subject to overflow; right bank low and subject to overflow. Control is sand bar which shifts at high stages. Point of zero flow, May 18, 1925, was at gage height, 0.37 foot \pm 0.1 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 4.27 feet at 3.45 p. m. April 30 (discharge, 800 second-feet); minimum stage, 1.59 feet at 6.35 p. m. July 29 (discharge, 39 second-feet).

ICE.—Stage-discharge relation affected by ice during winter.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined above 60 second-feet, extended below. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Rivanna River near Charlottesville, Va., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Feb. 5.....	5.06	1, 110	May 5.....	3.39	438	May 18.....	2.87	250
Feb. 23.....	3.59	525	May 12.....	3.51	500	Aug. 4.....	1.83	61.8

Daily discharge, in second-feet, of Rivanna River near Charlottesville, Va., for the period February 20 to August 7, 1925

Day	Feb.	Mar.	Apr.	May	June	July	Aug.
1.....		480	284	716	168	119	179
2.....		480	284	596	158	102	110
3.....		404	268	518	158	95	78
4.....		461	300	423	123	128	64
5.....		442	284	385	138	119	75
6.....		442	254	332	138	128	92
7.....		423	254	300	214	90	103
8.....		442	268	284	227	110	
9.....		423	254	254	138	190	
10.....		404	240	300	214	268	
11.....		385	268	316	128	148	
12.....		385	240	480	110	158	
13.....		366	240	316	119	96	
14.....		349	240	366	148	77	
15.....		366	240	332	110	62	
16.....		332	227	284	110	62	
17.....		349	240	284	103	59	
18.....		349	268	254	103	56	
19.....		349	284	240	103	74	
20.....	596	349	268	240	99	63	
21.....	556	332	202	227	107	78	
22.....	518	332	214	227	86	90	
23.....	518	316	214	227	74	66	
24.....	596	316	214	240	80	50	
25.....	636	316	202	284	284	49	
26.....	596	300	240	227	158	75	
27.....	518	300	636	214	128	49	
28.....	480	385	332	214	158	42	
29.....		366	636	190	138	40	
30.....		332	716	179	158	46	
31.....		316		179		128	

Monthly discharge of Rivanna River near Charlottesville, Va., for the period February 20 to August 7, 1925

[Drainage area, 473 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
February 20-28.....	636	480	557	1.18	0.39
March.....	480	300	374	.791	.91
April.....	716	202	294	.622	.69
May.....	716	179	311	.658	.76
June.....	284	74	140	.296	.33
July.....	268	40	94.1	.199	.23
August 1-7.....	179	64	100	.211	.05

ROANOKE RIVER BASIN

ROANOKE RIVER AT ROANOKE, VA.

LOCATION.—At Walnut Street highway bridge in Roanoke, Roanoke County.

DRAINAGE AREA.—388 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 10, 1896, to July 15, 1906; May 7, 1907, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by an employee of Appalachian Power Co. Wire gage used previous to November 28, 1903.

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

CHANNEL AND CONTROL.—Bed composed of coarse gravel and small boulders. Banks may be overflowed at extreme flood stages. Control composed of loose boulders. Point of zero flow, October 20, 1924, at gage height—0.66 foot \pm 0.1 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.00 feet at 8 a. m. October 1 and January 18 (discharge, 1,240 second-feet); minimum stage, 0.50 foot at 4 p. m. July 28 and 29 and 10 a. m. September 29 and 30 (discharge, 43 second-feet).

1896–1925: Maximum stage recorded, 14.34 feet August 6, 1901 (discharge, 16,900 second-feet); minimum stage, zero on morning of December 23, 1909, when flow was retarded by freezing; reported that practically no water was flowing.

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

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 80 and 3,700 second-feet; extended beyond these limits. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

The following discharge measurements were made:

October 20, 1924: Gage height, 1.02 feet; discharge, 147 second-feet.

June 10, 1925: Gage height, 0.81 foot; discharge, 93 second-feet.

Daily discharge, in second-feet, of Roanoke River at Roanoke, Va., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.-----	1,240	129	137	224	430	300	189	454	124	82	72	104
2.-----	614	129	134	261	480	280	189	430	116	76	82	92
3.-----	533	124	137	280	430	280	189	406	109	72	56	82
4.-----	430	121	137	261	406	261	186	362	104	72	56	72
5.-----	384	121	139	242	384	261	182	280	97	72	92	72
6.-----	341	116	224	224	384	242	179	280	92	124	82	72
7.-----	300	116	280	213	362	242	179	261	92	72	82	64
8.-----	261	116	242	242	430	224	172	224	116	92	78	64
9.-----	224	189	206	261	480	217	172	206	99	78	56	64
10.-----	242	157	199	280	454	206	172	224	92	72	56	72
11.-----	235	142	172	280	430	206	166	320	92	72	59	64
12.-----	217	137	157	242	406	206	160	320	90	64	142	72
13.-----	172	137	142	224	406	196	166	341	88	206	92	64
14.-----	157	137	206	224	430	206	172	320	88	92	82	72
15.-----	142	172	189	261	480	196	172	280	86	92	72	104
16.-----	142	137	172	362	430	206	169	280	86	64	76	92
17.-----	137	137	157	406	406	206	166	261	92	92	56	82
18.-----	129	137	142	1,240	384	206	163	242	88	92	52	64
19.-----	142	137	137	1,080	362	199	160	242	88	82	56	64
20.-----	142	134	129	926	341	199	166	224	86	72	56	64

Daily discharge, in second-feet, of Roanoke River at Roanoke, Va., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21	137	231	129	823	320	192	172	213	88	92	72	61
22	137	206	129	670	341	189	172	199	84	116	72	61
23	129	189	129	560	384	189	169	189	92	56	56	61
24	129	224	129	506	384	189	166	189	104	64	52	53
25	129	151	124	430	362	189	166	206	99	64	51	47
26	129	142	121	362	341	189	166	192	104	56	50	47
27	224	142	119	480	320	199	172	182	97	59	59	47
28	242	142	142	560	300	196	261	172	92	43	56	47
29	206	137	142	480	-----	189	560	157	97	43	56	43
30	172	137	148	454	-----	189	506	142	92	76	59	43
31	142	-----	206	480	-----	186	-----	129	-----	72	72	-----

Monthly discharge of Roanoke River at Roanoke, Va., for the year ending September 30, 1925

[Drainage area, 388 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	1,240	129	257	0.662	0.76
November	231	116	148	.381	.43
December	280	119	160	.412	.48
January	1,240	213	437	1.13	1.30
February	480	300	395	1.02	1.06
March	300	186	214	.552	.64
April	560	160	199	.513	.57
May	454	129	256	.660	.76
June	124	84	95.8	.247	.28
July	206	43	80.0	.206	.24
August	142	50	68.1	.176	.20
September	104	43	67.0	.173	.19
The year	1,240	43	197	.508	6.91

ROANOKE RIVER AT TOLERS FERRY, NEAR GRETNA, VA.

LOCATION.—At highway bridge at Tolers Ferry, 3 miles from Pittsville and 12 miles from Gretna, Pittsylvania County. Pig River enters from right seven-eighths mile above and Goose Creek from left 12 miles below.

DRAINAGE AREA.—1,410 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 17 to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by Helen E. Johnson.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed largely of sand, gravel, and some large boulders. Banks low and subject to overflow. Control is rock ledge 1,500 feet below gage; clean and probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 9.25 feet at 6 p. m. May 12 (discharge, 5,140 second-feet); minimum stage, 3.03 feet at 6 p. m. August 30 (discharge, 215 second-feet).

Flood of September, 1924, reached stage of 17.8 feet determined by leveling to high-water mark.

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

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 250 and 2,000 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

March 17, 1925: Gage height, 5.13 feet; discharge, 1,320 second-feet.

April 18, 1925: Gage height, 4.36 feet; discharge, 804 second-feet.

September 2, 1925: Gage height, 3.33 feet; discharge, 308 second-feet.

Daily discharge, in second-feet, of Roanoke River at Tolers Ferry, near Gretna, Va., for the year ending September 30, 1925

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		930	2,040	660	465	710	245
2		870	1,690	660	465	398	295
3		870	1,340	610	420	355	335
4		870	1,340	610	442	375	295
5		870	1,130	560	465	442	278
6		870	1,060	560	660	465	260
7		810	930	585	560	488	230
8		810	930	710	535	375	245
9		810	870	660	442	398	230
10		810	870	610	420	420	215
11		1,060	870	560	375	315	295
12		930	3,810	510	560	335	335
13		870	2,530	488	560	2,320	230
14		870	1,900	510	1,200	610	295
15		810	2,040	510	510	488	315
16		760	1,480	488	510	375	3,410
17	1,270	810	1,410	510	465	355	810
18	1,270	870	1,340	660	335	315	585
19	1,480	870	1,270	660	335	315	398
20	1,480	870	1,060	510	335	278	465
21	1,130	760	930	465	488	355	398
22	1,060	930	930	442	355	335	355
23	990	1,410	870	465	355	295	335
24	930	990	870	488	335	295	355
25	930	930	990	610	335	245	335
26	930	870	870	610	295	260	315
27	1,060	990	810	510	315	245	295
28	1,270	1,060	710	760	278	245	315
29	1,060	3,010	760	660	260	230	295
30	930	2,460	660	488	245	215	295
31	930		660		1,270	260	

Monthly discharge of Roanoke River at Tolers Ferry, near Gretna, Va., for the year ending September 30, 1925

[Drainage area, 1,410 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
March 17-31	1,480	930	1,110	0.787	0.44
April	3,010	760	1,020	.723	.81
May	3,810	660	1,260	.894	1.03
June	760	442	571	.405	.45
July	1,270	245	471	.334	.39
August	2,320	215	423	.300	.35
September	3,410	215	435	.309	.34

ROANOKE RIVER AT BROOKNEAL, VA.

LOCATION.—At highway bridge at Virginian Railway station at Brookneal, Campbell County, 2¾ miles above Falling River.

DRAINAGE AREA.—2,350 square miles (measured on base map of Virginia; scale, 1 to 500,000).

RECORDS AVAILABLE.—April 29, 1923, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by C. R. McDowell.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge.

CHANNEL AND CONTROL.—Bed composed of sand, silt, and bedrock. Banks low and subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 31.46 feet October 1, determined by levels from high-water marks (discharge, about 31,000 second-feet); minimum stage, 2.96 feet September 10 (discharge, 435 second-feet).

1923-1925: Maximum stage, that of October 1, 1924; minimum stage, that of September 10, 1925.

The flood of November, 1877, reached a stage of about 36 feet on the present gage and the flood of March 15, 1923, reached a stage of about 31 feet.

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

ACCURACY.—Stage-discharge relation practically permanent except as affected by ice. Rating curve well defined between 500 and 28,000 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as explained in footnote to table of daily discharge. Records good.

Discharge measurements of Roanoke River at Brookneal, Va., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 1.....	27.59	25,900	Oct. 3.....	7.84	4,310	Sept. 3.....	3.59	773
Oct. 2.....	11.17	6,530	Oct. 21.....	4.43	1,290			

Daily discharge, in second-feet, of Roanoke River at Brookneal, Va., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	26,600	1,680	1,400	5,970	3,530	2,560	1,900	4,640	1,260	940	1,470	510
2.....	6,260	2,470	1,400	6,060	3,530	2,470	1,900	3,170	1,260	880	1,120	510
3.....	3,710	2,470	1,330	5,500	4,360	2,470	1,820	2,720	1,190	820	760	510
4.....	3,170	2,380	1,260	5,210	3,980	2,560	1,820	2,560	1,120	760	880	510
5.....	2,560	2,380	1,820	4,740	3,530	2,560	1,750	2,300	1,120	760	880	510
6.....	2,300	2,380	2,220	3,800	3,260	2,380	1,750	2,060	1,060	1,750	940	510
7.....	2,140	2,300	2,300	3,440	3,170	2,380	1,680	1,820	1,060	1,190	820	485
8.....	1,980	2,300	4,070	3,080	3,170	2,300	1,680	1,680	1,060	1,000	880	485
9.....	1,900	2,300	16,000	2,990	2,900	2,220	1,680	1,680	1,260	820	760	485
10.....	1,820	1,540	5,880	3,080	3,350	2,140	1,680	1,610	1,330	760	820	460
11.....	1,680	1,540	4,070	7,030	4,740	2,140	1,980	1,610	1,120	710	820	460
12.....	1,610	1,540	2,900	22,000	7,030	2,060	1,980	4,640	1,000	1,090	760	485
13.....	1,610	1,470	2,810	11,500	5,500	2,060	1,900	5,970	940	1,470	710	510
14.....	1,540	1,470	2,720	6,730	4,070	2,060	1,900	3,890	940	1,610	2,560	485
15.....	1,470	1,400	2,640	5,400	3,840	2,060	1,820	3,350	940	1,610	760	485
16.....	1,330	1,330	2,640	4,450	3,620	1,980	1,750	3,080	940	1,000	710	940
17.....	1,330	1,330	2,380	4,830	3,350	2,220	1,680	2,720	940	880	660	3,620
18.....	1,260	1,260	2,060	5,400	3,170	2,380	1,680	2,600	940	760	660	1,400
19.....	1,260	1,260	1,980	5,780	2,990	2,720	1,680	2,470	1,190	735	710	820
20.....	1,260	1,260	1,900	6,260	2,900	2,720	1,680	2,220	1,190	710	760	660

Daily discharge, in second-feet, of Roanoke River at Brookneal Va., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21.....	1,260	1,260	1,680	9,040	2,900	2,380	1,610	1,980	1,040	710	790	635
22.....	1,260	3,440	1,540	6,160	2,810	2,140	1,680	1,750	880	635	880	585
23.....	1,260	4,360	1,540	4,920	2,810	1,980	1,900	1,610	820	820	745	610
24.....	1,190	3,080	1,680	4,260	2,810	1,980	2,140	1,540	760	660	610	585
25.....	1,190	2,060	1,500	4,160	2,810	1,980	2,060	1,680	760	635	560	585
26.....	1,190	1,680	1,330	4,070	2,640	1,980	2,060	1,820	760	610	535	560
27.....	1,260	1,610	1,190	3,710	2,560	1,980	2,380	1,610	1,060	585	535	560
28.....	3,080	1,540	1,190	3,350	2,560	2,810	2,900	1,470	1,340	560	510	560
29.....	2,720	1,470	1,100	3,200	-----	2,380	4,830	1,470	1,610	560	510	535
30.....	1,900	1,400	1,100	3,200	-----	1,980	5,400	1,400	1,060	535	485	510
31.....	1,750	-----	3,540	3,400	-----	1,900	-----	1,400	-----	535	510	-----

NOTE.—Gage not read Dec. 25, 29-31, Jan. 25, Feb. 15, May 18, June 21, 28, July 12, 19, Aug. 2, 19, and 23; discharge estimated by comparison with records of flow of Roanoke River at Old Gaston and Dan River at South Boston. Stage-discharge relation affected by ice Jan. 29-31; discharge estimated from a study of gage-height and weather records and observer's notes.

Monthly discharge of Roanoke River at Brookneal, Va., for the year ending September 30, 1925

[Drainage area, 2,350 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	26,600	1,190	2,740	1.17	1.35
November.....	4,360	1,260	1,930	.821	.92
December.....	16,000	1,100	2,620	1.11	1.28
January.....	22,000	2,990	5,570	2.37	2.73
February.....	7,030	2,560	3,500	1.49	1.55
March.....	2,810	1,900	2,260	.962	1.11
April.....	5,400	1,610	2,090	.889	.99
May.....	5,970	1,400	2,400	1.02	1.18
June.....	1,610	760	1,060	.451	.50
July.....	1,750	535	874	.372	.43
August.....	2,560	485	809	.344	.40
September.....	3,620	460	686	.292	.33
The year.....	26,600	460	2,210	.940	12.77

ROANOKE RIVER AT OLD GASTON, N. C.

LOCATION.—At bridge of Roanoke Railway Co. at Old Gaston, Northampton County, three-fourths mile below mouth of Indian Creek, $1\frac{1}{4}$ miles north of Thelma, and $2\frac{1}{2}$ miles above mouth of Deep Creek.

DRAINAGE AREA.—8,350 square miles.

RECORDS AVAILABLE.—December 7, 1911, to September 30, 1925.

GAGE.—Friez water-stage recorder at downstream end of second masonry pier from right end of railroad bridge since November 21, 1921; attended by R. A. Howell. November 22, 1924, Au water-stage recorder was installed in place of Friez recorder.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge. Measuring section broken by 11 piers.

CHANNEL AND CONTROL.—Channel straight and fairly permanent. Left bank subject to overflow in extreme floods, but a fair determination can be made of the overflow discharge around bridge. Control of rocks about 1 mile below gage; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, 11.4 feet at 3.30 p. m. October 3 (discharge, 86,200 second-feet); minimum stage, 0.90 foot from 6–9 p. m. September 13 (discharge, 1,160 second-feet).

1911–1925: Maximum stage recorded, 16.6 feet at 7 a. m. March 18, 1912 (discharge, 210,000 second-feet); minimum discharge, 790 second-feet at 6 a. m. October 1, 1914 (stage, 0.95 foot).

ICE.—Ice forms to considerable thickness at this station during severe winters.

REGULATION.—Small daily fluctuations are caused by operation of power plants many miles upstream.

ACCURACY.—Stage-discharge relation practically permanent; not affected by ice during year. Rating curve well defined below 33,000 second-feet and fairly well defined to 200,000 second-feet. Operation of water-stage recorder fairly satisfactory; not operating November 26–30, December 7, 10–16, 21–31, January 1–13, 17–19, 24–31, February 1–3, 6–9, and 22–24; graph estimated from daily chain gage readings. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of gage-height graph, except for days of wide range in stage when discharge was approximately integrated. Records good.

Discharge measurements of Roanoke River at Old Gaston, N. C., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Oct. 3.....	Feet 11.25	Sec.-ft. 78,000	Jan. 14.....	Feet 9.94	Sec.-ft. 62,000	Apr. 27.....	Feet 2.40	Sec.-ft. 5,160
Oct. 4.....	8.38	43,800	Jan. 15.....	6.07	26,800	July 22.....	1.16	1,570
Nov. 22.....	2.34	4,550	Feb. 27.....	3.10	8,070			

Daily discharge, in second-feet, of Roanoke River at Old Gaston, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	73,200	6,500	5,030	41,900	10,000	6,900	6,900	9,520	4,040	5,030	2,160	1,250
2.....	67,600	5,030	5,030	46,800	11,000	6,900	6,120	3,590	3,590	1,820	1,820	1,340
3.....	82,800	4,690	4,690	39,000	13,200	6,500	5,740	8,150	3,740	3,160	2,600	2,160
4.....	42,700	4,360	4,690	20,600	16,200	6,500	5,740	6,900	3,740	2,760	2,890	2,640
5.....	11,000	4,690	4,360	18,000	15,600	6,120	5,380	6,500	3,440	2,510	3,020	1,720
6.....	5,590	4,690	4,360	14,400	12,100	7,300	5,380	5,380	3,300	2,390	3,300	1,430
7.....	7,300	4,360	5,030	11,600	10,500	8,590	5,380	5,380	3,300	2,040	4,040	1,340
8.....	6,900	4,360	6,120	10,000	9,040	8,150	5,030	5,030	3,160	3,300	3,590	1,340
9.....	6,120	4,040	10,000	9,040	8,590	6,900	5,030	4,690	2,890	3,440	3,300	1,250
10.....	5,740	4,040	25,100	10,500	8,590	6,500	5,030	4,690	3,740	3,020	3,020	1,430
11.....	5,740	3,740	39,000	30,000	13,200	6,500	5,380	4,360	4,360	2,510	2,640	1,520
12.....	5,380	4,360	18,000	65,000	21,400	6,500	5,380	4,360	3,740	2,390	2,640	1,340
13.....	5,030	4,360	11,000	71,800	25,100	6,120	5,380	11,000	3,300	2,510	3,160	1,250
14.....	4,690	4,360	9,040	66,300	20,000	6,120	5,740	31,700	3,160	3,020	3,160	1,930
15.....	5,030	4,360	7,720	30,000	13,800	5,740	5,380	25,900	2,890	2,510	5,030	3,020
16.....	4,690	4,360	6,500	18,600	11,000	5,380	5,030	16,200	2,510	3,590	6,120	2,760
17.....	4,690	4,360	7,300	16,800	10,000	6,500	5,030	11,600	2,640	3,590	4,360	8,880
18.....	4,690	4,040	7,720	15,600	10,000	9,040	5,030	9,520	3,440	3,020	2,890	8,590
19.....	4,360	4,690	6,900	16,800	9,040	10,500	5,030	7,720	3,740	2,390	2,640	6,500
20.....	4,360	4,360	5,740	25,100	8,590	10,500	5,030	7,300	3,740	1,820	2,390	4,040
21.....	4,360	4,040	5,030	28,300	8,150	10,500	5,030	6,500	3,300	1,620	1,930	2,760
22.....	4,040	5,030	5,030	26,700	7,720	10,500	4,690	6,120	3,020	1,620	1,820	2,040
23.....	4,040	12,100	5,030	22,100	7,300	8,150	5,030	5,740	2,760	1,720	2,760	1,720
24.....	4,040	13,800	4,690	16,800	7,720	7,300	5,030	5,030	2,270	1,520	2,760	1,820
25.....	4,040	11,000	6,120	13,200	8,150	6,900	5,740	5,030	2,510	1,930	2,270	1,930
26.....	3,740	8,590	9,040	11,000	8,150	6,500	5,740	4,690	2,390	2,640	1,720	1,820
27.....	4,040	10,000	7,720	10,000	7,720	6,120	5,030	4,690	2,390	3,160	1,720	1,820
28.....	8,280	10,000	7,300	9,520	7,300	6,120	4,690	4,690	2,510	2,160	1,620	1,820
29.....	10,500	8,150	5,740	9,520	-----	7,300	5,030	4,360	3,300	1,520	1,520	1,620
30.....	10,500	5,380	6,500	10,000	-----	7,720	6,900	4,360	4,690	1,520	1,520	1,520
31.....	8,150	-----	28,300	9,520	-----	7,300	-----	4,040	-----	1,820	1,430	-----

Monthly discharge of Roanoke River at Old Gaston, N. C., for the year ending September 30, 1925

[Drainage area, 8,350 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	82,800	3,740	13,800	1.65	1.90
November	13,800	3,740	5,930	.710	.79
December	39,000	4,360	9,160	1.10	1.27
January	71,800	9,040	24,000	2.87	3.31
February	25,100	7,300	11,400	1.37	1.43
March	10,500	5,380	7,340	.879	1.01
April	6,900	4,690	5,370	.643	.72
May	31,700	4,040	8,100	.970	1.12
June	4,690	2,270	3,250	.389	.43
July	5,030	1,520	2,580	.309	.36
August	6,120	1,430	2,770	.332	.38
September	8,880	1,250	2,490	.298	.33
The year	82,800	1,250	8,030	.962	13.05

BLACKWATER RIVER AT KEMPS FORD, NEAR UNION HALL, VA.

LOCATION.—At highway bridge at Kemps Ford, 4 miles north of Union Hall, Franklin County. Gills Creek empties into river $1\frac{1}{2}$ miles below.

DRAINAGE AREA.—208 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 18 to September 30, 1925.

GAGE.—Chain gage attached to upstream side of bridge; read by S. S. Plybon and J. L. Brown.

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

CHANNEL AND CONTROL.—Right bank high and not subject to overflow; left bank low and subject to overflow at high stages. Bed of stream composed of rock and sand, clean and permanent. Control is ledge rock 50 feet below gage; clean and probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 3.85 feet at 7 a. m. April 29 (discharge, 1,070 second-feet); minimum stage, 1.52 feet at 5 p. m. September 27, 28, and 29 (discharge, 42 second-feet).

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

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 60 and 1,180 second-feet. Gage read to hundredths twice daily.

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

The following discharge measurements were made:

March 18, 1925: Gage height, 2.06 feet; discharge, 205 second-feet.

April 21, 1925: Gage height, 1.93 feet; discharge, 147 second-feet.

September 3, 1925: Gage height, 1.61 feet; discharge, 60 second-feet.

Daily discharge, in second-feet, of Blackwater River at Kemps Ford, near Union Hall, Va., for the year ending September 30, 1925

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		163	321	141	114	192	54
2		163	256	141	97	97	54
3		155	231	135	97	83	58
4		159	211	129	114	78	66
5		163	199	129	114	78	68
6		159	192	126	129	141	63
7		152	176	126	138	103	54
8		148	176	129	120	76	54
9		148	169	152	100	68	54
10		165	172	132	89	66	58
11		203	169	117	78	60	54
12		196	321	108	73	144	56
13		169	343	108	184	457	54
14		155	251	114	114	141	56
15		152	504	114	141	70	56
16		148	299	114	148	66	604
17		148	248	120	83	66	129
18		155	215	165	78	60	111
19		227	155	203	120	73	58
20		240	163	184	103	73	63
21		184	155	176	91	73	103
22		176	207	169	86	78	56
23		176	219	163	83	73	56
24		169	176	180	97	68	56
25		163	163	192	120	68	52
26		163	152	165	117	73	48
27		184	240	148	108	73	48
28		199	248	148	97	63	48
29		176	787	148	108	58	52
30		163	411	148	120	58	52
31		163	141		343	48	

Monthly discharge of Blackwater River at Kemps Ford, near Union Hall, Va., for the year ending September 30, 1925

[Drainage area, 208 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
March 19-31	240	163	183	0.880	0.43
April	787	148	199	.957	1.07
May	504	141	213	1.02	1.18
June	165	83	118	.567	.63
July	343	58	103	.495	.57
August	457	48	89.9	.432	.50
September	604	44	81.1	.390	.44

GOOSE CREEK NEAR HUDDLESTON, VA.

LOCATION.—At highway bridge midway between Stone Mountain and Huddleston, Bedford County. Rockcastle Creek enters 1,000 feet below.

DRAINAGE AREA.—188 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 15 to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by T. C. Drew.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel; shifting. Right bank high, not subject to overflow; left bank cultivated, low, and subject to overflow. Control, just below gage, composed of sand and gravel; shifting.

EXTREMES OF STAGE.—Maximum stage recorded during period of records, 3.28 feet at 6 a. m. April 29; minimum stage, 0.70 foot all day September 6 and morning readings of September 7, 10, 15, and 30.

Flood of September, 1924, reached a stage of 21.4 feet referred to present gage.

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

ACCURACY.—Stage-discharge relation not permanent. Rating curve not fully developed. Gage read to hundredths twice daily. Gage-height record good.

The following discharge measurements were made:

March 15, 1925: Gage height, 1.77 feet; discharge, 129 second-feet.

April 20, 1925: Gage height, 1.56 feet; discharge, 124 second-feet.

September 2, 1925: Gage height, 0.86 foot; discharge, 44.2 second-feet.

Daily gage height, in feet, of Goose Creek near Huddleston, Va., for the year ending September 30, 1925

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1.67	2.32	1.28	1.07	1.57	0.87
2		1.66	1.99	1.23	1.00	1.20	.82
3		1.65	1.83	1.20	1.03	1.04	.78
4		1.62	1.75	1.20	1.00	.98	.79
5		1.62	1.68	1.18	1.45	1.08	.72
6		1.60	1.58	1.18	1.10	1.09	.70
7		1.57	1.53	1.20	1.12	1.05	.71
8		1.57	1.50	1.19	.99	.91	.72
9		1.55	1.50	1.22	.97	.90	.74
10		1.70	1.51	1.24	.91	.90	.74
11		1.72	1.52	1.15	.90	1.11	1.64
12		1.59	2.24	1.12	.88	1.15	.83
13		1.57	1.87	1.11	.95	1.26	.82
14		1.54	1.76	1.14	1.39	1.00	.81
15	1.78	1.53	1.80	1.13	.98	.91	.75
16	1.76	1.50	1.64	1.08	1.12	.86	1.33
17	1.73	1.51	1.57	1.14	.95	.86	.98
18	1.73	1.57	1.54	1.67	.94	.83	.81
19	1.73	1.55	1.51	1.34	.83	1.63	.79
20	1.75	1.54	1.47	1.09	.94	1.20	.88
21	1.84	1.47	1.45	1.08	.97	1.45	.84
22	1.77	1.69	1.40	1.03	.94	.97	.72
23	1.74	1.76	1.37	.98	.91	.86	.75
24	1.95	1.59	1.36	1.15	.82	.82	.86
25	1.82	1.51	1.53	1.35	.85	.82	.86
26	2.37	1.54	1.39	1.24	.98	.81	.82
27	1.91	1.75	1.37	1.09	.85	.76	.77
28	1.81	2.29	1.38	1.72	.82	.76	.80
29	1.72	2.79	1.36	1.19	.79	.76	.77
30	1.70	2.86	1.37	1.11	.80	.77	.75
31	1.69		1.32		4.17	.80	

DAN RIVER AT SOUTH BOSTON, VA.

LOCATION.—At Norfolk & Western Railway bridge at South Boston, Halifax County, 6 miles upstream from mouth of Banister River.

DRAINAGE AREA.—2,820 square miles (measured on base maps of Virginia and North Carolina; scale, 1 to 500,000).

RECORDS AVAILABLE.—August 27, 1900, to May 5, 1907; and April 28, 1923, to September 30, 1925.

GAGE.—Chain gage on downstream side of guard rail of bridge; read by K. W. Thaxton.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge.

CHANNEL AND CONTROL.—Bed composed of fine sand. Banks subject to overflow at stages above 20 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 24.41 feet at 5.15 p. m. October 2 (discharge, 28,500 second-feet); minimum stage, 3.12 feet at 12.45 p. m. September 11 (discharge, 300 second-feet).

1900-1907; 1923-1925: Maximum discharge recorded, 52,600 second-feet, December 31, 1901; minimum discharge, that of September 11, 1925.

ICE.—Stage-discharge relation not affected by ice except during severe winters.

REGULATION.—Dams at Danville regulate the flow.

DIVERSIONS.—The water supply of South Boston is taken out just above the measuring section.

ACCURACY.—Stage-discharge relation changed during high water of October 1 and again on January 13. Rating curve used October 1 to January 14 well defined between 1,100 and 30,000 second-feet. Curve used January 15 to September 30 well defined between 500 and 30,000 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Dan River at South Boston, Va., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 1 -----	21.48	21,700	Oct. 3 -----	9.87	4,660	Sept. 1 -----	3.74	501
Oct. 2 -----	24.24	28,800	Oct. 22 -----	4.87	1,100			

Daily discharge, in second-feet, of Dan River at South Boston, Va., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	22,100	1,420	1,480	11,300	2,880	1,790	2,080	2,720	1,250	1,310	510	510
2-----	27,800	1,180	1,360	16,500	3,450	1,580	1,930	2,640	1,440	1,010	450	480
3-----	12,400	1,300	1,300	9,180	4,170	2,080	2,080	1,650	1,130	910	375	390
4-----	2,860	1,820	1,240	4,730	4,710	1,930	1,510	2,080	1,130	860	570	420
5-----	2,540	1,360	1,360	3,980	3,720	2,560	1,650	1,930	1,070	570	810	450
6-----	1,820	1,360	1,610	3,100	3,120	3,120	2,240	1,580	1,070	810	1,580	450
7-----	2,100	1,360	1,750	2,780	2,880	3,040	1,720	1,510	860	1,440	1,720	450
8-----	1,960	1,420	2,240	2,780	2,400	1,930	1,650	1,510	1,190	1,370	1,190	450
9-----	1,890	1,180	4,550	2,240	2,000	2,160	1,580	1,440	1,130	910	1,010	480
10-----	1,750	1,180	15,200	2,700	4,080	2,080	1,720	1,250	1,070	860	860	345
11-----	1,540	1,750	7,010	8,270	7,370	2,160	1,580	1,510	960	770	770	330
12-----	1,060	1,620	3,420	18,400	9,180	2,080	1,650	2,720	960	730	810	650
13-----	1,360	1,490	2,940	21,700	7,750	2,000	1,790	15,100	960	570	1,310	1,440
14-----	1,610	1,360	2,170	8,270	4,260	2,000	1,510	13,100	860	810	2,320	810
15-----	1,360	1,360	1,890	4,440	3,280	1,510	1,580	6,290	650	810	2,720	690
16-----	1,360	1,180	2,170	3,200	3,040	1,650	1,790	4,440	1,010	1,370	1,510	1,370
17-----	1,320	1,420	2,100	3,900	2,800	2,320	1,650	3,200	1,010	910	1,010	1,790
18-----	1,420	1,680	1,960	4,620	2,880	3,450	1,510	2,560	1,510	730	1,250	1,930
19-----	1,360	1,610	1,960	6,770	2,560	4,170	1,510	2,400	1,440	770	810	1,250
20-----	1,300	1,360	1,960	7,010	2,480	3,720	1,440	2,560	910	570	510	960
21-----	1,240	1,420	1,480	9,050	2,560	5,000	1,720	2,320	1,130	810	810	540
22-----	1,180	2,380	1,610	7,750	1,860	2,720	1,580	2,160	610	650	1,010	650
23-----	1,180	4,140	1,750	4,620	2,160	2,480	1,930	1,860	800	420	1,250	730
24-----	1,180	3,580	1,420	3,450	2,480	2,400	2,000	1,510	910	690	540	690
25-----	1,240	2,460	1,820	3,720	2,400	2,320	2,080	1,440	860	770	730	690
26-----	1,120	2,030	2,240	2,800	2,400	2,160	1,440	1,860	860	910	610	650
27-----	1,180	1,540	2,030	2,720	2,240	2,080	1,510	1,440	810	420	570	650
28-----	1,960	1,610	1,750	2,800	2,240	2,830	1,370	1,510	1,370	690	540	510
29-----	3,180	1,440	1,480	2,720	-----	2,320	2,160	1,440	2,000	610	510	650
30-----	2,460	1,510	1,420	2,720	-----	2,560	2,720	1,440	1,580	450	510	360
31-----	1,890	-----	2,860	2,800	-----	2,320	-----	1,130	-----	450	480	-----

Monthly discharge of Dan River at South Boston, Va., for the year ending September 30, 1925

[Drainage area, 2,820 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	27,800	1,060	3,510	1.24	1.43
November.....	4,140	1,180	1,690	.599	.67
December.....	15,200	1,240	2,570	.911	1.05
January.....	21,700	2,240	6,160	2.18	2.51
February.....	9,180	1,860	3,480	1.23	1.28
March.....	5,000	1,510	2,470	.876	1.01
April.....	2,720	1,370	1,760	.624	.70
May.....	15,100	1,130	2,910	1.03	1.19
June.....	2,000	610	1,090	.387	.43
July.....	1,440	420	805	.285	.33
August.....	2,720	375	957	.339	.39
September.....	1,930	330	725	.257	.29
The year.....	27,800	330	2,340	.830	11.28

DAN RIVER NEAR ASBURY, N. C.

LOCATION.—At county highway bridge at Joyce's mill, 2.4 miles above mouth of Little Dan River and 3 miles from Asbury, Stokes County.

DRAINAGE AREA.—71 square miles.

RECORDS AVAILABLE.—August 17, 1924, to September 30, 1925.

GAGE.—Enameled vertical staff attached to locust tree on right bank 300 feet downstream from bridge; read by D. H. Jessup.

DISCHARGE MEASUREMENTS.—Made by wading or from highway or footbridges above.

CHANNEL AND CONTROL.—Channel straight for 500 feet above and below gage; boulder and sand bottom with ledge rock outcrops. Sloping banks covered with brush and timber are overflowed for short distance above 5-foot stage. Control a rock riffle 60 feet below gage; may not hold for all stages although fairly permanent. Zero flow at gage height -0.4 foot ± 0.2 foot, determined July 8, 1925.

EXTREMES OF STAGE.—Maximum stage recorded during year, 5.00 feet at 5.30 p. m. December 8; minimum stage, 0.35 foot during discharge measurement 9.20 to 9.40 a. m. August 20.

ICE.—Stage-discharge relation may be slightly affected by ice for short periods.

REGULATION.—Joyce's mill may have slight effect.

ACCURACY.—Discharge measurements obtained are insufficient to rate station.

Gage read to hundredths twice daily.

Discharge measurements of Dan River near Asbury, N. C., during the years ending September 30, 1924 and 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
1924	<i>Feet</i>	<i>Sec.-ft.</i>	1925	<i>Feet</i>	<i>Sec.-ft.</i>
Aug. 17.....	0.97	106	July 8.....	0.70	45.2
Dec. 11.....	1.42	184	Aug. 19.....	.66	39.0
1925			Aug. 20.....	.58	32.9
Jan. 13.....	1.36	197	Do.....	.35	12.7
Apr. 24.....	0.98	86.3			

Daily gage height, in feet, of Dan River near Asbury, N. C., for the years ending September 30, 1924 and 1925

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1924			1924			1924		
1		0.92	11		0.83	21	0.95	1.82
2		.92	12		.84	22	.92	1.14
3		.92	13		.87	23	.93	1.04
4		.90	14		.98	24	1.40	.94
5		.91	15		.88	25	1.29	.89
6		.89	16		.86	26	1.12	.91
7		.86	17	0.98	.92	27	1.01	1.06
8		.85	18	.94	.88	28	0.96	2.00
9		.86	19	.94	.88	29	.96	3.15
10		.87	20	1.00	.89	30	.91	2.81
						31	.90	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1	1.66	1.02	0.97	1.60	1.22	1.08	1.03	1.11	0.90	0.74	0.59	0.62
2	1.43	1.00	.85	1.35	1.21	1.09	1.02	1.07	.88	.72	.56	.57
3	1.31	.99	.90	1.32	1.26	1.04	1.01	1.08	.88	.70	.56	.51
4	1.24	.99	1.01	1.30	1.24	1.09	1.02	1.04	.85	.70	.60	.50
5	1.20	.98	1.11	1.27	1.18	1.18	1.04	1.00	.84	.70	.64	.50
6	1.15	.97	1.13	1.22	1.18	1.17	1.00	.98	.82	.70	.64	.50
7	1.13	.98	1.12	1.16	1.15	1.11	1.00	.95	.85	.68	.63	.48
8	1.14	.98	3.10	1.18	1.15	1.06	.98	.93	.84	.68	.62	.47
9	1.11	1.00	2.23	1.16	1.20	1.05	.96	.95	.83	.68	.60	.46
10	1.09	1.03	1.57	1.29	1.31	1.05	1.22	.96	.82	.68	.58	.68
11	1.08	.98	1.43	1.70	1.35	1.06	1.22	1.00	.82	.68	.54	.87
12	1.06	.97	1.33	1.45	1.34	1.05	1.04	1.86	.79	.75	.60	.64
13	1.07	.97	1.26	1.38	1.26	1.04	1.00	1.44	.73	.74	.66	.94
14	1.07	.98	1.20	1.28	1.23	1.04	1.03	1.36	.74	.78	.62	.83
15	1.04	1.04	1.19	1.21	1.35	1.02	.98	1.37	.74	.72	.63	.66
16	1.03	.98	1.19	1.28	1.28	1.03	.99	1.24	.74	.70	.63	.70
17	1.03	.98	1.17	1.56	1.24	1.28	.97	1.20	.74	.70	.62	.69
18	1.01	.98	1.14	1.43	1.21	1.11	1.01	1.21	.86	.66	.60	.65
19	1.00	.97	1.12	1.36	1.18	1.38	1.00	1.11	.76	.61	.56	.59
20	.99	.95	1.12	1.50	1.17	1.19	1.00	1.07	.74	.60	.58	.58
21	.99	.93	1.10	1.52	1.15	1.11	.96	1.04	.74	.60	.61	.56
22	1.00	1.85	1.03	1.44	1.14	1.10	.98	1.01	.72	.61	.59	.54
23	.99	1.16	1.24	1.35	1.19	1.07	1.00	.99	.72	.64	.54	.54
24	1.00	1.10	1.21	1.26	1.24	1.07	.98	.98	.80	.64	.55	.55
25	1.02	1.07	1.19	1.26	1.17	1.07	.96	.95	.88	.65	.51	.52
26	.98	1.03	1.18	1.26	1.12	1.08	.98	.96	.80	.80	.48	.54
27	1.40	1.02	1.15	1.26	1.10	1.20	1.00	.93	.77	.73	.49	.54
28	1.36	1.02	1.20	1.30	1.09	1.15	1.40	.92	.76	.66	.49	.54
29	1.12	1.00	1.30	1.26	1.08	1.37	.92	.82	.61	.52	.52	.52
30	1.05	1.00	1.18	1.23	1.05	1.17	.90	.79	.59	.59	.54	.52
31	1.04		1.32	1.20	1.03			.90		.58	.50	

DAN RIVER NEAR FRANCISCO, N. C.

LOCATION.—At county highway bridge just below George's mill, 2 miles from Francisco, Stokes County, and 7.9 miles downstream from mouth of Little Dan River.

DRAINAGE AREA.—124 square miles.

RECORDS AVAILABLE.—August 16, 1924, to September 30, 1925.

GAGE.—Chain gage attached to downstream side of bridge; read by C. R. Cardwell. Zero of gage, 919.94 feet above sea level.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Channel straight for several hundred feet above and below gage; bed rocky. Banks steep and covered with brush. Control of boulders 100 feet below gage; fairly permanent. Gage height of zero flow, -0.5 foot, determined July 8, 1925.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.0 feet at 10 p. m. December 8 (discharge not determined); minimum stage, 0.86 foot September 9, 1925 (discharge, 35 sec ond-feet).

ICE.—Stage-discharge relation may be slightly affected by ice for short periods.
 REGULATION.—Several gristmills above, with scant pondage, may have slight regulating effect.

ACCURACY.—Stage-discharge relation changed January 1. Rating curves well defined between 40 and 1,200 second-feet; extended above and below. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for high water, for which they are probably fair.

Discharge measurements of Dan River near Francisco, N. C., during the years ending September 30, 1924 and 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
1924	Feet	Sec.-ft.	1925	Feet	Sec.-ft.	1925	Feet	Sec.-ft.
Aug. 16.....	1.48	132	Jan. 13.....	1.96	304	July 8.....	1.20	88.3
Dec. 11.....	1.99	293	Apr. 24.....	1.46	158	Aug. 20.....	.99	51.1

Daily discharge, in second-feet, of Dan River near Francisco, N. C., for the years ending September 30, 1924 and 1925

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1924			1924			1924		
1.....		130	11.....		69	21.....	117	215
2.....		117	12.....		67	22.....	112	146
3.....		112	13.....		117	23.....	120	117
4.....		90	14.....		100	24.....	122	95
5.....		90	15.....		80	25.....	261	90
6.....		88	16.....	122	80	26.....	160	98
7.....		82	17.....	130	98	27.....	120	163
8.....		80	18.....	115	88	28.....	110	530
9.....		84	19.....	107	100	29.....	100	1,900
10.....		71	20.....	120	166	30.....	110	1,800
						31.....	128	

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1.....	790	115	107	422	214	180	178	186	118	102	65	39
2.....	244	122	93	220	220	178	169	186	134	91	53	67
3.....	228	110	158	288	239	163	152	166	126	89	55	70
4.....	212	95	149	239	223	166	169	175	114	81	121	63
5.....	184	100	152	223	223	195	169	169	118	85	93	42
6.....	181	95	278	211	201	204	163	155	114	93	98	42
7.....	160	107	212	198	201	195	150	141	118	104	74	45
8.....	141	93	2,300	186	223	160	150	136	121	100	67	45
9.....	122	122	942	166	192	163	160	144	126	81	63	35
10.....	122	152	367	272	214	144	178	150	114	72	62	144
11.....	146	112	278	380	306	155	223	152	98	68	52	175
12.....	128	102	228	323	288	166	186	495	93	65	107	288
13.....	120	100	212	255	239	163	169	380	98	78	109	223
14.....	125	105	196	255	239	160	178	380	109	107	72	96
15.....	130	130	178	223	255	158	169	360	114	76	80	70
16.....	117	141	196	288	239	150	175	272	107	78	68	102
17.....	125	90	169	522	223	255	160	223	104	65	58	70
18.....	102	110	146	306	217	204	166	239	114	65	53	62
19.....	107	110	146	272	211	342	152	239	102	53	49	52
20.....	120	112	149	342	198	211	163	195	100	67	50	58
21.....	105	102	146	360	201	189	144	178	89	55	49	52
22.....	95	477	130	288	183	201	163	172	89	68	47	49
23.....	98	196	128	255	201	180	166	160	83	76	50	50
24.....	100	178	190	239	223	178	150	160	116	63	50	52
25.....	110	135	166	255	208	186	144	163	126	63	50	47
26.....	120	135	120	239	198	175	150	152	121	85	39	50
27.....	278	141	146	239	186	208	155	141	114	81	43	50
28.....	261	149	141	255	183	239	214	155	96	76	43	50
29.....	152	125	175	239		183	272	158	223	56	43	52
30.....	141	98	163	239		175	214	147	114	52	43	52
31.....	135		244	239		172		141		50	45	

Monthly discharge of Dan River near Francisco, N. C., for the years ending
September 30, 1924 and 1925

[Drainage area, 124 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1924					
August 16-31.....	261	100	128	1.03	0.61
September.....	1,900	67	235	1.90	2.12
1924-25					
October.....	790	95	168	1.35	1.56
November.....	477	90	132	1.06	1.18
December.....	2,300	93	271	2.19	2.52
January.....	522	166	272	2.19	2.52
February.....	306	183	220	1.77	1.84
March.....	342	144	187	1.51	1.74
April.....	272	144	172	1.39	1.55
May.....	495	136	202	1.63	1.88
June.....	223	83	114	.919	1.02
July.....	107	50	75.6	.610	.70
August.....	121	39	62.9	.507	.58
September.....	288	35	76.4	.616	.69
The year.....	2,300	35	163	1.31	17.78

DAN RIVER AT PINE HALL, N. C.

LOCATION.—At highway bridge at Pine Hall, Stokes County, 2 miles upstream from mouth of Belew Creek.

DRAINAGE AREA.—481 square miles.

RECORDS AVAILABLE.—November 10, 1923, to September 30, 1925.

GAGE.—Chain gage attached to downstream side of bridge; read by J. H. Carter and G. O. Carter.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Channel slightly curved; bed of shifting sand and boulders. Banks about 12 feet high with row of trees along them. Control is a gravel bar diagonally across stream 400 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year ending September 30, 1924, 22.08 feet at 10 a. m. September 30 (discharge not determined); minimum stage, 1.16 feet at 6.30 p. m. September 22 (discharge, 182 second-feet).

Maximum stage recorded during year ending September 30, 1925, 13.58 feet at 8.30 a. m. December 9 (discharge not determined); minimum stage, 0.58 foot 9 a. m. August 21 and 6.30 p. m. September 9 (discharge, 64 second-feet).

ICE.—No ice effect.

REGULATION.—Small regulation owing to mills above until Walnut Cove Dam was put in operation in 1925, when regulation became larger.

ACCURACY.—Stage-discharge relation shifts within narrow limits. Standard rating curve well defined between 100 and 2,000 second-feet; extended above and below. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as stated in footnote to daily-discharge table. Records fair except for extremely high water, for which they may be poor.

Discharge measurements of Dan River at Pine Hall, N. C., during the years ending September 30, 1924 and 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
1923	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>	1925	<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 10.....	1. 56	293	Aug. 15.....	1. 78	340	July 8.....	1. 46	265
Dec. 13.....	1. 91	389	Dec. 10.....	3. 98	1, 180	Aug. 20.....	1. 06	146
						Aug. 20.....	1. 21	202
1924			1925					
Apr. 19.....	5. 06	1, 720	Jan. 14.....	3. 24	867			
Apr. 19.....	4. 83	1, 610	Apr. 24.....	1. 89	441			

Daily discharge, in second-feet, of Dan River at Pine Hall, N. C., for the years ending September 30, 1924 and 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1923-24												
1.....			420	950	438	750	710	870	420	2, 860	330	360
2.....			315	710	490	630	670	560	405	870	330	285
3.....			285	1, 400	455	595	560	490	405	595	1, 900	270
4.....			285	1, 400	438	560	560	455	438	595	990	270
5.....			4, 150	790	525	630	595	455	390	710	525	258
6.....			2, 150	420	630	1, 110	1, 250	420	375	710	630	232
7.....			790	390	490	790	1, 110	405	490	2, 680	420	232
8.....			595	438	455	630	790	405	500	5, 130	490	245
9.....			560	405	390	560	630	420	360	3, 040	420	245
10.....		270	490	375	438	595	630	405	375	1, 110	390	232
11.....		270	438	790	405	710	790	560	375	870	375	232
12.....		258	390	1, 110	405	630	710	870	390	710	375	245
13.....		258	390	670	405	595	630	525	525	630	710	220
14.....		258	525	525	375	560	560	455	910	630	405	245
15.....		245	490	438	375	525	560	490	455	1, 070	375	270
16.....		245	438	2, 800	360	490	525	560	420	630	360	258
17.....		245	390	4, 010	375	455	490	490	870	525	370	258
18.....		232	375	1, 300	405	455	1, 600	438	420	490	360	300
19.....		232	345	910	525	455	1, 700	420	360	455	350	270
20.....		232	366	750	2, 000	438	870	405	330	630	360	258
21.....		232	360	670	1, 800	1, 400	710	1, 900	300	490	360	345
22.....		232	330	438	790	750	630	710	285	490	350	360
23.....		245	710	525	595	595	560	595	315	490	370	195
24.....		285	670	595	525	560	525	595	870	405	405	315
25.....		258	490	630	525	525	525	560	560	420	525	270
26.....		232	390	560	595	490	490	438	420	420	490	270
27.....		245	360	420	710	455	525	830	1, 600	360	315	300
28.....		245	390	420	870	455	490	830	490	860	258	525
29.....		245	390	455	950	750	490	560	390	345	245	4, 570
30.....		405	330	490		1, 030	790	525	1, 500	330	270	15, 800
31.....			345	438	790			438		330	285	
1924-25												
1.....	1, 550	315	270	4, 080	595	438	420	455	315	208	139	105
2.....	1, 030	315	270	1, 150	630	438	420	390	300	220	135	89
3.....	790	300	258	910	710	438	390	375	285	220	125	85
4.....	710	300	258	750	630	490	390	360	285	232	152	93
5.....	670	300	300	670	595	630	420	345	285	232	109	195
6.....	595	285	340	595	560	525	390	330	270	315	220	95
7.....	595	285	438	560	525	455	375	330	270	270	133	85
8.....	560	285	1, 110	525	490	455	375	315	285	251	182	71
9.....	525	300	5, 440	490	490	465	390	315	300	232	119	65
10.....	490	300	1, 200	1, 300	1, 650	455	405	345	300	195	195	97
11.....	490	300	910	2, 500	2, 000	455	405	330	270	195	133	1, 010
12.....	490	285	710	2, 440	1, 350	455	405	4, 430	258	220	270	195
13.....	525	285	595	1, 110	870	438	405	1, 550	258	315	455	182
14.....	525	285	525	830	710	438	390	1, 110	270	360	270	170
15.....	490	800	525	670	630	420	390	910	270	800	345	165
16.....	490	330	490	670	710	420	390	710	245	220	285	525
17.....	490	315	490	1, 030	630	870	390	560	245	182	107	208
18.....	490	285	490	1, 500	595	710	390	560	258	208	168	182
19.....	490	285	490	910	560	830	405	595	270	170	195	165
20.....	490	285	420	1, 500	560	910	405	490	182	145	129	170

Daily discharge, in second-feet, of Dan River at Pine Hall, N. C., for the years ending September 30, 1924 and 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
21.....	455	280	375	1,200	525	630	390	455	220	220	127	170
22.....	455	1,030	345	910	525	595	390	420	155	137	168	165
23.....	455	490	330	750	525	525	420	390	117	208	117	170
24.....	465	375	455	630	560	490	390	375	113	162	109	170
25.....	490	330	560	595	525	490	360	360	375	160	170	170
26.....	530	285	438	595	490	455	345	330	220	208	110	182
27.....	730	285	330	560	490	455	345	330	129	182	195	165
28.....	585	285	315	630	438	490	420	330	141	182	100	89
29.....	390	285	390	595	-----	490	590	315	145	195	100	121
30.....	345	285	490	630	-----	455	525	330	170	220	103	105
31.....	330	-----	560	630	-----	438	-----	315	-----	245	89	-----

NOTE.—Discharge Dec. 5, 1923, Jan. 16, 17, Feb. 20, 21, Mar. 21, Apr. 18, 30, May 27, June 27, 30, July 1, 7, 9, Aug. 3, 13, Sept. 29, 30, Dec. 8, 9, 1924, Jan. 1, May 12, and Sept. 11, 1925, determined by approximate integration of graph based on 2 daily gage readings. No gage-height record June 8, Aug. 17-23, Sept. 23-28, Nov. 21, 27, Dec. 6, 18, 19, 1924, July 8, 19, 20, Aug. 26, 28, and 29, 1925; discharge estimated.

Monthly discharge of Dan River at Pine Hall, N. C., for the years ending September 30, 1924 and 1925

[Drainage area, 481 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1923-24					
November 10-30.....	405	232	256	0.532	0.41
December.....	4,150	285	611	1.27	1.46
January.....	4,010	375	846	1.76	2.03
February.....	2,000	360	612	1.27	1.37
March.....	1,400	438	644	1.34	1.54
April.....	1,700	490	722	1.50	1.67
May.....	1,900	405	583	1.21	1.40
June.....	1,600	285	531	1.10	1.23
July.....	5,130	330	948	1.97	2.27
August.....	1,900	245	463	.962	1.11
September.....	15,800	195	938	1.95	2.25
1924-25					
October.....	1,550	330	571	1.19	1.37
November.....	1,030	280	329	.684	.76
December.....	5,440	258	649	1.35	1.56
January.....	4,080	490	1,030	2.14	2.47
February.....	2,000	438	699	1.45	1.51
March.....	910	420	524	1.09	1.26
April.....	560	345	403	.838	.94
May.....	4,430	315	605	1.26	1.45
June.....	375	113	240	.499	.56
July.....	360	137	220	.457	.53
August.....	455	89	169	.351	.40
September.....	1,010	65	182	.378	.42
The year.....	5,440	65	468	.973	13.23

NEUSE RIVER BASIN

FLAT RIVER AT BAHAMA, N. C.

LOCATION.—At head of Durham water-supply pond, 1½ miles above mouth of Dial Creek and county highway bridge at Bahama, Durham County.

DRAINAGE AREA.—150 square miles.

RECORDS AVAILABLE.—July 16 to September 30, 1925.

GAGE.—Enamelled vertical staff gage on right bank; attended by Melvin Clark.

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

CHANNEL AND CONTROL.—Channel bends gently above and below gage. Sloping wooded banks subject to moderate overflow. Control is rock ledge and boulder at head of pond.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, 1.20 feet at 6.30 p. m. July 16 (discharge, 17 second-feet); minimum stage, 0.50 foot September 27 and 30 (discharge, 0.5 second-foot).

ICE.—No ice effect.

DIVERSIONS.—None.

REGULATION.—Slight diurnal regulation caused by operation of old gristmills above.

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

Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Flat River at Bahama, N. C., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Mar. 1	1.76	75.3	July 16.....	1.19	17.2	Aug. 22	0.97	6.49
Apr. 26.....	1.41	32.2	July 17.....	1.06	9.08			

Daily discharge, in second-feet, of Flat River at Bahama, N. C., for the year ending September 30, 1925

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1.....		1.4	1.6	11.....		2.6	2.0	21.....	6.0	8.4	0.8
2.....		1.5	2.2	12.....		3.2	1.7	22.....	6.3	7.3	.9
3.....		2.2	2.9	13.....		2.6	1.4	23.....	7.7	6.5	1.0
4.....		7.3	3.2	14.....		3.3	1.2	24.....	4.2	5.5	.8
5.....		4.5	2.9	15.....		7.0	.8	25.....	3.2	4.7	.8
6.....		4.4	2.8	16.....	12	9.2	.6	26.....	4.2	4.4	.7
7.....		3.5	2.6	17.....	9.2	7.7	.6	27.....	3.5	4.2	.6
8.....		2.8	2.5	18.....	8.0	7.3	.8	28.....	2.6	3.8	.6
9.....		2.4	2.4	19.....	5.7	7.3	.6	29.....	2.0	2.8	.6
10.....		2.6	2.4	20.....	5.7	8.4	.8	30.....	1.6	1.7	.6
								31.....	1.5	1.5	-----

NOTE.—No gage-height record July 31 to Aug. 3; discharge estimated from observer's record at a gage below the dam $\frac{3}{4}$ miles downstream.

Monthly discharge of Flat River at Bahama, N. C., for the year ending September 30, 1925

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
July 16-31	12	1.5	5.2	0.035	0.02
August.....	9.2	1.4	4.6	.031	.04
September.....	3.2	.6	1.4	.009	.01

LITTLE CREEK NEAR ZEBULON, N. C.

LOCATION.—At county line, three-fourths mile above confluence with Moccasin Creek and 2¾ miles southeast of Zebulon, Wake County.

DRAINAGE AREA.—5.2 square miles (measured on soil survey map of United States Department of Agriculture).

RECORDS AVAILABLE.—December 8, 1924, to September 30, 1925.

GAGE.—Vertical enameled staff on downstream face of large pine tree on left bank; read by S. A. Todd.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Channel straight; bed of stream rock and gravel. Right bank steep; left bank slopes 300 feet to railroad embankment. Control built of 2-inch planks forming flat V-notch weir. Gage height of zero flow is 0.10 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of record, 4.35 feet at 9.10 a. m. March 1 (discharge not determined); minimum stage, 0.20 foot several times in July, August, and September (discharge, 0.1 second-foot).

ICE.—Probably no ice effect.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 40 second-feet; extended above. Gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table, except as stated in footnote to daily-discharge table. Records fair.

Discharge measurements of Little Creek near Zebulon, N. C., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
Dec. 8.....	Feet 0.68	Sec.-ft. 2.38	Apr. 28.....	Feet 0.70	Sec.-ft. 3.12
Feb. 26.....	1.01	7.29	July 21.....	.26	.20

Daily discharge, in second-feet, of Little Creek near Zebulon, N. C., for the year ending September 30, 1925

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....		34	14	31	3.6	3.0	1.6	2.0	0.1	0.1
2.....		23	12	11	4.3	2.0	1.0	1.3	.1	5.7
3.....		16	20	7.2	3.6	1.6	1.0	1.3	.1	.7
4.....		12	11	7.2	3.0	1.6	1.0	.3	.1	.7
5.....		8.1	8.1	5.7	4.3	5.7	.7	.3	1.3	.3
6.....		9.0	8.1	5.7	3.6	2.0	.7	.1	.3	.3
7.....		7.6	8.1	5.4	3.0	1.6	.7	30	.3	.3
8.....	2.8	7.2	8.1	5.0	3.0	1.6	17	3.0	.3	.2
9.....	9.6	7.0	7.2	4.3	2.0	1.6	.7	1.6	.3	.2
10.....	5.0	20.0	20	5.0	2.0	1.6	11	.7	.3	.1
11.....	4.3	61	53	5.0	4.3	1.3	2.0	1.6	.3	.3
12.....	4.3	46	23	4.3	3.0	1.3	1.3	1.6	.3	.3
13.....	4.3	20	14	4.2	2.0	11	.1	.7	20	.1
14.....	3.6	14	11	4.3	2.0	5.7	1.6	3.0	2.0	.1
15.....	3.0	11	10	3.0	2.0	4.3	.7	.7	7.2	.3
16.....	3.0	11	10	3.0	2.0	3.0	.3	.7	1.3	17
17.....	5.0	8.1	16	23	1.6	2.0	3.0	.7	.7	5.7
18.....	3.6	27	16	14	65	74	7.2	.3	.7	2.0
19.....	3.0	23	7.2	8.1	9.0	49	2.0	.3	.3	1.3
20.....	3.0	74	8.1	7.2	5.7	11	1.3	.7	.3	.7
21.....	2.7	23	7.2	4.3	3.6	7.2	1.3	.3	.3	.7
22.....	2.5	17	8.1	7.2	4.3	5.7	.3	.3	.3	.7
23.....	2.0	14	7.2	5.0	4.3	3.0	.7	7.2	.8	.7
24.....	4.6	11	8.1	5.0	3.0	3.0	.3	.7	.7	.7
25.....	16	9.0	9.0	4.3	2.0	2.0	.3	.3	.3	.7

Daily discharge, in second-feet, of Little Creek near Zebulon, N. C., for the year ending September 30, 1925—Continued

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
26.....	8.1	8.8	7.7	4.3	2.0	2.0	0.3	1.3	0.3	0.3
27.....	6.4	6.4	5.7	4.3	2.0	2.0	.7	.7	.3	.5
28.....	5.6	12	5.7	11	2.0	1.6	32	.3	.3	.5
29.....	6.4	12	-----	5.7	3.6	1.6	9.0	.3	.3	.5
30.....	5.0	17	-----	4.3	4.3	3.0	4.3	.1	.3	.5
31.....	11	16	-----	4.3	-----	2.1	-----	.3	.1	-----

NOTE.—Discharge Jan. 20, Mar. 1, 17, Apr. 18, May 19, June 28, Aug. 13, 15, and Sept. 16 determined from mean daily gage height ascertained from graph estimated from 1 daily gage reading.

Monthly discharge of Little Creek near Zebulon, N. C., for the year ending September 30, 1925

[Drainage area, 5.2 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
December 8-31.....	14	2.0	5.20	1.00	0.89
January.....	74	6.4	18.9	3.63	4.18
February.....	53	5.7	12.3	2.37	2.47
March.....	31	3.0	7.40	1.42	1.64
April.....	65	1.6	5.34	1.03	1.15
May.....	74	1.3	7.04	1.35	1.56
June.....	32	.1	3.47	.667	.74
July.....	30	.1	2.02	.388	.45
August.....	20	.1	1.30	.250	.29
September.....	17	.1	1.41	.271	.30

CAPE FEAR RIVER BASIN

CAPE FEAR RIVER AT LILLINGTON, N. C.

LOCATION.—At State highway bridge, just below Norfolk Southern Railroad bridge at Lillington, Harnett County, and 1 mile below Neals Creek.

DRAINAGE AREA.—3,530 square miles (measured on base map of North Carolina; scale, 1:500,000).

RECORDS AVAILABLE.—December 6, 1923, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by Leo Kelly.

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

CHANNEL AND CONTROL.—Channel composed mostly of heavy gravel; curved above gage and straight below. Control is remains of old dam $1\frac{1}{4}$ miles below gage, having seven channels at low water, fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 18.56 feet at 7.15 a. m October 1 (discharge, 51,300 second-feet); minimum stage, 0.38 foot at 8.30 a. m September 13 (discharge, 55 second-feet).

1923-1925: Maximum stage recorded, 18.7 feet at 4.15 p. m. September 30, 1924 (discharge, 51,800 second-feet); minimum stage, 0.32 foot at 6.30 a. m. September 5, 1924 (discharge, 47 second-feet).

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

REGULATION.—Marked daily regulation.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined between 100 and 50,000 second-feet; extended above and below. Gage read to two-hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as stated in footnote to daily-discharge table. Records good.

Discharge measurements of Cape Fear River at Lillington, N. C., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 1.....	17.51	45,700	Oct. 3.....	10.16	16,600	July 18.....	2.00	745
Oct. 2.....	14.46	31,900	Oct. 4.....	5.62	5,770	July 20.....	.79	134

Daily discharge, in second-feet, of Cape Fear River at Lillington, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	49,200	1,280	1,330	30,600	5,090	2,210	1,820	3,170	740	199	102	175
2.....	33,200	910	1,950	28,500	5,270	2,210	1,820	2,750	460	460	112	110
3.....	14,600	910	1,820	19,300	4,920	2,470	1,450	2,210	430	520	92	108
4.....	5,270	700	1,010	8,520	5,640	1,950	1,510	1,690	660	205	324	240
5.....	3,870	780	490	5,830	5,090	1,950	1,690	1,450	700	3,310	1,820	87
6.....	2,890	1,010	910	4,150	4,150	1,950	1,950	700	240	1,510	490	114
7.....	1,820	960	1,010	3,450	3,730	2,080	1,390	1,220	820	1,010	1,010	71
8.....	1,820	1,010	1,690	3,030	3,450	2,610	960	555	205	625	1,110	85
9.....	1,510	490	5,090	2,610	3,030	1,820	960	1,110	400	460	910	102
10.....	1,820	555	9,680	2,890	3,590	1,950	1,110	960	555	400	625	114
11.....	1,160	960	5,090	21,400	7,860	1,950	1,110	1,160	325	460	660	81
12.....	960	910	3,310	43,700	13,800	2,210	1,510	1,160	460	350	1,110	71
13.....	1,220	625	2,610	34,000	8,980	1,950	1,950	1,390	400	172	1,570	57
14.....	1,510	910	2,210	19,300	5,830	820	1,110	2,470	375	2,870	660	69
15.....	1,280	1,010	1,820	9,210	4,600	1,690	1,280	3,170	211	865	660	112
16.....	865	1,010	960	7,440	3,870	1,820	1,220	2,750	460	460	280	1,390
17.....	700	910	1,060	12,700	3,450	8,410	1,110	2,210	375	228	248	1,510
18.....	820	865	1,390	18,400	3,450	20,600	1,390	2,210	460	490	660	1,010
19.....	780	960	1,390	26,600	3,310	9,920	3,450	4,150	910	325	490	820
20.....	820	960	1,820	40,800	2,890	4,600	2,610	4,150	960	141	124	300
21.....	780	960	1,450	36,600	2,750	3,730	1,820	3,310	375	190	232	208
22.....	1,010	1,160	780	25,500	2,610	3,030	1,010	1,950	740	196	350	460
23.....	1,010	6,230	350	11,400	2,210	3,170	1,450	1,160	375	143	158	460
24.....	960	4,600	1,510	7,030	2,470	2,210	1,820	625	520	240	148	202
25.....	820	2,750	2,610	4,760	2,340	2,080	1,820	1,010	430	220	96	252
26.....	1,010	1,950	4,920	4,150	2,080	1,820	1,510	490	375	520	240	196
27.....	1,570	1,820	4,300	3,870	2,210	1,820	1,280	590	280	400	126	400
28.....	1,820	1,450	3,870	4,300	1,820	2,080	1,390	910	300	280	375	169
29.....	1,280	1,160	2,610	4,760	-----	2,210	1,950	960	350	220	104	244
30.....	1,220	1,570	1,820	4,920	-----	2,210	3,170	700	740	300	158	202
31.....	1,690	-----	4,780	4,600	-----	2,210	-----	490	-----	112	178	-----

NOTE.—Discharge Dec. 31, Jan. 1, 11, Mar. 17, July 5, 14, and Aug. 4 determined by approximate integration of graph based on 2 daily gage readings.

Monthly discharge of Cape Fear River at Lillington, N. C., for the year ending September 30, 1925

[Drainage area, 3,530 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	49,200	700	4,490	1.27	1.46
November.....	6,230	490	1,380	.391	.44
December.....	9,680	350	2,440	.691	.80
January.....	43,700	2,610	14,700	4.16	4.80
February.....	13,800	1,820	4,300	1.22	1.27
March.....	20,600	820	3,280	.929	1.07
April.....	3,450	960	1,620	.459	.51
May.....	4,150	490	1,700	.482	.56
June.....	960	205	488	.138	.15
July.....	3,310	112	577	.163	.19
August.....	1,820	92	491	.139	.16
September.....	1,510	57	314	.089	.10
The year.....	49,200	57	2,990	.847	11.51

MORGAN CREEK NEAR CHAPEL HILL, N. C.

LOCATION.—At ford, 500 feet below mouth of Neville Creek, $1\frac{1}{2}$ miles southwest of Carrboro, $2\frac{1}{2}$ miles southwest of Chapel Hill, Orange County, and 7 miles above mouth of creek.

DRAINAGE AREA.—29 square miles.

RECORDS AVAILABLE.—January 20, 1923, to September 30, 1925.

GAGE.—Au continuous water-stage recorder on left bank since December 9, 1924; attended by students or faculty of University of North Carolina at Chapel Hill. Staff gage installed August 12, 1924, at same location and datum; read by J. D. Bynum; used previous to Au gage.

DISCHARGE MEASUREMENTS.—Made from cable 75 feet upstream from gage or by wading.

CHANNEL AND CONTROL.—Creek is straight for 150 feet upstream and for about 700 feet downstream from gage; bed of stream shifting sand; current is sluggish at low water. Banks are high and wooded but subject to overflow at extreme high water. Control consists of large boulders and gravel about 40 feet downstream from gage; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, 8.21 feet at 3.15 p. m. January 11 (discharge, 1,370 second-feet); minimum stage, 0.54 foot all day September 11 (discharge, 0.47 second-foot).

1923-1925: Maximum stage, about 25.0 feet 10 a. m. August 4, 1924 (discharge not determined); minimum stage, 0.54 foot all day September 11, 1925 (discharge, 0.47 second-foot).

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

DIVERSIONS.—Since July 9, 1925, water is diverted from the creek a short distance above the gage for water supply of Chapel Hill. The tables of discharge herewith include the diversion.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined up to 300 second-feet, fairly well defined between 300 and 1,200 second-feet, and extended above, allowing for overflow. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting gage-height graph or, for days of wide range in stage, by approximate integration. From October 1 to December 8 staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Morgan Creek near Chapel Hill, N. C., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 3-----	1.22	11.2	Jan. 11-----	5.87	849	Apr. 29-----	1.32	18.8
Dec. 9-----	1.76	54.5	Jan. 18-----	3.94	490	July 13-----	.88	3.33
Jan. 1-----	2.29	141	Feb. 24-----	1.43	24.0	July 23-----	.69	1.22
Jan. 11-----	7.37	1,120	Apr. 25-----	1.15	11.2	Aug. 22-----	.59	.72

Daily discharge, in second-feet, of Morgan Creek near Chapel Hill, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	152	35	15	246	52	24	16	12	5.4	2.7	0.93	38
2.....	88	36	14	90	52	23	15	11	5.0	2.4	.68	2.4
3.....	67	35	14	52	48	22	15	9.0	4.6	2.2	.78	1.4
4.....	54	35	17	40	44	22	14	8.6	4.0	2.1	.39	1.0
5.....	46	34	15	31	39	23	14	9.0	4.0	5.2	7.4	.78
6.....	43	33	15	28	36	22	14	8.3	3.8	5.0	4.4	.63
7.....	39	32	17	24	32	22	13	8.0	4.2	4.0	3.0	.51
8.....	37	31	16	22	30	21	13	7.4	5.6	4.0	2.4	.63
9.....	34	31	45	27	28	20	13	7.1	19	3.6	2.2	.59
10.....	33	31	22	479	35	20	17	7.4	6.2	1.3	1.9	.51
11.....	32	31	18	624	84	20	21	7.1	4.4	2.8	2.0	.47
12.....	30	31	17	279	57	19	16	7.1	3.8	3.3	1.7	.68
13.....	28	30	16	113	41	19	15	11	4.2	3.2	8.3	.47
14.....	28	30	14	67	35	18	12	18	4.0	2.7	3.5	1.4
15.....	28	30	12	48	33	18	12	11	3.6	2.2	8.6	1.9
16.....	28	27	12	84	31	35	12	9.0	4.8	1.8	2.8	229
17.....	28	22	12	171	29	38	12	8.0	4.2	1.6	1.9	5.6
18.....	27	13	12	318	27	26	15	8.3	4.2	1.0	1.7	2.8
19.....	27	12	14	358	24	23	14	18	5.0	1.2	1.5	2.4
20.....	27	12	13	397	24	22	15	22	5.0	1.2	1.6	1.9
21.....	27	12	12	124	24	21	12	11	3.3	1.2	1.5	1.9
22.....	27	299	12	87	24	20	12	9.4	2.8	1.5	1.2	1.8
23.....	27	46	12	63	24	20	12	8.3	2.7	2.2	1.0	1.8
24.....	27	44	20	51	25	20	11	7.4	3.2	1.7	.93	1.8
25.....	27	22	61	47	24	20	10	6.8	5.6	1.6	.82	1.7
26.....	31	21	27	43	23	20	9.4	6.5	4.2	1.7	.68	1.4
27.....	115	20	22	44	22	25	9.4	6.2	3.3	3.4	.63	1.4
28.....	47	18	19	43	21	20	13	5.6	3.6	1.5	.63	1.4
29.....	37	17	17	41	20	18	5.6	5.6	3.4	.73	.59	1.4
30.....	36	16	19	50	19	16	5.6	5.6	2.8	.73	.73	1.3
31.....	35	399	52	52	17	17	5.9	5.9	.88	.88	.68	---

Monthly discharge of Morgan Creek near Chapel Hill, N. C., for the year ending September 30, 1925

[Drainage area, 29 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	152	27	42.3	1.46	1.68
November.....	299	12	36.2	1.25	1.40
December.....	399	12	30.6	1.06	1.22
January.....	624	22	134	4.62	5.33
February.....	84	21	34.6	1.19	1.24
March.....	38	17	21.9	.755	.53
April.....	21	9.4	13.7	.472	.37
May.....	22	5.6	9.2	.317	.18
June.....	19	2.7	4.7	.162	.09
July.....	5.2	.73	2.3	.079	.13
August.....	39	.59	3.4	.117	.40
September.....	229	.47	10.3	.355	13.44
The year.....	624	.47	28.7	.990	13.44

WEST FORK OF DEEP RIVER NEAR HIGH POINT, N. C.

LOCATION.—At highway bridge 1½ miles northwest of Jamestown and 3½ miles northeast of High Point, Guilford County.

DRAINAGE AREA.—33 square miles (measured on soil survey maps of United States Department of Agriculture).

RECORDS AVAILABLE.—June 14, 1923, to September 30, 1925.

GAGE.—Enamelled vertical staff in two sections on right bank about 20 feet upstream from highway bridge; read by W. S. Davis.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed mostly of sand. Right bank is high, but left bank is subject to overflow at gage height of about 8 feet. Control formed by loose rocks under lower side of bridge; sand between rocks washes away and is replaced frequently.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 9.5 feet at 8 a. m. February 11 (discharge, about 1,010 second-feet); minimum stage, 0.70 foot July 28 to August 3 (discharge, 2 second-feet).

1923-1925: Maximum stage recorded, 10.1 feet evening of September 29, 1924 (discharge, about 1,100 second-feet); minimum stage, 0.70 foot July 28 to August 3, 1925 (discharge, 2 second-feet).

ICE.—Ordinarily not enough to affect stage-discharge relation.

REGULATION.—Slight diurnal regulation caused by gristmill above.

DIVERSIONS.—None.

ACCURACY.—Stage-discharge relation for low water changed frequently. Rating curves poorly defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as stated in footnote to daily-discharge table. Records poor.

Discharge measurements of West Fork of Deep River near High Point, N. C., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 10.....	1.74	38.3	Apr. 29.....	1.32	20.8	Aug. 20.....	0.93	5.91
Apr. 24.....	.99	14.0	July 9.....	.88	5.98			

Daily discharge, in second-feet, of West Fork of Deep River near High Point, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	194	10	12	426	28	14	16	20	10	6	2	6
2.....	29	10	12	183	27	15	16	21	13	8	2	6
3.....	19	10	12	47	50	14	15	16	12	6	2	6
4.....	16	10	12	35	32	13	15	11	12	44	3	5
5.....	14	10	18	25	30	119	14	13	7	18	332	4
6.....	13	10	21	22	28	35	13	13	6	12	42	4
7.....	12	10	20	19	25	23	13	13	7	4	18	3
8.....	12	10	162	21	20	25	13	12	8	6	15	3
9.....	10	11	290	24	29	22	13	11	8	6	15	3
10.....	10	12	40	256	234	20	15	11	5	4	15	3
11.....	10	12	24	382	870	17	15	12	15	5	12	18
12.....	10	12	21	250	298	17	15	278	6	4	9	9
13.....	10	12	19	41	64	16	13	255	7	6	62	7
14.....	9	12	18	32	34	16	12	91	8	4	15	7
15.....	10	11	15	30	41	16	8	35	9	3	54	6
16.....	10	12	14	79	31	13	17	27	19	3	15	62
17.....	10	12	13	98	29	244	17	29	53	3	15	9
18.....	9	12	14	387	25	84	20	36	11	3	9	9
19.....	9	11	14	250	24	172	20	41	11	3	12	6
20.....	10	11	13	491	19	56	19	19	9	3	15	6
21.....	9	60	13	103	20	29	16	13	6	3	12	6
22.....	10	119	13	42	21	25	14	12	6	3	15	6
23.....	9	23	15	35	20	21	16	12	6	3	15	6
24.....	9	16	15	28	19	18	20	12	10	3	15	7
25.....	8	13	84	31	20	18	17	12	11	3	6	5
26.....	12	12	21	30	17	19	17	12	10	3	6	5
27.....	20	12	19	30	15	26	12	10	35	3	6	5
28.....	16	12	18	27	15	27	36	9	8	2	6	5
29.....	14	12	18	28	-----	18	81	9	15	2	6	4
30.....	12	12	40	26	-----	17	36	10	22	2	6	3
31.....	10	-----	374	24	-----	16	-----	9	-----	2	6	-----

NOTE.—Stage-discharge relation affected by ice Dec. 3 and 29. Sand and rocks hauled out of control Apr. 15 and June 10 for construction of bridge. Rocks placed in control Apr. 26. Discharge Dec. 8, 9, 31, Jan. 1, 10, 11, Feb. 10, 11, Mar. 17, and Aug. 5 determined by approximate integration of graph based on 2 daily gage readings.

Monthly discharge of West Fork of Deep River near High Point, N. C., for the year ending September 30, 1925

[Drainage area, 33 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	194	8	17.9	0.542	0.62
November.....	119	10	17.0	.515	.57
December.....	374	12	45.0	1.36	1.57
January.....	491	19	113	3.42	3.94
February.....	870	15	74.5	2.26	2.35
March.....	244	13	38.2	1.16	1.34
April.....	36	8	17.1	.518	.58
May.....	278	9	35.0	1.06	1.22
June.....	53	5	12.2	.370	.41
July.....	44	2	5.81	.176	.20
August.....	332	2	24.6	.745	.86
September.....	62	3	7.80	.236	.26
The year.....	870	2	33.9	1.03	13.92

DEEP RIVER AT RAMSEUR, N. C.

LOCATION.—At upper end of long pool, 2,000 feet downstream from railroad station at Ramseur, Randolph County, and 1½ miles below mouth of Sandy Creek.

DRAINAGE AREA.—343 square miles (measured on soil survey maps of United States Department of Agriculture.)

RECORDS AVAILABLE.—November 24, 1922, to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder on right bank; attended by J. M. Woodell.

DISCHARGE MEASUREMENTS.—Made from cable 200 feet below gage.

CHANNEL AND CONTROL.—Channel straight above and below gage for 700 feet. Bed composed of boulders and sand; fairly smooth. Banks are about 20 feet high but are overflowed occasionally. Control for low and medium stages is a solid rock jagged shoal about 600 feet downstream from gage. High water is channel controlled. There are three small islands between the cable and control.

EXTREMES OF DISCHARGE.—Maximum stage during year, 15.7 feet at 10 p. m. January 11 (discharge, 12,000 second-feet); minimum stage, 0.37 foot at 2 a. m. August 4 (discharge, 10 second-feet).

1923-1925: Maximum stage recorded, 19.22 feet at 1 p. m. March 13, 1923 (discharge, 16,600 second-feet); minimum stage, 0.37 foot at 2 a. m. August 4, 1925 (discharge, 10 second-feet).

ICE.—Negligible.

DIVERSIONS.—None.

REGULATION.—The record from recorder shows continual regulation by power plants above station, but as no plant has more than 10 hours' storage, the weekly and monthly mean discharge is representative of the natural flow.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined between 10 and 7,000 second-feet; extended above. Operation of water-stage recorder satisfactory. Daily discharge ascertained by approximate integration of discharge. Records excellent.

The following discharge measurements were made:

- October 1, 1924: Gage height, 3.96 feet; discharge, 1,380 second-feet.
- December 10, 1924: Gage height, 2.41 feet; discharge, 604 second-feet.
- July 24, 1925: Gage height, 0.76 foot; discharge, 53.9 second-feet.

Daily discharge, in second-feet, of Deep River at Ramseur, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,340	68	89	7,530	512	154	184	323	114	72	16	38
2	654	50	116	1,150	531	228	173	201	114	72	10	34
3	373	75	109	678	616	245	183	159	97	58	18	33
4	229	88	96	526	608	181	151	201	78	48	24	33
5	186	108	99	423	471	375	126	181	58	594	449	17
6	204	92	91	358	408	409	194	161	43	208	683	18
7	167	78	82	275	338	259	182	148	39	128	178	33
8	152	157	258	277	300	201	144	125	48	101	88	33
9	138	164	1,940	251	209	231	149	87	107	86	42	32
10	119	104	540	4,420	694	216	166	89	93	64	56	32
11	121	82	318	8,340	1,890	193	217	167	70	31	92	32
12	139	107	237	5,550	897	174	170	285	50	28	76	16
13	112	83	172	1,120	494	183	224	872	33	54	69	15
14	58	61	137	701	415	152	196	406	27	54	55	24
15	43	34	197	514	376	121	149	295	92	70	58	50
16	44	19	159	706	416	201	148	218	111	50	32	101
17	41	32	146	1,880	377	1,620	147	128	124	43	100	93
18	50	51	138	3,730	341	847	466	654	125	42	82	99
19	60	52	143	3,300	299	591	242	585	81	25	55	50
20	106	54	121	6,340	292	2,020	237	336	63	40	36	45
21	127	76	76	1,560	251	306	186	198	56	35	38	53
22	101	504	145	872	208	280	157	143	72	36	32	44
23	72	402	113	654	280	311	246	113	101	38	24	40
24	77	235	107	509	307	288	229	124	82	34	32	46
25	77	179	580	454	264	196	133	149	54	18	31	54
26	30	125	446	443	238	218	111	130	43	90	30	22
27	112	99	238	421	229	234	198	106	33	42	30	22
28	180	98	192	460	198	275	289	121	54	33	29	39
29	142	92	204	447	-----	227	508	108	152	30	16	33
30	119	54	186	431	-----	244	499	50	76	30	20	32
31	99	-----	2,170	510	-----	234	-----	46	-----	28	37	-----

Monthly discharge of Deep River at Ramseur, N. C., for the year ending September 30, 1925

[Drainage area, 343 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	1,340	30	177	0.516	0.59
November	504	19	115	.335	.37
December	2,170	76	311	.907	1.05
January	8,340	251	1,770	5.16	5.95
February	1,890	198	445	1.30	1.35
March	2,020	121	368	1.07	1.23
April	508	111	213	.621	.69
May	872	46	223	.650	.75
June	152	27	76.3	.222	.25
July	594	18	73.6	.215	.25
August	683	10	81.9	.239	.28
September	101	15	40.4	.118	.13
The year	8,340	10	326	.950	12.89

PEE DEE RIVER BASIN

YADKIN RIVER AT NORTH WILKESBORO, N. C.

LOCATION.—At bridge 3,870 feet below Southern Railway station at North Wilkesboro, Wilkes County.

DRAINAGE AREA.—500 square miles.

RECORDS AVAILABLE.—April 10, 1903, to June 30, 1909, and October 1, 1920, to September 30, 1925.

GAGE.—Chain gage on downstream handrail since October 1, 1920; read by S. U. Reynolds.

DISCHARGE MEASUREMENTS.—Made from bridge at gage.

CHANNEL AND CONTROL.—Channel is straight above station, slightly curved at bridge and straight for 600 feet below; one channel at all stages. Right bank is low and subject to overflow, but all water must pass under bridge and approaches. Left bank is high and rocky. Bed of stream is rocky, with sand in places. Control is not perceptible.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.92 feet at 5.30 p. m. December 8 (discharge, 10,600 second-feet); minimum stage, 0.48 foot at 6 p. m. August 22 (discharge, 169 second-feet).

1903-1909; 1920-1925: Maximum stage recorded, 18.8 feet (datum of old gage) at 10.20 a. m. November 19, 1906 (discharge, 22,300 second-feet); minimum stage, 0.48 foot at 6 p. m. August 22, 1925 (discharge, 169 second-feet).

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

REGULATION.—Very slight regulation from milldams upstream.

ACCURACY.—Stage-discharge relation changed September 30, 1924, and January 1, 1925. Rating curve used to December 31 is well defined between 450 and 10,000 second-feet; curve used thereafter is well defined between 150 and 10,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as stated in footnote to daily-discharge table. Records good.

Discharge measurements of Yadkin River at North Wilkesboro, N. C., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 22.....	1.54	548	Apr. 23.....	1.74	541	Aug. 18.....	0.78	230
Dec. 11.....	2.98	1,240	July 7.....	1.32	392	Aug. 19.....	.54	178

Daily discharge, in second-feet, of Yadkin River at North Wilkesboro, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2,270	572	532	3,990	760	712	574	760	396	452	237	250
2.....	1,500	572	532	1,480	760	664	574	664	396	492	226	237
3.....	1,100	572	493	1,170	760	664	574	664	396	452	214	226
4.....	950	572	532	1,120	760	760	574	618	396	396	226	214
5.....	850	572	655	1,020	760	760	574	618	396	346	262	214
6.....	800	572	1,200	912	712	712	574	618	396	316	250	214
7.....	750	572	1,100	760	712	712	574	574	396	346	237	204
8.....	750	572	5,860	760	664	664	574	532	379	346	237	214
9.....	700	572	5,620	912	712	664	618	532	362	302	226	214
10.....	655	572	1,700	1,070	810	664	712	492	362	288	226	214

Daily discharge, in second-feet, of Yadkin River at North Wilkesboro, N. C., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11	655	572	1,100	1,480	860	618	664	492	362	275	262	664
12	572	532	900	1,380	860	618	618	1,070	362	302	275	452
13	572	532	850	1,170	810	618	574	964	362	331	250	574
14	572	532	850	1,020	810	574	574	712	346	331	237	316
15	572	572	750	912	860	574	574	712	346	288	237	275
16	572	572	750	860	810	574	574	664	331	302	237	262
17	572	572	700	1,120	810	912	574	574	346	288	226	250
18	572	532	700	1,280	760	760	574	574	379	262	204	250
19	572	532	655	1,220	760	1,480	574	618	396	237	193	226
20	572	532	655	1,640	760	1,070	712	574	362	237	183	226
21	572	532	655	1,480	760	860	664	532	346	250	183	226
22	532	1,250	655	1,280	712	760	618	532	316	250	173	237
23	532	950	750	1,120	760	712	618	492	316	331	173	237
24	532	700	900	1,020	760	664	574	492	331	288	173	237
25	532	613	850	912	760	664	574	492	574	452	193	226
26	655	572	655	860	712	664	532	492	574	346	193	226
27	1,500	572	613	810	712	712	492	492	346	237	204	226
28	1,500	572	613	810	712	712	810	452	316	275	664	214
29	950	572	572	810	-----	664	912	452	302	262	492	226
30	655	532	750	810	-----	618	860	414	302	250	288	226
31	572	-----	1,150	810	-----	618	-----	414	-----	237	262	-----

NOTE.—Discharge Dec. 8-9 and Jan. 1 determined by approximate integration of graph based on 2 daily gage readings.

Monthly discharge of Yadkin River at North Wilkesboro, N. C., for the year ending September 30, 1925

[Drainage area, 500 square miles]

Month	Discharge in second-feet				Run off in inches
	Maximum	Minimum	Mean	Per square mile	
October	2,270	532	795	1.59	1.83
November	1,250	532	602	1.20	1.34
December	5,860	493	1,100	2.20	2.54
January	3,990	760	1,160	2.32	2.68
February	860	664	764	1.53	1.59
March	1,480	574	723	1.45	1.67
April	912	492	620	1.24	1.38
May	1,070	414	588	1.18	1.36
June	574	302	373	.746	.83
July	492	237	315	.630	.73
August	664	173	247	.494	.57
September	664	204	266	.532	.59
The year	5,860	173	631	1.26	17.11

YADKIN RIVER NEAR SALISBURY, N. C.

LOCATION.—At highway bridge known as Piedmont toll bridge (about to be removed) 1,000 feet upstream from Southern Railway bridge and 6 miles northeast of Salisbury, Rowan County.

DRAINAGE AREA.—3,400 square miles.

RECORDS AVAILABLE.—September 24, 1895, to December 31, 1909; September 1, 1911, to September 30, 1925.

GAGE.—Enameled vertical staff gage in three sections on right bank 50 feet downstream from Piedmont toll bridge, since July 10, 1925; read by J. T. Yarbrough. Previous gage was chain gage attached to toll bridge. Datum unchanged.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge.

CHANNEL AND CONTROL.—Channel wide; bed rather rough. Control is a rock ledge about 500 feet below bridge extending entirely across river; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.3 feet at 7 a. m. October 1 (discharge, 64,200 second-feet); minimum stage, 1.4 feet several times in August and September (discharge, 700 second-feet).

1895-1925: Maximum stage recorded, 23.8 feet at 1 a. m. July 18, 1916 (discharge, 121,000 second-feet); minimum stage, 1.4 feet several times in August and September, 1925 (discharge, 700 second-feet).

ICE.—Never enough to affect stage-discharge relation.

DIVERSIONS.—None.

REGULATION.—Flow during low stages may be somewhat affected by developed powers on the river and tributaries.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 20,000 second-feet and fairly well defined up to 121,000 second-feet. Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as stated in footnote to daily-discharge table. Records good.

Discharge measurements of Yadkin River near Salisbury, N. C., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 11.....	2.50	3,100	July 9.....	1.93	1,690
May 1.....	2.91	4,130	Aug. 22.....	1.59	900

Daily discharge, in second-feet, of Yadkin River near Salisbury, N. C., for the year ending September 30, 1925

Date	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	62,400	2,420	2,420	22,300	4,400	3,340	3,200	4,080	2,420	2,420	1,000	922
2.....	31,200	2,420	2,300	21,800	4,080	3,340	3,200	3,450	2,070	1,960	845	1,540
3.....	6,780	2,550	2,180	10,200	4,080	3,480	3,200	1,960	1,540	1,540	922	1,350
4.....	5,080	2,180	2,180	6,780	4,400	3,200	3,070	3,070	1,960	1,540	1,350	1,260
5.....	4,400	2,300	2,420	5,420	4,080	3,780	3,070	2,800	1,850	1,640	1,960	1,170
6.....	3,780	2,300	3,070	4,740	3,780	4,080	3,200	2,680	1,960	2,180	2,940	922
7.....	3,480	2,420	5,080	4,080	3,780	3,780	3,070	2,680	1,740	1,960	3,200	845
8.....	3,340	2,420	5,080	3,780	3,630	3,480	2,940	2,680	2,070	1,850	1,740	772
9.....	3,200	2,420	25,700	3,780	3,630	3,480	2,940	2,550	1,960	1,740	1,350	729
10.....	2,800	2,420	30,000	6,440	5,080	3,480	2,940	2,420	2,180	1,740	1,350	772
11.....	2,800	2,420	9,800	17,800	10,200	3,340	3,340	2,680	2,180	1,440	1,170	1,960
12.....	2,800	2,300	6,100	24,400	12,200	3,340	3,930	5,420	1,740	1,740	1,350	2,070
13.....	2,680	2,300	5,080	15,400	7,140	3,340	3,480	14,500	1,740	1,850	1,960	1,540
14.....	2,680	2,420	4,400	7,860	5,080	3,200	3,200	7,140	1,540	2,420	1,960	2,180
15.....	2,550	2,420	3,780	5,760	4,400	3,200	3,200	5,080	1,850	2,180	1,740	2,180
16.....	2,420	2,180	3,480	5,420	4,740	3,200	2,940	4,740	1,740	1,540	1,350	1,540
17.....	2,420	2,420	3,480	7,860	5,080	3,200	2,940	3,930	1,740	1,440	1,350	1,960
18.....	2,420	2,180	3,200	12,700	4,740	7,140	2,940	4,080	1,740	1,350	1,170	1,740
19.....	2,420	2,180	3,200	14,500	4,400	5,760	3,200	3,930	2,180	1,080	1,000	1,350
20.....	2,420	2,070	3,200	14,500	4,080	8,620	3,930	3,630	1,960	1,260	1,000	1,080
21.....	2,300	2,180	2,940	14,000	3,780	5,760	3,200	3,070	1,850	1,170	922	1,080
22.....	2,300	3,200	2,940	9,400	3,780	4,400	2,940	2,680	1,740	1,170	1,000	1,080
23.....	2,180	6,440	2,680	6,780	3,780	4,080	2,940	2,680	1,640	1,170	845	1,000
24.....	2,180	5,760	2,680	5,760	3,780	3,780	2,940	2,420	1,540	1,850	845	1,000
25.....	2,180	2,940	4,080	5,080	3,930	3,630	2,940	2,550	1,740	1,260	816	1,000
26.....	2,180	2,680	4,080	4,740	3,780	3,480	2,680	2,420	2,070	1,080	816	1,080
27.....	2,550	2,420	3,200	4,400	3,480	3,630	2,800	2,300	2,180	1,350	729	1,000
28.....	4,080	2,420	2,940	4,740	3,780	4,080	2,940	2,180	1,960	1,640	816	1,000
29.....	5,080	2,420	2,940	4,740	-----	4,080	3,630	2,420	2,180	1,170	845	845
30.....	3,200	2,300	2,800	4,400	-----	3,780	4,740	2,300	2,180	1,170	700	845
31.....	2,680	-----	4,080	4,740	-----	3,200	-----	2,180	-----	1,000	1,260	-----

NOTE.—Discharge Oct. 1, 2, Dec. 9, and Jan. 1 determined by approximate integration of graph based on 2 daily gage readings.

Monthly discharge of Yadkin River near Salisbury, N. C., for the year ending September 30, 1925

[Drainage area, 3,400 square miles]

Month	Discharge in second-feet				Run off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	62,400	2,180	5,900	1.74	2.01
November.....	6,440	2,070	2,650	.779	.87
December.....	30,000	2,180	5,210	1.53	1.76
January.....	24,400	3,780	9,170	2.70	3.11
February.....	12,200	3,480	4,750	1.40	1.46
March.....	8,620	3,200	3,990	1.17	1.35
April.....	4,740	2,680	3,190	.938	1.05
May.....	14,500	2,180	3,610	1.06	1.22
June.....	2,420	1,540	1,920	.565	.63
July.....	2,420	1,000	1,570	.462	.53
August.....	3,200	700	1,900	.382	.44
September.....	2,180	729	1,260	.371	.41
The year.....	62,400	700	3,720	1.09	14.84

YADKIN RIVER AT HIGH ROCK, N. C.

LOCATION.—At Brinkles Ferry at High Rock, Davidson County, 2 miles above mouth of Lick Creek and 15 miles upstream from dam of Tallassee Power Co., at Badin.

DRAINAGE AREA.—3,930 square miles.

RECORDS AVAILABLE.—January 8, 1919, to September 30, 1925.

GAGE.—Friez water-stage recorder on right bank; attended by employees of Tallassee Power Co.; replaced by an Au continuous recorder April 1, 1925. Zero flow at gage about elevation 592.8 feet above sea level.

CHANNEL AND CONTROL.—Bed of stream composed of rock and gravel. Banks about 20 feet high; probably not subject to overflow. Control is rock shoal about half a mile downstream; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, elevation 603.5 feet at 1.15 p. m. October 1 (discharge, 73,000 second-feet); minimum stage, elevation 593.27 feet at 9 a. m. August 31 (discharge, 879 second-feet).

1919—1925: Maximum stage, elevation 605.9 feet morning of July 21, 1919 (discharge, 104,000 second-feet); minimum stage, elevation 593.27 feet at 9 a. m. August 31, 1925 (discharge, 879 second-feet).

The flood of July, 1916, reached elevation 612.1 feet (discharge, 184,000 second-feet).

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

REGULATION.—Slight diurnal fluctuation noticeable in low-water periods from power developments on tributaries.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 1,000 and 28,000 second-feet and extended above. Operation of water-stage recorder fairly satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting gage-height graph, except for days of wide range in stage, when discharge was integrated approximately. Records good except for high-water stages for which they are fair.

COOPERATION.—Water-stage recorder graph furnished by Tallassee Power Co.

The following discharge measurement was made:

July 10, 1925: Gage height, 593.94 feet; discharge, 1,650 second-feet.

Daily discharge, in second-feet, of Yadkin River at High Rock, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71,700	3,260	2,970	26,800	5,470	4,020	3,860	5,130	2,560	3,120	1,100	1,120
2	38,200	2,970	2,830	26,000	5,470	4,020	3,560	4,170	2,560	2,290	1,060	1,120
3	9,060	3,120	2,830	13,500	5,470	4,020	3,560	3,560	2,420	1,900	998	2,030
4	6,210	2,970	2,690	8,630	5,830	4,020	3,560	3,410	2,290	1,580	1,220	1,300
5	5,130	2,970	2,970	6,990	5,470	4,480	3,560	3,410	2,160	1,660	1,900	1,240
6	4,480	2,830	4,020	6,210	5,130	5,470	3,710	3,410	2,160	2,160	5,130	1,090
7	4,020	2,830	5,830	5,470	4,800	4,800	3,560	3,260	2,160	2,160	5,130	989
8	3,710	2,690	6,990	5,130	4,800	4,170	3,410	3,120	2,030	2,160	2,560	980
9	3,560	2,690	23,700	4,800	4,800	4,170	3,410	2,970	2,160	1,900	1,660	940
10	3,260	2,830	31,600	11,400	6,020	4,170	3,410	2,830	2,290	1,900	1,490	916
11	3,260	2,970	12,100	23,800	15,000	4,480	4,170	2,970	2,420	1,660	1,510	1,310
12	2,970	2,970	7,390	30,800	16,000	4,480	4,170	4,480	2,030	1,780	1,550	2,690
13	2,970	2,830	6,210	19,300	9,470	4,480	4,020	15,500	1,780	2,290	2,290	1,560
14	2,970	2,830	5,470	10,300	6,590	4,170	3,710	10,300	1,900	2,560	2,420	2,160
15	2,830	2,690	4,800	7,390	5,830	3,860	3,410	6,300	1,900	2,690	2,030	2,830
16	2,830	2,560	4,480	6,590	5,830	3,860	3,410	5,830	2,160	1,780	1,640	1,780
17	2,830	2,690	4,170	10,300	6,210	6,990	3,260	4,800	2,160	1,580	1,440	2,420
18	2,560	2,690	4,020	16,000	5,830	9,470	3,860	4,800	1,900	1,470	1,310	2,100
19	2,560	2,560	3,860	19,800	5,470	7,390	3,860	5,130	2,290	1,390	1,230	1,600
20	2,560	2,560	3,710	20,400	5,130	9,050	4,480	4,800	2,420	1,240	1,120	1,300
21	2,560	2,560	3,560	16,600	4,800	7,390	4,020	4,020	1,900	1,310	1,120	1,150
22	2,560	3,860	3,560	11,200	4,480	5,470	3,560	3,560	1,780	1,240	1,090	1,150
23	2,420	6,590	3,260	8,210	4,480	5,130	3,410	3,560	1,660	1,180	1,140	1,150
24	2,420	5,130	3,410	7,390	4,480	4,800	3,410	2,970	1,660	1,660	972	1,130
25	2,420	3,710	5,470	6,210	4,480	4,480	3,260	2,970	1,660	1,510	989	1,130
26	2,560	3,260	5,470	5,830	4,800	4,480	3,120	2,970	2,030	1,240	964	1,130
27	2,830	3,120	4,480	5,470	4,480	4,480	2,970	2,830	2,560	1,240	964	1,200
28	4,480	2,970	4,020	5,830	4,170	4,800	3,410	2,690	2,160	1,560	940	1,130
29	5,830	2,970	3,860	5,830	5,130	4,020	2,420	2,420	2,420	1,280	940	1,130
30	4,020	2,830	3,710	5,830	4,480	4,800	2,690	2,420	1,180	1,580	956	1,050
31	3,410	-----	7,740	5,830	-----	4,170	-----	2,690	-----	1,120	1,040	-----

NOTE.—Recorder not operating Sept. 18-30; discharge estimated by comparison with hydrographs for stations near Salisbury.

Monthly discharge of Yadkin River at High Rock, N. C., for the year ending September 30, 1925

[Drainage area, 3,930 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	71,700	2,420	6,880	1.75	2.02
November	6,590	2,560	3,120	.794	.89
December	31,600	2,690	6,170	1.57	1.81
January	30,800	4,800	11,700	2.98	3.44
February	16,000	4,170	6,100	1.55	1.61
March	9,470	3,860	5,040	1.28	1.48
April	4,800	2,970	3,660	.931	1.04
May	15,500	2,420	4,320	1.10	1.27
June	2,560	1,660	2,130	.542	.60
July	3,120	1,120	1,740	.443	.61
August	5,130	940	1,610	.410	.47
September	2,830	916	1,430	.364	.41
The year	71,700	916	4,500	1.15	15.55

FISHER RIVER NEAR DOBSON, N. C.

LOCATION.—At Turkey Ford steel highway bridge on Dobson-Ararat Highway 2 miles east of Dobson, Surry County.

DRAINAGE AREA.—109 square miles (measured on topographic maps).

RECORDS AVAILABLE.—September 1, 1920, to September 30, 1925.

GAGE.—Chain gage installed August 30, 1921, on upstream side of bridge; read by Miss Ada Kidd.

DISCHARGE MEASUREMENTS.—Made from lower side of bridge.

CHANNEL AND CONTROL.—Channel straight above and below gage; bed rather rough. Banks subject to overflow above gage height of 10 feet. Control is shoals about 50 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.64 feet at 5 p. m. December 8 (discharge, 3,980 second-feet); minimum stage, 0.03 foot at 5 p. m. August 30 (discharge, 16 second-feet).

1920-1925: Maximum stage recorded, 10.1 feet at 5 p. m. March 16, 1923 (discharge, 6,700 second-feet); minimum stage, 0.03 foot at 5 p. m. August 30, 1925 (discharge, 16 second-feet).

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

REGULATION.—Probably none.

ACCURACY.—Stage-discharge relation for low water changed December 8, 1924.

Rating curves well defined below 300 second-feet and extended above by comparison with records for Ararat River near Pilot Mountain. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as stated in footnote to daily-discharge table. Records good.

Discharge measurements of Fisher River near Dobson, N. C., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Dec. 11.....	0.94	230	July 8.....	0.39	62.9
Apr. 23.....	.80	127	Aug. 19.....	.10	21.1

Daily discharge, in second-feet, of Fisher River near Dobson, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	320	119	113	621	193	157	139	151	80	75	33	45
2.....	239	116	110	279	186	157	130	136	80	75	32	60
3.....	193	113	128	228	180	151	124	127	72	66	33	50
4.....	168	113	144	207	180	145	118	139	70	70	39	40
5.....	158	110	168	180	180	164	121	133	72	75	45	34
6.....	154	116	200	170	180	161	121	139	68	66	52	37
7.....	141	113	125	157	170	151	133	127	75	70	58	39
8.....	138	113	1,810	157	170	148	127	118	75	68	56	29
9.....	132	113	860	154	177	148	139	116	99	58	48	32
10.....	132	119	318	193	193	148	151	116	72	54	42	66
11.....	132	116	243	387	193	145	173	116	66	54	37	44
12.....	125	110	203	266	183	142	139	318	62	44	37	37
13.....	125	113	190	224	177	145	124	167	66	56	33	841
14.....	119	116	170	210	177	148	121	154	99	58	32	116
15.....	122	119	161	180	193	133	113	139	97	44	36	87
16.....	122	119	157	173	203	136	113	127	89	47	36	72
17.....	119	110	151	243	186	217	116	133	77	39	37	58
18.....	119	113	151	243	186	164	130	151	70	33	30	58
19.....	113	107	145	228	180	157	121	121	68	39	27	60
20.....	116	113	142	411	173	164	116	113	64	40	24	50

Daily discharge, in second-feet, of Fisher River near Dobson, N. C., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21.....	125	110	139	318	167	157	116	102	58	39	21	47
22.....	119	388	142	262	167	145	113	105	54	37	19	40
23.....	113	196	133	239	180	139	116	97	62	47	21	44
24.....	110	144	130	217	186	133	116	99	82	39	22	47
25.....	119	138	130	210	170	133	116	92	105	34	22	47
26.....	122	125	133	210	164	133	108	89	72	36	20	44
27.....	287	125	130	207	157	142	127	87	68	36	23	44
28.....	178	119	127	214	151	148	274	80	183	37	28	39
29.....	138	113	217	210	-----	130	167	84	113	22	22	42
30.....	125	116	139	207	-----	130	157	94	113	34	17	45
31.....	119	-----	353	193	-----	130	-----	84	-----	36	28	-----

NOTE.—Discharge Oct. 27, Dec. 8, 9, 31, Jan. 1 and Sept. 13 determined by approximate integration of graph based on 2 daily gage readings.

Monthly discharge of Fisher River near Dobson, N. C., for the year ending September 30, 1925

[Drainage area, 109 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	320	110	147	1.35	1.56
November.....	338	107	128	1.17	1.30
December.....	1,810	110	241	2.21	2.55
January.....	621	154	239	2.19	2.52
February.....	203	151	179	1.64	1.71
March.....	217	130	148	1.36	1.57
April.....	274	108	133	1.22	1.36
May.....	318	80	124	1.14	1.31
June.....	183	54	81.0	.743	.83
July.....	75	22	49.3	.452	.52
August.....	58	17	32.6	.299	.34
September.....	841	29	76.5	.702	.78
The year.....	1,810	17	131	1.20	16.35

SANTEE RIVER BASIN

SANTEE RIVER AT FERGUSON, S. C.

LOCATION.—At Ferguson boat landing three-fourths mile from railroad station, Orangeburg County, and 4 miles downstream from mouth of Eutaw Creek.

DRAINAGE AREA.—14,800 square miles. (From United States Weather Bureau records and checked on base map; scale, 1 to 500,000.)

RECORDS AVAILABLE.—December 1, 1907, to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder installed November 23, 1921, on right bank; attended by H. C. Savage.

DISCHARGE MEASUREMENTS.—Made from downstream side of abandoned steel railroad bridge 1 mile above gage, or from a boat near gage.

CHANNEL AND CONTROL.—Channel up to gage height of 12 feet is deep, narrow, and composed mostly of limestone and marl; fairly permanent. Valley is a heavily wooded flat 4 miles wide with channel meandering through it and is completely overflowed every year. Flow is channel controlled and current is good at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, 17.13 feet from 7 to 9 p. m. January 23 (discharge, 146,000 second-feet); minimum stage—0.75 foot at 2 p. m. September 2 (discharge, 2,570 second-feet).

1907—1925: Maximum stage recorded, 24.5 feet July 22, 1916 (estimated discharge 368,000 second-feet); minimum stage, —0.75 foot September 2, 1925 (discharge, 2,570 second-feet). Minimum stage caused by regulation of storage reservoirs above.

ICE.—None.

DIVERSIONS.—None.

REGULATION.—Two large hydroelectric plants have fairly large storage reservoirs on Broad River; there are a number of reservoirs on Wateree River two of which are very large; and there is at least one reservoir on Saluda River. Apparently the Parr Shoals Reservoir on Broad River and Camden Reservoir on Wateree River have the most effect. As the two are about equidistant from Ferguson the storage effect probably reaches the gage about the same time. There are no daily fluctuations probably because the nearest reservoir is more than 100 miles upstream. However, there is a very distinct weekly fluctuation during average and low-water periods caused apparently by shutdown of plants over week-ends. On Mondays the stage at Ferguson begins to drop and continues with accelerated rapidity until some time during Tuesday. After reaching the lowest point the stage rises rapidly and is back to an even stage by Wednesday night.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 16,000 second-feet; above 16,000 second-feet rating curve is an extension which is fairly accurate up to 20,000 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting gage-height graph. Records good.

The following discharge measurement was made:

September 1, 1925: Gage height, 0.22 foot; discharge, 2,850 second-feet.

Daily discharge, in second-feet, of Santee River at Ferguson, S. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41,000	17,400	17,200	27,200	35,000	21,700	17,600	12,200	6,890	4,300	7,530	2,960
2	44,000	17,000	14,000	27,200	32,500	20,500	17,400	12,300	5,120	5,480	7,010	2,670
3	53,000	15,500	13,100	27,200	32,500	18,400	17,000	12,700	5,320	7,010	5,950	2,960
4	74,000	12,300	13,600	32,500	30,500	17,600	16,500	11,100	7,270	7,010	4,380	3,510
5	92,000	11,600	14,200	47,000	27,200	17,800	16,300	8,190	7,790	6,770	4,060	3,630
6	89,000	12,900	14,200	50,000	27,200	18,100	14,600	8,050	8,190	5,840	4,560	3,450
7	74,000	13,500	14,000	47,000	28,800	18,400	12,300	9,480	8,050	4,920	5,120	3,210
8	53,000	13,800	12,200	44,000	28,800	18,600	13,600	10,100	7,010	5,950	5,950	2,830
9	41,000	14,200	9,190	38,000	28,800	18,400	15,500	10,600	5,220	8,050	6,170	2,630
10	35,000	13,100	13,300	32,500	28,800	16,500	16,100	10,900	5,520	9,640	5,520	2,790
11	30,500	9,950	18,600	30,500	27,200	15,700	15,900	9,490	7,010	9,490	4,380	3,270
12	28,800	10,300	20,500	30,500	26,000	15,900	15,700	6,880	7,660	8,890	4,380	4,060
13	28,000	11,600	22,800	30,500	26,000	16,500	14,800	7,400	7,660	7,660	5,840	3,980
14	24,100	12,300	27,200	35,000	27,200	16,500	13,800	11,300	7,270	5,420	6,530	3,840
15	22,800	12,700	32,500	50,000	27,200	16,300	13,500	14,000	6,410	5,290	6,650	3,210
16	21,700	12,700	32,500	56,000	27,200	15,500	14,000	14,200	4,740	8,330	6,170	2,870
17	21,300	12,000	28,800	68,000	26,000	13,800	14,200	13,500	4,060	9,340	5,220	3,210
18	20,900	9,040	26,000	68,000	25,000	14,200	14,400	11,400	5,320	9,340	4,220	3,570
19	20,500	9,340	24,100	65,000	25,000	16,100	14,400	9,340	7,140	8,750	3,450	3,770
20	19,800	11,600	22,800	68,000	24,100	19,200	12,700	11,300	7,660	7,140	4,220	3,630

Daily discharge, in second-feet, of Santee River at Ferguson, S. C., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21.....	17,800	12,500	21,700	83,000	25,000	20,500	10,400	14,200	7,530	4,920	4,560	3,450
22.....	16,700	12,900	20,500	119,000	25,000	21,300	10,400	15,000	6,650	4,740	4,650	3,010
23.....	16,300	14,600	17,600	143,000	25,000	22,200	12,200	14,200	4,740	6,060	4,920	2,870
24.....	15,700	17,600	16,700	143,000	23,400	21,700	13,500	13,100	4,140	6,530	4,470	3,060
25.....	14,800	18,600	18,100	125,000	22,200	20,500	13,600	10,600	5,320	7,010	3,630	3,630
26.....	15,300	18,600	20,100	98,000	21,700	19,800	13,100	7,530	6,530	7,140	3,010	4,470
27.....	15,300	18,600	21,700	71,000	21,700	19,200	10,800	7,790	7,140	6,530	4,300	4,560
28.....	13,300	18,400	23,400	50,000	21,700	19,500	8,470	9,640	7,010	5,020	4,650	4,380
29.....	15,000	18,100	27,200	44,000	-----	19,500	9,190	10,300	6,410	4,560	4,060	4,060
30.....	17,200	18,100	30,500	38,000	-----	19,200	11,300	9,790	4,920	6,290	3,630	3,450
31.....	17,600	-----	30,500	38,000	-----	18,100	-----	8,750	-----	7,400	3,270	-----

NOTE.—Recorder not functioning properly Oct. 13-18, July 23-25, Aug. 18-20, 25-27, 29, and 31; graph estimated from U. S. Weather Bureau gage records at Ferguson.

Monthly discharge of Santee River at Ferguson, S. C., for the year ending September 30, 1925

[Drainage area, 14,800 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	92,000	13,300	32,500	2.20	2.54
November.....	18,600	9,040	14,000	.946	1.06
December.....	32,500	9,190	20,600	1.39	1.60
January.....	143,000	27,200	58,900	3.98	4.59
February.....	35,000	21,700	26,700	1.80	1.87
March.....	22,200	13,800	18,300	1.24	1.43
April.....	17,600	8,470	13,800	.932	1.04
May.....	15,000	6,890	10,800	.730	.84
June.....	8,190	4,060	6,390	.432	.48
July.....	9,640	4,300	6,810	.460	.53
August.....	7,530	3,010	4,920	.332	.38
September.....	4,560	2,630	3,430	.232	.26
The year.....	143,000	2,630	18,100	1.22	16.62

LINVILLE RIVER AT BRANCH, N. C.

LOCATION.—At wooden highway bridge, 800 feet from Branch post office, Burke County, a quarter of a mile upstream from Lake James, 2 miles below mouth of Linville Gorge, and 12 miles from Nebo, N. C.

DRAINAGE AREA.—65 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 7, 1922, to September 30, 1925.

GAGE.—Vertical staff on downstream end of first bridge pier from right bank; read by J. M. Wall.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge.

CHANNEL AND CONTROL.—Channel wide and shallow, slightly curved above bridge and straight for 200 feet below; bed composed of gravel and boulders. Right bank wooded, not subject to overflow; left bank about 6 feet high,

wooded, and subject to overflow in extreme floods for 500 feet back from stream. Control is a boulder and gravel shoal 200 feet downstream from gage; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.50 feet at 5 p. m. December 8 (discharge, 1,810 second-feet); minimum stage, 1.28 feet at 5 p. m. September 8 (discharge, 7 second-feet).

1922-1925: Maximum stage recorded, 6.2 feet at 7 a. m. January 11 and 5 p. m. September 28, 1924 (discharge, 3,880 second-feet); minimum stage, 1.28 feet at 5 p. m. September 8, 1925 (discharge, 7 second-feet).

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

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve is well defined up to 500 second-feet and extended above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

October 21, 1924: Gage height, 1.77 feet; discharge, 74.4 second-feet.

June 24, 1925: Gage height, 1.55 feet; discharge, 34.1 second-feet.

August 1, 1925: Gage height, 1.40 feet; discharge, 17.0 second-feet.

Daily discharge, in second-feet, of Linville River at Branch, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.
1.....	483	81	61	380	119	107	81	144	61	39	19	12
2.....	333	76	41	231	113	107	81	128	57	32	18	14
3.....	264	74	43	192	110	86	79	113	61	29	18	21
4.....	215	72	61	170	107	97	76	107	63	28	20	16
5.....	185	72	86	157	102	113	84	107	52	29	20	12
6.....	163	67	144	144	97	104	89	97	61	50	24	9
7.....	131	70	144	128	94	104	76	86	52	107	22	8
8.....	134	67	790	125	86	102	74	81	48	59	18	8
9.....	125	67	758	119	97	97	72	81	46	48	17	8
10.....	113	67	356	131	150	91	72	84	45	57	17	14
11.....	104	70	251	223	134	86	81	81	38	52	16	16
12.....	104	63	211	243	150	86	79	281	39	63	16	14
13.....	97	63	177	215	119	81	72	203	35	38	16	13
14.....	91	59	157	174	125	79	72	227	41	35	14	14
15.....	91	59	137	140	119	81	63	200	41	76	14	16
16.....	97	63	134	185	167	76	59	167	52	160	14	22
17.....	84	63	125	264	147	110	52	144	67	65	12	22
18.....	81	59	113	260	137	102	59	131	52	48	29	18
19.....	67	59	107	247	125	170	107	137	52	38	16	16
20.....	76	59	107	276	125	163	81	131	41	32	14	14
21.....	74	59	97	235	116	131	89	110	38	27	14	11
22.....	76	122	81	215	110	113	67	102	35	38	12	10
23.....	72	97	91	167	119	110	65	91	36	30	12	11
24.....	72	74	119	170	167	102	65	86	36	32	11	11
25.....	67	70	137	163	119	102	59	81	102	34	11	11
26.....	65	63	86	144	125	97	65	79	63	30	9	22
27.....	154	61	63	144	113	97	67	76	48	29	9	12
28.....	163	63	76	134	107	107	104	70	35	29	9	14
29.....	102	59	59	128	-----	99	255	72	43	24	15	12
30.....	86	50	102	125	-----	91	170	65	54	20	14	12
31.....	79	-----	144	113	-----	86	-----	63	-----	16	11	-----

Monthly discharge of Linville River at Branch, N. C., for the year ending September 30, 1925

[Drainage area, 65 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	483	65	131	2.02	2.33
November.....	122	50	68.3	1.05	1.17
December.....	790	41	163	2.51	2.89
January.....	380	113	185	2.85	3.29
February.....	167	86	121	1.86	1.94
March.....	170	76	102	1.57	1.81
April.....	255	52	83.8	1.29	1.44
May.....	281	63	117	1.80	2.08
June.....	102	35	49.8	.766	.85
July.....	160	16	45.0	.692	.80
August.....	29	9	15.5	.235	.27
September.....	22	8	13.8	.212	.24
The year.....	790	8	91.5	1.41	19.11

HENRY FORK NEAR HENRY RIVER, N. C.

LOCATION.—At highway bridge, at site of old Link ford, Catawba County, on Hickory-Shelby county road, 2 miles downstream from town of Henry River, Burke County.

DRAINAGE AREA.—80.0 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 26 to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder installed on downstream side of bridge pier; attended by J. W. Aderholdt.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Channel straight for 500 feet above and below gage; bed of gravel and boulders with some ledge rock. Banks high and not subject to overflow. Control is rock ledge and boulders 500 feet below gage; permanent. Gage height of zero flow, 0.2 foot \pm 0.2 foot.

ICE.—Possibly slight ice effect for short periods.

DIVERSIONS.—Water supply of Morganton and part of supply of State Hospital for the Insane taken from headwaters and wasted into another tributary of Catawba River. Diversion estimated at 5 second-feet.

REGULATION.—Complete diurnal regulation 2 miles upstream by Henry River Manufacturing Co.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge determined by approximate integration. Records good.

Discharge measurements of Henry Fork near Henry River, N. C., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
July 17.....	<i>Feet</i> 1.29	<i>Sec.-ft.</i> 70	Aug. 1.....	<i>Feet</i> 0.94	<i>Sec.-ft.</i> 28.3
July 31.....	1.01	29.9	Aug. 22.....	.60	7.70

Daily discharge, in second-feet, of Henry Fork near Henry River, N. C., for the year ending September 30, 1925

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		23	9.4	11		64	89	21		10	27
2		18	43	12		61	38	22		7.7	21
3		53	42	13		64	27	23		7.7	37
4		55	38	14		20	48	24		12	42
5		48	25	15		12	42	25		12	45
6		51	9.0	16		9.0	38	26	30	40	29
7		51	32	17		11	30	27	30	42	16
8		30	35	18		39	25	28	30	43	40
9		20	35	19		39	20	29	24	22	26
10		60	61	20		39	16	30	42	9.4	28
								31	27	8.6	

Monthly discharge of Henry Fork near Henry River, N. C., for the year ending September 30, 1925

Month	Discharge in second-feet		
	Maximum	Minimum	Mean
July 26-31	42	24	30.5
August	64	7.7	31.7
September	89	9.0	33.8

LONG CREEK NEAR GASTONIA, N. C.

LOCATION.—At pumping station of water-supply system of Gastonia, 500 feet above bridge of No. 16 highway, 1,000 feet below Carolina & Northwestern Railroad bridge, and 2 miles north of Gastonia, Gaston County.

DRAINAGE AREA.—41.9 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 28, 1923, to July 31, 1925, when the station was discontinued.

GAGE.—Enameled vertical staff fastened to upstream wing wall of intake of pumping plant on right bank; read by attendant at plant.

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

CHANNEL AND CONTROL.—Channel straight above and below gage for several hundred feet; bed composed of rock, sand, and gravel. Banks about 8 feet high to cultivated flats which are seldom overflowed. Low-water control is a riffle at upstream side of intake to pumping station close to gage; fairly permanent. High-water control is 25 feet above highway bridge; collects trash.

EXTREMES OF DISCHARGE.—Maximum stage during year, 7.6 feet at 7.35 a. m. January 1 (discharge, 821 second-feet); minimum stage, not determined.

1924-1925: Maximum stage recorded, 8.6 feet at 7.50 a. m. September 30, 1924 (estimated discharge, 1,390 second-feet); minimum stage not determined.

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

REGULATION.—None.

DIVERSIONS.—None.

ACCURACY.—Stage-discharge relation changed September 30, 1924, May 12, 1925, and many times in August and September, 1925, owing to a removable dam. Rating curves poorly defined. Gage read to hundredths twice daily and corrected for effect of pumping. Daily discharge ascertained by applying mean daily gage height to rating table, except as stated in footnote to daily-discharge table. Records poor.

Discharge measurements of Long Creek at Gastonia, N. C., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Oct. 17.....	<i>Feet</i> 1.82	<i>Sec.-ft.</i> 30.0	June 16.....	<i>Feet</i> 1.55	<i>Sec.-ft.</i> 14.3
May 2.....	1.82	29.0	Sept. 10.....	* 2.37	4.89

* Controlled by new dam.

Daily discharge, in second-feet, of Long Creek near Gastonia, N. C., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1.....	166	30	26	797	44	38	34	30	18	14
2.....	92	28	26	144	46	38	34	28	16	13
3.....	72	28	26	80	60	36	34	28	16	13
4.....	60	28	26	60	48	36	34	32	16	13
5.....	51	28	41	48	46	57	36	28	15	14
6.....	46	28	41	41	44	38	36	28	16	14
7.....	44	28	36	38	41	38	34	28	15	16
8.....	41	28	265	36	41	36	34	28	15	13
9.....	38	28	326	46	46	36	34	26	15	13
10.....	36	28	76	246	51	38	44	26	15	13
11.....	34	28	48	521	76	36	36	26	15	13
12.....	32	28	38	450	57	36	34	54	14	12
13.....	32	28	36	128	46	36	32	25	15	12
14.....	32	28	32	76	46	36	32	24	15	12
15.....	32	28	30	57	46	34	32	22	15	12
16.....	30	28	30	178	46	34	30	20	14	12
17.....	28	26	32	155	51	165	32	19	30	11
18.....	28	26	30	467	44	54	92	28	25	9.7
19.....	28	26	30	435	41	88	38	30	14	11
20.....	28	26	30	535	41	48	32	21	14	11
21.....	28	25	26	155	41	44	30	21	14	10
22.....	28	98	28	88	38	41	32	19	12	9.9
23.....	28	34	28	69	41	38	32	19	14	9.9
24.....	28	30	51	57	41	38	34	19	15	11
25.....	28	30	57	57	41	38	28	19	16	11
26.....	28	28	36	51	38	36	30	17	14	12
27.....	72	28	32	51	36	41	28	18	14	9.5
28.....	34	25	32	46	38	38	28	17	14	11
29.....	30	26	32	51	-----	36	28	18	14	11
30.....	30	28	36	48	-----	34	30	17	14	11
31.....	30	-----	495	44	-----	36	-----	17	-----	11

NOTE.—Discharge Nov 22, Dec. 8, 9, 31, Jan. 1, 10, 12, 16, 20, and Mar. 17 determined by approximate integration of graph based on 2 daily gage readings.

Monthly discharge of Long Creek near Gastonia, N. C., for the year ending September 30, 1925

[Drainage area, 41.9 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	166	28	42.4	1.01	1.16
November.....	98	25	30.2	.721	.80
December.....	495	26	67.0	1.60	1.84
January.....	797	36	170	4.06	4.68
February.....	76	36	45.5	1.09	1.14
March.....	165	34	44.5	1.06	1.22
April.....	92	28	34.8	.831	.93
May.....	54	17	24.3	.580	.67
June.....	30	12	15.6	.372	.42
July.....	16	9.5	11.9	.284	.33

LITTLE SUGAR CREEK NEAR CHARLOTTE, N. C.

LOCATION.—Just above sewage disposal plant of city of Charlotte and below nameless tributary from right, one-fourth mile below mouth of Brier Creek, and 5 miles south of Charlotte, Mecklenburg County.

DRAINAGE AREA.—41.4 square miles (measured on county soil survey map).

RECORDS AVAILABLE.—July 3, 1924, to September 30, 1925.

GAGE.—Vertical enameled staff in two sections on right bank about 400 feet above sewage disposal plant; read by W. F. Simpson.

DISCHARGE MEASUREMENTS.—Made by wading at gage or from lower side of wagon bridge 500 feet downstream.

CHANNEL AND CONTROL.—Creek is a dredged channel through clay subsoil and occasional ledge rock. Control is a compact gravel bar resulting from the wash from a rock ledge just above.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of record, about 12.5 feet during night of August 5, 1925 (estimated discharge, 3,500 second-feet); minimum stage, 0.48 foot several times July 30 to August 1, 1925 (discharge, 1.6 second-feet).

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

DIVERSIONS.—Prior to January 15, 1925, part of sewage of Charlotte emptied into creek above gage. Since that date this sewage has entered below station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation subject to slight shifts. Rating curve fairly well defined between 2 and 500 second-feet; extended above and below. Parallel curves used for periods November 11–20 and June 17–30. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. During days of marked change in stage daily discharge obtained by approximate integration of an estimated graph based on two daily gage readings and additional notes. Records fairly good.

Discharge measurements of Little Sugar Creek near Charlotte, N. C., during the years ending September 30, 1924 and 1925

1924			1925		
Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-feet</i>		<i>Feet</i>	<i>Sec.-feet</i>
July 3.....	1.06	28.8	May 2.....	0.86	15.3
Do.....	1.04	26.4	June 16.....	2.85	291
Aug. 25.....	.84	13.9	Do.....	2.28	182
Oct. 17.....	.90	16.9	Do.....	2.12	160
Nov. 13.....	.92	14.2	June 17.....	.92	23.7
			Sept. 9.....	.56	2.6

* Stage-discharge relation affected by leaves on control.

Daily discharge, in second-feet, of Little Sugar Creek near Charlotte, N. C., for the years ending September 30, 1924 and 1925

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1924				1924				1924			
1.....		16.0	10.4	11.....	29	17.0	8.1	21.....	155	10.9	23
2.....		16.0	42	12.....	25	13.4	8.6	22.....	20.5	10.4	32
3.....	27	14.9	14.9	13.....	53	13.4	7.7	23.....	19.1	10.0	269
4.....	23	15.4	13.4	14.....	23	13.4	421	24.....	167	9.0	25
5.....	23	13.9	8.6	15.....	23	12.8	36	25.....	19.8	11.3	19.8
6.....	23	13.9	8.6	16.....	22	11.8	19.1	26.....	17.7	10.9	26
7.....	62	13.4	7.2	17.....	20.5	11.3	17.0	27.....	16.5	10.4	23
8.....	333	14.9	10.9	18.....	19.1	10.4	14.9	28.....	16.5	8.6	441
9.....	41	12.3	12.3	19.....	23	10.9	16.0	29.....	15.4	8.6	1,350
10.....	60	11.8	8.6	20.....	19.8	10.9	26	30.....	15.4	7.7	285
								31.....	15.4	7.7	.....

Daily discharge, in second-feet, of Little Sugar Creek near Charlotte, N. C., for the years ending September 30, 1924 and 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1.....	53	18.4	17.7	177	32	27	23	17.0	10.0	44	1.6	4.0
2.....	37	17.7	17.0	59	32	26	23	14.9	10.0	5.9	2.0	4.0
3.....	30	18.4	16.5	43	124	24	21	14.9	9.0	4.6	3.0	2.8
4.....	26	18.4	17.0	36	46	24	21	16.0	9.0	4.0	3.4	3.6
5.....	27	19.1	19.1	32	40	28	23	16.5	8.6	6.9	187	3.4
6.....	23	18.4	20.5	30	35	26	25	13.9	8.1	5.6	370	3.2
7.....	23	18.4	18.4	28	32	26	21	13.9	9.0	4.6	10.9	3.2
8.....	22	18.4	124	28	32	24	21	12.8	8.6	3.6	8.6	9.0
9.....	21	18.4	57	62	31	24	21	12.8	8.1	3.4	7.7	3.8
10.....	18.4	18.4	30	579	213	24	24	12.8	8.6	3.0	7.7	3.4
11.....	19.1	15	26	1,780	117	24	24	12.8	6.9	2.8	6.2	5.0
12.....	19.1	15	23	177	61	23	21	37	6.2	3.0	7.7	3.8
13.....	19.1	15	22	72	44	23	21	17.7	6.2	3.2	18.7	2.6
14.....	18.4	17	20.5	47	39	23	18.4	16.5	6.6	4.6	6.6	3.0
15.....	18.4	15	20.5	39	40	23	17.0	16.0	7.2	2.4	5.6	2.8
16.....	18.4	14	21	217	42	23	17.0	14.9	5.6	6.2	5.6	2.6
17.....	18.4	15	23	154	43	303	17.0	13.9	18	2.6	5.9	2.4
18.....	17.7	14	23	704	37	61	96	13.9	13	2.2	5.6	2.4
19.....	17.7	14	23	877	34	73	30	13.9	10	2.0	5.3	2.4
20.....	17.0	14	23	354	34	39	23	13.9	10	3.2	5.0	3.2
21.....	17.7	27	20.5	82	32	32	23	13.9	10	2.6	5.6	2.0
22.....	17.7	167	19.8	60	32	30	17.0	12.8	9	2.6	4.3	2.2
23.....	17.7	24	20.5	51	30	29	17.0	12.3	8	2.4	4.6	2.0
24.....	18.4	24	66	42	30	29	16.0	11.8	9	2.2	5.0	2.2
25.....	17.7	19.8	47	41	29	27	16.0	12.8	12	2.2	5.3	2.0
26.....	17.7	18.4	24	39	27	26	16.0	10.9	7	4.0	4.3	2.4
27.....	25	18.4	24	38	26	28	14.9	10.4	7	3.6	4.3	2.4
28.....	20.5	18.4	23	39	26	27	32	10.4	6	2.6	4.0	2.0
29.....	19.8	18.4	22	37	-----	26	20.5	10.4	6	2.0	4.3	2.2
30.....	18.4	17.0	26	41	-----	24	20.5	10.0	7	1.8	3.8	2.0
31.....	18.4	-----	452	34	-----	23	-----	9.5	-----	1.8	4.6	-----

NOTE.—Discharge determined by approximate integration July 8, 21, 24, Sept. 2, 14, 22, 23, 28-30, Nov. 21, 22, Dec. 31, 1924, Jan. 1, 10-12, 16-20, Feb. 10, Mar. 17, Apr. 18, 28, June 16, Aug. 5, 6, and 13, 1925. Discharge estimated Dec. 27 and 28.

Monthly discharge of Little Sugar Creek near Charlotte, N. C., for the years ending September 30, 1924 and 1925

Month	Discharge in second-feet		
	Maximum	Minimum	Mean
1924			
July 3-31.....	333	15.4	45.8
August.....	17	7.7	12.0
September.....	1,350	7.2	107
1924-25			
October.....	53	17.0	21.7
November.....	167	14.0	22.8
December.....	452	16.5	42.2
January.....	1,780	28	194
February.....	213	26	47.9
March.....	303	23	37.7
April.....	96	14.9	23.3
May.....	37	9.5	14.2
June.....	56	6.0	10.3
July.....	44	1.8	4.70
August.....	370	1.6	23.4
September.....	9	2.0	3.10
The year.....	1,780	1.6	37.2

BROAD RIVER NEAR BOILING SPRINGS, N. C.

LOCATION.—Half a mile above mouth of Sandy Run Creek and $3\frac{1}{2}$ miles southwest of Boiling Springs, Cleveland County.

DRAINAGE AREA.—815 square miles.

RECORDS AVAILABLE.—June 26 to September 30, 1925.

GAGE.—A continuous water-stage recorder on left bank; attended by United States Geological Survey Engineers.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge half a mile downstream.

CHANNEL AND CONTROL.—Channel straight above gage and a sweeping curve below. Banks steep but subject to considerable overflow at high stages. Control is a rock ledge with boulders covered in some places with drifting sand 150 feet below gage; probably subject to slight shifts.

EXTREMES OF DISCHARGE.—Maximum stage during period of record, 2.19 feet from 8 to 9 a. m. August 7 (discharge, 1,610 second-feet); minimum stage, 0.29 foot from 11 p. m. September 21 to 1 a. m. September 22 (discharge, 186 second-feet).

ICE.—No ice effect.

DIVERSIONS.—None.

REGULATION.—Diurnal regulation caused by operation of power plants upon Second Broad and Green Rivers.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting gage-height graph except for days of wide range in stage for which discharge was approximately integrated. Records good.

Discharge measurements of Broad River near Boiling Springs, N. C., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
June 27.....	1.22	740	Aug. 5.....	1.88	1,360
July 3.....	1.02	561	Sept. 10.....	.40	228

Daily discharge, in second-feet, of Broad River near Boiling Springs, N. C., for the year ending September 30, 1925

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1		662	370	355	16		625	400	320
2		625	400	330	17		490	522	400
3		555	345	400	18		460	430	310
4		522	827	370	19		370	430	285
5		400	1,220	270	20		400	355	232
6		683	590	266	21		490	400	241
7		1,220	555	275	22		527	280	236
8		1,170	460	270	23		490	290	262
9		940	400	340	24		711	320	768
10		590	555	270	25		460	340	662
11		555	460	370	26	700	590	345	430
12		400	490	370	27	555	555	270	340
13		522	522	330	28	460	490	355	370
14		522	430	262	29	555	555	340	555
15		522	370	320	30	522	360	290	490
					31		370	285	

Monthly discharge of Broad River near Boiling Springs, N. C., for the year ending September 30, 1925

[Drainage area, 815 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
June 26-30	700	460	558	0.685	0.13
July	1,220	360	575	.706	.81
August	1,220	270	440	,540	.62
September	768	232	357	.438	,49

SECOND BROAD RIVER AT CLIFFSIDE, N. C.

LOCATION.—At Cliffside, Rutherford County, below small creek, a quarter of a mile downstream from dam of Cliffside mills and 2 miles above mouth of river.

DRAINAGE AREA.—230 square miles.

RECORDS AVAILABLE.—June 21 to September 30, 1925.

GAGE.—Gurley weekly graph water-stage recorder on right bank; attended by C. B. Edwards.

DISCHARGE MEASUREMENTS.—Made from cableway at gage.

CHANNEL AND CONTROL.—Channel slightly curved above and below gage. Bed rocky and irregular. Banks sloping, timbered, and subject to slight overflow. Control is an irregular rock ledge 50 feet below gage; permanent. About 14-foot fall to Broad River.

EXTREMES OF DISCHARGE.—Maximum stage during period, 2.94 feet at 7.30 p. m. August 5 (discharge, 1,490 second-feet); minimum stage, 0.44 foot from 4 to 6.45 a. m. June 21 (discharge, 9.6 second-feet).

ICE.—No ice effect.

DIVERSIONS.—None.

REGULATION.—Large diurnal regulation produced by Cliffside mills.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by approximate integration. Records good.

Discharge measurements of Second Broad River at Cliffside, N. C., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
June 16.....	0.45	9.39	July 3.....	1.41	256	Aug. 5.....	1.82	508
June 26.....	1.26	173	Do.....	.63	23.9			

Daily discharge, in second-feet, of Second Broad River at Cliffside, N. C., for the year ending September 30, 1925

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	
1		350	36	57	16		156	45	70	
2			32	59	17		118	114	90	
3			138	116	48	18		120	117	70
4			61	257	91	19		70	114	58
5			16	528	31	20		143	30	33
6		312	57	33	21		135	45	71	
7		385	105	104	22	50	93	38	69	
8		374	60	30	23	170	86	33	67	
9		344	46	109	24	133	119	97	202	
10		136	111	30	25	119	77	59	165	
11		70	100	117	26	81	43	81	107	
12		41	88	80	27	125	120	31	33	
13		158	78	32	28	190	114	88	116	
14		152	83	30	29		100	55	215	
15		145	46	114	30		31	35	108	
					31		60	51		

NOTE.—No record June 27 to July 2; braced figures show estimated mean discharge for periods indicated.

Monthly discharge of Second Broad River at Cliffside, N. C., for the year ending September 30, 1925

[Drainage area, 230 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
June 21-30		50	144	0.626	0.23
July	385	16	149	.648	.75
August	525	30	89.5	.389	.45
September	215	30	81.3	.353	.39

SANDY RUN NEAR BOILING SPRINGS, N. C.

LOCATION.—At county highway bridge, half a mile below mouth of Gray Creek, 1½ miles above confluence with Broad River, and 2½ miles southwest of Boiling Springs, Cleveland County.

DRAINAGE AREA.—67 square miles.

RECORDS AVAILABLE.—May 5 to September 30, 1925.

GAGE.—Enameled vertical staff gage on right bank 100 feet above bridge; read by Mrs. Fannie Davis.

DISCHARGE MEASUREMENTS.—Made by wading or from bridge.

CHANNEL AND CONTROL.—Channel curving above and below gage. Banks high and subject to little overflow. Control is a rock ledge and boulders partly overlain with sand; fairly permanent. About 10-foot fall to Broad River.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, 1.96 feet at 7 a. m. August 4 (discharge, 252 second-feet); minimum stage, 0.32 foot several times in September (discharge, 14 second-feet).

ICE.—No ice effect.

DIVERSIONS.—None.

REGULATION.—Possibly slight regulation by small gristmill above.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Sandy Run Creek near Boiling Springs, N. C., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
May 5.....	Feet 0.74	Sec.-ft. 58.9	June 15.....	Feet 0.54	Sec.-ft. 34.6	Sept. 10.....	Feet 0.37	Sec.-ft. 17.4
May 6.....	.73	51.1	Aug. 5.....	.78	52.7			

Daily discharge, in second-feet, of Sandy Run Creek near Boiling Springs, N. C., for the year ending September 30, 1925

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1.....		35	30	19	17	16.....	53	63	25	22	22
2.....		35	26	17	19	17.....	50	45	22	22	17
3.....		34	25	18	18	18.....	60	50	21	22	16
4.....		34	27	193	16	19.....	56	44	22	23	14
5.....	53	33	28	100	19	20.....	52	31	19	20	14
6.....	53	32	45	142	16	21.....	52	32	22	20	19
7.....	54	35	69	63	16	22.....	46	33	22	17	19
8.....	54	44	33	32	17	23.....	45	30	26	17	19
9.....	50	34	30	32	17	24.....	45	33	99	16	102
10.....	54	33	28	32	17	25.....	45	31	31	17	61
11.....	60	33	26	31	22	26.....	44	26	30	17	26
12.....	87	31	29	26	16	27.....	40	26	23	17	22
13.....	60	31	23	22	22	28.....	41	26	22	16	41
14.....	58	31	25	24	24	29.....	39	33	19	17	54
15.....	55	31	28	22	26	30.....	40	31	19	19	53
						31.....	39		22	18	

Monthly discharge of Sandy Run Creek near Boiling Springs, N. C., for the year ending September 30, 1925

[Drainage area, 67 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
May 5-31.....	87	39	51.3	0.766	0.77
June.....	63	26	34.7	.518	.58
July.....	99	19	29.5	.440	.51
August.....	193	16	34.6	.516	.59
September.....	102	14	26.0	.388	.43

NORTH PACOLET RIVER NEAR TRYON, N. C.

LOCATION.—Below mouth of Horse Creek, 1½ miles above South Carolina line, and 4 miles from Tryon, Polk County.

DRAINAGE AREA.—49.0 square miles (measured on topographic map).

RECORDS AVAILABLE.—May 16, 1924, to December 12, 1925, when station was discontinued.

GAGE.—Staff gage on right bank 250 feet below mouth of Horse Creek; read by Edward Mitchell.

DISCHARGE MEASUREMENTS.—Made by wading or from footbridge 600 feet upstream, discharge of Horse Creek added.

CHANNEL AND CONTROL.—Channel straight 100 feet above and 300 feet below gage. Banks wooded. Left bank steep and not subject to overflow; right

bank steep but overflowed at gage height of 12 feet. Control is a rocky riffle overlain with some sand; fairly permanent. Control for floods is a bottle-neck formation of valley.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.25 feet at 5 p. m. December 8 (discharge, 373 second-feet); minimum stage, 1.50 feet several times in September (discharge, 8.0 second-feet).

1924-1925: Maximum stage recorded, 7.3 feet at 5.30 p. m. November 12, 1925 (estimated discharge, 610 second-feet); minimum stage, same as above.

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

REGULATION.—Slight regulation caused by operation of mills during low water.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 8 and 150 second-feet; extended above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for high water.

Discharge measurements of North Pacolet River near Tryon, N. C., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 16.....	2.05	55.5	May 25.....	2.02	52.0	Sept. 10.....	1.56	12.8
Mar. 19.....	2.43	89.0	July 3.....	1.76	29.3			

Daily discharge, in second-feet, of North Pacolet River near Tryon, N. C., for the period October 1, 1924, to December 12, 1925

Date	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1.....	112	55	50	147	88	69	64	56	46	29	19	21
2.....	92	54	50	107	88	69	64	54	46	28	21	22
3.....	79	53	50	88	92	69	62	56	44	28	22	15
4.....	74	52	50	79	88	69	60	56	43	19	60	16
5.....	69	52	147	69	84	79	88	55	42	84	38	9.6
6.....	69	51	97	69	84	74	84	52	44	38	26	14
7.....	64	51	92	69	84	69	74	53	41	74	25	14
8.....	64	51	290	69	84	69	69	52	41	37	23	14
9.....	59	52	167	79	102	69	69	53	39	29	25	14
10.....	58	52	107	197	88	69	74	51	40	27	23	17
11.....	57	53	88	228	92	69	74	52	38	25	22	13
12.....	58	55	79	157	84	69	69	59	38	24	21	19
13.....	57	54	74	122	84	69	64	55	37	23	22	22
14.....	56	54	69	102	84	69	60	48	39	23	21	18
15.....	55	53	64	92	84	69	60	49	40	24	18	18
16.....	56	51	64	147	84	64	60	46	40	23	17	14
17.....	52	51	60	167	84	117	64	64	40	22	17	13
18.....	51	49	64	290	79	84	64	122	39	21	18	8.0
19.....	53	51	60	228	79	92	60	92	39	19	21	14
20.....	52	51	59	197	79	79	60	79	35	22	21	9.6
21.....	51	52	60	147	79	79	60	69	32	19	13	19
22.....	51	79	59	137	79	74	59	64	28	31	15	13
23.....	51	57	59	122	84	69	58	59	34	26	16	23
24.....	52	52	79	112	79	69	57	56	33	25	16	18
25.....	51	53	69	107	79	69	56	55	29	26	22	15
26.....	60	50	64	102	74	69	56	49	31	26	20	19
27.....	92	52	60	102	74	69	58	48	21	22	15	22
28.....	60	49	59	97	69	64	74	45	25	22	14	28
29.....	59	49	60	97	-----	64	64	47	21	20	19	27
30.....	57	50	64	92	-----	64	56	46	26	21	19	16
31.....	57	-----	177	88	-----	69	-----	46	-----	20	19	-----

Daily discharge, in second-feet, of North Pacolet River near Tryon, N. C., for the period October 1, 1924, to December 12, 1925—Continued

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1925				1925				1925			
1.....	17	38	48	11.....	19	30	47	21.....	24	53	.....
2.....	14	64	51	12.....	19	356	42	22.....	24	52	.....
3.....	18	40	51	13.....	22	122	.....	23.....	24	51	.....
4.....	21	33	51	14.....	46	79	.....	24.....	38	53	.....
5.....	11	27	74	15.....	24	69	.....	25.....	74	47	.....
6.....	11	31	46	16.....	24	60	.....	26.....	38	51	.....
7.....	14	29	51	17.....	33	59	.....	27.....	35	55	.....
8.....	25	60	55	18.....	28	58	.....	28.....	28	49	.....
9.....	28	43	48	19.....	31	57	.....	29.....	26	46	.....
10.....	19	35	55	20.....	23	55	.....	30.....	26	50	.....
								31.....	26	.....	.....

NOTE.—No record Apr. 3 and Aug. 23; discharge estimated. Discharge Nov. 12, 1925, ascertained by approximate integration of graph based on 2 daily gage readings.

Monthly discharge of North Pacolet River near Tryon, N. C., for the period October 1, 1924, to December 12, 1925

[Drainage area, 49.0 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1924-25					
October.....	112	51	62.2	1.27	1.46
November.....	79	49	52.9	1.08	1.20
December.....	290	50	83.6	1.71	1.97
January.....	290	69	126	2.57	2.96
February.....	102	69	83.3	1.70	1.77
March.....	117	64	72.4	1.48	1.71
April.....	88	56	64.7	1.32	1.47
May.....	122	45	57.7	1.18	1.36
June.....	46	21	36.4	.743	.83
July.....	84	19	28.3	.578	.67
August.....	60	13	21.5	.439	.51
September.....	28	8.0	16.8	.343	.38
The year.....	290	8.0	58.8	1.20	16.29
1925					
October.....	74	11	26.1	.533	.61
November.....	356	27	61.7	1.26	1.41
December 1-12.....	74	42	51.6	1.05	.47

SALUDA RIVER NEAR COLUMBIA, S. C.

LOCATION.—A quarter of a mile above site of old Saluda mill and 2 miles above confluence of Saluda and Broad Rivers which form the Congaree at Columbia, Richland County.

DRAINAGE AREA.—2,450 square miles

RECORDS AVAILABLE.—August 14 to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder on left bank; attended by H. F. Miller.

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

CHANNEL AND CONTROL.—Channel straight to control. Right bank a rocky, timbered, low bluff subject to slight overflow; left bank flood plain 300 feet wide, partly timbered, partly cultivated, and heavily fringed with trees along river. Control is an irregular, smooth granite ledge entirely across river just below gage; permanent. Gage height of zero flow, about -1.6 feet; determined August 31, 1925.

EXTREMES OF DISCHARGE.—Maximum stage during period, 2.20 feet at 7 p. m. September 25 (discharge, 2,020 second-feet); minimum stage, 0.25 foot at 9 a. m. September 10 (discharge, 125 second-feet).

ICE.—No ice effect.

DIVERSIONS.—None.

REGULATION.—Diurnal regulation produced by mills on headwaters.

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

Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting gage-height graph, except for days of wide range in stage for which discharge was approximately integrated. Records excellent.

The following discharge measurements were made:

August 31, 1925: Gage height, 0.40 foot; discharge, 179 second-feet.

September 8, 1925: Gage height, 0.45 foot; discharge, 198 second-feet.

Daily discharge, in second-feet, of Saluda River near Columbia, S. C., for the year ending September 30, 1925

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		245	11		270	21	465	245
2		230	12		270	22	465	260
3		161	13		382	23	395	220
4		270	14	540	670	24	318	895
5		230	15	625	402	25	180	1,700
6		184	16	502	270	26	168	1,630
7		265	17	540	362	27	147	1,410
8		230	18	625	540	28	180	972
9		158	19	488	409	29	168	625
10		175	20	488	288	30	220	540
						31	184	

Monthly discharge of Saluda River near Columbia, S. C., for the year ending September 30, 1925

[Drainage area, 2,450 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
August 14-31	625	147	373	0.152	0.10
September	1,700	158	484	.198	.22

SAVANNAH RIVER BASIN

CHATTOOGA RIVER NEAR TALLULAH FALLS, GA.

LOCATION.—300 feet above mouth of Camp Creek, 5½ miles above confluence with Tallulah River, and 8 miles east of Tallulah Falls, Rabun County.

DRAINAGE AREA.—256 square miles (measured on topographic maps).

RECORDS AVAILABLE.—January 1, 1917, to January 28, 1918; September 25, 1918, to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder installed on right bank August 17, 1917; attended by employees of Georgia Railway & Power Co.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Section under cable may shift some. Control is a solid rock shoal about 100 feet below gage; permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, 6.10 feet at 7 p. m. December 8 (discharge, 4,840 second-feet); minimum stage, -0.02 foot from 10 a. m. September 21 to 10 a. m. September 22 (discharge, 94 second-feet).

1917-1925: Maximum stage recorded, 12.2 feet March 24, 1917 (discharge, 13,900 second-feet); minimum stage, -0.02 foot from 10 a. m. September 21 to 10 a. m. September 22, 1925 (discharge, 94 second-feet).

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

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 150 and 2,500 second-feet; extended above. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting gage-height graph, except for days of wide range in stage for which discharge was approximately integrated and except as stated in footnote to daily-discharge table. Records good.

COOPERATION.—Gage-height record furnished by Georgia Railway & Power Co.

The following discharge measurement was made:

August 8, 1925: Gage height, 0.38 foot; discharge, 185 second-feet.

Daily discharge, in second-feet, of Chattooga River near Tallulah Falls, Ga., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	865	450	390	1,970	980	655	655	538	450	338	225	132
2.....	755	450	390	1,170	980	705	655	538	450	320	225	195
3.....	655	450	390	980	980	705	630	515	430	302	225	164
4.....	650	450	390	810	980	655	630	515	410	355	210	159
5.....	605	450	853	755	980	655	755	515	410	410	255	154
6.....	560	450	755	755	920	705	810	515	390	390	210	151
7.....	538	430	515	705	810	655	755	492	390	470	195	149
8.....	538	430	2,430	655	810	655	705	492	372	470	195	144
9.....	515	430	2,140	865	980	655	655	492	372	538	192	139
10.....	492	430	1,100	2,100	1,100	605	655	492	372	372	189	134
11.....	492	410	810	2,250	1,100	560	865	515	372	390	187	130
12.....	492	410	655	1,880	1,040	538	755	538	355	338	240	127
13.....	470	410	582	1,310	980	538	705	755	355	355	184	123
14.....	470	410	582	1,170	865	515	655	755	355	320	170	127
15.....	470	390	515	1,100	865	515	655	605	355	302	167	132
16.....	470	390	492	1,550	980	515	655	560	355	355	167	123
17.....	470	390	470	1,790	920	810	630	538	410	320	164	127
18.....	470	410	450	3,230	865	810	655	605	372	285	162	118
19.....	470	410	470	2,960	865	1,100	655	865	372	285	159	106
20.....	470	410	538	2,250	810	980	655	705	355	285	159	102
21.....	470	410	515	1,710	755	810	605	605	338	270	157	96
22.....	450	430	492	1,470	755	755	605	560	320	270	154	100
23.....	450	410	492	1,390	810	755	605	515	320	302	151	112
24.....	450	410	705	1,240	810	755	605	515	320	270	146	159
25.....	450	390	865	1,170	755	755	582	515	320	255	144	144
26.....	450	390	655	1,100	755	705	582	492	302	255	141	146
27.....	515	390	605	1,100	705	705	605	492	285	240	136	141
28.....	515	390	582	1,040	705	705	582	492	285	225	134	144
29.....	470	390	560	1,040	-----	705	582	470	410	225	132	146
30.....	450	390	582	1,040	-----	655	560	470	390	225	130	141
31.....	450	-----	1,610	980	-----	655	-----	470	-----	225	134	-----

NOTE.—River stage below recorder intake for all but parts of 2 days from July 26 to Sept. 16; discharge estimated from weekly gage readings and by comparison of flow with that for Valley River at Tomotla, N. C. Intake lowered Sept. 17.

Monthly discharge of Chattooga River near Tallulah Falls, Ga., for the year ending September 30, 1925

[Drainage area, 256 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	865	450	517	2.02	2.33
November.....	450	390	415	1.62	1.81
December.....	2,430	390	728	2.84	3.27
January.....	3,230	655	1,400	5.47	6.31
February.....	1,100	705	888	3.47	3.61
March.....	1,100	515	693	2.71	3.12
April.....	865	560	657	2.57	2.87
May.....	865	470	553	2.16	2.49
June.....	450	285	366	1.43	1.60
July.....	538	225	321	1.25	1.44
August.....	255	130	175	.684	.76
September.....	195	96	136	.531	.56
The year.....	3,230	96	571	2.23	30.23

TUGALOO RIVER NEAR HARTWELL, GA.

LOCATION.—Three-fourths of a mile upstream from Beaverdam Creek and 11 miles north of Hartwell, Hart County, Ga.

DRAINAGE AREA.—905 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 28 to September 30, 1925.

GAGE.—Gurley 7 day water-stage recorder on right bank; attended by P. N. O'Barr.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Channel straight for 1,000 feet above and below gage. Banks fairly steep and high; not subject to overflow. Control is a solid rock outcrop across stream 1,000 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during period of record, 3.24 feet at 5 a. m. May 19 (discharge, 3,250 second-feet); minimum stage, about 0.0 foot September 7 (discharge, 210 second-feet).

ICE.—No ice effect.

DIVERSIONS.—None.

REGULATION.—Pronounced diurnal regulation produced by power plants above.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 300 and 2,000 second-feet; extended above and below. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by averaging gage heights of two hourly periods determined by inspection of gage-height graph, except for days of wide range in stage for which discharge was approximately integrated. Records good.

Discharge measurements of Tugaloo River near Hartwell, Ga., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
Apr. 17.....	Feet 2.26	Sec.-ft. 1,710	Apr. 27.....	Feet 1.80	Sec.-ft. 1,230	Aug. 10.....	Feet 0.65	Sec.-ft. 383
Apr. 18.....	1.95	1,330	Apr. 28.....	2.10	1,540	Do.....	.52	337
Apr. 20.....	1.28	718	June 11.....	1.68	1,110			

Daily discharge, in second-feet, of Tugaloo River near Hartwell, Ga., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		1,690	580	775	470	240	16		1,690	1,110	775	325	340
2		1,220	1,410	1,150	520	300	17		1,160	730	775	262	325
3		1,060	960	650	372	288	18		910	1,060	690	846	385
4		615	910	1,010	672	262	19		2,220	910	495	922	572
5		1,450	1,060	650	1,140	667	20		1,390	1,060	650	550	430
6		1,390	1,450	730	950	390	21		1,570	470	615	550	250
7		1,330	1,390	1,110	775	240	22		1,450	580	730	580	400
8		1,390	775	1,330	748	288	23		1,450	470	650	495	275
9		1,690	1,110	820	550	550	24		1,220	820	615	300	776
10		1,060	1,010	775	372	650	25		580	775	470	340	450
11		820	910	1,110	470	430	26		1,570	730	495	1,030	690
12		1,390	820	615	699	550	27		1,220	650	520	1,060	470
13		1,390	1,060	450	710	410	28		1,450	1,160	690	823	910
14		1,450	1,060	690	942	372	29		1,570	1,280	550	580	690
15		1,690	520	650	865	372	30		1,820	1,060	650	495	300
							31		1,690		450	275	

NOTE.—Stage below recorder intake Sept. 1 and 7; also no record Sept. 29 and 30; discharge estimated by comparison with flow of Chattooga River near Tallulah Falls, Ga.

Monthly discharge of Tugaloo River near Hartwell, Ga., for the year ending September 30, 1925

[Drainage area, 905 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
April 28-30	1,820	1,450	1,610	1.78	0.20
May	2,220	580	1,330	1.47	1.70
June	1,450	470	876	.968	1.09
July	1,330	450	721	.797	.92
August	1,140	262	635	.702	.81
September	776	240	413	.456	.51

APALACHICOLA RIVER BASIN

CHATTAHOOCHEE RIVER AT WEST POINT, GA.

LOCATION.—Near West Point waterworks pumping plant, just below Oseligee Creek, one-fourth mile east of Alabama-Georgia State line in Troup County, and 1 mile upstream from West Point railroad station. Prior to October 20, 1912, station was at Montgomery Street Bridge in West Point.

DRAINAGE AREA.—3,300 square miles.

RECORDS AVAILABLE.—July 30, 1896, to September 30, 1925.

GAGE.—A continuous water-stage recorder in concrete stilling well on right bank, 500 feet below West Point waterworks pumping plant; used since January 26, 1925; inspected by Will Speer. Gage used January 14, 1920, to January 25, 1925, was a vertical staff in two sections on the right and left bank of the river opposite the pumping plant. The recording gage is set to the same datum as the staff but reads about 0.08 foot lower during low stages because of slope of river.

DISCHARGE MEASUREMENTS.—Made from Montgomery Street Bridge 1 mile downstream or by boat or wading during extremely low stages. No tributaries enter between gage and bridge.

CHANNEL AND CONTROL.—Bed rough and rocky; fairly permanent. Banks subject to overflow at high stages. Control for ordinary stages is a rock ledge extending across river just below gage; for higher stages, Langdale Dam 5 miles downstream forms control, and during extreme floods the Goat Rock Dam probably has some effect.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 24.6 feet at 6 a. m. January 19 (discharge, 90,300 second-feet); minimum stage, 1.64 feet September 12 (discharge, 224 second-feet).

1896-1925: Maximum stage recorded, 30.0 feet at 2 p. m. December 10, 1919 (discharge, 134,000 second-feet); minimum discharge, that of September 12, 1925.

ICE.—None.

REGULATION.—Operation of power plants a great distance upstream causes some diurnal fluctuation.

ACCURACY.—Stage-discharge relation changed during flood of January 19. Rating curves used before and after January 19 well defined below 60,000 second-feet and fairly well defined above. Gage read three times daily to tenths prior to January 25; operation of water-stage recorder satisfactory since that date. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Chattahoochee River at West Point, Ga., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 9	2.85	1,920	Jan. 27	5.63	6,870	May 9	3.42	2,520
Do	2.97	2,160	Do	5.63	7,080	June 4	2.92	1,740
Nov. 13	2.68	1,580	Feb. 21	4.82	5,490	July 17	2.70	1,400
Nov. 28	2.77	1,720	Do	4.80	5,700	July 25	3.12	2,030
Do	2.85	1,920	Feb. 27	4.48	4,550	Aug. 8	2.30	715
Dec. 2	2.75	1,650	Apr. 6	5.15	6,380	Aug. 9	2.38	894
Jan. 17	19.43	50,300	Apr. 13	4.39	4,650	Do	2.38	670
Jan. 20	21.50	55,800	May 8	3.44	2,520	Sept 9	1.90	401

Daily discharge, in second-feet, of Chattahoochee River at West Point, Ga., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,480	1,900	1,580	19,600	6,000	4,520	4,410	2,720	2,110	1,060	848	230
2	4,050	2,060	1,740	19,400	5,880	4,410	4,300	2,720	1,840	1,260	908	230
3	3,840	1,820	1,740	17,600	7,440	4,190	4,190	2,920	1,780	1,190	778	230
4	3,240	1,900	1,580	10,100	6,720	4,410	3,970	2,530	1,750	1,570	734	230
5	3,050	1,580	1,660	5,860	6,000	5,200	5,310	2,720	1,910	1,550	690	295
6	2,320	1,580	1,980	4,920	5,660	5,310	6,480	2,720	1,860	1,630	650	330
7	2,060	1,820	2,240	4,480	5,310	5,080	5,310	2,620	1,810	2,020	712	455
8	2,500	1,740	3,050	4,050	5,080	4,630	4,850	2,530	1,900	3,120	767	410
9	1,900	2,320	12,800	3,840	5,310	4,190	4,520	2,620	1,810	3,640	872	410
10	1,980	1,660	12,400	11,400	6,240	4,080	4,410	2,440	3,120	3,860	860	316
11	1,740	1,580	10,400	35,900	5,770	4,190	4,960	2,380	2,920	3,750	701	260
12	1,820	1,980	5,620	41,200	5,420	4,190	5,080	2,920	2,250	3,120	670	224
13	2,060	1,580	4,050	33,600	5,420	4,080	4,520	4,080	2,160	1,830	756	254
14	1,420	1,740	3,440	27,400	4,960	3,860	4,410	3,860	1,950	1,540	690	260
15	1,900	1,740	2,680	10,800	4,740	4,190	3,860	3,120	1,670	1,280	590	281
16	1,500	1,820	2,680	29,500	5,420	4,080	3,750	2,720	1,620	1,300	563	338
17	1,740	1,660	2,500	55,400	10,400	7,440	3,540	3,340	1,590	1,340	623	338
18	1,740	1,660	2,500	80,400	9,650	18,000	3,540	5,540	1,570	1,240	590	370
19	1,820	1,580	2,320	85,000	7,440	14,000	3,440	4,630	1,370	1,060	527	288
20	1,580	1,420	2,240	64,400	6,240	11,900	3,440	5,200	1,830	946	500	370
21	1,500	1,820	2,500	44,800	5,540	9,400	3,220	4,520	1,550	836	482	330
22	1,740	1,980	2,240	33,400	5,420	7,920	3,120	3,750	1,480	920	437	302
23	1,420	2,500	2,060	13,000	5,080	6,480	3,120	3,120	1,240	1,730	410	260
24	1,580	2,240	4,920	10,200	5,080	5,770	2,920	2,920	2,620	1,310	1,860	370
25	1,580	2,320	13,600	9,150	4,740	5,310	3,220	2,530	1,370	1,780	410	248
26	1,980	2,240	9,600	8,400	4,630	4,960	3,120	2,340	1,240	1,780	330	428
27	2,500	1,980	5,860	7,440	4,850	5,200	2,920	2,320	1,300	1,220	330	402
28	2,680	1,900	4,700	7,200	4,630	5,310	2,720	2,180	1,360	1,050	295	660
29	2,320	1,740	3,640	6,720	-----	4,850	2,920	2,070	1,220	1,250	260	545
30	2,240	2,060	3,440	6,480	-----	4,520	2,820	2,050	1,110	985	295	464
31	2,060	-----	6,850	6,000	-----	4,520	-----	2,000	-----	884	260	-----

Monthly discharge of Chattahoochee River at West Point, Ga., for the year ending September 30, 1925

[Drainage area, 3,300 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	4,480	1,420	2,200	0.667	0.77
November.....	2,500	1,420	1,860	.564	.63
December.....	13,600	1,580	4,470	1.35	1.56
January.....	85,000	3,840	23,100	7.00	8.07
February.....	10,400	4,630	5,900	1.79	1.86
March.....	18,000	3,860	6,010	1.82	2.10
April.....	6,480	2,720	3,950	1.20	1.34
May.....	5,540	2,000	3,020	.915	1.05
June.....	3,120	1,110	1,730	.524	.58
July.....	3,860	836	1,700	.515	.59
August.....	908	260	578	.175	.20
September.....	660	224	333	.101	.11
The year.....	85,000	224	4,590	1.39	18.86

CHIPOLA RIVER NEAR ALTHA, FLA.

LOCATION.—At Willis highway bridge, 1 mile above Look-and-Tremble Shoal, 3 miles above mouth of Tenmile Creek, and 4 miles southwest of Altha, Calhoun County.

DRAINAGE AREA.—740 square miles.

RECORDS AVAILABLE.—November 21, 1912, to December 31, 1913; September 21, 1921, to September 30, 1925.

GAGE.—Chain gage attached to upstream hand rail of bridge; read by A. A. Allen and E. H. S. Beall. Original gage was vertical staff spiked to cedar stump on left bank, 75 feet above bridge. On April 22, 1913, a chain gage was attached to upstream handrail of bridge. This bridge was replaced later, and on September 21, 1921, the present gage was installed on the new bridge. Datum unchanged.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge.

CHANNEL AND CONTROL.—Bed is rough with bottom of soft limestone; banks steep and are rarely overflowed. Rock shoal, 1 mile below gage, forms excellent control for low and medium stages. High-water control indefinite.

EXTREMES OF DISCHARGE.—1912–1921; 1921–1925: Maximum stage recorded, 23.7 feet at 11.15 a. m. January 24, 1925 (discharge, 6,340 second-feet); minimum stage, 8.49 feet January 7, 1922 (discharge, 440 second-feet).

REGULATION.—Slight regulation during low-water season caused by small power plant on Dry Creek, several miles above gage.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined throughout. Gage read to hundredths once daily except Sundays and holidays. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of Chipola River near Altha, Fla., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
Nov. 19.....	Feet 9.43	Sec.-ft. 916	Jan. 19.....	Feet 20.02	Sec.-ft. 5,060	Sept. 24.....	Feet 8.71	Sec.-ft. 596
Jan. 15.....	13.87	2,810	Feb. 25.....	12.36	2,250			
Jan. 17.....	15.15	3,350	July 22.....	9.42	926			

*Daily discharge, in second-feet, of Chipola River near Altha, Fla., for the year ending
September 30, 1925*

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	2,910	1,740	874	2,300	3,100	2,100	1,140	874	820	820	820	682
2.....	2,640	1,440	874	2,330	2,980	2,020	1,090	874	765	820	765	710
3.....	2,330	1,140	874	2,330	3,320	1,860	1,090	847	682	820	710	599
4.....	2,100	1,040	765	2,540	3,240	1,780	1,090	820	682	802	682	571
5.....	1,920	1,040	765	2,760	3,170	1,860	1,220	820	765	783	655	571
6.....	1,740	982	928	2,910	3,060	1,780	1,340	820	765	765	765	608
7.....	1,620	820	955	2,760	2,980	1,740	1,340	820	792	820	765	645
8.....	1,570	874	982	2,720	3,000	1,680	1,290	765	820	928	765	682
9.....	1,440	847	1,090	3,060	3,020	1,620	1,390	820	765	874	765	710
10.....	1,480	820	1,140	2,490	2,910	1,660	1,390	792	820	874	765	682
11.....	1,340	820	1,240	2,660	2,790	1,570	1,190	765	820	874	710	571
12.....	1,320	820	1,040	2,830	2,680	1,480	1,140	820	874	847	765	515
13.....	1,290	820	1,190	2,680	2,490	1,390	1,090	982	928	820	765	515
14.....	1,190	820	1,220	2,830	2,410	1,440	1,040	1,190	928	820	765	515
15.....	1,140	765	1,240	2,910	2,450	1,360	1,040	1,190	928	820	765	515
16.....	1,040	846	1,290	3,170	2,490	1,290	1,090	1,090	874	874	765	515
17.....	1,090	928	1,240	3,240	2,530	1,480	1,040	1,090	874	820	765	543
18.....	1,090	820	1,190	4,140	2,600	1,570	1,040	1,090	874	928	627	571
19.....	1,060	928	1,140	5,050	2,600	1,480	984	1,040	820	955	627	543
20.....	1,040	928	1,140	5,160	2,530	1,480	928	1,040	820	982	599	585
21.....	1,040	928	1,090	5,160	2,450	1,390	1,040	1,040	820	982	599	627
22.....	1,040	874	1,040	5,780	2,360	1,480	928	982	820	928	765	599
23.....	1,040	901	1,040	6,280	2,270	1,570	928	928	765	928	765	571
24.....	1,040	928	1,040	6,340	2,180	1,390	928	928	682	765	765	571
25.....	1,040	765	1,010	5,840	2,220	1,530	982	928	765	710	710	571
26.....	1,120	928	982	5,330	2,260	1,240	928	874	765	765	710	571
27.....	1,190	928	982	4,560	2,020	1,290	874	874	820	820	710	557
28.....	1,190	928	1,110	4,120	2,180	1,240	874	874	847	820	571	543
29.....	1,240	928	1,240	3,800	-----	1,190	874	874	874	820	571	710
30.....	2,060	901	1,240	3,800	-----	1,140	874	856	820	820	626	599
31.....	2,180	-----	2,260	3,210	-----	1,140	-----	838	-----	820	682	-----

NOTE.—Gage not read Sundays or holidays; discharge interpolated.

*Monthly discharge of Chipola River near Altha, Fla., for the year ending September
30, 1925*

[Drainage area, 740 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	2,910	1,040	1,470	1.99	2.29
November.....	1,740	765	942	1.27	1.42
December.....	2,260	765	1,100	1.49	1.72
January.....	6,340	2,300	3,710	5.01	5.78
February.....	3,320	2,020	2,650	3.58	3.73
March.....	2,100	1,140	1,520	2.05	2.36
April.....	1,390	874	1,070	1.45	1.62
May.....	1,190	765	921	1.24	1.43
June.....	928	682	813	1.10	1.23
July.....	982	716	846	1.14	1.31
August.....	820	571	712	.962	1.11
September.....	710	515	592	.800	.89
The year.....	6,340	515	1,360	1.84	24.89

CHOCTAWHATCHEE RIVER BASIN

CHOCTAWHATCHEE RIVER NEAR NEWTON, ALA.

LOCATION.—Near highway bridge on Newton-Ozark Road, 1 mile north of Newton, Dale County, and 8 miles above mouth of Little Choctawhatchee River.

DRAINAGE AREA.—720 square miles (measured on base map of Alabama; scale, 1:500,000).

RECORDS AVAILABLE.—June 11 to October 13, 1906; April 22, 1907, to August 22, 1908; October 20, 1911, to August 3, 1912; November 29, 1921, to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder in concrete stilling well on left bank, 700 feet above highway bridge; installed April 11, 1925; inspected by L. L. Davenport. This gage is at the same location and set to the same datum as the gage used since 1921, which was washed away during the flood of January 11, 1925.

DISCHARGE MEASUREMENTS.—Made from cable 100 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of marl formation; permanent. Low-water control is low marl shoal 100 feet below gage; probably permanent. High-water control not determined.

EXTREMES OF DISCHARGE.—Maximum stage during year not determined; a stage of 25.8 feet on January 11 destroyed the gage; this was followed by a second rise, which reached a stage of 28 feet or more on January 17. Minimum stage, -1.3 feet several days in September (discharge, 62 second-feet).

1906-1908; 1911-12; 1921-1925: Maximum and minimum stages recorded, same as given above.

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

REGULATION.—Possibly slight regulation from gristmill dams above.

ACCURACY.—Stage-discharge relation changed during flood of January 11. Rating curve used prior to January 11 well defined between 250 and 3,000 second-feet; extended above and below these limits. Rating curve used since January 11 well defined between 60 and 1,500 second-feet, and fairly well defined between 1,500 and 10,000 second-feet. Daily discharge ascertained by applying mean daily gage height to rating table except for days of considerable fluctuation in stage, for which it was ascertained by averaging bihourly discharge, and except as indicated in footnote to daily-discharge table. Records good except for extremely high and low stages and for estimated periods, for which they are fair.

Discharge measurements of Choctawhatchee River near Newton, Ala., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 16.....	0.63	282	Jan. 25.....	4.42	2,590	June 3.....	0.12	173
Jan. 13.....	16.83	9,430	Feb. 22.....	2.34	1,080	July 18.....	.66	297
Jan. 14.....	7.25	4,250	Feb. 26.....	2.23	1,050	July 24.....	.48	224
Jan. 16.....	7.01	4,390	Apr. 7.....	1.86	798	Sept. 22.....	-1.20	70
Do.....	9.72	5,930	Apr. 11.....	1.50	596	Sept. 26.....	-1.06	73

Daily discharge, in second-feet, of Choctawhatchee River near Newton, Ala., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Apr.	May	June	July	Aug.	Sept.
1	862	305	302	3,580	-----	268	186	184	276	131
2	612	301	299	2,910	-----	258	179	169	265	122
3	482	297	305	2,160	-----	248	172	156	204	114
4	402	294	308	1,940	-----	250	165	152	177	109
5	418	291	332	1,560	-----	252	152	150	179	104
6	390	287	414	1,310	-----	248	156	400	168	97
7	398	283	406	1,060	-----	230	208	490	156	99
8	342	279	562	960	-----	222	206	450	152	104
9	308	275	1,340	928	-----	228	193	550	150	99
10	281	272	1,620	1,420	-----	228	480	650	150	86
11	251	275	1,420	8,630	635	218	516	542	150	74
12	244	275	1,170	14,900	592	240	408	393	160	80
13	237	278	810	9,910	538	240	330	276	175	89
14	230	293	669	3,560	508	238	297	228	180	89
15	220	293	570	1,490	484	220	270	228	186	86
16	215	284	513	6,800	468	206	225	260	196	95
17	220	272	490	-----	444	206	218	225	152	95
18	222	278	482	-----	420	252	222	276	140	86
19	215	284	408	-----	400	365	202	210	122	89
20	212	278	454	-----	386	412	200	216	120	86
21	208	281	426	-----	379	379	204	198	116	89
22	200	296	422	-----	372	309	189	169	116	86
23	189	284	430	-----	372	270	150	174	100	86
24	185	296	560	-----	365	238	150	250	93	86
25	196	308	960	-----	351	258	182	228	90	92
26	338	317	1,060	-----	334	337	291	200	90	89
27	430	314	995	-----	324	268	248	195	92	104
28	446	311	830	-----	309	225	276	171	95	150
29	402	308	675	-----	294	204	240	228	101	152
30	356	305	1,040	-----	276	193	222	324	124	480
31	317	-----	3,050	-----	-----	187	-----	324	124	-----

NOTE.—Gage height estimated Oct. 4-11; partly estimated Oct. 14, Nov. 1, Jan. 10-16, Apr. 11, July 4, 11, Aug. 15, 18, 29, and Sept. 10-27. Gage-height record missing Oct. 12, 13, Nov. 2-8, July 5-10, Aug. 9-14, and 23-28; discharge estimated by comparison with records for Bellwood. Gage washed out Jan. 12; no record Jan. 17 to Apr. 10.

Monthly discharge of Choctawhatchee River near Newton, Ala., for the year ending September 30, 1925

[Drainage area, 720 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	862	185	323	0.449	0.52
November	317	272	290	.403	.45
December	3,050	299	754	1.05	1.21
January 1-16	14,900	928	3,940	5.47	3.25
April 11-30	635	276	413	.574	.43
May	412	187	255	.354	.41
June	516	150	237	.329	.37
July	650	150	280	.389	.45
August	276	90	148	.206	.24
September	480	74	112	.155	.17

CHOCTAWHATCHEE RIVER NEAR BELLWOOD, ALA.

LOCATION.—Half a mile below Chalkers Bluff Dam site of the city of Dotham, 1½ miles above Central of Georgia Railway bridge, and 2½ miles east of Bellwood, Geneva County.

DRAINAGE AREA.—1,260 square miles (measured on soil survey maps of the United States Department of Agriculture by the Ludlow Engineers Winston-Salem, N. C.).

RECORDS AVAILABLE.—December 11, 1921, to October 31, 1925, when station was discontinued.

GAGE.—Gurley 7-day water-stage recorder on left bank of river, referred to inside and outside staff gages; inspected by Rush Childs and J. W. Childs.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet above gage for stages below 8 feet (discharge, 4,400 second-feet); above that point it is impossible to obtain measurements. See under "Channel and control."

CHANNEL AND CONTROL. Bed sandy and shifting. Above gage height 8 feet right bank is overflowed some distance above gage and river flows around gage in several channels. No well-defined control.

EXTREMES OF DISCHARGE.—1921–1925; Maximum stage 19.95 feet, probably on January 19, 1925 (discharge, 26,600 second-feet); minimum stage, -0.5 foot September 26, 1925 (discharge, 175 second-feet).

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

REGULATION.—Some diurnal fluctuation caused by operation of Houston Power Co.'s plant on Little Choctawhatchee River 16 miles above.

ACCURACY.—Stage-discharge relation fairly permanent. Rating curve well defined below 2,500 second-feet; roughly defined above 2,500 second-feet on the basis of two high-water measurements which were partly estimated. Operation of water-stage recorder fairly satisfactory except for periods of extreme high and low stages. Daily discharge ascertained by applying mean daily gage height to rating table except for periods of considerable fluctuation in stage, for which it was ascertained by averaging bihourly discharge, and except as indicated in footnote to table of daily discharge. Records good below 4,000 second-feet, except for estimated periods, for which they are fair; records above 4,000 second-feet, fair to poor.

Discharge measurements of Choctawhatchee River near Bellwood, Ala., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 16.....	0.58	485	Feb. 23.....	4.89	1,940	July 18.....	1.53	736
Jan. 13.....	14.46	*15,100	Apr. 7.....	3.68	1,510	Sept. 22.....	-.35	204
Jan. 22.....	12.59	†11,100	June 2.....	.50	453	Sept. 25.....	-.37	195

* Measured discharge, 10,100 second-feet; estimated overflow, 5,000 second-feet.

† Measured discharge, 8,560 second-feet; estimated overflow, 2,500 second-feet.

Daily discharge, in second-feet, of Choctawhatchee River near Bellwood, Ala., for the period October 1, 1924, to October 31, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
1.....	1,430	575	530	5,280	2,990	1,760	1,100	575	412	475	488		710
2.....	1,100	575	530	4,440	2,930	1,850	1,060	575	412	400	425		710
3.....	920	545	475	3,360	3,420	1,670	1,020	590	412	388	412		740
4.....	830	530	488	2,650	3,290	1,590	1,100	635	400	438	425		560
5.....	770	462	605	2,180	3,110	1,630	1,590	665	475	530	425		462
6.....	740	462	740	1,800	2,820	1,670	1,630	650	488	867	425		412
7.....	695	475	725	1,510	2,650	1,590	1,470	575	500	860	438		375
8.....	635	500	725	1,350	2,430	1,510	1,270	530	515	770	450		362
9.....	605	560	2,020	1,350	2,820	1,470	1,160	530	475	1,060	400	245	350
10.....	590	530	2,540	1,900	3,680	1,430	1,130	530	748	1,200	362		325
11.....	515	545	2,180	-----	3,350	1,350	1,130	605	920	990	362		250
12.....	462	560	1,670	-----	2,930	1,350	1,130	650	990	800	400		225
13.....	438	560	1,270	-----	2,600	1,310	1,020	650	890	665	462		275
14.....	475	575	1,020	-----	2,380	1,310	1,020	620	725	488	462		275
15.....	560	560	920	-----	2,280	1,310	990	530	650	450	462		575
16.....	575	450	860	-----	2,180	1,430	955	515	515	530	515		545
17.....	545	462	830	-----	1,590	1,590	955	545	488	515	462		545
18.....	462	462	800	-----	2,870	1,940	890	695	475	710	375		530
19.....	450	475	1,130	-----	2,540	1,940	800	860	488	650	362	200	920
20.....	438	560	800	-----	2,280	2,080	770	830	605	560	375		695
21.....	438	560	740	-----	2,080	1,760	770	800	590	545	338		462
22.....	425	560	725	11,200	2,030	1,760	800	710	575	515	325	200	462
23.....	412	540	770	6,980	2,130	1,670	800	575	530	462		200	388
24.....	425	555	860	5,120	2,480	1,510	800	610	488	545		200	462
25.....	475	570	1,490	4,610	2,130	1,430	800	530	400	635		200	450
26.....	695	590	1,390	4,220	1,980	1,350	770	710	608	545		175	545
27.....	830	535	1,270	3,940	2,130	1,270	740	650	770	575		315	605
28.....	800	490	1,160	3,800	2,230	1,310	710	605	695	530			665
29.....	725	462	990	3,680	-----	1,240	575	515	650	450			438
30.....	695	500	1,260	3,480	-----	1,160	545	462	620	488			545
31.....	605	-----	3,600	3,230	-----	1,130	-----	438	-----	488	-----		515

NOTE.—Gage height partly estimated Oct. 11, 12, Nov. 16, 22, 29, 1924, Jan. 10, 22, Aug. 9-12, 19, 21, 22-25-27, and Oct. 10, 1925. Mean gage height based on 1 daily staff gage reading Oct. 11-31, 1925. Gage-height record missing Nov. 23-28, Aug. 23-31, Sept. 1-21, 23, and 24; discharge estimated on basis of records for Newton. No record Jan. 11-21. Braced figures show mean discharge for period included.

Monthly discharge of Choctawhatchee River near Bellwood, Ala., for the period October 1, 1924, to October 31, 1925

[Drainage area, 1,260 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1924-25					
October.....	1,430	412	637	0.506	0.58
November.....	590	450	526	.417	.47
December.....	3,600	475	1,130	.897	1.03
February.....	3,680	1,980	2,610	2.07	2.16
March.....	2,080	1,130	1,530	1.21	1.40
April.....	1,630	545	983	.780	.87
May.....	860	438	609	.483	.56
June.....	990	400	584	.463	.52
July.....	1,200	388	617	.490	.56
August.....	515	-----	387	.307	.35
September.....	530	175	247	.196	.22
1925					
October.....	920	225	501	.398	.46

CHOCTAWHATCHEE RIVER NEAR GENEVA, ALA.

LOCATION.—At highway bridge three-fourths mile above mouth of Double Bridges Creek, 1 mile from Geneva, Geneva County, and 1½ miles above confluence with Pea River.

DRAINAGE AREA.—1,380 square miles (measured on base map of Alabama; scale, 1:500,000).

RECORDS AVAILABLE.—June 12, 1922, to November 21, 1925, when station was discontinued. Gage-height records August 26 to December 31, 1904.

GAGE.—Chain gage on downstream side of highway bridge, installed June 18, 1922; read by W. L. McLeod.

DISCHARGE MEASUREMENTS.—Made from downstream side of highway bridge.

CHANNEL AND CONTROL.—Channel straight for 200 feet above and half a mile below gage; banks subject to overflow. Bed of stream firm sand and rock; probably permanent.

EXTREMES OF DISCHARGE.—1922-1925: Maximum stage recorded, 33.0 feet about 1 a. m. January 21, 1925 (discharge, 20,000 second-feet); minimum stage 1.65 feet at 10.20 a. m. September 22, 1925 (discharge, 232 second-feet).

REGULATION.—Slight regulation caused by small power plants and mills above Bellwood.

ACCURACY.—Stage-discharge relation changed during flood in January and probably affected by backwater from Pea River during periods of high water. Rating curve used prior to January 12 well defined between 600 and 2,000 second-feet and fairly well defined between 2,000 and 4,000 second-feet. Rating curve used since January 13 well defined below 3,000 second-feet and poorly defined above. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good below 3,000 second-feet; fair to poor above.

Discharge measurements of Choctawhatchee River near Geneva, Ala., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 17-----	2.35	626	Feb. 24-----	9.00	2,740	July 23-----	2.74	533
Jan. 14-----	25.05	15,500	Apr. 8-----	5.87	1,590	Sept. 22-----	1.74	274
Jan. 23-----	27.75	13,700	July 20-----	3.02	660			

* Measured discharge, 11,700 second-feet; estimated overflow, 2,000 second-feet.

Daily discharge, in second-feet, of Choctawhatchee River near Geneva, Ala., for the period October 1, 1924, to November 21, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1-----	1,810	695	630	4,640	3,700	2,110	1,270	750	630	630	570	390
2-----	1,490	670	630	5,840	3,450	2,080	1,240	750	570	570	480	390
3-----	1,060	650	630	4,880	3,650	2,000	1,200	720	570	540	420	420
4-----	1,000	650	630	4,100	3,960	1,900	1,270	720	510	510	420	390
5-----	880	630	670	3,490	3,600	1,800	1,690	690	540	510	450	360
6-----	795	610	745	2,900	3,450	1,830	1,940	690	570	720	420	330
7-----	720	610	770	2,350	3,300	1,940	1,900	690	630	990	390	300
8-----	720	610	795	1,940	3,060	1,900	1,580	690	660	810	570	270
9-----	695	610	1,410	1,730	3,110	1,800	1,480	690	630	870	570	270
10-----	695	610	2,800	1,570	3,750	1,760	1,410	660	810	1,200	450	330
11-----	695	630	2,750	5,300	4,400	1,690	1,390	690	900	1,130	420	300
12-----	695	695	2,170	10,100	4,180	1,690	1,300	690	1,200	870	390	270
13-----	670	690	1,690	14,100	3,600	1,660	1,270	690	930	780	375	258
14-----	670	695	1,410	14,100	3,110	1,620	1,160	780	840	660	600	245
15-----	670	720	1,130	11,700	2,670	1,620	1,130	750	810	540	510	245

Daily discharge, in second-feet, of Choctawhatchee River near Geneva, Ala., for the period October 1, 1924, to November 21, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
16.....	670	720	1,030	10,800	2,670	1,690	1,130	690	750	570	450	270
17.....	650	695	970	13,000	2,710	1,690	1,130	720	720	660	450	300
18.....	630	670	940	14,800	2,980	2,040	1,130	750	630	660	450	285
19.....	630	630	940	16,500	3,350	2,110	1,060	990	630	660	390	270
20.....	610	650	910	18,200	3,020	2,110	930	960	690	630	360	258
21.....	610	695	880	20,000	2,630	2,110	930	810	690	600	345	245
22.....	610	695	820	18,000	2,510	2,270	960	810	690	540	345	232
23.....	590	670	820	15,900	2,550	2,040	990	750	660	510	315	245
24.....	570	650	910	14,400	2,750	1,900	990	720	630	570	300	245
25.....	590	670	1,410	10,900	2,750	1,760	960	660	570	690	315	245
26.....	720	670	1,900	9,150	2,430	1,690	930	780	690	630	300	245
27.....	795	670	1,570	7,380	2,270	1,660	870	810	870	540	300	245
28.....	880	670	1,380	5,770	2,110	1,620	840	750	810	630	300	245
29.....	880	650	1,270	4,800	-----	1,550	810	720	780	510	300	390
30.....	795	650	1,240	4,350	-----	1,480	750	690	750	480	450	510
31.....	745	-----	3,440	4,020	-----	1,380	-----	690	-----	450	390	-----

Day	Oct.	Nov.	Day	Oct.	Nov.	Day	Oct.	Nov.
1925								
1.....	570	570	11.....	315	810	21.....	690	1,300
2.....	810	540	12.....	345	1,800	22.....	630	-----
3.....	810	570	13.....	360	2,390	23.....	510	-----
4.....	630	540	14.....	480	2,840	24.....	510	-----
5.....	450	600	15.....	660	2,980	25.....	540	-----
6.....	420	570	16.....	780	3,800	26.....	630	-----
7.....	360	540	17.....	720	3,200	27.....	720	-----
8.....	345	900	18.....	720	2,670	28.....	750	-----
9.....	345	1,060	19.....	810	2,150	29.....	720	-----
10.....	330	930	20.....	720	1,830	30.....	690	-----
						31.....	630	-----

NOTE.—Gage not read Jan. 18-22 because of bridge being inaccessible owing to extremely high water. Crest of flood on Jan. 21 determined from high-water marks. Discharge interpolated Jan. 18-20 and 22.

Monthly discharge of Choctawhatchee River near Geneva, Ala., for the period October 1, 1924, to November 21, 1925

[Drainage area, 1,380 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1924-25					
October.....	1,810	570	782	0.567	0.65
November.....	720	610	661	.479	.53
December.....	3,440	630	1,270	.920	1.06
January.....	20,000	1,570	8,920	6.46	7.45
February.....	4,400	2,110	3,130	2.27	2.36
March.....	2,270	1,380	1,820	1.32	1.52
April.....	1,940	750	1,190	.862	.96
May.....	990	660	740	.536	.62
June.....	1,200	510	712	.516	.58
July.....	1,200	450	666	.483	.56
August.....	600	300	413	.229	.34
September.....	510	232	300	.217	.24
The year.....	20,000	232	1,720	1.25	16.87
1925					
October.....	810	315	581	.421	.49
November 1-21.....	3,800	540	1,550	1.12	.88

PEA RIVER AT PERA, ALA.

LOCATION.—At Elton wagon bridge, 500 feet below Louisville & Nashville Railroad bridge, half a mile west of Pera, Geneva County, and 10 miles above mouth of Flat Creek.

DRAINAGE AREA.—1,180 square miles.

RECORDS AVAILABLE.—August 27, 1904, to August 31, 1913; June 16, 1922, to October 31, 1925, when station was discontinued.

GAGE.—Gurley 7-day water-stage recorder installed June 27, 1922, on right bank, on downstream side of bridge; inspected by J. W. McCollough and Mrs. Willie White.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge.

CHANNEL AND CONTROL.—Channel is composed of marl and sand. No well-defined control, but stage-discharge relation is fairly permanent over a long period.

EXTREMES OF DISCHARGE.—1904–1913; 1922–1925: Maximum stage, by levels from high-water mark, 42.0 feet January 19, 1925 (discharge, 19,600 second-feet); minimum mean daily stage, 1.05 feet September 28, 1925 (discharge, 110 second-feet).

REGULATION.—Power plants on Pea River at Elba and on Whitewater Creek, cause considerable diurnal fluctuation in stage. The storage of water at Elba over Sunday causes extremely low water at this station on Mondays.

ACCURACY.—Stage-discharge relation changed during flood of January 11. Rating curves used before and after January 11 well defined below 3,500 second-feet and fairly well defined above. Operation of water-stage recorder not satisfactory, as shown in footnote to table of daily discharge. Daily discharge ascertained by applying mean daily gage height to rating table except as indicated in footnote to daily-discharge table. Records good below 3,500 second-feet, except for periods of missing gage heights, when they are fair; fair to poor above 3,500 second-feet.

Discharge measurements of Pea River at Pera, Ala., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 17-----	1.81	138	Jan. 24-----	28.74	11,800	July 21-----	1.55	167
Jan. 14-----	30.44	13,400	Feb. 23-----	9.72	2,420	Sept. 23-----	.88	90

Daily discharge, in second-feet, of Pea River at Pera, Ala., for the period October 1, 1924, to October 31, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
1	1,080	258	250	4,700	2,880	1,640	980	375	252	270	335	200	143
2	980	330	330	3,800	3,400	1,640	920	340	268	250	275	190	200
3	860	184	290	3,400	4,030	1,530	890	345	230	255	145	175	520
4	635	228	280	3,620	3,620	1,460	865	330	230	270	230	160	305
5	510	280	370	3,670	3,360	1,600	1,100	350	230	225	222	150	133
6	430	310	430	2,920	3,160	1,740	1,360	385	282	292	230	140	131
7	485	272	522	2,120	2,880	1,600	1,070	355	268	380	230	135	141
8	360	242	450	1,750	2,760	1,460	1,070	330	222	350	270	130	141
9	340	250	2,120	1,580	3,670	1,420	1,010	320	252	450	230	140	200
10	340	265	1,820	3,400	4,930	1,390	920	320	245	450	240	145	145
11	310	250	1,780	9,780	6,000	1,320	840	310	328	440	230	145	140
12	300	265	1,820	12,700	3,490	1,250	790	310	450	440	185	145	120
13	168	258	1,750	13,500	3,160	1,220	740	340	790	328	190	150	130
14	280	310	1,400	12,700	2,840	1,190	690	350	500	320	215	140	130
15	212	280	1,050	11,800	2,720	1,220	615	340	360	282	230	135	200

Daily discharge, in second-feet, of Pea River at Pera, Ala., for the period October 1, 1924, to October 31, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
1C	258	280	890	11,300	2,520	1,390	580	350	370	305	220	135	300
17	310	212	800	13,500	2,760	1,460	530	420	305	305	210	135	300
18	380	310	685	17,300	3,360	1,810	580	420	298	342	190	135	275
1E	258	265	635	19,300	2,980	1,920	550	420	282	335	165	130	230
1C	168	290	548	19,300	2,480	1,880	530	320	335	198	170	125	290
21	220	258	510	18,400	2,280	1,700	520	400	360	185	170	125	290
22	190	290	560	16,400	2,240	1,600	509	410	320	252	160	120	215
23	198	272	635	14,200	2,360	1,530	450	370	290	298	160	120	162
24	220	235	770	12,200	2,600	1,500	450	245	260	342	160	125	155
25	228	300	1,720	10,000	2,160	1,640	470	470	250	320	155	130	250
26	250	330	1,640	8,300	1,960	1,700	450	400	270	305	145	125	185
27	175	330	1,470	6,610	1,810	1,500	430	298	320	275	150	120	350
28	220	280	1,470	5,300	1,700	1,320	400	282	340	192	145	110	320
29	258	340	1,470	4,210	-----	1,190	380	260	310	191	155	138	270
30	300	220	1,750	3,490	-----	1,130	375	260	290	155	210	156	250
31	350	-----	3,620	3,320	-----	1,070	-----	260	-----	186	220	-----	260

NOTE.—Mean gage height estimated Jan. 12, 13, 15, 18-23, 26-30, Feb. 1, 2, and July 4-6; partly estimated Jan. 11, 14, 16, 17, 24, 25, 31, Feb. 3, Apr. 24, May 17, June 19, Aug. 7, and Sept. 23. Gage-height record missing Apr. 25 to May 16, June 20 to July 3, Aug. 8 to Sept. 27, Oct. 11-17, and 25-31, 1925, discharge estimated by comparison with records for Pea River near Geneva, Ala.

Monthly discharge of Pea River at Pera, Ala., for the period October 1, 1924, to October 31, 1925

[Drainage area, 1,180 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1924-25					
October	1,080	168	364	0.308	0.36
November	340	184	273	.231	.26
December	3,620	250	1,090	.924	1.07
January	19,300	1,580	8,860	7.51	8.66
February	6,000	1,700	3,000	2.54	2.64
March	1,920	1,070	1,480	1.25	1.44
April	1,360	375	702	.595	.66
May	470	245	345	.292	.34
June	790	222	317	.269	.30
July	450	155	296	.251	.29
August	335	145	201	.170	.20
September	200	110	140	.119	.13
The year	19,300	110	1,420	1.20	16.35
1925					
October	520	120	222	.188	.22

PEA RIVER NEAR GENEVA, ALA.

LOCATION.—At highway bridge 2 miles west of Geneva, Geneva County, and 3 miles above confluence with Choctawhatchee River.

DRAINAGE AREA.—1,560 square miles (measured on base maps of Alabama and Florida; scale, 1:500,000).

RECORDS AVAILABLE.—June 17, 1922, to November 14, 1925, when station was discontinued.

GAGE.—Chain gage attached to upstream handrail of bridge; read by J. D. Howell.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge.

CHANNEL AND CONTROL.—Channel straight above and below gage. Right bank high; left bank subject to overflow at high stages. Bed of stream firm sand; fairly permanent.

EXTREMES OF DISCHARGE.—1922-1925: Maximum stage recorded, 35.1 feet at about 1 a. m. January 21, 1925 (discharge, 33,700 second-feet); minimum stage, 1.45 feet at 7.15 a. m. September 23, 1925 (discharge, 178 second-feet).

REGULATION.—Considerable regulation at power plants above Pera, Ala.

ACCURACY.—Stage-discharge relation changed by flood of January 13. Rating curve used previous to January 13 well defined between 300 and 11,000 second-feet; extended above. Rating curve used since January 13 well defined below 17,500 second-feet; extended above on the basis of a measurement which was partly estimated. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair below 17,500 second-feet; subject to error above that point.

Discharge measurements of Pea River near Geneva, Ala., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 18.....	2. 33	312	Feb. 24.....	10. 28	2, 990	July 23.....	2. 66	406
Jan. 15.....	26. 05	16, 900	Apr. 8.....	6. 66	1, 450	Sept. 23.....	1. 46	176
Jan. 23.....	32. 01	30, 100	July 20.....	3. 13	485			

* Measured discharge, 23,100 second-feet; estimated overflow, 7,000 second-feet.

Daily discharge, in second-feet, of Pea River near Geneva, Ala., for the period October 1, 1924, to November 14, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1.....	1, 690	470	470	4, 950	4, 430	2, 190	1, 300	590	420	480	340	340
2.....	1, 340	470	410	6, 340	4, 080	2, 110	1, 240	590	400	380	440	300
3.....	1, 150	470	470	5, 100	4, 290	2, 110	1, 210	540	440	380	380	280
4.....	990	385	440	4, 670	4, 620	1, 950	1, 210	540	400	380	300	260
5.....	800	360	440	3, 860	4, 940	1, 910	1, 680	540	400	380	340	245
6.....	710	385	620	3, 560	4, 500	2, 030	1, 830	590	400	380	340	238
7.....	620	410	650	2, 940	3, 940	2, 030	1, 680	540	420	665	340	215
8.....	620	410	680	2, 280	3, 560	1, 910	1, 470	520	440	615	380	200
9.....	530	385	990	1, 970	3, 560	1, 790	1, 360	520	420	540	320	215
10.....	500	385	2, 200	1, 830	4, 360	1, 750	1, 300	500	460	815	340	230
11.....	470	385	2, 800	4, 740	5, 820	1, 720	1, 240	500	640	790	260	215
12.....	440	410	2, 240	10, 290	5, 740	1, 640	1, 210	500	715	640	280	215
13.....	410	385	1, 940	16, 490	4, 710	1, 610	1, 120	540	815	615	300	230
14.....	285	440	1, 620	18, 700	3, 870	1, 580	1, 060	540	890	500	380	215
15.....	385	440	1, 340	17, 000	3, 320	1, 610	1, 000	540	690	440	420	208
16.....	360	410	1, 130	15, 200	3, 140	1, 720	970	540	565	440	410	208
17.....	360	385	990	17, 600	3, 140	1, 830	940	565	520	500	400	215
18.....	410	310	890	23, 800	3, 560	1, 990	915	640	460	520	380	215
19.....	360	385	830	29, 900	4, 220	2, 190	852	740	500	520	320	200
20.....	335	410	800	32, 500	3, 740	2, 370	790	740	590	500	260	192
21.....	310	410	770	33, 700	3, 200	2, 240	790	640	540	420	280	192
22.....	310	440	740	30, 100	2, 790	2, 110	765	640	520	380	245	185
23.....	272	440	740	27, 700	2, 890	2, 070	790	590	450	400	245	178
24.....	285	440	800	23, 400	2, 990	1, 870	740	590	460	420	245	185
25.....	322	385	1, 480	16, 400	3, 320	1, 790	740	500	400	500	230	200
26.....	410	440	2, 200	14, 000	2, 790	1, 830	715	665	380	500	215	185
27.....	500	500	1, 860	11, 100	2, 500	1, 790	715	640	480	460	230	185
28.....	470	470	1, 550	8, 330	2, 320	1, 640	640	540	520	420	215	185
29.....	500	440	1, 550	6, 440	-----	1, 500	640	540	540	360	222	252
30.....	470	470	1, 520	5, 500	-----	1, 440	590	420	500	340	360	280
31.....	470	-----	3, 190	4, 780	-----	1, 360	-----	420	-----	340	320	-----

Daily discharge, in second-feet, of Pea River near Geneva, Ala., for the period October 1, 1924, to November 14, 1925—Continued

Day	Oct.	Nov.	Day	Oct.	Nov.	Day	Oct.	Nov.
1925			1925			1925		
1-----	340	420	11-----	252	690	21-----	460	-----
2-----	360	520	12-----	208	1,000	22-----	400	-----
3-----	460	520	13-----	200	2,110	23-----	340	-----
4-----	590	500	14-----	200	2,840	24-----	300	-----
5-----	440	460	15-----	320	-----	25-----	350	-----
6-----	300	500	16-----	500	-----	26-----	400	-----
7-----	252	520	17-----	520	-----	27-----	300	-----
8-----	245	590	18-----	440	-----	28-----	565	-----
9-----	245	765	19-----	520	-----	29-----	520	-----
10-----	245	790	20-----	460	-----	30-----	440	-----
						31-----	420	-----

NOTE.—Gage not read Dec. 7, 1924, Jan. 18, Feb. 4, 23, Apr. 19, June 7, Aug. 16 and Oct. 25, 1925; discharge interpolated.

Monthly discharge of Pea River near Geneva, Ala., for the period October 1, 1924, to November 14, 1925

[Drainage area, 1,560 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1924-25					
October-----	1,690	272	550	0.353	0.41
November-----	500	310	418	.268	.30
December-----	3,190	410	1,230	.788	.91
January-----	33,700	1,830	13,100	8.40	9.68
February-----	5,820	2,320	3,800	2.44	2.54
March-----	2,370	1,360	1,860	1.19	1.37
April-----	1,830	590	1,050	.673	.75
May-----	740	420	566	.363	.42
June-----	890	380	514	.329	.37
July-----	815	340	495	.311	.36
August-----	440	215	314	.201	.23
September-----	340	178	222	.142	.16
The year-----	33,700	178	2,010	1.29	17.50
1925					
October-----	590	200	374	.240	.28
November 1-14-----	2,840	420	873	.560	.29

MOBILE RIVER BASIN

COOSA RIVER AT CHILDERSBURG, ALA.

LOCATION.—At Central of Georgia Railway bridge, half a mile west of Childersburg, Talladega County, and 35 miles above site of Lock 12.

DRAINAGE AREA.—8,390 square miles (determined by Alabama Power Co.).

RECORDS AVAILABLE.—February 22, 1914, to September 30, 1925.

GAGE.—Gurley printing water-stage recorder attached to downstream end of second pier from right bank of river, installed on May 5, 1914; inspected by W. J. McSherdon. Sea-level elevation of zero of gage is 421.00 feet (United States Engineers Corps datum).

DISCHARGE MEASUREMENTS.—Made from bridge.

CHANNEL AND CONTROL.—Channel straight for half a mile below gage. Left bank high; right bank subject to overflow at extremely high stages. Control not well defined; bed of stream probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 20.9 feet at 12.15 a. m. January 19 (discharge, 89,000 second-feet);

minimum stage, 0.8 foot for 10 days during September (discharge, 1,300 second-feet).

1914-1925: Maximum stage from water-stage recorder, 24.7 feet from 3 to 9 and 11 to 12 p. m. July 11, 1916 (discharge, 121,000 second-feet); minimum discharge, that for 10 days in September, 1925.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 75,000 second-feet; extended above. Operation of water-stage recorder satisfactory throughout year. Daily discharge ascertained by applying to rating table mean daily gage height obtained by averaging hourly gage height. Records good below 75,000 second-feet; fair above.

COOPERATION.—Complete records furnished by Alabama Power Co.

Discharge measurements of Coosa River at Childersburg, Ala., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 25	1.35	2,420	Dec. 18	2.07	3,880	Jan. 23	15.56	59,600
Nov. 6	1.43	2,480	Do	2.06	3,760	Mar. 3	3.82	8,330
Nov. 11	1.40	2,430	Dec. 31	2.64	5,460	Mar. 31	3.91	9,200
Do	1.41	2,510	Jan. 6	5.00	12,300	Apr. 28	2.69	5,390
Nov. 24	1.39	2,500	Jan. 7	4.00	8,700	Aug. 17	1.10	1,840
Dec. 4	1.38	2,360	Do	3.86	8,460	Aug. 25	1.04	1,760
Dec. 5	1.42	2,480	Jan. 20	19.58	76,900	Sept. 3	.91	1,540
Dec. 10	6.41	18,500	Jan. 22	16.64	63,800	Sept. 14	.92	1,560
Dec. 11	7.14	22,000	Do	16.41	64,800			
Dec. 16	2.54	5,050	Jan. 23	15.69	60,300			

Daily discharge, in second-feet, of Coosa River at Childersburg, Ala., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,400	2,950	2,510	9,820	11,800	8,900	8,900	5,730	3,650	2,510	2,510	1,500
2	4,140	2,950	2,510	12,800	12,400	9,200	8,290	6,250	3,420	2,510	2,290	1,500
3	3,900	2,730	2,510	20,000	13,500	8,900	7,700	5,990	3,420	2,510	2,290	1,500
4	4,140	2,730	2,510	21,700	13,500	8,600	7,400	5,460	3,420	2,290	2,090	1,500
5	3,900	2,510	2,510	17,400	13,500	8,290	8,290	5,200	3,180	2,290	2,090	1,500
6	3,650	2,510	2,510	12,100	13,100	8,600	8,900	4,900	3,180	2,510	2,090	1,300
7	3,420	2,510	2,950	9,200	12,100	8,600	13,500	4,660	3,180	2,510	2,090	1,300
8	3,180	2,510	8,900	7,700	11,100	8,600	17,100	4,660	3,180	2,730	2,090	1,500
9	2,950	2,510	18,900	8,000	11,400	8,600	14,900	4,660	3,420	4,400	2,290	1,300
10	2,950	2,510	18,200	20,500	15,600	8,000	11,400	4,660	3,180	6,250	2,090	1,300
11	2,730	2,510	20,500	34,100	16,700	7,700	9,500	4,660	3,420	6,830	2,090	1,300
12	2,730	2,510	18,500	40,000	15,600	7,100	8,600	4,660	3,420	6,550	2,090	1,500
13	2,730	2,510	13,500	41,300	14,200	7,100	8,290	4,660	3,420	5,200	2,090	1,690
14	2,730	2,510	9,500	40,800	12,800	6,830	8,900	4,660	3,420	3,900	2,090	1,500
15	2,730	2,510	6,500	39,200	11,400	6,830	8,900	4,900	3,420	3,420	1,880	1,300
16	2,510	2,510	5,200	37,700	13,800	7,100	7,700	5,460	3,180	3,180	1,880	1,300
17	2,510	2,510	4,400	41,300	17,400	24,100	7,400	5,730	2,950	2,950	1,880	1,300
18	2,510	2,510	4,140	81,700	17,100	35,800	6,830	5,200	2,950	2,730	2,090	1,300
19	2,510	2,510	3,900	86,700	16,300	38,200	6,550	4,400	2,950	2,730	2,090	1,300
20	2,510	2,510	3,650	81,100	15,200	40,400	6,250	4,660	2,950	2,730	2,090	1,400
21	2,510	2,510	3,420	72,300	13,500	38,200	5,990	6,550	2,950	2,510	2,090	1,400
22	2,510	2,510	3,420	65,100	12,400	31,800	5,990	5,990	2,950	2,510	1,880	1,400
23	2,510	2,510	3,650	60,200	11,800	25,700	5,730	5,460	2,730	2,290	1,880	1,300
24	2,510	2,510	4,660	57,300	11,100	18,900	5,460	5,200	2,730	2,510	1,880	1,400
25	2,510	2,510	5,460	54,100	10,500	15,200	5,460	4,660	2,730	2,510	1,880	1,400
26	2,510	2,510	5,200	45,200	9,820	12,800	5,200	4,140	2,510	3,180	1,690	1,300
27	2,290	2,510	5,200	26,100	9,200	11,800	5,730	3,900	2,730	2,950	1,690	1,300
28	2,290	2,510	5,730	15,200	8,600	11,400	5,460	3,900	2,510	2,730	1,690	1,400
29	2,290	2,510	6,250	14,200		10,800	5,460	3,900	2,510	2,730	1,690	1,500
30	2,510	2,730	5,730	13,500		9,820	5,200	3,650	2,510	2,730	1,690	1,400
31	2,730		5,990	12,400		9,200		3,650		2,730	1,500	

Monthly discharge of Coosa River at Childersburg, Ala., for the year ending September 30, 1925

[Drainage area, 8,390 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	4,400	2,290	2,900	0.346	0.40
November	2,950	2,510	2,560	.306	.34
December	20,500	2,510	6,730	.803	.93
January	86,700	7,700	35,400	4.22	4.86
February	17,400	8,600	13,000	1.55	1.61
March	40,400	6,830	14,900	1.78	2.05
April	17,100	5,200	8,030	.958	1.07
May	6,550	3,650	4,910	.586	.68
June	3,650	2,510	3,070	.366	.41
July	6,830	2,290	3,230	.385	.44
August	2,510	1,500	1,990	.238	.27
September	1,690	1,300	1,400	.167	.19
The year	86,700	1,300	8,200	.978	13.25

COOSA RIVER AT MITCHELL DAM, NEAR VERBENA, ALA.

LOCATION.—In sec. 15, T. 21 N., R. 16 E., St. Stephens base and meridian, half a mile below Mitchell Dam, 6 miles northeast of Verbena, Chilton County, and 14 miles below site of Lock 12.

DRAINAGE AREA.—9,830 square miles (determined by Alabama Power Co.).

RECORDS AVAILABLE.—July 7 to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder, in timber shelter on right bank, 2,500 feet below Mitchell Dam; referred to staff gage in two sections at the same location.

CHANNEL AND CONTROL.—Channel rough and rocky; permanent. Banks high and not subject to overflow. Control is series of rock shoals 800 feet below gage.

EXTREMES OF DISCHARGE.—Maximum mean daily stage during period of record, 5.15 feet July 13 (discharge, 10,200 second-feet); minimum mean daily stage, 1.25 feet, August 16 (discharge, 80 second-feet).

REGULATION.—Large diurnal fluctuation caused by operations at Mitchell Dam.

ACCURACY.—Gage-height record not entirely satisfactory and rating curve poorly defined for low stages. Regulation at power plant above makes it difficult to obtain accurate discharge measurements. Daily discharge ascertained by applying rating table to gage heights each half hour during day and taking the mean. Records fair.

COOPERATION.—Complete record furnished by Alabama Power Co.

Discharge measurements of Coosa River below Mitchell Dam, near Verbena, Ala., during the years ending September 30, 1924 and 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
1923	<i>Feet</i>	<i>Sec.-ft.</i>	1924	<i>Feet</i>	<i>Sec.-ft.</i>	1924	<i>Feet</i>	<i>Sec.-ft.</i>
Nov. 4.....	2.91	1,600	Feb. 7.....	6.79	18,400	Apr. 22.....	12.70	56,700
Nov. 5.....	5.05	10,300	Do.....	7.87	23,100	Do.....	12.80	57,500
Do.....	5.31	11,800	Do.....	7.82	22,900	Nov. 17.....	4.40	7,270
Nov. 13.....	3.95	5,920	Feb. 8.....	4.80	8,950	Nov. 18.....	4.45	7,420
Do.....	3.64	5,710	Do.....	4.95	9,190	Nov. 23.....	1.65	124
Nov. 17.....	3.72	4,940	Feb. 9.....	4.77	9,130			
Dec. 21.....	8.92	30,500	Feb. 11.....	7.92	23,300	1925		
Do.....	8.72	25,100	Feb. 12.....	6.86	16,700	Apr. 7.....	5.48	11,100

Daily discharge, in second-feet, of Coosa River at Mitchell Dam, near Verbena, Ala., for the year ending September 30, 1925

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		610	1,910	11	5,590	6,230	1,870	21	3,010	3,170	1,360
2		1,720	3,000	12	7,350	4,930	350	22	2,830	1,050	1,900
3		4,170	2,140	13	10,200	3,610	220	23	1,740	90	2,460
4		3,140	1,900	14	3,840	3,660	1,730	24	2,460	2,480	2,320
5		2,660	790	15	3,010	170	2,020	25	430	2,910	230
6		2,680	90	16	3,300	80	2,320	26	1,690	3,520	330
7	3,390	2,710	1,940	17	2,780	1,390	2,160	27	8,580	2,200	90
8	3,250	150	1,940	18	260	2,350	1,820	28	3,360	2,990	1,920
9	6,900	500	3,160	19	140	3,000	270	29	3,380	960	1,150
10	6,230	6,520	3,120	20	2,830	2,060	140	30	3,150	80	1,730
								31	2,680	1,430	

Monthly discharge of Coosa River at Mitchell Dam, near Verbena, Ala., for the year ending September 30, 1925

[Drainage area, 9,830 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
July 7-31	10,200	140	3,710	0.378	0.35
August	6,520	80	2,360	.240	.27
September	3,160	90	1,550	.158	.18

TALLAPOOSA RIVER NEAR CRAGFORD, ALA.

LOCATION.—In sec. 28, T. 20 S., R. 10 E., Huntsville base and meridian, 400 feet above mouth of Crooked Creek, $2\frac{1}{2}$ miles east of Cragford, Clay County, and 9 miles below mouth of Little Tallapoosa River.

DRAINAGE AREA.—1,460 square miles (determined by Alabama Power Co.).

RECORDS AVAILABLE.—October 28, 1922, to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder on left bank, installed October 23, 1923; inspected by McKinley Heard.

DISCHARGE MEASUREMENTS.—Made from cable 400 feet upstream from gage during medium and high stages. Low-water measurements are made from a boat.

CHANNEL AND CONTROL.—Channel rough and rocky; probably permanent. Left bank high; right bank is overflowed during high stages. Control for low and medium stages is rocky shoal 200 feet below gage; high-water control not defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 19.6 feet at 7 a. m. January 18 (discharge, 58,900 second-feet); minimum stage, 0.65 foot September 11 (discharge, 30 second-feet).

1922-1925: Maximum and minimum stages, those for 1925.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined between 30 and 8,000 second-feet; extended above. Water-stage recorder operated satisfactorily except as indicated in footnote to table of daily discharge. Daily discharge ascertained by applying mean daily gage height to rating table. Records good below 8,000 second-feet; others fair to poor, depending upon stage.

COOPERATION.—Complete records furnished by Alabama Power Co.

Discharge measurements of Tallapoosa River near Cragford, Ala., during the year ending September 30, 1925.

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
Oct. 9.....	Feet 1.50	Sec.-ft. 413	Feb. 20.....	Feet 3.23	Sec.-ft. 2,480	Sept. 11.....	Feet 0.65	Sec.-ft. 30
Feb. 13.....	2.70	1,760	Aug. 28.....	.91	81	Do.....	.65	29

Daily discharge, in second-feet, of Tallapoosa River near Cragford, Ala., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	800	360	360	4,060	1,830	1,440	1,590	900	600	360	440	80
2.....	700	360	360	3,370	2,400	1,440	1,590	900	520	360	360	50
3.....	520	360	360	2,700	3,040	1,440	1,590	900	520	360	290	50
4.....	520	360	360	1,990	2,550	1,320	1,440	900	520	360	290	50
5.....	520	360	520	1,440	2,110	1,440	2,880	1,000	440	700	230	50
6.....	360	290	800	1,210	1,830	1,590	3,200	1,000	440	600	230	50
7.....	440	230	600	1,100	1,830	1,590	2,260	900	700	520	230	50
8.....	440	230	4,800	1,100	1,830	1,440	1,530	900	800	1,990	230	80
9.....	440	230	9,700	1,100	2,580	1,320	1,590	800	600	1,000	360	80
10.....	360	290	4,800	4,620	3,040	1,320	1,710	800	520	700	360	50
11.....	360	290	2,700	15,500	2,580	1,320	2,110	800	800	600	290	50
12.....	360	290	1,590	11,600	2,000	1,210	1,990	1,100	800	520	230	50
13.....	360	290	1,000	6,910	1,750	1,210	1,710	1,320	700	360	230	80
14.....	360	290	800	4,260	1,710	1,210	1,440	1,210	600	360	230	80
15.....	360	290	700	2,400	1,710	1,210	1,320	1,000	520	520	170	120
16.....	290	290	700	9,940	2,400	1,320	1,320	900	520	440	170	120
17.....	290	230	600	17,800	4,090	12,800	1,520	800	520	360	170	80
18.....	290	230	600	49,400	3,530	12,900	1,590	2,110	520	290	120	50
19.....	290	230	600	34,000	2,880	8,730	1,440	1,320	440	290	120	70
20.....	290	230	600	27,300	2,260	4,800	1,440	1,100	600	230	120	70
21.....	290	360	600	16,800	2,110	3,200	1,440	900	600	230	120	50
22.....	230	440	520	5,830	2,110	2,700	1,320	800	520	230	120	50
23.....	230	440	520	3,700	1,990	2,400	1,320	800	440	800	120	50
24.....	230	360	3,200	2,880	1,990	2,110	1,000	700	600	900	80	50
25.....	230	440	4,090	2,400	1,830	2,110	900	700	600	700	80	50
26.....	230	360	2,260	2,260	1,710	1,990	900	700	440	520	80	520
27.....	230	360	1,590	2,110	1,590	1,830	900	700	360	520	50	230
28.....	290	360	1,210	1,990	1,440	2,110	900	700	360	600	80	360
29.....	360	360	1,000	1,990	-----	1,990	800	600	290	600	80	290
30.....	360	360	900	1,830	-----	1,710	900	600	360	520	80	360
31.....	360	-----	1,440	1,830	-----	1,710	-----	600	-----	440	80	-----

NOTE.—Recording gage did not register Feb. 9-13 and Sept. 19-25; daily discharge for these periods computed from Wadley records on basis of proportional drainage areas.

Monthly discharge of Tallapoosa River near Cragford, Ala., for the year ending September 30, 1925

[Drainage area, 1,460 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	800	230	369	0.254	0.29
November.....	440	290	333	.228	.25
December.....	9,700	360	1,610	1.10	1.27
January.....	49,400	1,100	7,950	5.43	6.26
February.....	4,090	1,440	2,240	1.54	1.60
March.....	12,900	1,210	2,720	1.86	2.15
April.....	3,200	800	1,520	1.04	1.16
May.....	2,110	600	918	.630	.73
June.....	800	290	542	.370	.41
July.....	1,990	230	548	.375	.43
August.....	440	50	188	.129	.15
September.....	520	50	112	.077	.09
The year.....	49,400	50	1,590	1.09	14.79

TALLAPOOSA RIVER AT WADLEY, ALA.

LOCATION.—In sec. 12, T. 22 S., R. 10 E., Huntsville base and meridian, in Wadley, Randolph County, 13 miles below Crooked Creek sam site.

DRAINAGE AREA.—1,660 square miles (measured by Alabama Power Co.).

RECORDS AVAILABLE.—September 1, 1923, to September 30, 1925.

GAGE.—Vertical staff in three sections on right bank, opposite depot and 3,300 feet below highway bridge; read by R. H. Drake.

DISCHARGE MEASUREMENTS.—Made from highway bridge, 3,300 feet upstream from gage.

CHANNEL AND CONTROL.—River bed is composed of mud, rock, and gravel. Banks subject to overflow above a stage of 10 feet. Control is rock and gravel shoal 300 feet below gage; probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 26.3 feet at 6 p. m. January 18 (discharge, 77,700 second-feet); minimum stage, 2.2 feet on eight days during September (discharge, 60 second-feet).

1923-1925: Maximum and minimum stages, same as given above for 1925.

REGULATION.—Slight diurnal fluctuation during extremely low water caused by small mill dams.

ACCURACY.—Rating curve well defined between 80 and 14,000 second-feet; extended beyond these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records for October and November poor; for remainder of year good below 14,000 second-feet and fair above.

COOPERATION.—Complete records furnished by Alabama Power Co.

Discharge measurements of Tallapoosa River at Wadley, Ala., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>		<i>Feet</i>	<i>Sec.-ft.</i>
Oct. 9.....	2.87	408	Feb. 18.....	5.85	4,450	Aug. 19.....	2.51	163
Oct. 22.....	2.74	279	Feb. 19.....	5.26	3,730	Aug. 27.....	2.32	86
Feb. 11.....	4.67	2,740	Mar. 20.....	6.40	5,500	Sept. 10.....	2.40	111
Do.....	4.54	2,710	Apr. 13.....	3.77	1,720	Do.....	2.39	114
Feb. 12.....	4.28	2,310	Apr. 23.....	3.48	1,250			

Daily discharge, in second-feet, of Tallapoosa River at Wadley, Ala., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	740	380	500	4,860	2,060	1,660	1,940	1,100	740	620	620	80
2.....	740	380	500	3,910	2,470	1,660	1,940	1,100	740	380	500	80
3.....	740	380	500	2,470	3,310	1,660	1,940	980	740	500	380	80
4.....	500	380	500	1,660	3,030	1,660	1,940	980	620	500	380	80
5.....	380	280	500	1,660	2,470	1,660	3,310	1,100	620	860	280	80
6.....	380	280	500	1,380	1,660	1,660	3,170	1,100	620	860	280	110
7.....	380	280	500	1,380	1,660	1,660	2,890	980	1,660	1,100	280	110
8.....	380	280	4,060	1,380	2,330	1,660	2,470	980	1,520	2,470	210	80
9.....	380	380	10,990	1,380	2,750	1,660	1,940	980	860	1,100	210	110
10.....	380	380	5,560	3,610	3,310	1,520	2,190	980	860	860	280	150
11.....	380	380	2,890	20,980	2,750	1,520	2,190	980	1,100	740	380	80
12.....	380	380	1,660	13,920	2,190	1,520	2,190	1,100	1,100	620	280	60
13.....	280	380	1,100	7,450	1,940	1,520	2,060	1,520	1,100	620	280	210
14.....	280	380	980	4,540	1,800	1,520	1,800	1,520	740	500	280	110
15.....	210	380	860	2,330	1,940	1,520	1,660	1,240	620	380	280	110

Daily discharge, in second-feet, of Tallapoosa River at Wadley, Ala., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	210	380	860	15,260	2,750	1,520	1,660	1,100	620	860	210	110
17	210	380	860	13,660	5,380	14,440	1,660	1,100	620	380	210	110
18	210	380	860	70,100	4,220	16,100	1,660	3,310	620	380	210	80
19	210	380	860	51,200	3,610	11,470	1,660	1,940	500	380	150	80
20	210	380	860	41,100	3,030	4,860	1,660	1,100	620	280	150	80
21	280	380	860	19,100	2,470	3,030	1,520	1,100	620	280	150	60
22	280	380	620	6,630	2,330	2,890	1,520	1,100	620	280	150	60
23	280	380	620	4,150	2,330	2,470	1,520	980	500	380	110	60
24	280	500	4,860	3,170	2,190	2,190	1,520	1,100	500	1,100	110	60
25	280	500	4,540	3,030	2,190	2,060	1,520	1,100	620	860	80	80
26	280	500	2,330	2,750	2,190	2,060	1,520	860	620	740	80	500
27	280	500	1,520	2,470	1,940	2,060	1,520	860	380	740	80	380
28	280	500	1,240	2,330	1,660	2,060	1,520	860	380	740	80	280
29	280	500	1,240	2,190	-----	2,060	1,380	740	380	740	80	980
30	280	500	1,240	2,060	-----	2,060	1,100	740	380	620	80	380
31	280	-----	1,380	2,060	-----	2,060	-----	740	-----	500	80	-----

NOTE.—Gage not read Jan. 21-23; discharge estimated on basis of record at Cragford.

Monthly discharge of Tallapoosa River at Wadley, Ala., for the year ending September 30, 1925

[Drainage area, 1,660 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	740	210	344	0.207	0.24
November	500	280	395	.238	.27
December	10,990	500	1,820	1.10	1.27
January	70,100	1,380	10,100	6.08	7.02
February	5,380	1,660	2,580	1.55	1.62
March	16,100	1,520	3,140	1.89	2.18
April	3,310	1,100	1,890	1.14	1.27
May	3,310	740	1,140	.685	.79
June	1,660	380	721	.435	.49
July	2,470	280	690	.416	.48
August	620	80	224	.135	.15
September	980	60	160	.096	.11
The year	70,100	60	1,940	1.17	15.89

TALLAPOOSA RIVER AT STURDIVANT, ALA.

LOCATION.—2,000 feet above bridge of Central of Georgia Railway, which is one-fourth mile west of Sturdivant, Tallapoosa County, and 5 miles below mouth of Hillabee Creek.

DRAINAGE AREA.—2,460 square miles.

RECORDS AVAILABLE.—July 19, 1900, to September 30, 1925.

GAGE.—Staff gage in three sections, two inclined and one vertical, on right bank 2,000 feet upstream from bridge; installed September 22, 1923; read by B. F. Neighbors.

DISCHARGE MEASUREMENTS.—Made from a plank walk resting on lower members of deck of railroad bridge.

CHANNEL AND CONTROL.—Bed rough and rocky; permanent. At extremely high stages water overflows banks. Control is a series of rock ledges and shoals below gage; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 22.6 feet at 4 p. m. January 18 (discharge, 66,300 second-feet); minimum stage, -0.7 foot September 26 (discharge, 60 second-feet).

1900-1925: Maximum stage recorded, 33.3 feet at noon December 11, 1919 (discharge, 104,000 second-feet); minimum stage, that of September 26, 1925.

REGULATION.—Practically none.

ACCURACY.—Stage-discharge relation fairly permanent. Rating curve well defined between 250 and 30,000 second-feet. Gage read to half-tenths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good between 250 and 30,000 second-feet, fair beyond those limits.

COOPERATION.—Complete records furnished by the Alabama Power Co.

Discharge measurements of Tallapoosa River at Sturdivant Ala., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
Oct. 30-----	<i>Feet</i> 0.36	<i>Sec.-ft.</i> 515	Dec. 30-----	<i>Feet</i> 2.28	<i>Sec.-ft.</i> 1,850	Sept. 15-----	<i>Feet</i> -0.29	<i>Sec.-ft.</i> 287
Nov. 12-----	.44	464	Do-----	2.29	1,770	Do-----	-.26	283
Do-----	.42	584	Jan. 21-----	12.72	25,400			

Daily discharge, in second-feet, of Tallapoosa River at Sturdivant, Ala., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1-----	1,310	590	650	7,500	3,170	3,170	2,890	1,650	1,080	495	810	90
2-----	1,150	590	650	6,230	4,410	3,030	2,760	1,560	1,010	810	810	80
3-----	1,010	590	650	4,750	6,430	2,890	2,630	1,560	940	590	690	80
4-----	870	540	650	3,760	4,920	2,890	2,630	1,560	870	540	540	80
5-----	810	495	800	2,890	4,410	3,460	5,840	1,650	870	750	495	80
6-----	750	540	960	2,260	3,760	3,170	5,100	1,650	810	1,740	450	70
7-----	690	540	1,310	1,940	3,460	3,030	4,580	1,650	810	940	370	70
8-----	640	590	3,170	1,940	3,310	2,890	3,760	1,560	1,740	4,410	335	110
9-----	590	590	19,900	1,940	4,410	2,760	3,030	1,560	1,560	2,890	410	135
10-----	590	590	8,410	8,410	5,650	2,630	4,080	1,560	1,390	1,560	370	690
11-----	590	540	4,750	31,100	4,580	2,500	3,760	1,560	1,230	1,150	590	495
12-----	540	540	3,030	25,600	3,760	2,500	3,610	1,470	1,940	940	410	370
13-----	495	590	2,150	12,800	3,310	2,380	3,310	2,890	1,310	810	335	300
14-----	495	590	1,650	7,500	3,170	2,380	2,890	2,150	1,150	640	300	270
15-----	450	590	1,390	5,100	3,170	2,760	2,760	2,040	940	540	300	240
16-----	450	590	1,230	30,400	4,240	2,630	2,630	1,940	870	1,560	300	190
17-----	495	590	1,230	37,400	12,500	15,700	2,380	1,840	810	2,260	270	190
18-----	495	590	1,150	61,900	8,410	21,600	2,260	4,750	750	1,080	190	215
19-----	450	540	1,080	60,300	6,230	17,000	2,260	4,080	750	590	190	150
20-----	450	540	1,080	40,000	5,100	9,370	2,260	2,260	810	495	190	100
21-----	410	590	1,080	29,300	4,410	6,430	2,150	1,840	940	450	190	90
22-----	410	640	1,010	14,800	4,240	5,100	2,040	1,650	810	495	215	80
23-----	410	810	1,080	7,280	4,080	4,410	1,940	1,560	690	810	150	80
24-----	410	810	6,230	5,650	3,760	3,170	1,940	1,470	640	940	120	70
25-----	410	940	10,600	5,100	3,610	3,760	1,940	1,840	590	940	120	65
26-----	410	810	4,750	4,410	3,460	3,610	1,940	1,470	940	1,230	110	65
27-----	450	690	3,310	4,080	3,170	3,610	1,940	1,310	690	1,390	90	70
28-----	495	690	2,380	3,920	3,170	3,460	1,840	1,230	590	1,010	90	65
29-----	495	690	1,940	3,760	-----	3,310	1,740	1,230	590	1,230	90	410
30-----	495	650	1,940	3,760	-----	3,170	1,740	1,150	540	1,080	90	690
31-----	590	-----	4,080	3,310	-----	3,030	-----	1,080	-----	1,010	90	-----

NOTE.—No gage-height record Nov. 29 to Dec. 6. Discharge for this period computed on basis of proportional drainage areas from records for station at Cherokee Bluffs.

Monthly discharge of Tallapoosa River at Sturdivant, Ala., for the year ending
September 30, 1925

[Drainage area, 2,460 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	1,310	410	590	0.240	0.28
November	940	495	622	.253	.28
December	19,900	650	3,040	1.24	1.43
January	61,900	1,940	14,200	5.77	6.65
February	12,500	3,170	4,580	1.86	1.94
March	21,600	2,380	4,900	1.99	2.20
April	5,840	1,740	2,820	1.15	1.28
May	4,750	1,080	1,830	.744	.86
June	1,940	540	955	.388	.43
July	4,410	450	1,140	.463	.53
August	810	90	313	.127	.15
September	690	65	190	.077	.09
The year	61,900	65	2,940	1.19	16.21

TALLAPOOSA RIVER AT CHEROKEE BLUFFS, NEAR TALLASSEE, ALA.

LOCATION.—In sec. 36, T. 20 N., R. 21 E., St. Stephens base and meridian, 200 feet below Double Bridge Ferry, 1,000 feet below mouth of Wind Creek, three-fourths mile below Cherokee Bluffs Dam, and 9 miles north of Tallassee, Elmore County.

DRAINAGE AREA.—3,000 square miles (measured by Alabama Power Co.).

RECORDS AVAILABLE.—July 1, 1912, to September 14, 1914; October 1, 1922, to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder in concrete well on right bank, installed September 10, 1923; inspected by Messrs. Hornsly, Warren, and Dillon.

DISCHARGE MEASUREMENTS.—Made from cable 250 feet upstream from gage during medium and high stages. Low-water measurements made from a boat or from footbridge at cofferdam.

CHANNEL AND CONTROL.—Channel sand and gravel; somewhat shifting. Control is large rock shoal 700 feet below gage; probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.8 feet at 6 a. m. January 19 (discharge, 87,500 second-feet); minimum stage, 0.2 foot September 2-6 and 9 (discharge, 90 second-feet).

1912-1914; 1922-1925: Maximum and minimum discharges, those of 1925.

REGULATION.—Slight diurnal fluctuation caused by operation of small mills upstream.

ACCURACY.—Stage-discharge relation fairly permanent. Rating curve well defined below 50,000 second-feet; extended above. Water-stage recorder operated satisfactorily throughout year and was checked frequently by staff gage readings. Daily discharge ascertained by applying mean daily gage height to rating table. Records good below 50,000 second-feet, others fair to poor.

COOPERATION.—Complete records furnished by Alabama Power Co.

Discharge measurements of Tallapoosa River at Cherokee Bluffs, near Tallassee, Ala., during the year ending September 30, 1925

Date	Gage height	Dis-charge	Date	Gage height	Dis-charge	Date	Gage height	Dis-charge
	Feet	Sec.-ft.		Feet	Sec.-ft.		Feet	Sec.-ft.
Oct. 29.....	0.90	620	Mar. 18.....	5.31	22,900	Sept. 9.....	0.25	108
Do.....	.90	618	Do.....	5.10	23,100	Oct. 15.....	.68	383
Nov. 7.....	.90	630	Aug. 18.....	.54	301	Do.....	.68	375
Jan. 20.....	7.50	44,400	Aug. 26.....	.44	149	Oct. 23.....	.85	518
Mar. 4.....	1.94	3,340	Sept. 8.....	.26	102	Do.....	.85	522
Mar. 17.....	4.15	14,800	Sept. 9.....	.26	106			

Daily discharge, in second-feet, of Tallapoosa River at Cherokee Bluffs, near Tallassee, Ala., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.....	1,630	790	790	4,510	3,410	3,770	3,070	1,890	1,170	790	790	120
2.....	1,630	790	790	3,410	4,920	3,770	3,070	1,890	1,170	790	790	90
3.....	1,170	790	790	5,350	7,230	3,410	3,070	1,890	1,170	970	790	90
4.....	1,170	640	790	4,510	5,350	3,410	3,070	1,890	1,170	970	640	90
5.....	970	640	970	3,410	4,920	4,140	6,240	1,890	970	790	640	90
6.....	970	640	1,170	2,750	4,140	3,770	5,350	1,890	970	1,630	500	90
7.....	970	640	1,630	2,750	3,770	3,410	4,920	1,890	970	1,630	500	120
8.....	970	640	3,410	2,750	3,770	3,410	4,140	1,890	2,160	3,770	500	120
9.....	970	640	16,100	3,070	4,920	3,070	3,410	1,890	1,890	3,770	500	90
10.....	790	640	10,400	10,400	6,240	3,070	4,140	1,890	1,390	1,890	500	640
11.....	790	640	5,790	33,800	5,350	3,070	4,510	1,890	1,390	1,630	400	1,390
12.....	790	640	3,770	29,100	4,510	2,750	4,140	2,160	1,890	1,170	500	790
13.....	790	640	2,750	14,109	3,770	2,750	3,770	2,450	2,160	1,390	500	400
14.....	790	640	1,890	8,790	3,410	2,750	3,410	2,450	1,390	970	310	400
15.....	790	640	1,630	6,240	3,770	2,750	3,070	2,160	1,170	970	310	400
16.....	790	640	1,630	30,900	5,790	3,410	2,750	1,890	970	2,750	310	310
17.....	790	640	1,390	49,500	16,800	20,600	2,750	1,630	970	2,450	310	310
18.....	790	640	1,390	73,200	11,000	19,800	2,750	2,750	790	1,390	235	310
19.....	640	790	1,390	80,200	7,230	14,800	2,450	4,510	790	790	235	235
20.....	640	790	1,390	44,500	6,240	8,790	2,450	2,750	790	790	170	235
21.....	640	790	1,390	30,000	5,350	7,230	2,450	2,160	790	640	170	170
22.....	640	790	1,390	16,800	4,920	5,790	2,450	1,890	790	640	235	170
23.....	640	790	1,390	8,270	4,920	4,920	2,160	1,890	790	1,890	235	170
24.....	640	790	4,920	6,720	5,350	4,510	2,160	1,630	790	1,630	170	120
25.....	640	790	11,500	5,350	4,920	4,140	2,160	2,160	640	1,890	170	120
26.....	640	790	6,720	4,920	4,510	4,140	2,160	1,890	790	1,390	170	120
27.....	640	790	4,140	4,510	4,140	4,140	2,160	1,630	970	1,170	120	120
28.....	640	790	3,070	4,140	3,770	4,140	2,160	1,630	790	1,390	120	170
29.....	640	790	2,750	4,140	-----	4,140	2,160	1,390	790	1,390	120	2,450
30.....	640	790	2,450	3,770	-----	3,770	1,890	1,390	790	1,390	120	1,170
31.....	640	-----	4,920	3,770	-----	3,410	-----	1,390	-----	970	120	-----

Monthly discharge of Tallapoosa River at Cherokee Bluffs, near Tallassee, Ala., for the year ending September 30, 1925

[Drainage area, 3,000 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October.....	1,630	640	830	0.277	0.32
November.....	790	640	715	.238	.27
December.....	16,100	790	3,370	1.12	1.29
January.....	80,200	2,750	16,300	5.43	6.26
February.....	16,800	3,410	5,510	1.84	1.91
March.....	20,600	2,750	5,390	1.80	2.07
April.....	6,240	1,890	3,150	1.05	1.17
May.....	4,510	1,390	2,020	.673	.78
June.....	2,160	640	1,110	.370	.41
July.....	3,770	640	1,470	.490	.56
August.....	790	120	361	.120	.14
September.....	2,450	90	370	.123	.14
The year.....	80,200	90	3,380	1.13	15.32

MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of flow obtained at the gaging stations and reported in the preceding pages, measurements were made at other points, as shown by the following table:

Miscellaneous discharge measurements in south Atlantic and eastern Gulf of Mexico drainage basins during the year ending September 30, 1925

Streams draining into south Atlantic Ocean

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				Feet	Sec.-ft.
Aug. 20	Town Fork Creek.	Dan River.....	Bridge at Walnut Cove, N. C.	-----	18.6
Oct. 10	do	do	U. S. Weather Bureau gage at Bricks Agriculture School, 2 miles from Enfield, N. C.	4.04	480
Nov. 23	do	do	do	6.22	860
Feb. 26	do	do	do	5.25	667
Apr. 28	do	do	do	2.50	253
July 21	do	do	do	1.40	75.2
Oct. 3	Neuse River.....	Pamlico Sound.....	U. S. Weather Bureau gage at Smithfield, N. C.	20.90	13,300
8	do	do	do	6.22	1,030
July 18	do	do	do	2.41	168
Oct. 5	do	do	Highway bridge 2 miles south of Smithfield, N. C.	-----	12,300
8	do	do	do	-----	1,820
9	do	do	do	-----	1,280
July 20	do	do	do	-----	173
Mar. 1	Flat River.....	Neuse River.....	Tilley's mill below Durham municipal dam, 1 mile below Rocky Creek near Bahama, N. C.	1.37	85.4
Apr. 26	do	do	do	.80	37.5
July 17	do	do	do	.20	10.7
Aug. 22	do	do	do	.50	12.4
Nov. 24	Moccasin Creek.....	Contentnea Creek.....	Bridge below Taylor's mill, 3 miles west of Middlesex, N. C.	2.46	69.8
Dec. 7	do	do	do	1.34	19.0
Feb. 26	do	do	do	2.24	55.4
26	do	do	do	3.44	69.3
Apr. 28	do	do	do	1.02	12.1
28	do	do	do	1.42	34.2
July 21	do	do	do	1.12	20.6

Miscellaneous discharge measurements in south Atlantic and eastern Gulf of Mexico drainage basins during the year ending September 30, 1925—Continued

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				<i>Feet</i>	<i>Sec.-ft.</i>
July 21	Moccasin Creek...	Contentnea Creek....	Bridge below Taylor's mill, 3 miles west of Middlesex, N. C.	0.65	1.73
Aug. 22	Reedy Fork.....	Haw River.....	Bridge on county road, three-eighths mile above Brush Creek and 2 miles southeast of Summerfield, N. C.		7.06
19	Reddies River.....	Yadkin River.....	Above power plant near North Wilkesboro, N. C.		35.7
19	Roaring River.....	do.....	Road crossing, 5 miles above mouth near Roaring River, N. C.		30.9
19	Mitchells River.....	do.....	200 feet above Snow Creek, at Burch, N. C.		36.5
19	Snow Creek.....	Mitchells River.....	300 feet above mouth at Burch, N. C.		6.57
19	Ararat River.....	Yadkin River.....	100 feet above bridge at Mount Airy, N. C.		27.3
July 31	Third Creek.....	South Yadkin River....	Old U. S. Department of Agriculture gaging station at McHenry's bridge, 6 miles east of Statesville, N. C.	3.50	17.7
Aug. 22	do.....	do.....	do.....	3.53	19.9
July 31	Catawba River.....	Wateree River.....	Bridge on route 10, 4 miles west of Marion, N. C.		52.3
Sept. 2	Santee River.....	Atlantic Ocean.....	Highway bridge near St. Stephens, S. C.	1.64	3,120
Aug. 1	Johns River.....	Catawba River.....	Highway bridge at Collettsville, N. C.		17.2
1	Wilson Creek.....	Johns River.....	Former gaging station near Adako, N. C.	1.18	24.7
May 8	Long Creek.....	Catawba River.....	Bridge on Rozzelle Bridge Road, 3½ miles northeast of Mount Holly, N. C.	.50	6.93
June 15	Broad River.....	Congaree River.....	A quarter of a mile below Lake Lure Dam, near Chimney Rock, N. C.		71.8
Aug. 5	do.....	do.....	do.....		46.6
25	do.....	do.....	do.....		30.3
Sept. 8	Saluda River.....	do.....	Dam site just above mouth of Bear Creek near Lexington, S. C.		137
Aug. 31	Congaree Creek.....	do.....	Bridge on Columbia-Charleston highway near Cayce, S. C.		130
May 16	Savannah River ^a	Atlantic Ocean.....	U. S. Weather Bureau gage at Augusta, Ga.	8.90	^b 6,370
17	do.....	do.....	do.....	8.50	^c 4,930
24	do.....	do.....	do.....	7.43	^c 3,350
June 2	do.....	do.....	do.....	7.70	^c 3,930
2	do.....	do.....	do.....	8.96	^c 6,040
3	do.....	do.....	do.....	7.21	^c 2,770
3	do.....	do.....	do.....	8.28	^b 5,500
3	do.....	do.....	do.....	8.83	^d 6,140
4	do.....	do.....	do.....	7.46	^d 3,640
4	do.....	do.....	do.....	8.10	^b 5,220
Aug. 6	do.....	do.....	do.....	6.17	^c 2,130
Sept. 10	do.....	do.....	do.....	4.94	^d 1,380
10	do.....	do.....	do.....	5.19	^c 1,570
11	Ocmulgee River ^a	Altamaha River.....	U. S. Weather Bureau gage at Macon, Ga.	-3.6	173
May 8	Oconee River.....	do.....	Former gaging station near Greensboro, Ga.	2.20	680
Sept. 12 ^e	do.....	do.....	U. S. Weather Bureau gage at Dublin, Ga.	-2.45	3.56

^a Furnished by U. S. Engineer Office, Savannah, Ga.

^b Mills running; stage rising fast.

^c Mills closed; stage stationary.

^d Mills running; stage rising.

^e Mills running; stage stationary.

Miscellaneous discharge measurements in south Atlantic and eastern Gulf of Mexico drainage basins during the year ending September 30, 1925—Continued

Streams draining into eastern Gulf of Mexico

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				<i>Feet</i>	<i>Sec.-ft.</i>
May 5	Flint River.....	Chattahoochee River	Former gaging station near Culloden, Ga.	2.29	830
Nov. 17	Double Bridges Creek.	Choctawhatchee River.	Highway bridge near Geneva, Ala.	1.06	111
Feb. 24	do.....	do.....	do.....	5.88	576
Apr. 8	do.....	do.....	do.....	2.60	223
July 20	do.....	do.....	do.....	.78	85
23	do.....	do.....	do.....	.80	93

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